for Preparation Click here

1.PRECAUTION

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

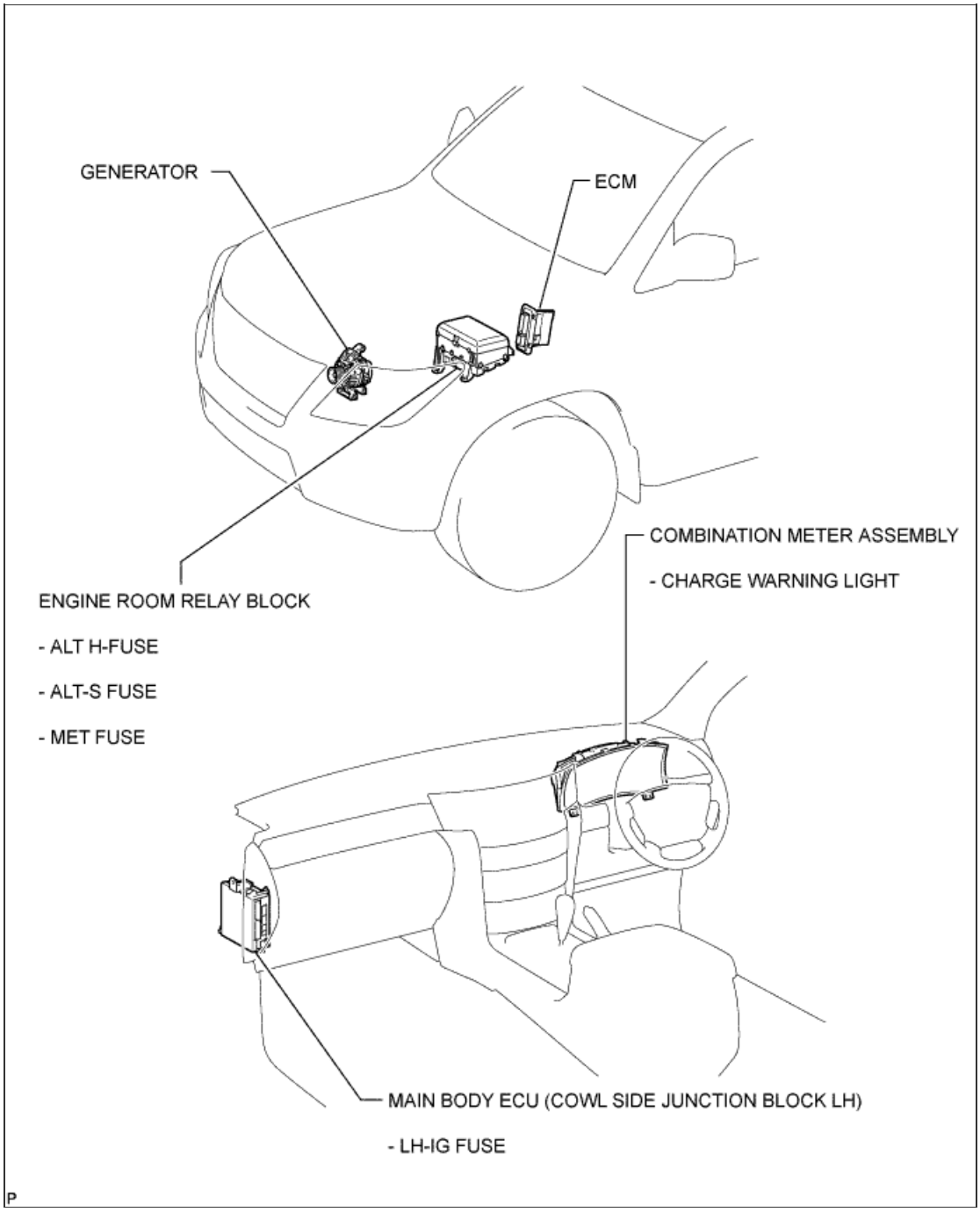
b. Disconnect the battery cables when the battery is given a quick charge.

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

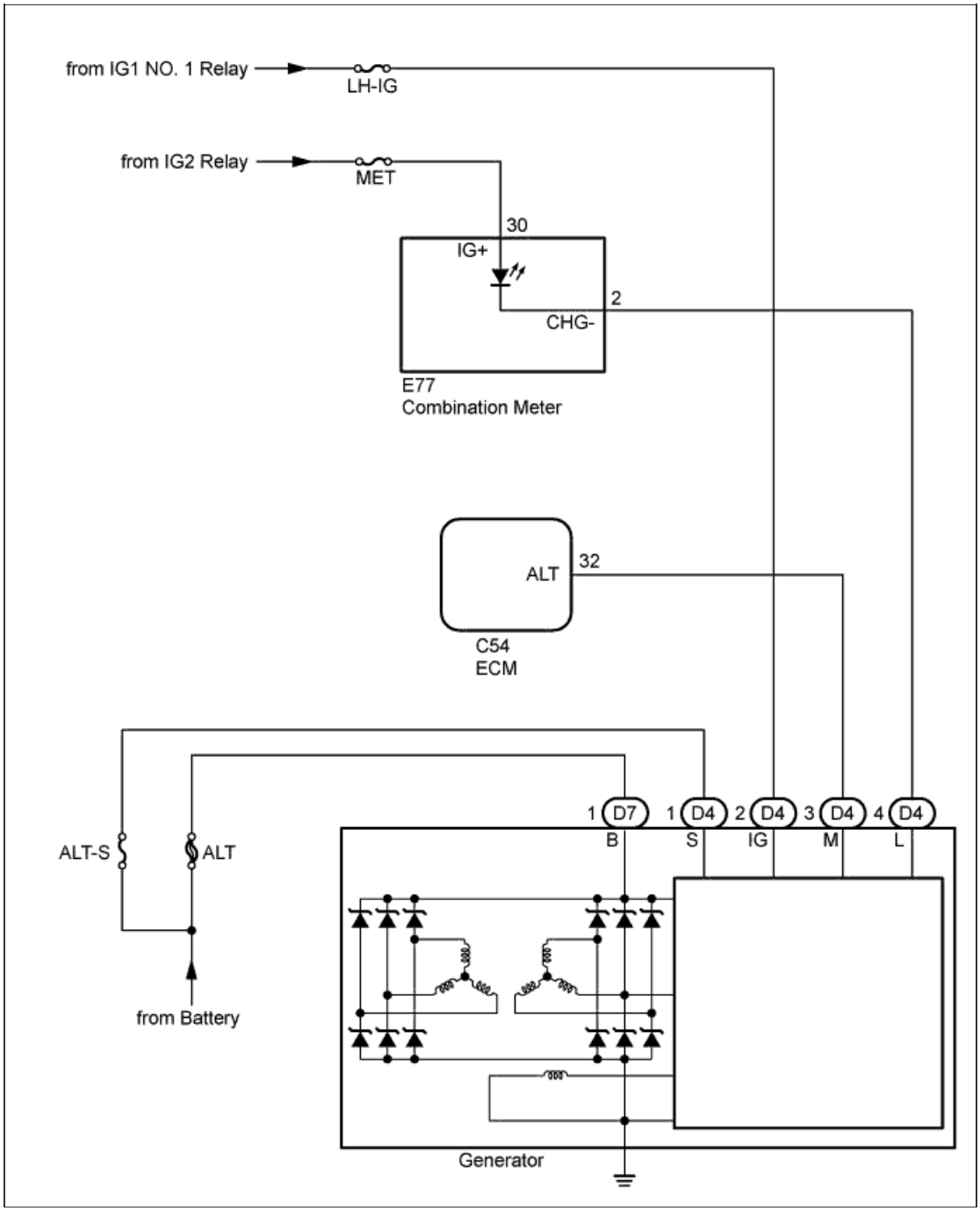
d. Never disconnect the battery while the engine is running.

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.

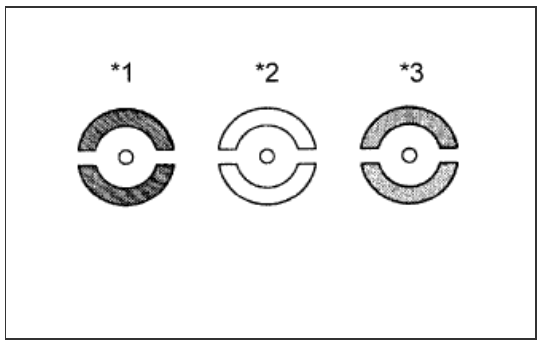
HINT:

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.

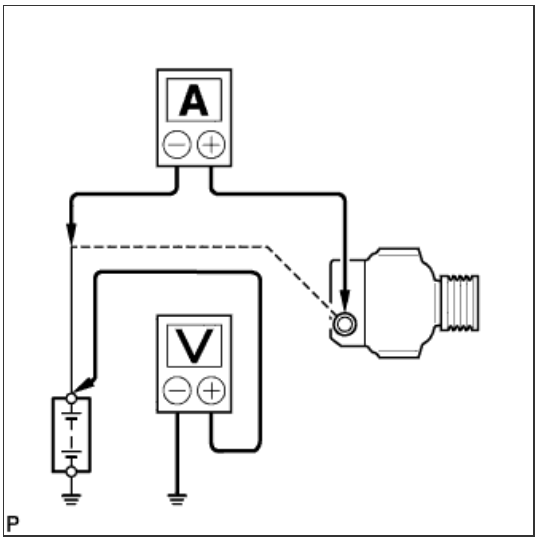
Standard current:
10 A or less

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.

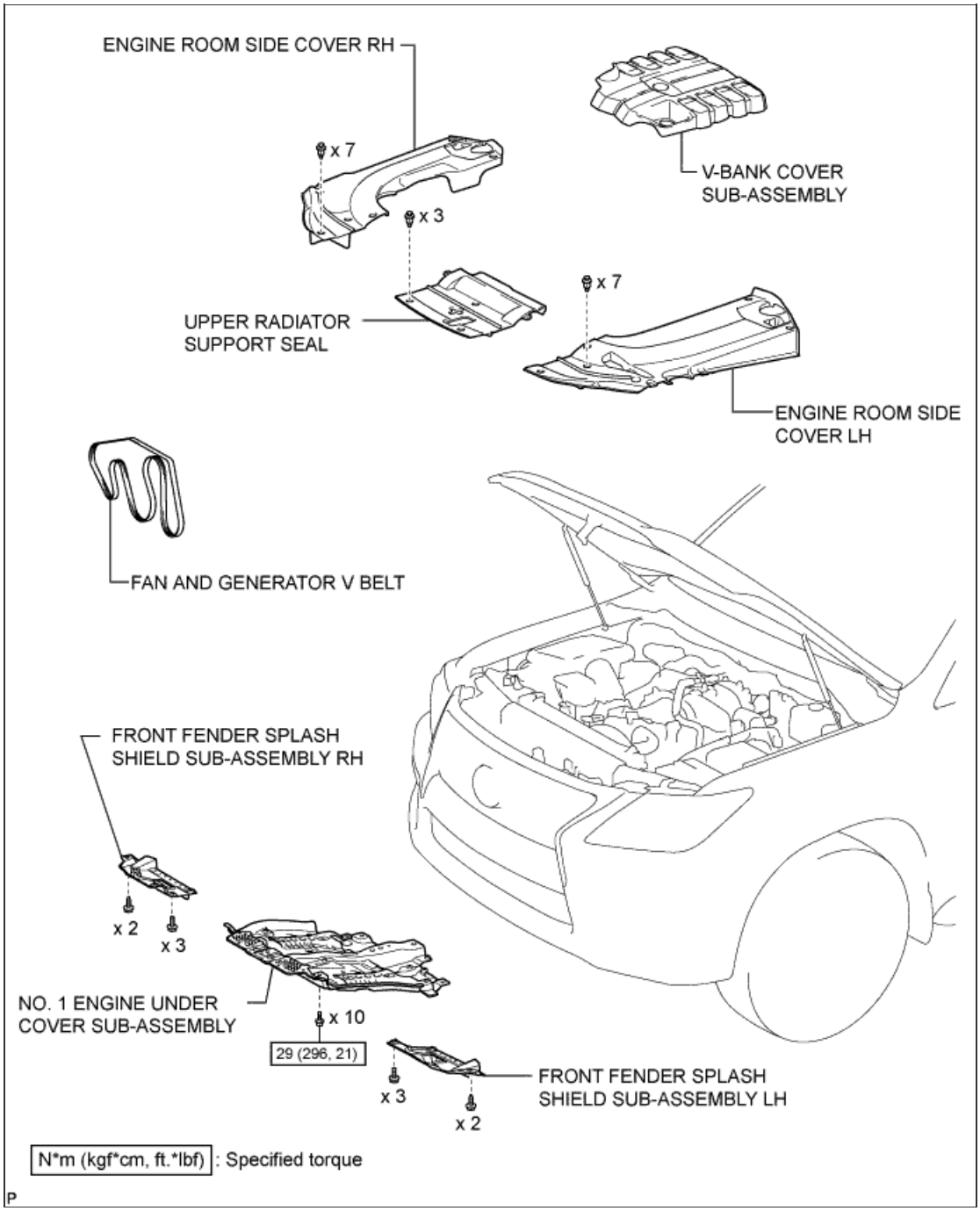
Standard current:
30 A or higher

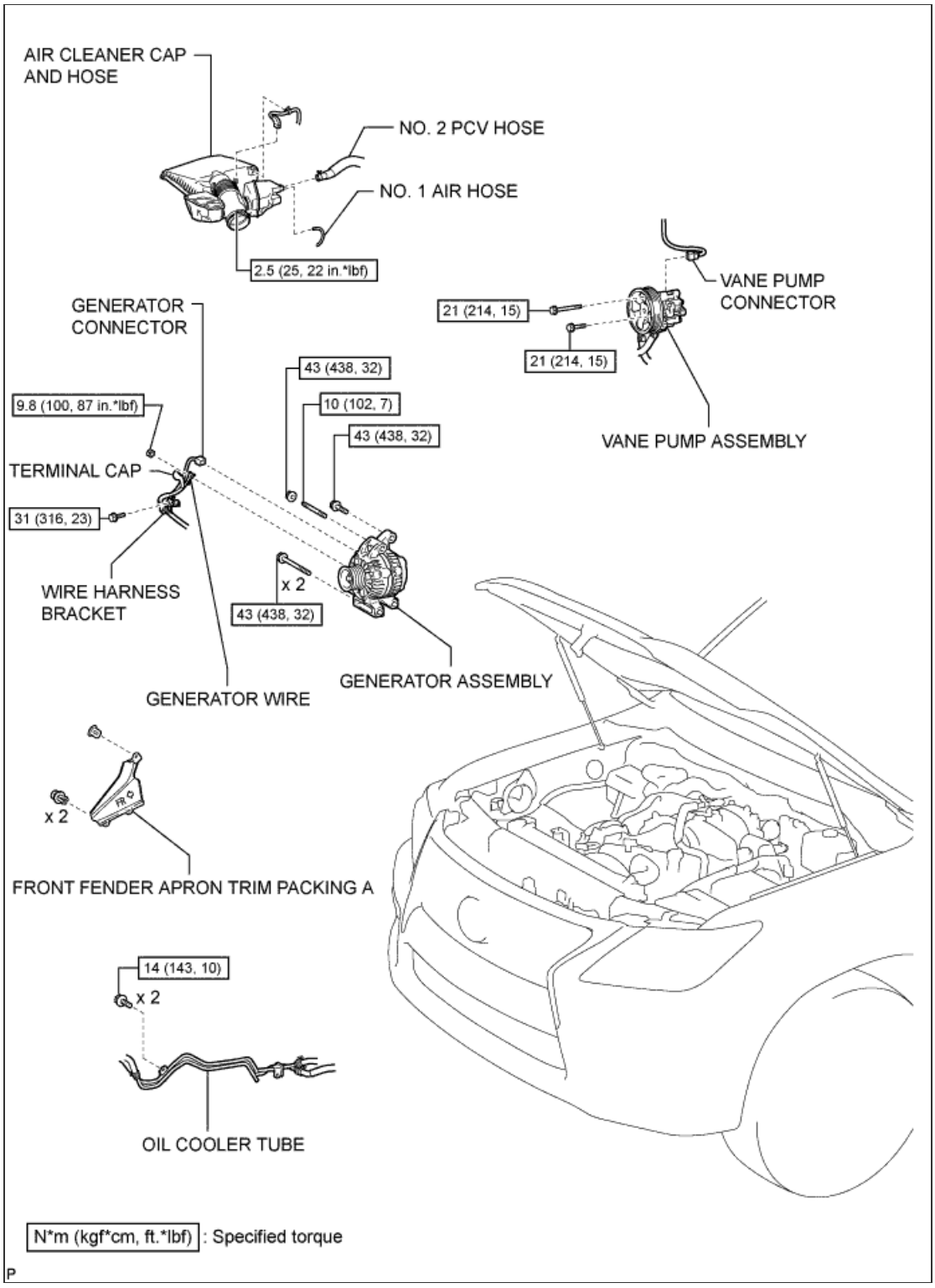
If the ammeter reading is below the standard amperage, repair the generator.

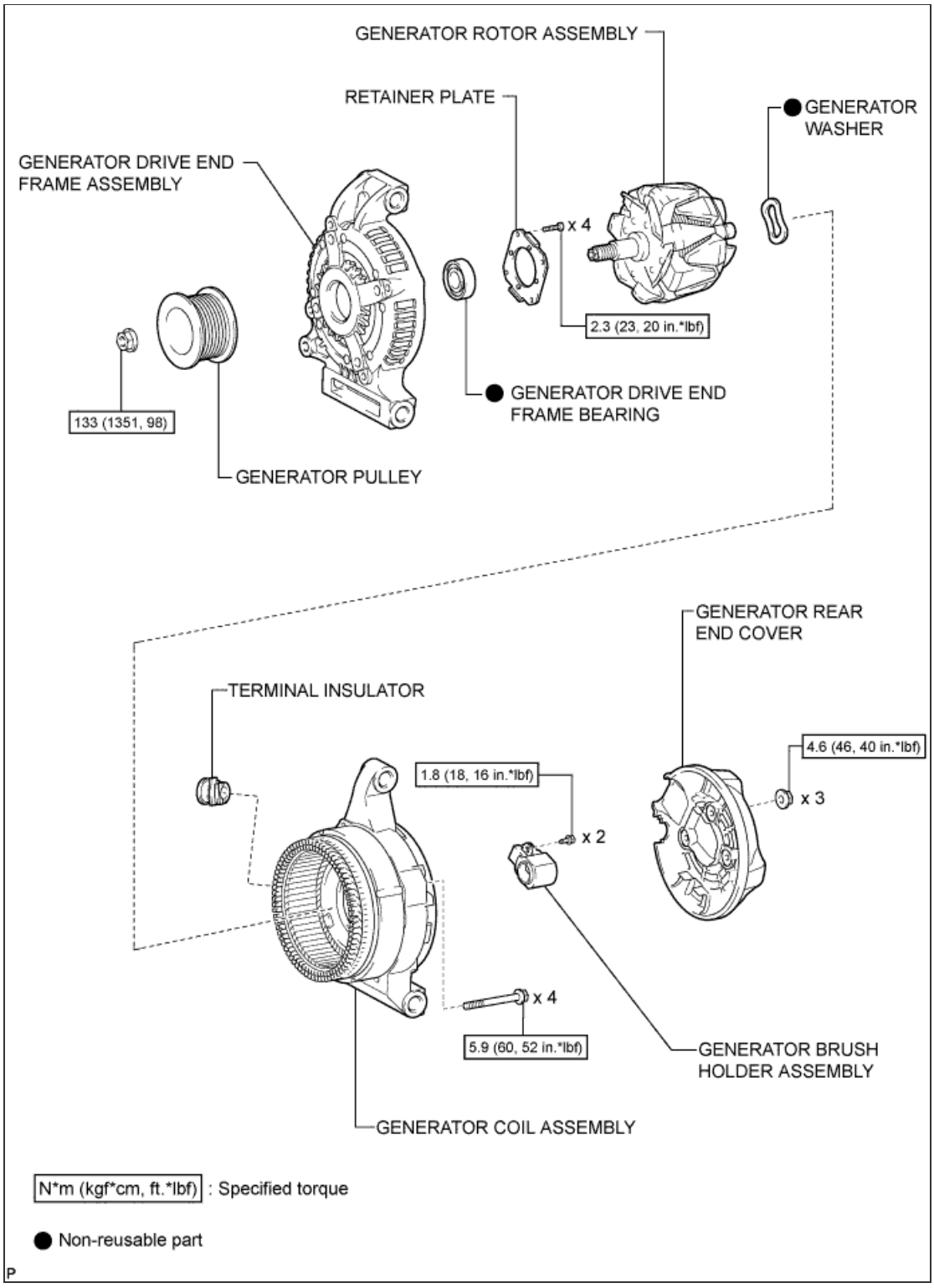
HINT:

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



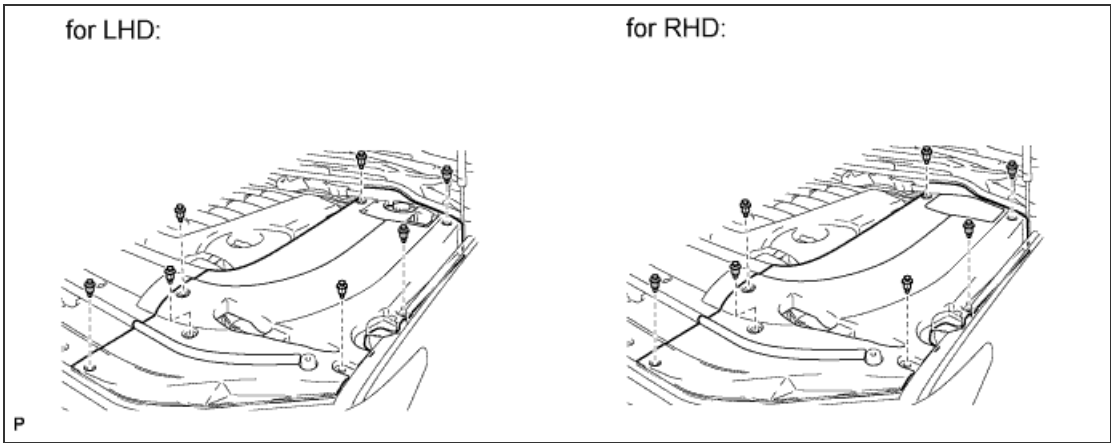

AIR CLEANER CAP AND HOSE
NO. 2 PCV HOSE
NO. 1 AIR HOSE
2.5 (25, 22 in.*lbf)
GENERATOR CONNECTOR
21 (214, 15)
21 (214, 15)
VANE PUMP CONNECTOR
VANE PUMP ASSEMBLY
43 (438, 32)
10 (102, 7)
43 (438, 32)
9.8 (100, 87 in.*lbf)
TERMINAL CAP
31 (316, 23)
WIRE HARNESS BRACKET
x 2
43 (438, 32)
GENERATOR ASSEMBLY
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

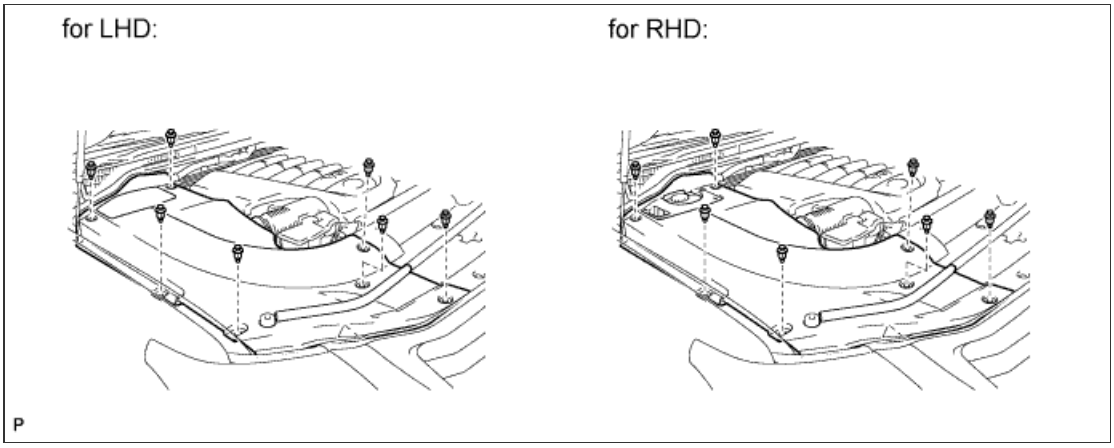
1. REMOVE ENGINE ROOM SIDE COVER LH

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



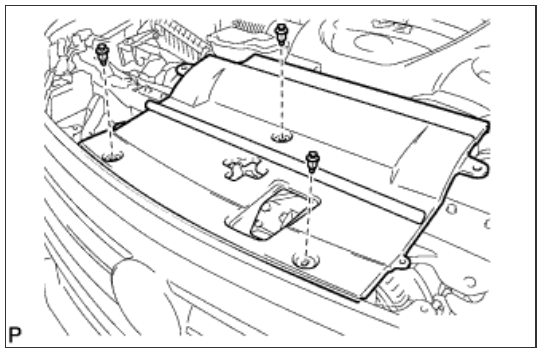
2. REMOVE ENGINE ROOM SIDE COVER RH

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.

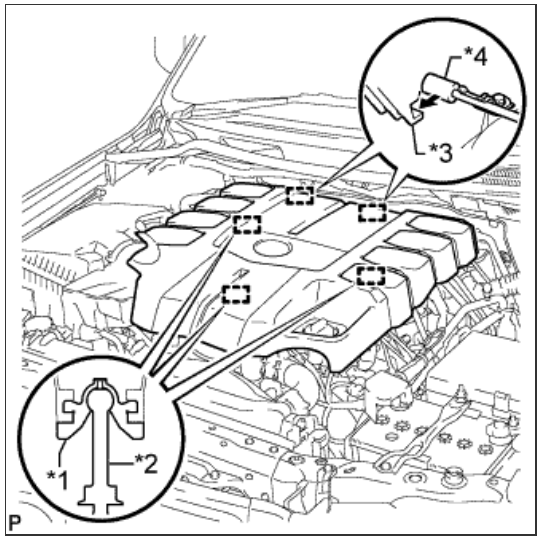


4. REMOVE V-BANK COVER SUB-ASSEMBLY

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

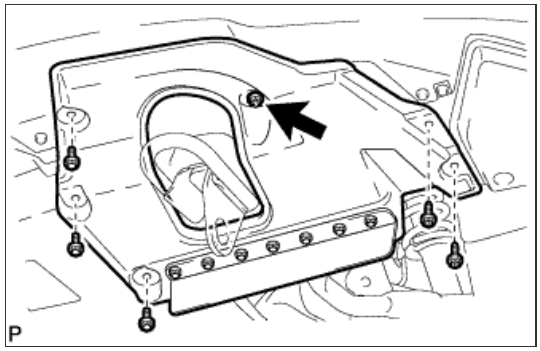
NOTICE:

- **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.



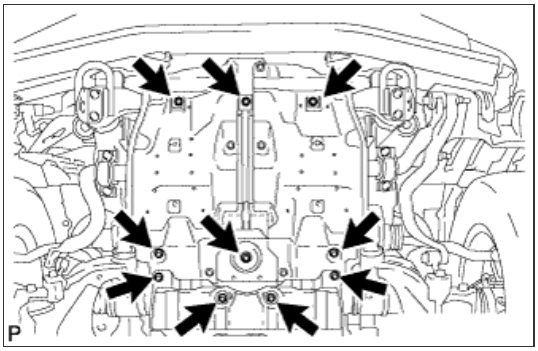
7. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

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.

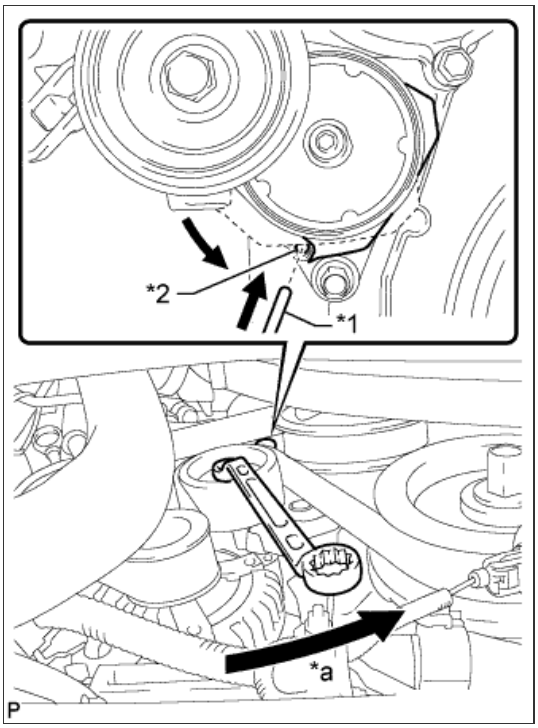
Text in Illustration

*1	Bar
*2	Service Hole
*a	Turn

HINT:

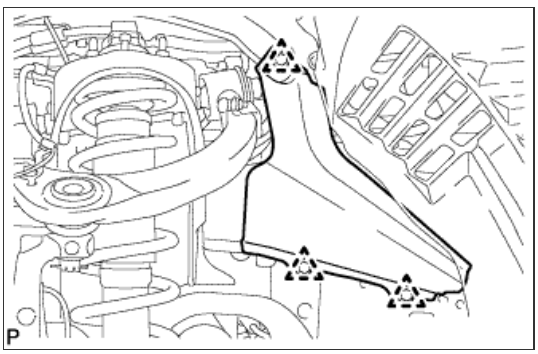
The pulley bolt for the belt tensioner has a left-hand thread.

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.



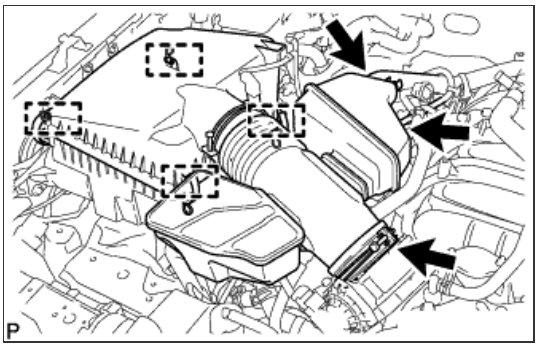
11. REMOVE AIR CLEANER CAP AND HOSE

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.



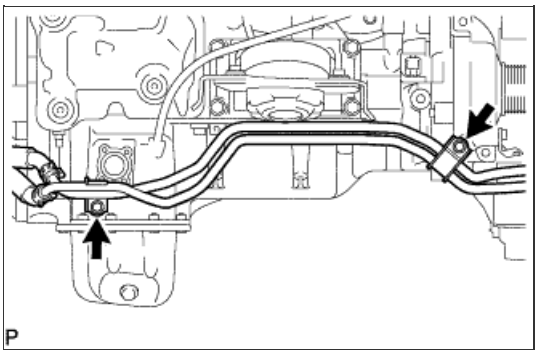
12. DISCONNECT VANE PUMP ASSEMBLY

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.



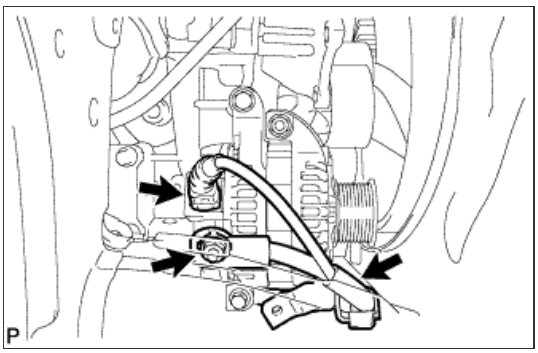
14. REMOVE GENERATOR ASSEMBLY

a. Disconnect the generator connector.

b. Open the terminal cap.

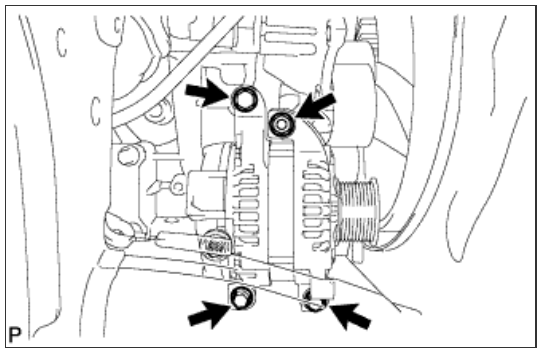
c. Remove the nut and disconnect the generator wire.

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



e. Remove the 3 bolts, nut and generator.

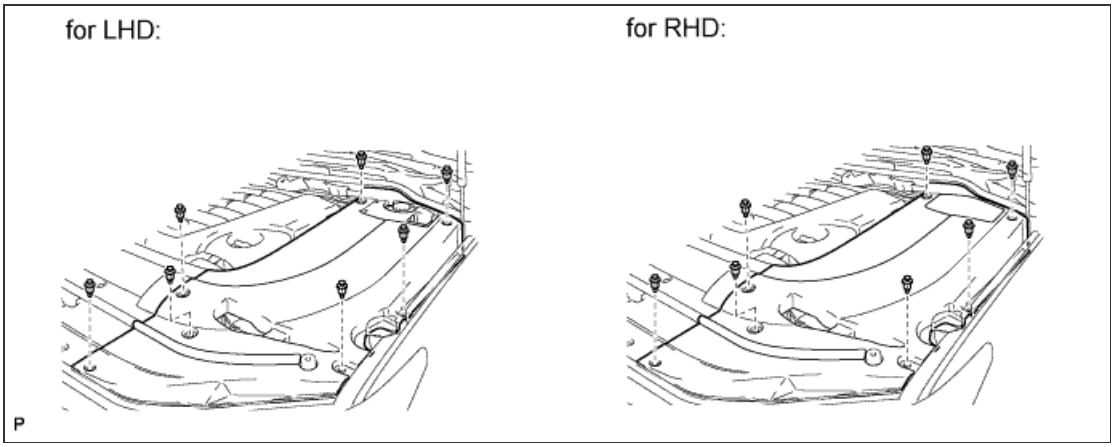
f. Remove the stud bolt.


P

for Preparation Click here

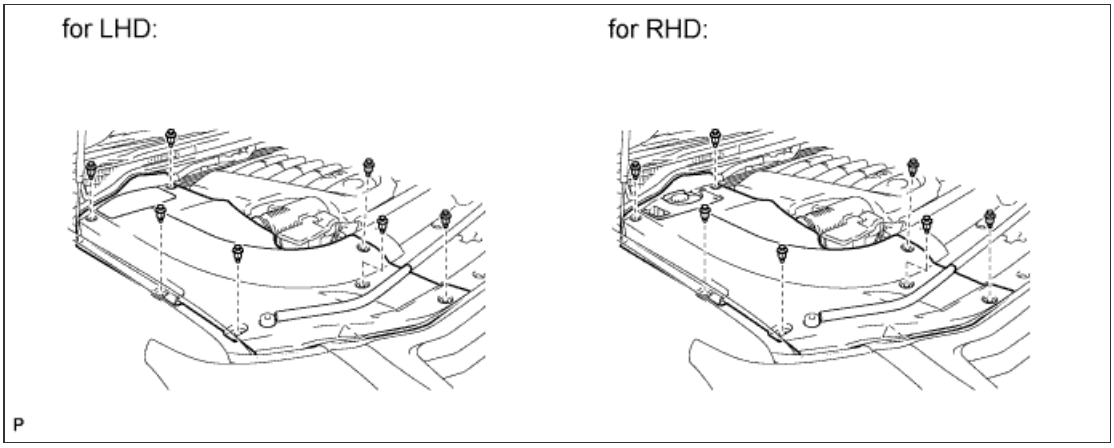
1. REMOVE ENGINE ROOM SIDE COVER LH

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



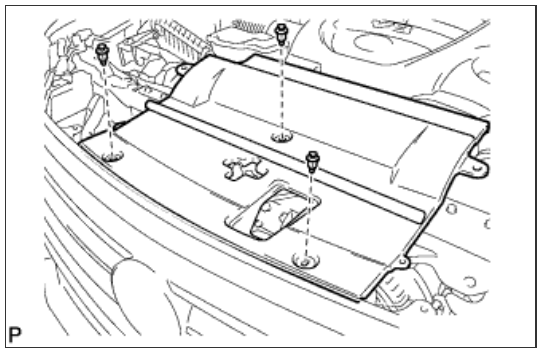
2. REMOVE ENGINE ROOM SIDE COVER RH

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.

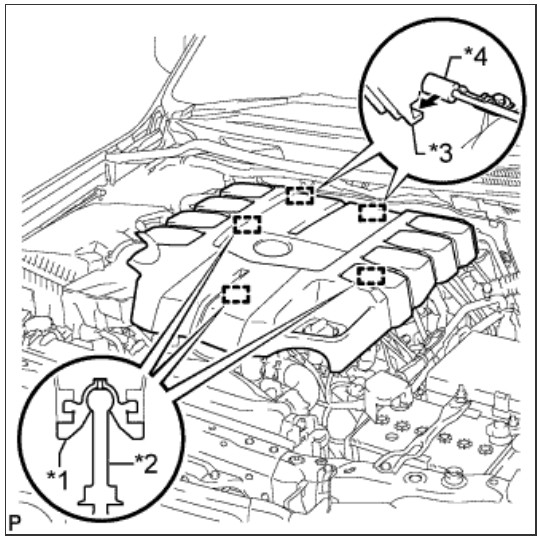


4. REMOVE V-BANK COVER SUB-ASSEMBLY

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

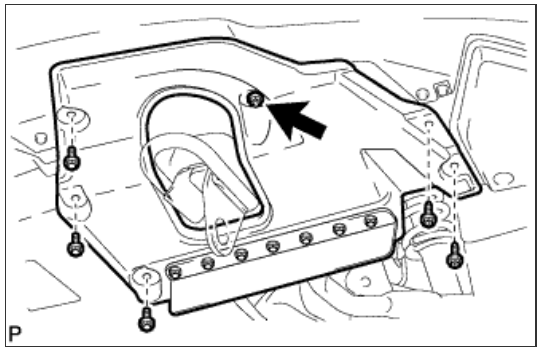
NOTICE:

- **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.



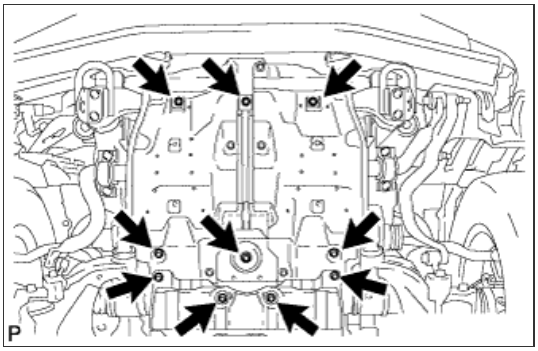
7. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

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.

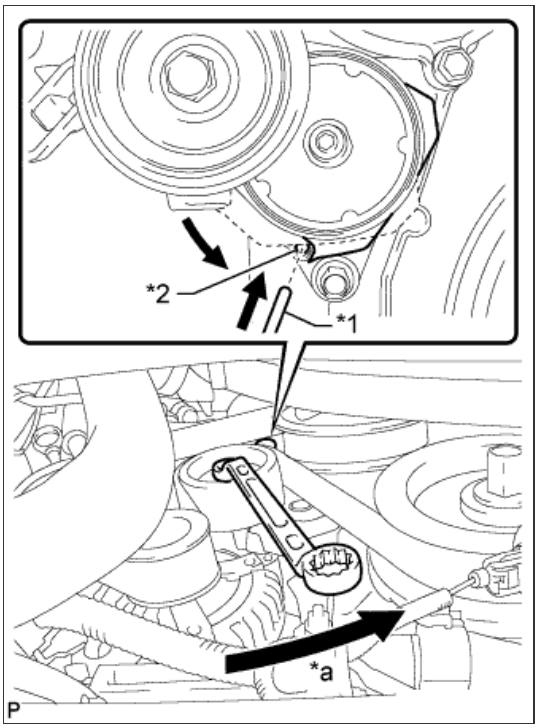
Text in Illustration

*1	Bar
*2	Service Hole
*a	Turn

HINT:

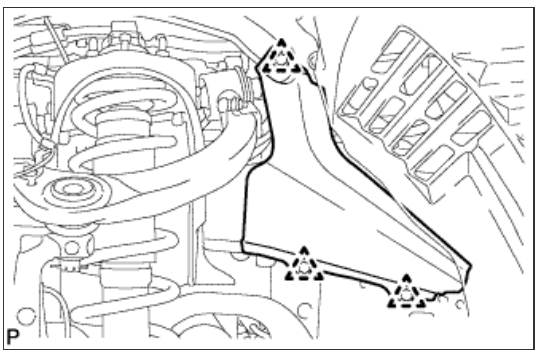
The pulley bolt for the belt tensioner has a left-hand thread.

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.



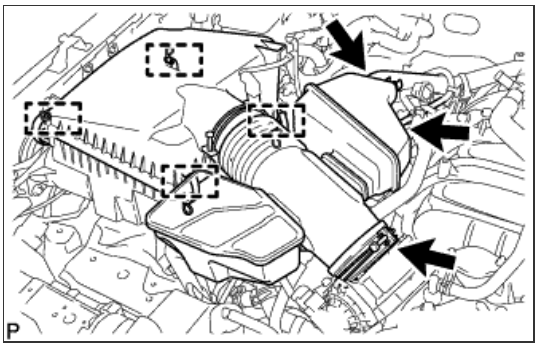
11. REMOVE AIR CLEANER CAP AND HOSE

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.



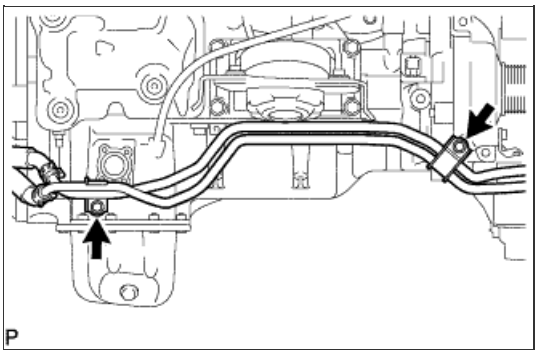
12. DISCONNECT VANE PUMP ASSEMBLY

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.



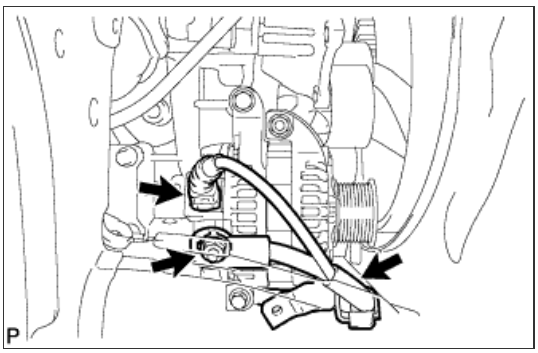
14. REMOVE GENERATOR ASSEMBLY

a. Disconnect the generator connector.

b. Open the terminal cap.

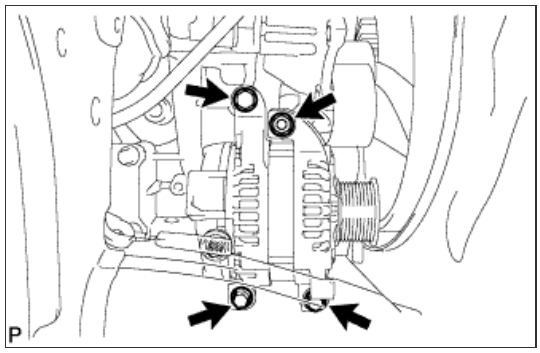
c. Remove the nut and disconnect the generator wire.

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



e. Remove the 3 bolts, nut and generator.

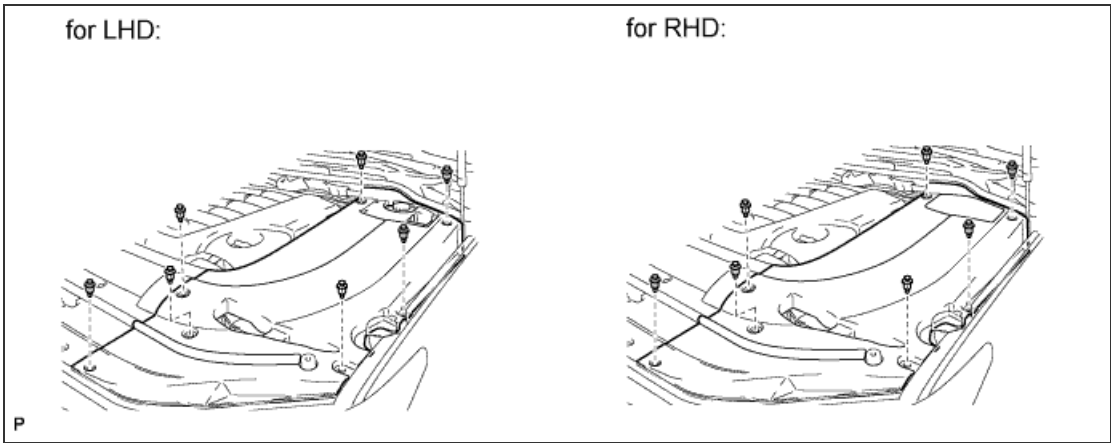
f. Remove the stud bolt.


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for Preparation Click here

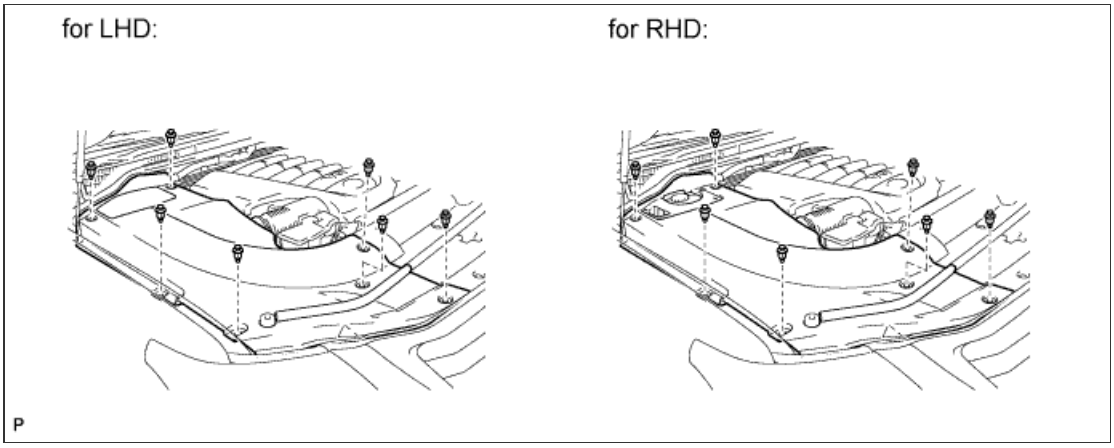
1. REMOVE ENGINE ROOM SIDE COVER LH

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



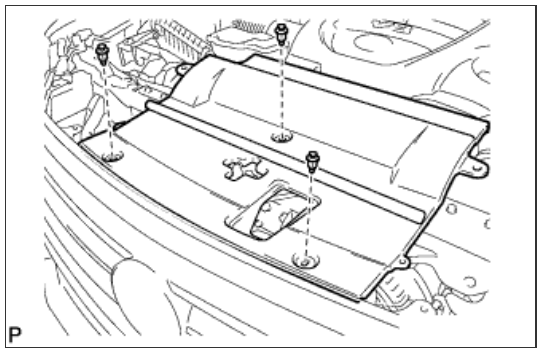
2. REMOVE ENGINE ROOM SIDE COVER RH

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.

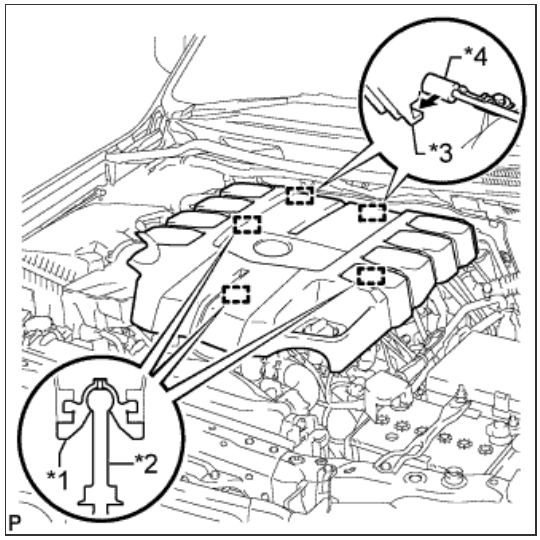


4. REMOVE V-BANK COVER SUB-ASSEMBLY

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

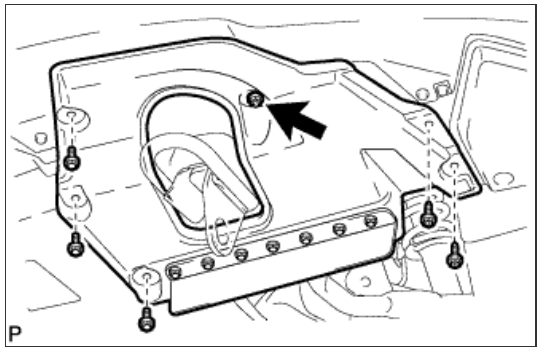
NOTICE:

- **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.



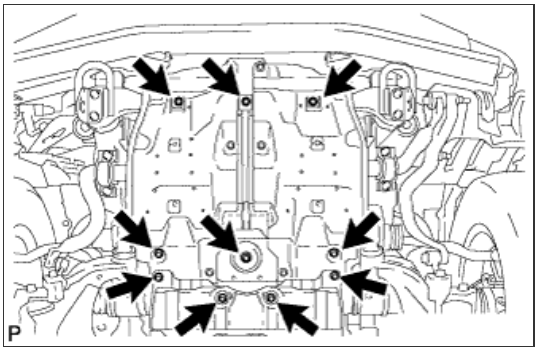
7. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

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.

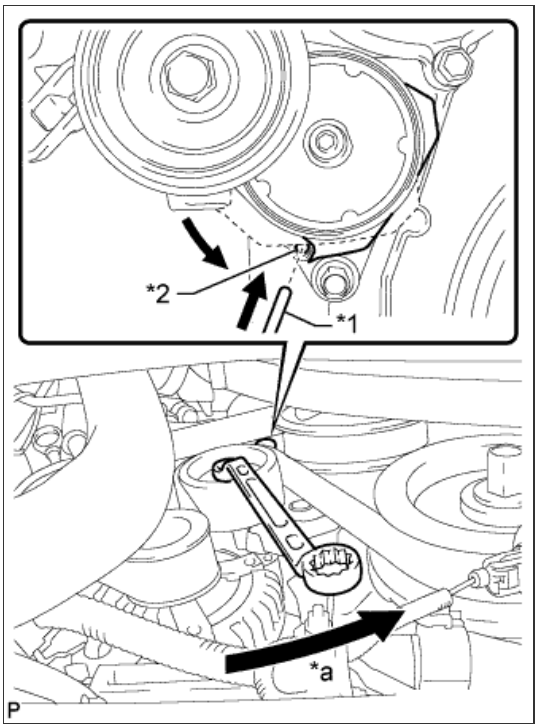
Text in Illustration

*1	Bar
*2	Service Hole
*a	Turn

HINT:

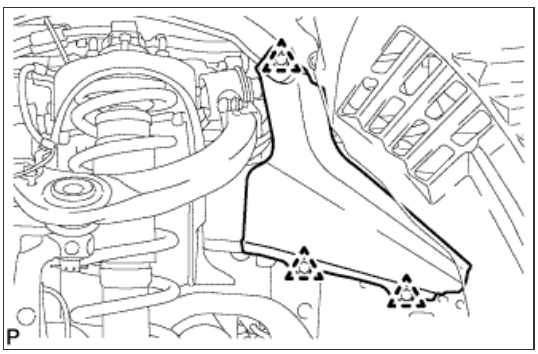
The pulley bolt for the belt tensioner has a left-hand thread.

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.



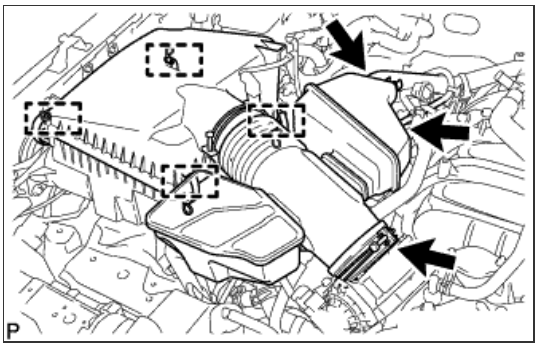
11. REMOVE AIR CLEANER CAP AND HOSE

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.



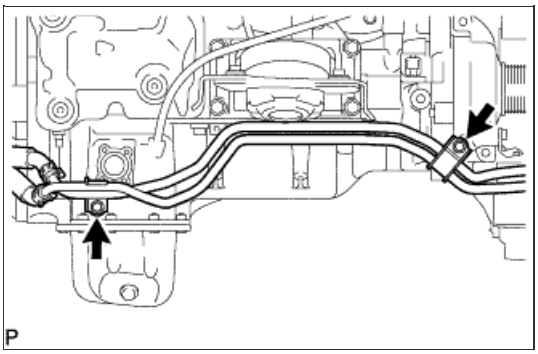
12. DISCONNECT VANE PUMP ASSEMBLY

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.



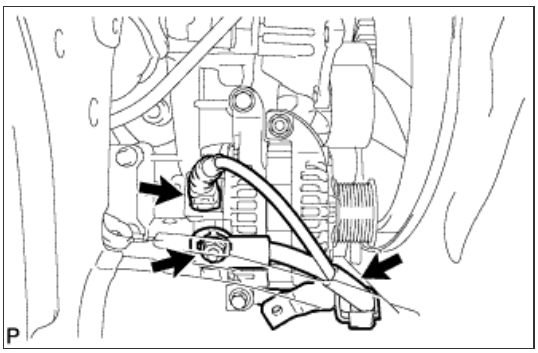
14. REMOVE GENERATOR ASSEMBLY

a. Disconnect the generator connector.

b. Open the terminal cap.

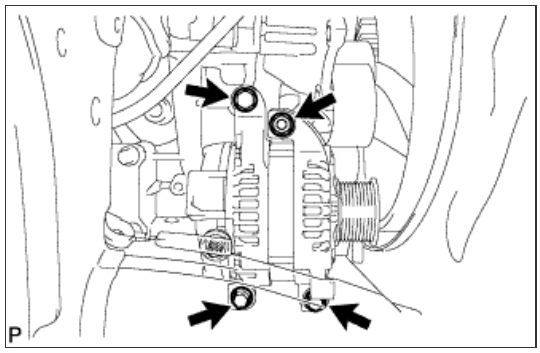
c. Remove the nut and disconnect the generator wire.

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

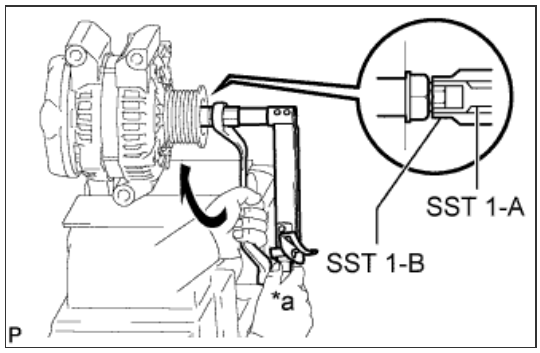
a. Mount the generator in a vise between aluminum plates.

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

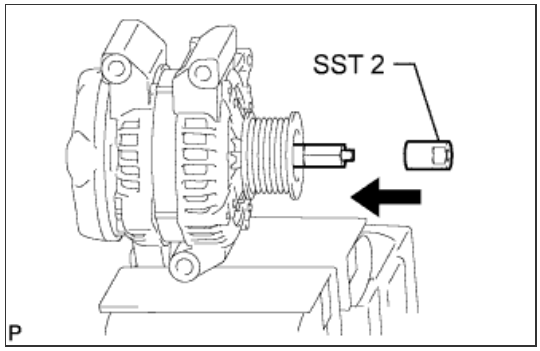
NOTICE:

Check that SST is secured on the rotor shaft.

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

Text in Illustration

➡	Insert



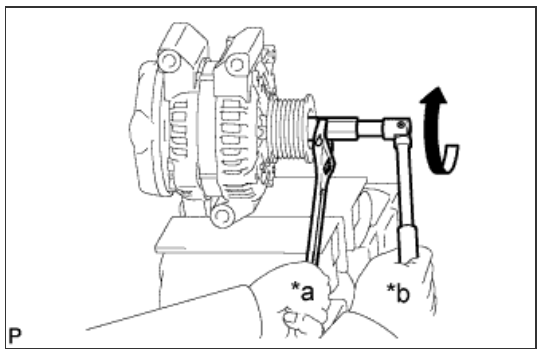
f. To loosen the pulley nut, turn SST 1-A in the direction shown in the illustration.

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.

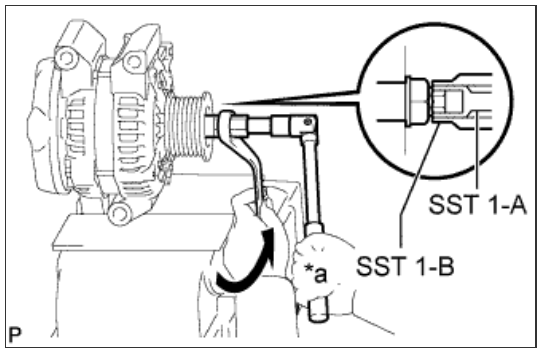
h. Turn SST 1-B in the direction shown in the illustration, and then remove SST 1-

A and SST 1-B.

Text in Illustration

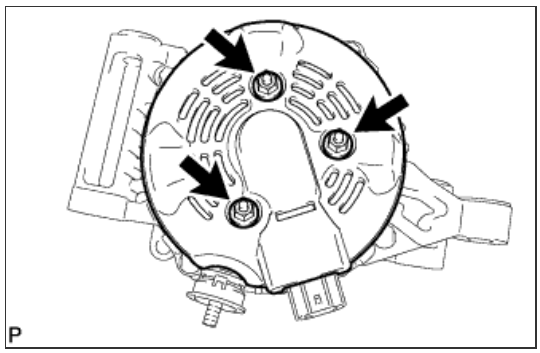
*a	Hold
➡	Turn

i. Remove the pulley nut and generator pulley.

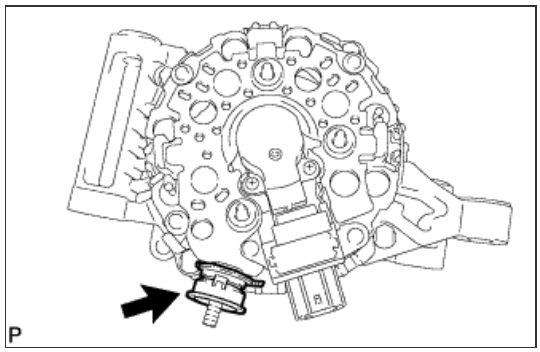


2. REMOVE GENERATOR REAR END COVER

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

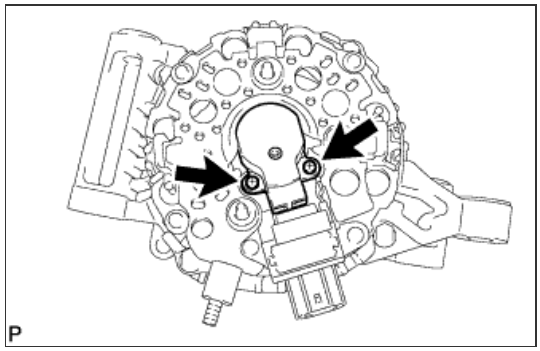


3. REMOVE TERMINAL INSULATOR



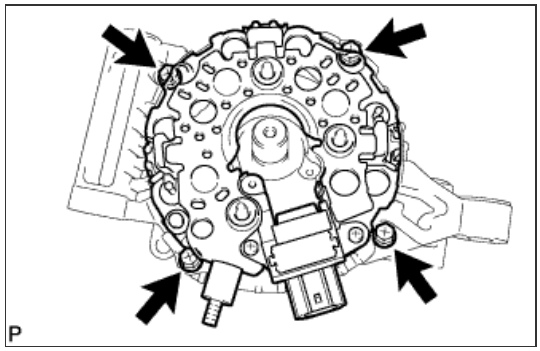
4. REMOVE GENERATOR BRUSH HOLDER ASSEMBLY

a. Remove the 2 screws and brush holder.



5. REMOVE GENERATOR COIL ASSEMBLY

a. Remove the 4 bolts.

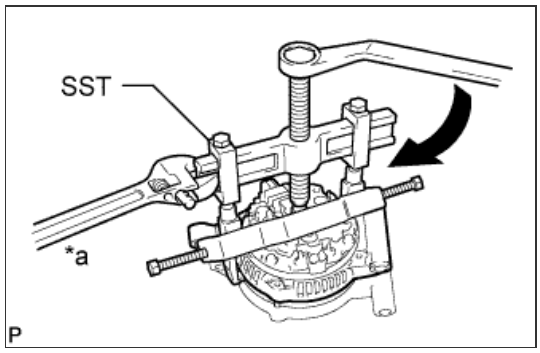


b. Using SST, remove the generator coil.

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

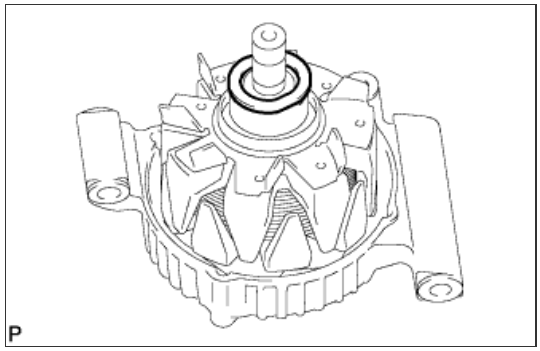
Text in Illustration

*a	Hold
➡	Turn

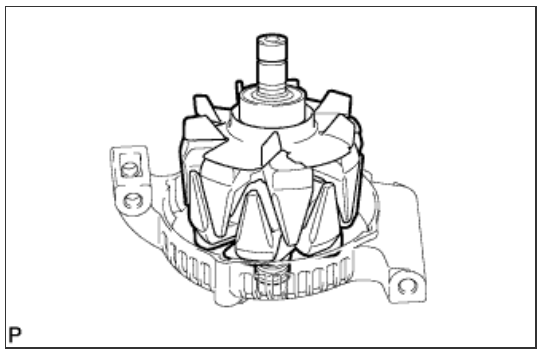


6. REMOVE GENERATOR ROTOR ASSEMBLY

a. Remove the generator washer.

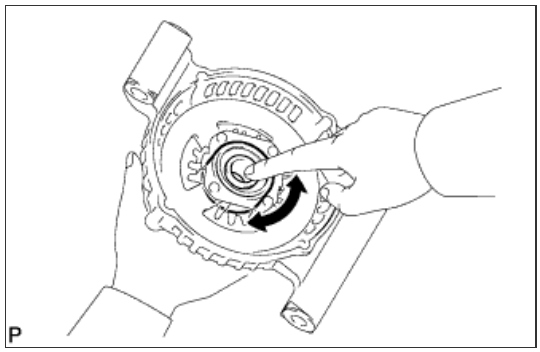


b. Remove the generator rotor.



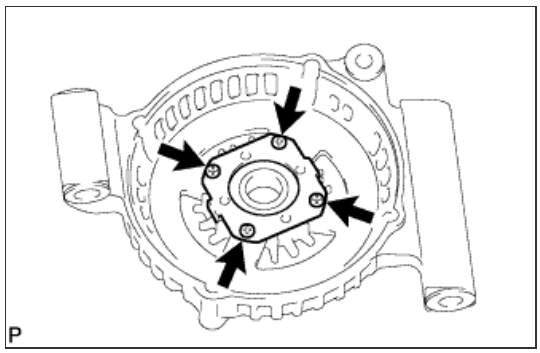
7. INSPECT GENERATOR DRIVE END FRAME BEARING

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

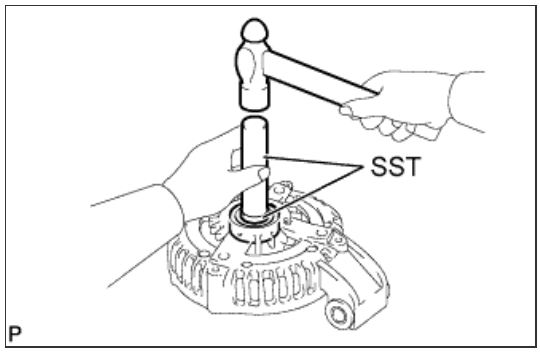
a. Remove the 4 screws and retainer plate.



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.

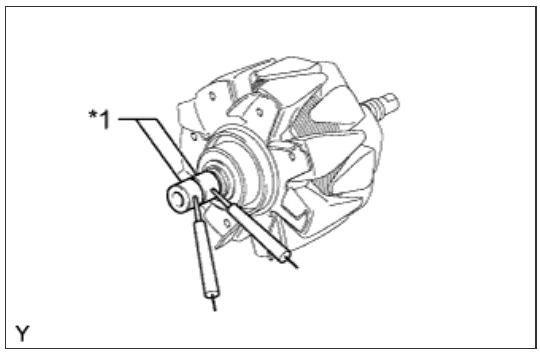
Standard Resistance:

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.

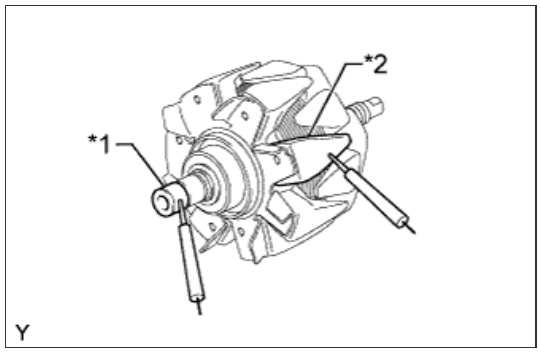
Standard Resistance:

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.

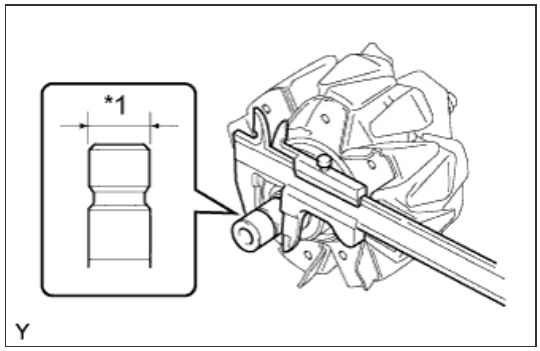
Standard diameter:
14.2 to 14.8 mm (0.559 to 0.583 in.)

Minimum diameter:
14.0 mm (0.551 in.)

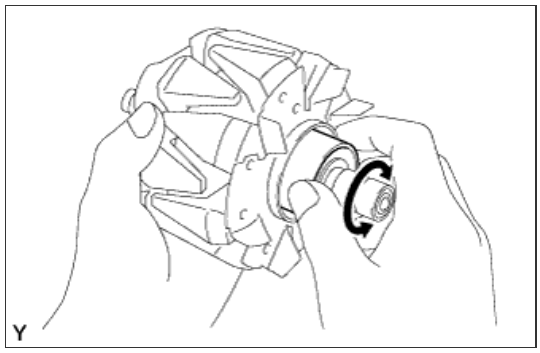
Text in Illustration

*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.

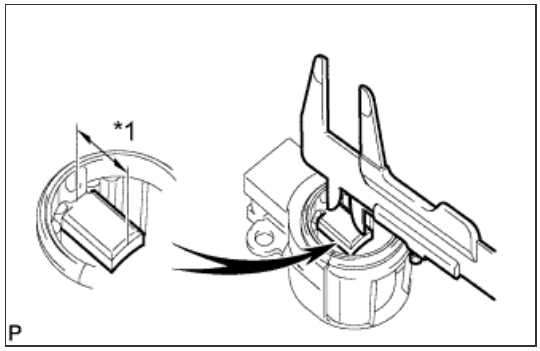


2. INSPECT GENERATOR BRUSH HOLDER ASSEMBLY

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

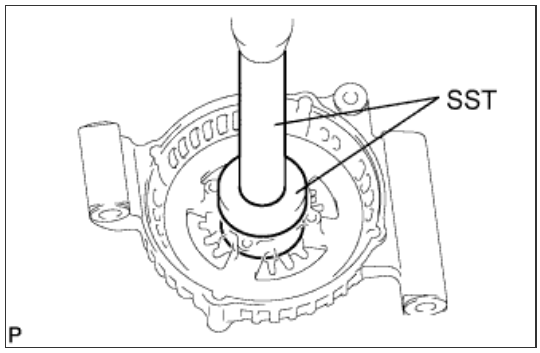
If the brush length is less than the minimum, replace the generator brush holder assembly.

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.

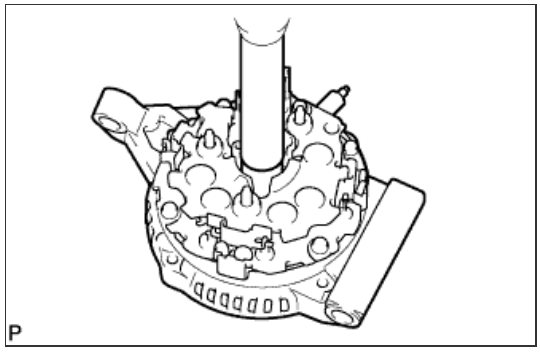
b. Place a new generator washer on the generator rotor.

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 }

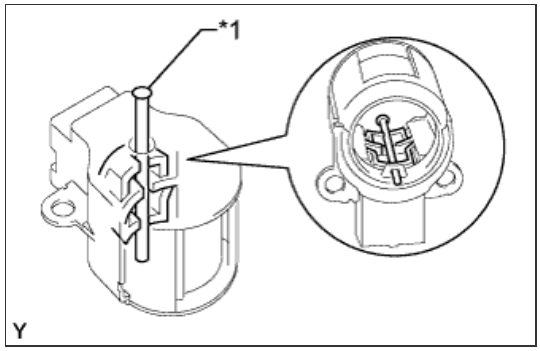


4. INSTALL GENERATOR BRUSH HOLDER ASSEMBLY

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



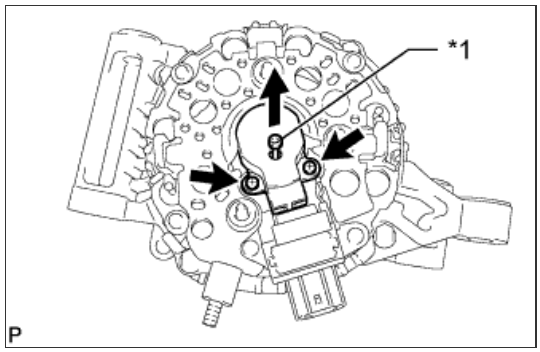
b. Install the brush holder with the 2 screws.

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.

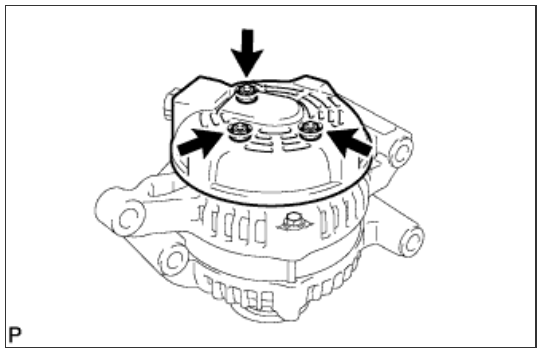
NOTICE:

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.

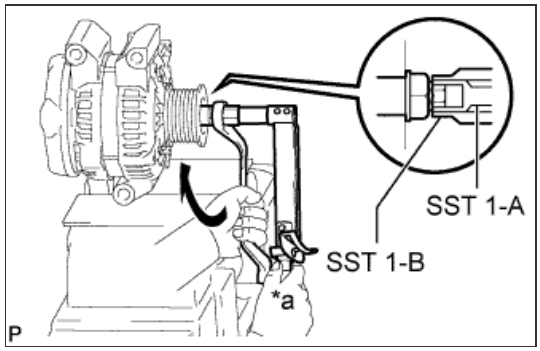
b. Mount the generator in a vise between aluminum plates.

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

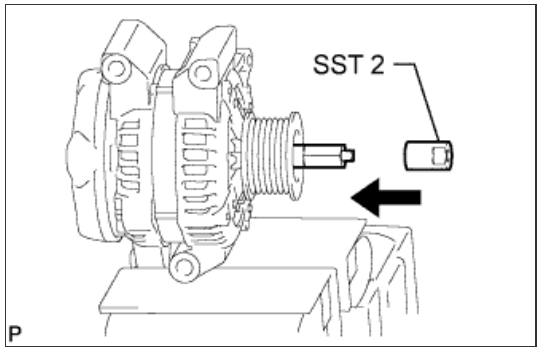
NOTICE:

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:

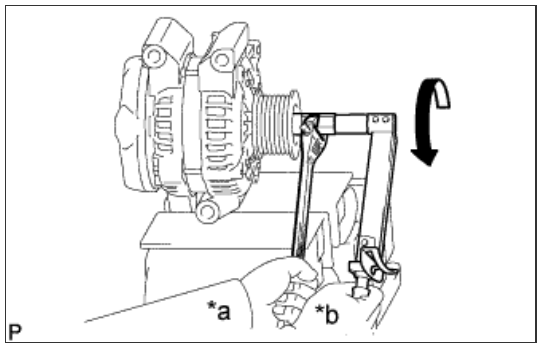
133 N*m{ 1351 kgf*cm , 98 ft.*lbf }

Text in Illustration

*a	Hold
*b	Turn

HINT:

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



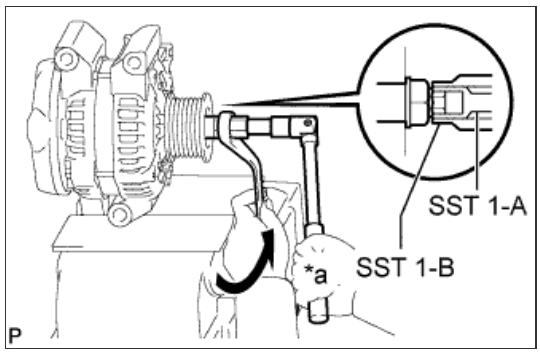
h. Remove SST 2 from the generator.

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

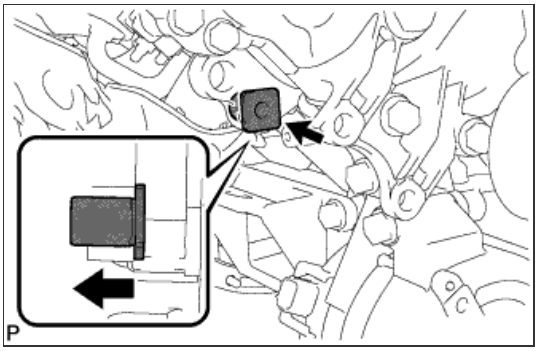
a. Connect the oil cooler tube with the 2 bolts.

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

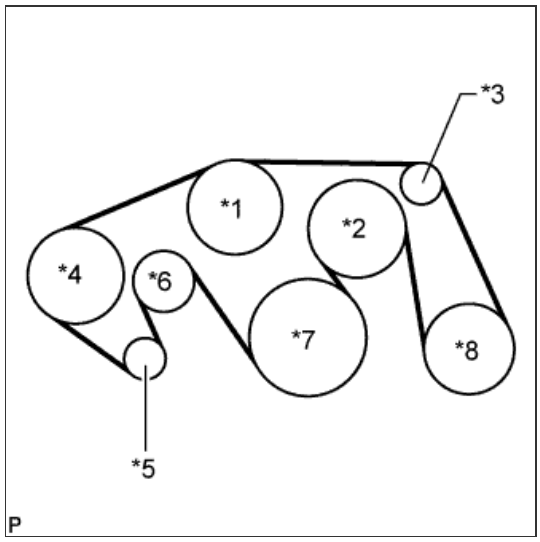
a. Install the front fender apron trim packing A with the 3 clips.

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:

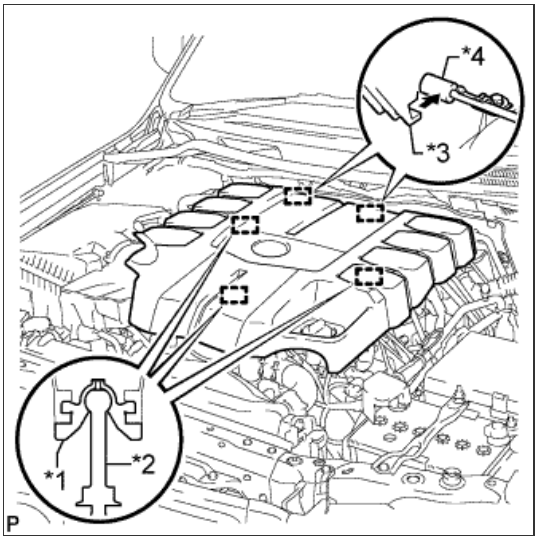
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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. 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

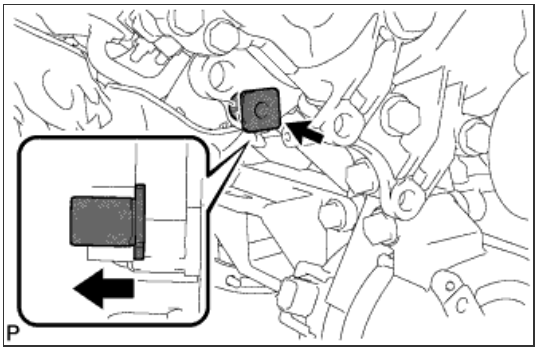
a. Connect the oil cooler tube with the 2 bolts.

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

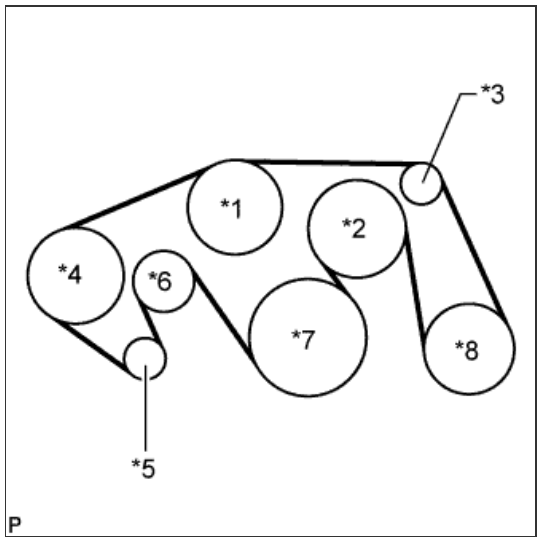
a. Install the front fender apron trim packing A with the 3 clips.

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:

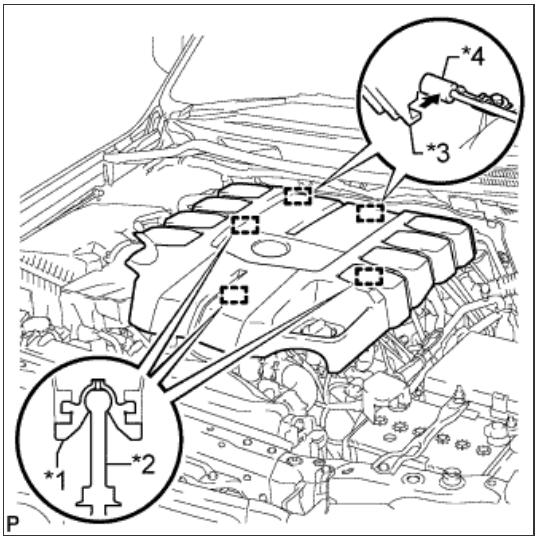
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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. 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

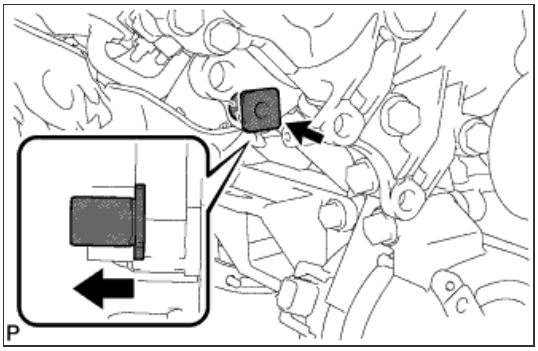
a. Connect the oil cooler tube with the 2 bolts.

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

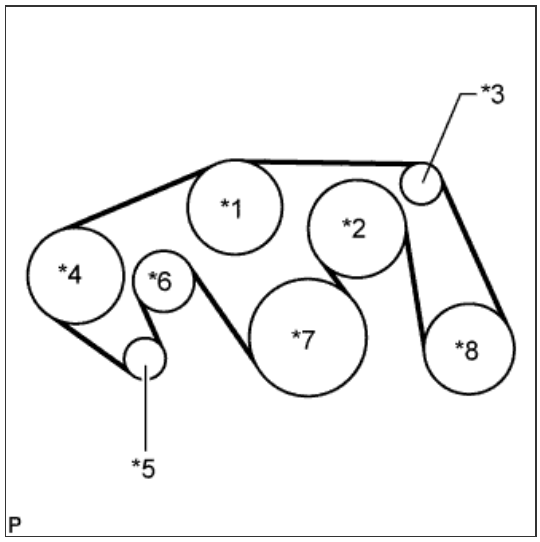
a. Install the front fender apron trim packing A with the 3 clips.

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:
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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:

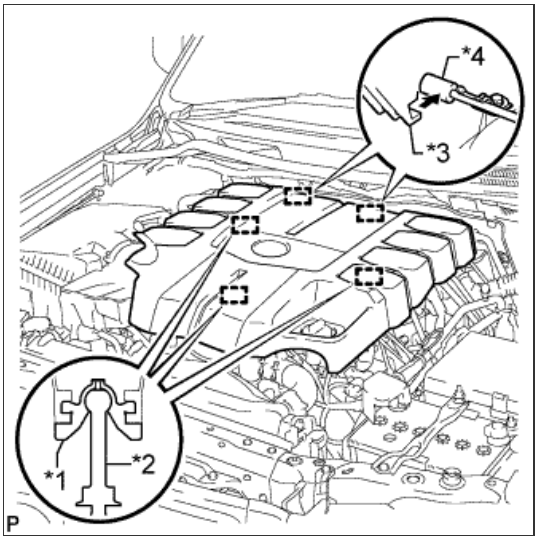
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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.

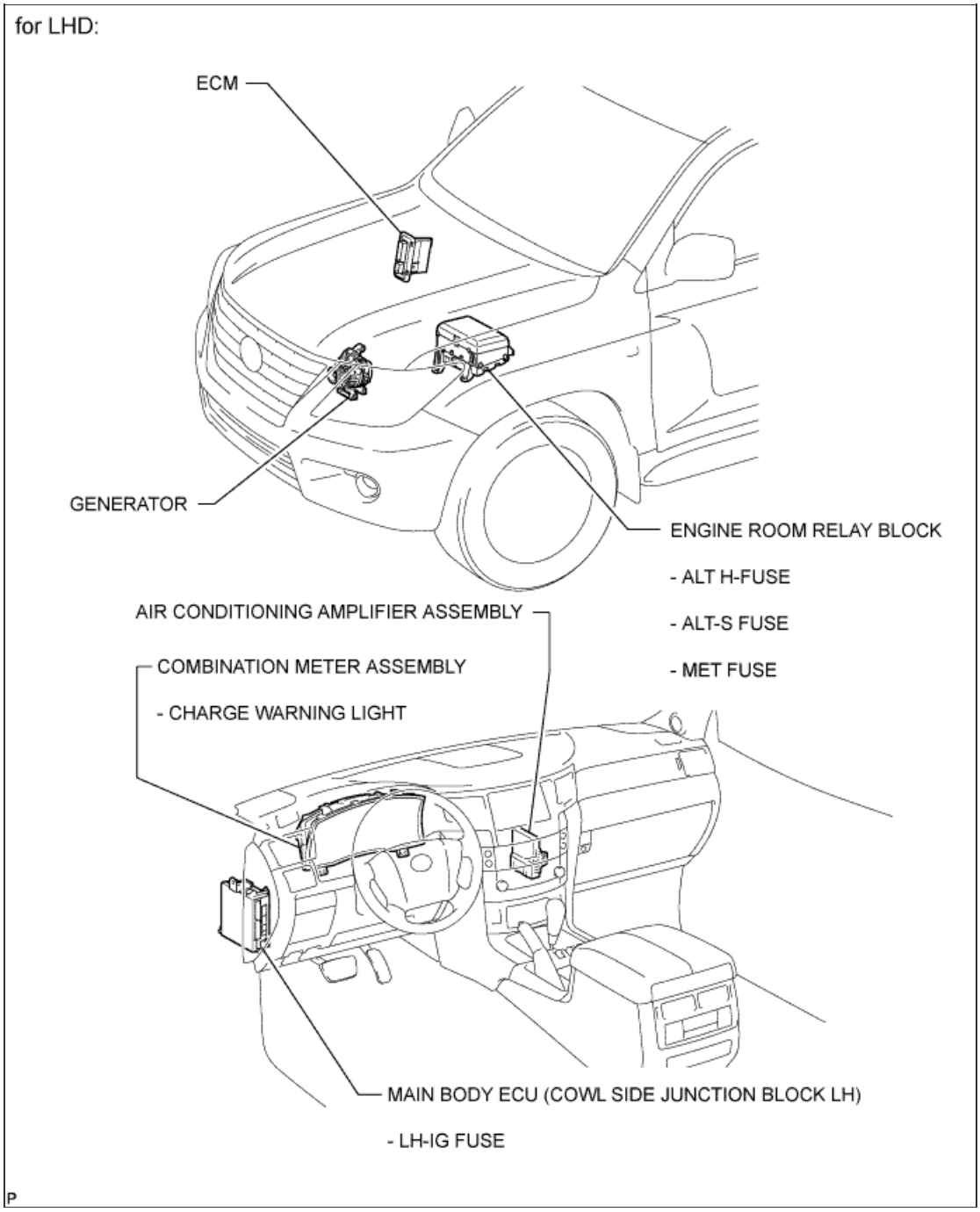
b. Disconnect the battery cables when the battery is given a quick charge.

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

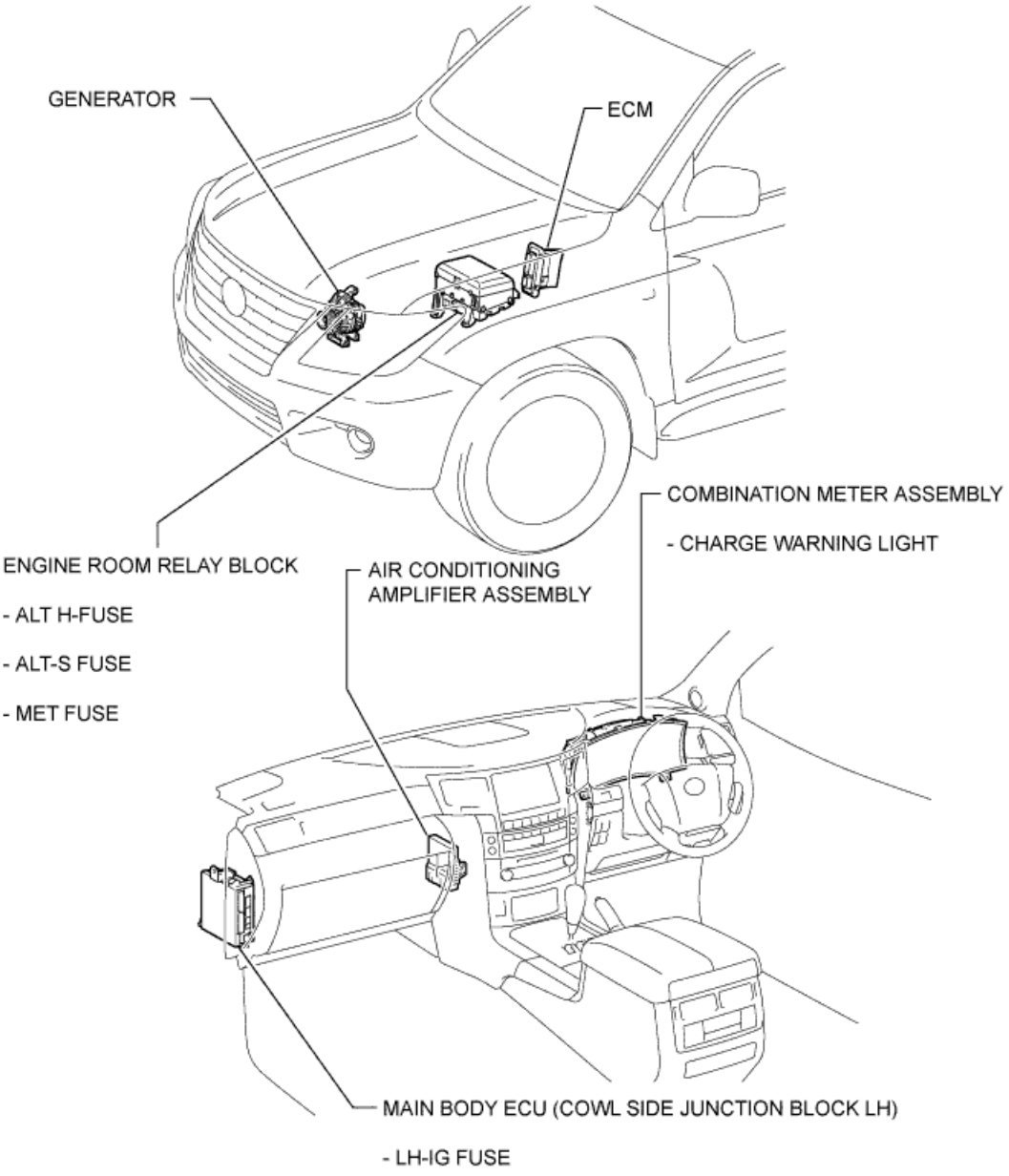
d. Never disconnect the battery while the engine is running.

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

for Preparation Click here

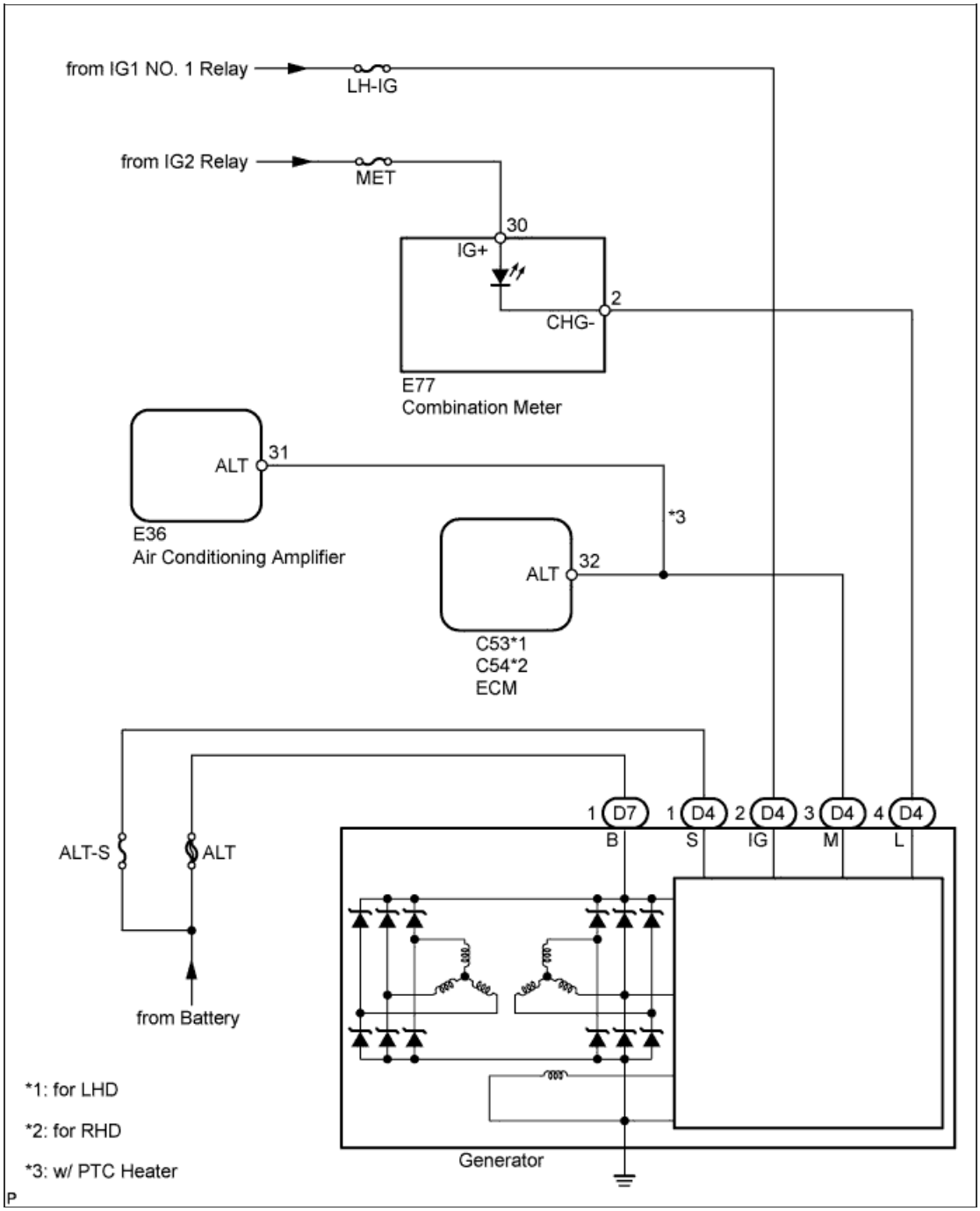


for RHD:


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

1. CHECK BATTERY CONDITION

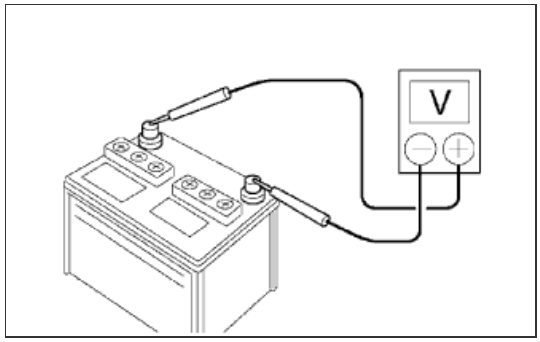
NOTICE:

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.

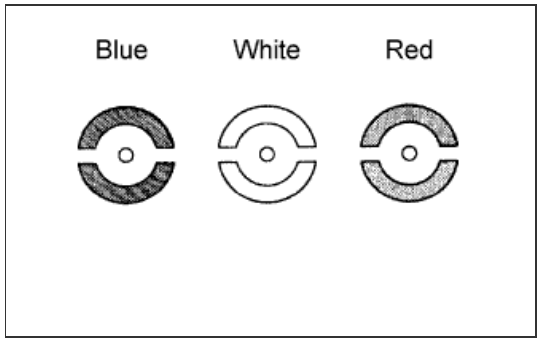
Standard specific gravity:
1.25 to 1.29 at 20°C (68°F)

- 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.

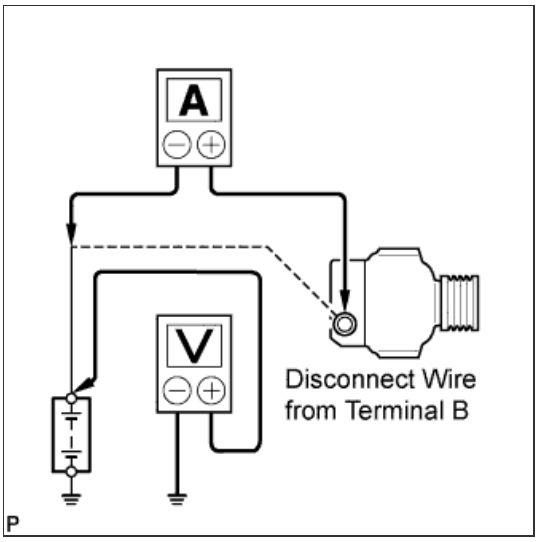
Standard current:
10 A or less

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.

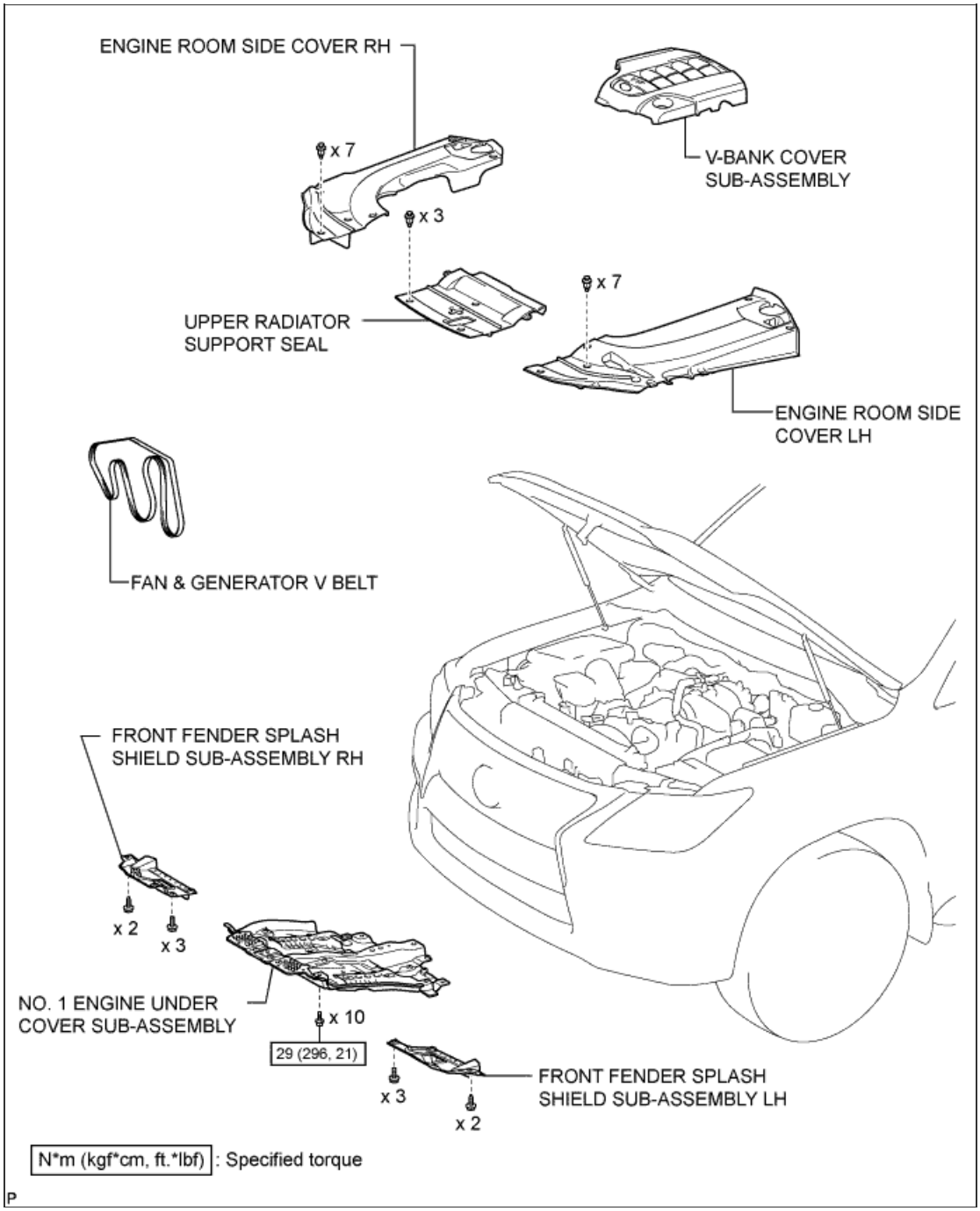
Standard current:
30 A or higher

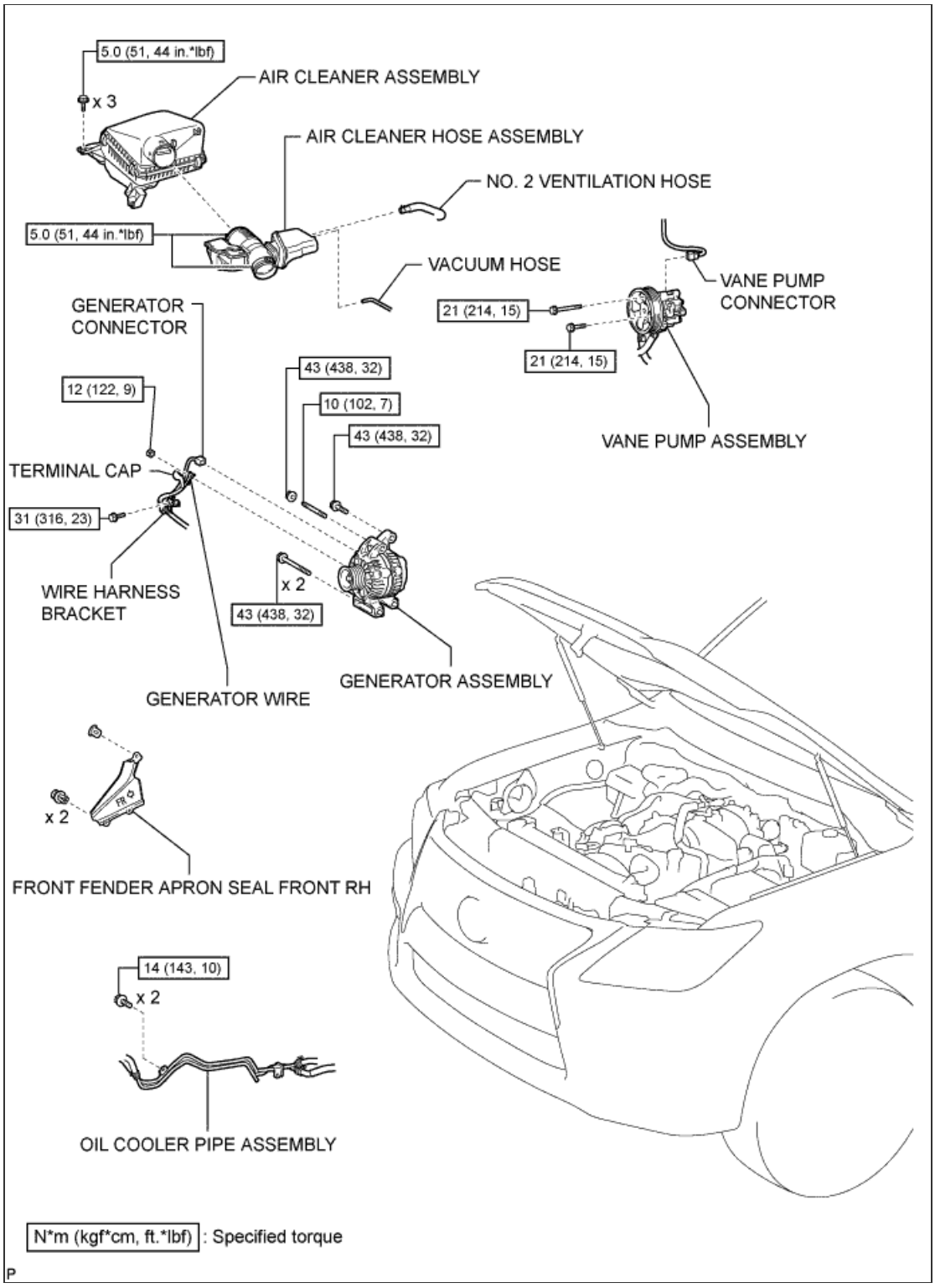
If the ammeter reading is below the standard amperage, repair the generator.

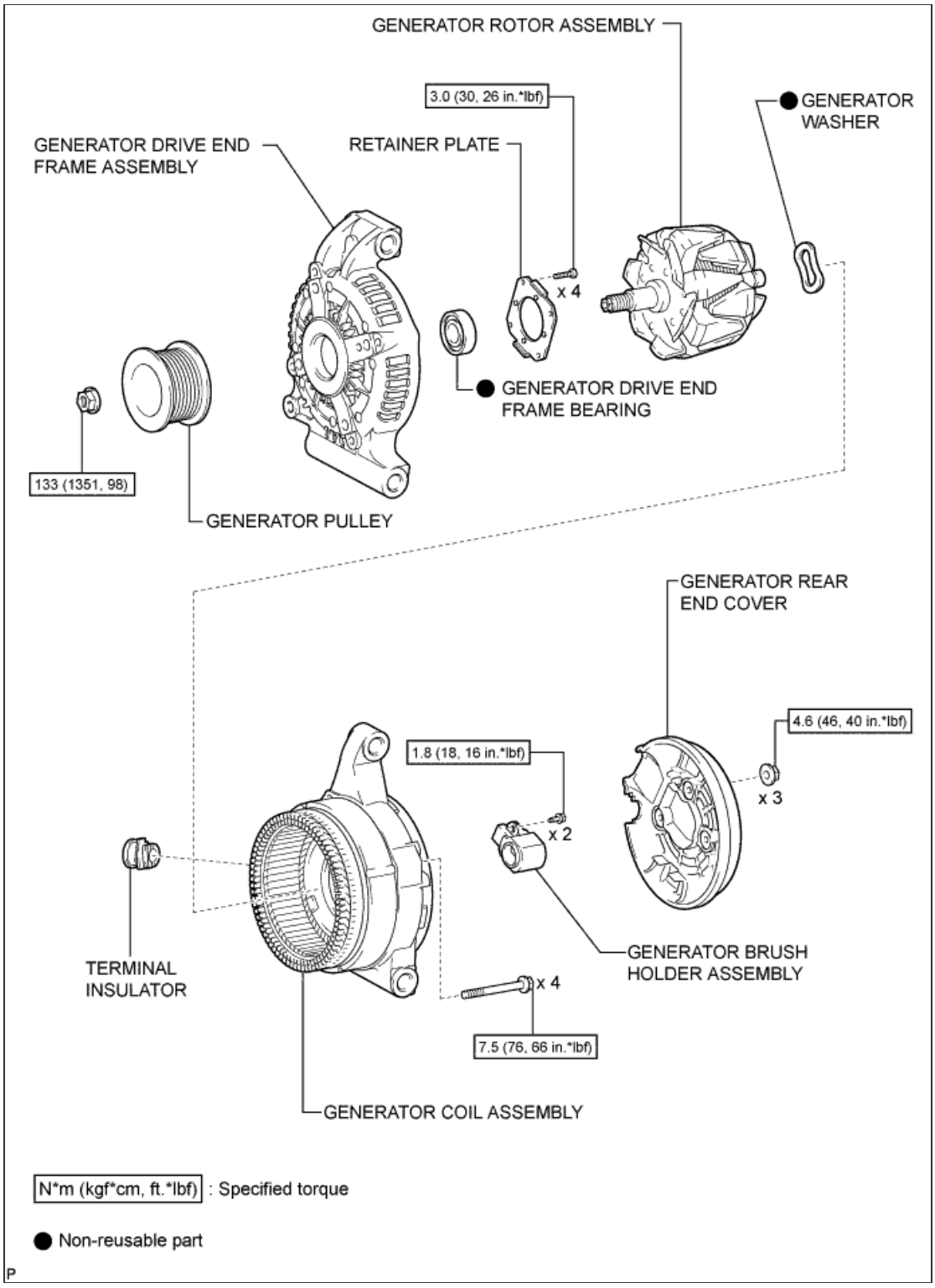
HINT:

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



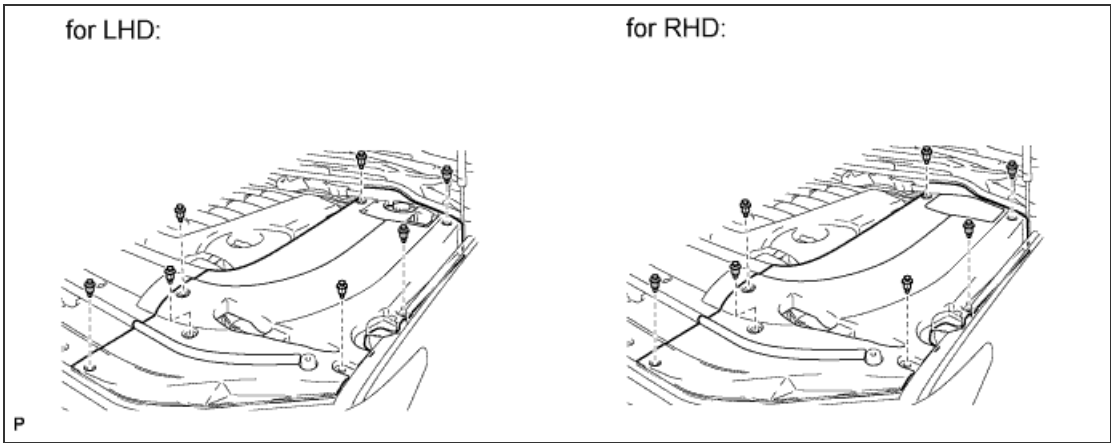

5.0 (51, 44 in.*lbf)
x 3
AIR CLEANER ASSEMBLY
AIR CLEANER HOSE ASSEMBLY
NO. 2 VENTILATION HOSE
5.0 (51, 44 in.*lbf)
VACUUM HOSE
VANE PUMP CONNECTOR
GENERATOR CONNECTOR
21 (214, 15)
21 (214, 15)
43 (438, 32)
12 (122, 9)
10 (102, 7)
43 (438, 32)
VANE PUMP ASSEMBLY
TERMINAL CAP
31 (316, 23)
x 2
WIRE HARNESS BRACKET
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 ROTOR ASSEMBLY
3.0 (30, 26 in.*lbf)
GENERATOR WASHER
GENERATOR DRIVE END FRAME ASSEMBLY
RETAINER PLATE
x 4
133 (1351, 98)
GENERATOR DRIVE END FRAME BEARING
GENERATOR PULLEY
GENERATOR REAR END COVER
4.6 (46, 40 in.*lbf)
1.8 (18, 16 in.*lbf)
x 3
x 2
TERMINAL INSULATOR
GENERATOR BRUSH HOLDER ASSEMBLY
x 4
7.5 (76, 66 in.*lbf)
GENERATOR COIL ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part
P

for Preparation Click here

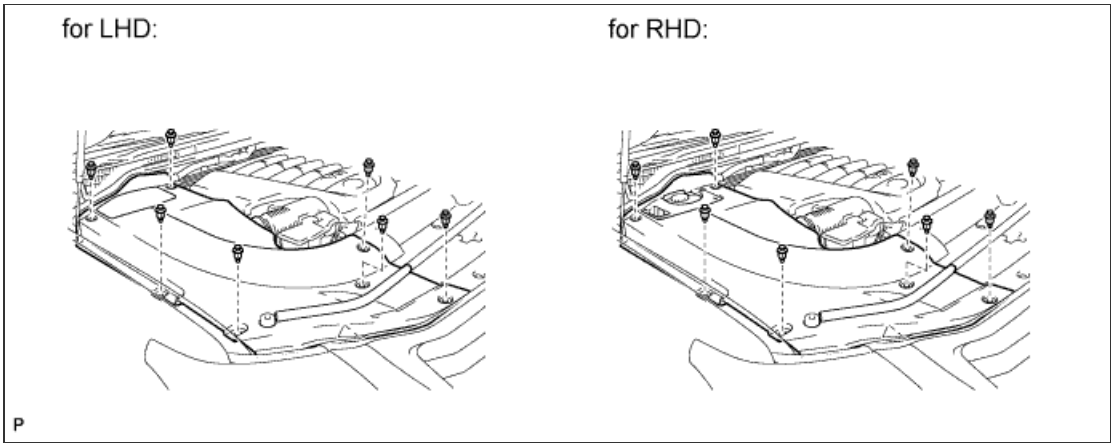
1. REMOVE ENGINE ROOM SIDE COVER LH

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



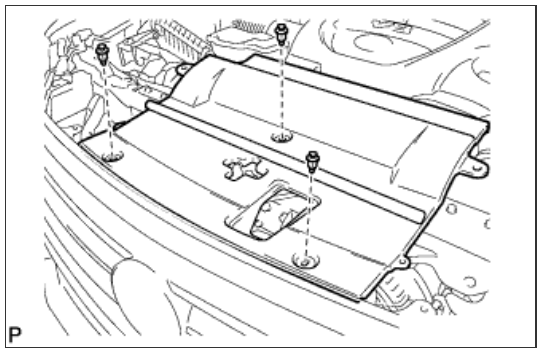
2. REMOVE ENGINE ROOM SIDE COVER RH

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



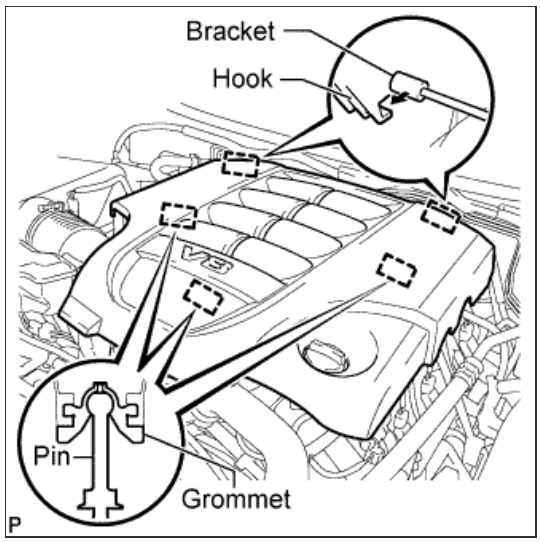
3. REMOVE UPPER RADIATOR SUPPORT SEAL

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.



5. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

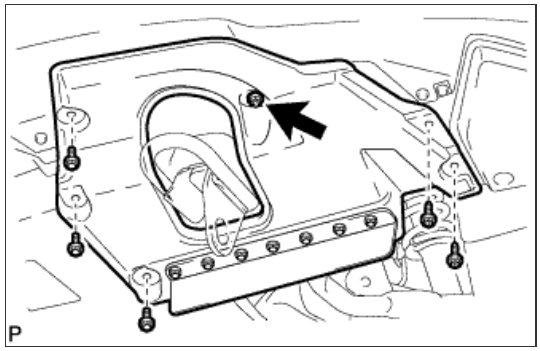
NOTICE:

- **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.



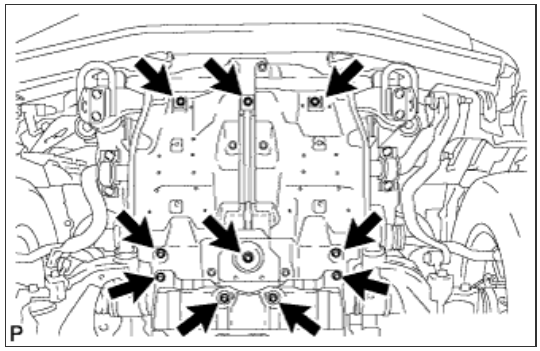
7. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

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.



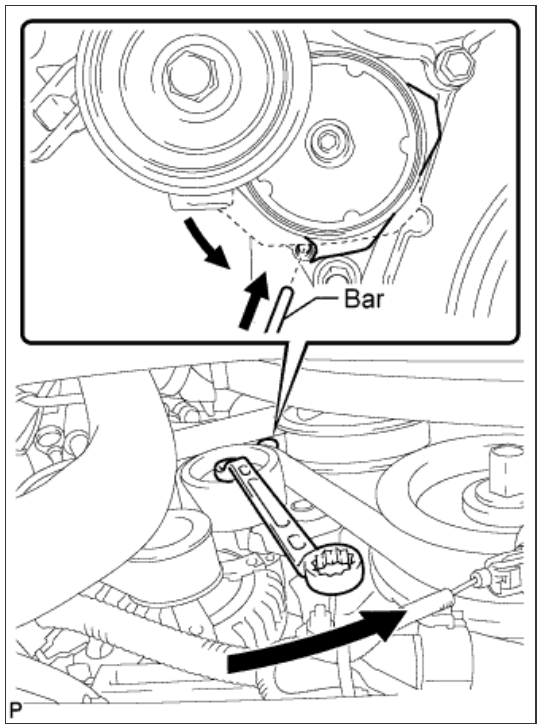
9. REMOVE FAN & GENERATOR V BELT

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:

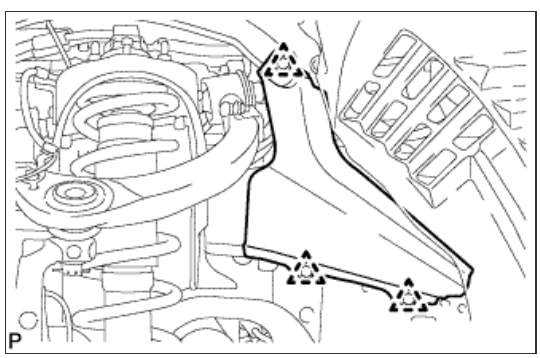
The pulley bolt for the belt tensioner has a left-hand thread.

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.

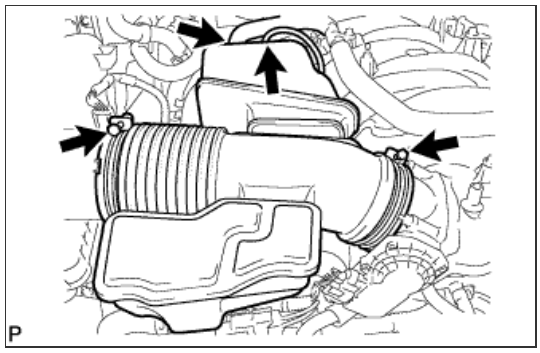


11. REMOVE AIR CLEANER HOSE ASSEMBLY

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

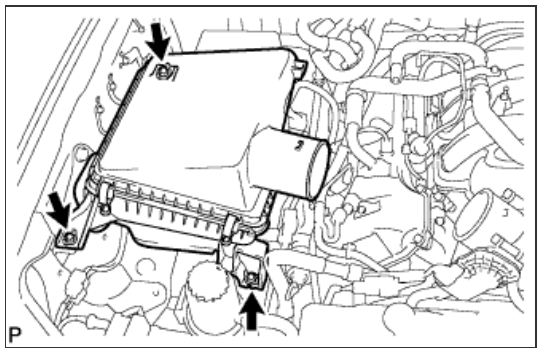
b. Loosen the 2 hose clamps.

c. Remove the air cleaner hose.



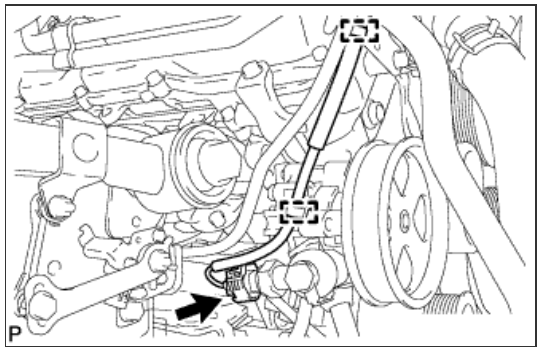
12. REMOVE AIR CLEANER ASSEMBLY

a. Remove the 3 bolts and air cleaner.

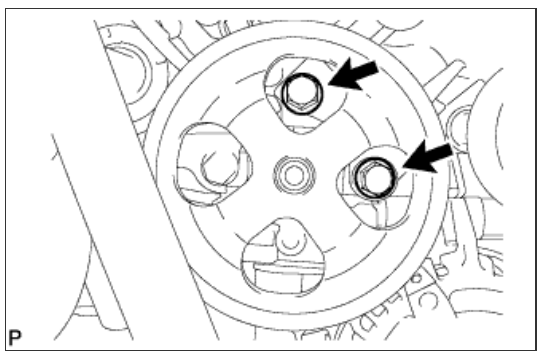


13. DISCONNECT VANE PUMP ASSEMBLY

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

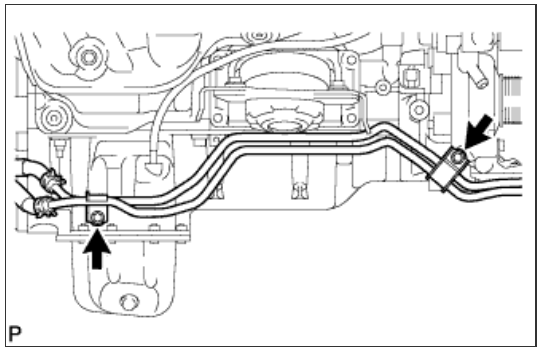


b. Remove the 2 bolts and disconnect the vane pump.



14. DISCONNECT OIL COOLER PIPE ASSEMBLY

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



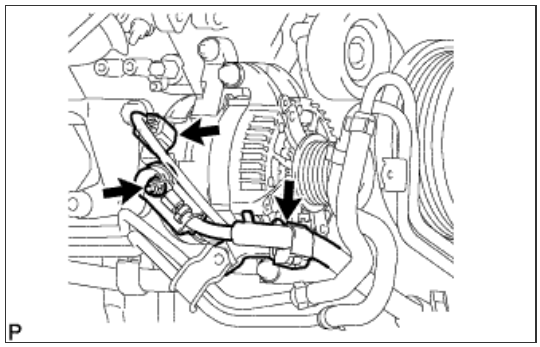
15. REMOVE GENERATOR ASSEMBLY

a. Disconnect the generator connector.

b. Open the terminal cap.

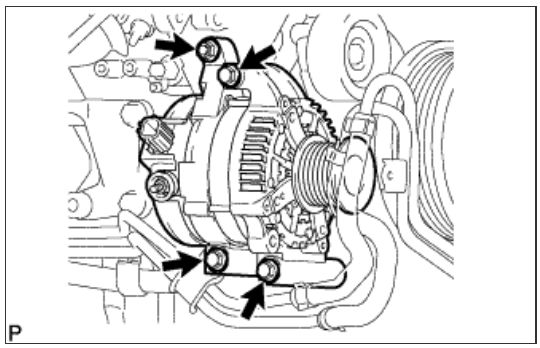
c. Remove the nut and disconnect the generator wire.

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



e. Remove the 3 bolts, nut and generator assembly.

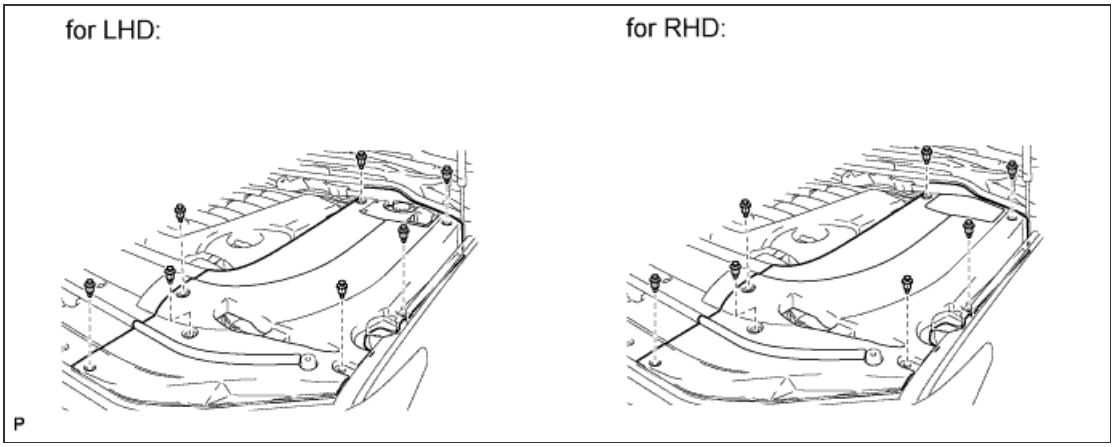
f. Remove the stud bolt.



for Preparation Click here

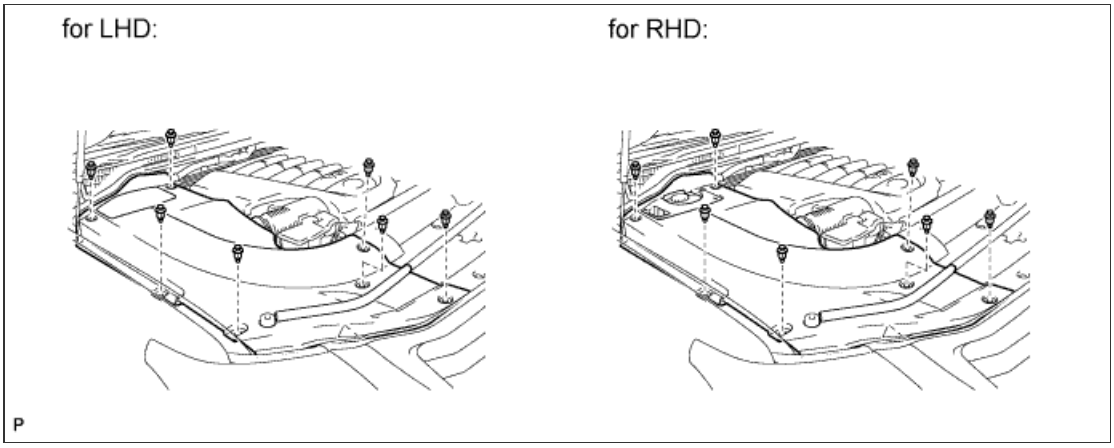
1. REMOVE ENGINE ROOM SIDE COVER LH

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



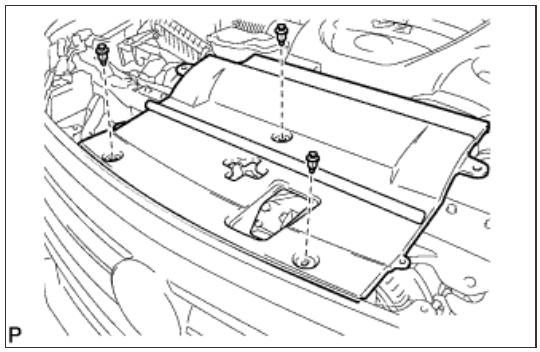
2. REMOVE ENGINE ROOM SIDE COVER RH

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



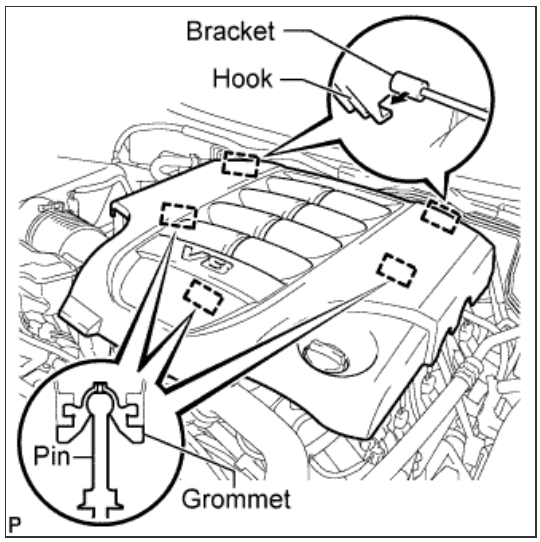
3. REMOVE UPPER RADIATOR SUPPORT SEAL

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

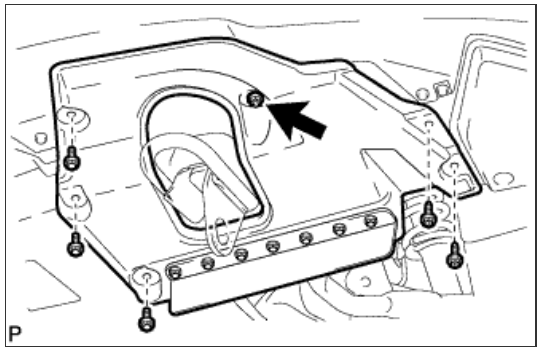
NOTICE:

- **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.



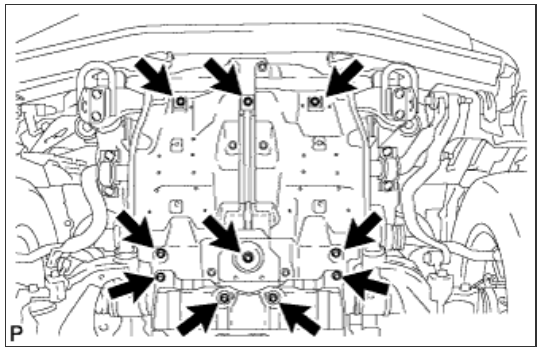
7. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

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.



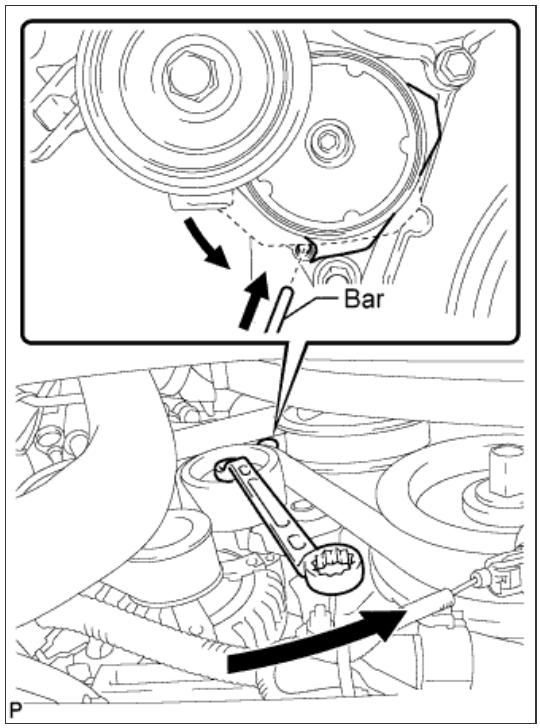
9. REMOVE FAN & GENERATOR V BELT

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:

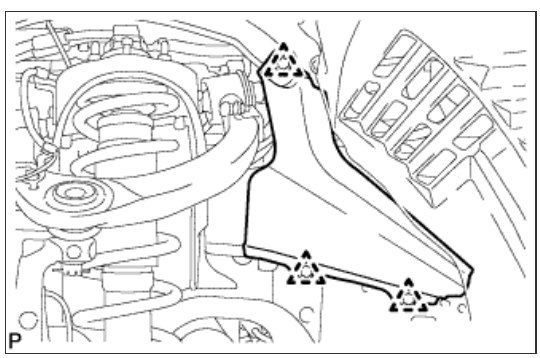
The pulley bolt for the belt tensioner has a left-hand thread.

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.

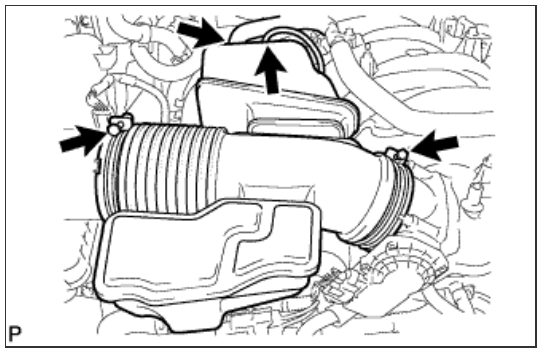


11. REMOVE AIR CLEANER HOSE ASSEMBLY

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

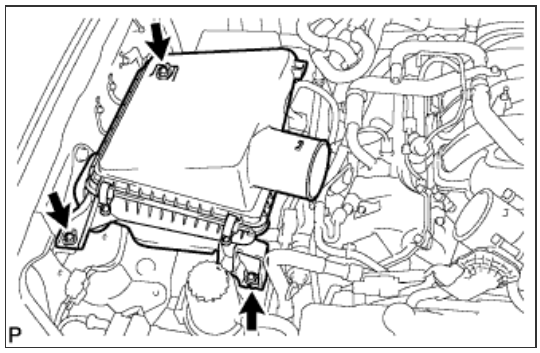
b. Loosen the 2 hose clamps.

c. Remove the air cleaner hose.



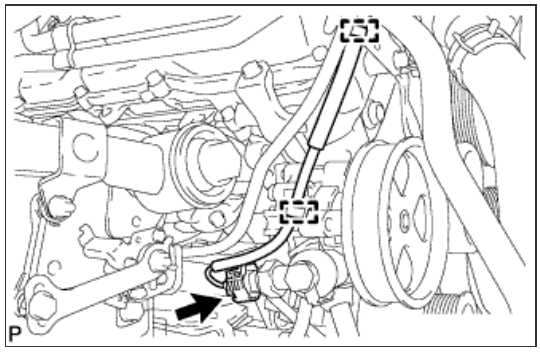
12. REMOVE AIR CLEANER ASSEMBLY

a. Remove the 3 bolts and air cleaner.

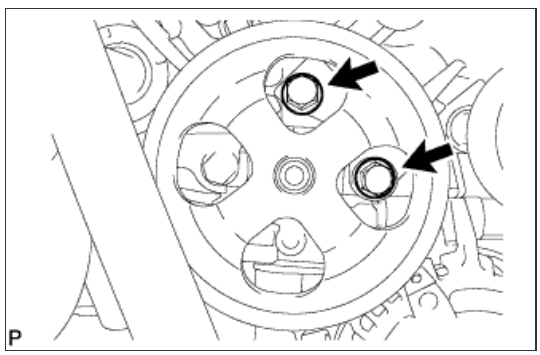


13. DISCONNECT VANE PUMP ASSEMBLY

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

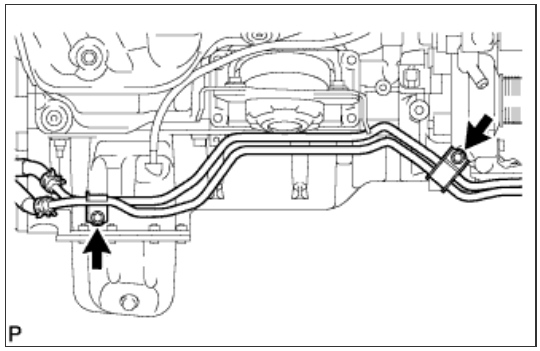


b. Remove the 2 bolts and disconnect the vane pump.



14. DISCONNECT OIL COOLER PIPE ASSEMBLY

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



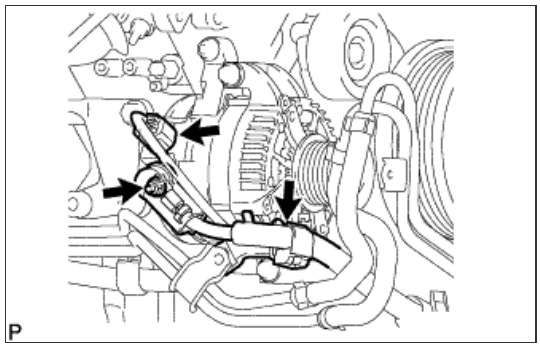
15. REMOVE GENERATOR ASSEMBLY

a. Disconnect the generator connector.

b. Open the terminal cap.

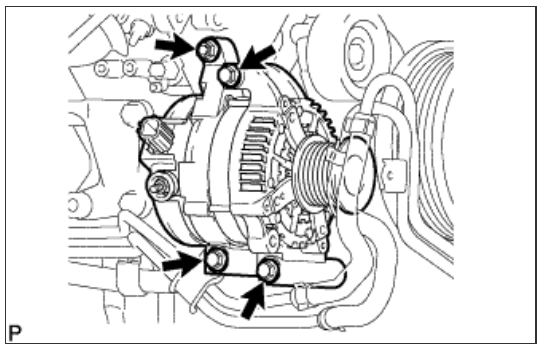
c. Remove the nut and disconnect the generator wire.

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



e. Remove the 3 bolts, nut and generator assembly.

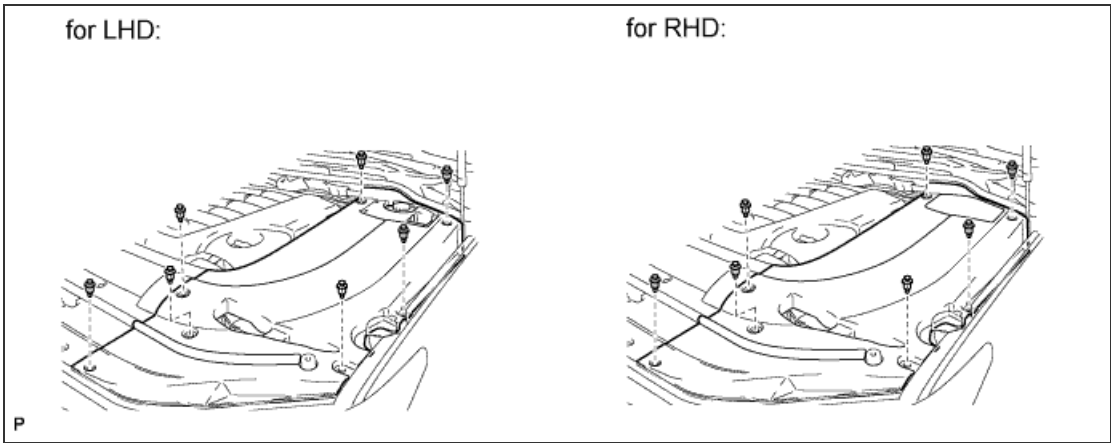
f. Remove the stud bolt.



for Preparation Click here

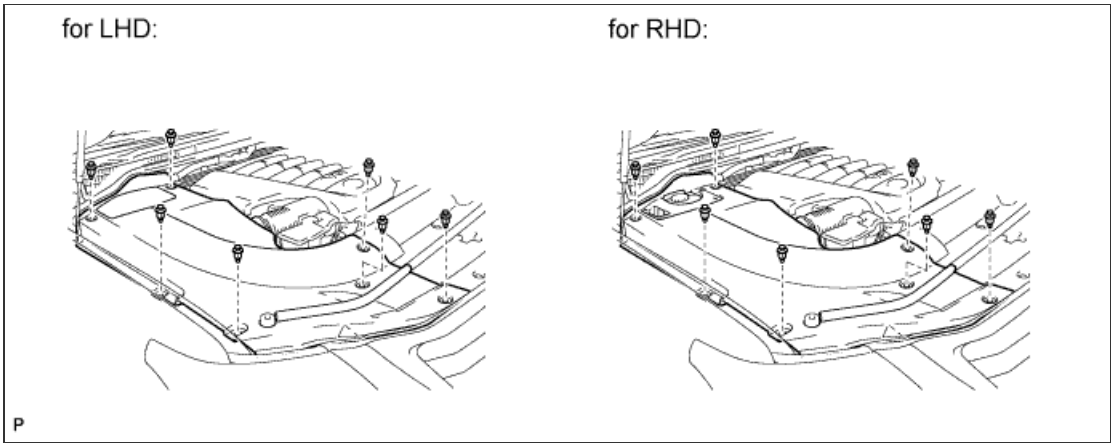
1. REMOVE ENGINE ROOM SIDE COVER LH

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



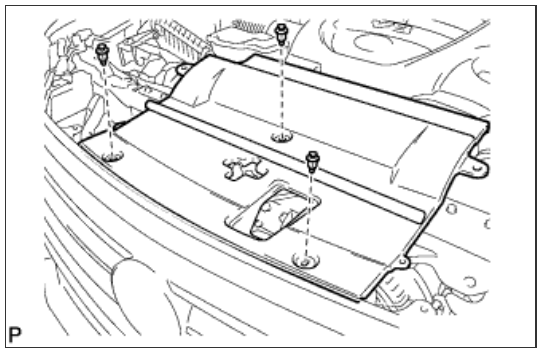
2. REMOVE ENGINE ROOM SIDE COVER RH

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



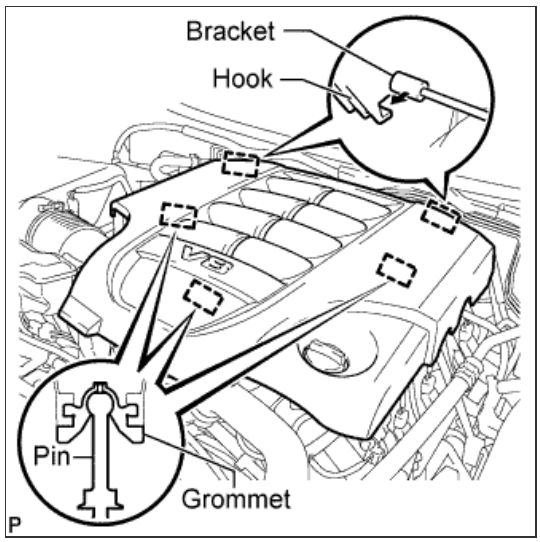
3. REMOVE UPPER RADIATOR SUPPORT SEAL

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

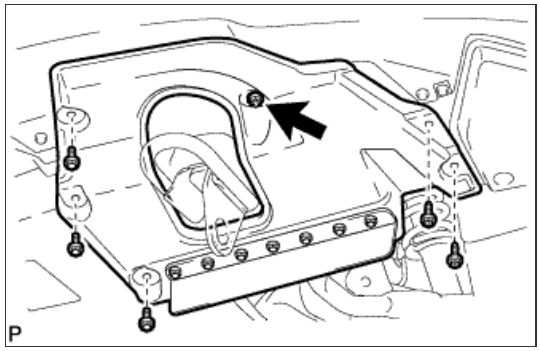
NOTICE:

- **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.



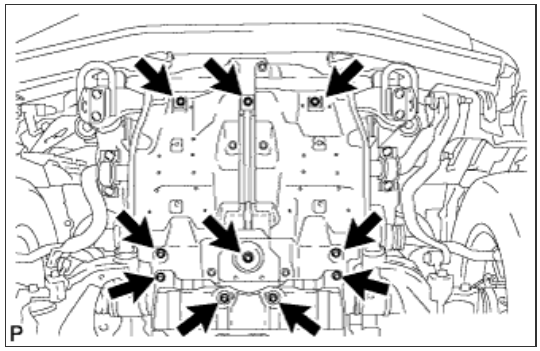
7. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

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.



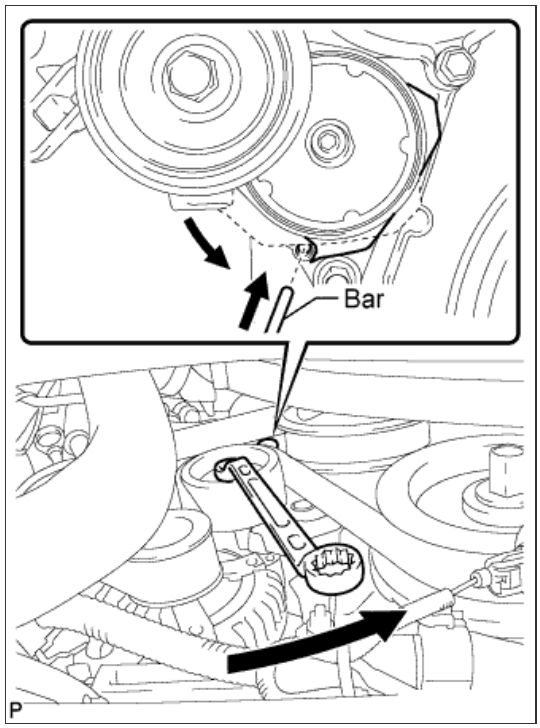
9. REMOVE FAN & GENERATOR V BELT

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:

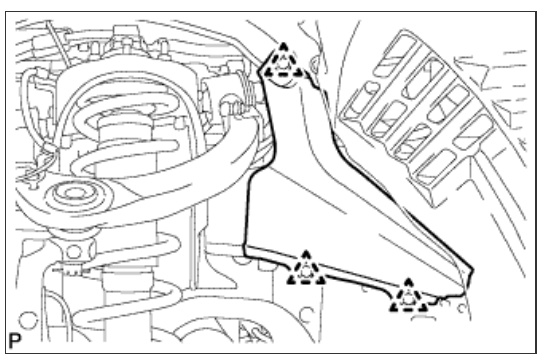
The pulley bolt for the belt tensioner has a left-hand thread.

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.

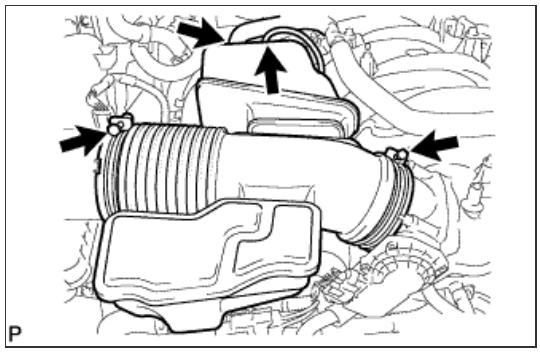


11. REMOVE AIR CLEANER HOSE ASSEMBLY

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

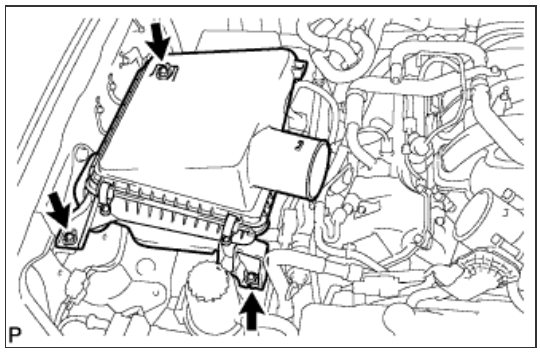
b. Loosen the 2 hose clamps.

c. Remove the air cleaner hose.



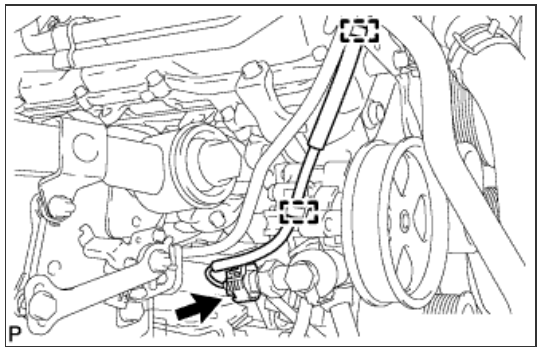
12. REMOVE AIR CLEANER ASSEMBLY

a. Remove the 3 bolts and air cleaner.

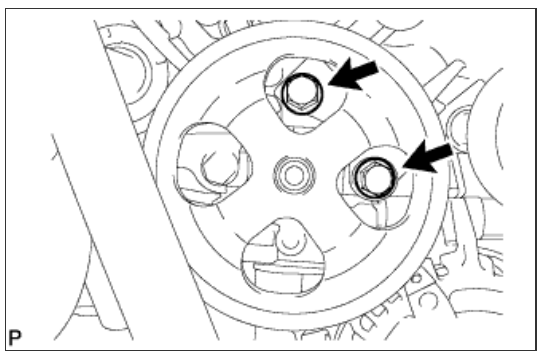


13. DISCONNECT VANE PUMP ASSEMBLY

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

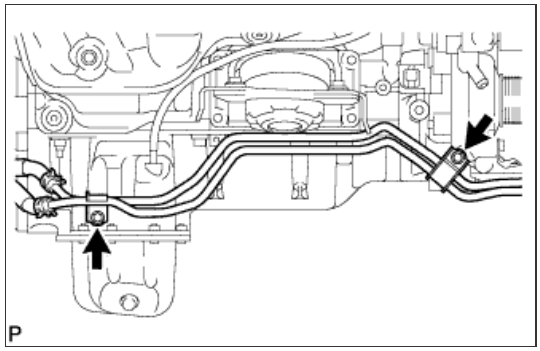


b. Remove the 2 bolts and disconnect the vane pump.



14. DISCONNECT OIL COOLER PIPE ASSEMBLY

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



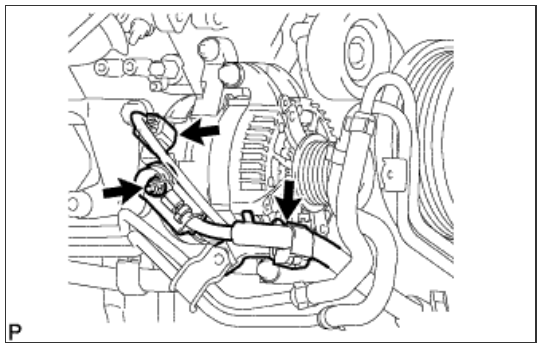
15. REMOVE GENERATOR ASSEMBLY

a. Disconnect the generator connector.

b. Open the terminal cap.

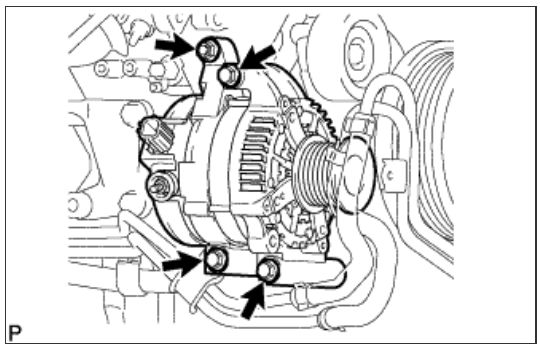
c. Remove the nut and disconnect the generator wire.

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



e. Remove the 3 bolts, nut and generator assembly.

f. Remove the stud bolt.



for Preparation Click here

1. REMOVE GENERATOR PULLEY

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

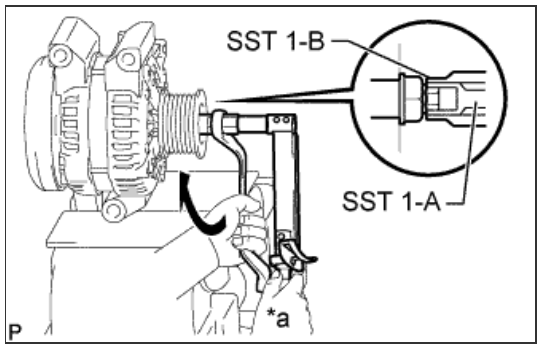
b. Install SST 1-A and SST 1-B to the rotor shaft.

SST

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

HINT:

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



c. 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

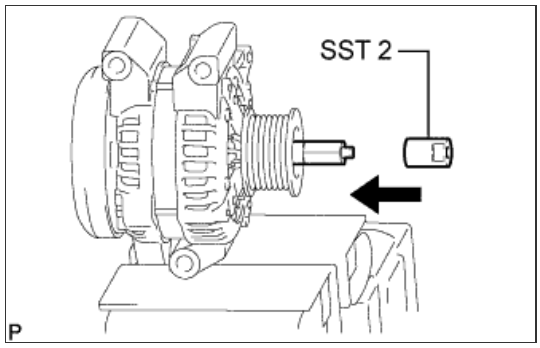
NOTICE:

Check that SST is secured on the rotor shaft.

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

Text in Illustration

➡	Insert



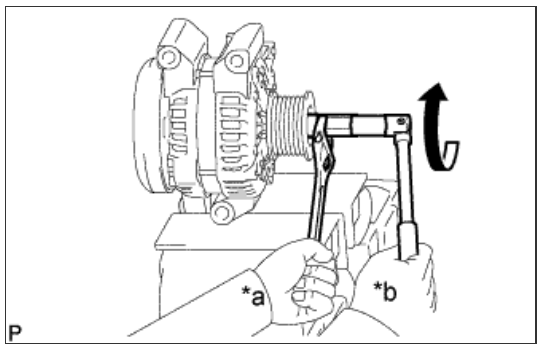
e. To loosen the pulley nut, turn SST 1-A in the direction shown in the illustration.

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.



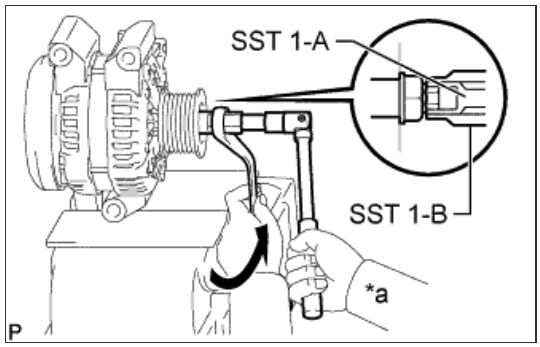
f. Remove SST 2.

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

Text in Illustration

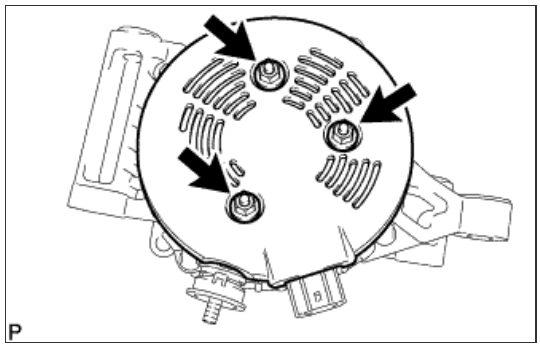
*a	Hold
➡	Turn

h. Remove the pulley nut and generator pulley.

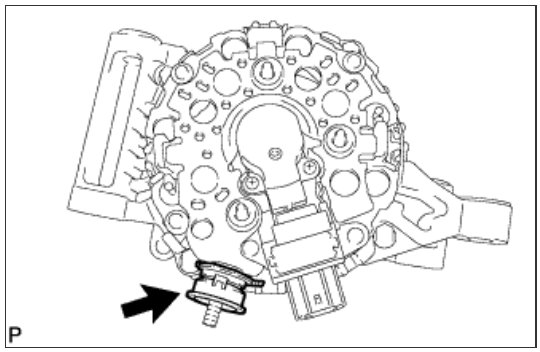


2. REMOVE GENERATOR REAR END COVER

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

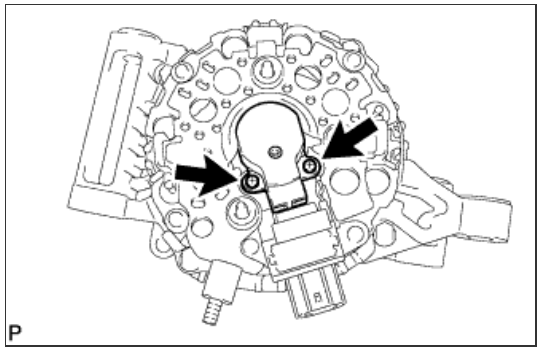


3. REMOVE TERMINAL INSULATOR



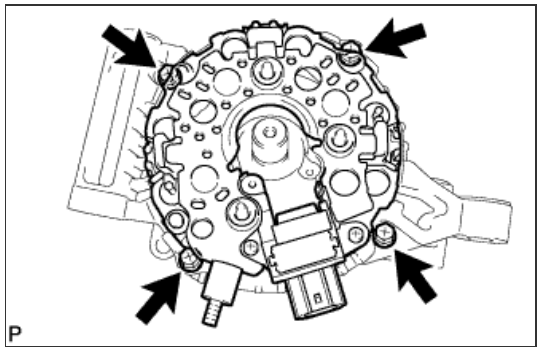
4. REMOVE GENERATOR BRUSH HOLDER ASSEMBLY

a. Remove the 2 screws and generator brush holder assembly.



5. REMOVE GENERATOR COIL ASSEMBLY

a. Remove the 4 bolts.

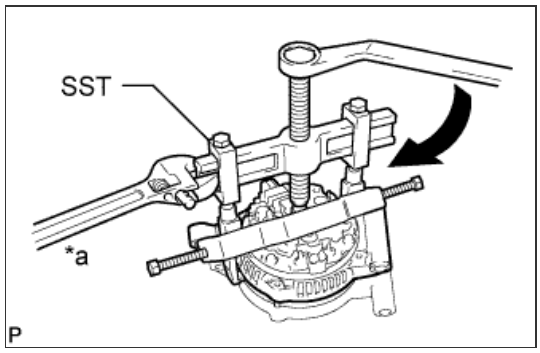


b. Using SST, remove the generator coil assembly.

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

Text in Illustration

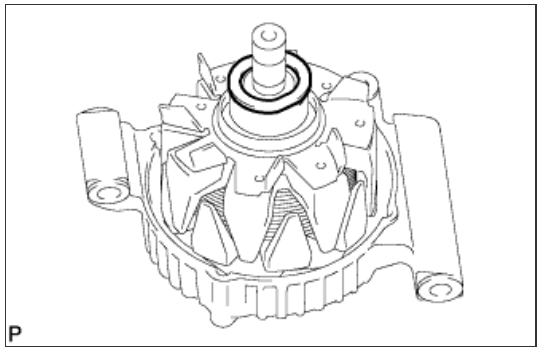
*a	Hold
➡	Turn



6. REMOVE GENERATOR ROTOR ASSEMBLY

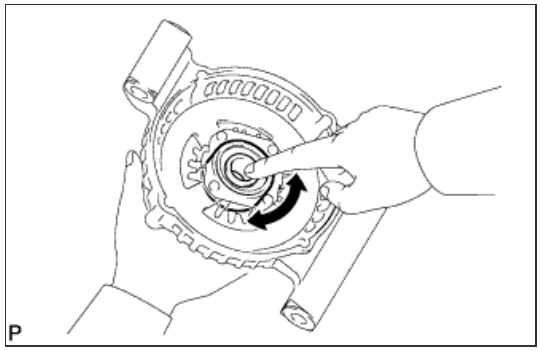
a. Remove the generator washer.

b. Remove the generator rotor assembly.



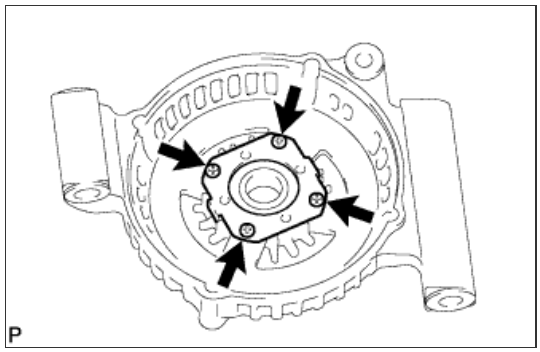
7. INSPECT GENERATOR DRIVE END FRAME BEARING

a. Check that the generator 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

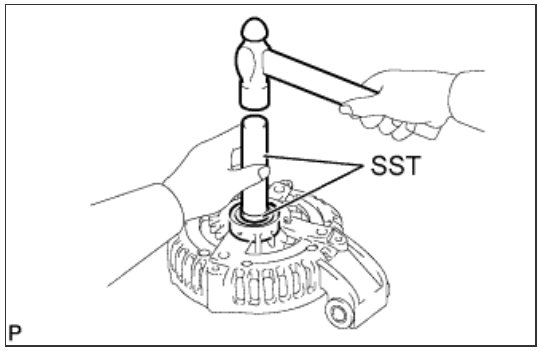
a. Remove the 4 screws and retainer plate.



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

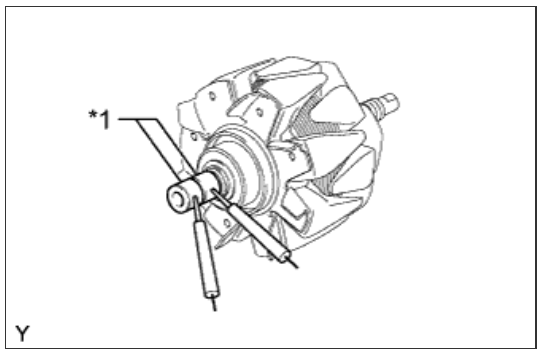
Standard Resistance:

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

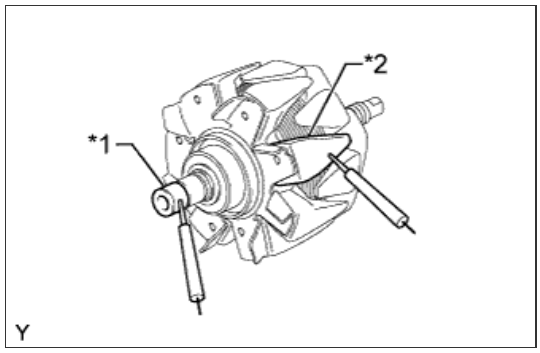
Standard Resistance:

Tester Connection	Condition	Specified Condition
Slip ring - Rotor core	Always	10 MΩ 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 each slip ring diameter.

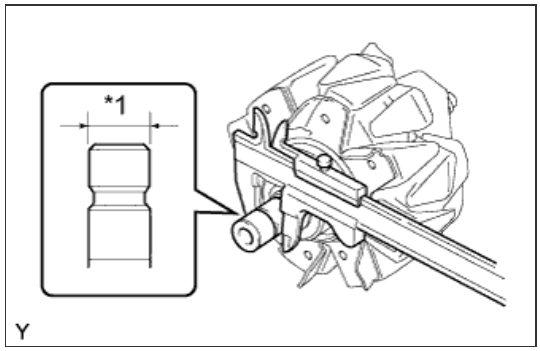
Standard diameter:
14.2 to 14.8 mm (0.559 to 0.583 in.)

Minimum diameter:
14.0 mm (0.551 in.)

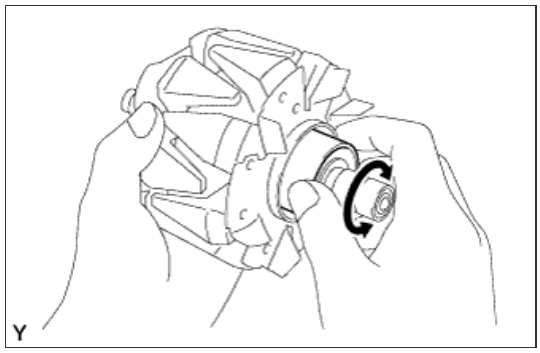
Text in Illustration

*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.

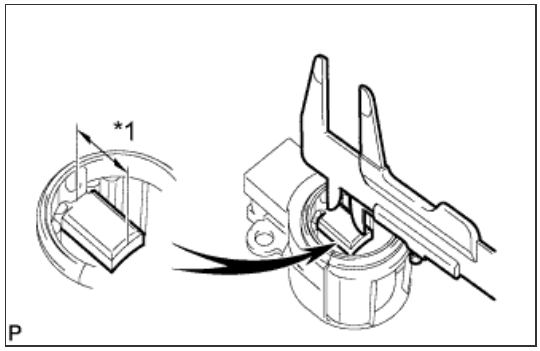


2. INSPECT GENERATOR BRUSH HOLDER ASSEMBLY

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

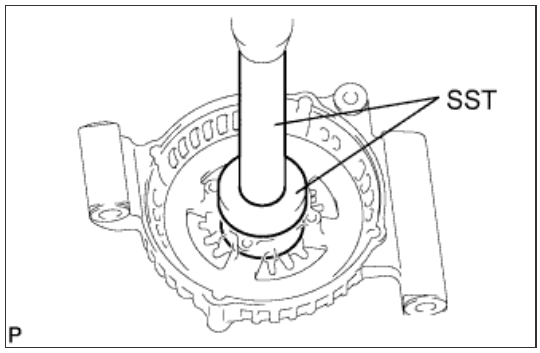
If the brush length is less than the minimum, replace the generator brush holder assembly.

for Preparation Click here

1. INSTALL GENERATOR DRIVE END FRAME BEARING

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

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



b. Install the retainer plate with the 4 screws.

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

2. INSTALL GENERATOR ROTOR ASSEMBLY

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

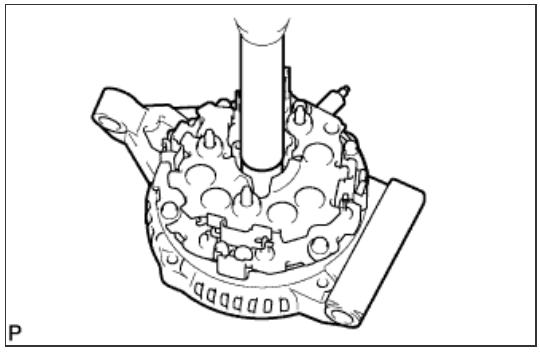
b. Place a new generator washer on the generator rotor assembly.

3. INSTALL GENERATOR COIL ASSEMBLY

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

b. Install the 4 bolts.

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

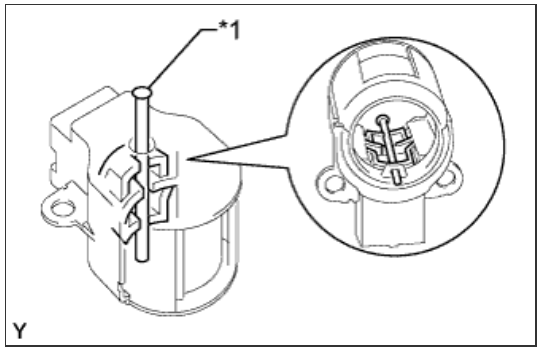


4. INSTALL GENERATOR BRUSH HOLDER ASSEMBLY

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

Text in Illustration

*1	Pin



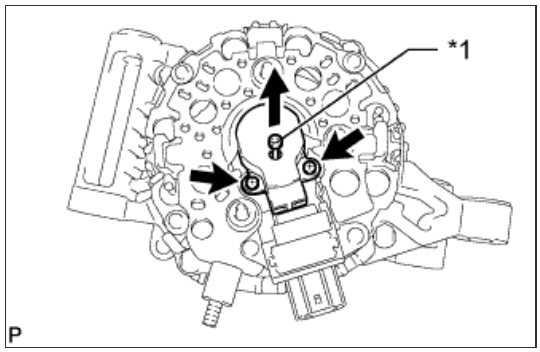
b. Install the generator brush holder assembly with the 2 screws.

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

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

Text in Illustration

*1	Pin



5. INSTALL TERMINAL INSULATOR

a. Install the terminal insulator to the generator coil assembly.

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.

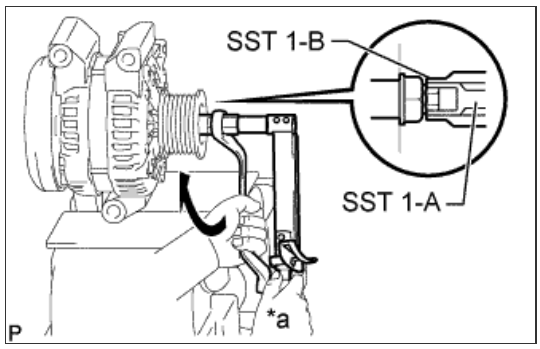
b. Mount the generator assembly in a vise between aluminum plates.

c. Install SST 1-A and SST 1-B to the rotor shaft.

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

HINT:

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



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:

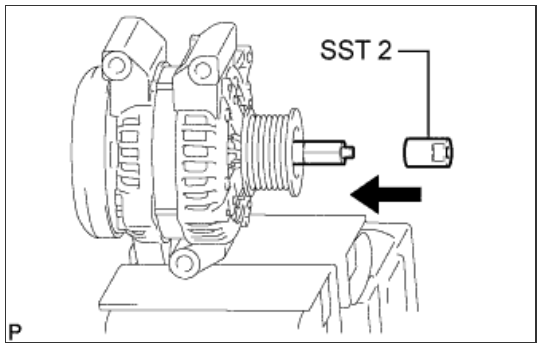
Check that SST is secured to the rotor shaft.

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

Text in Illustration

	Insert

	➡	



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

Torque:

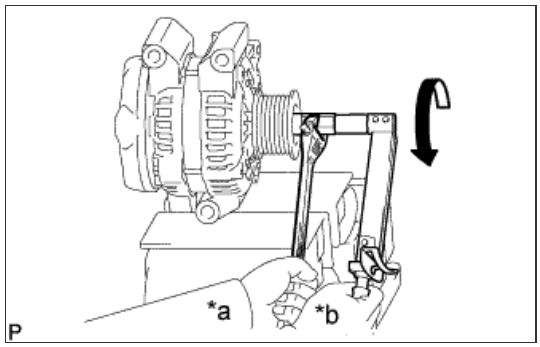
133 N*m{ 1351 kgf*cm , 98 ft.*lbf }

Text in Illustration

*a	Hold
*b	Turn

HINT:

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

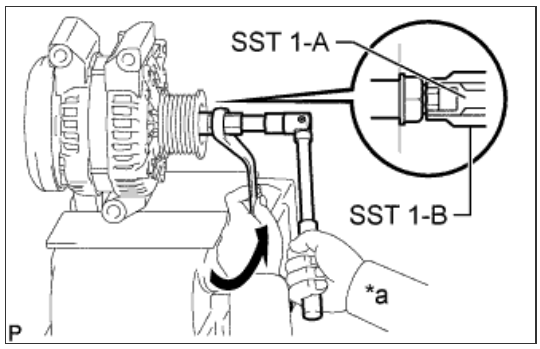


g. Remove SST 2.

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. 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 assembly with the 3 bolts and nut.

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

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

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

d. Connect the generator wire with the nut.

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

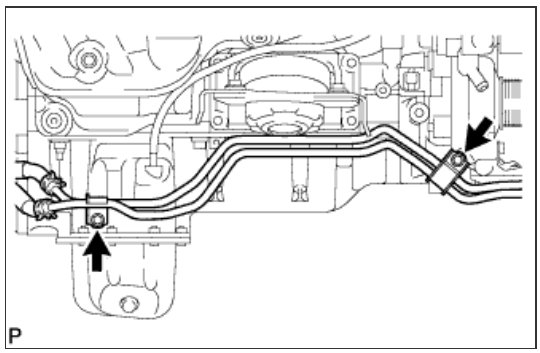
e. Close the terminal cap.

f. Connect the generator connector.

2. CONNECT OIL COOLER PIPE ASSEMBLY

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

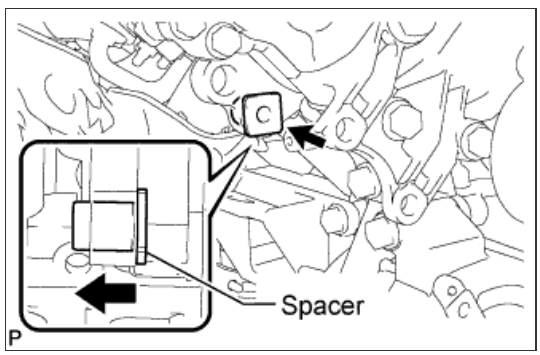
Torque:
14 N*m{ 143 kgf*cm , 10 ft.*lbf }



3. CONNECT VANE PUMP ASSEMBLY

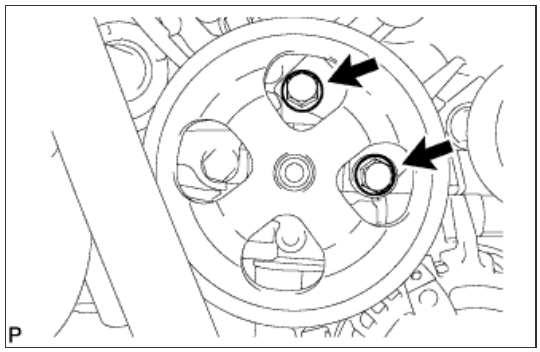
HINT:

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

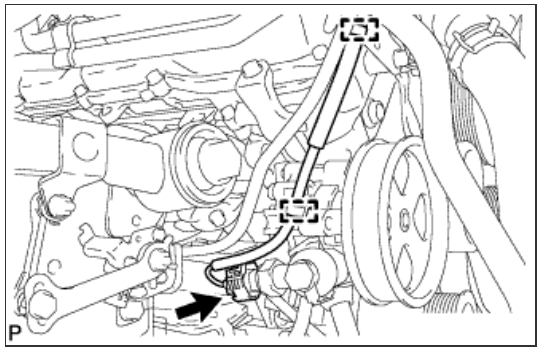


a. Connect the vane pump to the timing chain cover with the 2 bolts.

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



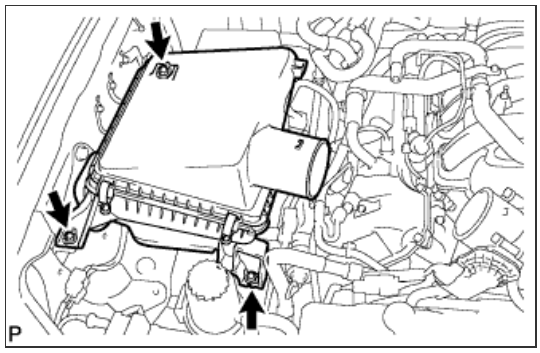
b. Connect the 2 clamps and power steering oil pressure switch connector.



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

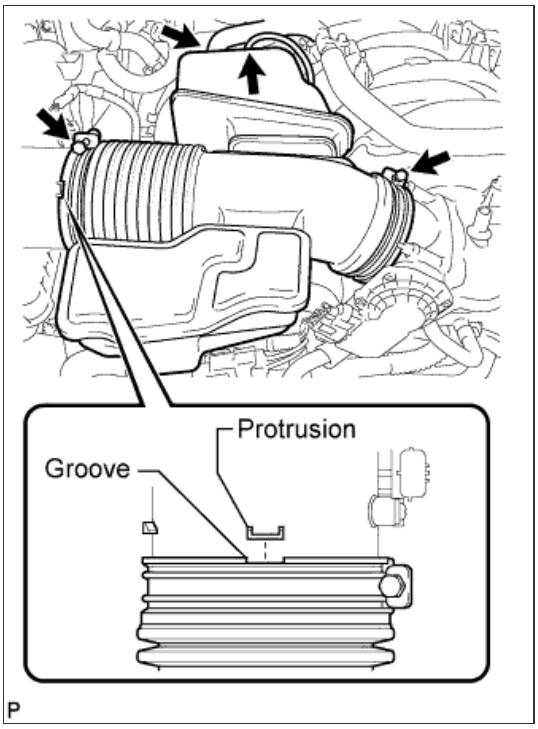
a. Install the air cleaner hose so that the protrusion of the air cleaner cap aligns with the groove of the hose as shown in the illustration.

b. Tighten the 2 clamps.

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

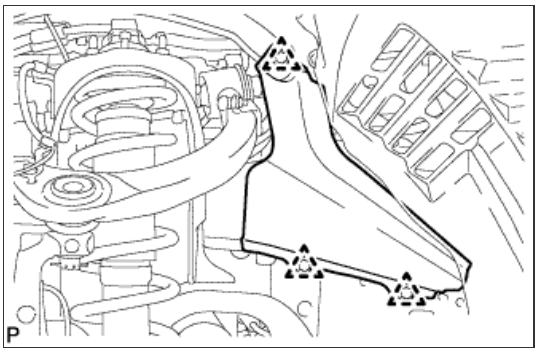
c. Connect the vacuum hose.

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.



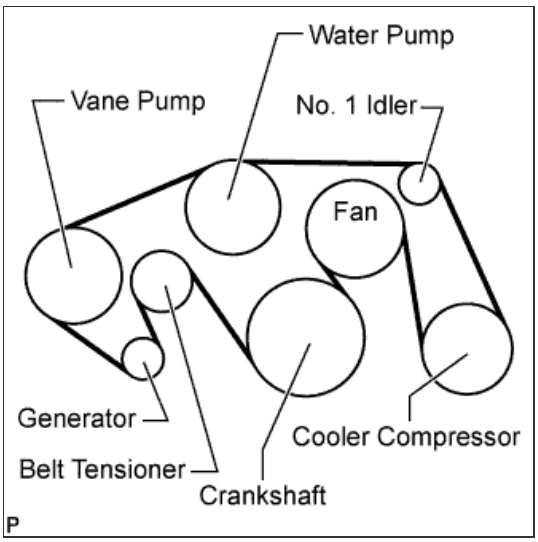
7. INSTALL FAN & GENERATOR V BELT

a. Set the V belt onto every part.

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

NOTICE:

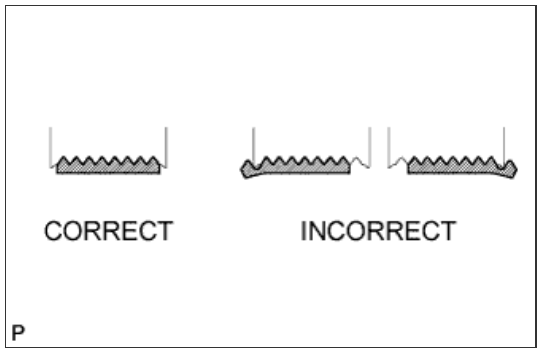
Make sure that the V belt is properly set to each pulley.



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

HINT:

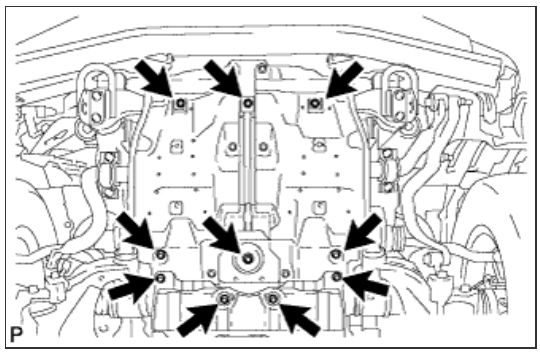
Make sure to check by hand that the belt has not slipped out of the grooves on the bottom of the pulley.



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.

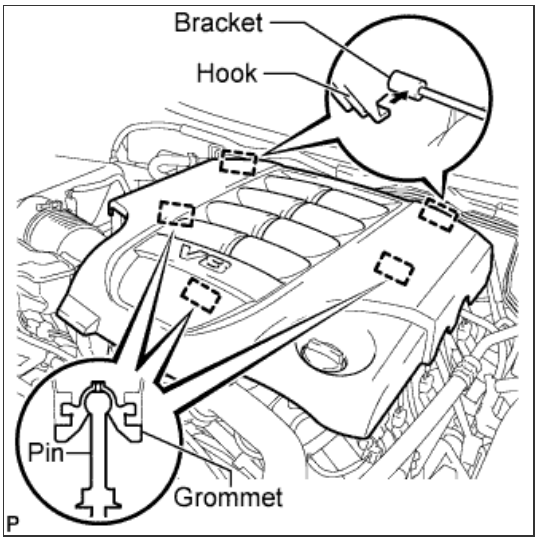
11. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

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

1. INSTALL GENERATOR ASSEMBLY

a. Install the stud bolt.

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

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

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

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

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

d. Connect the generator wire with the nut.

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

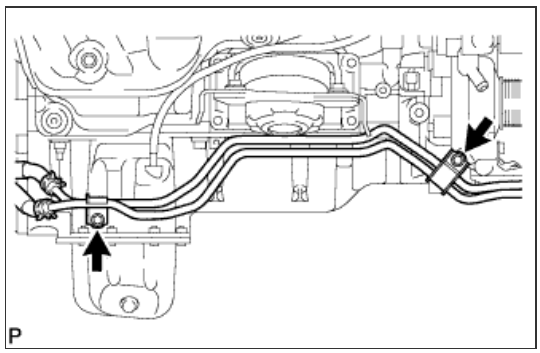
e. Close the terminal cap.

f. Connect the generator connector.

2. CONNECT OIL COOLER PIPE ASSEMBLY

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

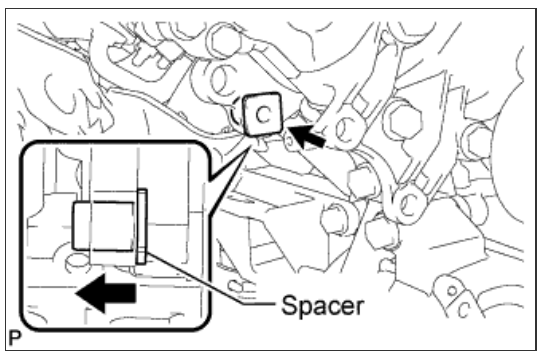
Torque:
14 N*m{ 143 kgf*cm , 10 ft.*lbf }



3. CONNECT VANE PUMP ASSEMBLY

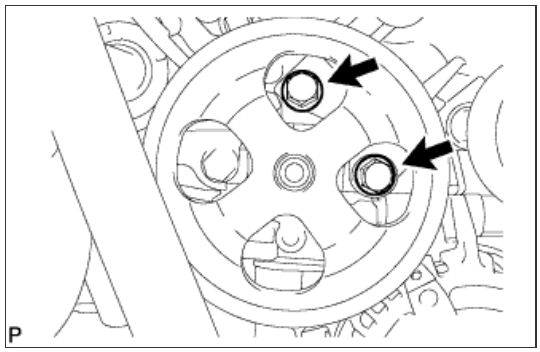
HINT:

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

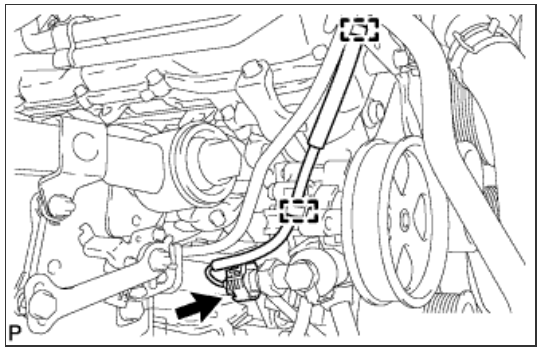


a. Connect the vane pump to the timing chain cover with the 2 bolts.

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



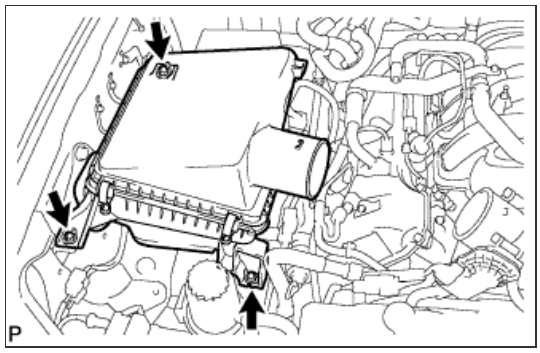
b. Connect the 2 clamps and power steering oil pressure switch connector.



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

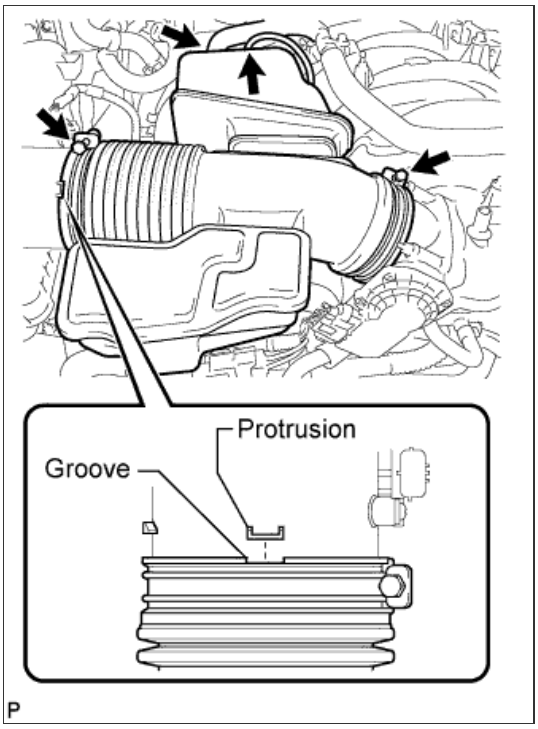
a. Install the air cleaner hose so that the protrusion of the air cleaner cap aligns with the groove of the hose as shown in the illustration.

b. Tighten the 2 clamps.

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

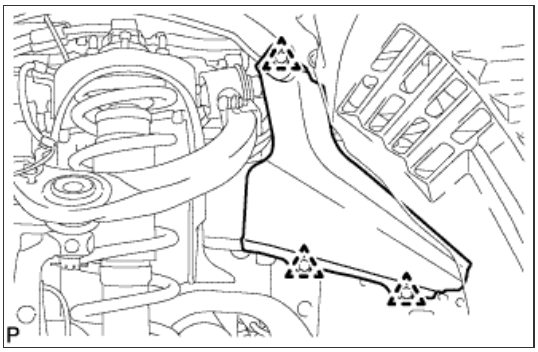
c. Connect the vacuum hose.

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.



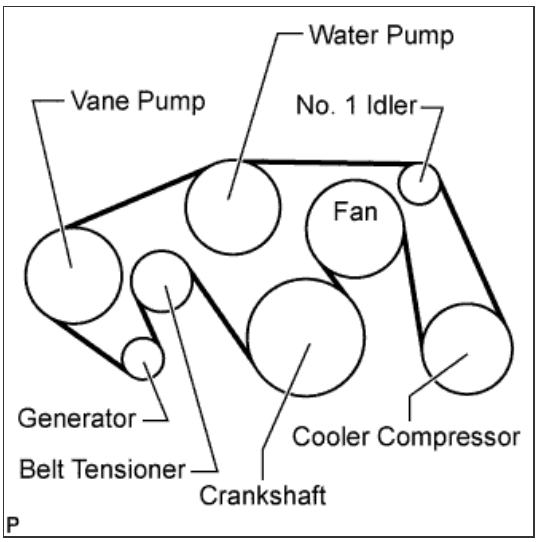
7. INSTALL FAN & GENERATOR V BELT

a. Set the V belt onto every part.

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

NOTICE:

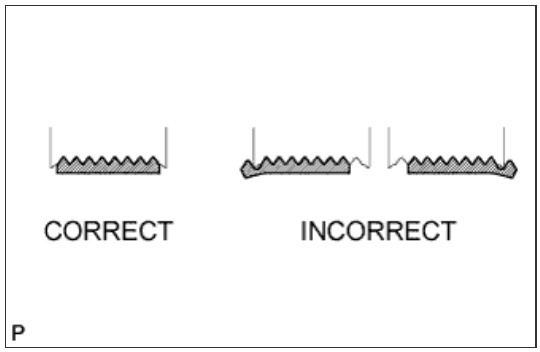
Make sure that the V belt is properly set to each pulley.



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

HINT:

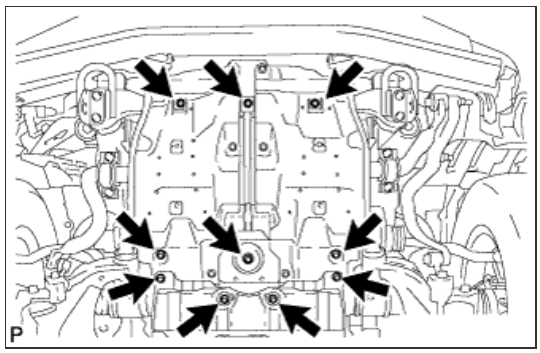
Make sure to check by hand that the belt has not slipped out of the grooves on the bottom of the pulley.



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.

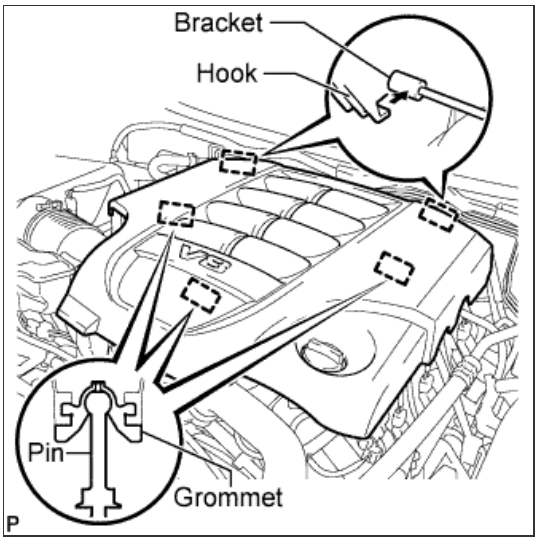
11. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

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

1. INSTALL GENERATOR ASSEMBLY

a. Install the stud bolt.

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

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

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

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

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

d. Connect the generator wire with the nut.

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

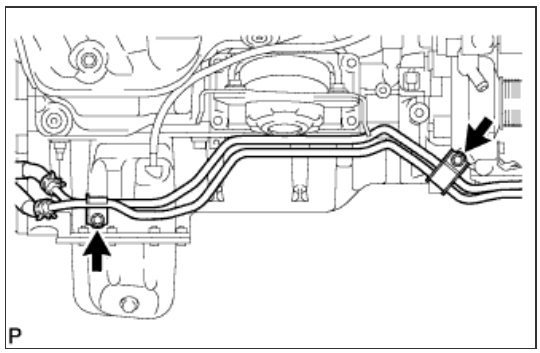
e. Close the terminal cap.

f. Connect the generator connector.

2. CONNECT OIL COOLER PIPE ASSEMBLY

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

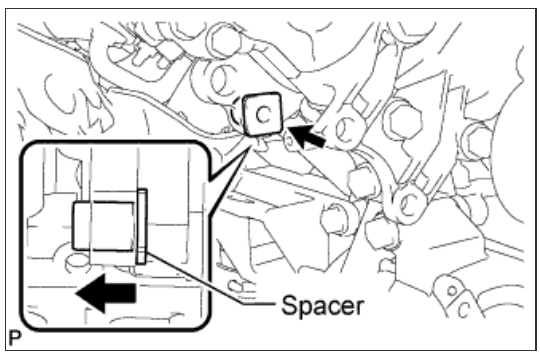
Torque:
14 N*m{ 143 kgf*cm , 10 ft.*lbf }



3. CONNECT VANE PUMP ASSEMBLY

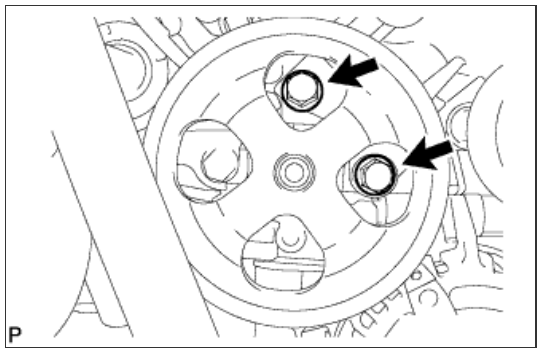
HINT:

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

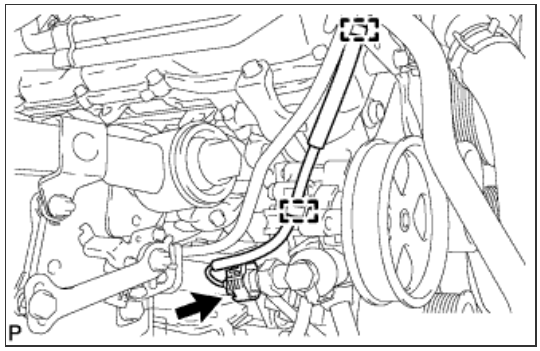


a. Connect the vane pump to the timing chain cover with the 2 bolts.

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



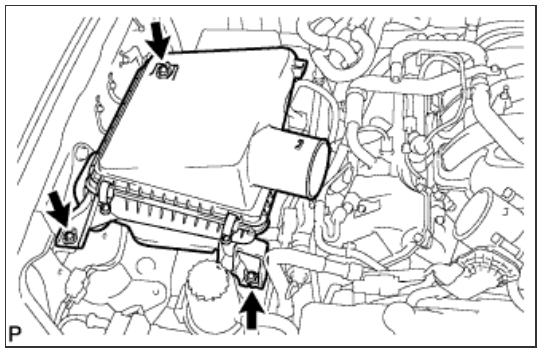
b. Connect the 2 clamps and power steering oil pressure switch connector.



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

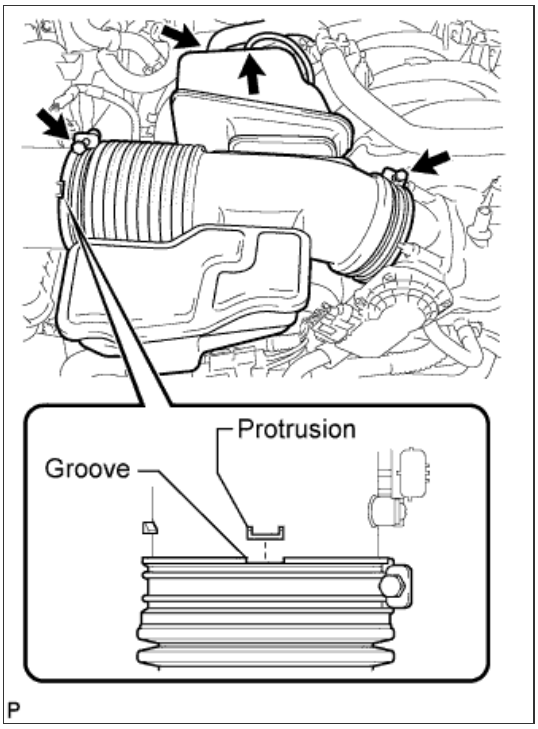
a. Install the air cleaner hose so that the protrusion of the air cleaner cap aligns with the groove of the hose as shown in the illustration.

b. Tighten the 2 clamps.

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

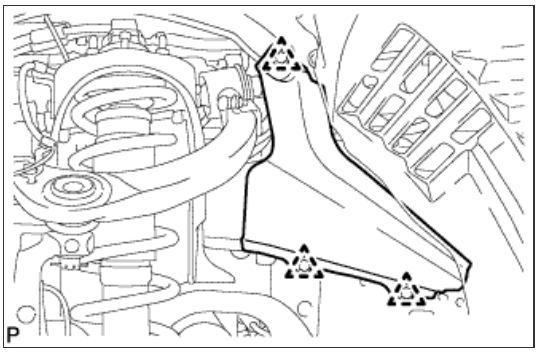
c. Connect the vacuum hose.

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.



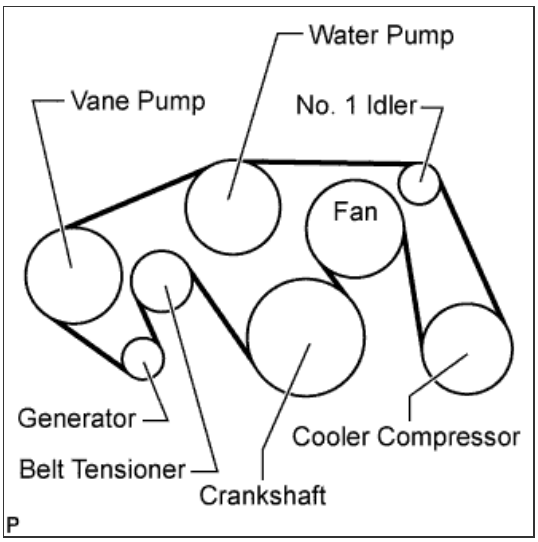
7. INSTALL FAN & GENERATOR V BELT

a. Set the V belt onto every part.

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

NOTICE:

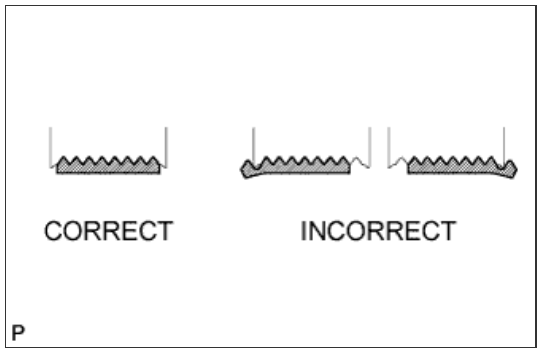
Make sure that the V belt is properly set to each pulley.



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

HINT:

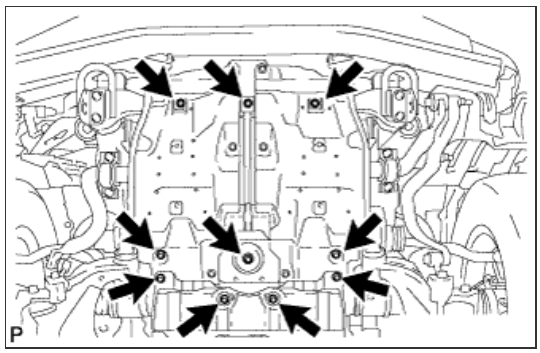
Make sure to check by hand that the belt has not slipped out of the grooves on the bottom of the pulley.



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.

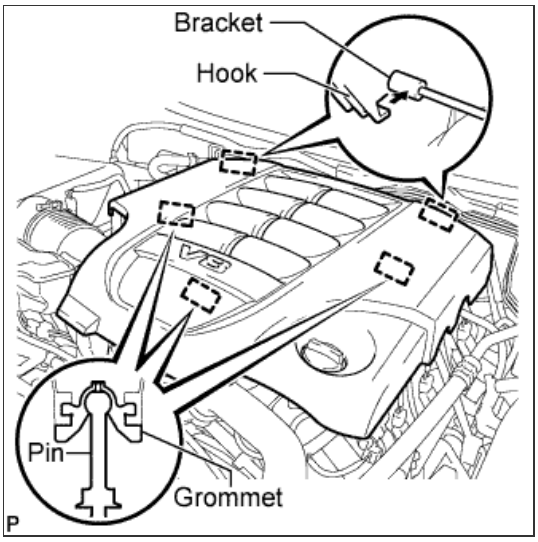
11. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

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.

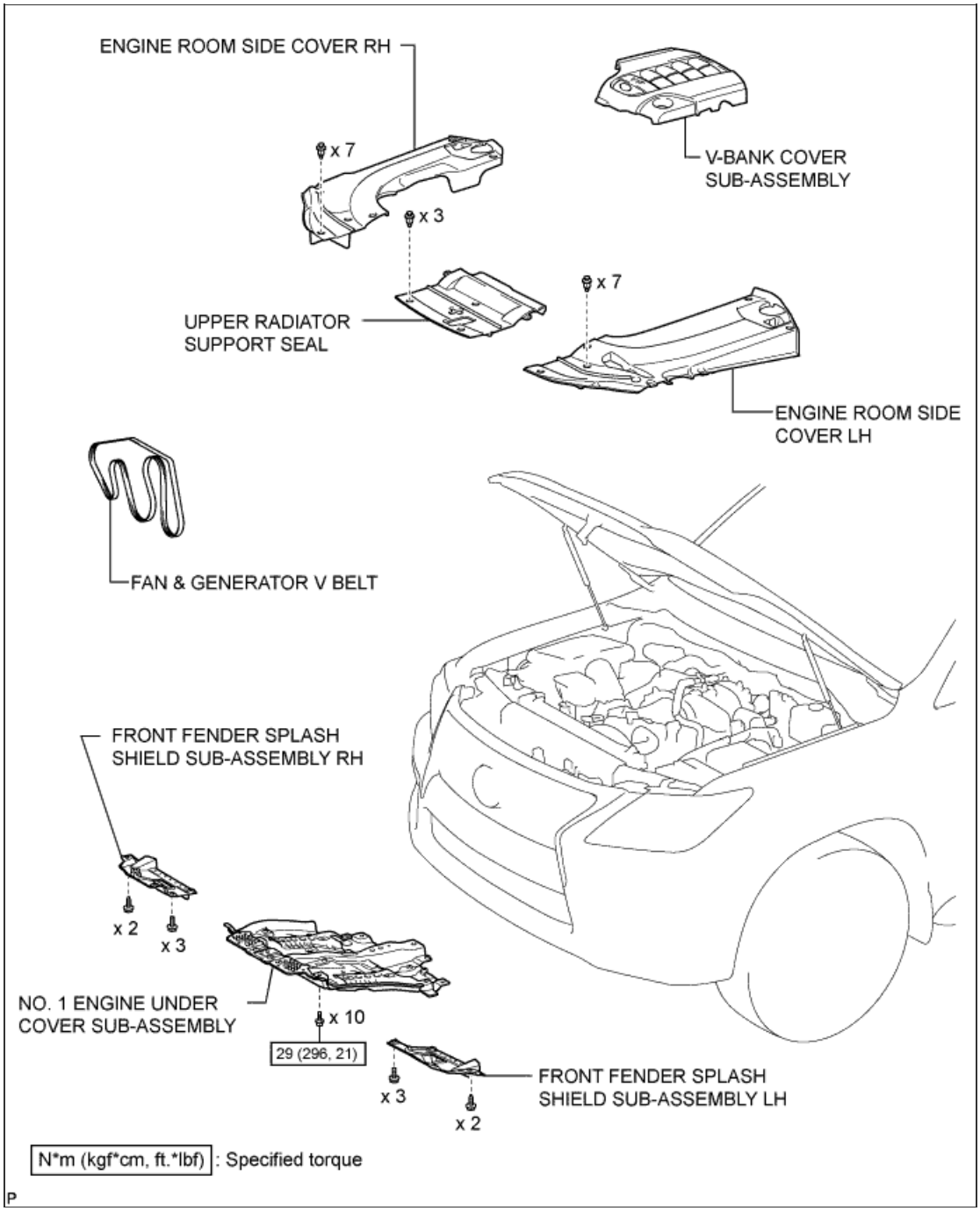
14. INSTALL ENGINE ROOM SIDE COVER LH

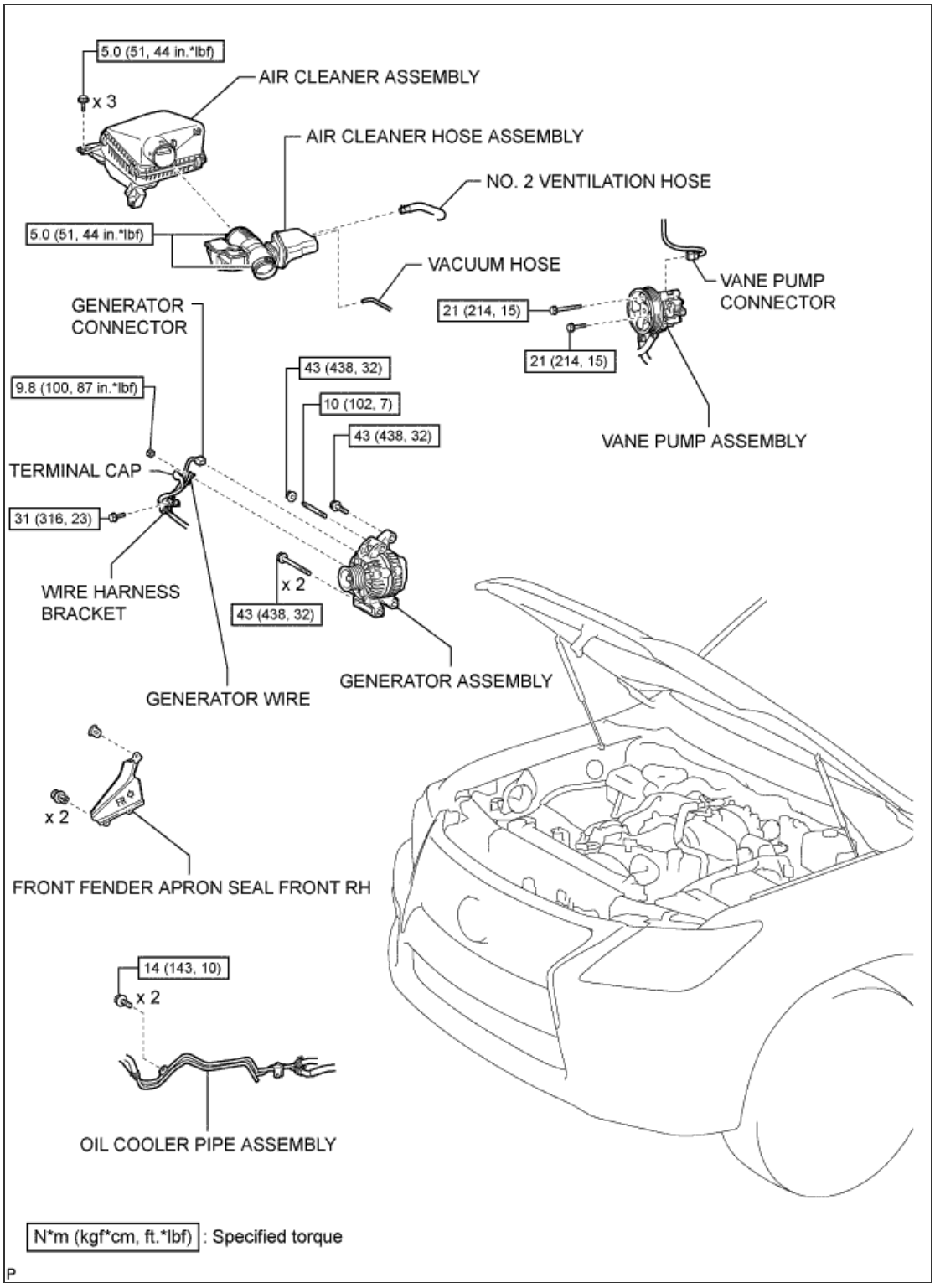
a. Install the engine room side cover LH with the 7 clips.

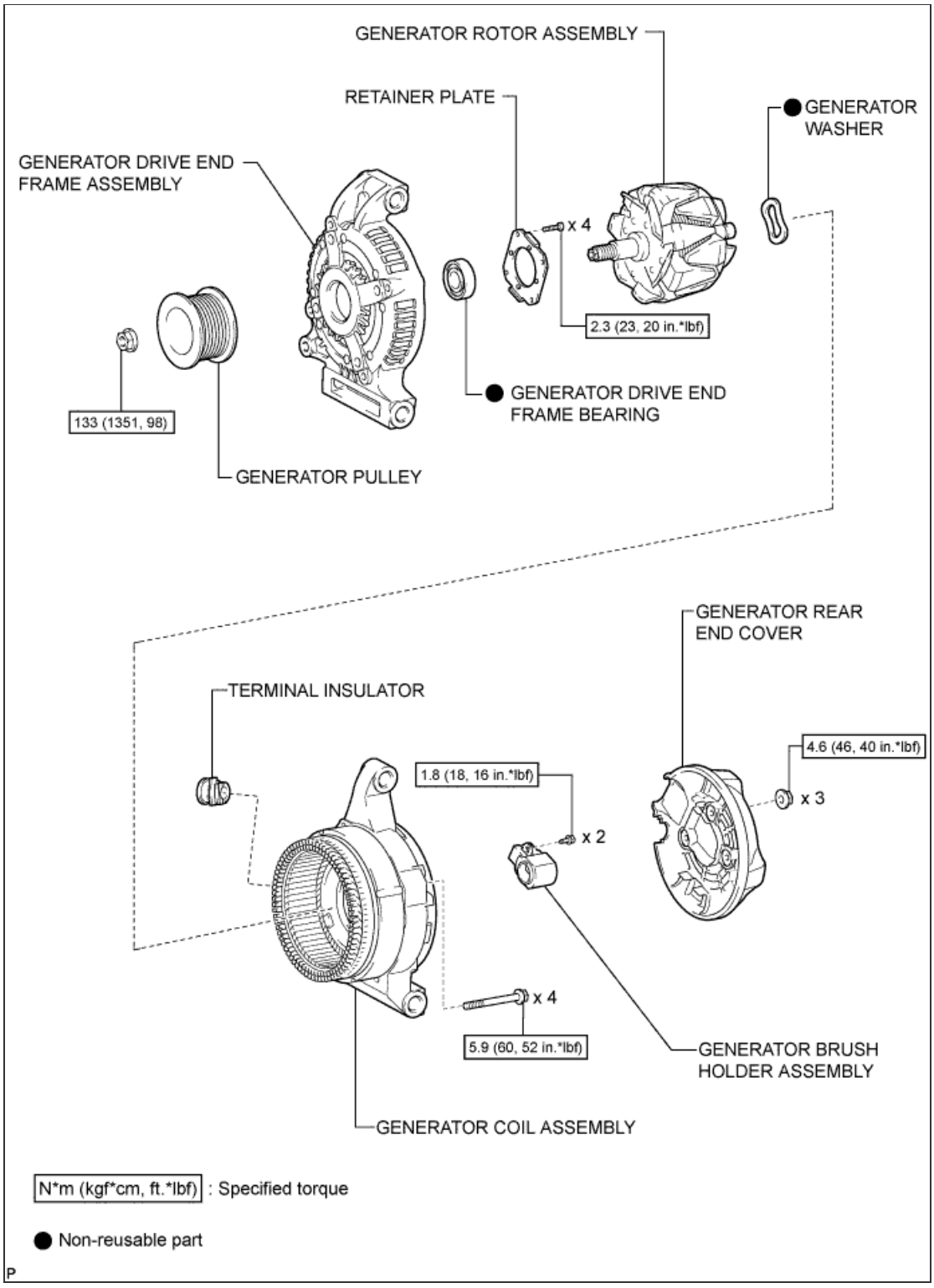
15. INSTALL ENGINE ROOM SIDE COVER RH

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

for Preparation Click here



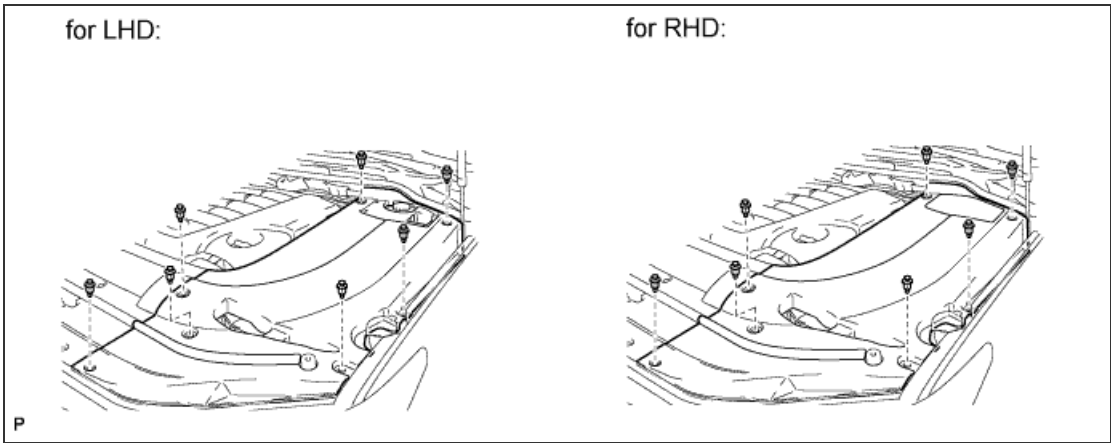

5.0 (51, 44 in.*lbf)
x 3
AIR CLEANER ASSEMBLY
AIR CLEANER HOSE ASSEMBLY
NO. 2 VENTILATION HOSE
5.0 (51, 44 in.*lbf)
VACUUM HOSE
VANE PUMP CONNECTOR
21 (214, 15)
21 (214, 15)
GENERATOR CONNECTOR
43 (438, 32)
10 (102, 7)
43 (438, 32)
9.8 (100, 87 in.*lbf)
VANE PUMP ASSEMBLY
TERMINAL CAP
31 (316, 23)
x 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

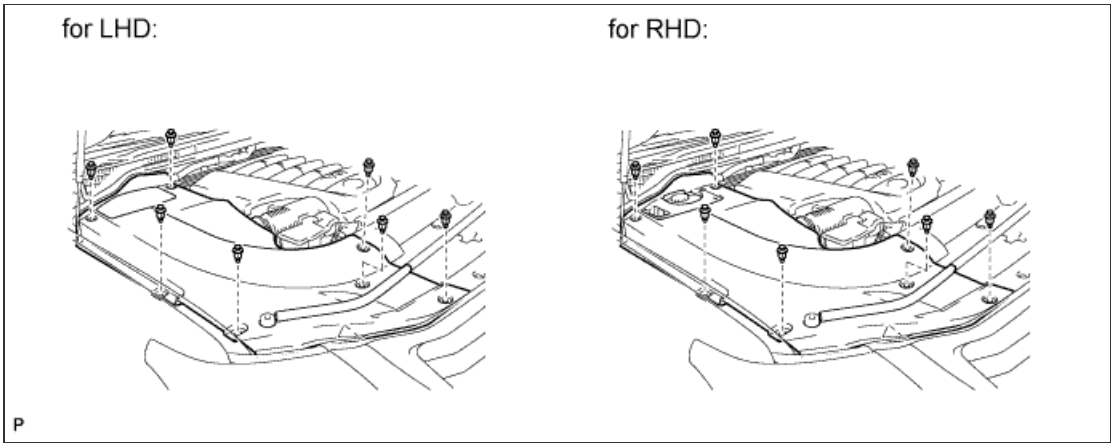
1. REMOVE ENGINE ROOM SIDE COVER LH

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



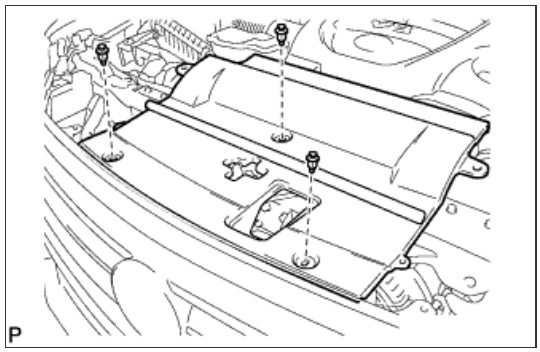
2. REMOVE ENGINE ROOM SIDE COVER RH

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



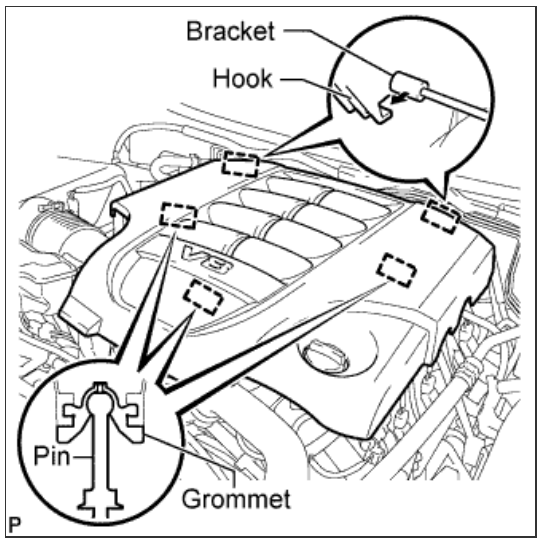
3. REMOVE UPPER RADIATOR SUPPORT SEAL

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

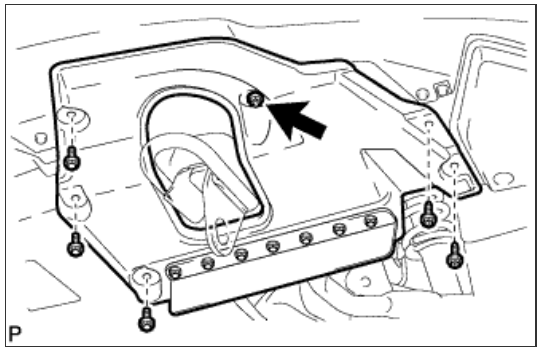
NOTICE:

- **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.



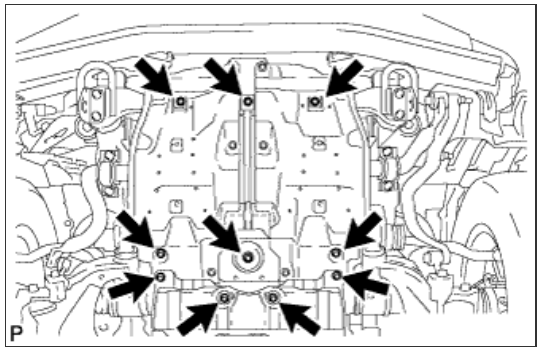
7. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

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.



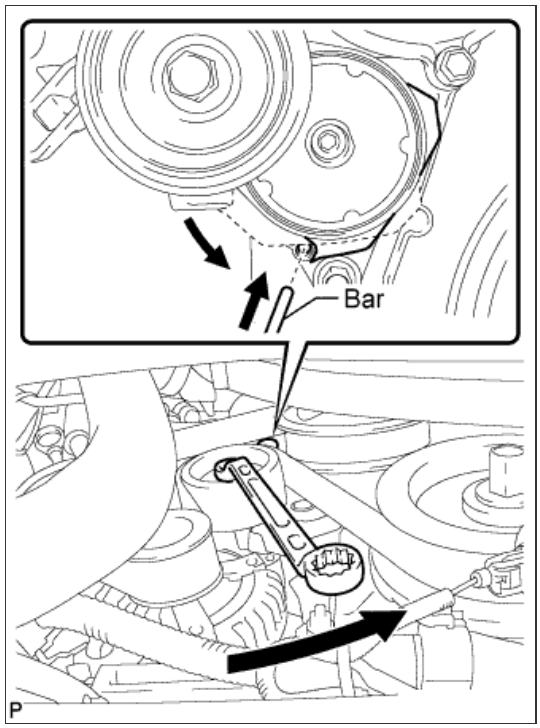
9. REMOVE FAN & GENERATOR V BELT

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:

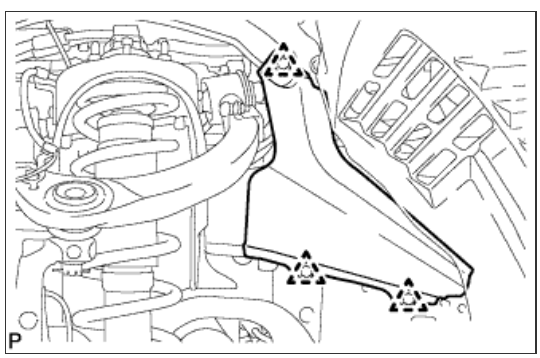
The pulley bolt for the belt tensioner has a left-hand thread.

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.

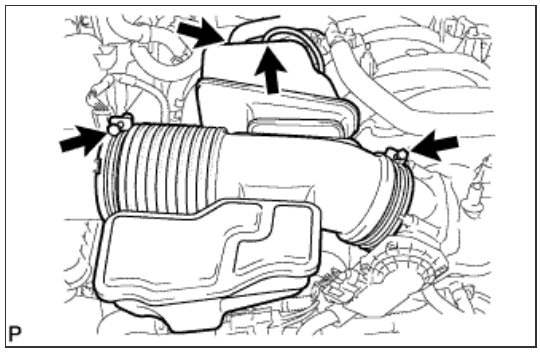


11. REMOVE AIR CLEANER HOSE ASSEMBLY

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

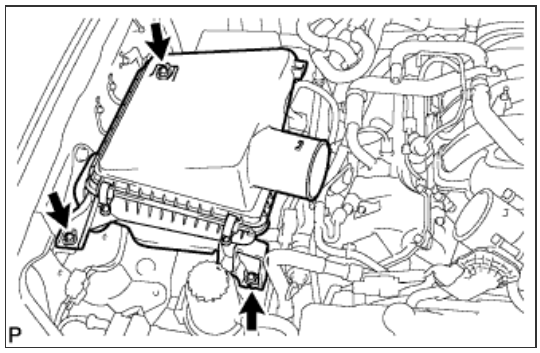
b. Loosen the 2 hose clamps.

c. Remove the air cleaner hose.



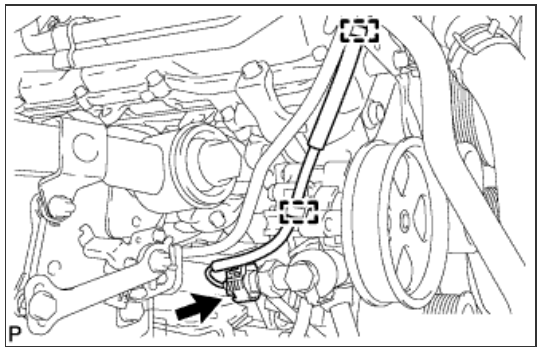
12. REMOVE AIR CLEANER ASSEMBLY

a. Remove the 3 bolts and air cleaner.

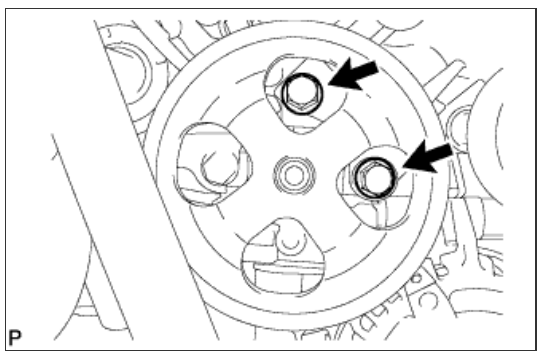


13. DISCONNECT VANE PUMP ASSEMBLY

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

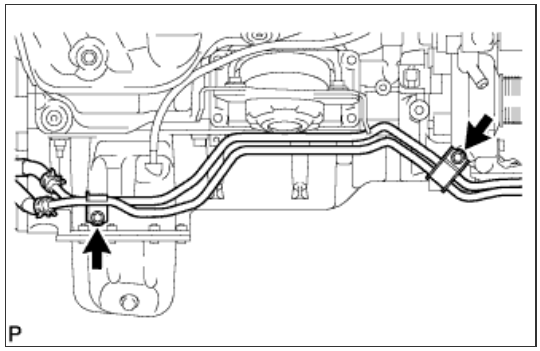


b. Remove the 2 bolts and disconnect the vane pump.



14. DISCONNECT OIL COOLER PIPE ASSEMBLY

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



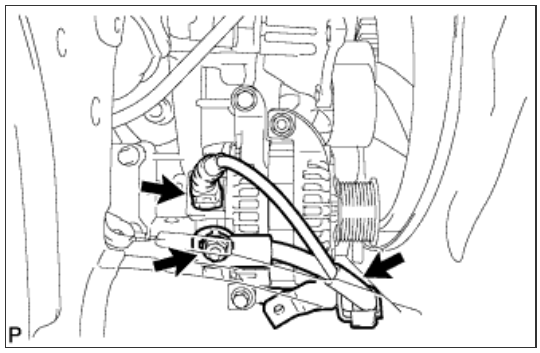
15. REMOVE GENERATOR ASSEMBLY

a. Disconnect the generator connector.

b. Open the terminal cap.

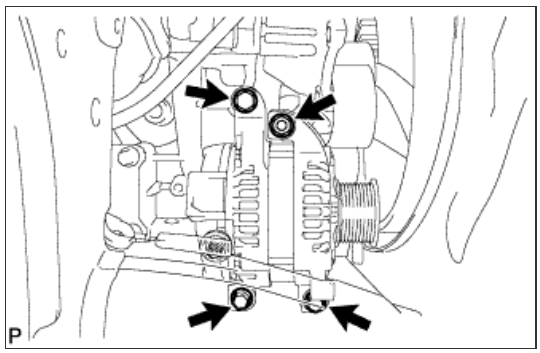
c. Remove the nut and disconnect the generator wire.

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



e. Remove the 3 bolts, nut and generator.

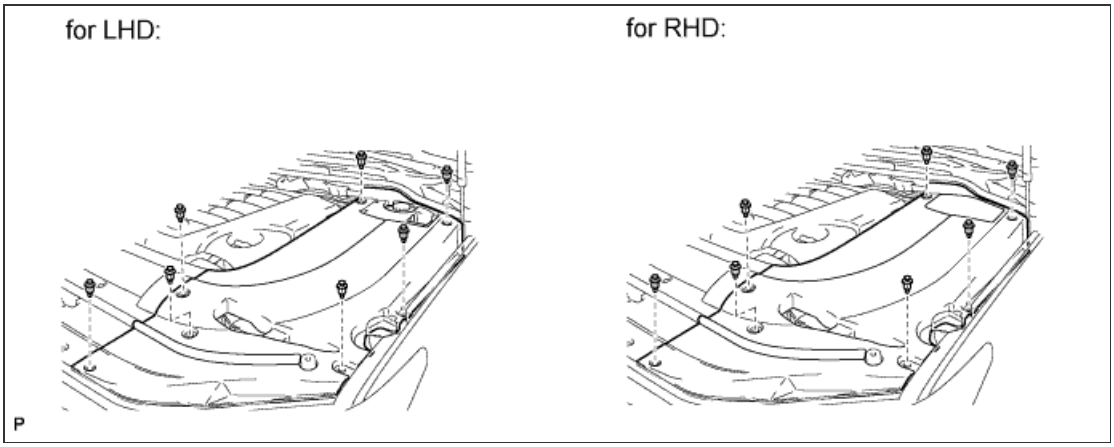
f. Remove the stud bolt.



for Preparation Click here

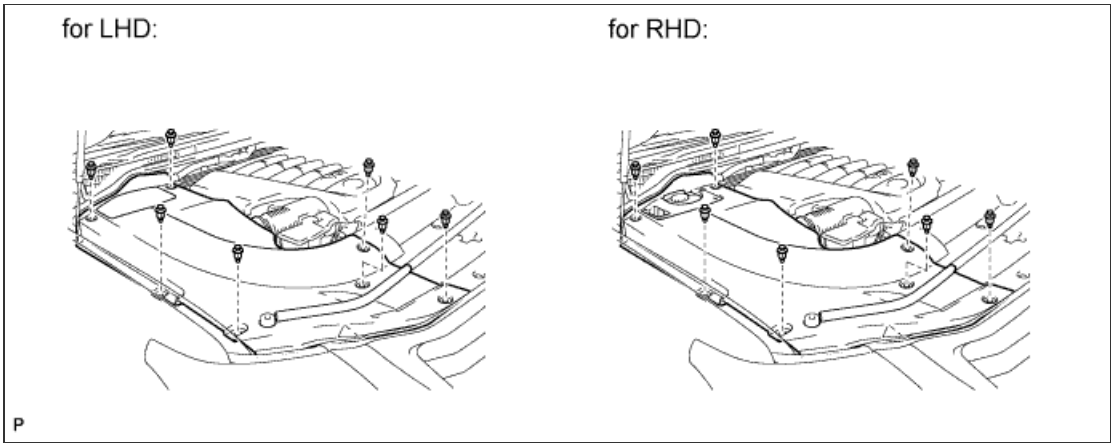
1. REMOVE ENGINE ROOM SIDE COVER LH

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



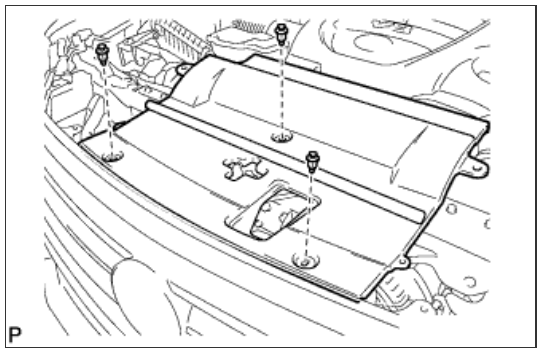
2. REMOVE ENGINE ROOM SIDE COVER RH

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



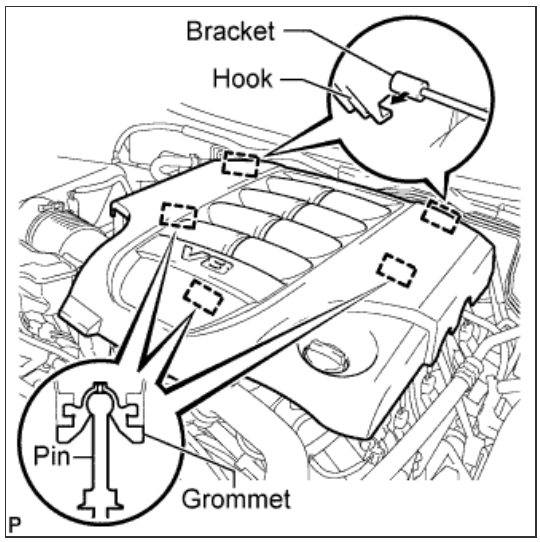
3. REMOVE UPPER RADIATOR SUPPORT SEAL

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

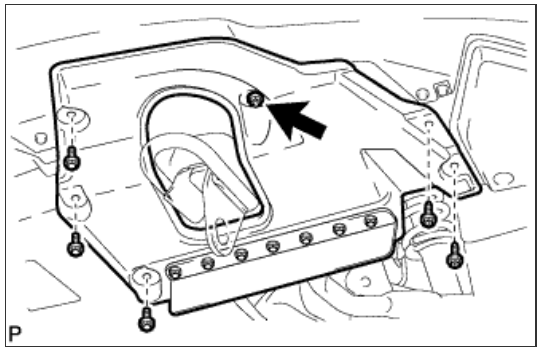
NOTICE:

- **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.



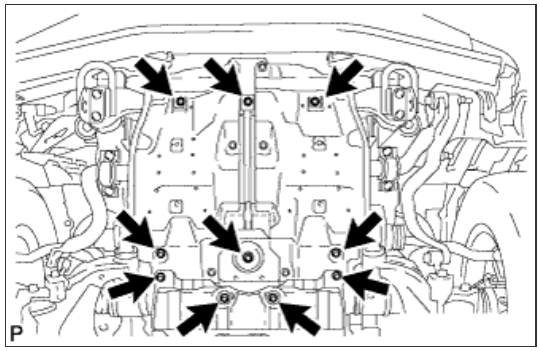
7. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

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.



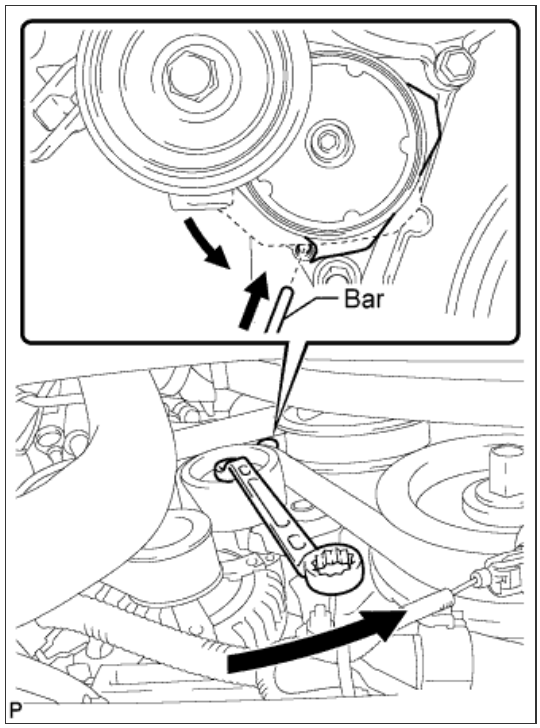
9. REMOVE FAN & GENERATOR V BELT

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:

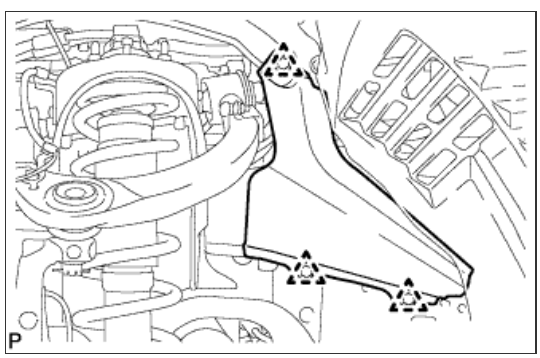
The pulley bolt for the belt tensioner has a left-hand thread.

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.

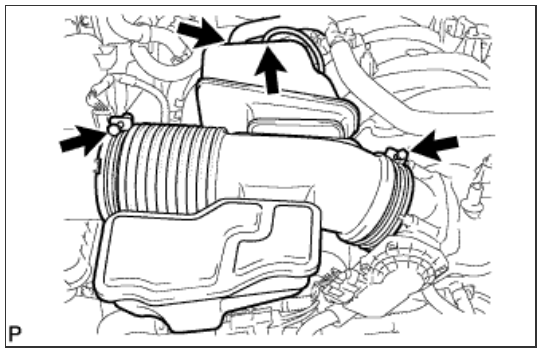


11. REMOVE AIR CLEANER HOSE ASSEMBLY

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

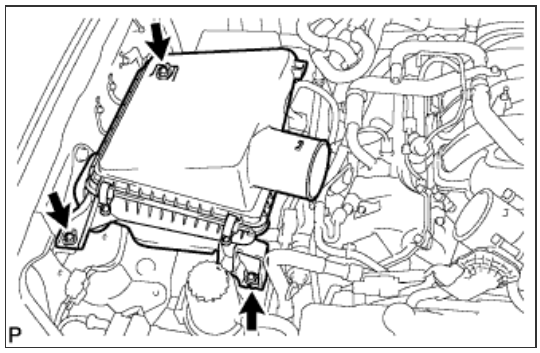
b. Loosen the 2 hose clamps.

c. Remove the air cleaner hose.



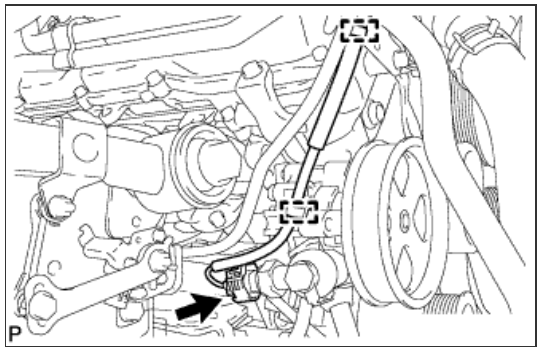
12. REMOVE AIR CLEANER ASSEMBLY

a. Remove the 3 bolts and air cleaner.

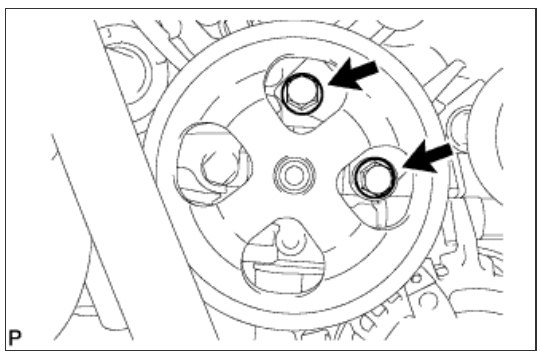


13. DISCONNECT VANE PUMP ASSEMBLY

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

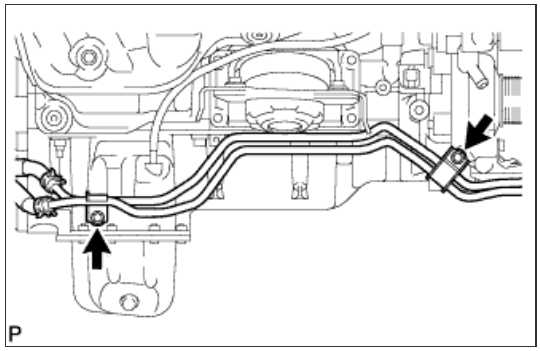


b. Remove the 2 bolts and disconnect the vane pump.



14. DISCONNECT OIL COOLER PIPE ASSEMBLY

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



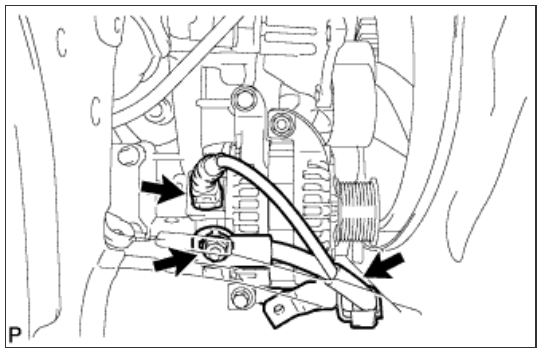
15. REMOVE GENERATOR ASSEMBLY

a. Disconnect the generator connector.

b. Open the terminal cap.

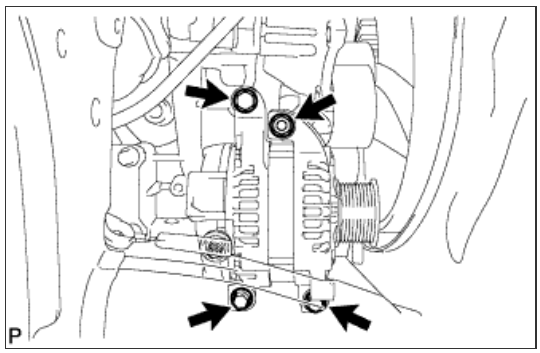
c. Remove the nut and disconnect the generator wire.

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



e. Remove the 3 bolts, nut and generator.

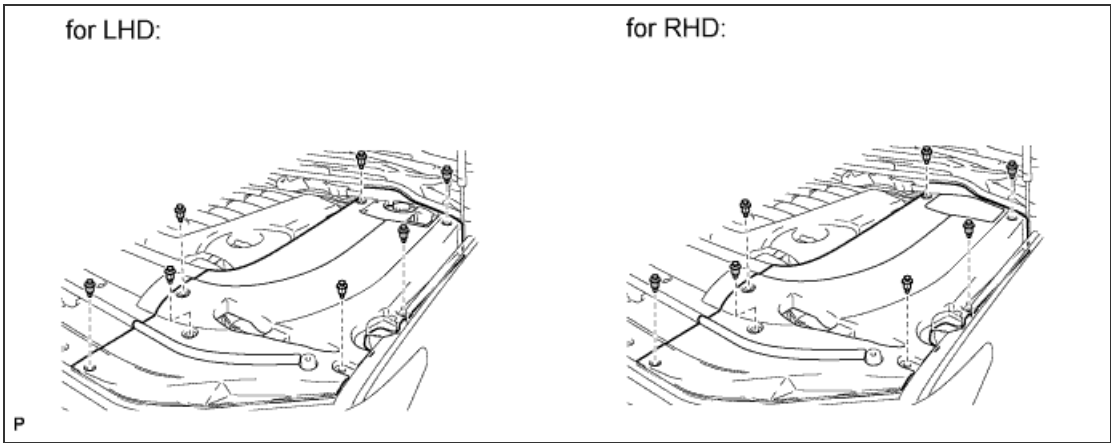
f. Remove the stud bolt.



for Preparation Click here

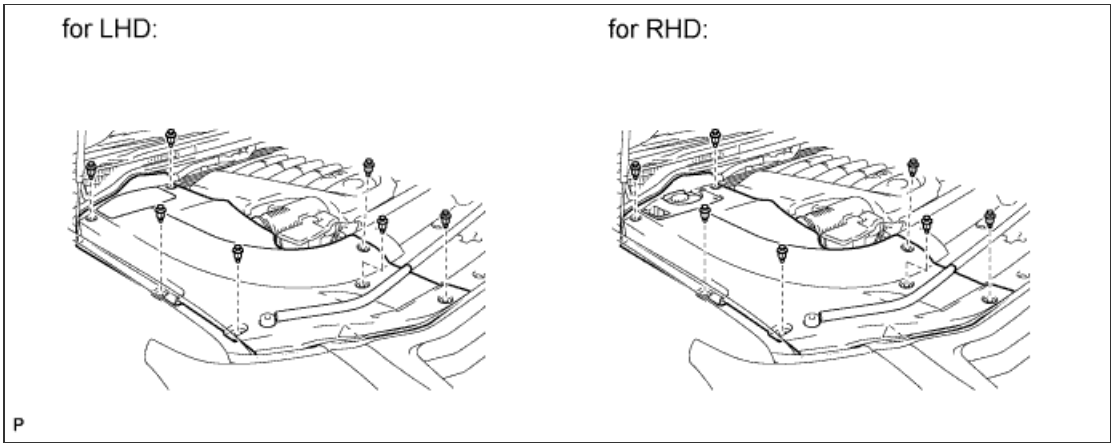
1. REMOVE ENGINE ROOM SIDE COVER LH

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



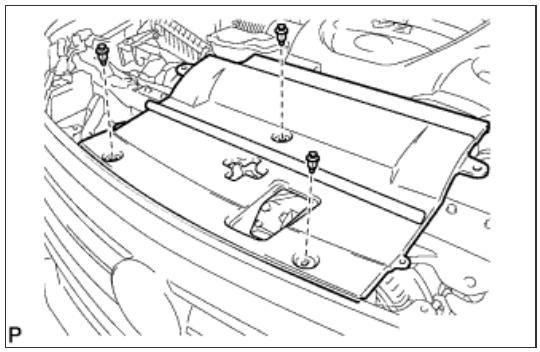
2. REMOVE ENGINE ROOM SIDE COVER RH

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



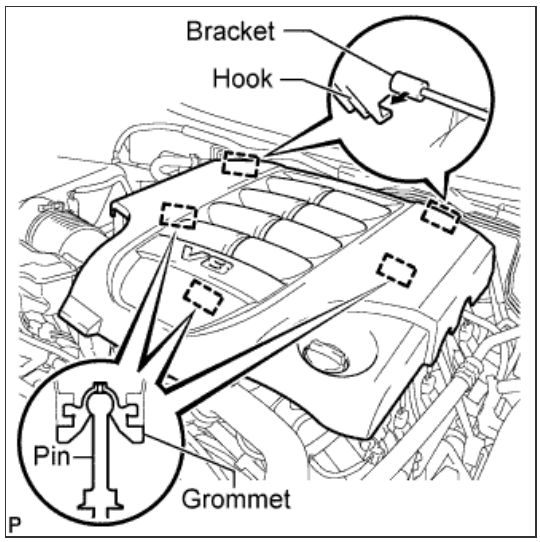
3. REMOVE UPPER RADIATOR SUPPORT SEAL

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

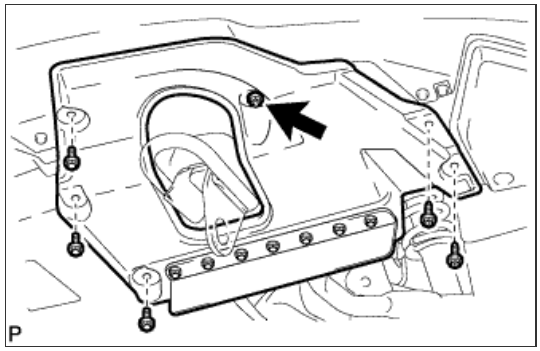
NOTICE:

- **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.



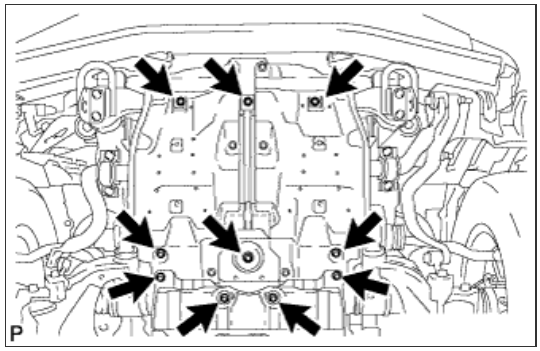
7. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

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.



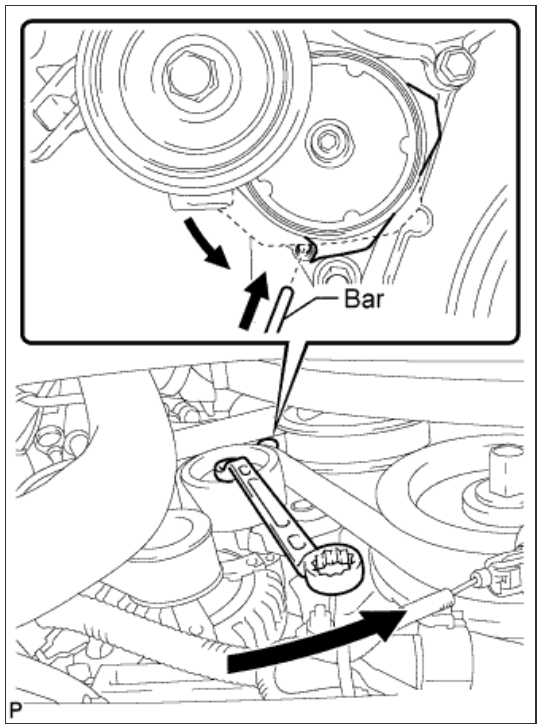
9. REMOVE FAN & GENERATOR V BELT

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:

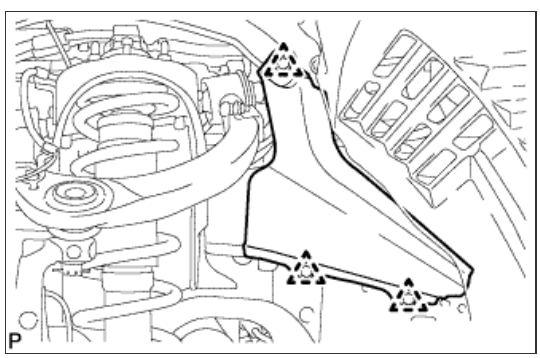
The pulley bolt for the belt tensioner has a left-hand thread.

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.

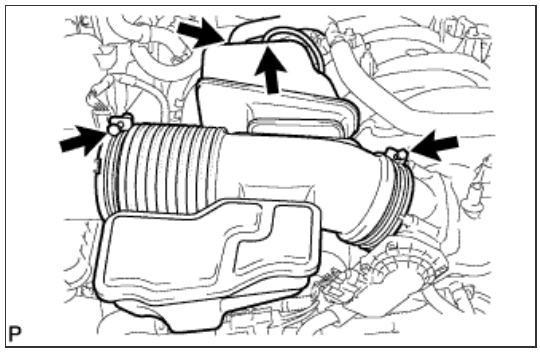


11. REMOVE AIR CLEANER HOSE ASSEMBLY

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

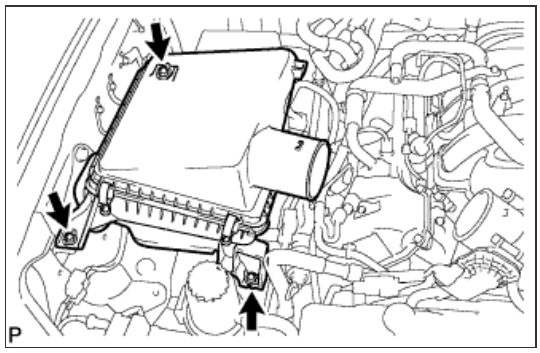
b. Loosen the 2 hose clamps.

c. Remove the air cleaner hose.



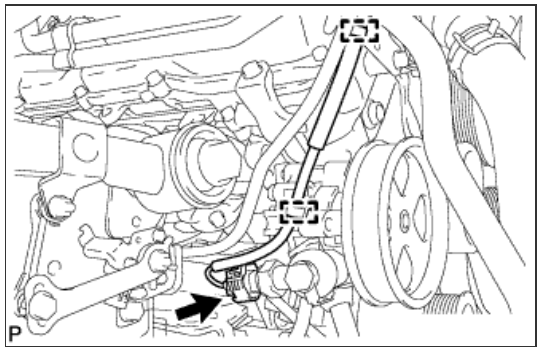
12. REMOVE AIR CLEANER ASSEMBLY

a. Remove the 3 bolts and air cleaner.

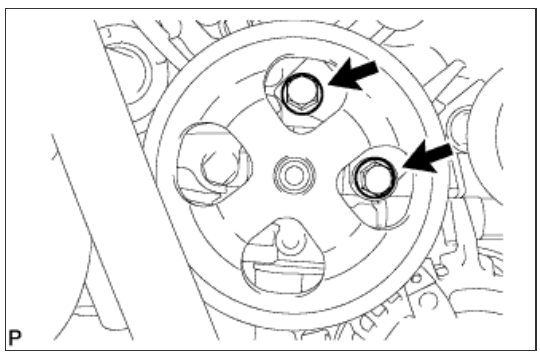


13. DISCONNECT VANE PUMP ASSEMBLY

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

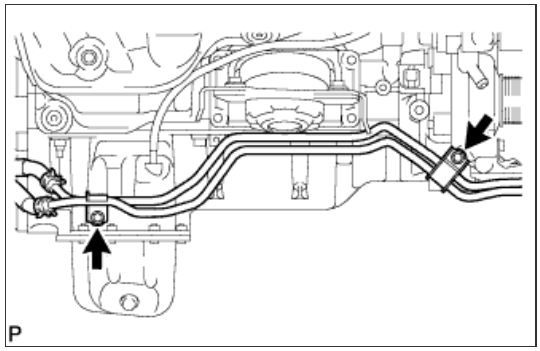


b. Remove the 2 bolts and disconnect the vane pump.



14. DISCONNECT OIL COOLER PIPE ASSEMBLY

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



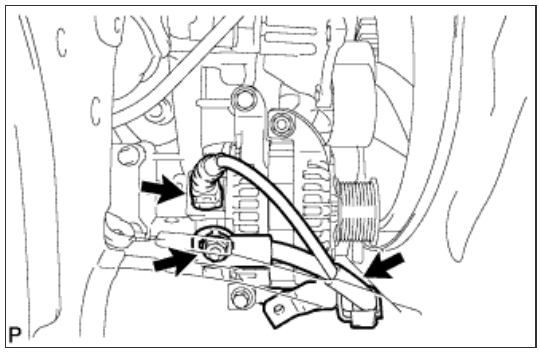
15. REMOVE GENERATOR ASSEMBLY

a. Disconnect the generator connector.

b. Open the terminal cap.

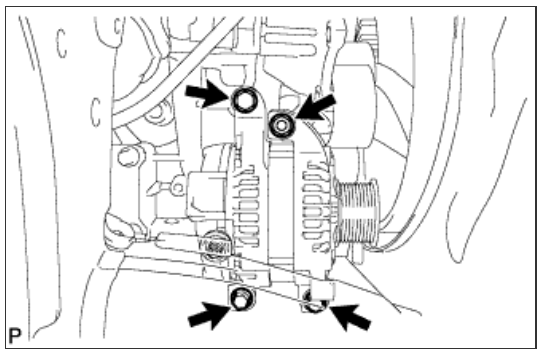
c. Remove the nut and disconnect the generator wire.

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

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

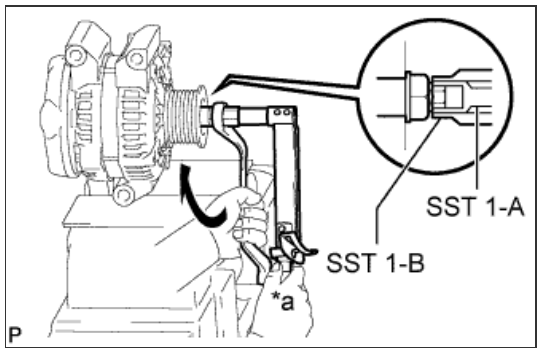
b. Install SST 1-A to the pulley shaft.

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

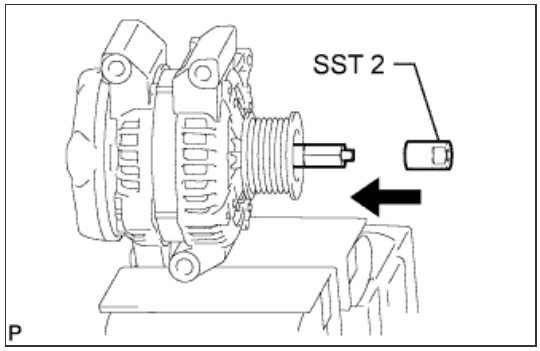
NOTICE:

Check that SST is secured on the rotor shaft.

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

Text in Illustration

➡	Insert



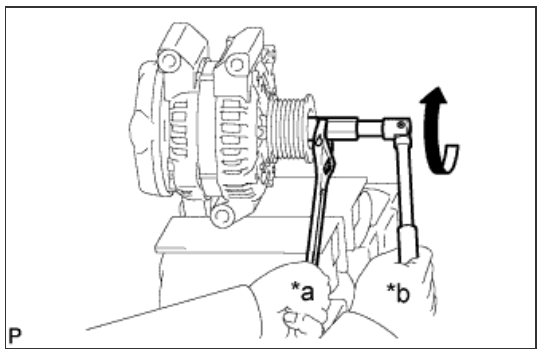
f. To loosen the pulley nut, turn SST 1-A in the direction shown in the illustration.

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.

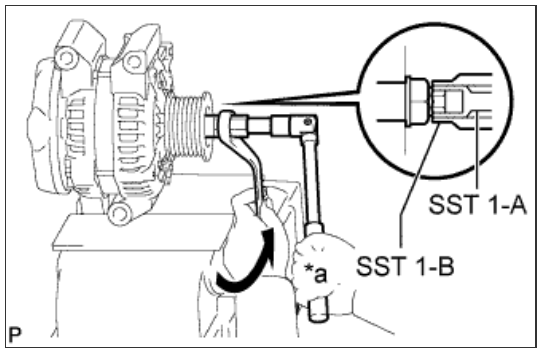
h. Turn SST 1-B in the direction shown in the illustration, and then remove SST 1-

A and SST 1-B.

Text in Illustration

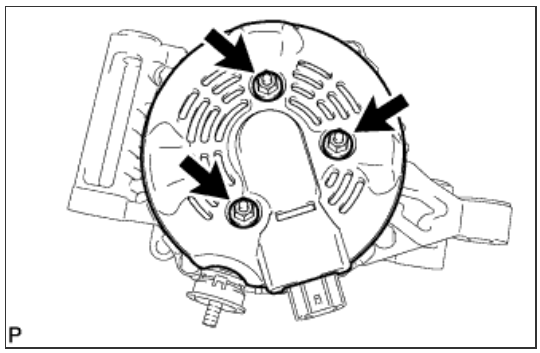
*a	Hold
➡	Turn

i. Remove the pulley nut and generator pulley.

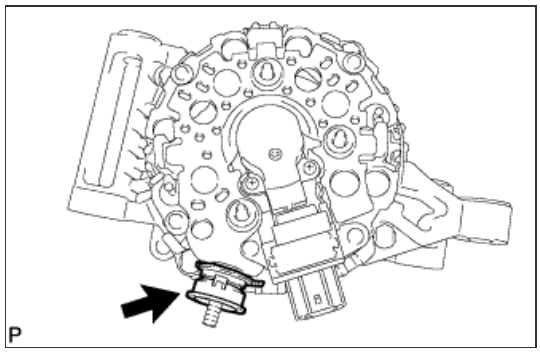


2. REMOVE GENERATOR REAR END COVER

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

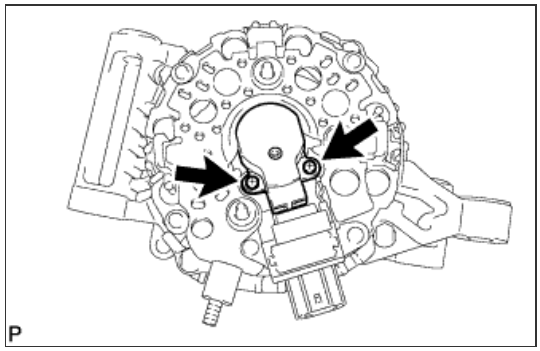


3. REMOVE TERMINAL INSULATOR



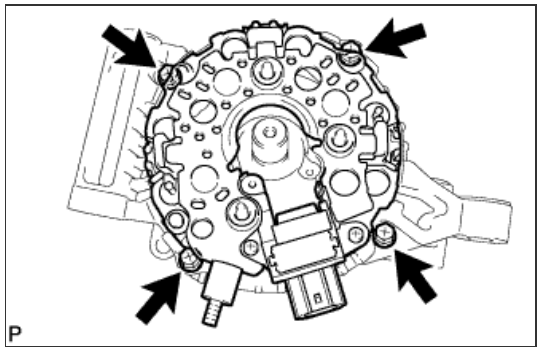
4. REMOVE GENERATOR BRUSH HOLDER ASSEMBLY

a. Remove the 2 screws and brush holder.



5. REMOVE GENERATOR COIL ASSEMBLY

a. Remove the 4 bolts.

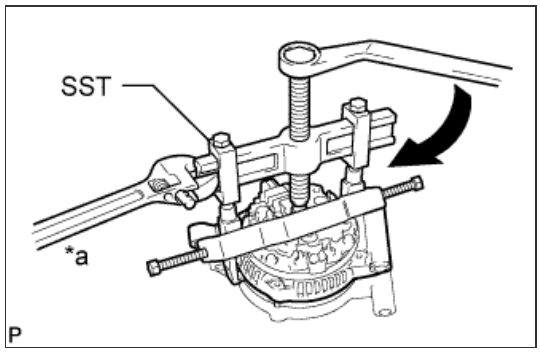


b. Using SST, remove the generator coil.

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

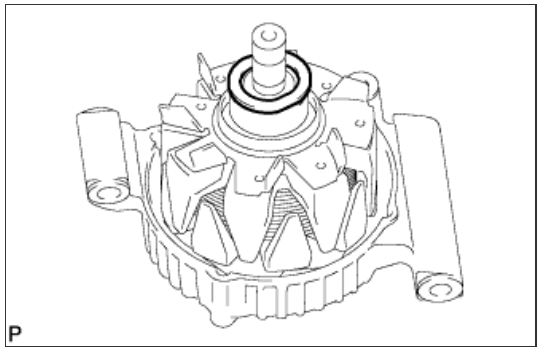
Text in Illustration

*a	Hold
➡	Turn

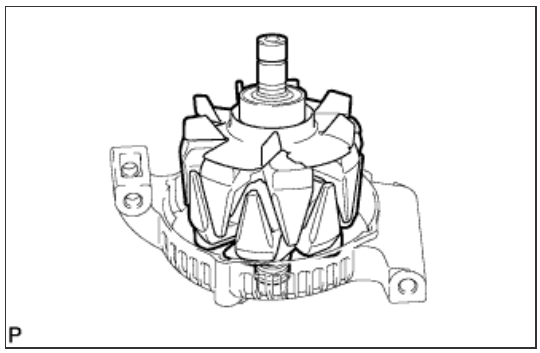


6. REMOVE GENERATOR ROTOR ASSEMBLY

a. Remove the generator washer.

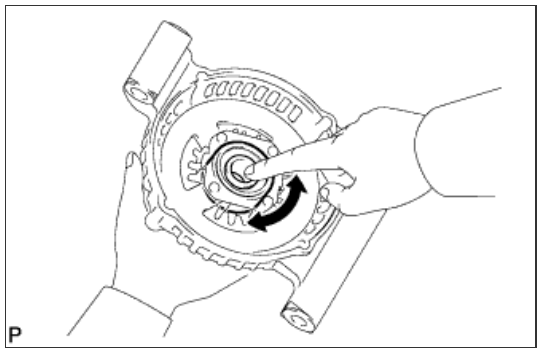


b. Remove the generator rotor.



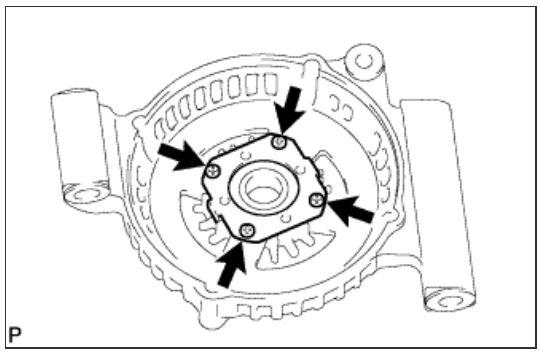
7. INSPECT GENERATOR DRIVE END FRAME BEARING

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

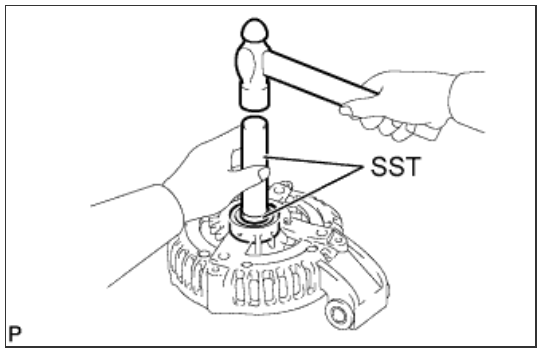
a. Remove the 4 screws and retainer plate.



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.

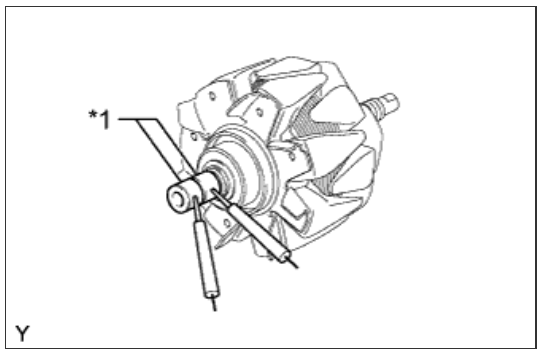
Standard Resistance:

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.

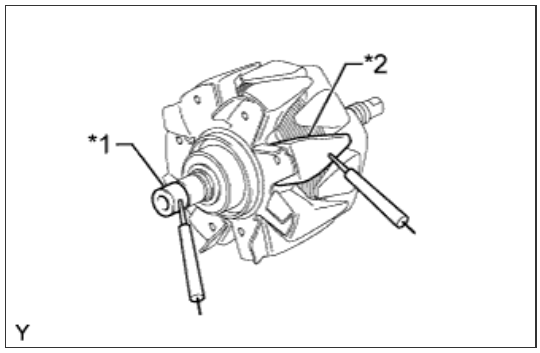
Standard Resistance:

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.

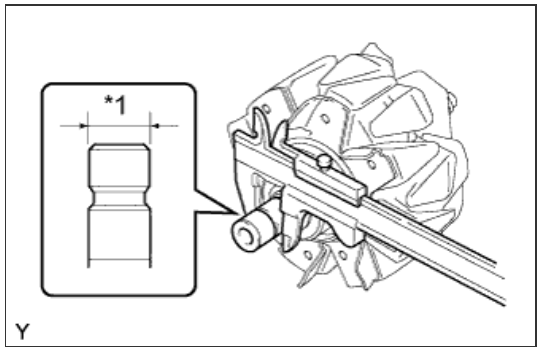
Standard diameter:
14.2 to 14.8 mm (0.559 to 0.583 in.)

Minimum diameter:
14.0 mm (0.551 in.)

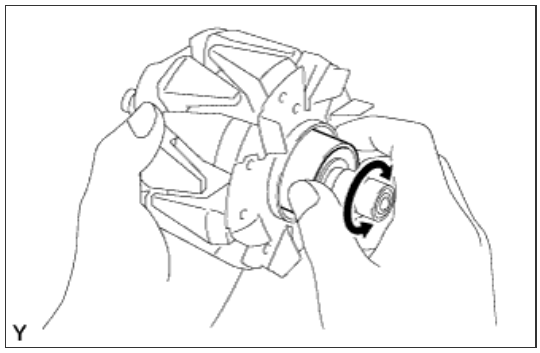
Text in Illustration

*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.

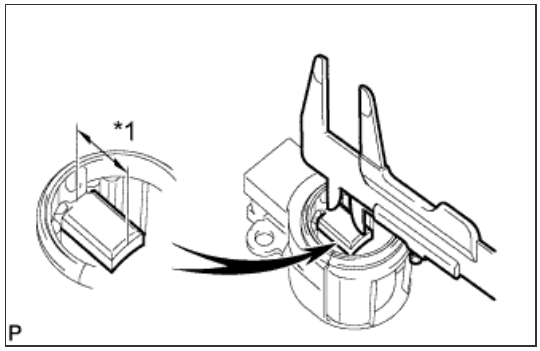


2. INSPECT GENERATOR BRUSH HOLDER ASSEMBLY

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

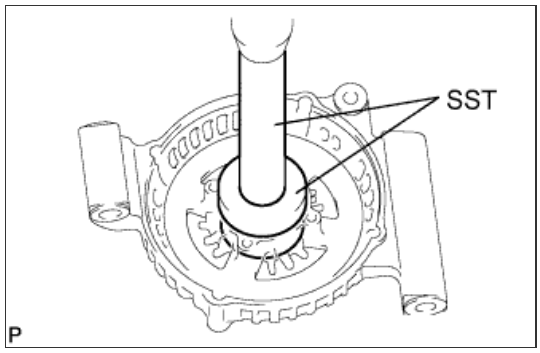
1. INSTALL GENERATOR DRIVE END FRAME BEARING

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.

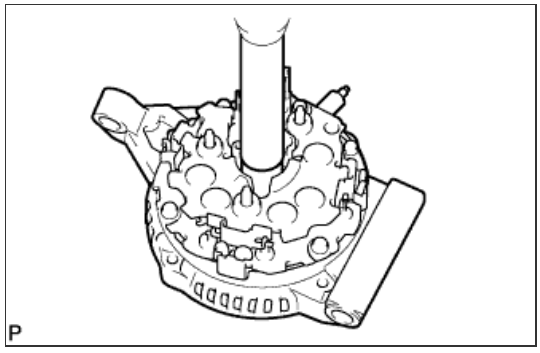
b. Place a new generator washer on the generator rotor.

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 }

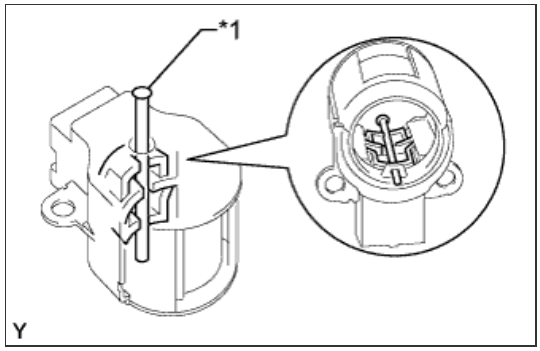


4. INSTALL GENERATOR BRUSH HOLDER ASSEMBLY

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



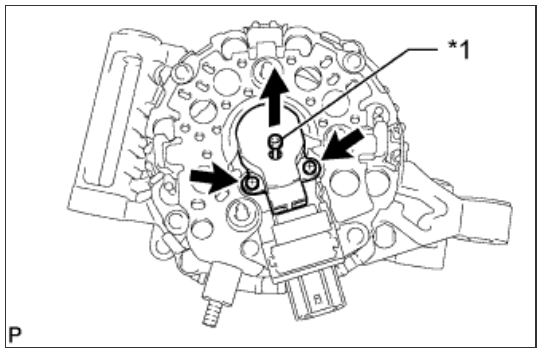
b. Install the brush holder with the 2 screws.

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.

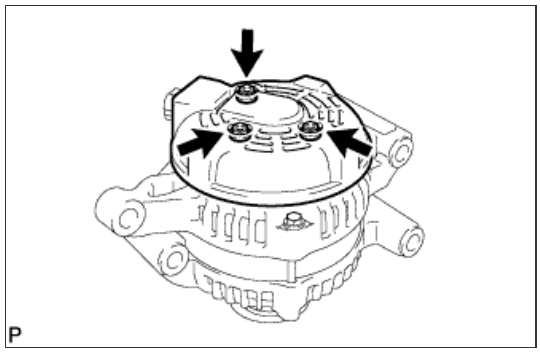
NOTICE:

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.

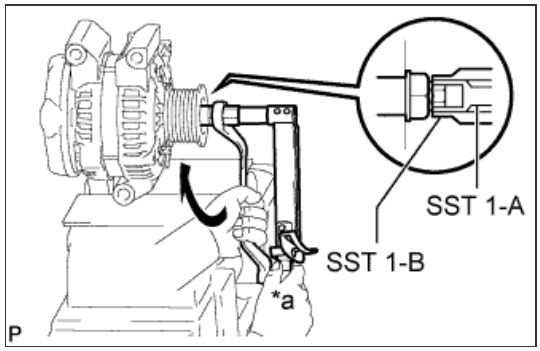
b. Mount the generator in a vise between aluminum plates.

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

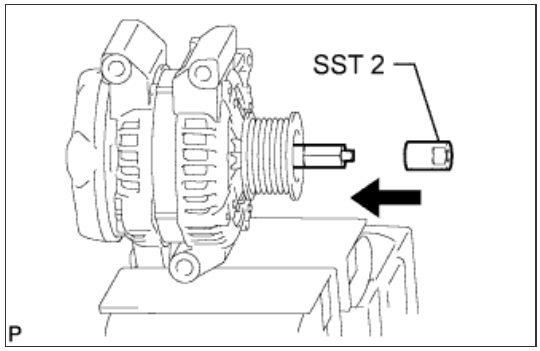
NOTICE:

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:

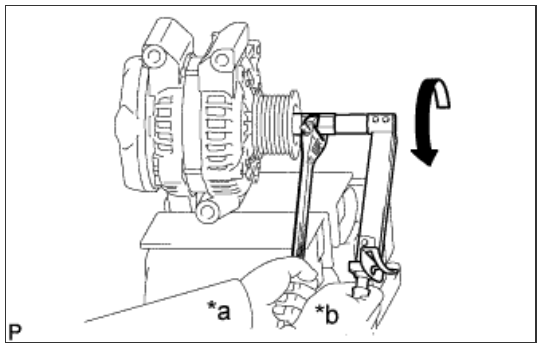
133 N*m{ 1351 kgf*cm , 98 ft.*lbf }

Text in Illustration

*a	Hold
*b	Turn

HINT:

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



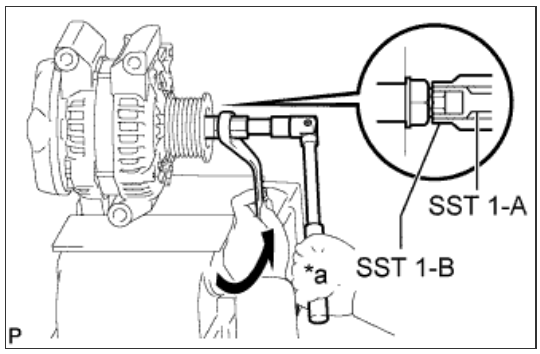
h. Remove SST 2 from the generator.

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 }

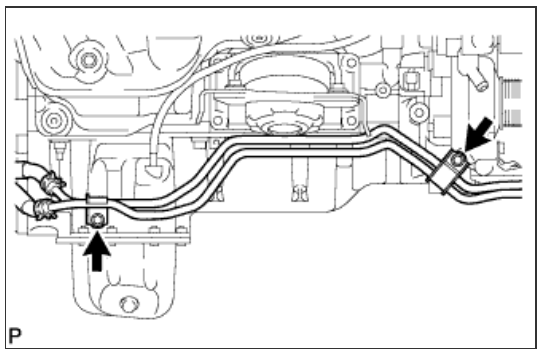
e. Close the terminal cap.

f. Connect the generator connector.

2. CONNECT OIL COOLER PIPE ASSEMBLY

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

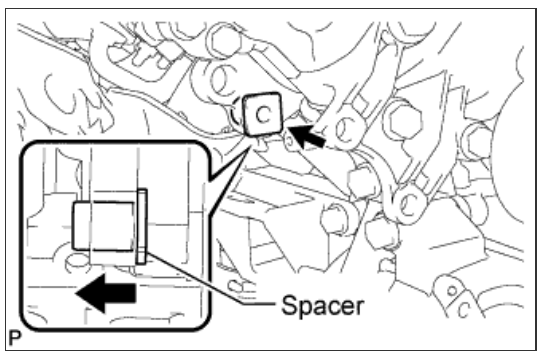
Torque:
14 N*m{ 143 kgf*cm , 10 ft.*lbf }



3. CONNECT VANE PUMP ASSEMBLY

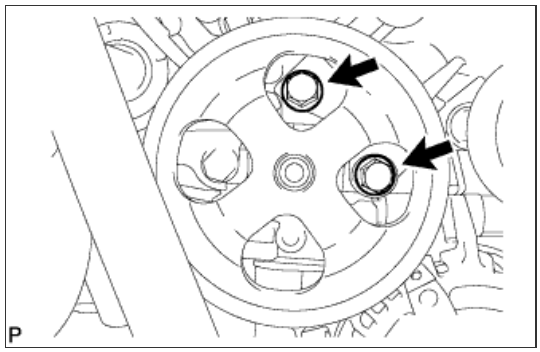
HINT:

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

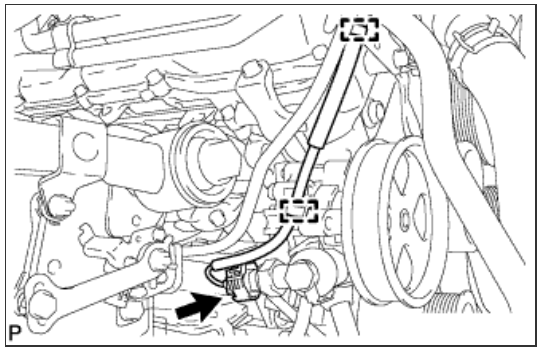


a. Connect the vane pump to the timing chain cover with the 2 bolts.

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



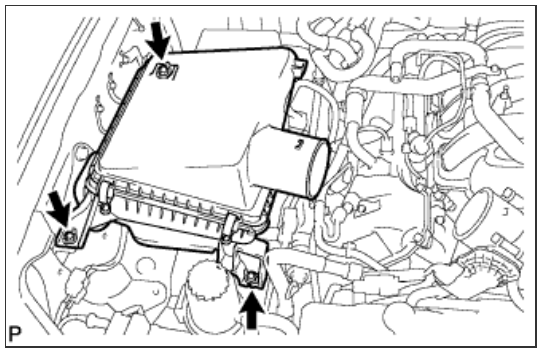
b. Connect the 2 clamps and power steering oil pressure switch connector.



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

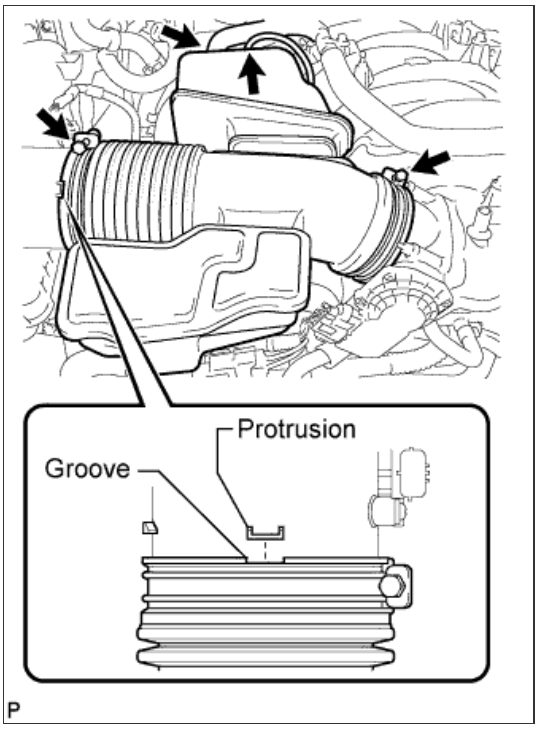
a. Install the air cleaner hose so that the protrusion of the air cleaner cap aligns with the groove of the hose as shown in the illustration.

b. Tighten the 2 clamps.

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

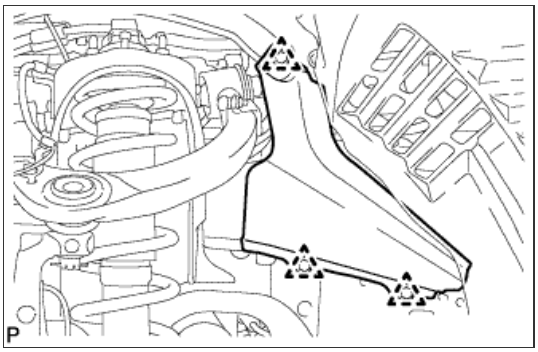
c. Connect the vacuum hose.

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.



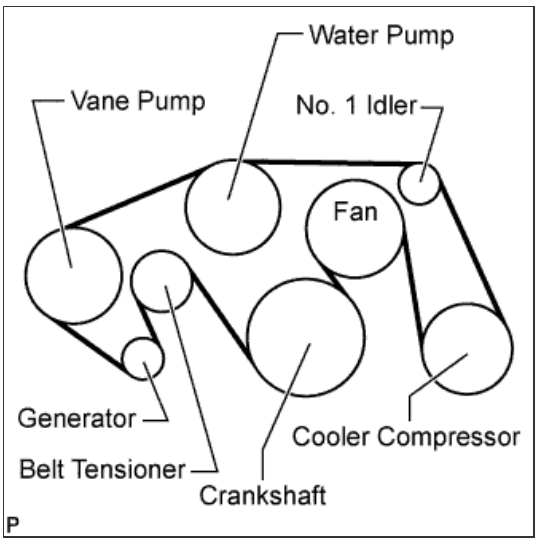
7. INSTALL FAN & GENERATOR V BELT

a. Set the V belt onto every part.

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

NOTICE:

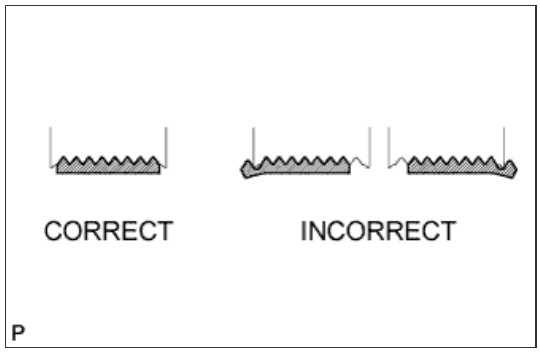
Make sure that the V belt is properly set to each pulley.



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

HINT:

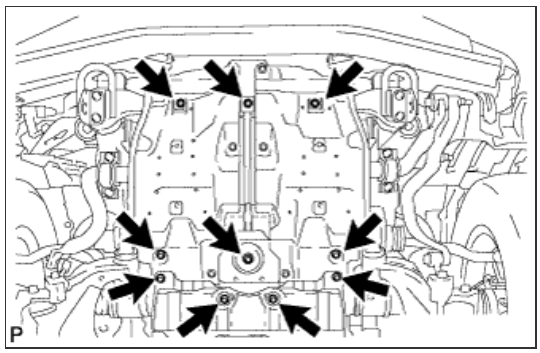
Make sure to check by hand that the belt has not slipped out of the grooves on the bottom of the pulley.



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.

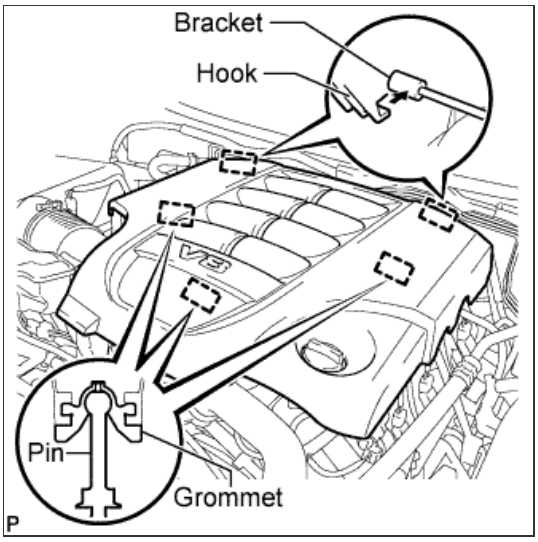
11. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

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

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 }

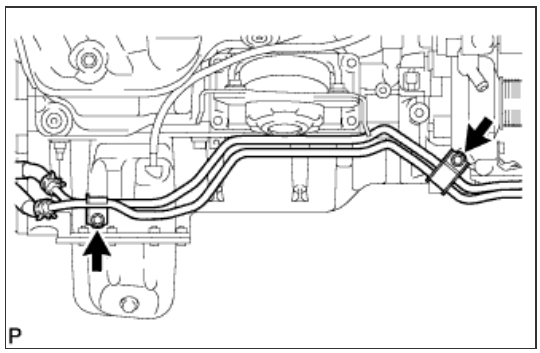
e. Close the terminal cap.

f. Connect the generator connector.

2. CONNECT OIL COOLER PIPE ASSEMBLY

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

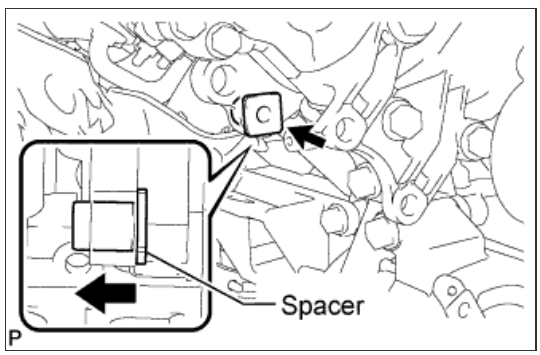
Torque:
14 N*m{ 143 kgf*cm , 10 ft.*lbf }



3. CONNECT VANE PUMP ASSEMBLY

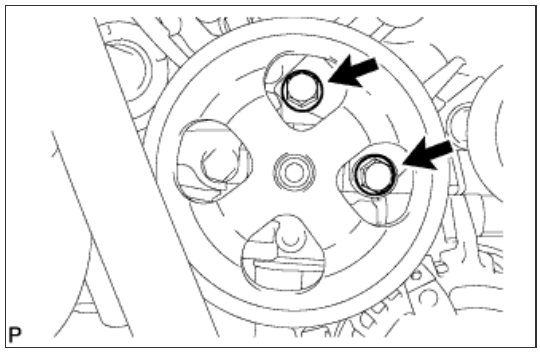
HINT:

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

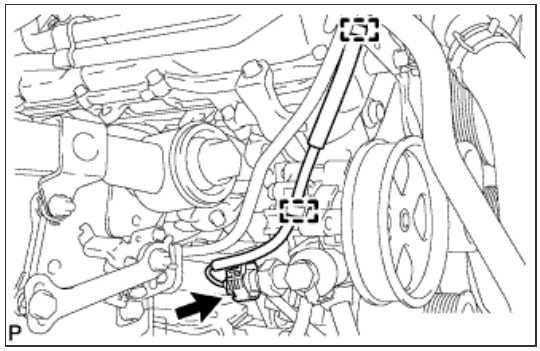


a. Connect the vane pump to the timing chain cover with the 2 bolts.

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



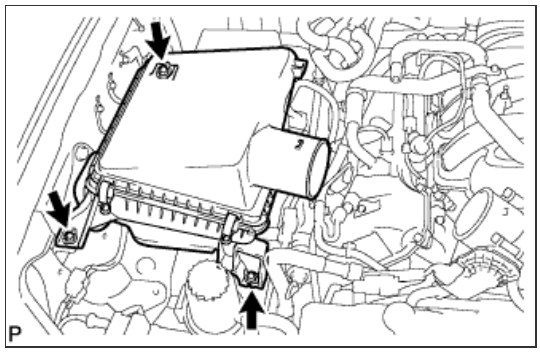
b. Connect the 2 clamps and power steering oil pressure switch connector.



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

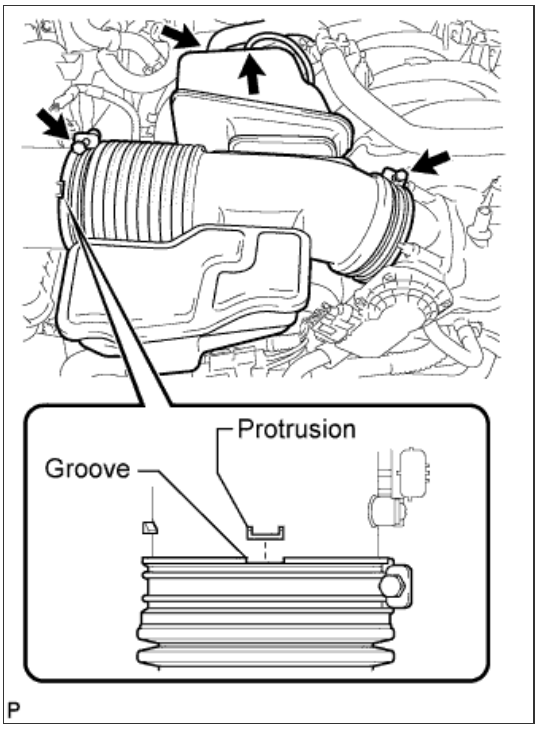
a. Install the air cleaner hose so that the protrusion of the air cleaner cap aligns with the groove of the hose as shown in the illustration.

b. Tighten the 2 clamps.

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

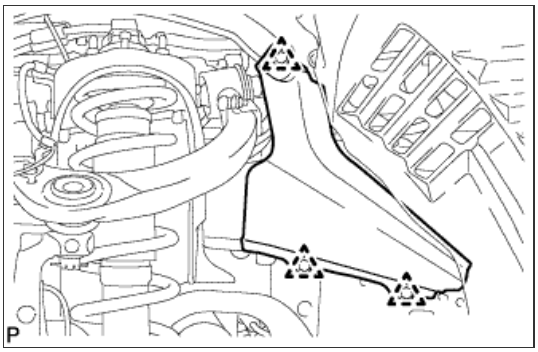
c. Connect the vacuum hose.

d. Connect the No. 2 ventilation hose.



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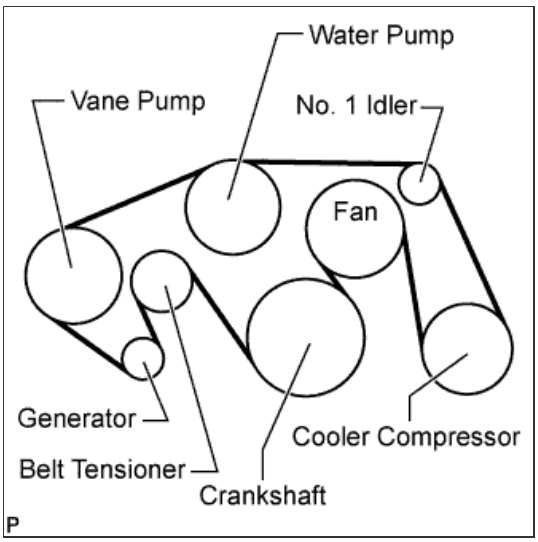
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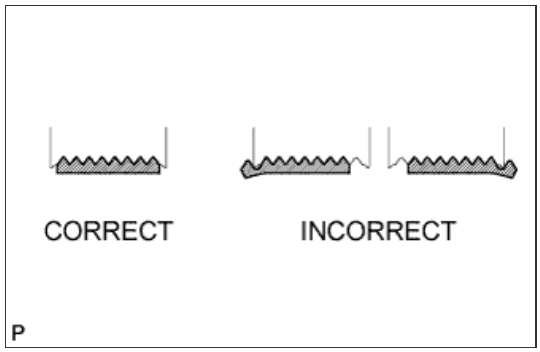
Make sure that the V belt is properly set to each pulley.



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

HINT:

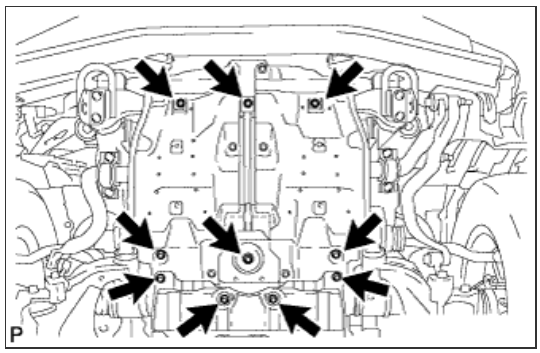
Make sure to check by hand that the belt has not slipped out of the grooves on the bottom of the pulley.



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.

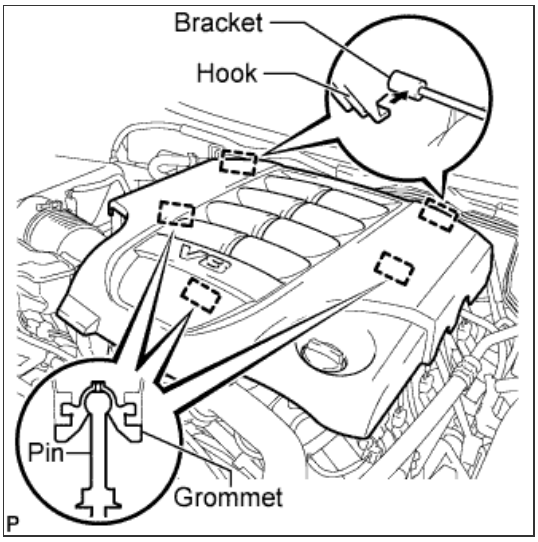
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a. Attach the 2 V-bank cover hooks to the bracket. Then align the 3 V-bank cover grommets with the 3 pins, and press down on the V-bank cover to attach the pins.



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

1. INSTALL GENERATOR ASSEMBLY

a. Install the stud bolt.

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

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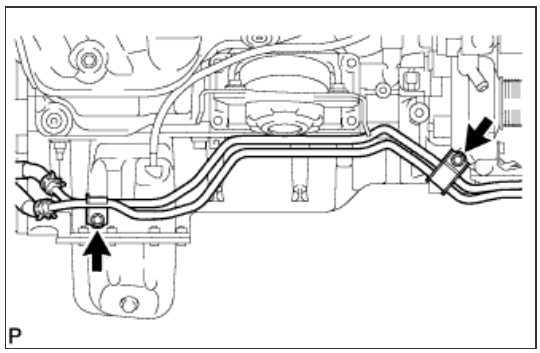
e. Close the terminal cap.

f. Connect the generator connector.

2. CONNECT OIL COOLER PIPE ASSEMBLY

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

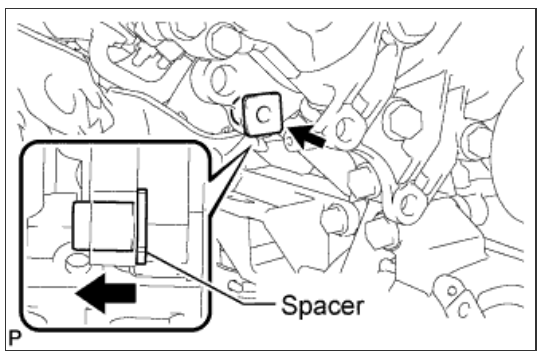
Torque:
14 N*m{ 143 kgf*cm , 10 ft.*lbf }



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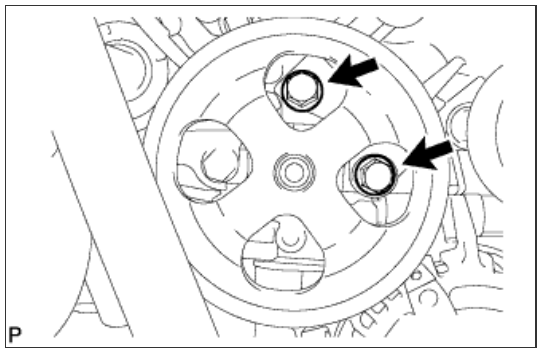
HINT:

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

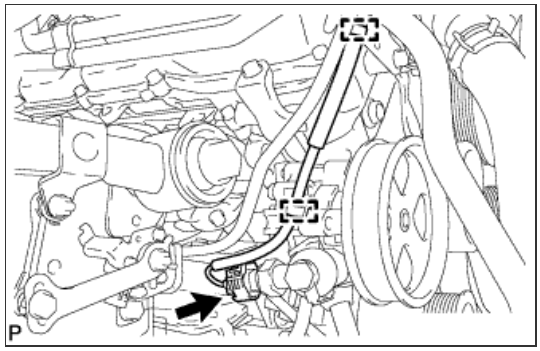


a. Connect the vane pump to the timing chain cover with the 2 bolts.

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



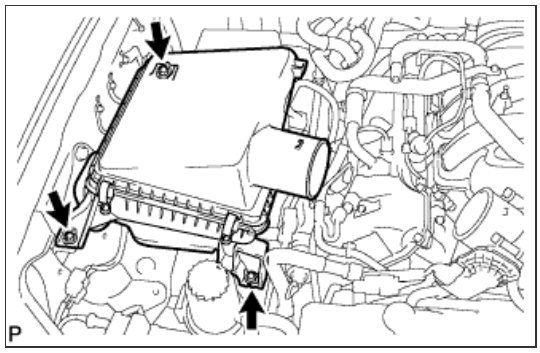
b. Connect the 2 clamps and power steering oil pressure switch connector.



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

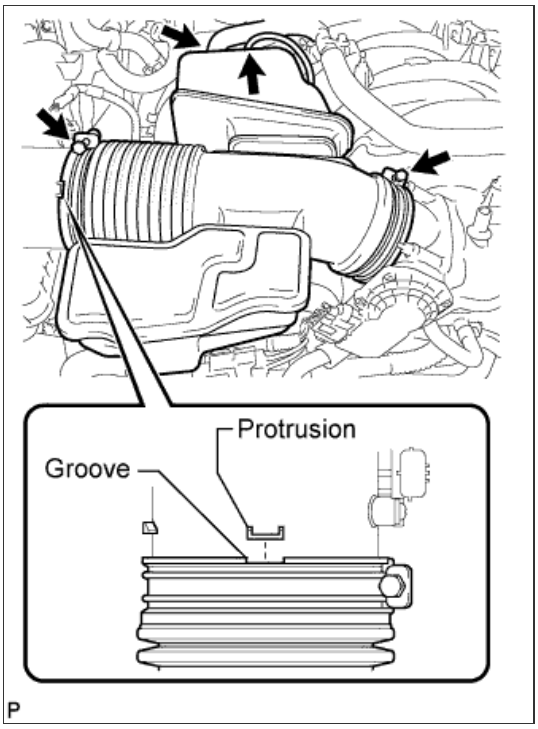
a. Install the air cleaner hose so that the protrusion of the air cleaner cap aligns with the groove of the hose as shown in the illustration.

b. Tighten the 2 clamps.

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

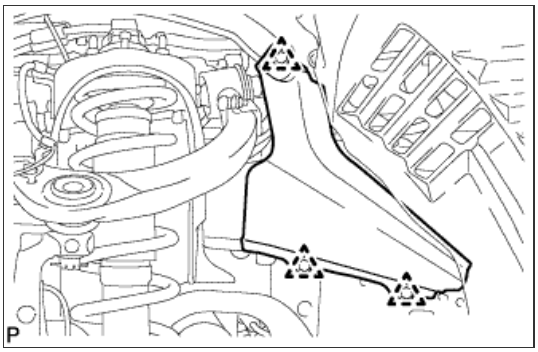
c. Connect the vacuum hose.

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.



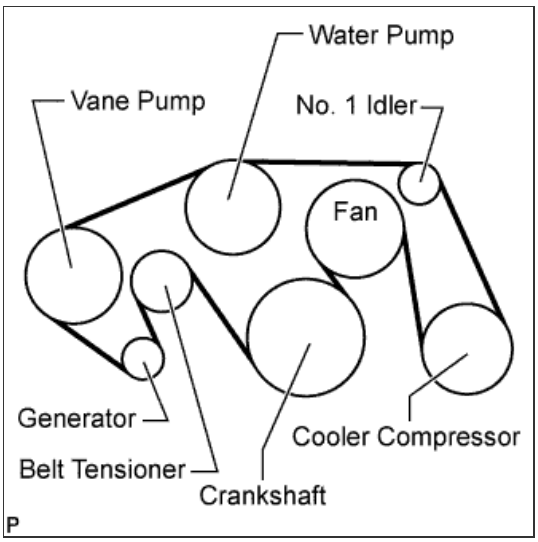
7. INSTALL FAN & GENERATOR V BELT

a. Set the V belt onto every part.

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

NOTICE:

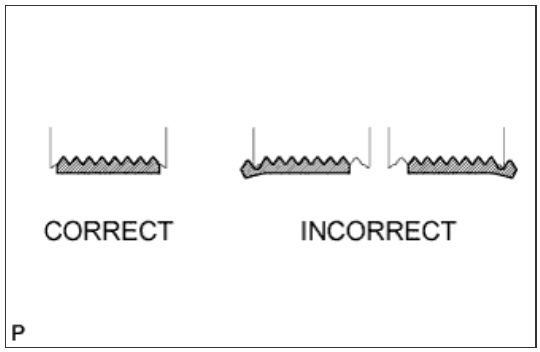
Make sure that the V belt is properly set to each pulley.



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

HINT:

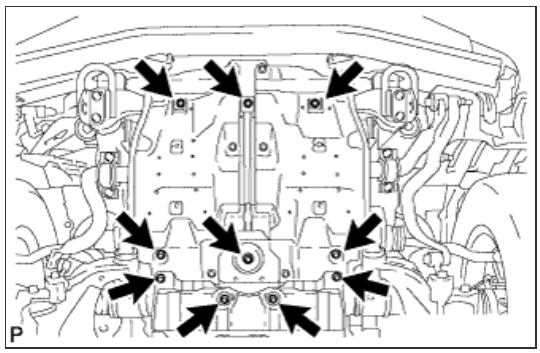
Make sure to check by hand that the belt has not slipped out of the grooves on the bottom of the pulley.



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.

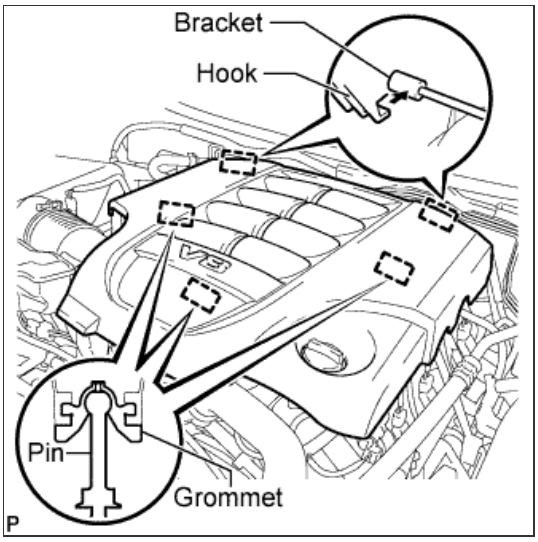
11. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

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.

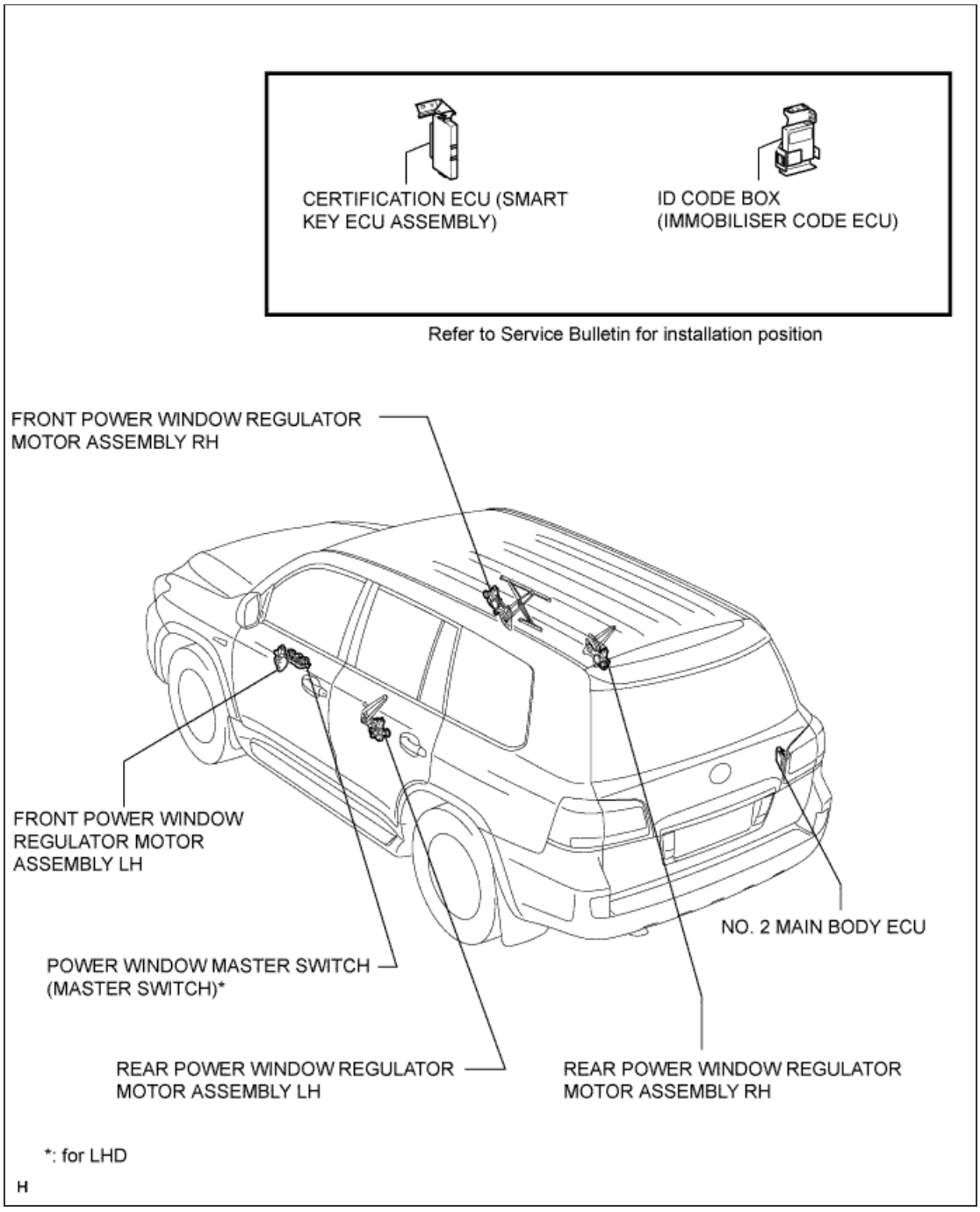
14. INSTALL ENGINE ROOM SIDE COVER LH

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

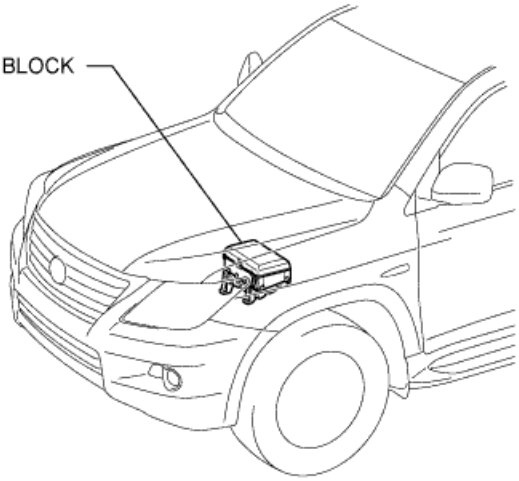
15. INSTALL ENGINE ROOM SIDE COVER RH

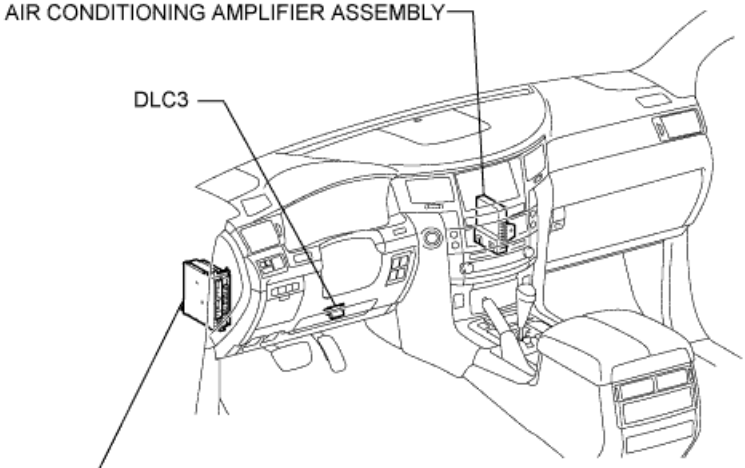
a. Install the engine room side cover RH with the 7 clips.

for Preparation Click here



for LHD:



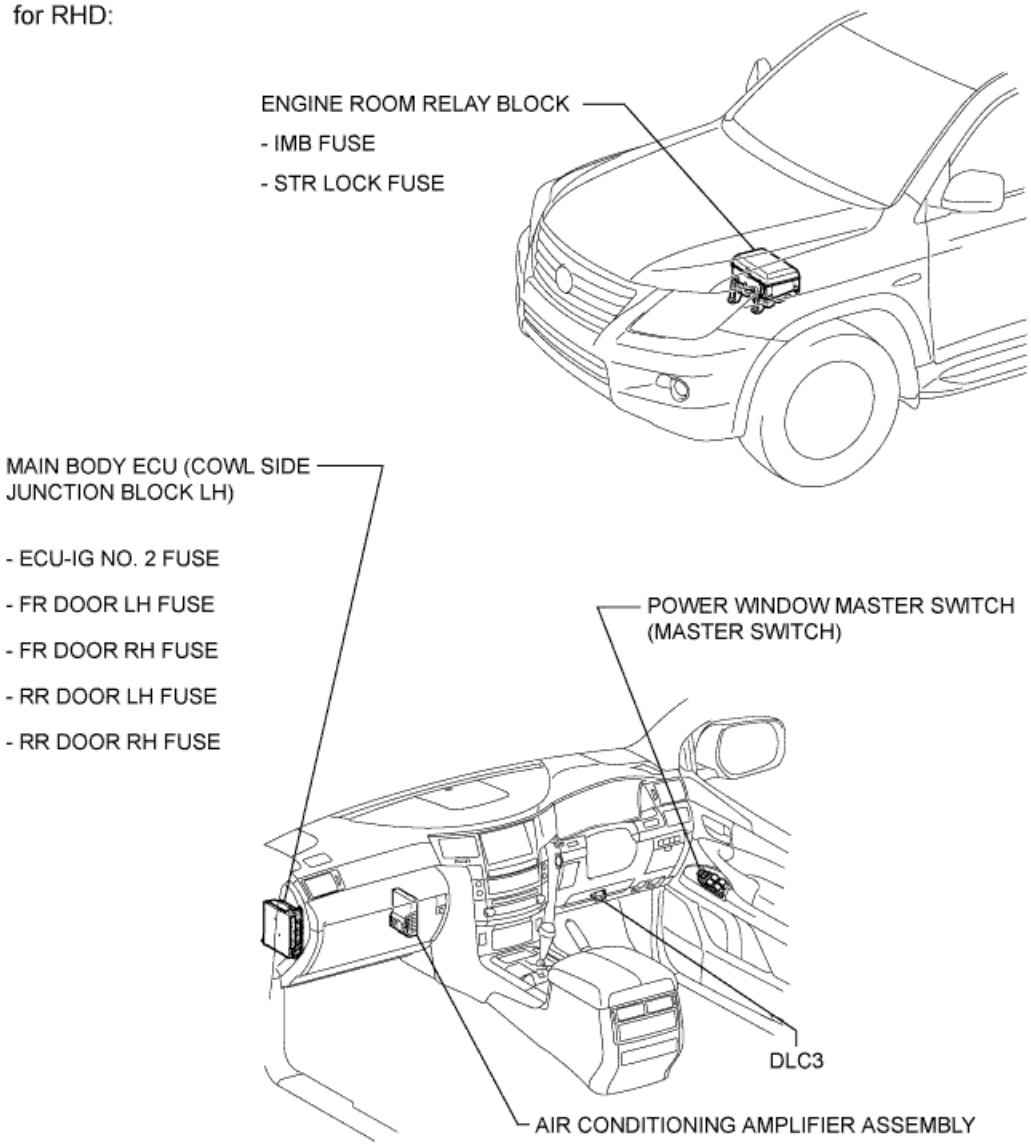


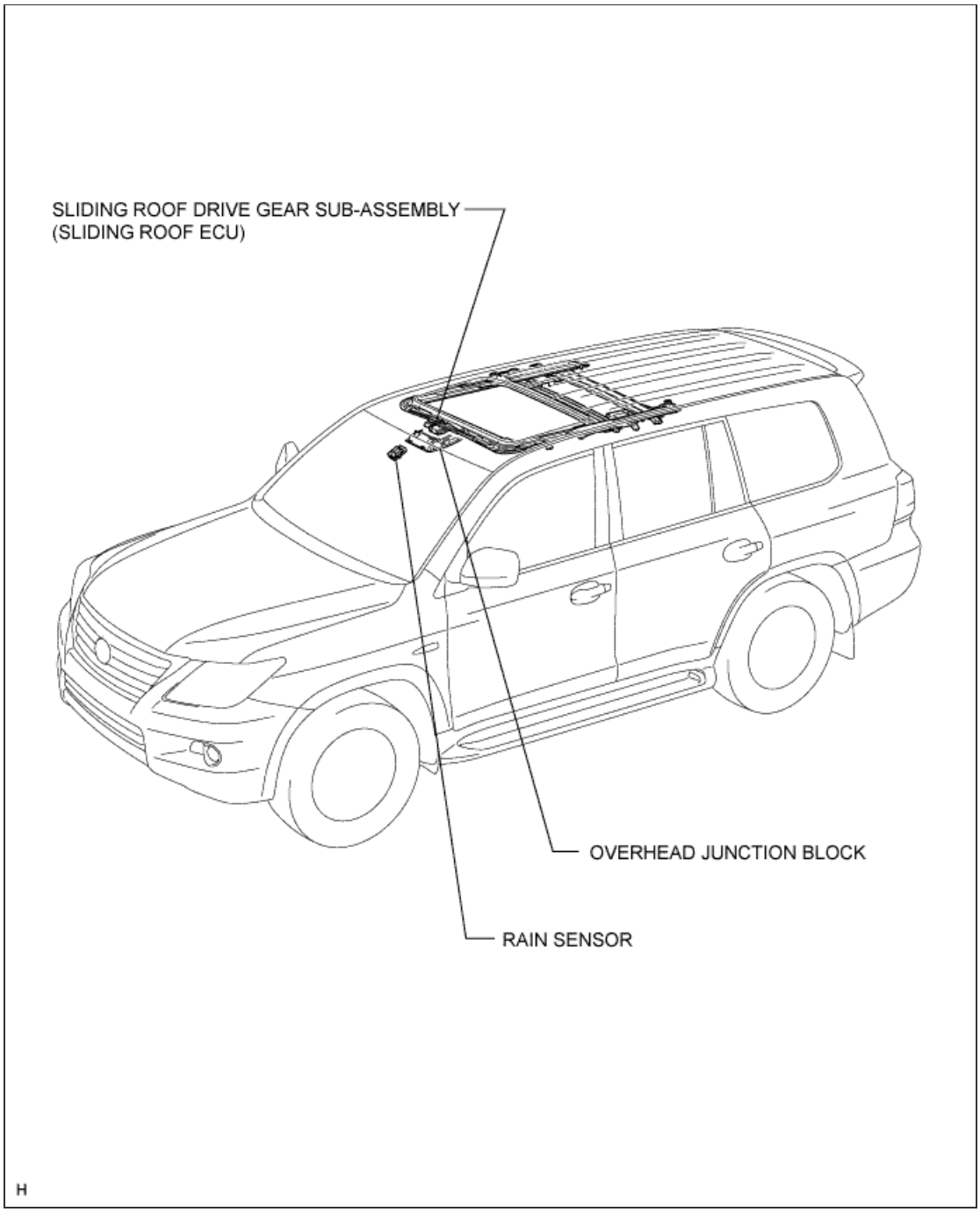
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

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

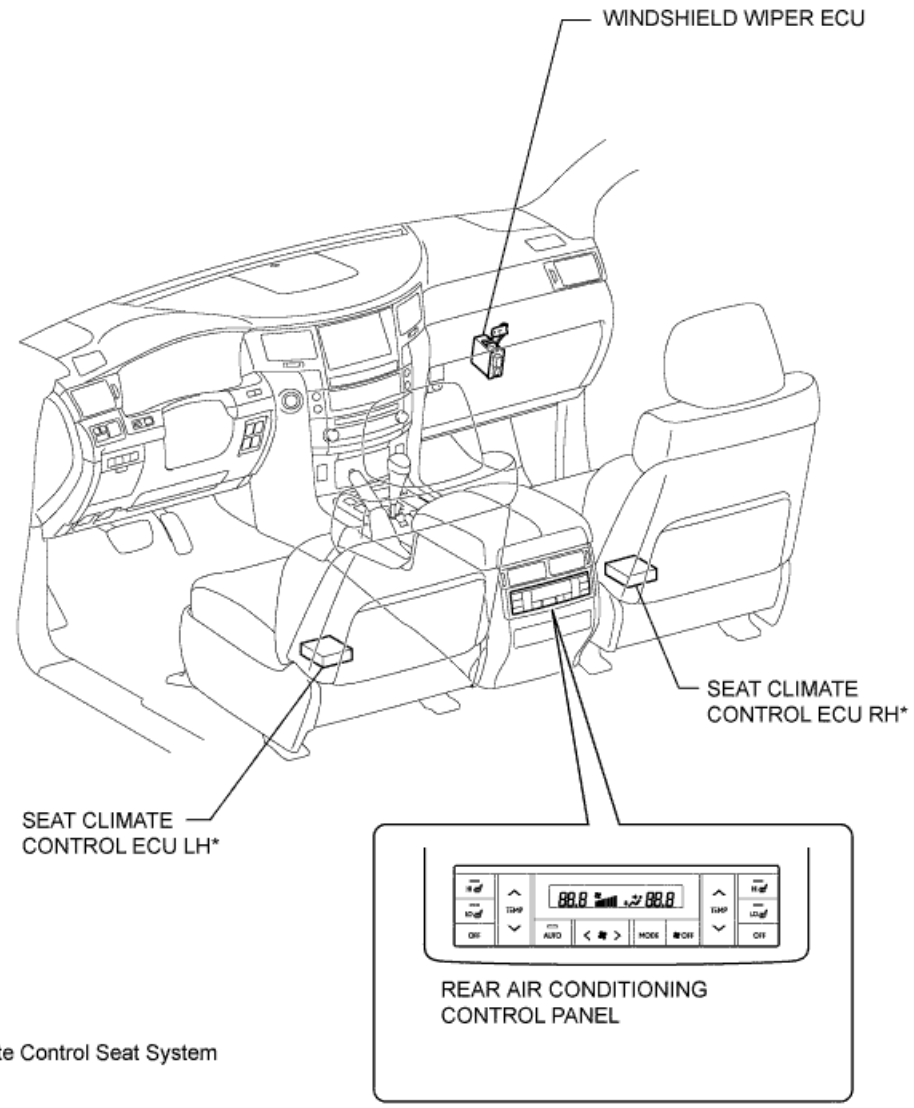
H

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

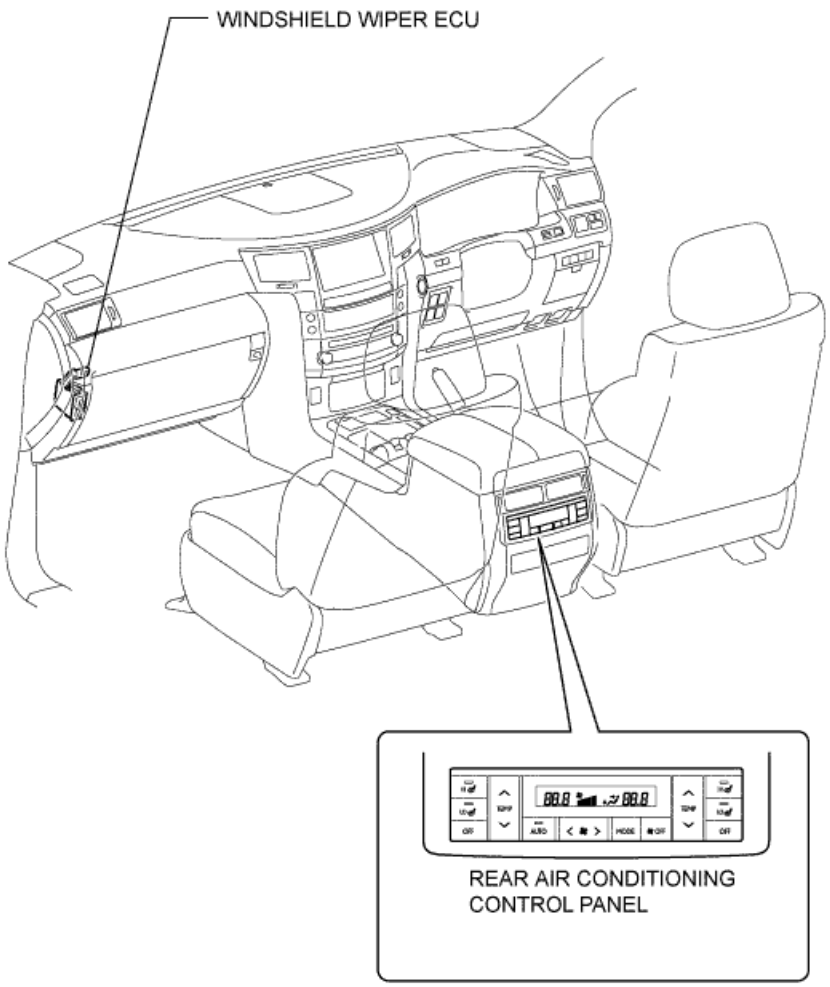
for LHD:



*: w/ Climate Control Seat System

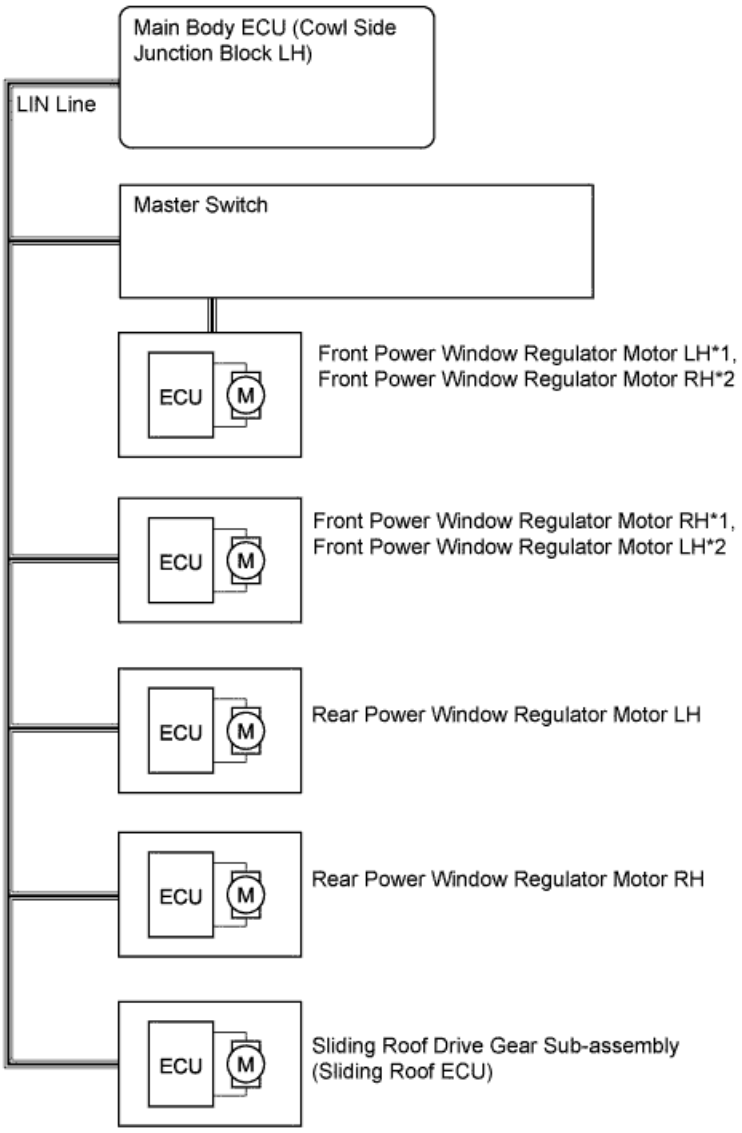
H

for RHD:



for Preparation Click here

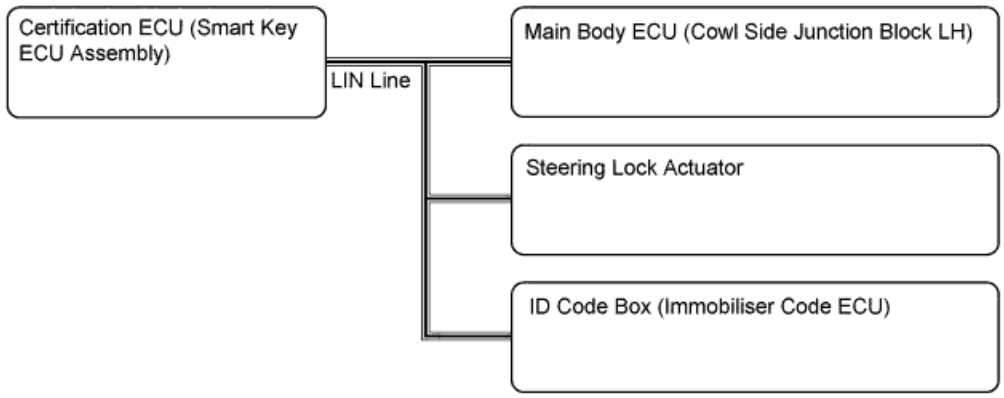
LIN Communication Bus between Components Related to Window and Sliding Roof:



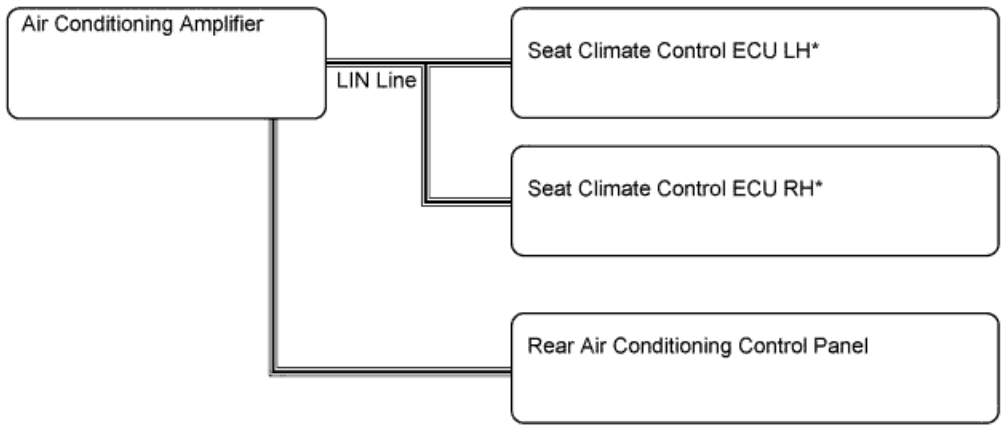
*1: for LHD

*2: for RHD

LIN Communication Bus between Components Related to Certification ECU:

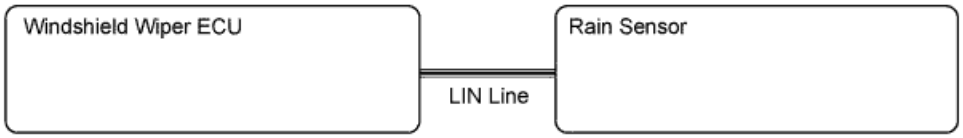


LIN Communication between Components Related to Air Conditioning:

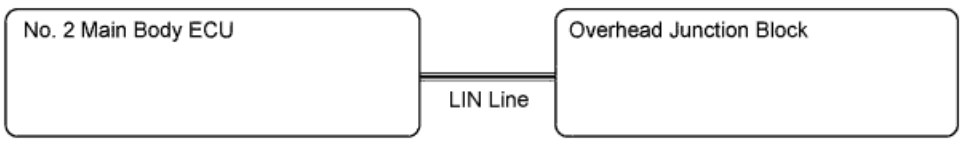


*: w/ Climate Control Seat System

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 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:

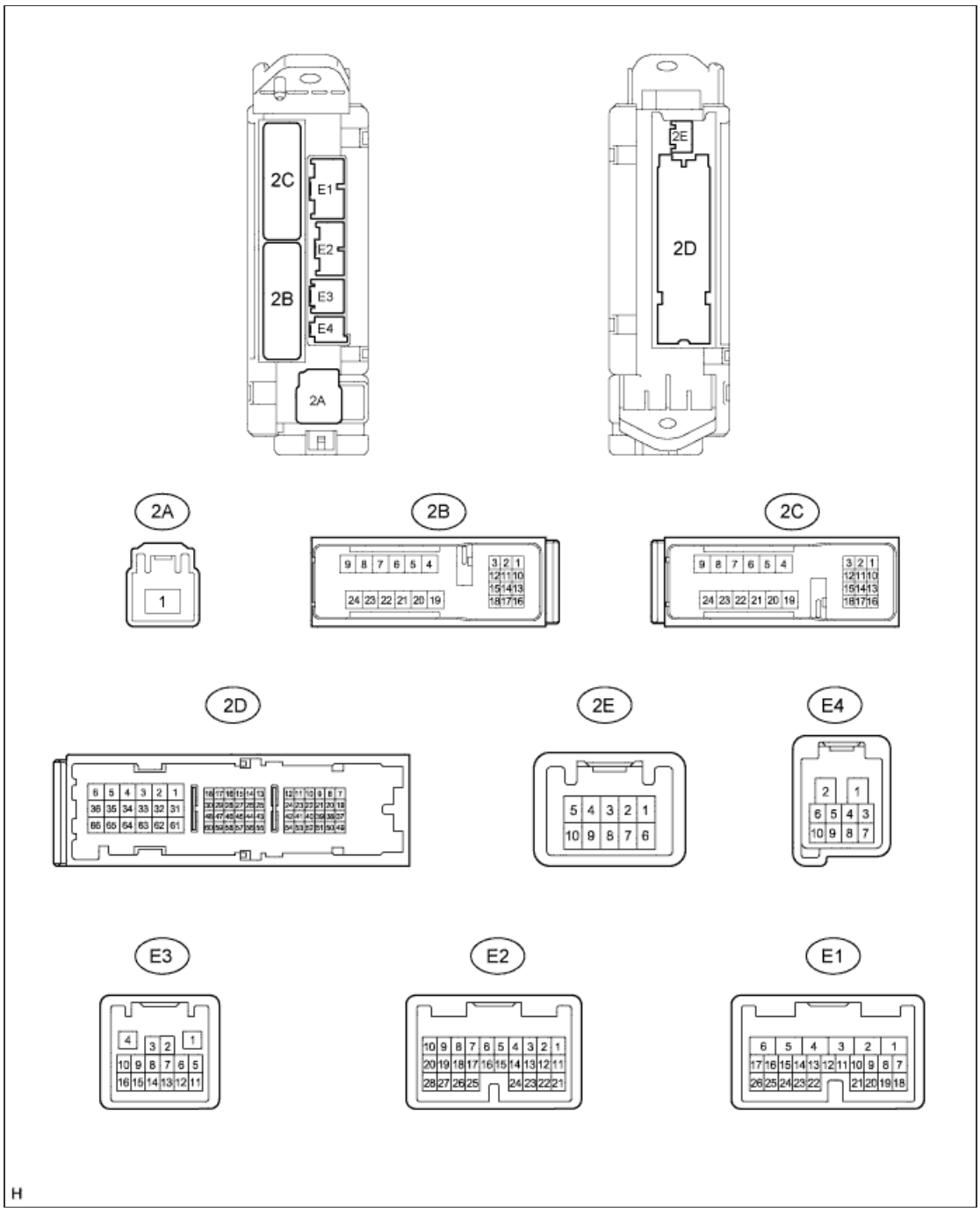
Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed.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

CHECK MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)



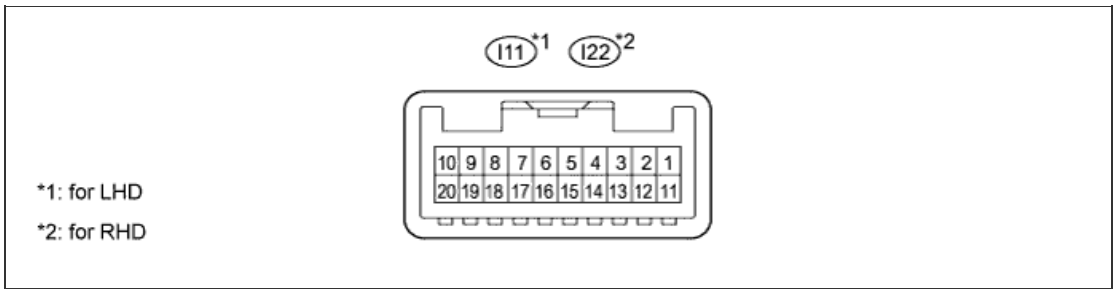
a. Disconnect the 2D, E1, E2 and E3 ECU connectors.

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

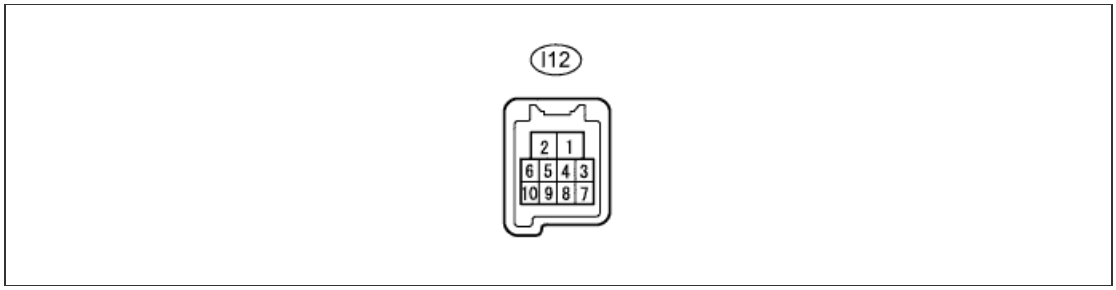
Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
I11-11 (B) - I11-12 (GND)	L - W-B	Ignition power supply	Engine switch off	Below 1 Ω
I11-11 (B) - I11-12 (GND)	L - W-B	Ignition power supply	Engine switch on (IG)	11 to 14 V
I11-12 (GND) - Body ground	W-B - Body ground	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



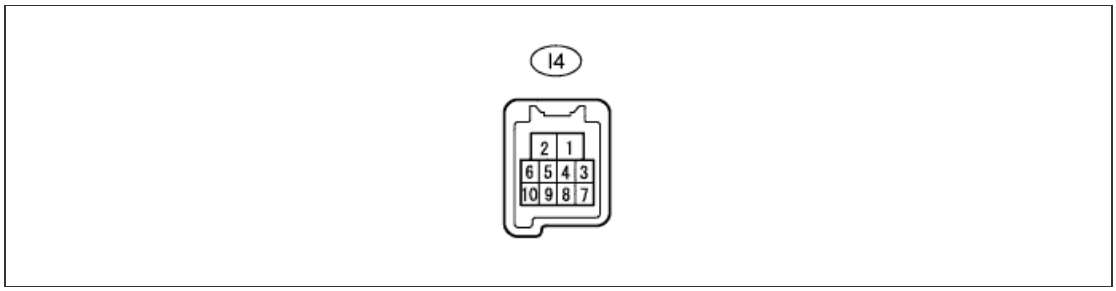
a. Disconnect the I12 motor connector.

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



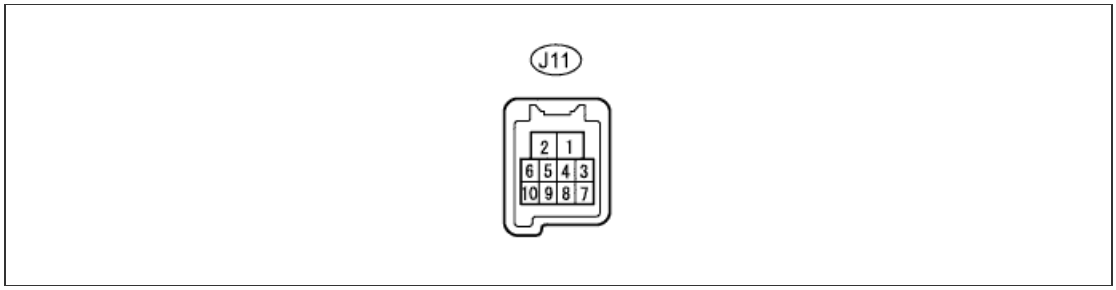
a. Disconnect the I4 motor connector.

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



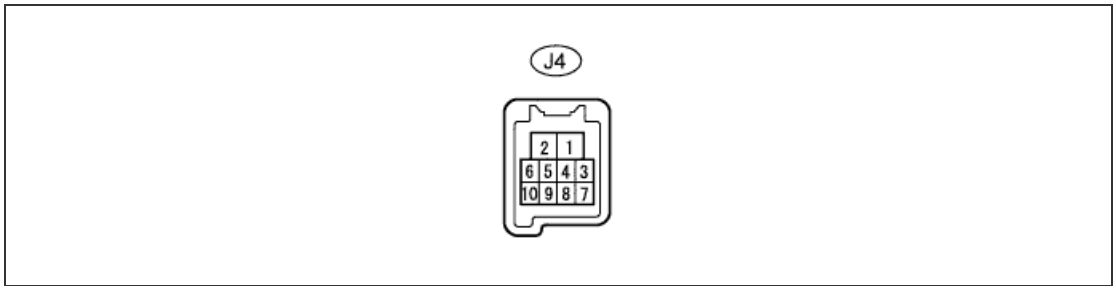
a. Disconnect the J11 motor connector.

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



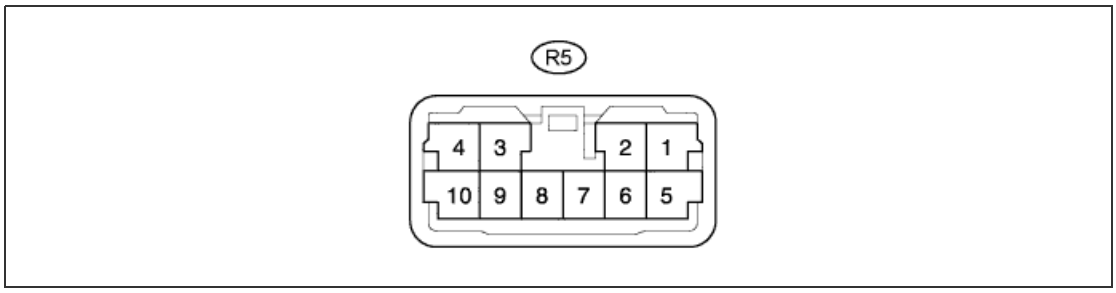
a. Disconnect the J4 motor connector.

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



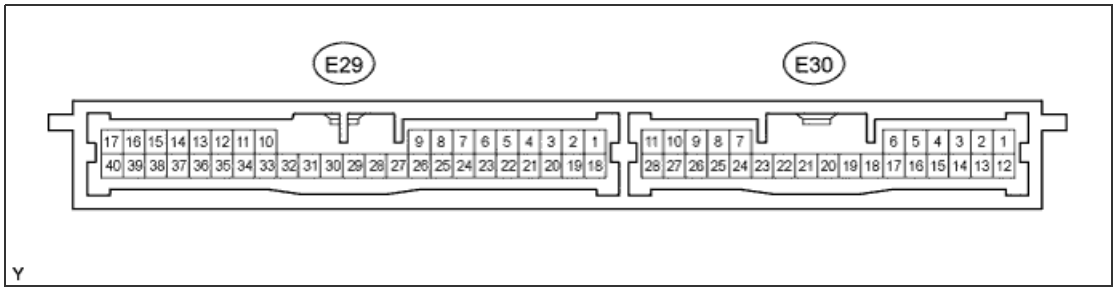
a. Disconnect the R5 ECU connector.

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)



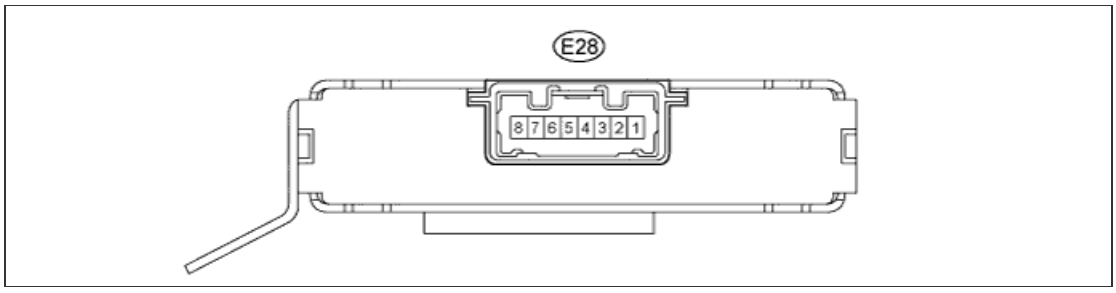
a. Disconnect the E29 ECU connector.

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)



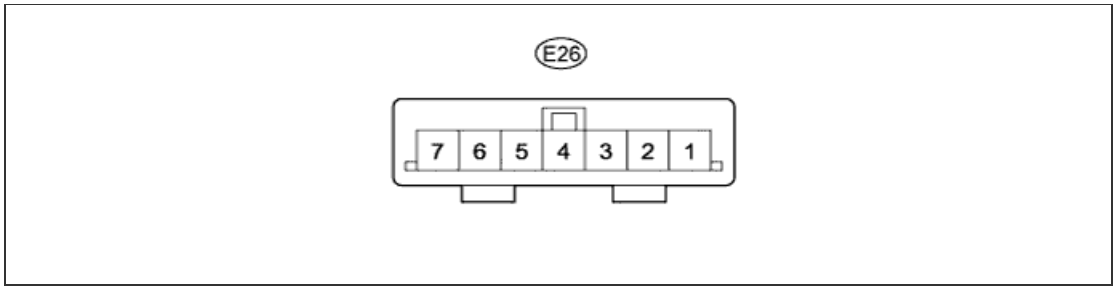
a. Disconnect the E28 ECU connector.

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



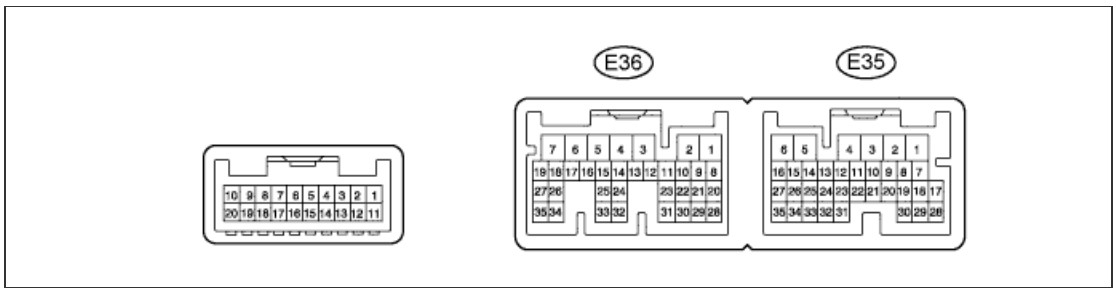
a. Disconnect the E26 ECU connector.

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)



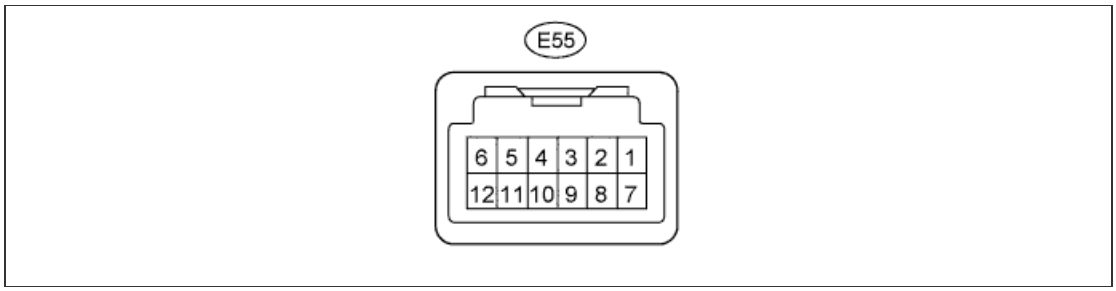
a. Disconnect the E36 amplifier connector.

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



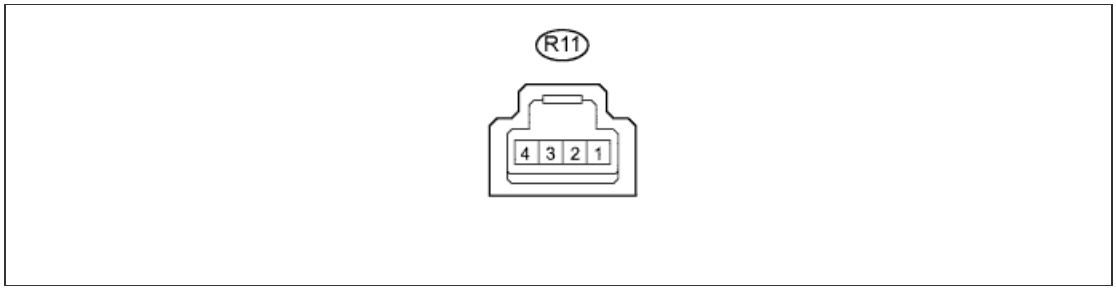
a. Disconnect the E55 panel connector.

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



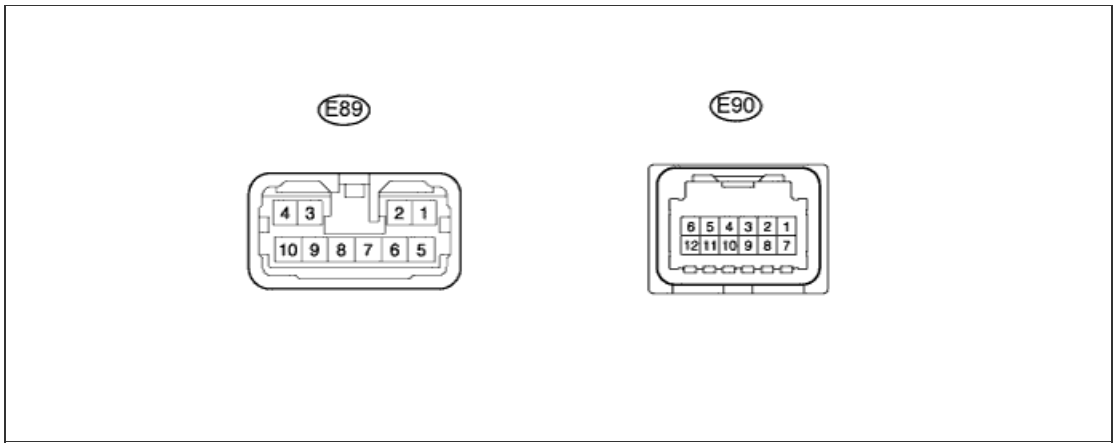
a. Disconnect the R11 rain sensor connector.

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.

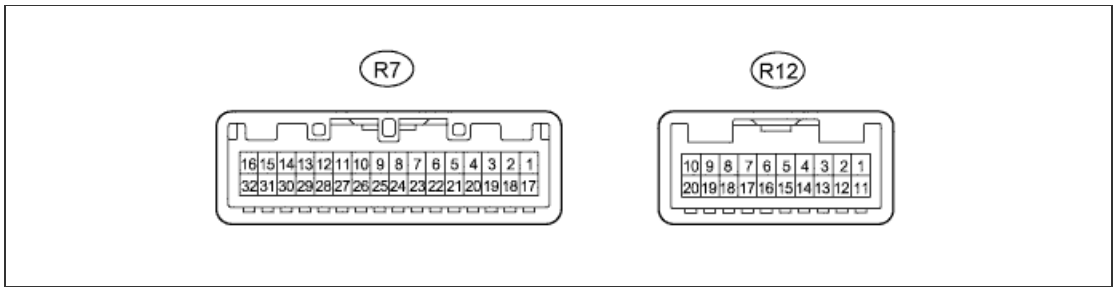
b. Measure the voltage and resistance according to the value(s) in the table below.

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



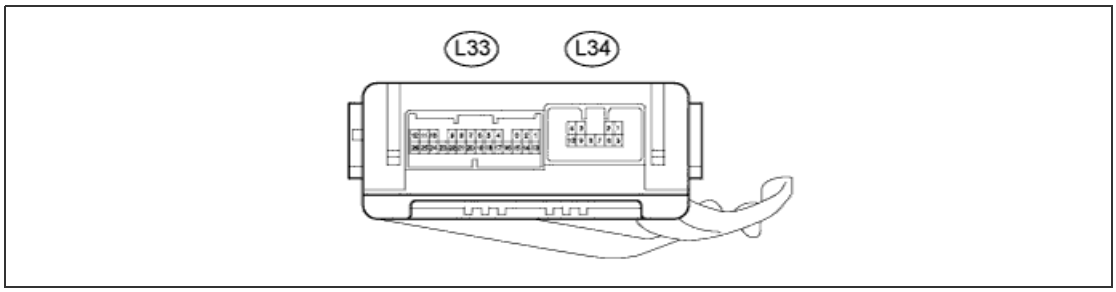
a. Disconnect the R7 block connector.

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

DTC B1206 P/W Master Switch Communication Stop

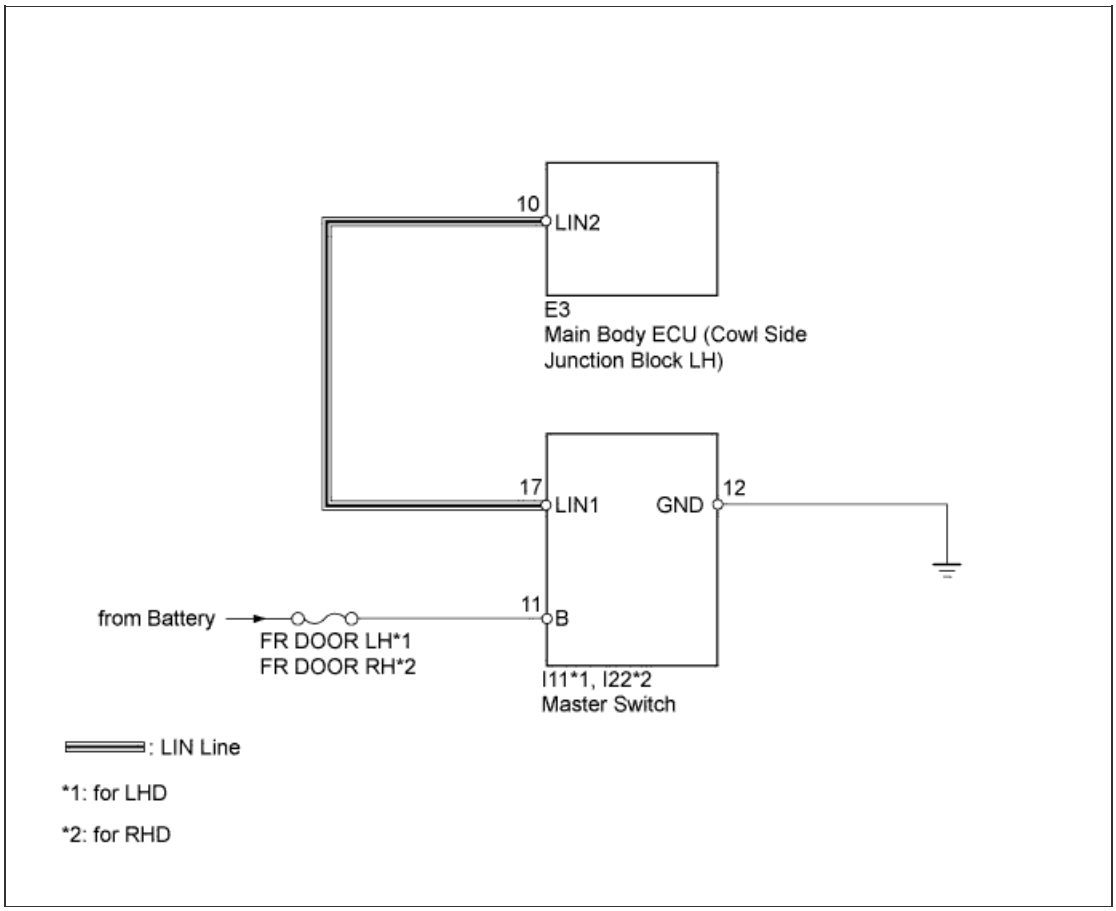
for Preparation Click here

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 • Main body ECU (cowl side junction block LH) • 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.

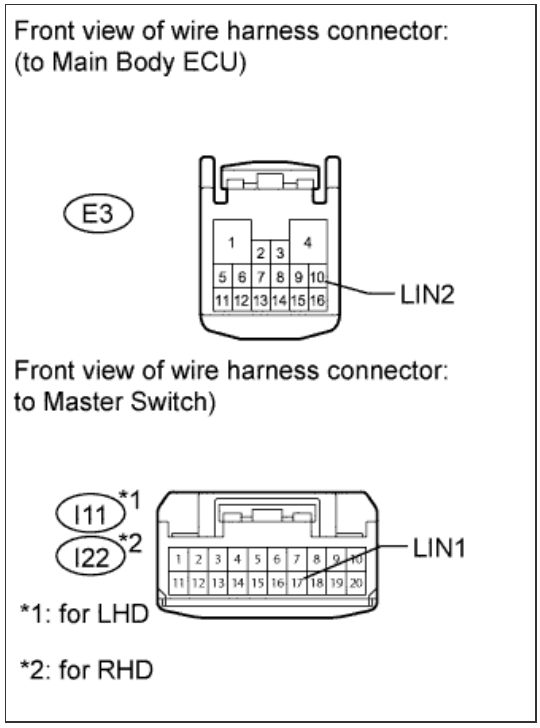
c. Measure the resistance and voltage according to the value(s) in the tables below.

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.

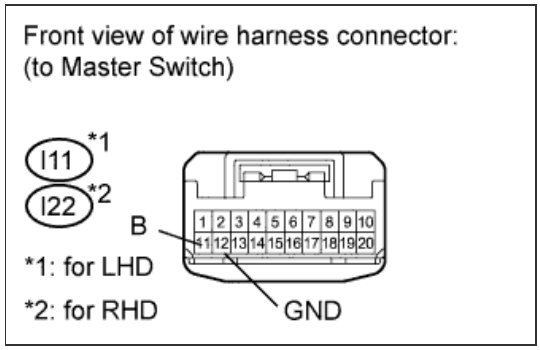
b. Measure the resistance and voltage according to the value(s) in the tables below.

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 B2323 Rear Door RH ECU Communication Stop

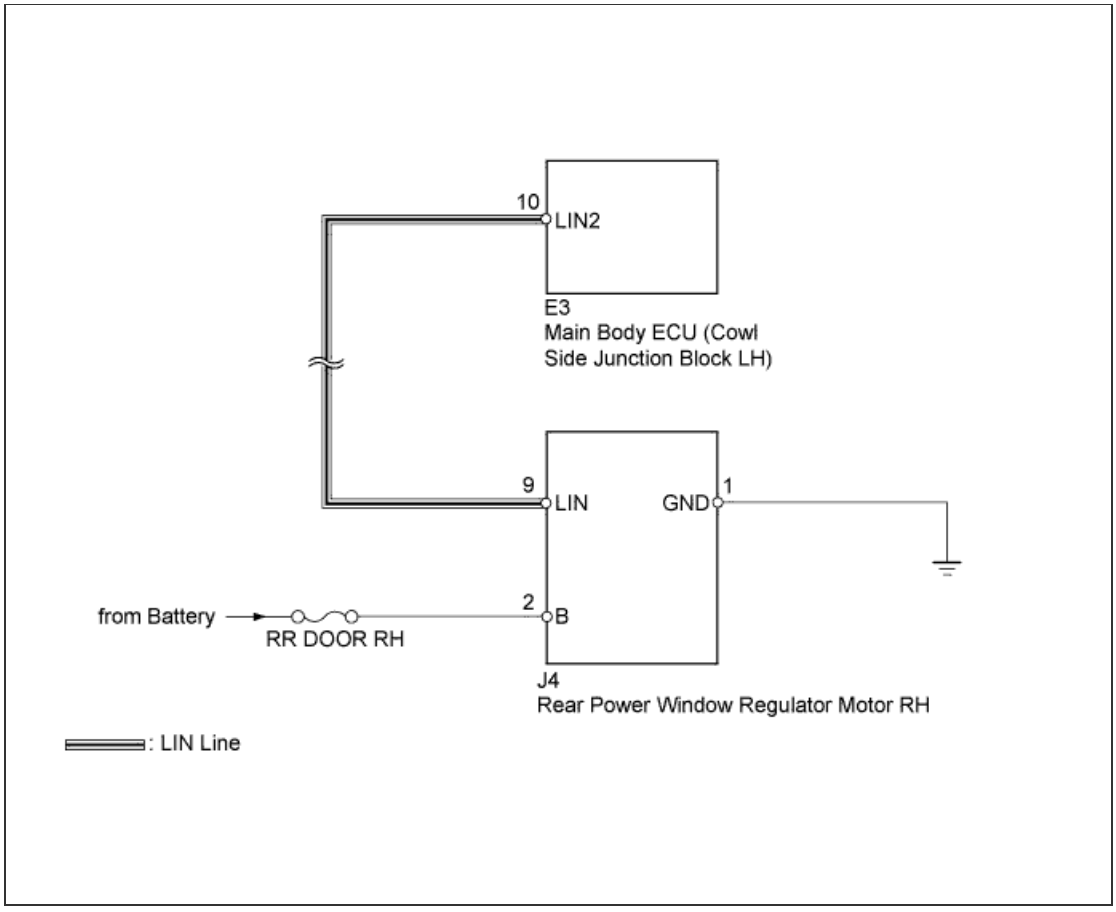
for Preparation Click here

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 • Main body ECU (cowl side junction block LH) • 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)

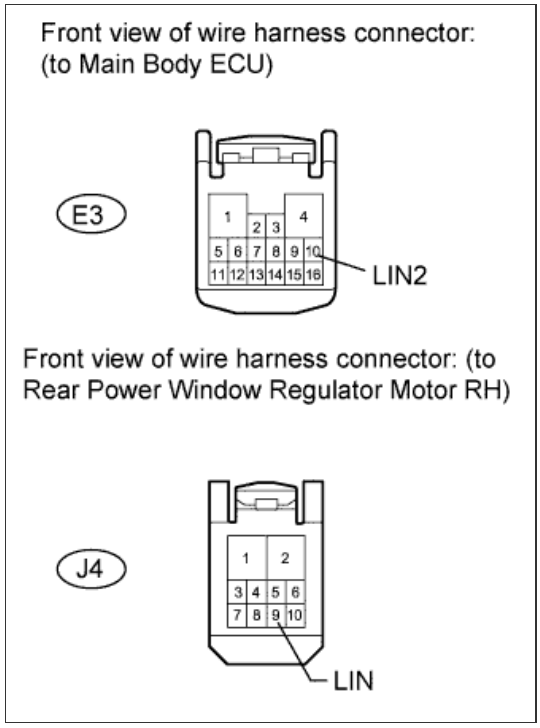
a. Disconnect the E3 ECU connector.

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.

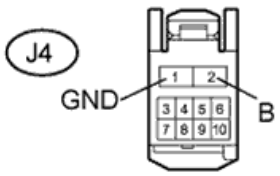
Standard Resistance:

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 B1206 P/W Master Switch Communication Stop

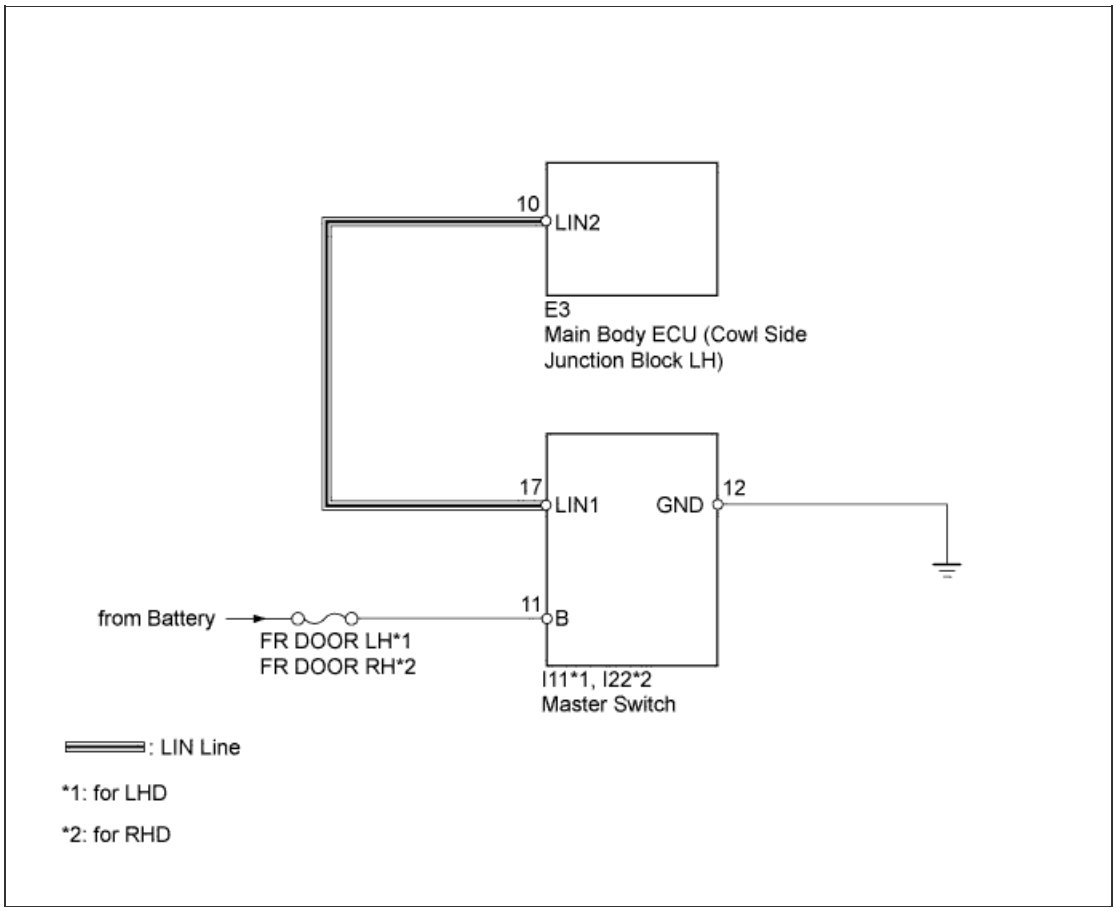
for Preparation Click here

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 • Main body ECU (cowl side junction block LH) • 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.

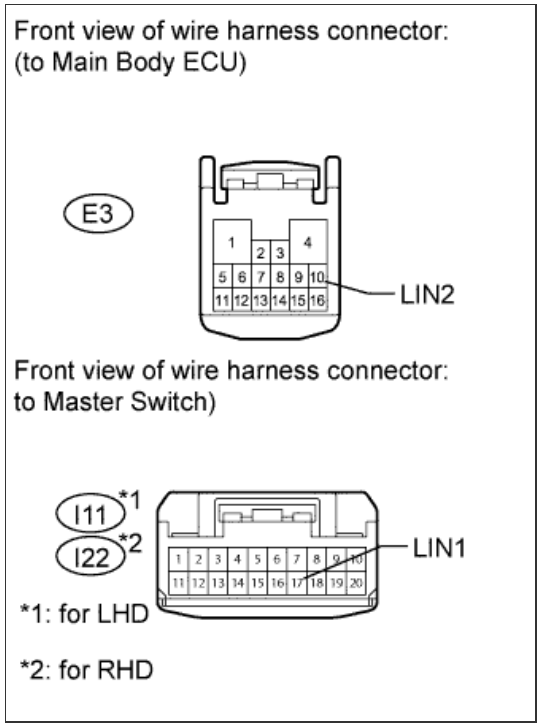
c. Measure the resistance and voltage according to the value(s) in the tables below.

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.

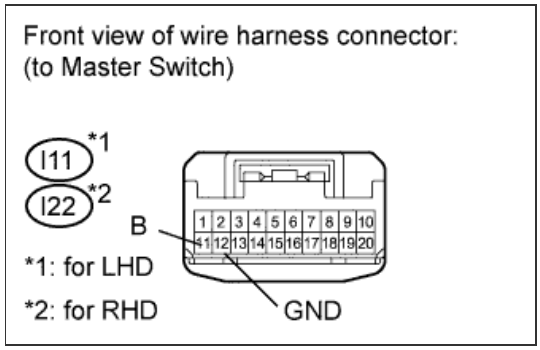
b. Measure the resistance and voltage according to the value(s) in the tables below.

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 B2323 Rear Door RH ECU Communication Stop

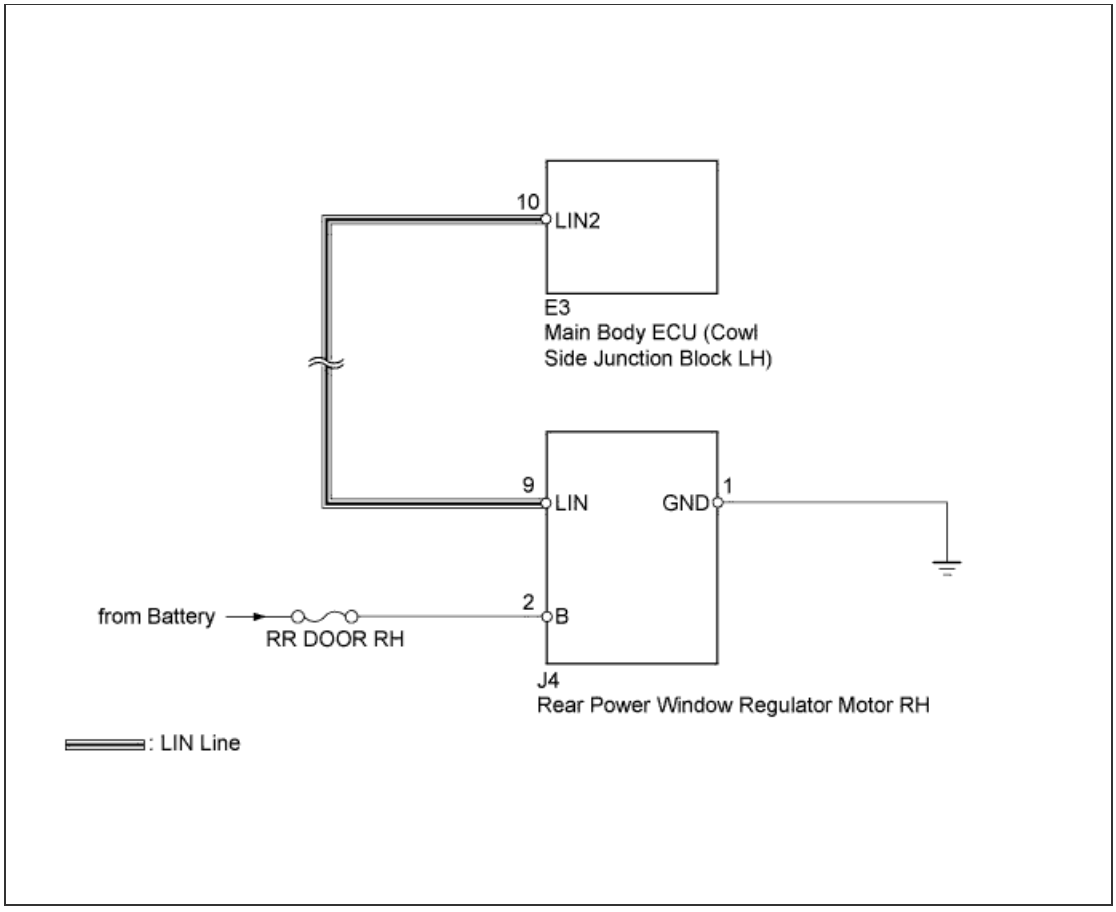
for Preparation Click here

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 • Main body ECU (cowl side junction block LH) • 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)

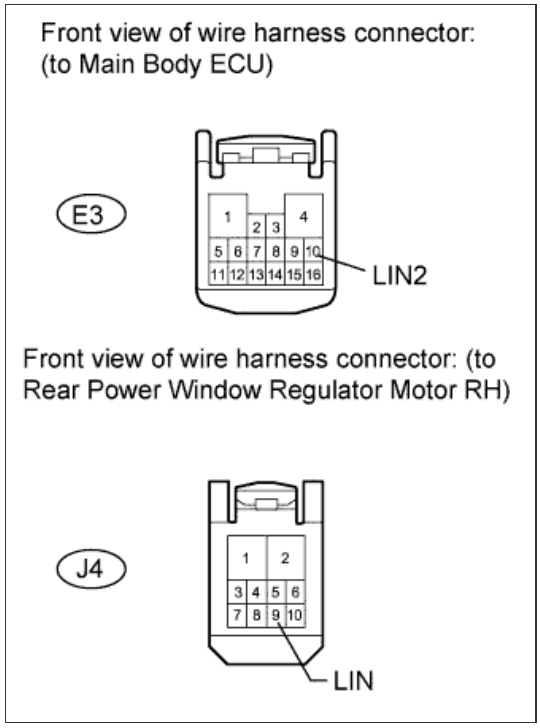
a. Disconnect the E3 ECU connector.

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.

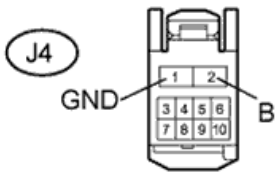
Standard Resistance:

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 B1206 P/W Master Switch Communication Stop

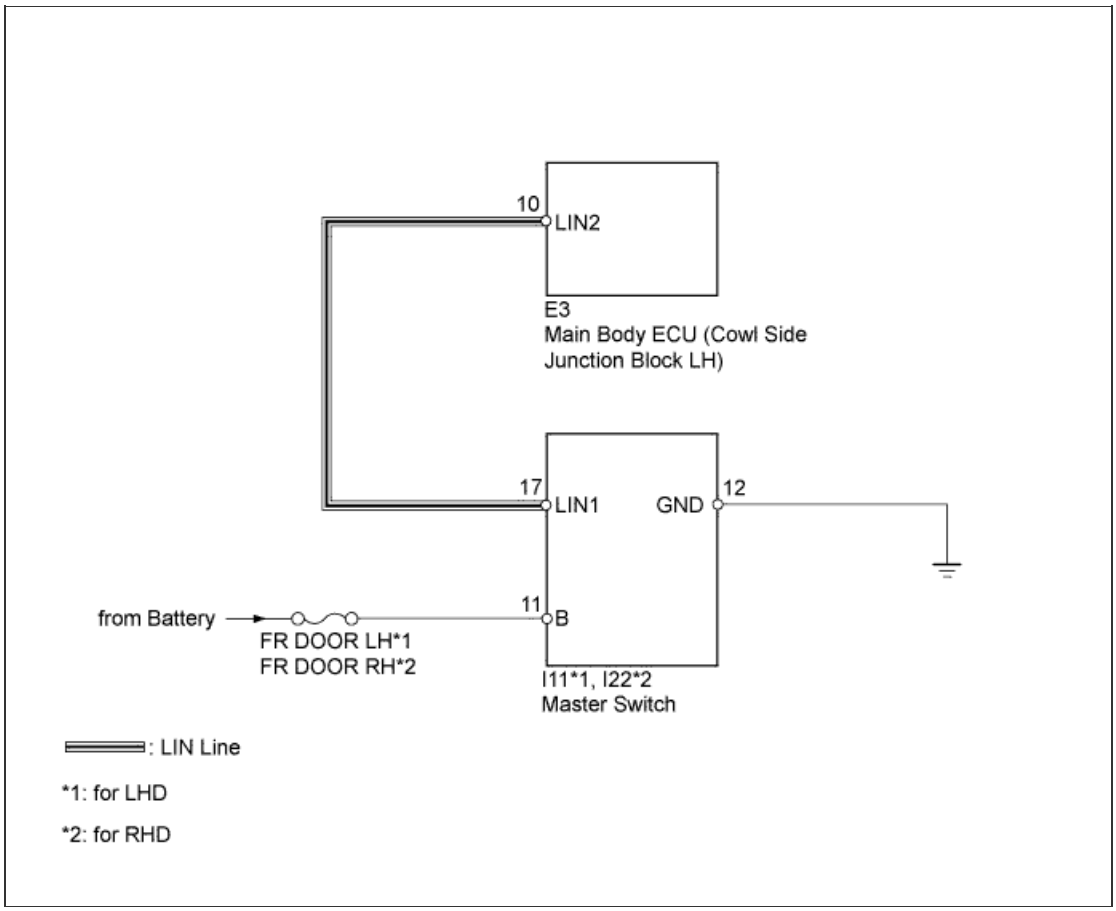
for Preparation Click here

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 • Main body ECU (cowl side junction block LH) • 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.

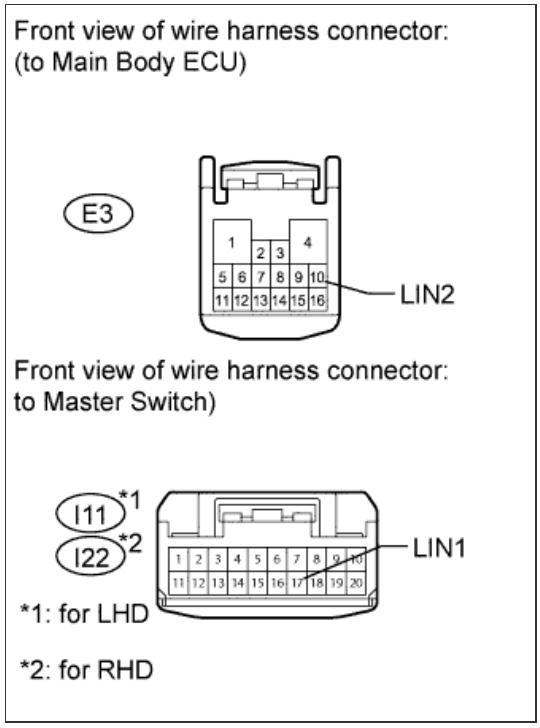
c. Measure the resistance and voltage according to the value(s) in the tables below.

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.

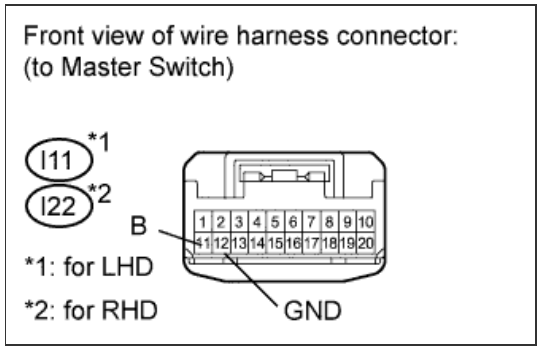
b. Measure the resistance and voltage according to the value(s) in the tables below.

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

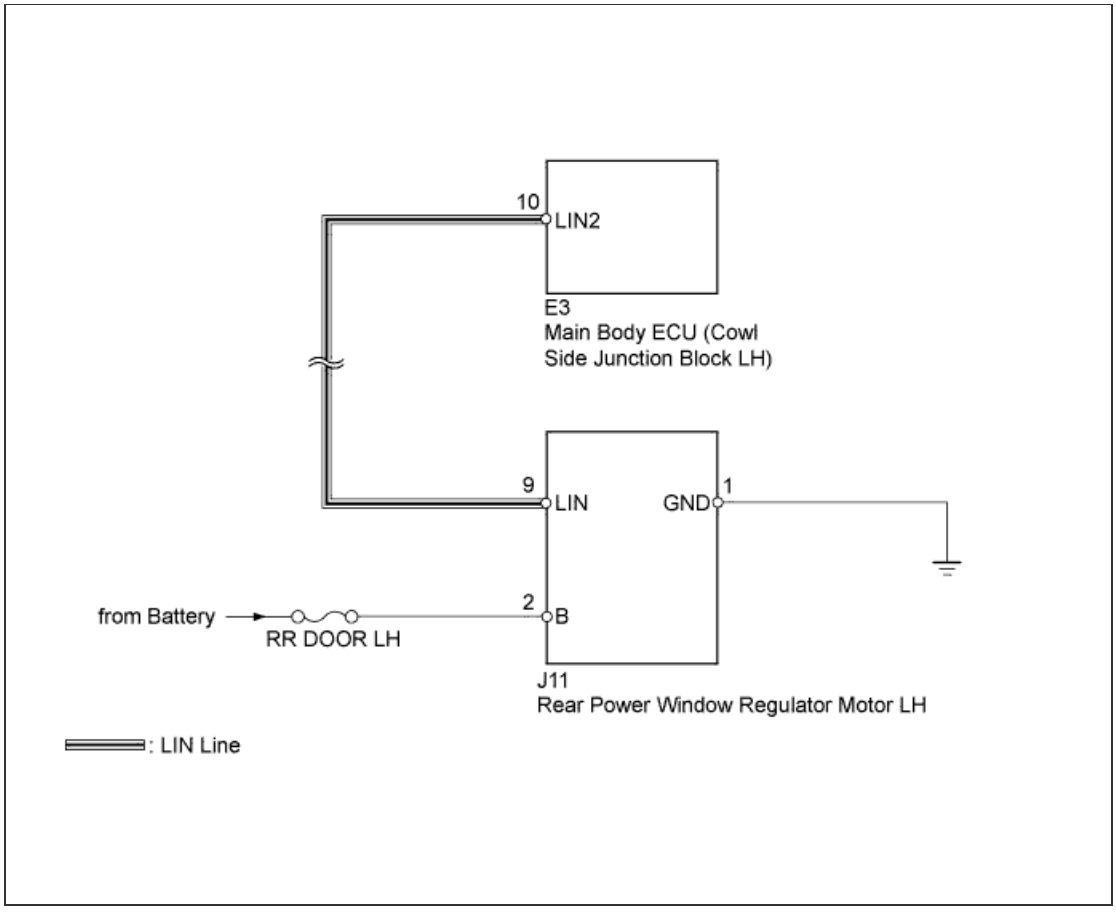
for Preparation Click here

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 • Main body ECU (cowl side junction block LH) • 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)

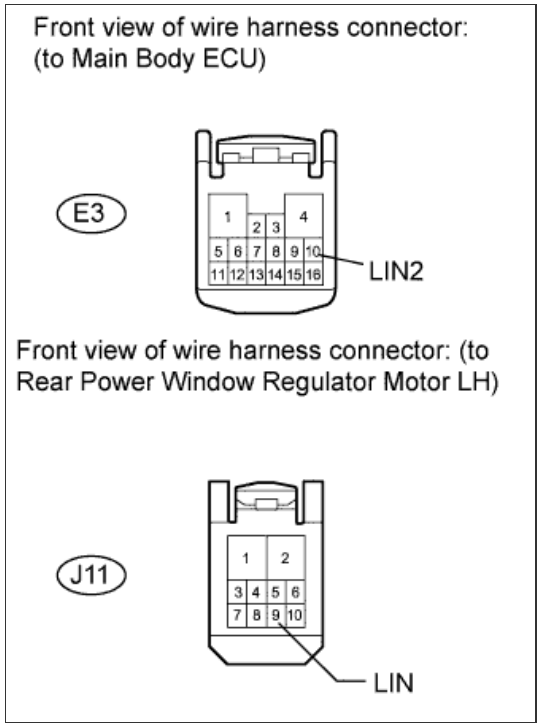
a. Disconnect the E3 ECU connector.

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.

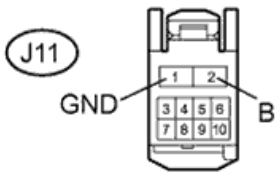
Standard Resistance:

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

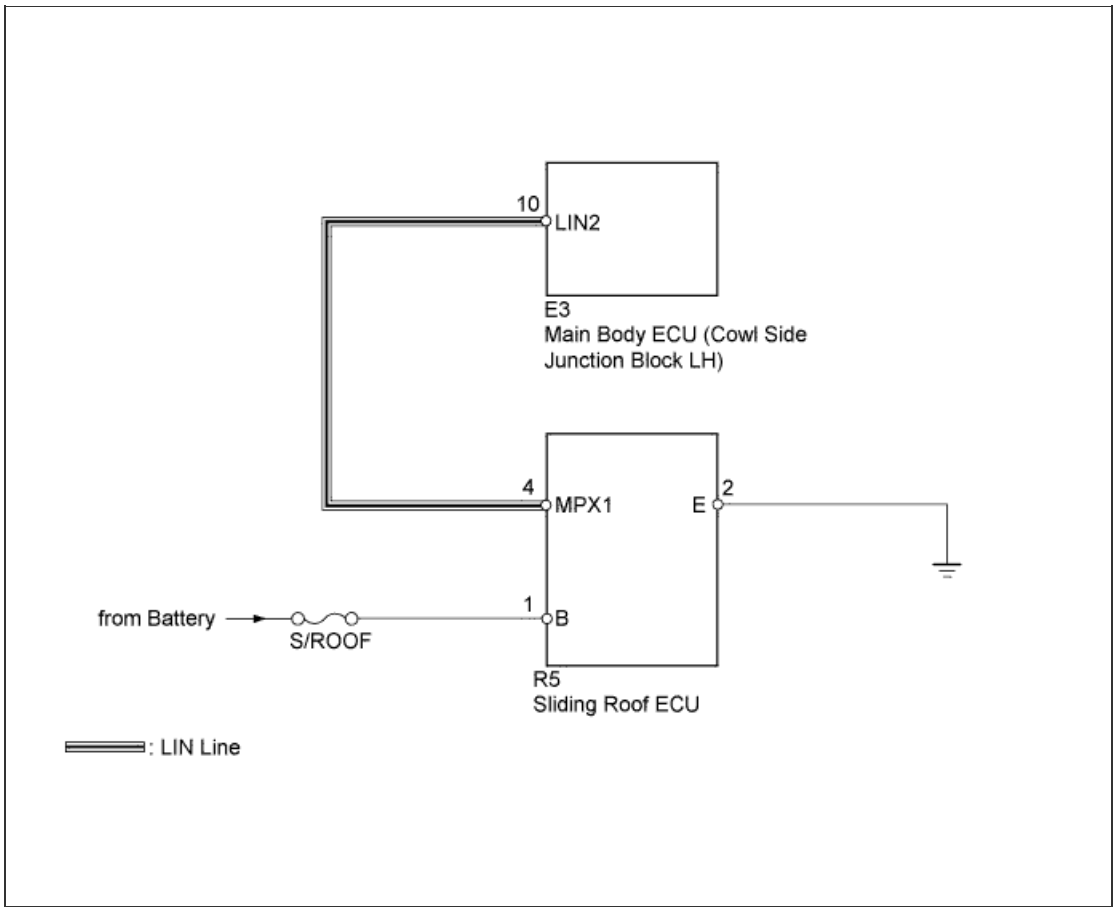
for Preparation Click here

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 • Main body ECU (cowl side junction block LH) • 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.

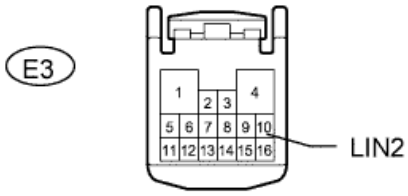
Standard Resistance:

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

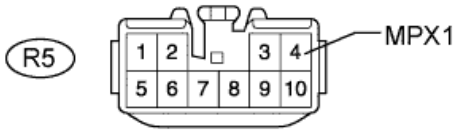
Standard Voltage:

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.

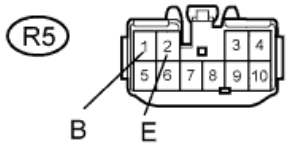
Standard Resistance:

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

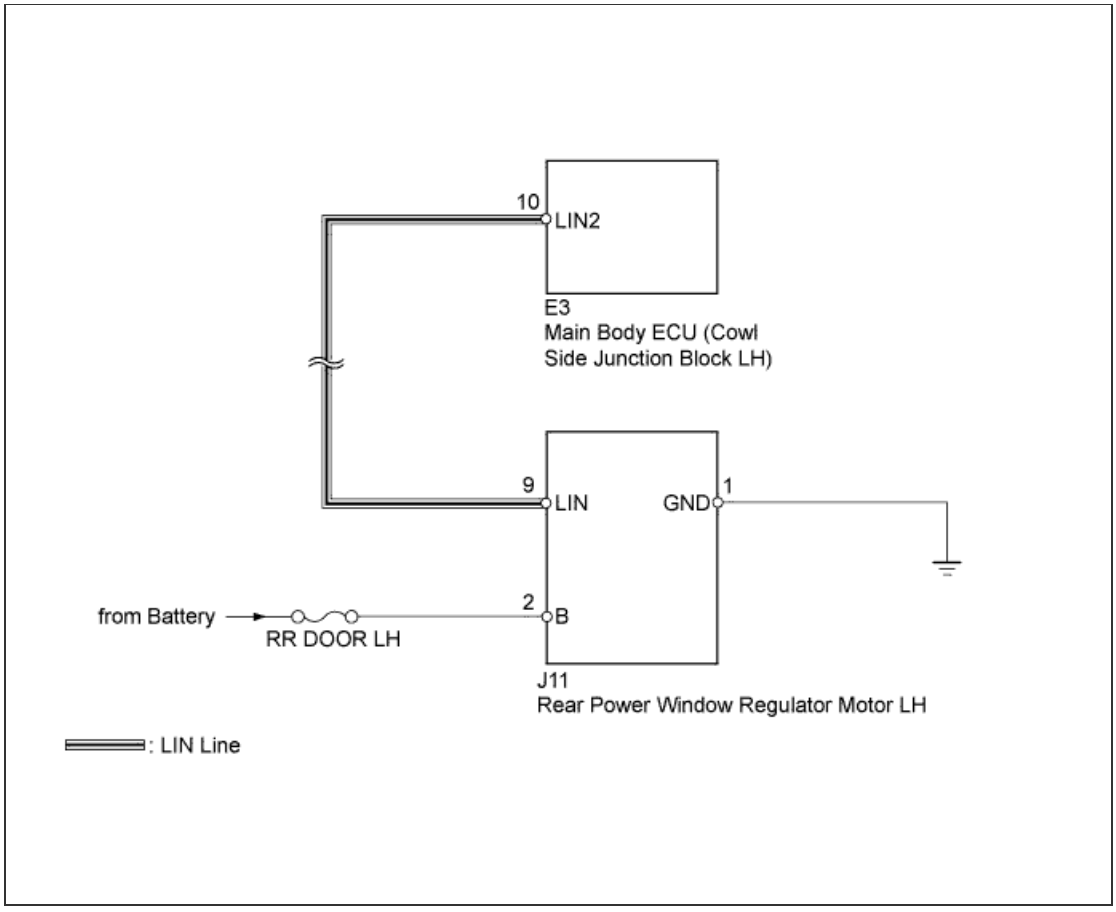
for Preparation Click here

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 • Main body ECU (cowl side junction block LH) • 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)

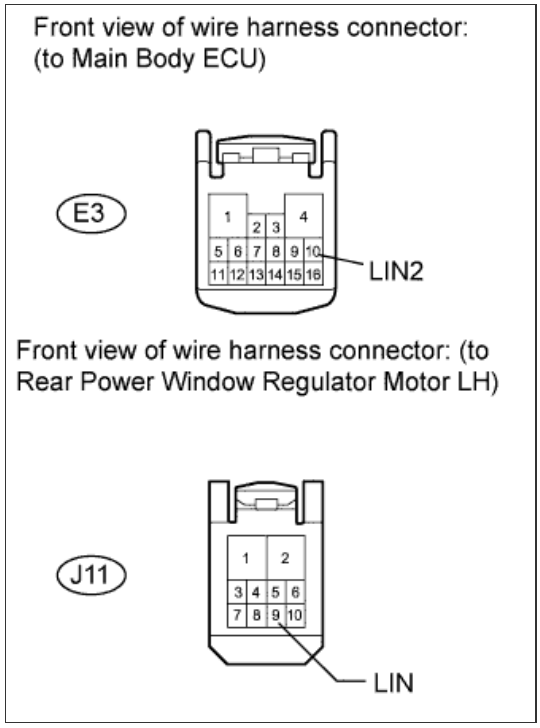
a. Disconnect the E3 ECU connector.

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.

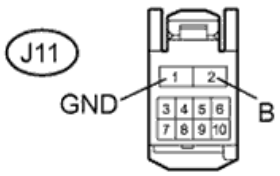
Standard Resistance:

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

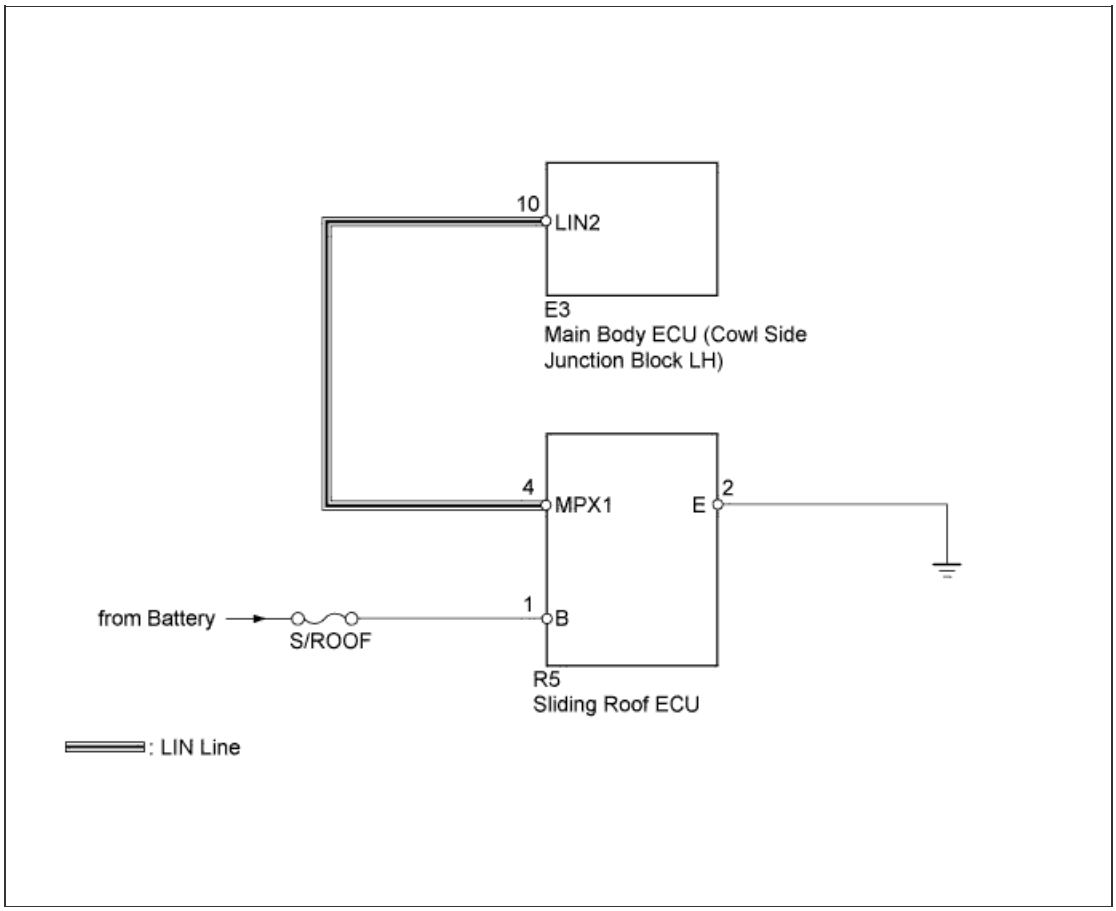
for Preparation Click here

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 • Main body ECU (cowl side junction block LH) • 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.

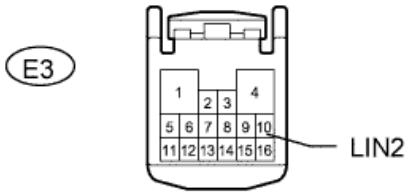
Standard Resistance:

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

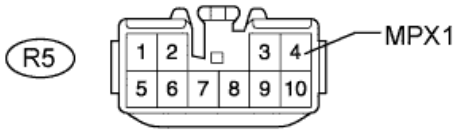
Standard Voltage:

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.

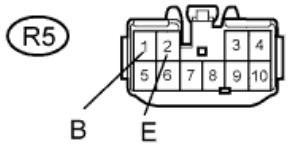
Standard Resistance:

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

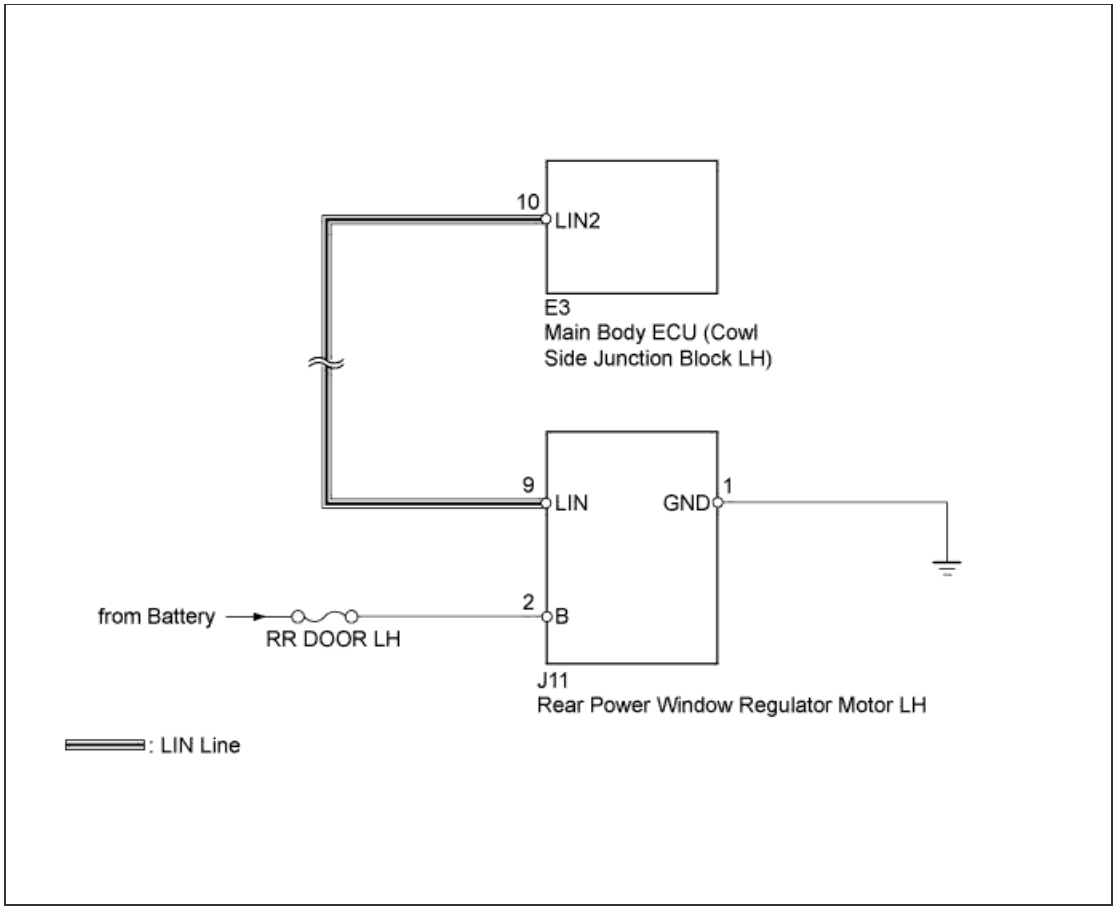
for Preparation Click here

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 • Main body ECU (cowl side junction block LH) • 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)

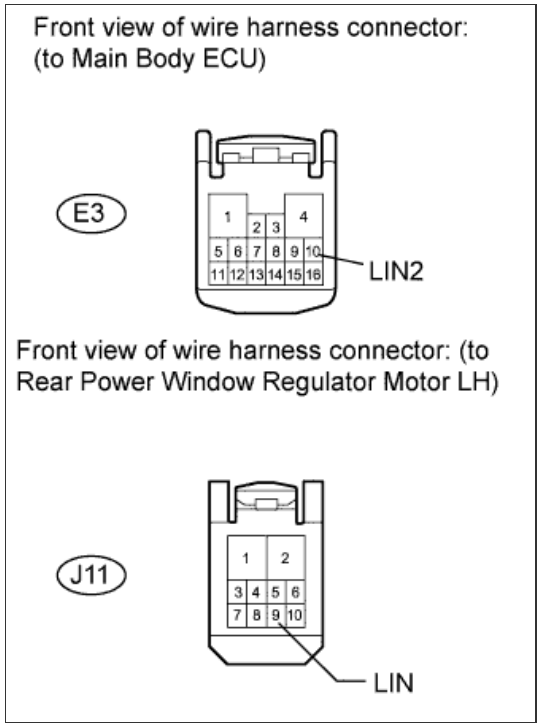
a. Disconnect the E3 ECU connector.

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.

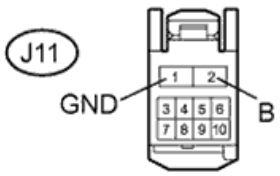
Standard Resistance:

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

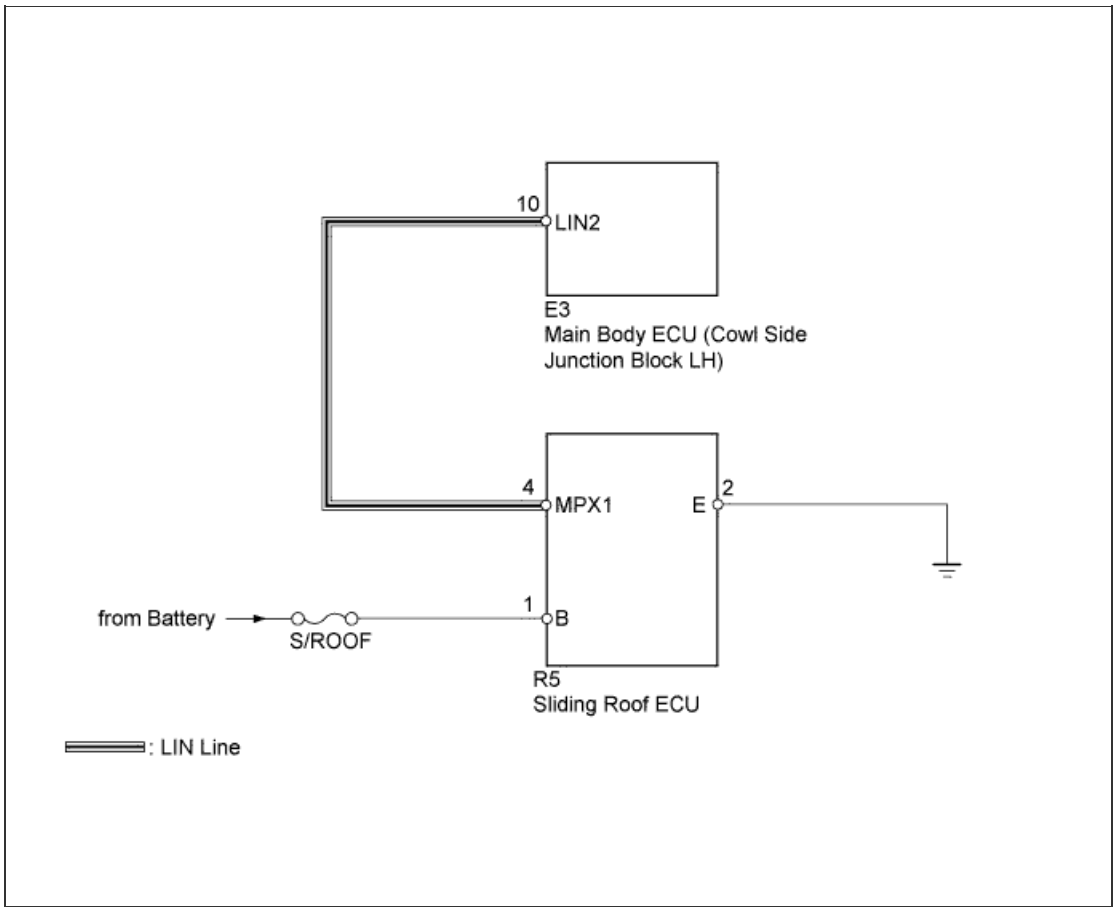
for Preparation Click here

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 • Main body ECU (cowl side junction block LH) • 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.

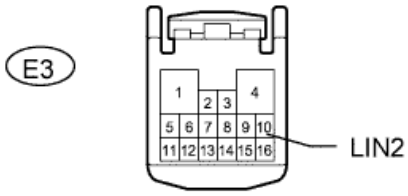
Standard Resistance:

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

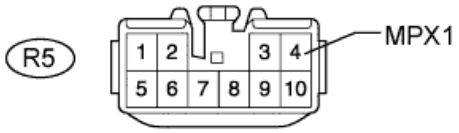
Standard Voltage:

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.

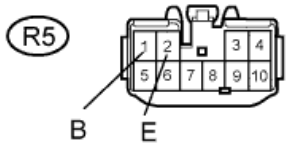
Standard Resistance:

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 B2325 LIN Communication Bus Malfunction

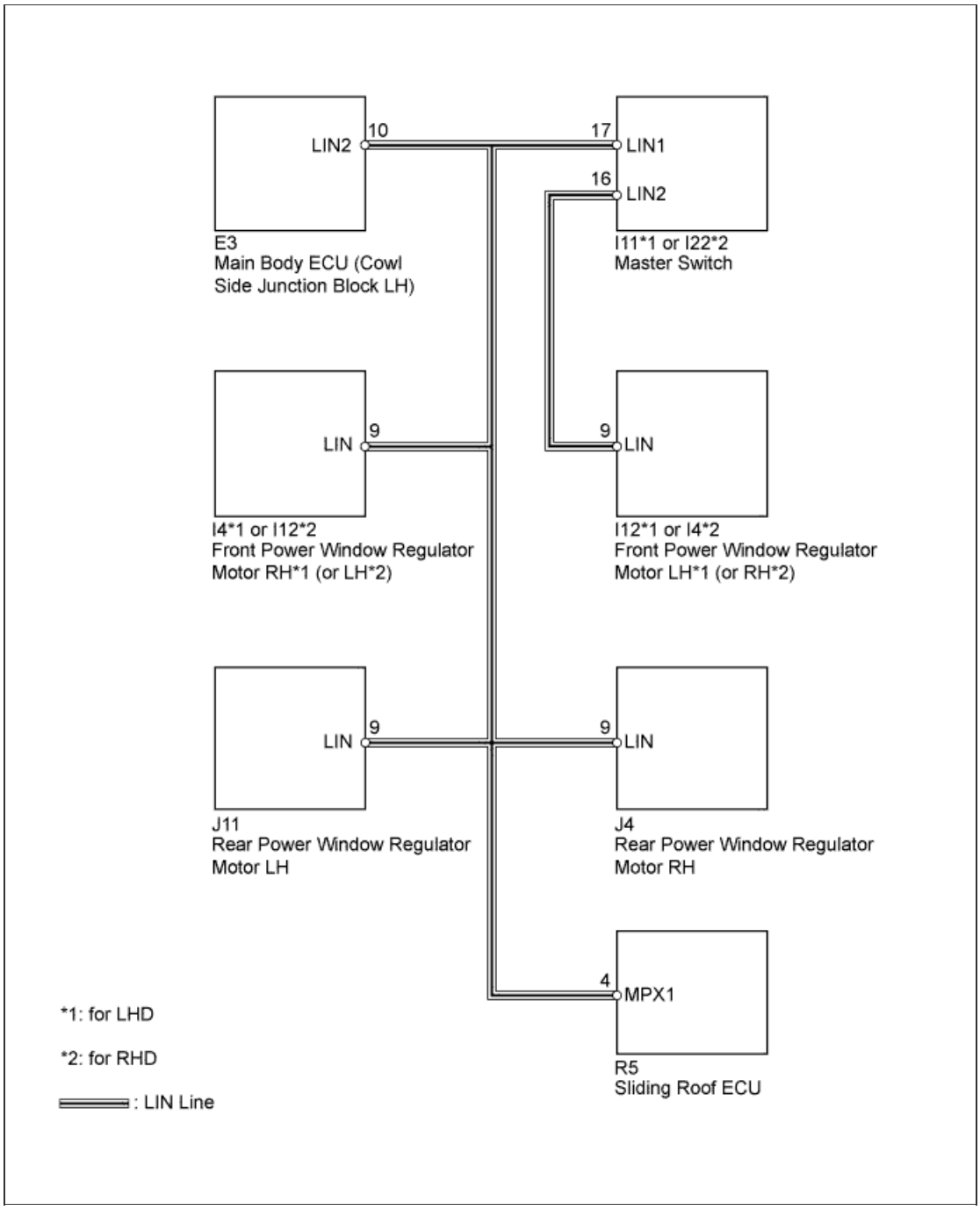
for Preparation Click here

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 • Front power window regulator motor LH • Front power window regulator motor RH • Rear power window regulator motor LH • Rear power window regulator motor RH • Sliding roof ECU • Main body ECU (cowl side junction block LH) • 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.

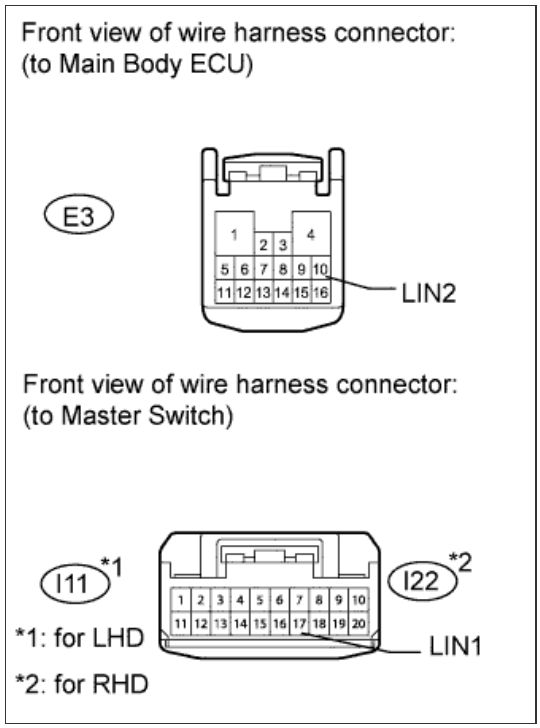
c. Measure the resistance and voltage according to the value(s) in the tables below.

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

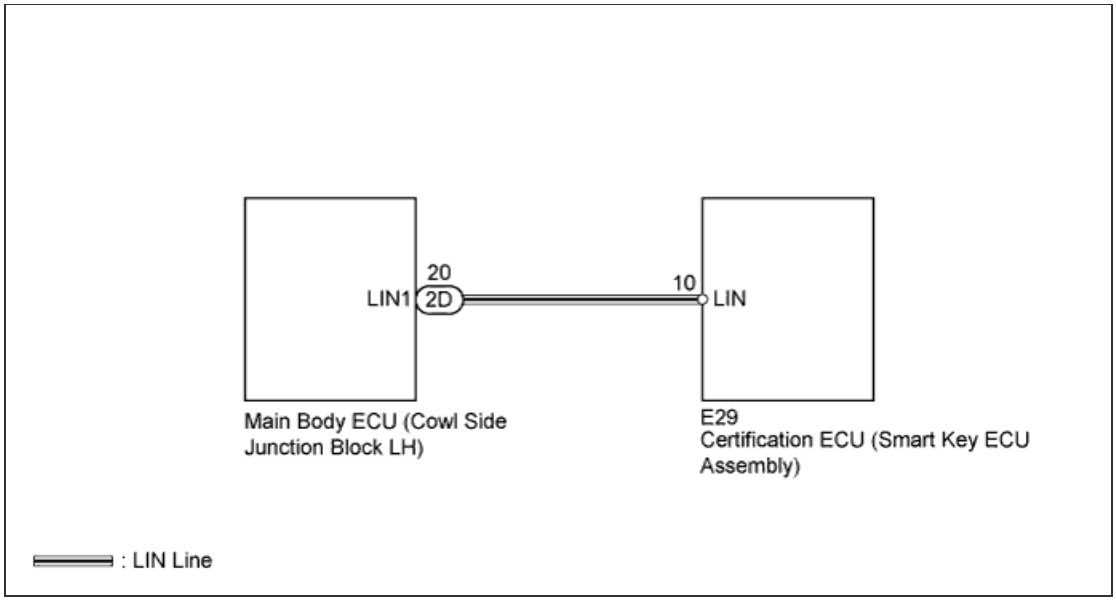
for Preparation Click here

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) • Main body ECU (cowl side junction block LH) • 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).

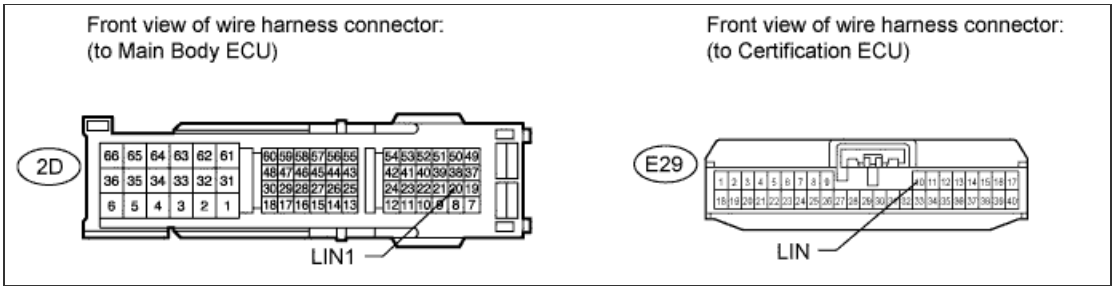
Result

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

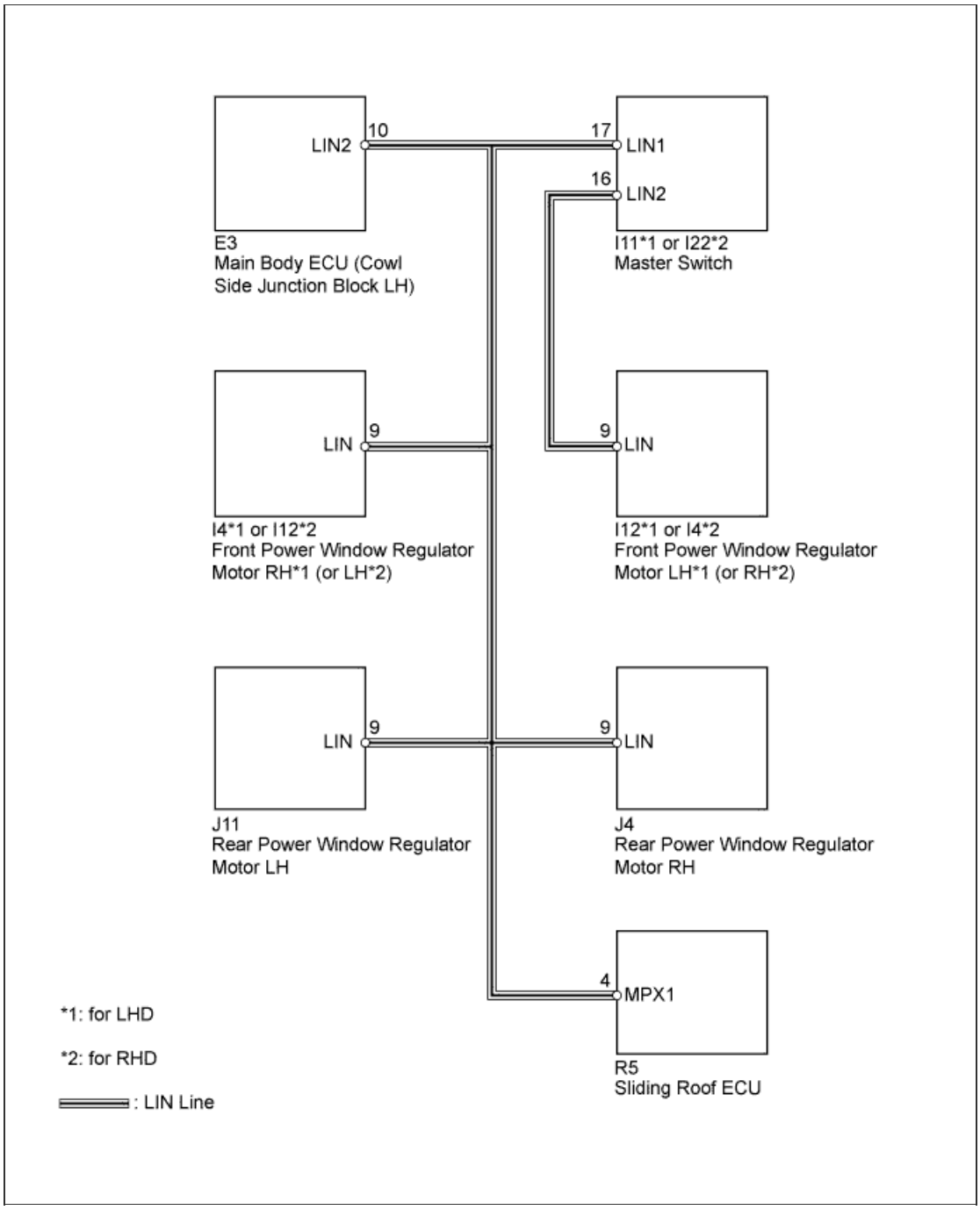
for Preparation Click here

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 • Front power window regulator motor LH • Front power window regulator motor RH • Rear power window regulator motor LH • Rear power window regulator motor RH • Sliding roof ECU • Main body ECU (cowl side junction block LH) • 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.

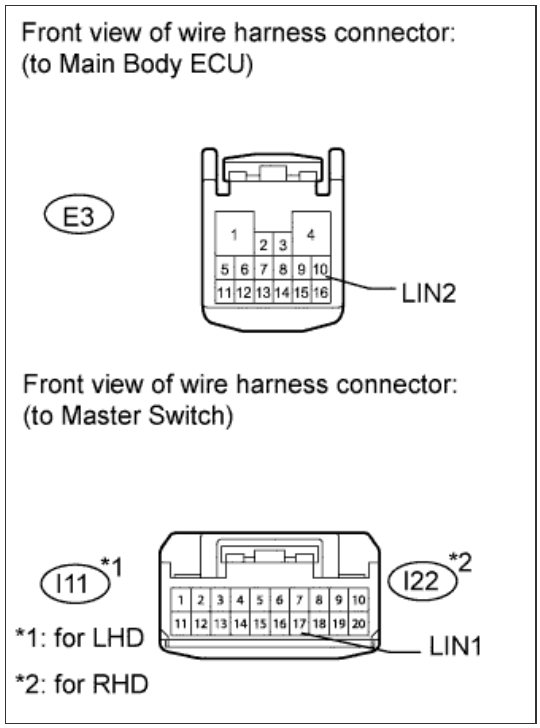
c. Measure the resistance and voltage according to the value(s) in the tables below.

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

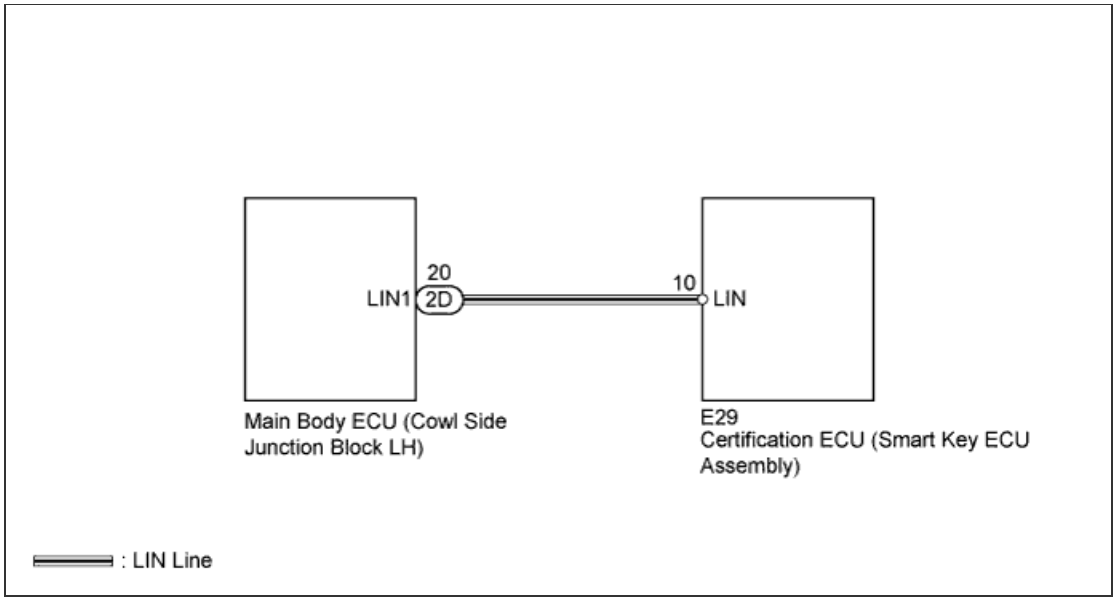
for Preparation Click here

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) • Main body ECU (cowl side junction block LH) • 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).

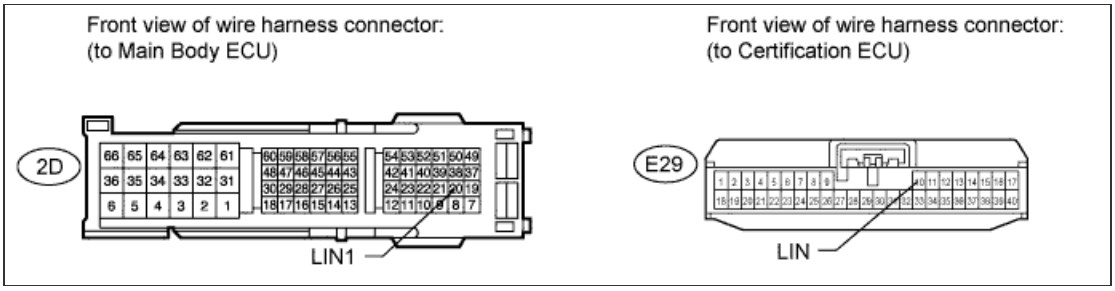
Result

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

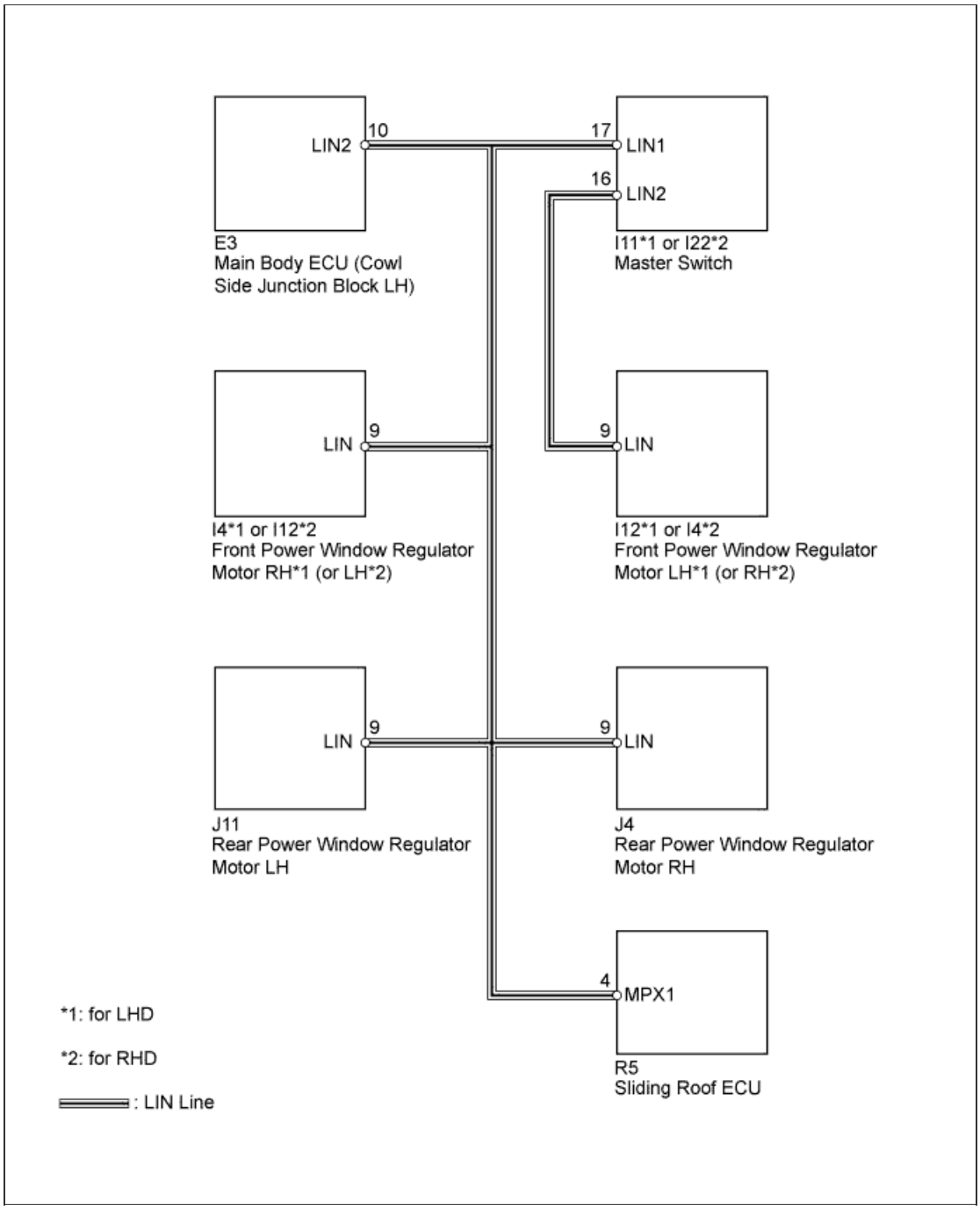
for Preparation Click here

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 • Front power window regulator motor LH • Front power window regulator motor RH • Rear power window regulator motor LH • Rear power window regulator motor RH • Sliding roof ECU • Main body ECU (cowl side junction block LH) • 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.

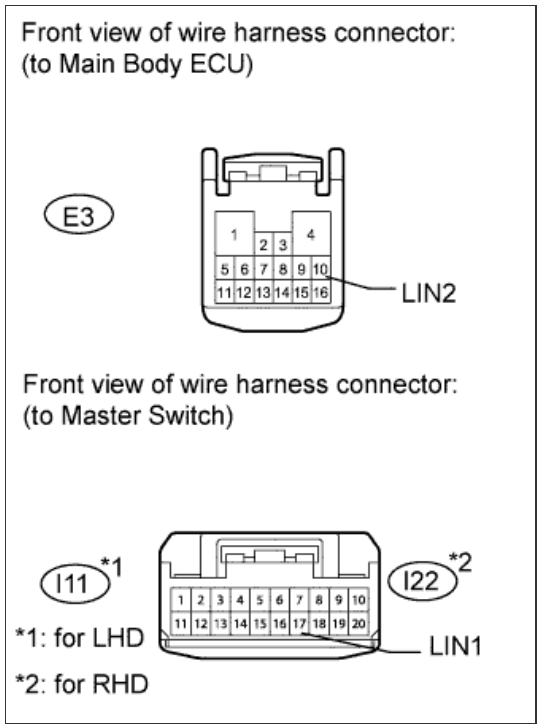
c. Measure the resistance and voltage according to the value(s) in the tables below.

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

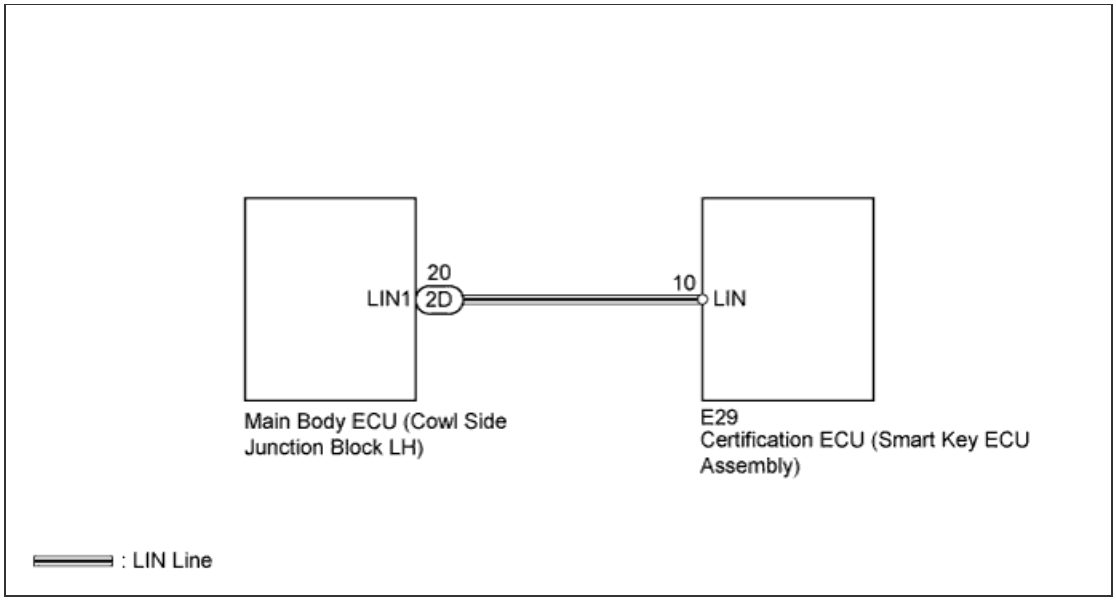
for Preparation Click here

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) • Main body ECU (cowl side junction block LH) • 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).

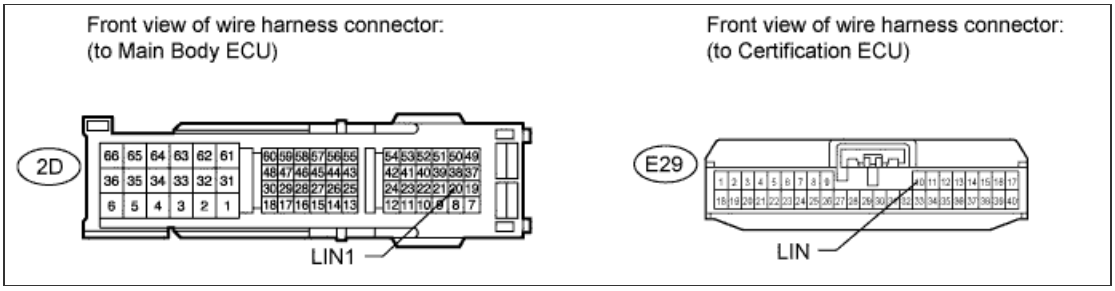
Result

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 B2405 Sub Bus LIN Module Communication Malfunction

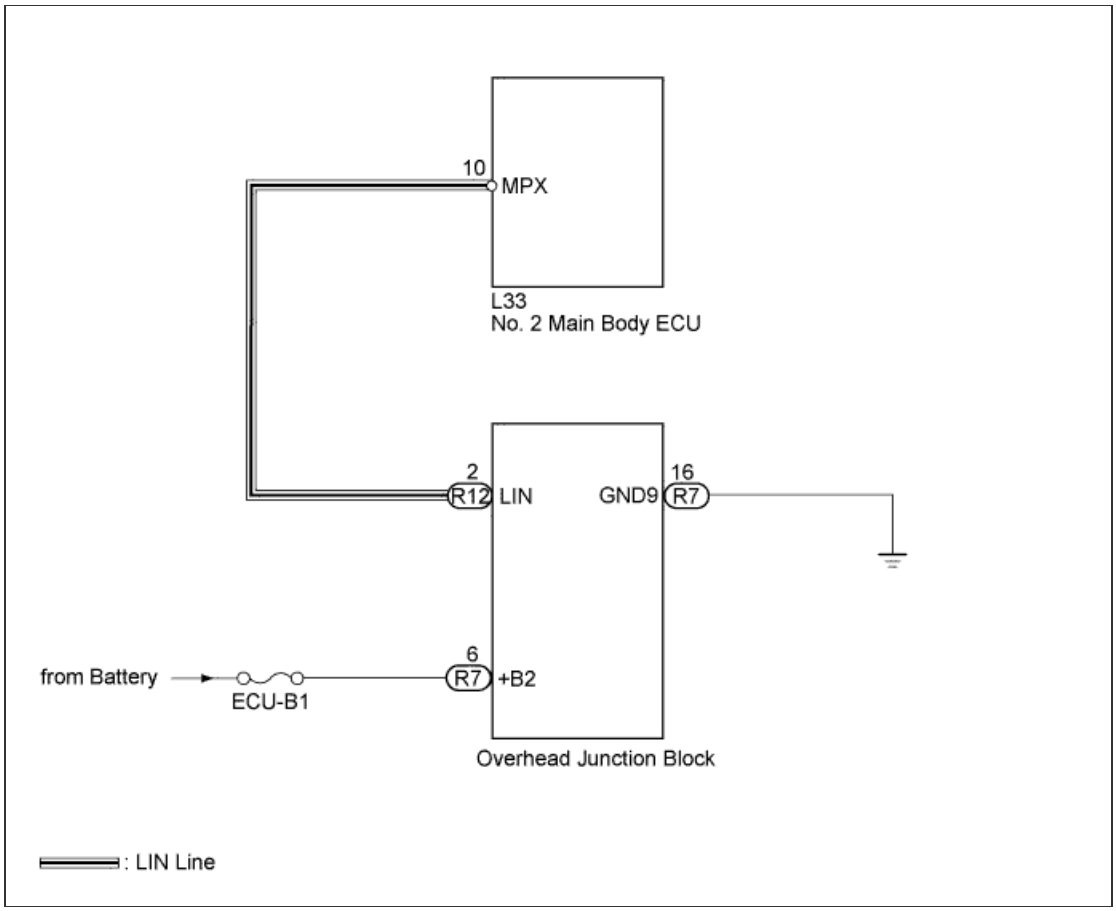
for Preparation Click here

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 • No. 2 main body ECU • 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.

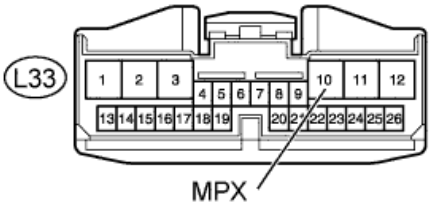
Standard Resistance:

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

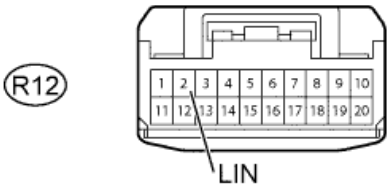
Standard Voltage:

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

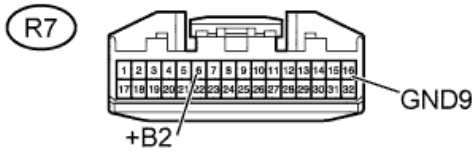
OK

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

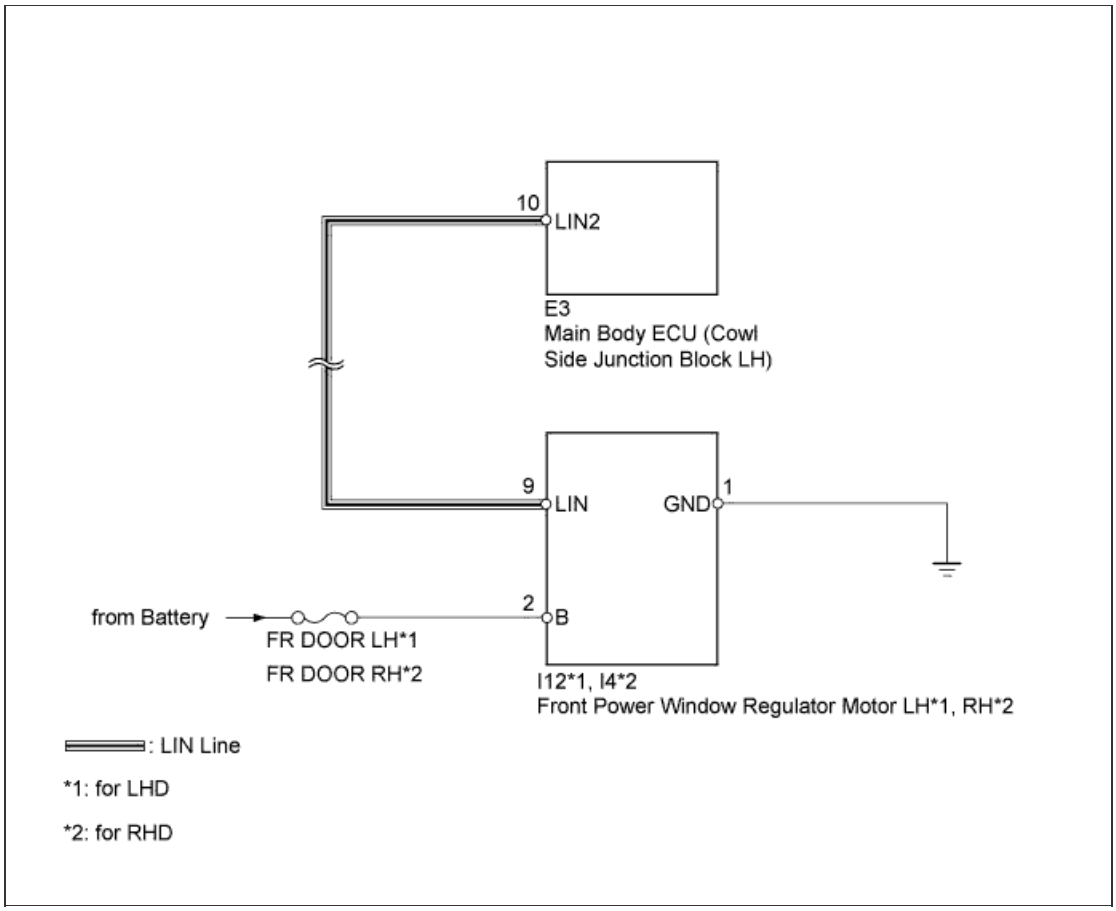
for Preparation Click here

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 • Front power window regulator motor RH*2 • Main body ECU (cowl side junction block LH) • 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)

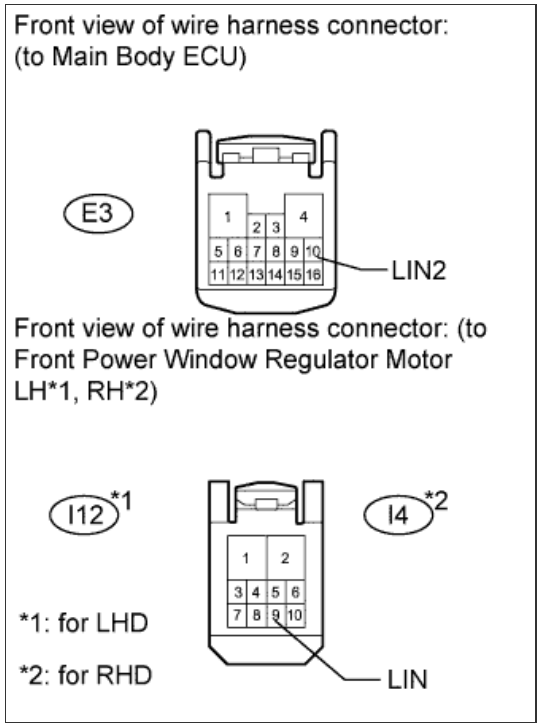
a. Disconnect the E3 ECU connector.

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.

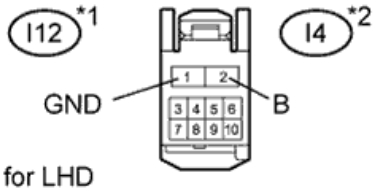
Standard Resistance:

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

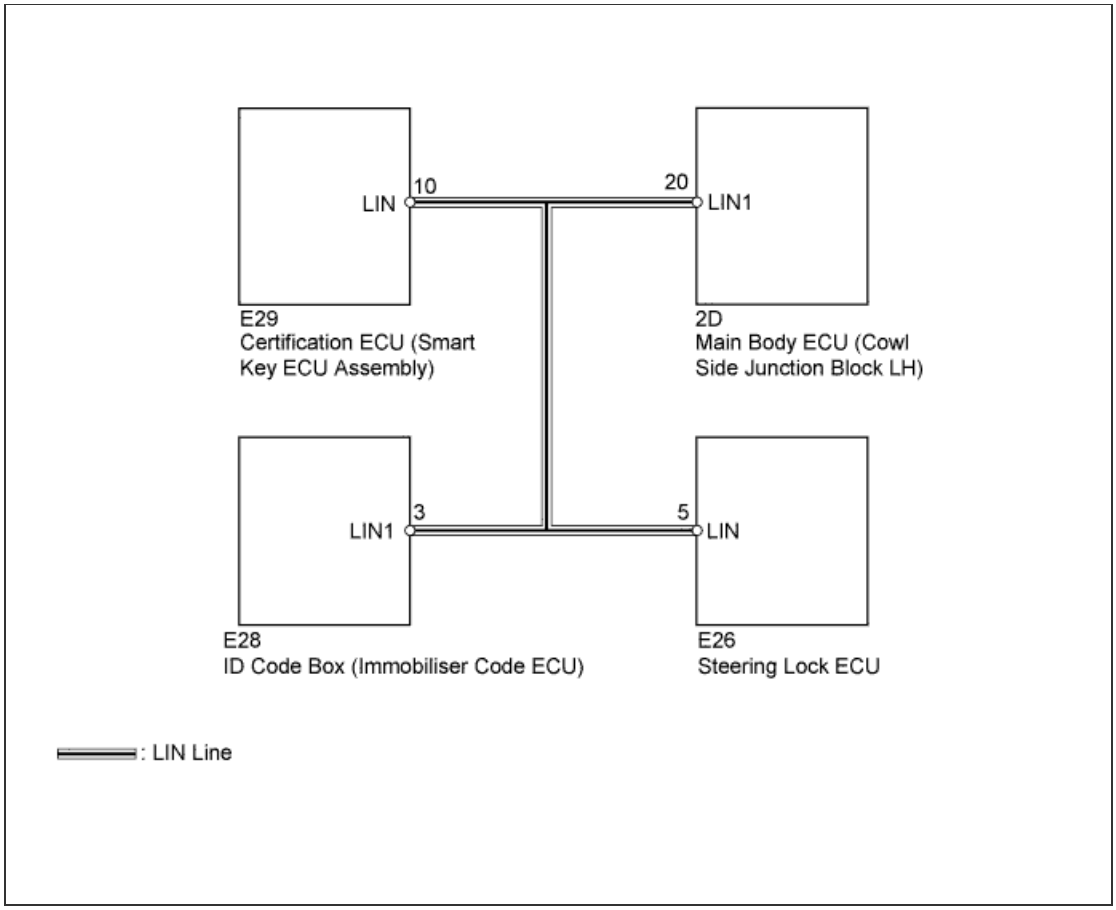
for Preparation Click here

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) • Main body ECU (cowl side junction block LH) • ID code box (immobiliser code ECU) • Steering lock ECU • 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.

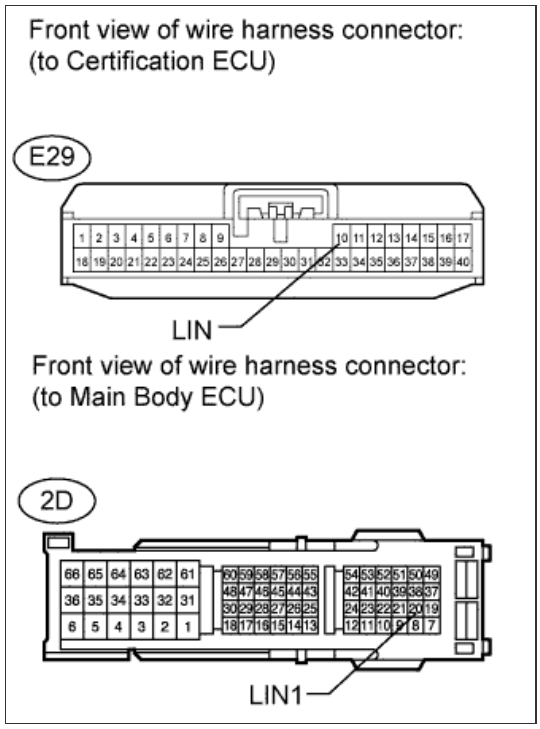
Standard Resistance:

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 B2321 Driver Side Door ECU Communication Stop

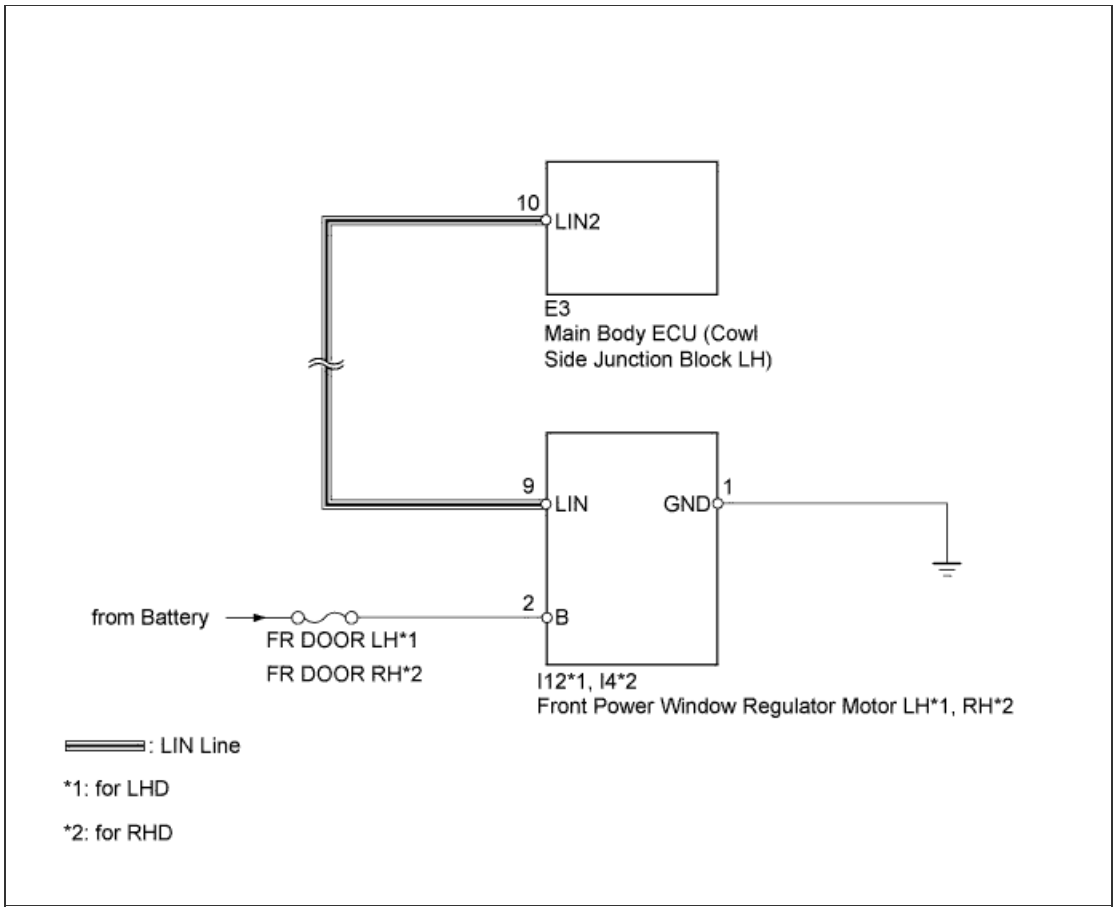
for Preparation Click here

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 • Front power window regulator motor RH*2 • Main body ECU (cowl side junction block LH) • 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)

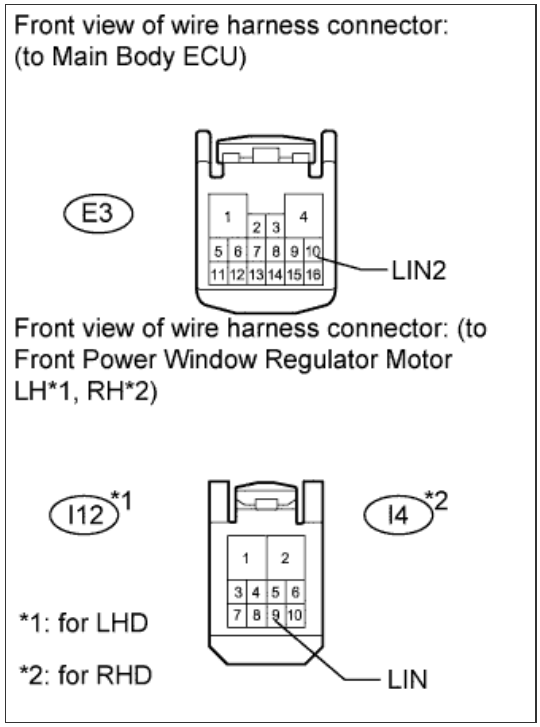
a. Disconnect the E3 ECU connector.

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.

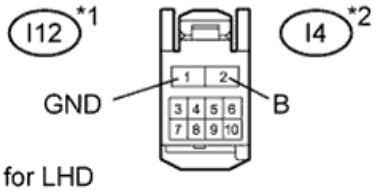
Standard Resistance:

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 B2786 No Response from Steering Lock ECU

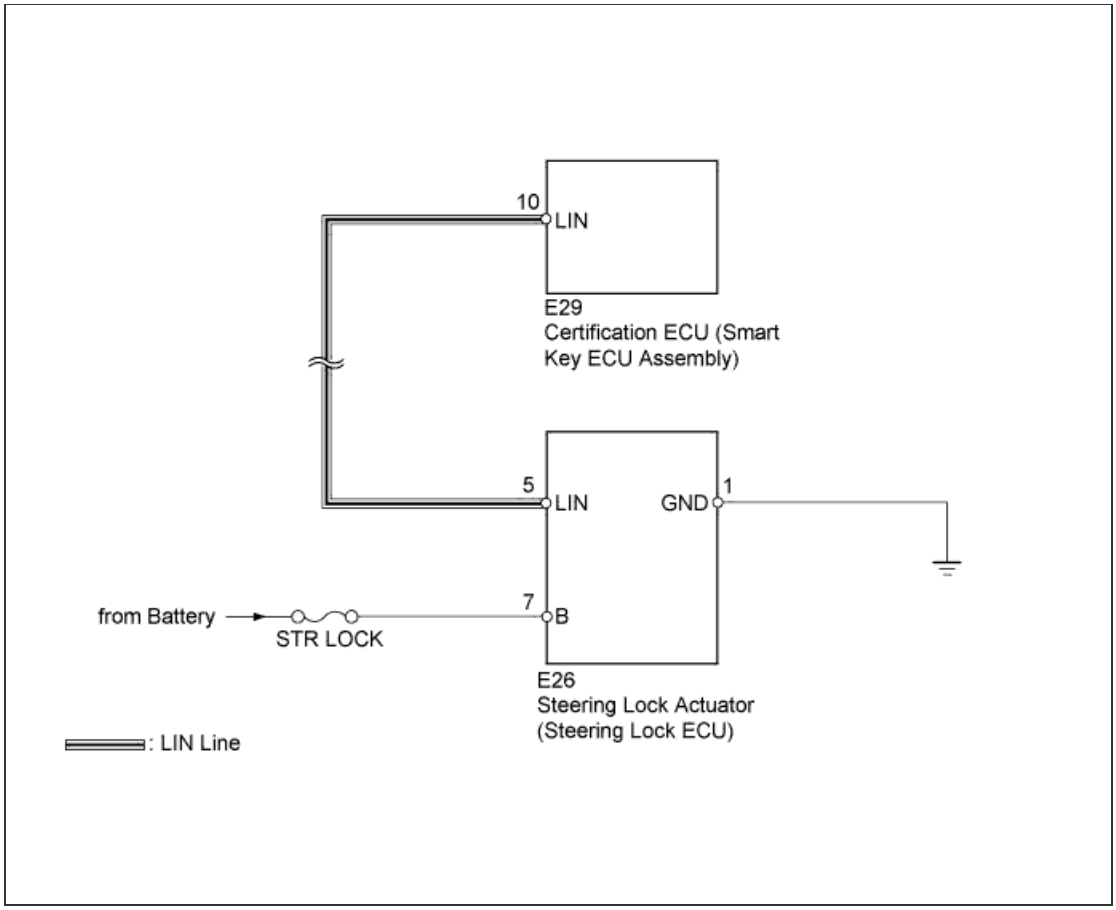
for Preparation Click here

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) • Certification ECU (smart key ECU assembly) • 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

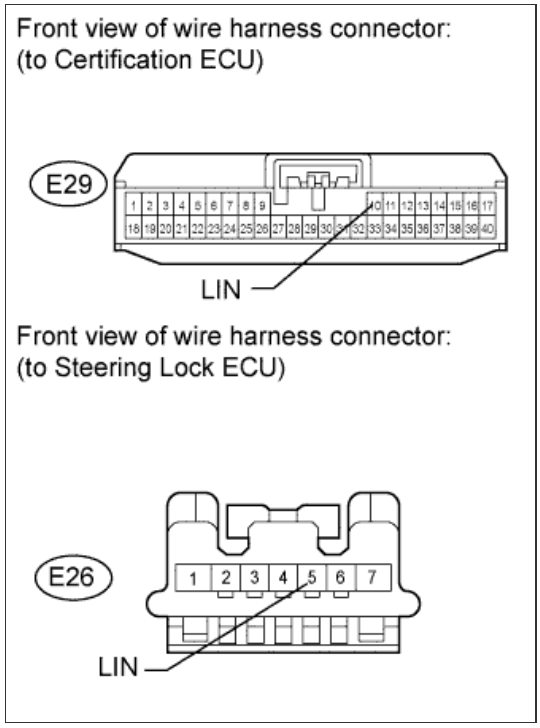
3.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU - STEERING LOCK ECU)

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.

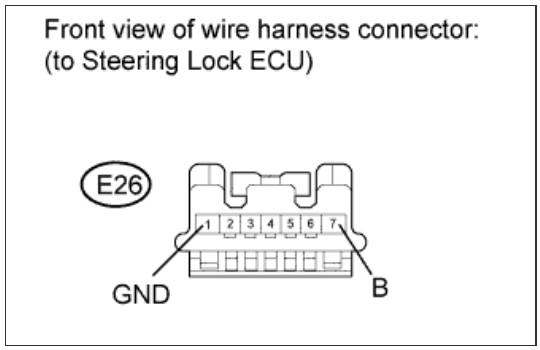
b. Measure the resistance and voltage according to the value(s) in the tables below.

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 B2321 Driver Side Door ECU Communication Stop

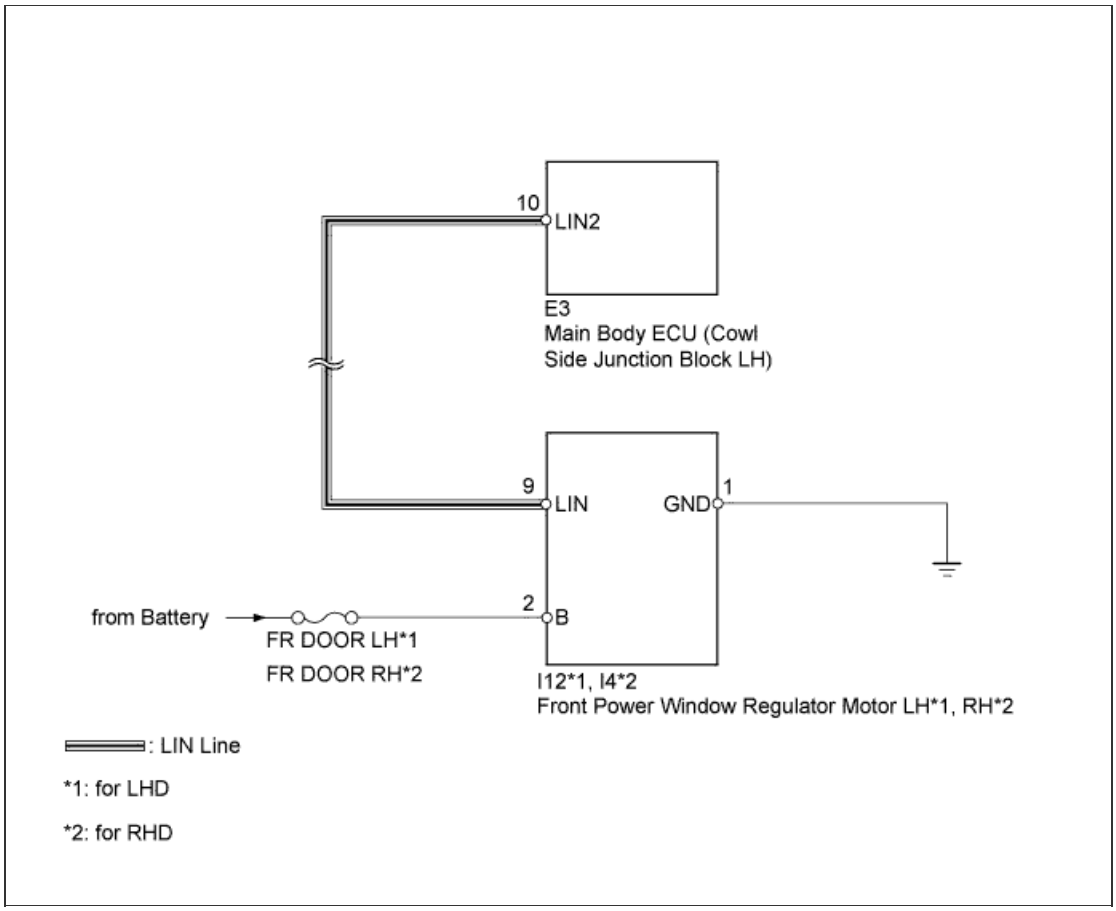
for Preparation Click here

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 • Front power window regulator motor RH*2 • Main body ECU (cowl side junction block LH) • 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)

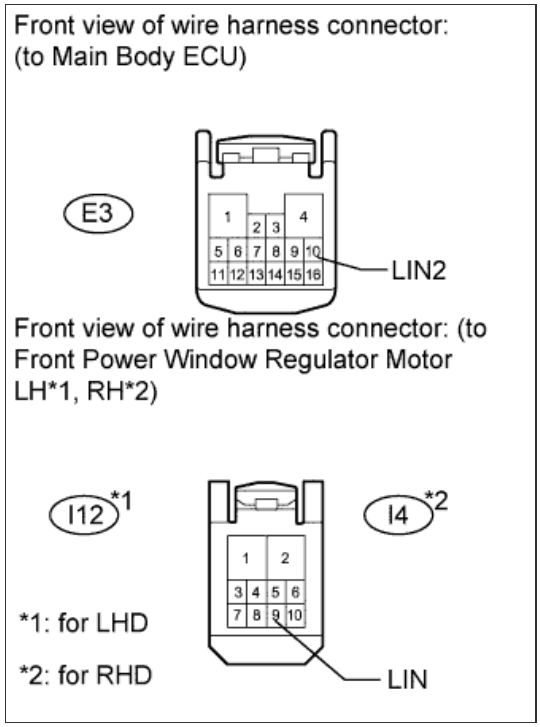
a. Disconnect the E3 ECU connector.

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.

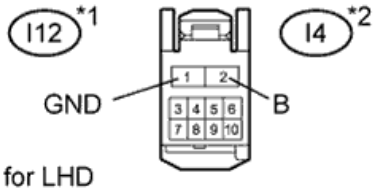
Standard Resistance:

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 B2786 No Response from Steering Lock ECU

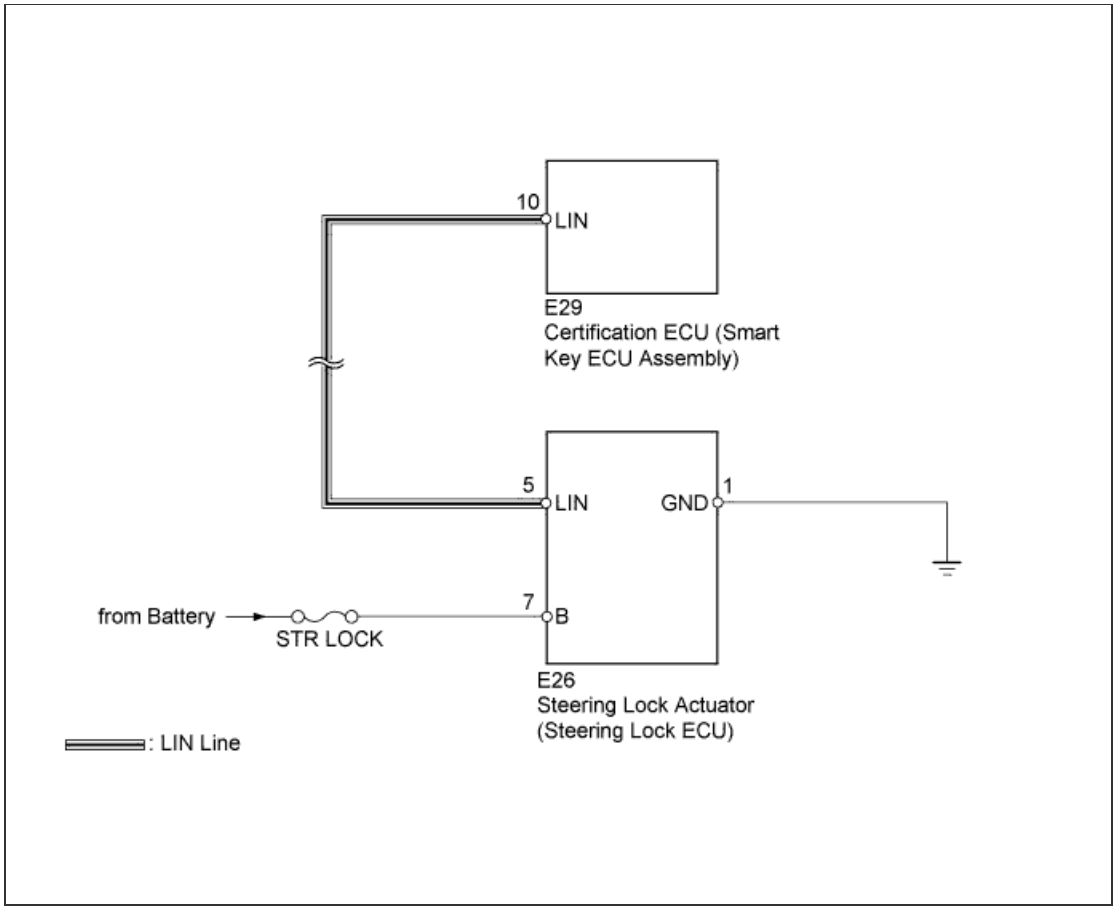
for Preparation Click here

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) • Certification ECU (smart key ECU assembly) • 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

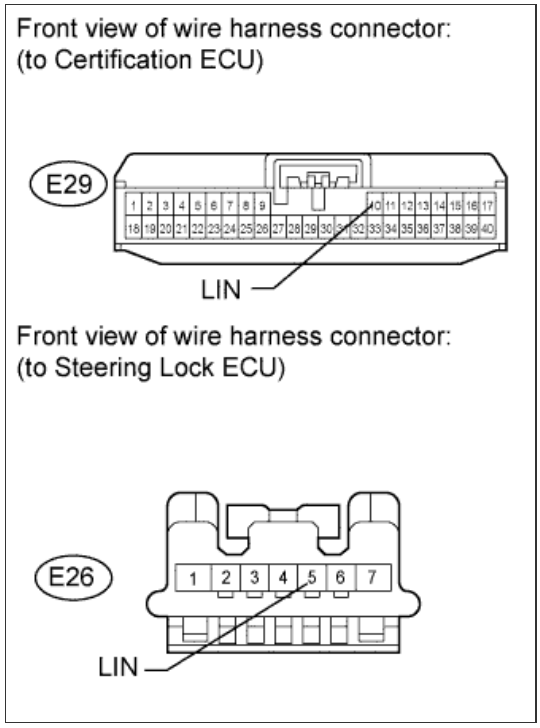
3.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU - STEERING LOCK ECU)

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.

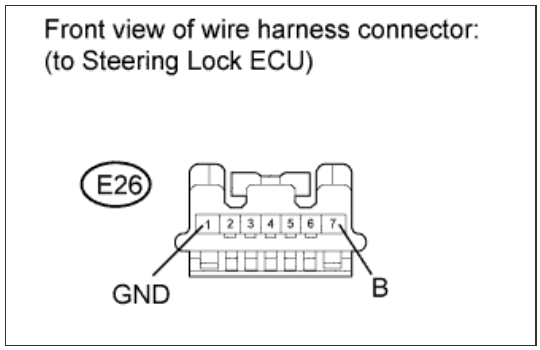
b. Measure the resistance and voltage according to the value(s) in the tables below.

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 B2322 Front Passenger Side Door ECU Communication Stop

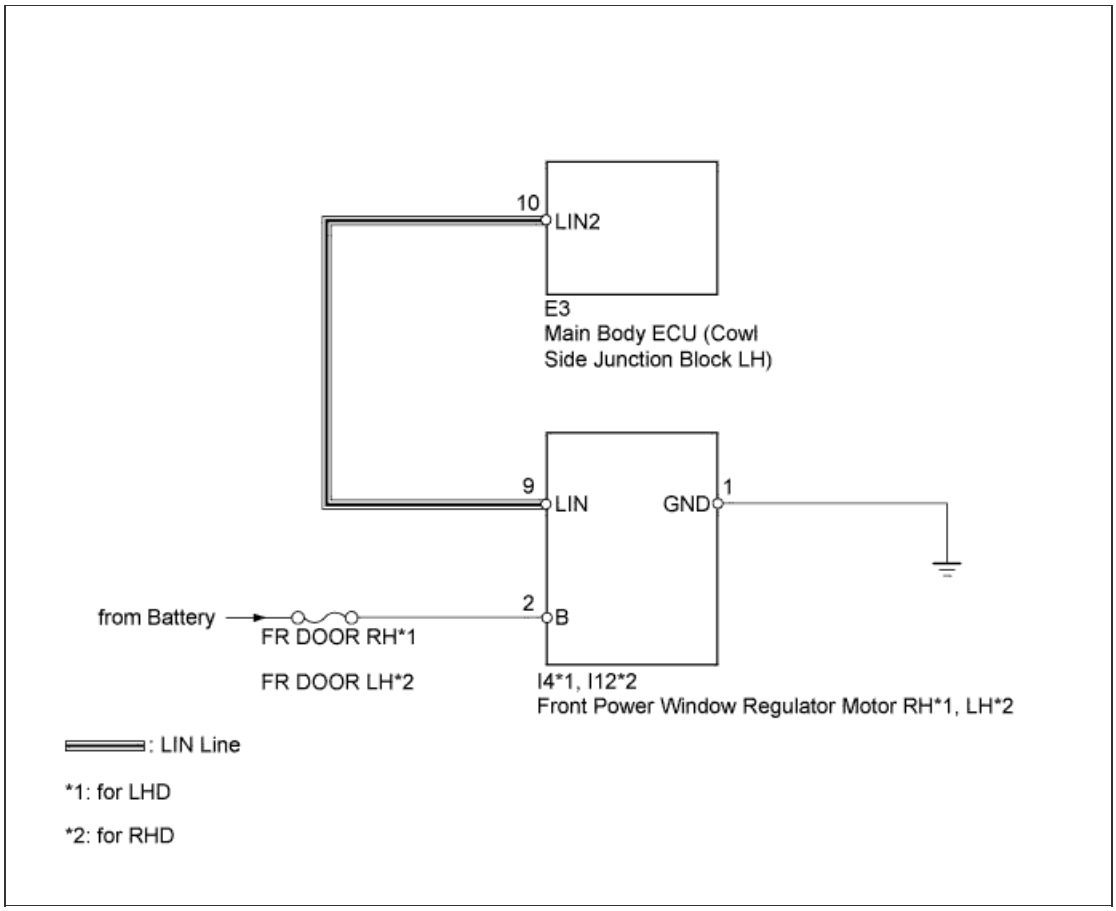
for Preparation Click here

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 • Front power window regulator motor LH*2 • Main body ECU (cowl side junction block LH) • 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)

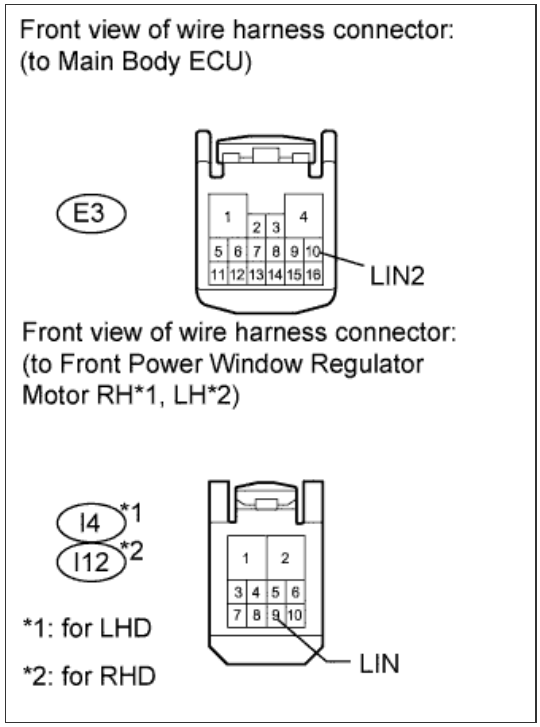
a. Disconnect the E3 ECU connector.

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.

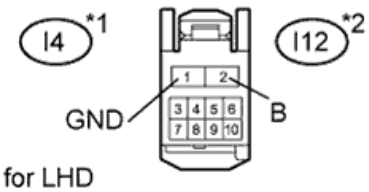
Standard Resistance:

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

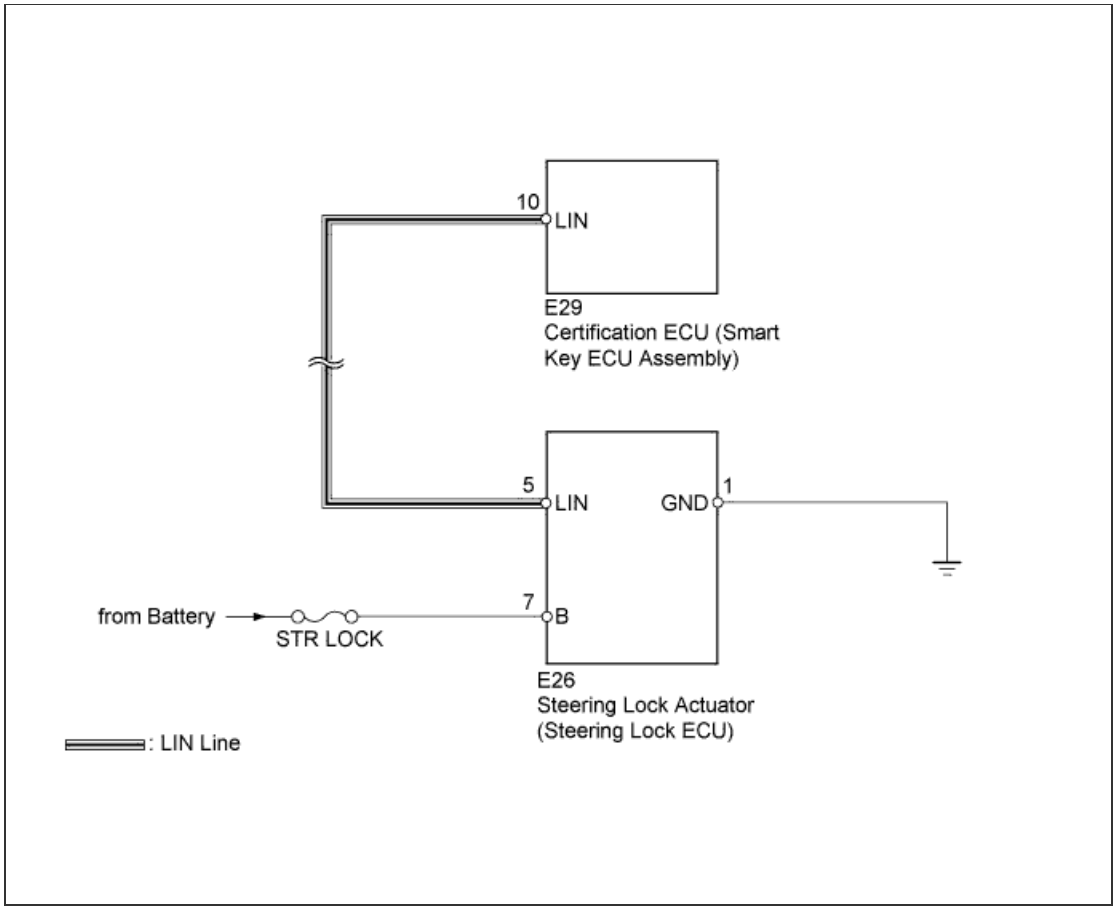
for Preparation Click here

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) • Certification ECU (smart key ECU assembly) • 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

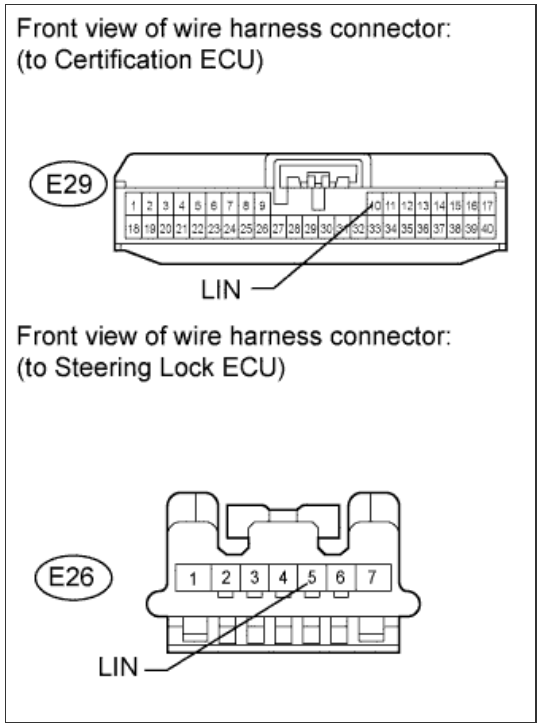
3.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU - STEERING LOCK ECU)

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.

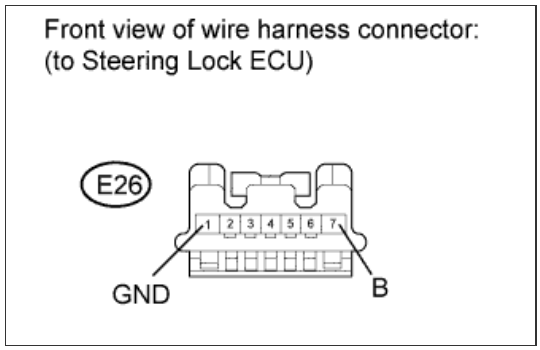
b. Measure the resistance and voltage according to the value(s) in the tables below.

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 B2322 Front Passenger Side Door ECU Communication Stop

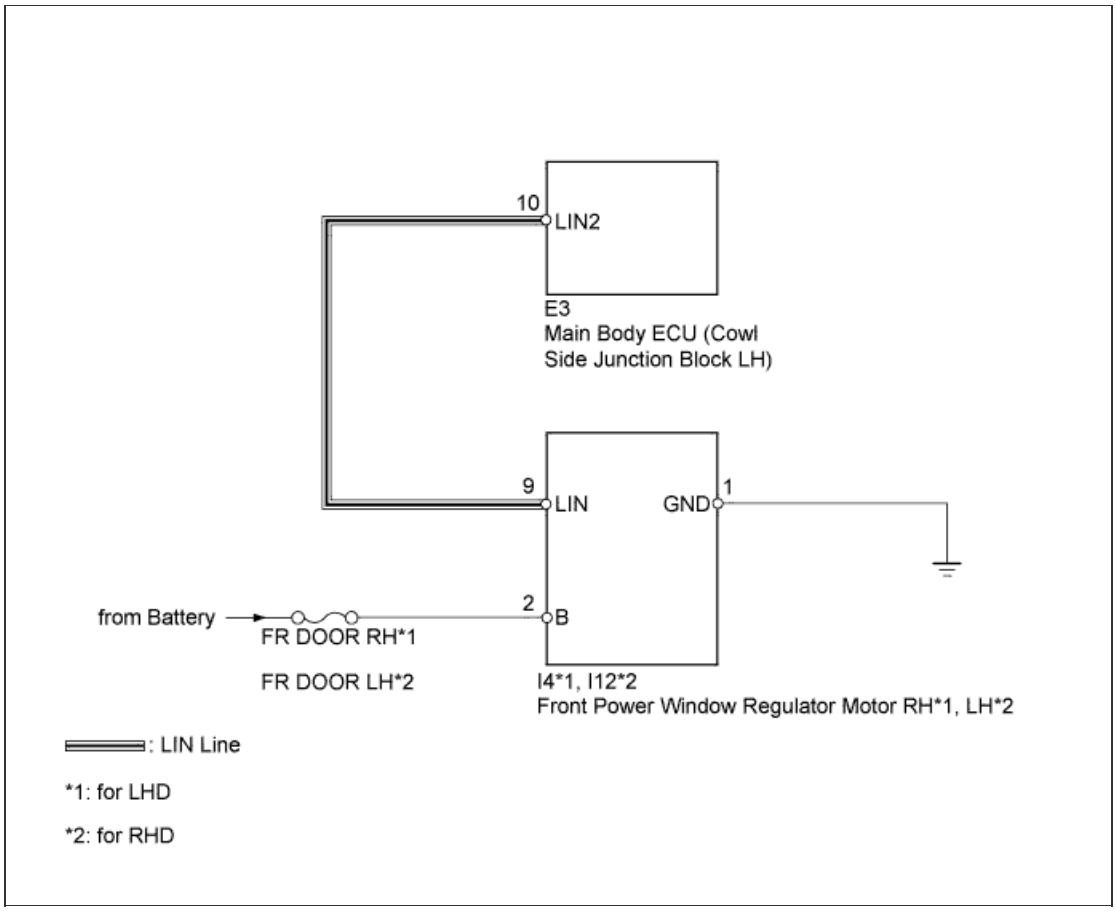
for Preparation Click here

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 • Front power window regulator motor LH*2 • Main body ECU (cowl side junction block LH) • 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)

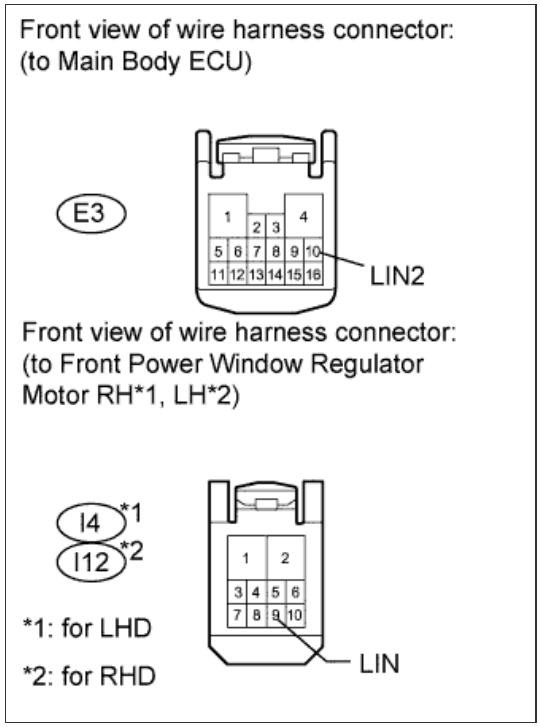
a. Disconnect the E3 ECU connector.

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.

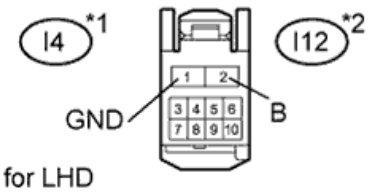
Standard Resistance:

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 B2789 No Response from ID BOX

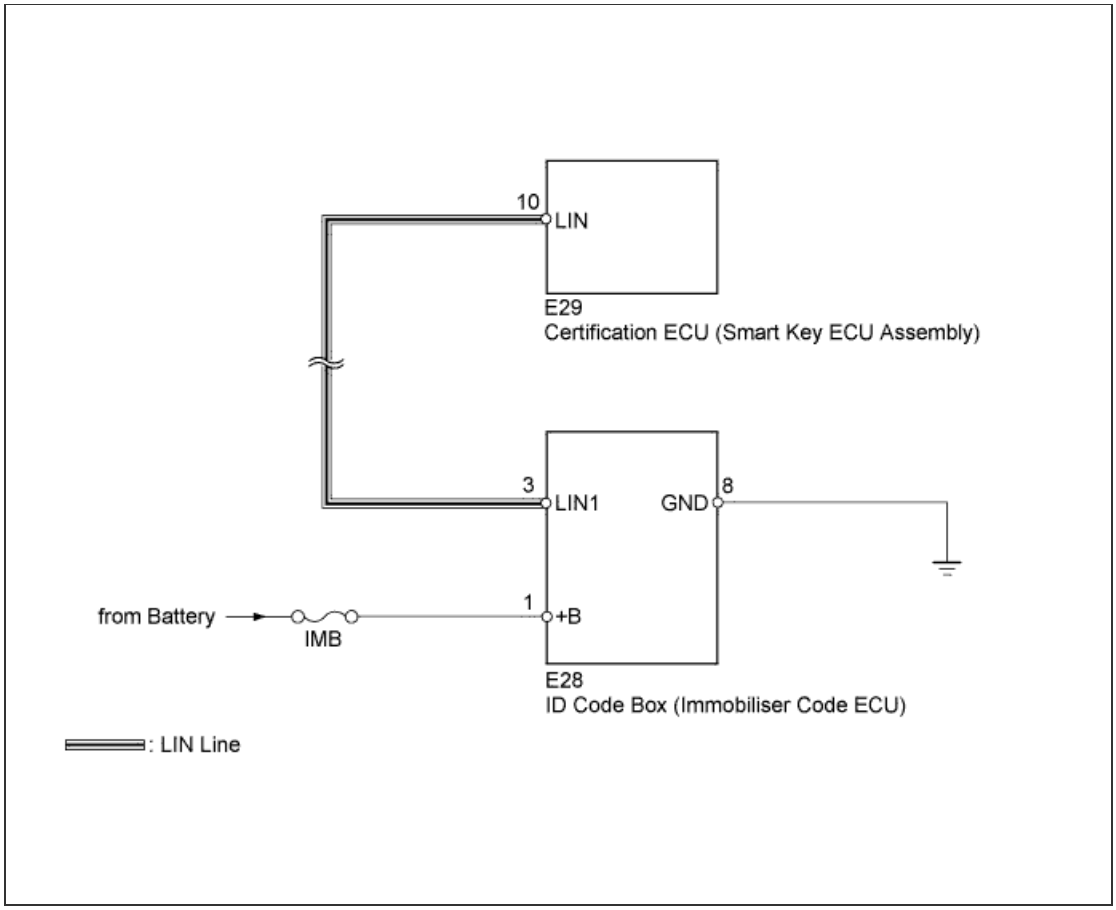
for Preparation Click here

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) • Certification ECU (smart key ECU assembly) • 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.

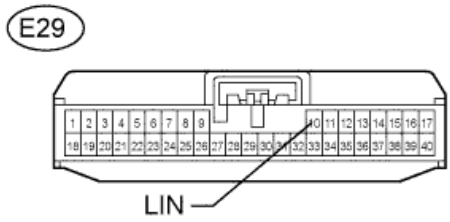
b. Disconnect the E28 box connector.

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

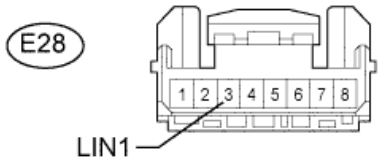
Standard Resistance:

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.

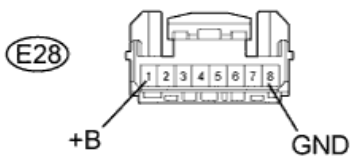
Standard Resistance:

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)

DTC B2322 Front Passenger Side Door ECU Communication Stop

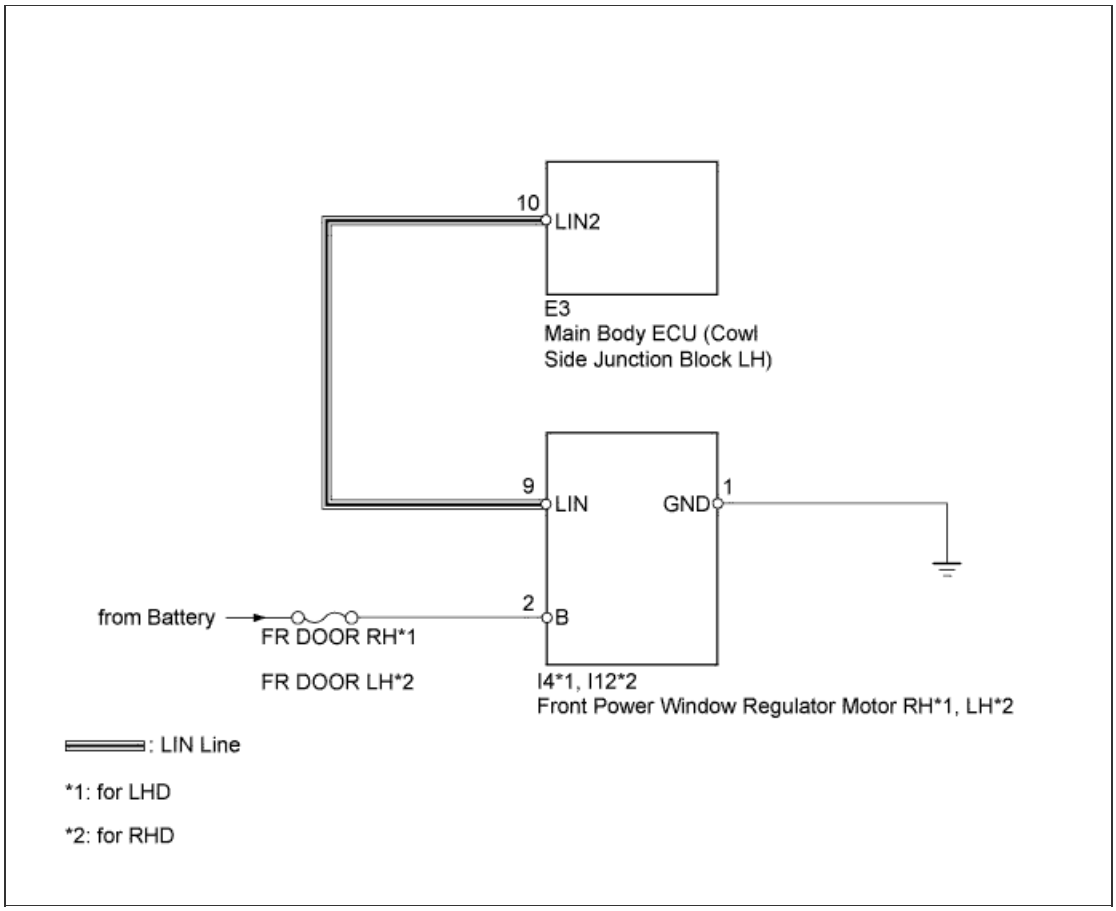
for Preparation Click here

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 • Front power window regulator motor LH*2 • Main body ECU (cowl side junction block LH) • 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)

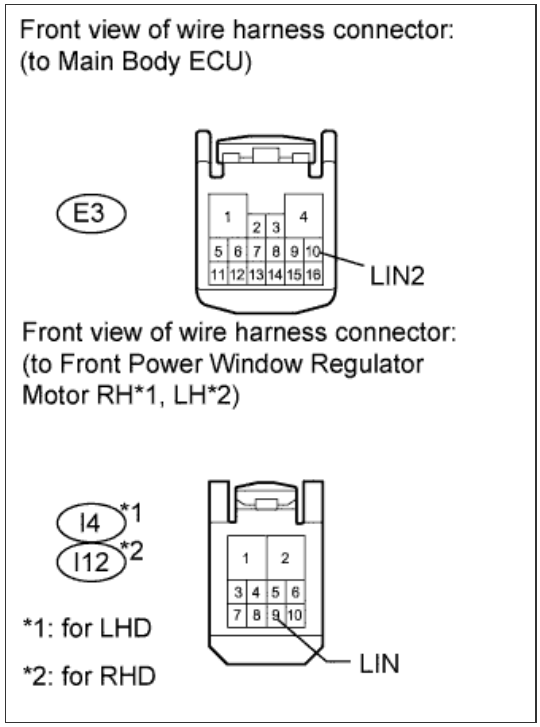
a. Disconnect the E3 ECU connector.

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.

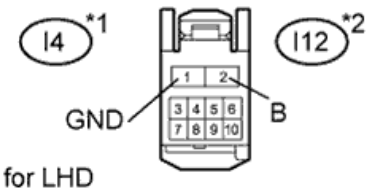
Standard Resistance:

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 B2789 No Response from ID BOX

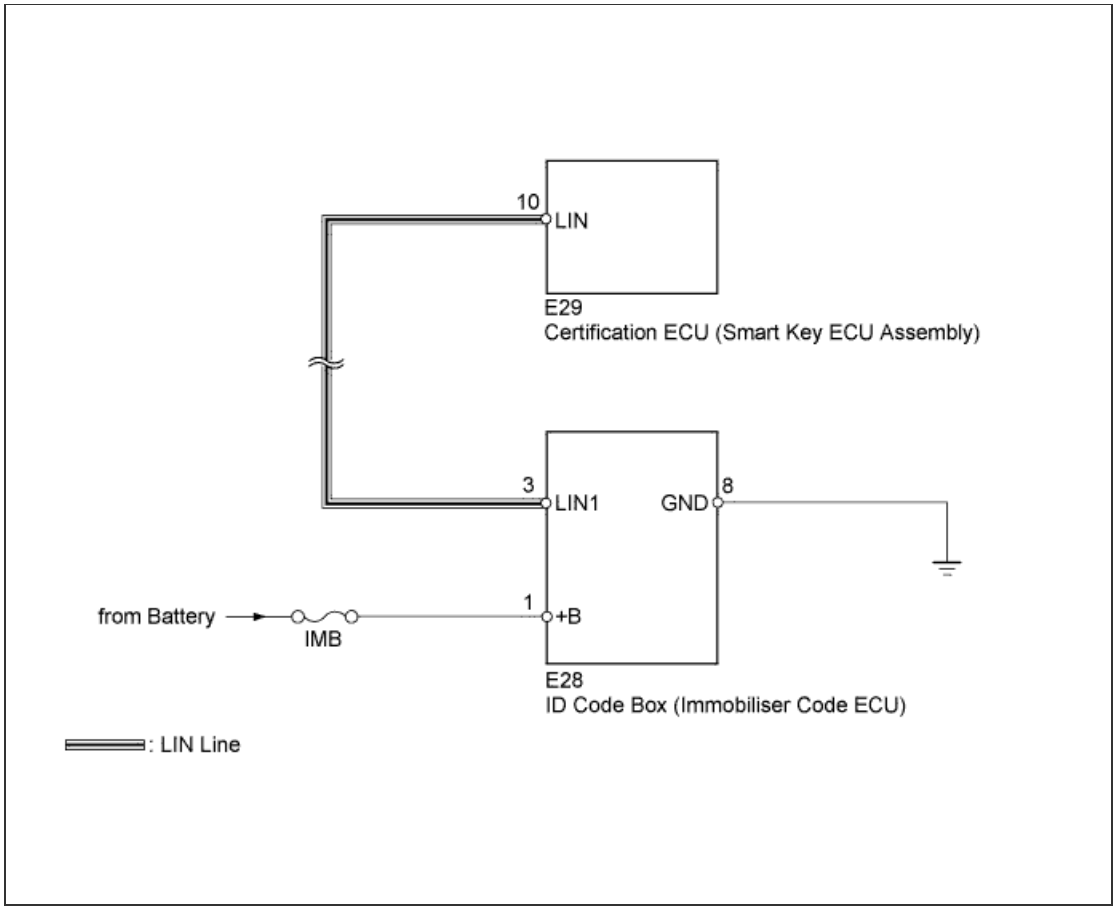
for Preparation Click here

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) • Certification ECU (smart key ECU assembly) • 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.

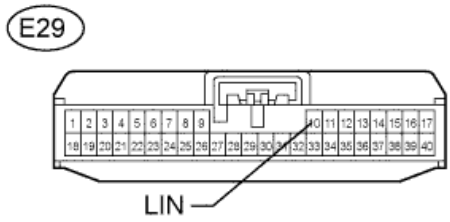
b. Disconnect the E28 box connector.

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

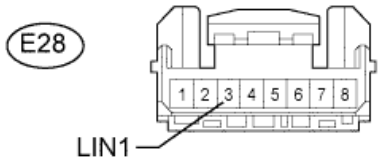
Standard Resistance:

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.

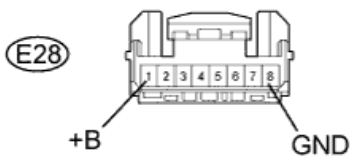
Standard Resistance:

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)

DTC B2323 Rear Door RH ECU Communication Stop

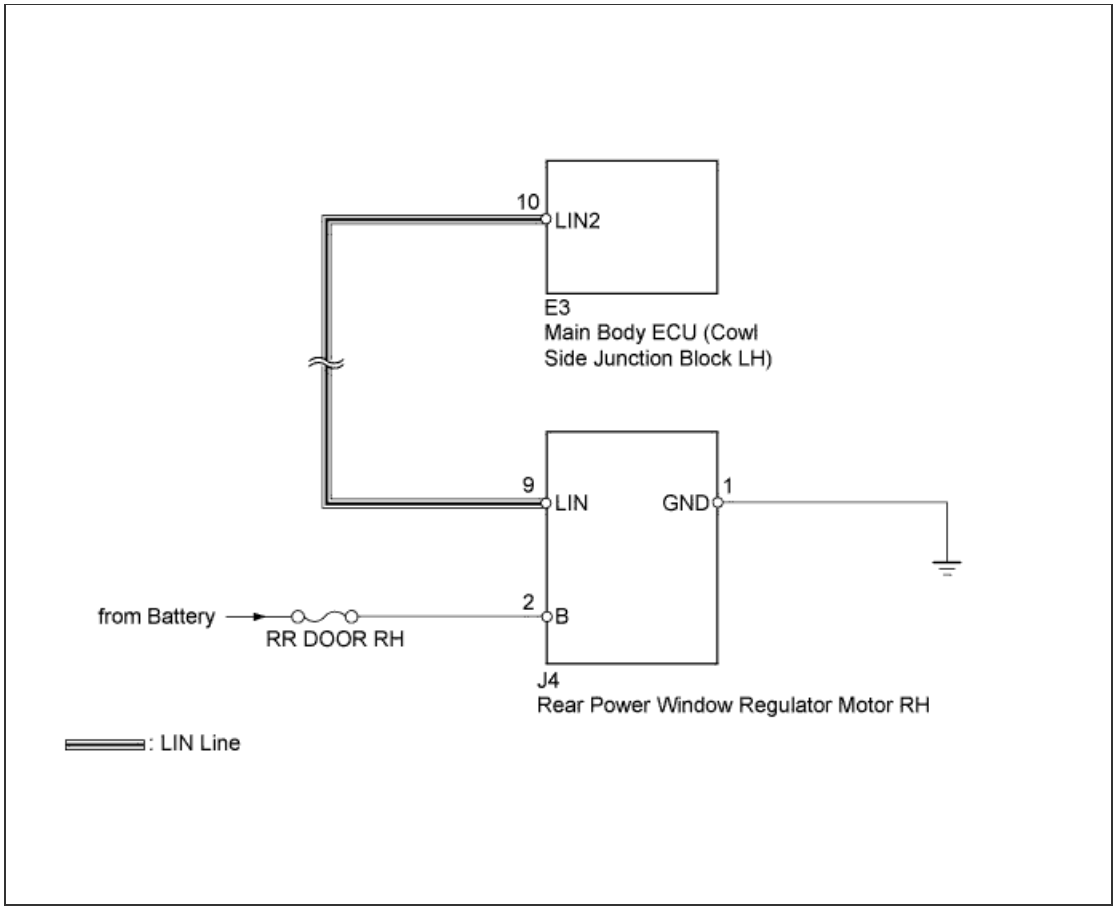
for Preparation Click here

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 • Main body ECU (cowl side junction block LH) • 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)

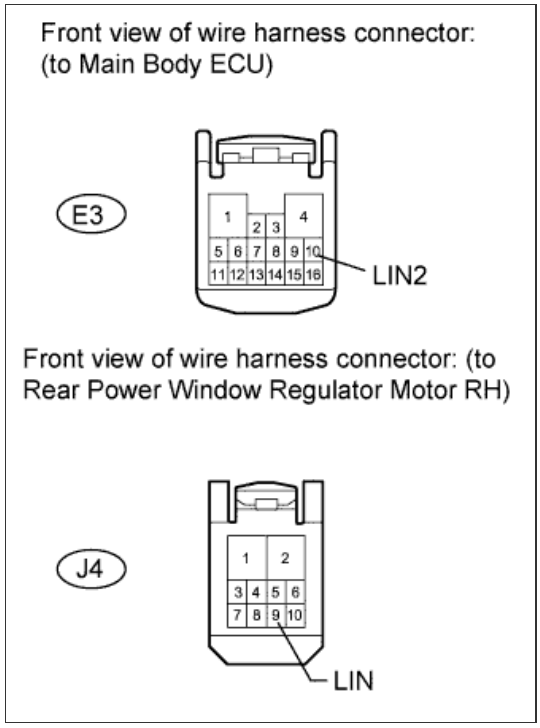
a. Disconnect the E3 ECU connector.

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.

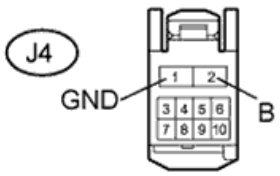
Standard Resistance:

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

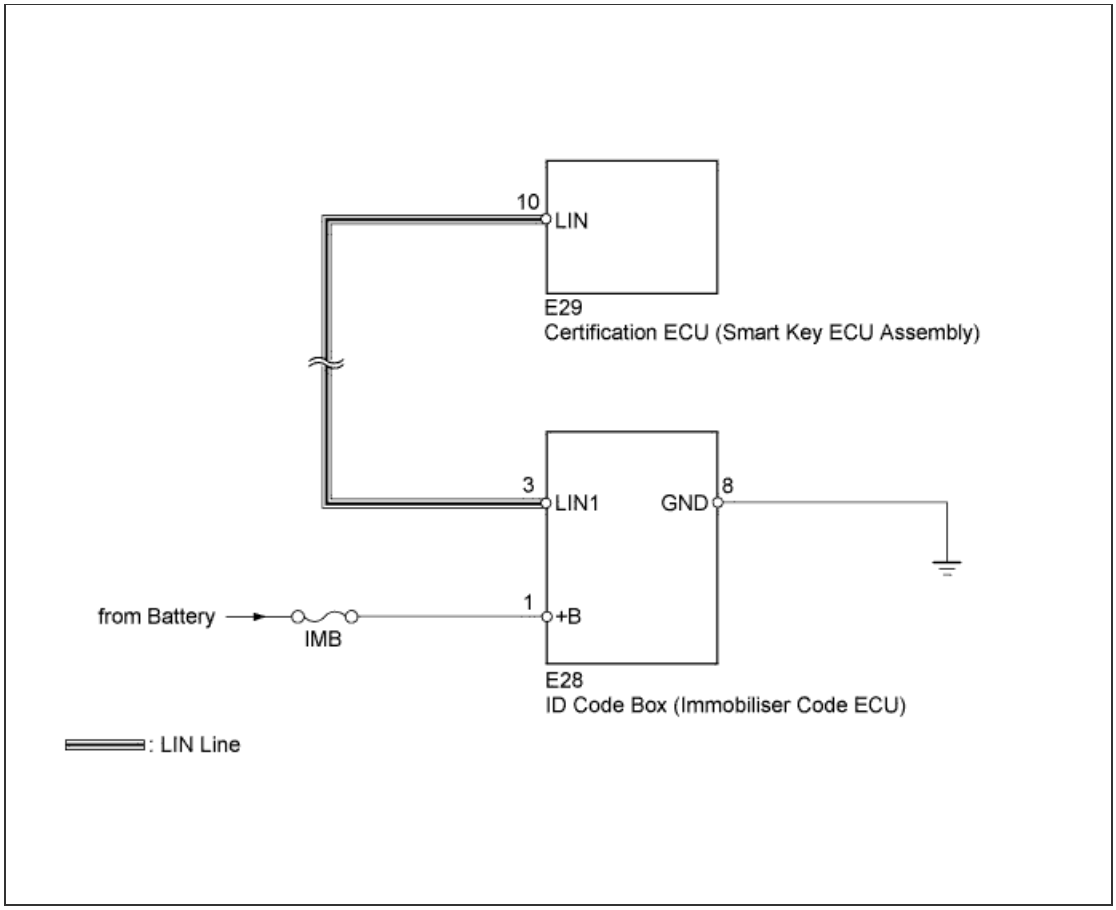
for Preparation Click here

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) • Certification ECU (smart key ECU assembly) • 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.

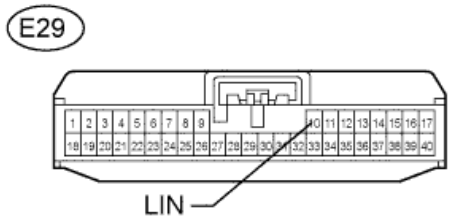
b. Disconnect the E28 box connector.

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

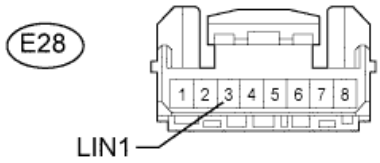
Standard Resistance:

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.

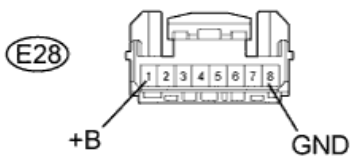
Standard Resistance:

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

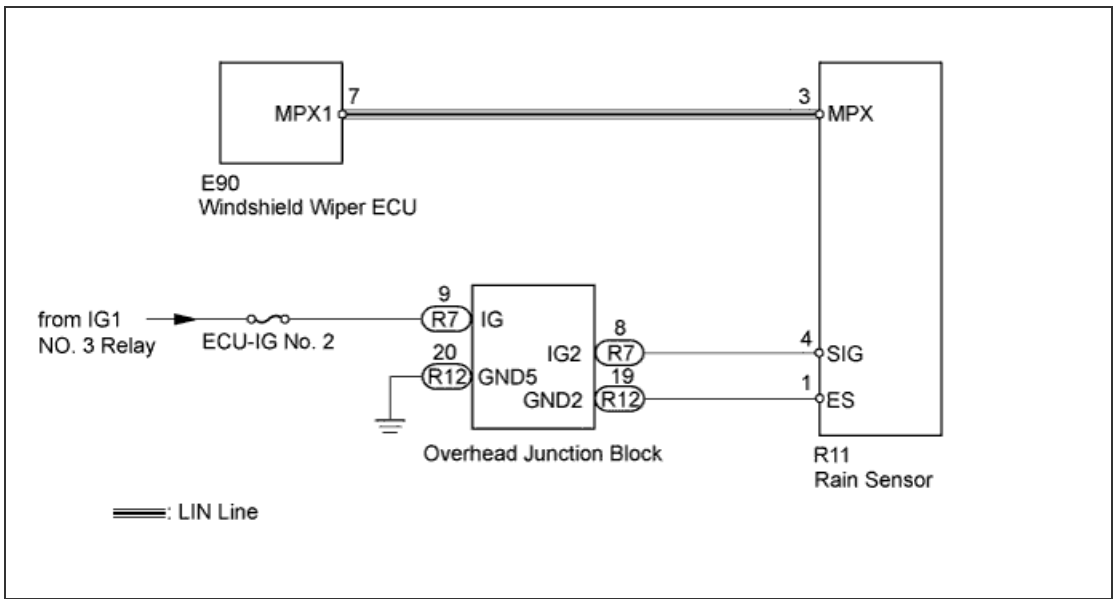
END (ID CODE BOX IS DEFECTIVE)

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

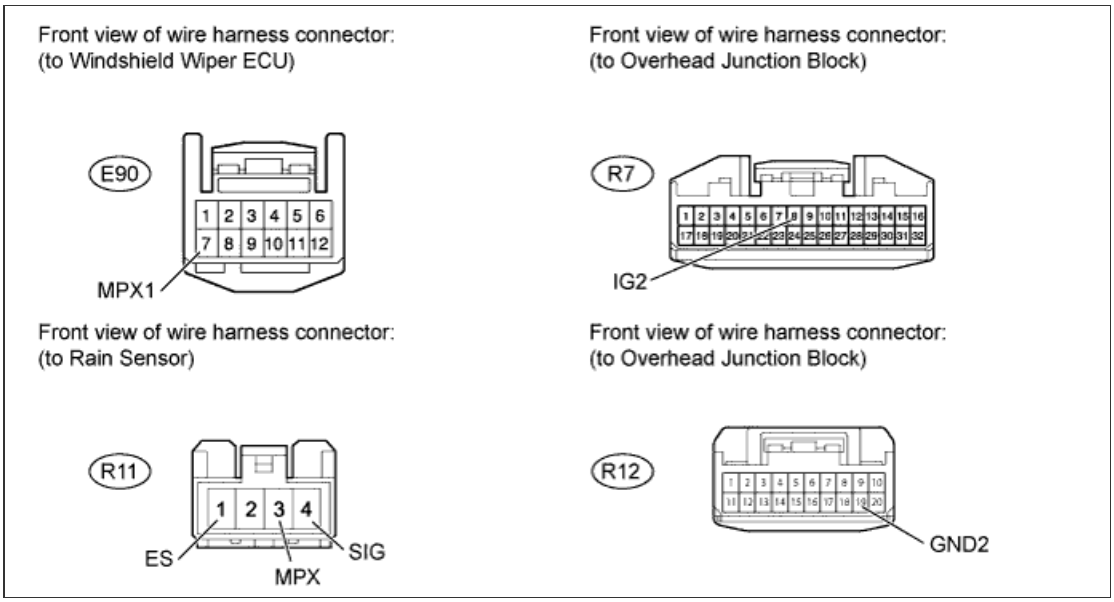
NOTICE:

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

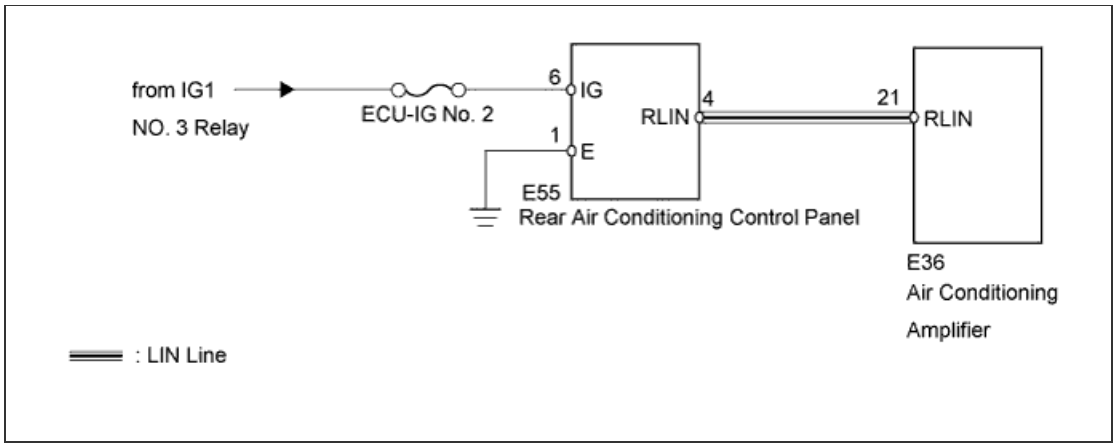
DESCRIPTION

The LIN communication of the components related to the 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.

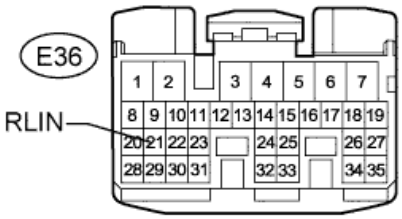
Standard Resistance:

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

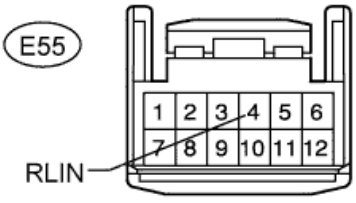
Standard Voltage:

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.

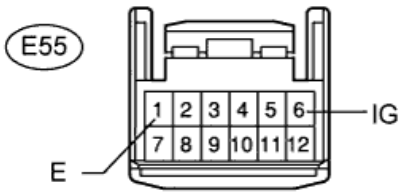
Standard Resistance:

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

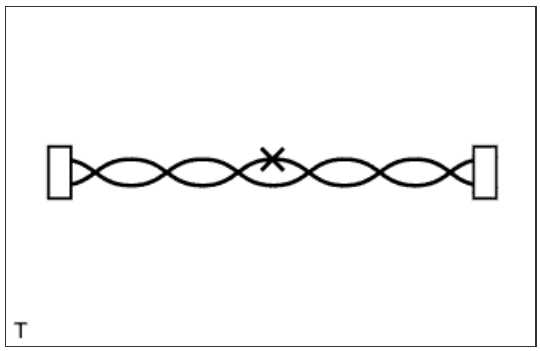
a. This vehicle is equipped with an SRS (Supplemental Restraint System), such as the driver airbag and front passenger airbag. Failure to carry out service operations in the correct sequence could cause unexpected SRS deployment during servicing and may lead to a serious accident. Before servicing (including 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:

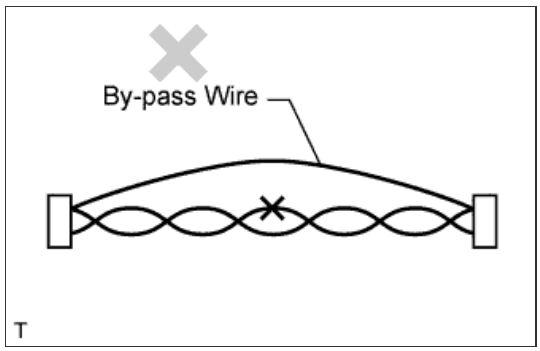
- **The CANL bus line and CANH bus line must be installed together.**
- **When installing the CAN bus lines, make sure to twist them.**
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- **The difference in length between the CANL bus line and CANH bus line should be less than 100 mm (3.94 in.).**
- **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.

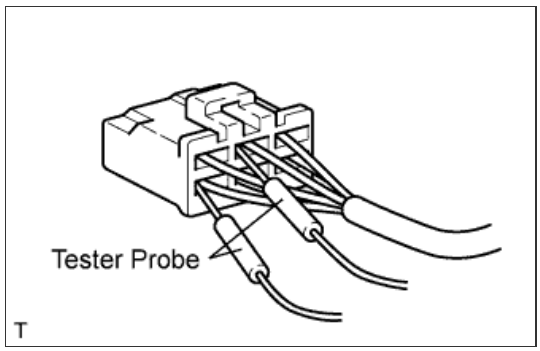
NOTICE:

The feature of the twisted wire harness will be lost if bypass wiring is used.

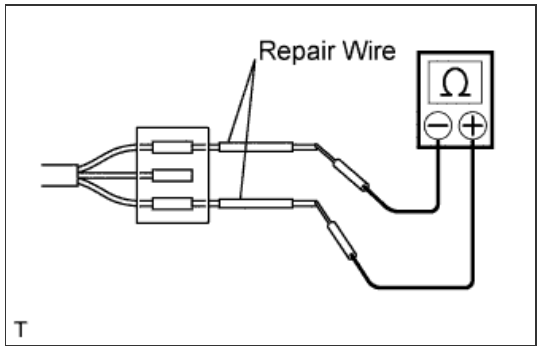


4.CONNECTOR HANDLING

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

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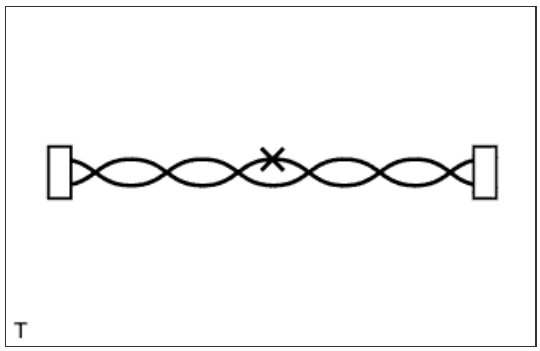
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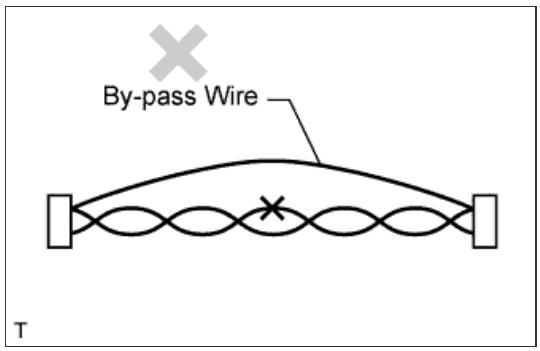
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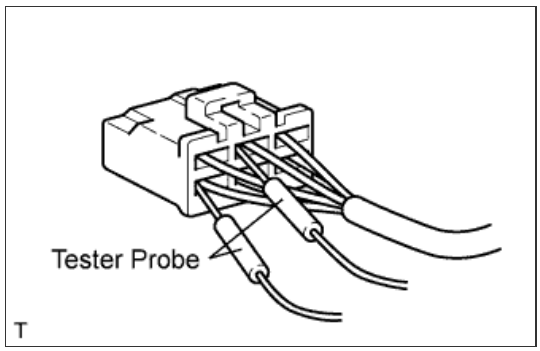
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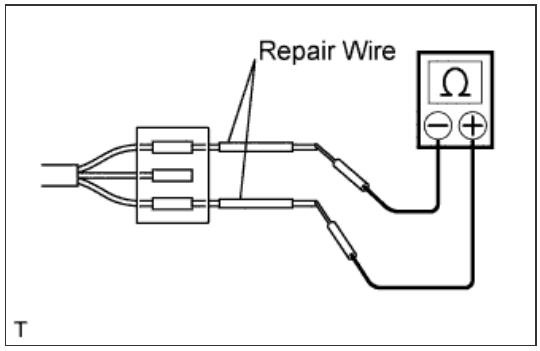


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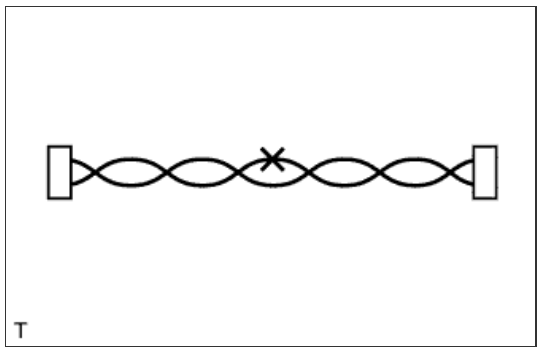
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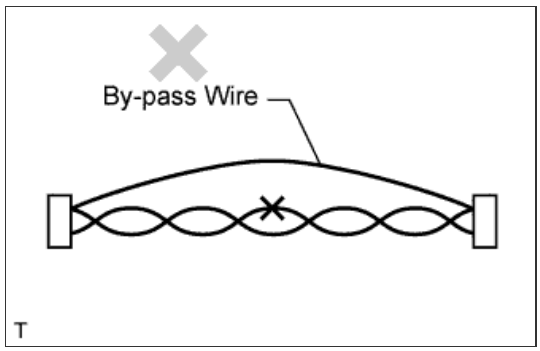
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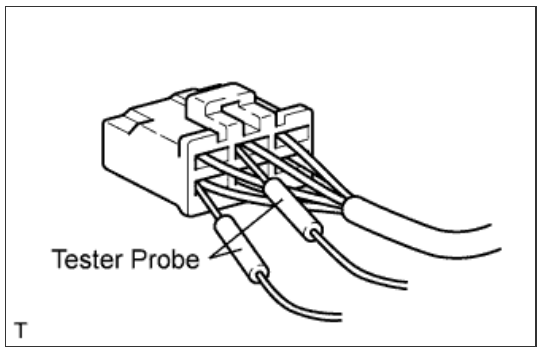
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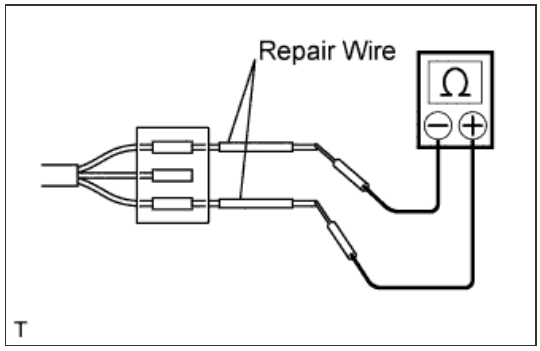


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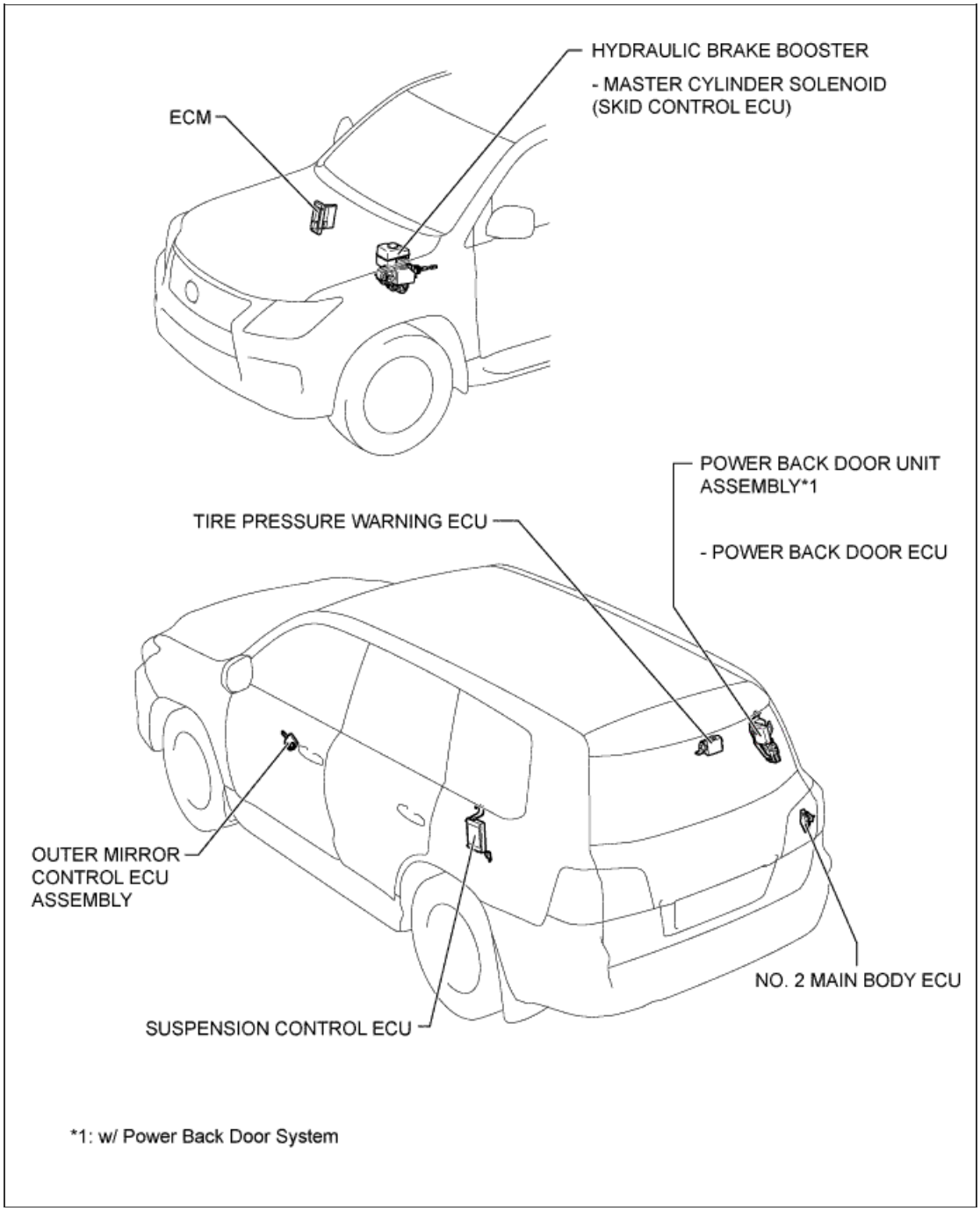
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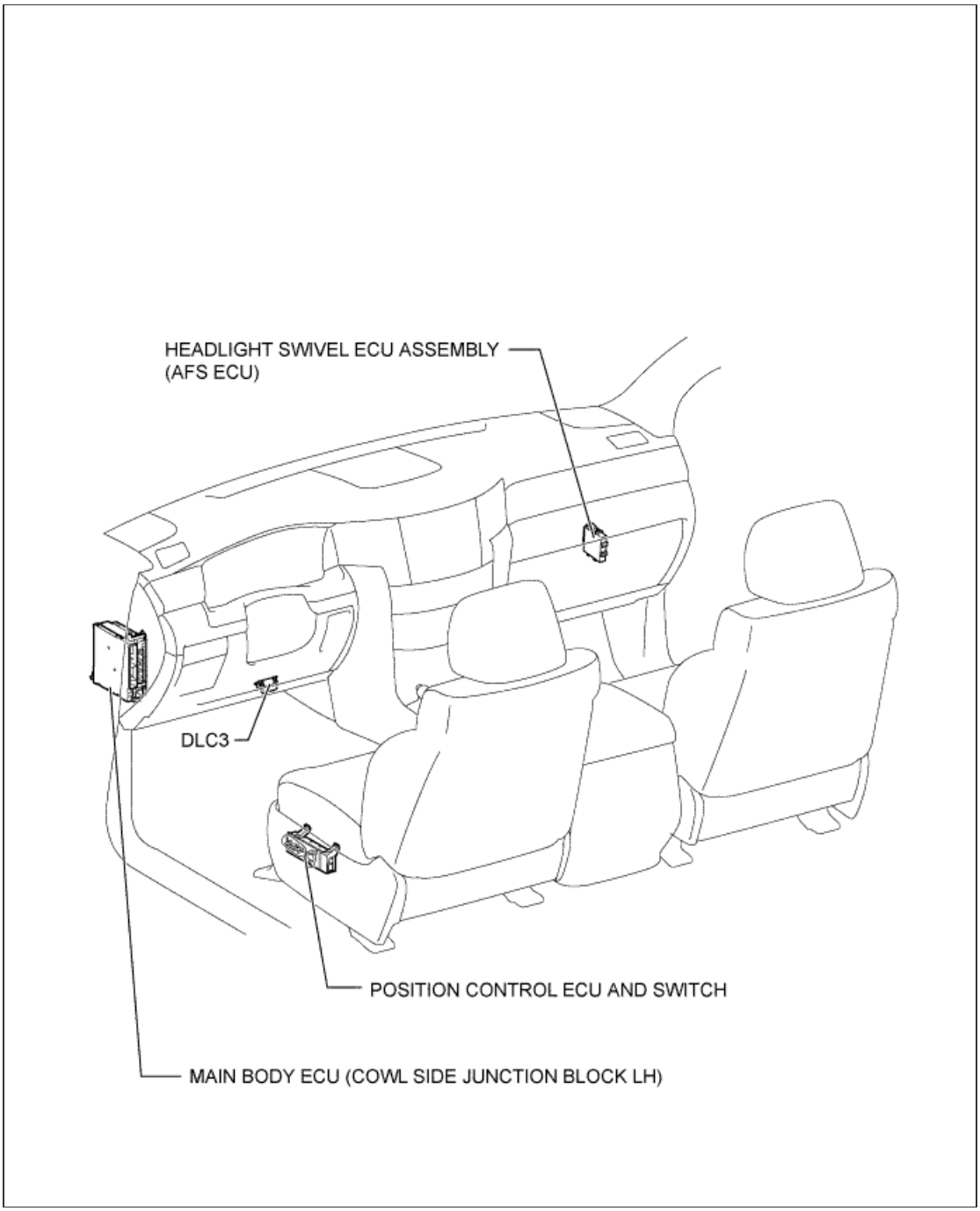


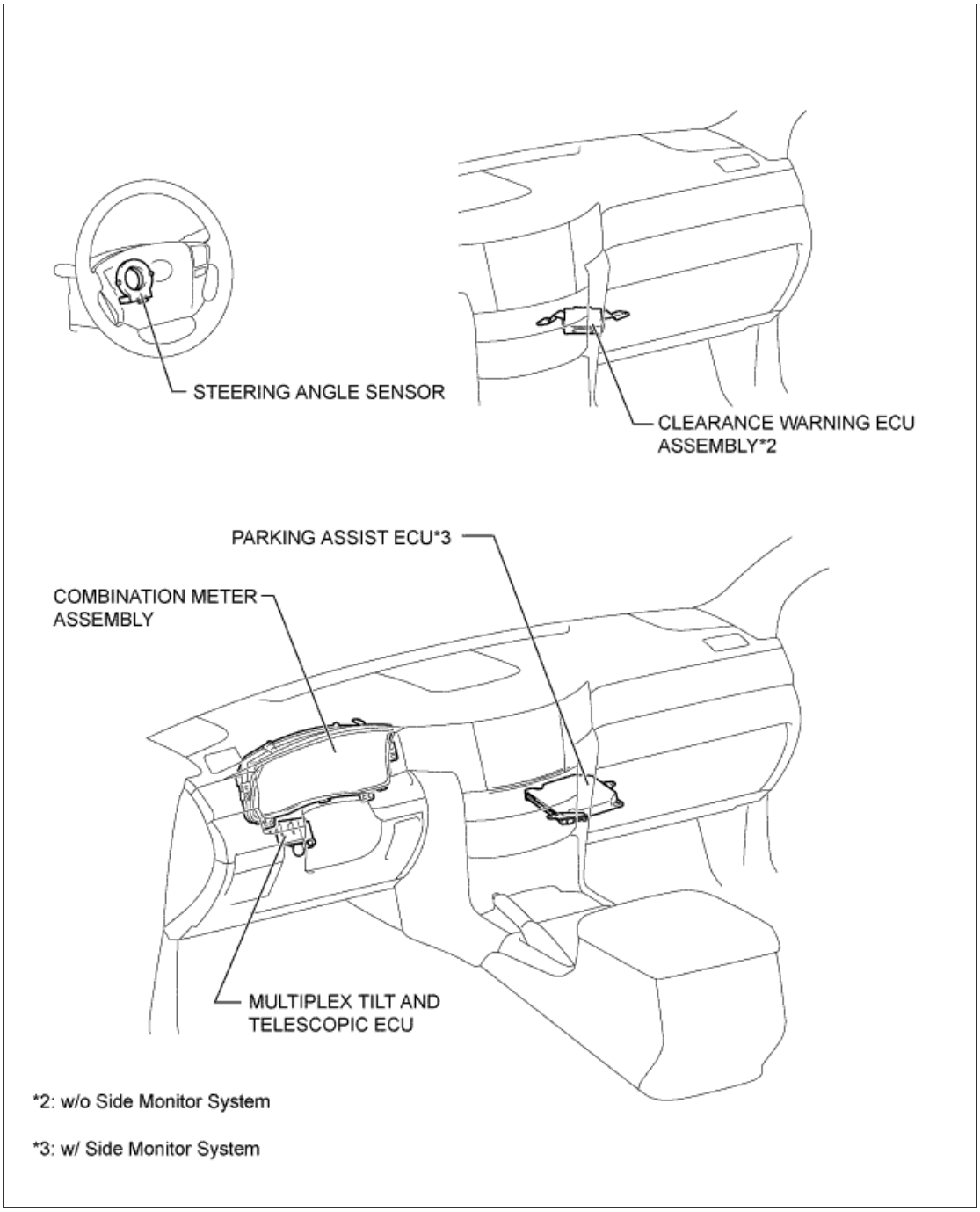
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for Preparation Click here

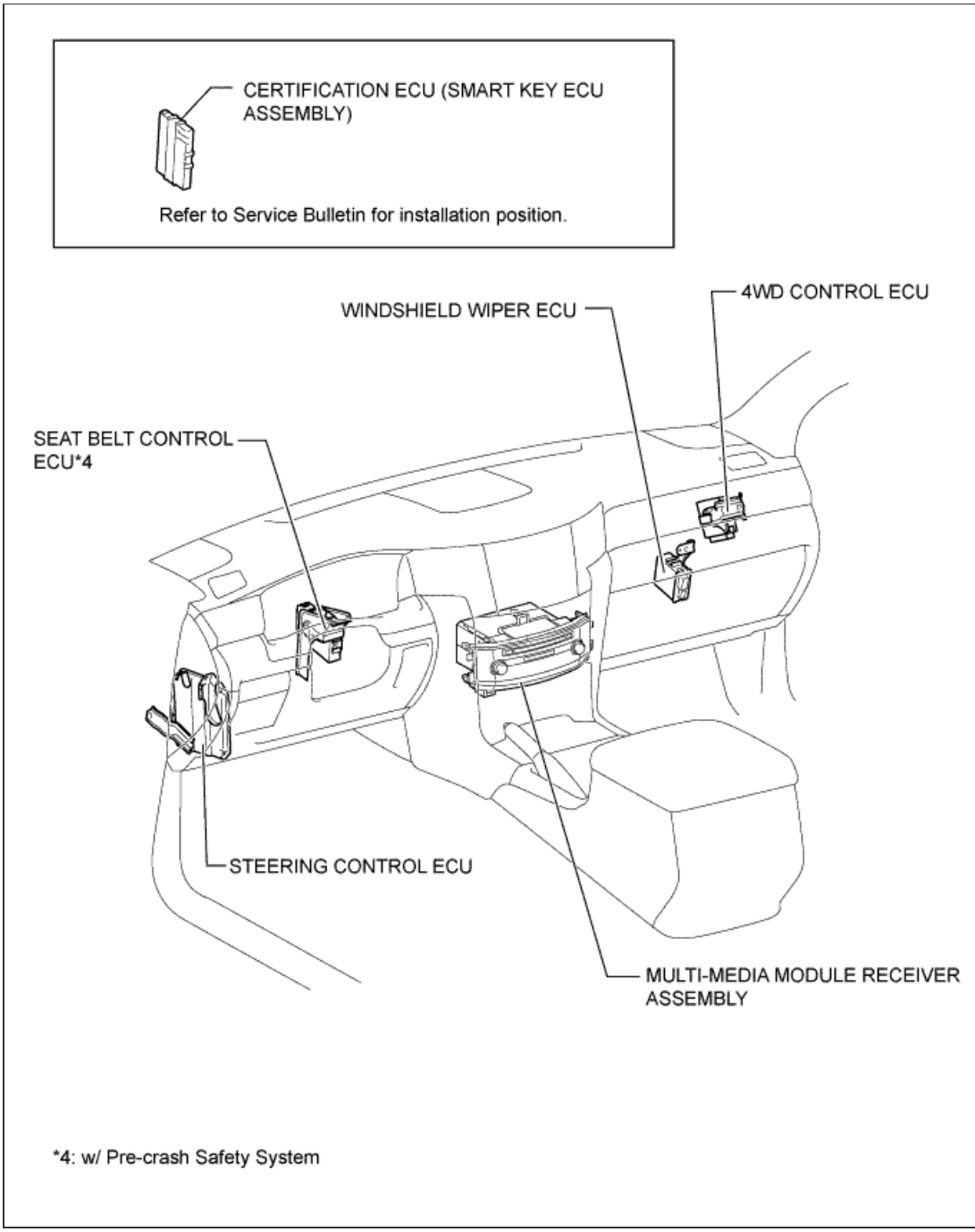


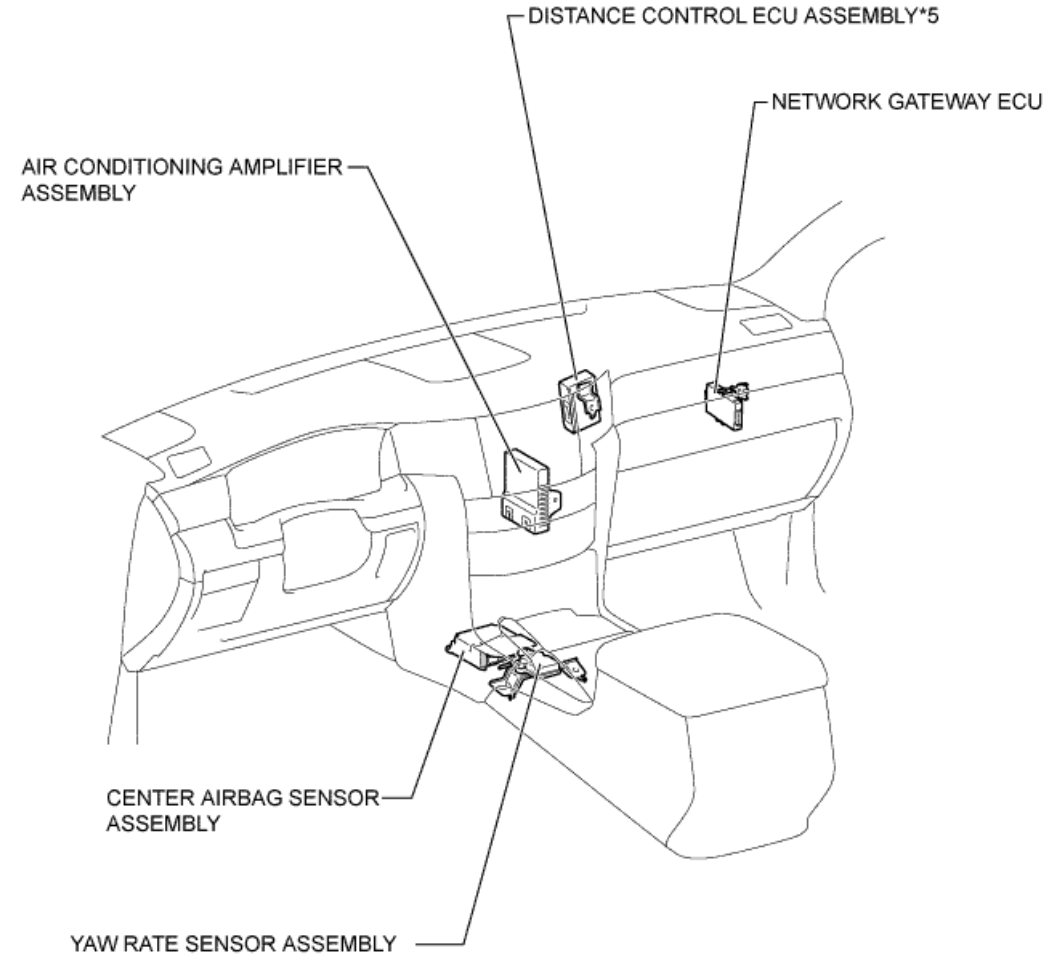

HEADLIGHT SWIVEL ECU ASSEMBLY
(AFS ECU)
DLC3
POSITION CONTROL ECU AND SWITCH
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)



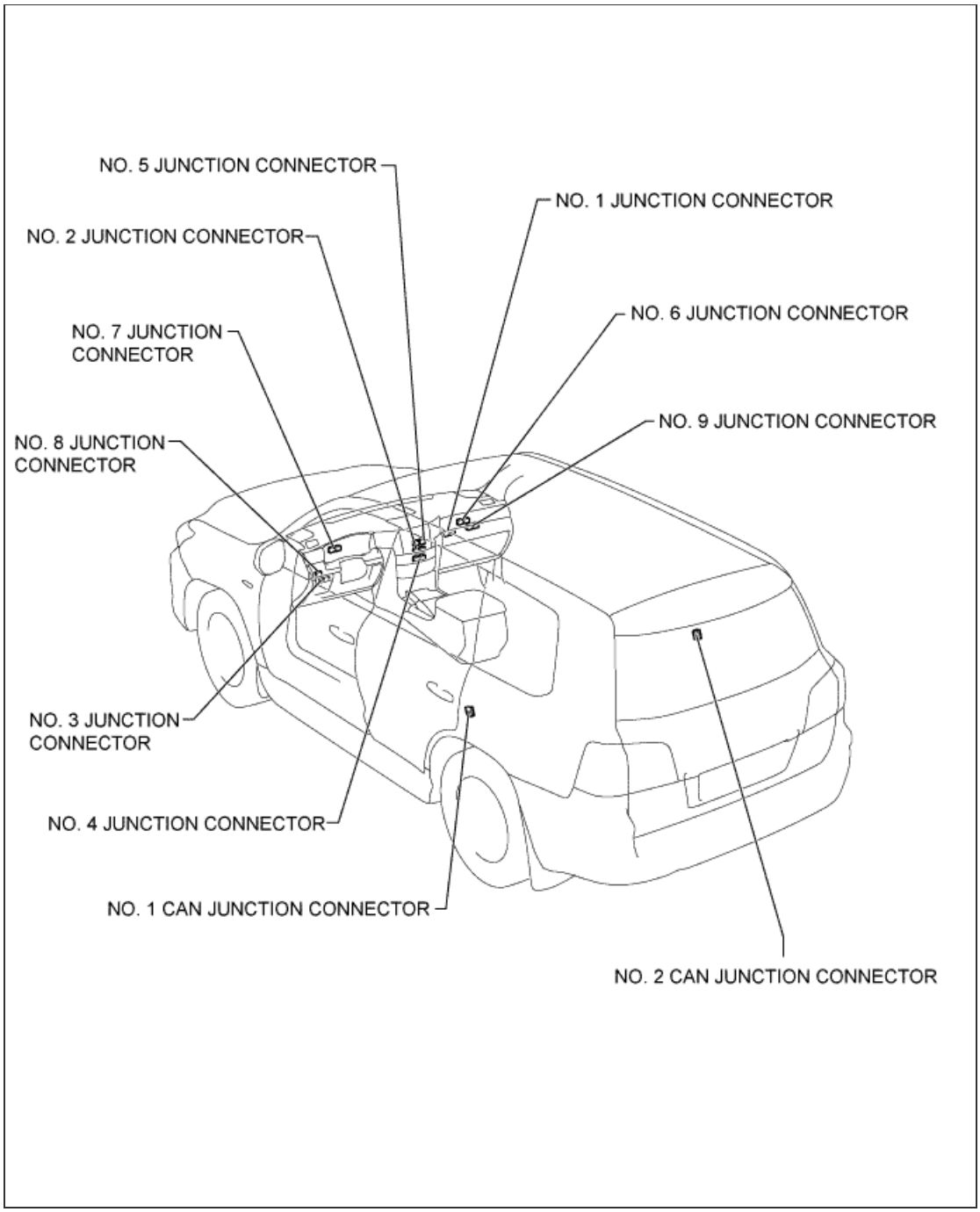
*2: w/o Side Monitor System

*3: w/ Side Monitor System


CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)
Refer to Service Bulletin for installation position.
WINDSHIELD WIPER ECU
4WD CONTROL ECU
SEAT BELT CONTROL ECU*4
STEERING CONTROL ECU
MULTI-MEDIA MODULE RECEIVER ASSEMBLY
*4: w/ Pre-crash Safety System



*5: w/ Dynamic Radar Cruise Control System

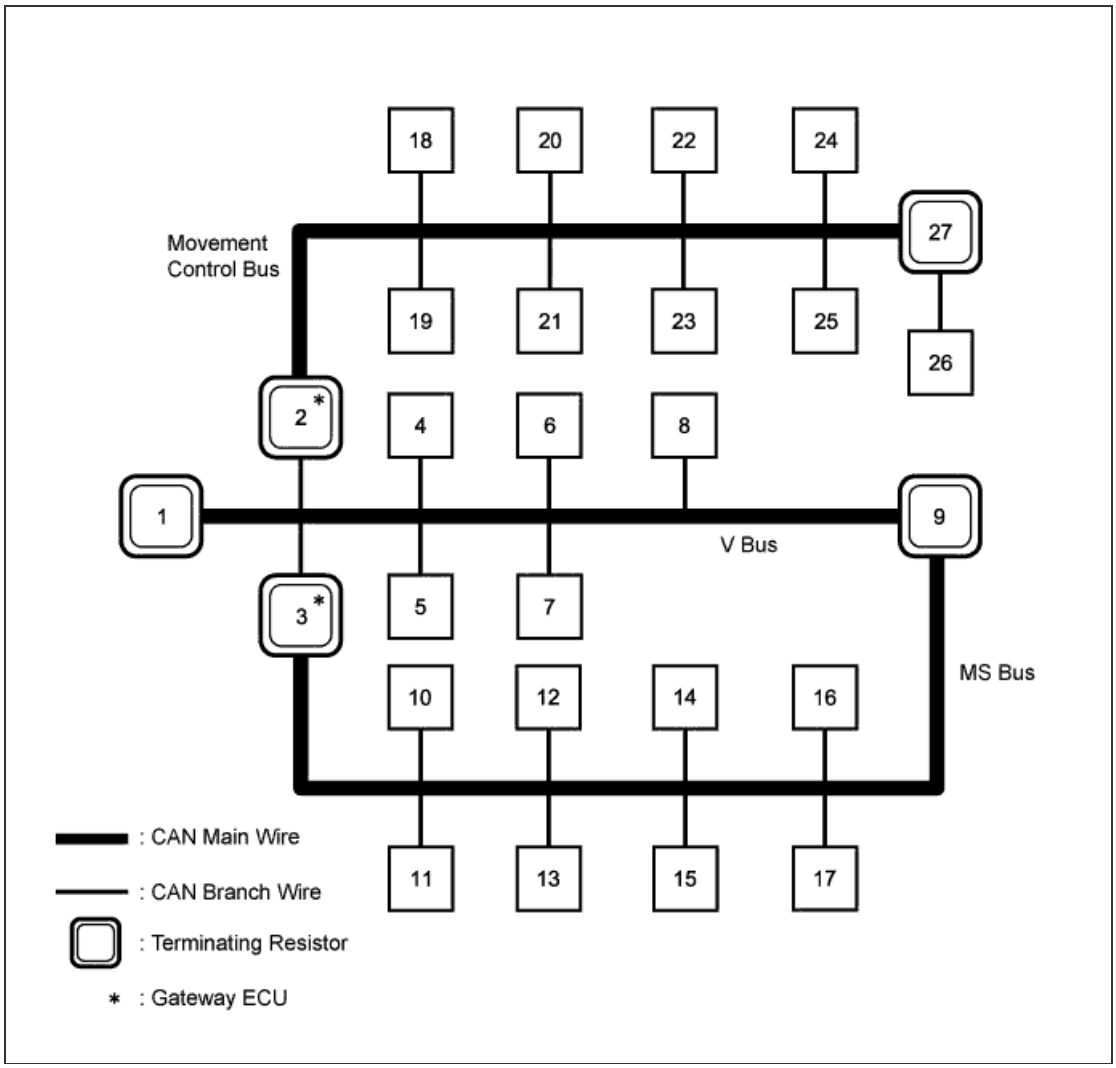

NO. 5 JUNCTION CONNECTOR
NO. 1 JUNCTION CONNECTOR
NO. 2 JUNCTION CONNECTOR
NO. 6 JUNCTION CONNECTOR
NO. 7 JUNCTION CONNECTOR
NO. 9 JUNCTION CONNECTOR
NO. 8 JUNCTION CONNECTOR
NO. 3 JUNCTION CONNECTOR
NO. 4 JUNCTION CONNECTOR
NO. 1 CAN JUNCTION CONNECTOR
NO. 2 CAN JUNCTION CONNECTOR

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

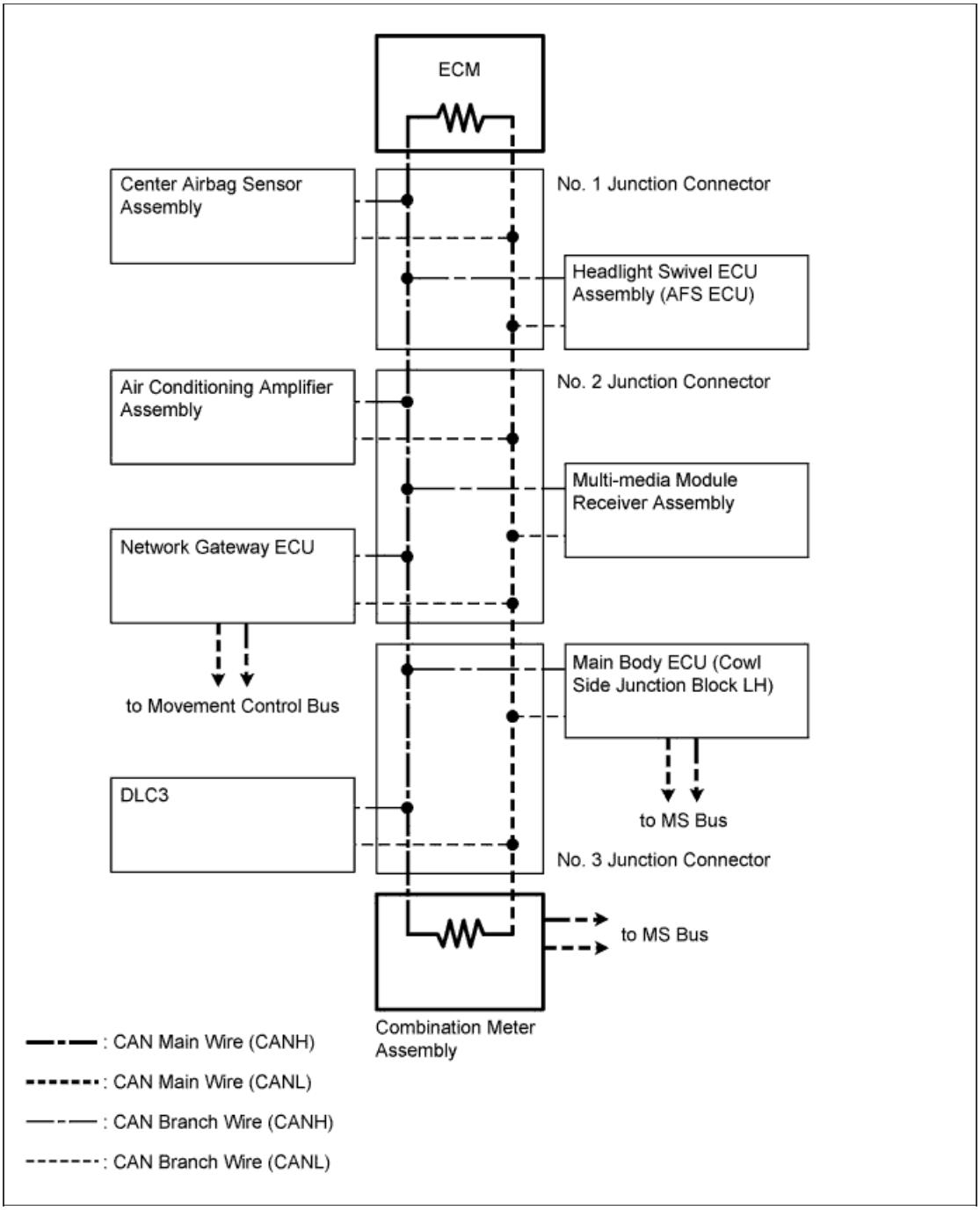


No.	ECU/Sensor Name
1	ECM
2	Network gateway ECU
3	Main body ECU (cowl side junction block LH)
4	DLC3
5	Air conditioning amplifier assembly
6	Center airbag sensor assembly
7	Multi-media module receiver assembly
8	Headlight swivel ECU assembly (AFS ECU)
9	Combination meter assembly
10	Certification ECU (smart key ECU assembly)
11	Multiplex tilt and telescopic ECU
12	Outer mirror control ECU assembly

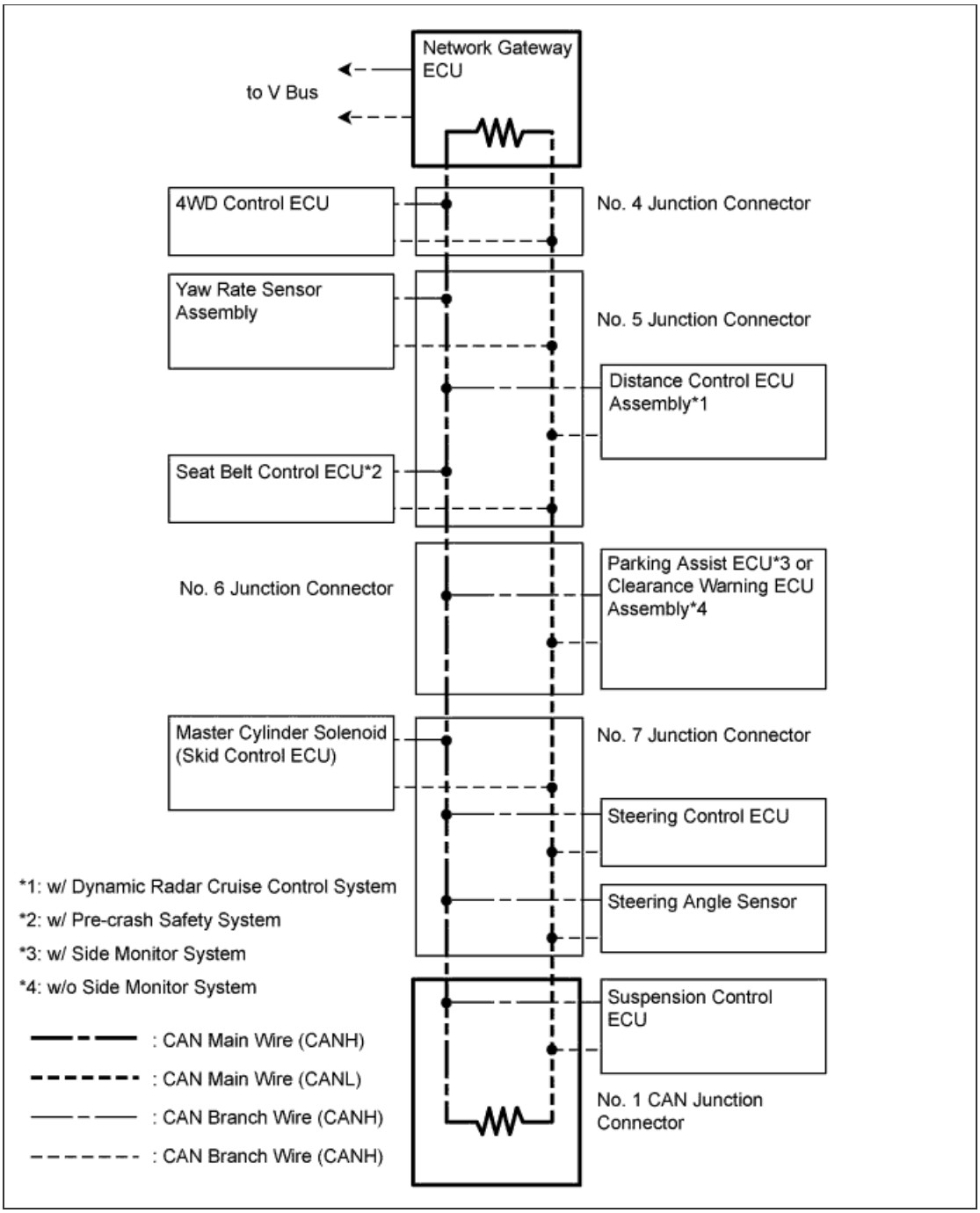
13	Position control ECU and switch
14	No. 2 main body ECU
15	Power back door unit assembly (Power back door ECU)*1
16	Tire pressure warning ECU
17	Windshield wiper ECU
18	Master cylinder solenoid (skid Control ECU)
19	Yaw rate sensor assembly
20	Steering angle sensor
21	4WD control ECU
22	• Parking assist ECU*2 • Clearance warning ECU assembly*3
23	Seat belt control ECU*4
24	Distance control ECU assembly*5
25	Steering control ECU
26	Suspension control ECU
27	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

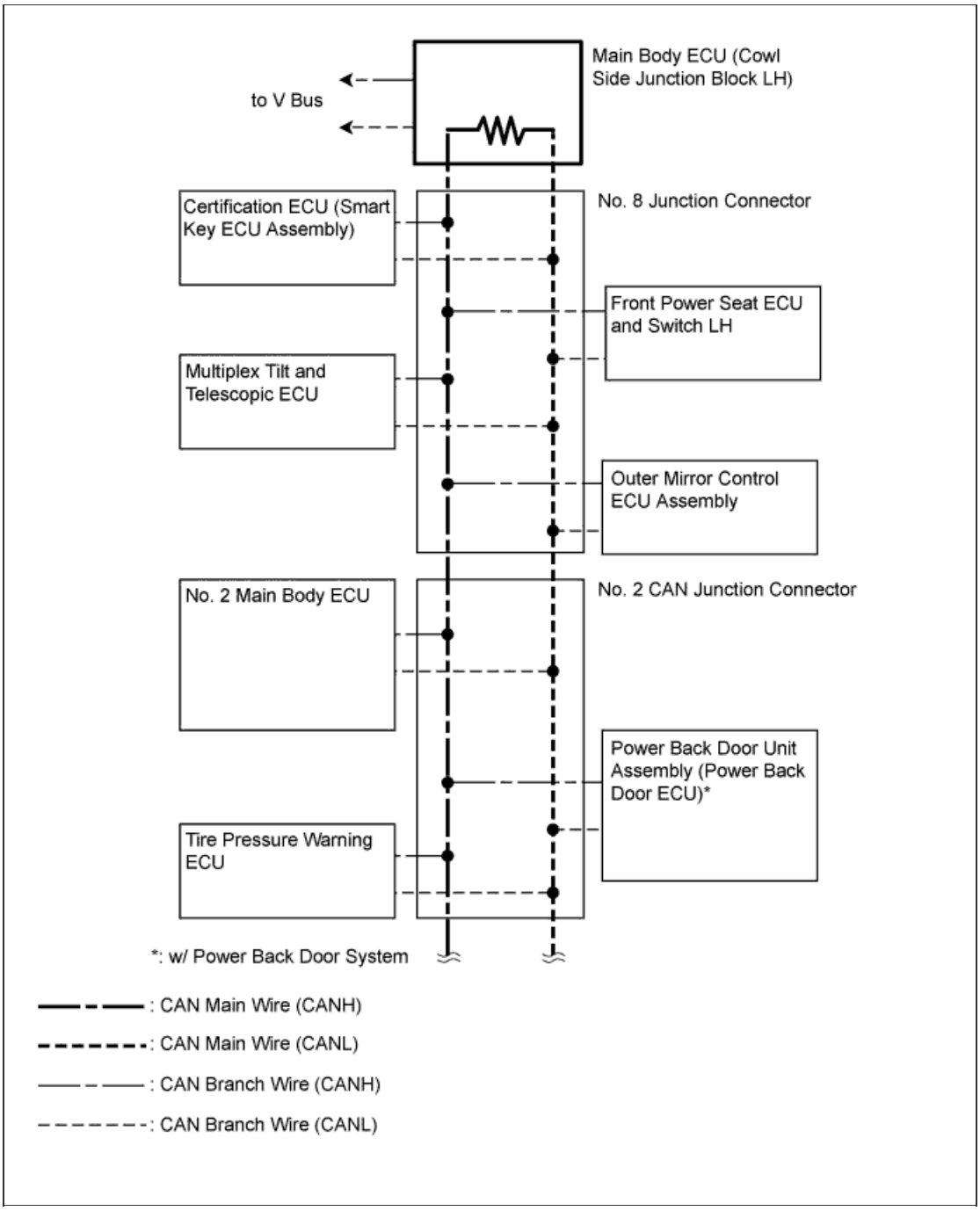
V Bus

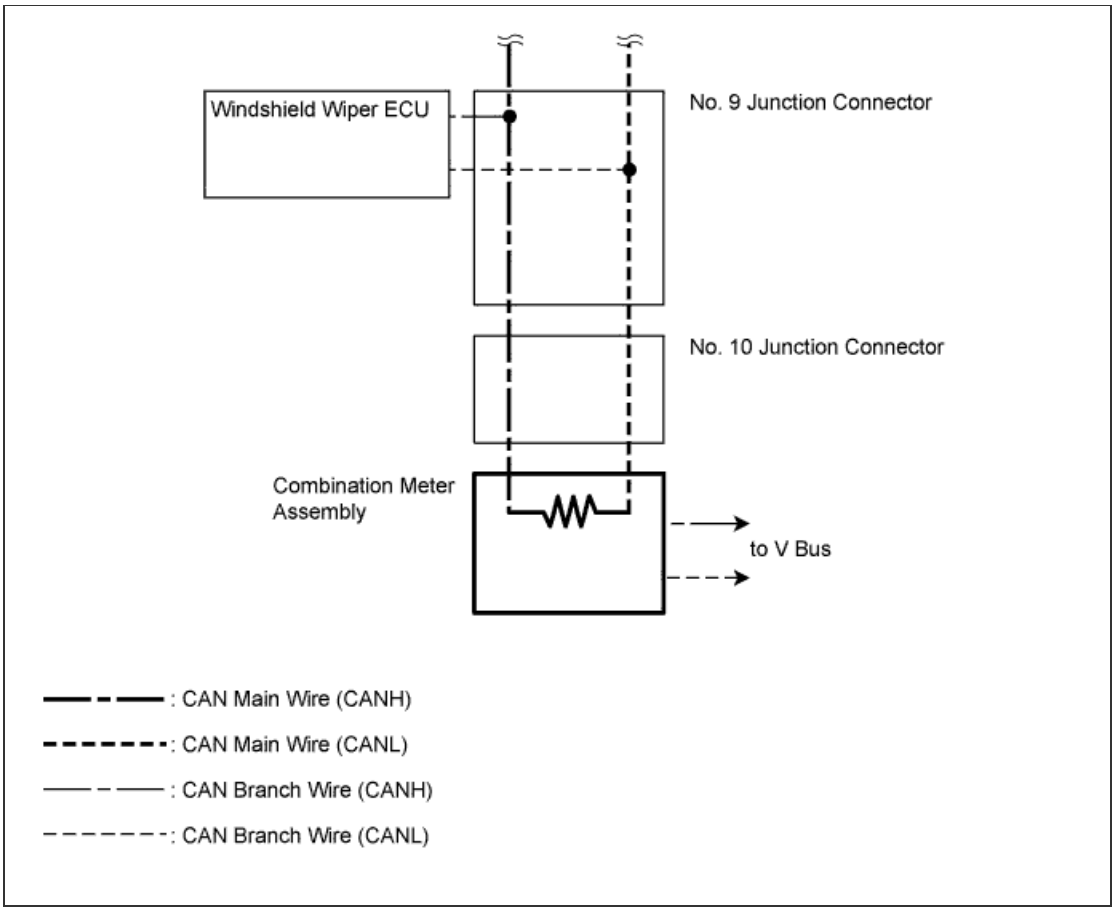


Movement Control Bus


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
Front Power Seat ECU and Switch LH
Multiplex Tilt and Telescopic ECU
Outer Mirror Control ECU Assembly
No. 2 Main Body ECU
No. 2 CAN Junction Connector
Power Back Door Unit Assembly (Power Back Door ECU)*
Tire Pressure Warning ECU
*: w/ Power Back Door System
: CAN Main Wire (CANH)
: CAN Main Wire (CANL)
: CAN Branch Wire (CANH)
: CAN Branch Wire (CANL)


Windshield Wiper ECU
No. 9 Junction Connector
No. 10 Junction Connector
Combination Meter Assembly
to V Bus
: CAN Main Wire (CANH)
: CAN Main Wire (CANL)
: CAN Branch Wire (CANH)
: CAN Branch Wire (CANL)

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 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. Tire pressure warning ECU

w. Steering control ECU

x. Suspension control ECU

y. Headlight swivel ECU assembly (AFS ECU)

z. Windshield wiper ECU

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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, U0127, 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, C2179 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).

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

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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. Tire pressure warning ECU

w. Steering control ECU

x. Suspension control ECU

y. Headlight swivel ECU assembly (AFS ECU)

z. 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, U0127, 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, C2179 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).

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, U0104, U0114/38, U0122, U0123, U0124, U0125, U0126, U0127, 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

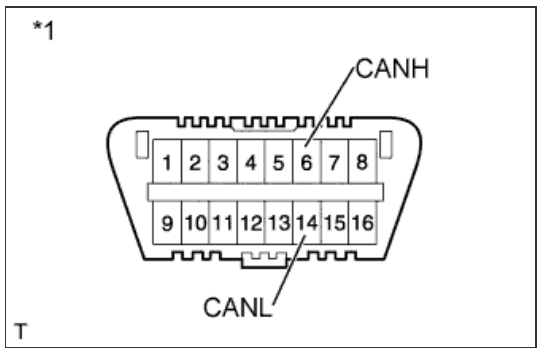
5.CHECK DLC3 BRANCH WIRE AND V BUS CIRCUIT MAIN WIRE (CANH - CANL)

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 according to the value(s) in the table below.

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)

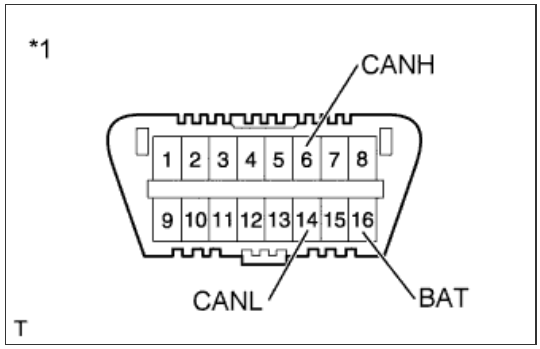
A

6.CHECK V BUS CIRCUIT +B (CANH, CANL - BAT)

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

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)

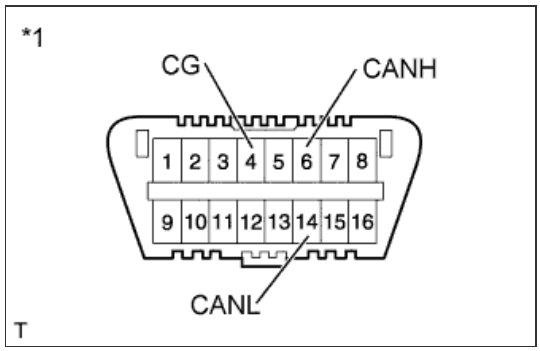
OK

7.CHECK V BUS CIRCUIT GND (CANH, CANL - CG)

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

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. 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. 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

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, U0127, 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

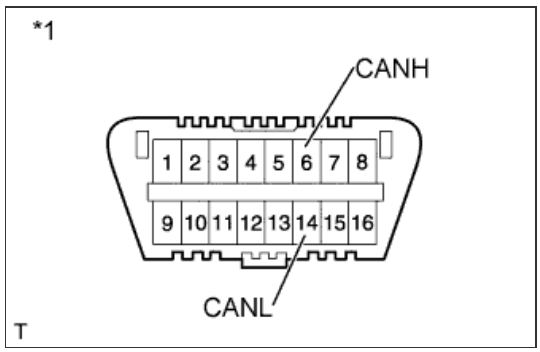
5.CHECK DLC3 BRANCH WIRE AND V BUS CIRCUIT MAIN WIRE (CANH - CANL)

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 according to the value(s) in the table below.

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)

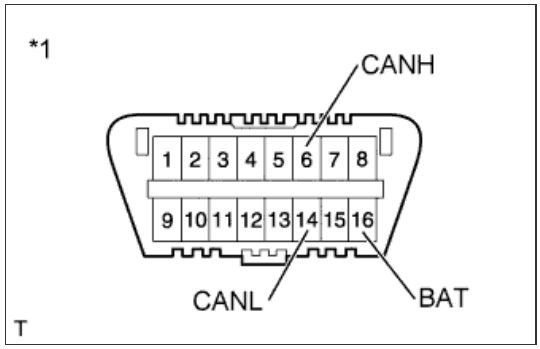
A

6.CHECK V BUS CIRCUIT +B (CANH, CANL - BAT)

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

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)

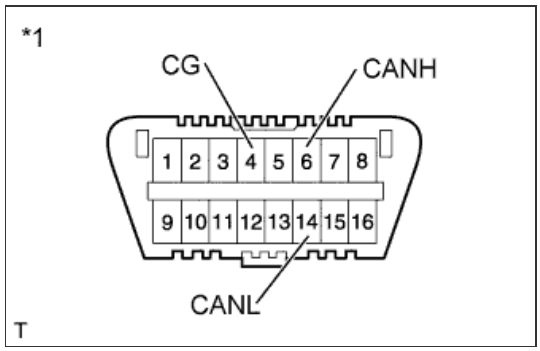
OK

7.CHECK V BUS CIRCUIT GND (CANH, CANL - CG)

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

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. 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. 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

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, U0127, 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

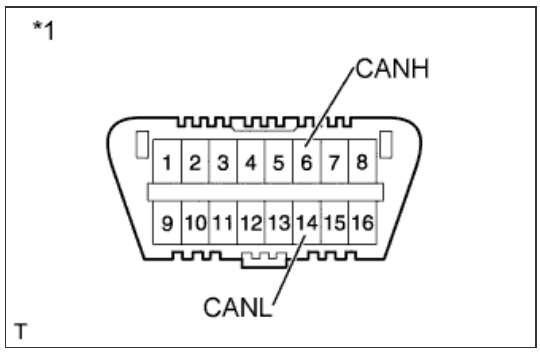
5.CHECK DLC3 BRANCH WIRE AND V BUS CIRCUIT MAIN WIRE (CANH - CANL)

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 according to the value(s) in the table below.

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)

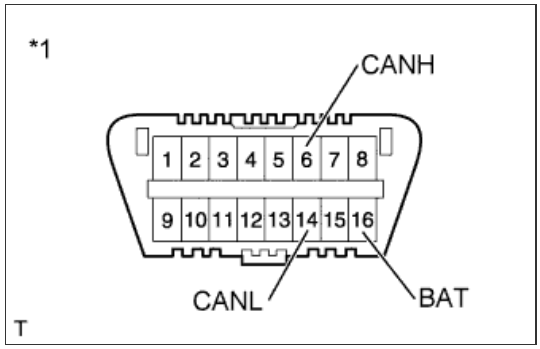
A

6.CHECK V BUS CIRCUIT +B (CANH, CANL - BAT)

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

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)

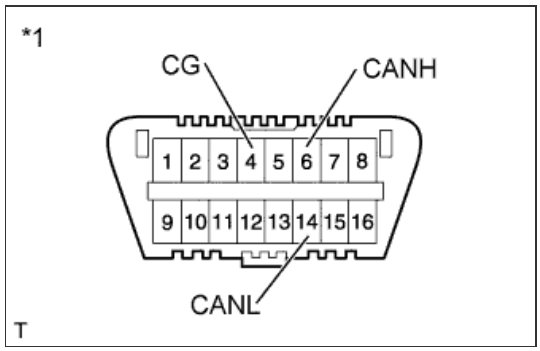
OK

7.CHECK V BUS CIRCUIT GND (CANH, CANL - CG)

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

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. 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. 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 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:

- **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:

- **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:

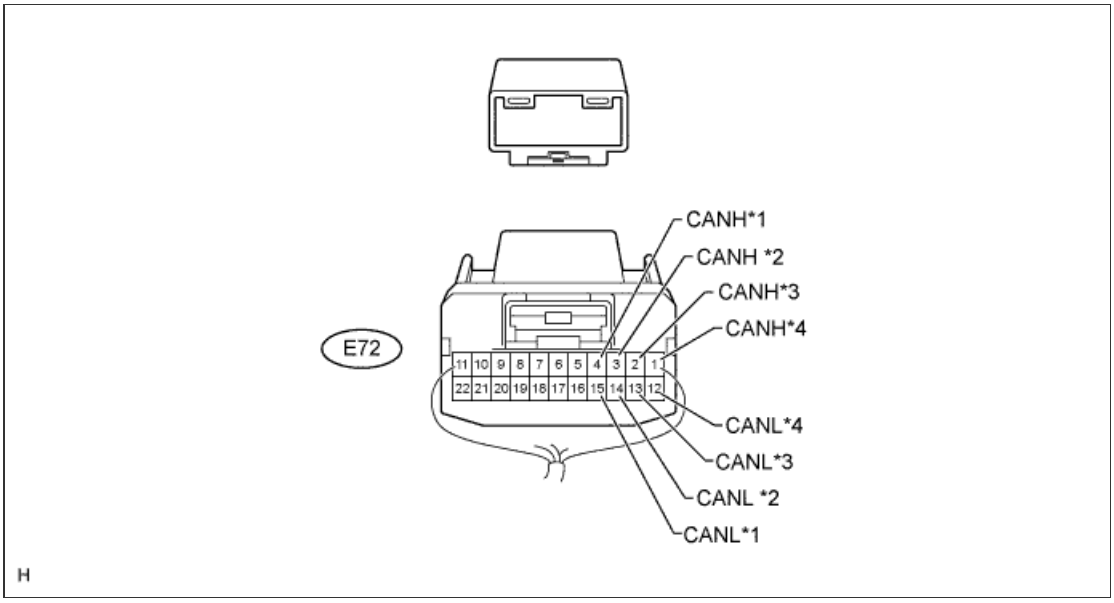
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

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.**
- **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



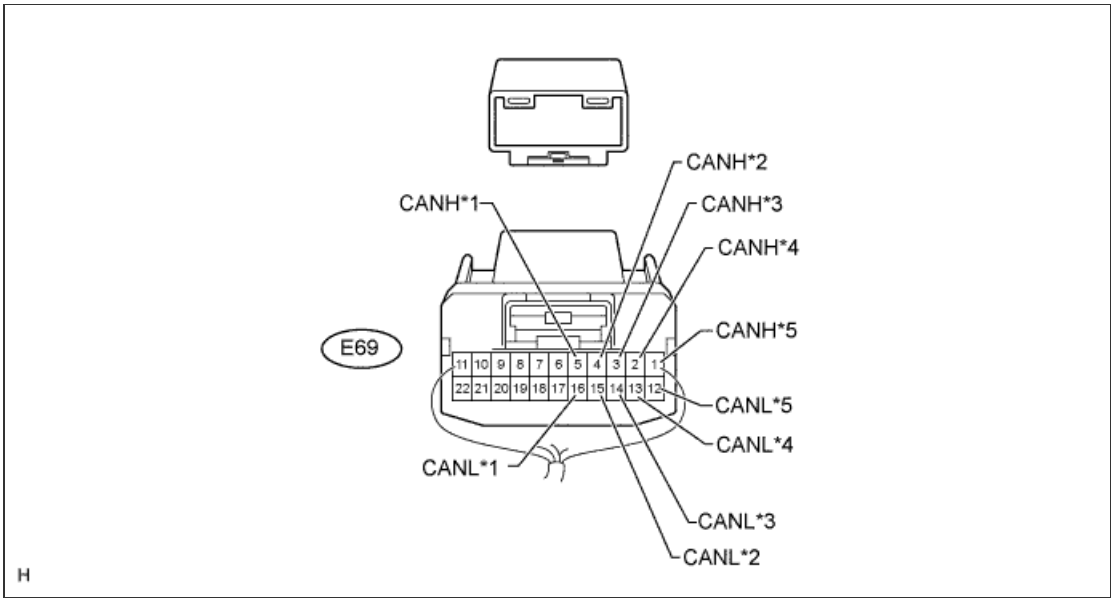
Text in Illustration

*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)	SB	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

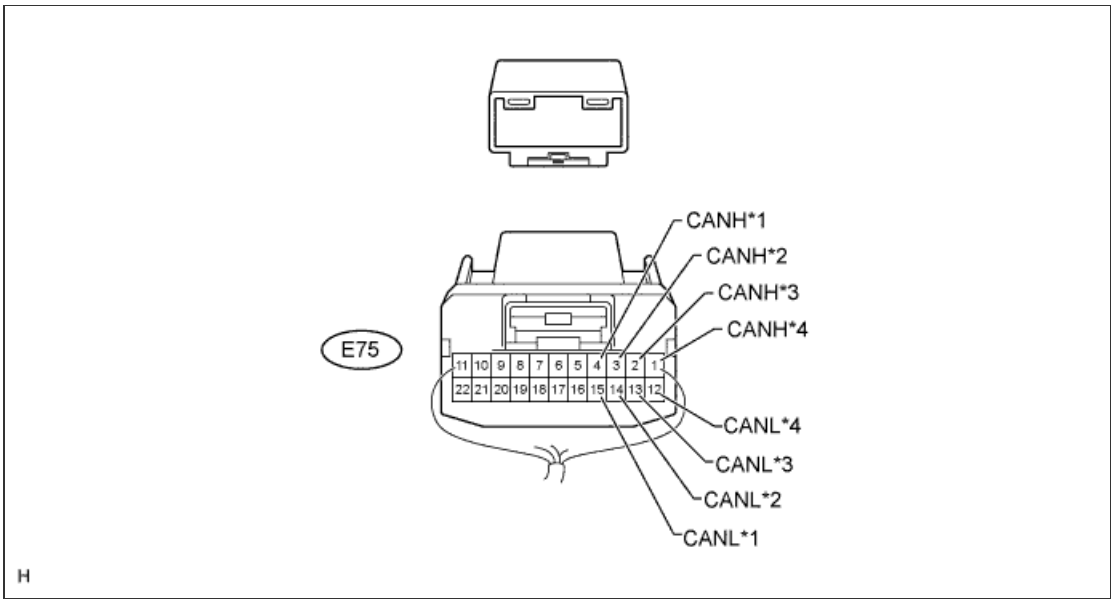


Text in Illustration

*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)	SB	No. 1 junction connector
E69-12 (CANL)	B	
E69-2 (CANH)	P	Multi-media module receiver assembly
E69-13 (CANL)	B	
E69-3 (CANH)	BE	Network gateway ECU (V bus)
E69-14 (CANL)	B	
E69-4 (CANH)	SB	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

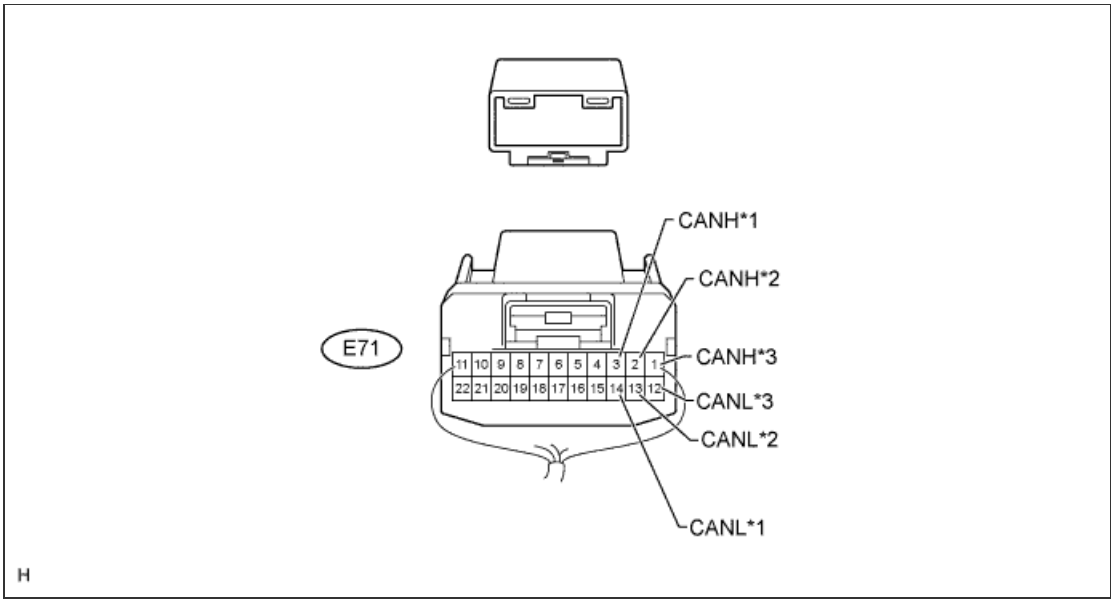


Text in Illustration

*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)	SB	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

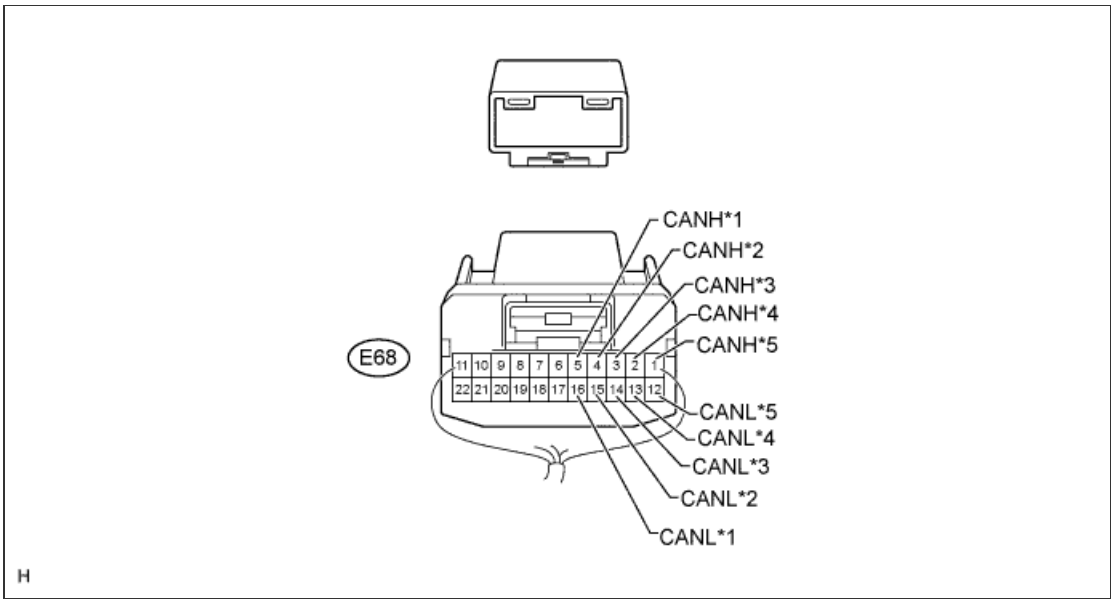


Text in Illustration

*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



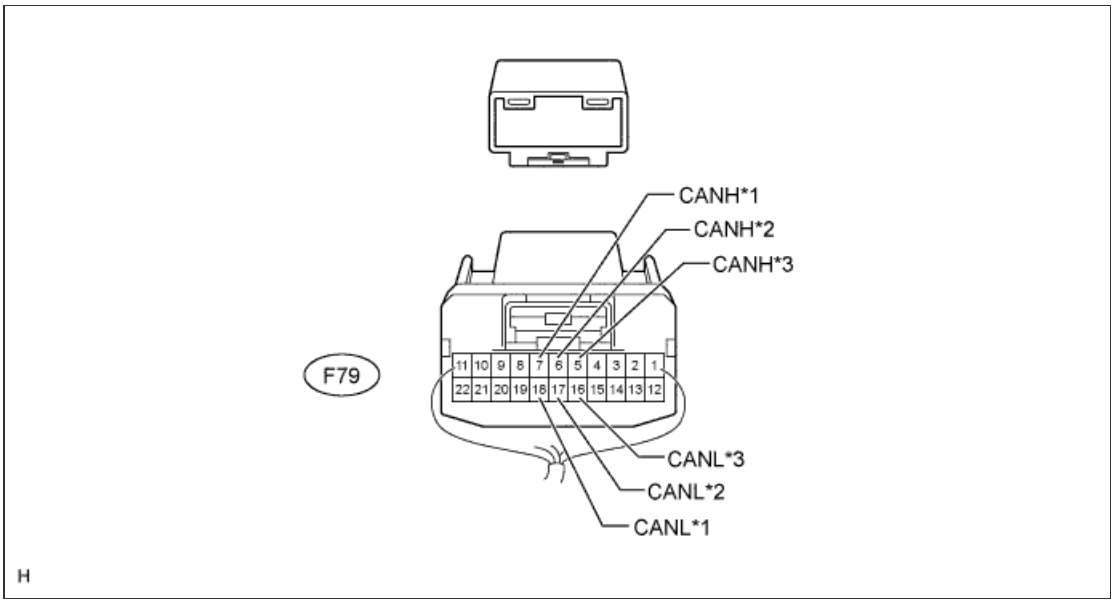
Text in Illustration

*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)	SB	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



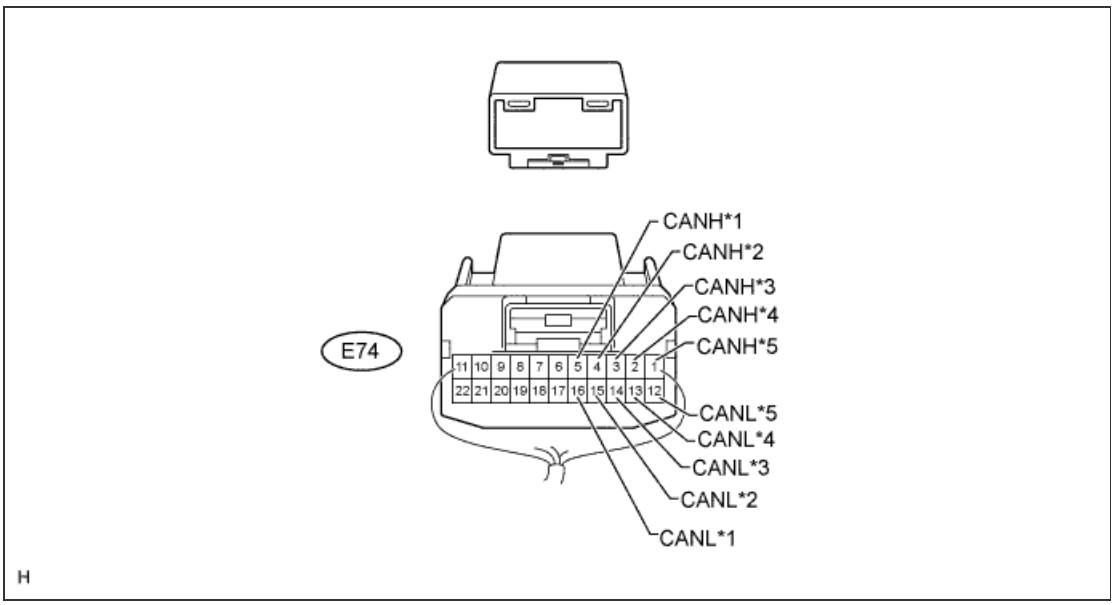
Text in Illustration

*1	to No. 5 Junction Connector	*2	to No. 7 Junction Connector
*3	• to Clearance Warning ECU Assembly (w/o Side Monitor System) • 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 • Parking assist ECU*2
F79-16 (CANL)	L	
F79-6 (CANH)	SB	No. 7 junction connector
F79-17 (CANL)	L	
F79-7 (CANH)	SB	No. 5 junction connector
F79-18 (CANL)	L	

*1: w/o Side Monitor System
*2: w/ Side Monitor System

g. NO. 7 JUNCTION CONNECTOR



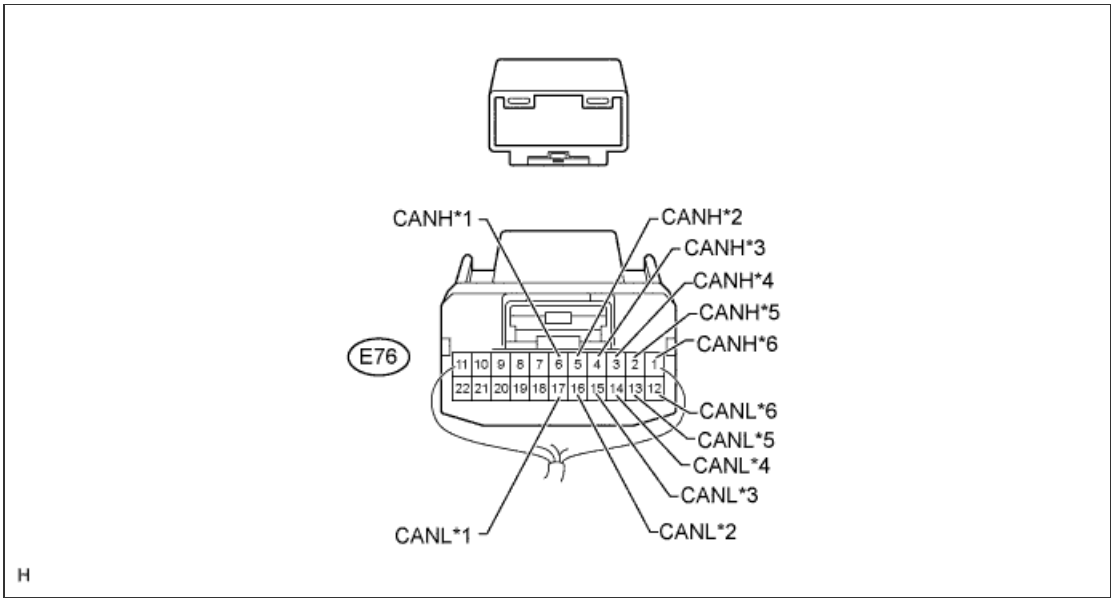
Text in Illustration

*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)	SB	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

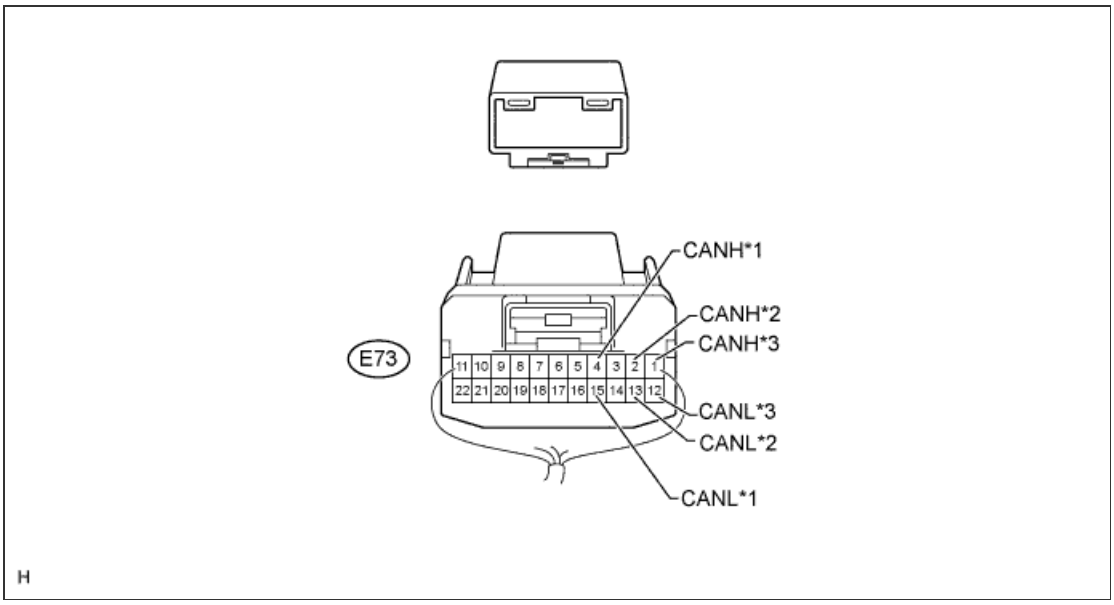


Text in Illustration

*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

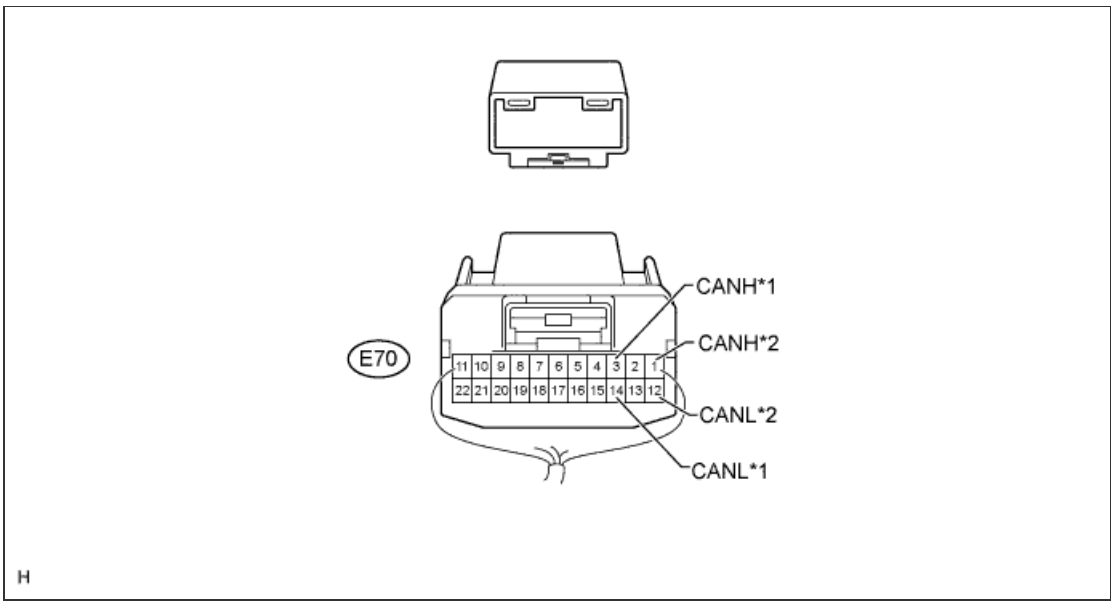


Text in Illustration

*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



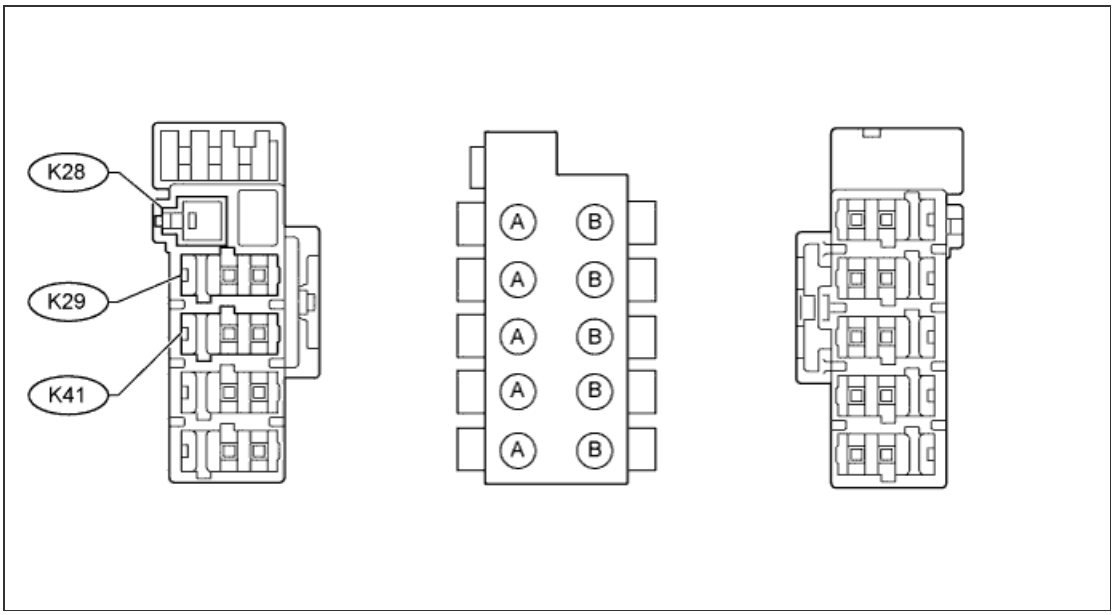
Text in Illustration

*1	to Combination Meter Assembly: MS Bus	*2	to No. 9 Junction Connector

No. 10 Junction Connector	Wiring Color	Connect to

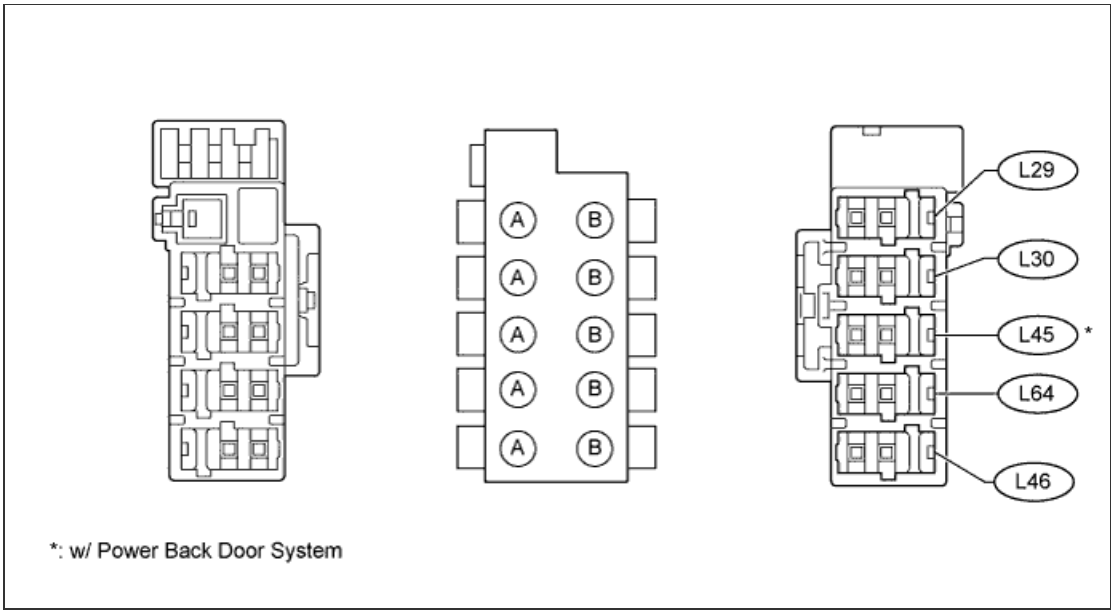
E70-1 (CANH)	W	No. 9 Junction Connector
E70-12 (CANL)	R	
E70-3 (CANH)	LG	Combination meter assembly (MS bus)
E70-14 (CANL)	R	

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



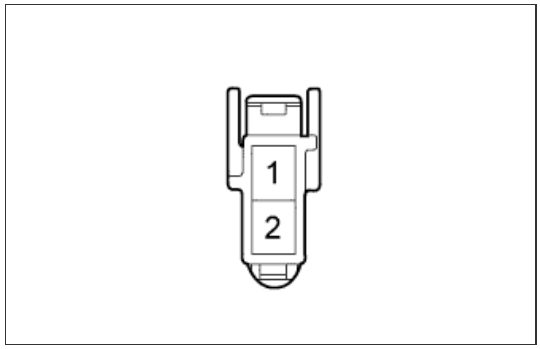
Junction Connector B Side	Wiring Color (CANH Side)	Wiring Color (CANL Side)
No. 8 junction connector (L29)	LG	GR
No. 9 junction connector (L30)	Y	R

Power back door unit assembly (power back door ECU) (L45)*	V	R
No. 2 main body ECU (L46)	LG	R
Tire pressure warning ECU (L64)	G	R

*: w/ Power Back Door System

TERMINALS OF CONNECTORS FOR JUNCTION CONNECTOR (CAN JUNCTION CONNECTOR)

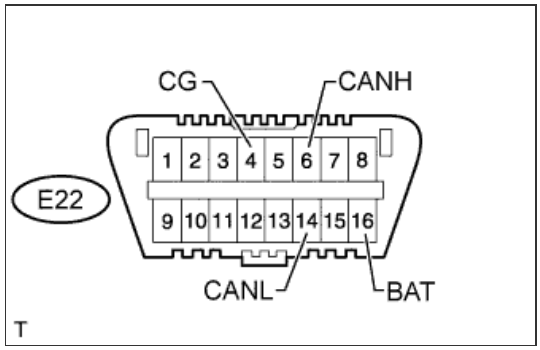
Terminal No.	Symbol
1	CANH
2	CANL



CHECK DLC3

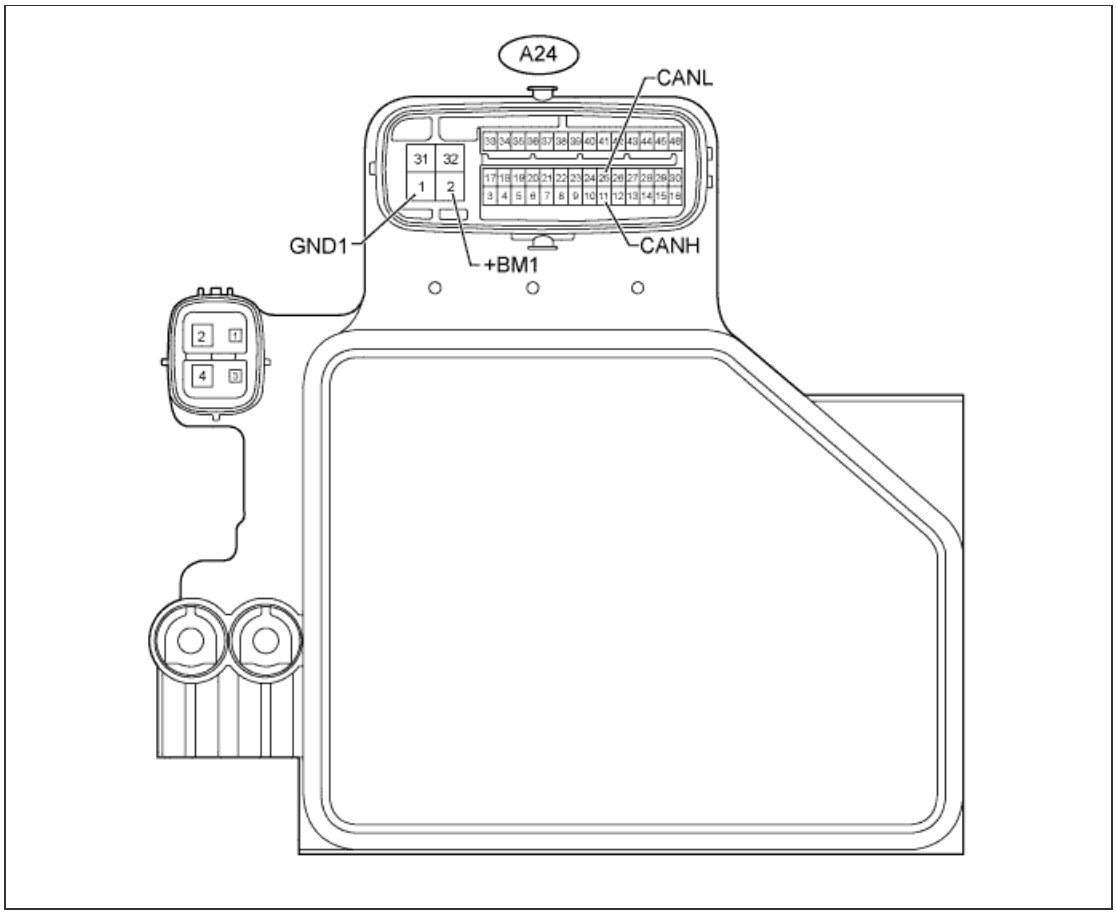
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

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)

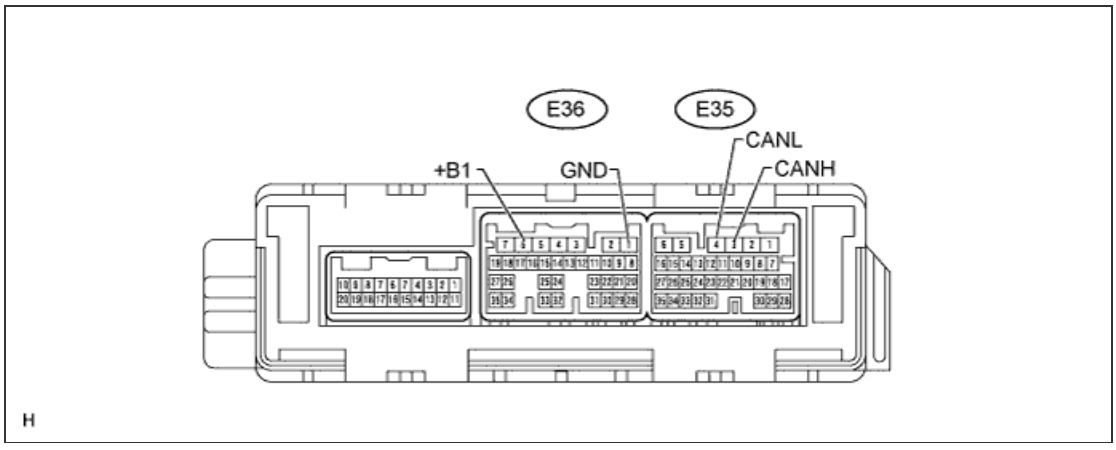


a. Disconnect the A24 master cylinder solenoid (skid control ECU) connector.

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



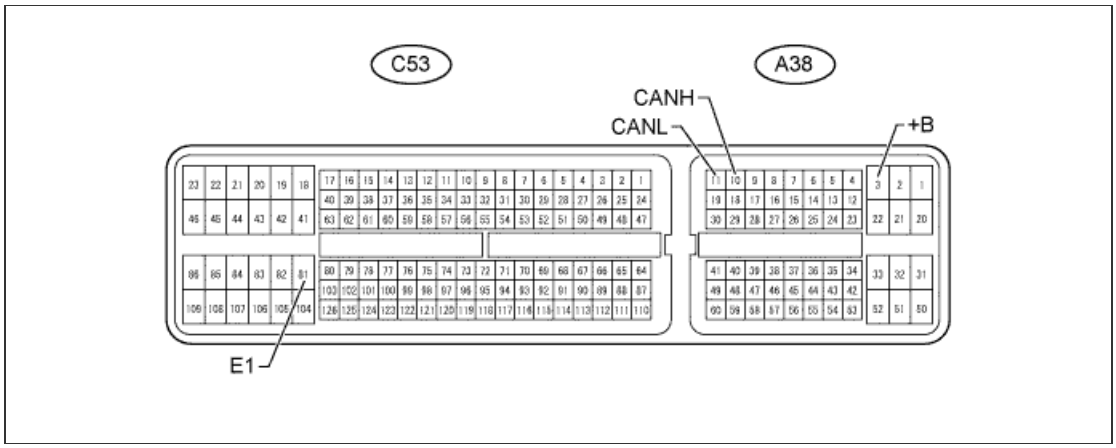
a. Disconnect the E35 and E36 air conditioning amplifier assembly connectors.

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

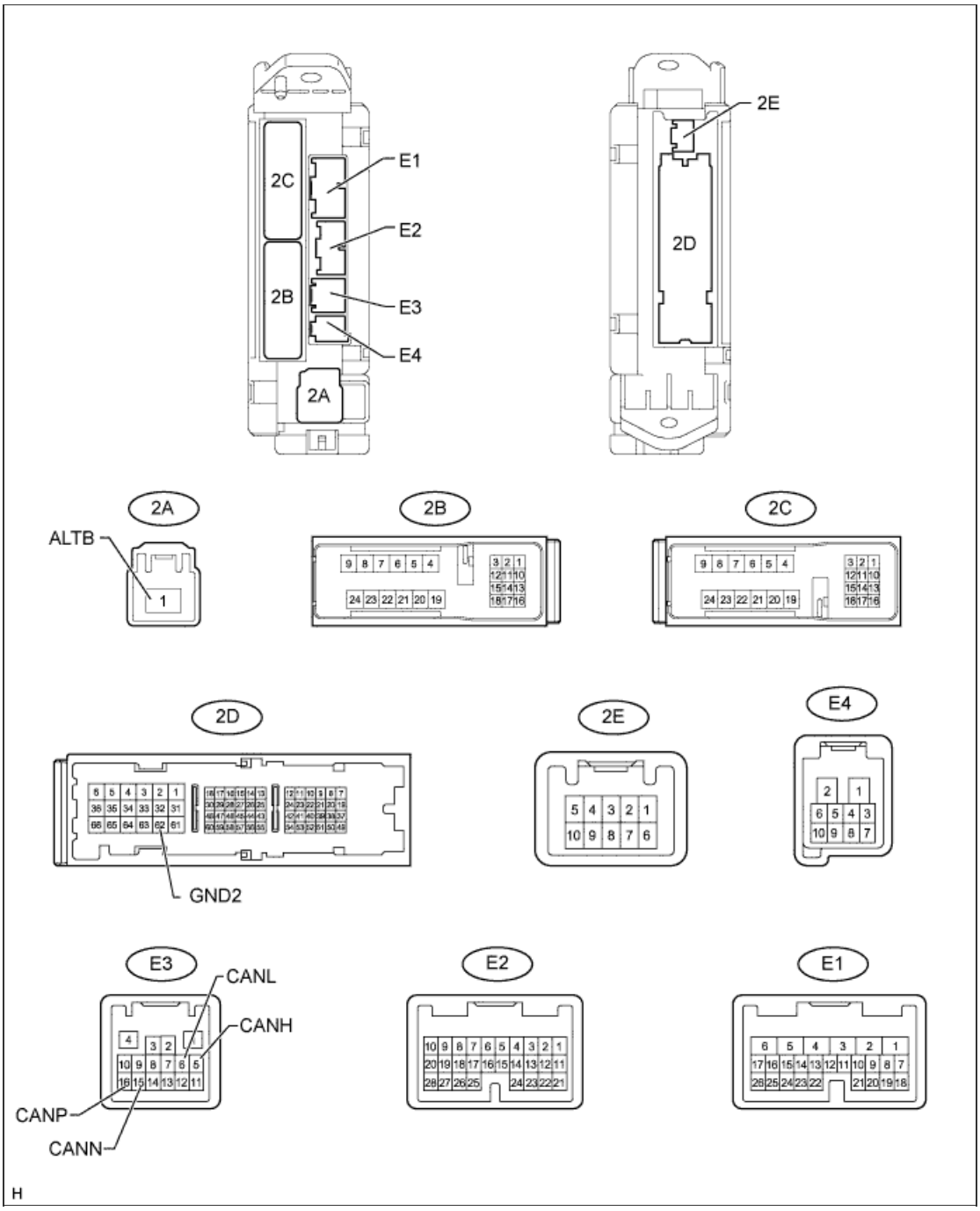


a. Disconnect the A38 and C53 ECM connectors.

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.

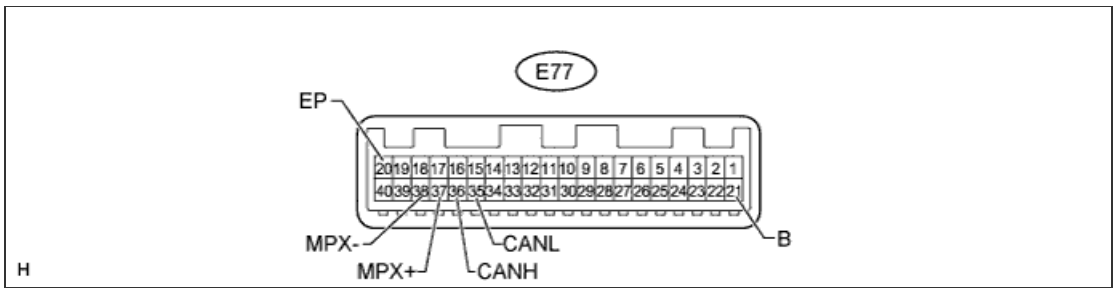
V Bus

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.

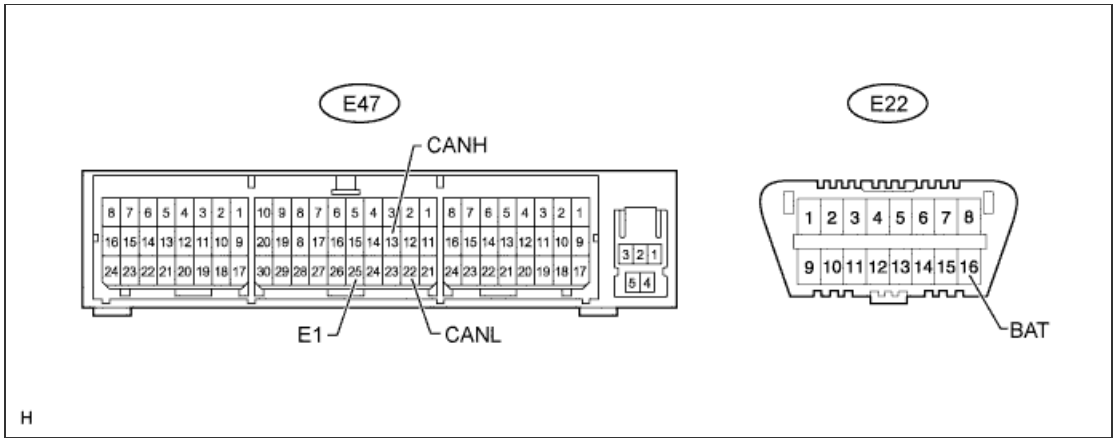
V Bus

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

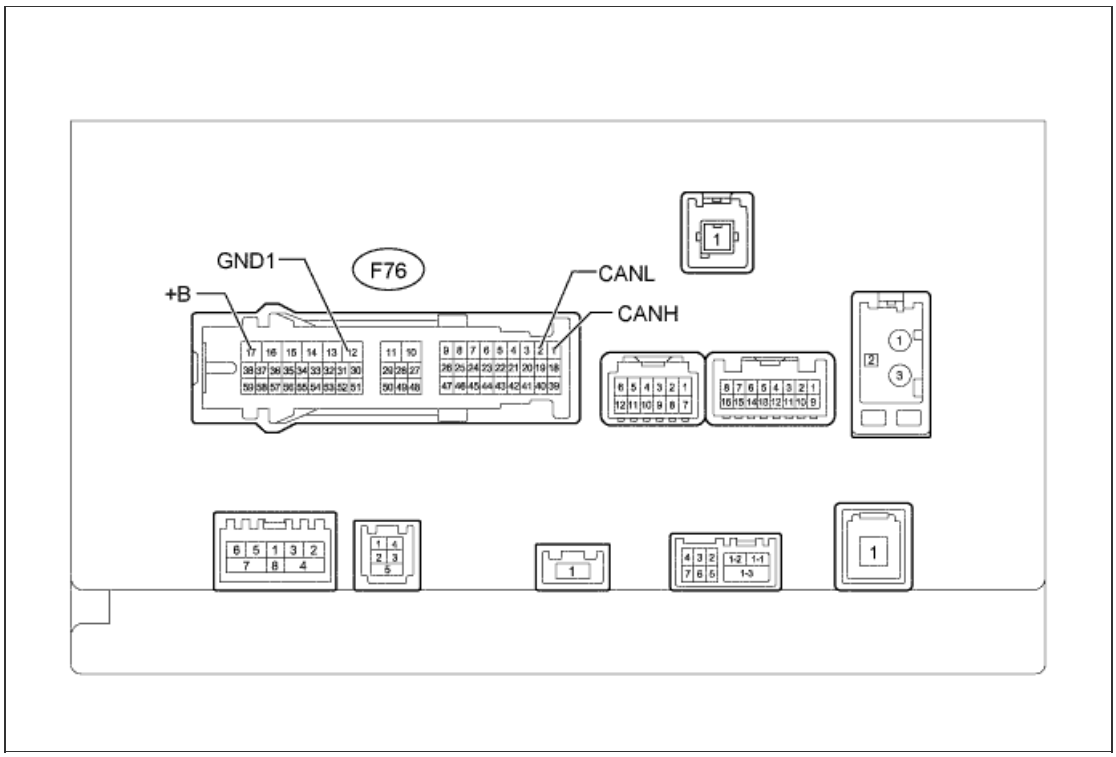


a. Disconnect the E47 center airbag sensor assembly connector (Click here).

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

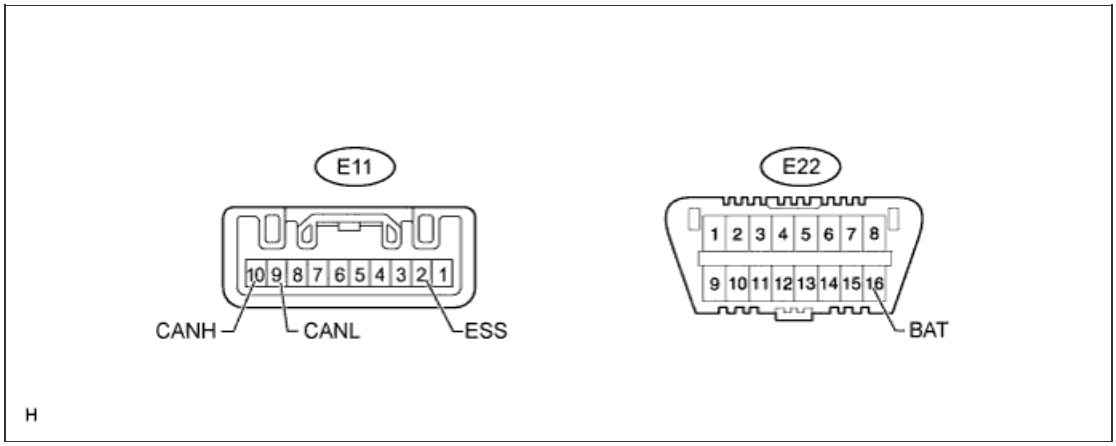


a. Disconnect the F76 multi-media module receiver assembly connector.

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



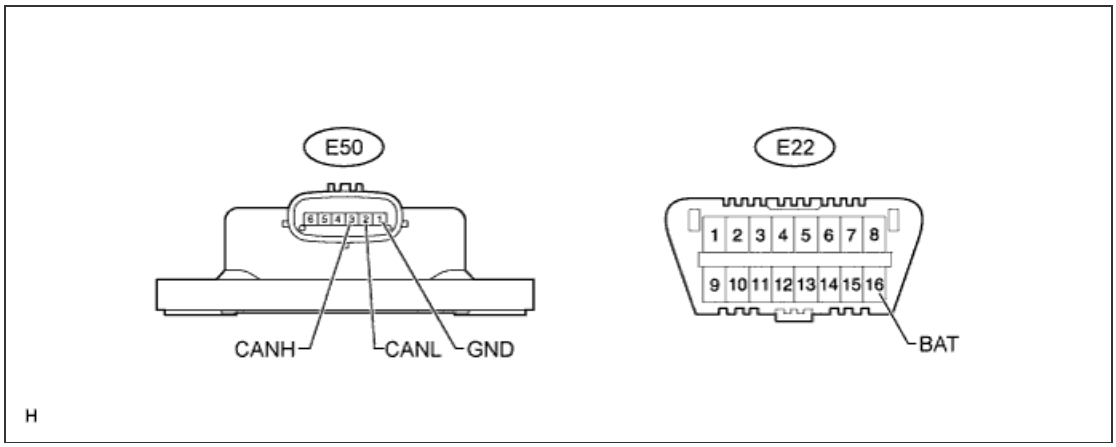
a. Disconnect the E11 steering angle sensor connector.

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

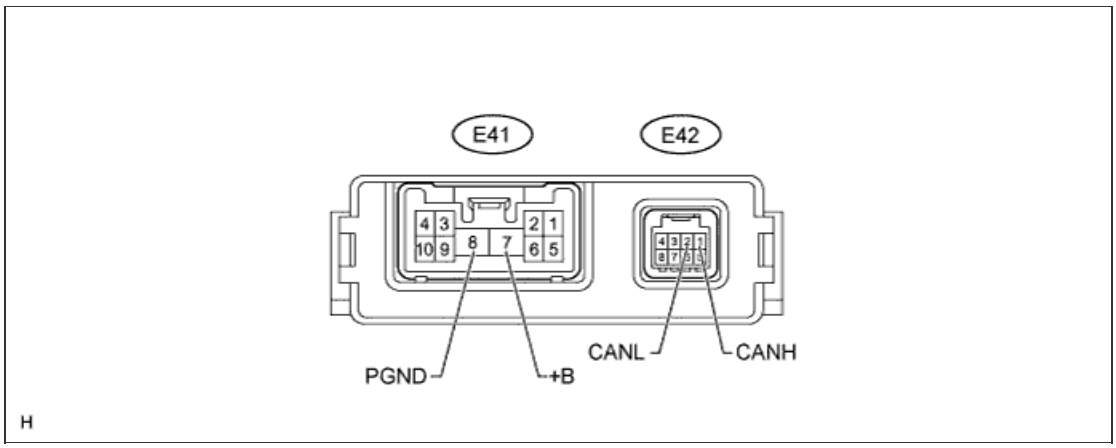


a. Disconnect the E50 yaw rate sensor assembly connector.

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)

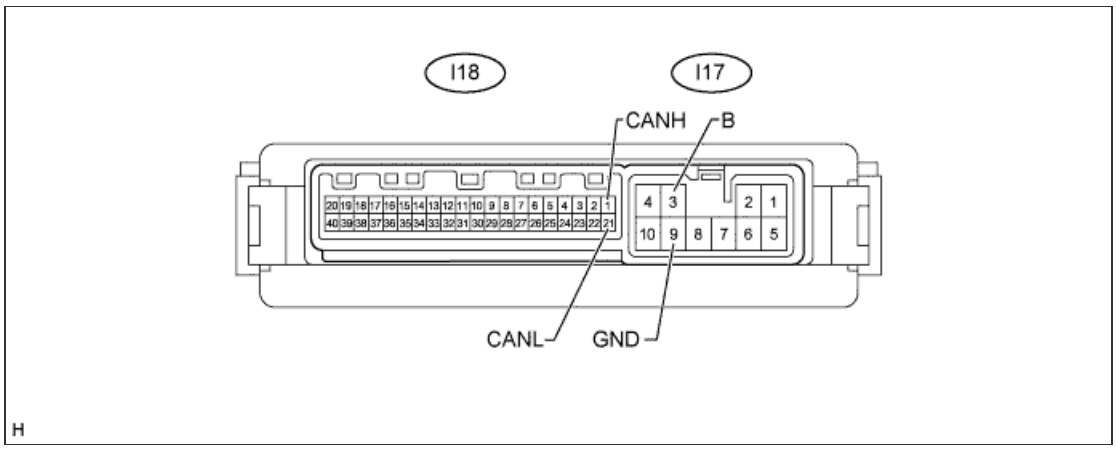


a. Disconnect the E41 and E42 seat belt control ECU connectors.

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

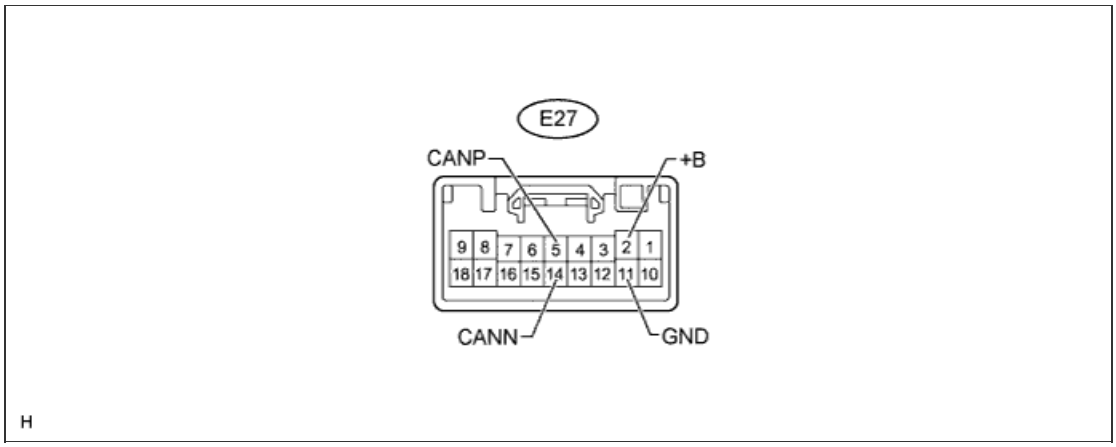


a. Disconnect the I18 and I17 outer mirror control ECU assembly connectors.

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

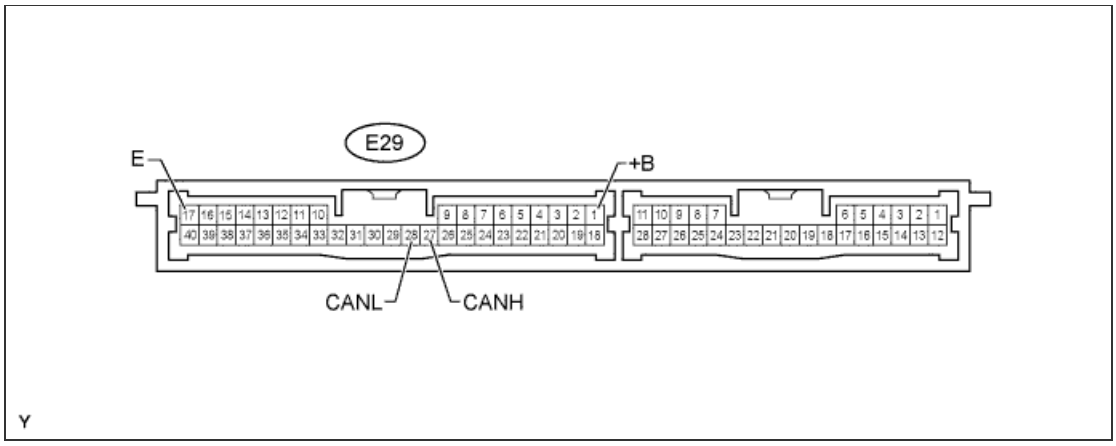


a. Disconnect the E27 multiplex tilt and telescopic ECU connector.

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)

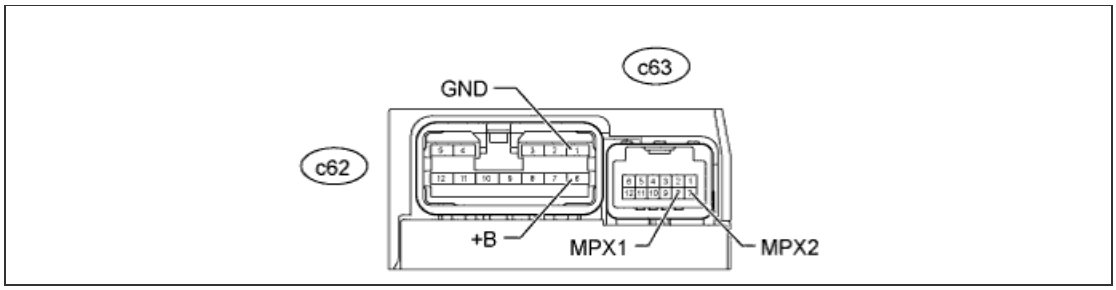


a. Disconnect the E29 certification ECU (smart key ECU assembly) connector.

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

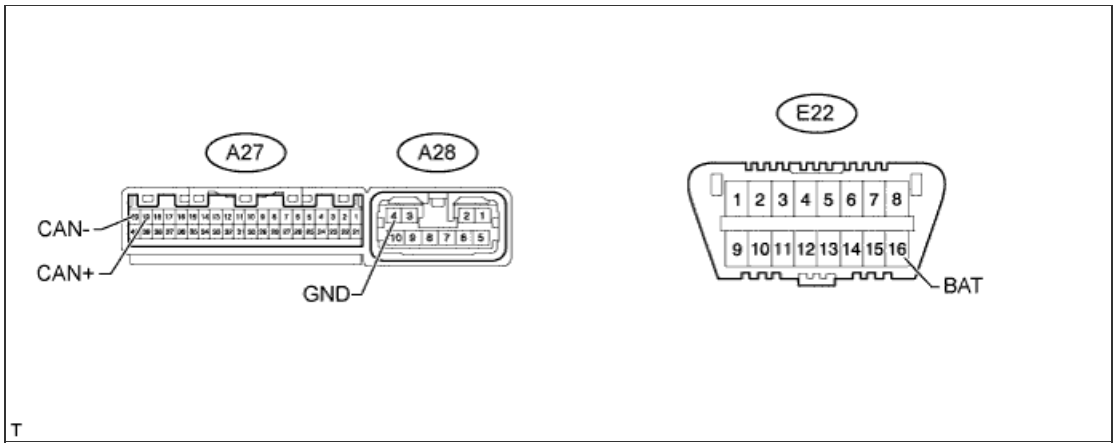


a. Disconnect the c62 and c63 position control ECU and switch connectors.

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

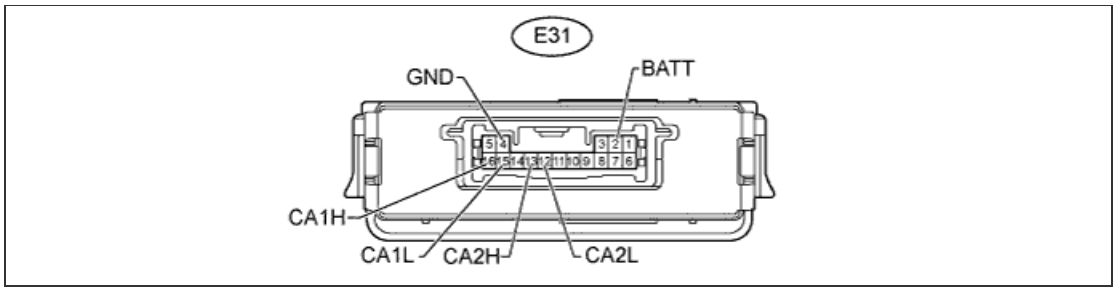


a. Disconnect the A27 and A28 4WD control ECU connectors.

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.

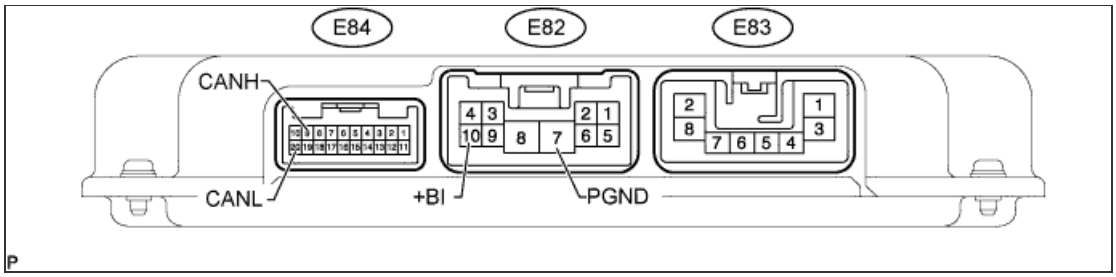
V Bus

Terminal No. (Symbol)	Wiring Color	Switch Condition	Specified Condition
E31-16 (CA1H) - E31-15 (CA1L)	BE - B	Engine switch off	54 to 69 Ω
E31-16 (CA1H) - E31-4 (GND)	BE - 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)	BE - 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

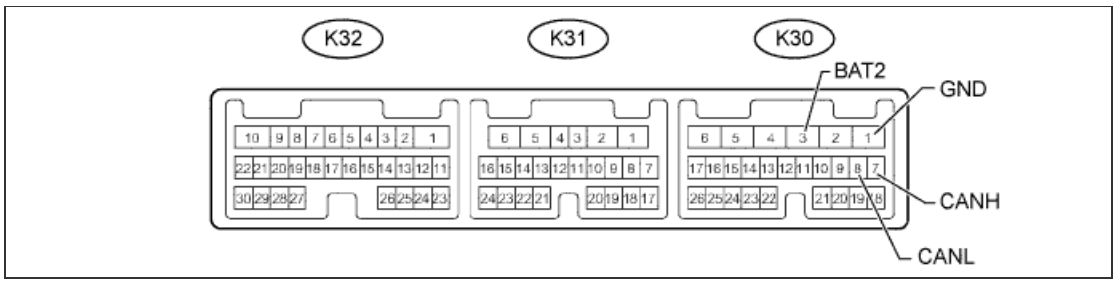


a. Disconnect the E82 and E84 steering control ECU connectors.

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

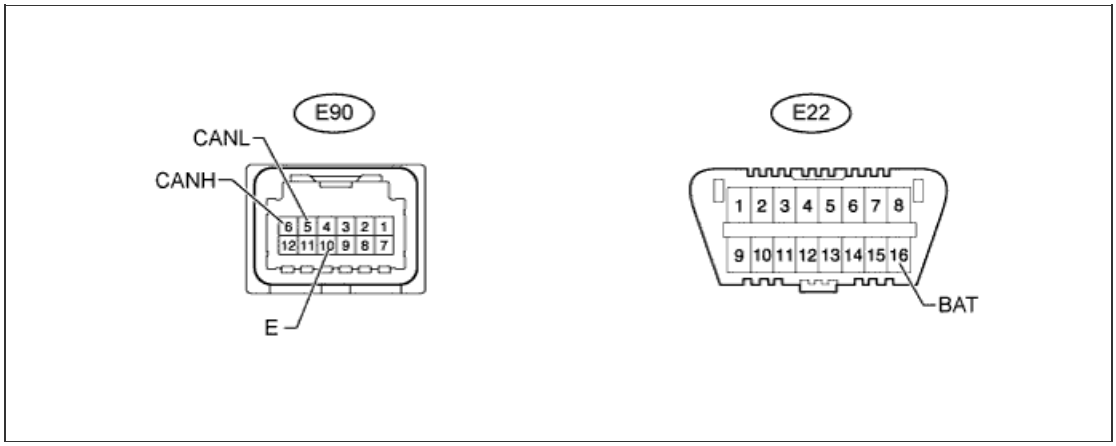


a. Disconnect the K30 suspension control ECU connector.

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

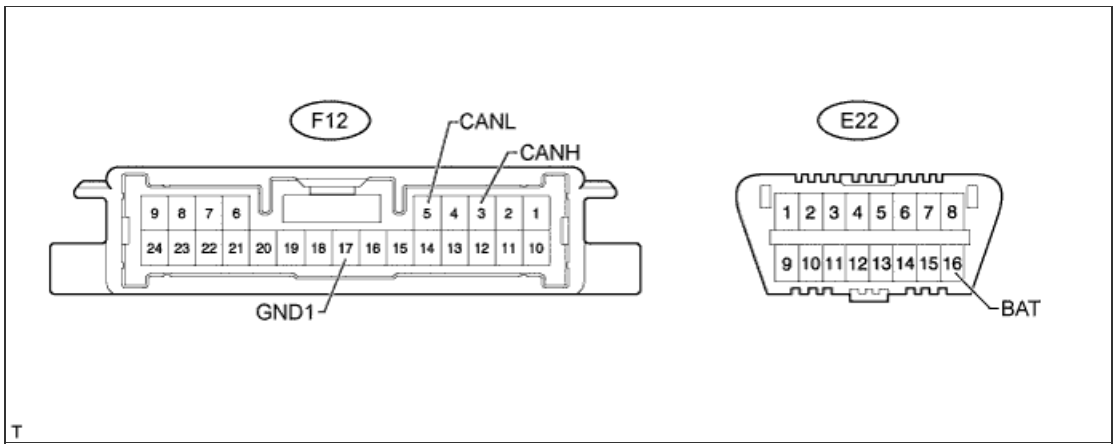


a. Disconnect the E90 windshield wiper ECU connector.

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/o Side Monitor System)

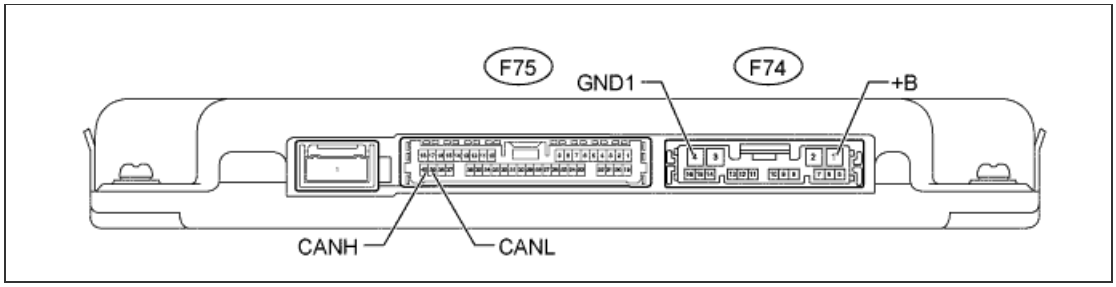


a. Disconnect F12 clearance warning ECU assembly connector.

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)

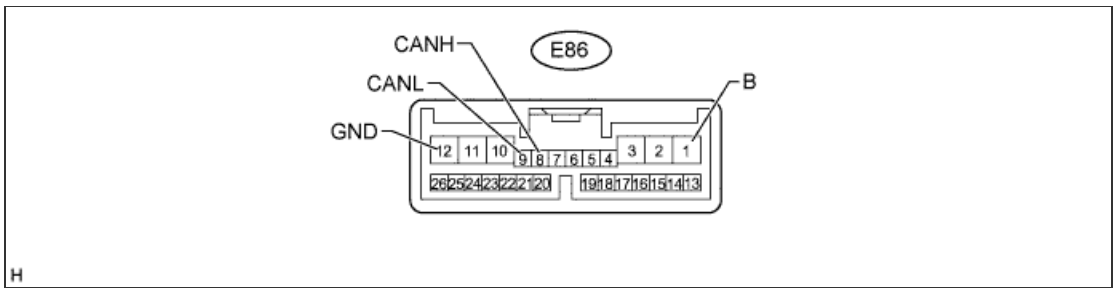


a. Disconnect the F74 and F75 parking assist ECU connectors.

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)

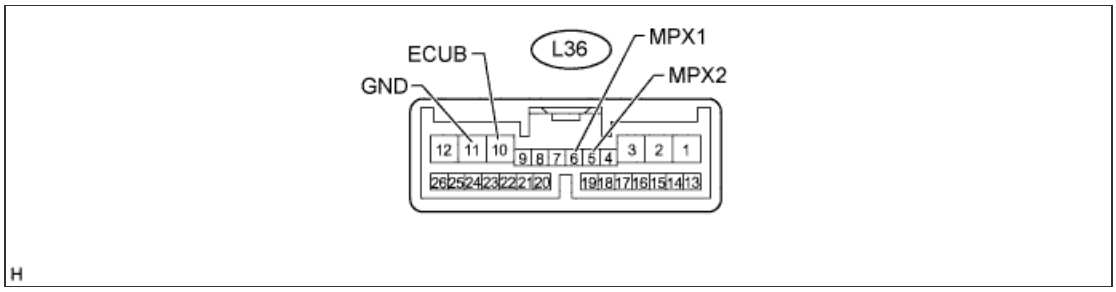


a. Disconnect the E86 distance control ECU assembly connector.

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)

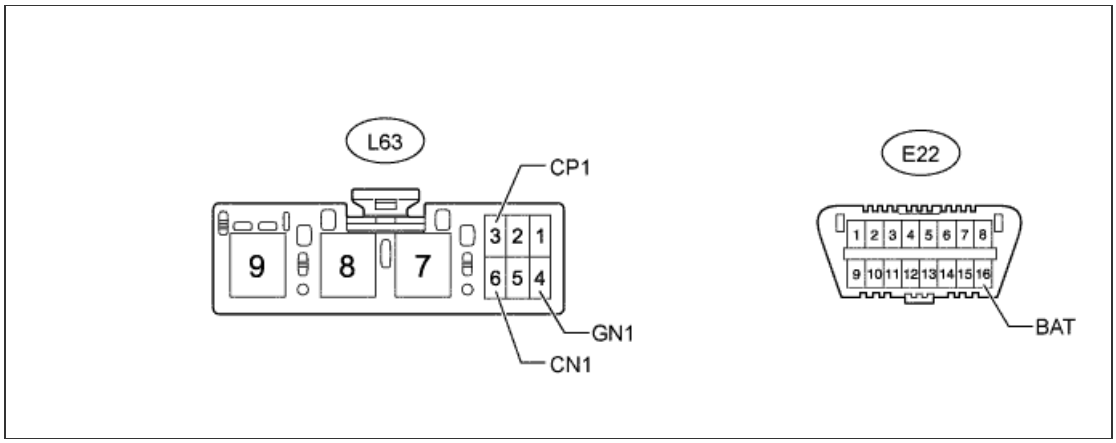


a. Disconnect the L36 power back door unit assembly (power back door ECU) connector.

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 TIRE PRESSURE WARNING ECU

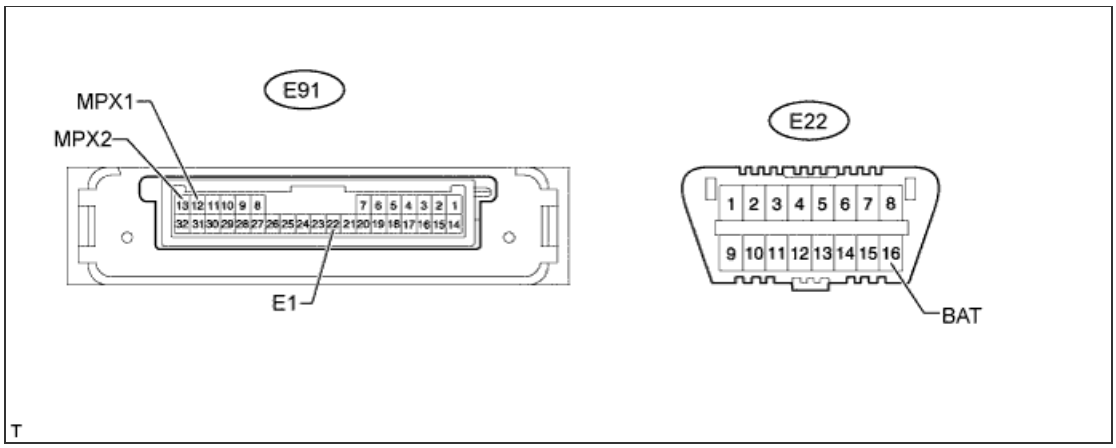


a. Disconnect the L63 tire pressure warning ECU connector.

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

Terminal No. (Symbol)	Wiring Color	Switch Condition	Specified Condition
L63-3 (CP1) - L63-6 (CN1)	W - B	Engine switch off	54 to 69 Ω
L63-3 (CP1) - L63-4 (GN1)	W - G	Engine switch off	200 Ω or higher
L63-6 (CN1) - L63-4 (GN1)	B - G	Engine switch off	200 Ω or higher
L63-3 (CP1) - E22-16 (BAT)	W - BE	Engine switch off	6 kΩ or higher
L63-6 (CN1) - E22-16 (BAT)	B - BE	Engine switch off	6 kΩ or higher

CHECK HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU)

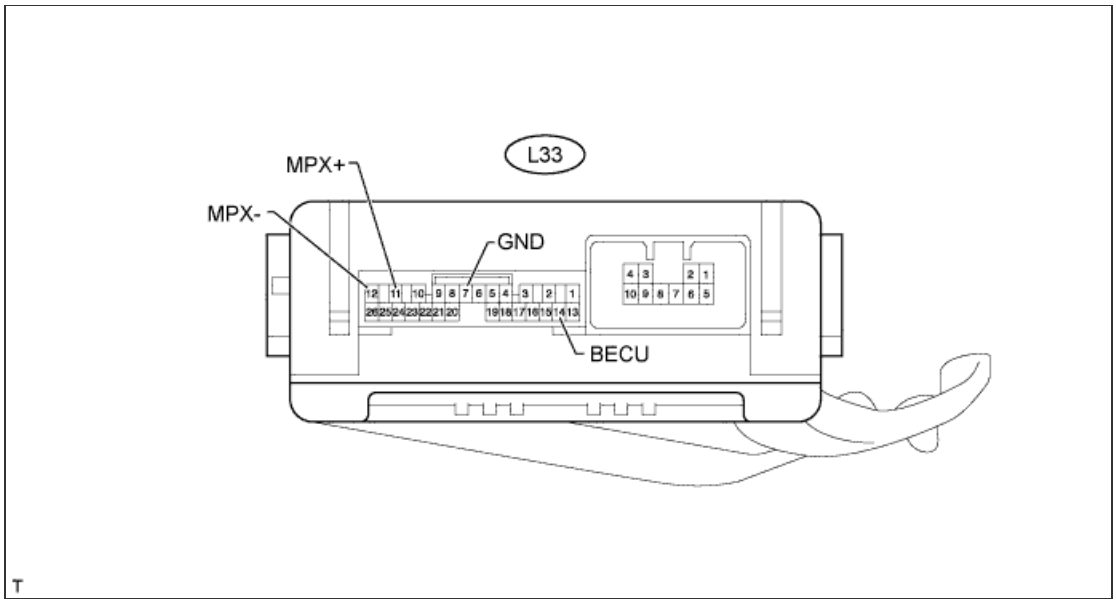


a. Disconnect the E91 headlight swivel ECU assembly (AFS ECU) connector.

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

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:

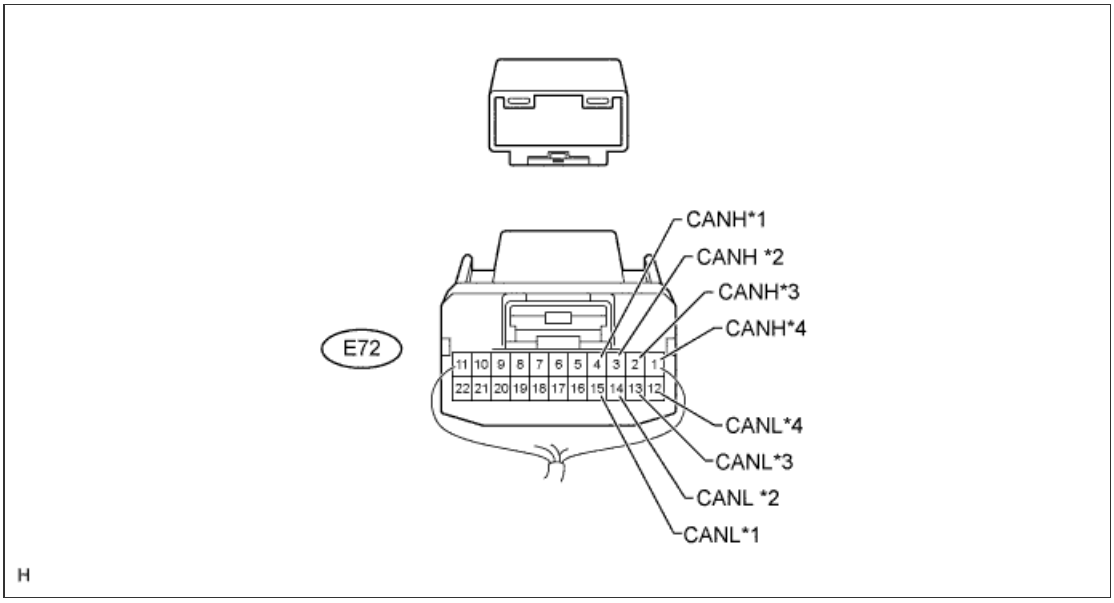
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

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



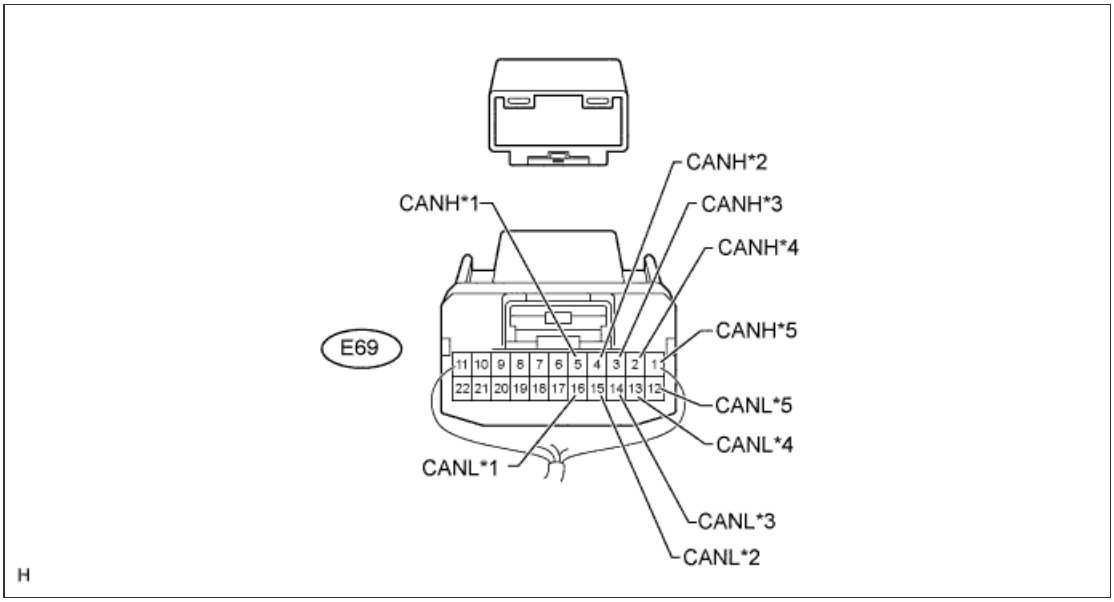
Text in Illustration

*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)	SB	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

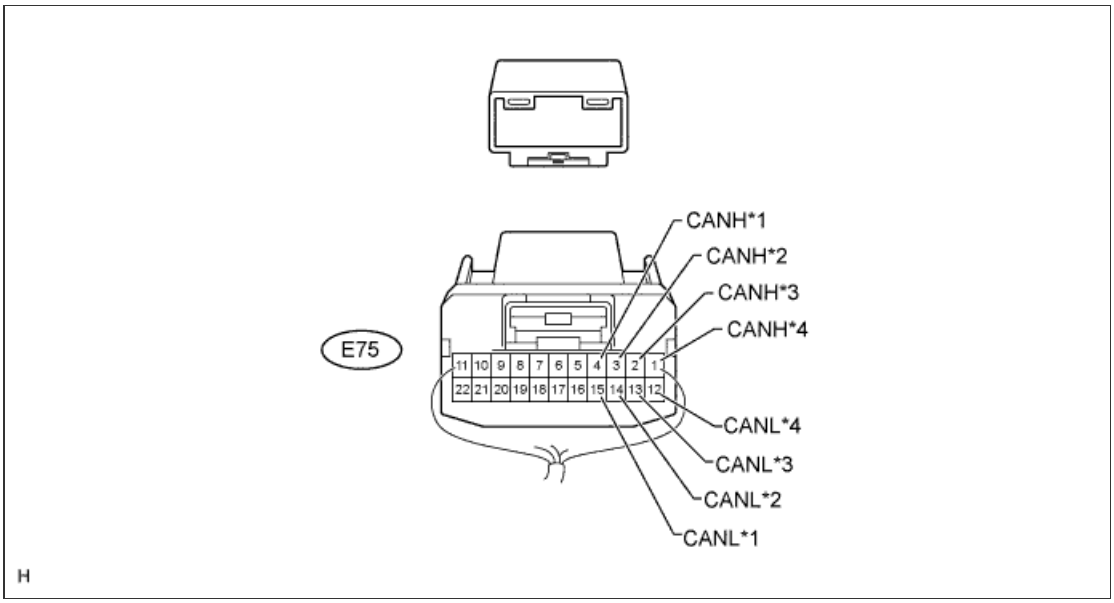


Text in Illustration

*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)	SB	No. 1 junction connector
E69-12 (CANL)	B	
E69-2 (CANH)	P	Multi-media module receiver assembly
E69-13 (CANL)	B	
E69-3 (CANH)	BE	Network gateway ECU (V bus)
E69-14 (CANL)	B	
E69-4 (CANH)	SB	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

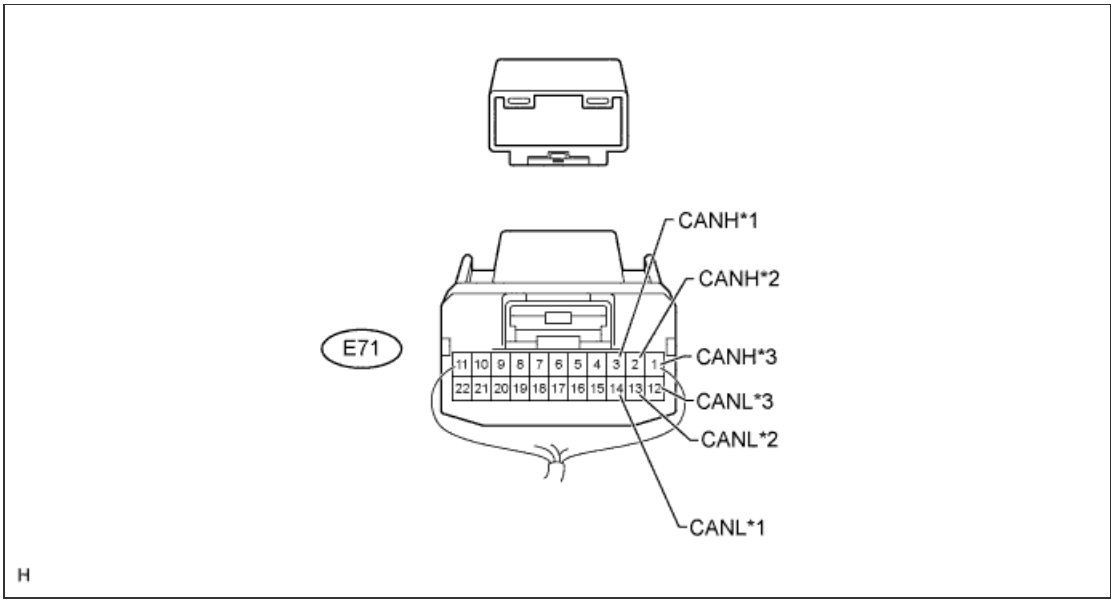


Text in Illustration

*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)	SB	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

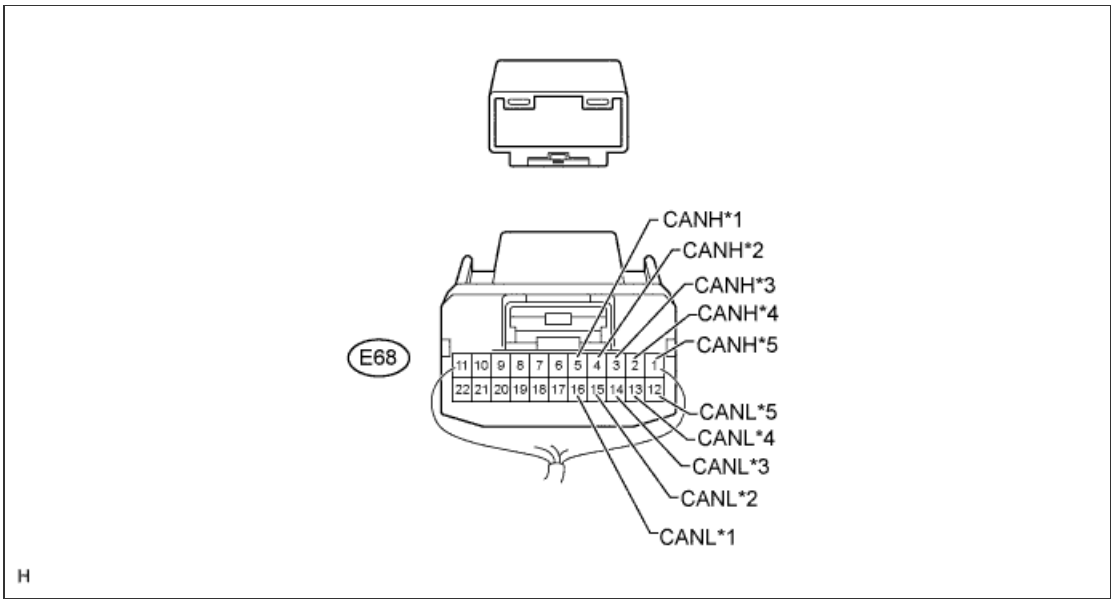


Text in Illustration

*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



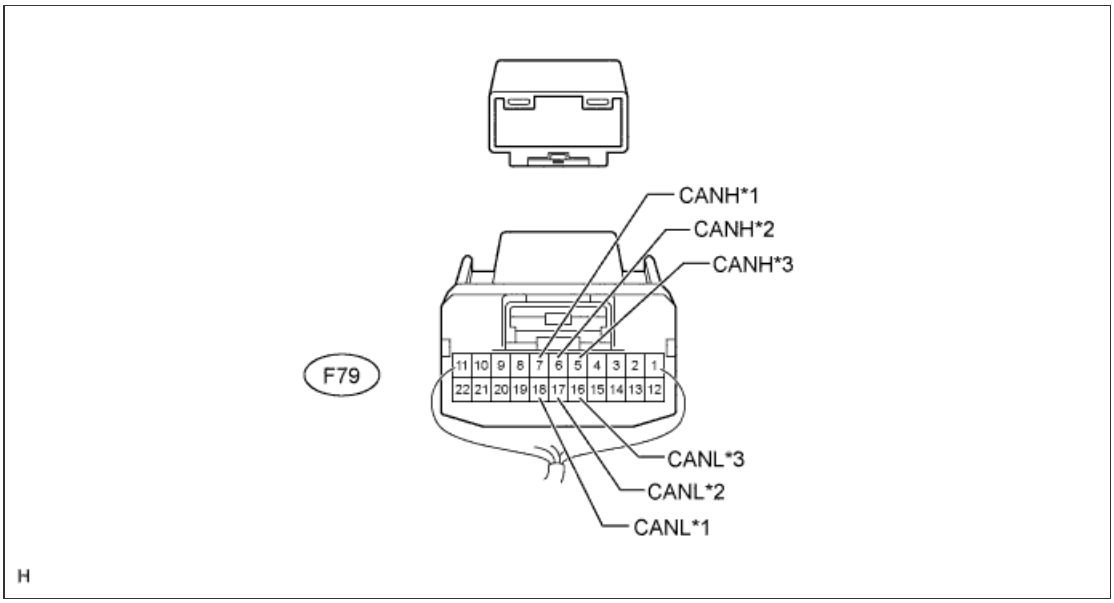
Text in Illustration

*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)	SB	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



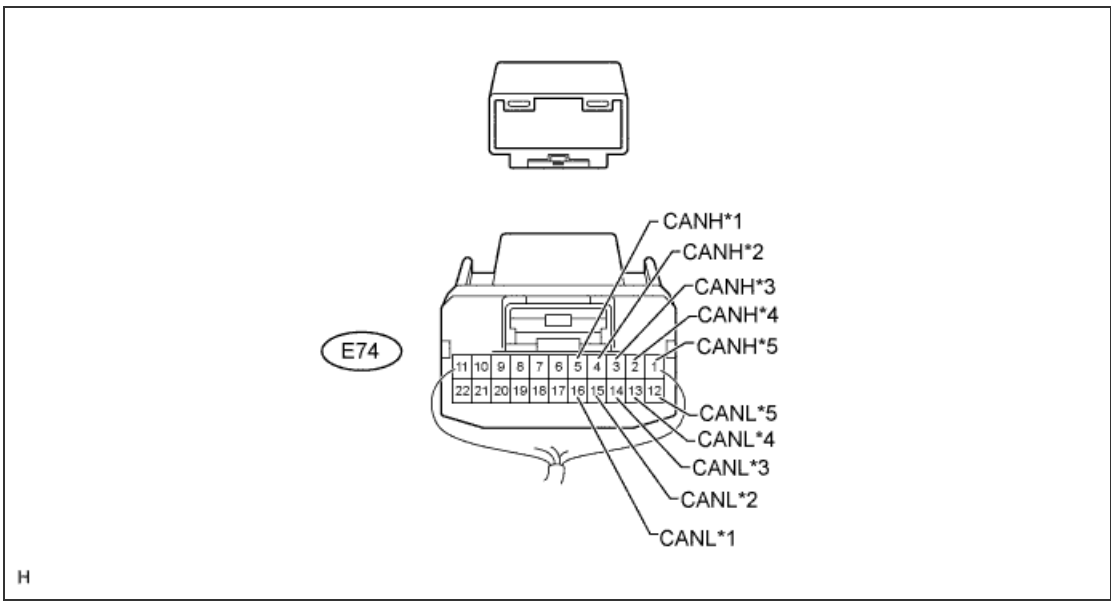
Text in Illustration

*1	to No. 5 Junction Connector	*2	to No. 7 Junction Connector
*3	• to Clearance Warning ECU Assembly (w/o Side Monitor System) • 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 • Parking assist ECU*2
F79-16 (CANL)	L	
F79-6 (CANH)	SB	No. 7 junction connector
F79-17 (CANL)	L	
F79-7 (CANH)	SB	No. 5 junction connector
F79-18 (CANL)	L	

*1: w/o Side Monitor System
*2: w/ Side Monitor System

g. NO. 7 JUNCTION CONNECTOR



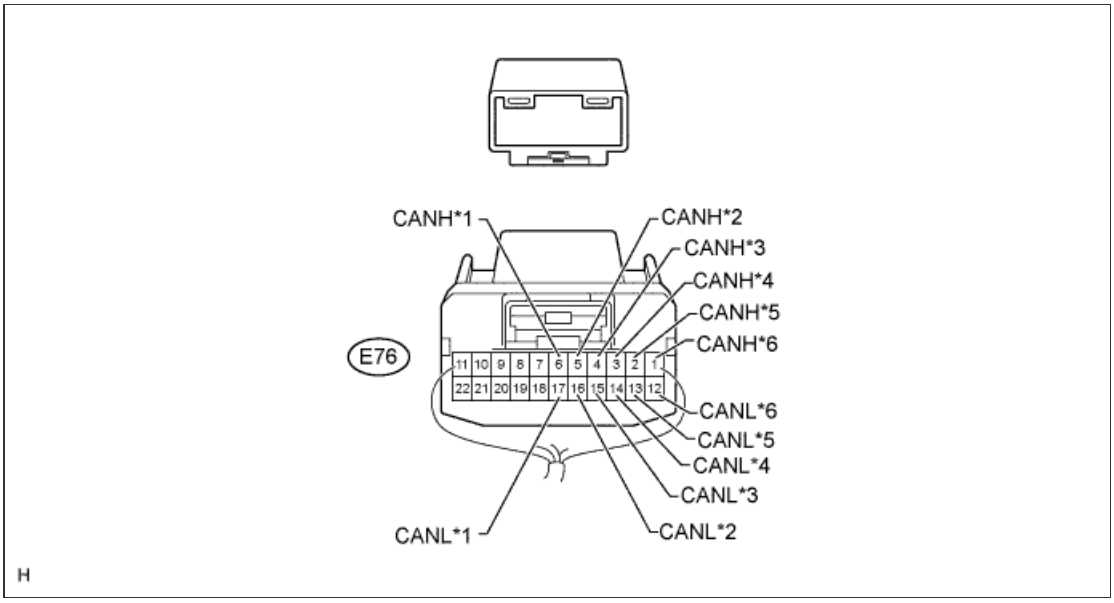
Text in Illustration

*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)	SB	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

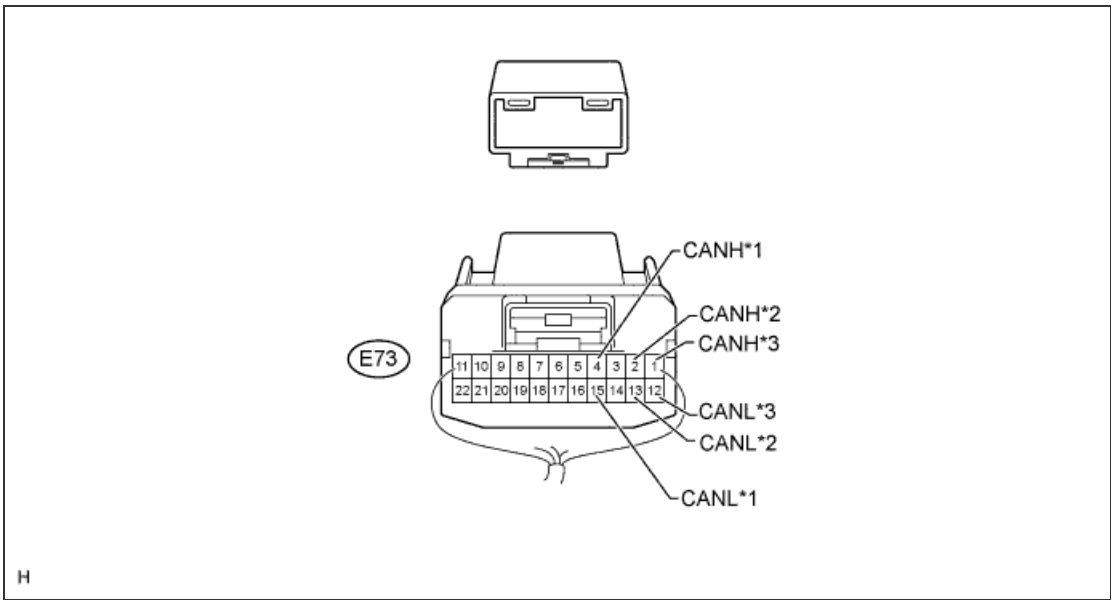


Text in Illustration

*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

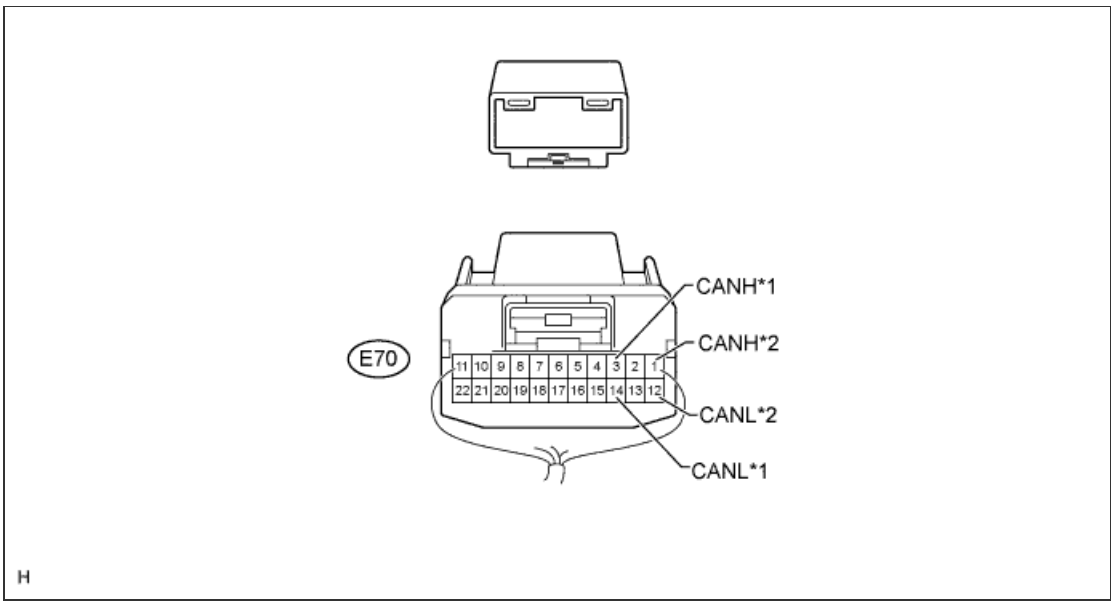


Text in Illustration

*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



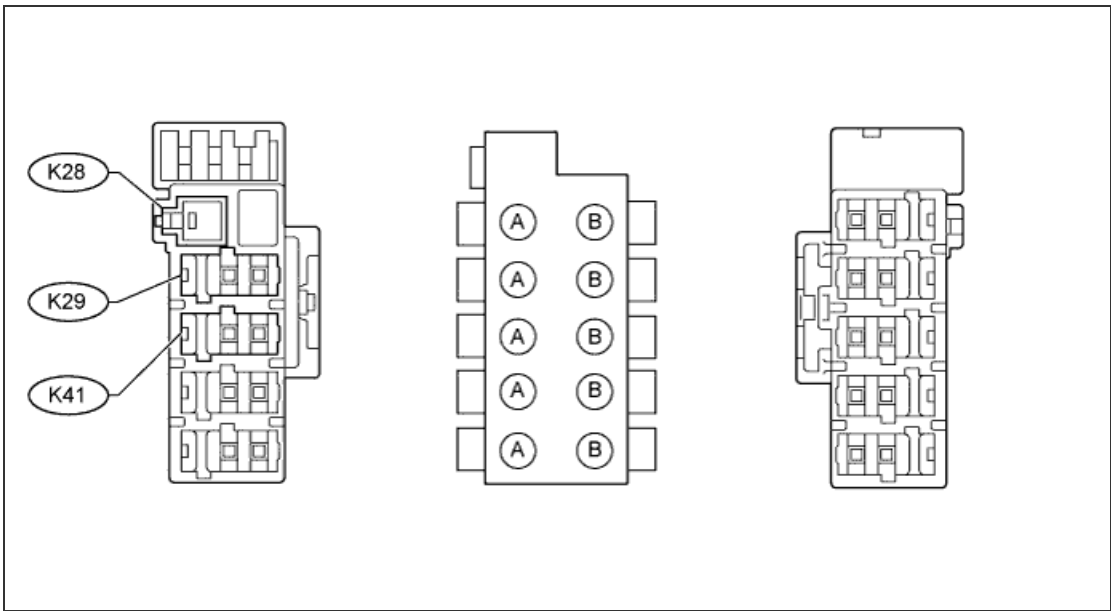
Text in Illustration

*1	to Combination Meter Assembly: MS Bus	*2	to No. 9 Junction Connector

No. 10 Junction Connector	Wiring Color	Connect to

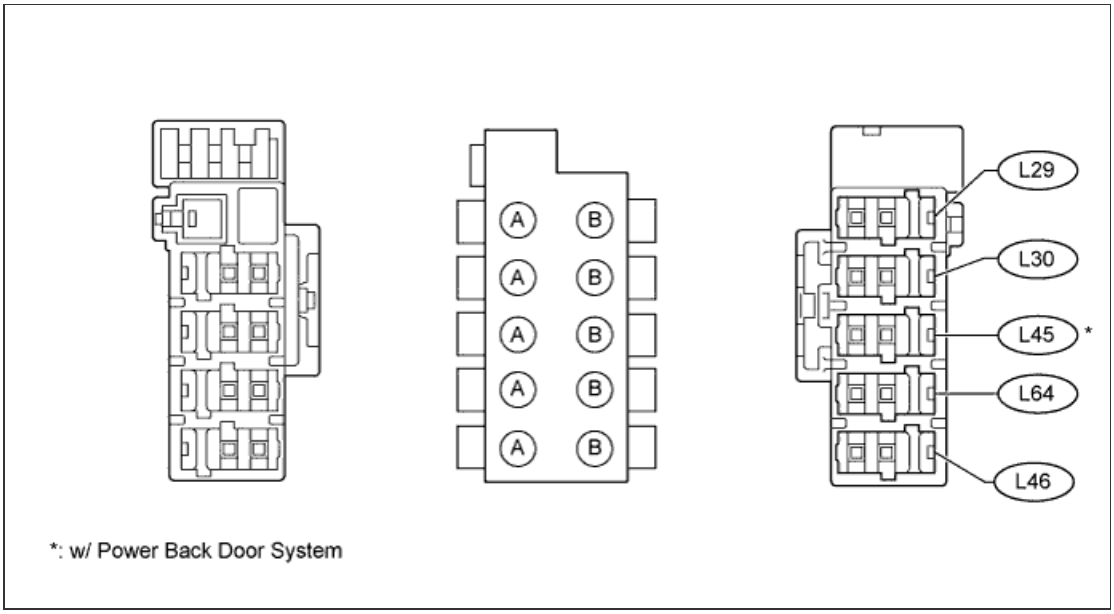
E70-1 (CANH)	W	No. 9 Junction Connector
E70-12 (CANL)	R	
E70-3 (CANH)	LG	Combination meter assembly (MS bus)
E70-14 (CANL)	R	

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



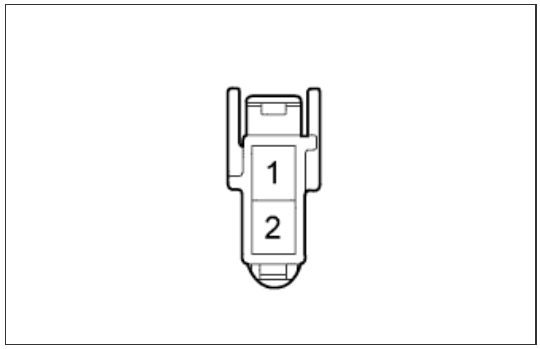
Junction Connector B Side	Wiring Color (CANH Side)	Wiring Color (CANL Side)
No. 8 junction connector (L29)	LG	GR
No. 9 junction connector (L30)	Y	R

Power back door unit assembly (power back door ECU) (L45)*	V	R
No. 2 main body ECU (L46)	LG	R
Tire pressure warning ECU (L64)	G	R

*: w/ Power Back Door System

TERMINALS OF CONNECTORS FOR JUNCTION CONNECTOR (CAN JUNCTION CONNECTOR)

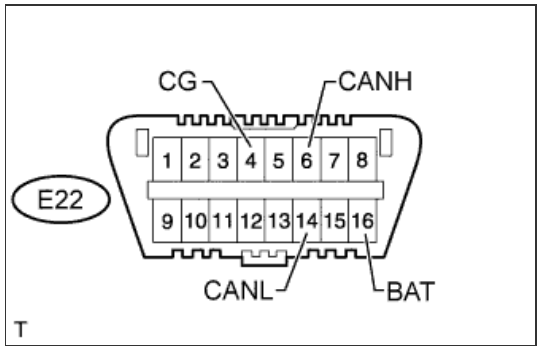
Terminal No.	Symbol
1	CANH
2	CANL



CHECK DLC3

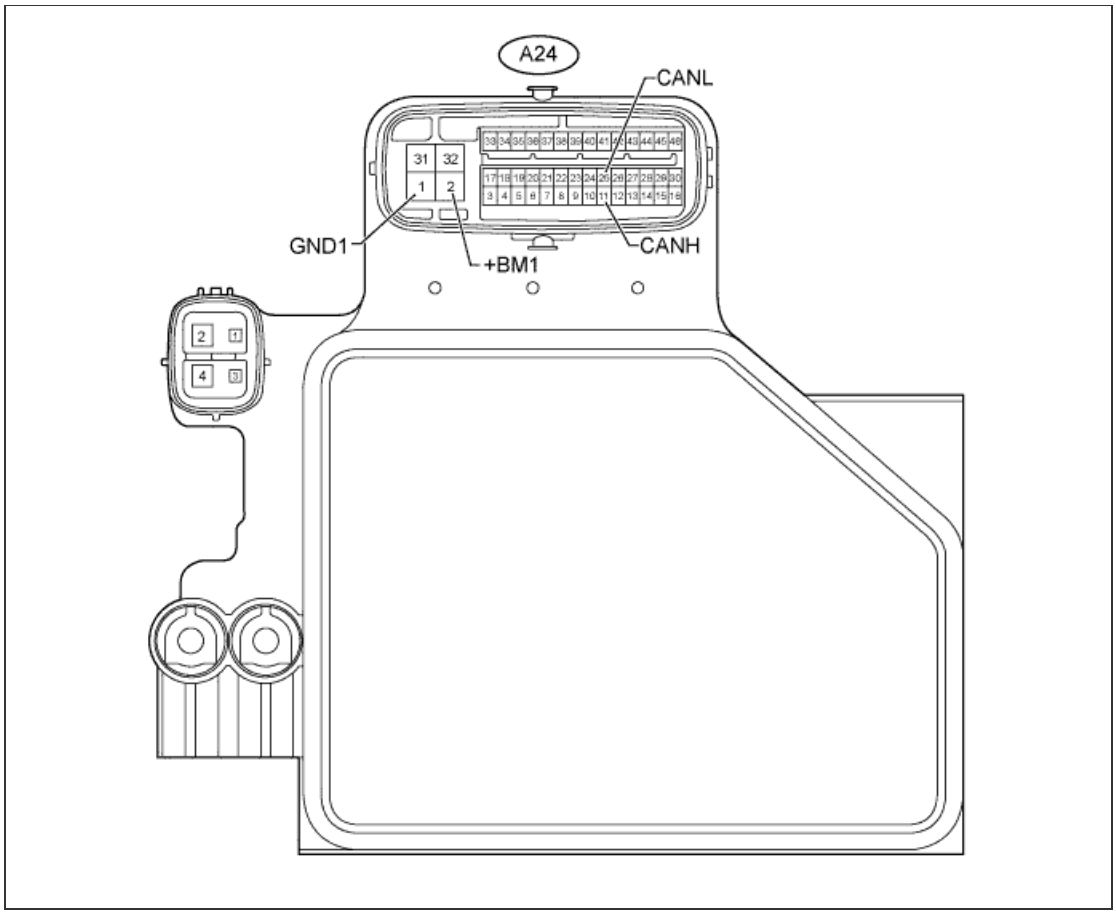
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

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)

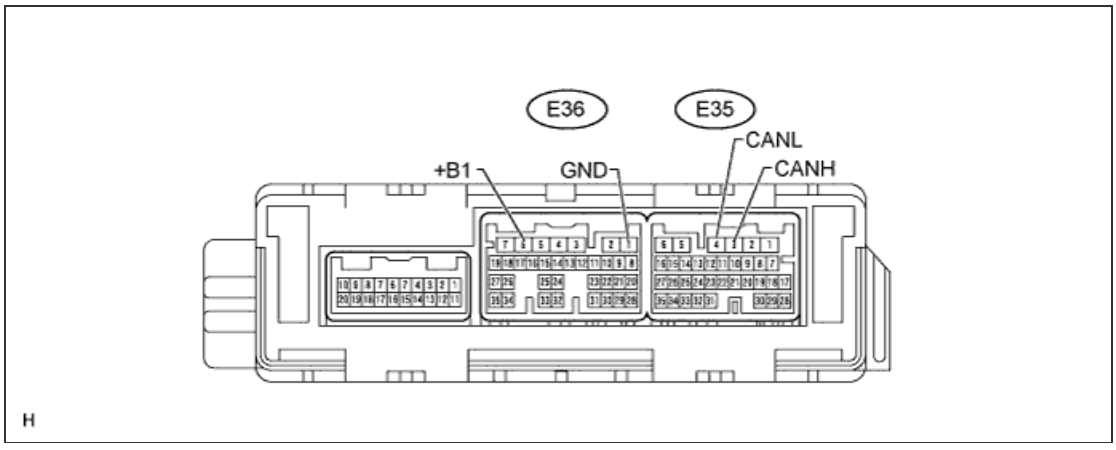


a. Disconnect the A24 master cylinder solenoid (skid control ECU) connector.

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



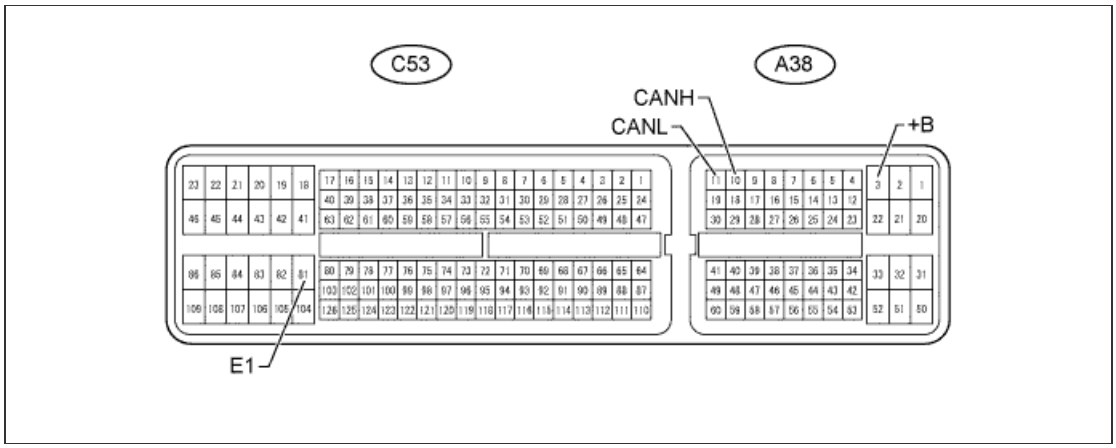
a. Disconnect the E35 and E36 air conditioning amplifier assembly connectors.

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

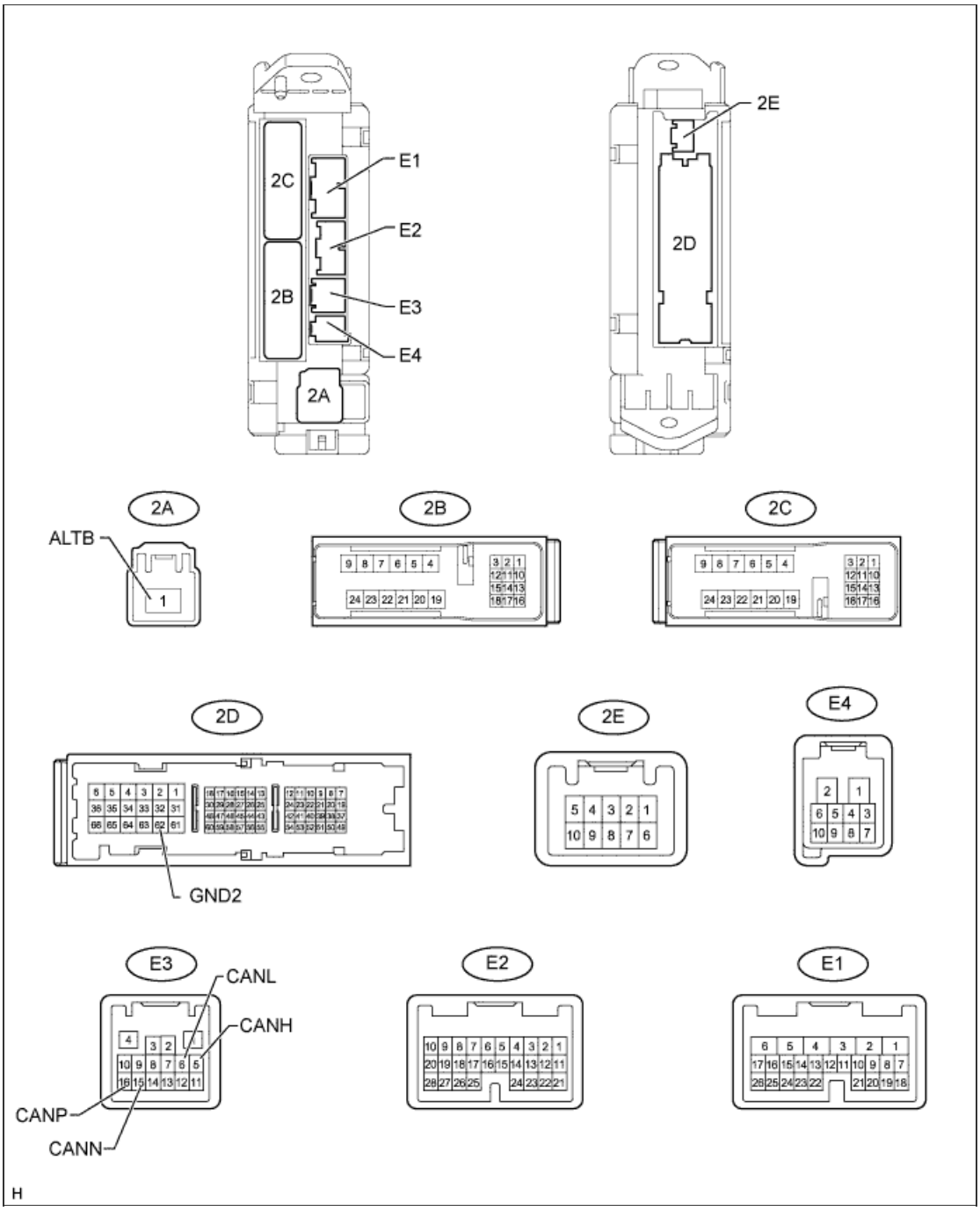


a. Disconnect the A38 and C53 ECM connectors.

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.

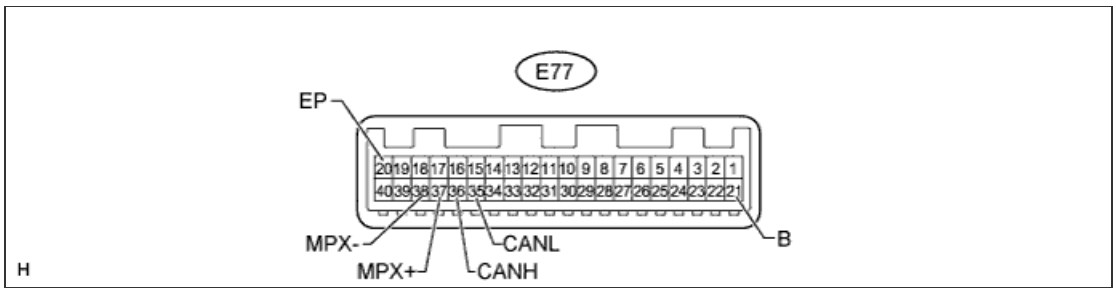
V Bus

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.

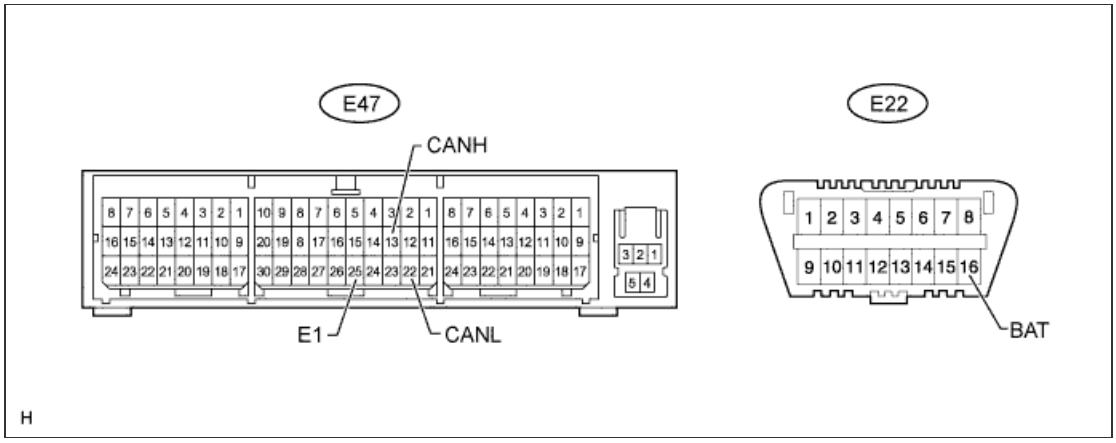
V Bus

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

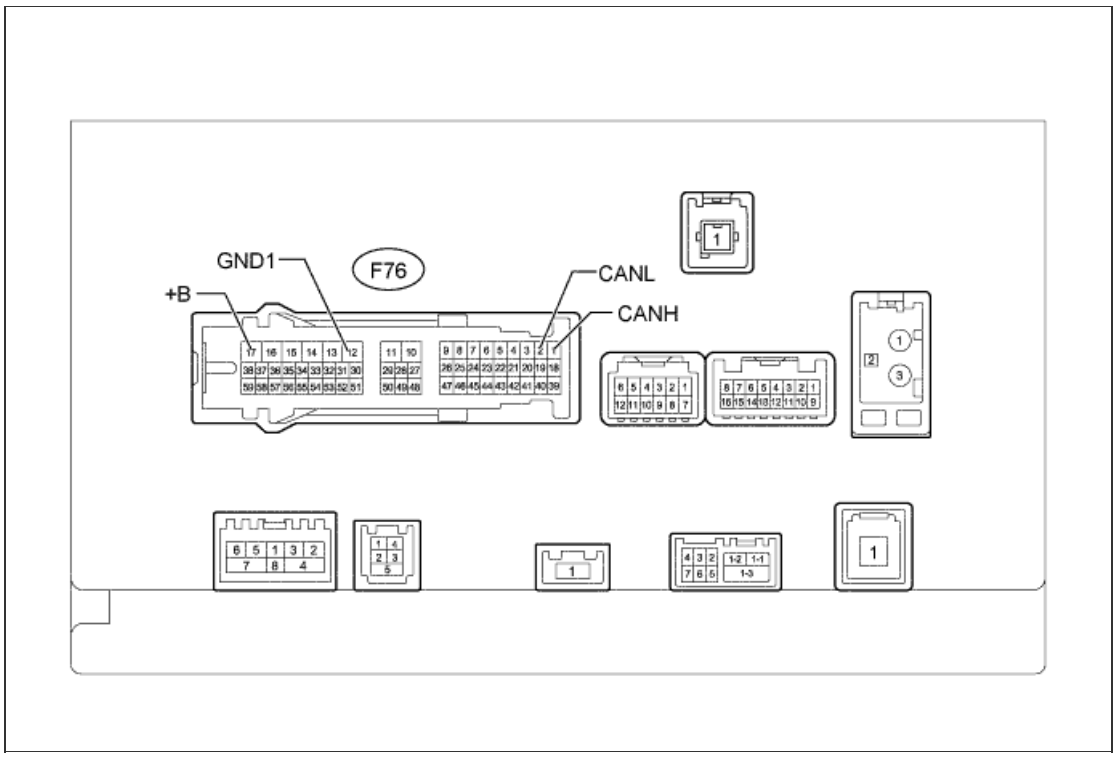


a. Disconnect the E47 center airbag sensor assembly connector (Click here).

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

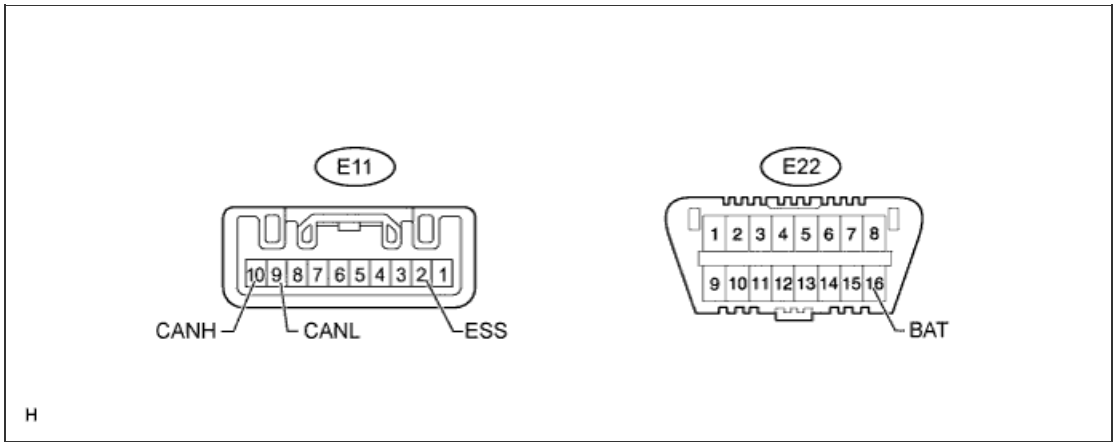


a. Disconnect the F76 multi-media module receiver assembly connector.

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



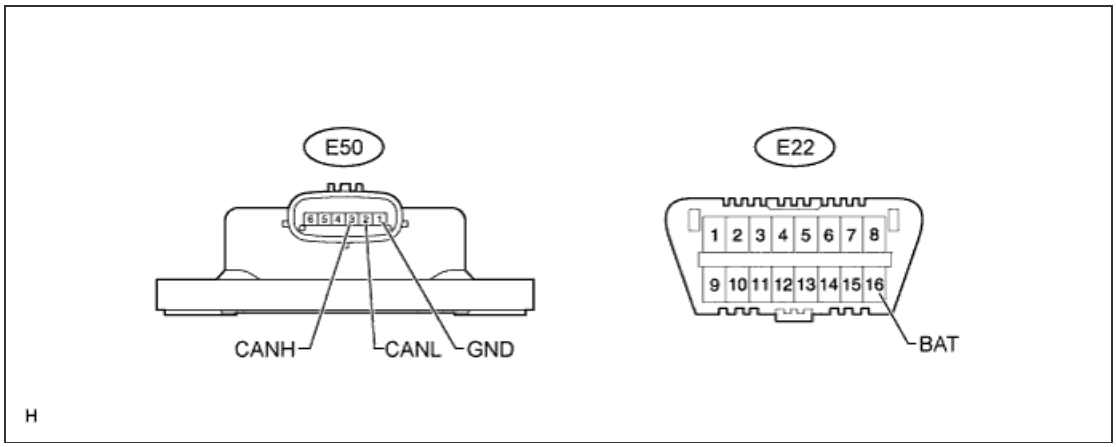
a. Disconnect the E11 steering angle sensor connector.

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

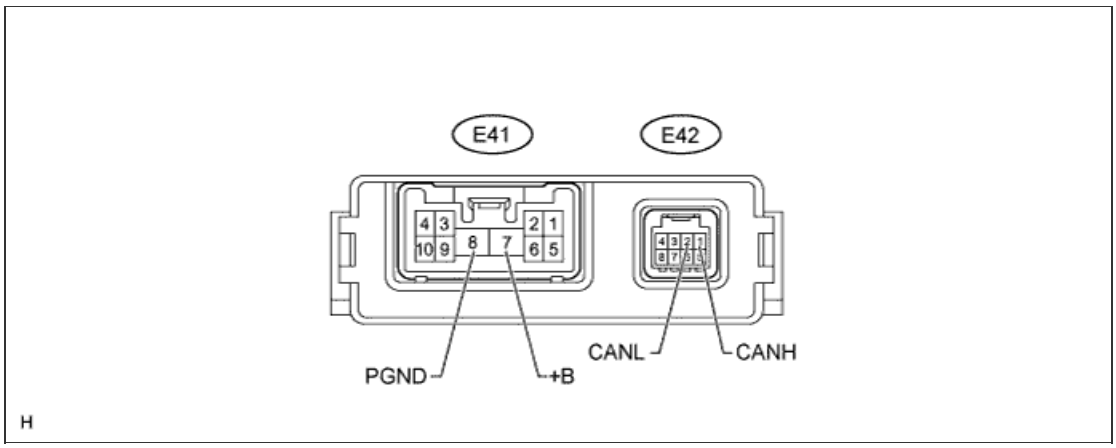


a. Disconnect the E50 yaw rate sensor assembly connector.

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)

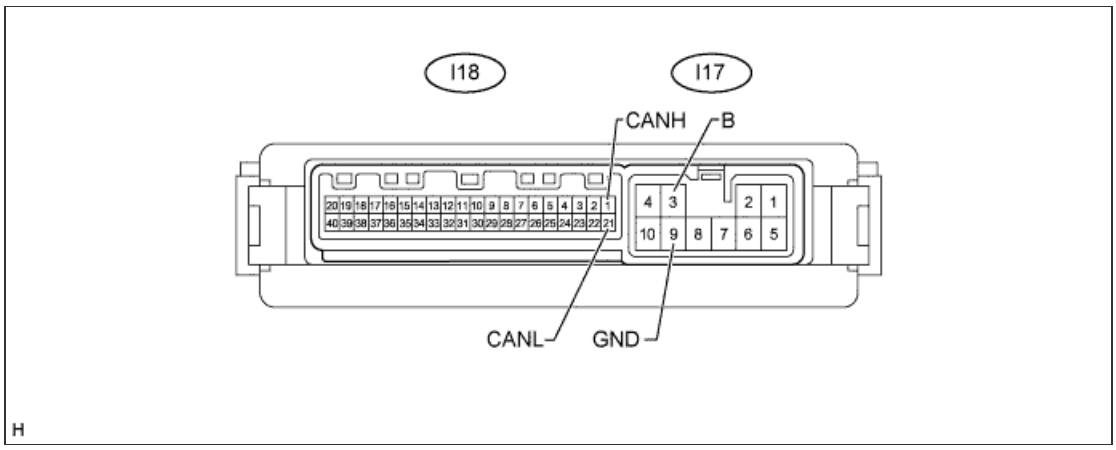


a. Disconnect the E41 and E42 seat belt control ECU connectors.

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

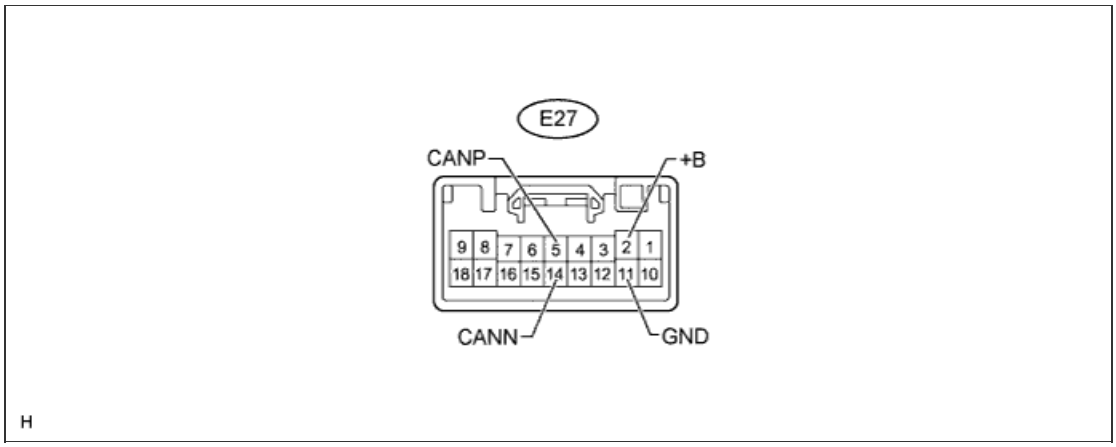


a. Disconnect the I18 and I17 outer mirror control ECU assembly connectors.

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

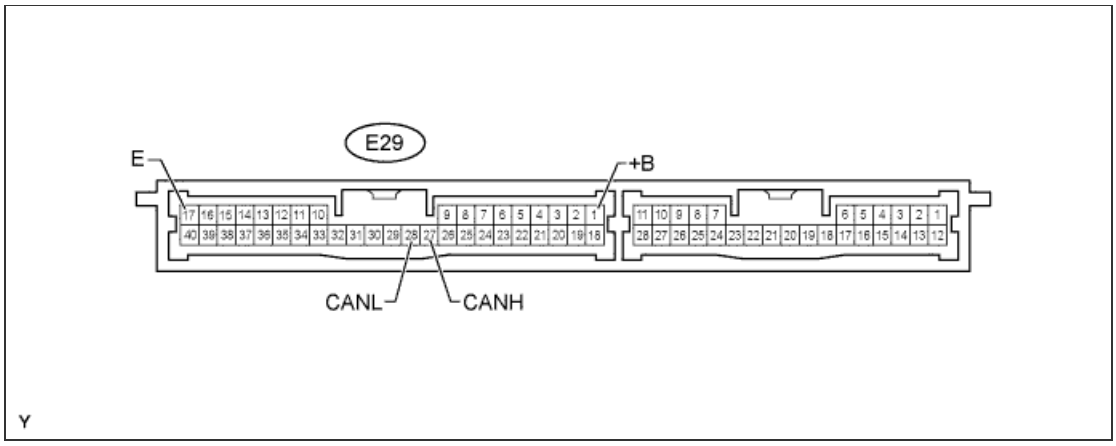


a. Disconnect the E27 multiplex tilt and telescopic ECU connector.

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)

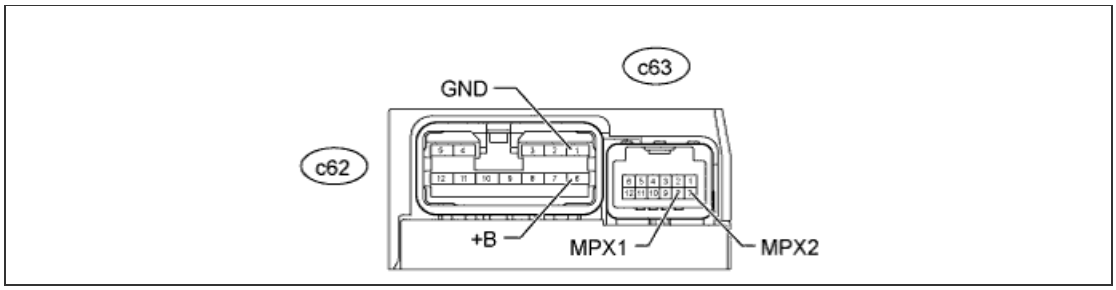


a. Disconnect the E29 certification ECU (smart key ECU assembly) connector.

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

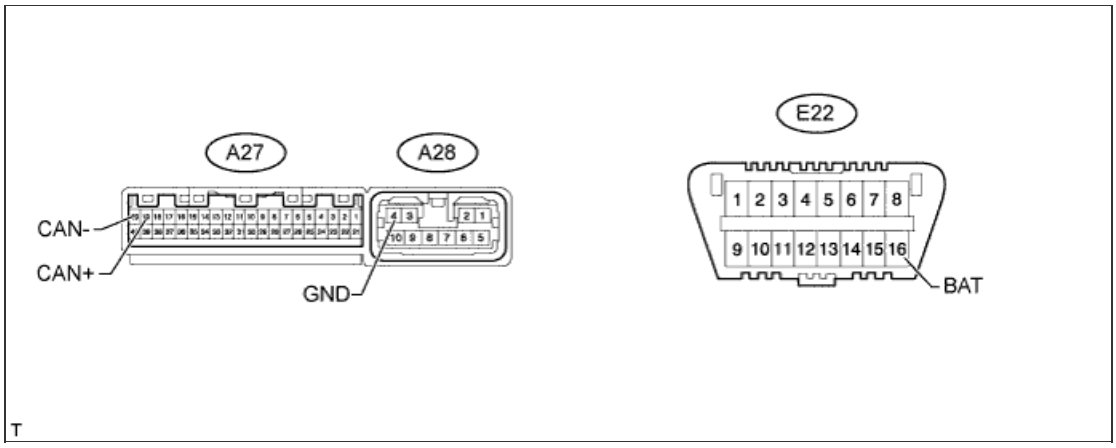


a. Disconnect the c62 and c63 position control ECU and switch connectors.

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

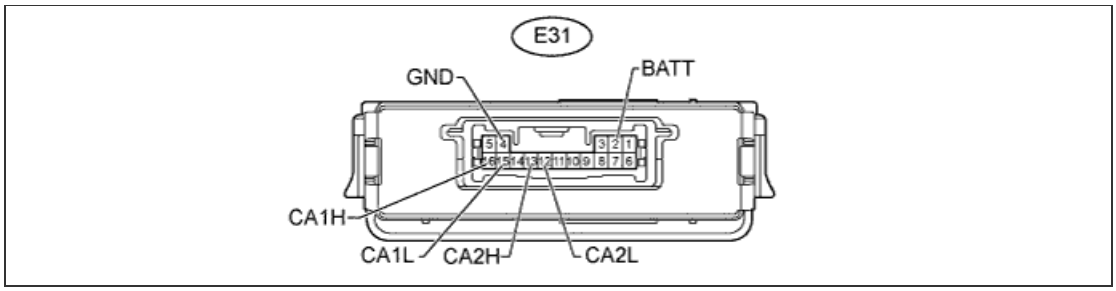


a. Disconnect the A27 and A28 4WD control ECU connectors.

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.

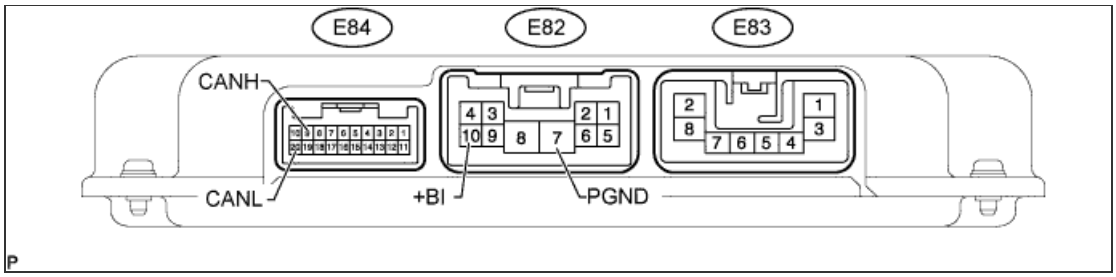
V Bus

Terminal No. (Symbol)	Wiring Color	Switch Condition	Specified Condition
E31-16 (CA1H) - E31-15 (CA1L)	BE - B	Engine switch off	54 to 69 Ω
E31-16 (CA1H) - E31-4 (GND)	BE - 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)	BE - 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

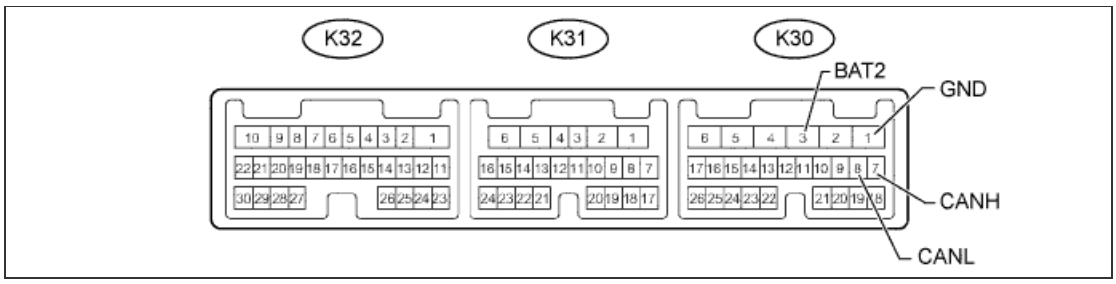


a. Disconnect the E82 and E84 steering control ECU connectors.

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

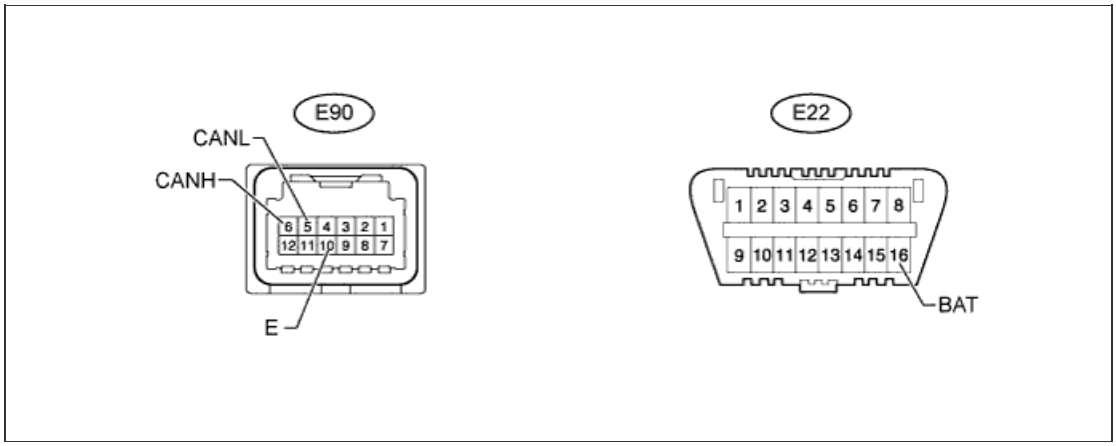


a. Disconnect the K30 suspension control ECU connector.

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

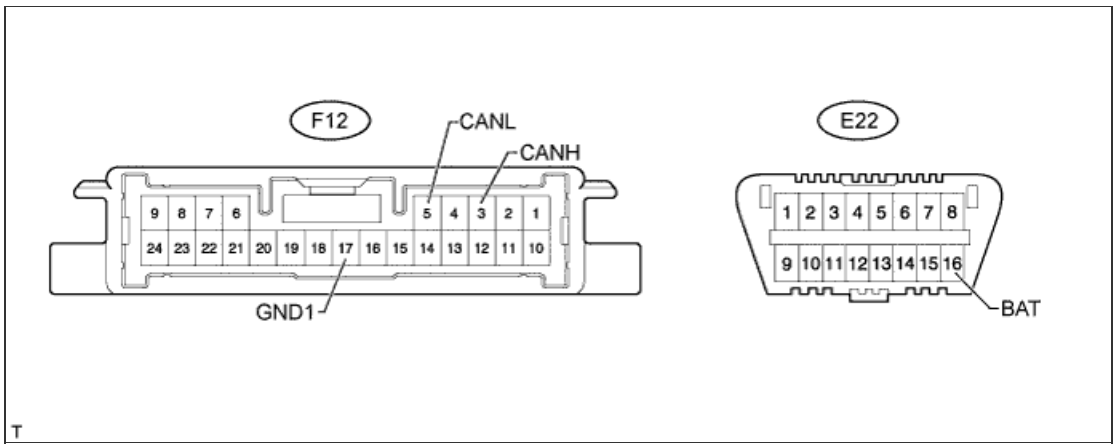


a. Disconnect the E90 windshield wiper ECU connector.

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/o Side Monitor System)

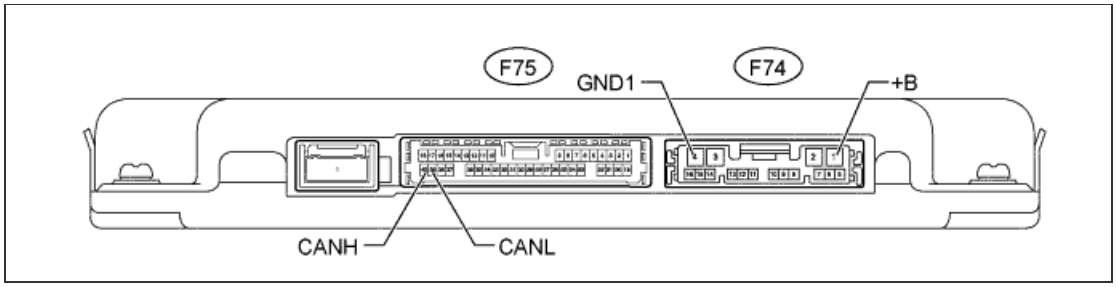


a. Disconnect F12 clearance warning ECU assembly connector.

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)

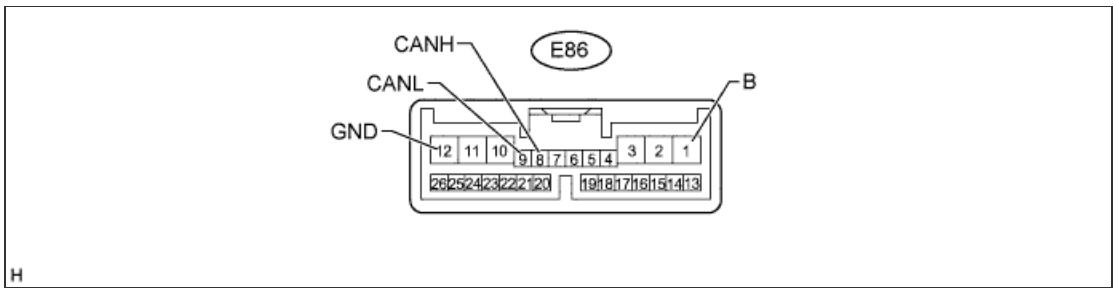


a. Disconnect the F74 and F75 parking assist ECU connectors.

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)

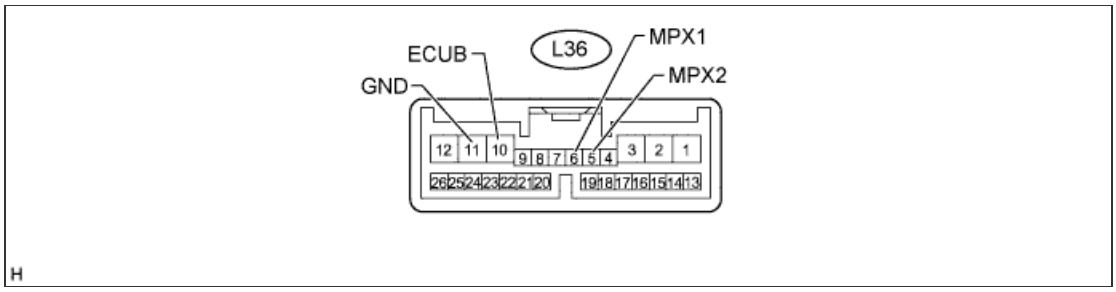


a. Disconnect the E86 distance control ECU assembly connector.

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)

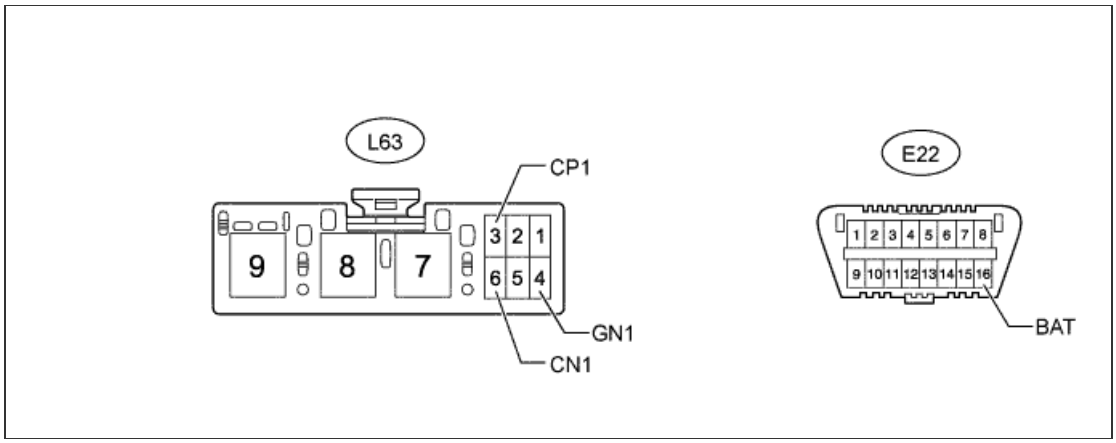


a. Disconnect the L36 power back door unit assembly (power back door ECU) connector.

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 TIRE PRESSURE WARNING ECU

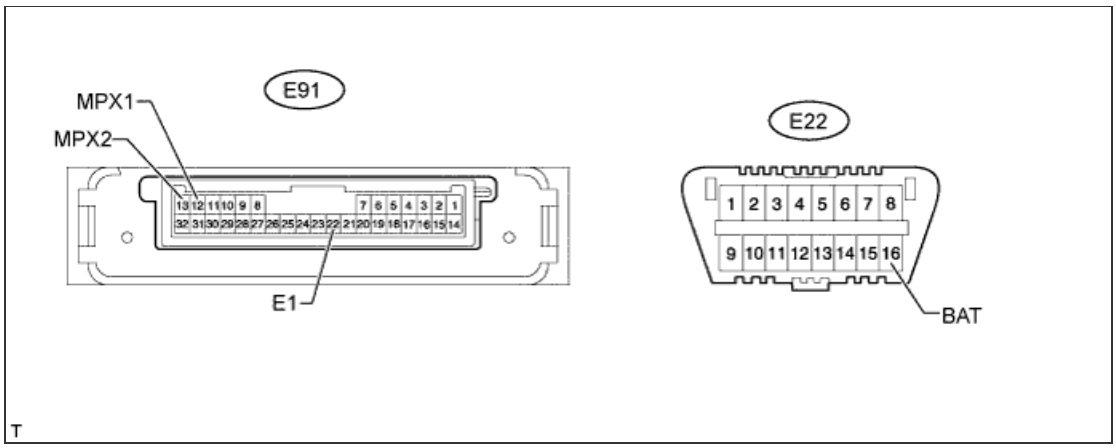


a. Disconnect the L63 tire pressure warning ECU connector.

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

Terminal No. (Symbol)	Wiring Color	Switch Condition	Specified Condition
L63-3 (CP1) - L63-6 (CN1)	W - B	Engine switch off	54 to 69 Ω
L63-3 (CP1) - L63-4 (GN1)	W - G	Engine switch off	200 Ω or higher
L63-6 (CN1) - L63-4 (GN1)	B - G	Engine switch off	200 Ω or higher
L63-3 (CP1) - E22-16 (BAT)	W - BE	Engine switch off	6 kΩ or higher
L63-6 (CN1) - E22-16 (BAT)	B - BE	Engine switch off	6 kΩ or higher

CHECK HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU)

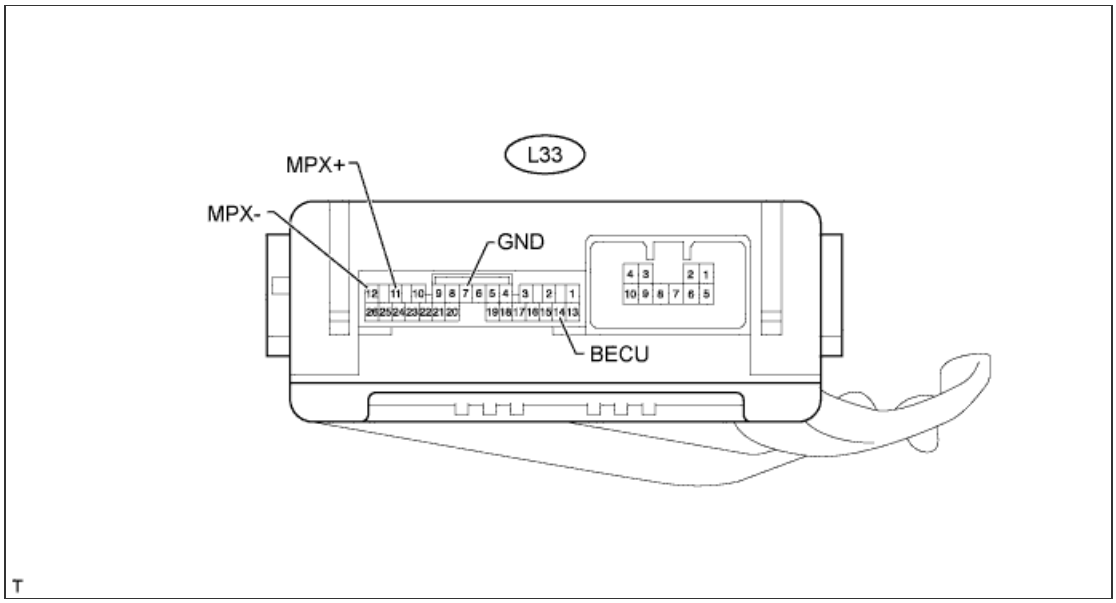


a. Disconnect the E91 headlight swivel ECU assembly (AFS ECU) connector.

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

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:

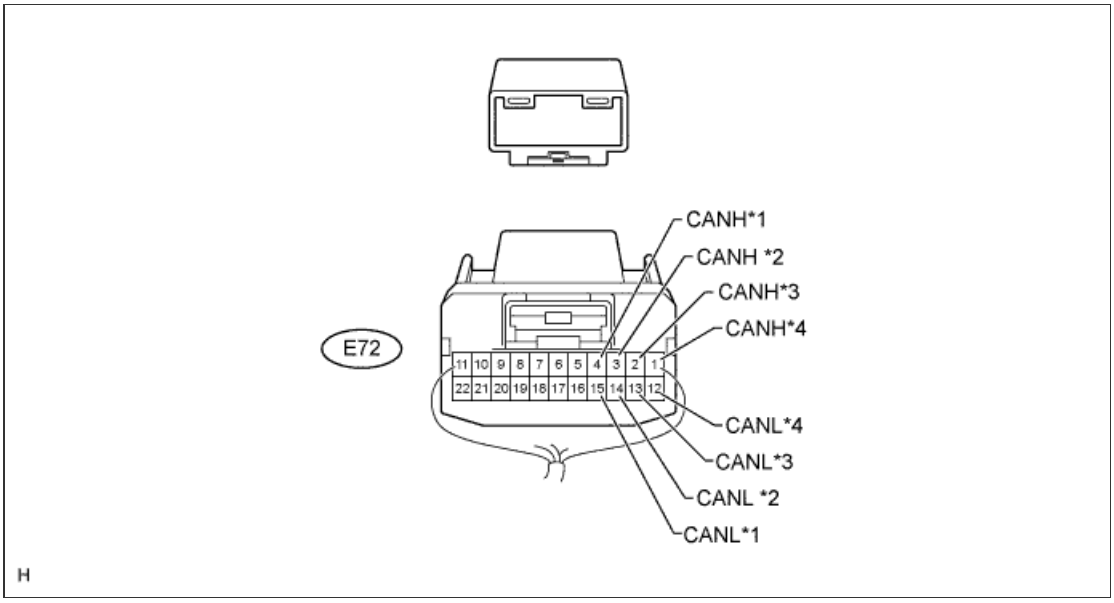
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

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



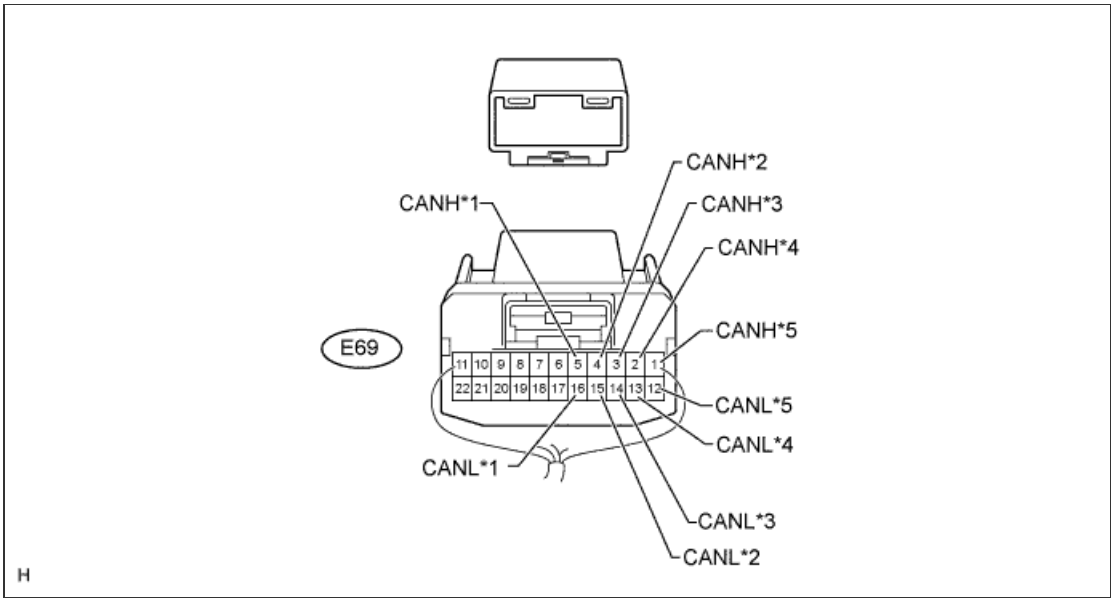
Text in Illustration

*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)	SB	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

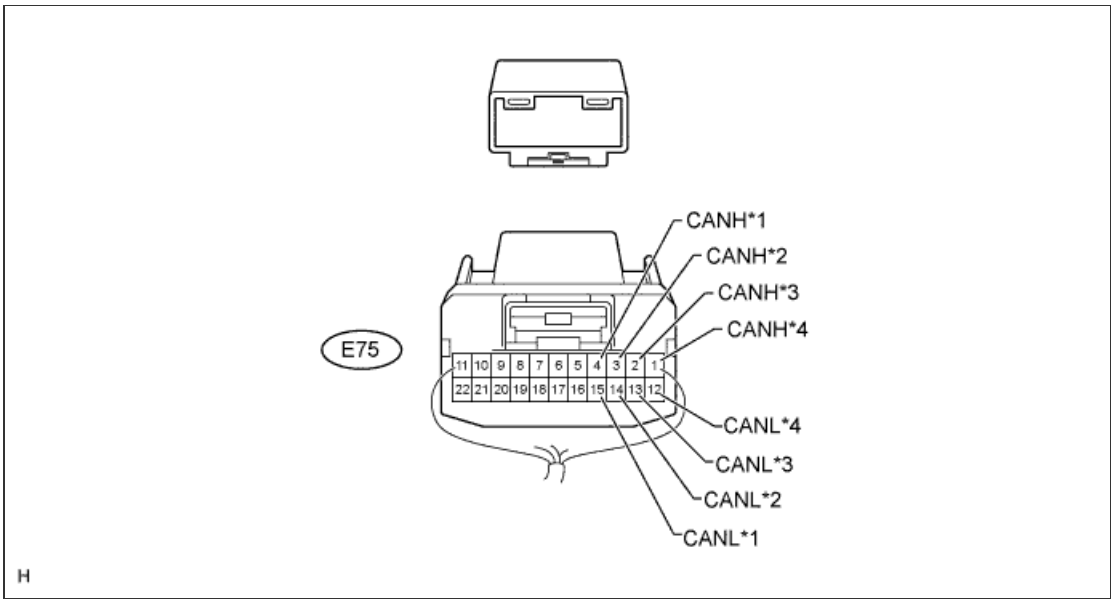


Text in Illustration

*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)	SB	No. 1 junction connector
E69-12 (CANL)	B	
E69-2 (CANH)	P	Multi-media module receiver assembly
E69-13 (CANL)	B	
E69-3 (CANH)	BE	Network gateway ECU (V bus)
E69-14 (CANL)	B	
E69-4 (CANH)	SB	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

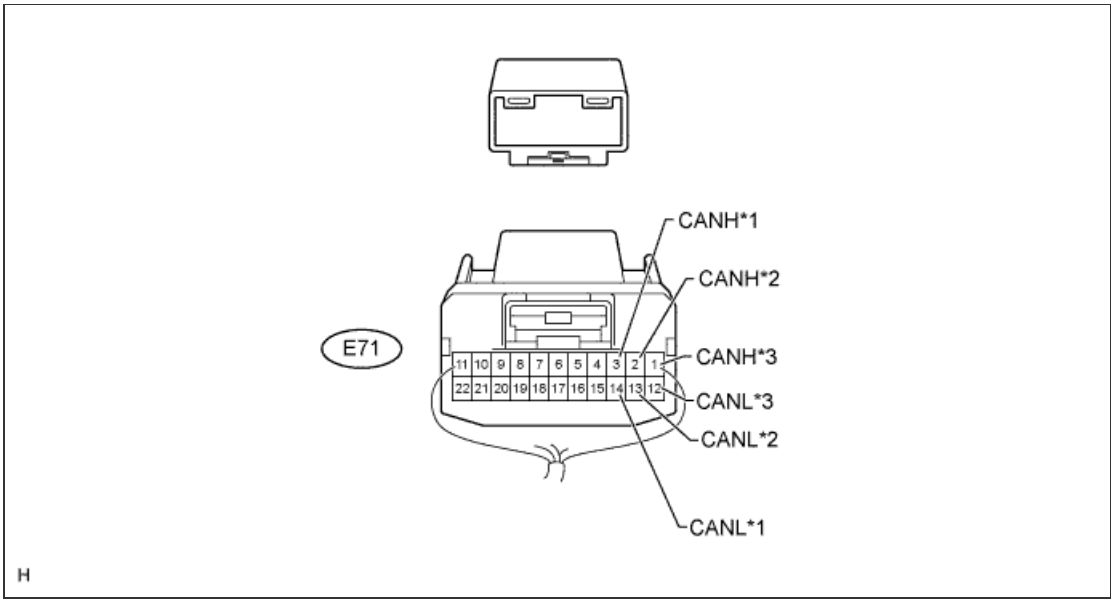


Text in Illustration

*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)	SB	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

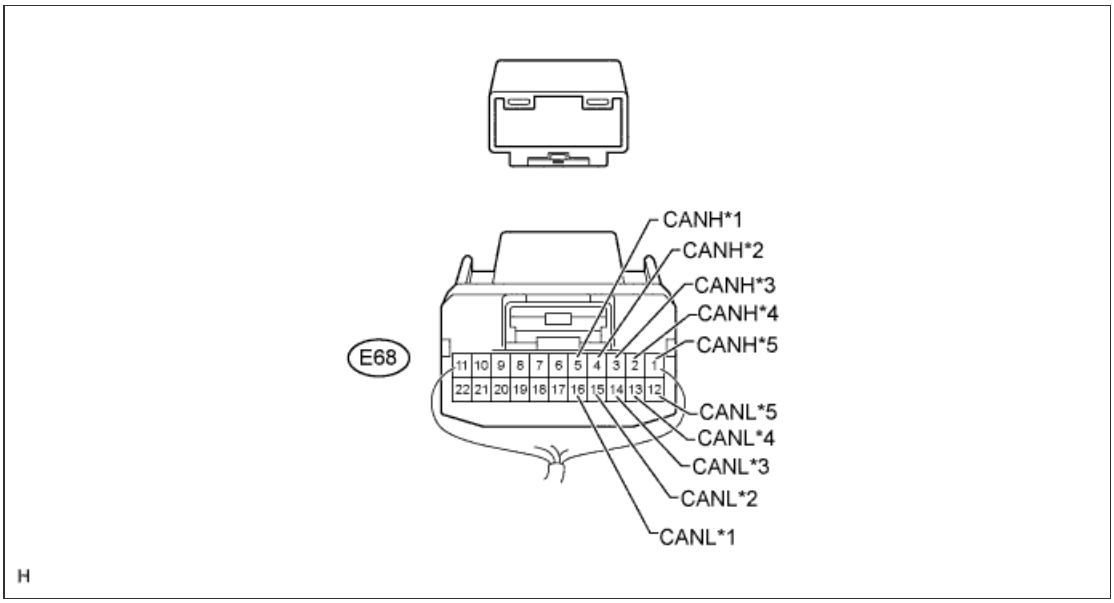


Text in Illustration

*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



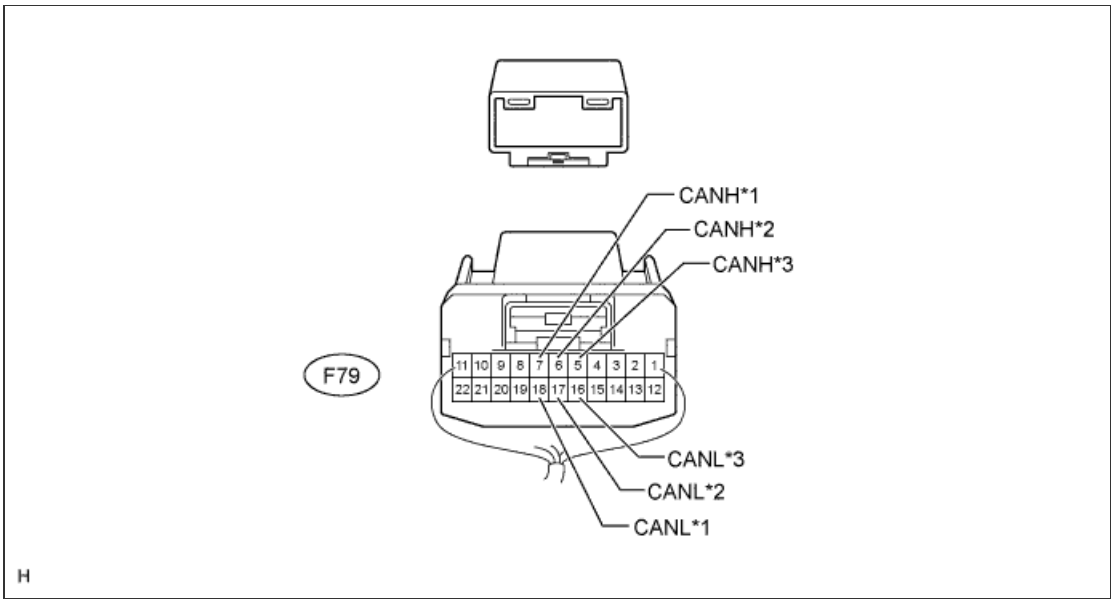
Text in Illustration

*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)	SB	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



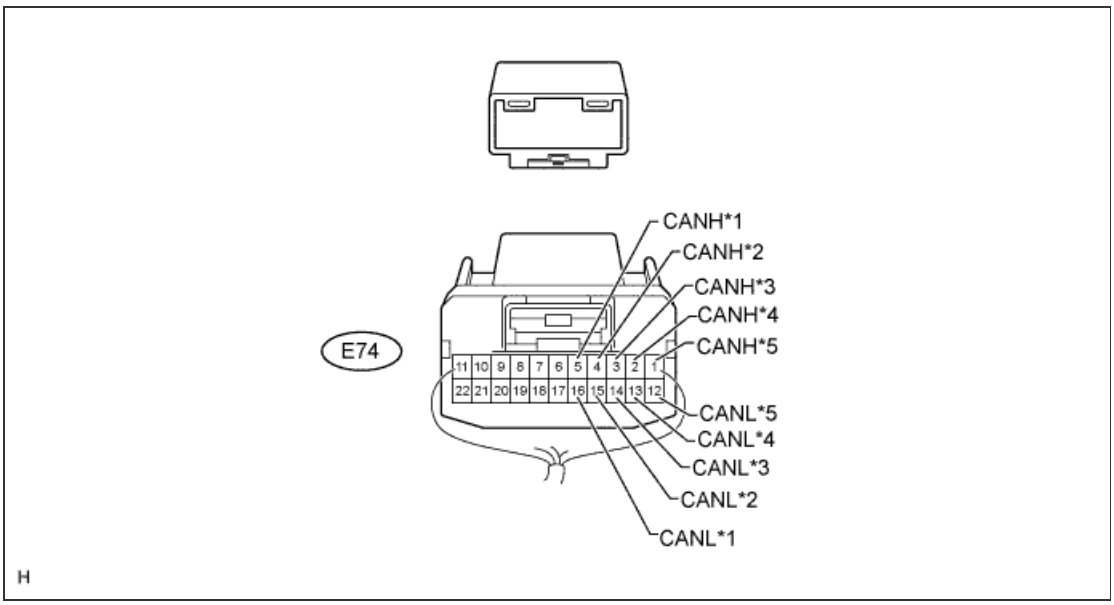
Text in Illustration

*1	to No. 5 Junction Connector	*2	to No. 7 Junction Connector
*3	• to Clearance Warning ECU Assembly (w/o Side Monitor System) • 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 • Parking assist ECU*2
F79-16 (CANL)	L	
F79-6 (CANH)	SB	No. 7 junction connector
F79-17 (CANL)	L	
F79-7 (CANH)	SB	No. 5 junction connector
F79-18 (CANL)	L	

*1: w/o Side Monitor System
*2: w/ Side Monitor System

g. NO. 7 JUNCTION CONNECTOR



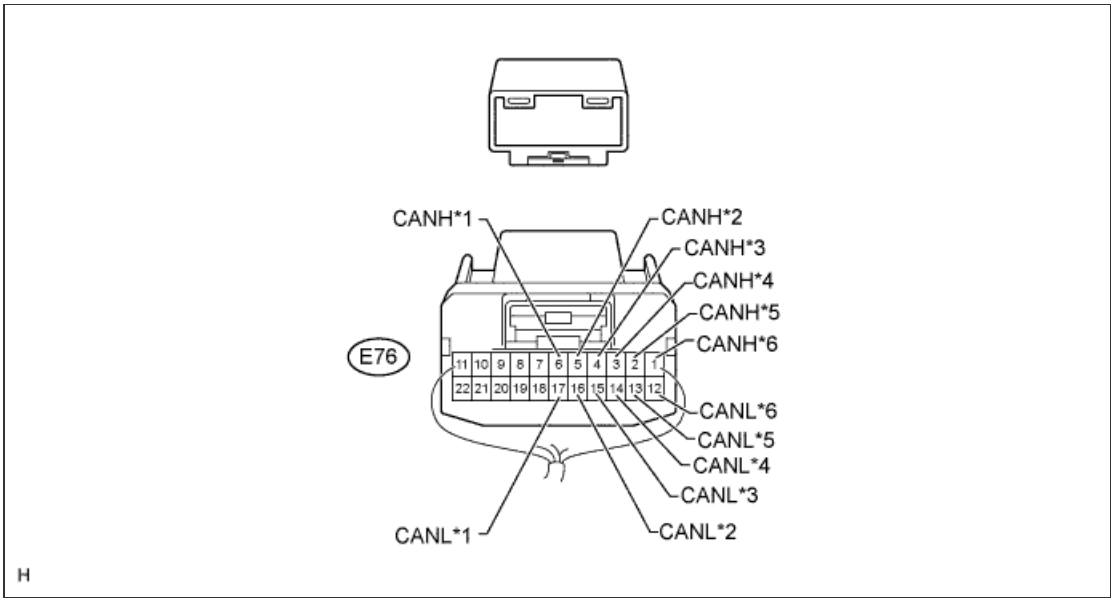
Text in Illustration

*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)	SB	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

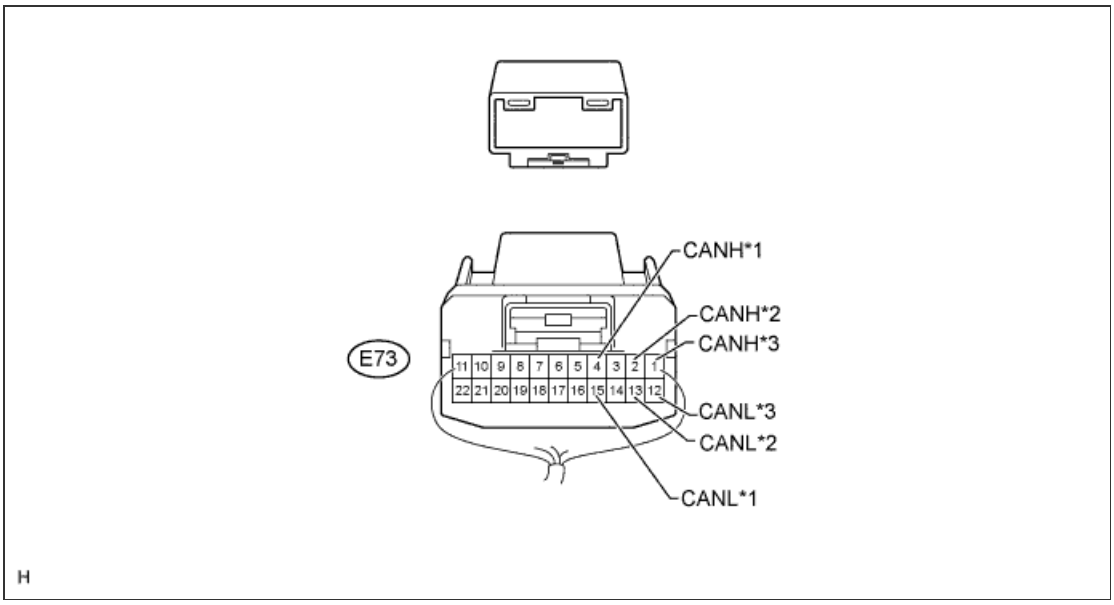


Text in Illustration

*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

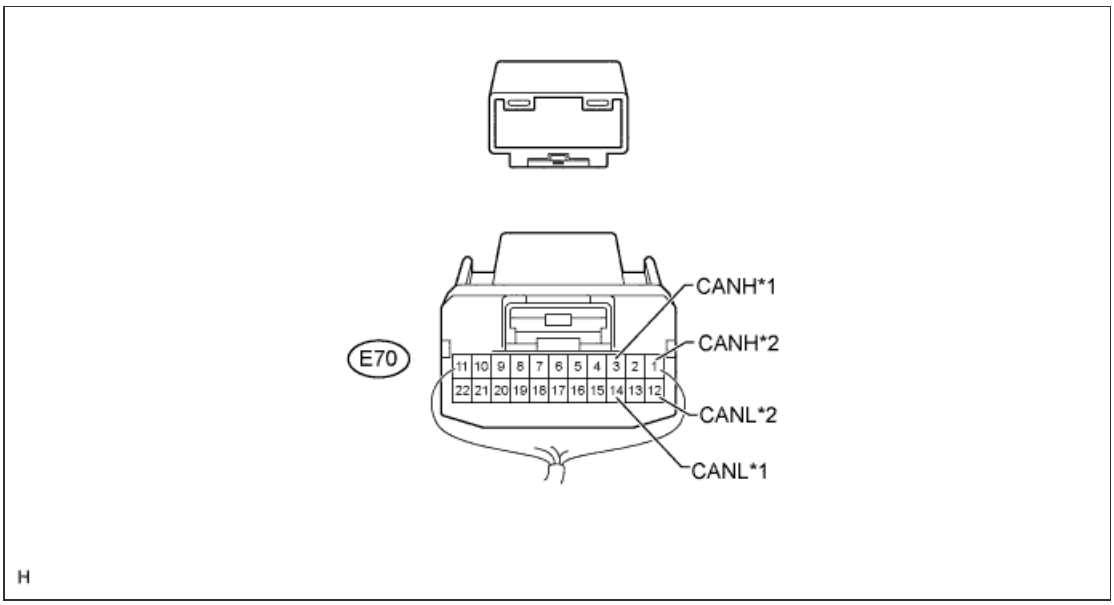


Text in Illustration

*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



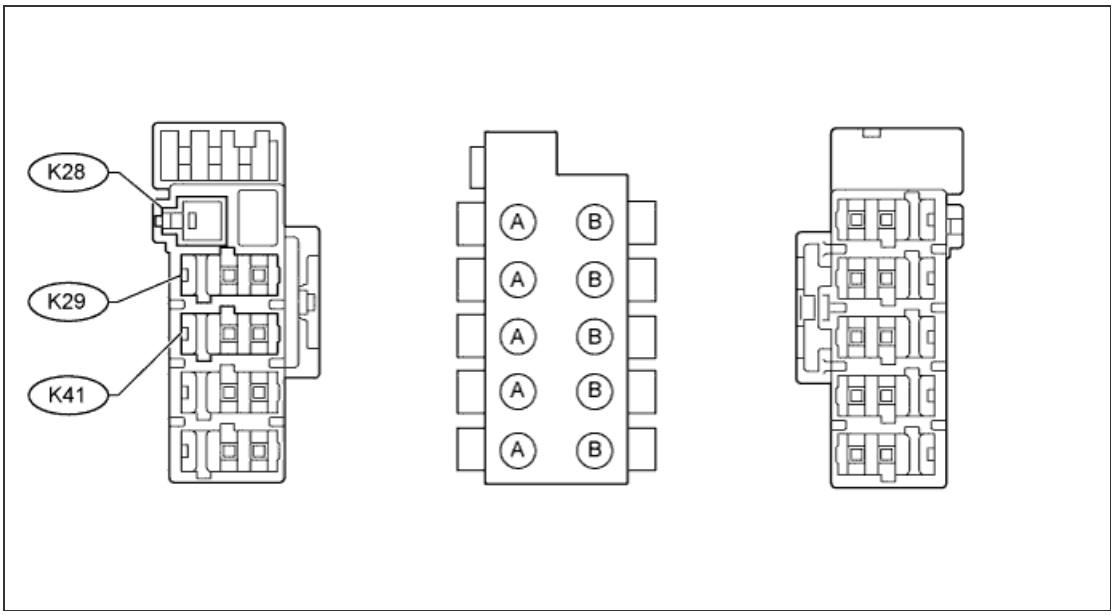
Text in Illustration

*1	to Combination Meter Assembly: MS Bus	*2	to No. 9 Junction Connector

No. 10 Junction Connector	Wiring Color	Connect to

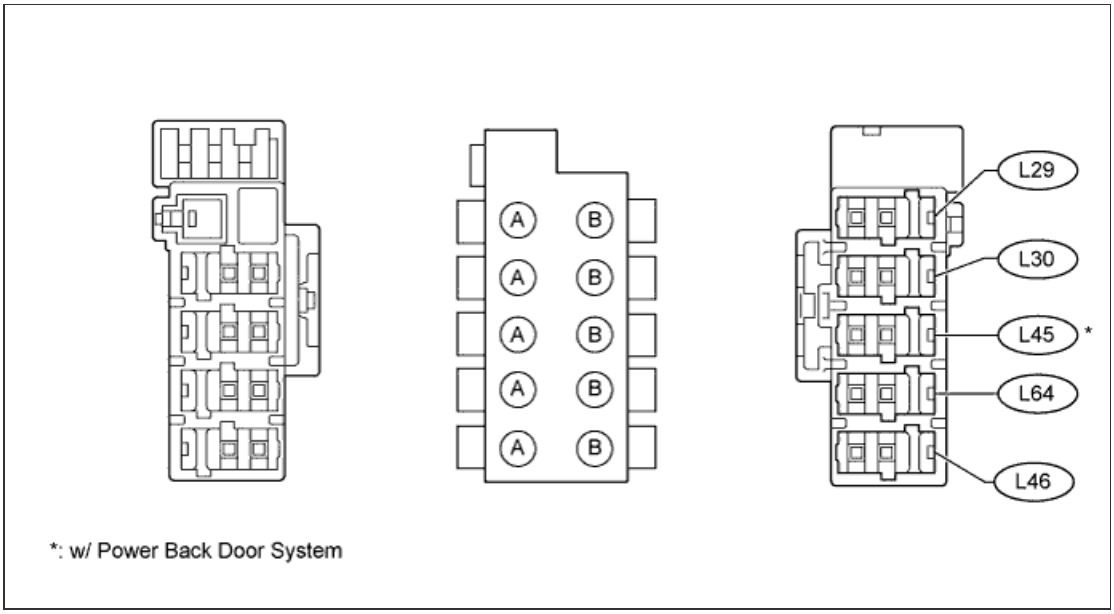
E70-1 (CANH)	W	No. 9 Junction Connector
E70-12 (CANL)	R	
E70-3 (CANH)	LG	Combination meter assembly (MS bus)
E70-14 (CANL)	R	

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



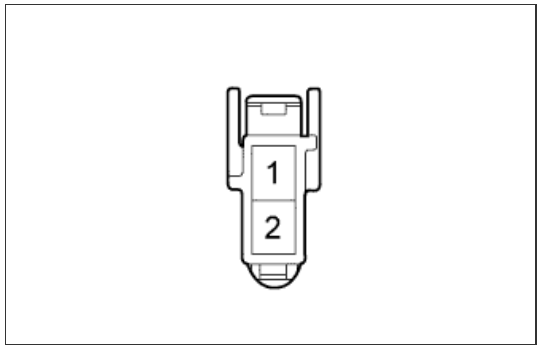
Junction Connector B Side	Wiring Color (CANH Side)	Wiring Color (CANL Side)
No. 8 junction connector (L29)	LG	GR
No. 9 junction connector (L30)	Y	R

Power back door unit assembly (power back door ECU) (L45)*	V	R
No. 2 main body ECU (L46)	LG	R
Tire pressure warning ECU (L64)	G	R

*: w/ Power Back Door System

TERMINALS OF CONNECTORS FOR JUNCTION CONNECTOR (CAN JUNCTION CONNECTOR)

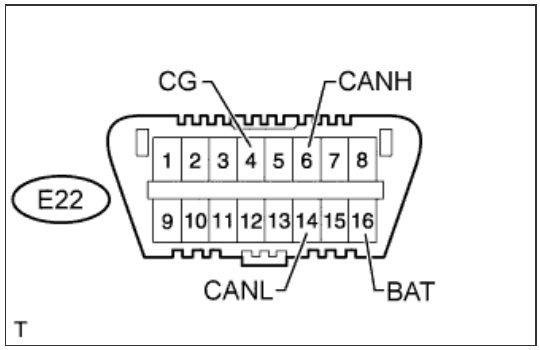
Terminal No.	Symbol
1	CANH
2	CANL



CHECK DLC3

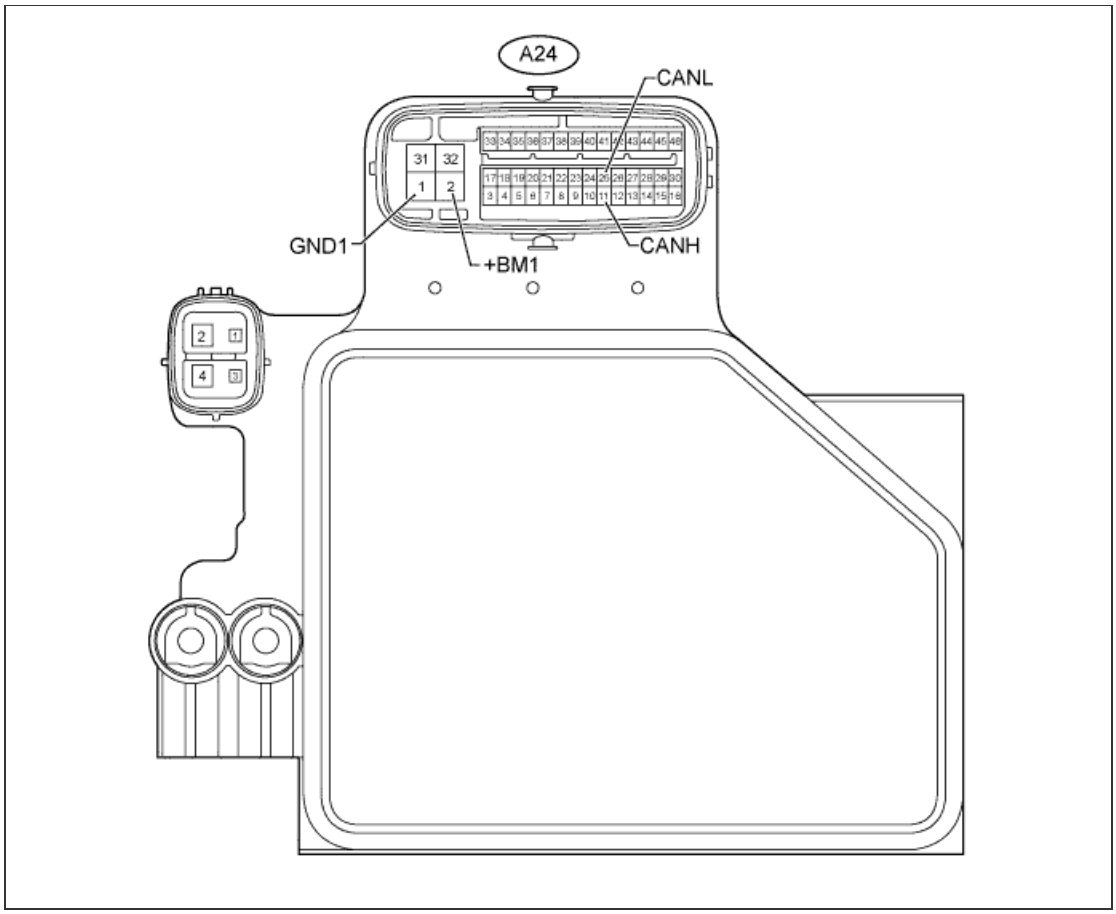
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

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)

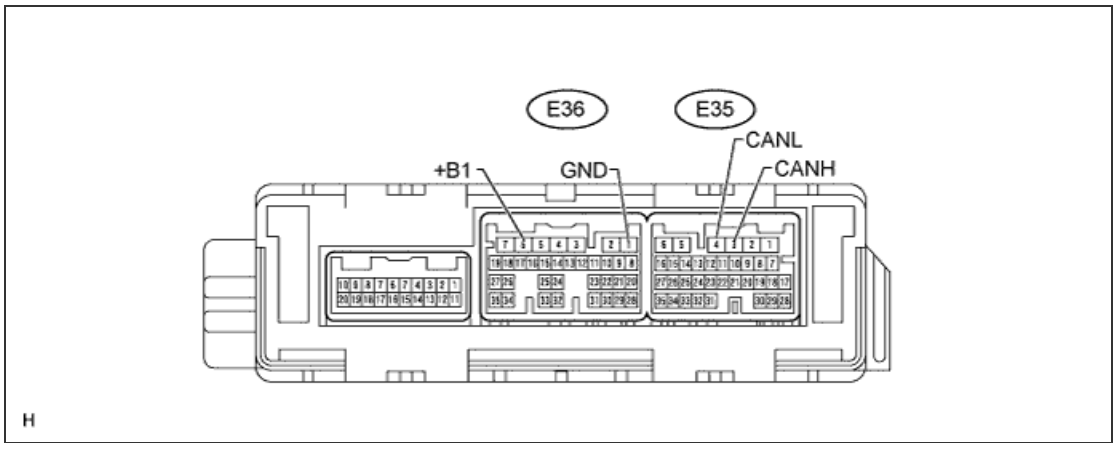


a. Disconnect the A24 master cylinder solenoid (skid control ECU) connector.

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



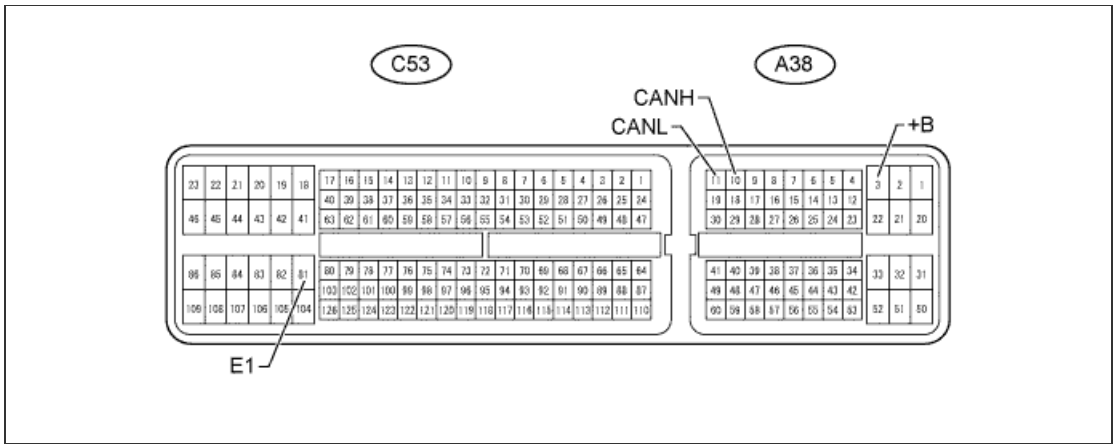
a. Disconnect the E35 and E36 air conditioning amplifier assembly connectors.

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

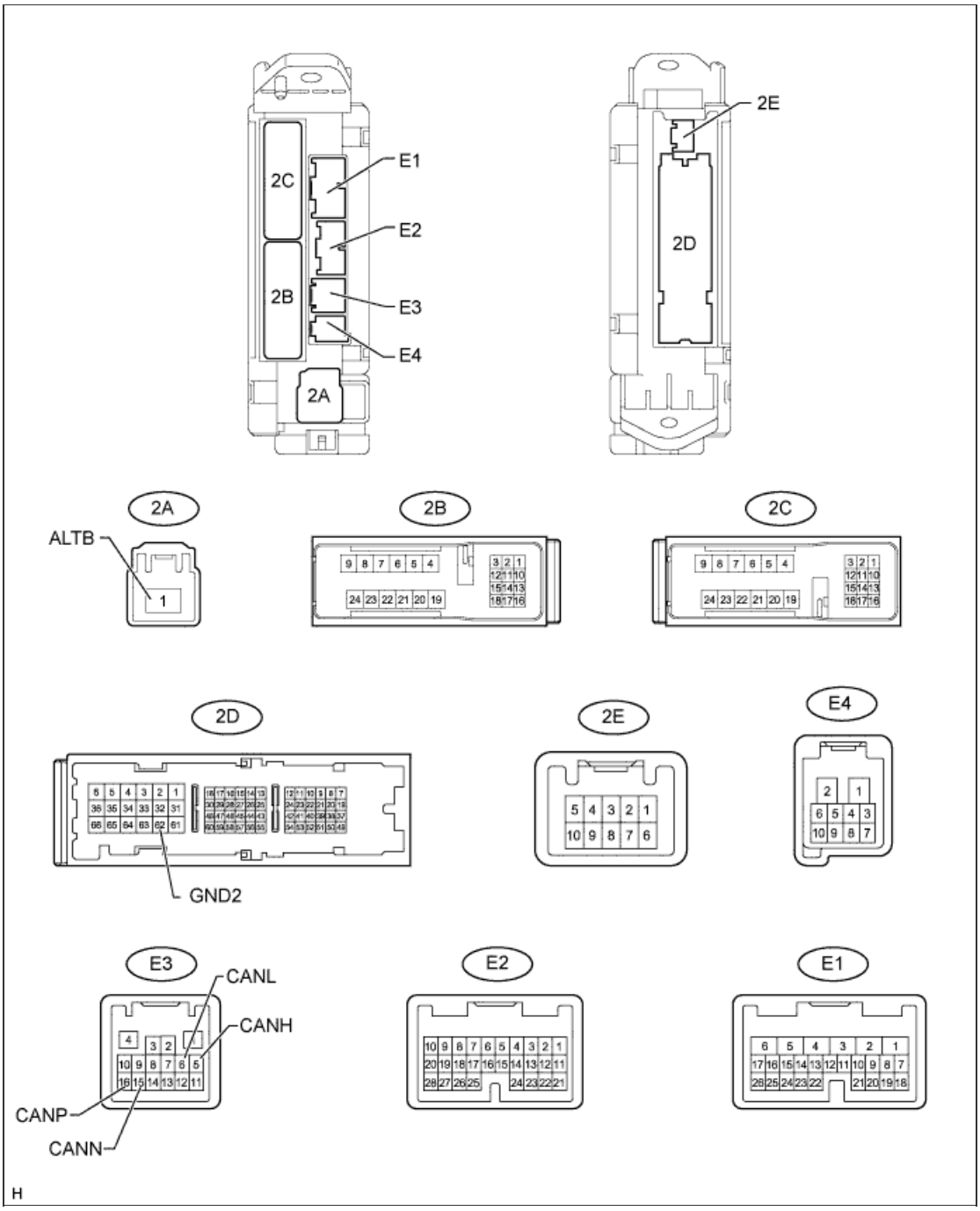


a. Disconnect the A38 and C53 ECM connectors.

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.

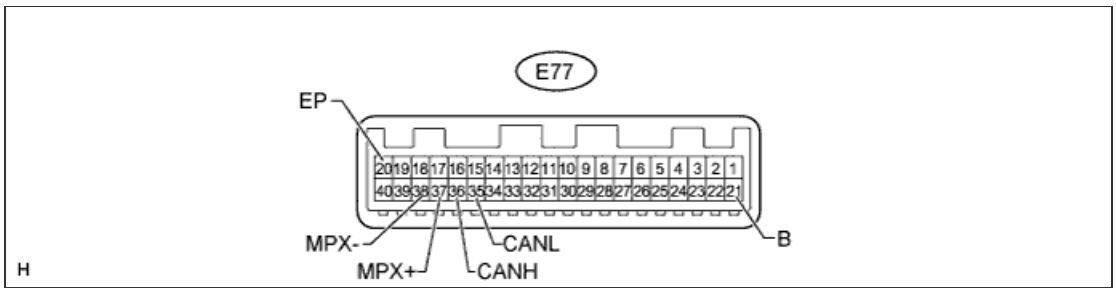
V Bus

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.

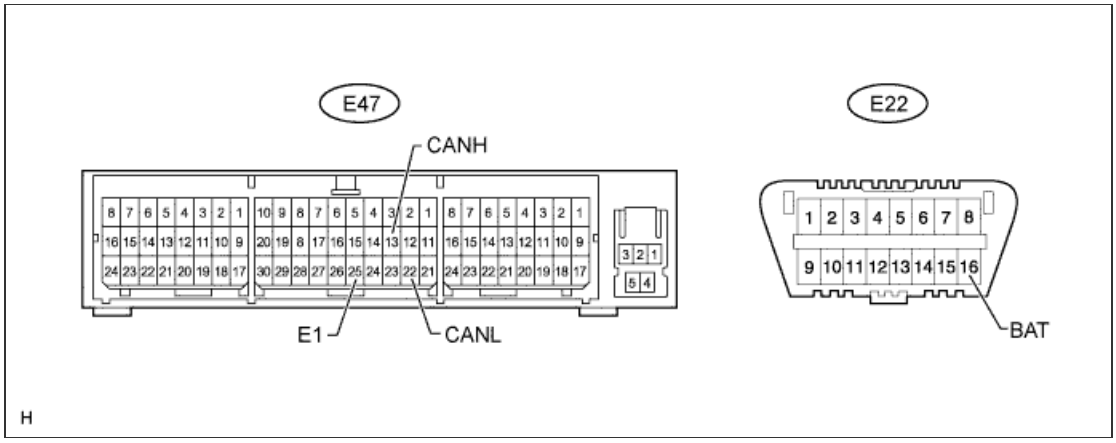
V Bus

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

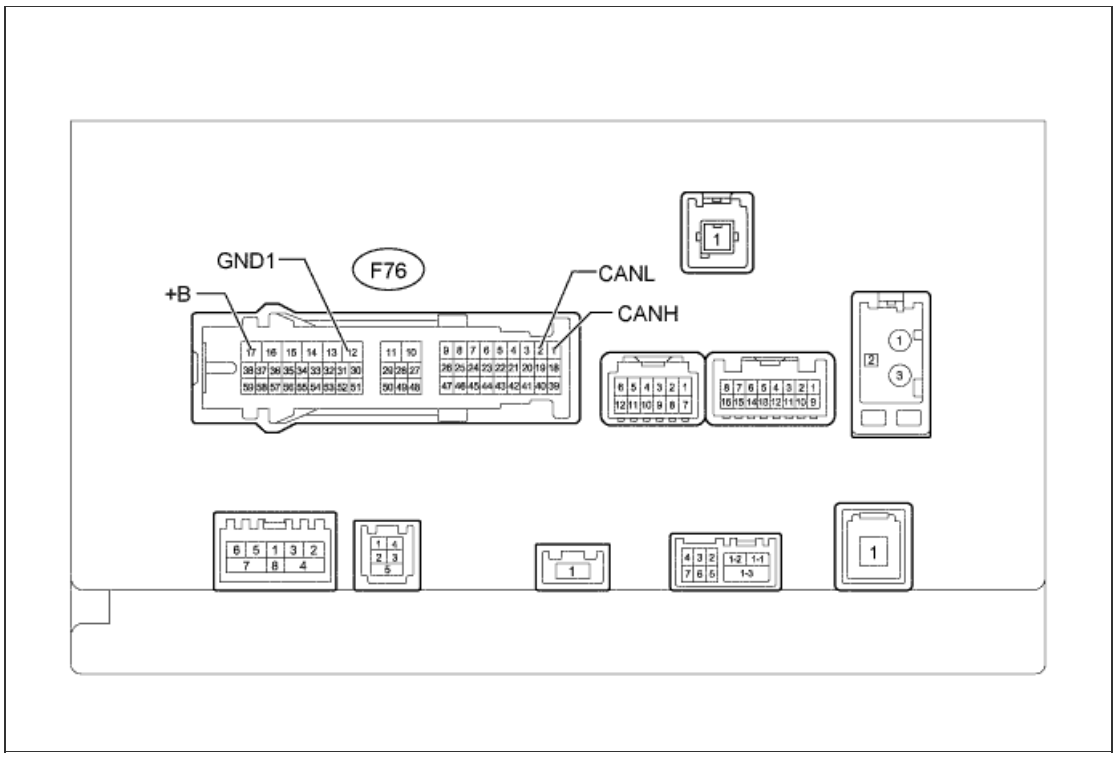


a. Disconnect the E47 center airbag sensor assembly connector (Click here).

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

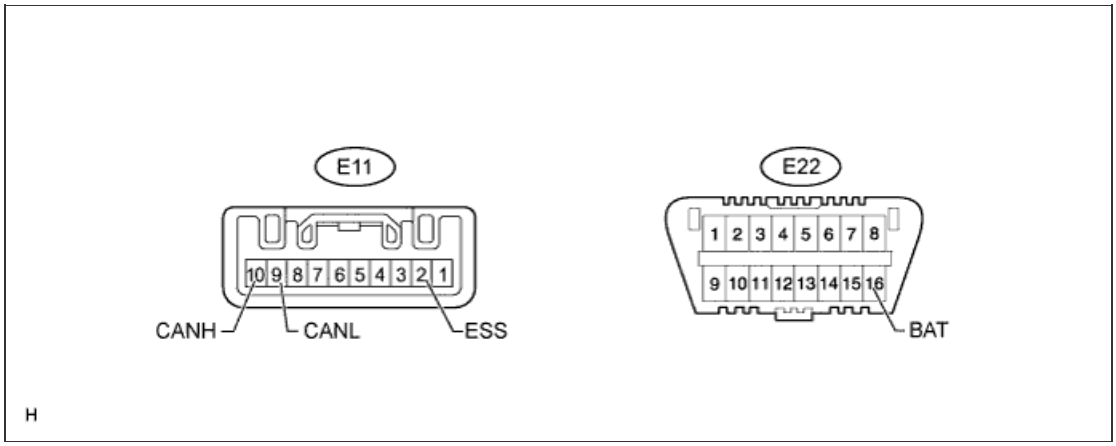


a. Disconnect the F76 multi-media module receiver assembly connector.

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



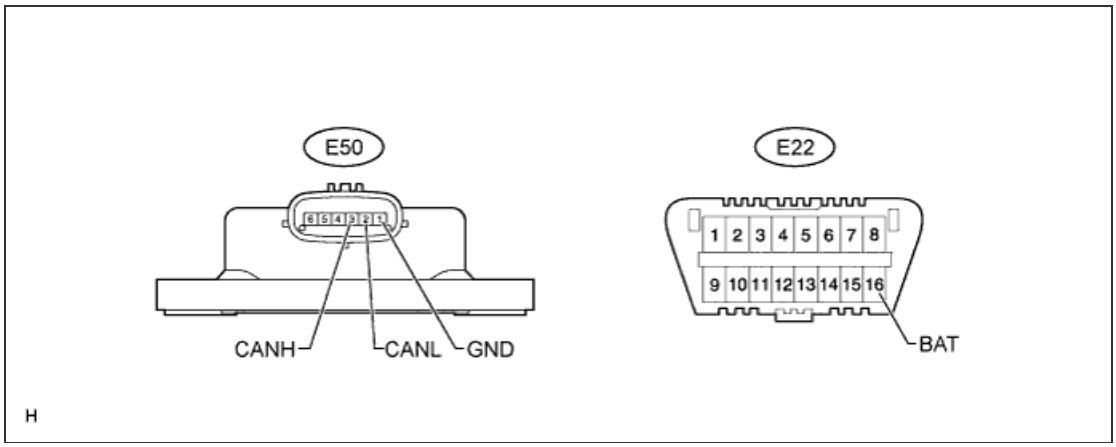
a. Disconnect the E11 steering angle sensor connector.

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

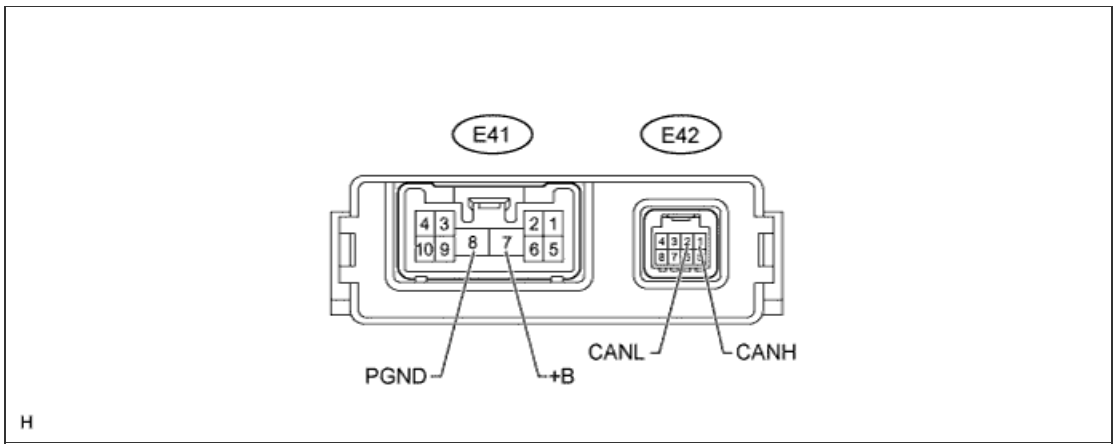


a. Disconnect the E50 yaw rate sensor assembly connector.

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)

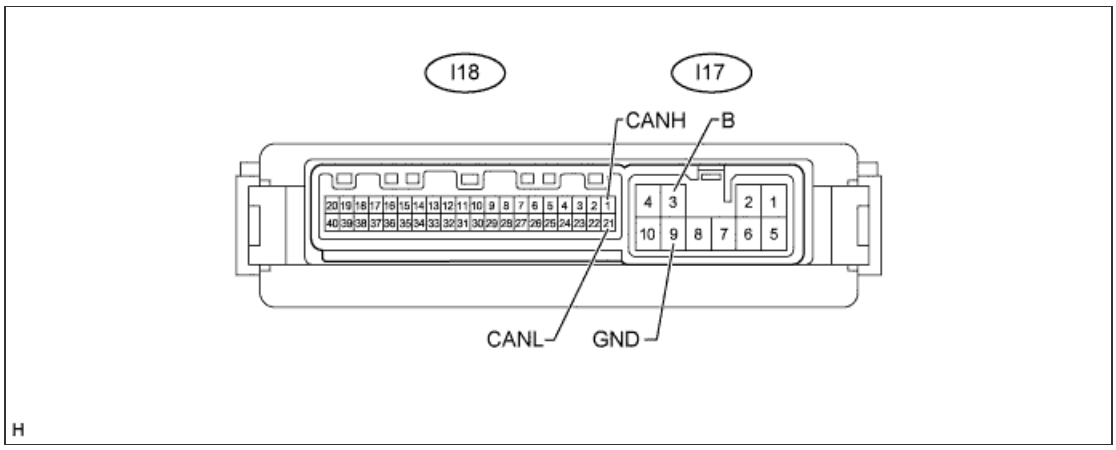


a. Disconnect the E41 and E42 seat belt control ECU connectors.

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

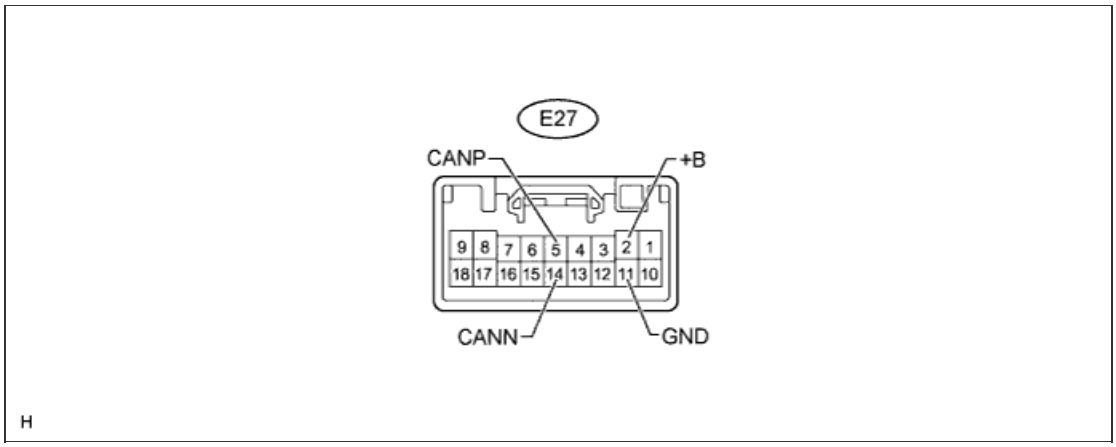


a. Disconnect the I18 and I17 outer mirror control ECU assembly connectors.

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

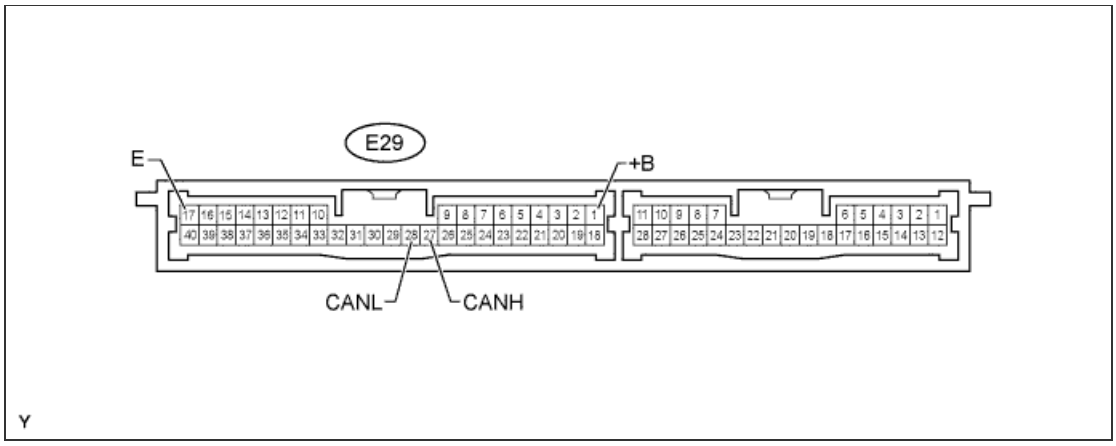


a. Disconnect the E27 multiplex tilt and telescopic ECU connector.

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)

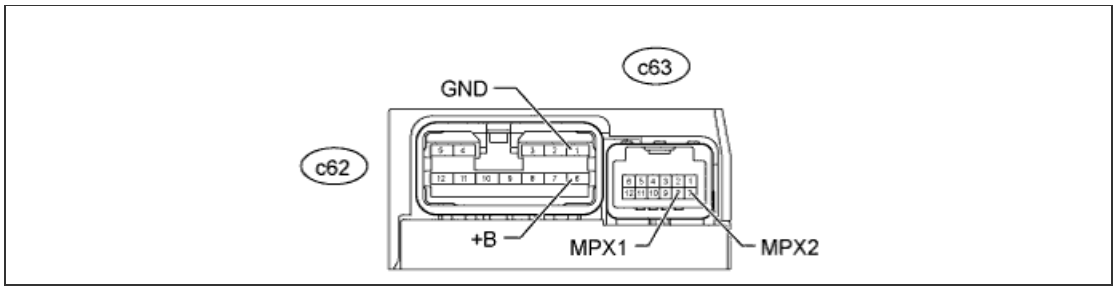


a. Disconnect the E29 certification ECU (smart key ECU assembly) connector.

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

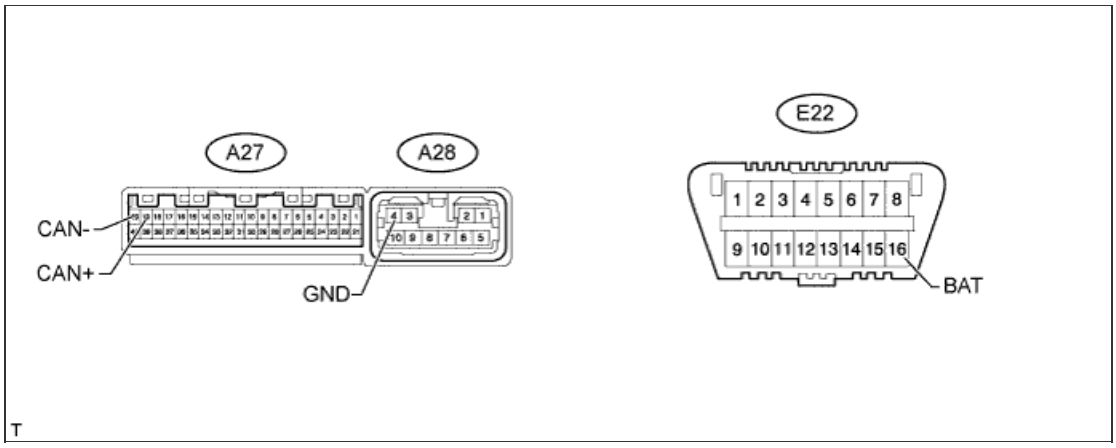


a. Disconnect the c62 and c63 position control ECU and switch connectors.

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

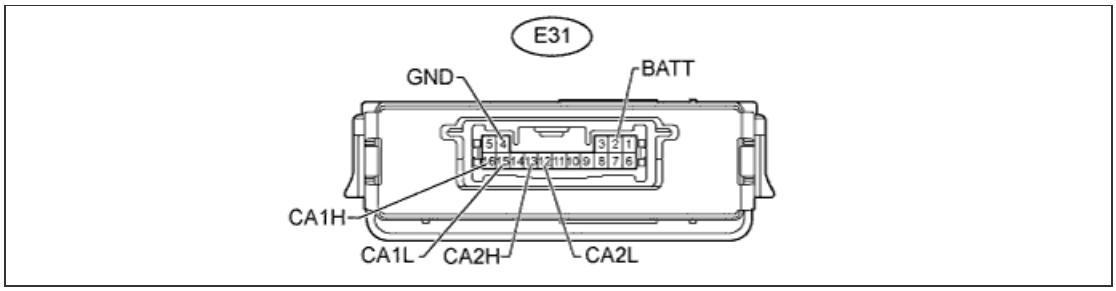


a. Disconnect the A27 and A28 4WD control ECU connectors.

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.

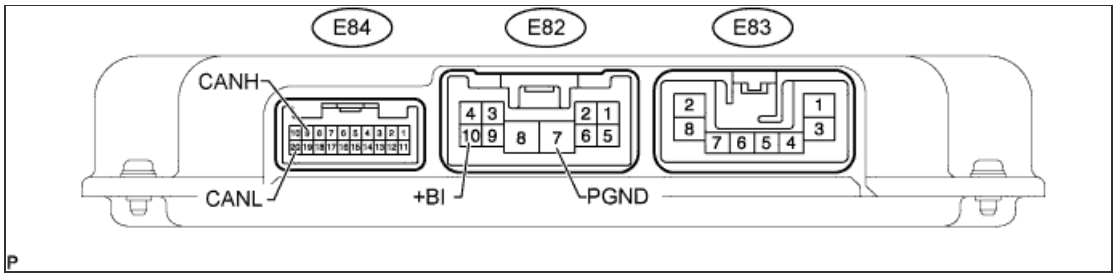
V Bus

Terminal No. (Symbol)	Wiring Color	Switch Condition	Specified Condition
E31-16 (CA1H) - E31-15 (CA1L)	BE - B	Engine switch off	54 to 69 Ω
E31-16 (CA1H) - E31-4 (GND)	BE - 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)	BE - 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

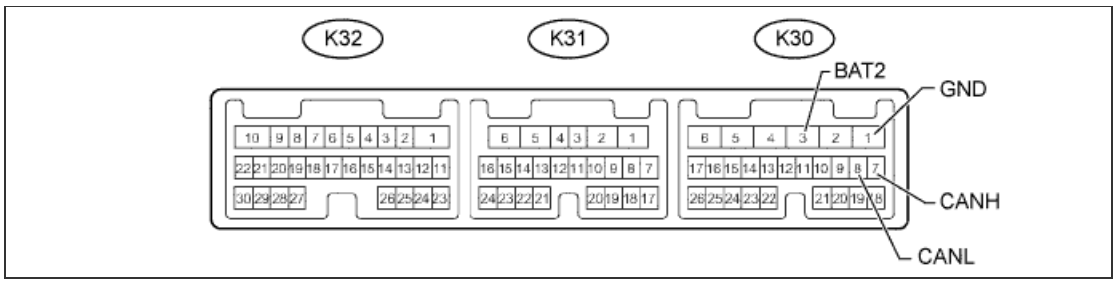


a. Disconnect the E82 and E84 steering control ECU connectors.

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

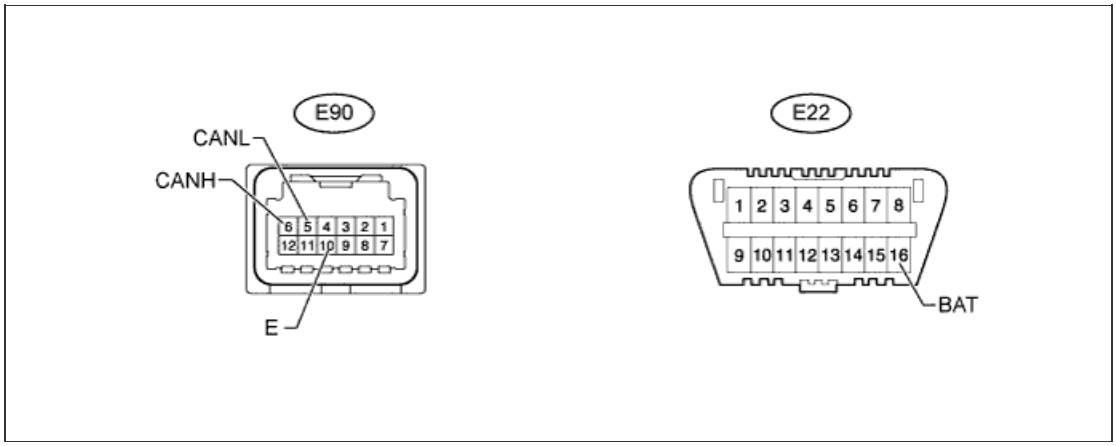


a. Disconnect the K30 suspension control ECU connector.

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

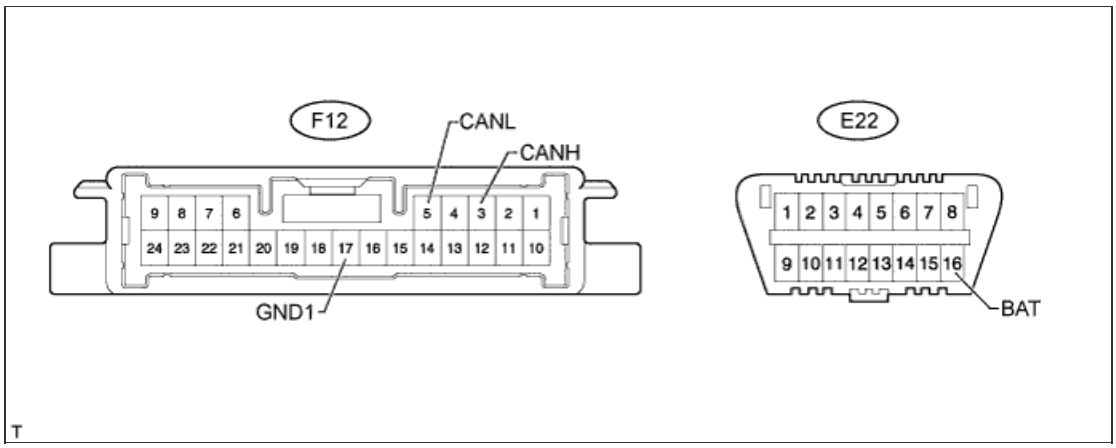


a. Disconnect the E90 windshield wiper ECU connector.

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/o Side Monitor System)

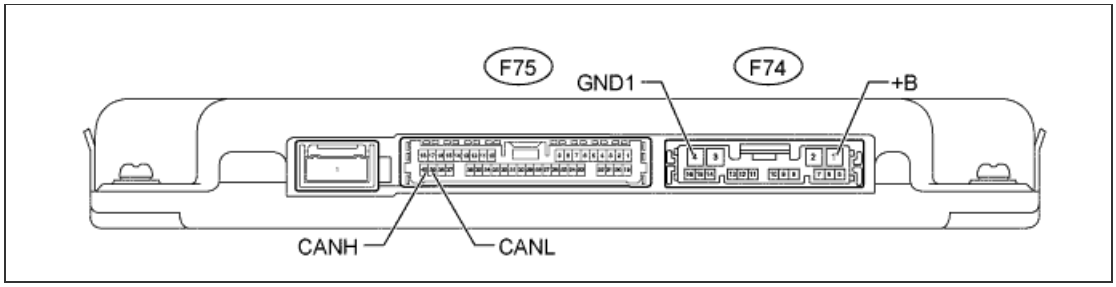


a. Disconnect F12 clearance warning ECU assembly connector.

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)

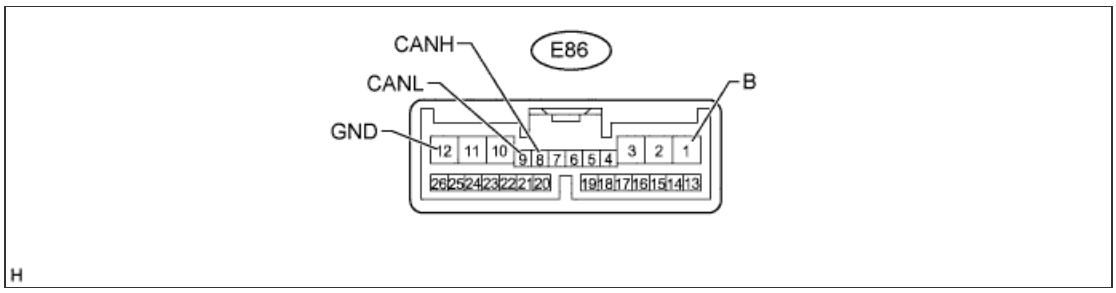


a. Disconnect the F74 and F75 parking assist ECU connectors.

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)

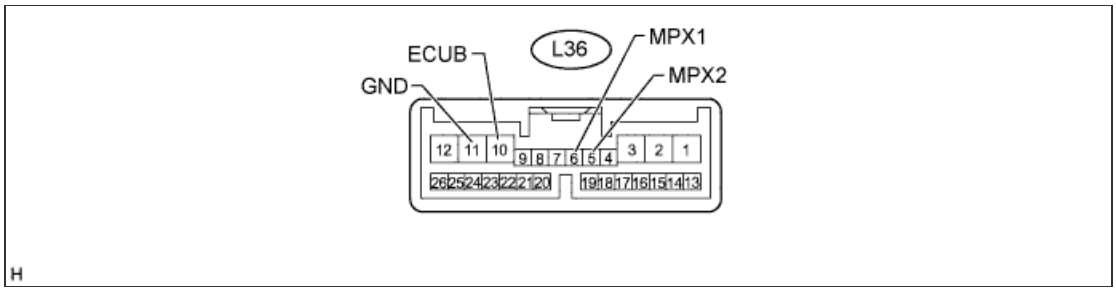


a. Disconnect the E86 distance control ECU assembly connector.

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)

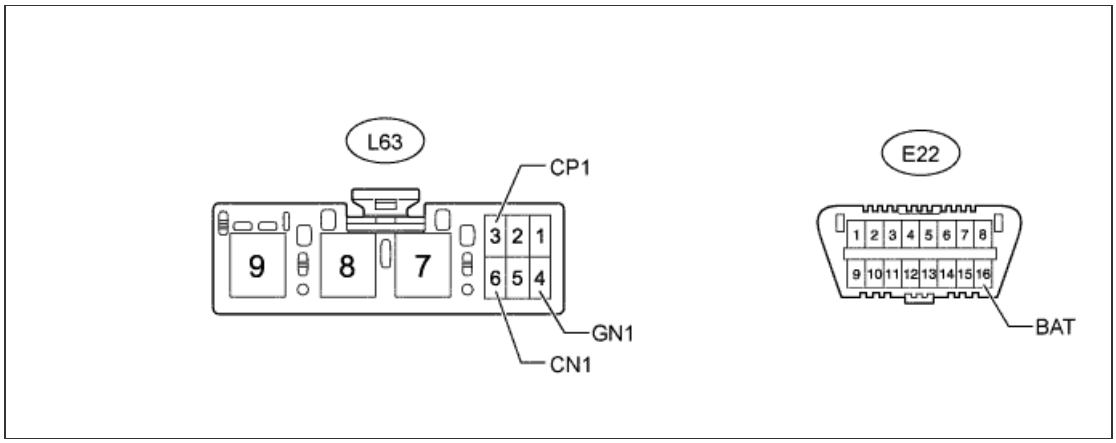


a. Disconnect the L36 power back door unit assembly (power back door ECU) connector.

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 TIRE PRESSURE WARNING ECU

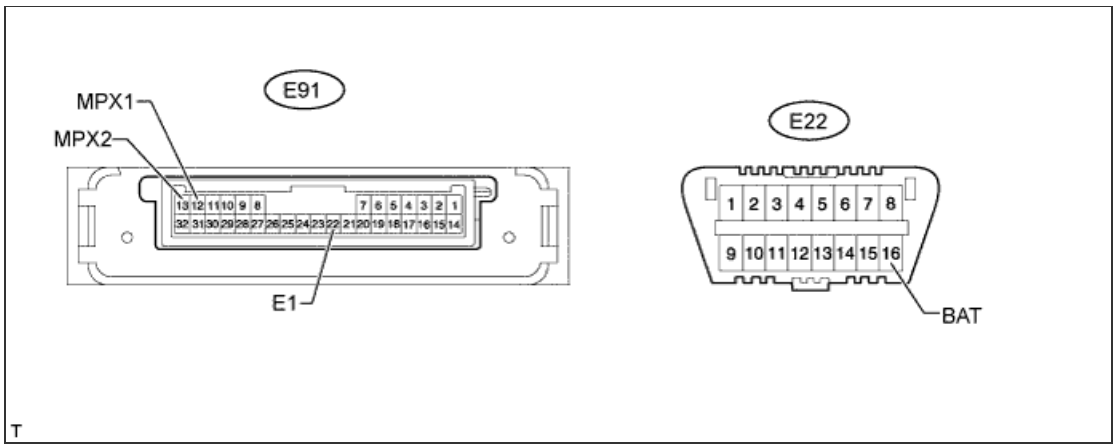


a. Disconnect the L63 tire pressure warning ECU connector.

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

Terminal No. (Symbol)	Wiring Color	Switch Condition	Specified Condition
L63-3 (CP1) - L63-6 (CN1)	W - B	Engine switch off	54 to 69 Ω
L63-3 (CP1) - L63-4 (GN1)	W - G	Engine switch off	200 Ω or higher
L63-6 (CN1) - L63-4 (GN1)	B - G	Engine switch off	200 Ω or higher
L63-3 (CP1) - E22-16 (BAT)	W - BE	Engine switch off	6 kΩ or higher
L63-6 (CN1) - E22-16 (BAT)	B - BE	Engine switch off	6 kΩ or higher

CHECK HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU)

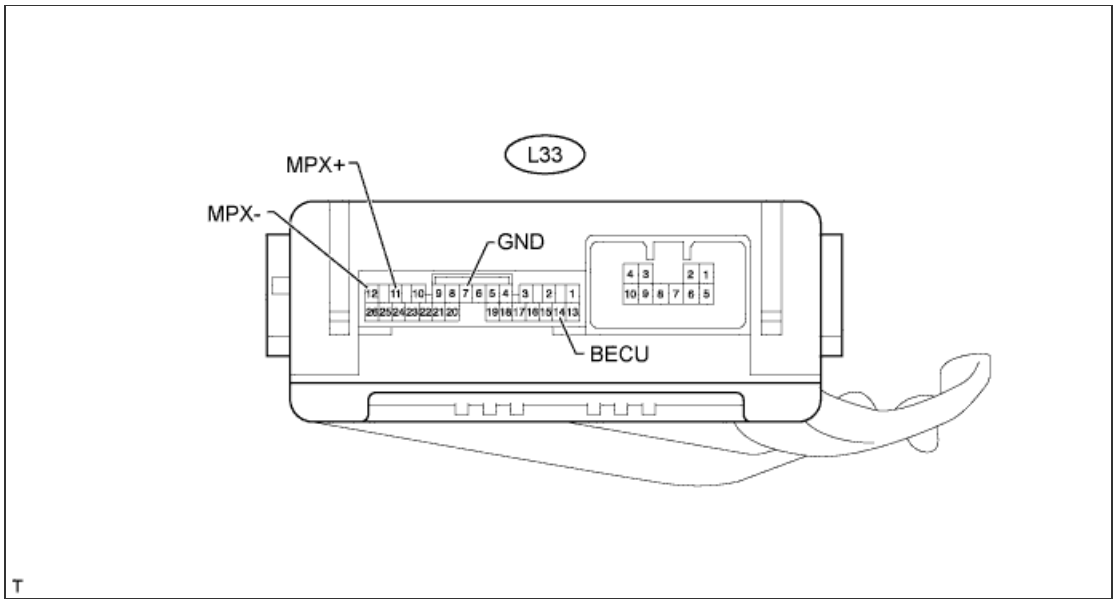


a. Disconnect the E91 headlight swivel ECU assembly (AFS ECU) connector.

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

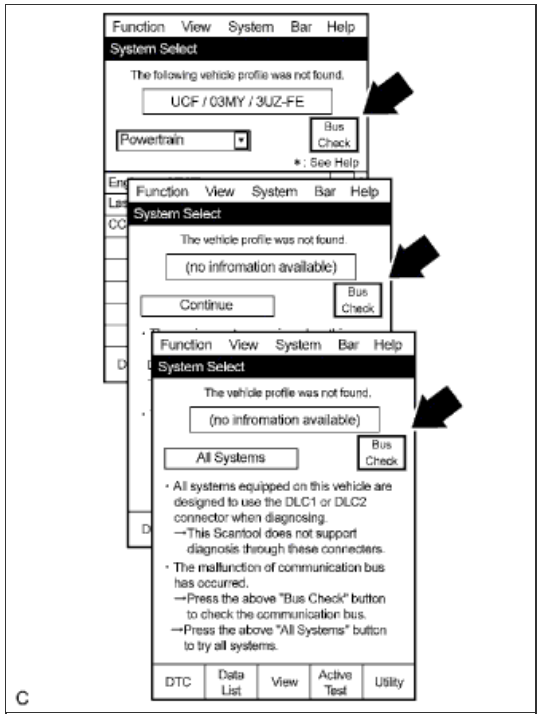
for Preparation Click here

BUS CHECK (COMMUNICATION MALFUNCTION ECU)

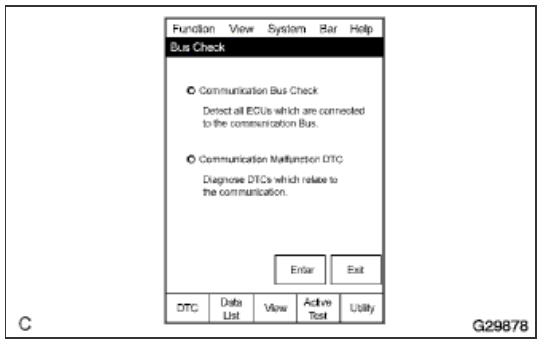
HINT:

Only CAN communication system DTCs for each ECU can be displayed on the intelligent tester.

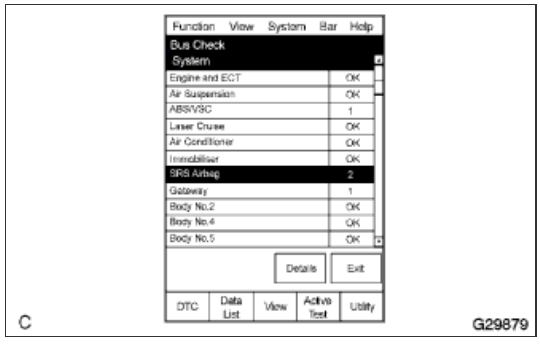
a. Select "Bus Check" from the "System Select" screen on the intelligent tester.



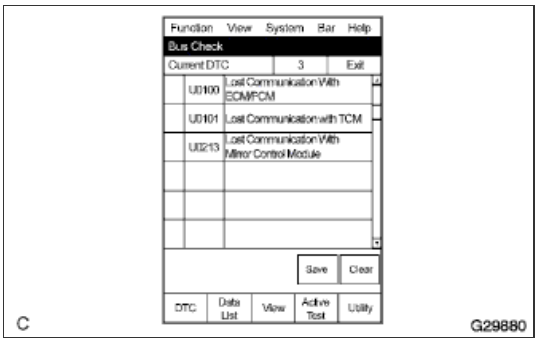
b. Select "Communication Malfunction DTC" from the "Bus Check" screen, and then select "Enter".



c. Select the system of the DTC to be checked and select "Details".



d. CAN communication system DTCs are displayed.

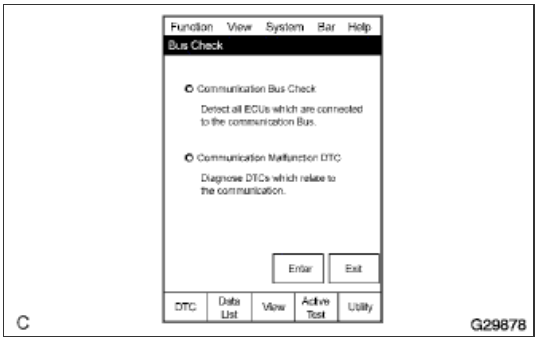


BUS CHECK (COMMUNICATION BUS CHECK)

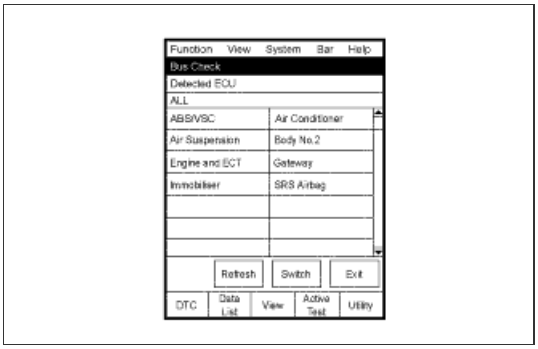
HINT:

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.

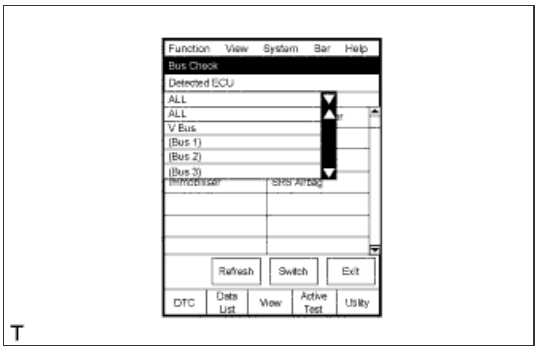


b. The screen displays the ECUs and sensors that are properly connected to the CAN communication system.



HINT:

- **If any properly connected ECUs or sensors are not displayed, there is a communication stop in the system (Click here).**



- **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

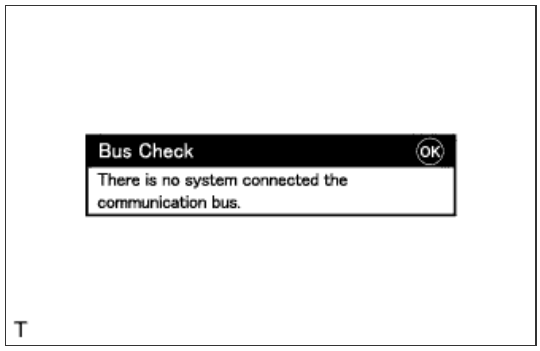
ECU (Sensor) with no Data Monitor History

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
Tire pressure warning ECU	Tire Pressure	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
U0127	Lost Communication with Tire Pressure Monitor Module
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. TIRE PRESSURE WARNING ECU

HINT:

DTC communication uses the CAN communication system.

DTC Code	Detection Item
C2179	Multiplex Communication Circuit

p. YAW RATE SENSOR ASSEMBLY

HINT:

The yaw rate sensor assembly is connected to the CAN communication system but CAN communication DTCs are not stored.

q. STEERING ANGLE SENSOR

HINT:

The steering angle sensor is connected to the CAN communication system but CAN communication DTCs are not stored.

r. 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.

s. 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.

t. 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.

u. WINDSHIELD WIPER ECU

HINT:

The windshield wiper ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

v. 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.

w. 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.

x. 4WD CONTROL ECU

HINT:

The 4WD control ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

y. 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.**
- ***4: This DTC is not stored when only the SPD signal is lost. When any of DTCs C2121 to C2125 is stored and the SPD signal is lost, this DTC is stored.**

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
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
Tire pressure warning ECU	C2179	Multiplex Communication Circuit	○*1, *4	○*1	X	X
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	-	-	-	-
	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	-	-	-	-
	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

Multi-media module receiver assembly	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
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
Main body ECU (cowl side junction block LH)	U0127	Lost Communication with Tire Pressure Monitor Module	-	-	-	-
	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	-	-	-	-

Network gateway ECU		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			
			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	-	-	-	-
		Lost Communication				

	U0126	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
Tire pressure warning ECU	C2179	Multiplex Communication Circuit	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	-	-	-	-
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
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	-	-	-	-
	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

Multi-media module receiver assembly	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 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)	U0127	Lost Communication with Tire Pressure Monitor Module	-	-	-	-
	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	-	-	-	-

Network gateway ECU	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	X	X	X	X

		with Steering Angle Sensor Module				
	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 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	-	-	-	-
Tire pressure warning ECU	C2179	Multiplex Communication Circuit	-	-	-	-
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
		Lost Communication				

	U0130	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
Parking assist ECU	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
	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
	U0073	Sending Malfunction (Navigation to APGS)	-	-	-	-
	U0100	Engine ECU Communication	-	-	-	-
	U0126	Steering Sensor	○*1	X	X	X

Multi-media module receiver assembly	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"	-	-	-	-
	U0151	Lost Communication with Restraints Control Module	-	-	-	-
Main body ECU (cowl side junction block LH)	U0127	Lost Communication with Tire Pressure Monitor Module	-	-	-	-
	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	○*1	X	X	X

		Module				
	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
Network gateway ECU	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 Module	○*1	X	X	X
	U110B	Lost Communication with Parking Assist Control Module "B"	○*1	X	○	X
	U1110	Lost Communication with Clearance Sonar Module	○*1	○	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
		Lost				

	U0126	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	-	-	-	-
Tire pressure warning ECU	C2179	Multiplex Communication Circuit	-	-	-	-
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
		Lost				

	U0130	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	○
	U0073	Sending Malfunction (Navigation to APGS)	-	-	-	-
	U0100	Engine ECU Communication	-	-	-	-
		Steering Sensor				

	U0126	Communication	X	○	X	X
Multi-media module receiver assembly	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	-	-	-	-
Main body ECU (cowl side junction block LH)	U0127	Lost Communication with Tire Pressure Monitor Module	-	-	-	-
	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	X	X	X	○

		Module				
	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
Network gateway ECU	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 with Clearance Sonar Module	X	X	X	X

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
		Lost Communication			

ECM	U0100	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	-	-	-
Tire pressure warning ECU	C2179	Multiplex Communication Circuit	-	-	-
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	X	○	X

		Control Module			
	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
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)	U0127	Lost Communication with Tire Pressure Monitor Module	-	-	-
	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	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
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	-	-	-
	U0100	Lost Communication with ECM/PCM "A"	-	-	-
	U0122	Lost Communication with Vehicle Dynamics	-	-	-

		Control Module			
ECM	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	-	-	-
Tire pressure warning ECU	C2179	Multiplex Communication Circuit	X	X	X
Multiplex tilt and telescopic ECU	B2621	Communication Interruption	X	X	○*1
	B2624	Vehicles Speed	X	X	○*1
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			
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)	U0127	Lost Communication with Tire Pressure Monitor Module	X	X	X
	U0141	Lost Communication with Body Control Module "A"	X	X	X
	U0199	Lost Communication with "Door Control Module A"	○	X	X
	U0208	Lost Communication with "Seat Control Module A"	X	X	X
	U0230	Lost Communication with Rear Gate Module	X	X	X
	U0327	Software Incompatibility with Vehicle Security Control Module	X	X	X
	U1002 (CAN MS BUS)	Lost Communication with Gateway Module (Main Body)	X	X	X
	U1111	Lost Communication with Body No.5 Module	X	○	X
		Lost Communication			

	U1115	with Tilt and Telescopic Module	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		
			Position Control ECU and Switch Communication Stop Mode	Power Back Door ECU Communication Stop Mode	No. 2 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	-	-	-
	U0100	Lost Communication with ECM/PCM "A"	-	-	-
	U0122	Lost Communication with Vehicle Dynamics Control Module	-	-	-
	U0123	Lost Communication with Yaw Rate Sensor	-	-	-

ECM		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	-	-	-
Tire pressure warning ECU	C2179	Multiplex Communication Circuit	X	X	X
Multiplex tilt and telescopic ECU	B2621	Communication Interruption	○	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	-	-	-
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	-	-	-
	C1AEF	Shift Position Information	-	-	-

Clearance warning ECU assembly	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)	U0127	Lost Communication with Tire Pressure Monitor Module	X	X	X
	U0141	Lost Communication with Body Control Module "A"	X	X	○
	U0199	Lost Communication with "Door Control Module A"	X	X	X
	U0208	Lost Communication with "Seat Control Module A"	○	X	X
	U0230	Lost Communication with Rear Gate Module	X	○	X
	U0327	Software Incompatibility with Vehicle Security Control Module	X	X	X
	U1002 (CAN MS BUS)	Lost Communication with Gateway Module (Main Body)	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
		Lost Communication			

Network gateway ECU	U0104	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		
			Tire Pressure Warning 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	-	-	-
Tire pressure warning ECU	C2179	Multiplex Communication Circuit	○*1	X	○*1
Multiplex tilt and telescopic ECU	B2621	Communication Interruption	X	X	○
	B2624	Vehicles Speed	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	-	-	-
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)	U0127	Lost Communication with Tire Pressure Monitor Module	○*1	X	○*1
	U0141	Lost Communication with Body Control Module "A"	X	X	○*1
	U0199	Lost Communication with "Door Control Module A"	X	X	○*1
	U0208	Lost Communication with "Seat Control Module A"	X	X	○*1
	U0230	Lost Communication with Rear Gate Module	X	X	○*1
	U0327	Software Incompatibility with Vehicle Security Control Module	X	○	○*1
	U1002 (CAN MS BUS)	Lost Communication with Gateway Module (Main Body)	X	X	○*1
	U1111	Lost Communication with Body No.5 Module	X	X	○*1
	U1115	Lost Communication with Tilt and Telescopic Module	X	X	○*1
	U0104	Lost Communication with Cruise Control Module	-	-	-
		Lost Communication			

Network gateway ECU	U0114	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	-	-	-

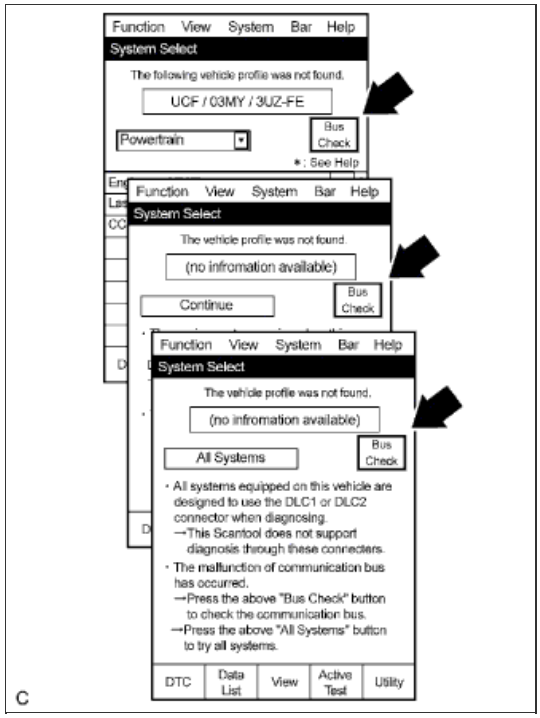
for Preparation Click here

BUS CHECK (COMMUNICATION MALFUNCTION ECU)

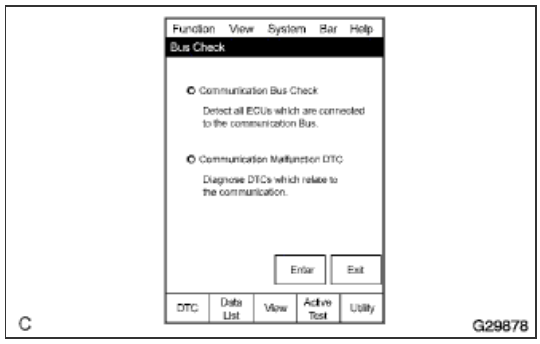
HINT:

Only CAN communication system DTCs for each ECU can be displayed on the intelligent tester.

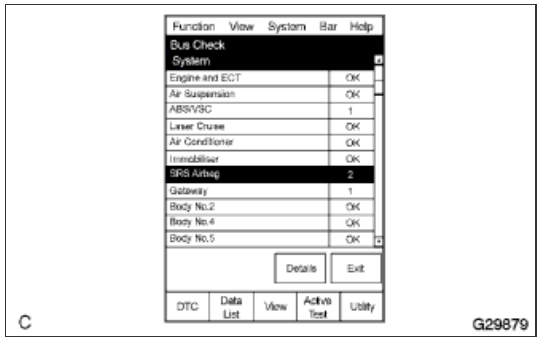
a. Select "Bus Check" from the "System Select" screen on the intelligent tester.



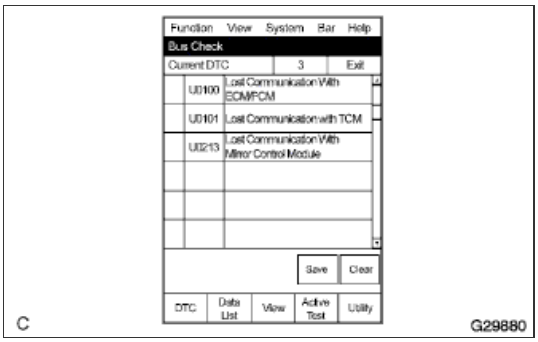
b. Select "Communication Malfunction DTC" from the "Bus Check" screen, and then select "Enter".



c. Select the system of the DTC to be checked and select "Details".



d. CAN communication system DTCs are displayed.

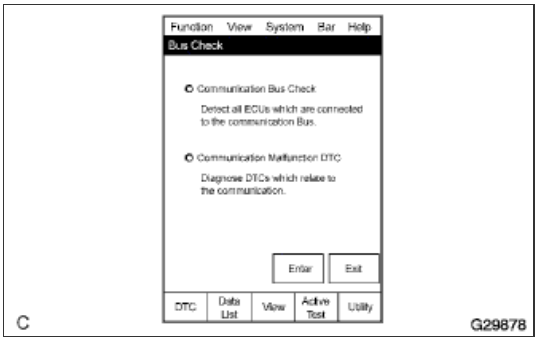


BUS CHECK (COMMUNICATION BUS CHECK)

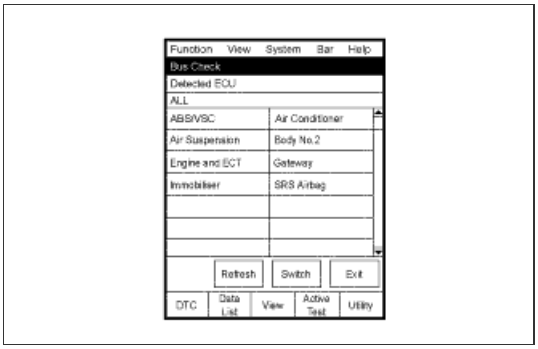
HINT:

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.

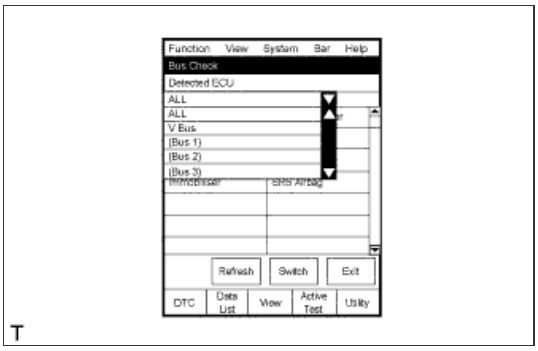


b. The screen displays the ECUs and sensors that are properly connected to the CAN communication system.



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

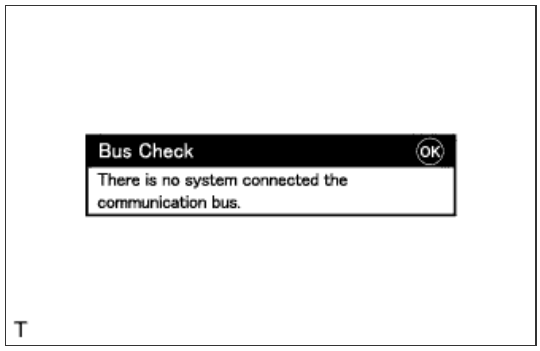
ECU (Sensor) with no Data Monitor History

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
Tire pressure warning ECU	Tire Pressure	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
U0127	Lost Communication with Tire Pressure Monitor Module
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. TIRE PRESSURE WARNING ECU

HINT:

DTC communication uses the CAN communication system.

DTC Code	Detection Item
C2179	Multiplex Communication Circuit

p. YAW RATE SENSOR ASSEMBLY

HINT:

The yaw rate sensor assembly is connected to the CAN communication system but CAN communication DTCs are not stored.

q. STEERING ANGLE SENSOR

HINT:

The steering angle sensor is connected to the CAN communication system but CAN communication DTCs are not stored.

r. 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.

s. 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.

t. 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.

u. WINDSHIELD WIPER ECU

HINT:

The windshield wiper ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

v. 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.

w. 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.

x. 4WD CONTROL ECU

HINT:

The 4WD control ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

y. 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.**
- ***4: This DTC is not stored when only the SPD signal is lost. When any of DTCs C2121 to C2125 is stored and the SPD signal is lost, this DTC is stored.**

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
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
Tire pressure warning ECU	C2179	Multiplex Communication Circuit	○*1, *4	○*1	X	X
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	-	-	-	-
	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	-	-	-	-
	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

Multi-media module receiver assembly	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
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
Main body ECU (cowl side junction block LH)	U0127	Lost Communication with Tire Pressure Monitor Module	-	-	-	-
	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	-	-	-	-

Network gateway ECU		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			
			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	-	-	-	-
		Lost Communication				

	U0126	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
Tire pressure warning ECU	C2179	Multiplex Communication Circuit	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	-	-	-	-
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
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	-	-	-	-
	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

Multi-media module receiver assembly	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 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)	U0127	Lost Communication with Tire Pressure Monitor Module	-	-	-	-
	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	-	-	-	-

Network gateway ECU	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	X	X	X	X

		with Steering Angle Sensor Module				
	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 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	-	-	-	-
Tire pressure warning ECU	C2179	Multiplex Communication Circuit	-	-	-	-
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
		Lost Communication				

	U0130	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
Parking assist ECU	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
	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
	U0073	Sending Malfunction (Navigation to APGS)	-	-	-	-
	U0100	Engine ECU Communication	-	-	-	-
	U0126	Steering Sensor	○*1	X	X	X

Multi-media module receiver assembly	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"	-	-	-	-
	U0151	Lost Communication with Restraints Control Module	-	-	-	-
Main body ECU (cowl side junction block LH)	U0127	Lost Communication with Tire Pressure Monitor Module	-	-	-	-
	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	○*1	X	X	X

		Module				
	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
Network gateway ECU	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 Module	○*1	X	X	X
	U110B	Lost Communication with Parking Assist Control Module "B"	○*1	X	○	X
	U1110	Lost Communication with Clearance Sonar Module	○*1	○	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
		Lost				

	U0126	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	-	-	-	-
Tire pressure warning ECU	C2179	Multiplex Communication Circuit	-	-	-	-
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
		Lost				

	U0130	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	○
	U0073	Sending Malfunction (Navigation to APGS)	-	-	-	-
	U0100	Engine ECU Communication	-	-	-	-
		Steering Sensor				

	U0126	Communication	X	○	X	X
Multi-media module receiver assembly	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	-	-	-	-
Main body ECU (cowl side junction block LH)	U0127	Lost Communication with Tire Pressure Monitor Module	-	-	-	-
	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	X	X	X	○

		Module				
	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
Network gateway ECU	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 with Clearance Sonar Module	X	X	X	X

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
		Lost Communication			

ECM	U0100	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	-	-	-
Tire pressure warning ECU	C2179	Multiplex Communication Circuit	-	-	-
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	X	○	X

		Control Module			
	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
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)	U0127	Lost Communication with Tire Pressure Monitor Module	-	-	-
	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	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
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	-	-	-
	U0100	Lost Communication with ECM/PCM "A"	-	-	-
	U0122	Lost Communication with Vehicle Dynamics	-	-	-

		Control Module			
ECM	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	-	-	-
Tire pressure warning ECU	C2179	Multiplex Communication Circuit	X	X	X
Multiplex tilt and telescopic ECU	B2621	Communication Interruption	X	X	○*1
	B2624	Vehicles Speed	X	X	○*1
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			
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)	U0127	Lost Communication with Tire Pressure Monitor Module	X	X	X
	U0141	Lost Communication with Body Control Module "A"	X	X	X
	U0199	Lost Communication with "Door Control Module A"	○	X	X
	U0208	Lost Communication with "Seat Control Module A"	X	X	X
	U0230	Lost Communication with Rear Gate Module	X	X	X
	U0327	Software Incompatibility with Vehicle Security Control Module	X	X	X
	U1002 (CAN MS BUS)	Lost Communication with Gateway Module (Main Body)	X	X	X
	U1111	Lost Communication with Body No.5 Module	X	○	X
		Lost Communication			

	U1115	with Tilt and Telescopic Module	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		
			Position Control ECU and Switch Communication Stop Mode	Power Back Door ECU Communication Stop Mode	No. 2 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	-	-	-
	U0100	Lost Communication with ECM/PCM "A"	-	-	-
	U0122	Lost Communication with Vehicle Dynamics Control Module	-	-	-
	U0123	Lost Communication with Yaw Rate Sensor	-	-	-

ECM		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	-	-	-
Tire pressure warning ECU	C2179	Multiplex Communication Circuit	X	X	X
Multiplex tilt and telescopic ECU	B2621	Communication Interruption	○	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	-	-	-
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	-	-	-
	C1AEF	Shift Position Information	-	-	-

Clearance warning ECU assembly	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)	U0127	Lost Communication with Tire Pressure Monitor Module	X	X	X
	U0141	Lost Communication with Body Control Module "A"	X	X	○
	U0199	Lost Communication with "Door Control Module A"	X	X	X
	U0208	Lost Communication with "Seat Control Module A"	○	X	X
	U0230	Lost Communication with Rear Gate Module	X	○	X
	U0327	Software Incompatibility with Vehicle Security Control Module	X	X	X
	U1002 (CAN MS BUS)	Lost Communication with Gateway Module (Main Body)	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
		Lost Communication			

Network gateway ECU	U0104	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		
			Tire Pressure Warning 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	-	-	-
Tire pressure warning ECU	C2179	Multiplex Communication Circuit	○*1	X	○*1
Multiplex tilt and telescopic ECU	B2621	Communication Interruption	X	X	○
	B2624	Vehicles Speed	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	-	-	-
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)	U0127	Lost Communication with Tire Pressure Monitor Module	○*1	X	○*1
	U0141	Lost Communication with Body Control Module "A"	X	X	○*1
	U0199	Lost Communication with "Door Control Module A"	X	X	○*1
	U0208	Lost Communication with "Seat Control Module A"	X	X	○*1
	U0230	Lost Communication with Rear Gate Module	X	X	○*1
	U0327	Software Incompatibility with Vehicle Security Control Module	X	○	○*1
	U1002 (CAN MS BUS)	Lost Communication with Gateway Module (Main Body)	X	X	○*1
	U1111	Lost Communication with Body No.5 Module	X	X	○*1
	U1115	Lost Communication with Tilt and Telescopic Module	X	X	○*1
	U0104	Lost Communication with Cruise Control Module	-	-	-
		Lost Communication			

Network gateway ECU	U0114	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	-	-	-

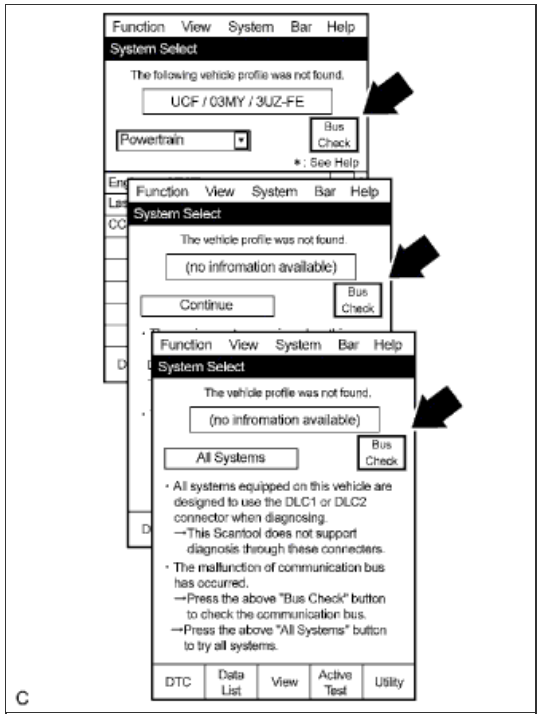
for Preparation Click here

BUS CHECK (COMMUNICATION MALFUNCTION ECU)

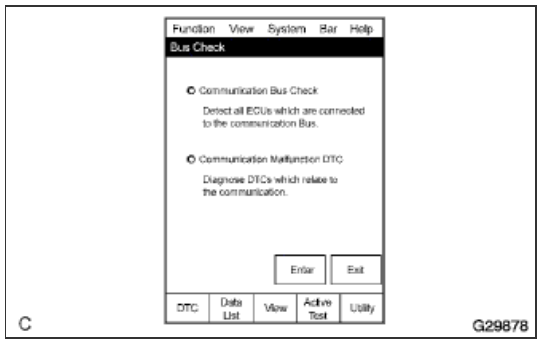
HINT:

Only CAN communication system DTCs for each ECU can be displayed on the intelligent tester.

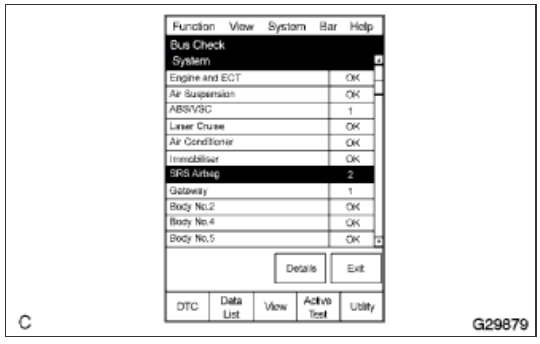
a. Select "Bus Check" from the "System Select" screen on the intelligent tester.



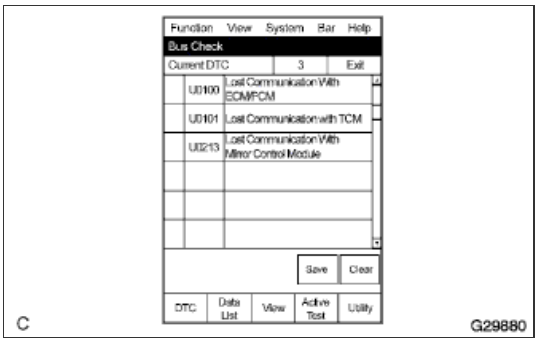
b. Select "Communication Malfunction DTC" from the "Bus Check" screen, and then select "Enter".



c. Select the system of the DTC to be checked and select "Details".



d. CAN communication system DTCs are displayed.

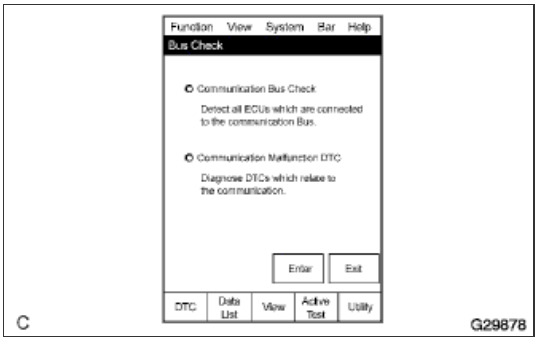


BUS CHECK (COMMUNICATION BUS CHECK)

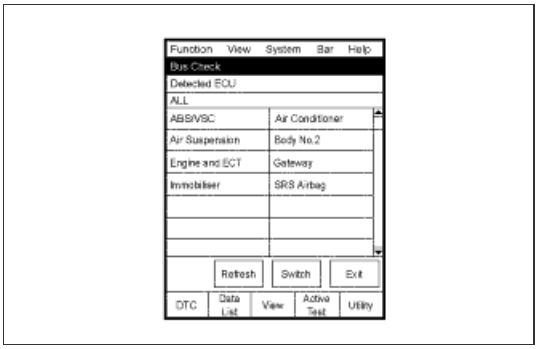
HINT:

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.

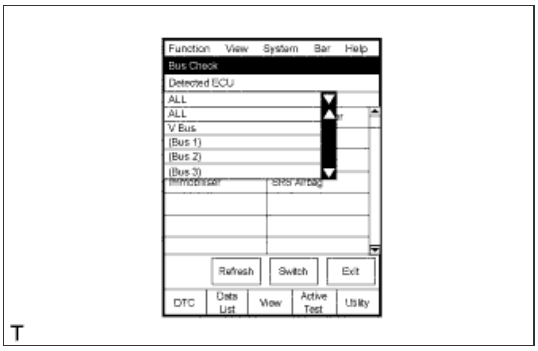


b. The screen displays the ECUs and sensors that are properly connected to the CAN communication system.



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

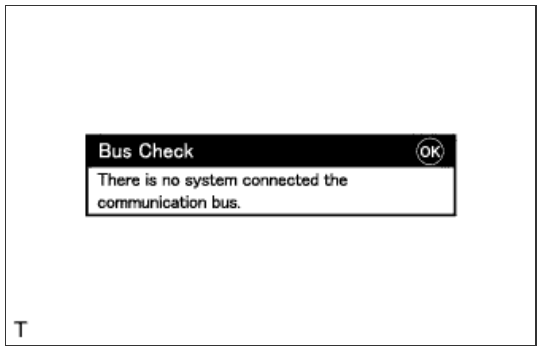
ECU (Sensor) with no Data Monitor History

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
Tire pressure warning ECU	Tire Pressure	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
U0127	Lost Communication with Tire Pressure Monitor Module
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. TIRE PRESSURE WARNING ECU

HINT:

DTC communication uses the CAN communication system.

DTC Code	Detection Item
C2179	Multiplex Communication Circuit

p. YAW RATE SENSOR ASSEMBLY

HINT:

The yaw rate sensor assembly is connected to the CAN communication system but CAN communication DTCs are not stored.

q. STEERING ANGLE SENSOR

HINT:

The steering angle sensor is connected to the CAN communication system but CAN communication DTCs are not stored.

r. 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.

s. 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.

t. 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.

u. WINDSHIELD WIPER ECU

HINT:

The windshield wiper ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

v. 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.

w. 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.

x. 4WD CONTROL ECU

HINT:

The 4WD control ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

y. 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.**
- ***4: This DTC is not stored when only the SPD signal is lost. When any of DTCs C2121 to C2125 is stored and the SPD signal is lost, this DTC is stored.**

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
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
Tire pressure warning ECU	C2179	Multiplex Communication Circuit	○*1, *4	○*1	X	X
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	-	-	-	-
	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	-	-	-	-
	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

Multi-media module receiver assembly	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
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
Main body ECU (cowl side junction block LH)	U0127	Lost Communication with Tire Pressure Monitor Module	-	-	-	-
	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	-	-	-	-

Network gateway ECU		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			
			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	-	-	-	-
		Lost Communication				

	U0126	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
Tire pressure warning ECU	C2179	Multiplex Communication Circuit	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	-	-	-	-
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
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	-	-	-	-
	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

Multi-media module receiver assembly	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 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)	U0127	Lost Communication with Tire Pressure Monitor Module	-	-	-	-
	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	-	-	-	-

Network gateway ECU	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	X	X	X	X

		with Steering Angle Sensor Module				
	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 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	-	-	-	-
Tire pressure warning ECU	C2179	Multiplex Communication Circuit	-	-	-	-
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
		Lost Communication				

	U0130	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
Parking assist ECU	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
	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
	U0073	Sending Malfunction (Navigation to APGS)	-	-	-	-
	U0100	Engine ECU Communication	-	-	-	-
	U0126	Steering Sensor	○*1	X	X	X

Multi-media module receiver assembly	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"	-	-	-	-
	U0151	Lost Communication with Restraints Control Module	-	-	-	-
Main body ECU (cowl side junction block LH)	U0127	Lost Communication with Tire Pressure Monitor Module	-	-	-	-
	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	○*1	X	X	X

		Module				
	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
Network gateway ECU	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 Module	○*1	X	X	X
	U110B	Lost Communication with Parking Assist Control Module "B"	○*1	X	○	X
	U1110	Lost Communication with Clearance Sonar Module	○*1	○	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
		Lost				

	U0126	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	-	-	-	-
Tire pressure warning ECU	C2179	Multiplex Communication Circuit	-	-	-	-
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
		Lost				

	U0130	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	○
	U0073	Sending Malfunction (Navigation to APGS)	-	-	-	-
	U0100	Engine ECU Communication	-	-	-	-
		Steering Sensor				

	U0126	Communication	X	○	X	X
Multi-media module receiver assembly	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	-	-	-	-
Main body ECU (cowl side junction block LH)	U0127	Lost Communication with Tire Pressure Monitor Module	-	-	-	-
	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	X	X	X	○

		Module				
	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
Network gateway ECU	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 with Clearance Sonar Module	X	X	X	X

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
		Lost Communication			

ECM	U0100	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	-	-	-
Tire pressure warning ECU	C2179	Multiplex Communication Circuit	-	-	-
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	X	○	X

		Control Module			
	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
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)	U0127	Lost Communication with Tire Pressure Monitor Module	-	-	-
	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	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
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	-	-	-
	U0100	Lost Communication with ECM/PCM "A"	-	-	-
	U0122	Lost Communication with Vehicle Dynamics	-	-	-

		Control Module			
ECM	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	-	-	-
Tire pressure warning ECU	C2179	Multiplex Communication Circuit	X	X	X
Multiplex tilt and telescopic ECU	B2621	Communication Interruption	X	X	○*1
	B2624	Vehicles Speed	X	X	○*1
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			
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)	U0127	Lost Communication with Tire Pressure Monitor Module	X	X	X
	U0141	Lost Communication with Body Control Module "A"	X	X	X
	U0199	Lost Communication with "Door Control Module A"	○	X	X
	U0208	Lost Communication with "Seat Control Module A"	X	X	X
	U0230	Lost Communication with Rear Gate Module	X	X	X
	U0327	Software Incompatibility with Vehicle Security Control Module	X	X	X
	U1002 (CAN MS BUS)	Lost Communication with Gateway Module (Main Body)	X	X	X
	U1111	Lost Communication with Body No.5 Module	X	○	X
		Lost Communication			

	U1115	with Tilt and Telescopic Module	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		
			Position Control ECU and Switch Communication Stop Mode	Power Back Door ECU Communication Stop Mode	No. 2 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	-	-	-
	U0100	Lost Communication with ECM/PCM "A"	-	-	-
	U0122	Lost Communication with Vehicle Dynamics Control Module	-	-	-
	U0123	Lost Communication with Yaw Rate Sensor	-	-	-

ECM		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	-	-	-
Tire pressure warning ECU	C2179	Multiplex Communication Circuit	X	X	X
Multiplex tilt and telescopic ECU	B2621	Communication Interruption	○	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	-	-	-
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	-	-	-
	C1AEF	Shift Position Information	-	-	-

Clearance warning ECU assembly	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)	U0127	Lost Communication with Tire Pressure Monitor Module	X	X	X
	U0141	Lost Communication with Body Control Module "A"	X	X	○
	U0199	Lost Communication with "Door Control Module A"	X	X	X
	U0208	Lost Communication with "Seat Control Module A"	○	X	X
	U0230	Lost Communication with Rear Gate Module	X	○	X
	U0327	Software Incompatibility with Vehicle Security Control Module	X	X	X
	U1002 (CAN MS BUS)	Lost Communication with Gateway Module (Main Body)	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
		Lost Communication			

Network gateway ECU	U0104	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		
			Tire Pressure Warning 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	-	-	-
Tire pressure warning ECU	C2179	Multiplex Communication Circuit	○*1	X	○*1
Multiplex tilt and telescopic ECU	B2621	Communication Interruption	X	X	○
	B2624	Vehicles Speed	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	-	-	-
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)	U0127	Lost Communication with Tire Pressure Monitor Module	○*1	X	○*1
	U0141	Lost Communication with Body Control Module "A"	X	X	○*1
	U0199	Lost Communication with "Door Control Module A"	X	X	○*1
	U0208	Lost Communication with "Seat Control Module A"	X	X	○*1
	U0230	Lost Communication with Rear Gate Module	X	X	○*1
	U0327	Software Incompatibility with Vehicle Security Control Module	X	○	○*1
	U1002 (CAN MS BUS)	Lost Communication with Gateway Module (Main Body)	X	X	○*1
	U1111	Lost Communication with Body No.5 Module	X	X	○*1
	U1115	Lost Communication with Tilt and Telescopic Module	X	X	○*1
	U0104	Lost Communication with Cruise Control Module	-	-	-
		Lost Communication			

Network gateway ECU	U0114	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 2. System Related 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 2. ECM 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 2. ECM, Master cylinder solenoid (skid control ECU), Steering angle sensor, Yaw rate sensor assembly 3. -	An invalid value is stored in the EDR.	-
	SRS warning light control	Turns the SRS warning light on/off.	1. Combination meter assembly 2. Center airbag sensor assembly 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 2. Center airbag sensor assembly 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 2. Center airbag sensor assembly 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) 2. - 3. Combination meter assembly	-	-
			1. Master cylinder solenoid		

Brake (VSC)	ABS control	ABS control according to the G sensor signal.	(skid control ECU) 2. Yaw rate sensor assembly 3. Master cylinder solenoid (skid control ECU)	The ABS does not operate.	VSC warning light illuminates.
	TRC control CRAWL control	Brake control and engine torque control during acceleration slip.	1. Master cylinder solenoid (skid control ECU) 2. ECM, 4WD control ECU 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) 2. ECM, 4WD control ECU, Steering angle sensor, Yaw rate sensor assembly, Steering control ECU 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) 2. ECM 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. - 2. ECM 3. ECM	ACC control is canceled.	• "Check Cruise System" is displayed on the multi-information display. • The master warning light turns on and the warning buzzer sounds.
			1. - 2. Steering angle sensor 3. -		
			1. - 2. Yaw rate sensor assembly 3. -		
			1. - 2. Master cylinder solenoid (skid control ECU) 3. Master cylinder solenoid (skid control ECU)	-	-
			1. Distance control ECU assembly 2. - 3. -	-	-

			1. - 2. Steering control ECU 3. -	-	-
			1. - 2. Combination meter assembly 3. -	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	-	-
Pre-crash Safety System (PCS)	PCS	Seat belt and brake control immediately before a crash.	1. - 2. ECM 3. -	PCS control stops.	• "Check Cruise System" is displayed on the multi-information display. • The master warning light turns on and the warning buzzer sounds.
			1. - 2. Steering angle sensor 3. -		
			1. - 2. Yaw rate sensor assembly 3. -		
			1. - 2. Master cylinder solenoid (skid control ECU) 3. Master cylinder solenoid (skid control ECU)		
			1. Distance control ECU assembly 2. - 3. -		
			1. - 2. Steering control ECU 3. -		
			1. - 2. - 3. Seat belt control ECU	PCS control stops.	-
Tire Pressure Monitor Sensor (TPM)	TPMS control	System that informs the user of low air pressure and current pressure values based on the pressure data values from the transmitters installed inside the tires.	1. - 2. Combination meter assembly 3. -	When the pressure signal is not received from the transmitter and the CAN signal communication stops at the same time, the request to display the indicator and multi-display warning is sent to the meter by the Tire pressure warning ECU.	• Tire pressure warning light turns on. • TPMS malfunction display is displayed on the multi-information display.
			1. - 2. ECM 3. -	-	-
			1. Tire pressure warning ECU 2. - 3. -	-	-
	Auto Away/ Return	Controls the auto away/ return operation and prohibits auto control	1. Multiplex tilt and telescopic ECU 2. Position control ECU and switch, Accessory	Auto away/return control does not operate.	-

Tilt and Telescopic (TAT)	Control	using the IG signal, driver seat buckle switch signal, etc.	bus buffer, Main body ECU (cowl side junction block LH), Combination meter assembly 3. -	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 2. Position control ECU and switch 3. -	Memorization and recall 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 2. - 3. -	-	-
			1. - 2. ECM, Master cylinder solenoid (skid control ECU) 3. -	Switching between High and Low is prohibited. **HINT:** 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 2. - 3. -	-	-
			1. - 2. ECM, Master cylinder solenoid (skid control ECU) 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 2. - 3. -	-	-
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	Center differential lock switching is prohibited. **HINT:** 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	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 2. - 3. -	-	-
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	Rear differential lock switching is prohibited. **HINT:** 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 2. - 3. -	-	-
			1. - 2. Master cylinder solenoid (skid control ECU)	L4F switching is prohibited and the operation is performed with L4L.	No user notification.

(FWM)			3. -		
	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 2. - 3. -	-	-
			1. - 2. Air conditioning amplifier assembly, ECM 3. -	Changes the temperature used for the calculation of ACT temperature adjustment control.	No user notification.
	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 2. - 3. -	-	-
			1. - 2. ECM, Master cylinder solenoid (skid control ECU) 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 2. - 3. -	-	-
	High-Low actuator failure signal output	When the High-Low actuator limit switch is malfunctioning, a signal is output.	1. 4WD control ECU 2. - 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 2. - 3. -	-	-
	L4 status signal condition output	A signal is output when switching between the L4F and L4L position is completed.	1. 4WD control ECU 2. - 3. -	-	-
	C/D lock condition signal output	CDL switch condition is output.	1. 4WD control ECU 2. - 3. -	-	-
	R/D lock condition signal output	R switch condition is output.	1. 4WD control ECU 2. - 3. -	-	-
	T/F N condition signal output	NP switch condition is output.	1. 4WD control ECU 2. - 3. -	-	-
Gasoline Engine	Engine control system	Adjusts the fuel injection volume according to each sensor value and controls the engine.	1. ECM 2. - 3. -	-	-
	ECT control system	Changes the ECT shift position based on the vehicle speed and torque.	1. ECM 2. - 3. -	-	-
	Cruise control system	Maintains a constant vehicle speed and drives the vehicle.	1. ECM 2. - 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) 2. - 3. Power back door unit assembly (power back door ECU)	-	-
			1. - 2. Main body ECU (cowl side junction	The power back door system does not	

			block LH), Combination meter assembly, ECM 3. -	operate (when the start signal is received, the buzzer sounds a warning that the conditions are not met).	-
Power Back Door (BKD)	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 assembly (power back door ECU) 2. - 3. Power back door unit assembly (power back door ECU)	-	-
			1. - 2. Main body ECU (cowl side junction block LH), Certification ECU (smart key ECU assembly) 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) 2. Main body ECU (cowl side junction block LH) 3. Power back door unit assembly (power back door ECU)	When the back door operation begins, the hazard warning lights may not illuminate.	-
			1. - 2. - 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) 2. - 3. Power back door unit assembly (power back door ECU)	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	DTC function does not operate.	-
	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	1. Suspension control ECU 2. - 3. Suspension control ECU	-	-
			1. - 2. ECM 3. -	Uses the fail-safe constant and continues damping force control. Damping force control is prohibited.	A warning is displayed.
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -		
			1. - 2. Steering		

		changes the damping force of the shock absorbers.	angle sensor 3. -	Damping force control is prohibited.	
			1. - 2. Yaw rate sensor assembly 3. -		
			1. - 2. Steering control ECU 3. -		
Active Height Control Suspension (4-WHEEL AHC)			1. Suspension control ECU 2. - 3. Suspension control ECU	-	-
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	Spring rate switching control is prohibited.	"Check 4-WHEEL AHC System" illuminates.
	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. - 2. Master cylinder solenoid (skid control ECU) 3. -	• Anti-roll spring rate switching control is prohibited. • Anti-dive spring rate switching control continues.	A warning is displayed.
			1. - 2. Steering angle sensor 3. -		
			1. - 2. Steering control ECU 3. -		
			1. - 2. Yaw rate sensor assembly 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 2. - 3. Suspension control ECU	-	-
			1. - 2. Combination meter assembly 3. -	-	A warning is displayed.
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	The vehicle returns to vehicle height "N" and vehicle height control is prohibited.	
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -		
			1. - 2. Steering angle sensor 3. -		
			1. - 2. Steering control ECU 3. -		
			1. - 2. Yaw rate		

			sensor assembly 3. -		
Air Conditioner (ACN)	Air conditioning system	• Air conditioning vent temperature control according to the engine coolant temperature information. • Air conditioning vent switching control according to the engine coolant temperature information. • Air conditioning vent airflow amount control according to the engine coolant temperature information. • Compensation of the engine coolant temperature information according to the engine type. • Compressor lock judgment value switching according to the engine type.	1. Air conditioning amplifier assembly 2. ECM 3. -	Coolant information: Control is performed by using the default value (80°C [176°F]). 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 2. ECM 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 assembly 2. ECM 3. -	Load control: No load control (normal control).	-
		• Activation control according to the viscous heater activation permission information. • Activation control according to the PTC heater activation permission information.	1. Air conditioning amplifier assembly 2. ECM 3. -	Permission information: Control is performed according to the operation prohibition state.	-
		• Air conditioning system operation status control and panel switch IND output control			

Air Conditioner (ACN)	Air conditioning system	output control according to panel switch operation information. • Exhaust gas automatic air presence judgment and circulation control switching according to exhaust gas automatic air presence information.	1. Air conditioning amplifier assembly 2. Multi-media module receiver assembly 3. -	None (Air conditioning system operation condition switching is not possible).	-
		Dimmer information output to the LIN panel according to the display dimmer information.	1. Air conditioning amplifier assembly 2. Main body ECU (cowl side junction block LH) 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 2. Main body ECU (cowl side junction block LH) 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 2. Main body ECU (cowl side junction block LH) 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 2. Combination meter assembly 3. -	• Decrease in reliability and consistency of the exterior temperature value of the outside temperature display. • 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 2. Master cylinder solenoid (skid control ECU) 3. -	• Initialization condition: Data output response request (STS=0). • 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. • 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.
			1. Position control ECU and switch 2. - 3. Position	-	-

			3. Position control ECU and switch		
	Memorization and recall function	Memorizes and recalls the seat position.	1. - 2. ECM 3. -	The memorization and recall functions do not operate.	-
			1. - 2. ECM 3. -		
			1. - 2. Main body ECU (cowl side junction block LH) 3. -		
			1. - 2. Outer mirror control ECU assembly 3. -		
Seat (DST)	Memory Call Function	Acquires card key information from the certification ECU and performs automatic recall.	1. Position control ECU and switch 2. - 3. Position control ECU and switch	-	-
			1. - 2. Certification ECU (smart key ECU assembly) 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 2. - 3. -	-	-
			1. - 2. Multiplex tilt and telescopic ECU 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 2. - 3. Position control ECU and switch	-	-
			1. - 2. ECM 3. -	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	The away function does not operate.	-
			1. - 2. Combination meter assembly 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 2. Main body ECU (cowl side junction block LH) 3. -	The mirror surface manual adjustment function does not operate (stops if there is a disruption during the operation).	-
			1. Outer mirror control ECU assembly 2. Position control ECU		

Mirror (DRD)	Mirror surface memory control	Function that records the mirror surface position.	and switch, Main body ECU (cowl side junction block LH) 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 assembly 2. Position control ECU and switch 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 assembly 2. Main body ECU (cowl side junction block LH), ECM 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 2. Main body ECU (cowl side junction block LH), ECM 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 2. Main body ECU (cowl side junction block LH) 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 2. - 3. -	-	-
			1. - 2. ECM 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. - 2. Main body ECU (cowl side junction block LH) 3. -		
			1. - 2. Combination meter assembly 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. • With the engine switch on (IG), the washer fluid delay timing becomes fixed. • 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 2. - 3. -	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	With the engine switch on (IG), the disruption value data is routed to the rain sensor. Otherwise, the rain sensor	-

			1. - 2. Combination meter assembly 3. -	operation depends on the specifications.	
Navigation (EMVN)	Air Conditioning Control	Controls the selecting of the registers, temperature adjustment, etc. according to the operation of the touch panel switches on the display.	1. Multi-media module receiver assembly 2. Air conditioning amplifier assembly 3. Air conditioning amplifier assembly	• Turns off any indicators related to the air conditioning system. • If the set air temperature is displayed on an external display device, the system clears the set air temperature display. • Disables the functions used to operate the air conditioning system.	The "Climate control 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 2. ECM, Parking assist ECU or Clearance warning ECU assembly 3. Parking assist ECU or Clearance warning ECU assembly	• If communication stop occurs while clearance sonar settings screen is displayed, settings screen is cleared. • 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 2. Combination meter assembly, ECM, Master cylinder solenoid (skid control ECU) 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. • The most recent value for the fuel consumption graph on the eco navigation (eco drive) screen is cleared. • 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). • 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.	-
					• If a communication stop occurs

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).	1. Multi-media module receiver assembly 2. Main body ECU (cowl side junction block LH), ECM, Steering angle sensor, Steering control ECU 3. -	-	• 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. • 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 2. Main body ECU (cowl side junction block LH) 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 2. Combination meter assembly, ECM, Master cylinder solenoid (skid control ECU), Steering control ECU, Suspension control ECU 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 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	An invalid flag is set.	User is notified of the invalid flag information.

Navigation (EMVN)			solenoid (skid control ECU), 4WD control ECU, Distance control ECU assembly, Steering control ECU, Seat belt control ECU 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 2. Main body ECU (cowl side junction block LH) 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 2. Position control ECU and switch, Certification ECU (smart key ECU assembly), Main body ECU (cowl side junction block LH), Air conditioning amplifier assembly 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. • 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 2. - 3. -	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 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. - 2. Combination meter assembly 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. - 2. ECM 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. - 2. Windshield wiper ECU 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 2. - 3. -	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	Does not activate release, and does not release the lower door latch.	-
			1. - 2. Combination meter assembly 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 2. - 3. -	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 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 2. - 3. -	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	Routes the disrupted value data to the overhead module.	-
			1. - 2. Certification ECU (smart key ECU assembly) 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 2. - 3. Steering control ECU	-	-
			1. - 2. Steering angle sensor 3. -	VGRS system does not operate.	Master warning light illuminates and display is shown on multi-information display (meter display).
			1. - 2. ECM 3. -		
			1. - 2. Master cylinder solenoid (skid control ECU) 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 2. - 3. -	-	-
			1. - 2. Air conditioning amplifier assembly 3. -	The sonar system functions normally. Maintains distance by maintaining the outside temperature at 25°C (77°F).	-
			1. - 2. Windshield wiper ECU 3. -	The sonar system functions normally. Operates the obstacle judgments with the wiper off (except in rain).	-
			1. - 2. ECU 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. - 2. Main body ECU (cowl side junction block LH) 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. - 2. Combination	If data received from the meter ECU is	

			meter assembly 3. -	lost, the system is inoperable as the clearance sonar is controlled at 20 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. - 2. Multi-media module receiver assembly 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) 2. - 3. -	-	-
			1. - 2. ECM 3. -	• Leveling control continues. • Swivel control centers the headlights.	AFS OFF indicator blinks.
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	• Leveling control continues with the vehicle speed set to 0 km/h (0 mph). • Swivel control centers the headlights.	
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	• Leveling control continues. • Swivel control centers the headlights.	
			1. - 2. Steering control ECU 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) 2. - 3. -	-	-
			1. - 2. ECM 3. -	• Leveling control continues. • Swivel control centers the headlights.	AFS OFF indicator blinks.
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	• Leveling control continues with the vehicle speed set to 0. • Swivel control centers the headlights.	
			1. - 2. Steering angle sensor, Steering control ECU 3. -	• Leveling control continues. • Swivel control centers the headlights.	
			1. - 2. Steering angle sensor 3. -	• Leveling control continues. • Swivel control centers the headlights.	
			1. - 2. Main Body ECU (Cowl Side Junction Black LH) (V Bus). 3. -	• Level control continues. • Swivel control centers the headlights.	
			1. Headlight swivel ECU assembly (AFS ECU) 2. -	-	-

	AFS indicator	Monitors for AFS system malfunctions and blinks the indicator of the meter when a malfunction is detected.	3. Headlight swivel ECU assembly (AFS ECU)		
			1. - 2. Combination meter assembly 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 2. - 3. -	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	The guidelines cannot be adjusted.	-
			1. - 2. ECM 3. -	The screen does not change to the camera screen even when the shift lever is moved to R.	-
			1. - 2. Steering angle sensor, Steering control ECU 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 2. - 3. -	-	-
			1. - 2. ECM 3. -	• The automatic display function does not operate. • The screen does not change to the camera screen even when the main switch is pushed.	-
			1. - 2. Steering angle sensor, Steering control ECU 3. -	-	On the bottom of the screen, "Guidance unavailable" is displayed, and the change display mode switch is not displayed.
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	• Automatic display mode does not operate. • 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 2. - 3. -	-	-
			1. - 2. ECM 3. -	• The automatic display function does not operate. • The screen does not change to the camera screen even when the main switch is pushed.	-
			1. - 2. Steering angle sensor, Steering control ECU 3. -	-	On the bottom of the screen, "Guidance unavailable" is displayed, and the change display mode switch is not displayed.
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	• Automatic display mode does not operate. • The screen does not change to the camera screen even when the main switch is pushed.	-
			1. - 2. 4WD control	• The front single screen cannot be displayed when the transfer is in L4.	

			2. ECU 3. -	• 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 2. - 3. Seat belt control ECU	-	• "Check PCS System" is displayed on the multi-information display. • The master warning light turns on and the warning buzzer sounds.
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	The PSB ECU detects a communication failure. Control stops. However, control continues until the end if the communication failure occurs during control.	
			1. - 2. Center airbag sensor assembly 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 2. - 3. Seat belt control ECU	-	
			1. - 2. Distance control ECU assembly 3. -	The PCS system does not operate. However, seat belt operation during sudden braking is an exception.	
			1. - 2. Center airbag sensor assembly 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 2. - 3. Combination meter assembly	-	-
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	The speedometer indicates 0 km/h (0 mph).	-
	Tachometer	Indicates the engine speed according to the engine speed signal.	1. Combination meter assembly 2. - 3. Combination meter assembly	-	-
			1. - 2. ECM 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 2. - 3. Combination meter assembly	-	-
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	• The ODO/TRIP meter stops calculating and the last displayed value continues to be displayed. • Optitron meter: In multi-display. • Regular analog meter: Independent LCD.	-
			1. Combination meter assembly 2.		

	Engine coolant temperature gauge	Indicates the coolant temperature according to the engine coolant temperature signal.	2. - 3. Combination meter assembly	-	-
			1. - 2. ECM 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 2. - 3. Combination meter assembly	-	-
			1. - 2. Master cylinder solenoid (skid control ECU) 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 2. - 3. Combination meter assembly	-	-
			1. - 2. ECM 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 2. - 3. Combination meter assembly	-	-
			1. - 2. ECM 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 2. - 3. Combination meter assembly	-	-
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	-	-
			1. - 2. Main body ECU (cowl side junction block LH), Master cylinder solenoid (skid control ECU)	Conditions for the seat belt buzzer not sounding: Conditions for the seat belt buzzer not sounding: • When VSC1S03 is lost: Does not sound. • When BDB1S01 is lost: Does not sound. • When ECT1S90 is lost: Control is performed with B_R=0b. • When ECT1S95 is lost: Control is performed with B_CPKB=0b.	-
				Conditions for the seat belt buzzer sounding: • When VSC1S03 is	

			ECU) 3. -	VSC1S03 is lost: Control is performed with the vehicle speed as 0 km/h (0 mph). • When VSC1S95 is lost: Control is performed with B_CPKB=0b. • 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. - 2. Main body ECU (cowl side junction block LH) 3. -	The light reminder buzzer does not sound.	-
				The sliding roof buzzer condition is maintained (until bus sleep).	-
			1. - 2. ECM 3. -	The A/T reverse buzzer does not sound.	-
				• The sports shift reject buzzer condition is maintained. • The radar cruise low speed cancel buzzer does not sound. • The radar cruise warning buzzer does not sound.	-
			1. - 2. 4WD control ECU 3. -	The last state of the 4WD buzzer is maintained.	-
			1. - 2. Certification ECU (smart key ECU assembly) 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 2. - 3. Combination meter assembly	-	-
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	ABS warning indicator turns on.	ABS warning indicator turns on.
			1. - 2. Main body ECU (cowl side junction block LH), Master cylinder solenoid (skid control ECU) 3. -	Brake warning light • When VSC1S95 is lost: Illuminates. • When BDB1S01 is lost: Control is performed with PKB_BDB=0b.	-
			1. - 2. Master cylinder solenoid	• SLIP indicator light condition is maintained. • VSC OFF indicator light condition is maintained. • The downhill assist control indicator condition is maintained. • The slight low speed TRC indicator condition is maintained. • The condition of the multi-terrain select indicator is maintained.	-

			1. - 2. (skid control ECU) 3. -	• 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. 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. - 2. Headlight swivel ECU assembly (AFS ECU) 3. -	• Maintains the AFS OFF indicator light condition. • Maintains the Headlight beam level control system warning light condition.	-
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	When there is determined to be a disruption, the following indicators operate as follows: While the engine switch is on (IG): Condition is maintained. When the engine switch is off: Turns off. • DOOR indicator light • Driver side seat belt warning light	-
				When there is determined to be a disruption, the following indicators operate as follows: While the engine switch is on (IG): Condition is maintained. When the engine switch is off: Turns off. • FRONT FOG indicator light • REAR FOG indicator light • TAIL indicator light • HEAD indicator light • BEAM indicator light	-
				Automatic high beam.	-
Meter (MET)	Telltale	Turns on/blinks/turns off indicators based on the various signals.	1. - 2. Parking assist ECU 3. -	The clearance sonar indicator turns off.	-
			1. - 2. ECM 3. -	• The A/T P warning light condition is maintained. • The ECT PW indicator light condition is maintained. • The 2nd START indicator light condition is maintained. • The cruise control indicator condition is maintained. • The SET indicator condition is maintained. • The radar cruise control indicator condition is maintained.	-
			1. - 2. ECM, 4WD control ECU 3. -	The A/T P warning light conditions are maintained.	-
			1. - 2. ECM, Master cylinder solenoid (skid control ECU) 3. -	The eco drive indicator light is turned off.	-
			1. - 2. 4WD control ECU 3. -	• The center differential lock indicator light turns off. • The 4LO indicator light turns off.	-
			1. - 2. Seat belt control ECU	The PCS indicator light condition is maintained.	-

			3. -		
			1. - 2. Suspension control ECU 3. -	ACCESS MODE indicator light • When the engine switch is on (IG): The condition is maintained. • When the engine switch is off: Turns off.	-
			1. - 2. Tire pressure warning ECU 3. -	The tire pressure warning light stays illuminated after blinking 62 times.	The tire pressure indicator stays illuminated after blinking 62 times.
			1. - 2. Center airbag sensor assembly 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 2. - 3. Combination meter assembly	-	-
			1. - 2. ECM, Master cylinder solenoid (skid control ECU) 3. -	• Drive monitor calculations stop and the display is blank. • The current fuel consumption, average fuel consumption after refilling, distance to empty and average vehicle speed.	-
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	The digital speedometer displays 0 km/h (0 mph).	-
			1. - 2. ECM, Master cylinder solenoid (skid control ECU) 3. -	The eco drive indicator zone display is turned off.	-
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	Parking brake drag warning display conditions: • When VSC1S03 is lost: Control is performed with the vehicle speed as 0 km/h (0 mph). • When VSC1S95 is lost: Control is performed with B_CPKB=0b. • When BDB1S01 is lost: Control is performed with PKB_BDB=0b.	-
			1. - 2. Main body ECU (cowl side junction block LH), Master cylinder solenoid (skid control ECU) 3. -	• The CRAWL system display is maintained. • The VSC display is maintained.	-
			1. - 2. Master	• The condition of the multi-terrain select indicator is	

			1. - 2. Master cylinder solenoid (skid control ECU) 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. ODO calculation stops for the following display conditions: Oil maintenance display, T-BELT display.	-
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. - 2. Main body ECU (cowl side junction block LH), Master cylinder solenoid (skid control ECU) 3. -	Conditions for the door open display and door open while driving display: • VSC1S03: Control is performed with the vehicle speed as 0 km/h (0 mph). • BSB1S01: Display state is maintained. • BDB1S08: No display.	-
			1. - 2. Air conditioning amplifier assembly 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. - 2. Main body ECU (cowl side junction block LH) 3. -	The shift position display turns off.	-
				The door control transmitter display condition is as follows: • While the engine switch is on (IG): Condition is maintained. • The door control transmitter display condition is as follows:	-
				The sliding roof open display condition is as follows: • While the engine switch is on (IG): Condition is maintained. • When the engine switch is off: Turns off.	
				The condition of the automatic high beam display is maintained.	-
			1. - 2. Parking assist ECU 3. -	The clearance warning sonar display condition is maintained.	-
			1. - 2. ECM 3. -	The A/T shift position display turns off.	-
				The A/T OIL TEMP display state is maintained. • When ECT1S92 is lost: Condition is maintained. • When ENG1S03 is lost: Controlled as ENG-OFF.	-
			1. - 2. Seat belt control ECU	The PCS display condition 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.	3. -		
			1. - 2. Certification ECU (smart key ECU assembly) 3. -	• The door control transmitter display condition is maintained. • The security display condition is maintained. • The door control transmitter unlock mode display condition is maintained.	-
			1. - 2. Suspension control ECU 3. -	4-WHEEL AHC vehicle height display turns off. "Check 4-WHEEL AHC System" is displayed.	4-WHEEL AHC vehicle height display turns off. "Check 4-WHEEL AHC System" is displayed.
			1. - 2. Multi-media module receiver assembly 3. -	Arrow navigation is displayed.	-
			1. - 2. Steering angle sensor, Steering control ECU 3. -	The steering angle display is turned off.	-
			1. - 2. Tire pressure warning ECU 3. -	"Check Tire Pressure System" is displayed.	"Check Tire Pressure System" is displayed (in the meter).
			1. - 2. Steering control ECU 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 2. - 3. Combination meter assembly	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	Daytime brightness.	-
			1. - 2. ECM 3. -	-	-
	Passenger seat belt warning indicator	Blinks the passenger seat belt warning indicator according to the CAN signals.	1. Combination meter assembly 2. - 3. Combination meter assembly	-	-
			1. - 2. Center airbag sensor assembly 3. -	The passenger seat belt warning indicator condition is maintained.	-
			1. - 2. - 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) 2. Combination meter assembly, ECM	The forced engine switch off function does not operate.	-
				When the power supply switching conditions are met, power supply switching control is permitted. When the power supply condition IG2 start/stop switch turns from off to on, the power supply condition is changed	-

			3. -	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) 2. Certification ECU (smart key ECU assembly) 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). The forced door lock function lock output does not operate. The dome light warning control does not operate. 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. 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) 2. Certification ECU (smart key ECU assembly) 3. Main body ECU (cowl side junction block LH)	Entry and start/wireless control does not operate. 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) 2. Combination meter assembly, ECM 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) 2. Combination meter assembly, ECM 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) 2. ECM 3. Main body ECU (cowl side junction block LH)	DRL control does not operate. **HINT:** 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) 2. Certification ECU (smart key ECU assembly), Combination meter assembly, ECM, Parking assist ECU 3. Outer mirror control ECU	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. When the engine switch is on (IG), the door mirror foot light does not operate by the manual unlock.	-

			assembly, No. 2 main body ECU, Main body ECU (cowl side junction block LH)	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) 2. Power back door unit assembly (power back door ECU) 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) 2. Combination meter assembly 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) 2. Power back door unit assembly (power back door ECU) 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) 2. Combination meter assembly 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. 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) 2. Suspension control ECU 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	-
			1. Main body ECU (cowl		

	Power window	The system that operates power window control based on the request from wireless/smart access control.	side junction block LH) 2. Certification ECU (smart key ECU assembly) 3. -	Power window control does not operate. 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) 2. - 3. -	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	• The entry lock/ unlock does not operate. • The entry back door does not operate. • The entry and start warning message does not operate. • The key lock-in prevention function does not operate. • The entry illumination does not operate.	-
				Package default setting.	-
			1. - 2. Combination meter assembly 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) 2. - 3. -	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 3. Main body ECU (cowl side junction block LH)	Does not sound even though there is a wireless buzzer request.	-
				Package default settings.	-
			1. - 2. Suspension control ECU 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) 2. - 3. -	-	-
			1. - 2. ECM 3. -	The engine switch is forcibly turned off.	-
Verification (IDT)	Wireless function	Wireless electric wave information transmission.	1. Certification ECU (smart key ECU assembly) 2. - 3. -	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	-	-
	Security function	Security alarm control.	1. Certification ECU (smart key ECU assembly) 2. - 3. -	-	-
			1. - 2. Main body ECU (cowl side junction	The alarm is not unset. The alarm is not set.	-

			block LH) 3. -		
			1. - 2. ECM 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 2. Seat belt control ECU 3. -	• Transmission interval counter (the selected RAM and CAN controller initialization). • Extremely late frame rejection function (the RAM of the gateway application and the selected RAM initialization). • Reception interval counter (the selected RAM and CAN controller initialization).	-
			1. Network gateway ECU 2. Distance control ECU assembly 3. -		
			1. Network gateway ECU 2. Parking assist ECU 3. -		
			1. Network gateway ECU 2. Steering angle sensor 3. -		
			1. Network gateway ECU 2. Suspension control ECU 3. -		
			1. Network gateway ECU 2. Master cylinder solenoid (skid control ECU) 3. -		
			1. Network gateway ECU 2. Yaw rate sensor assembly 3. -		
			1. Network gateway ECU 2. Steering control ECU 3. -		
			1. Network gateway ECU 2. 4WD control ECU 3. -		
			1. Network gateway ECU 2. - 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	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
U0127	Lost Communication with Tire Pressure Monitor Module	Main body ECU (cowl side junction block LH)	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

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
U0127	Lost Communication with Tire Pressure Monitor Module	Main body ECU (cowl side junction block LH)	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

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
U0127	Lost Communication with Tire Pressure Monitor Module	Main body ECU (cowl side junction block LH)	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

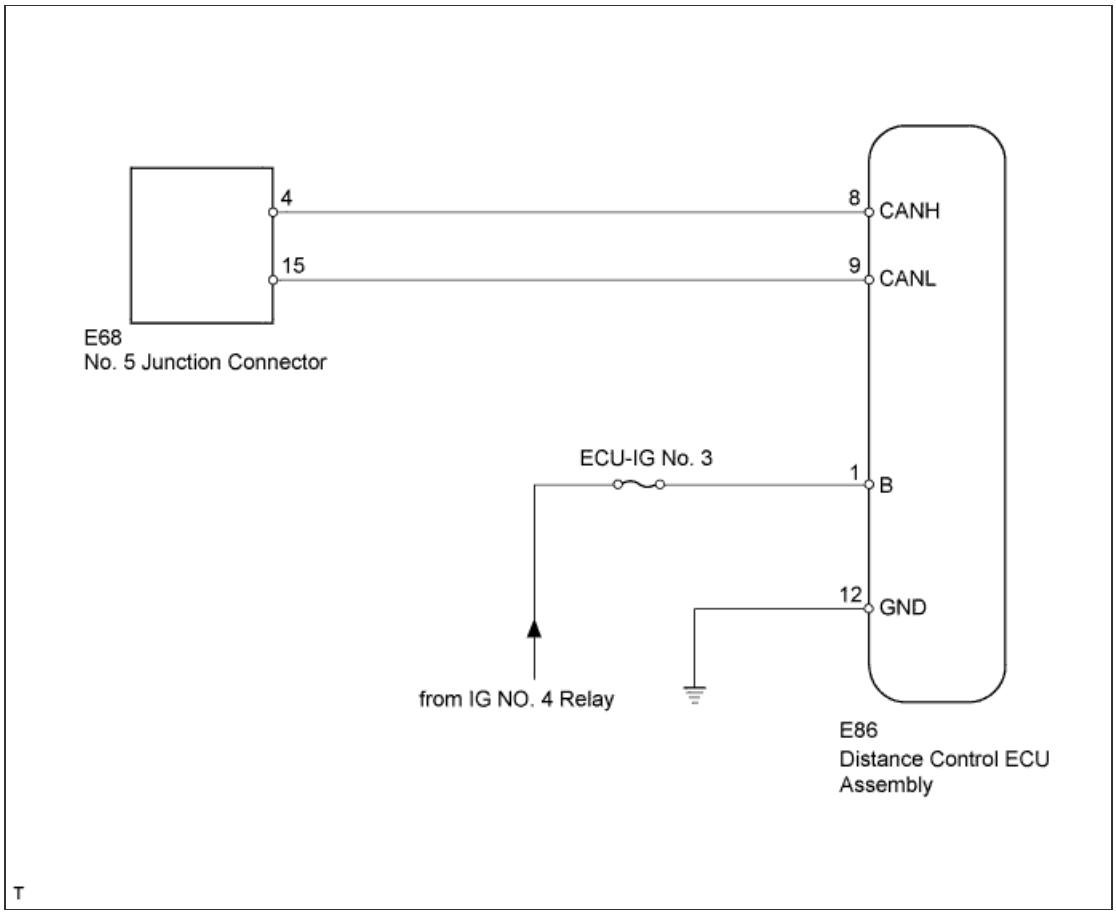
for Preparation Click here

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 • Distance control ECU assembly CAN branch wire or connector • Distance control ECU assembly

For vehicles with a 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.

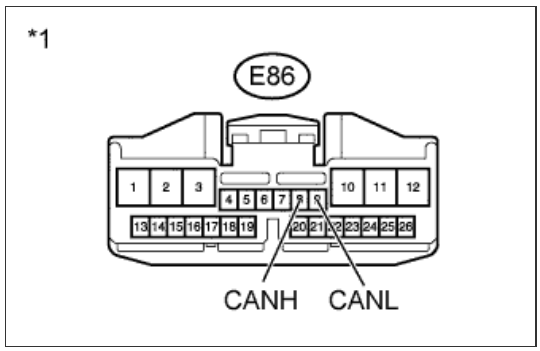
b. Measure the resistance according to the value(s) in the table below.

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.

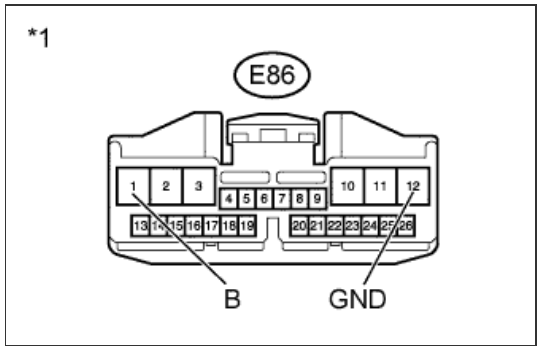
NOTICE:

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 (to Distance Control ECU Assembly)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE DISTANCE CONTROL ECU ASSEMBLY (Click here)

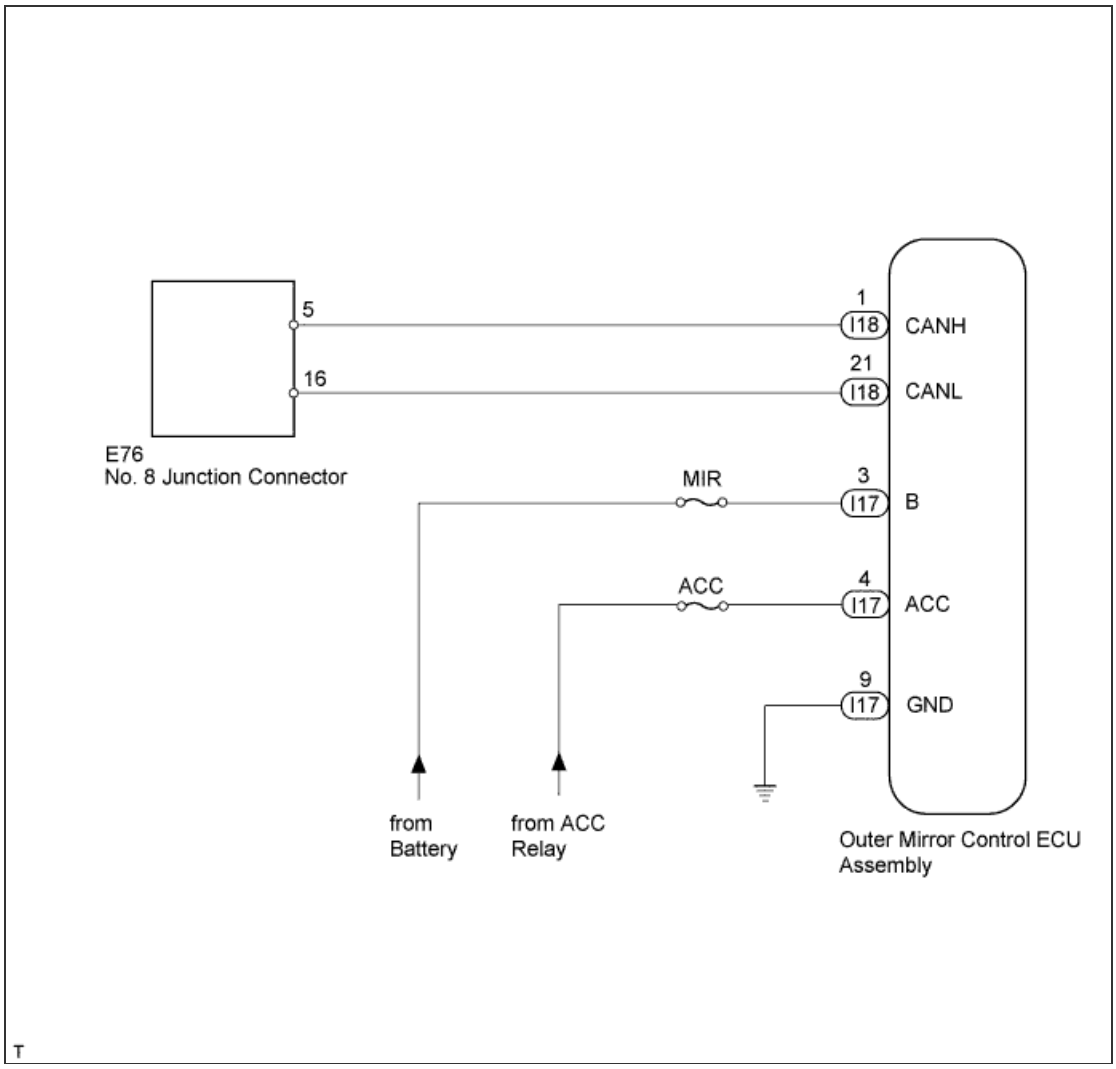
DTC U0199 Lost Communication with "Door Control Module A"

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 • Outer mirror control ECU assembly CAN branch wire or connector • 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.

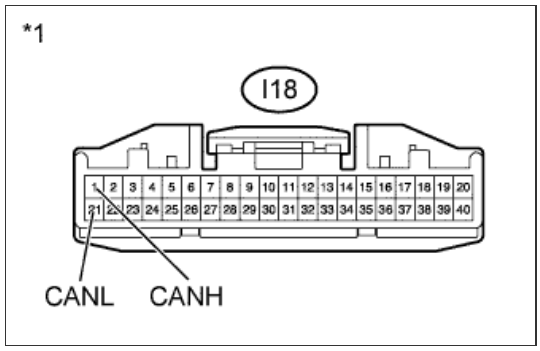
b. Measure the resistance according to the value(s) in the table below.

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:

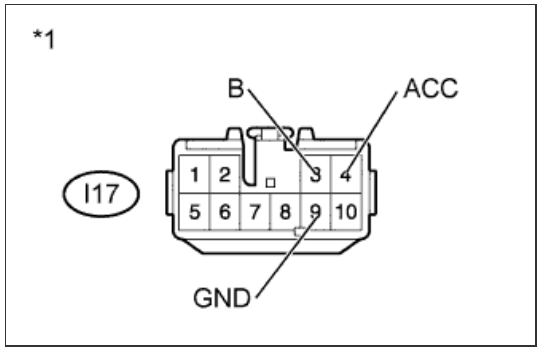
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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 U0104 Lost Communication with Driving Support ECU

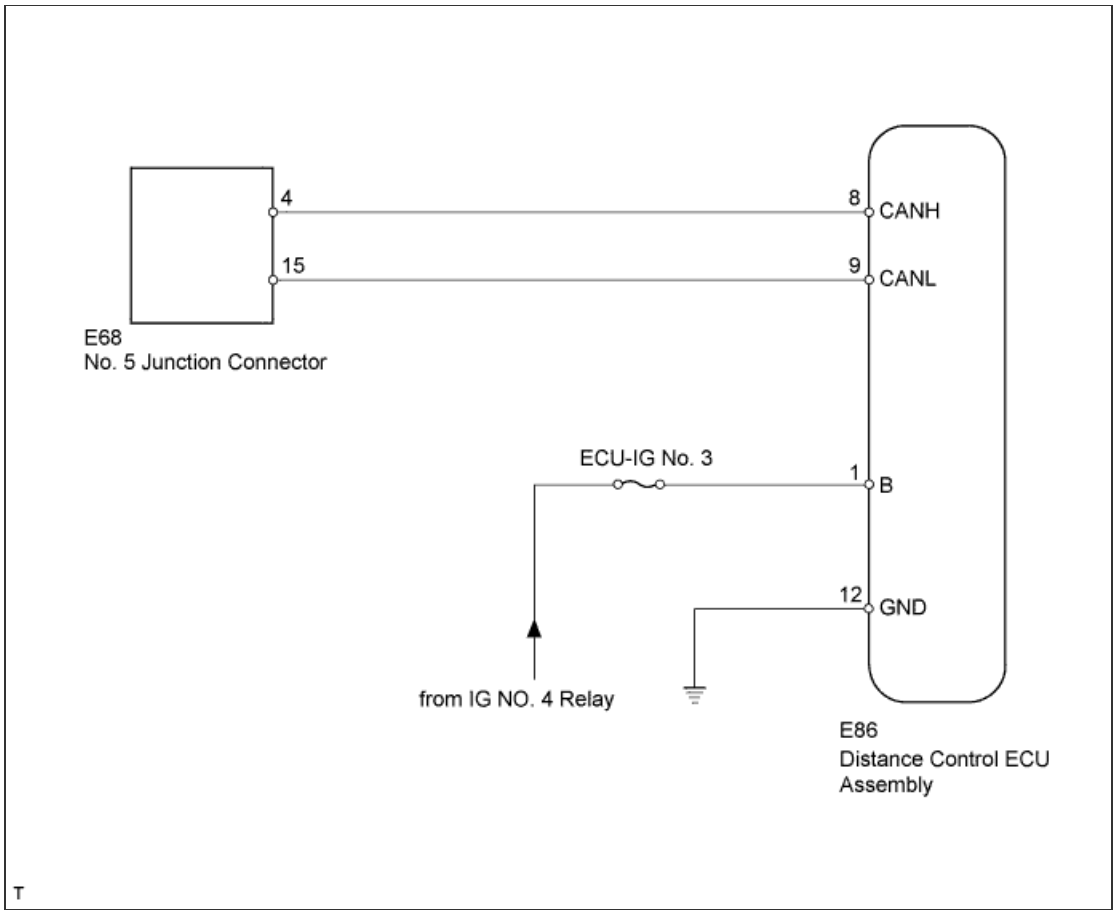
for Preparation Click here

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 • Distance control ECU assembly CAN branch wire or connector • Distance control ECU assembly

For vehicles with a 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.

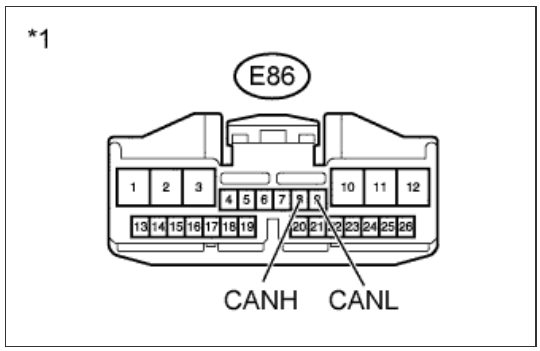
b. Measure the resistance according to the value(s) in the table below.

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.

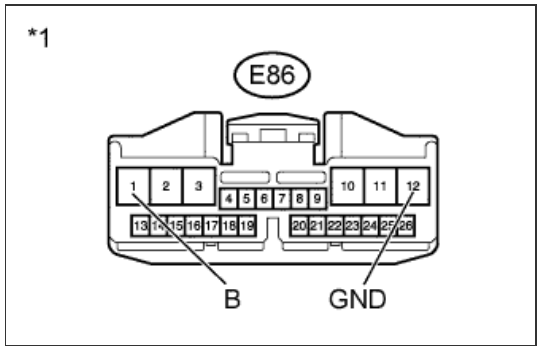
NOTICE:

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 (to Distance Control ECU Assembly)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE DISTANCE CONTROL ECU ASSEMBLY (Click here)

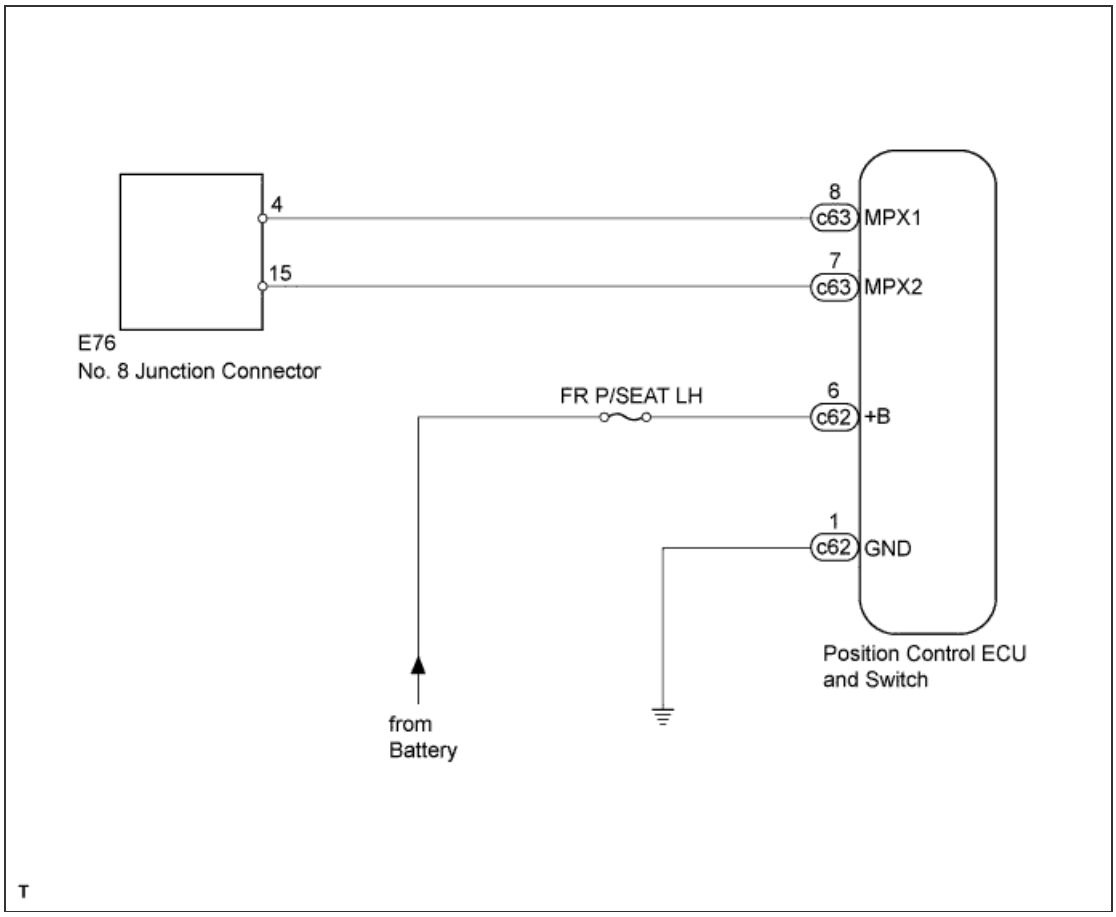
DTC U0208 Lost Communication with "Seat Control Module A"

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 • Position control ECU and switch • 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.

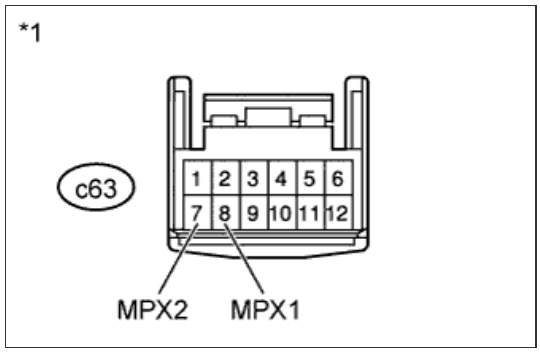
b. Measure the resistance according to the value(s) in the table below.

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.

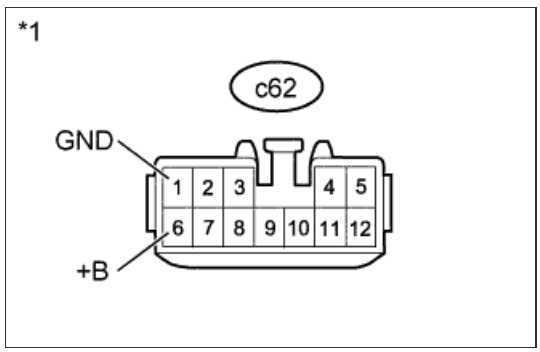
Standard Voltage:

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 (to Position Control ECU and Switch)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE POSITION CONTROL ECU AND SWITCH (Click here)

DTC U0104 Lost Communication with Driving Support ECU

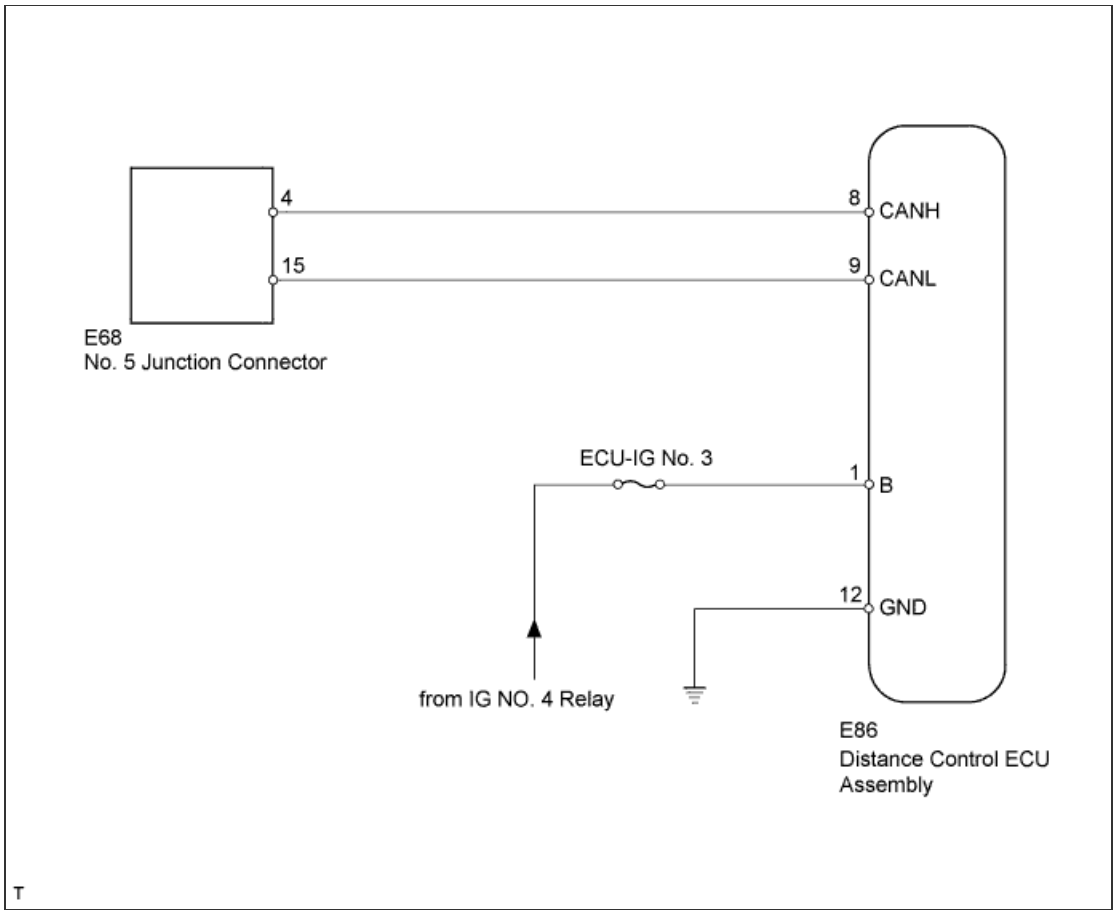
for Preparation Click here

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 • Distance control ECU assembly CAN branch wire or connector • Distance control ECU assembly

For vehicles with a 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.

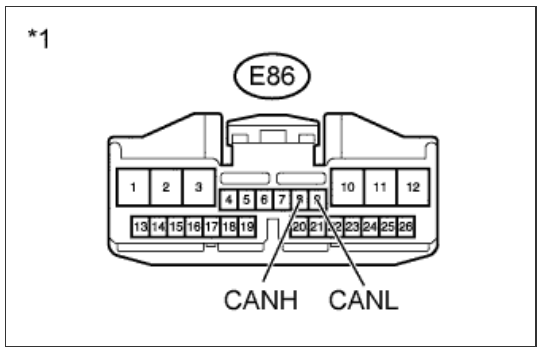
b. Measure the resistance according to the value(s) in the table below.

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.

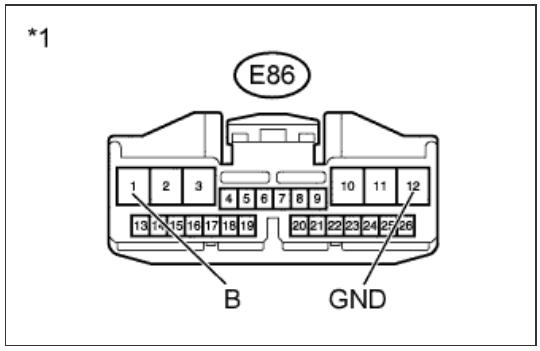
NOTICE:

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 (to Distance Control ECU Assembly)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE DISTANCE CONTROL ECU ASSEMBLY (Click here)

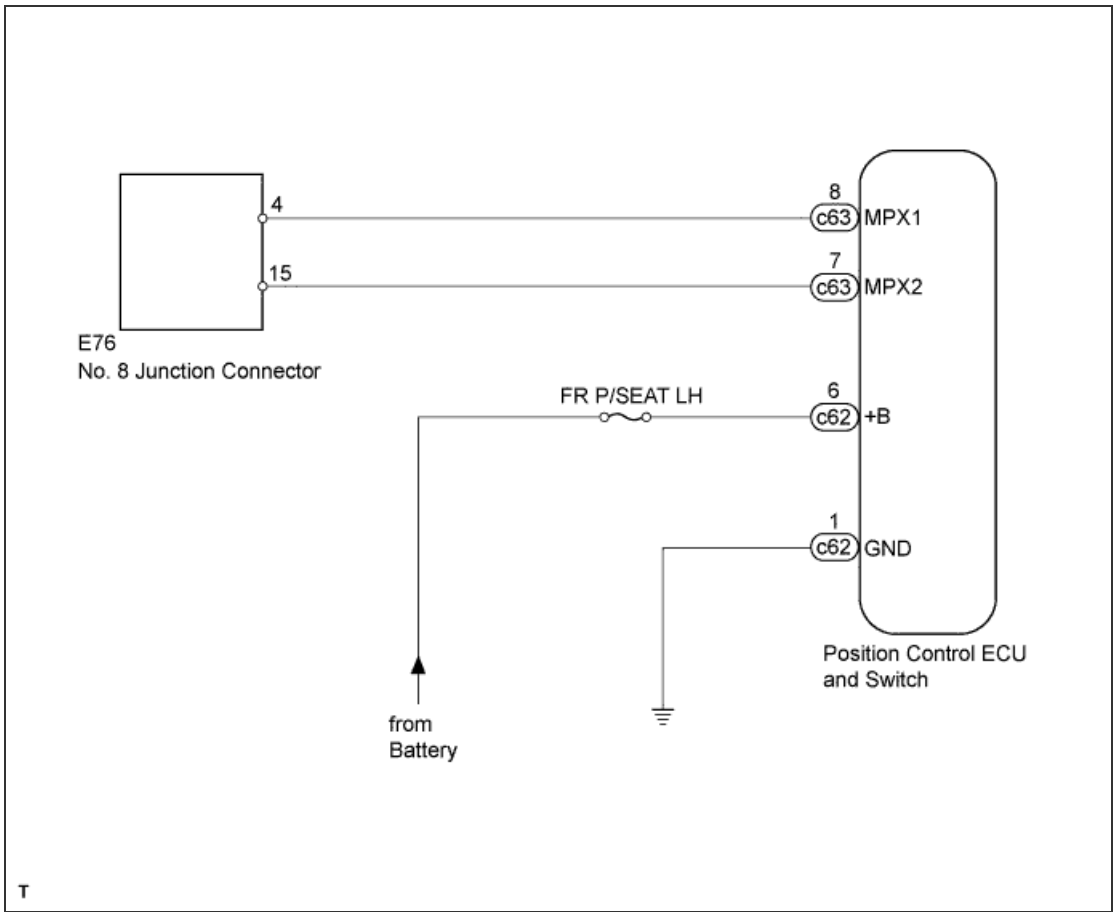
DTC U0208 Lost Communication with "Seat Control Module A"

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 • Position control ECU and switch • 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.

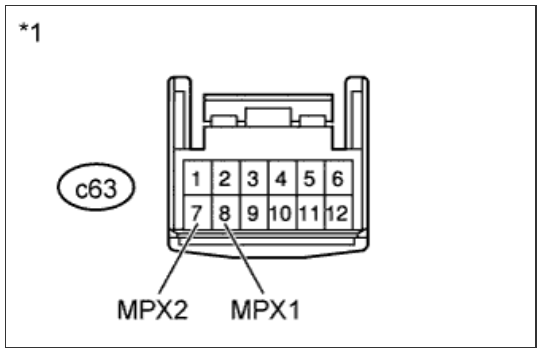
b. Measure the resistance according to the value(s) in the table below.

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.

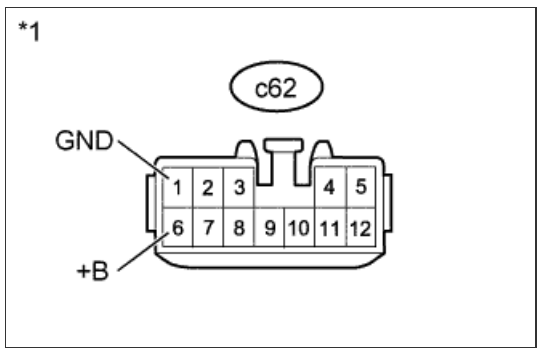
Standard Voltage:

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 (to Position Control ECU and Switch)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE POSITION CONTROL ECU AND SWITCH (Click here)

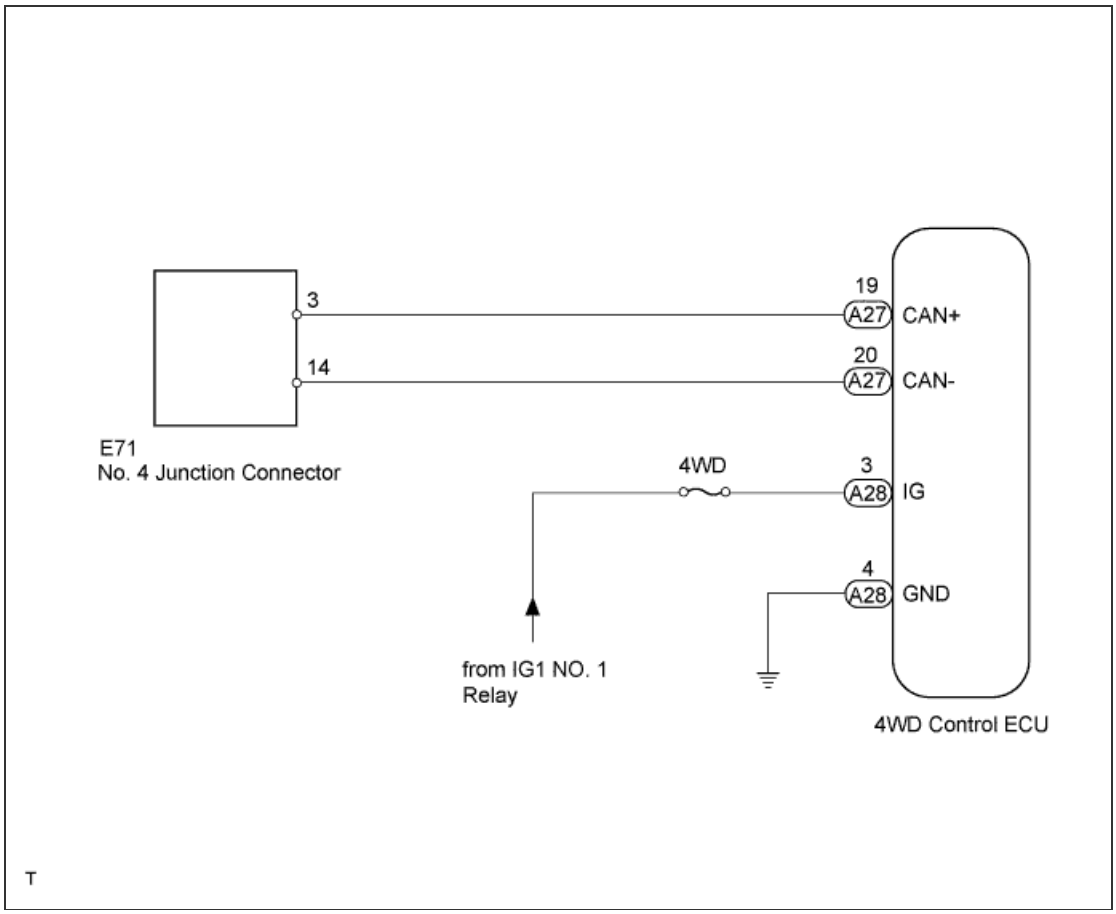
DTC U0114/38 Lost Communication with 4WD Control ECU

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 • 4WD control ECU • 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.

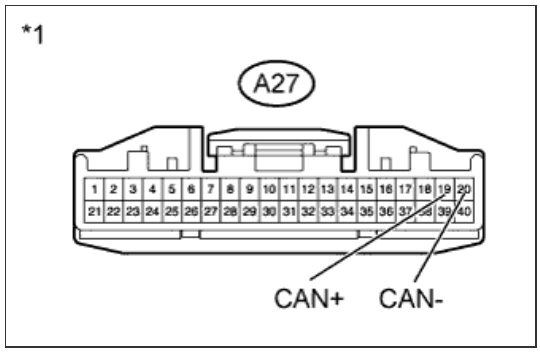
b. Measure the resistance according to the value(s) in the table below.

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.

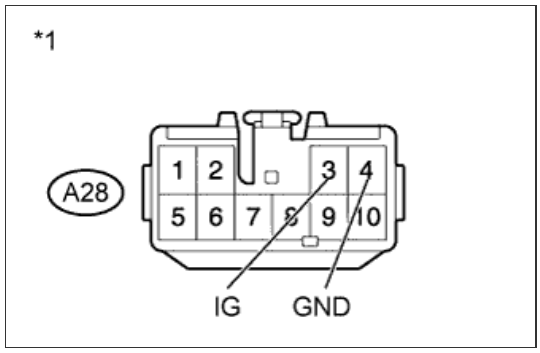
Standard Voltage:

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)

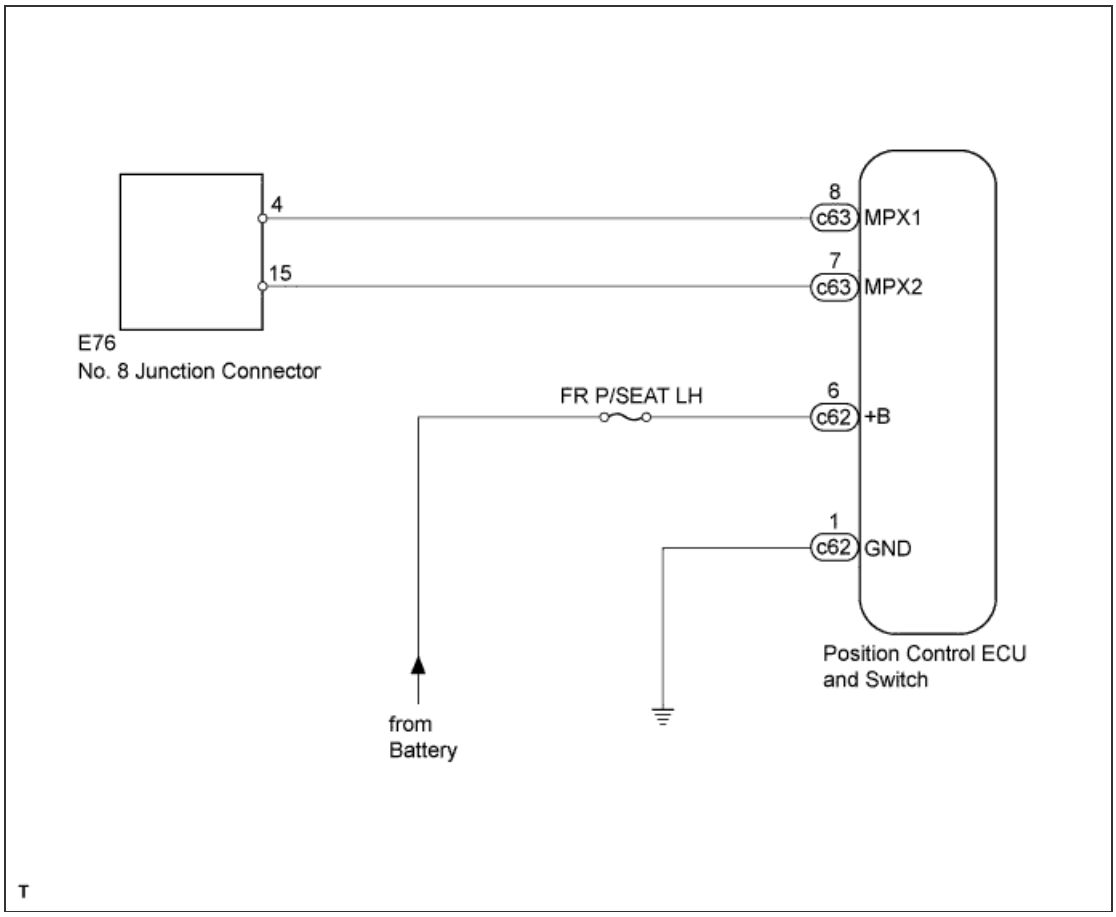
DTC U0208 Lost Communication with "Seat Control Module A"

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 • Position control ECU and switch • 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.

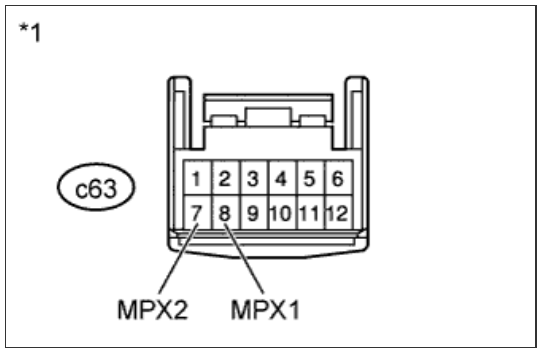
b. Measure the resistance according to the value(s) in the table below.

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.

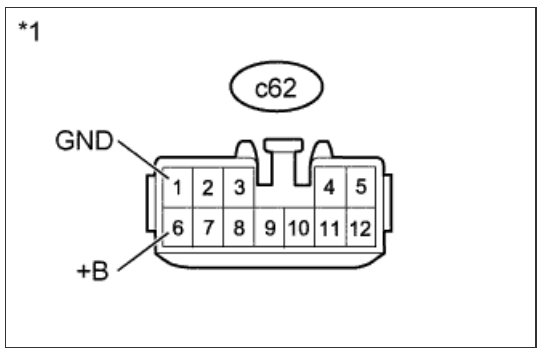
Standard Voltage:

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 (to Position Control ECU and Switch)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE POSITION CONTROL ECU AND SWITCH (Click here)

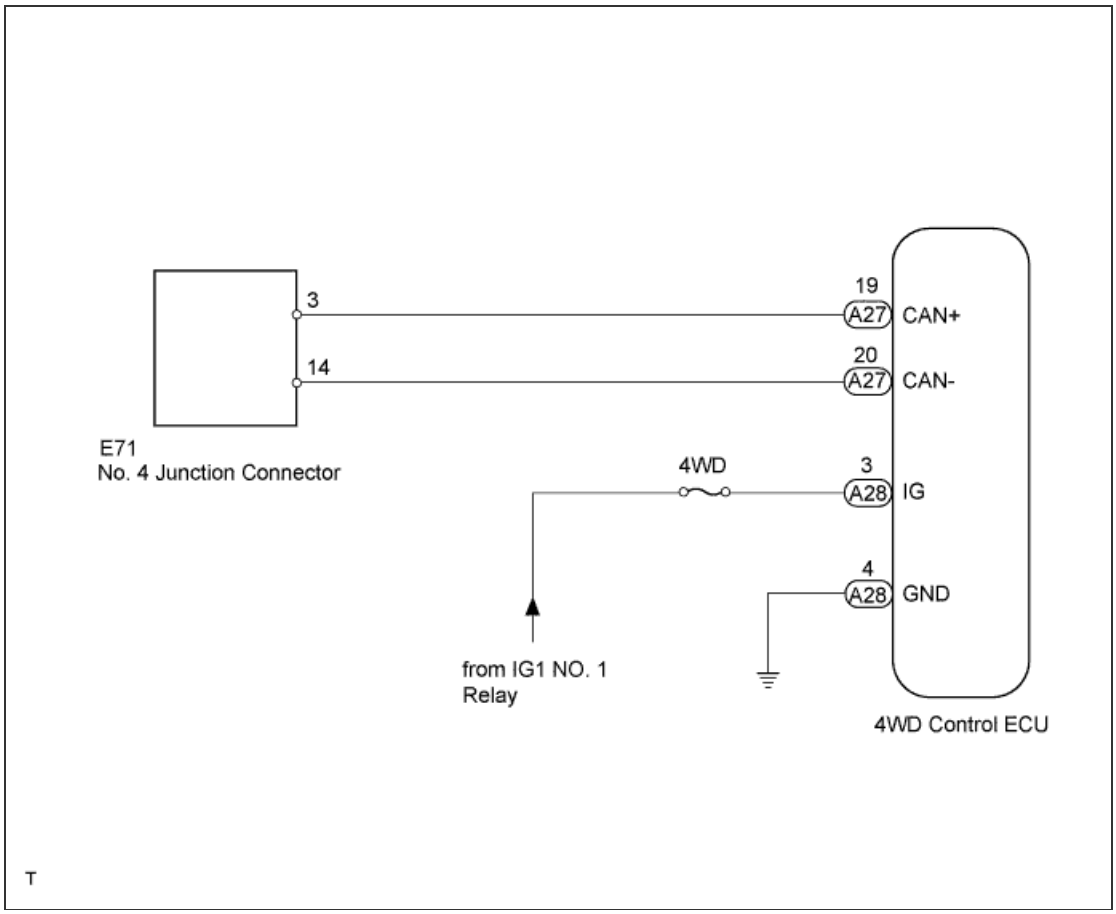
DTC U0114/38 Lost Communication with 4WD Control ECU

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 • 4WD control ECU • 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.

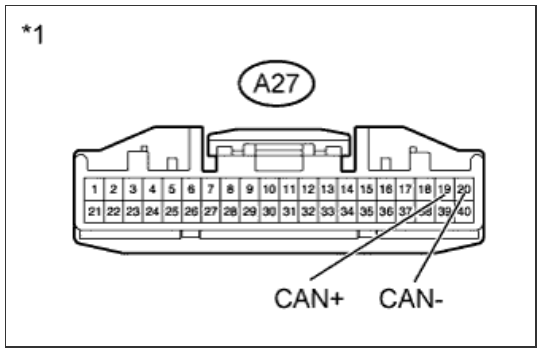
b. Measure the resistance according to the value(s) in the table below.

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.

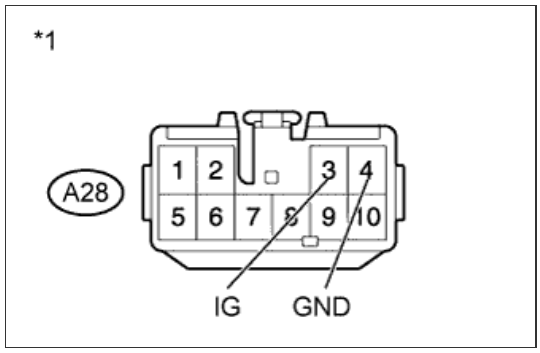
Standard Voltage:

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

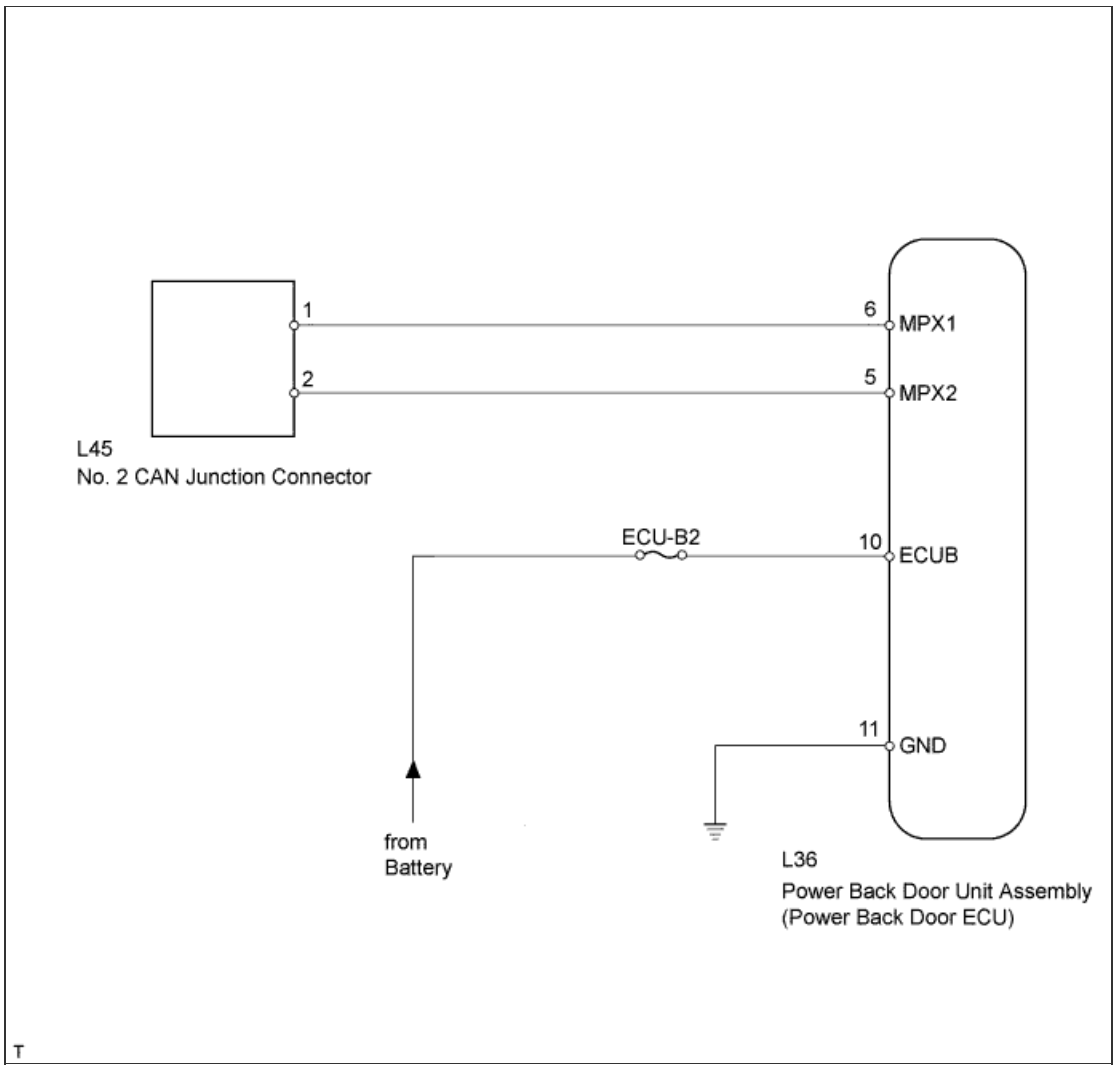
for Preparation Click here

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) • Power back door unit assembly (power back door ECU) CAN branch wire or connector • 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.

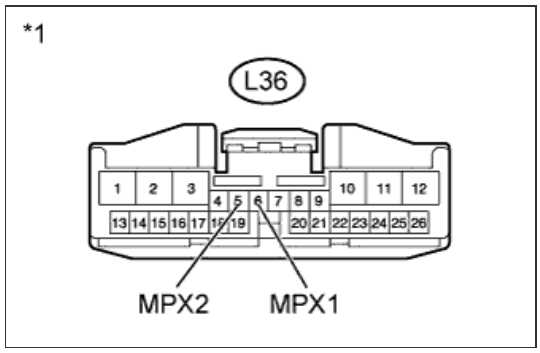
b. Measure the resistance according to the value(s) in the table below.

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.

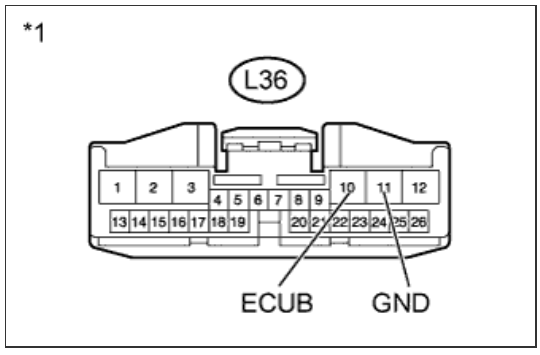
NOTICE:

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)

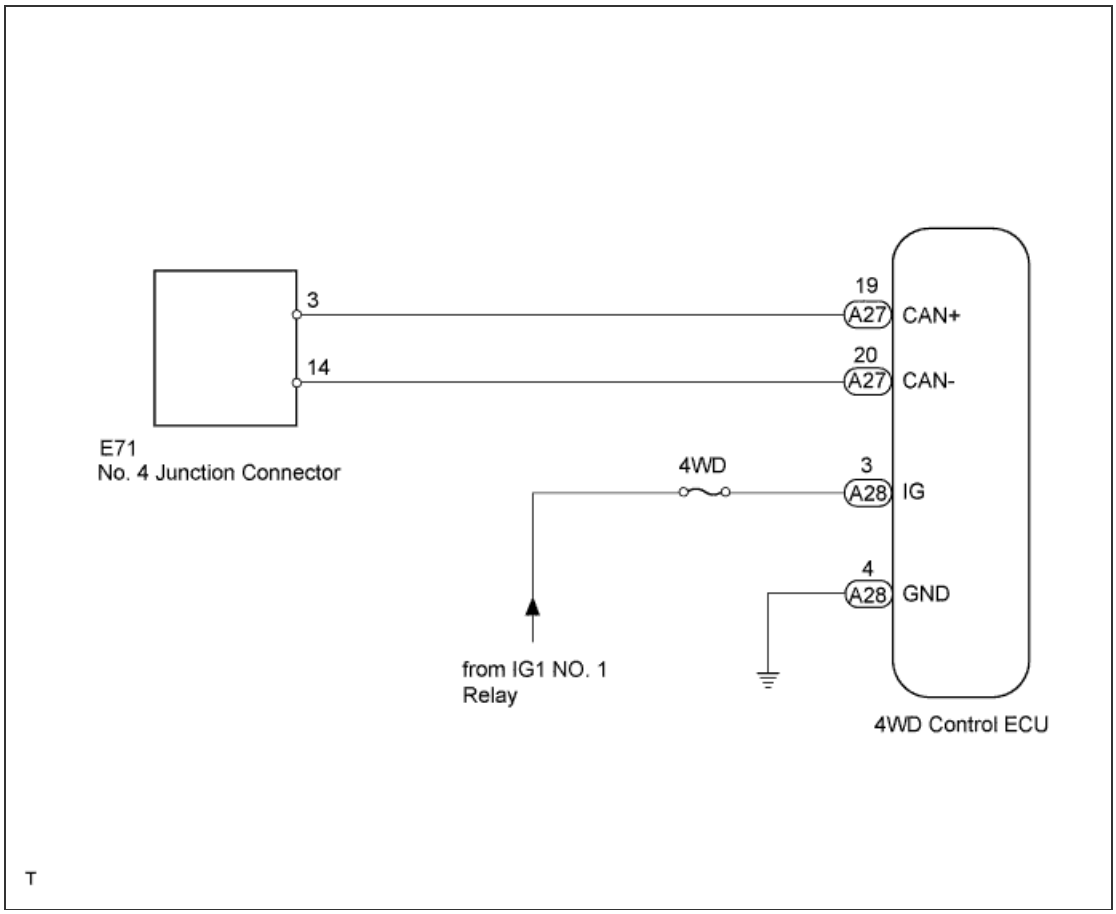
DTC U0114/38 Lost Communication with 4WD Control ECU

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 • 4WD control ECU • 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.

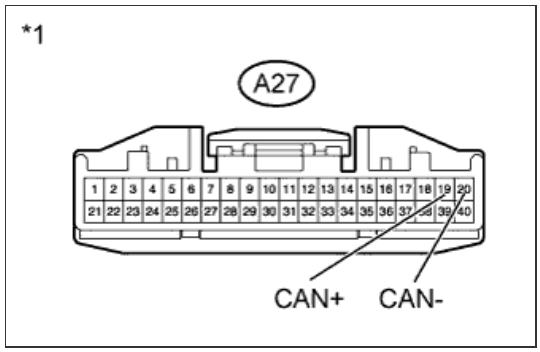
b. Measure the resistance according to the value(s) in the table below.

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.

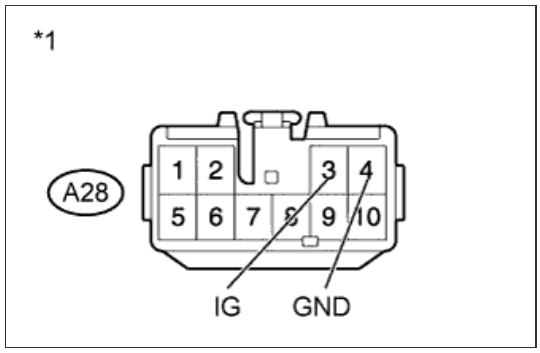
Standard Voltage:

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

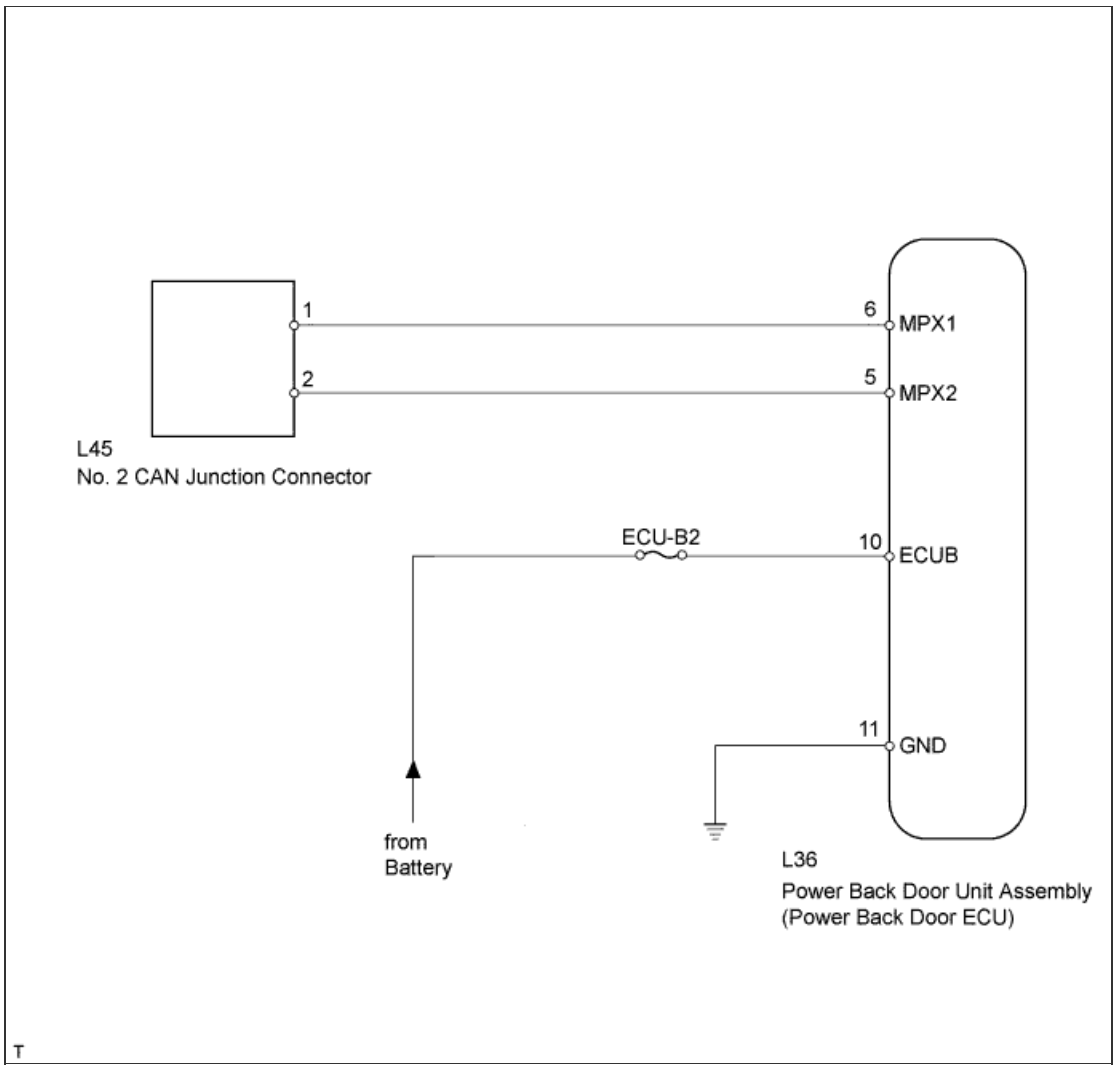
for Preparation Click here

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) • Power back door unit assembly (power back door ECU) CAN branch wire or connector • 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.

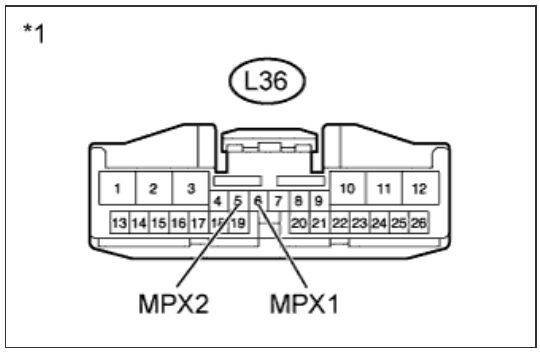
b. Measure the resistance according to the value(s) in the table below.

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.

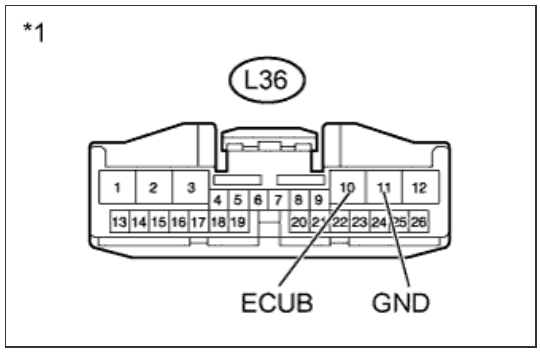
NOTICE:

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 U0125 Lost Communication with Yaw Rate Sensor Module

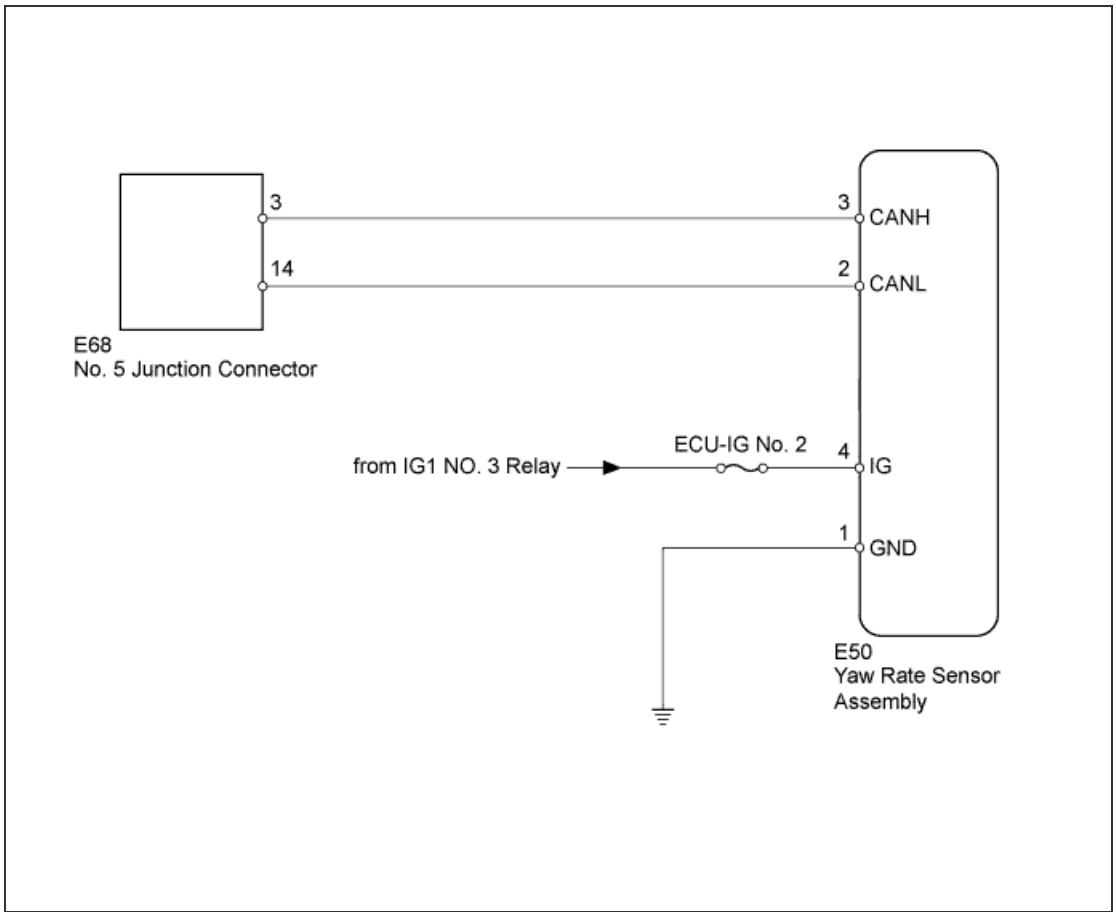
DTC U0124 Lost Communication with Lateral Acceleration Sensor Module

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 • Yaw rate sensor CAN branch wire or connector • 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 • Yaw rate sensor CAN branch wire or connector • 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.

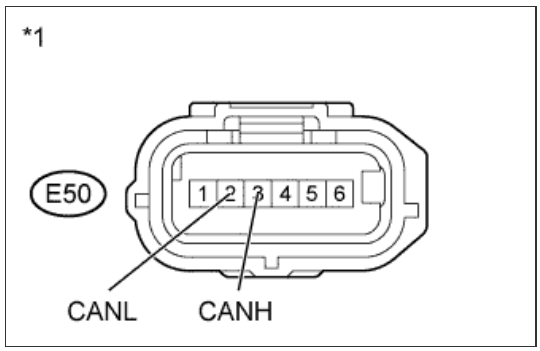
b. Measure the resistance according to the value(s) in the table below.

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).

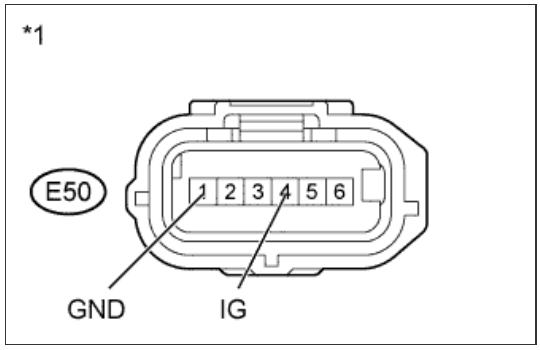
b. Measure the voltage according to the value(s) in table below.

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 U0230 Lost Communication with Rear Gate Module

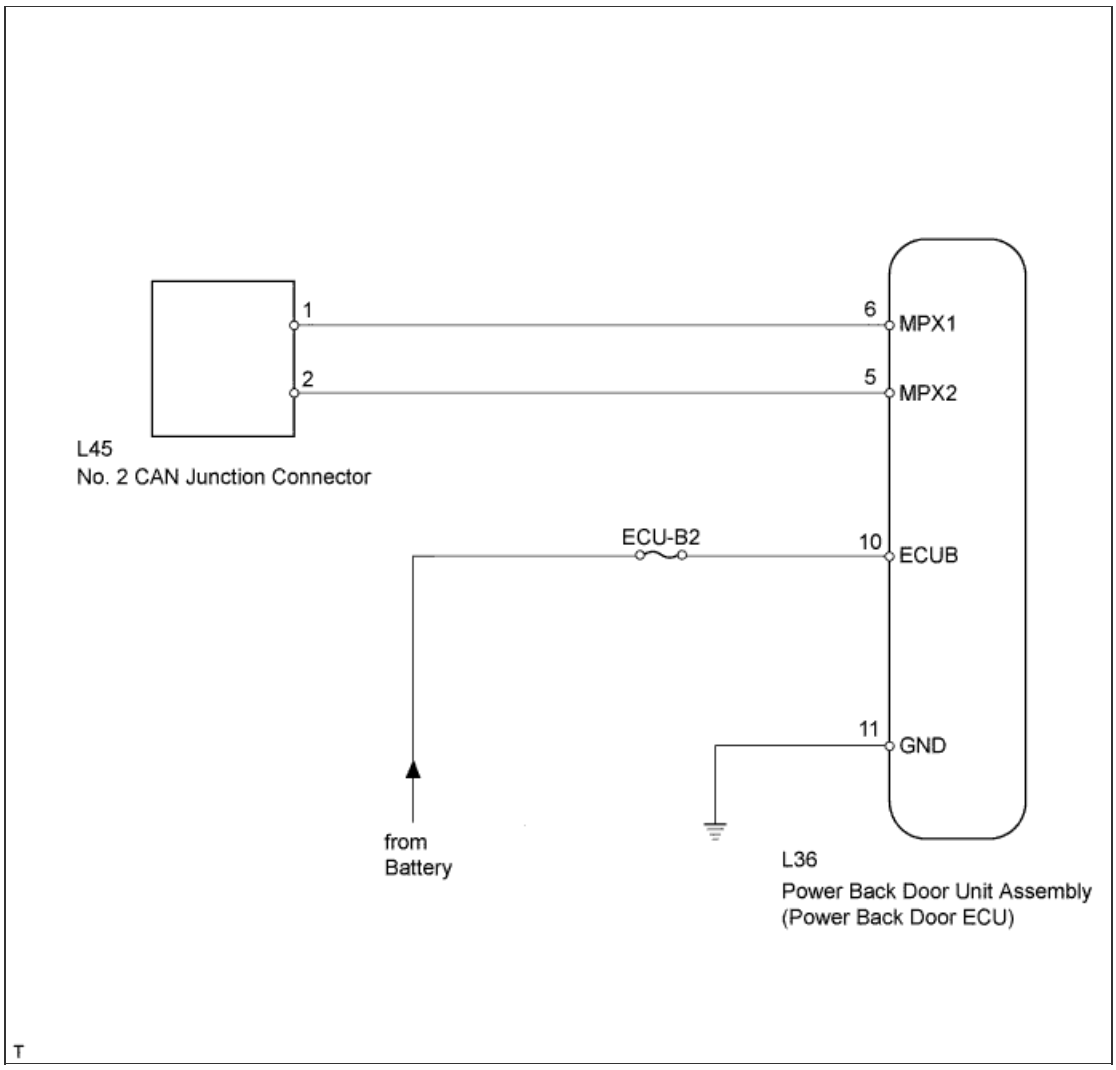
for Preparation Click here

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) • Power back door unit assembly (power back door ECU) CAN branch wire or connector • 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.

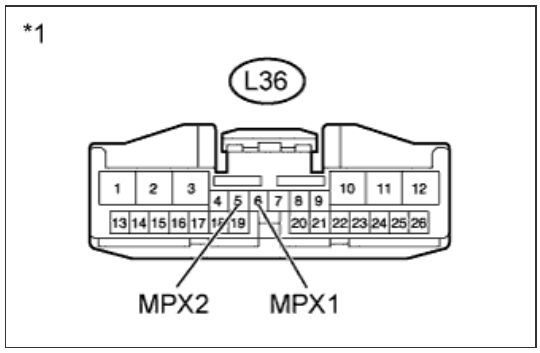
b. Measure the resistance according to the value(s) in the table below.

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.

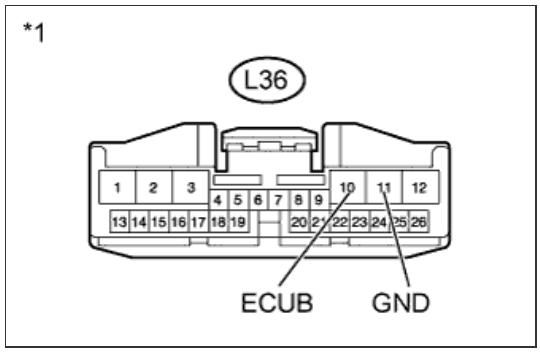
NOTICE:

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 U0125 Lost Communication with Yaw Rate Sensor Module

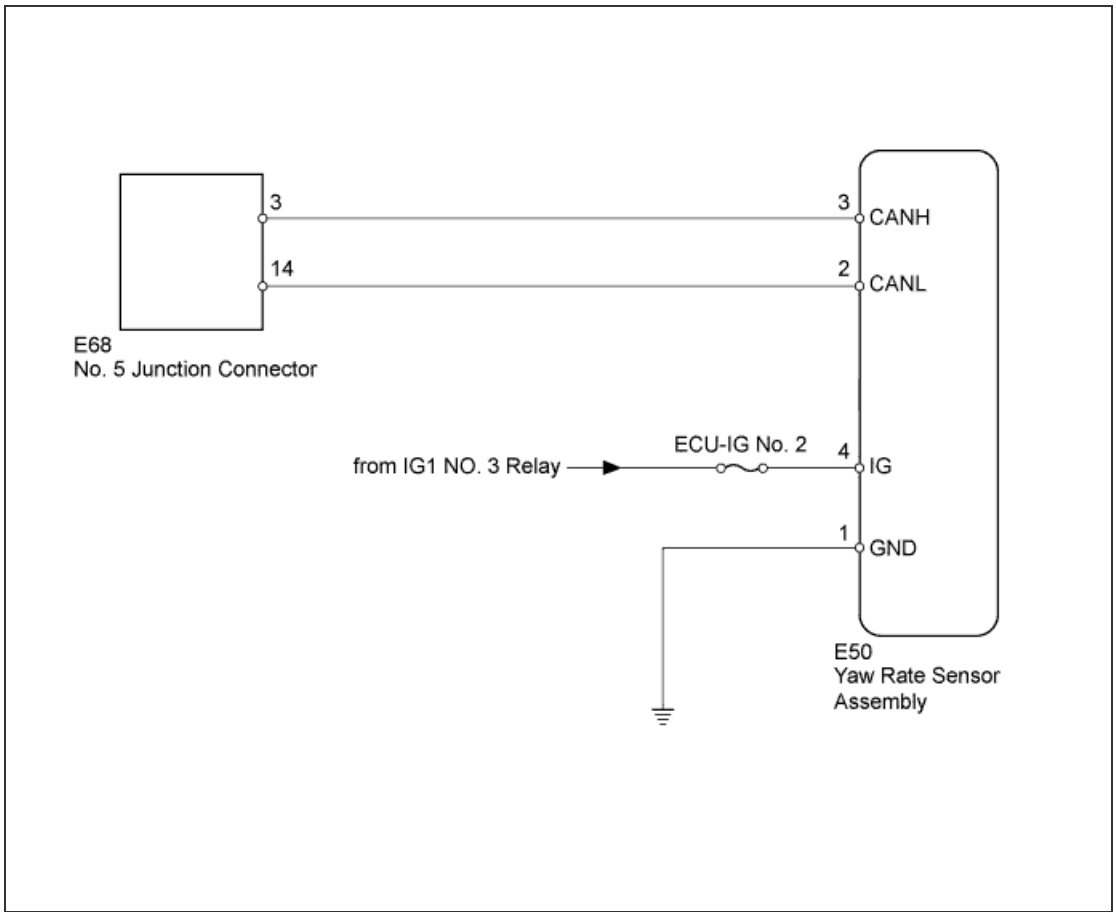
DTC U0124 Lost Communication with Lateral Acceleration Sensor Module

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 • Yaw rate sensor CAN branch wire or connector • 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 • Yaw rate sensor CAN branch wire or connector • 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.

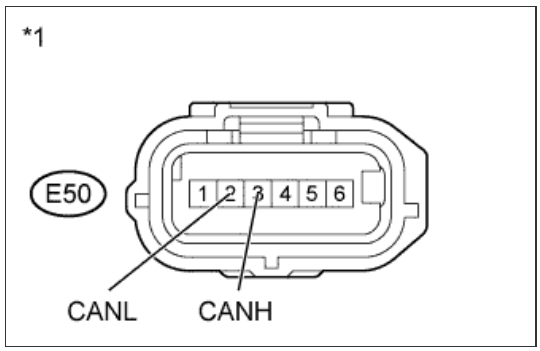
b. Measure the resistance according to the value(s) in the table below.

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).

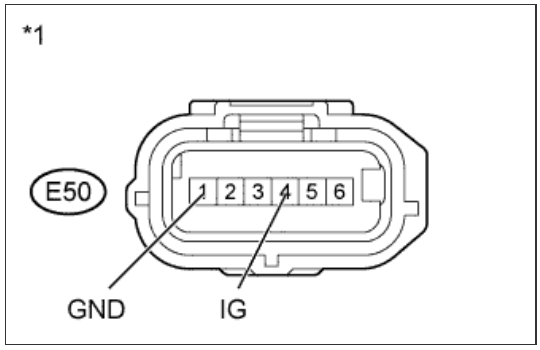
b. Measure the voltage according to the value(s) in table below.

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)

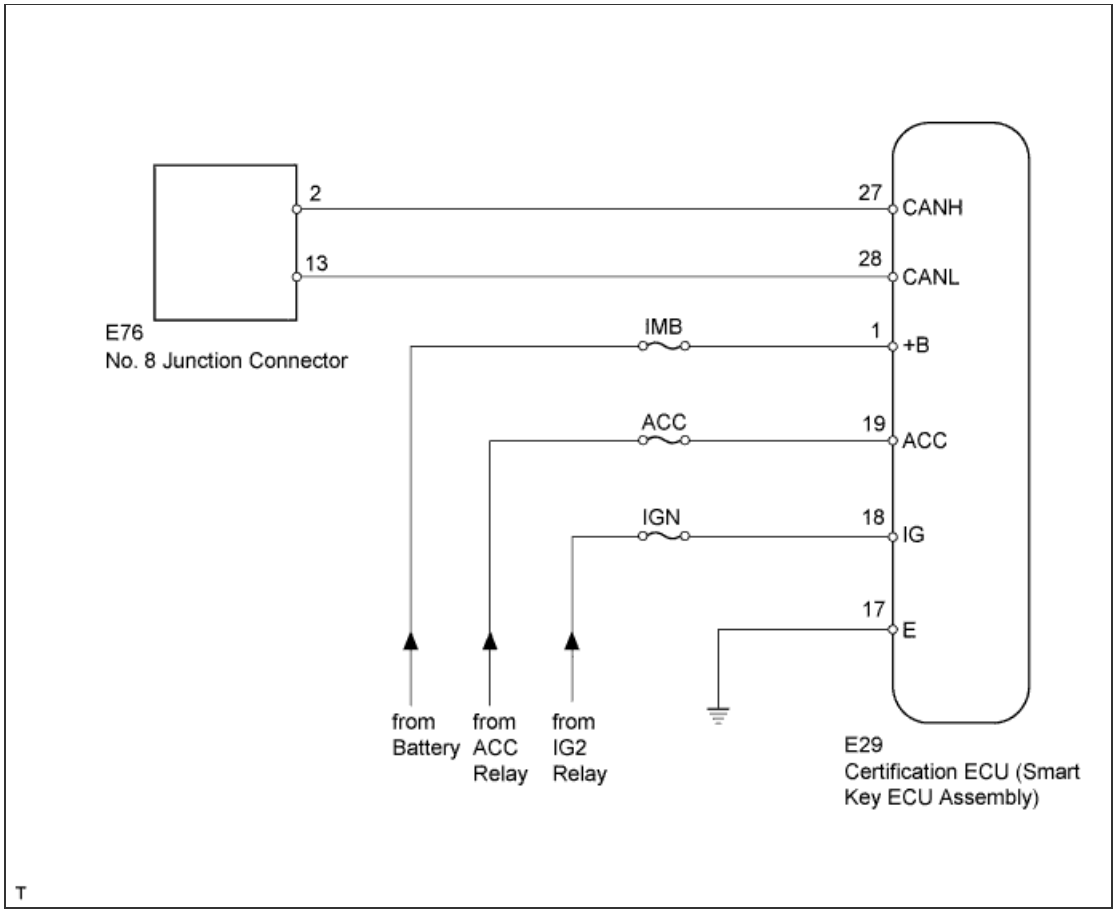
DTC U0327 Software Incompatibility with Vehicle Security Control Module

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) • Certification ECU (smart key ECU assembly) CAN branch wire or connector • 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.

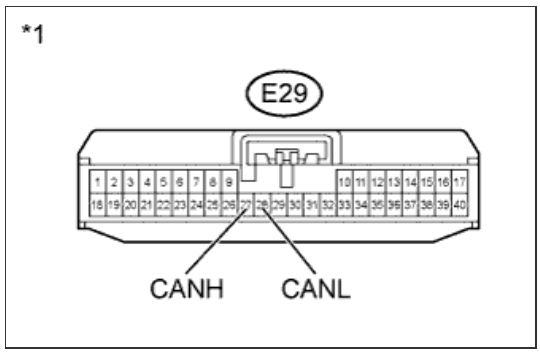
b. Measure the resistance according to the value(s) in the table below.

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.

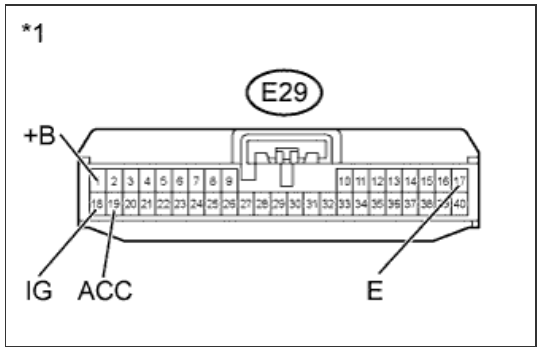
NOTICE:

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 (to Certification ECU [Smart Key ECU Assembly])

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE CERTIFICATION ECU ASSEMBLY (SMART KEY ECU)

DTC U0125 Lost Communication with Yaw Rate Sensor Module

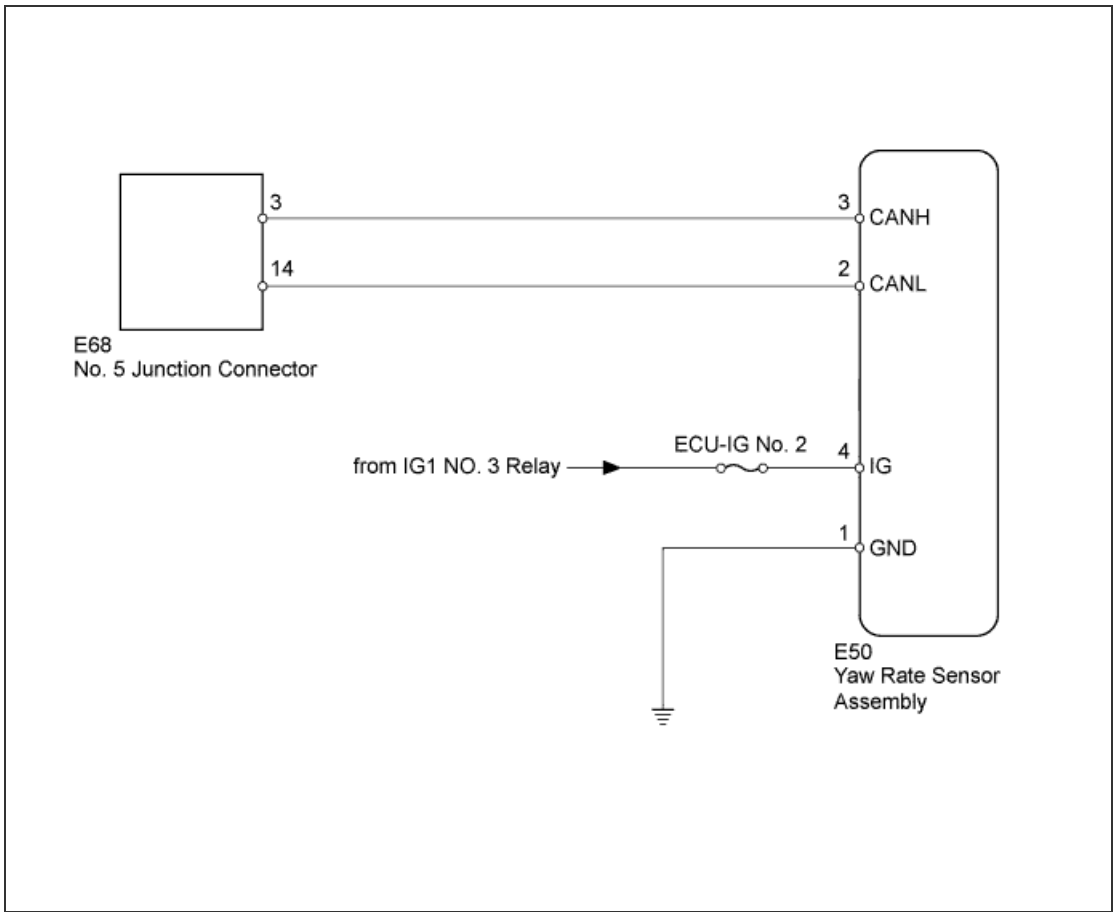
DTC U0124 Lost Communication with Lateral Acceleration Sensor Module

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 • Yaw rate sensor CAN branch wire or connector • 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 • Yaw rate sensor CAN branch wire or connector • 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.

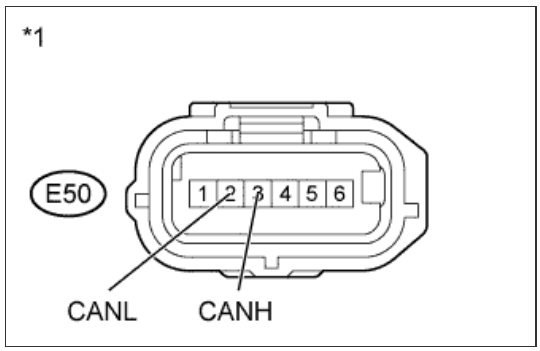
b. Measure the resistance according to the value(s) in the table below.

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).

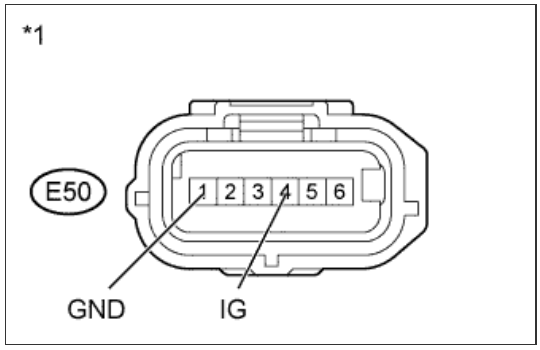
b. Measure the voltage according to the value(s) in table below.

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)

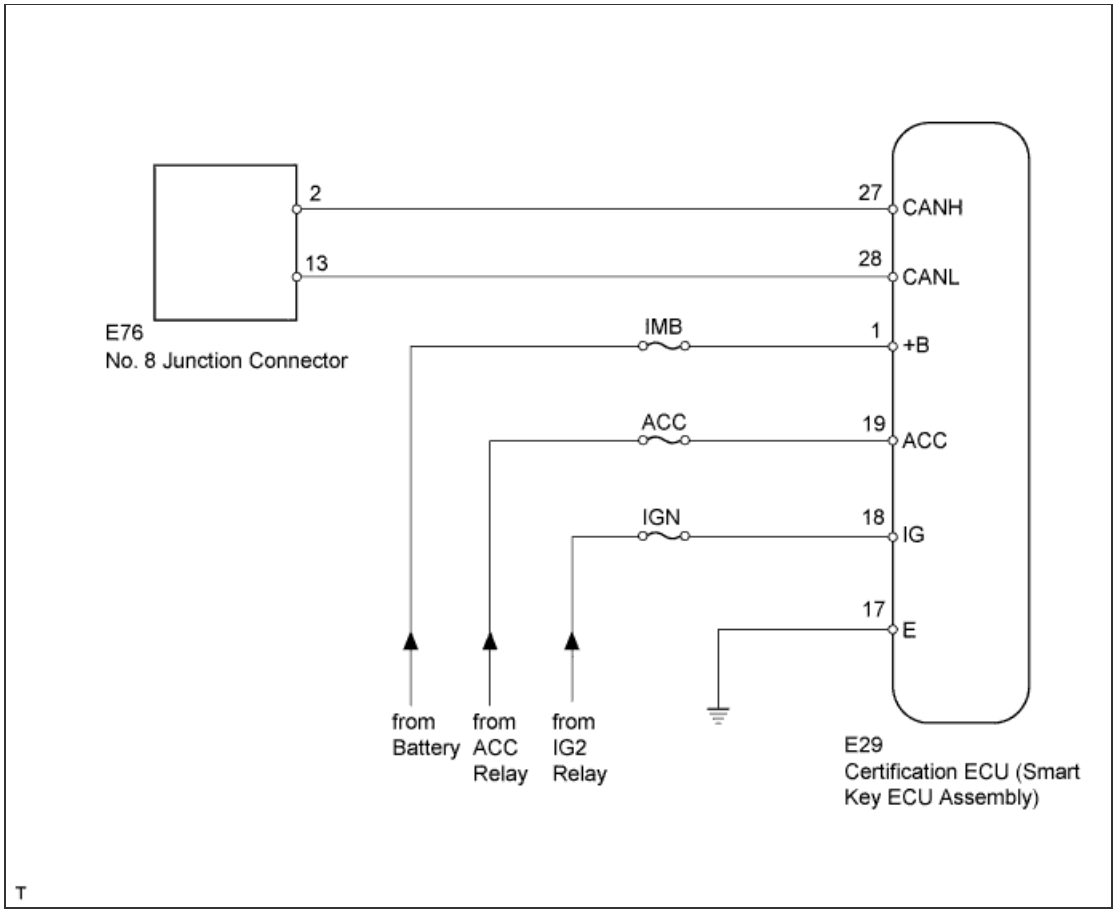
DTC U0327 Software Incompatibility with Vehicle Security Control Module

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) • Certification ECU (smart key ECU assembly) CAN branch wire or connector • 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.

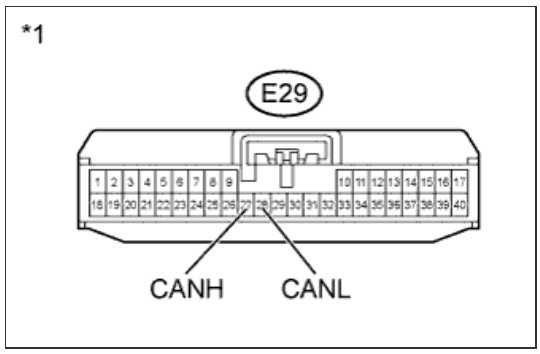
b. Measure the resistance according to the value(s) in the table below.

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.

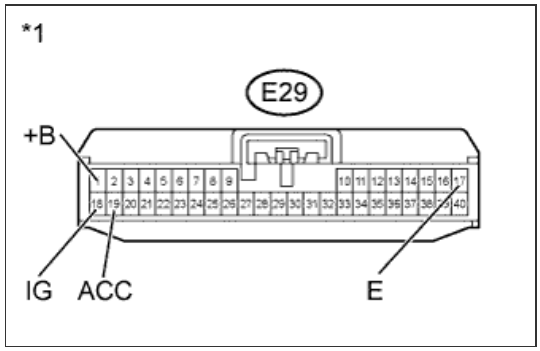
NOTICE:

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 (to Certification ECU [Smart Key ECU Assembly])

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE CERTIFICATION ECU ASSEMBLY (SMART KEY ECU)

DTC U0125 Lost Communication with Yaw Rate Sensor Module

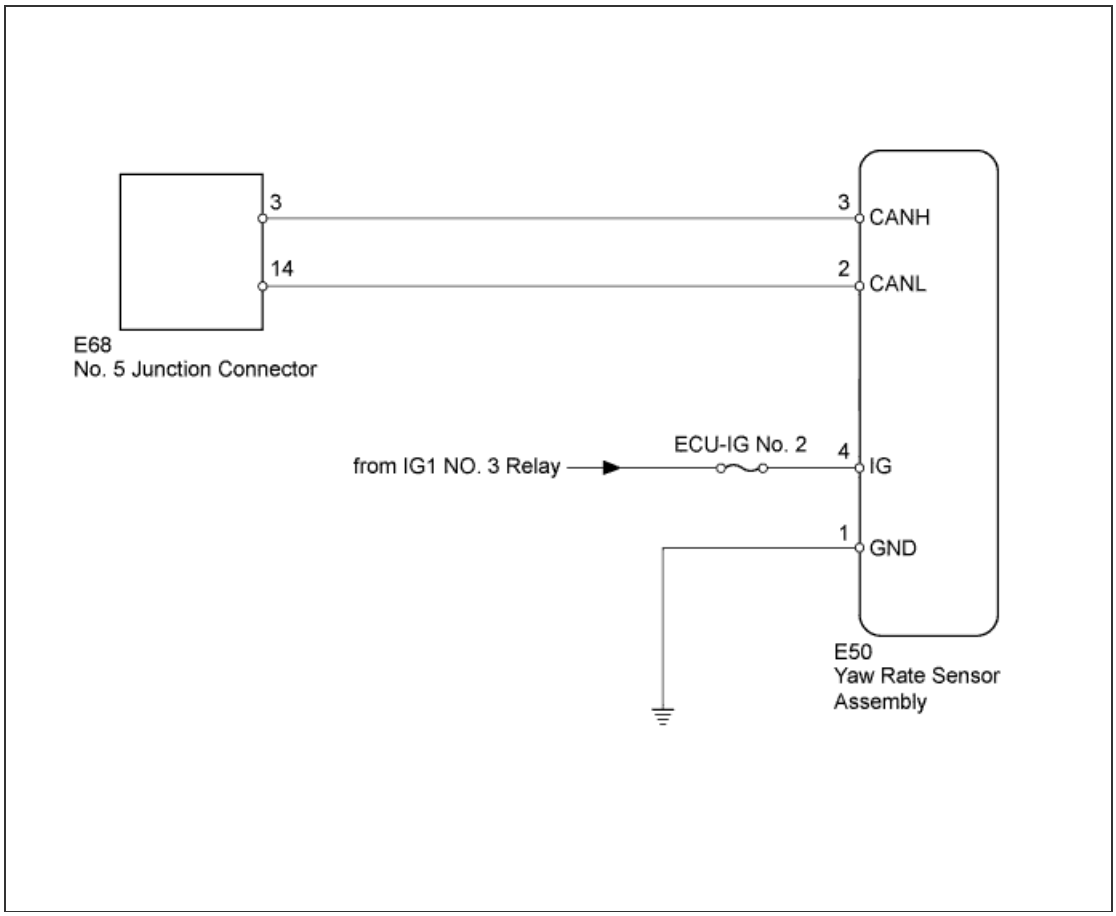
DTC U0124 Lost Communication with Lateral Acceleration Sensor Module

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 • Yaw rate sensor CAN branch wire or connector • 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 • Yaw rate sensor CAN branch wire or connector • 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.

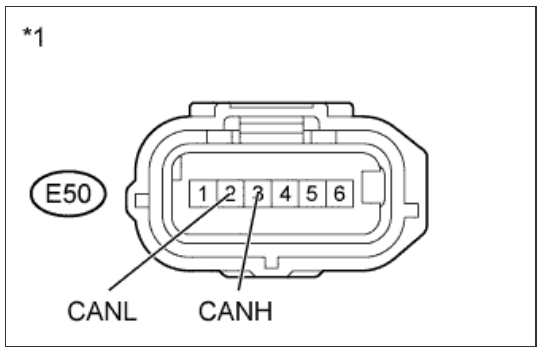
b. Measure the resistance according to the value(s) in the table below.

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).

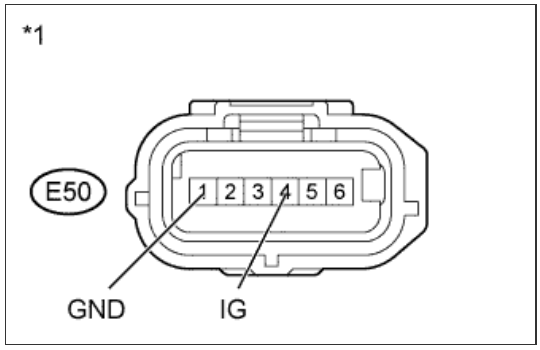
b. Measure the voltage according to the value(s) in table below.

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)

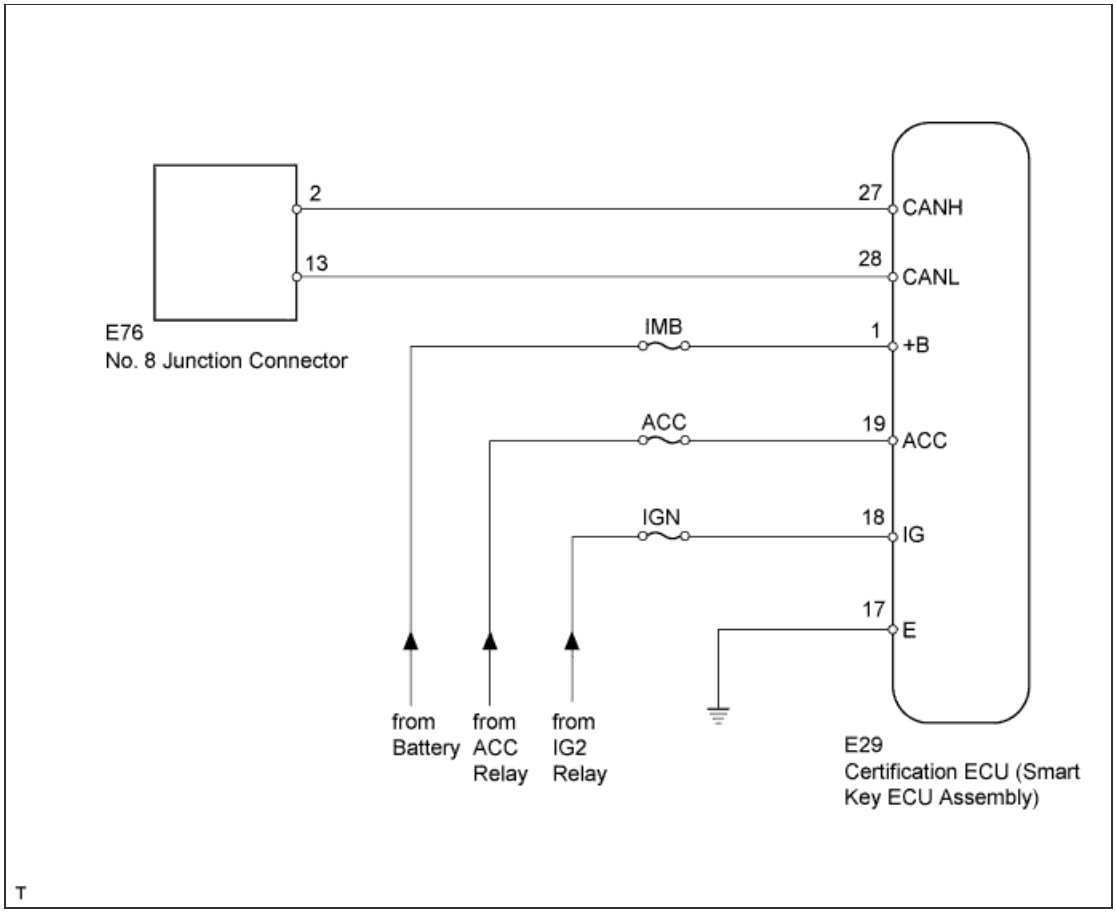
DTC U0327 Software Incompatibility with Vehicle Security Control Module

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) • Certification ECU (smart key ECU assembly) CAN branch wire or connector • 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.

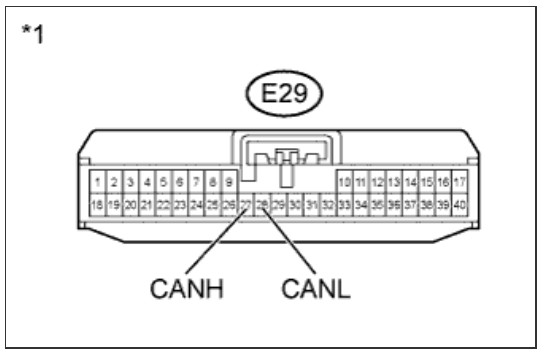
b. Measure the resistance according to the value(s) in the table below.

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.

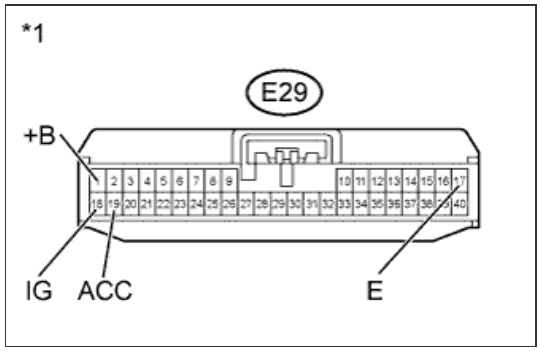
NOTICE:

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 (to Certification ECU [Smart Key ECU Assembly])

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE CERTIFICATION ECU ASSEMBLY (SMART KEY ECU)

DTC U0125 Lost Communication with Yaw Rate Sensor Module

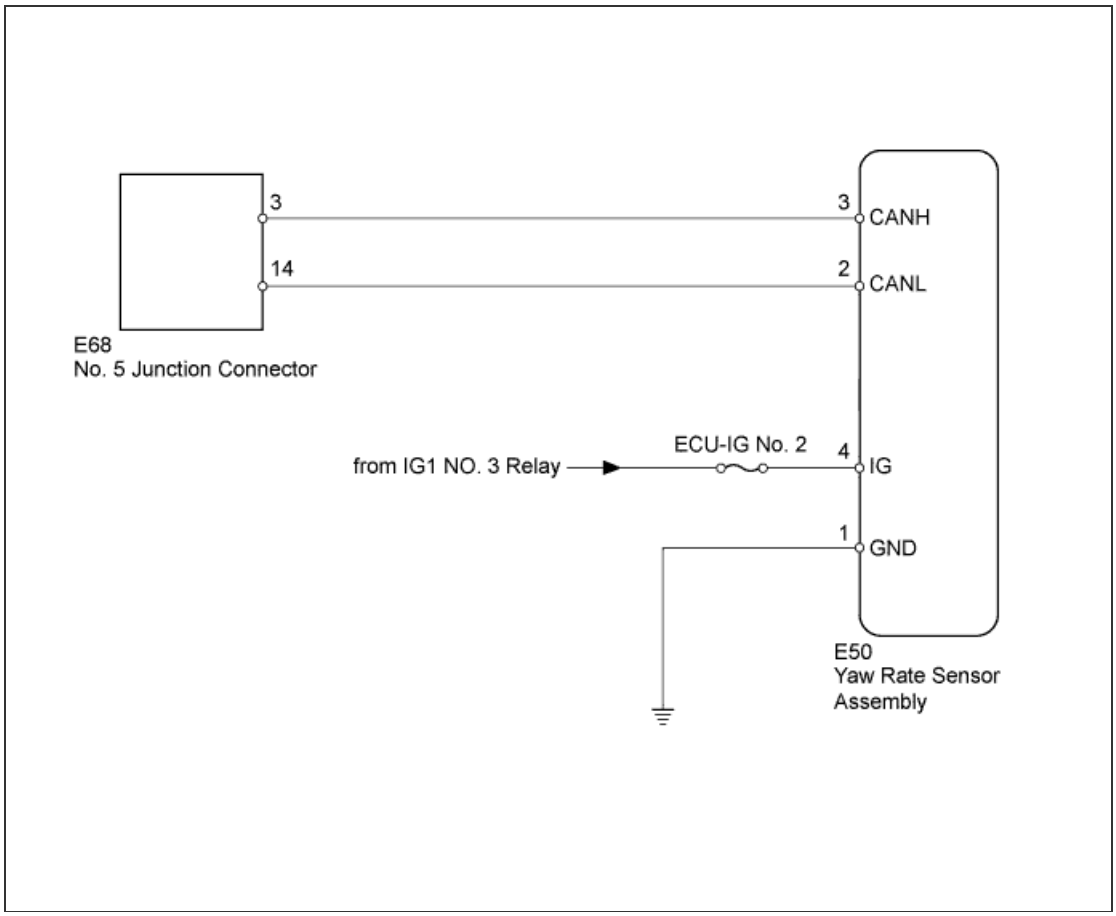
DTC U0124 Lost Communication with Lateral Acceleration Sensor Module

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 • Yaw rate sensor CAN branch wire or connector • 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 • Yaw rate sensor CAN branch wire or connector • 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.

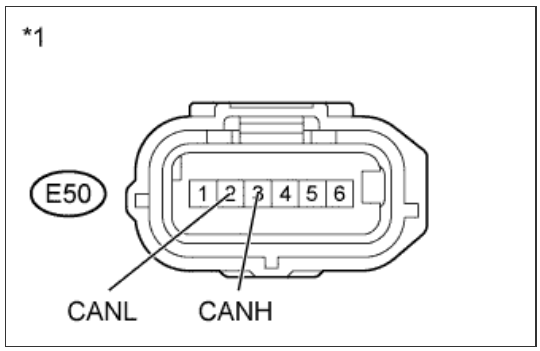
b. Measure the resistance according to the value(s) in the table below.

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).

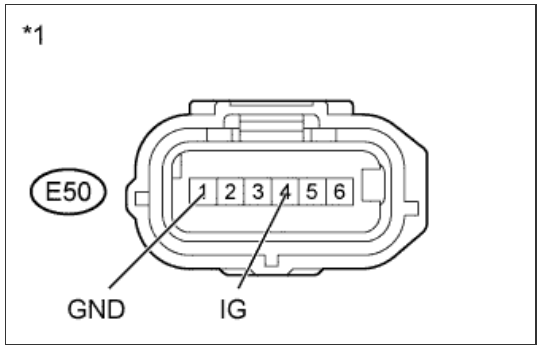
b. Measure the voltage according to the value(s) in table below.

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

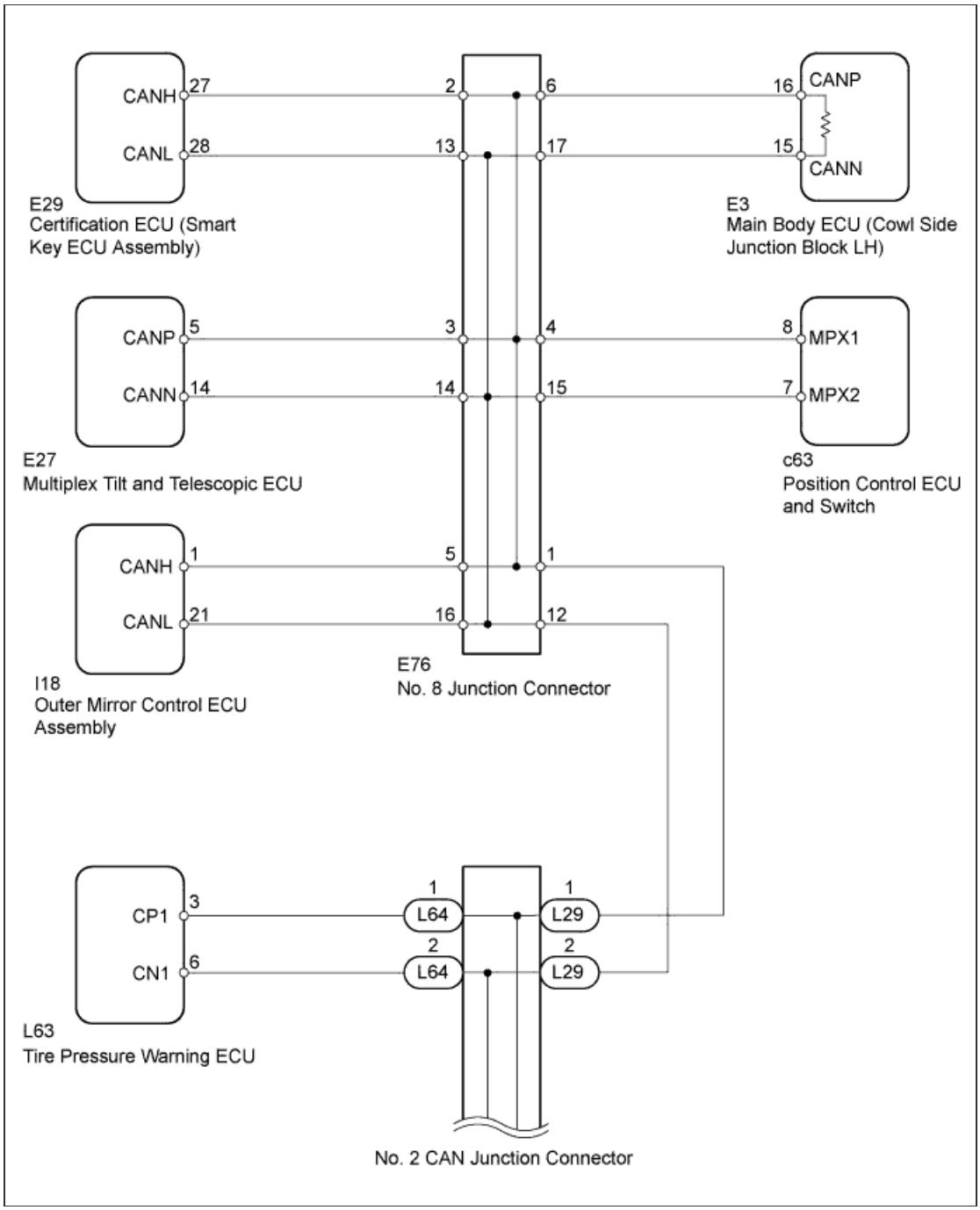
DESCRIPTION

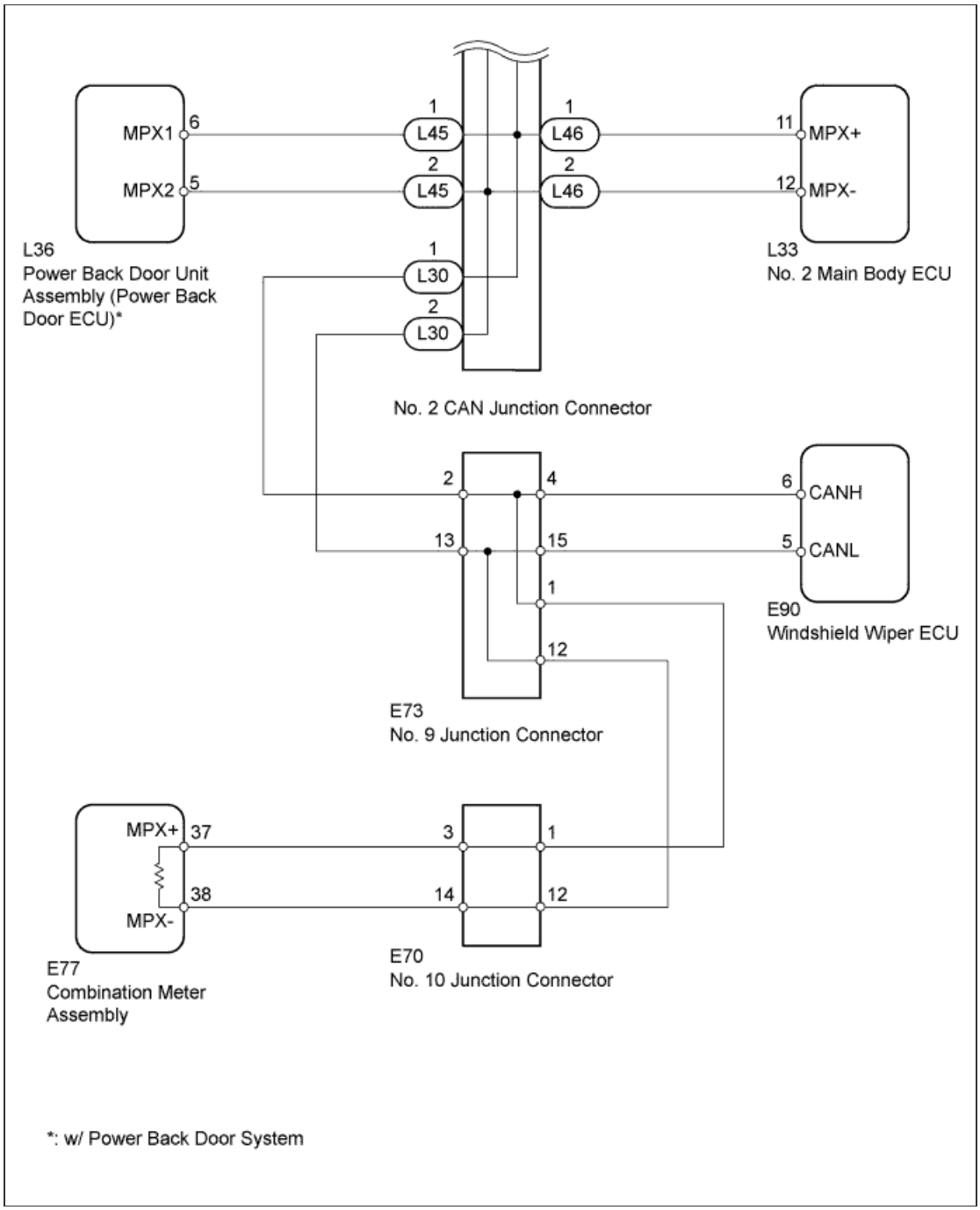
- The main body ECU stores this DTC when no signals can be received from the ECUs that have been memorized as those connected to the CAN MS bus.
- When the main body ECU receives a response signal from the ECUs connected to the CAN MS bus, the main body ECU recognizes and memorizes that the ECU is connected 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 • Certification ECU (smart key ECU assembly) CAN branch wire or connector • Position control ECU and switch CAN branch wire or connector • Outer mirror control ECU assembly CAN branch wire or connector • Multiplex tilt and telescopic ECU CAN branch wire or connector • Tire pressure warning ECU CAN branch wire or connector • Power back door unit assembly (power back door ECU) CAN branch wire or connector* • Windshield wiper ECU CAN branch wire or connector • No. 2 main body ECU CAN branch wire or connector • Main body ECU (cowl side junction block LH) main wire or connector • Combination meter main wire or connector • Certification ECU (smart key ECU assembly) • Position control ECU and switch assembly • Outer mirror control ECU assembly • Multiplex tilt and telescopic ECU • Tire pressure warning ECU • Power back door unit assembly (power back door ECU)* • Windshield wiper ECU • No. 2 main body ECU • Main body ECU (cowl side junction block LH) • Combination meter assembly • No. 8 junction connector • No. 9 junction connector • No. 10 junction connector • No. 2 CAN junction connector

*: w/ Power Back Door System

WIRING DIAGRAM


CANH
27
CANL
28
E29
Certification ECU (Smart Key ECU Assembly)
2
6
13
17
16
CANP
15
CANN
E3
Main Body ECU (Cowl Side Junction Block LH)
CANP
5
CANN
14
E27
Multiplex Tilt and Telescopic ECU
3
4
14
15
8
MPX1
7
MPX2
c63
Position Control ECU and Switch
CANH
1
CANL
21
I18
Outer Mirror Control ECU Assembly
5
1
16
12
E76
No. 8 Junction Connector
CP1
3
CN1
6
L63
Tire Pressure Warning ECU
1
L64
2
L64
1
L29
2
L29
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:

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

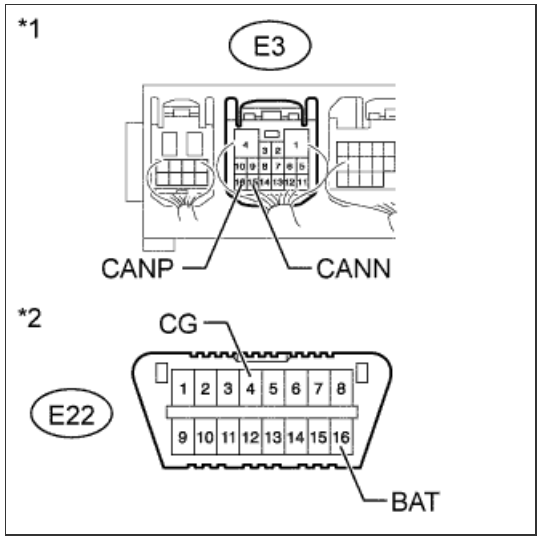
NOTICE:

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 • Open in CAN main bus line	A
NG • Short in line • +B short • Ground short	B
OK	C

B → Go to step 19

C → Go to step 59

A

4.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.

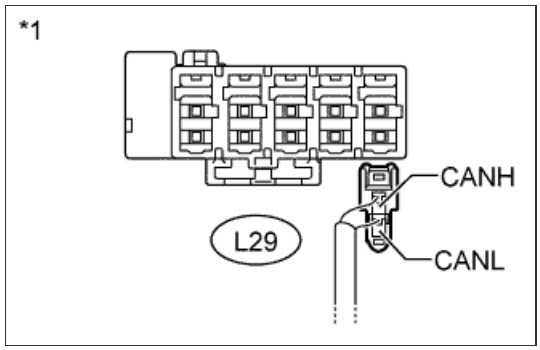
b. Measure the resistance according to the value(s) in the table below.

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.

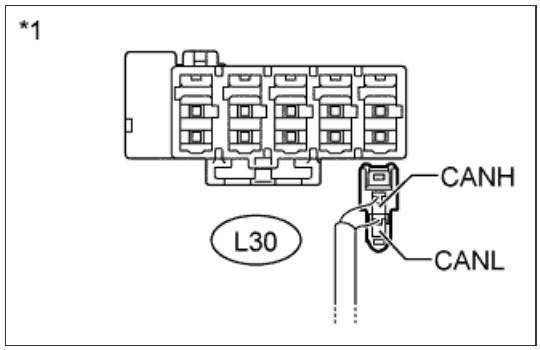
b. Measure the resistance according to the value(s) in the table below.

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.

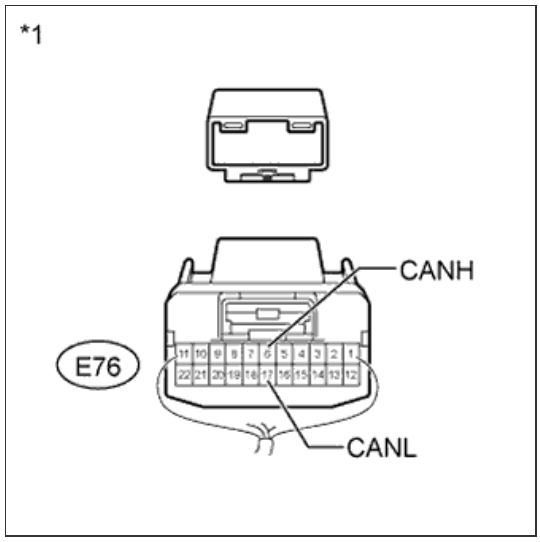
b. Measure the resistance according to the value(s) in the table below.

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)

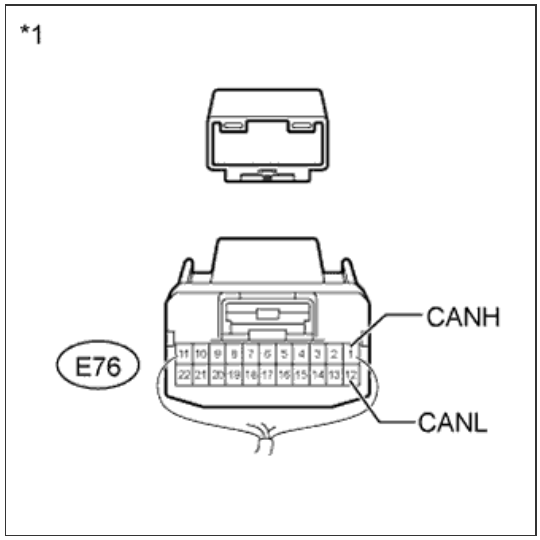
a. Measure the resistance according to the value(s) in the table below.

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.

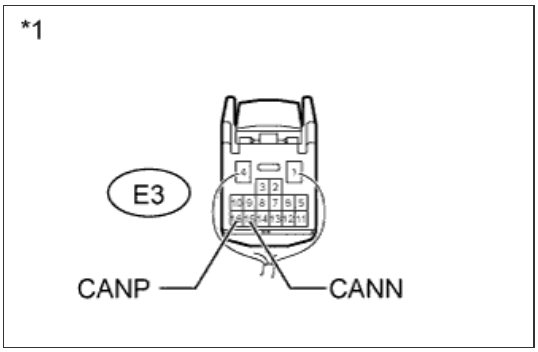
b. Measure the resistance according to the value(s) in the table below.

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 → 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.

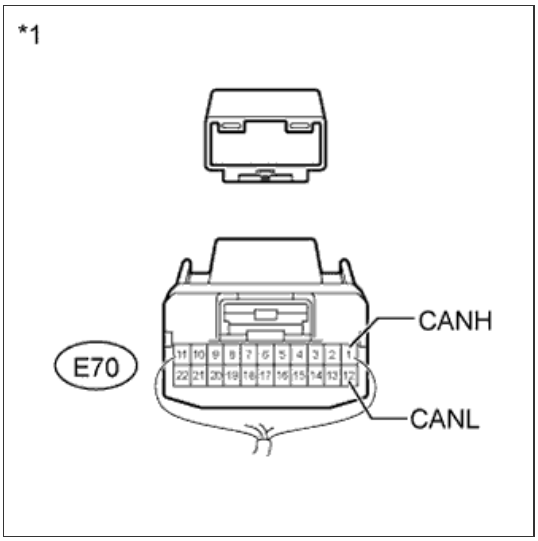
b. Measure the resistance according to the value(s) in the table below.

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)

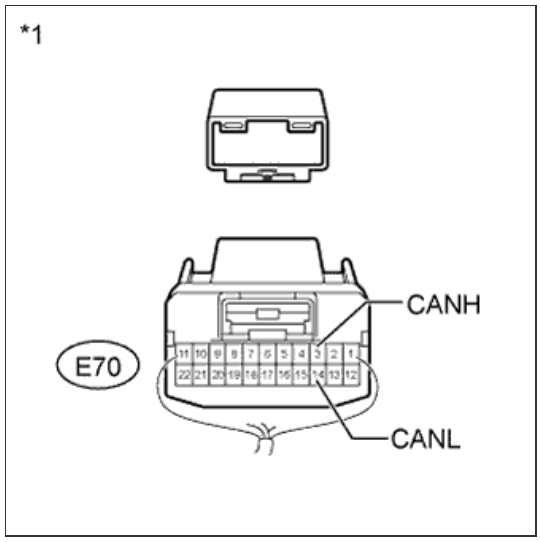
a. Measure the resistance according to the value(s) in the table below.

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 CAN JUNCTION CONNECTOR

14.CONNECT CONNECTOR

a. Reconnect the E70 No. 10 junction connector.

NEXT

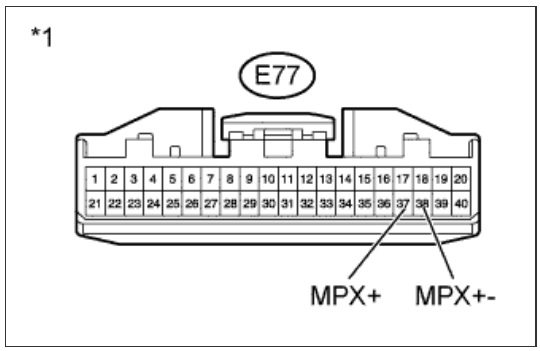
15.CHECK FOR OPEN IN CAN BUS MAIN WIRE (COMBINATION METER ASSEMBLY - NO. 10 JUNCTION CONNECTOR)

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.

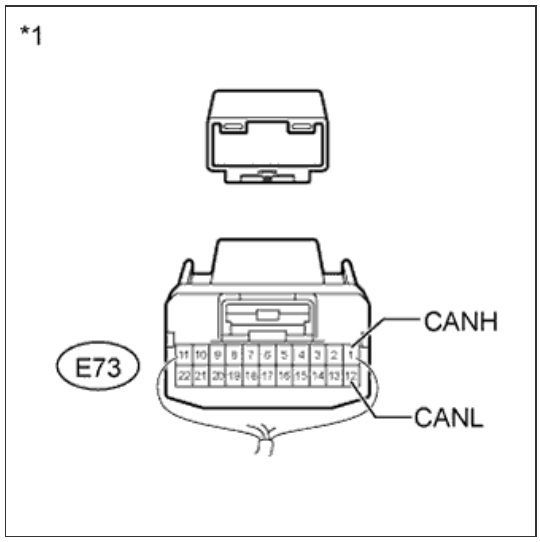
b. Measure the resistance according to the value(s) in the table below.

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)

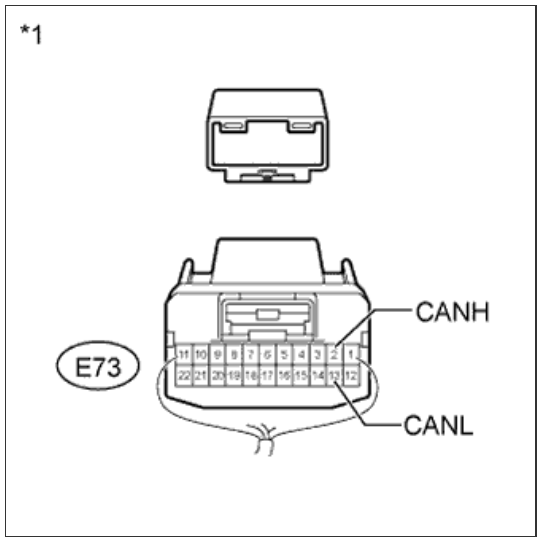
a. Measure the resistance according to the value(s) in the table below.

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)

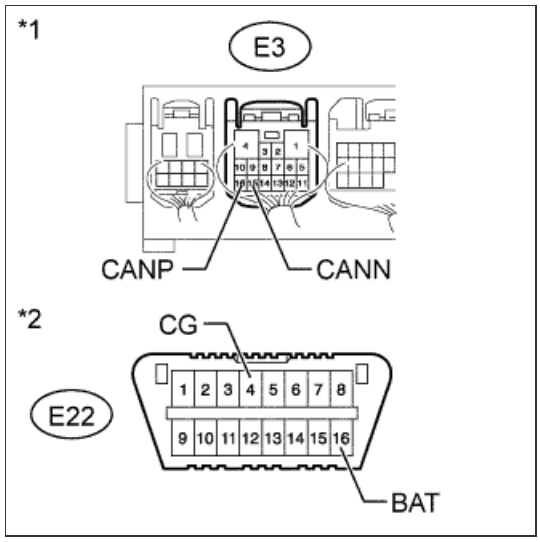
a. Disconnect the E70 No. 10 junction connector.

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

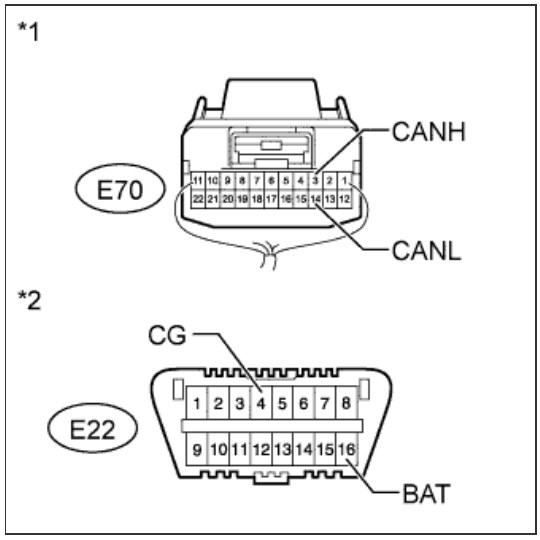
OK

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:

Tester Connection	Switch Condition	Specified Condition
E70-3 (CANH) - E70-14 (CANL)	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 39

OK

REPLACE NO. 10 JUNCTION CONNECTOR

21.CONNECT CONNECTOR

a. Reconnect the E70 No. 10 junction connector.

NEXT

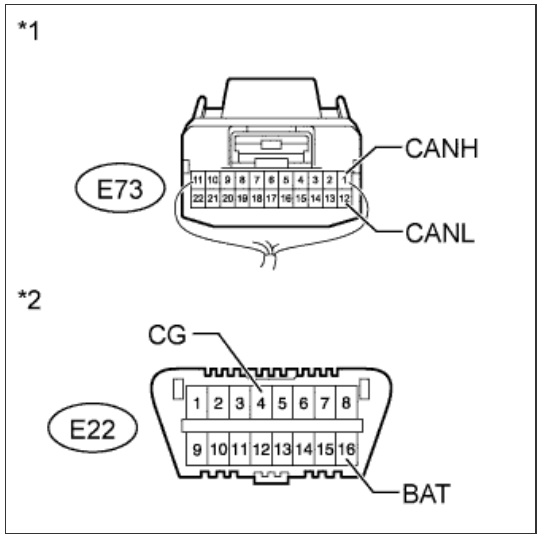
22.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR - NO. 10 JUNCTION CONNECTOR)

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)

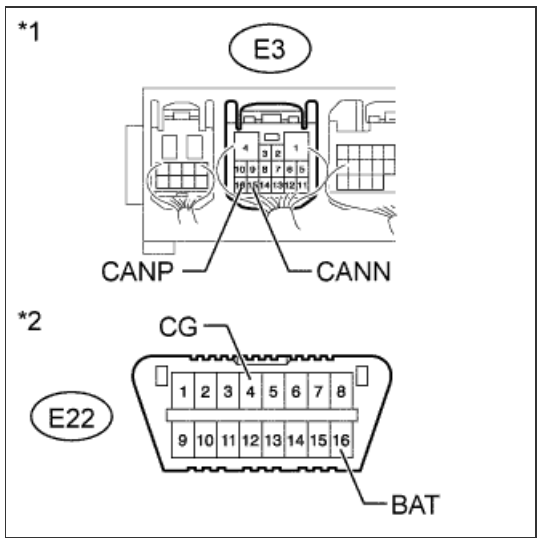
OK

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

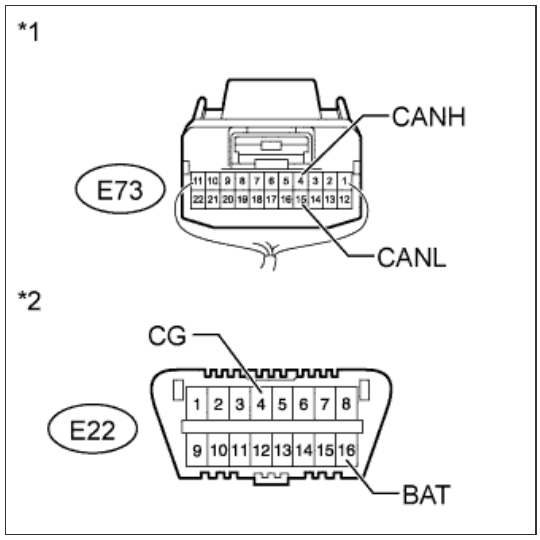
OK

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 41

OK

REPLACE NO. 9 JUNCTION CONNECTOR

25.CONNECT CONNECTOR

a. Reconnect the E73 No. 9 junction connector.

NEXT

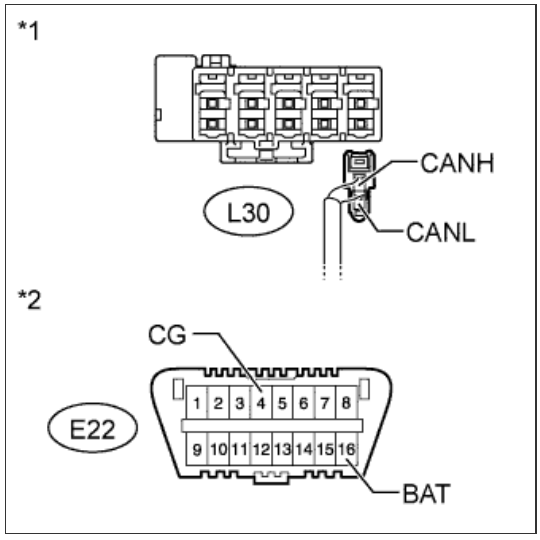
26.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - NO. 9 JUNCTION CONNECTOR)

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 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

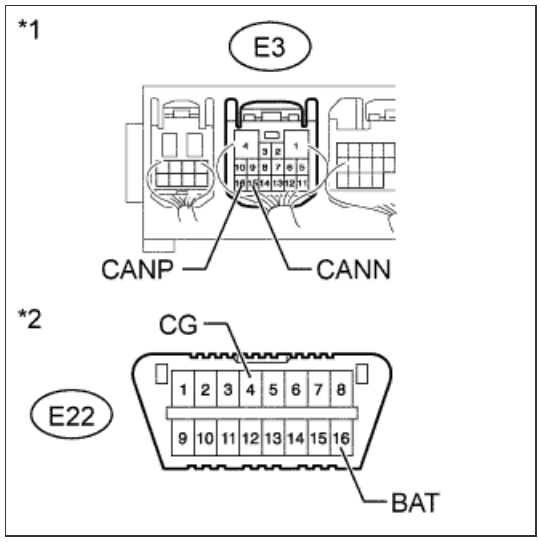
27.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR SIDE)

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 Illustration

*1	Component with harness connected (Main Body ECU [Cowl Side Junction Block LH])
*2	DLC3

NG → Go to step 32

OK

28.CONNECT CONNECTOR

a. Reconnect the L29 and L30 No. 2 CAN junction connectors.

NEXT

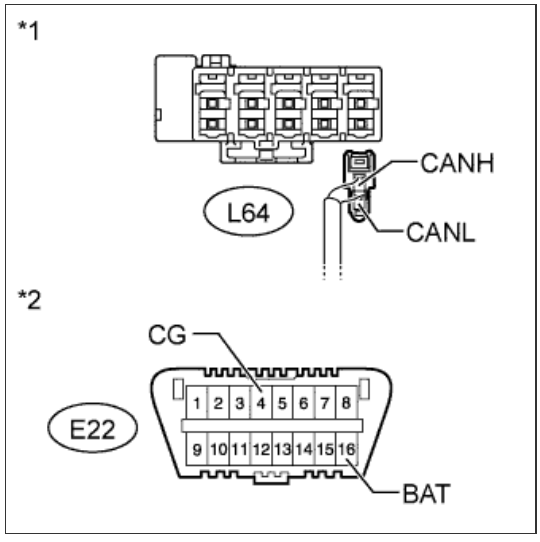
29.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - TIRE PRESSURE WARNING ECU)

a. Disconnect the L64 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
L64-1 (CANH) - L64-2 (CANL)	Engine switch off	200 Ω or higher
L64-1 (CANH) - E22-4 (CG)	Engine switch off	200 Ω or higher
L64-2 (CANL) - E22-4 (CG)	Engine switch off	200 Ω or higher
L64-1 (CANH) - E22-16 (BAT)	Engine switch off	6 kΩ or higher
L64-2 (CANL) - E22-16 (BAT)	Engine switch off	6 kΩ or higher



Text in Illustration

	Rear view of wire harness connector

*1	(to No. 2 CAN Junction Connector)
*2	DLC3

NG → Go to step 43

OK

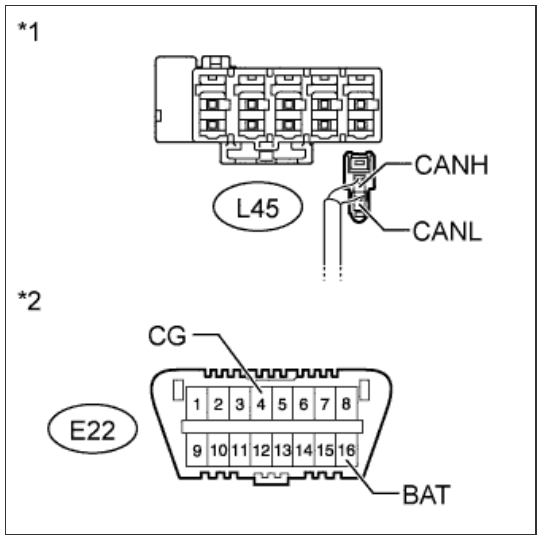
30.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - POWER BACK DOOR ECU)

NOTICE:

For vehicles without a 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 (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 45

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.

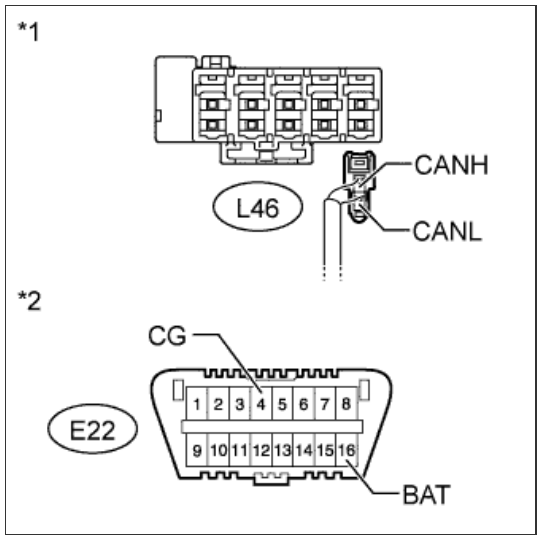
b. Measure the resistance according to the value(s) in the table below.

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 47

OK

REPLACE NO. 2 CAN JUNCTION CONNECTOR

32.CONNECT CONNECTOR

a. Reconnect the L29 and L30 No. 2 CAN junction connectors.

NEXT

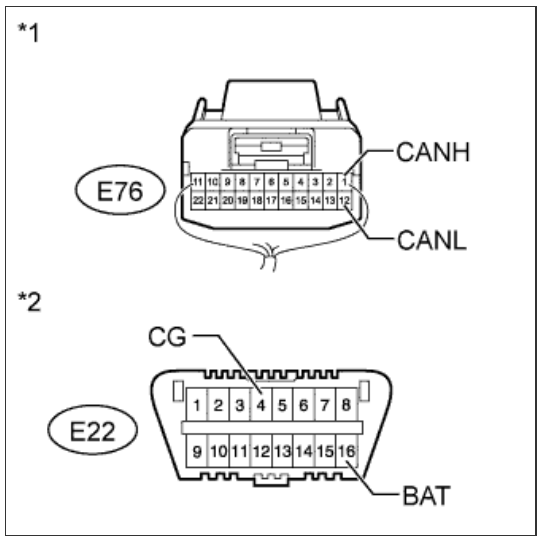
33.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

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)

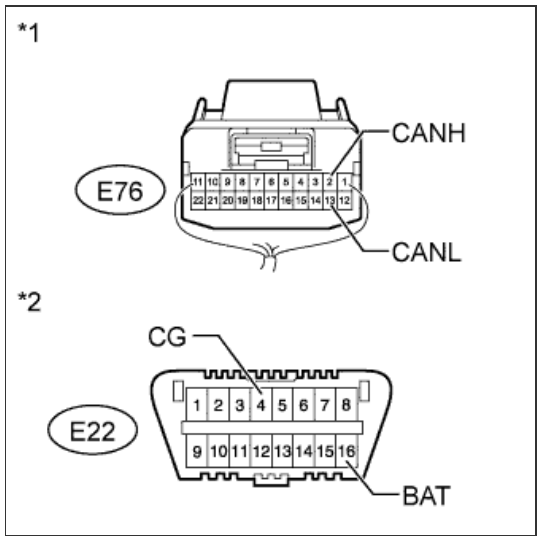
OK

34.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 49

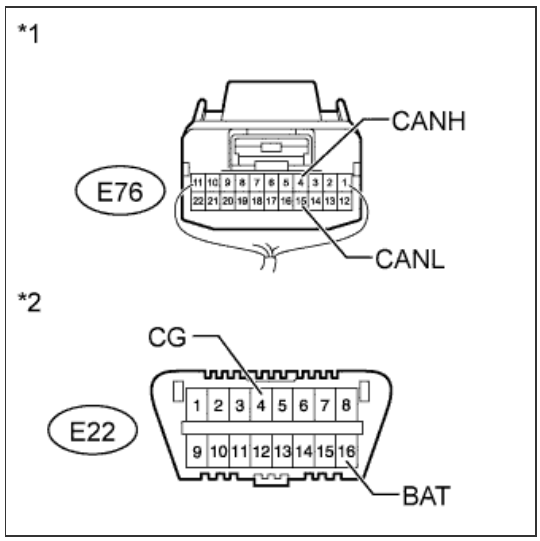
OK

35.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 51

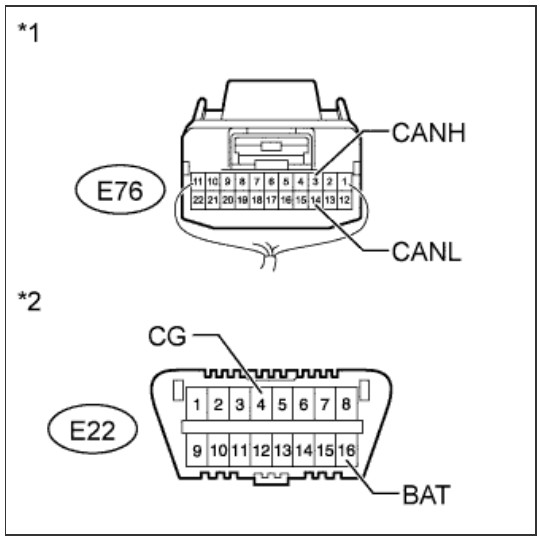
OK

36.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 53

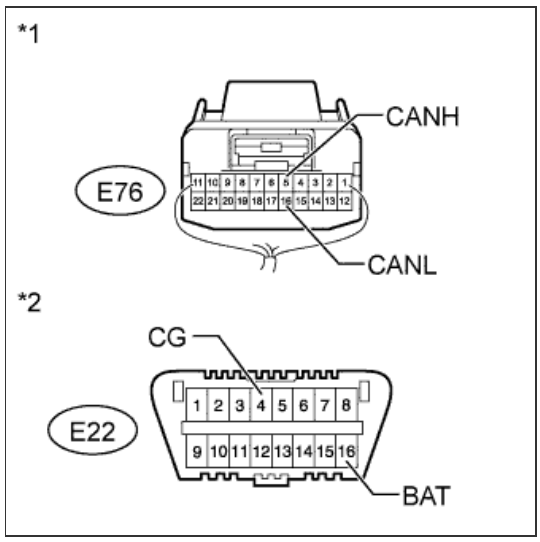
OK

37.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) - 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. 8 Junction Connector)
*2	DLC3

NG → Go to step 55

OK

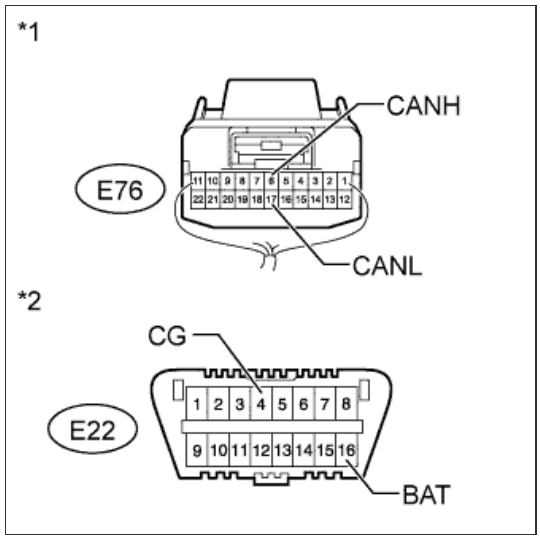
38.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - MAIN BODY ECU)

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) - E22-4 (CG)	Engine switch off	200 Ω or higher
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 57

OK

REPLACE NO. 8 JUNCTION CONNECTOR

39.CONNECT CONNECTOR

a. Reconnect the E70 No. 10 junction connector.

NEXT

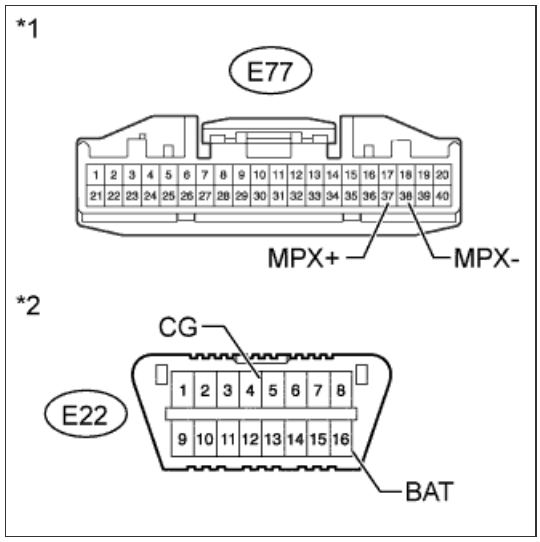
40.CHECK FOR SHORT IN CAN BUS WIRES (COMBINATION METER ASSEMBLY)

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)

41.CONNECT CONNECTOR

a. Reconnect the E73 No. 9 junction connector.

NEXT

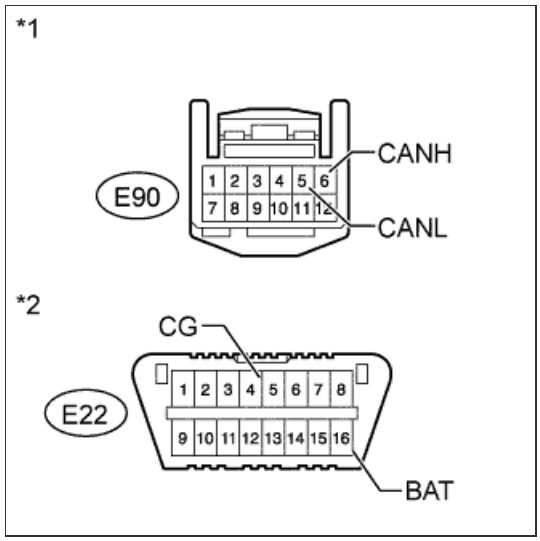
42.CHECK FOR SHORT IN CAN BUS WIRES (WINDSHIELD WIPER ECU)

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)

43.CONNECT CONNECTOR

a. Reconnect the L64 No. 2 CAN junction connector.

NEXT

44.CHECK FOR SHORT IN CAN BUS WIRES (TIRE PRESSURE WARNING ECU)

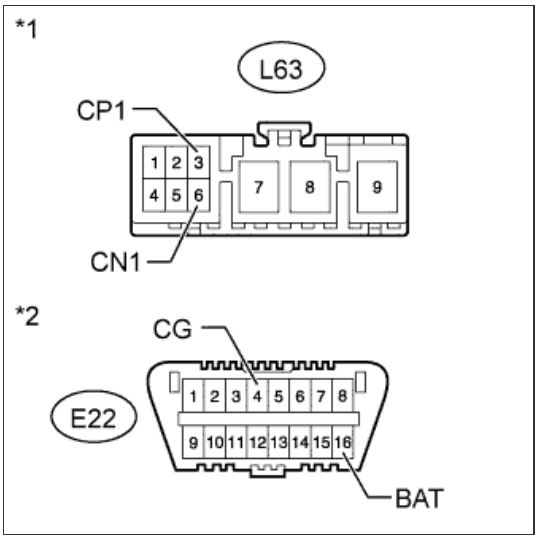
a. Disconnect the L63 tire pressure warning ECU connector.

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
L63-3 (CP1) - L63-6 (CN1)	Engine switch off	54 to 69 Ω
L63-3 (CP1) - E22-4 (CG)	Engine switch off	200 Ω or higher
L63-6 (CN1) - E22-4 (CG)	Engine switch off	200 Ω or higher

L63-3 (CP1) - E22-16 (BAT)	Engine switch off	6 kΩ or higher
L63-6 (CN1) - E22-16 (BAT)	Engine switch off	6 kΩ or higher



Text in Illustration

*1	Front view of wire harness connector (to Tire Pressure Warning ECU)
*2	DLC3

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO TIRE PRESSURE WARNING ECU (CP1, CN1)

OK

REPLACE TIRE PRESSURE WARNING ECU (Click here)

45.CONNECT CONNECTOR

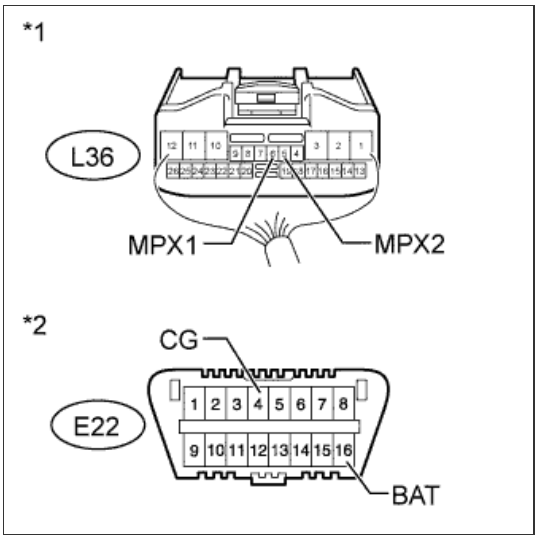
a. Reconnect the L45 and L64 No. 2 CAN junction connectors.

NEXT

46.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)

47.CONNECT CONNECTOR

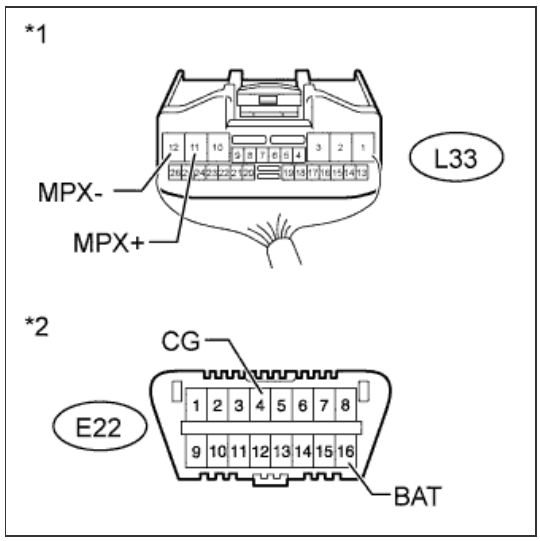
a. Reconnect the L45, L46 and L64 No. 2 CAN junction connectors.

NEXT

48.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)

49.CONNECT CONNECTOR

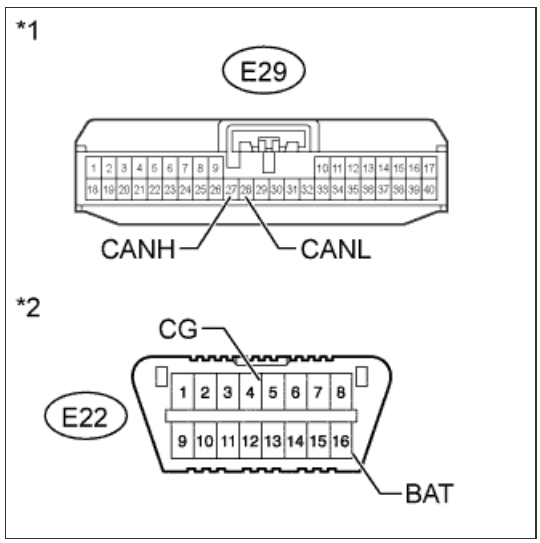
a. Reconnect the E76 No. 8 junction connector.

NEXT

50.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)

51.CONNECT CONNECTOR

a. Reconnect the E76 No. 8 junction connector.

NEXT

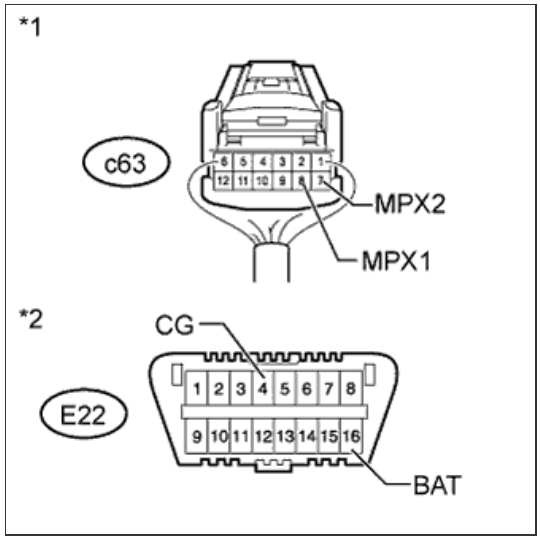
52.CHECK FOR SHORT IN CAN BUS WIRES (POSITION CONTROL ECU AND SWITCH)

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)

53.CONNECT CONNECTOR

a. Reconnect the E76 No. 8 junction connector.

NEXT

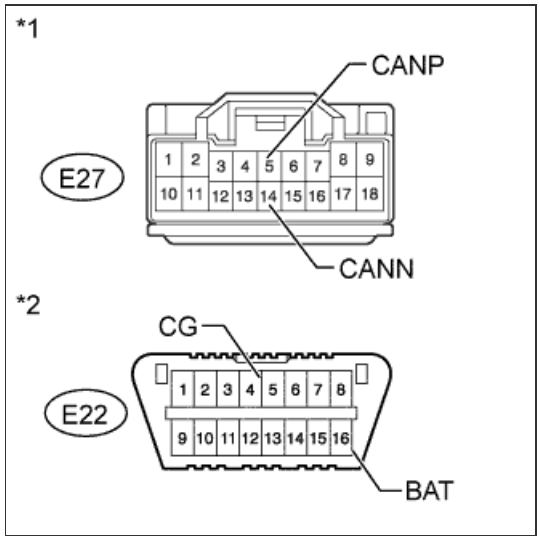
54.CHECK FOR SHORT IN CAN BUS WIRES (MULTIPLEX TILT AND TELESCOPIC ECU)

a. Disconnect the E27 multiplex tilt and telescopic ECU connector.

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

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)

55.CONNECT CONNECTOR

a. Reconnect the E76 No. 8 junction connector.

NEXT

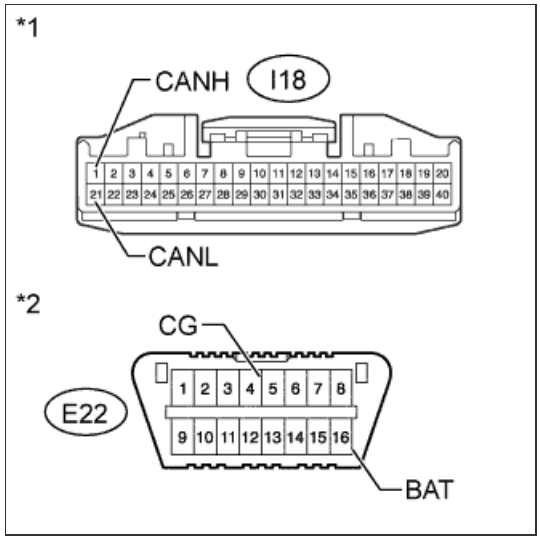
56.CHECK FOR SHORT IN CAN BUS WIRES (OUTER MIRROR CONTROL ECU ASSEMBLY)

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)

57.CONNECT CONNECTOR

a. Reconnect the E76 No. 8 junction connector.

NEXT

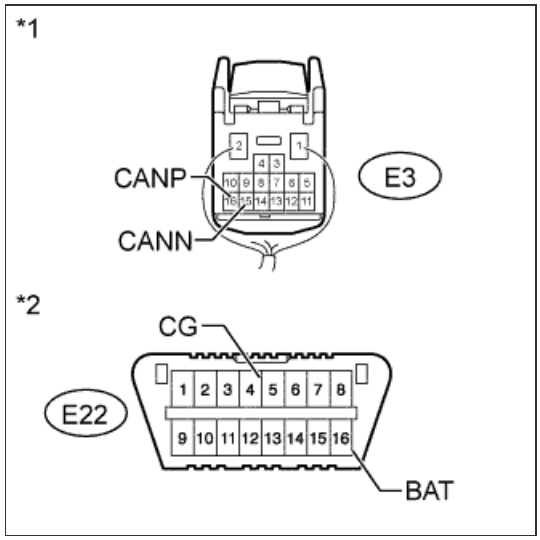
58.CHECK FOR SHORT IN CAN BUS WIRES (MAIN BODY ECU)

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

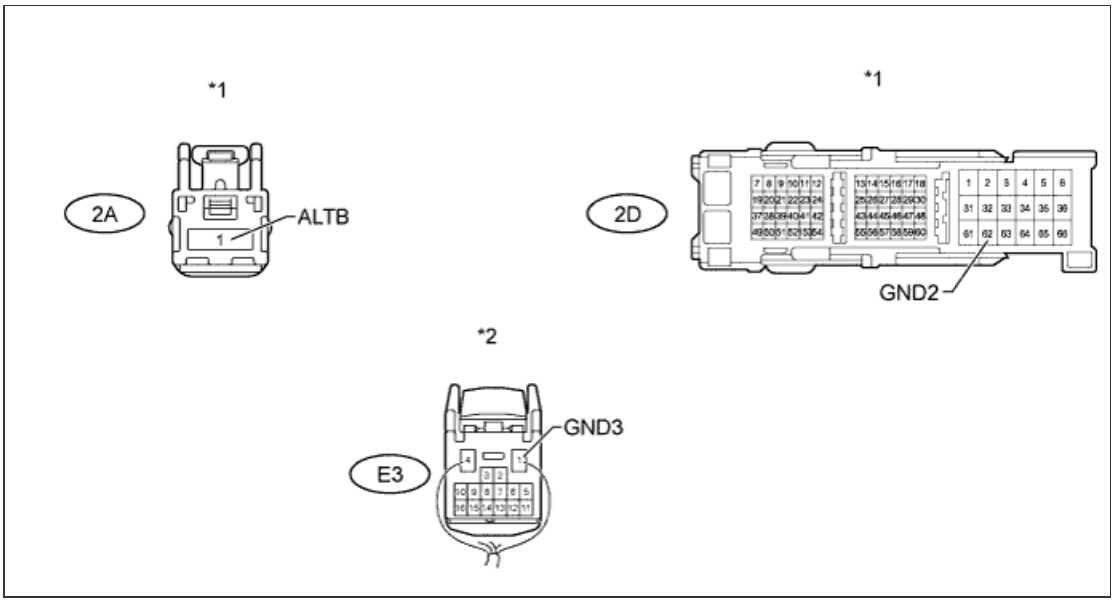
REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

59.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).



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])

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

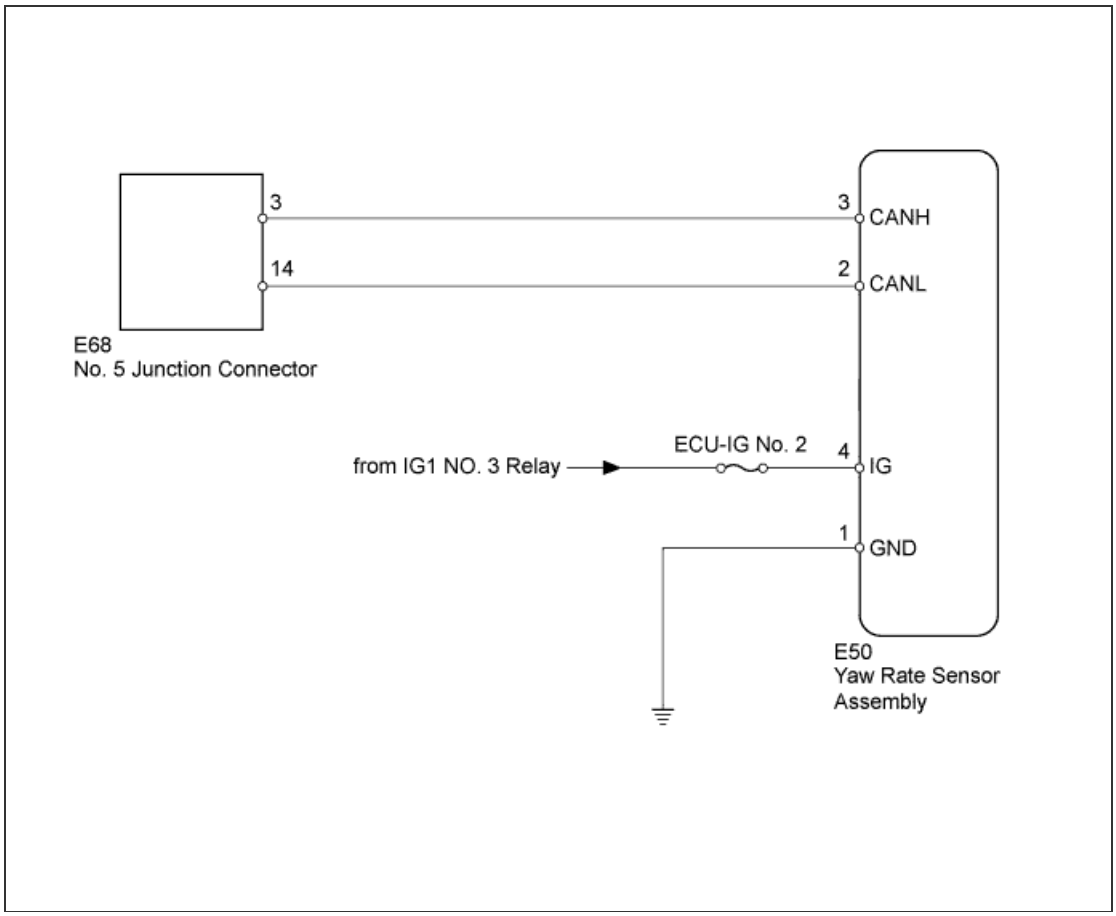
DTC U0124 Lost Communication with Lateral Acceleration Sensor Module

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 • Yaw rate sensor CAN branch wire or connector • 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 • Yaw rate sensor CAN branch wire or connector • 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.

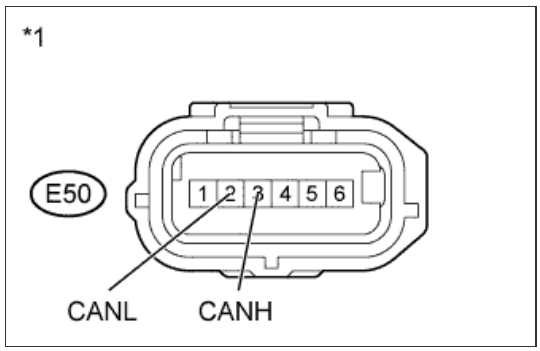
b. Measure the resistance according to the value(s) in the table below.

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).

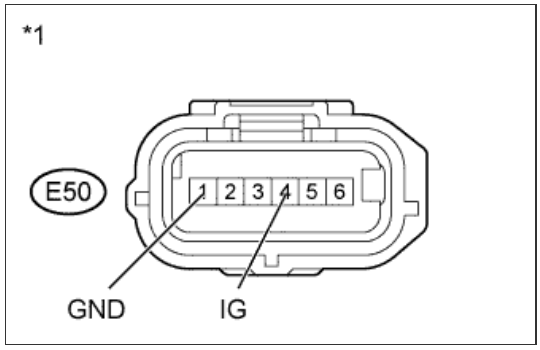
b. Measure the voltage according to the value(s) in table below.

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

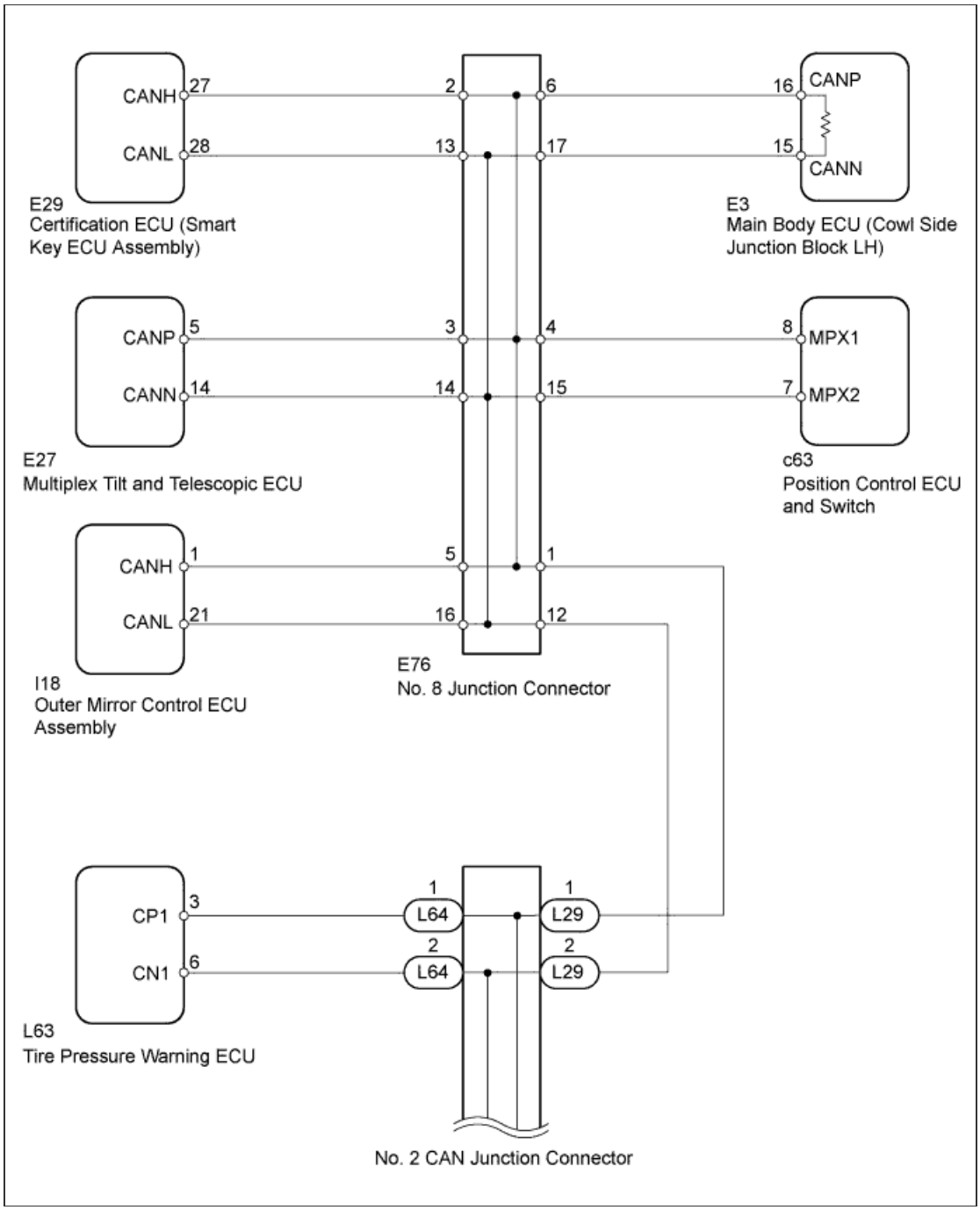
DESCRIPTION

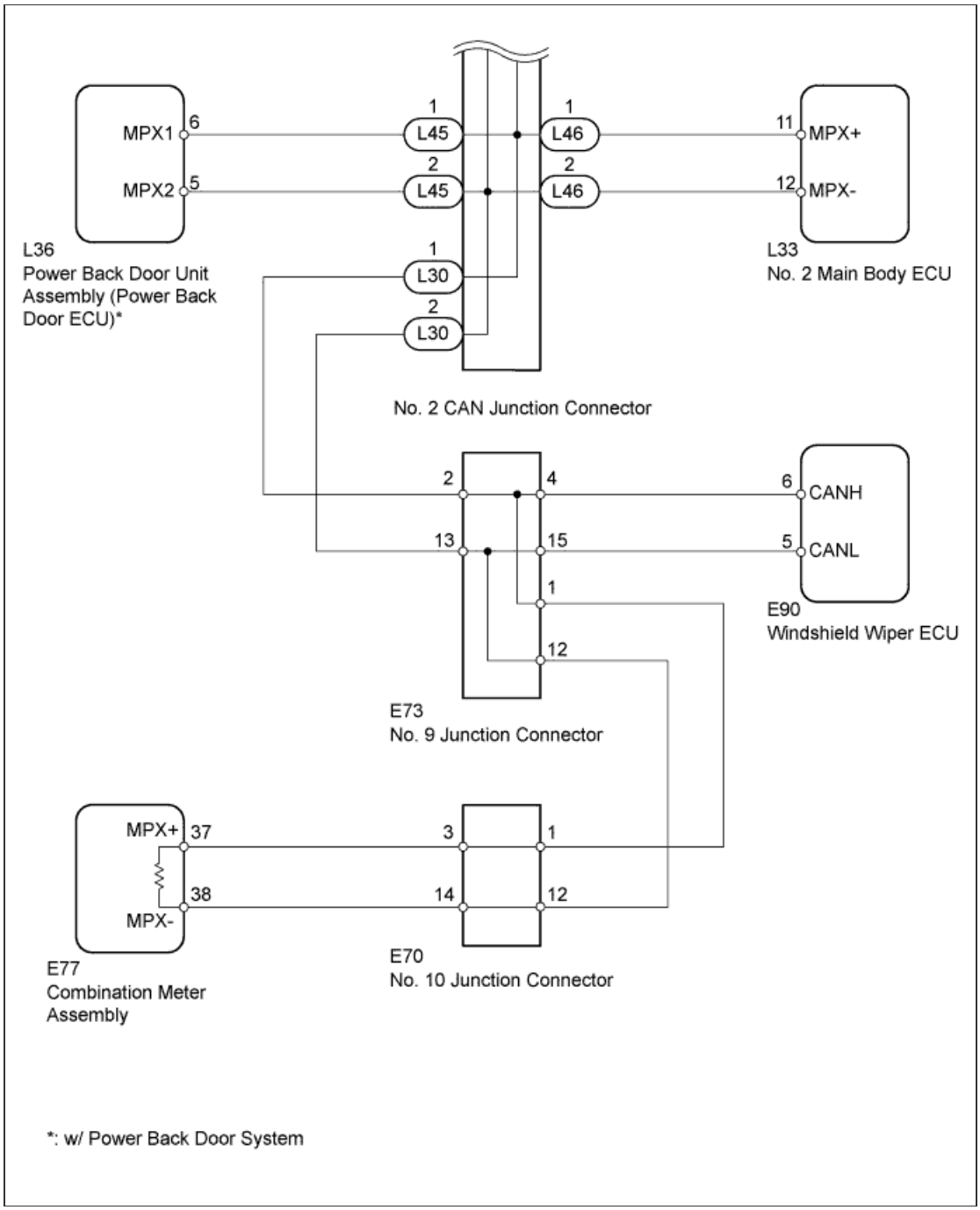
- The main body ECU stores this DTC when no signals can be received from the ECUs that have been memorized as those connected to the CAN MS bus.
- When the main body ECU receives a response signal from the ECUs connected to the CAN MS bus, the main body ECU recognizes and memorizes that the ECU is connected 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 • Certification ECU (smart key ECU assembly) CAN branch wire or connector • Position control ECU and switch CAN branch wire or connector • Outer mirror control ECU assembly CAN branch wire or connector • Multiplex tilt and telescopic ECU CAN branch wire or connector • Tire pressure warning ECU CAN branch wire or connector • Power back door unit assembly (power back door ECU) CAN branch wire or connector* • Windshield wiper ECU CAN branch wire or connector • No. 2 main body ECU CAN branch wire or connector • Main body ECU (cowl side junction block LH) main wire or connector • Combination meter main wire or connector • Certification ECU (smart key ECU assembly) • Position control ECU and switch assembly • Outer mirror control ECU assembly • Multiplex tilt and telescopic ECU • Tire pressure warning ECU • Power back door unit assembly (power back door ECU)* • Windshield wiper ECU • No. 2 main body ECU • Main body ECU (cowl side junction block LH) • Combination meter assembly • No. 8 junction connector • No. 9 junction connector • No. 10 junction connector • No. 2 CAN junction connector

*: w/ Power Back Door System

WIRING DIAGRAM


CANH
27
CANL
28
E29
Certification ECU (Smart Key ECU Assembly)
2
6
13
17
16
CANP
15
CANN
E3
Main Body ECU (Cowl Side Junction Block LH)
CANP
5
CANN
14
E27
Multiplex Tilt and Telescopic ECU
3
4
14
15
8
MPX1
7
MPX2
c63
Position Control ECU and Switch
CANH
1
CANL
21
I18
Outer Mirror Control ECU Assembly
5
1
16
12
E76
No. 8 Junction Connector
CP1
3
CN1
6
L63
Tire Pressure Warning ECU
1
L64
2
L64
1
L29
2
L29
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:

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

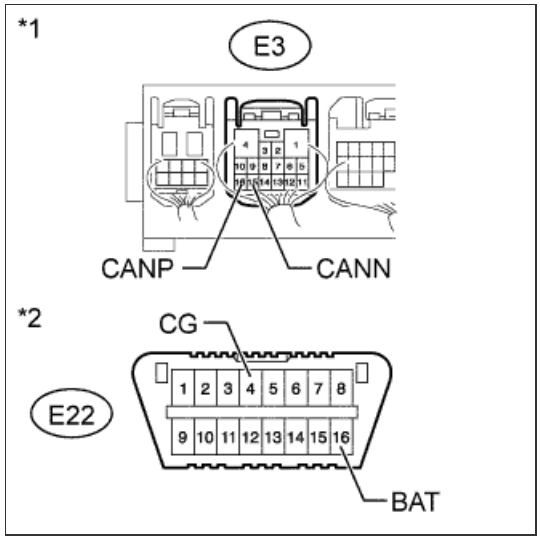
NOTICE:

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 • Open in CAN main bus line	A
NG • Short in line • +B short • Ground short	B
OK	C

B → Go to step 19

C → Go to step 59

A

4.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.

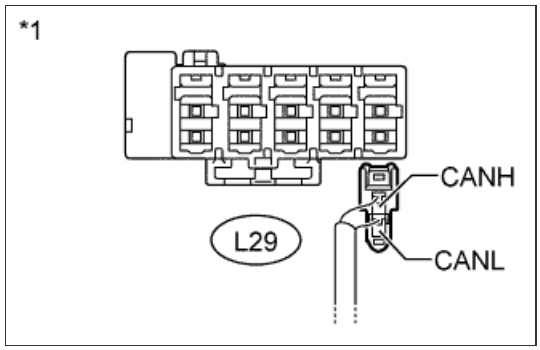
b. Measure the resistance according to the value(s) in the table below.

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.

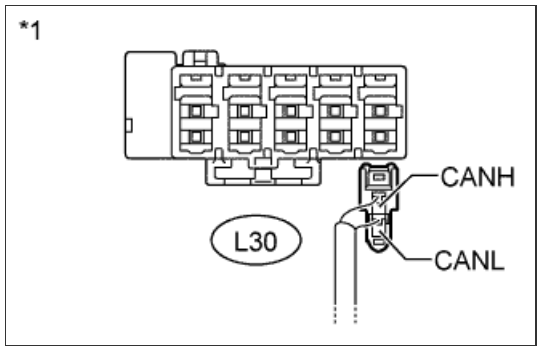
b. Measure the resistance according to the value(s) in the table below.

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.

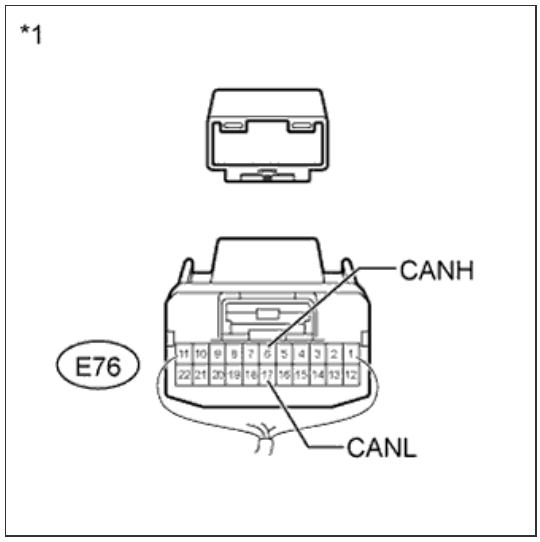
b. Measure the resistance according to the value(s) in the table below.

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)

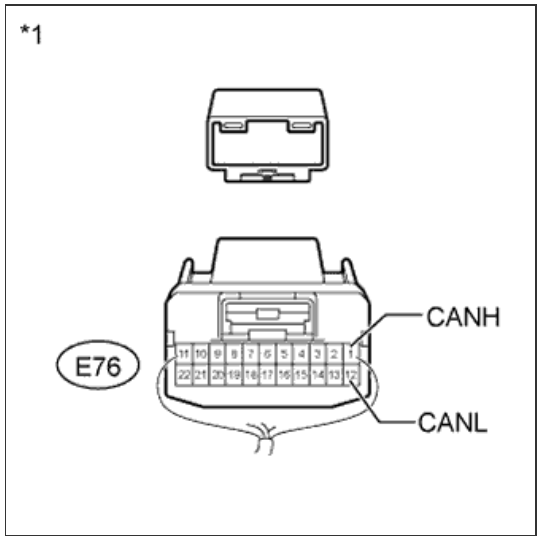
a. Measure the resistance according to the value(s) in the table below.

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.

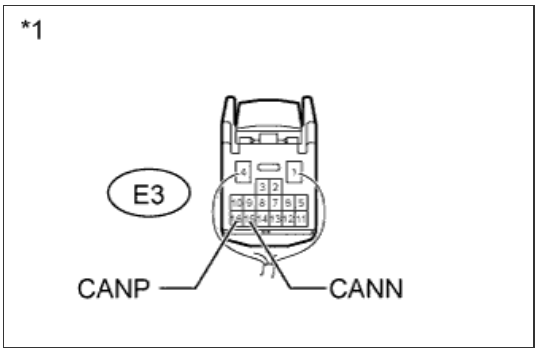
b. Measure the resistance according to the value(s) in the table below.

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 → 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.

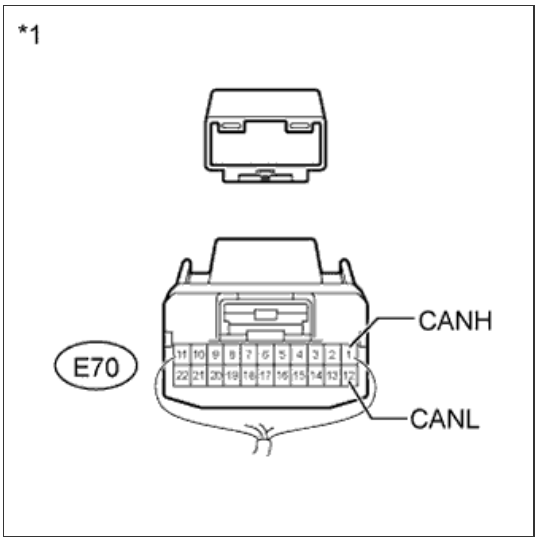
b. Measure the resistance according to the value(s) in the table below.

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)

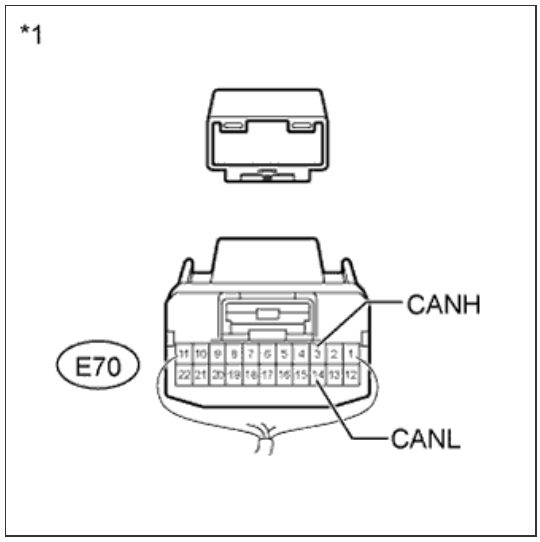
a. Measure the resistance according to the value(s) in the table below.

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 CAN JUNCTION CONNECTOR

14.CONNECT CONNECTOR

a. Reconnect the E70 No. 10 junction connector.

NEXT

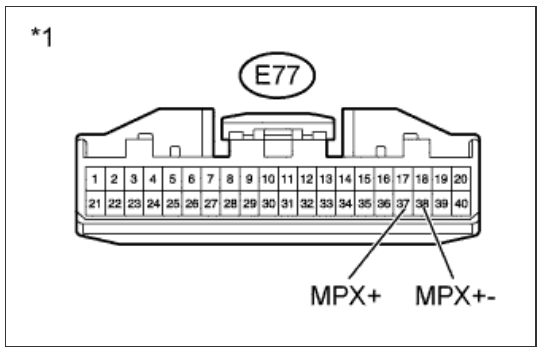
15.CHECK FOR OPEN IN CAN BUS MAIN WIRE (COMBINATION METER ASSEMBLY - NO. 10 JUNCTION CONNECTOR)

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.

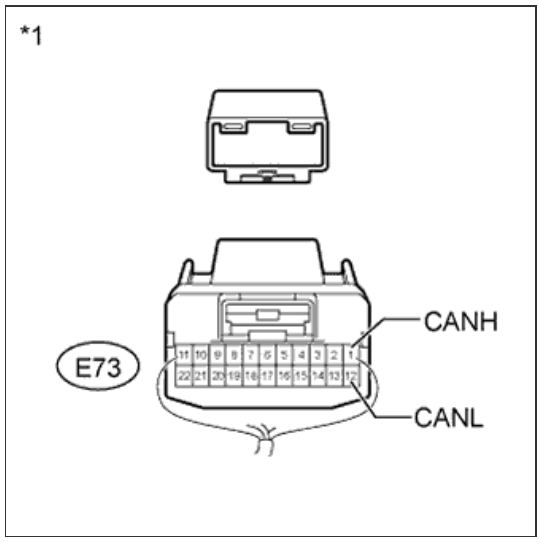
b. Measure the resistance according to the value(s) in the table below.

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)

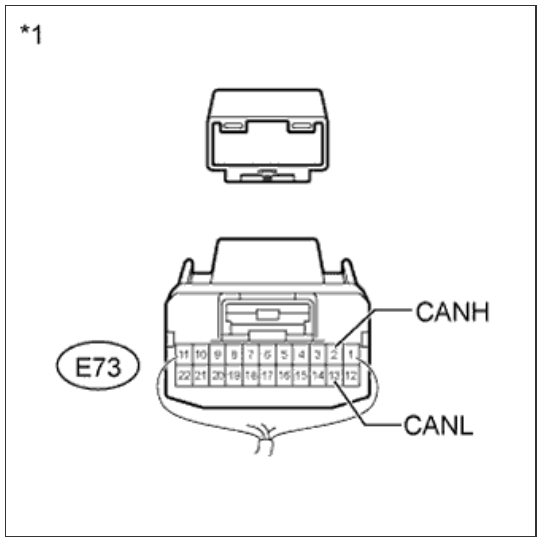
a. Measure the resistance according to the value(s) in the table below.

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)

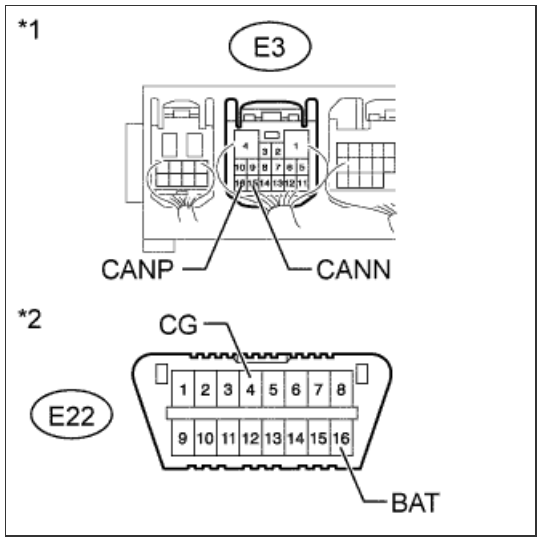
a. Disconnect the E70 No. 10 junction connector.

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

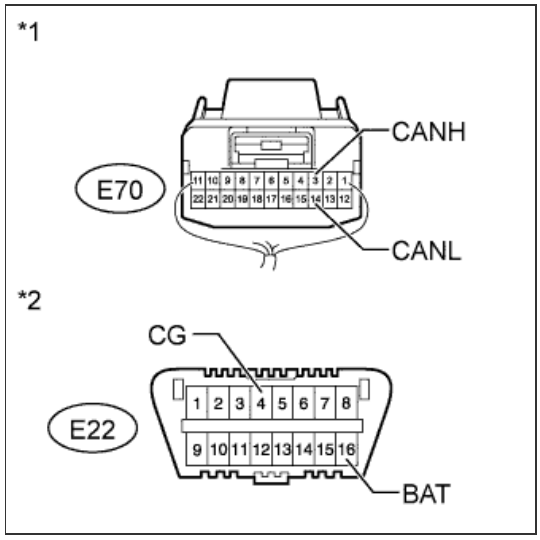
OK

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:

Tester Connection	Switch Condition	Specified Condition
E70-3 (CANH) - E70-14 (CANL)	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 39

OK

REPLACE NO. 10 JUNCTION CONNECTOR

21.CONNECT CONNECTOR

a. Reconnect the E70 No. 10 junction connector.

NEXT

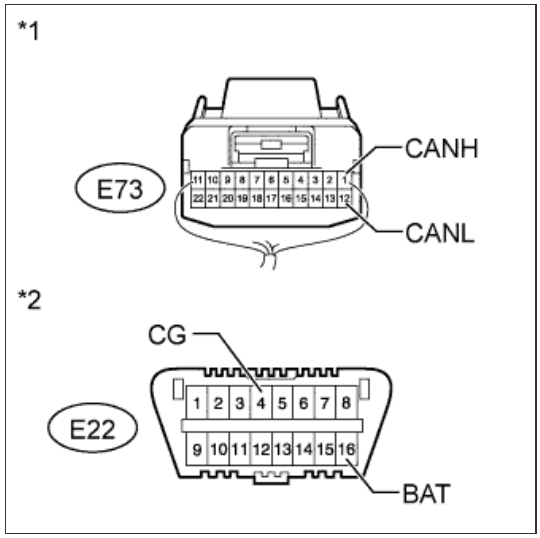
22.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR - NO. 10 JUNCTION CONNECTOR)

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)

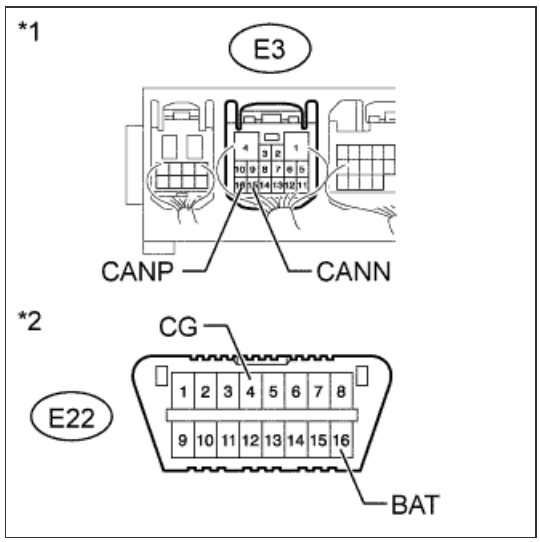
OK

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

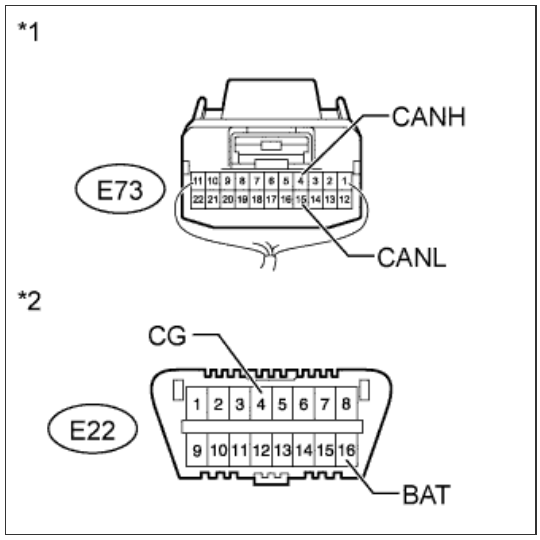
OK

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 41

OK

REPLACE NO. 9 JUNCTION CONNECTOR

25.CONNECT CONNECTOR

a. Reconnect the E73 No. 9 junction connector.

NEXT

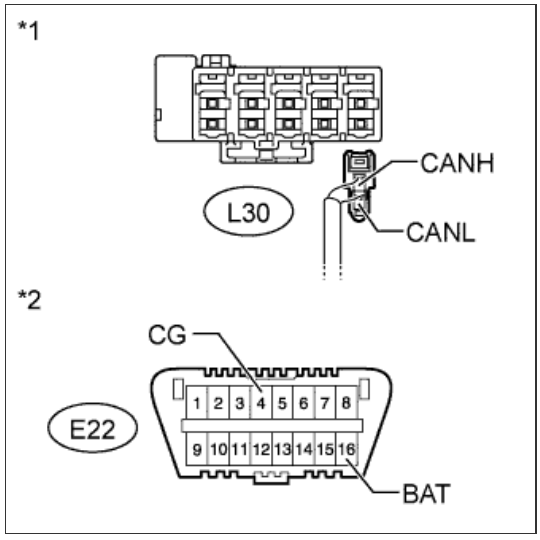
26.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - NO. 9 JUNCTION CONNECTOR)

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 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

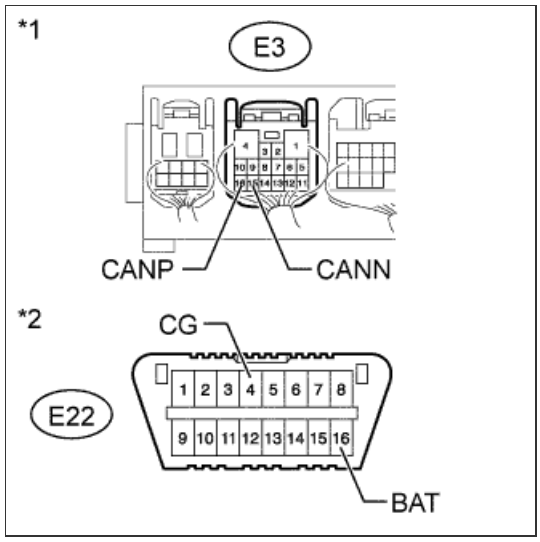
27.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR SIDE)

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 Illustration

*1	Component with harness connected (Main Body ECU [Cowl Side Junction Block LH])
*2	DLC3

NG → Go to step 32

OK

28.CONNECT CONNECTOR

a. Reconnect the L29 and L30 No. 2 CAN junction connectors.

NEXT

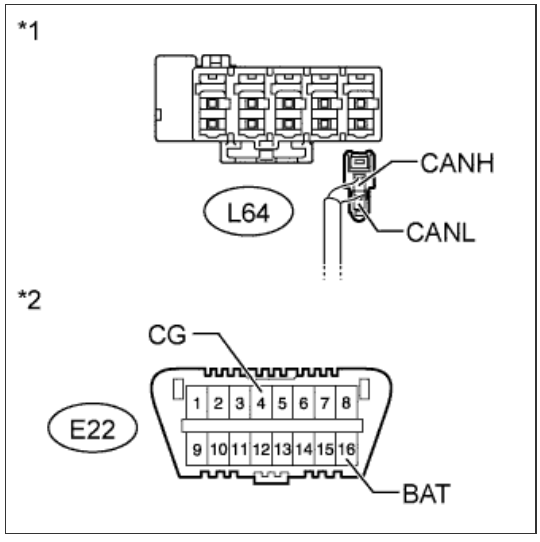
29.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - TIRE PRESSURE WARNING ECU)

a. Disconnect the L64 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
L64-1 (CANH) - L64-2 (CANL)	Engine switch off	200 Ω or higher
L64-1 (CANH) - E22-4 (CG)	Engine switch off	200 Ω or higher
L64-2 (CANL) - E22-4 (CG)	Engine switch off	200 Ω or higher
L64-1 (CANH) - E22-16 (BAT)	Engine switch off	6 kΩ or higher
L64-2 (CANL) - E22-16 (BAT)	Engine switch off	6 kΩ or higher



Text in Illustration

	Rear view of wire harness connector

*1	(to No. 2 CAN Junction Connector)
*2	DLC3

NG → Go to step 43

OK

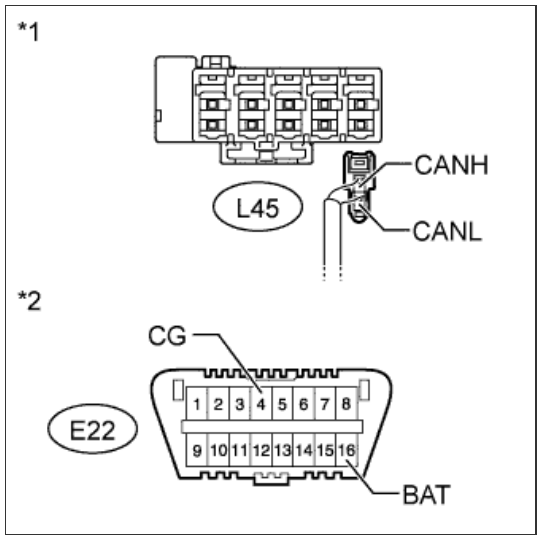
30.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - POWER BACK DOOR ECU)

NOTICE:

For vehicles without a 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 (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 45

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.

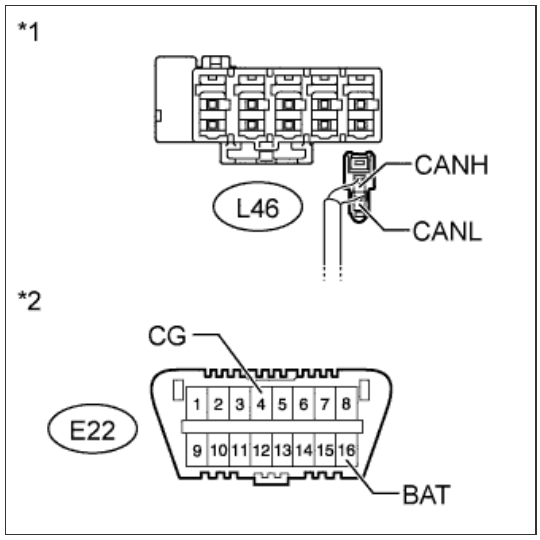
b. Measure the resistance according to the value(s) in the table below.

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 47

OK

REPLACE NO. 2 CAN JUNCTION CONNECTOR

32.CONNECT CONNECTOR

a. Reconnect the L29 and L30 No. 2 CAN junction connectors.

NEXT

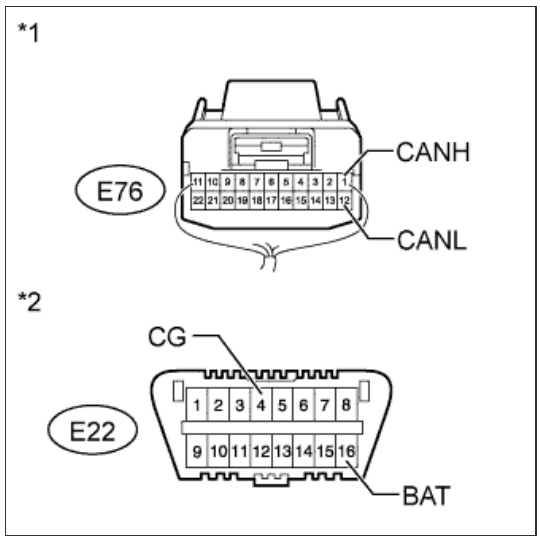
33.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

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)

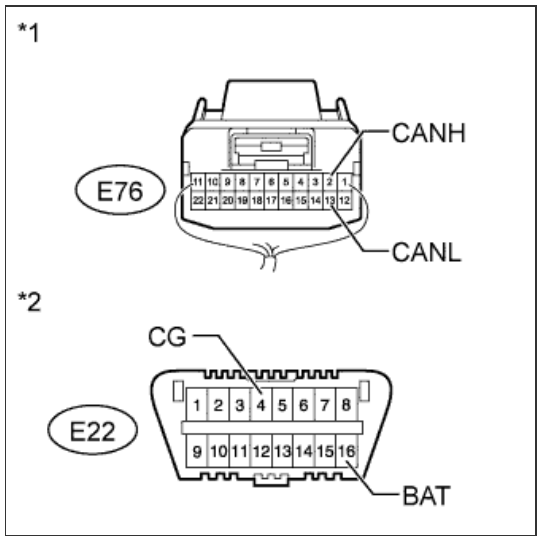
OK

34.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 49

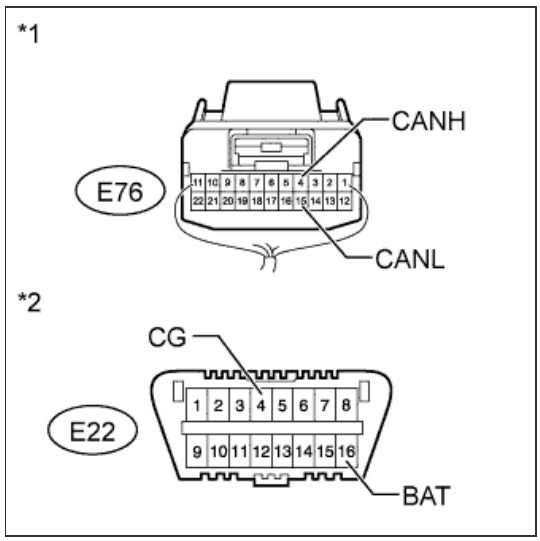
OK

35.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 51

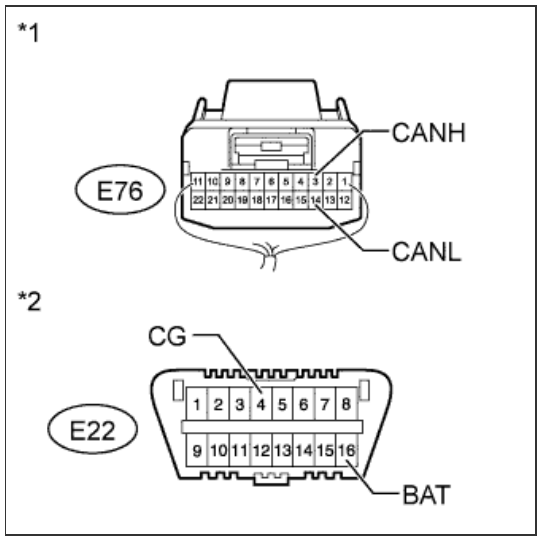
OK

36.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 53

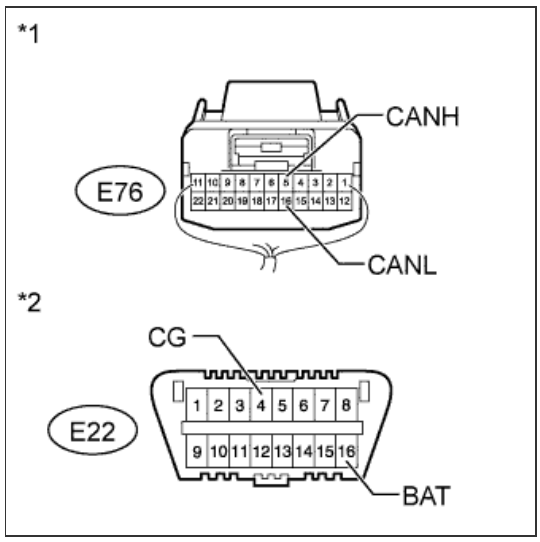
OK

37.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) - 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. 8 Junction Connector)
*2	DLC3

NG → Go to step 55

OK

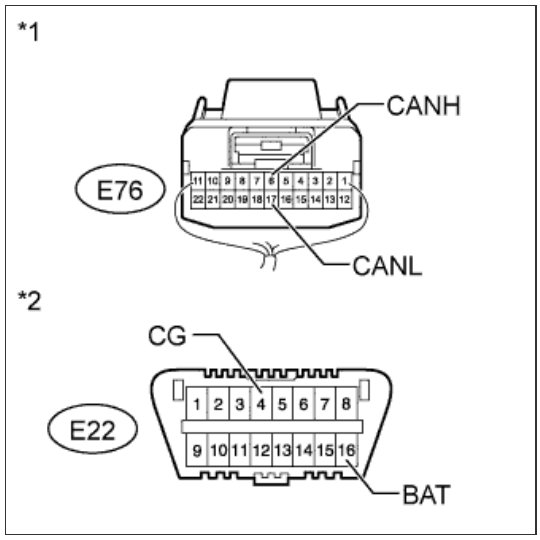
38.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - MAIN BODY ECU)

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) - E22-4 (CG)	Engine switch off	200 Ω or higher
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 57

OK

REPLACE NO. 8 JUNCTION CONNECTOR

39.CONNECT CONNECTOR

a. Reconnect the E70 No. 10 junction connector.

NEXT

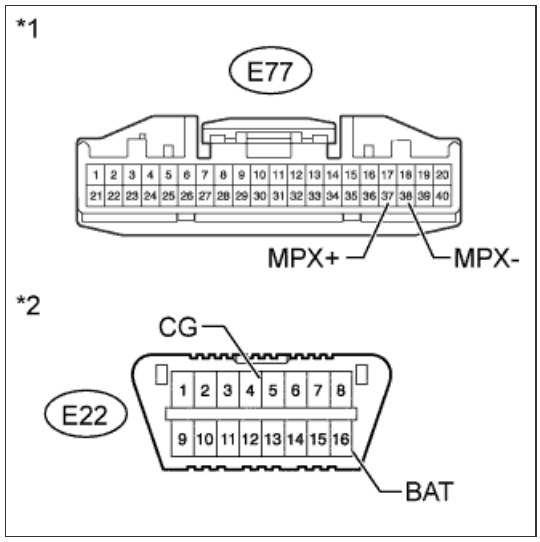
40.CHECK FOR SHORT IN CAN BUS WIRES (COMBINATION METER ASSEMBLY)

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)

41.CONNECT CONNECTOR

a. Reconnect the E73 No. 9 junction connector.

NEXT

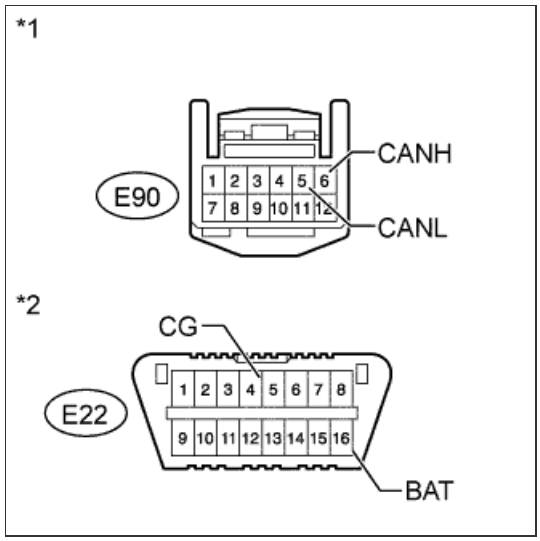
42.CHECK FOR SHORT IN CAN BUS WIRES (WINDSHIELD WIPER ECU)

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)

43.CONNECT CONNECTOR

a. Reconnect the L64 No. 2 CAN junction connector.

NEXT

44.CHECK FOR SHORT IN CAN BUS WIRES (TIRE PRESSURE WARNING ECU)

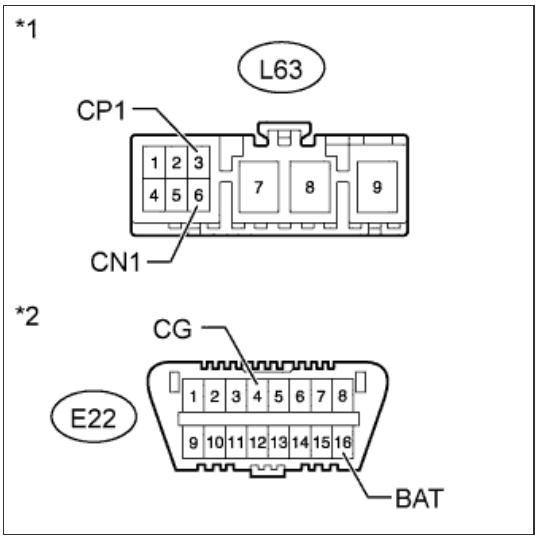
a. Disconnect the L63 tire pressure warning ECU connector.

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
L63-3 (CP1) - L63-6 (CN1)	Engine switch off	54 to 69 Ω
L63-3 (CP1) - E22-4 (CG)	Engine switch off	200 Ω or higher
L63-6 (CN1) - E22-4 (CG)	Engine switch off	200 Ω or higher

L63-3 (CP1) - E22-16 (BAT)	Engine switch off	6 kΩ or higher
L63-6 (CN1) - E22-16 (BAT)	Engine switch off	6 kΩ or higher



Text in Illustration

*1	Front view of wire harness connector (to Tire Pressure Warning ECU)
*2	DLC3

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO TIRE PRESSURE WARNING ECU (CP1, CN1)

OK

REPLACE TIRE PRESSURE WARNING ECU (Click here)

45.CONNECT CONNECTOR

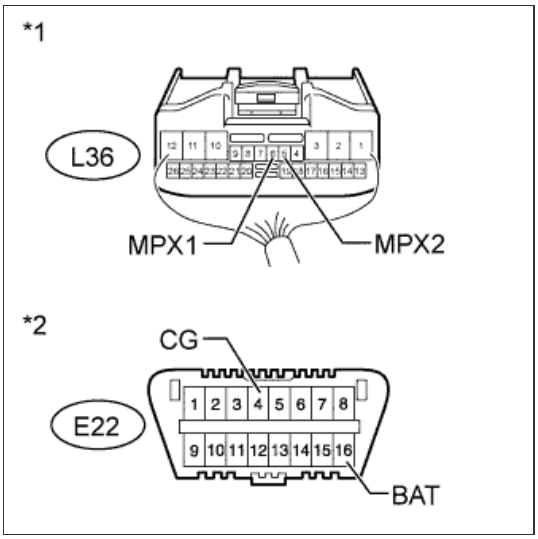
a. Reconnect the L45 and L64 No. 2 CAN junction connectors.

NEXT

46.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)

47.CONNECT CONNECTOR

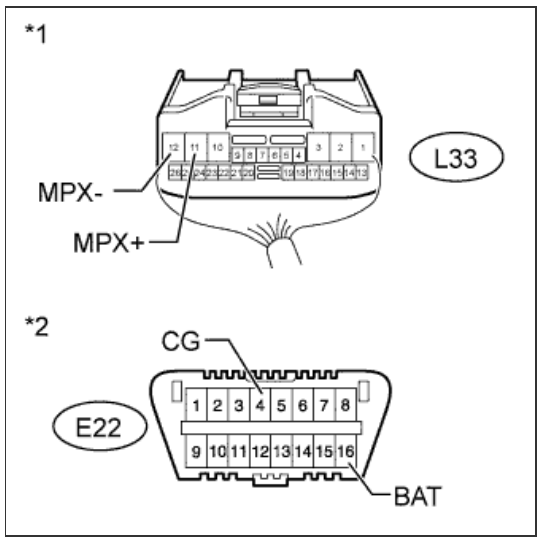
a. Reconnect the L45, L46 and L64 No. 2 CAN junction connectors.

NEXT

48.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)

49.CONNECT CONNECTOR

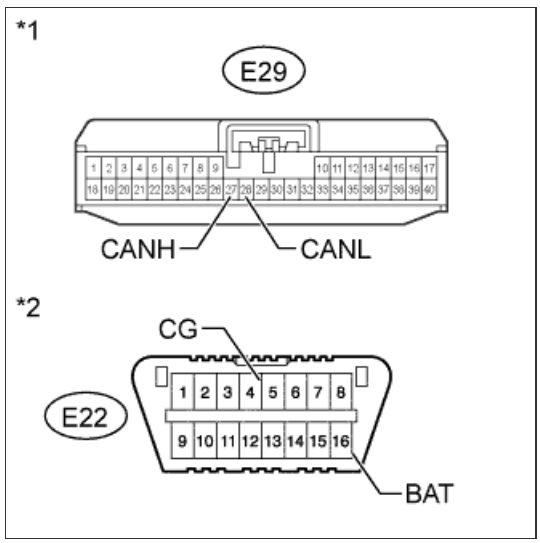
a. Reconnect the E76 No. 8 junction connector.

NEXT

50.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)

51.CONNECT CONNECTOR

a. Reconnect the E76 No. 8 junction connector.

NEXT

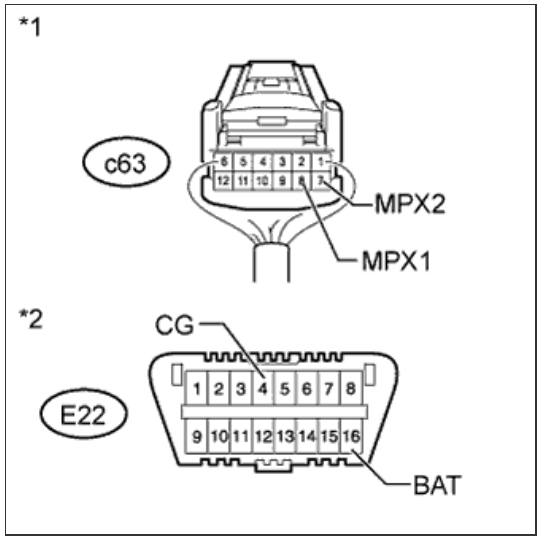
52.CHECK FOR SHORT IN CAN BUS WIRES (POSITION CONTROL ECU AND SWITCH)

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)

53.CONNECT CONNECTOR

a. Reconnect the E76 No. 8 junction connector.

NEXT

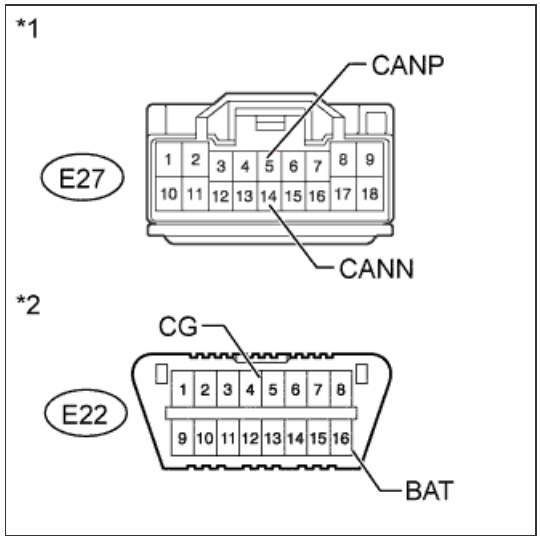
54.CHECK FOR SHORT IN CAN BUS WIRES (MULTIPLEX TILT AND TELESCOPIC ECU)

a. Disconnect the E27 multiplex tilt and telescopic ECU connector.

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

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)

55.CONNECT CONNECTOR

a. Reconnect the E76 No. 8 junction connector.

NEXT

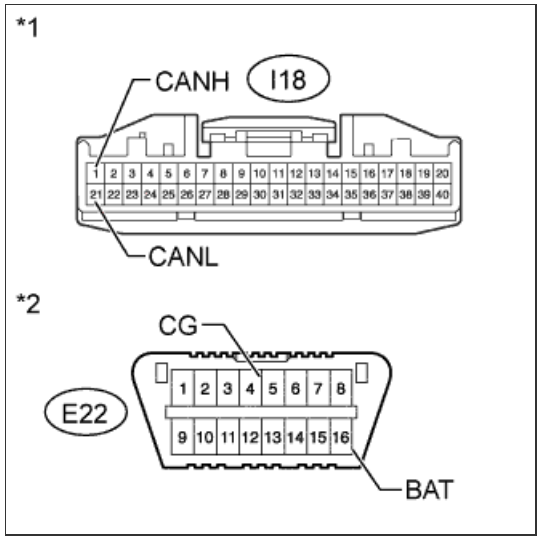
56.CHECK FOR SHORT IN CAN BUS WIRES (OUTER MIRROR CONTROL ECU ASSEMBLY)

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)

57.CONNECT CONNECTOR

a. Reconnect the E76 No. 8 junction connector.

NEXT

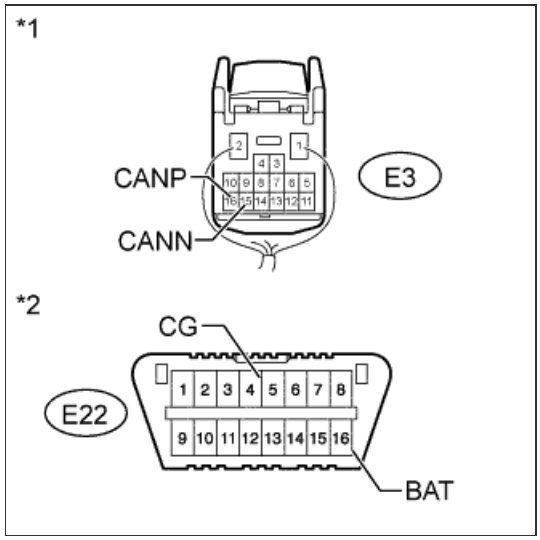
58.CHECK FOR SHORT IN CAN BUS WIRES (MAIN BODY ECU)

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

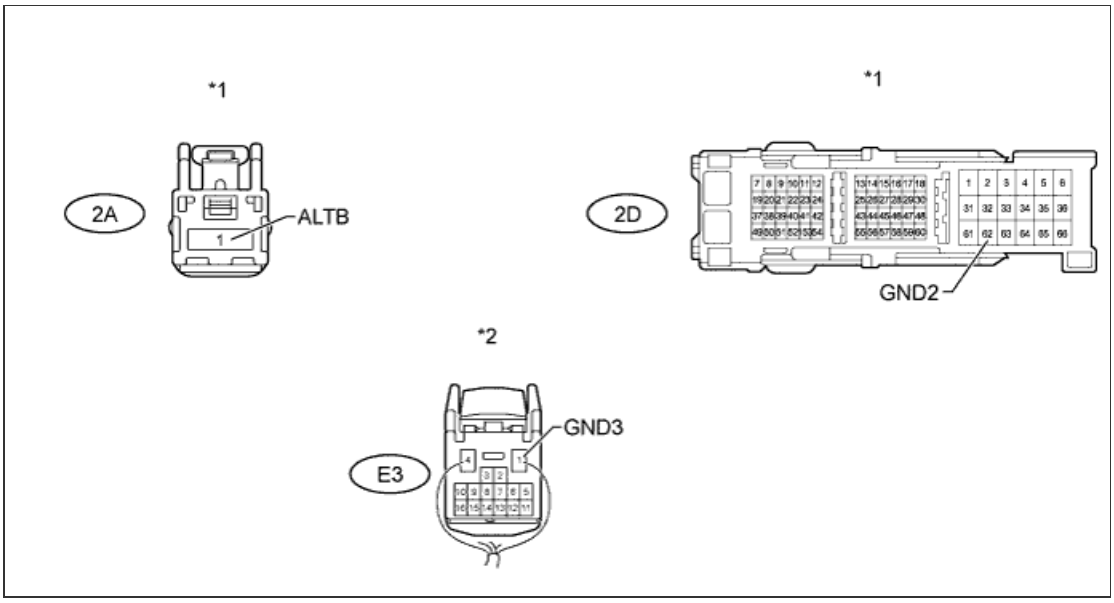
REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

59.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).



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])

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)

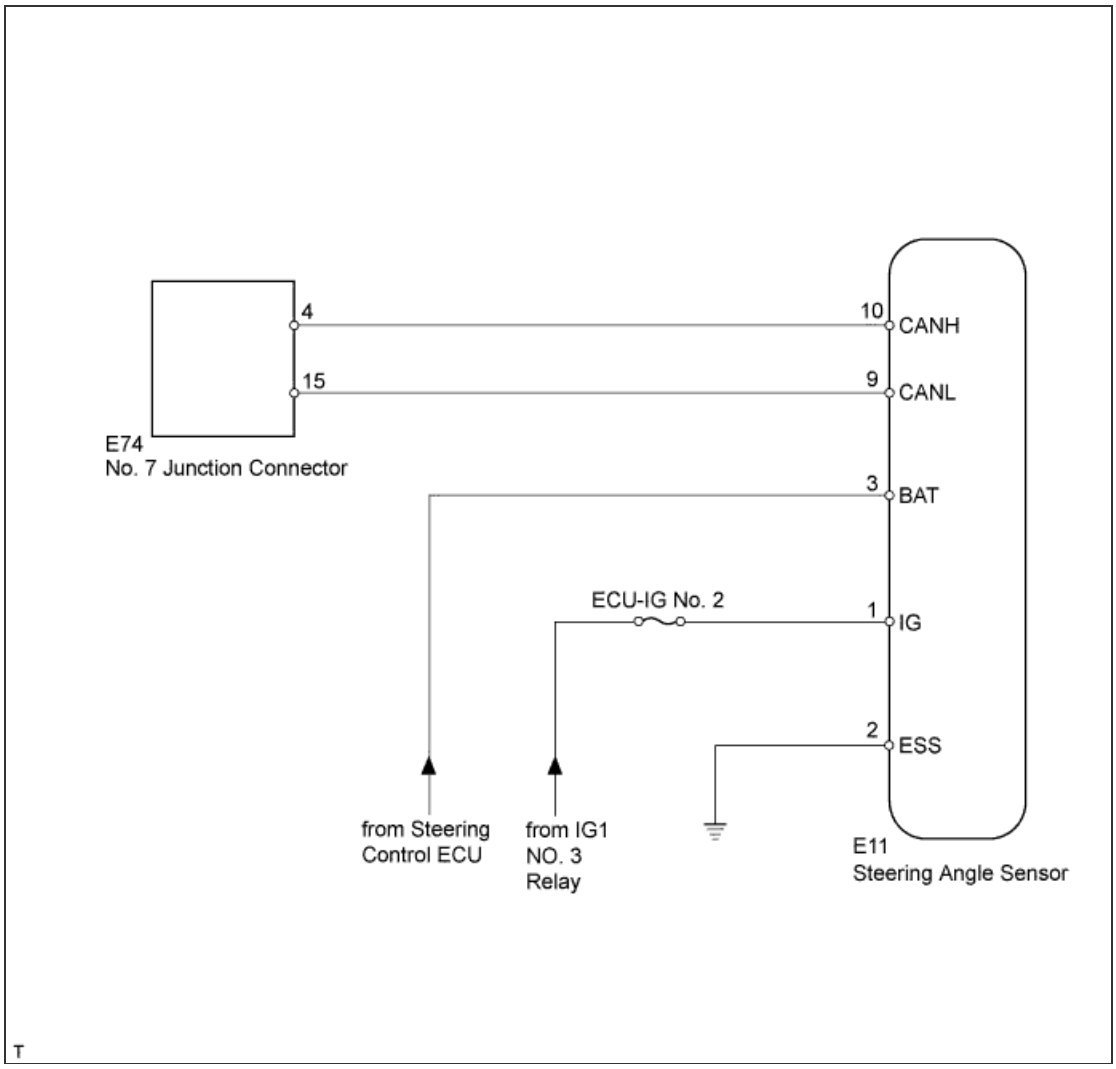
DTC U0126 Lost Communication with Steering Angle Sensor Module

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 • Steering angle sensor CAN branch wire or connector • 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.

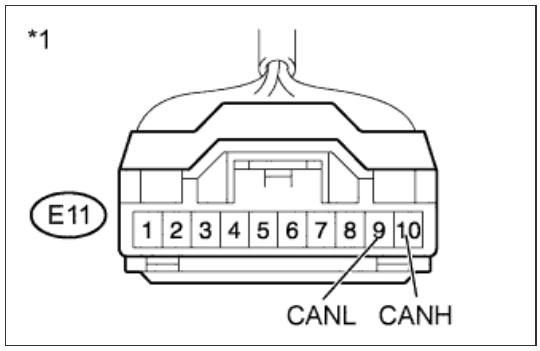
b. Measure the resistance according to the value(s) in the table below.

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.

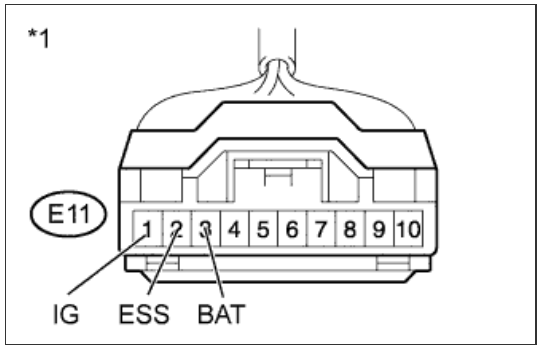
NOTICE:

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 U1002 (CAN MS BUS) Lost Communication with Gateway Module (Main body ECU)

for Preparation Click here

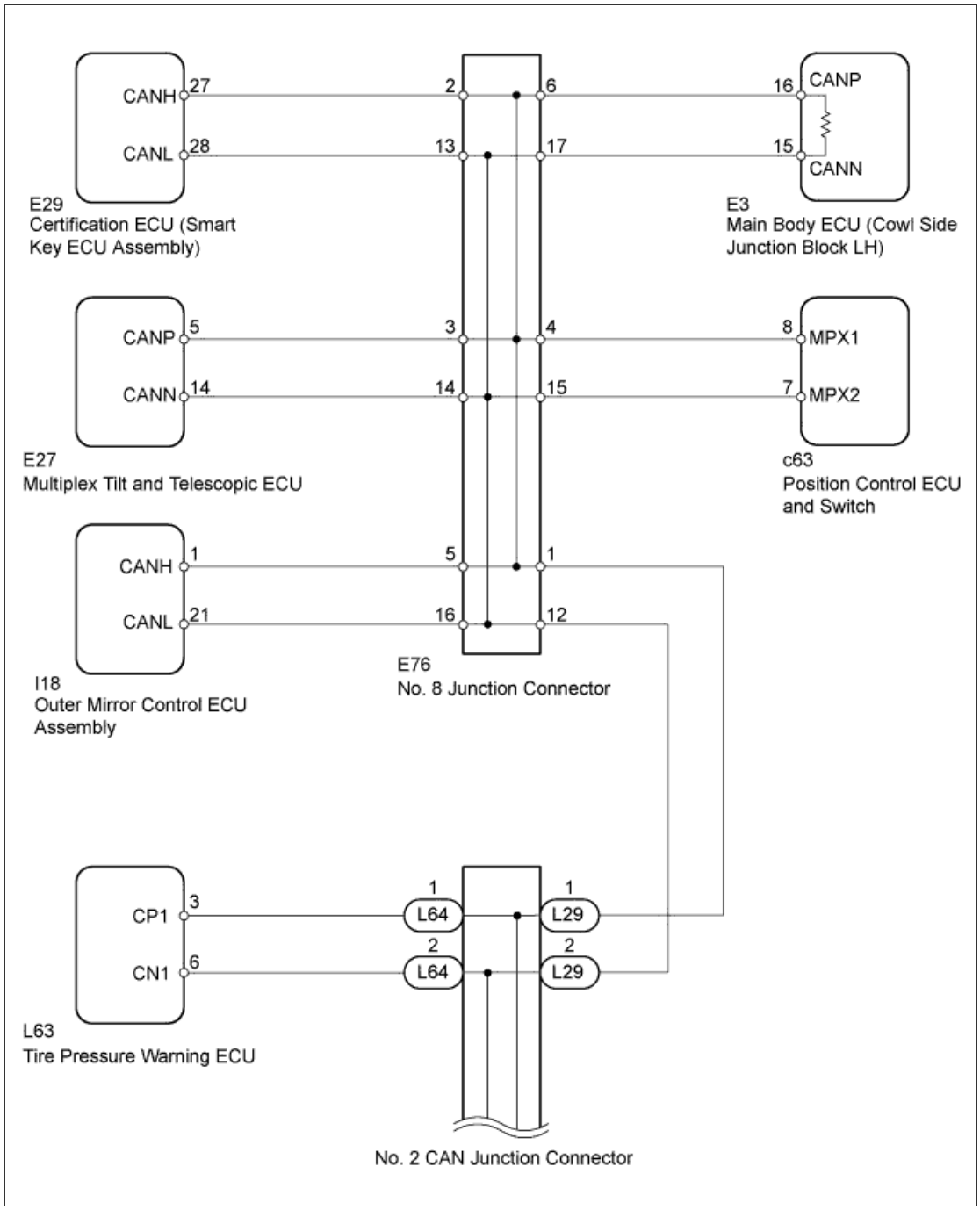
DESCRIPTION

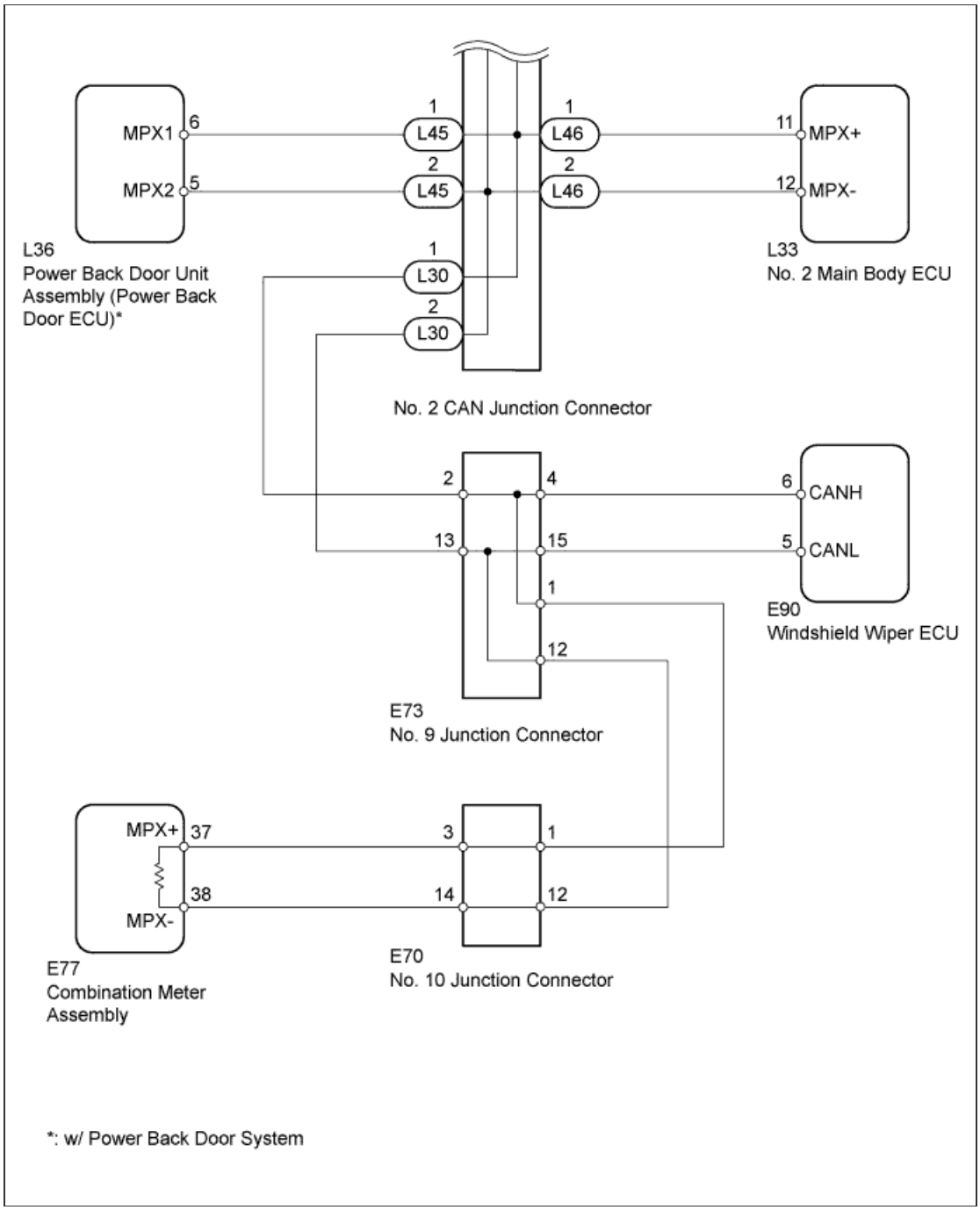
- The main body ECU stores this DTC when no signals can be received from the ECUs that have been memorized as those connected to the CAN MS bus.
- When the main body ECU receives a response signal from the ECUs connected to the CAN MS bus, the main body ECU recognizes and memorizes that the ECU is connected 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 • Certification ECU (smart key ECU assembly) CAN branch wire or connector • Position control ECU and switch CAN branch wire or connector • Outer mirror control ECU assembly CAN branch wire or connector • Multiplex tilt and telescopic ECU CAN branch wire or connector • Tire pressure warning ECU CAN branch wire or connector • Power back door unit assembly (power back door ECU) CAN branch wire or connector* • Windshield wiper ECU CAN branch wire or connector • No. 2 main body ECU CAN branch wire or connector • Main body ECU (cowl side junction block LH) main wire or connector • Combination meter main wire or connector • Certification ECU (smart key ECU assembly) • Position control ECU and switch assembly • Outer mirror control ECU assembly • Multiplex tilt and telescopic ECU • Tire pressure warning ECU • Power back door unit assembly (power back door ECU)* • Windshield wiper ECU • No. 2 main body ECU • Main body ECU (cowl side junction block LH) • Combination meter assembly • No. 8 junction connector • No. 9 junction connector • No. 10 junction connector • No. 2 CAN junction connector

*: w/ Power Back Door System

WIRING DIAGRAM


CANH
27
CANL
28
E29
Certification ECU (Smart Key ECU Assembly)
2
6
13
17
16
CANP
15
CANN
E3
Main Body ECU (Cowl Side Junction Block LH)
CANP
5
CANN
14
E27
Multiplex Tilt and Telescopic ECU
3
4
14
15
8
MPX1
7
MPX2
c63
Position Control ECU and Switch
CANH
1
CANL
21
I18
Outer Mirror Control ECU Assembly
5
1
16
12
E76
No. 8 Junction Connector
CP1
3
CN1
6
L63
Tire Pressure Warning ECU
1
L64
2
L64
1
L29
2
L29
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:

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

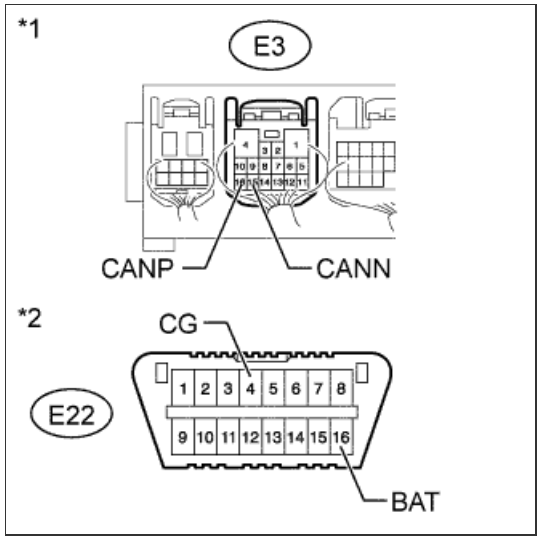
NOTICE:

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 • Open in CAN main bus line	A
NG • Short in line • +B short • Ground short	B
OK	C

B → Go to step 19

C → Go to step 59

A

4.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.

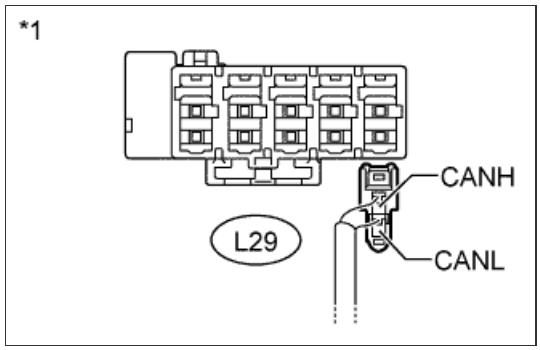
b. Measure the resistance according to the value(s) in the table below.

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.

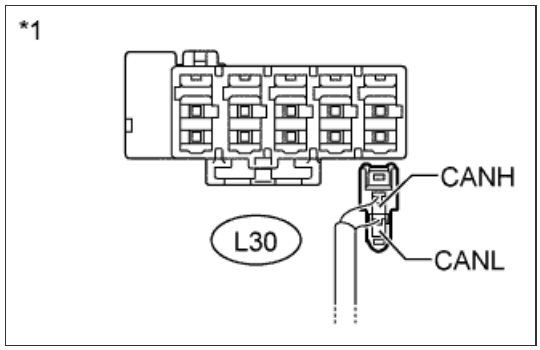
b. Measure the resistance according to the value(s) in the table below.

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.

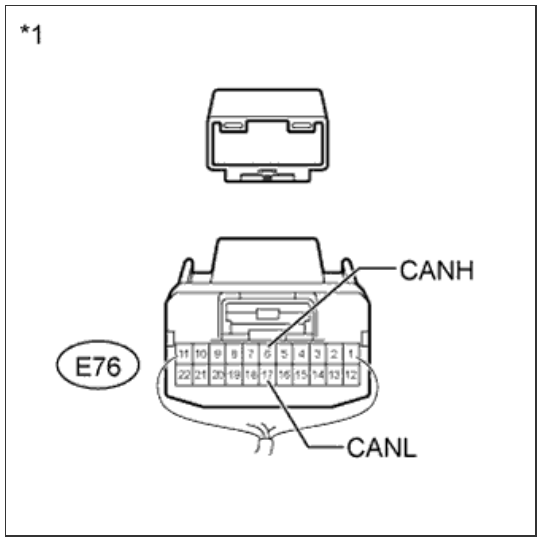
b. Measure the resistance according to the value(s) in the table below.

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)

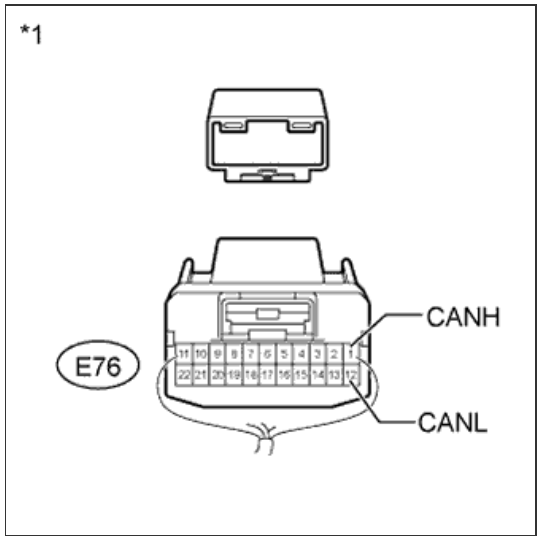
a. Measure the resistance according to the value(s) in the table below.

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.

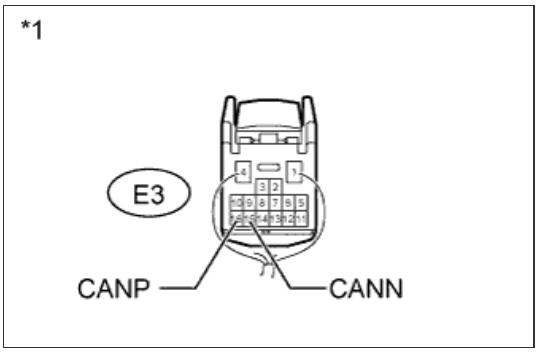
b. Measure the resistance according to the value(s) in the table below.

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 → 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.

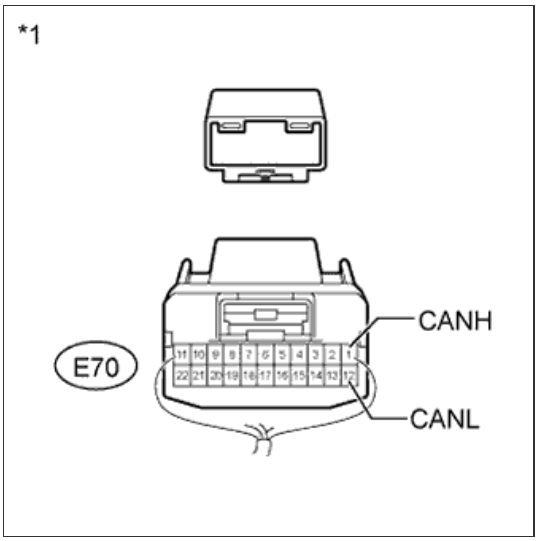
b. Measure the resistance according to the value(s) in the table below.

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)

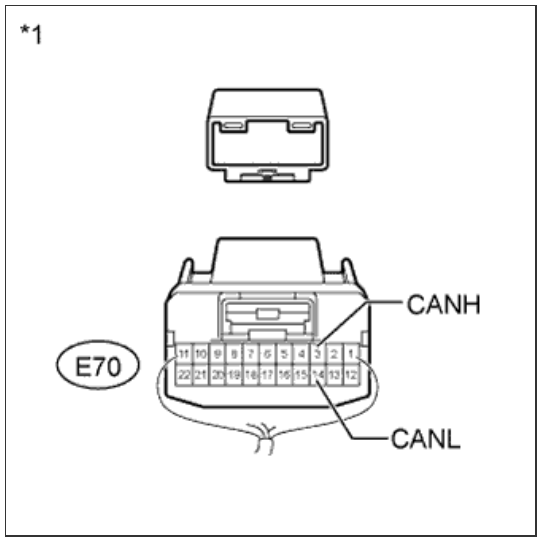
a. Measure the resistance according to the value(s) in the table below.

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 CAN JUNCTION CONNECTOR

14.CONNECT CONNECTOR

a. Reconnect the E70 No. 10 junction connector.

NEXT

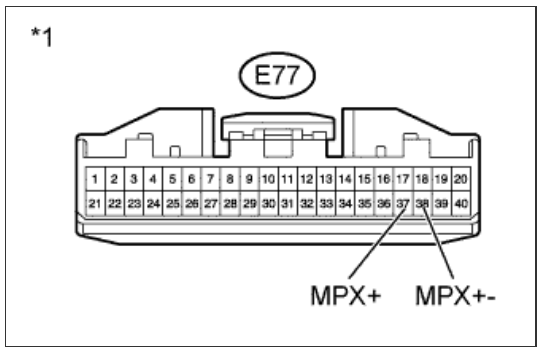
15.CHECK FOR OPEN IN CAN BUS MAIN WIRE (COMBINATION METER ASSEMBLY - NO. 10 JUNCTION CONNECTOR)

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.

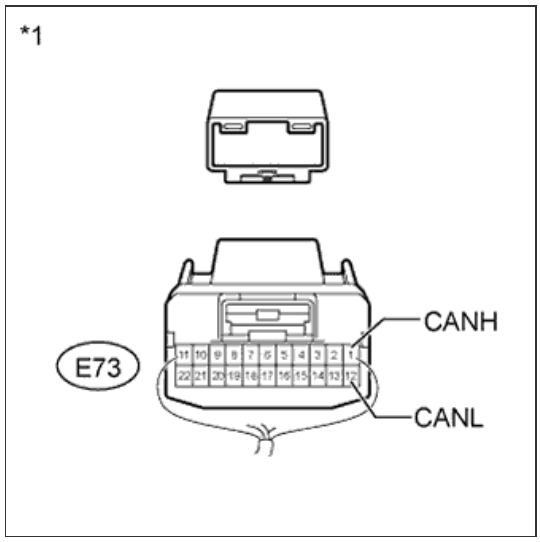
b. Measure the resistance according to the value(s) in the table below.

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)

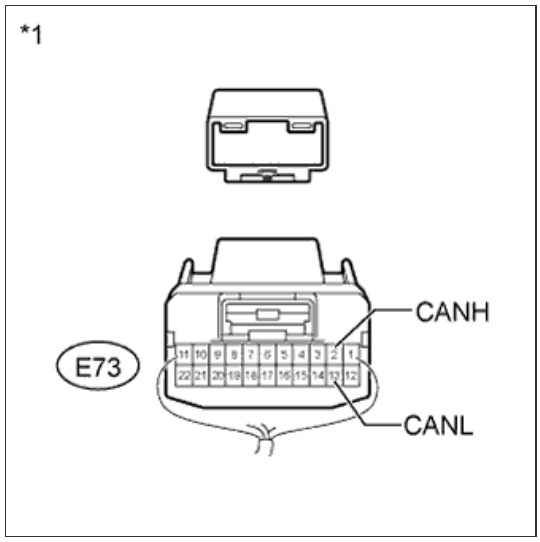
a. Measure the resistance according to the value(s) in the table below.

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)

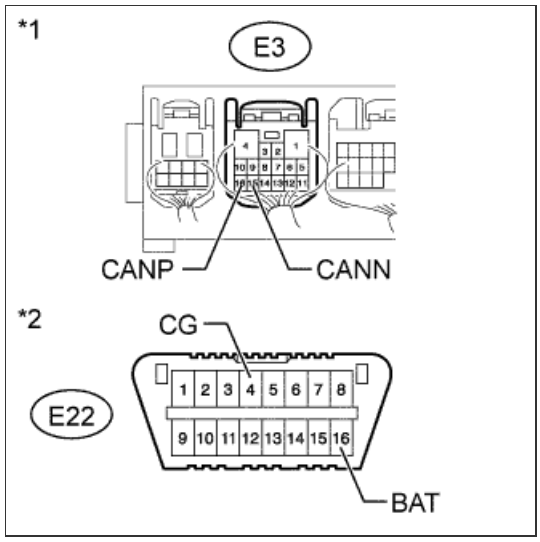
a. Disconnect the E70 No. 10 junction connector.

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

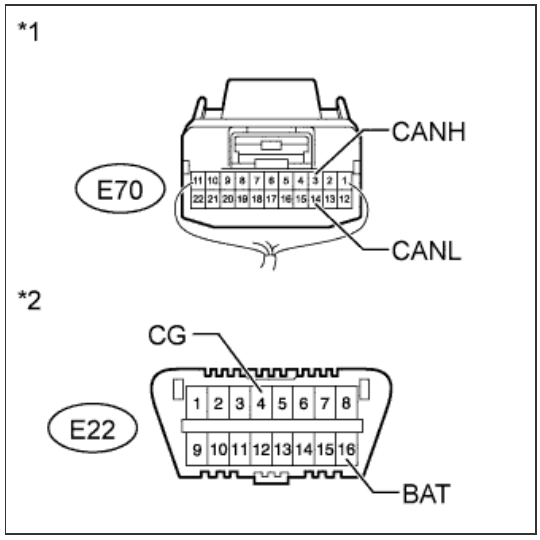
OK

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:

Tester Connection	Switch Condition	Specified Condition
E70-3 (CANH) - E70-14 (CANL)	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 39

OK

REPLACE NO. 10 JUNCTION CONNECTOR

21.CONNECT CONNECTOR

a. Reconnect the E70 No. 10 junction connector.

NEXT

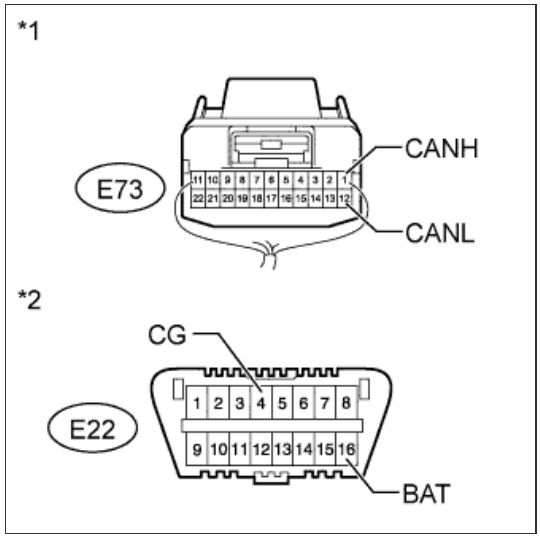
22.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR - NO. 10 JUNCTION CONNECTOR)

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)

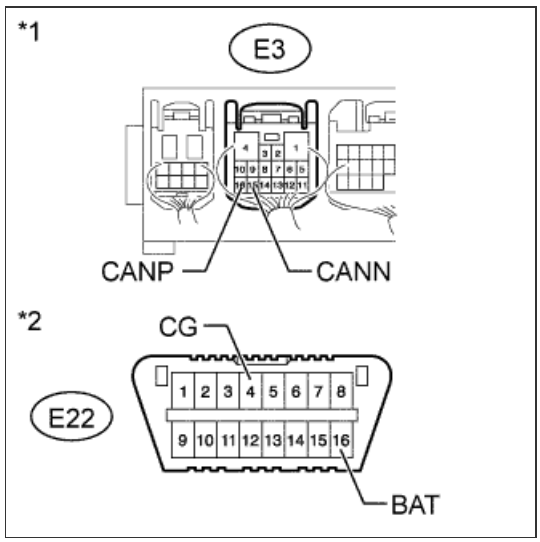
OK

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

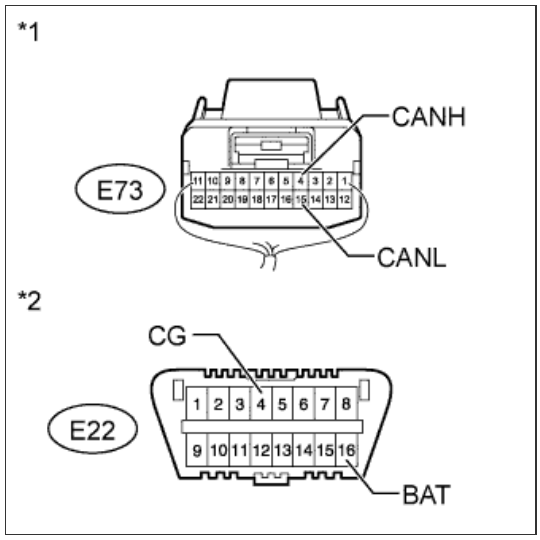
OK

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 41

OK

REPLACE NO. 9 JUNCTION CONNECTOR

25.CONNECT CONNECTOR

a. Reconnect the E73 No. 9 junction connector.

NEXT

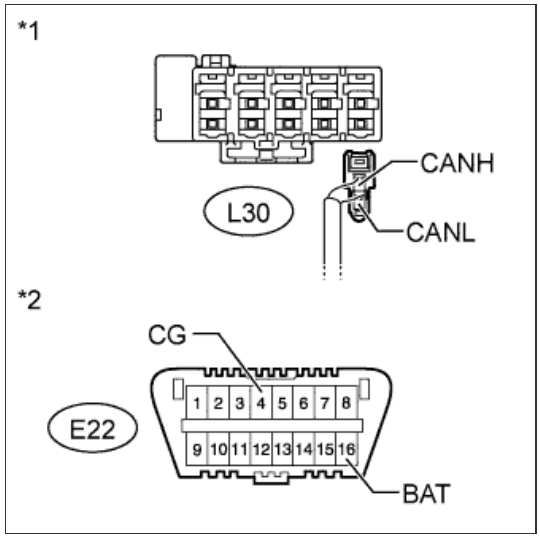
26.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - NO. 9 JUNCTION CONNECTOR)

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 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

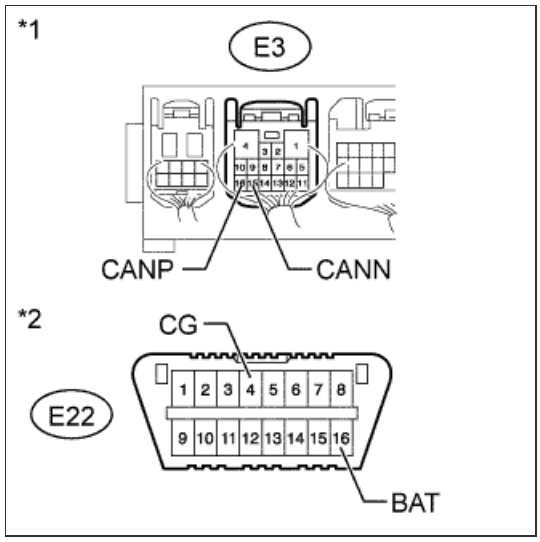
27.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR SIDE)

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 Illustration

*1	Component with harness connected (Main Body ECU [Cowl Side Junction Block LH])
*2	DLC3

NG → Go to step 32

OK

28.CONNECT CONNECTOR

a. Reconnect the L29 and L30 No. 2 CAN junction connectors.

NEXT

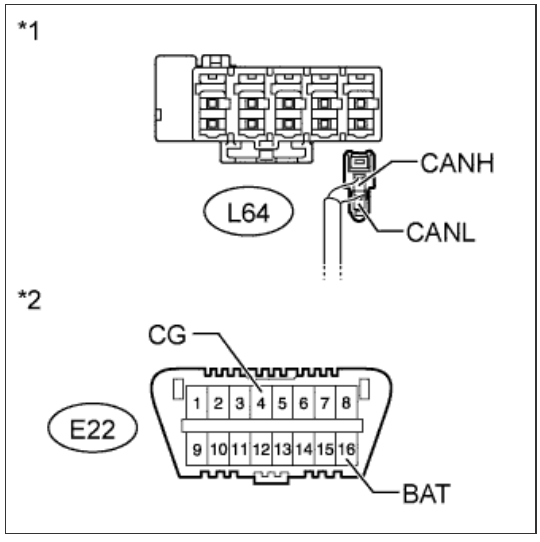
29.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - TIRE PRESSURE WARNING ECU)

a. Disconnect the L64 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
L64-1 (CANH) - L64-2 (CANL)	Engine switch off	200 Ω or higher
L64-1 (CANH) - E22-4 (CG)	Engine switch off	200 Ω or higher
L64-2 (CANL) - E22-4 (CG)	Engine switch off	200 Ω or higher
L64-1 (CANH) - E22-16 (BAT)	Engine switch off	6 kΩ or higher
L64-2 (CANL) - E22-16 (BAT)	Engine switch off	6 kΩ or higher



Text in Illustration

	Rear view of wire harness connector

*1	(to No. 2 CAN Junction Connector)
*2	DLC3

NG → Go to step 43

OK

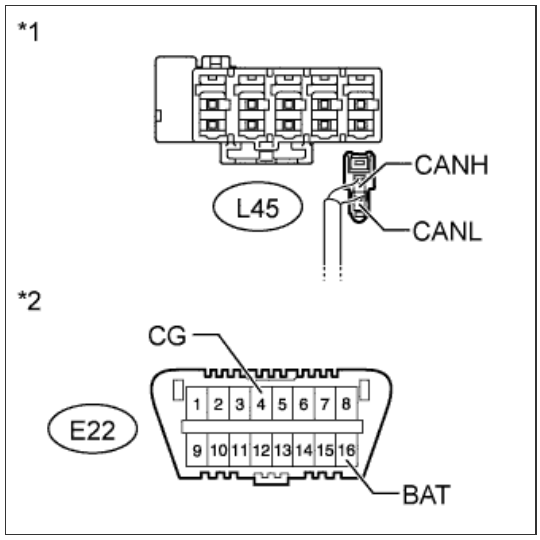
30.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - POWER BACK DOOR ECU)

NOTICE:

For vehicles without a 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 (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 45

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.

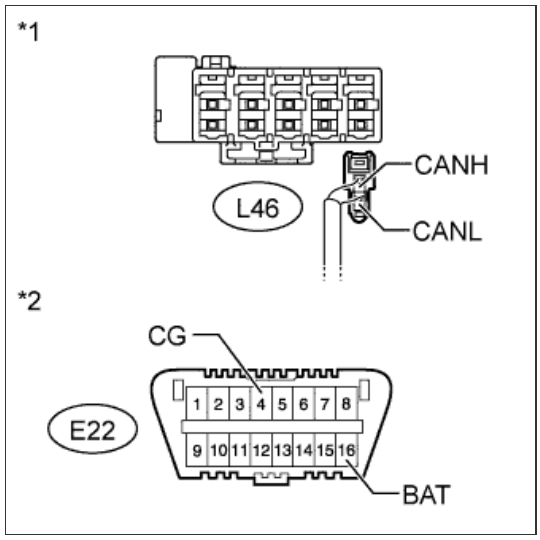
b. Measure the resistance according to the value(s) in the table below.

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 47

OK

REPLACE NO. 2 CAN JUNCTION CONNECTOR

32.CONNECT CONNECTOR

a. Reconnect the L29 and L30 No. 2 CAN junction connectors.

NEXT

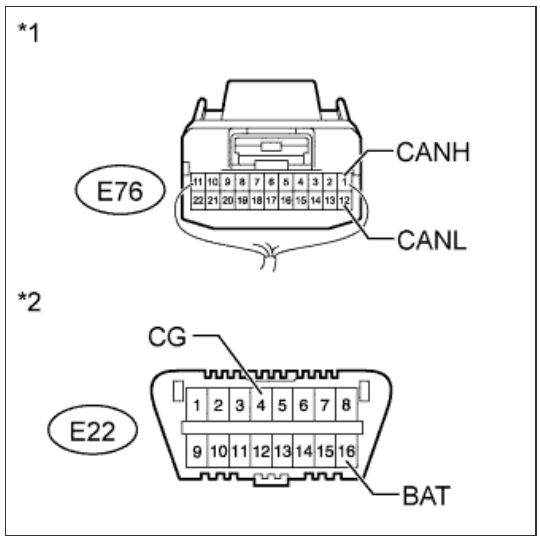
33.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

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)

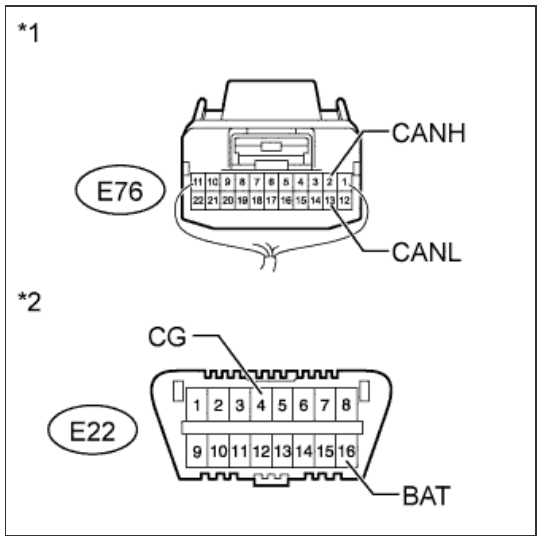
OK

34.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 49

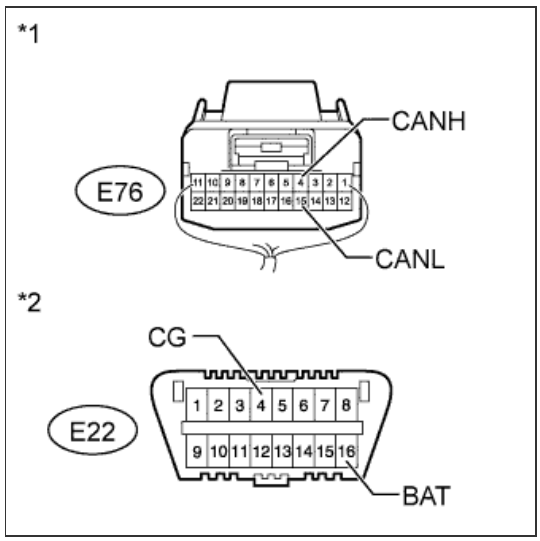
OK

35.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 51

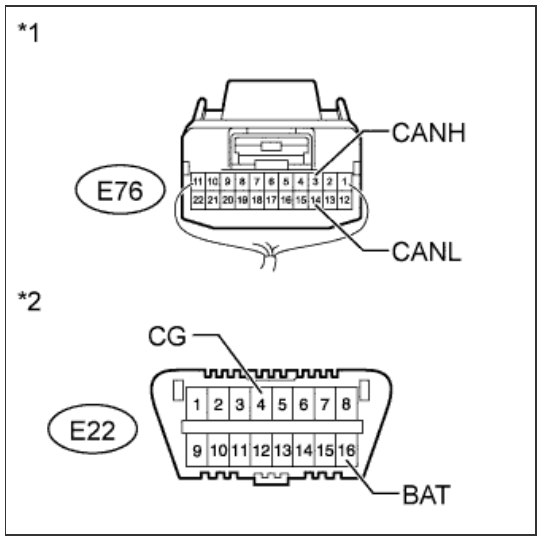
OK

36.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 53

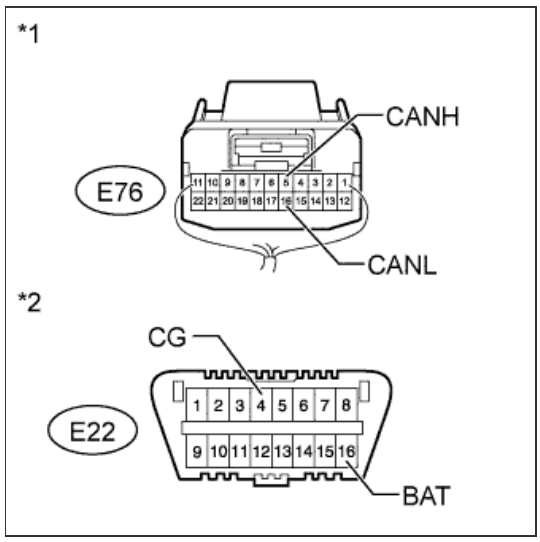
OK

37.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) - 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. 8 Junction Connector)
*2	DLC3

NG → Go to step 55

OK

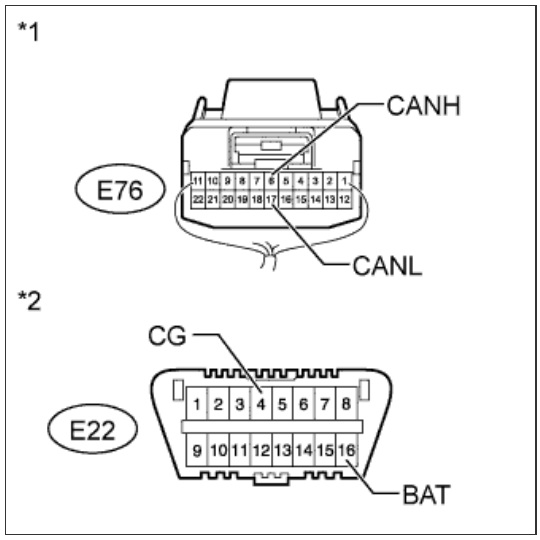
38.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - MAIN BODY ECU)

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) - E22-4 (CG)	Engine switch off	200 Ω or higher
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 57

OK

REPLACE NO. 8 JUNCTION CONNECTOR

39.CONNECT CONNECTOR

a. Reconnect the E70 No. 10 junction connector.

NEXT

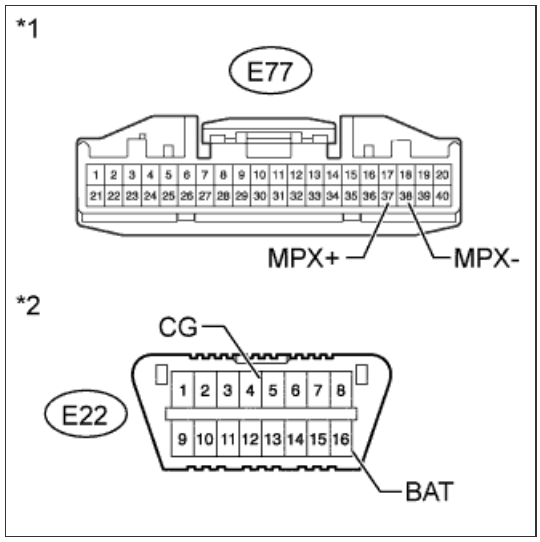
40.CHECK FOR SHORT IN CAN BUS WIRES (COMBINATION METER ASSEMBLY)

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)

41.CONNECT CONNECTOR

a. Reconnect the E73 No. 9 junction connector.

NEXT

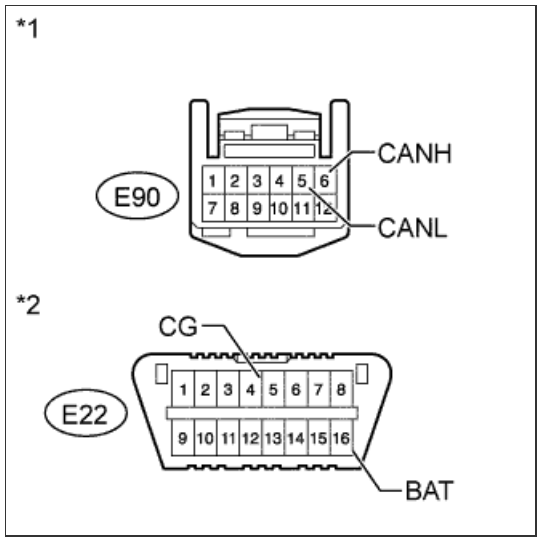
42.CHECK FOR SHORT IN CAN BUS WIRES (WINDSHIELD WIPER ECU)

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)

43.CONNECT CONNECTOR

a. Reconnect the L64 No. 2 CAN junction connector.

NEXT

44.CHECK FOR SHORT IN CAN BUS WIRES (TIRE PRESSURE WARNING ECU)

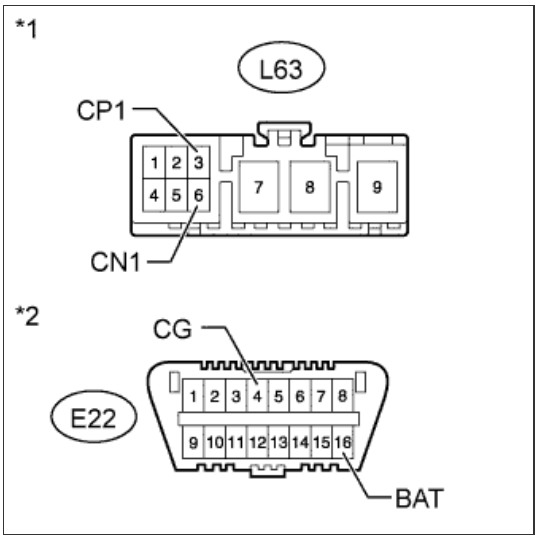
a. Disconnect the L63 tire pressure warning ECU connector.

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
L63-3 (CP1) - L63-6 (CN1)	Engine switch off	54 to 69 Ω
L63-3 (CP1) - E22-4 (CG)	Engine switch off	200 Ω or higher
L63-6 (CN1) - E22-4 (CG)	Engine switch off	200 Ω or higher

L63-3 (CP1) - E22-16 (BAT)	Engine switch off	6 kΩ or higher
L63-6 (CN1) - E22-16 (BAT)	Engine switch off	6 kΩ or higher



Text in Illustration

*1	Front view of wire harness connector (to Tire Pressure Warning ECU)
*2	DLC3

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO TIRE PRESSURE WARNING ECU (CP1, CN1)

OK

REPLACE TIRE PRESSURE WARNING ECU (Click here)

45.CONNECT CONNECTOR

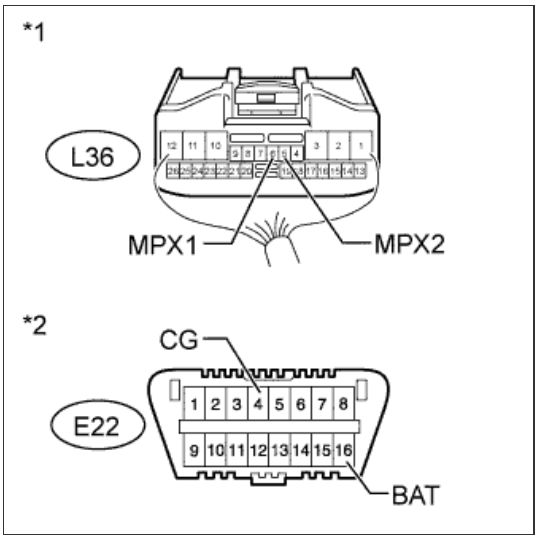
a. Reconnect the L45 and L64 No. 2 CAN junction connectors.

NEXT

46.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)

47.CONNECT CONNECTOR

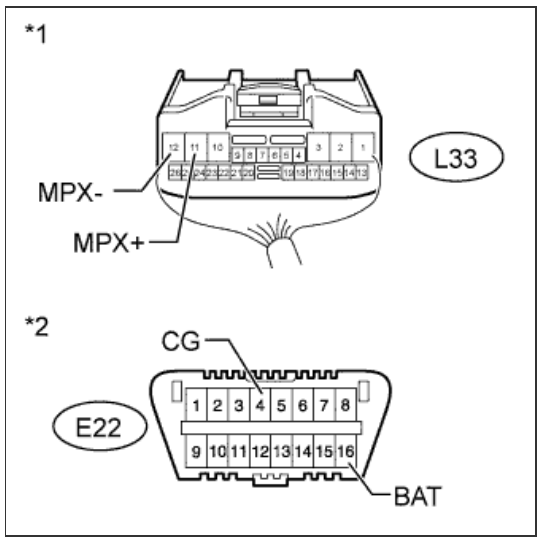
a. Reconnect the L45, L46 and L64 No. 2 CAN junction connectors.

NEXT

48.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)

49.CONNECT CONNECTOR

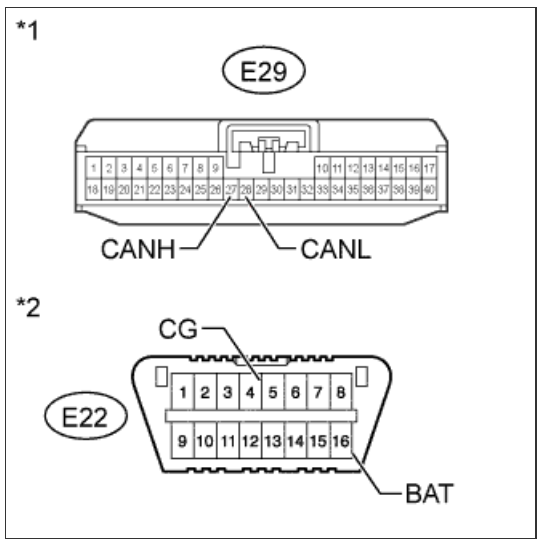
a. Reconnect the E76 No. 8 junction connector.

NEXT

50.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)

51.CONNECT CONNECTOR

a. Reconnect the E76 No. 8 junction connector.

NEXT

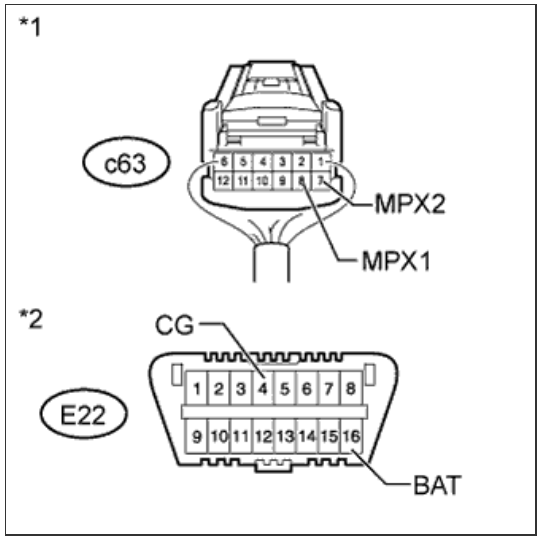
52.CHECK FOR SHORT IN CAN BUS WIRES (POSITION CONTROL ECU AND SWITCH)

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)

53.CONNECT CONNECTOR

a. Reconnect the E76 No. 8 junction connector.

NEXT

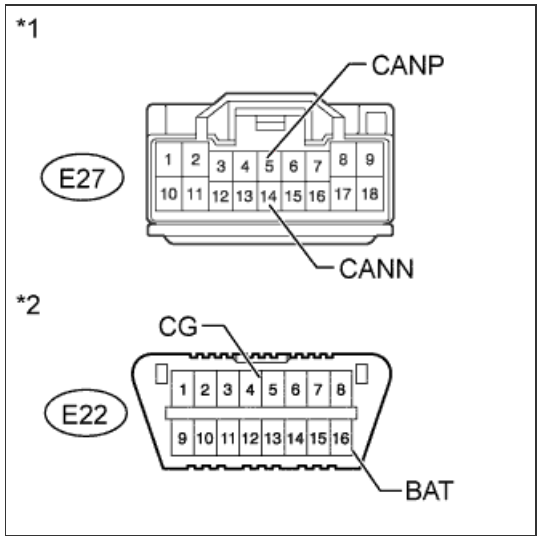
54.CHECK FOR SHORT IN CAN BUS WIRES (MULTIPLEX TILT AND TELESCOPIC ECU)

a. Disconnect the E27 multiplex tilt and telescopic ECU connector.

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

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)

55.CONNECT CONNECTOR

a. Reconnect the E76 No. 8 junction connector.

NEXT

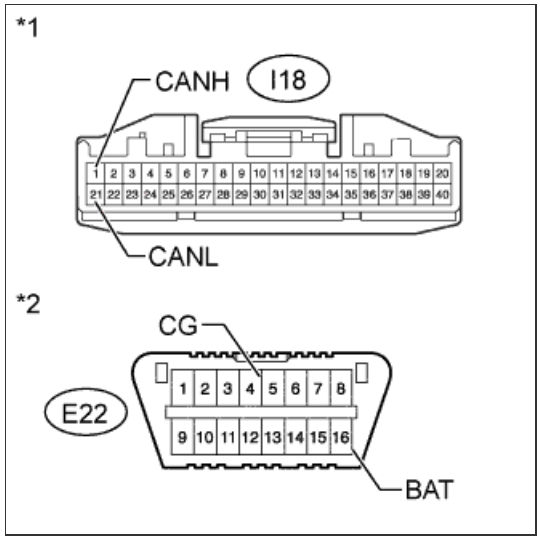
56.CHECK FOR SHORT IN CAN BUS WIRES (OUTER MIRROR CONTROL ECU ASSEMBLY)

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)

57.CONNECT CONNECTOR

a. Reconnect the E76 No. 8 junction connector.

NEXT

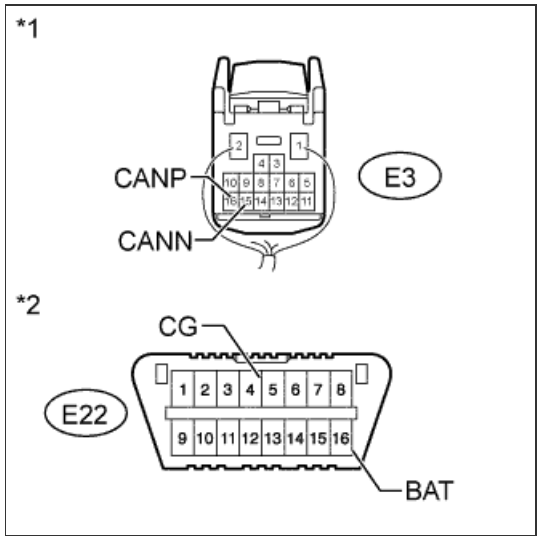
58.CHECK FOR SHORT IN CAN BUS WIRES (MAIN BODY ECU)

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

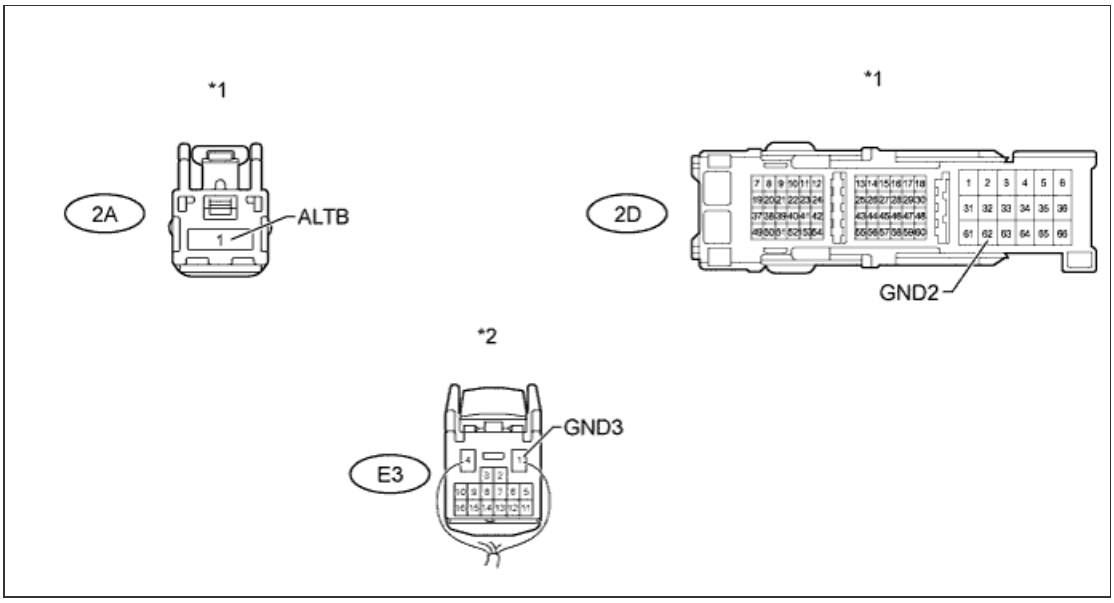
REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

59.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).



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])

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)

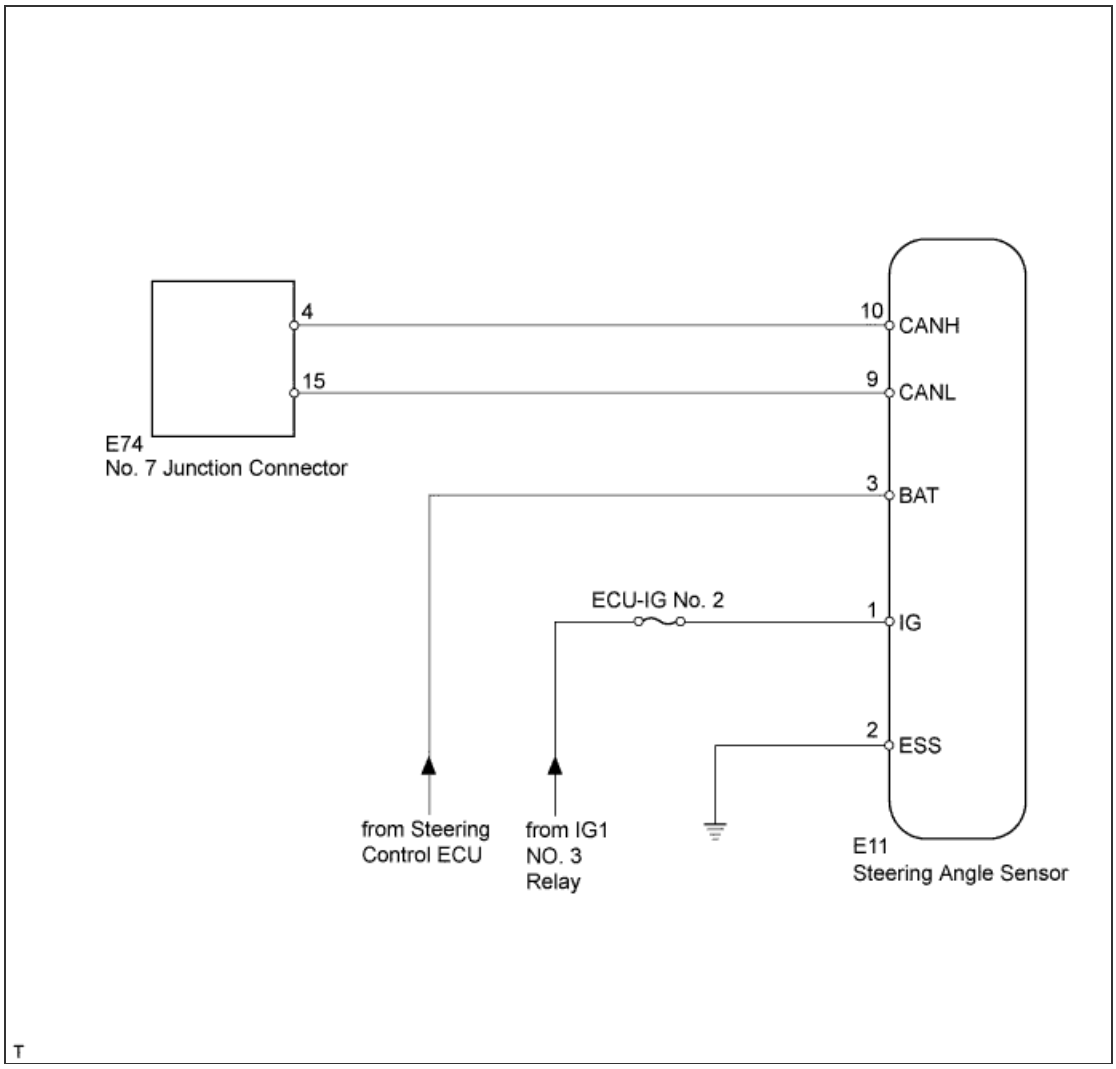
DTC U0126 Lost Communication with Steering Angle Sensor Module

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 • Steering angle sensor CAN branch wire or connector • 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.

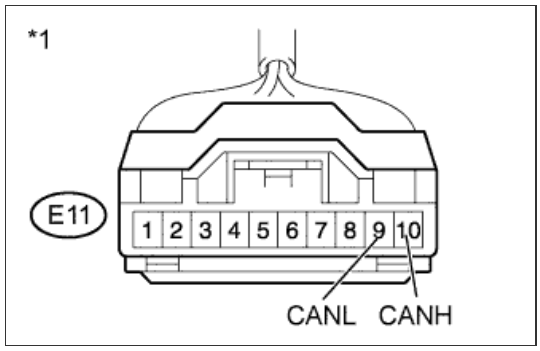
b. Measure the resistance according to the value(s) in the table below.

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.

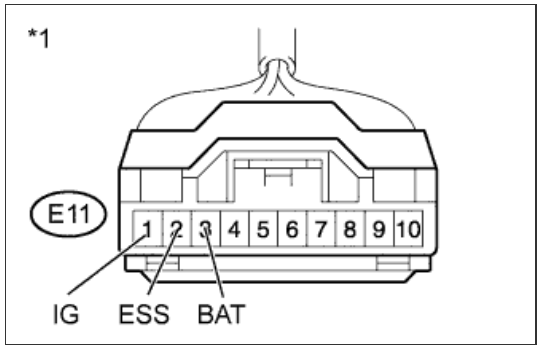
NOTICE:

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 U1002 (CAN No. 2 BUS) Lost Communication with Gateway Module (Network Gateway ECU)

for Preparation Click here

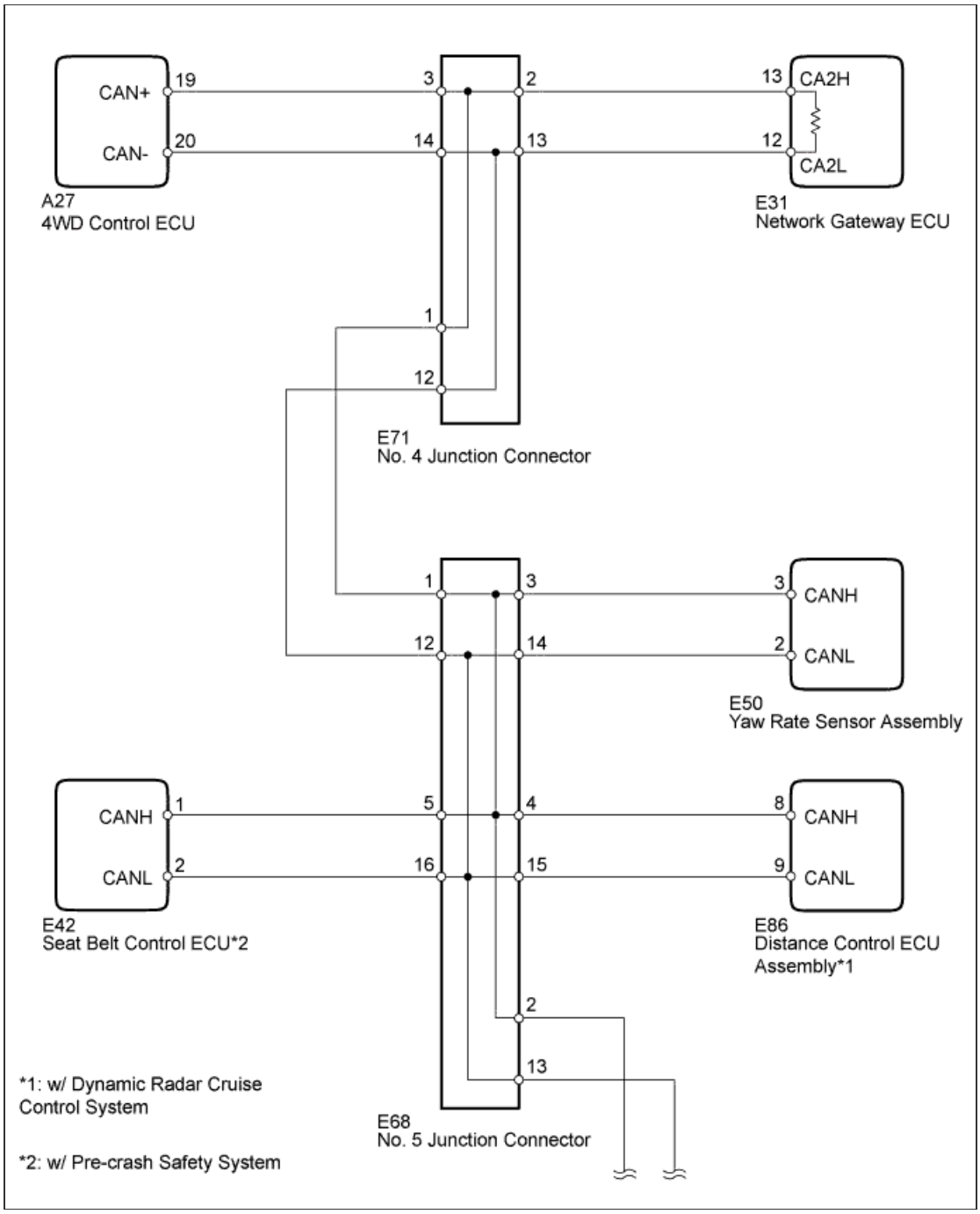
DESCRIPTION

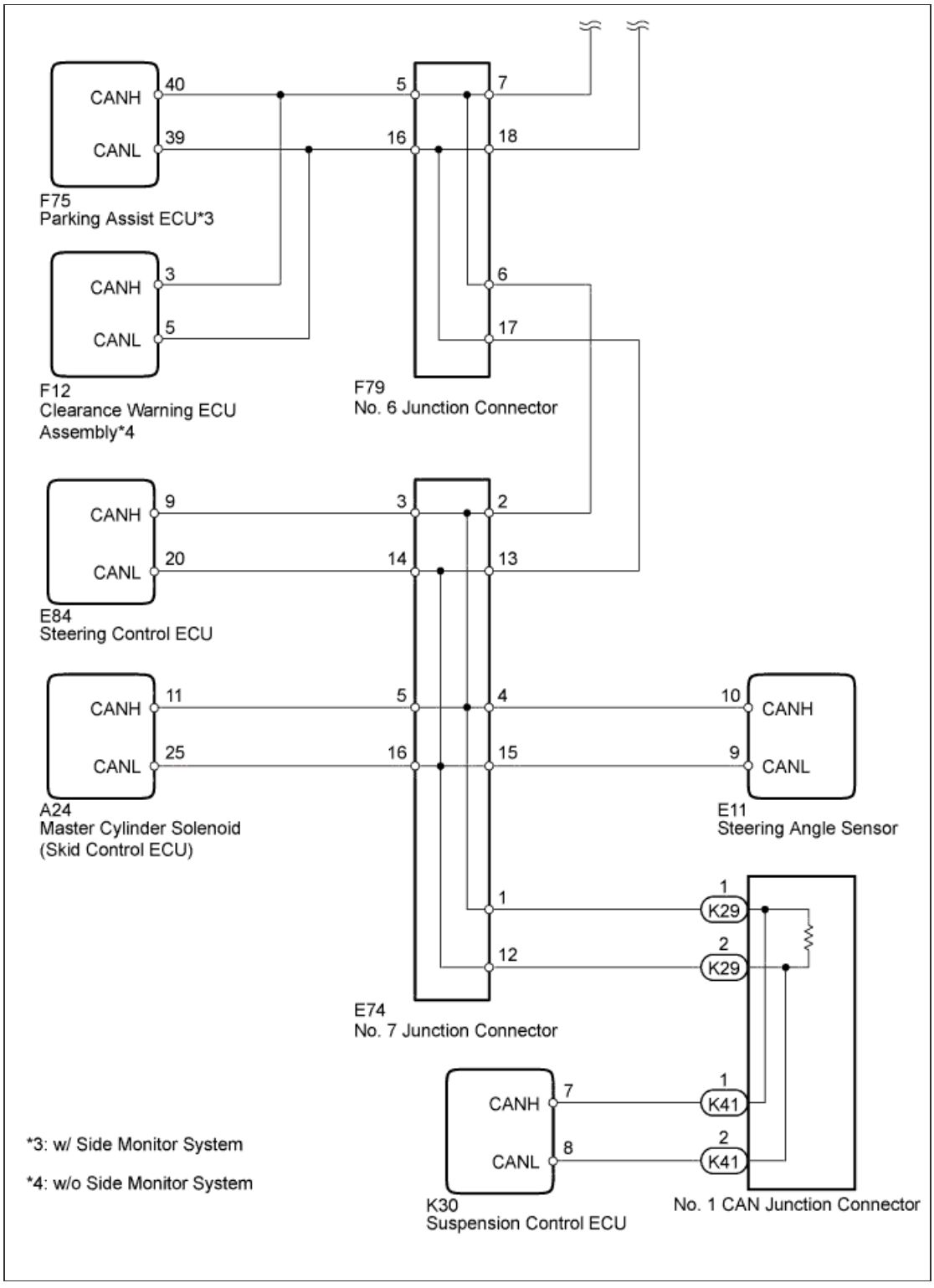
- The network gateway ECU stores this DTC when no signals can be received from the ECUs that have been memorized as those connected to the CAN movement control bus.
- When the network gateway ECU receives a response signal from the ECUs connected to the CAN movement control bus, the network gateway ECU 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 • 4WD control ECU CAN branch wire or connector • Yaw rate sensor assembly CAN branch wire or connector • Distance control ECU assembly CAN branch wire or connector*1 • Seat belt control ECU CAN branch wire or connector*2 • Parking assist ECU CAN branch wire or connector*3 • Clearance warning ECU assembly CAN branch wire or connector*4 • Master cylinder solenoid (skid control ECU) CAN branch wire or connector • Steering angle sensor CAN branch wire or connector • Network gateway ECU CAN main wire or connector • Steering control ECU CAN branch wire or connector • Suspension control ECU CAN branch wire or connector • 4WD control ECU • Yaw rate sensor assembly • Distance control ECU assembly*1 • Seat belt control ECU*2 • Parking assist ECU*3 • Clearance warning ECU assembly*4 • Master cylinder solenoid (skid control ECU) • Steering angle sensor • Steering control ECU • Suspension control ECU • Network gateway ECU • No. 4 junction connector • No. 5 junction connector • No. 6 junction connector • No. 7 junction connector • 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.

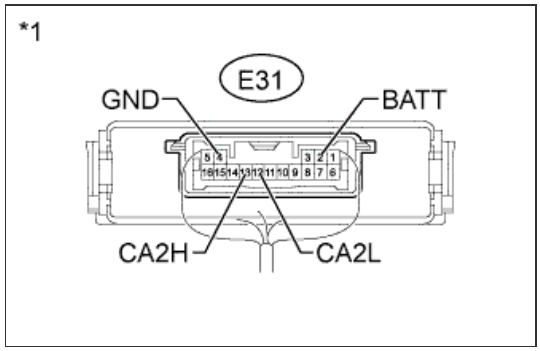
NOTICE:

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 • Open in CAN main wire	A
NG • Short in line • +B short • 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.

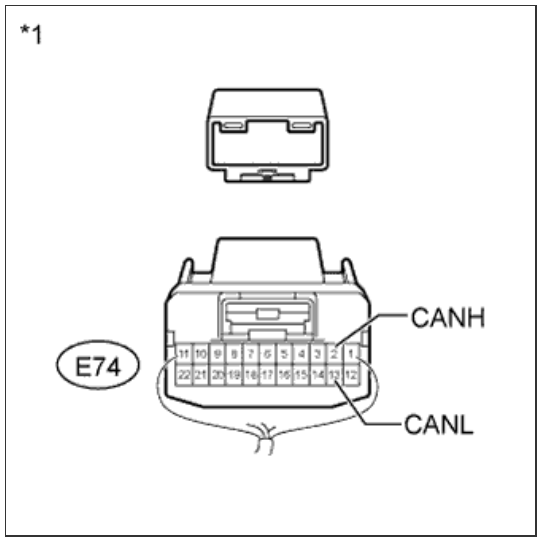
b. Measure the resistance according to the value(s) in the table below.

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)

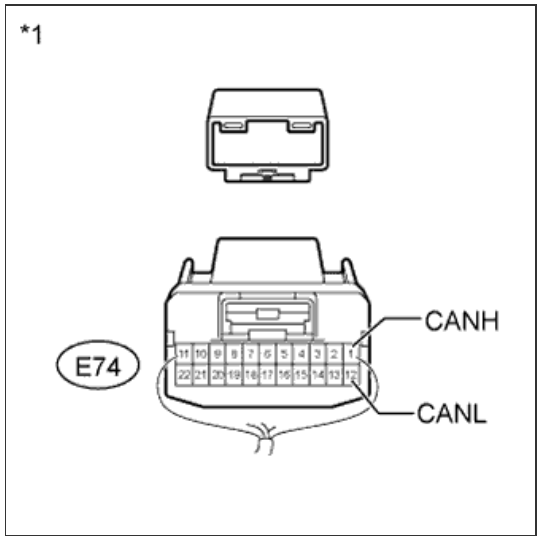
a. Measure the resistance according to the value(s) in the table below.

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.

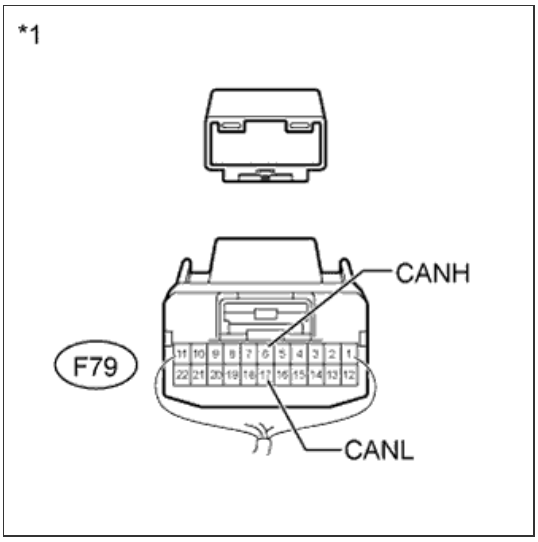
b. Measure the resistance according to the value(s) in the table below.

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)

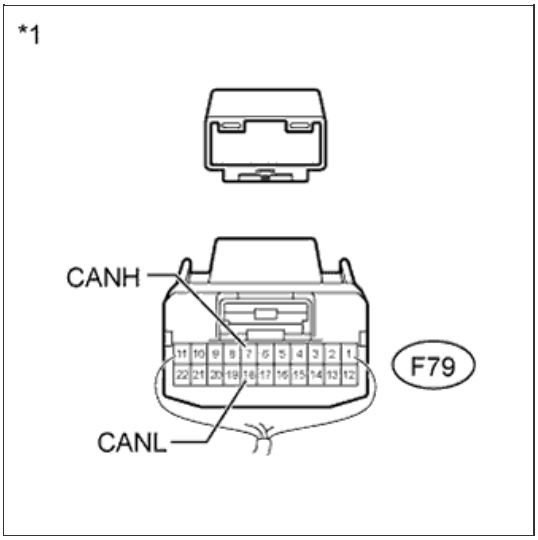
a. Measure the resistance according to the value(s) in the table below.

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.

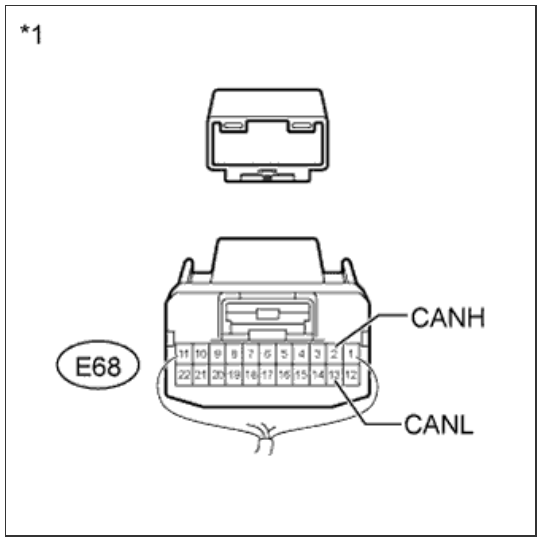
b. Measure the resistance according to the value(s) in the table below.

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)

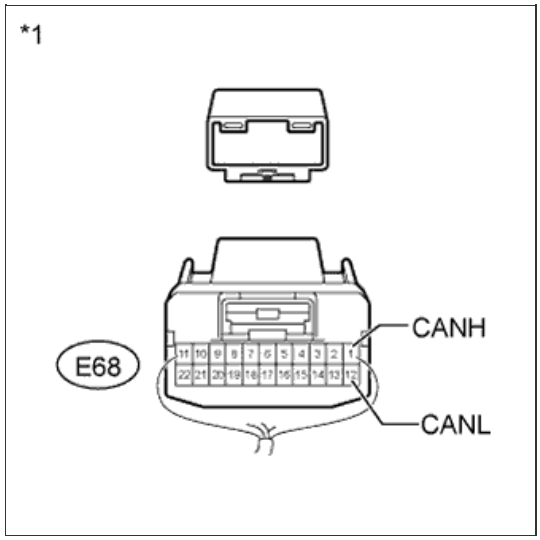
a. Measure the resistance according to the value(s) in the table below.

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.

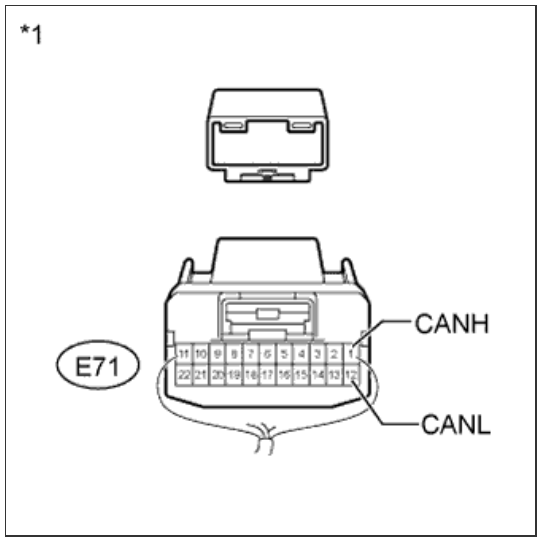
b. Measure the resistance according to the value(s) in the table below.

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)

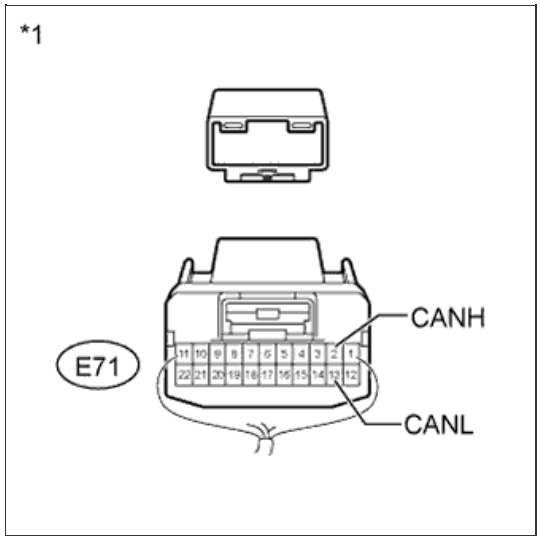
a. Measure the resistance according to the value(s) in the table below.

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.

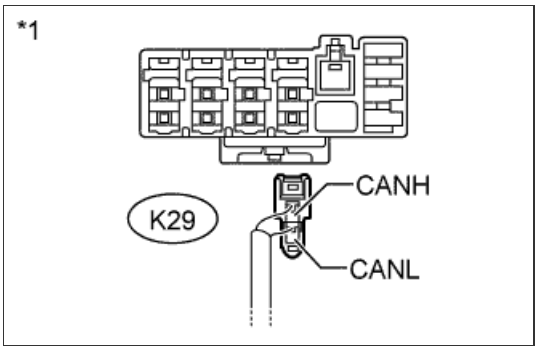
b. Measure the resistance according to the value(s) in the table below.

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.

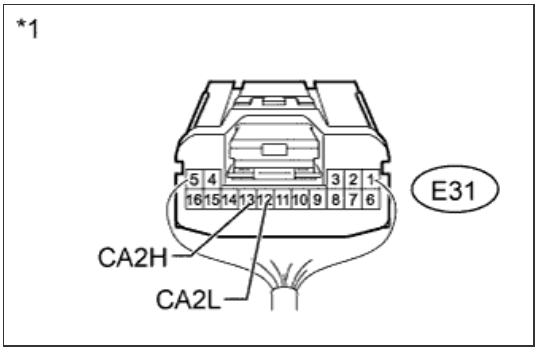
b. Measure the resistance according to the value(s) in the table below.

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)

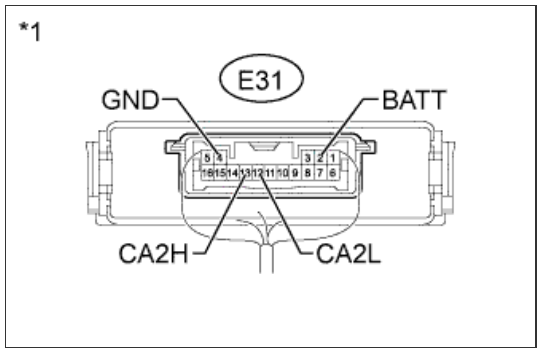
a. Disconnect the E74 No. 7 junction connector.

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

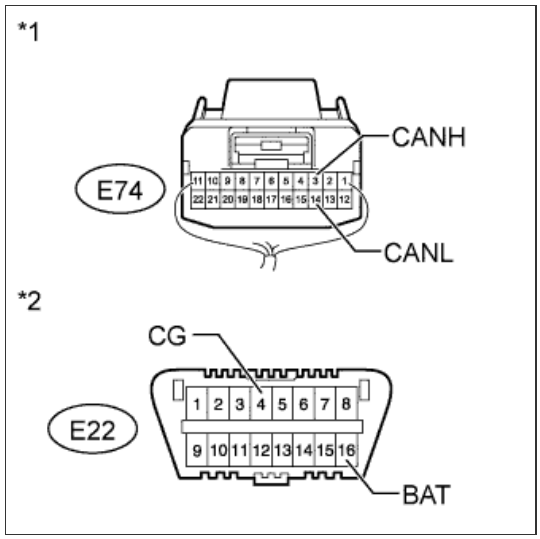
OK

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

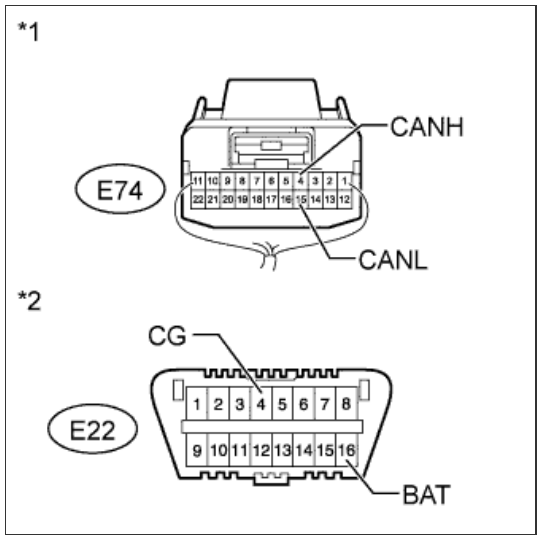
21.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR - STEERING ANGLE SENSOR)

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

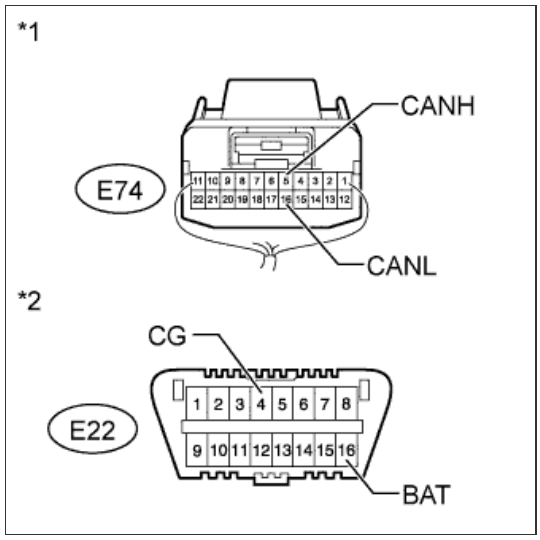
OK

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

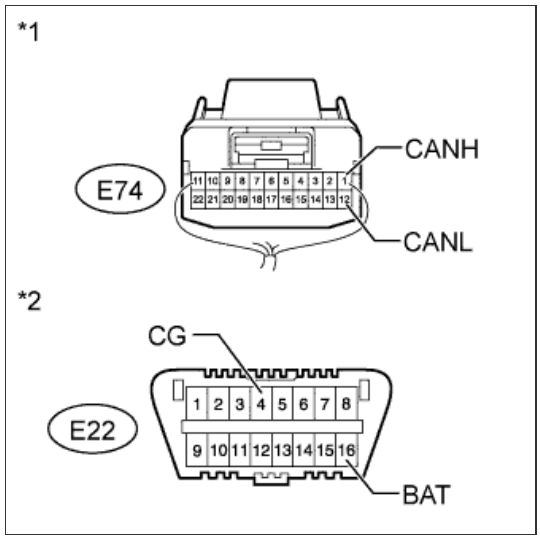
23.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR - NO. 1 CAN JUNCTION CONNECTOR)

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

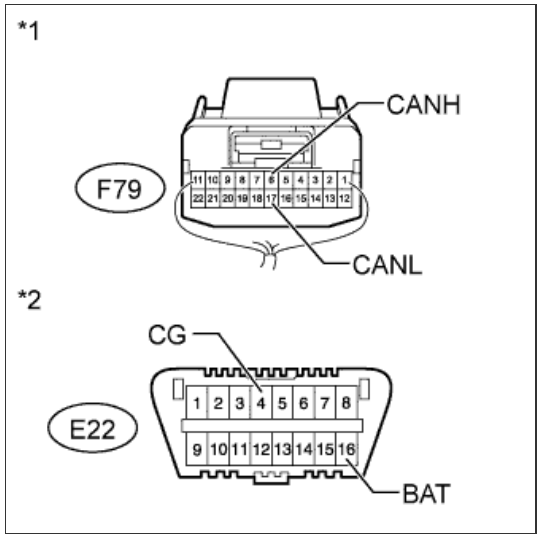
25.CHECK FOR SHORT IN CAN BUS WIRES (NO. 6 JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)

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

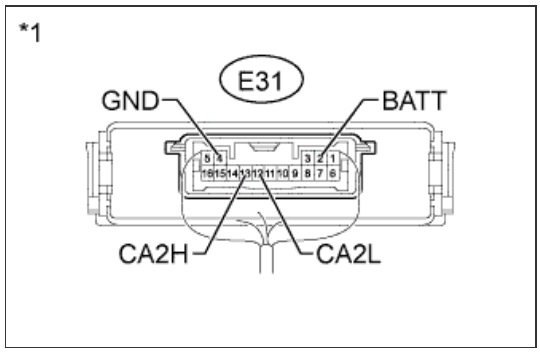
*1	Rear view of wire harness connector (to No. 6 Junction Connector)
*2	DLC3

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

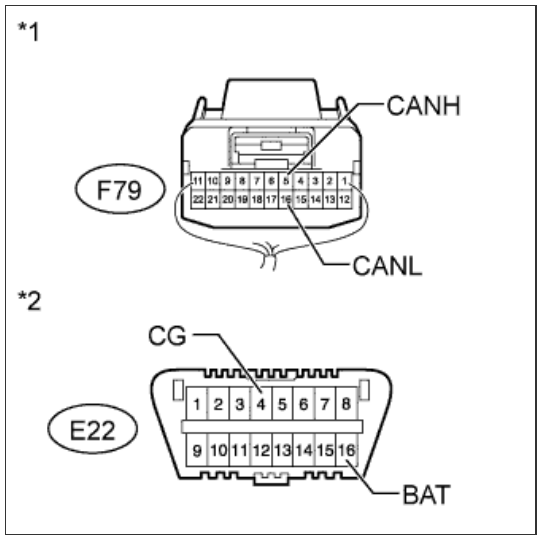
B → Go to step 28

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

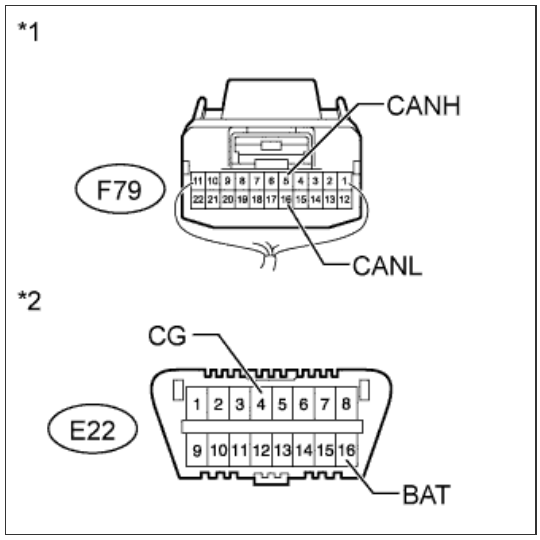
REPLACE NO. 6 JUNCTION CONNECTOR

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

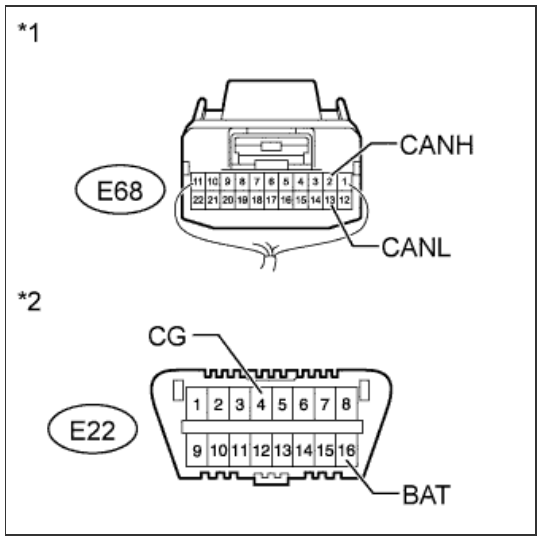
30.CHECK FOR SHORT IN CAN BUS WIRES (NO. 5 JUNCTION CONNECTOR - NO. 6 JUNCTION CONNECTOR)

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

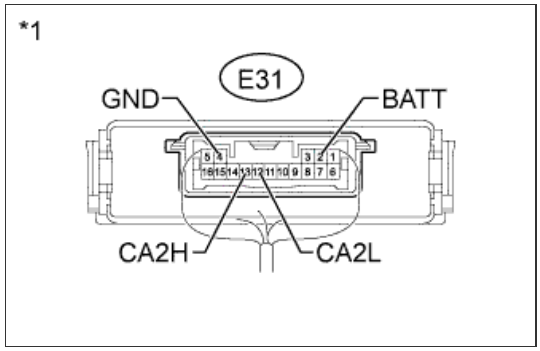
*1	(to No. 5 Junction Connector)
*2	DLC3

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

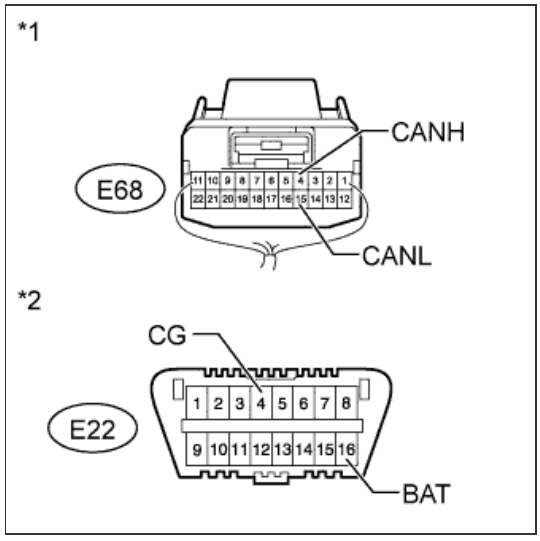
OK

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)

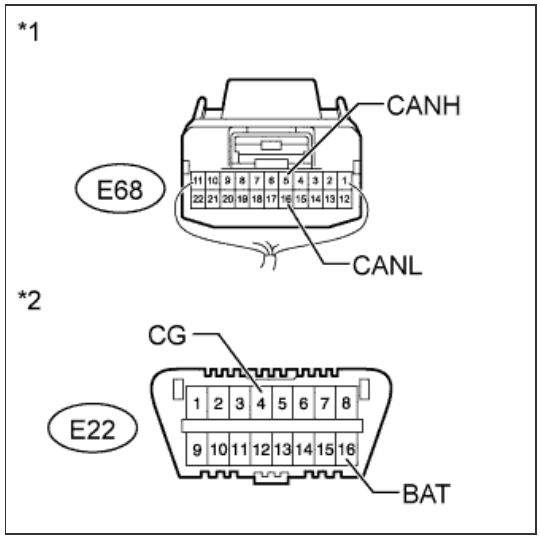
NOTICE:

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

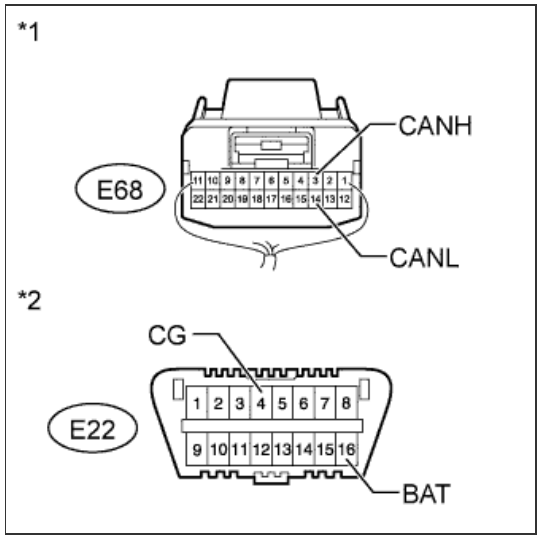
OK

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

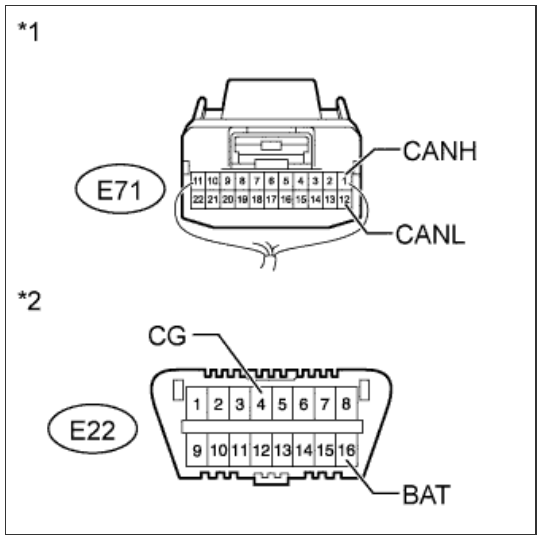
36.CHECK FOR SHORT IN CAN BUS WIRES (NO. 4 JUNCTION CONNECTOR - NO. 5 JUNCTION CONNECTOR)

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.

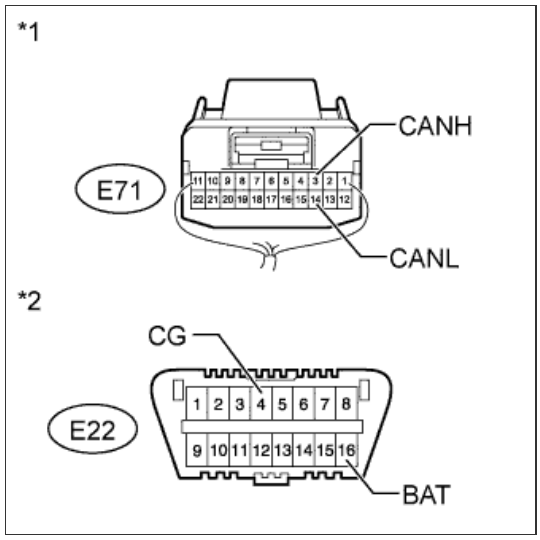
Standard Resistance:

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)

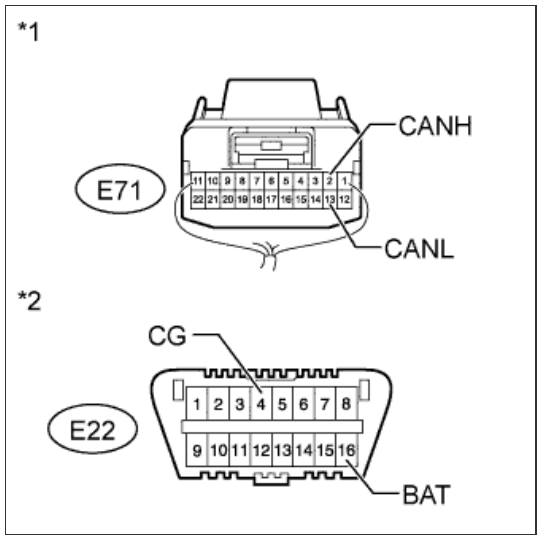
a. Measure the resistance according to the value(s) in the table below.

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

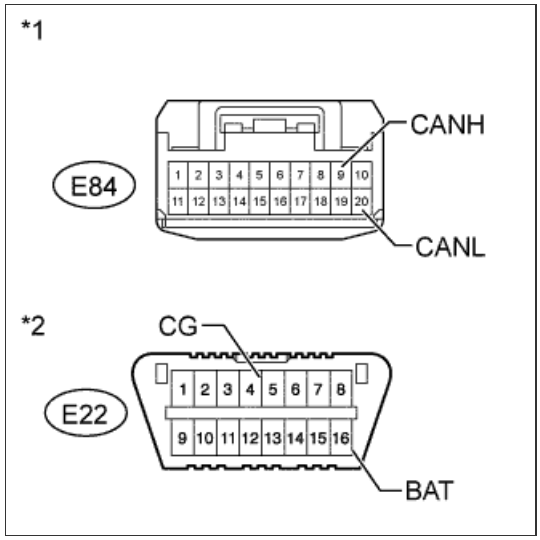
40.CHECK FOR SHORT IN CAN BUS WIRES (STEERING CONTROL ECU)

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

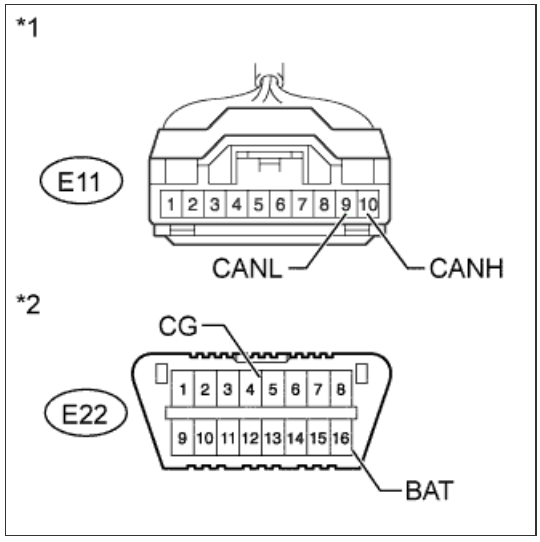
42.CHECK FOR SHORT IN CAN BUS WIRES (STEERING ANGLE SENSOR)

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

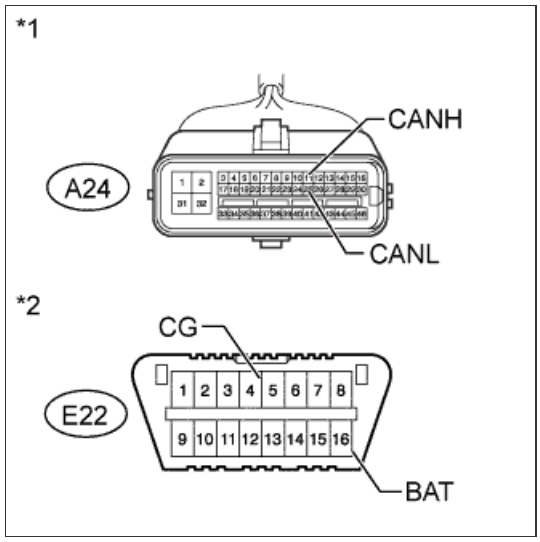
a. Reconnect the E74 No. 7 junction connector.

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)

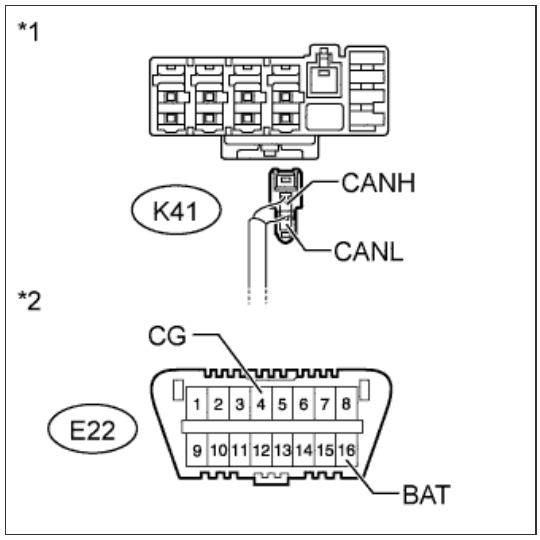
a. Disconnect the K41 No. 1 CAN junction connector.

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 →

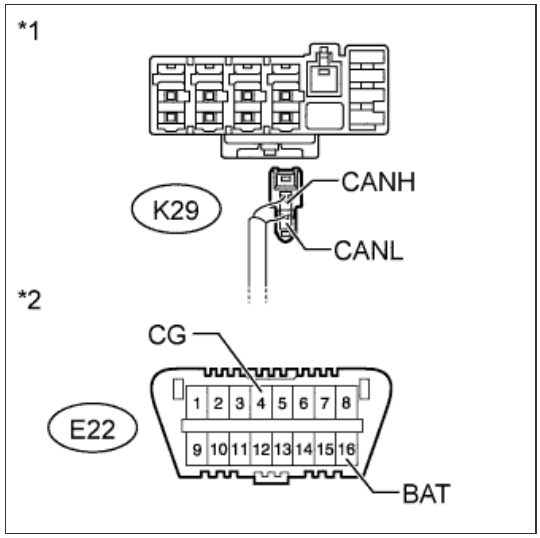
47.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 CAN JUNCTION CONNECTOR)

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

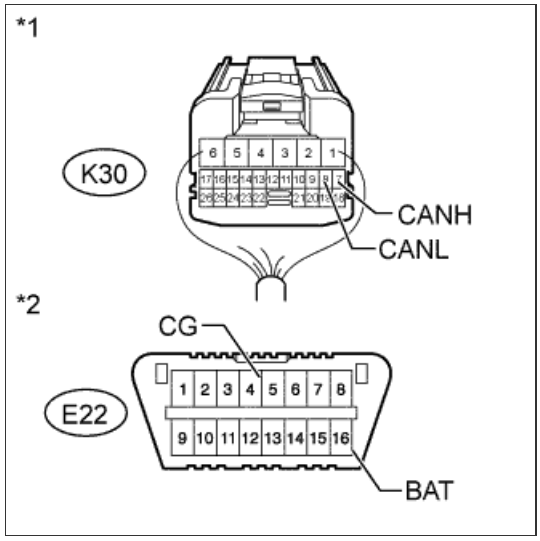
49.CHECK FOR SHORT IN CAN BUS WIRES (SUSPENSION CONTROL ECU)

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

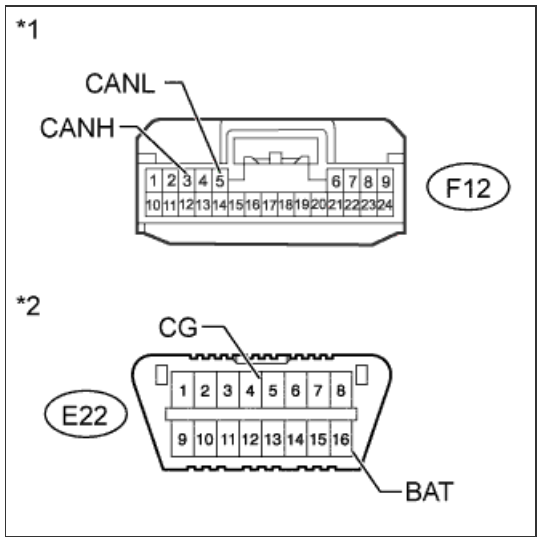
51.CHECK FOR SHORT IN CAN BUS WIRES (CLEARANCE WARNING ECU ASSEMBLY)

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

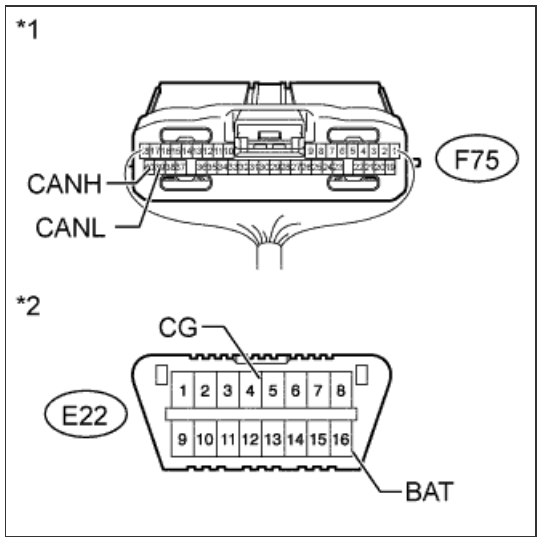
53.CHECK FOR SHORT IN CAN BUS WIRES (PARKING ASSIST ECU)

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

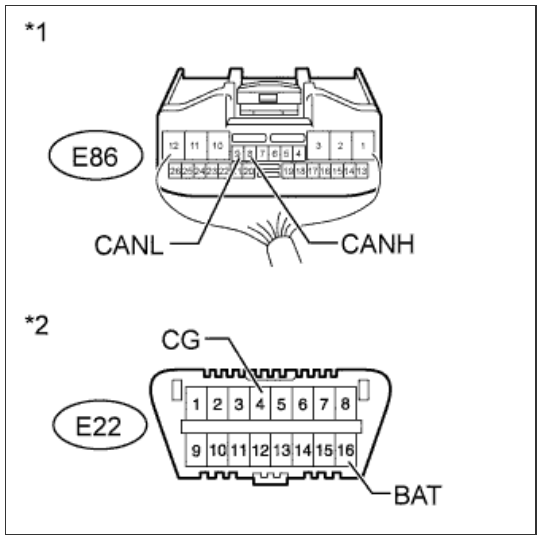
55.CHECK FOR SHORT IN CAN BUS WIRES (DISTANCE CONTROL ECU ASSEMBLY)

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

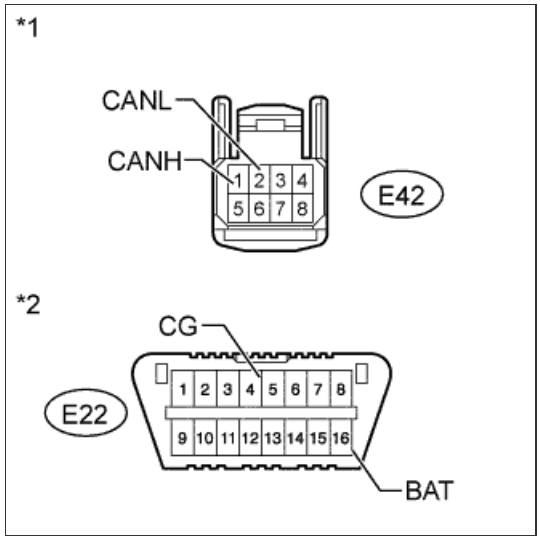
57.CHECK FOR SHORT IN CAN BUS WIRES (SEAT BELT CONTROL ECU)

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

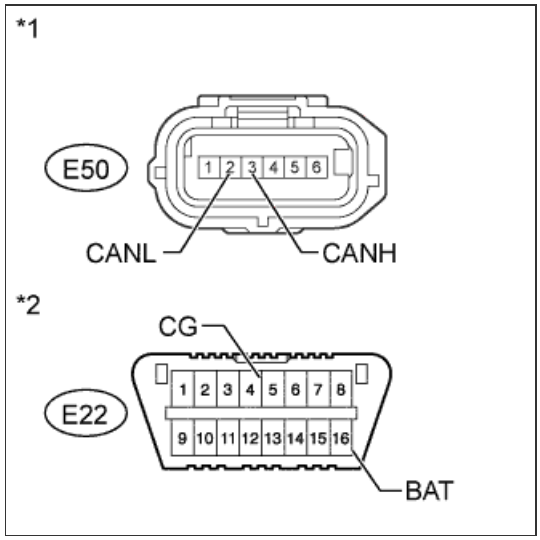
a. Reconnect the E68 No. 5 junction connector.

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)

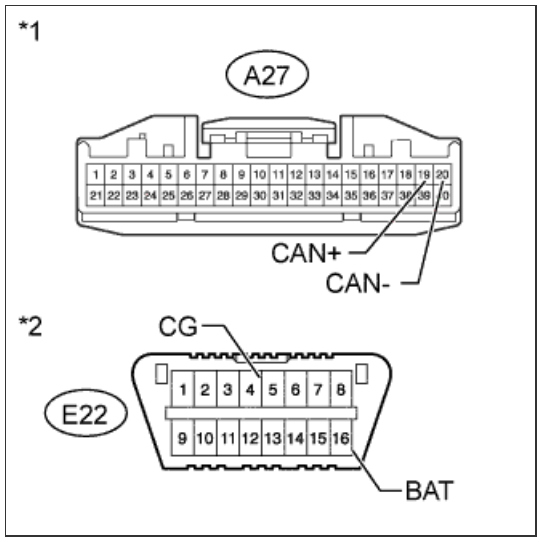
a. Disconnect the A27 4WD control ECU connector.

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

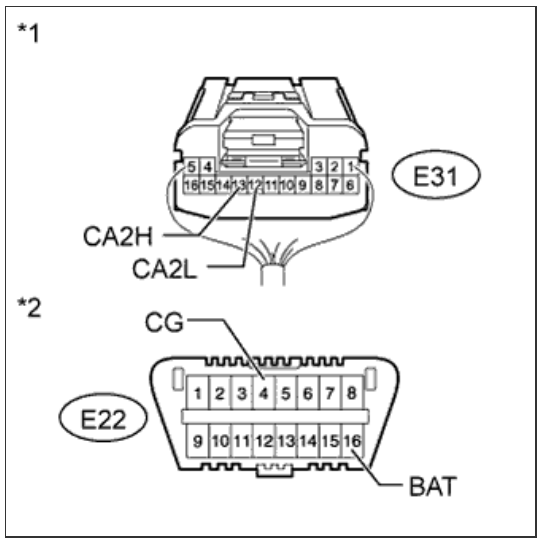
63.CHECK FOR SHORT IN CAN BUS WIRES (NETWORK GATEWAY ECU)

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.

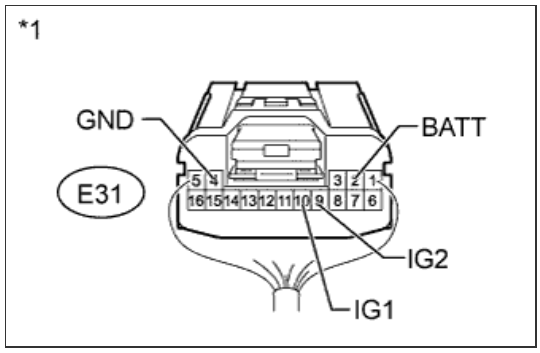
Standard Resistance:

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)

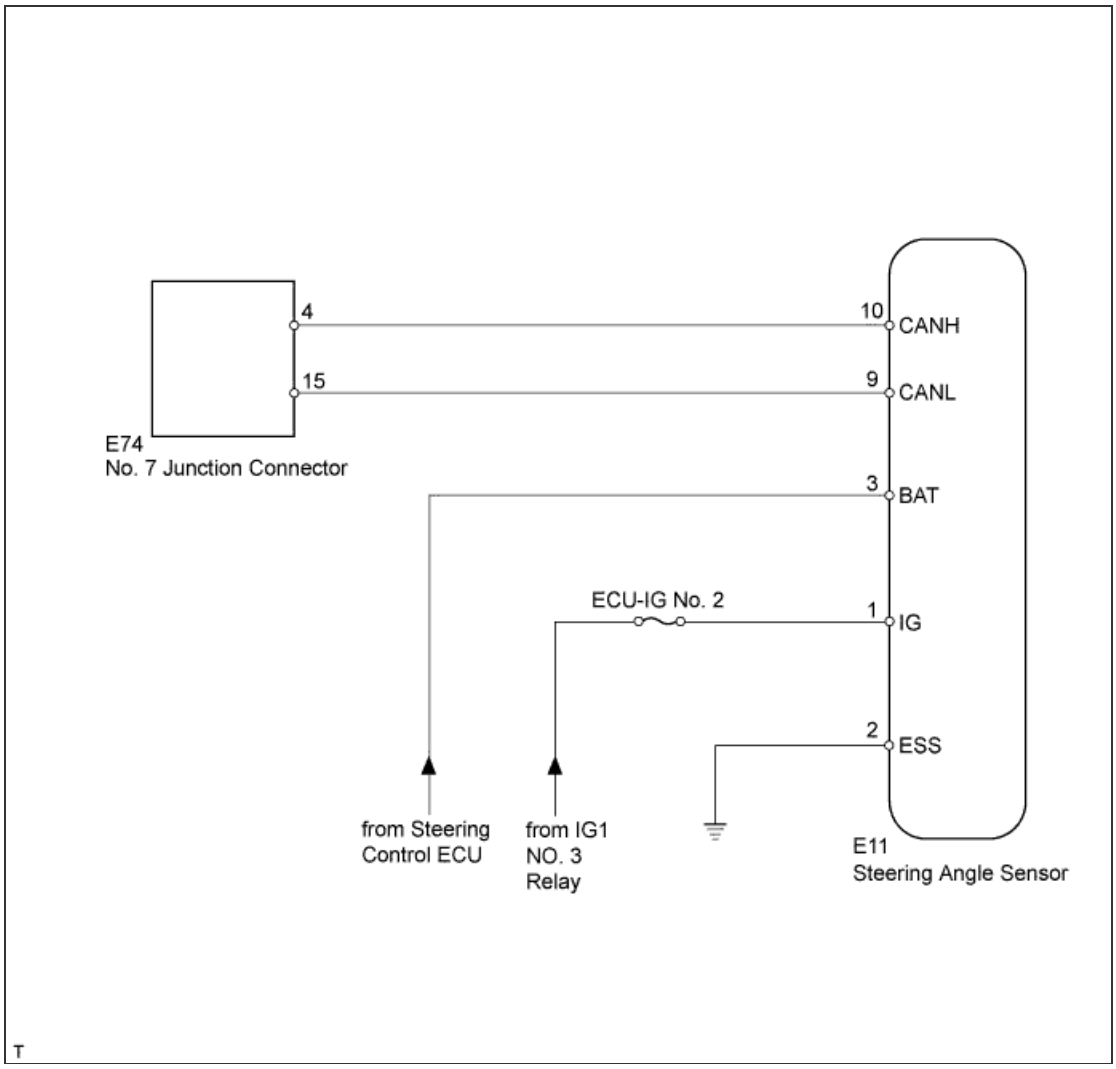
DTC U0126 Lost Communication with Steering Angle Sensor Module

for Preparation Click here

DESCRIPTION

DTC Code	DTC Detection Condition	Trouble Area
U0126	There is no communication from the steering angle sensor.	• Power source circuit of steering angle sensor • Steering angle sensor CAN branch wire or connector • 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.

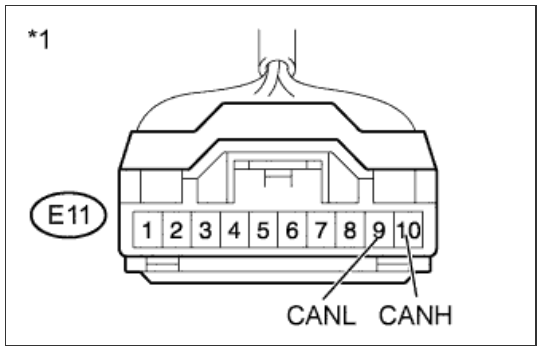
b. Measure the resistance according to the value(s) in the table below.

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.

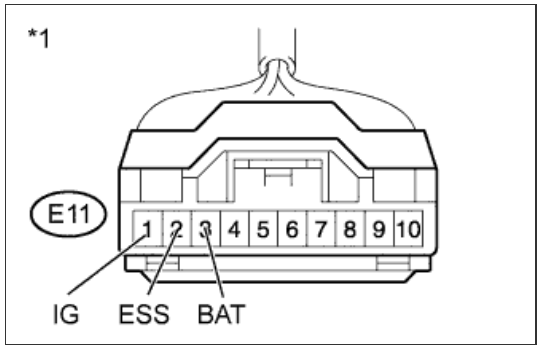
NOTICE:

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 U1002 (CAN No. 2 BUS) Lost Communication with Gateway Module (Network Gateway ECU)

for Preparation Click here

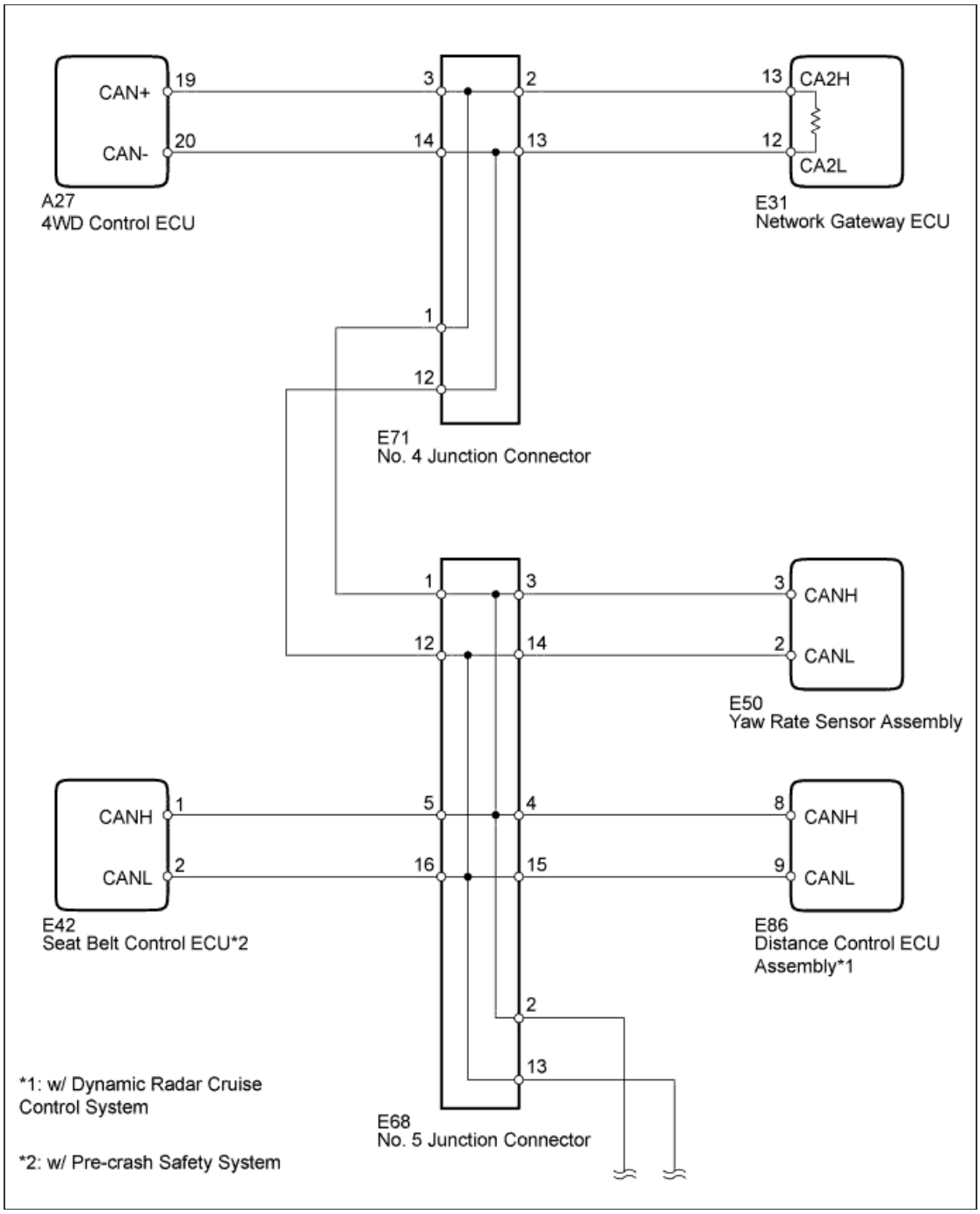
DESCRIPTION

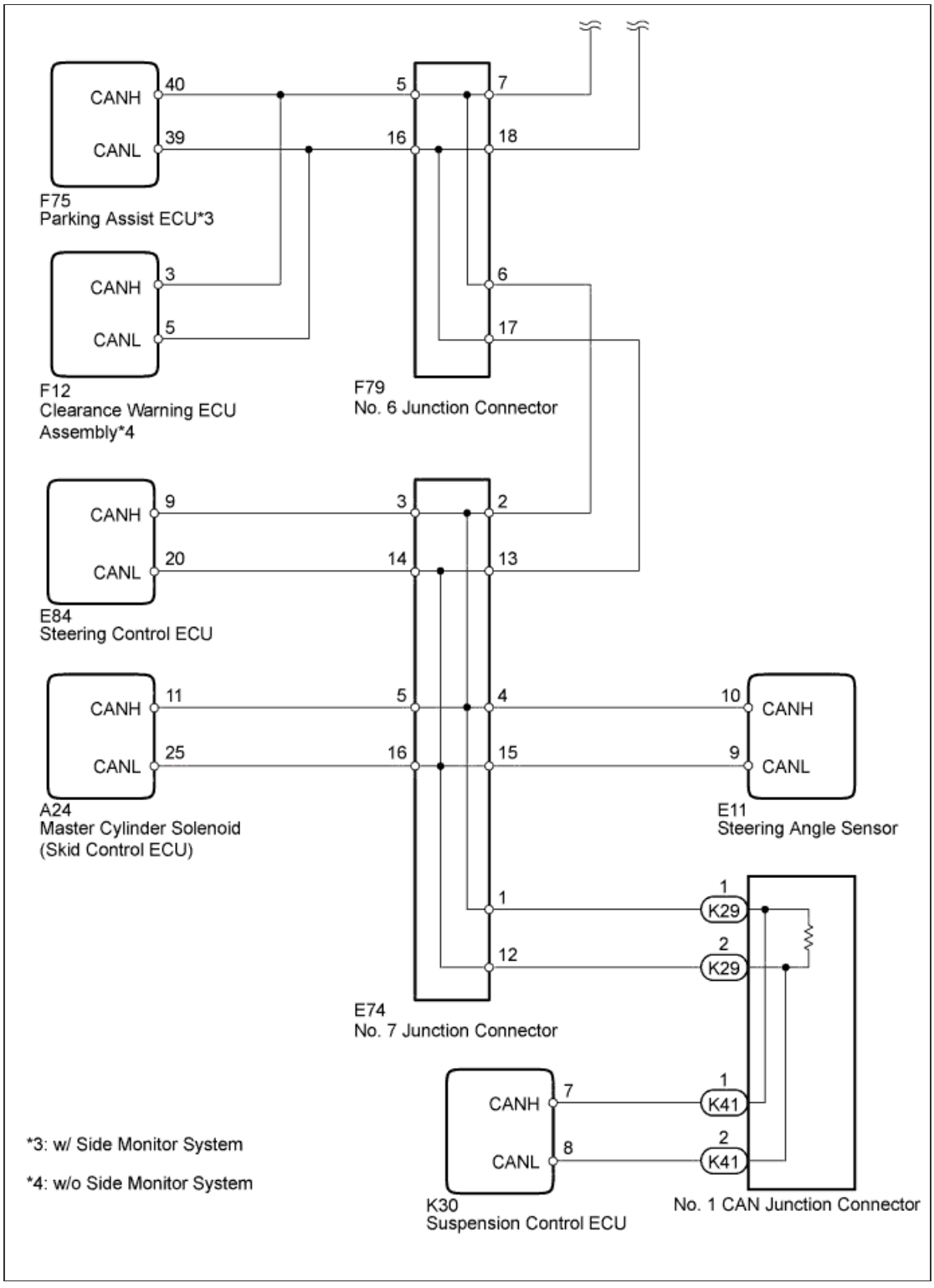
- The network gateway ECU stores this DTC when no signals can be received from the ECUs that have been memorized as those connected to the CAN movement control bus.
- When the network gateway ECU receives a response signal from the ECUs connected to the CAN movement control bus, the network gateway ECU 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 • 4WD control ECU CAN branch wire or connector • Yaw rate sensor assembly CAN branch wire or connector • Distance control ECU assembly CAN branch wire or connector*1 • Seat belt control ECU CAN branch wire or connector*2 • Parking assist ECU CAN branch wire or connector*3 • Clearance warning ECU assembly CAN branch wire or connector*4 • Master cylinder solenoid (skid control ECU) CAN branch wire or connector • Steering angle sensor CAN branch wire or connector • Network gateway ECU CAN main wire or connector • Steering control ECU CAN branch wire or connector • Suspension control ECU CAN branch wire or connector • 4WD control ECU • Yaw rate sensor assembly • Distance control ECU assembly*1 • Seat belt control ECU*2 • Parking assist ECU*3 • Clearance warning ECU assembly*4 • Master cylinder solenoid (skid control ECU) • Steering angle sensor • Steering control ECU • Suspension control ECU • Network gateway ECU • No. 4 junction connector • No. 5 junction connector • No. 6 junction connector • No. 7 junction connector • 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.

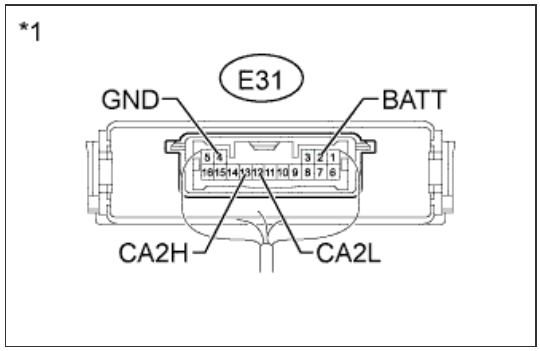
NOTICE:

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 • Open in CAN main wire	A
NG • Short in line • +B short • 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.

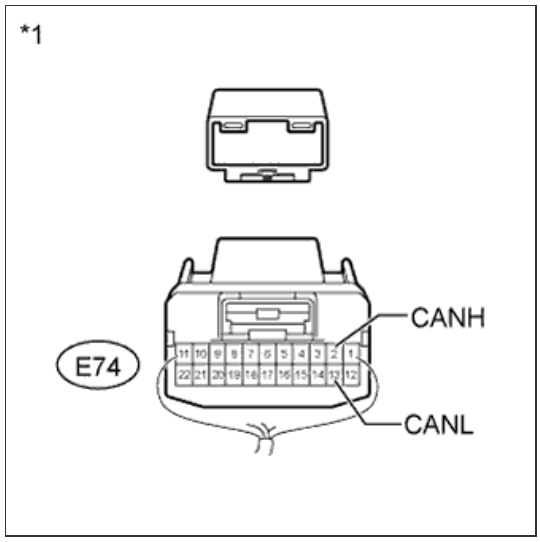
b. Measure the resistance according to the value(s) in the table below.

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)

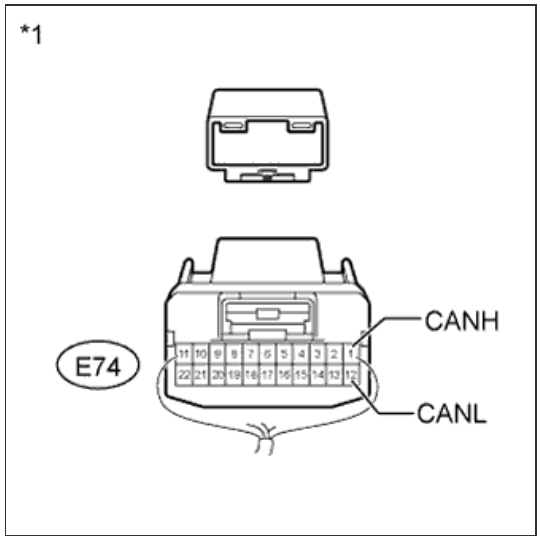
a. Measure the resistance according to the value(s) in the table below.

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.

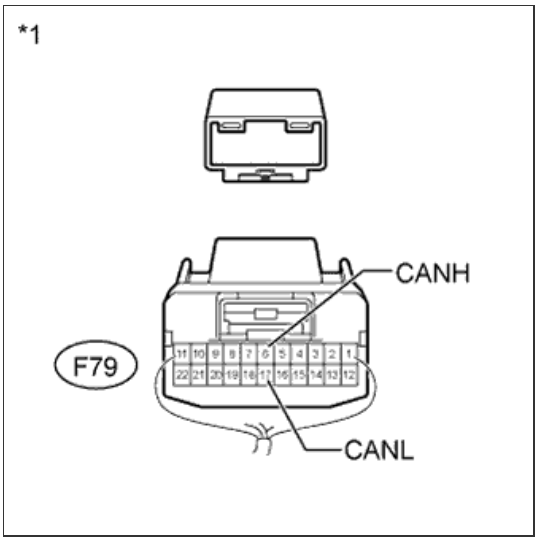
b. Measure the resistance according to the value(s) in the table below.

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)

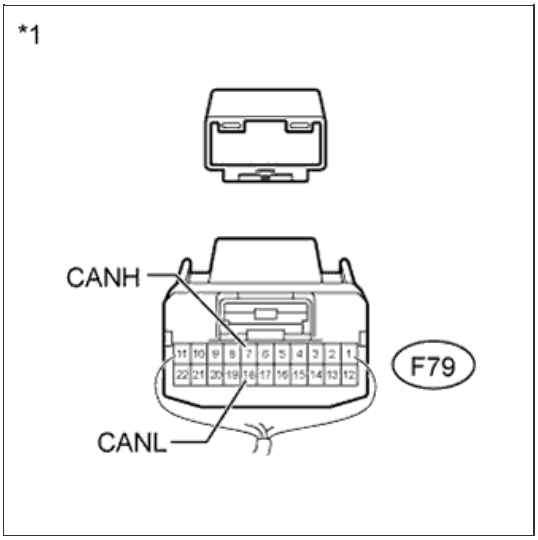
a. Measure the resistance according to the value(s) in the table below.

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.

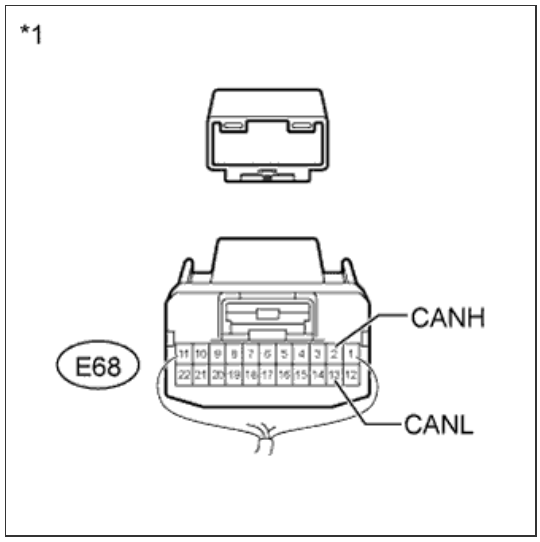
b. Measure the resistance according to the value(s) in the table below.

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)

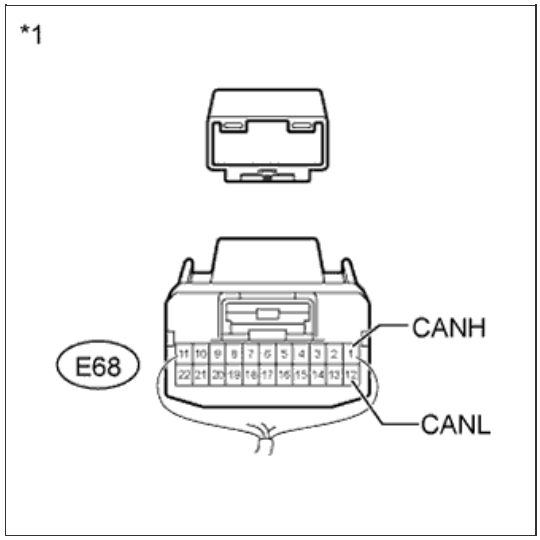
a. Measure the resistance according to the value(s) in the table below.

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.

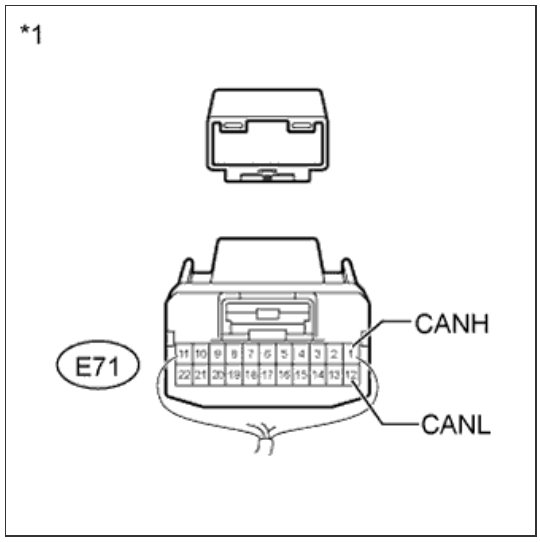
b. Measure the resistance according to the value(s) in the table below.

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)

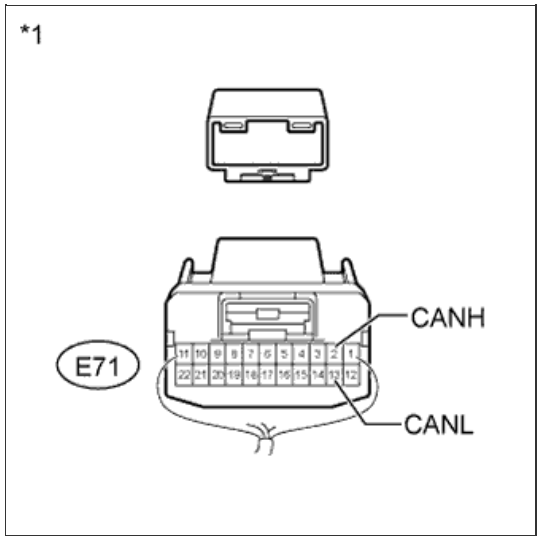
a. Measure the resistance according to the value(s) in the table below.

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.

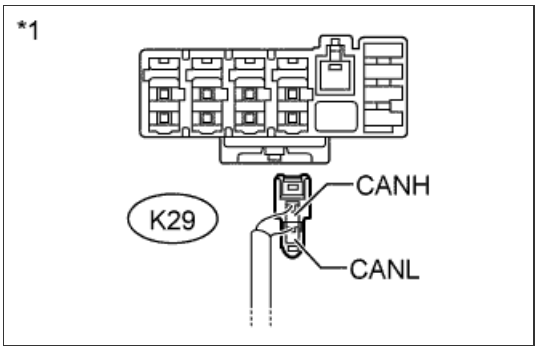
b. Measure the resistance according to the value(s) in the table below.

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.

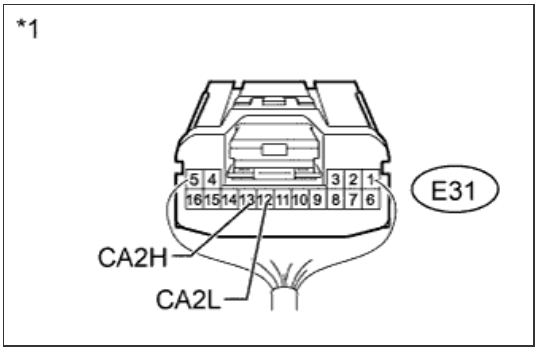
b. Measure the resistance according to the value(s) in the table below.

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)

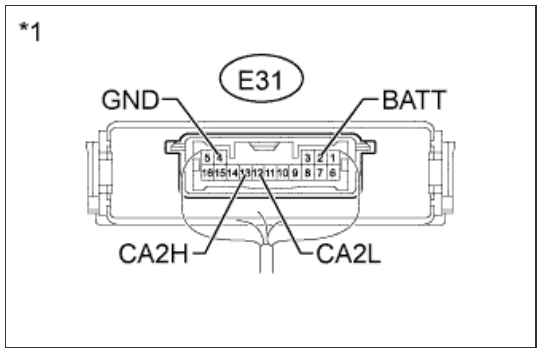
a. Disconnect the E74 No. 7 junction connector.

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

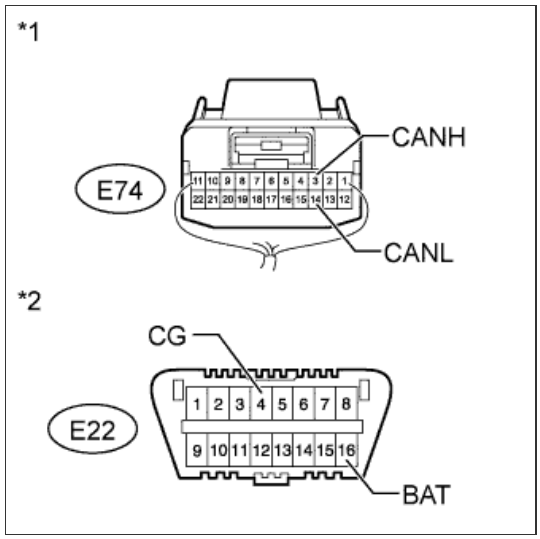
OK

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

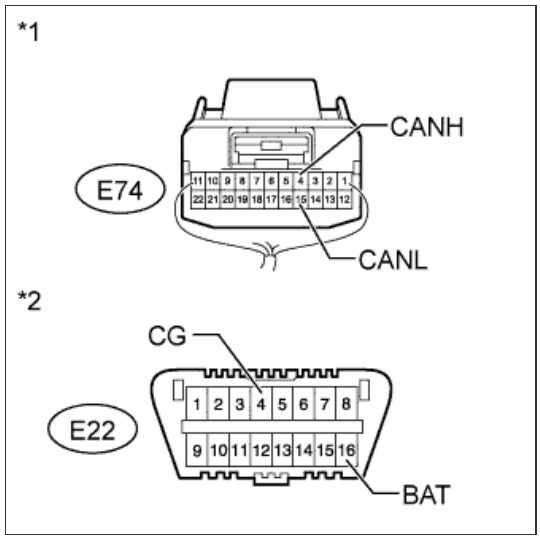
21.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR - STEERING ANGLE SENSOR)

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

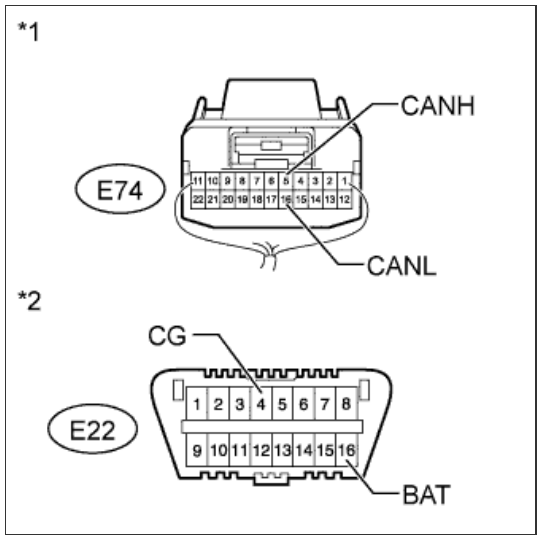
OK

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

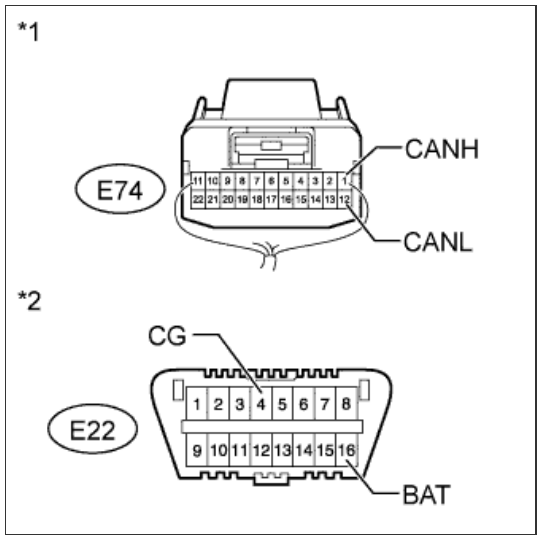
23.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR - NO. 1 CAN JUNCTION CONNECTOR)

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

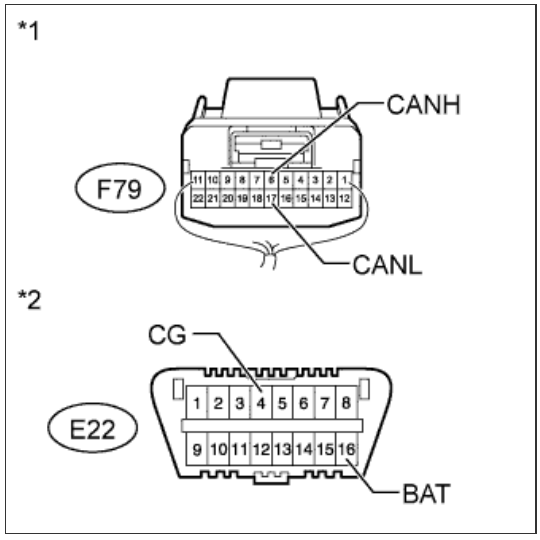
25.CHECK FOR SHORT IN CAN BUS WIRES (NO. 6 JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)

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

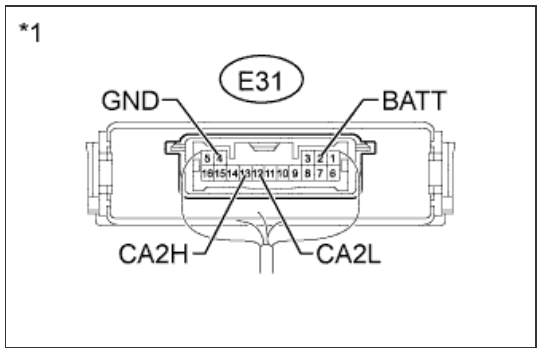
*1	Rear view of wire harness connector (to No. 6 Junction Connector)
*2	DLC3

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

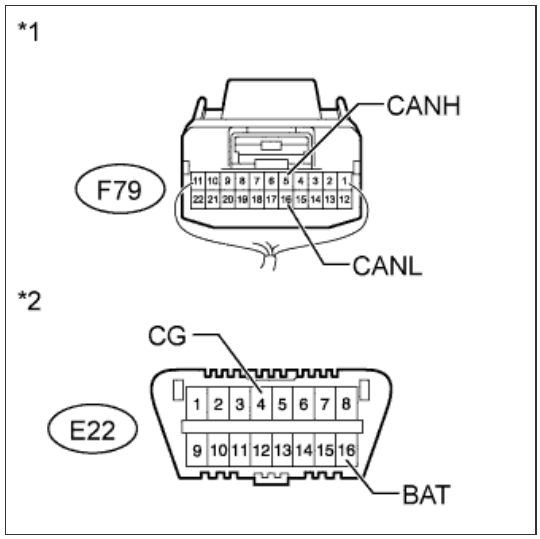
B → Go to step 28

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

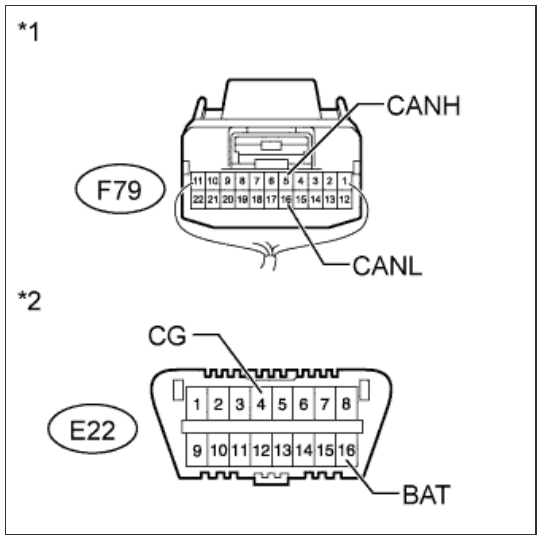
REPLACE NO. 6 JUNCTION CONNECTOR

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

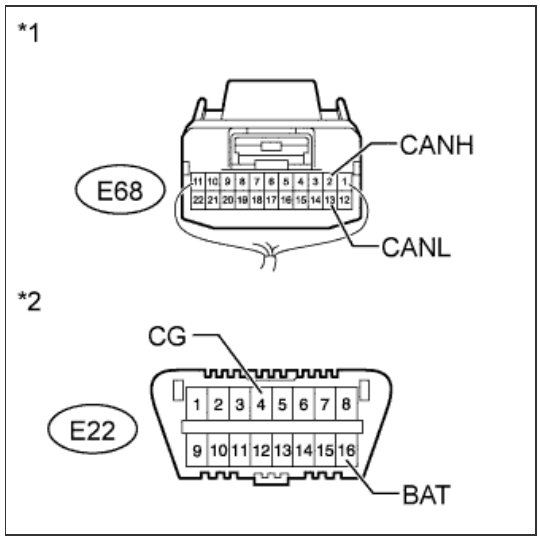
30.CHECK FOR SHORT IN CAN BUS WIRES (NO. 5 JUNCTION CONNECTOR - NO. 6 JUNCTION CONNECTOR)

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

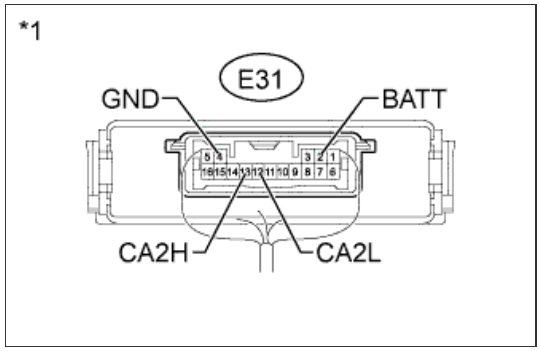
*1	(to No. 5 Junction Connector)
*2	DLC3

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

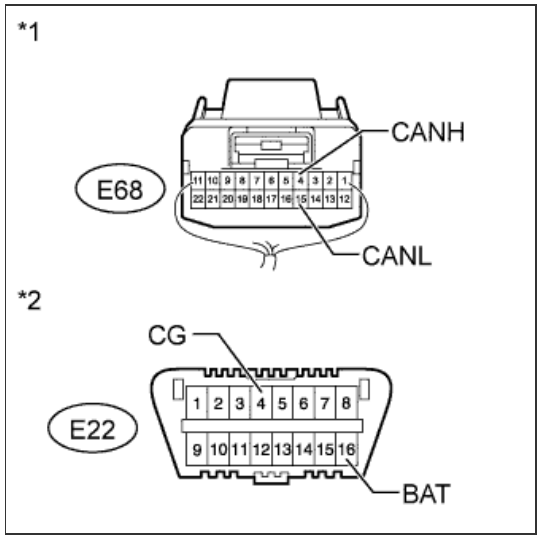
OK

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)

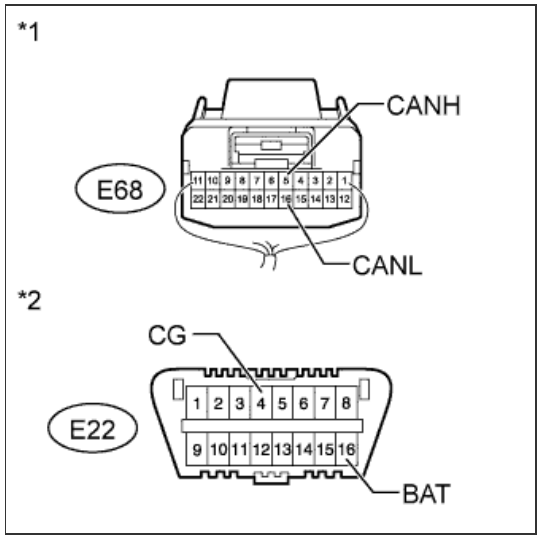
NOTICE:

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

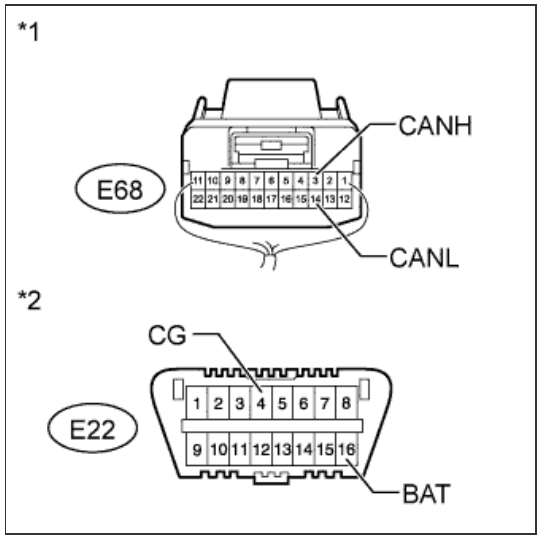
OK

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

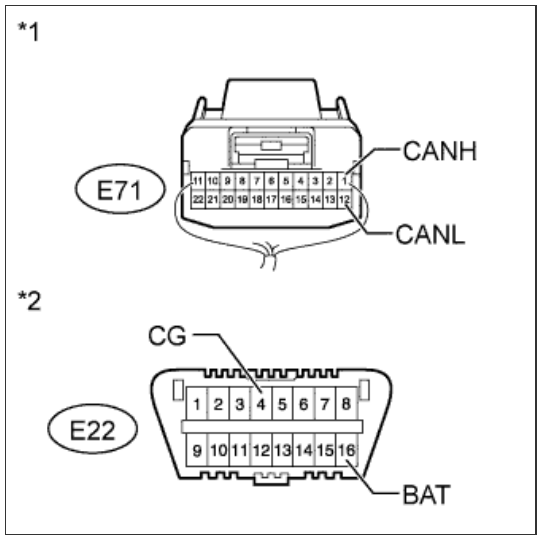
36.CHECK FOR SHORT IN CAN BUS WIRES (NO. 4 JUNCTION CONNECTOR - NO. 5 JUNCTION CONNECTOR)

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.

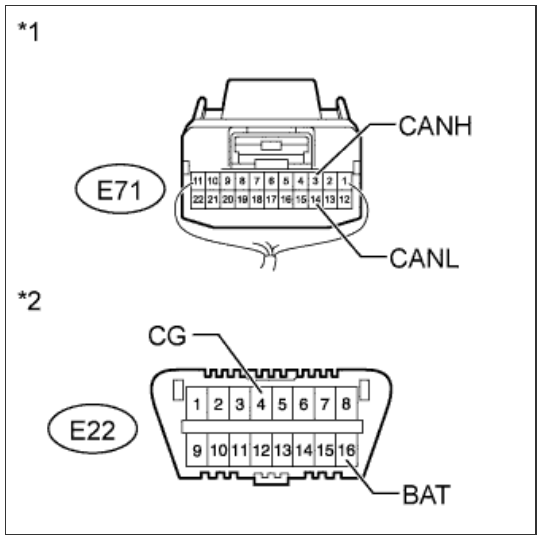
Standard Resistance:

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)

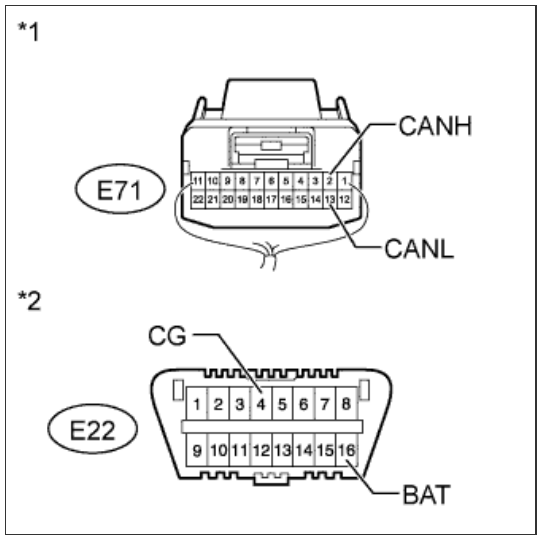
a. Measure the resistance according to the value(s) in the table below.

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

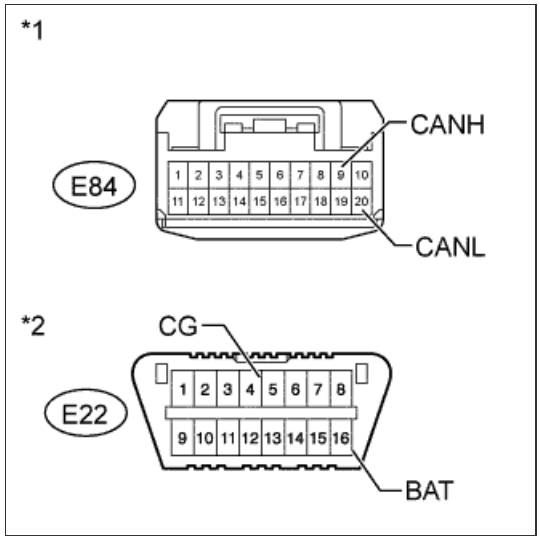
40.CHECK FOR SHORT IN CAN BUS WIRES (STEERING CONTROL ECU)

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

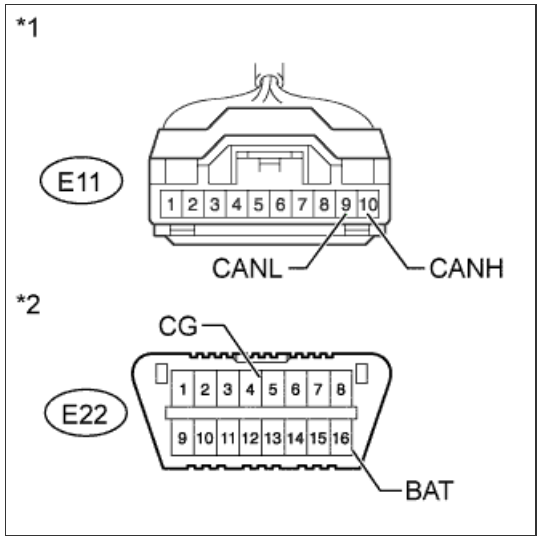
42.CHECK FOR SHORT IN CAN BUS WIRES (STEERING ANGLE SENSOR)

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

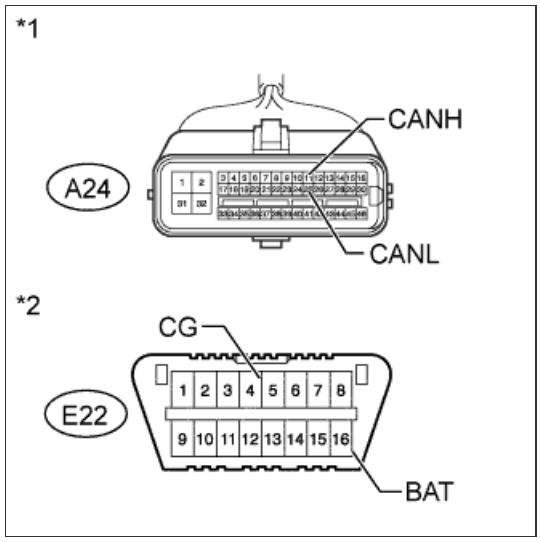
a. Reconnect the E74 No. 7 junction connector.

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)

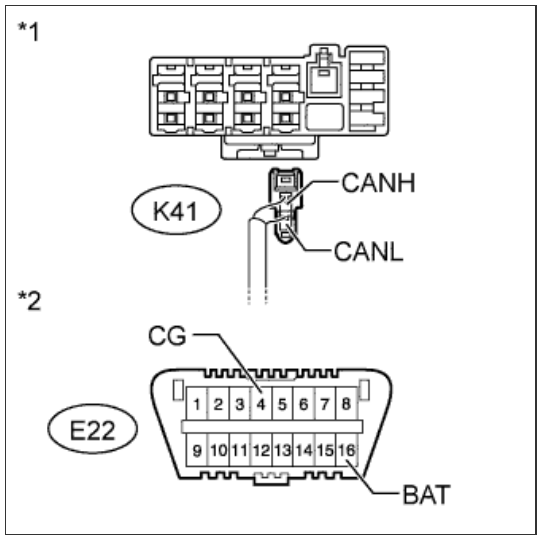
a. Disconnect the K41 No. 1 CAN junction connector.

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 →

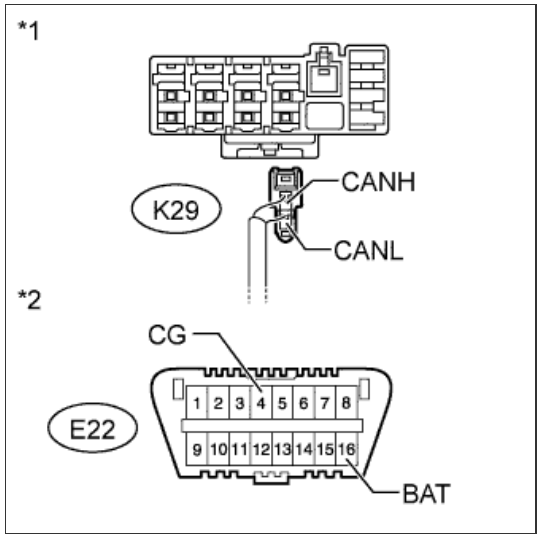
47.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 CAN JUNCTION CONNECTOR)

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

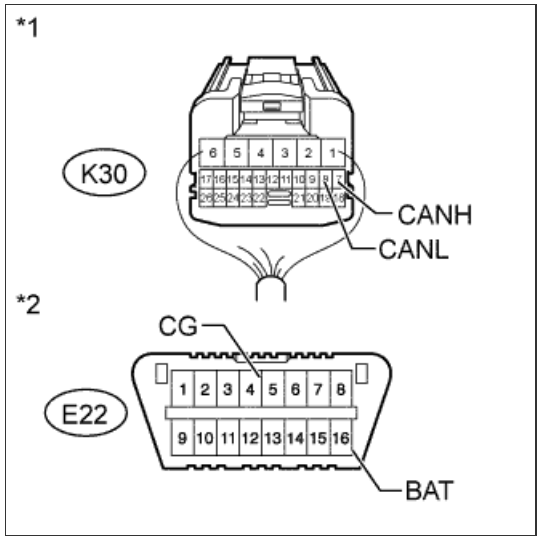
49.CHECK FOR SHORT IN CAN BUS WIRES (SUSPENSION CONTROL ECU)

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

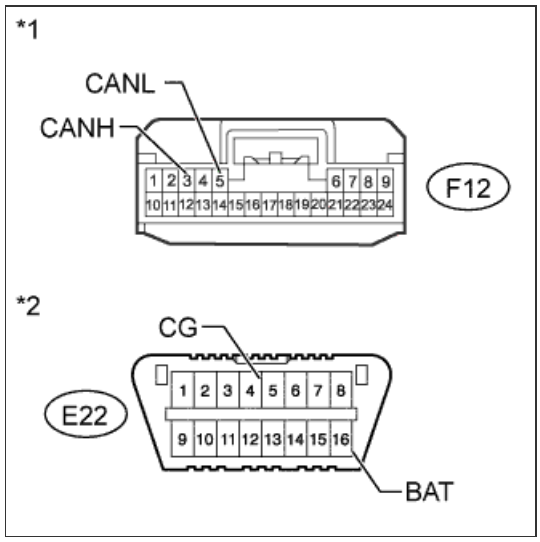
51.CHECK FOR SHORT IN CAN BUS WIRES (CLEARANCE WARNING ECU ASSEMBLY)

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

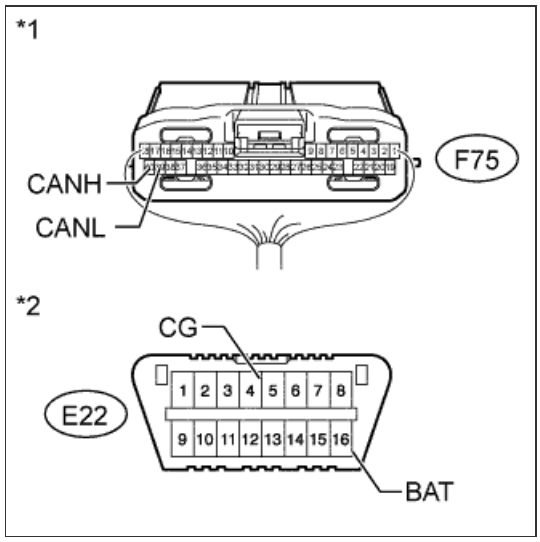
53.CHECK FOR SHORT IN CAN BUS WIRES (PARKING ASSIST ECU)

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

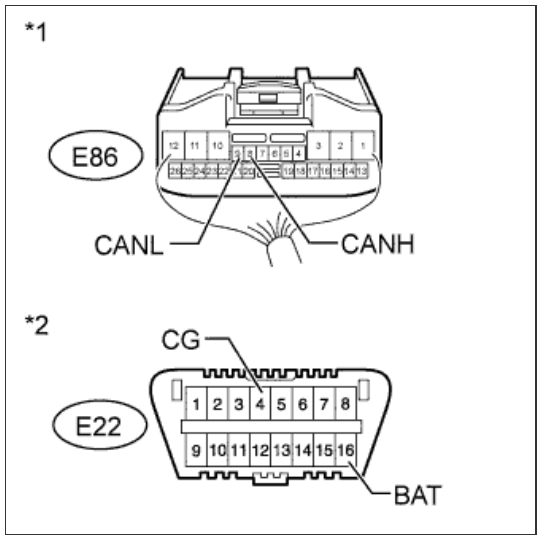
55.CHECK FOR SHORT IN CAN BUS WIRES (DISTANCE CONTROL ECU ASSEMBLY)

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

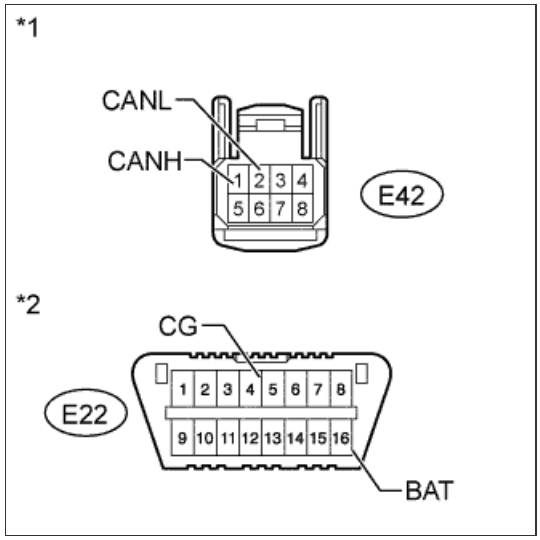
57.CHECK FOR SHORT IN CAN BUS WIRES (SEAT BELT CONTROL ECU)

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

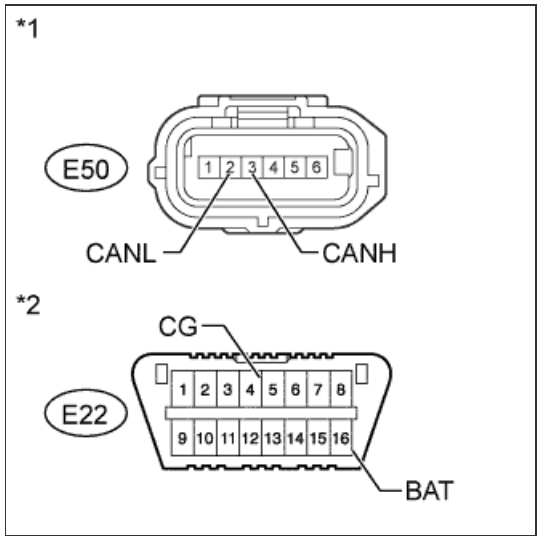
a. Reconnect the E68 No. 5 junction connector.

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)

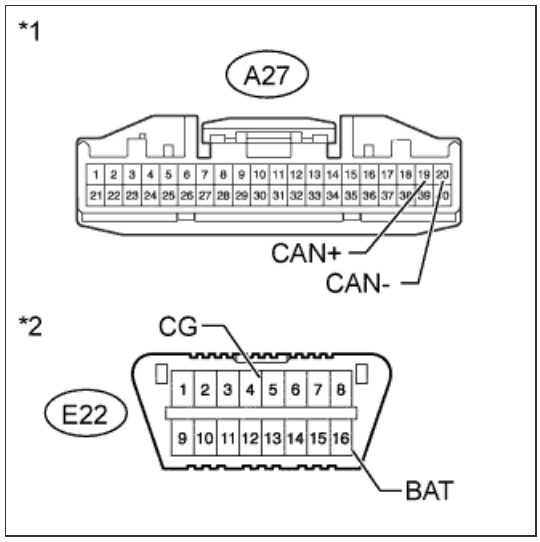
a. Disconnect the A27 4WD control ECU connector.

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

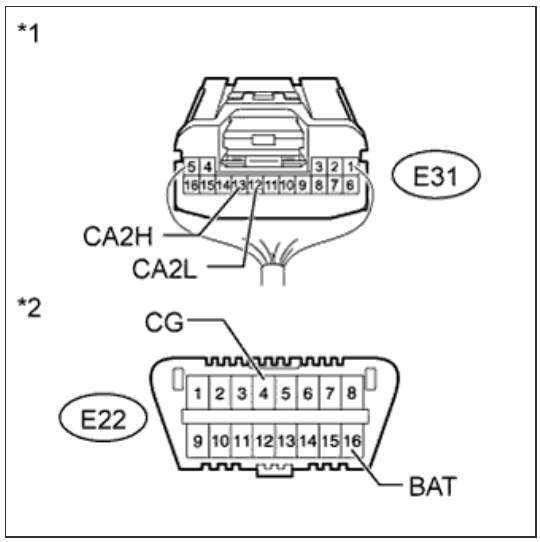
63.CHECK FOR SHORT IN CAN BUS WIRES (NETWORK GATEWAY ECU)

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.

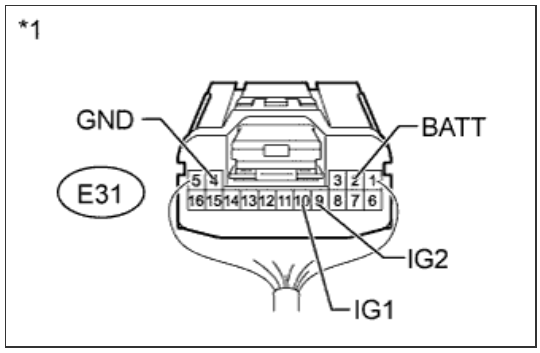
Standard Resistance:

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)

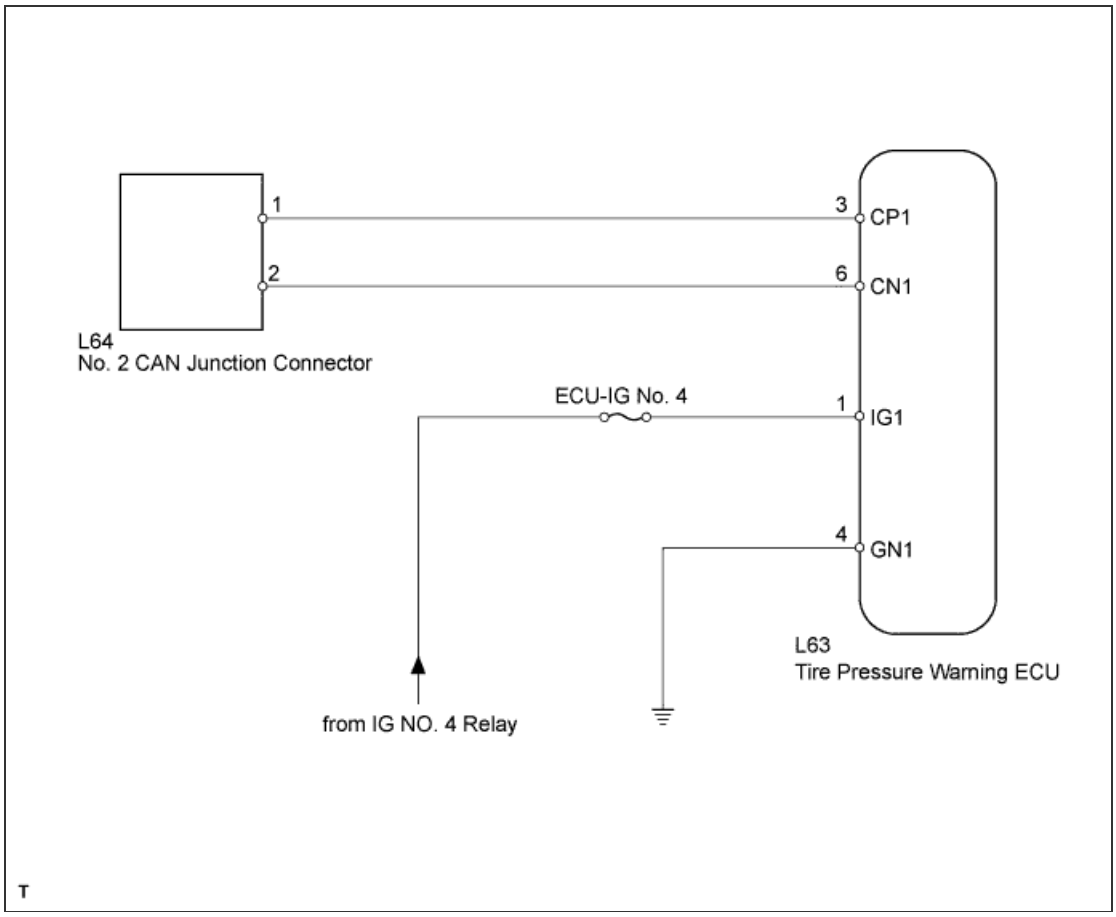
DTC U0127 Lost Communication with Tire Pressure Monitor Module

for Preparation Click here

DESCRIPTION

DTC Code	DTC Detection Condition	Trouble Area
U0127	There is no communication from the tire pressure warning ECU.	• Power source circuit of tire pressure warning ECU • Tire pressure warning ECU CAN branch wire or connector • Tire pressure warning 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 (TIRE PRESSURE WARNING ECU CAN BRANCH WIRE)

a. Disconnect the L63 tire pressure warning ECU connector.

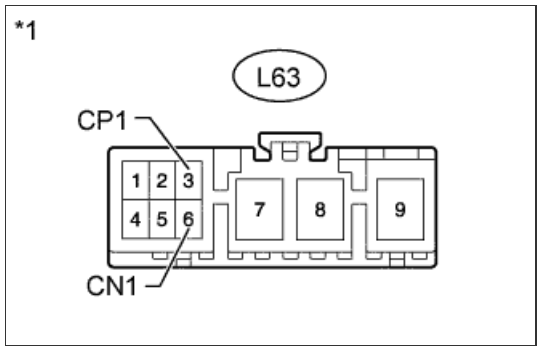
b. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
L63-3 (CP1) - L63-6 (CN1)	Engine switch off	54 to 69 Ω

Text in Illustration

*1	Front view of wire harness connector (to Tire Pressure Warning ECU)



NG → REPAIR OR REPLACE TIRE PRESSURE WARNING ECU CAN BRANCH WIRE OR CONNECTOR (CP1, CN1)

OK

4.CHECK HARNESS AND CONNECTOR (TIRE PRESSURE 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. Measure the voltage according to the value(s) in the table below.

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
L63-1 (IG1) - Body ground	Engine switch on (IG)	11 to 14 V

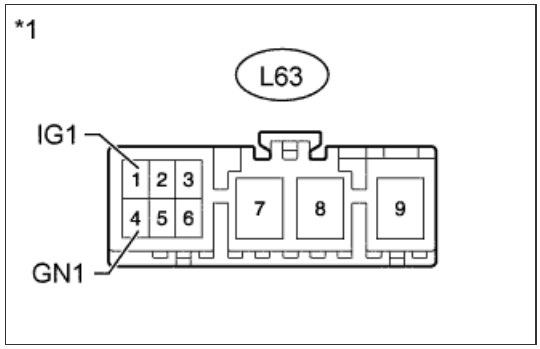
c. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

Tester Connection	Condition	Specified Condition
L63-7 (GN1) - Body ground	Always	Below 1 Ω

Text in Illustration

	Front view of wire harness connector



*1	(to Tire Pressure Warning ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE TIRE PRESSURE WARNING ECU (Click here)

DTC U1002 (CAN No. 2 BUS) Lost Communication with Gateway Module (Network Gateway ECU)

for Preparation Click here

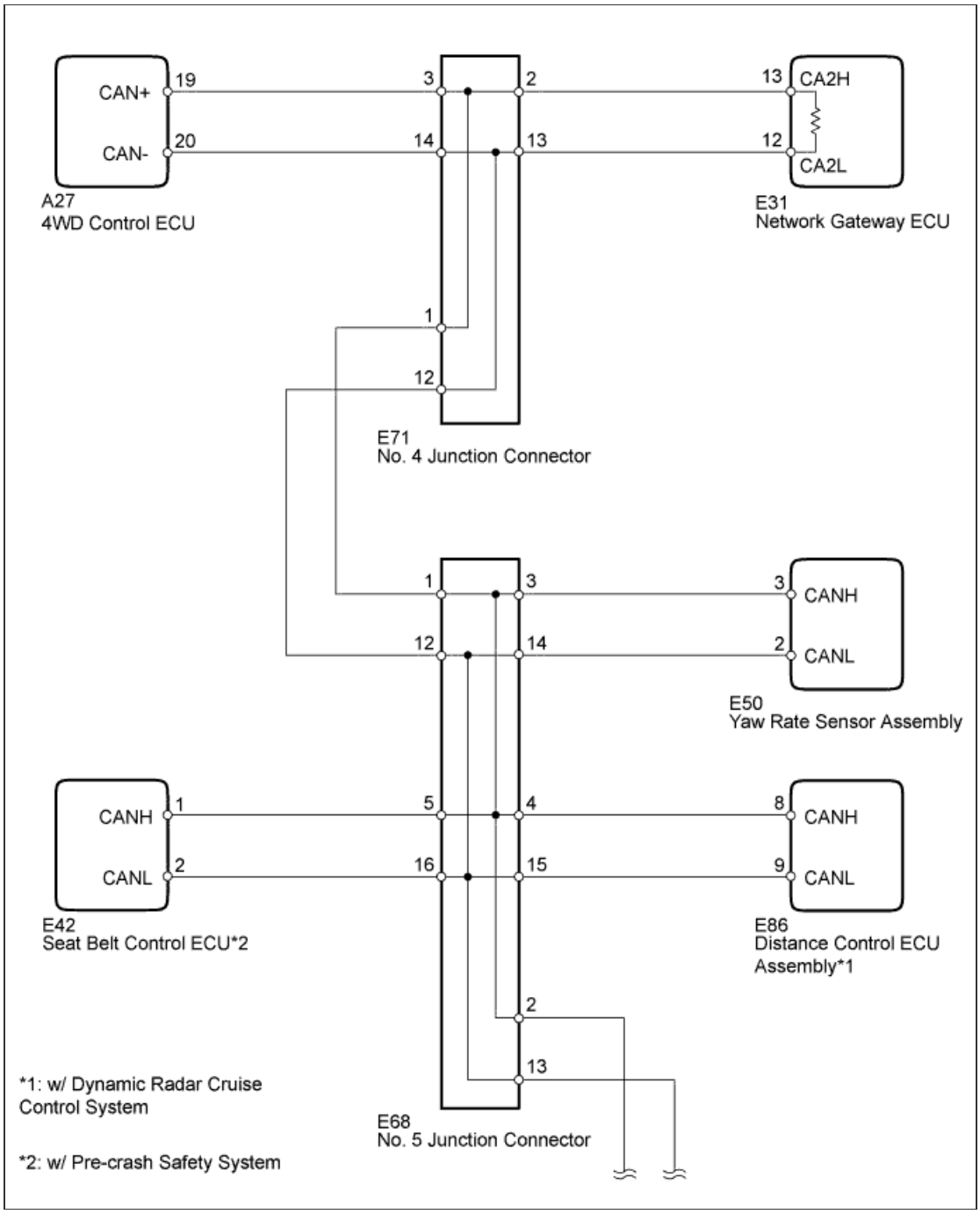
DESCRIPTION

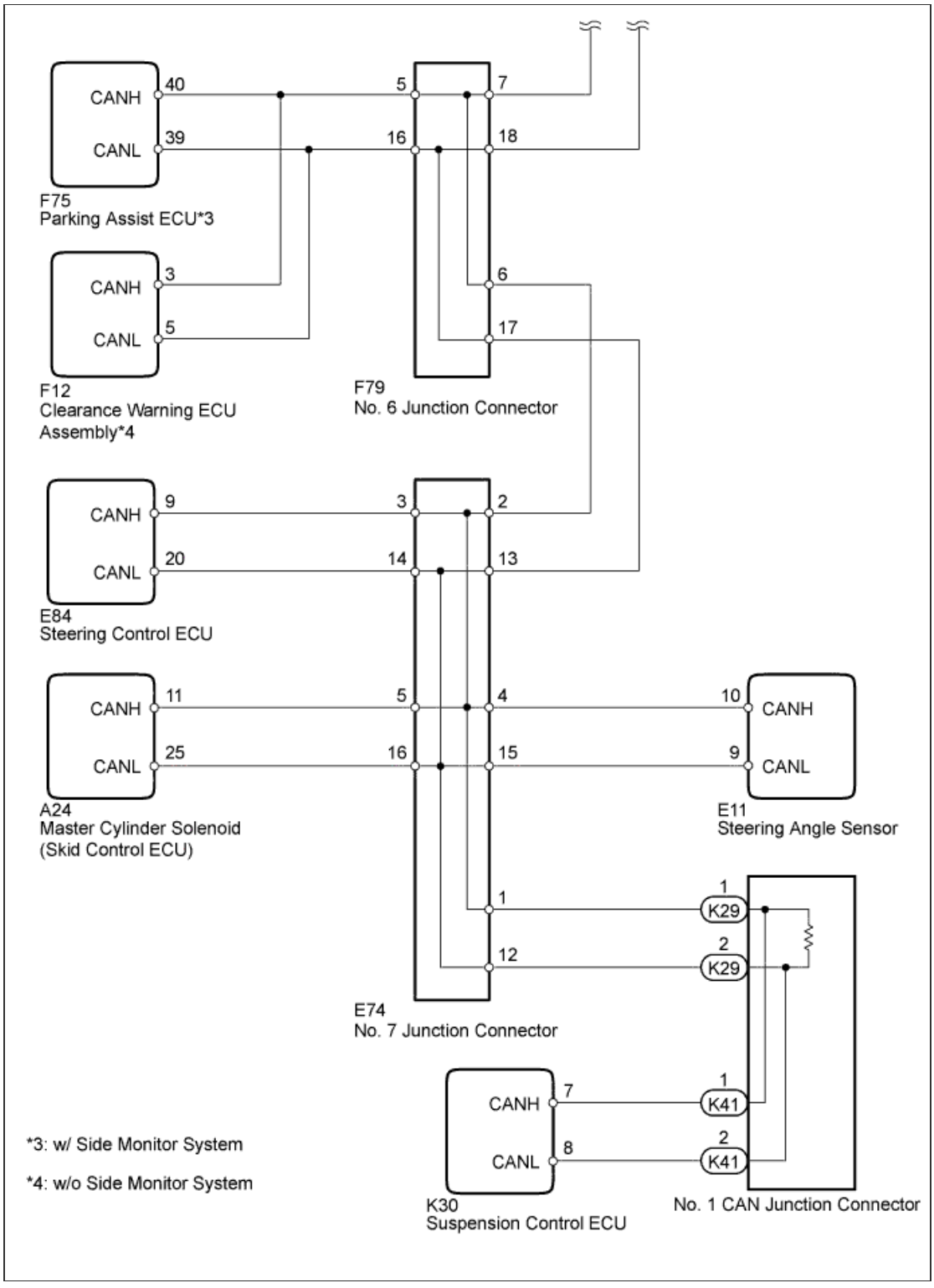
- The network gateway ECU stores this DTC when no signals can be received from the ECUs that have been memorized as those connected to the CAN movement control bus.
- When the network gateway ECU receives a response signal from the ECUs connected to the CAN movement control bus, the network gateway ECU 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 • 4WD control ECU CAN branch wire or connector • Yaw rate sensor assembly CAN branch wire or connector • Distance control ECU assembly CAN branch wire or connector*1 • Seat belt control ECU CAN branch wire or connector*2 • Parking assist ECU CAN branch wire or connector*3 • Clearance warning ECU assembly CAN branch wire or connector*4 • Master cylinder solenoid (skid control ECU) CAN branch wire or connector • Steering angle sensor CAN branch wire or connector • Network gateway ECU CAN main wire or connector • Steering control ECU CAN branch wire or connector • Suspension control ECU CAN branch wire or connector • 4WD control ECU • Yaw rate sensor assembly • Distance control ECU assembly*1 • Seat belt control ECU*2 • Parking assist ECU*3 • Clearance warning ECU assembly*4 • Master cylinder solenoid (skid control ECU) • Steering angle sensor • Steering control ECU • Suspension control ECU • Network gateway ECU • No. 4 junction connector • No. 5 junction connector • No. 6 junction connector • No. 7 junction connector • 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.

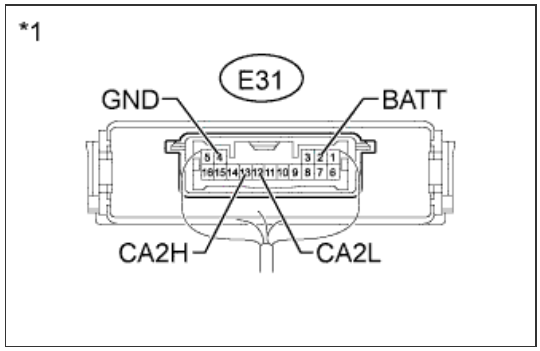
NOTICE:

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 • Open in CAN main wire	A
NG • Short in line • +B short • 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.

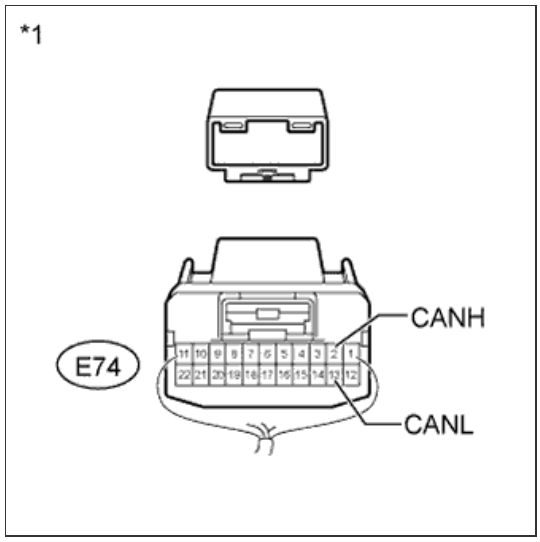
b. Measure the resistance according to the value(s) in the table below.

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)

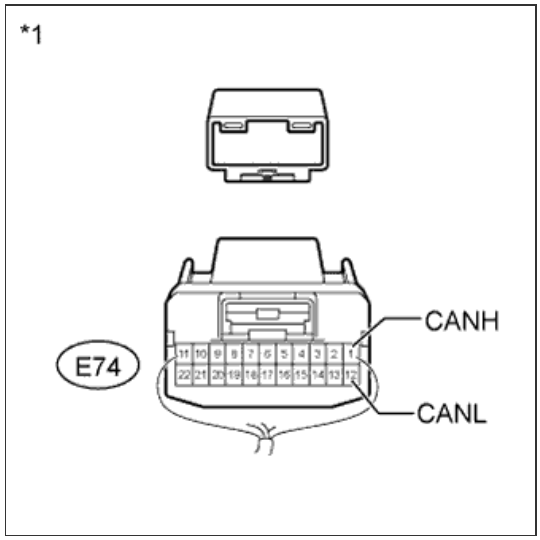
a. Measure the resistance according to the value(s) in the table below.

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.

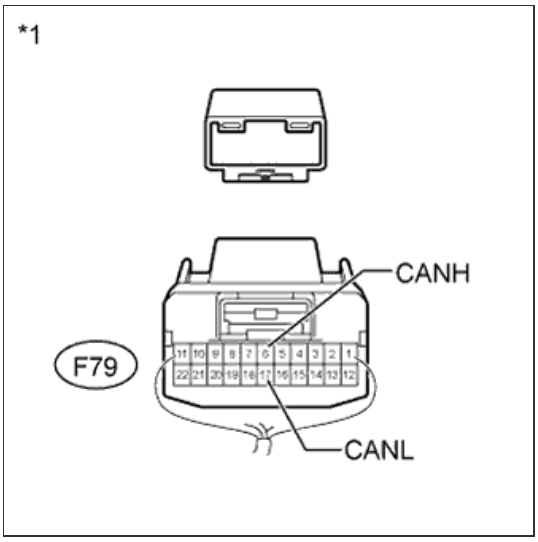
b. Measure the resistance according to the value(s) in the table below.

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)

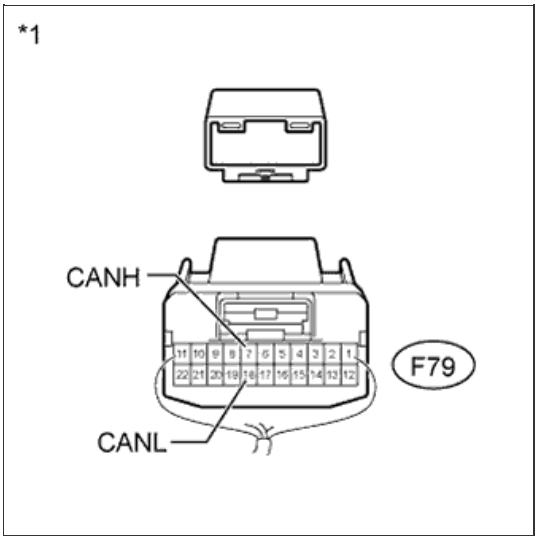
a. Measure the resistance according to the value(s) in the table below.

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.

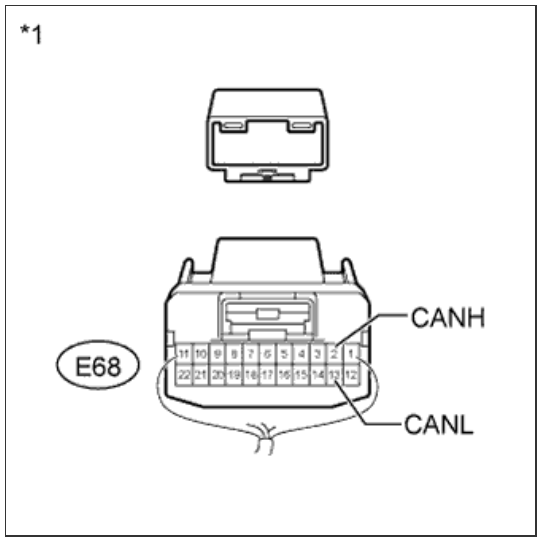
b. Measure the resistance according to the value(s) in the table below.

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)

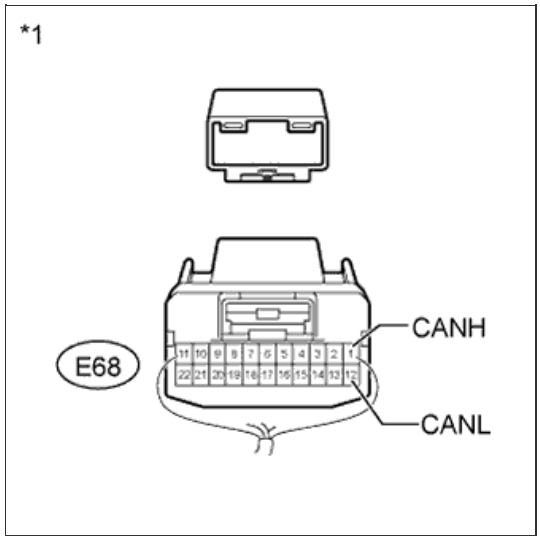
a. Measure the resistance according to the value(s) in the table below.

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.

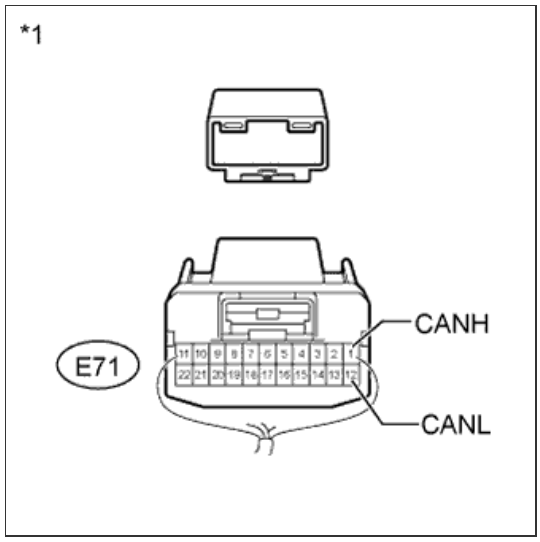
b. Measure the resistance according to the value(s) in the table below.

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)

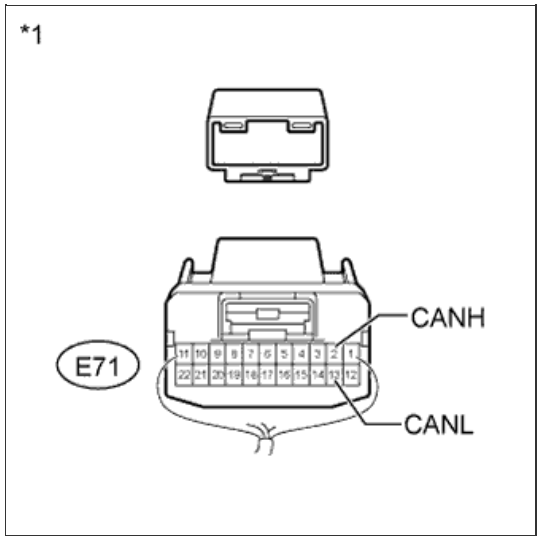
a. Measure the resistance according to the value(s) in the table below.

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.

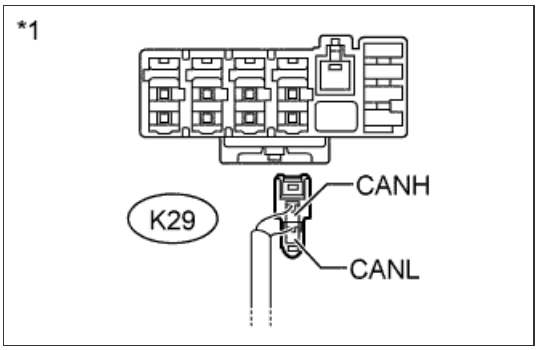
b. Measure the resistance according to the value(s) in the table below.

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.

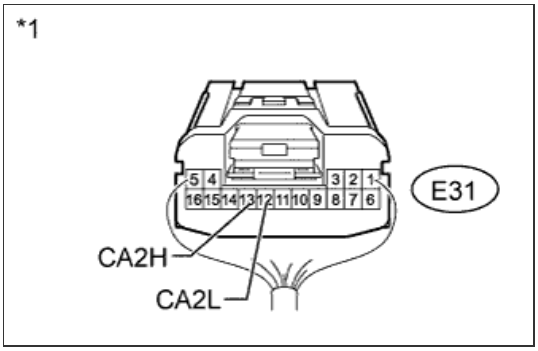
b. Measure the resistance according to the value(s) in the table below.

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)

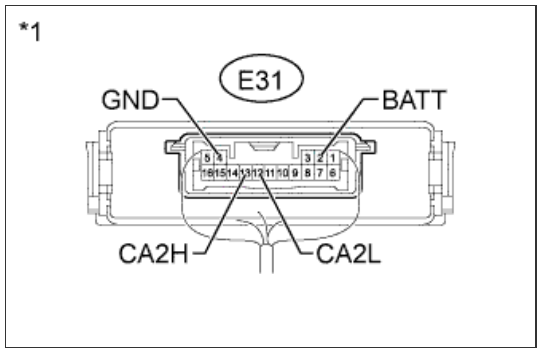
a. Disconnect the E74 No. 7 junction connector.

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

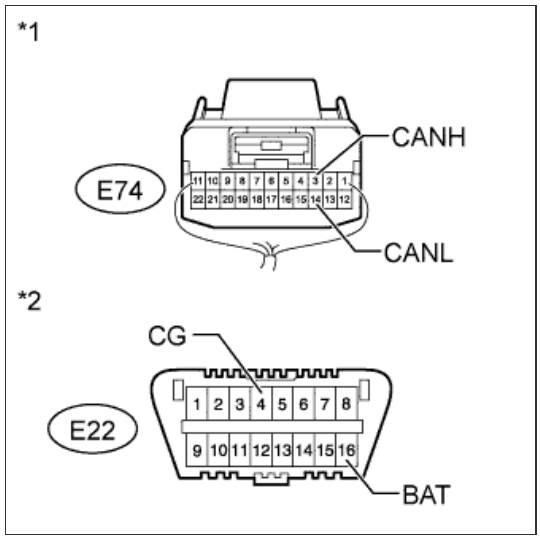
OK

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

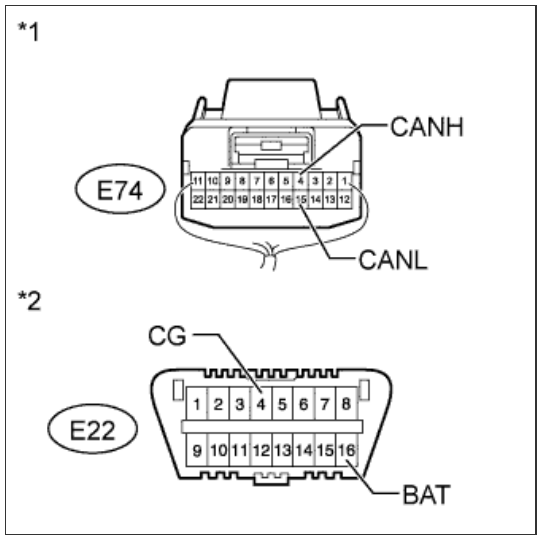
21.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR - STEERING ANGLE SENSOR)

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

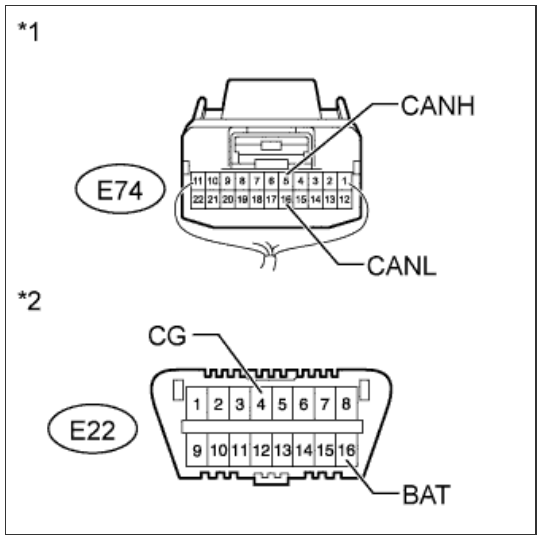
OK

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

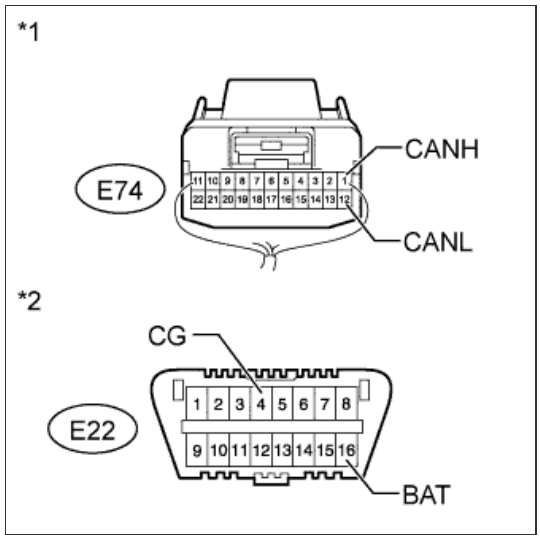
23.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR - NO. 1 CAN JUNCTION CONNECTOR)

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

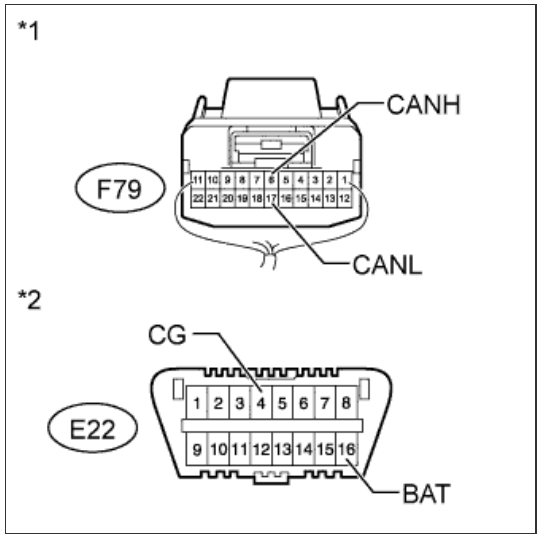
25.CHECK FOR SHORT IN CAN BUS WIRES (NO. 6 JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)

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

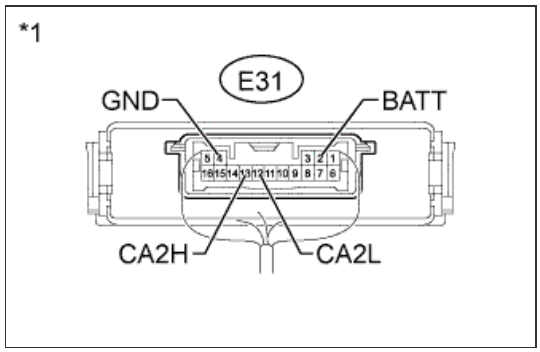
*1	Rear view of wire harness connector (to No. 6 Junction Connector)
*2	DLC3

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

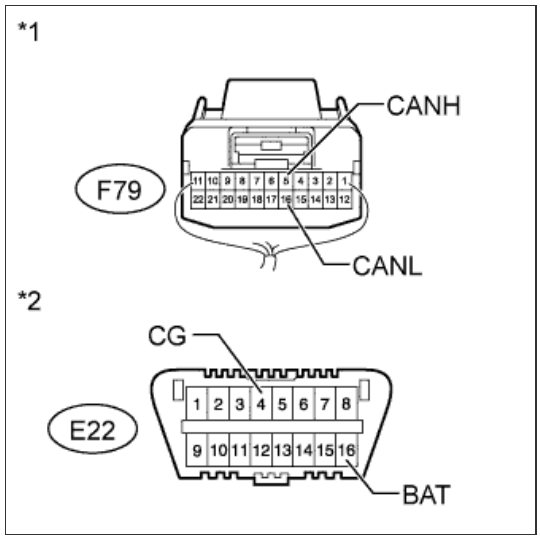
B → Go to step 28

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

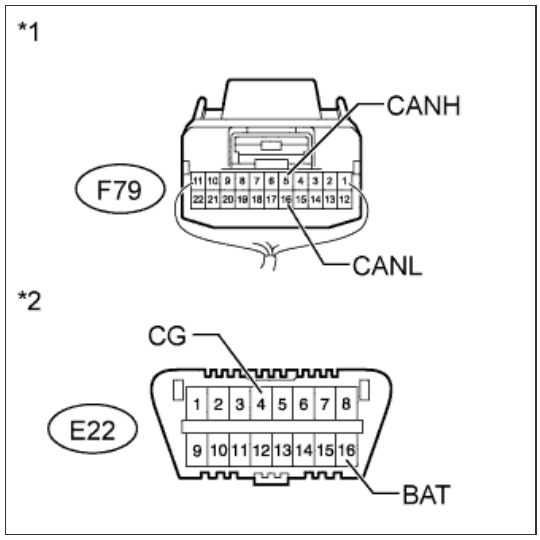
REPLACE NO. 6 JUNCTION CONNECTOR

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

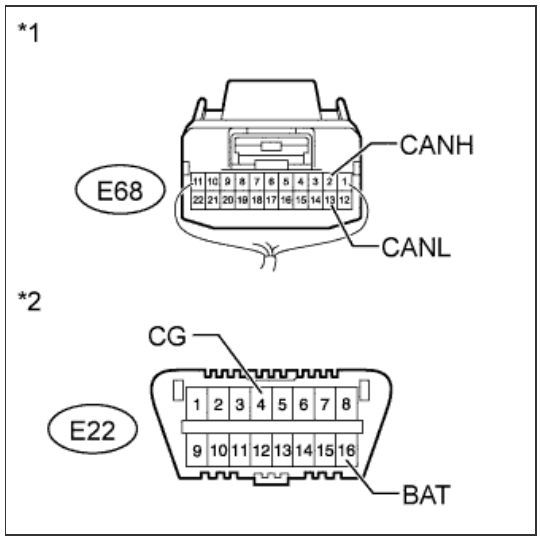
30.CHECK FOR SHORT IN CAN BUS WIRES (NO. 5 JUNCTION CONNECTOR - NO. 6 JUNCTION CONNECTOR)

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

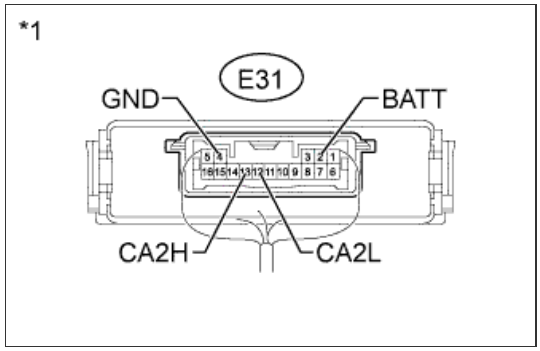
*1	(to No. 5 Junction Connector)
*2	DLC3

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

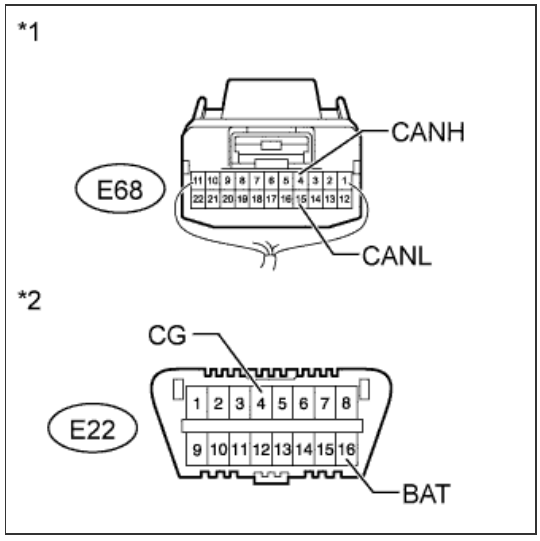
OK

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)

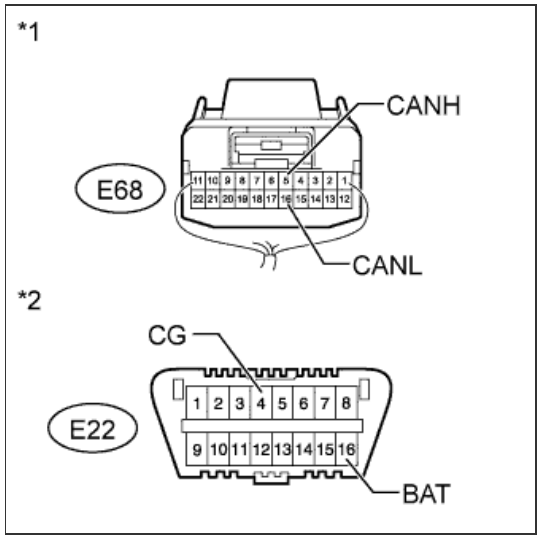
NOTICE:

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

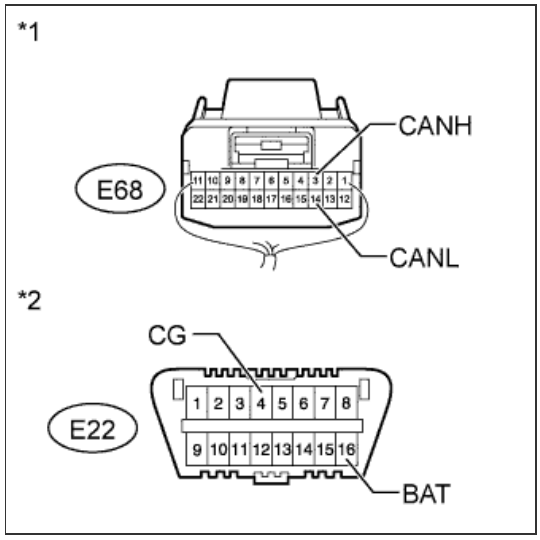
OK

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

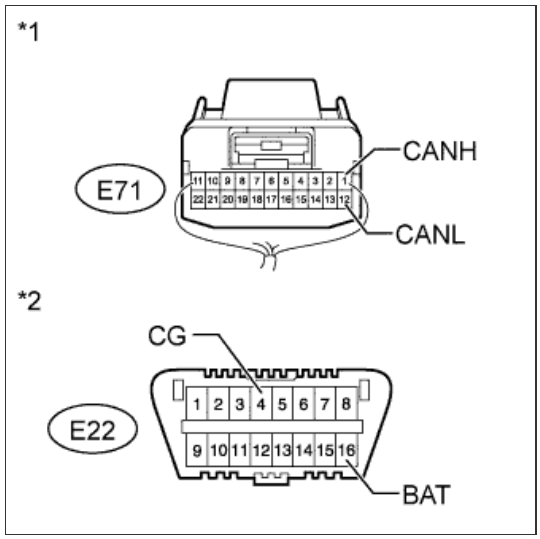
36.CHECK FOR SHORT IN CAN BUS WIRES (NO. 4 JUNCTION CONNECTOR - NO. 5 JUNCTION CONNECTOR)

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.

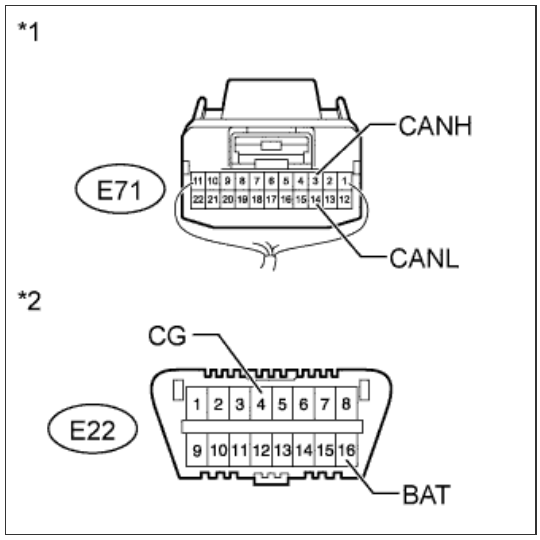
Standard Resistance:

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)

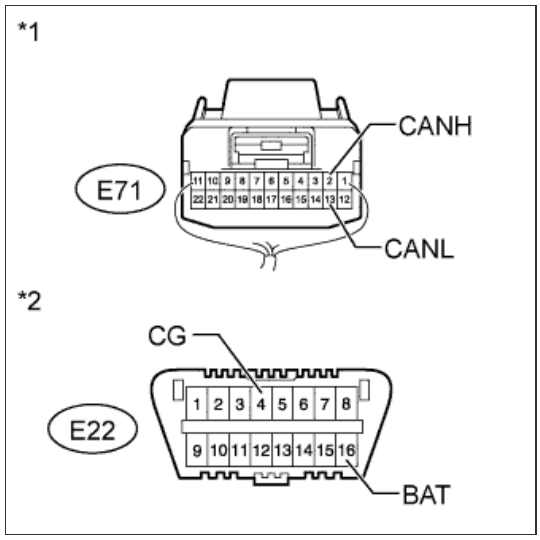
a. Measure the resistance according to the value(s) in the table below.

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

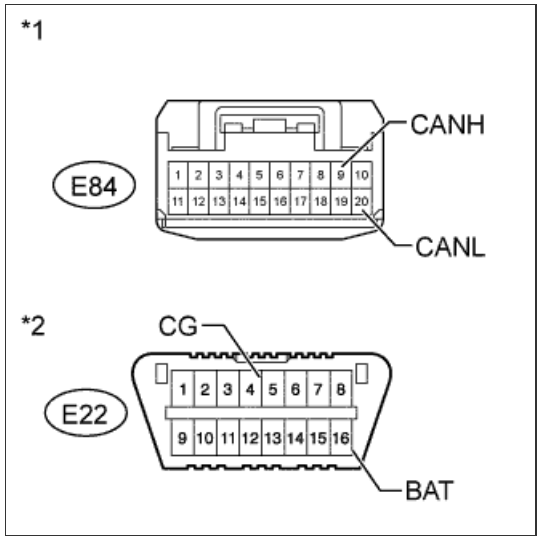
40.CHECK FOR SHORT IN CAN BUS WIRES (STEERING CONTROL ECU)

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

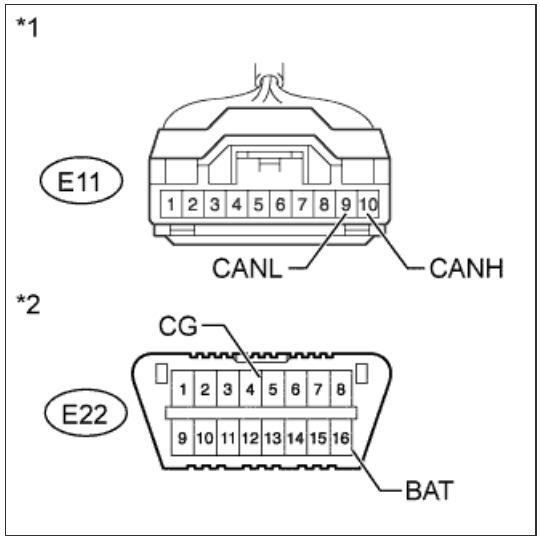
42.CHECK FOR SHORT IN CAN BUS WIRES (STEERING ANGLE SENSOR)

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

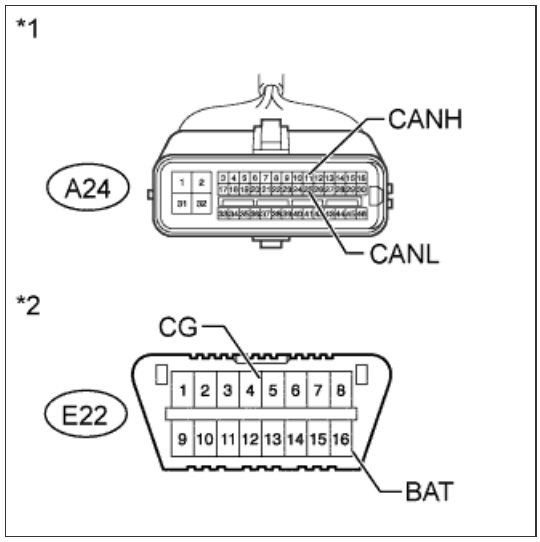
a. Reconnect the E74 No. 7 junction connector.

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)

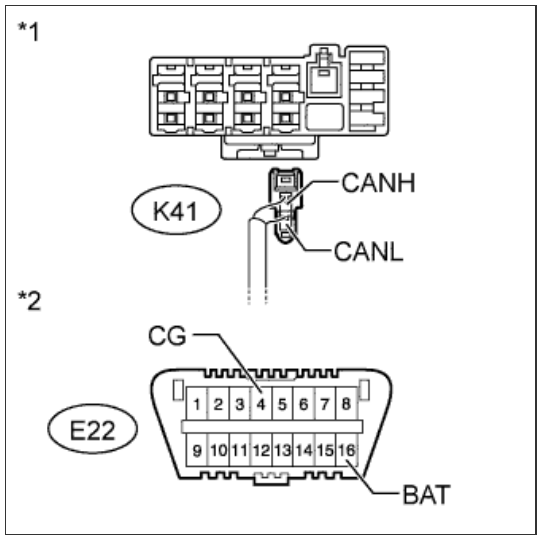
a. Disconnect the K41 No. 1 CAN junction connector.

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 →

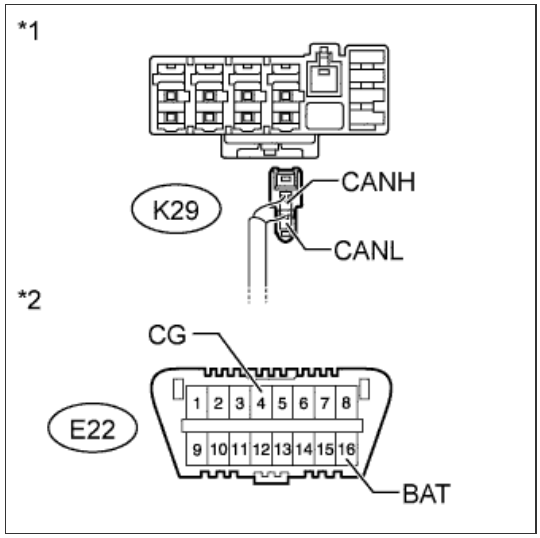
47.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 CAN JUNCTION CONNECTOR)

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

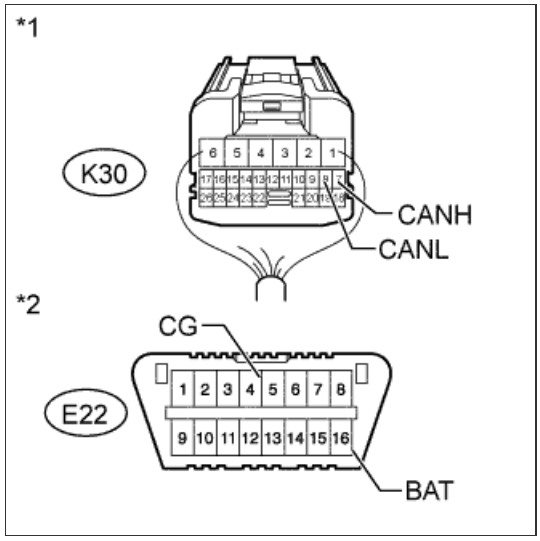
49.CHECK FOR SHORT IN CAN BUS WIRES (SUSPENSION CONTROL ECU)

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

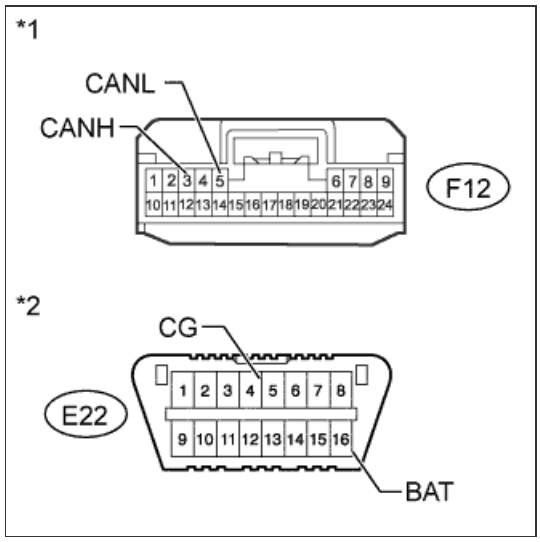
51.CHECK FOR SHORT IN CAN BUS WIRES (CLEARANCE WARNING ECU ASSEMBLY)

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

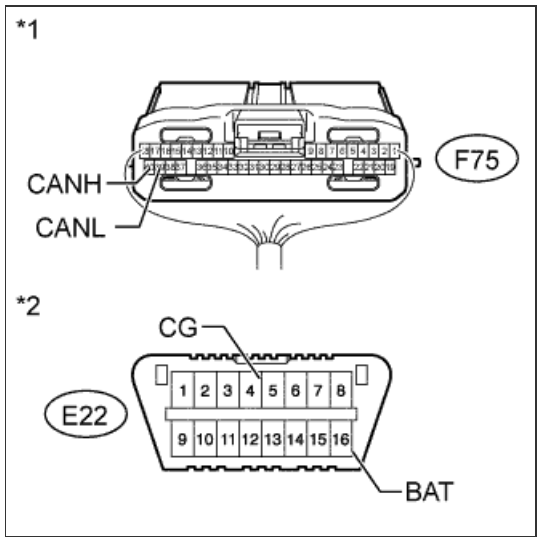
53.CHECK FOR SHORT IN CAN BUS WIRES (PARKING ASSIST ECU)

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

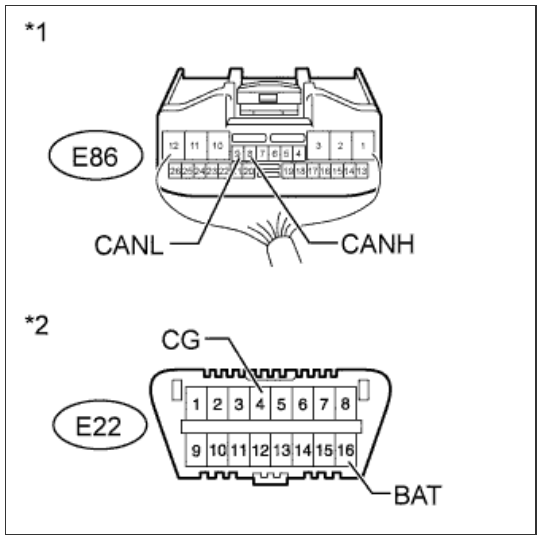
55.CHECK FOR SHORT IN CAN BUS WIRES (DISTANCE CONTROL ECU ASSEMBLY)

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

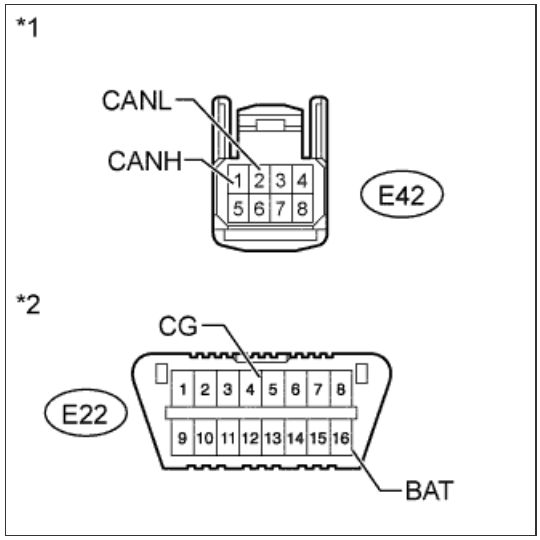
57.CHECK FOR SHORT IN CAN BUS WIRES (SEAT BELT CONTROL ECU)

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

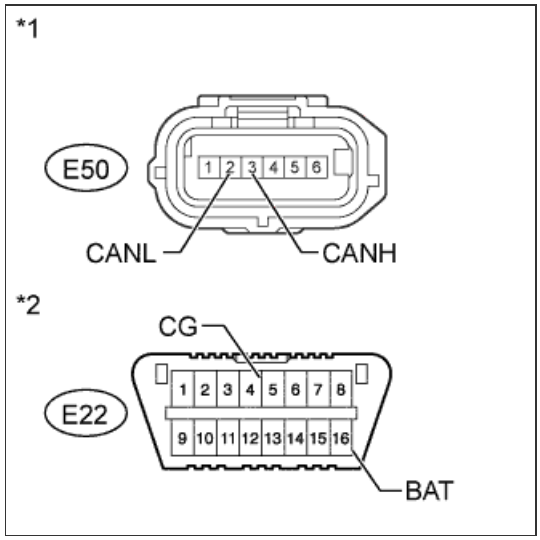
a. Reconnect the E68 No. 5 junction connector.

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)

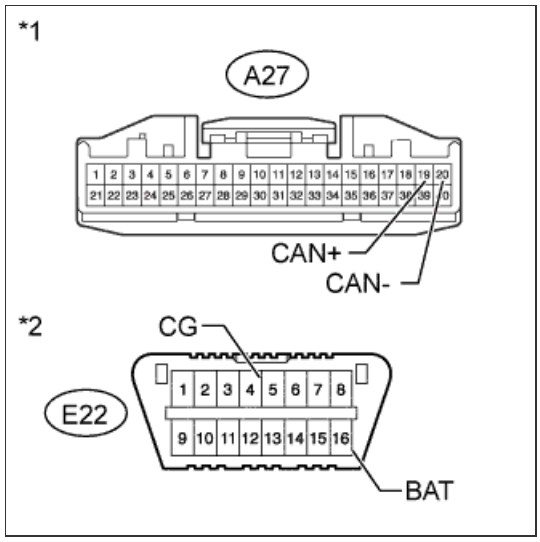
a. Disconnect the A27 4WD control ECU connector.

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

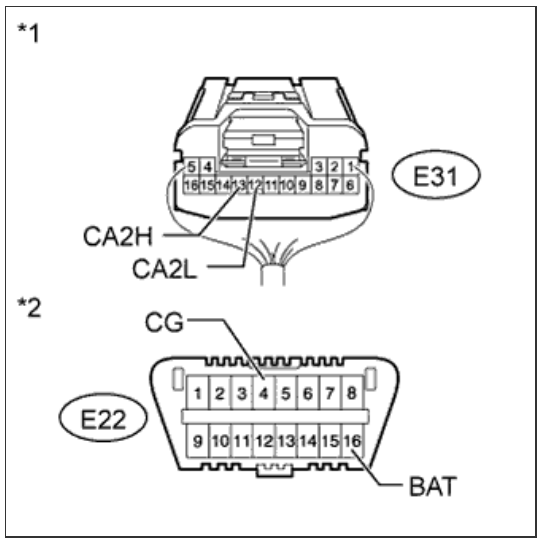
63.CHECK FOR SHORT IN CAN BUS WIRES (NETWORK GATEWAY ECU)

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.

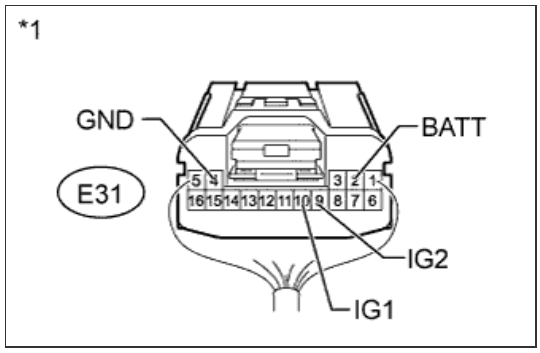
Standard Resistance:

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)

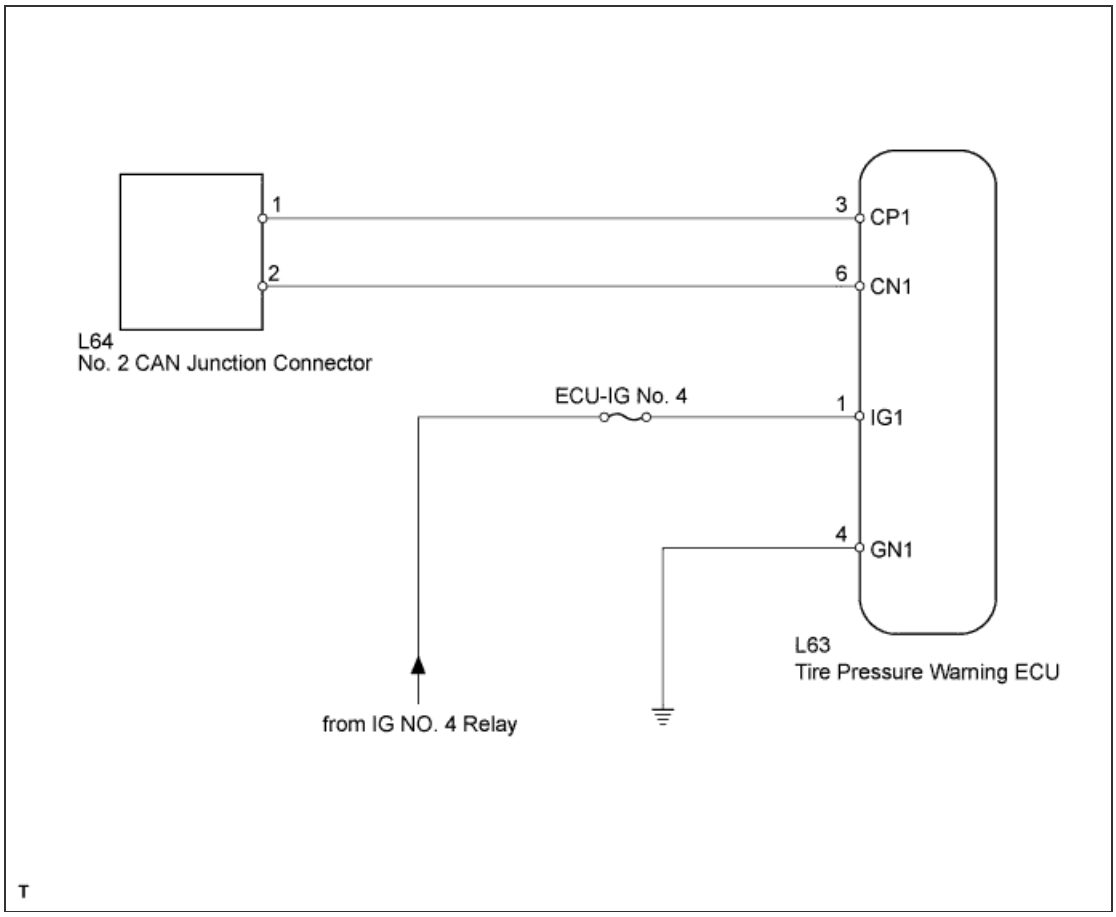
DTC U0127 Lost Communication with Tire Pressure Monitor Module

for Preparation Click here

DESCRIPTION

DTC Code	DTC Detection Condition	Trouble Area
U0127	There is no communication from the tire pressure warning ECU.	• Power source circuit of tire pressure warning ECU • Tire pressure warning ECU CAN branch wire or connector • Tire pressure warning 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 (TIRE PRESSURE WARNING ECU CAN BRANCH WIRE)

a. Disconnect the L63 tire pressure warning ECU connector.

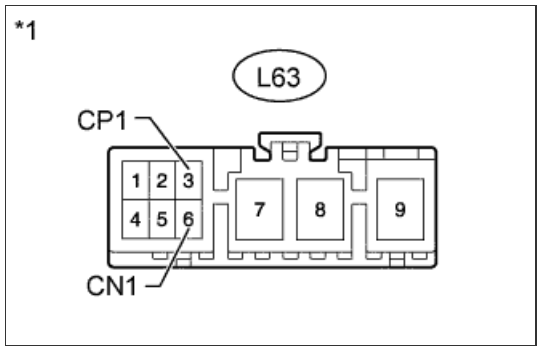
b. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
L63-3 (CP1) - L63-6 (CN1)	Engine switch off	54 to 69 Ω

Text in Illustration

*1	Front view of wire harness connector (to Tire Pressure Warning ECU)



NG → REPAIR OR REPLACE TIRE PRESSURE WARNING ECU CAN BRANCH WIRE OR CONNECTOR (CP1, CN1)

OK

4.CHECK HARNESS AND CONNECTOR (TIRE PRESSURE 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. Measure the voltage according to the value(s) in the table below.

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
L63-1 (IG1) - Body ground	Engine switch on (IG)	11 to 14 V

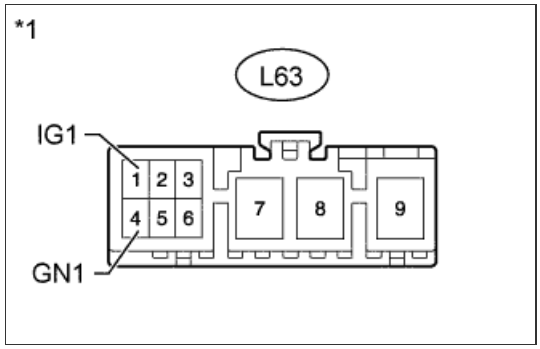
c. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

Tester Connection	Condition	Specified Condition
L63-7 (GN1) - Body ground	Always	Below 1 Ω

Text in Illustration

	Front view of wire harness connector



*1	(to Tire Pressure Warning ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE TIRE PRESSURE WARNING ECU (Click here)

DTC U1100 Lost Communication with Seat Belt Control ECU

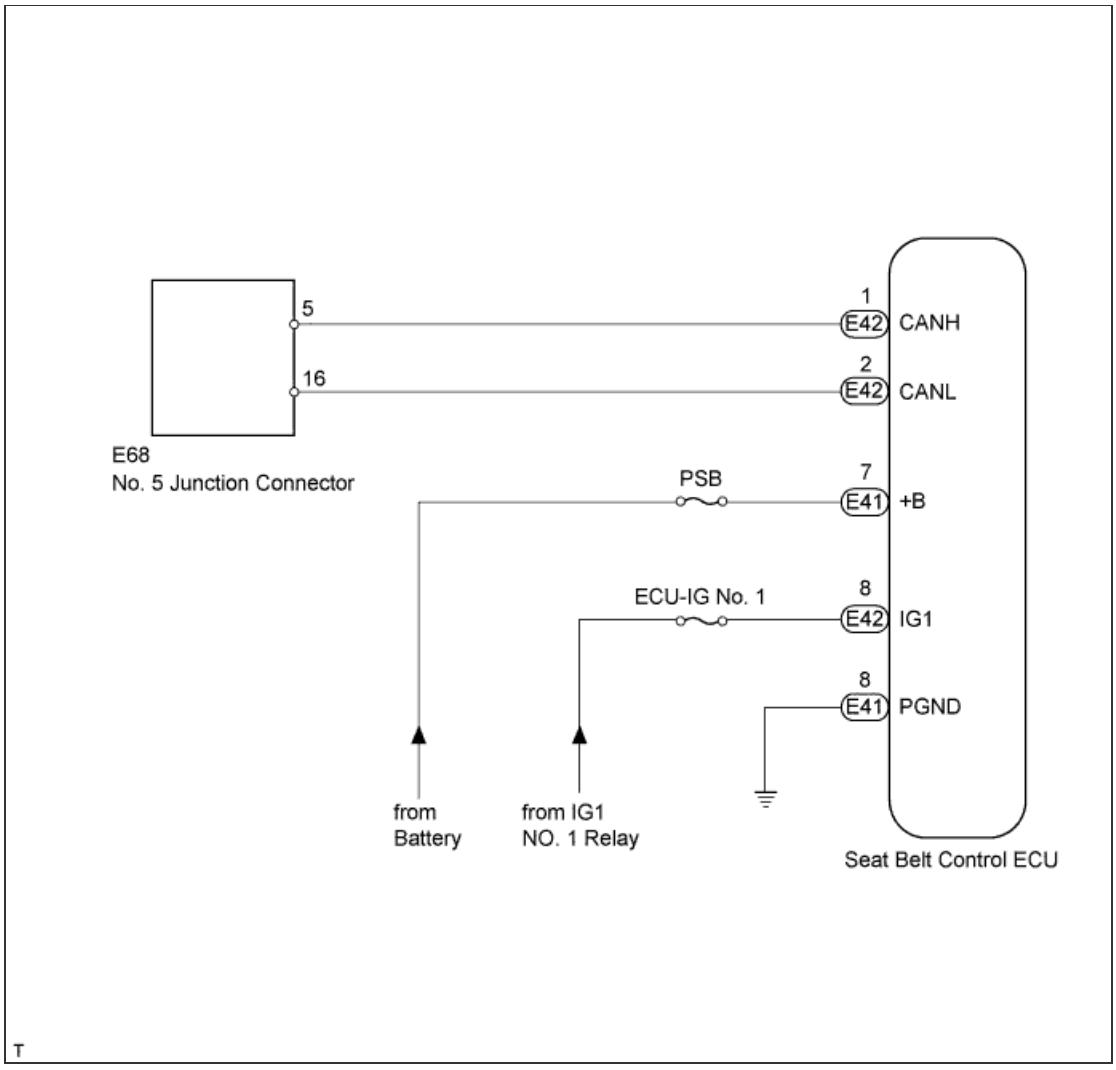
for Preparation Click here

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 • Seat belt control ECU CAN branch wire or connector • 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.

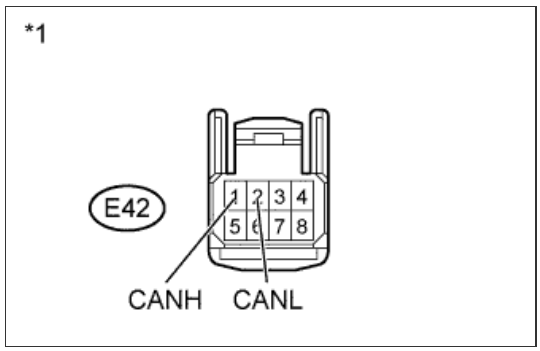
b. Measure the resistance according to the value(s) in the table below.

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.

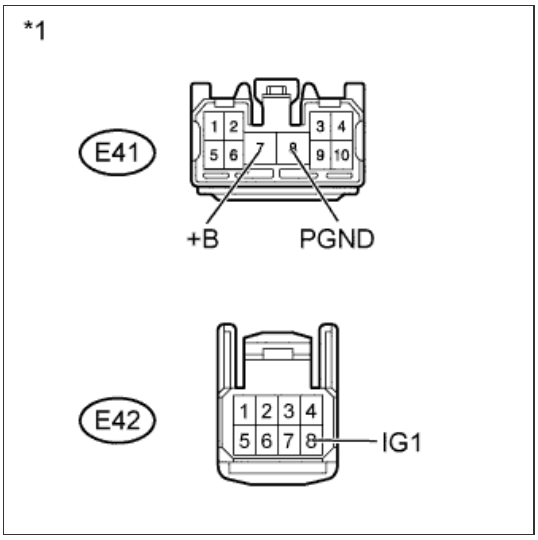
Standard Voltage:

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)

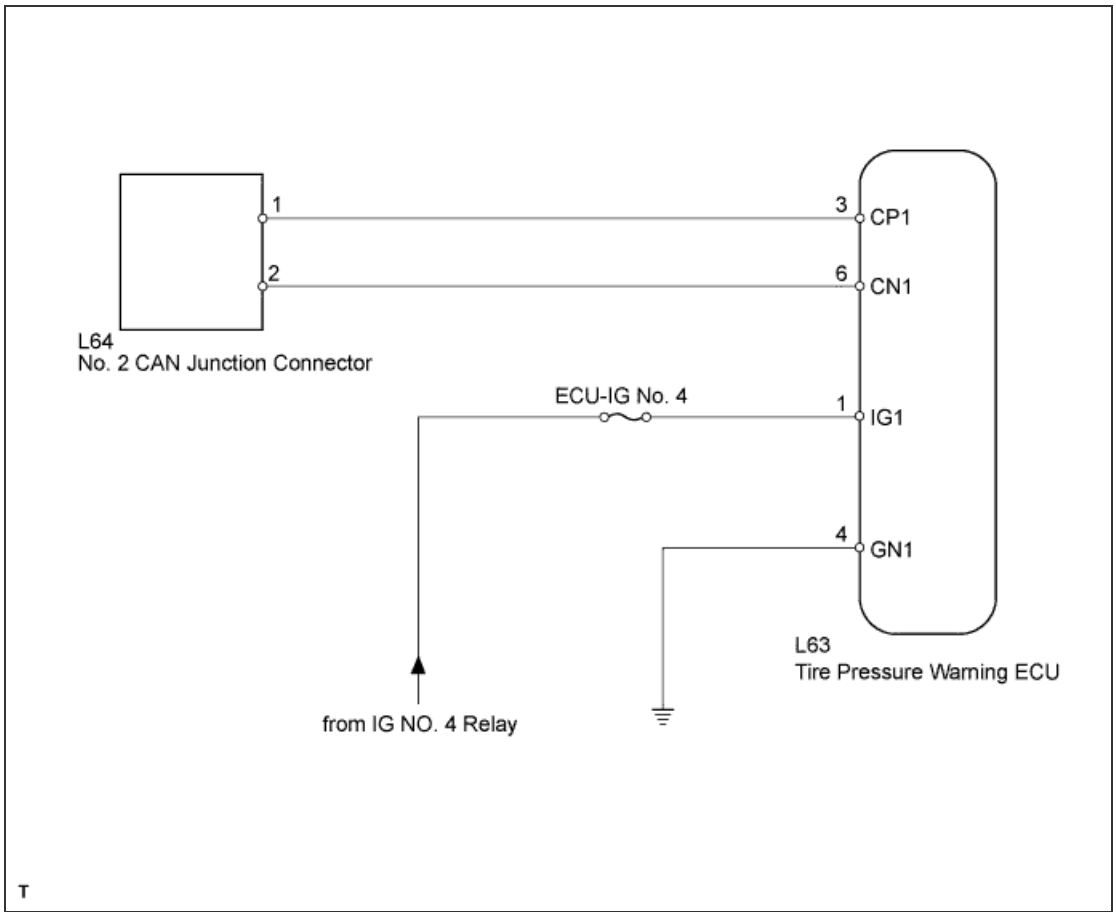
DTC U0127 Lost Communication with Tire Pressure Monitor Module

for Preparation Click here

DESCRIPTION

DTC Code	DTC Detection Condition	Trouble Area
U0127	There is no communication from the tire pressure warning ECU.	• Power source circuit of tire pressure warning ECU • Tire pressure warning ECU CAN branch wire or connector • Tire pressure warning 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 (TIRE PRESSURE WARNING ECU CAN BRANCH WIRE)

a. Disconnect the L63 tire pressure warning ECU connector.

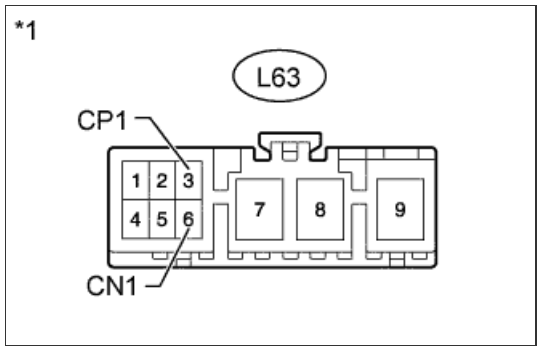
b. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
L63-3 (CP1) - L63-6 (CN1)	Engine switch off	54 to 69 Ω

Text in Illustration

*1	Front view of wire harness connector (to Tire Pressure Warning ECU)



NG → REPAIR OR REPLACE TIRE PRESSURE WARNING ECU CAN BRANCH WIRE OR CONNECTOR (CP1, CN1)

OK

4.CHECK HARNESS AND CONNECTOR (TIRE PRESSURE 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. Measure the voltage according to the value(s) in the table below.

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
L63-1 (IG1) - Body ground	Engine switch on (IG)	11 to 14 V

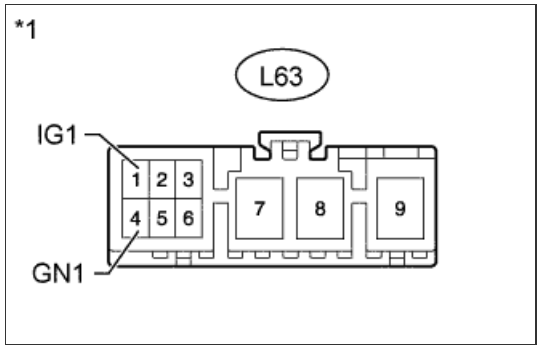
c. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

Tester Connection	Condition	Specified Condition
L63-7 (GN1) - Body ground	Always	Below 1 Ω

Text in Illustration

	Front view of wire harness connector



*1	(to Tire Pressure Warning ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE TIRE PRESSURE WARNING ECU (Click here)

DTC U1100 Lost Communication with Seat Belt Control ECU

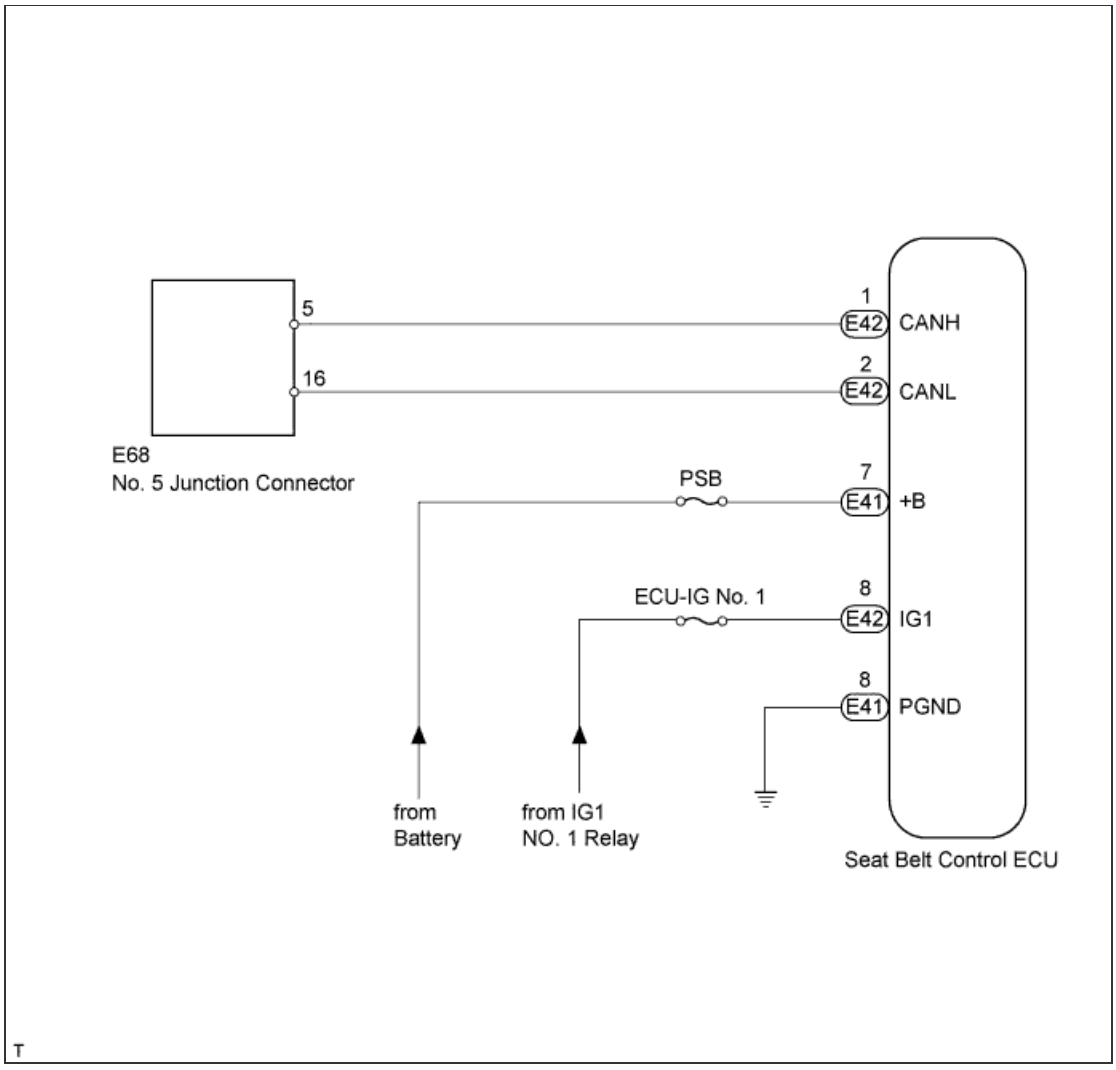
for Preparation Click here

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 • Seat belt control ECU CAN branch wire or connector • 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.

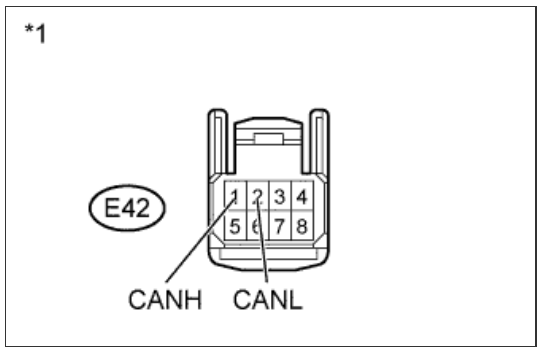
b. Measure the resistance according to the value(s) in the table below.

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.

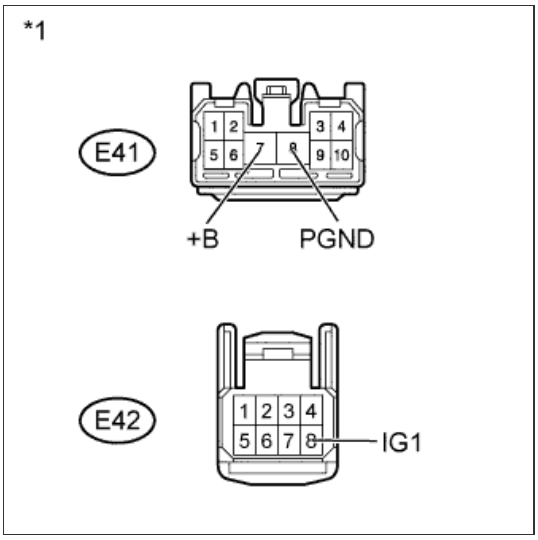
Standard Voltage:

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)

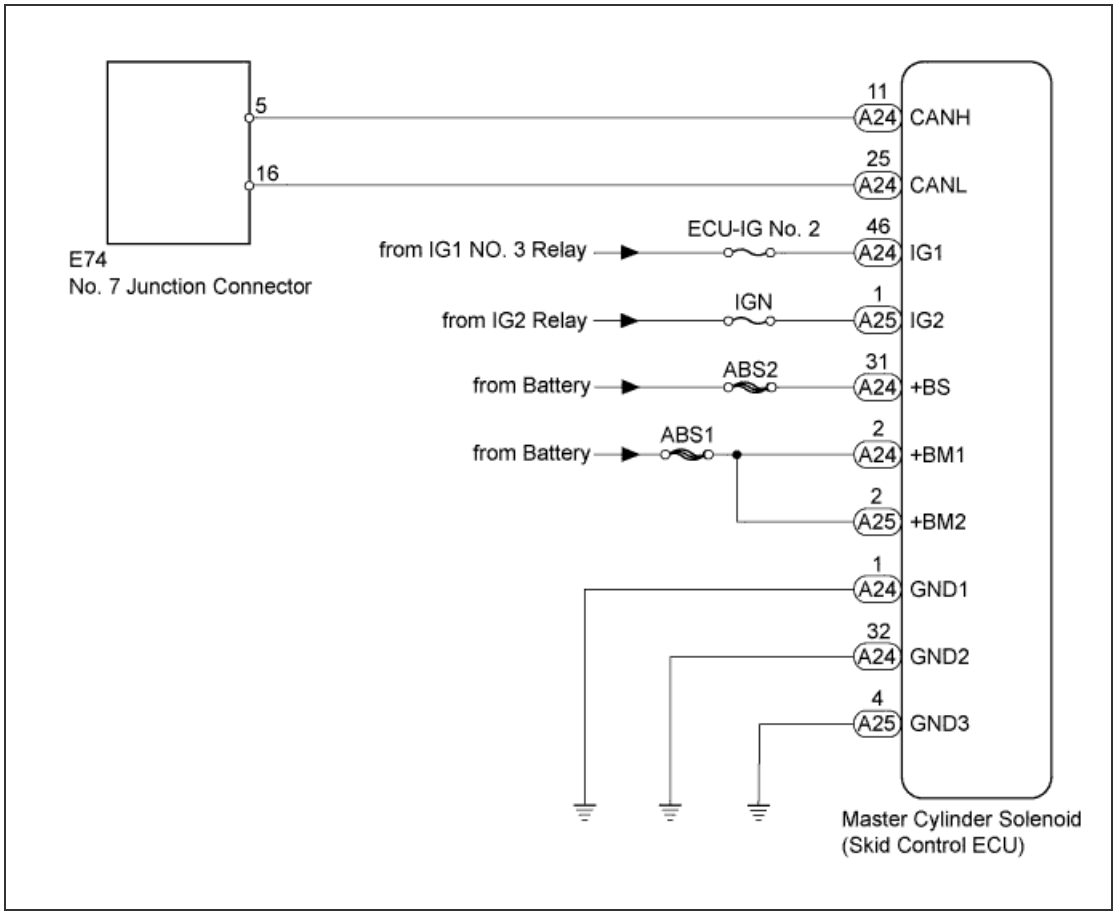
DTC U0129 Lost Communication with Brake System Control Module

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) • One side of CAN branch wire of other systems • Master cylinder solenoid (skid control ECU) • 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.

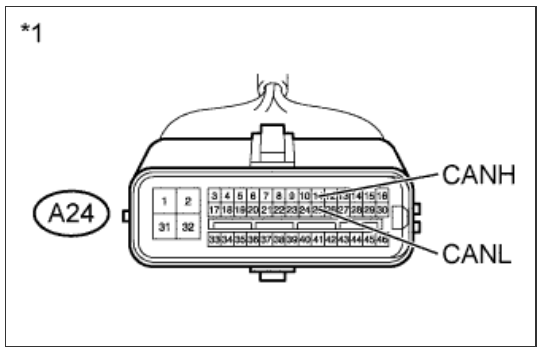
b. Measure the resistance according to the value(s) in the table below.

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:

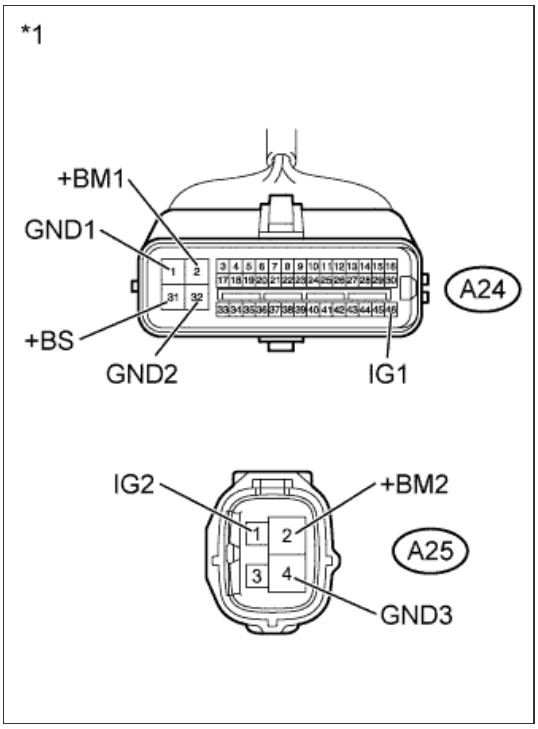
Tester Connection	Condition	Specified Condition
A24-2 (+BM1) - Body ground	Always	11 to 14 V
A24-31 (+BS) - Body ground	Always	11 to 14 V
A25-2 (+BM2) - Body ground	Always	11 to 14 V
A24-46 (IG1) - Body ground	Engine switch on (IG)	11 to 14 V

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

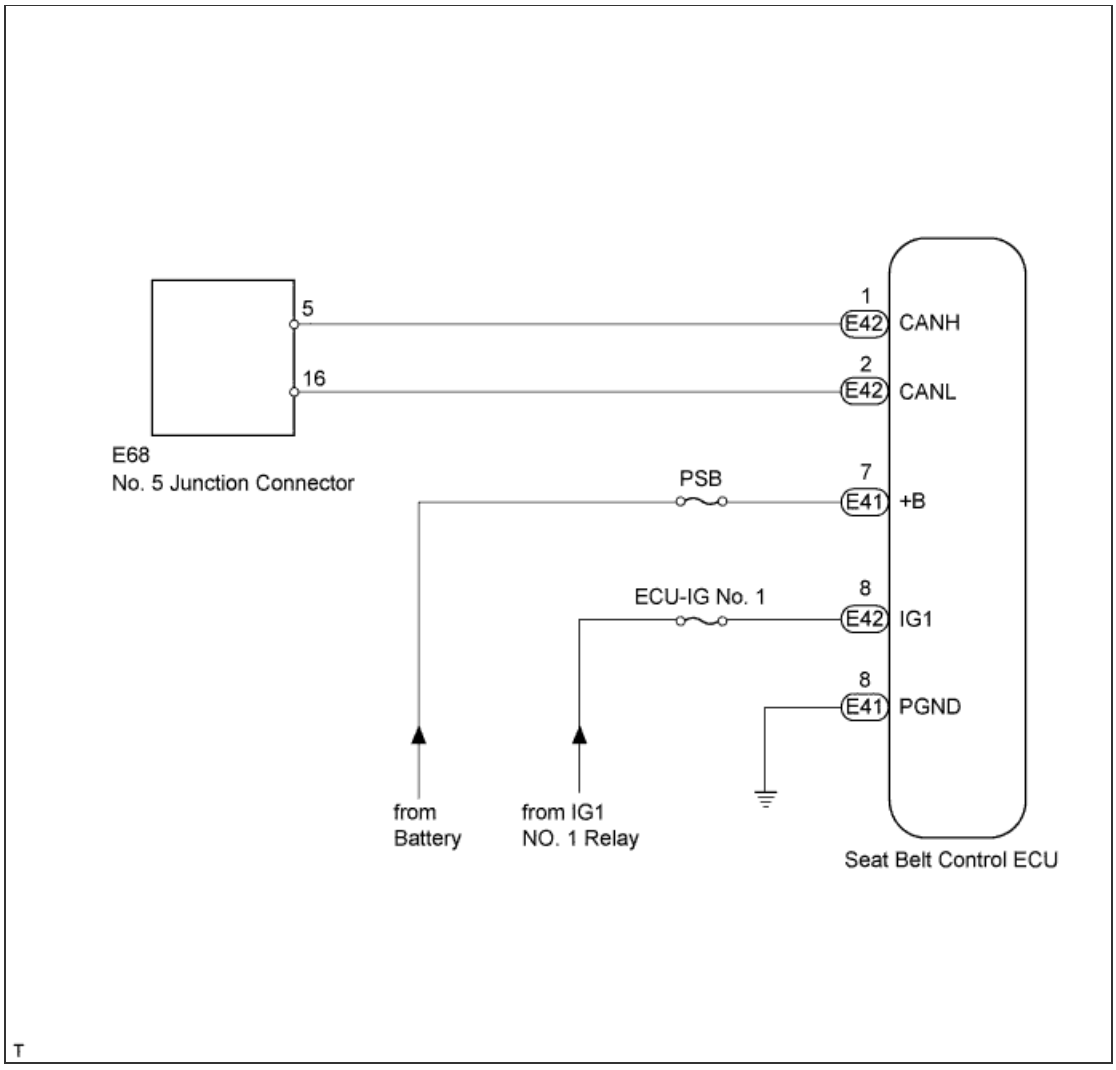
for Preparation Click here

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 • Seat belt control ECU CAN branch wire or connector • 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.

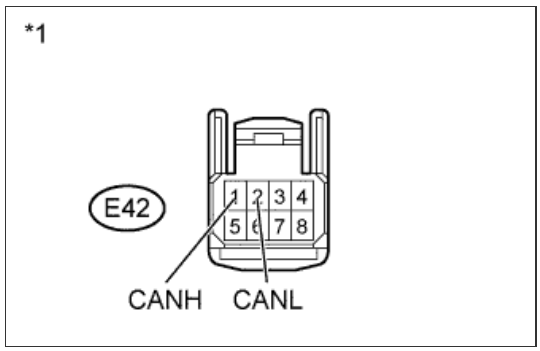
b. Measure the resistance according to the value(s) in the table below.

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.

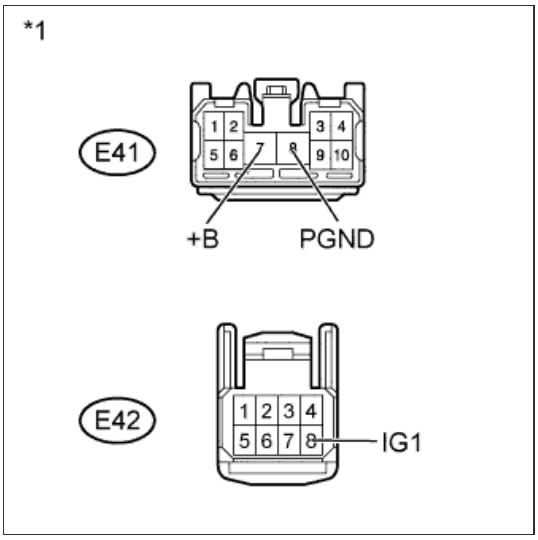
Standard Voltage:

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)

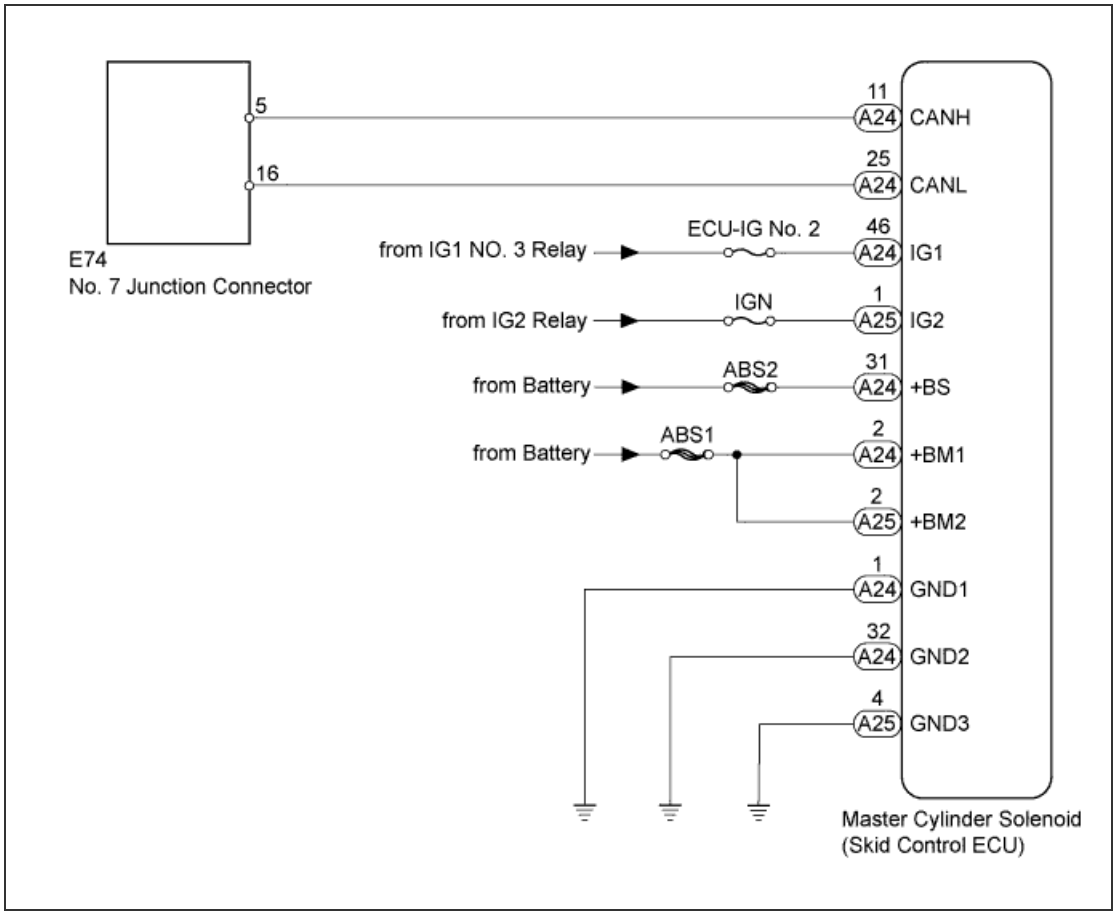
DTC U0129 Lost Communication with Brake System Control Module

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) • One side of CAN branch wire of other systems • Master cylinder solenoid (skid control ECU) • 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.

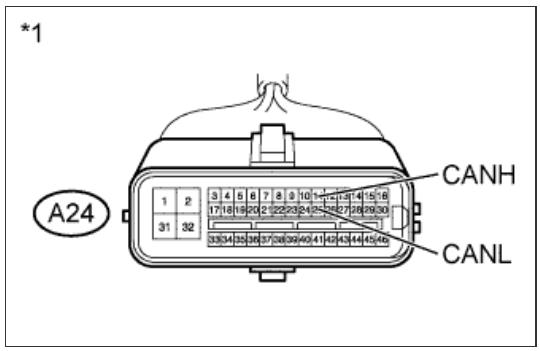
b. Measure the resistance according to the value(s) in the table below.

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:

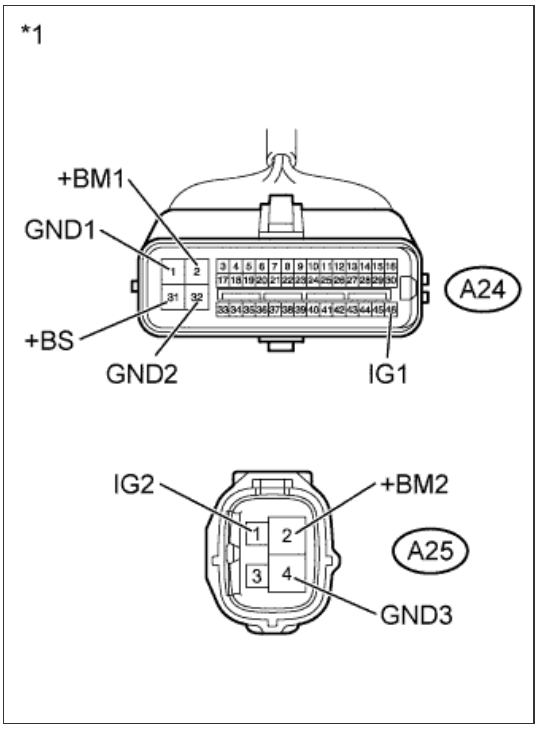
Tester Connection	Condition	Specified Condition
A24-2 (+BM1) - Body ground	Always	11 to 14 V
A24-31 (+BS) - Body ground	Always	11 to 14 V
A25-2 (+BM2) - Body ground	Always	11 to 14 V
A24-46 (IG1) - Body ground	Engine switch on (IG)	11 to 14 V

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 U110B Lost Communication with Parking Assist Control Module "B"

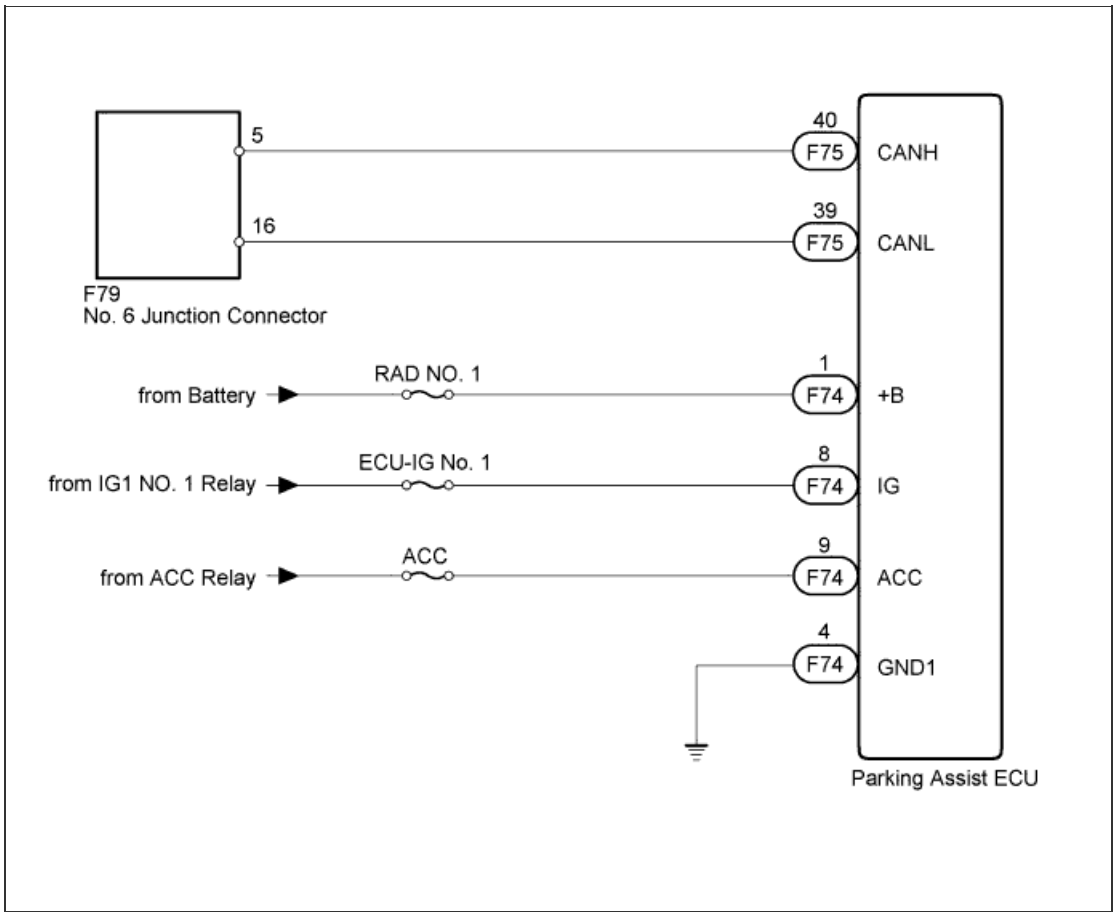
for Preparation Click here

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 • Parking assist ECU CAN branch wire or connector • 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.

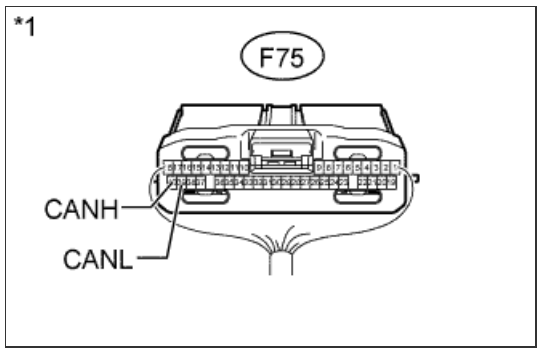
b. Measure the resistance according to the value(s) in the table below.

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:

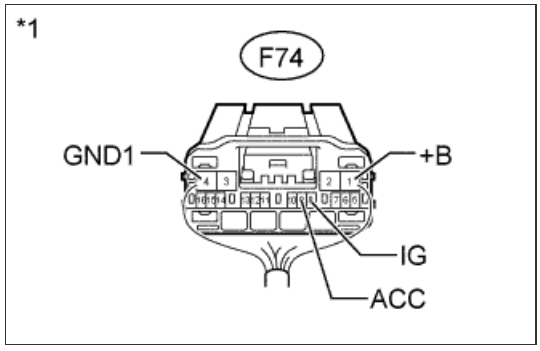
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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)

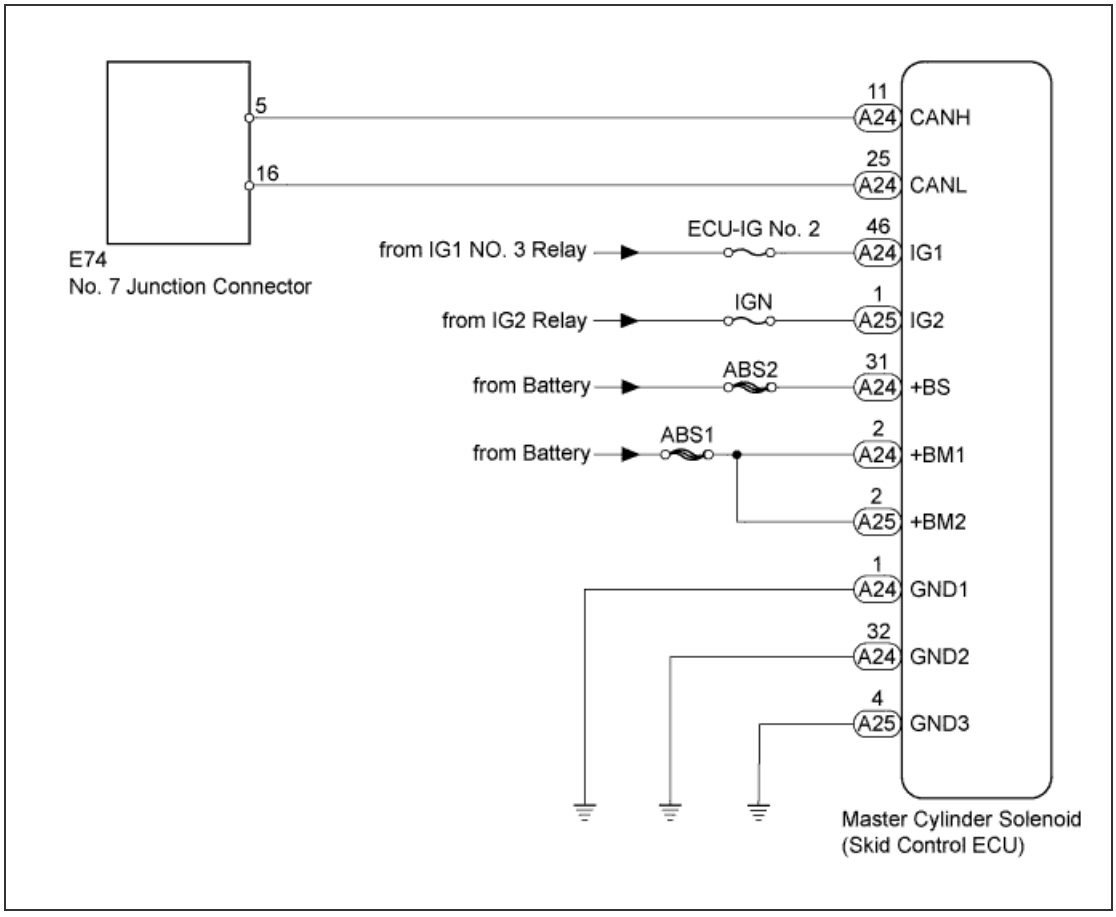
DTC U0129 Lost Communication with Brake System Control Module

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) • One side of CAN branch wire of other systems • Master cylinder solenoid (skid control ECU) • 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.

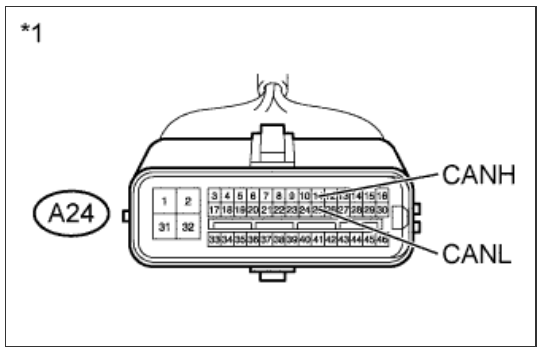
b. Measure the resistance according to the value(s) in the table below.

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:

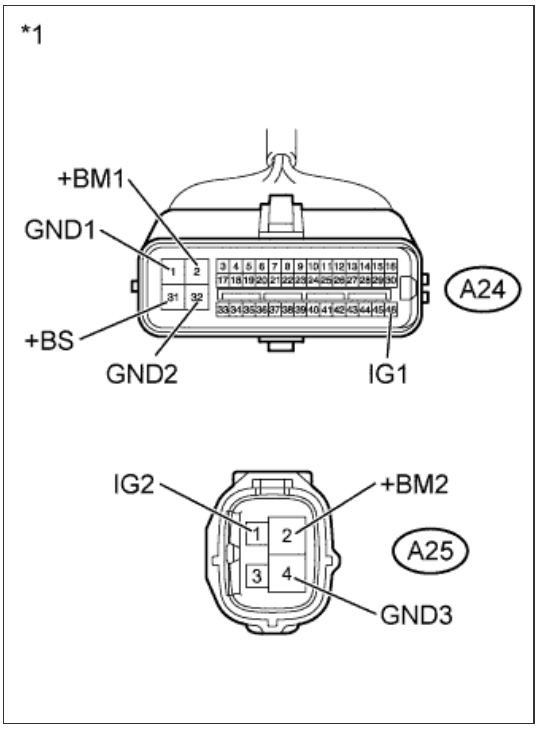
Tester Connection	Condition	Specified Condition
A24-2 (+BM1) - Body ground	Always	11 to 14 V
A24-31 (+BS) - Body ground	Always	11 to 14 V
A25-2 (+BM2) - Body ground	Always	11 to 14 V
A24-46 (IG1) - Body ground	Engine switch on (IG)	11 to 14 V

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 U110B Lost Communication with Parking Assist Control Module "B"

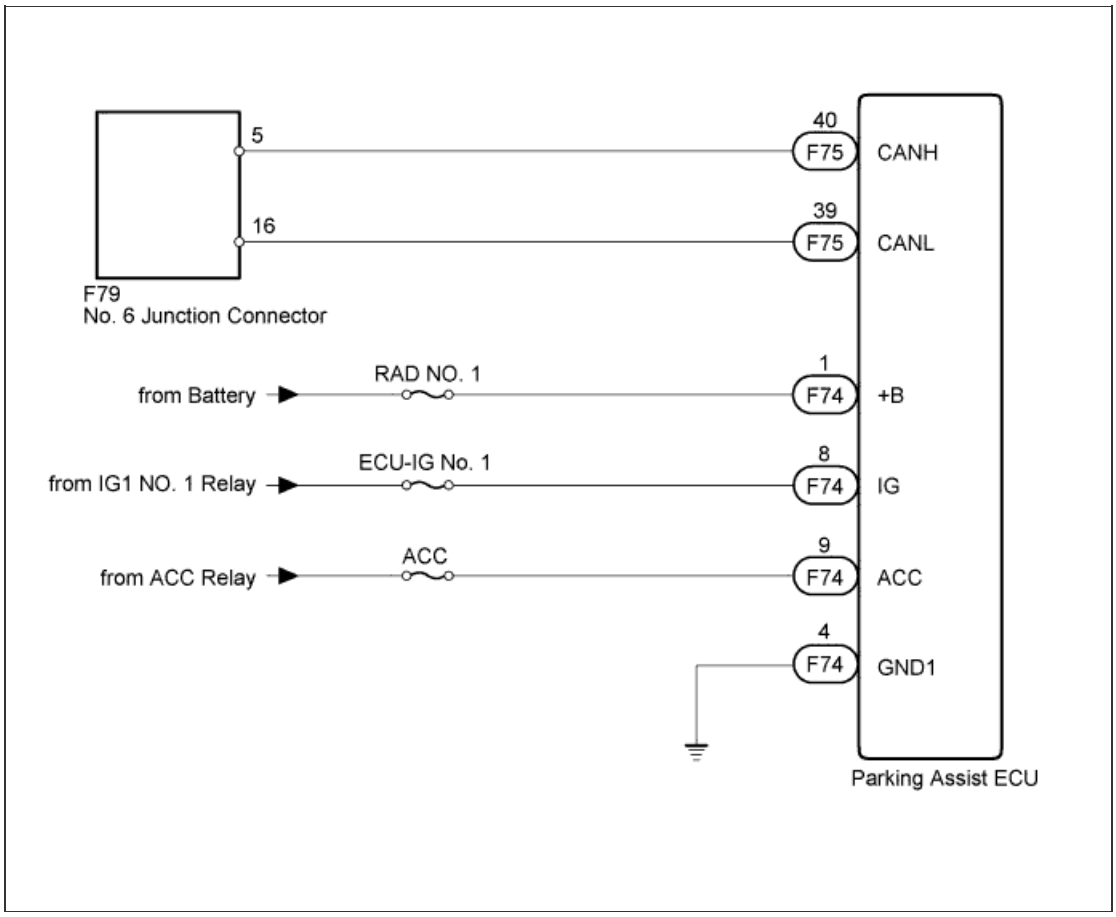
for Preparation Click here

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 • Parking assist ECU CAN branch wire or connector • 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.

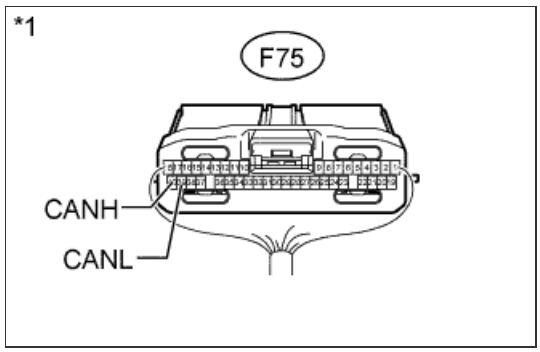
b. Measure the resistance according to the value(s) in the table below.

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:

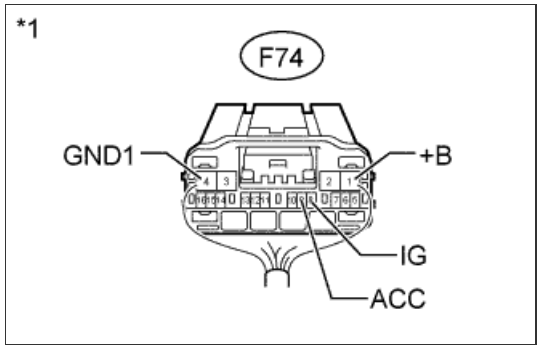
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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)

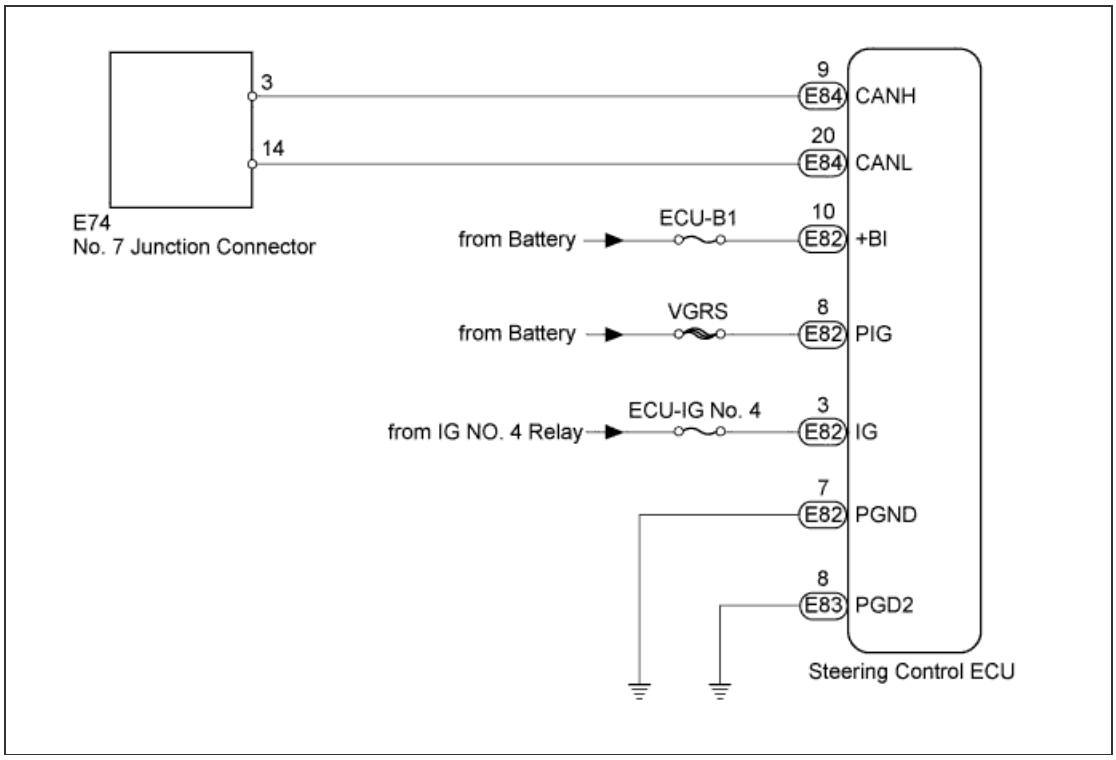
DTC U0130 Lost Communication with Steering Effort Control Module

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 • Steering control ECU CAN branch wire or connector • 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.

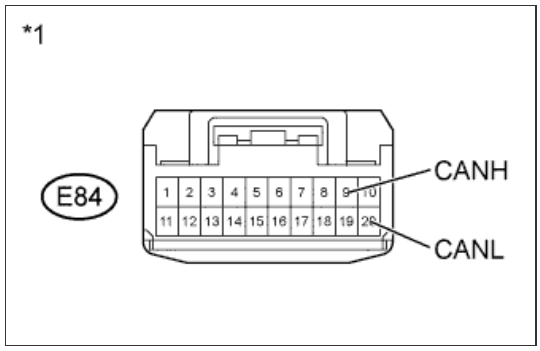
b. Measure the resistance according to the value(s) in the table below.

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.

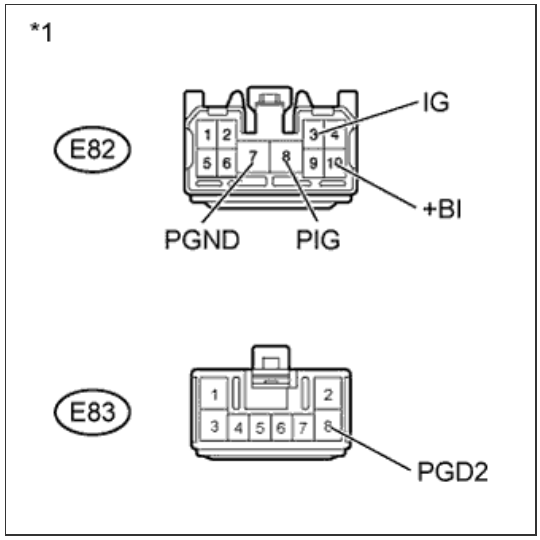
Standard Voltage:

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 (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"

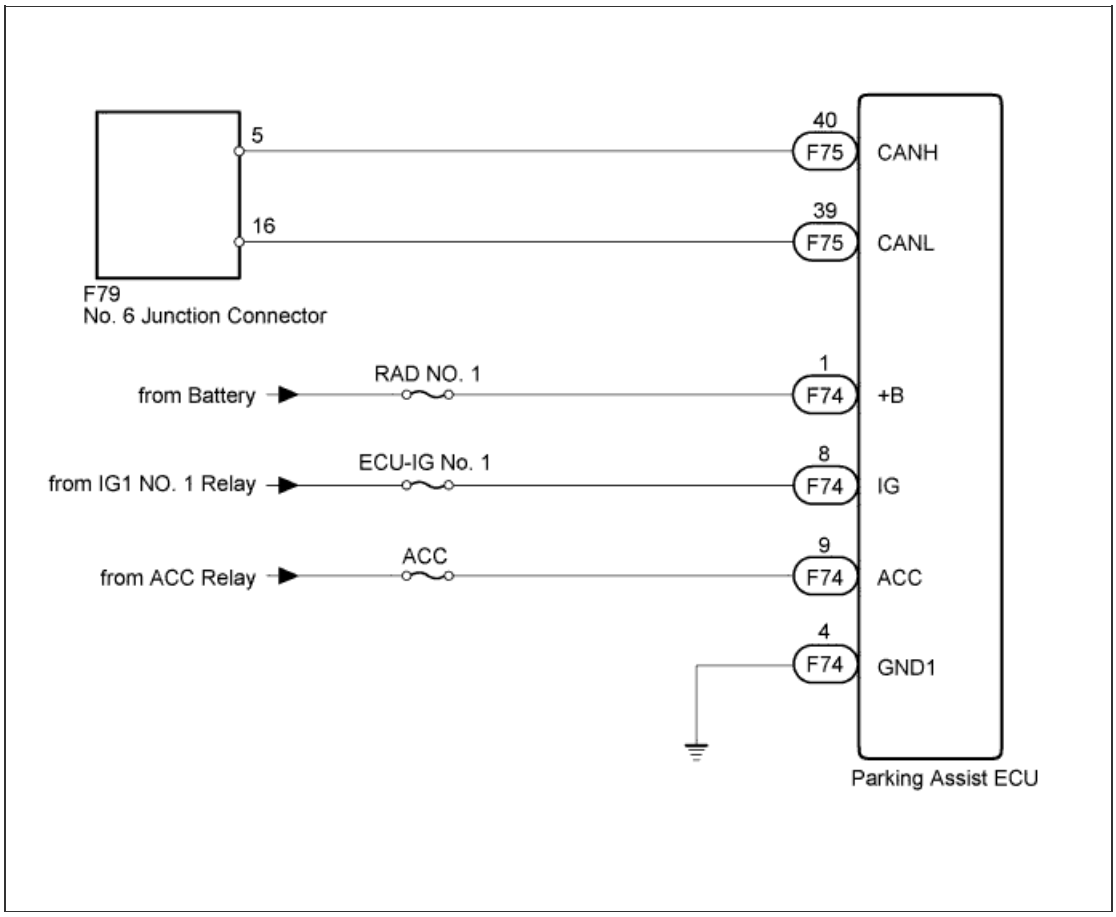
for Preparation Click here

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 • Parking assist ECU CAN branch wire or connector • 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.

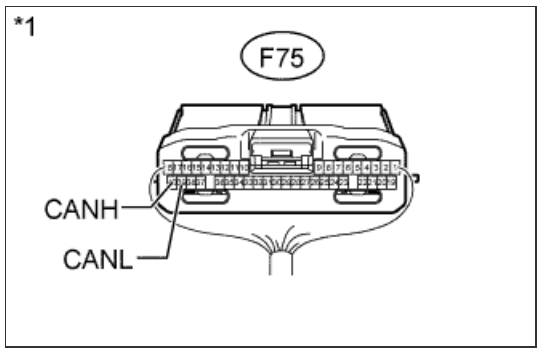
b. Measure the resistance according to the value(s) in the table below.

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:

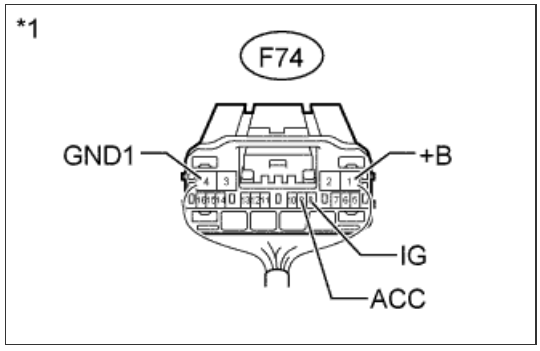
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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)

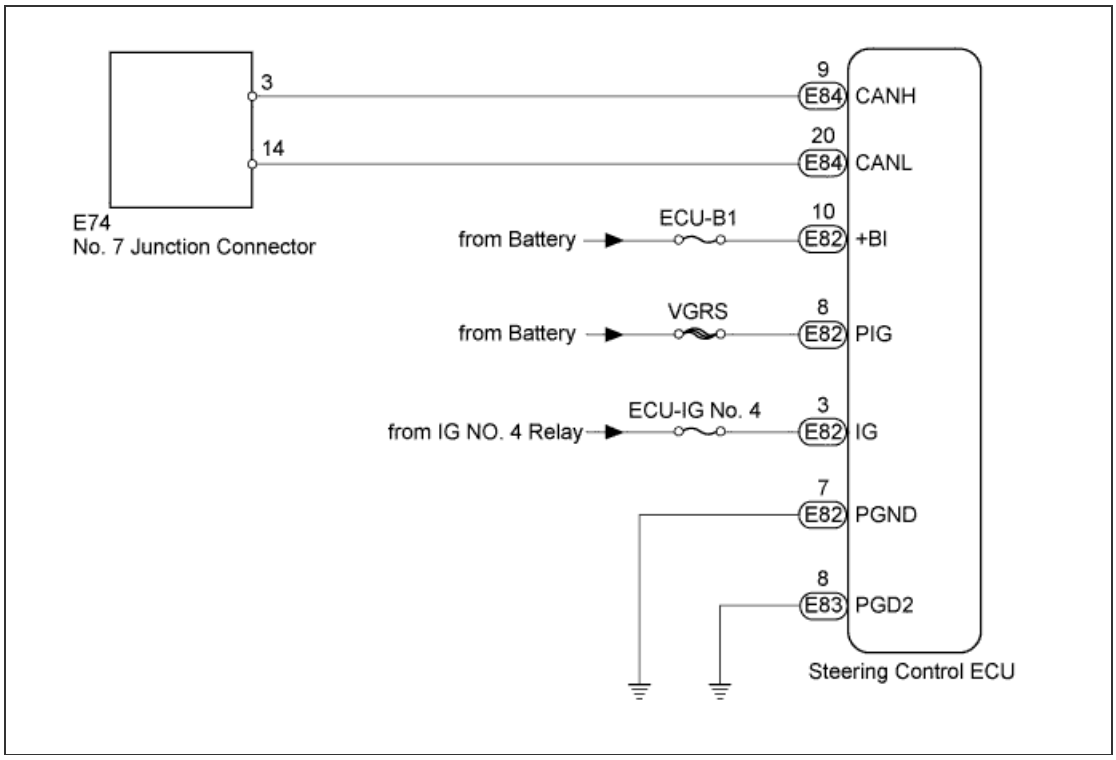
DTC U0130 Lost Communication with Steering Effort Control Module

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 • Steering control ECU CAN branch wire or connector • 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.

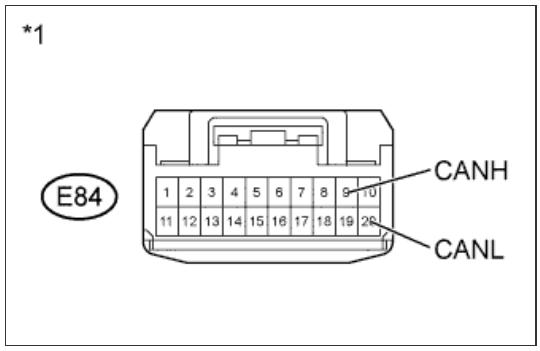
b. Measure the resistance according to the value(s) in the table below.

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.

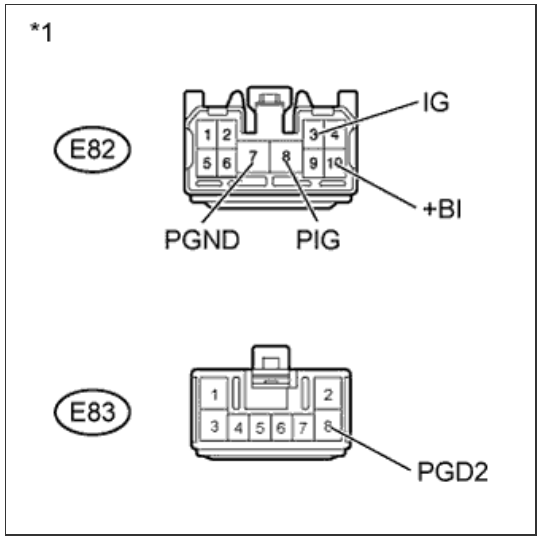
Standard Voltage:

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 (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

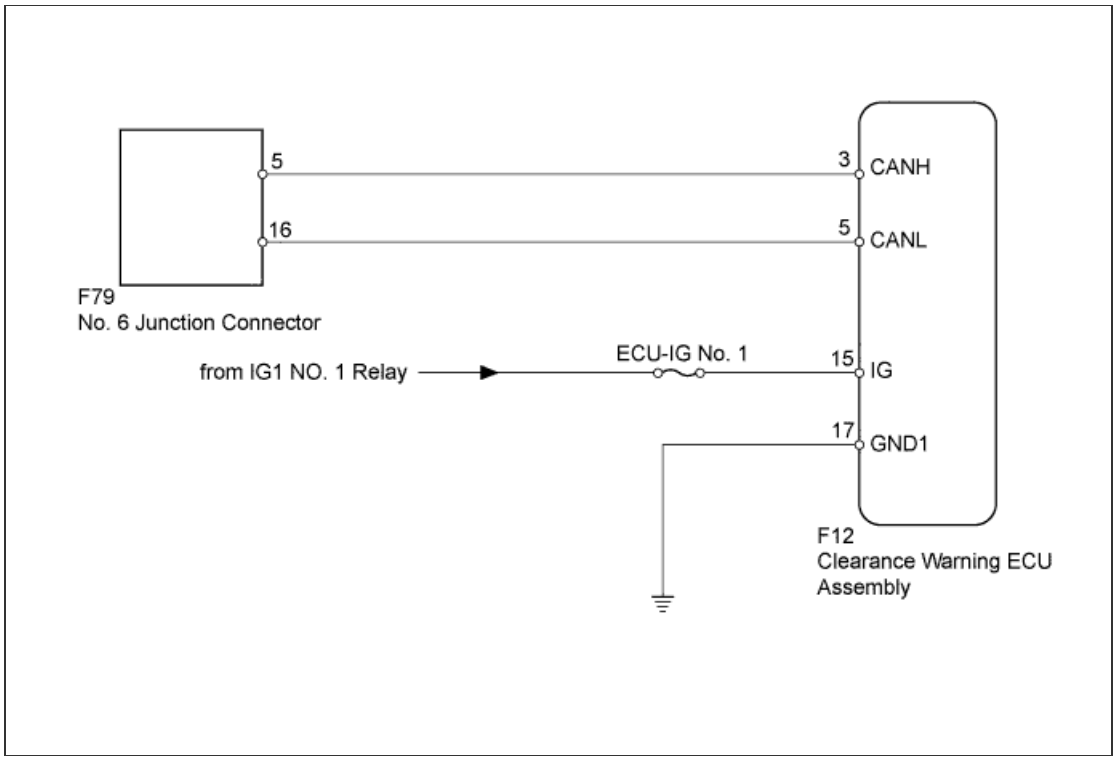
for Preparation Click here

DESCRIPTION

DTC Code	DTC Detection Condition	Specified Condition
U1110	There is no communication from the clearance warning ECU assembly.	• Power source circuit of clearance warning ECU assembly • Clearance warning ECU assembly CAN branch wire or connector • 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.

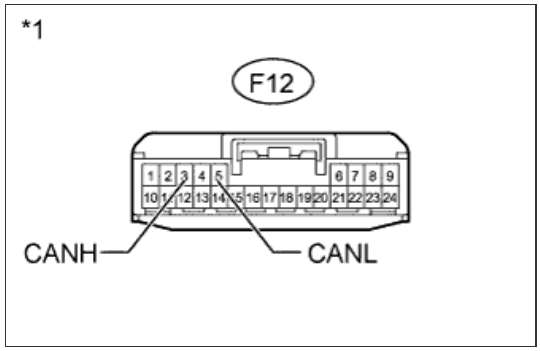
b. Measure the resistance according to the value(s) in the table below.

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

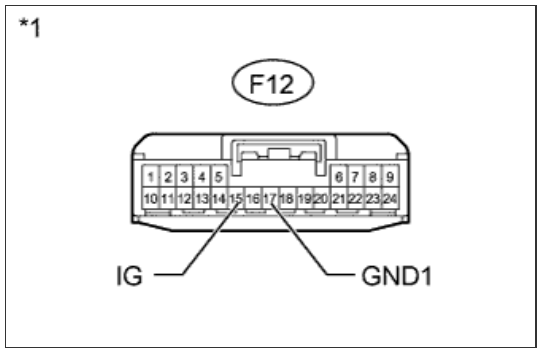
c. Measure the resistance according to the value(s) in the table below.

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)

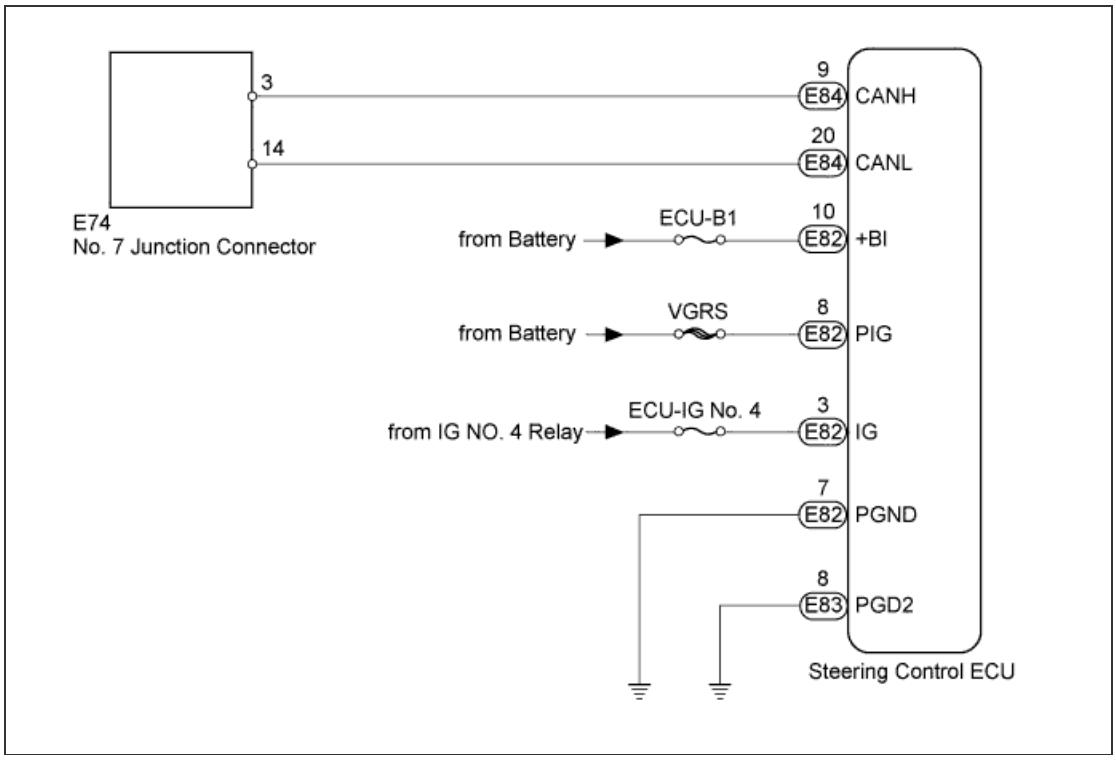
DTC U0130 Lost Communication with Steering Effort Control Module

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 • Steering control ECU CAN branch wire or connector • 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.

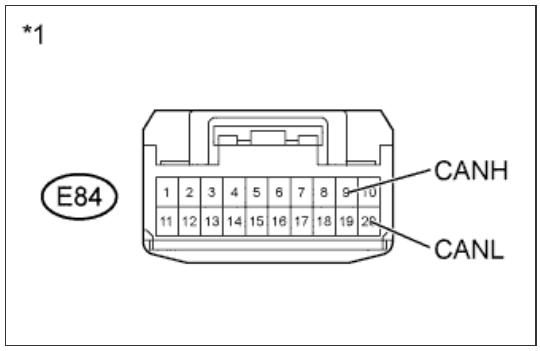
b. Measure the resistance according to the value(s) in the table below.

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.

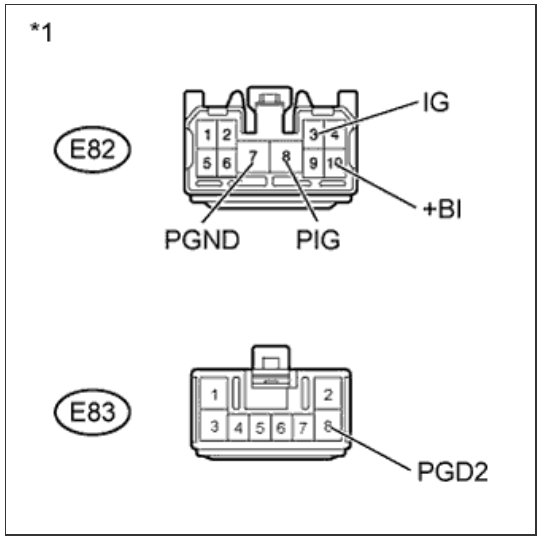
Standard Voltage:

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 (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

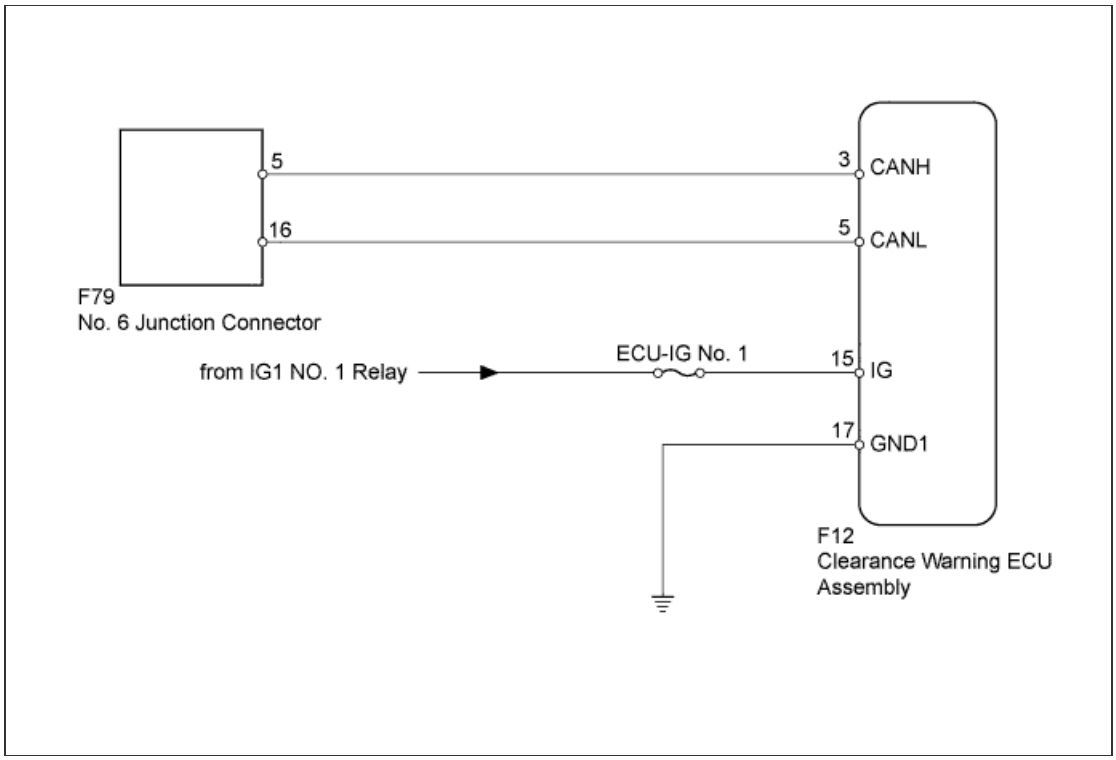
for Preparation Click here

DESCRIPTION

DTC Code	DTC Detection Condition	Specified Condition
U1110	There is no communication from the clearance warning ECU assembly.	• Power source circuit of clearance warning ECU assembly • Clearance warning ECU assembly CAN branch wire or connector • 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.

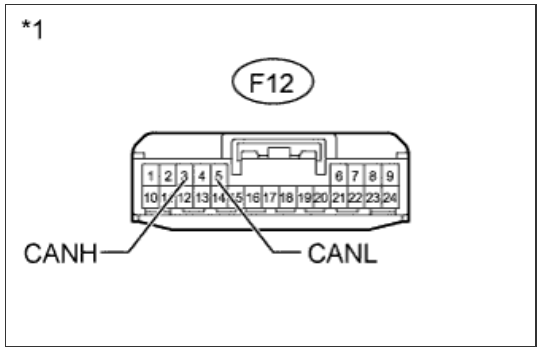
b. Measure the resistance according to the value(s) in the table below.

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

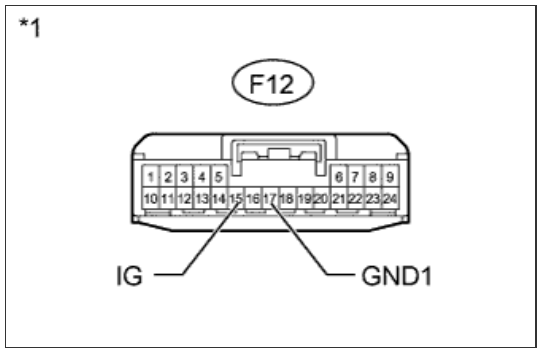
c. Measure the resistance according to the value(s) in the table below.

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)

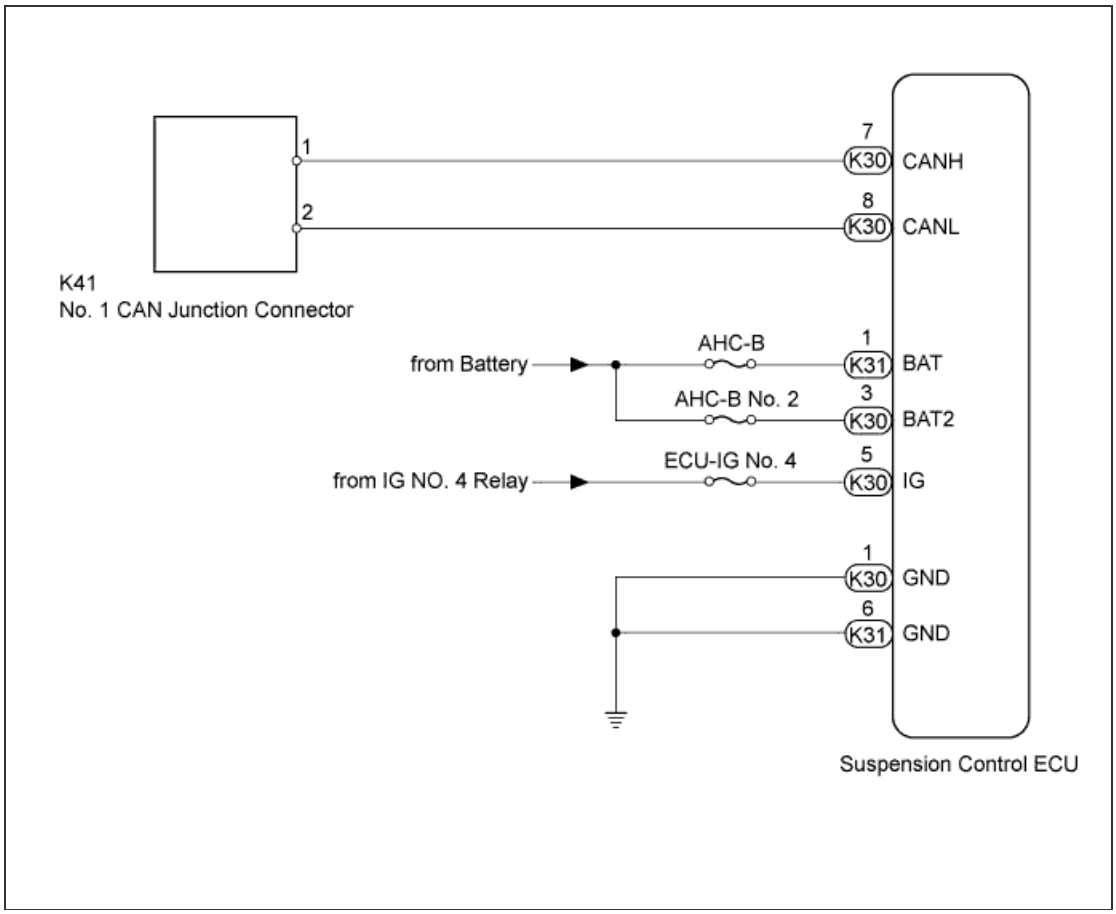
DTC U0132 Lost Communication with Suspension Control ECU

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 • Suspension control ECU CAN branch wire or connector • 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.

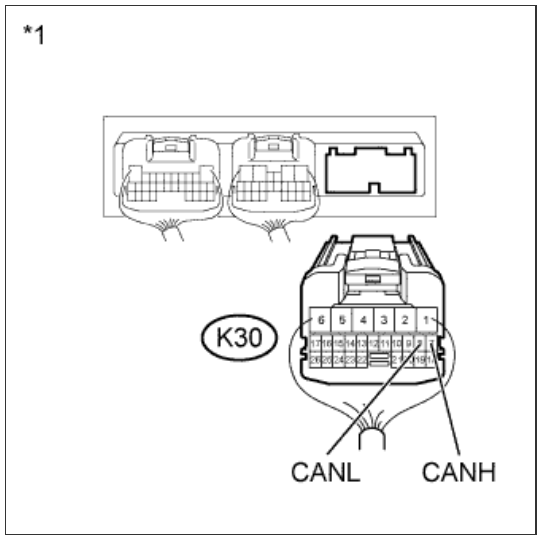
b. Measure the resistance according to the value(s) in the table below.

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.

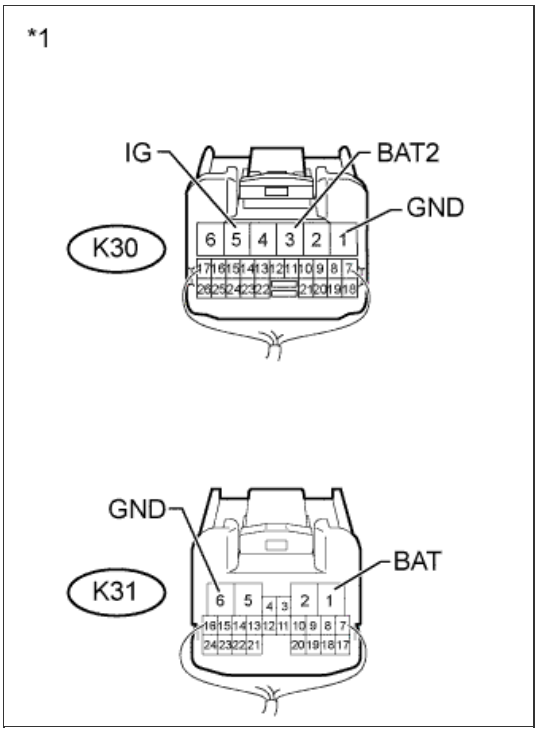
Standard Voltage:

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

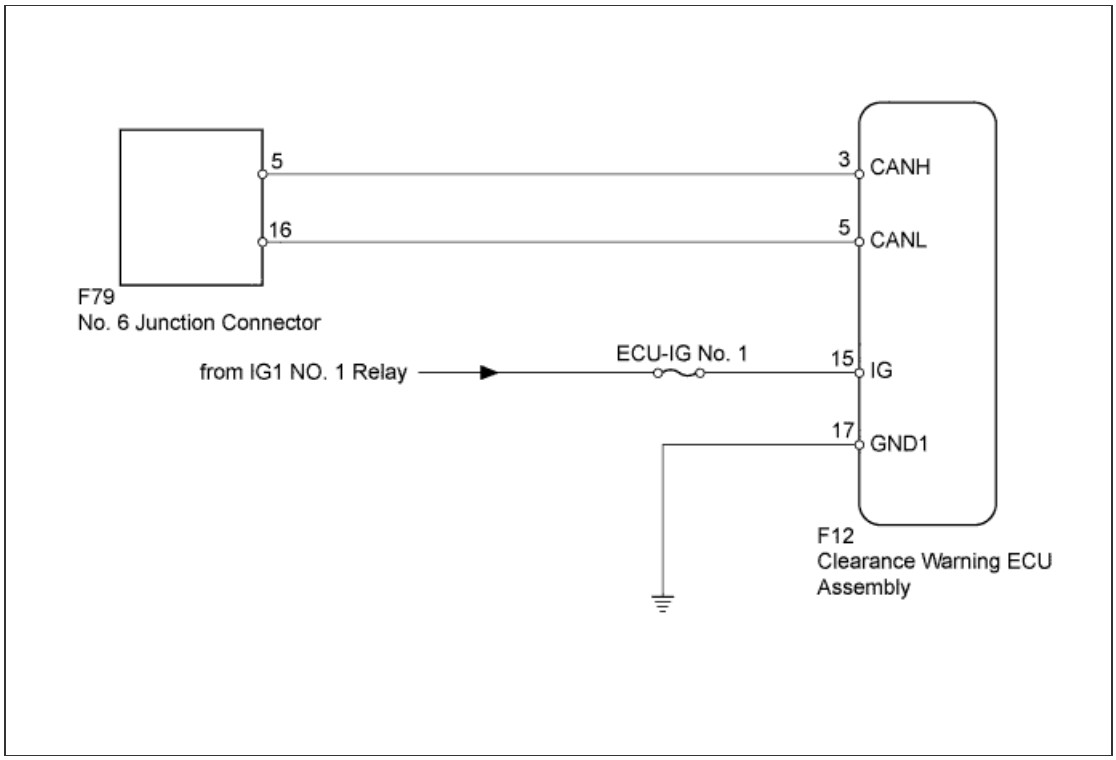
for Preparation Click here

DESCRIPTION

DTC Code	DTC Detection Condition	Specified Condition
U1110	There is no communication from the clearance warning ECU assembly.	• Power source circuit of clearance warning ECU assembly • Clearance warning ECU assembly CAN branch wire or connector • 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.

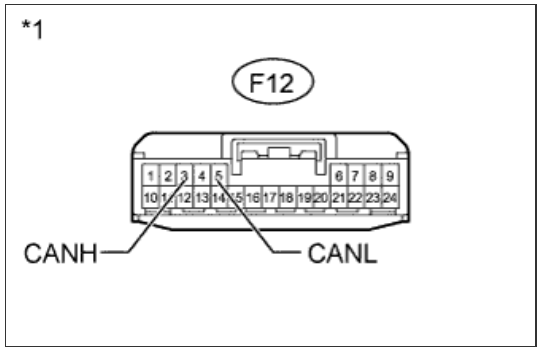
b. Measure the resistance according to the value(s) in the table below.

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

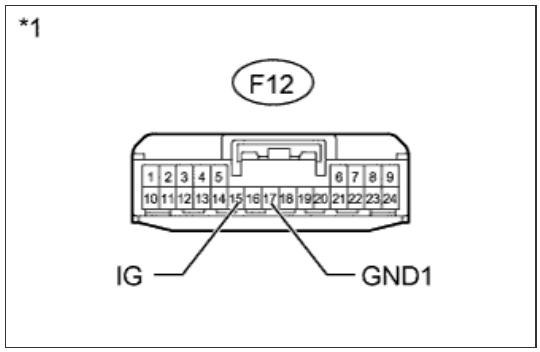
c. Measure the resistance according to the value(s) in the table below.

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)

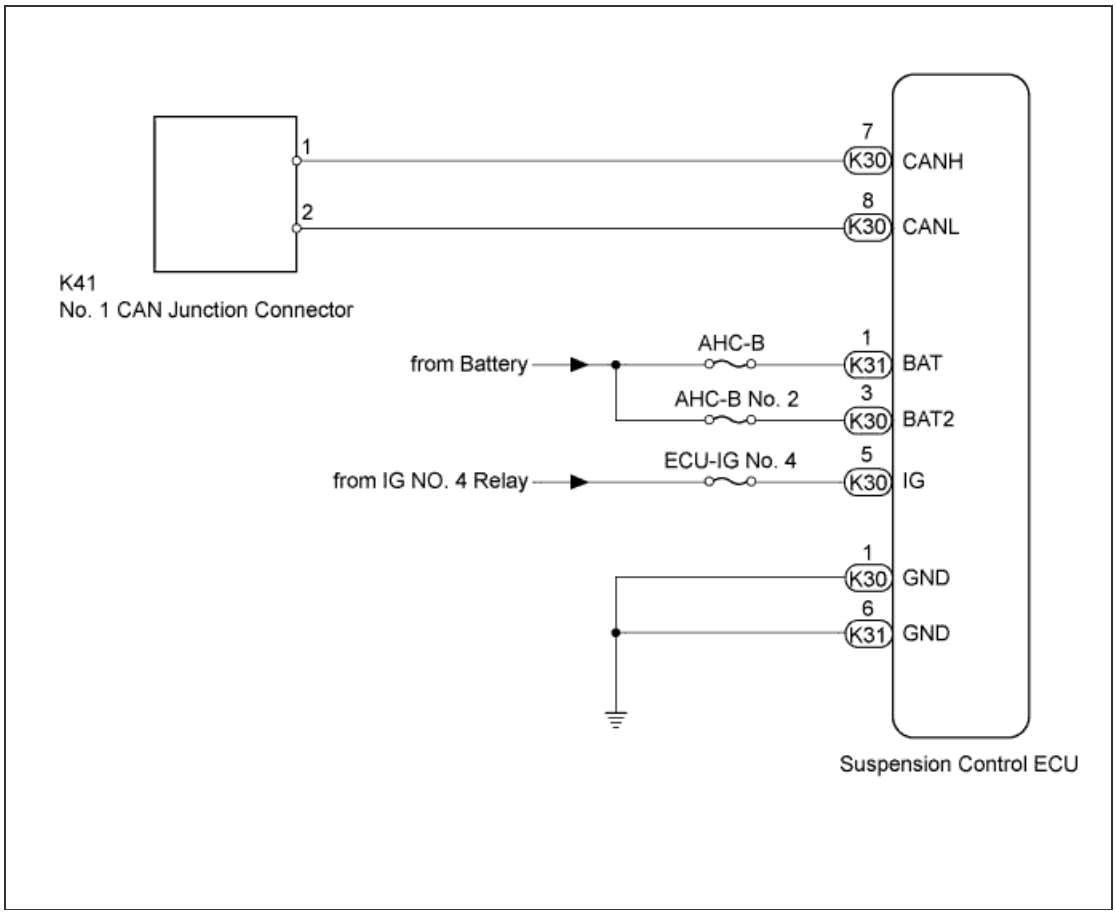
DTC U0132 Lost Communication with Suspension Control ECU

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 • Suspension control ECU CAN branch wire or connector • 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.

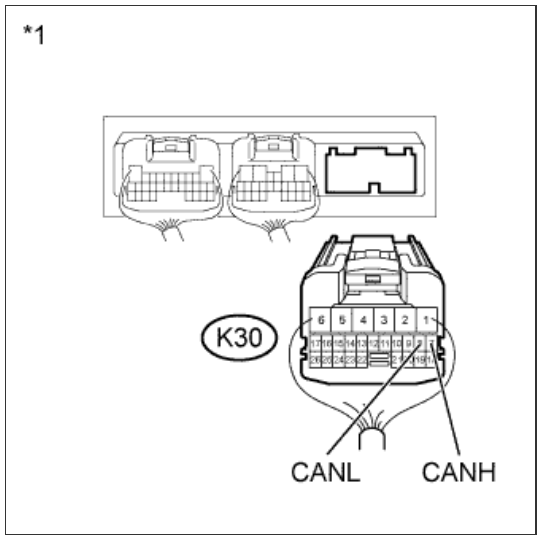
b. Measure the resistance according to the value(s) in the table below.

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.

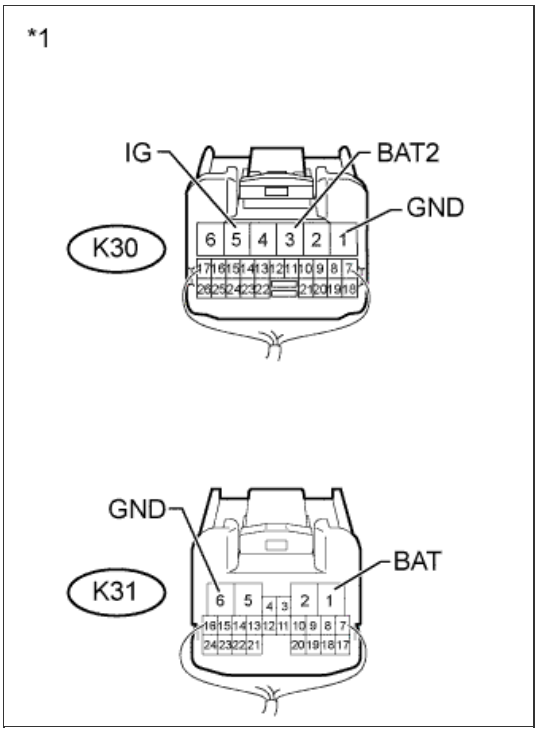
Standard Voltage:

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)

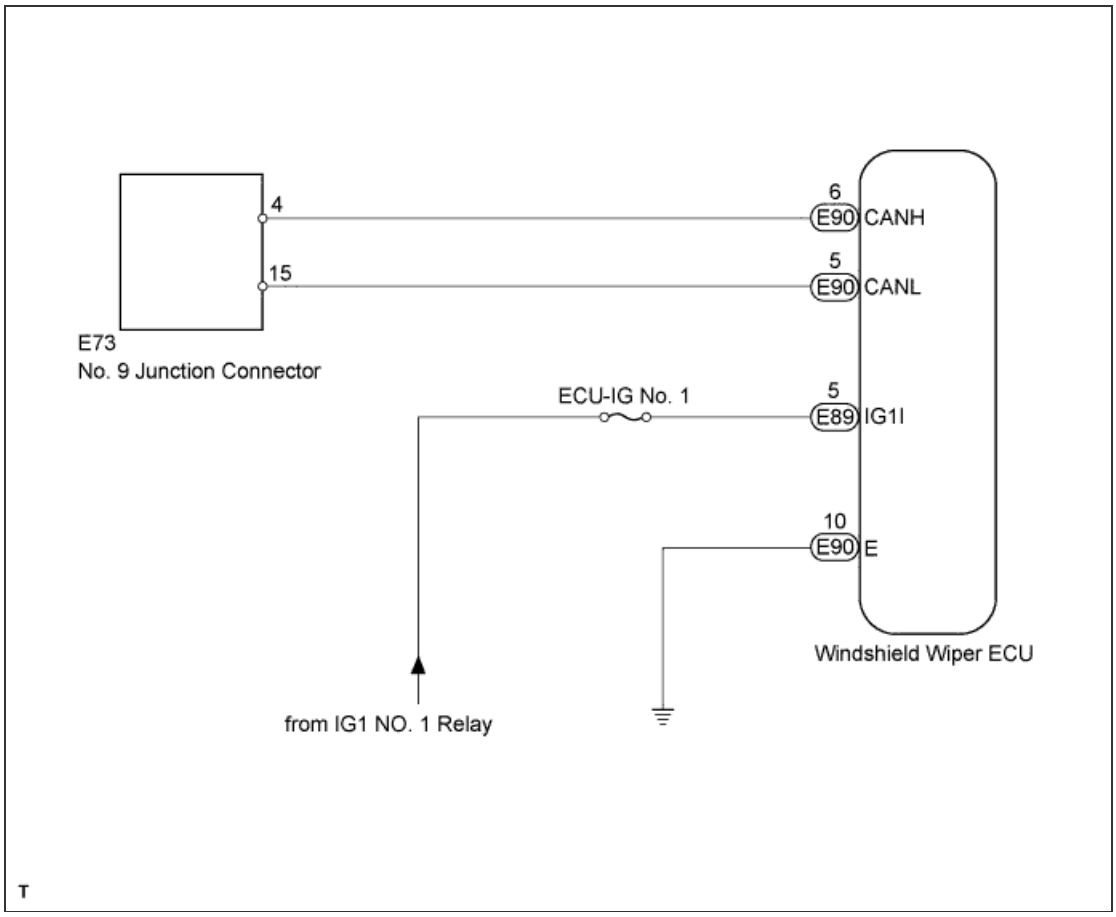
DTC U1111 Lost Communication with Body No. 5 Module

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 • Windshield wiper ECU CAN branch wire or connector • 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

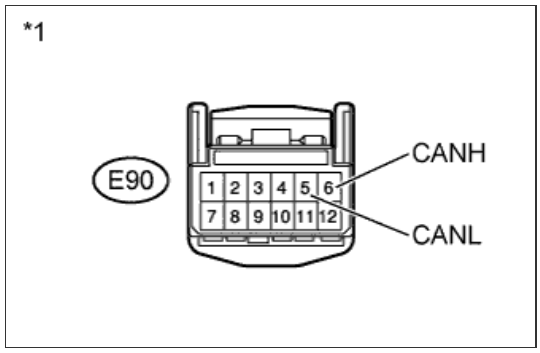
3.CHECK FOR OPEN IN CAN BUS WIRE (WINDSHIELD WIPER ECU CAN BRANCH WIRE)

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.

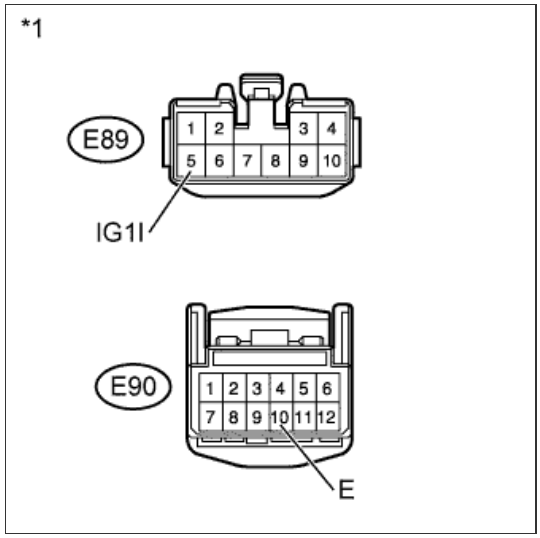
Standard Voltage:

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 (to Windshield Wiper ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ↓

REPLACE WINDSHIELD WIPER ECU (Click here)

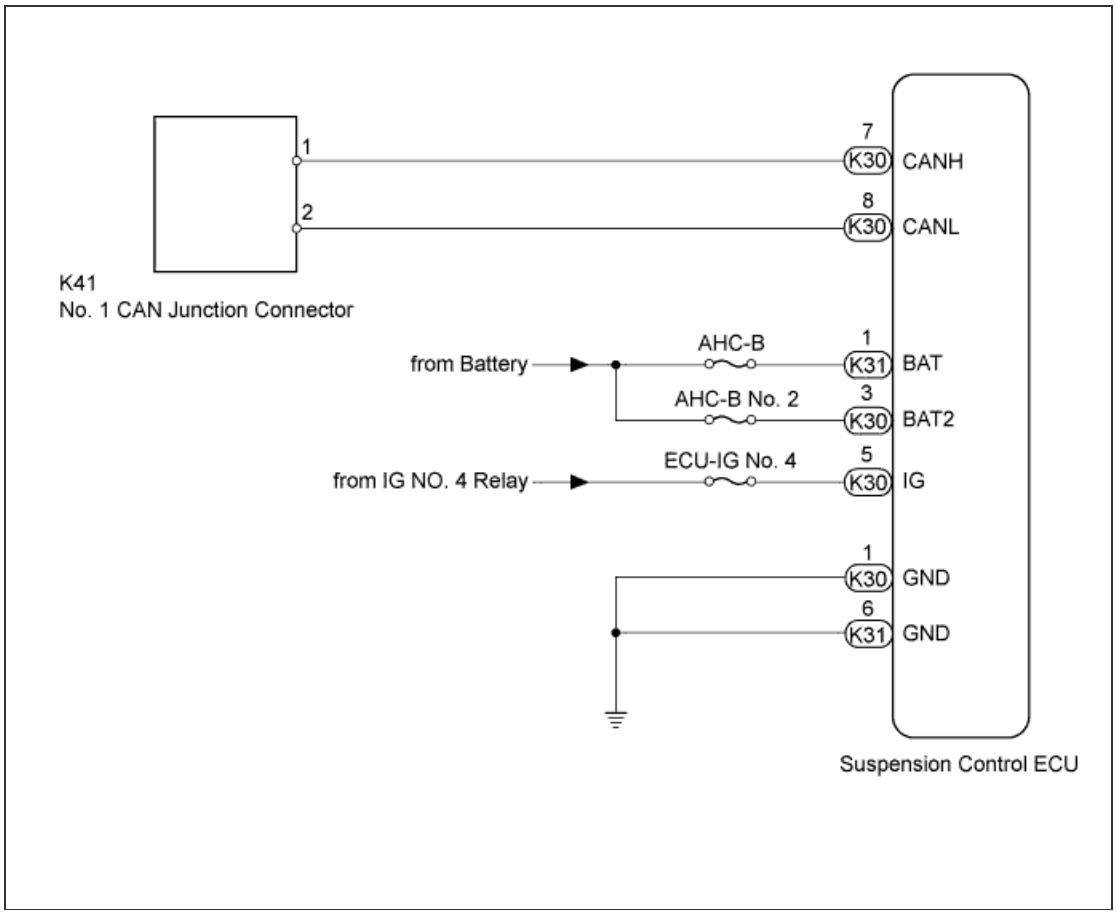
DTC U0132 Lost Communication with Suspension Control ECU

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 • Suspension control ECU CAN branch wire or connector • 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.

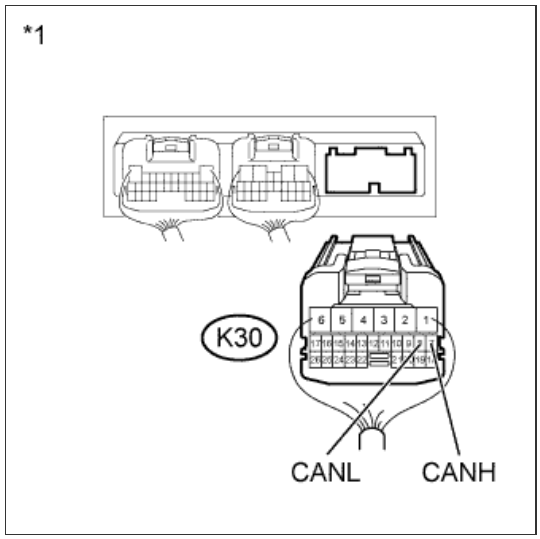
b. Measure the resistance according to the value(s) in the table below.

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.

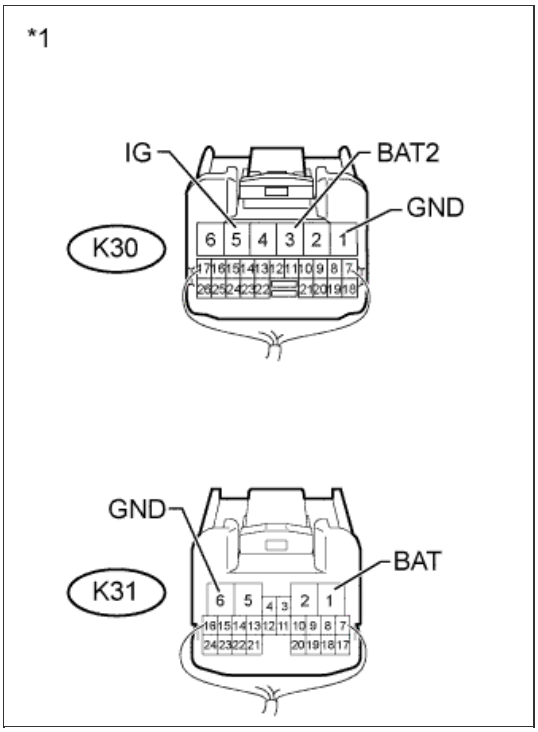
Standard Voltage:

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)

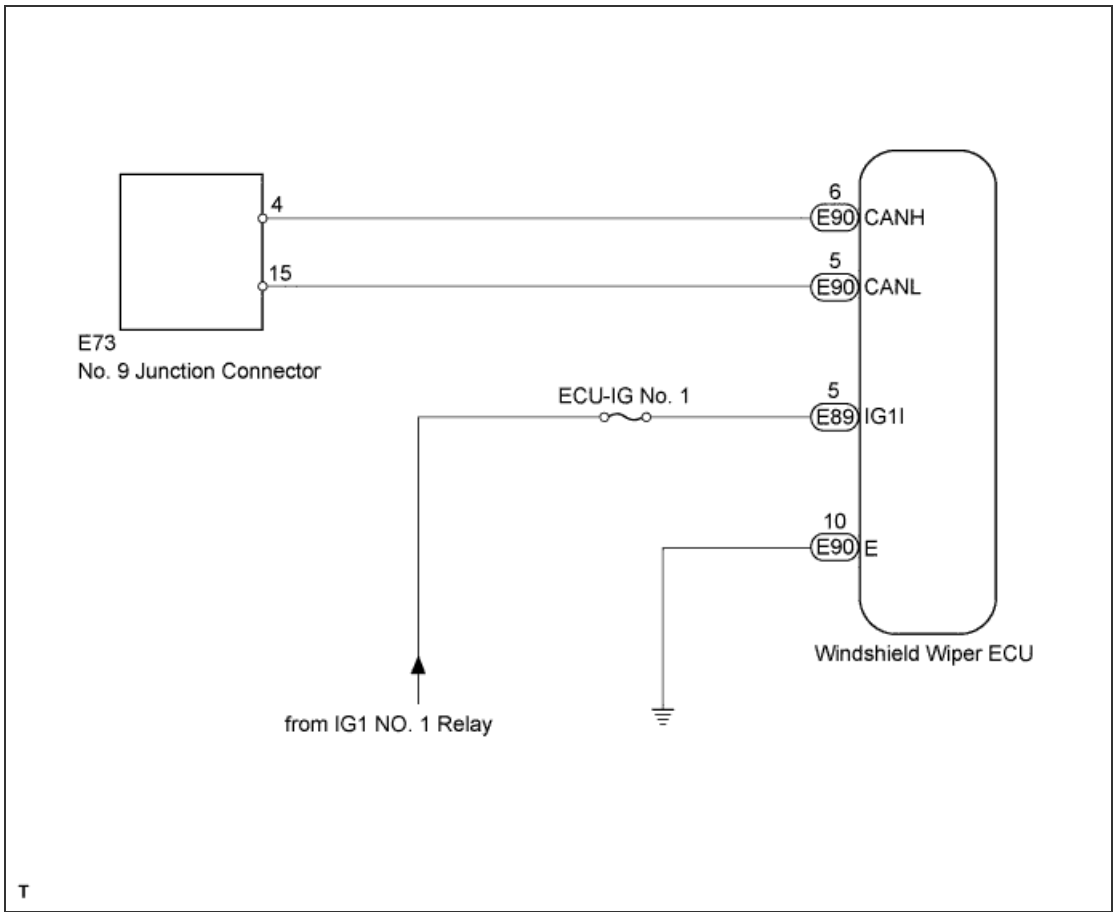
DTC U1111 Lost Communication with Body No. 5 Module

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 • Windshield wiper ECU CAN branch wire or connector • 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

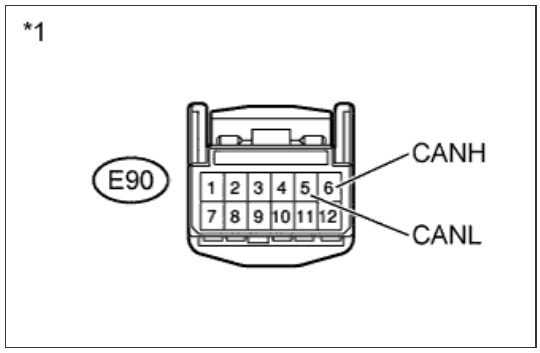
3.CHECK FOR OPEN IN CAN BUS WIRE (WINDSHIELD WIPER ECU CAN BRANCH WIRE)

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.

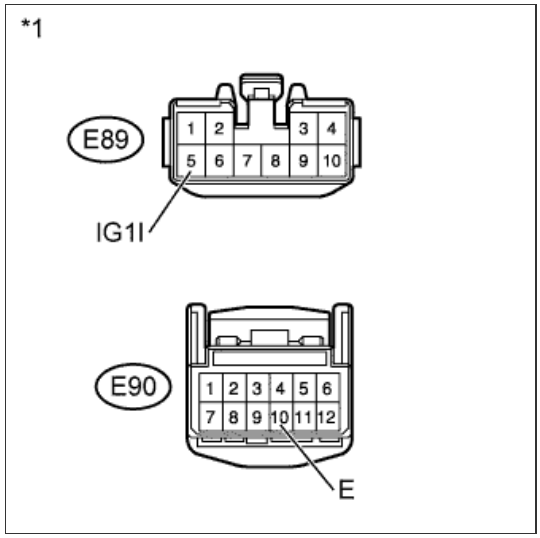
Standard Voltage:

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 (to Windshield Wiper ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ↓

REPLACE WINDSHIELD WIPER ECU (Click here)

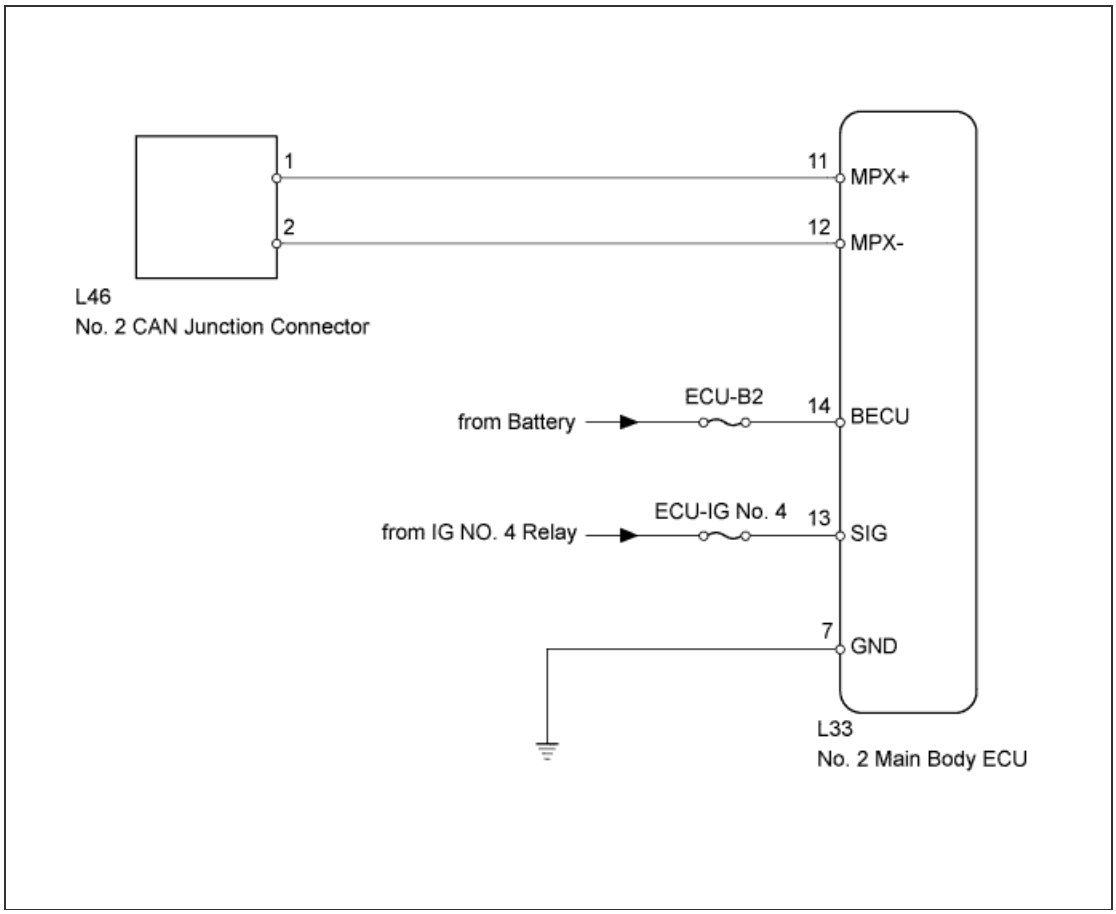
DTC U0141 Lost Communication with Body Control Module "A"

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 • No. 2 main body ECU CAN branch wire or connector • 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.

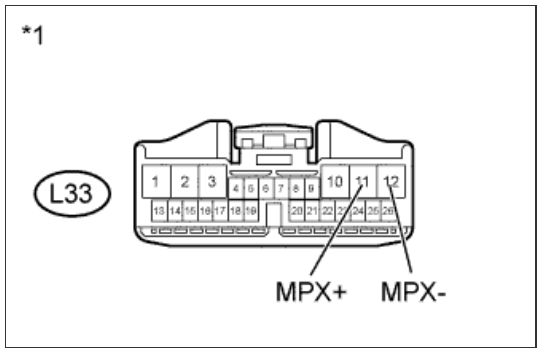
b. Measure the resistance according to the value(s) in the table below.

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.

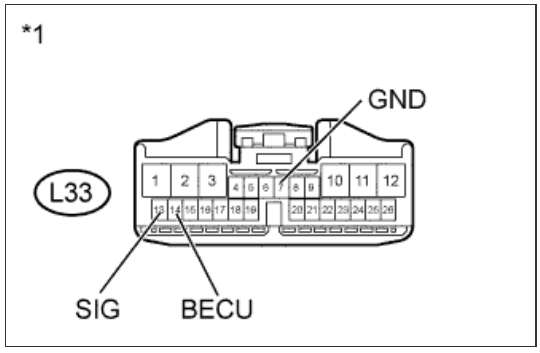
NOTICE:

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 (to No. 2 Main Body ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

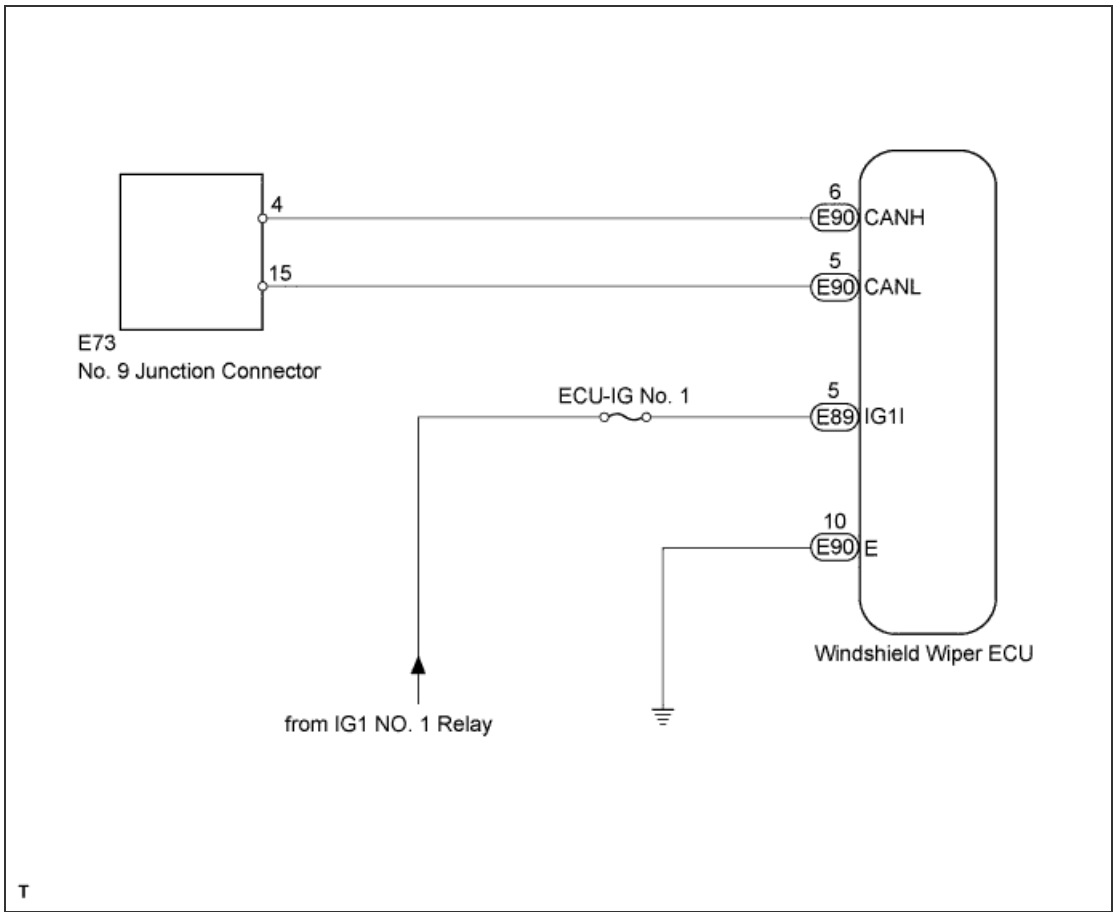
DTC U1111 Lost Communication with Body No. 5 Module

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 • Windshield wiper ECU CAN branch wire or connector • 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

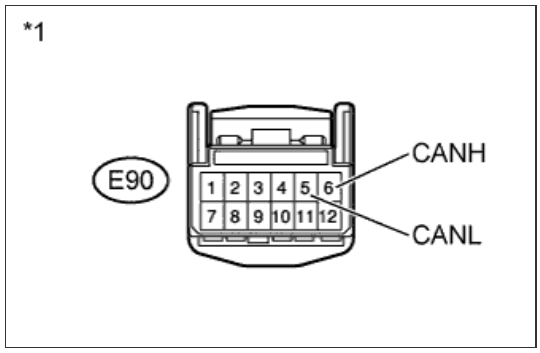
3.CHECK FOR OPEN IN CAN BUS WIRE (WINDSHIELD WIPER ECU CAN BRANCH WIRE)

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.

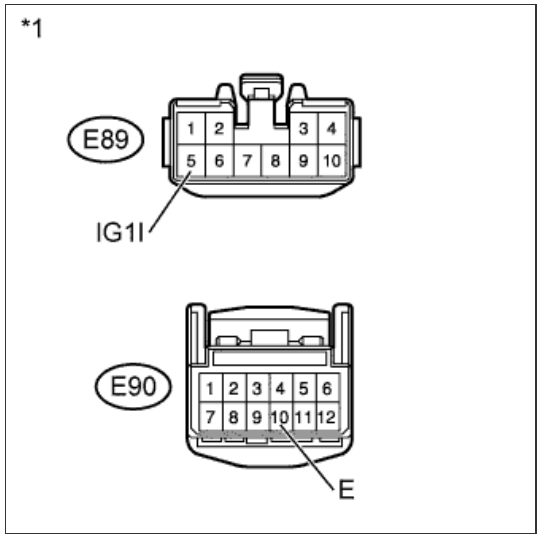
Standard Voltage:

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 (to Windshield Wiper ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ↓

REPLACE WINDSHIELD WIPER ECU (Click here)

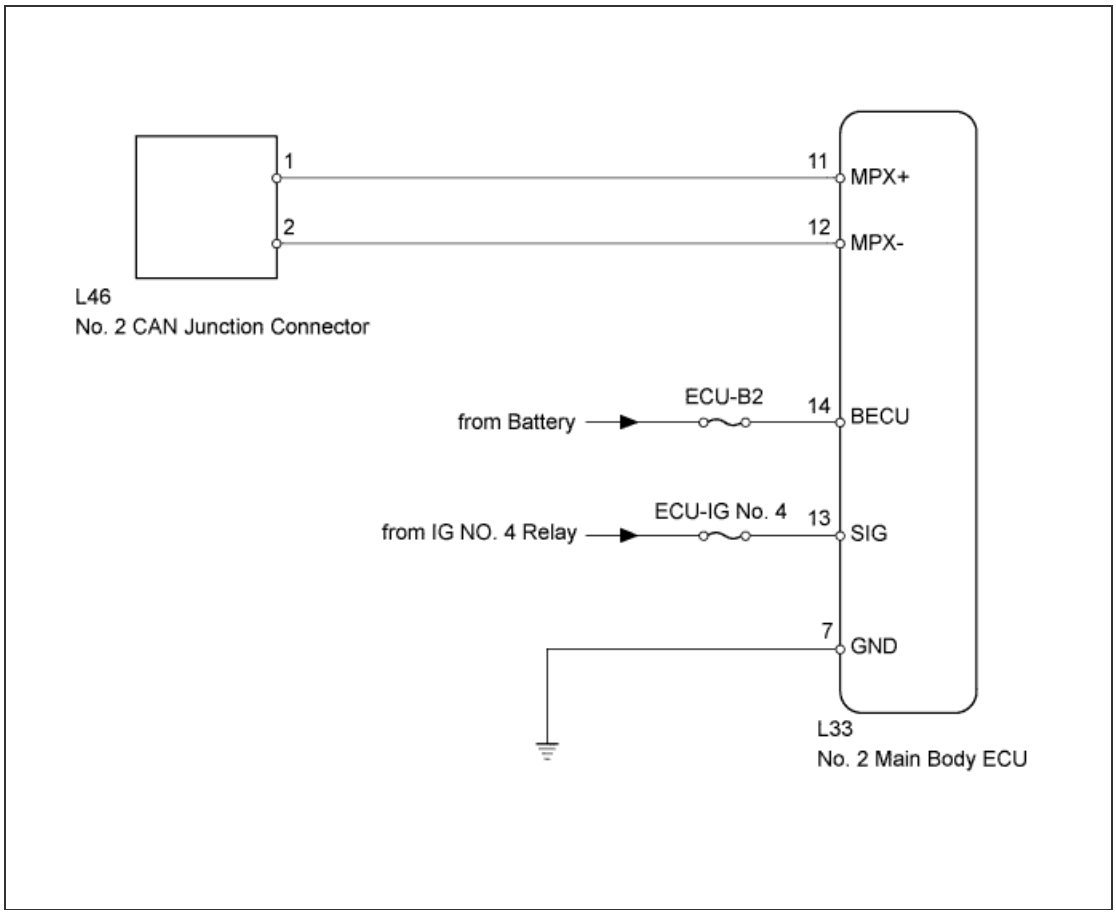
DTC U0141 Lost Communication with Body Control Module "A"

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 • No. 2 main body ECU CAN branch wire or connector • 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.

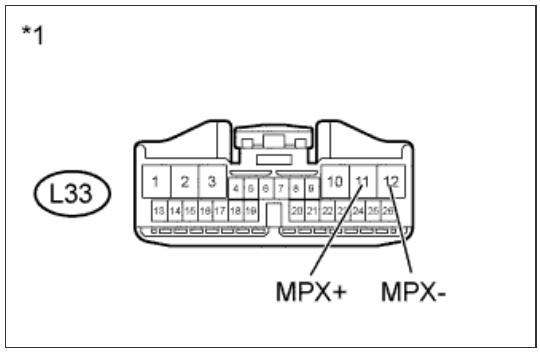
b. Measure the resistance according to the value(s) in the table below.

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.

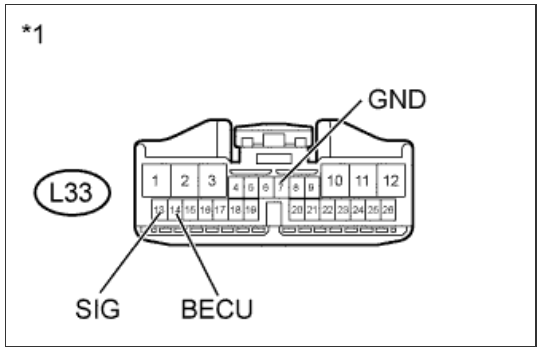
NOTICE:

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 (to No. 2 Main Body ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

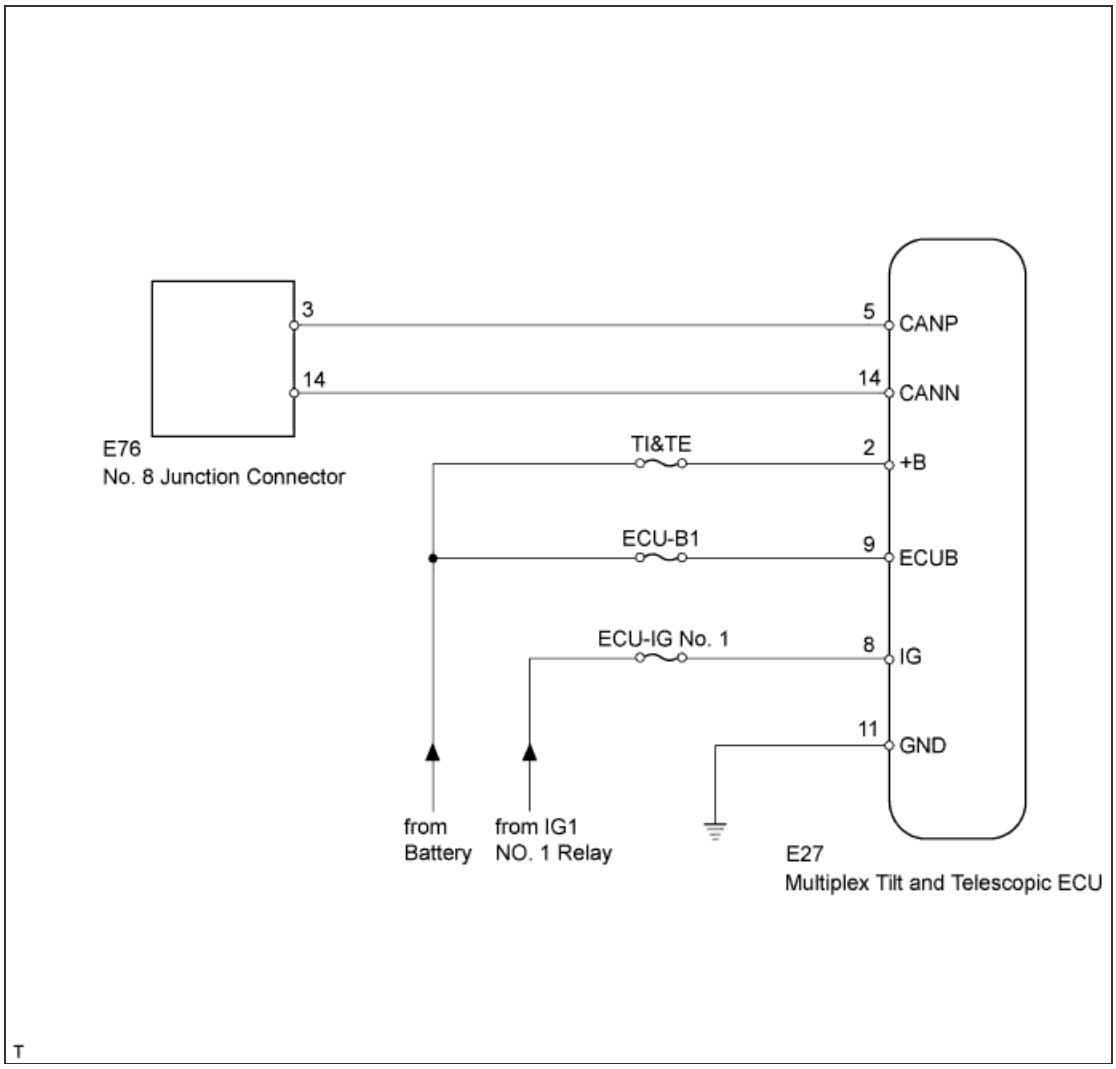
DTC U1115 Lost Communication with Tilt and Telescopic Module

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 • Multiplex tilt and telescopic ECU CAN branch wire or connector • 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.

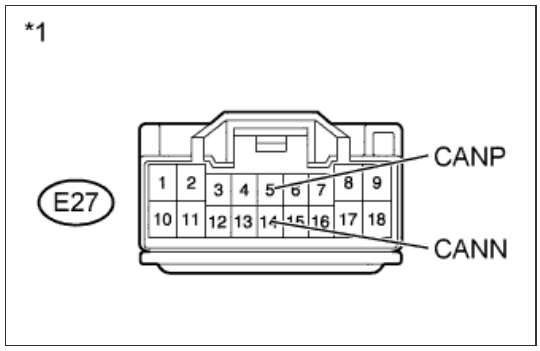
b. Measure the resistance according to the value(s) in the table below.

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.

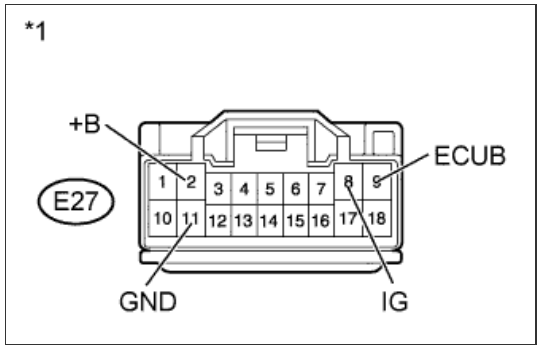
NOTICE:

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)

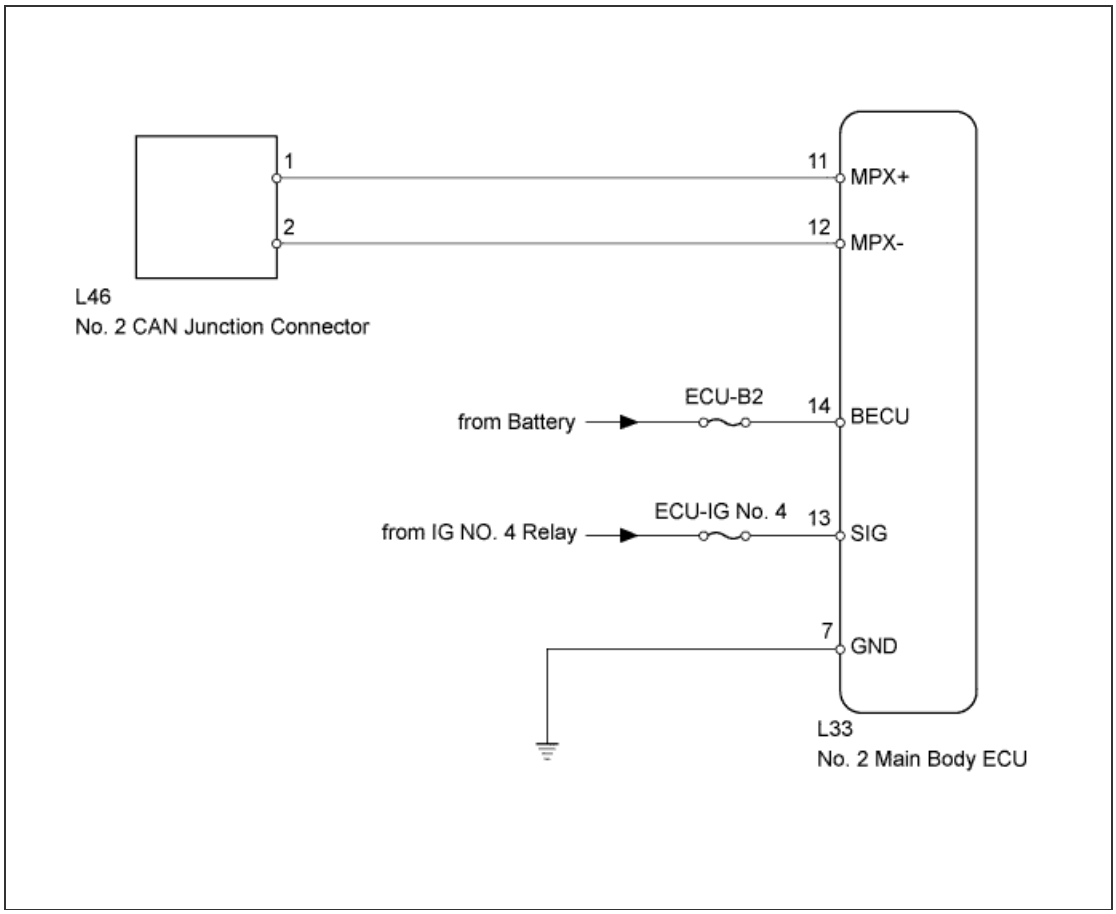
DTC U0141 Lost Communication with Body Control Module "A"

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 • No. 2 main body ECU CAN branch wire or connector • 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.

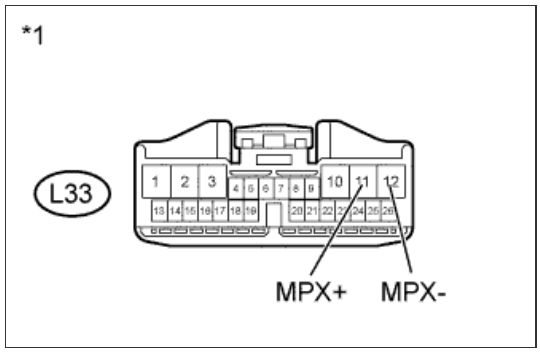
b. Measure the resistance according to the value(s) in the table below.

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.

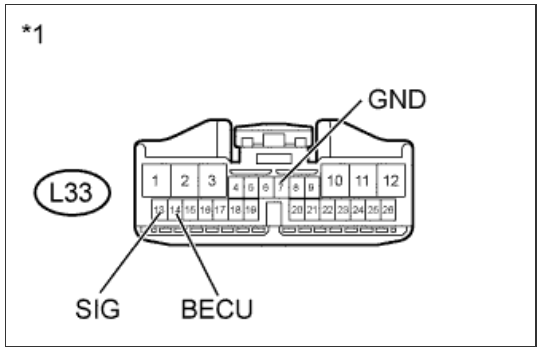
NOTICE:

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 (to No. 2 Main Body ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

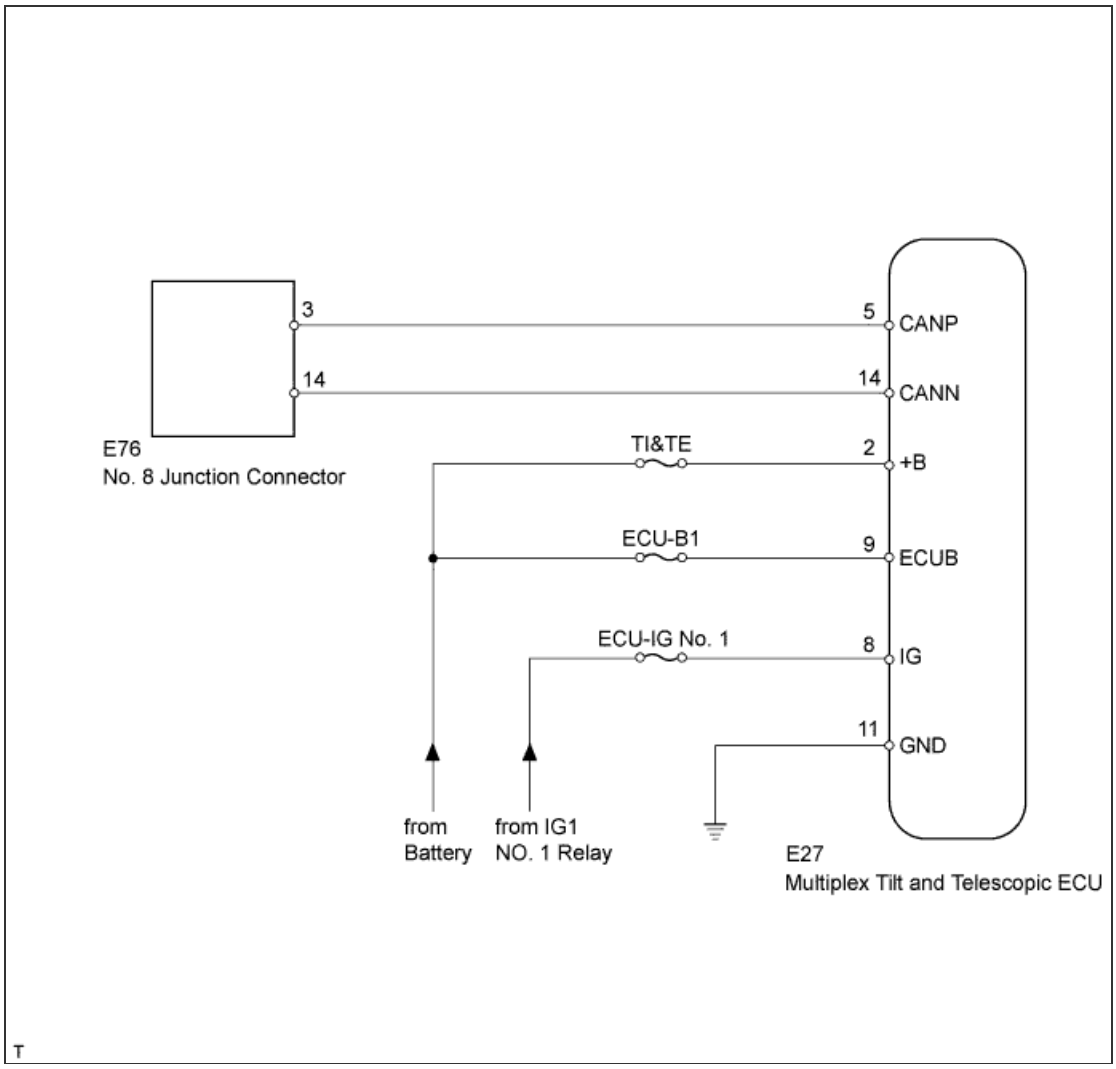
DTC U1115 Lost Communication with Tilt and Telescopic Module

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 • Multiplex tilt and telescopic ECU CAN branch wire or connector • 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.

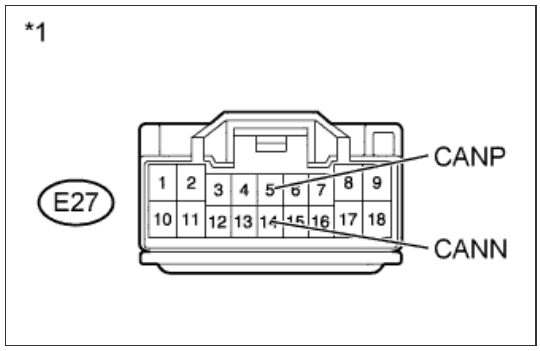
b. Measure the resistance according to the value(s) in the table below.

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.

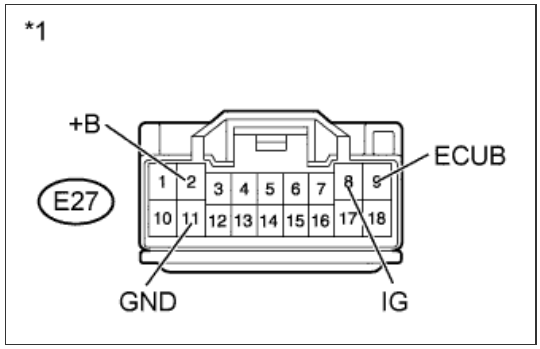
NOTICE:

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)

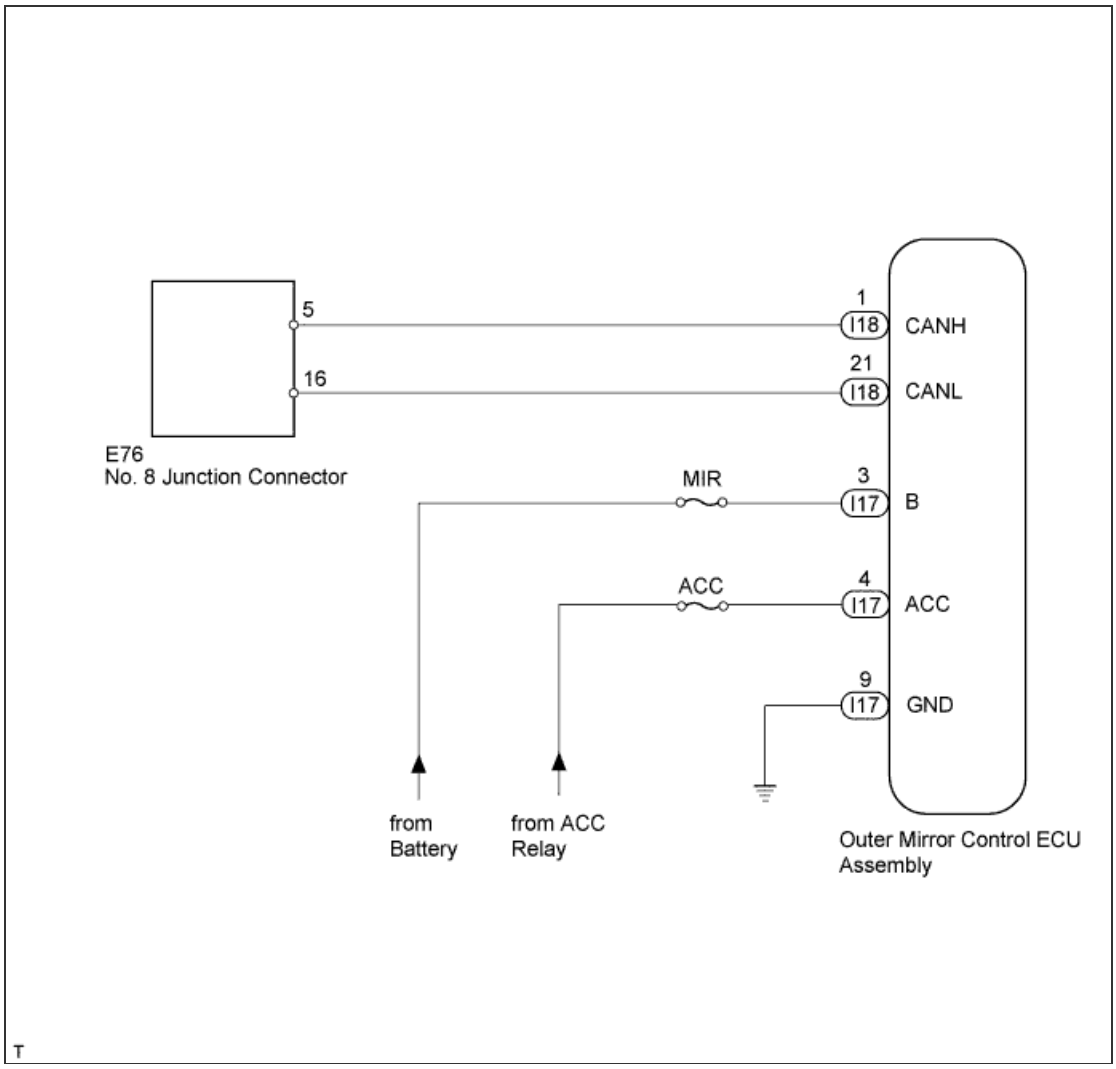
DTC U0199 Lost Communication with "Door Control Module A"

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 • Outer mirror control ECU assembly CAN branch wire or connector • 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.

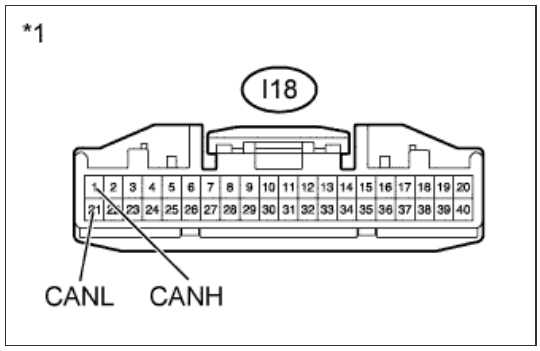
b. Measure the resistance according to the value(s) in the table below.

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:

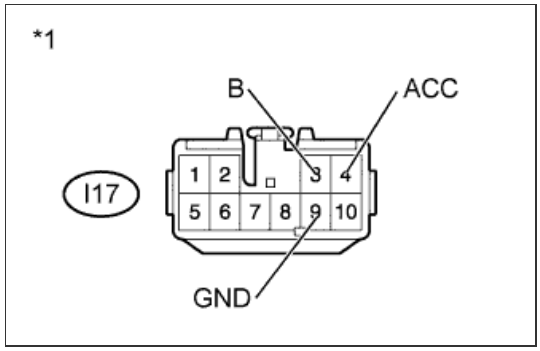
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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)

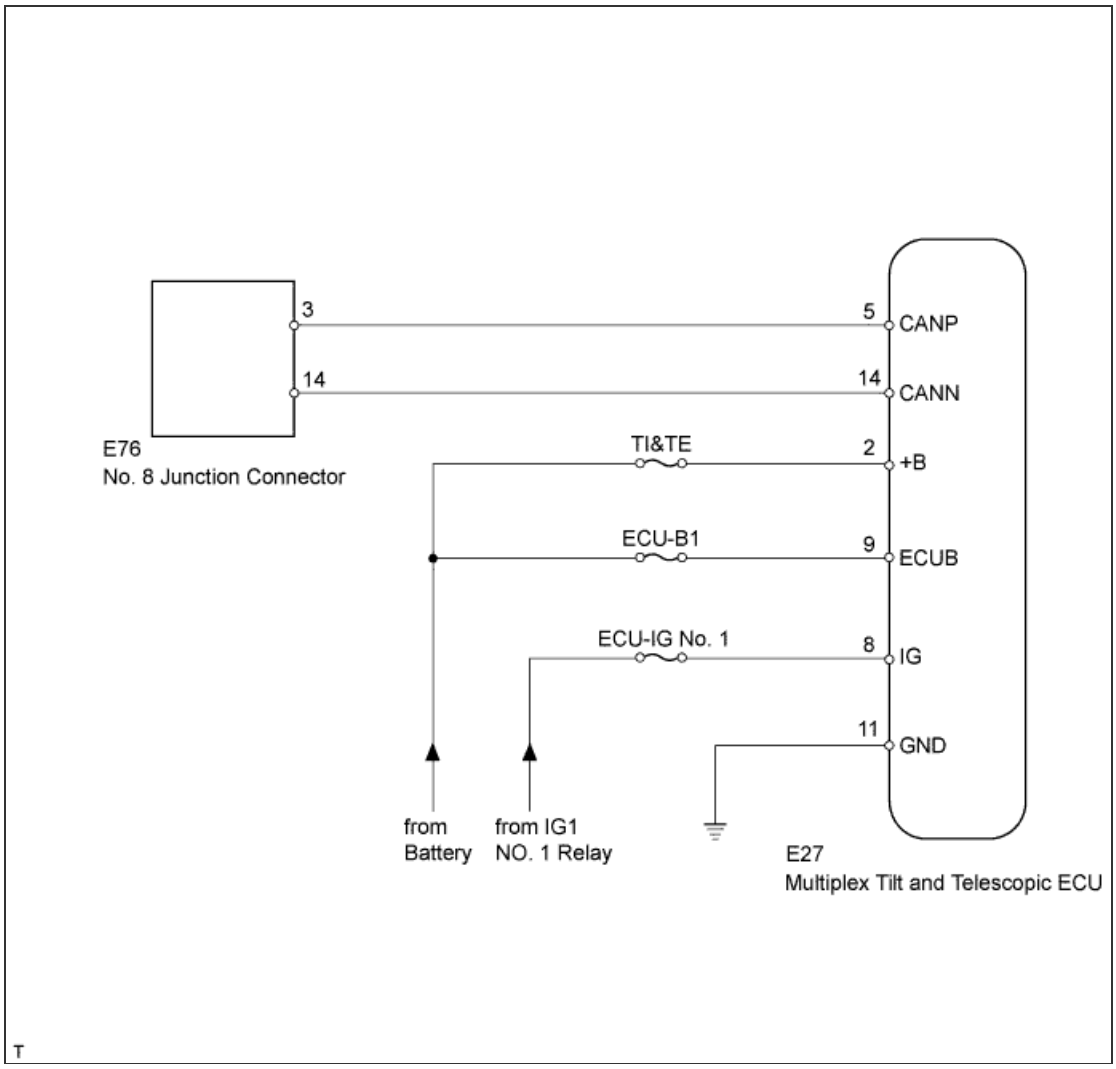
DTC U1115 Lost Communication with Tilt and Telescopic Module

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 • Multiplex tilt and telescopic ECU CAN branch wire or connector • 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.

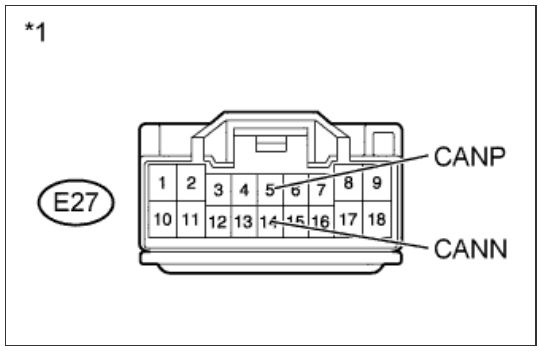
b. Measure the resistance according to the value(s) in the table below.

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.

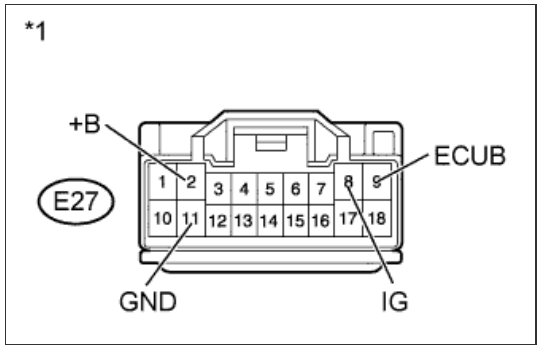
NOTICE:

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)

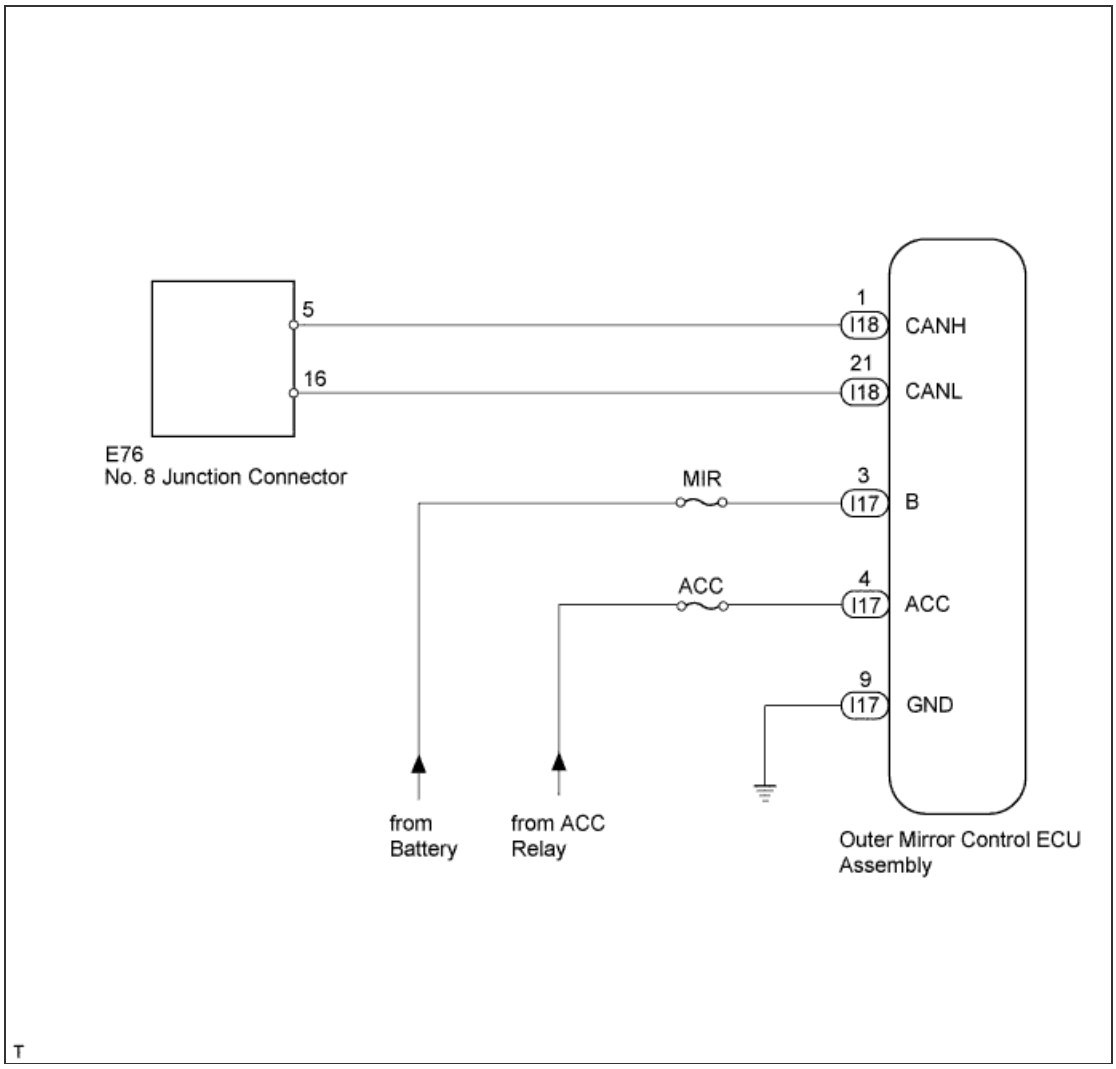
DTC U0199 Lost Communication with "Door Control Module A"

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 • Outer mirror control ECU assembly CAN branch wire or connector • 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.

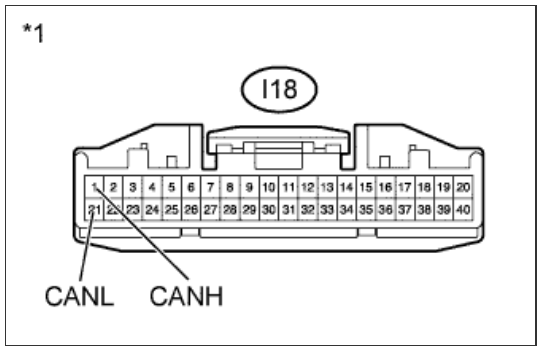
b. Measure the resistance according to the value(s) in the table below.

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:

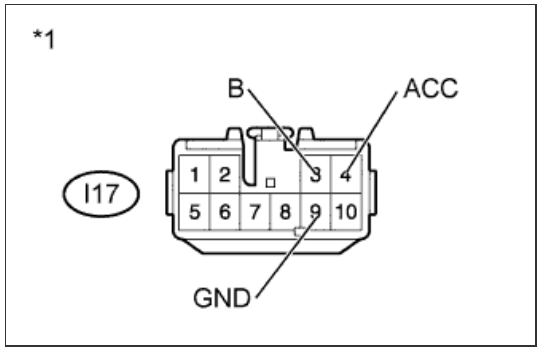
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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

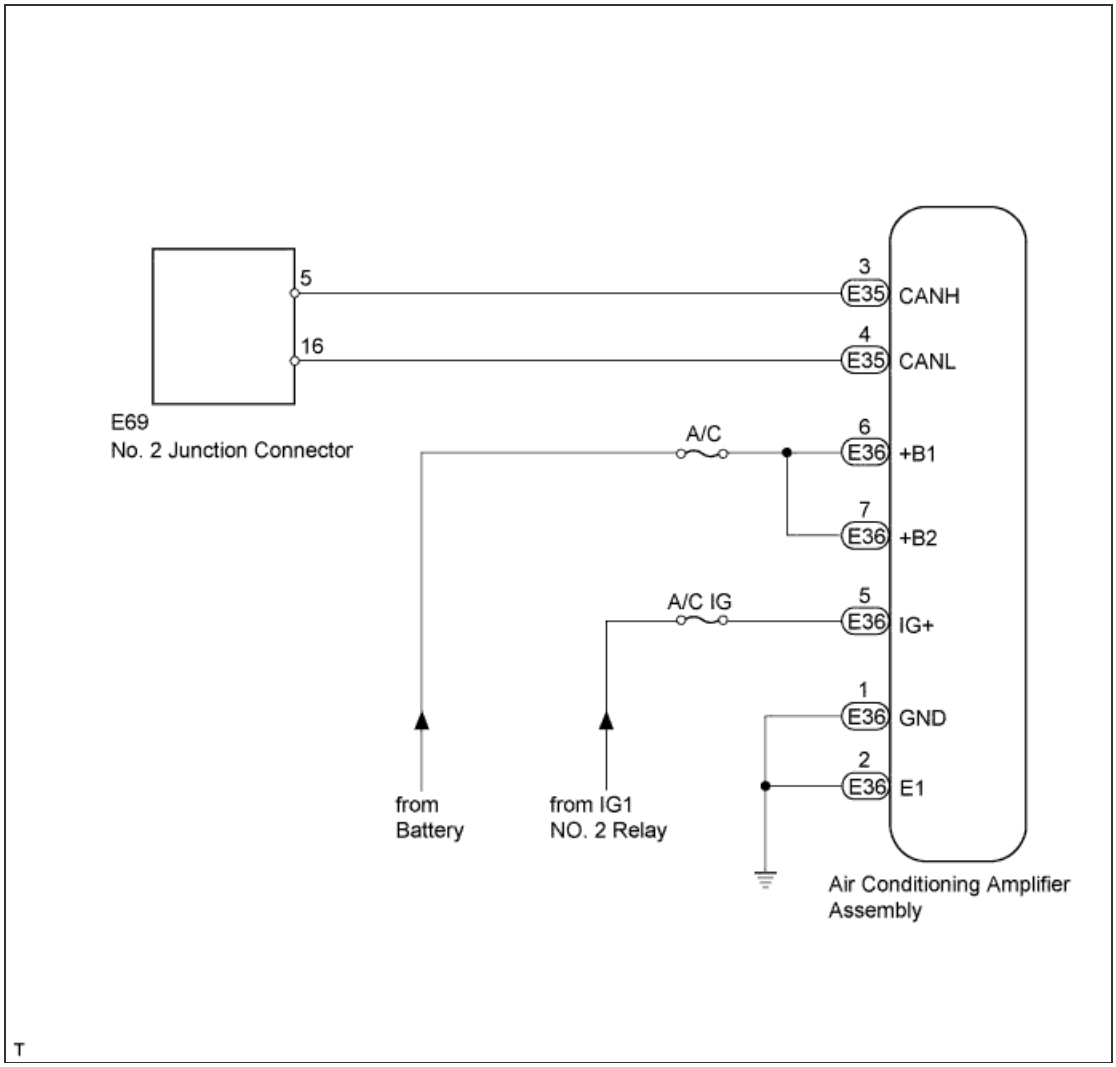
REPLACE OUTER MIRROR CONTROL ECU ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Air Conditioning Amplifier Communication Stop Mode	When either condition below is met: • "Air Conditioning Amplifier" is not displayed on "CAN Bus Check". • Applies to "Air Conditioning Amplifier Communication Stop Mode" in "DTC Combination Table".	• Power source or inside air conditioning amplifier assembly • Air conditioning amplifier assembly • 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.

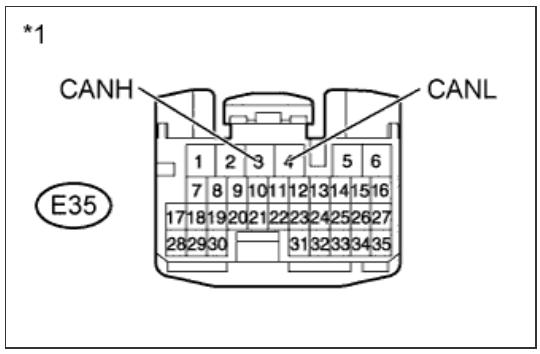
b. Measure the resistance according to the value(s) in the table below.

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:

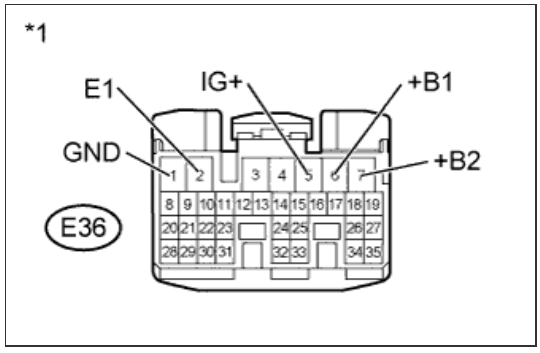
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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

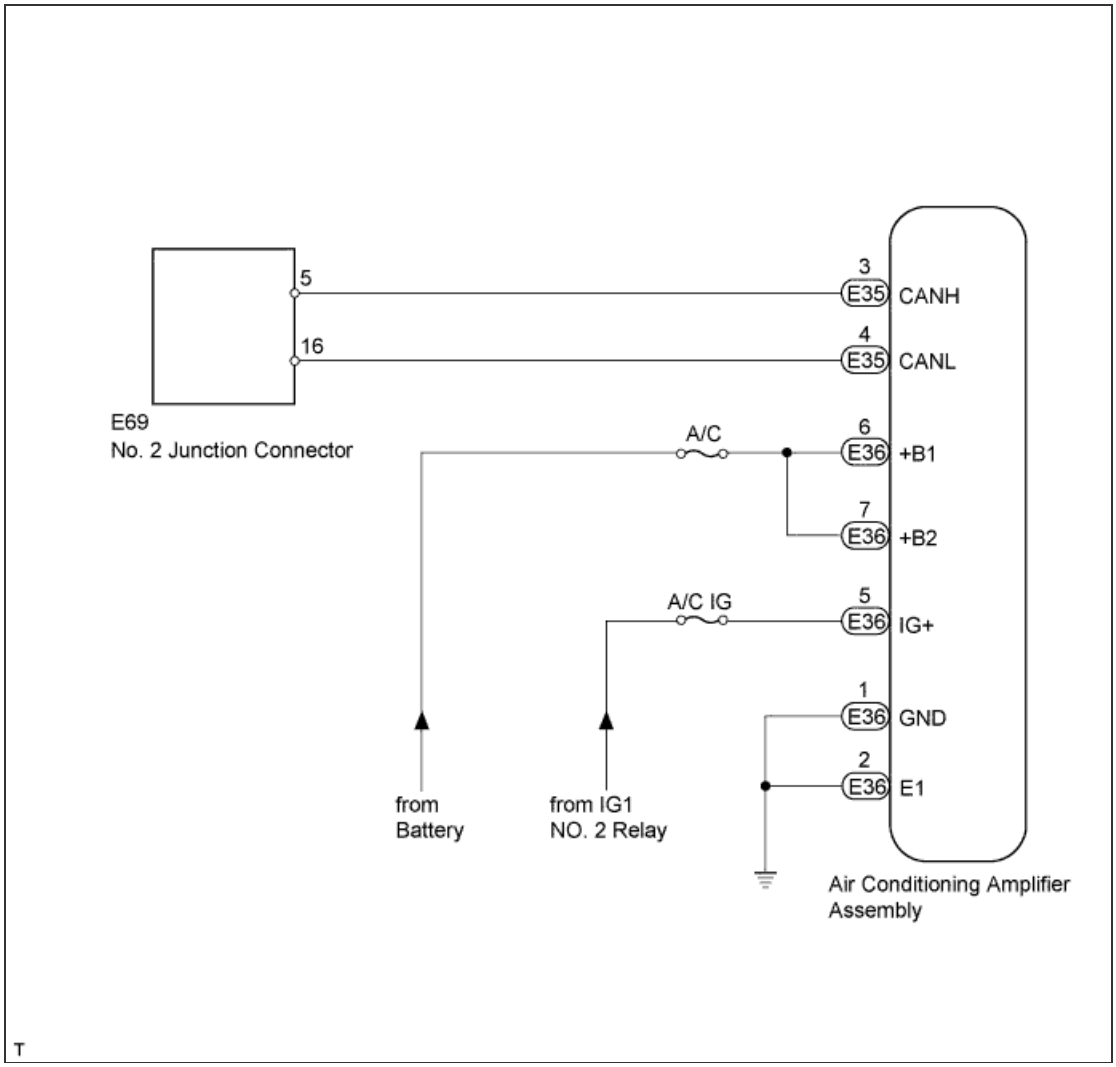
REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Air Conditioning Amplifier Communication Stop Mode	When either condition below is met: • "Air Conditioning Amplifier" is not displayed on "CAN Bus Check". • Applies to "Air Conditioning Amplifier Communication Stop Mode" in "DTC Combination Table".	• Power source or inside air conditioning amplifier assembly • Air conditioning amplifier assembly • 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.

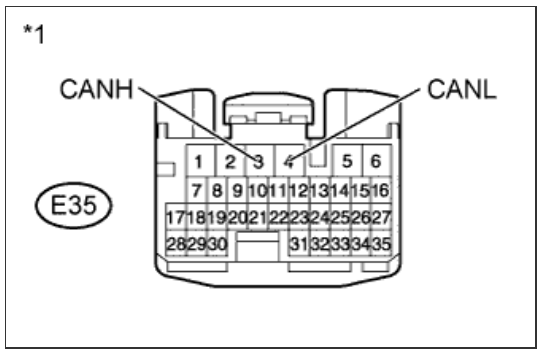
b. Measure the resistance according to the value(s) in the table below.

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:

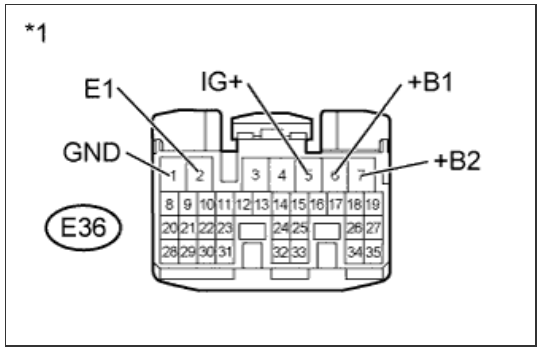
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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

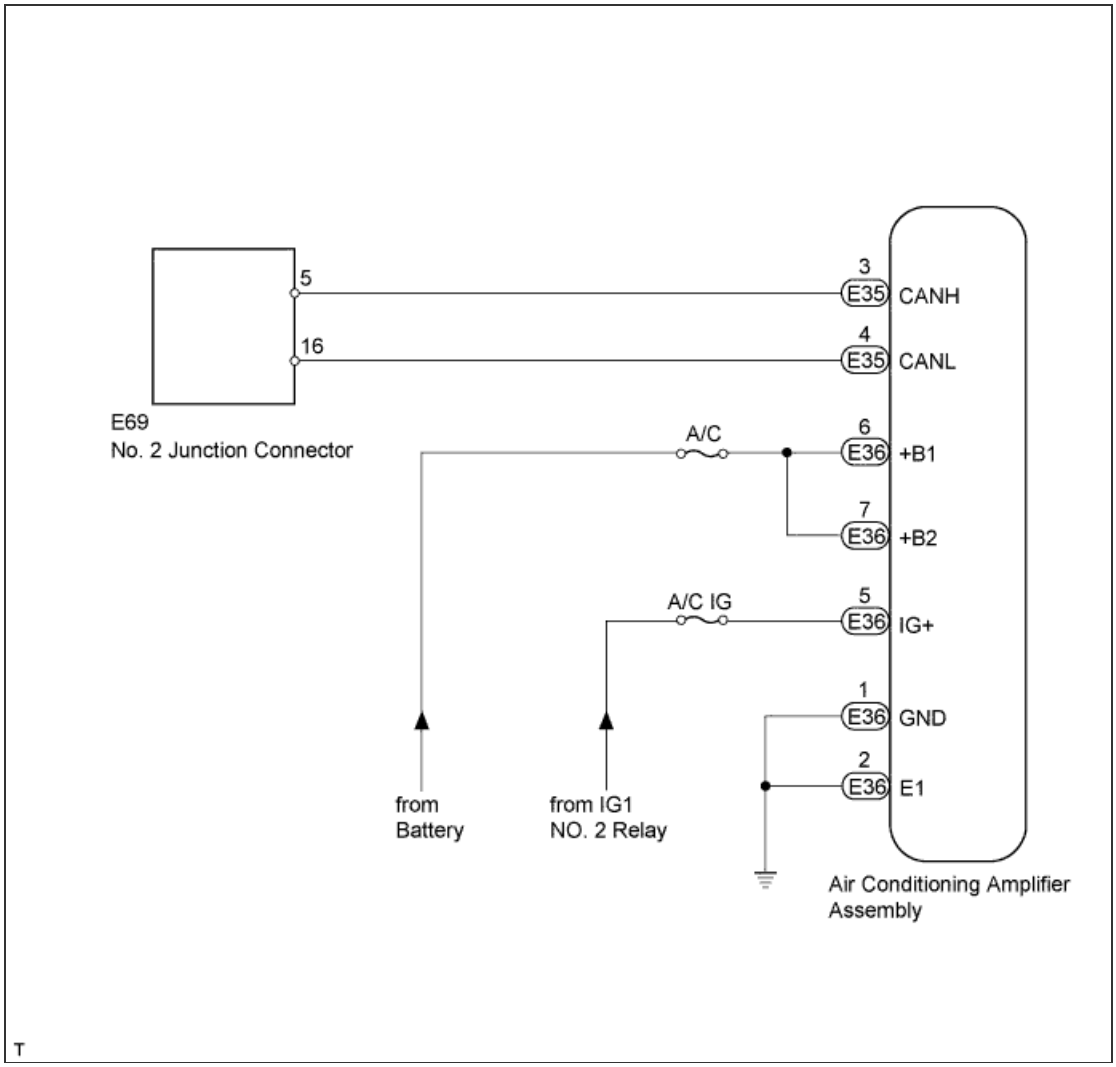
REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Air Conditioning Amplifier Communication Stop Mode	When either condition below is met: • "Air Conditioning Amplifier" is not displayed on "CAN Bus Check". • Applies to "Air Conditioning Amplifier Communication Stop Mode" in "DTC Combination Table".	• Power source or inside air conditioning amplifier assembly • Air conditioning amplifier assembly • 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.

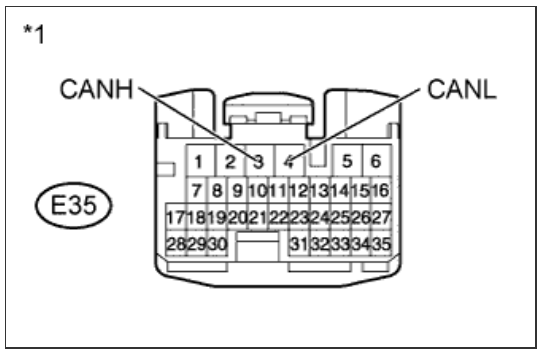
b. Measure the resistance according to the value(s) in the table below.

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:

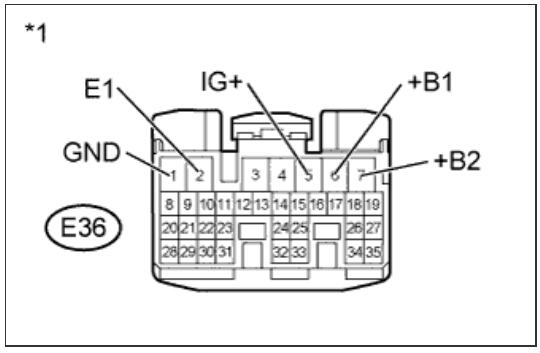
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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

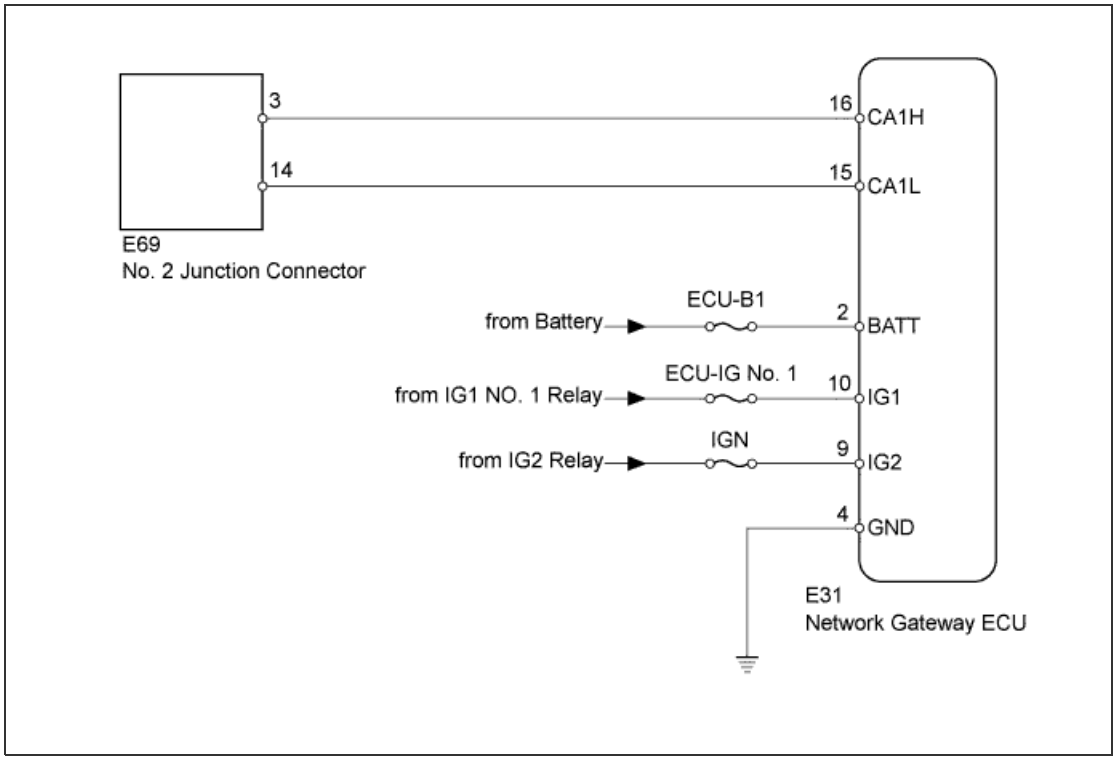
REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Gateway ECU Communication Stop Mode	When either condition below is met: • "CAN Gateway" is not displayed on "CAN Bus Check". • Applies to "Gateway Communication Stop Mode" in "DTC Combination Table".	• Power source or inside network gateway ECU • Network gateway ECU CAN branch wire or connector • 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.

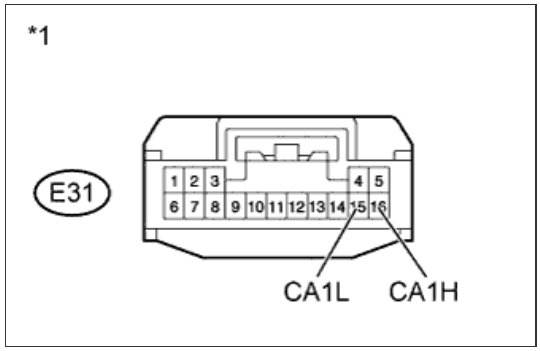
b. Measure the resistance according to the value(s) in the table below.

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.

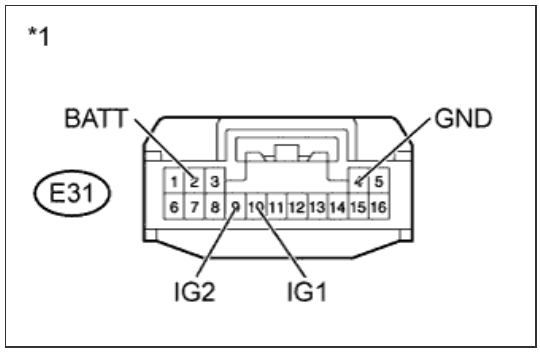
Standard Voltage:

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 (to Network Gateway ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

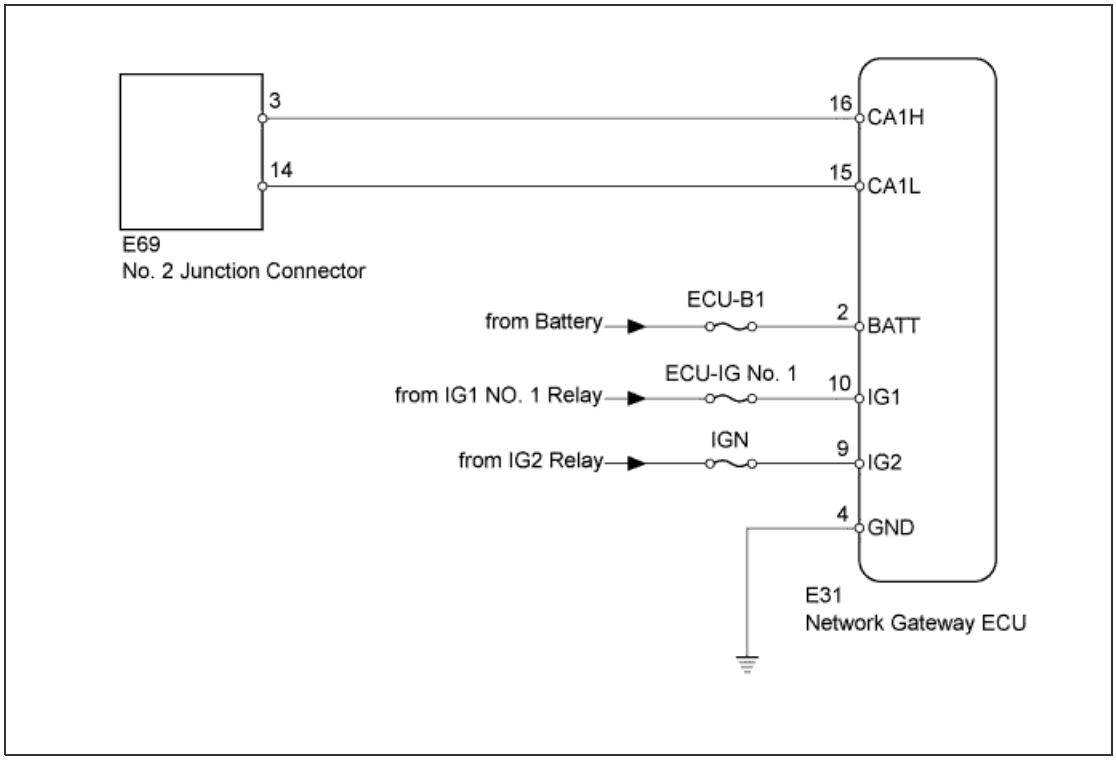
REPLACE NETWORK GATEWAY ECU (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Gateway ECU Communication Stop Mode	When either condition below is met: • "CAN Gateway" is not displayed on "CAN Bus Check". • Applies to "Gateway Communication Stop Mode" in "DTC Combination Table".	• Power source or inside network gateway ECU • Network gateway ECU CAN branch wire or connector • 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.

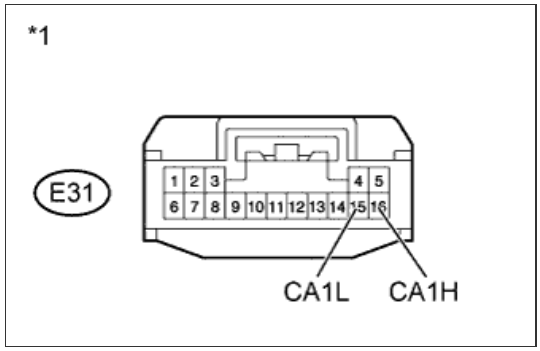
b. Measure the resistance according to the value(s) in the table below.

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.

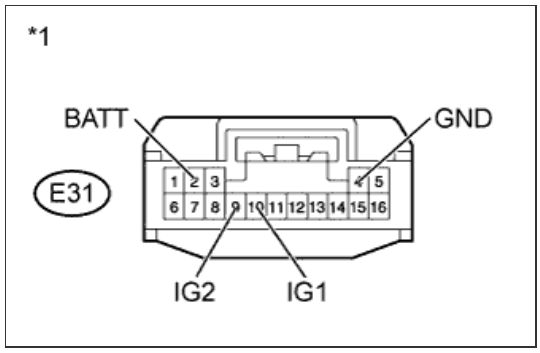
Standard Voltage:

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 (to Network Gateway ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

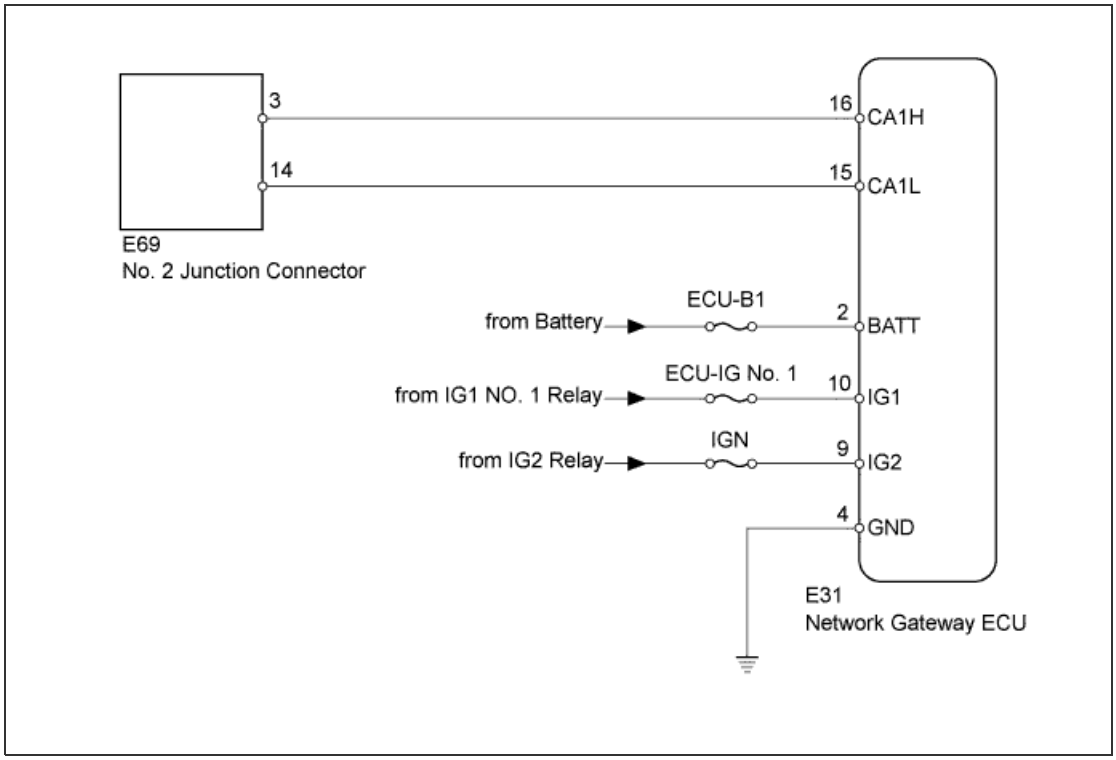
REPLACE NETWORK GATEWAY ECU (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Gateway ECU Communication Stop Mode	When either condition below is met: • "CAN Gateway" is not displayed on "CAN Bus Check". • Applies to "Gateway Communication Stop Mode" in "DTC Combination Table".	• Power source or inside network gateway ECU • Network gateway ECU CAN branch wire or connector • 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.

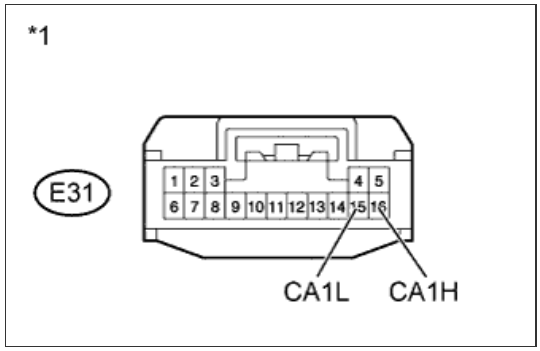
b. Measure the resistance according to the value(s) in the table below.

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.

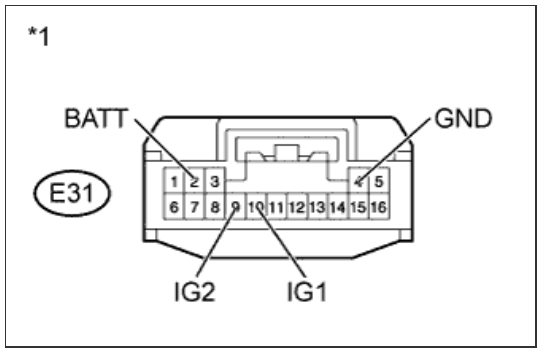
Standard Voltage:

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 (to Network Gateway ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

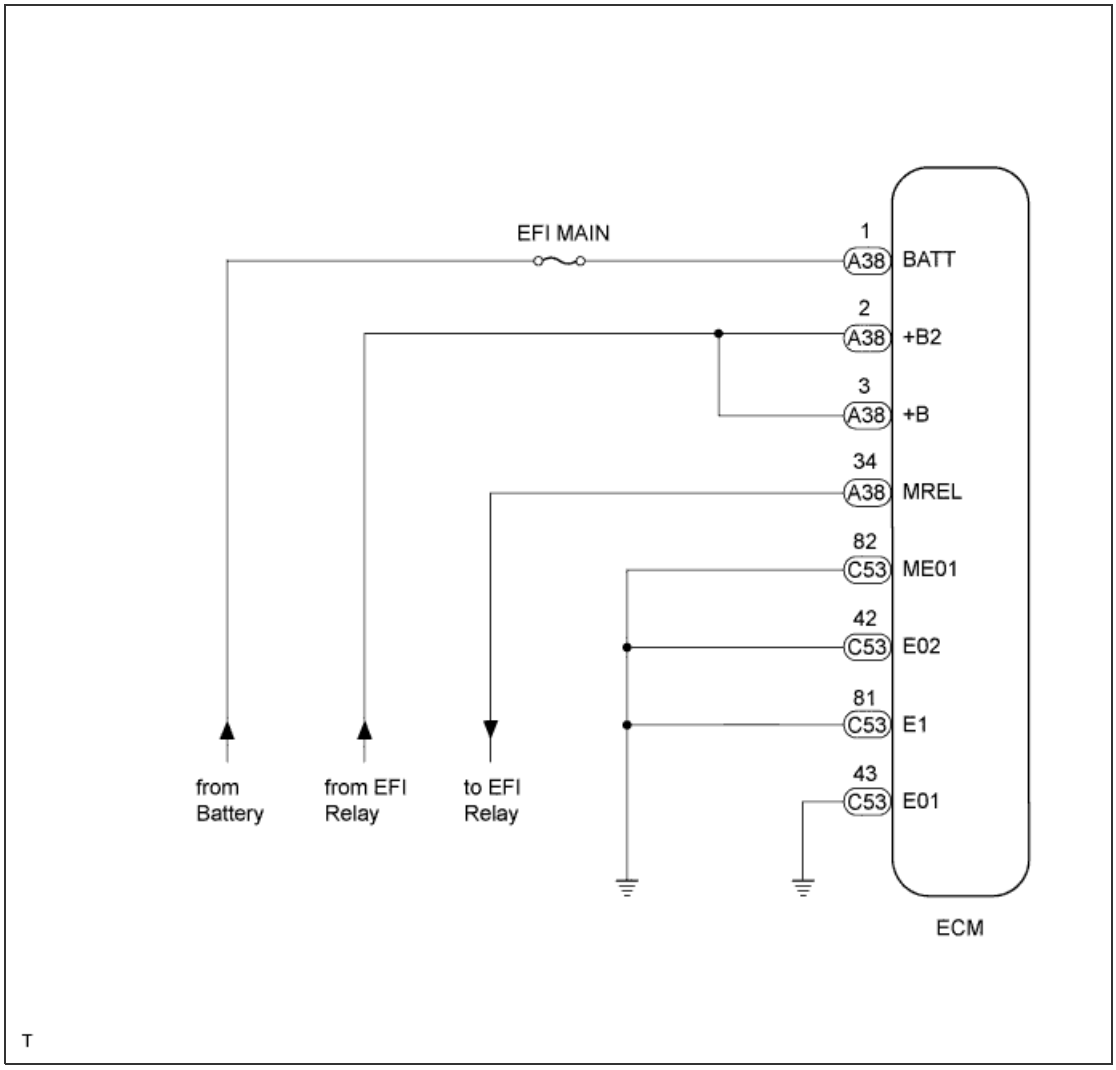
REPLACE NETWORK GATEWAY ECU (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
ECM Communication Stop Mode	When either condition below is met: • "ECM (Engine)" is not displayed on "CAN Bus Check". • Applies to "ECM Communication Stop Mode" in "DTC Combination Table".	• Power source or ECM • ECM

WIRING DIAGRAM



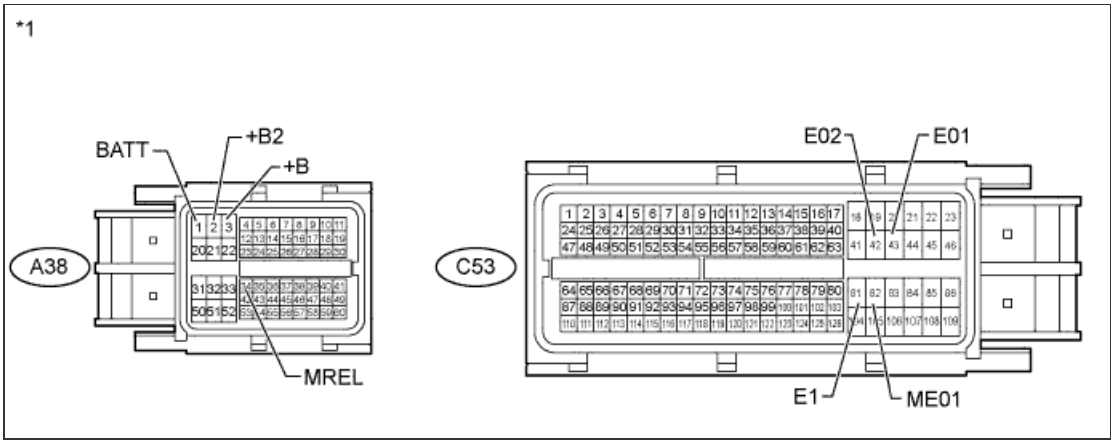
INSPECTION PROCEDURE

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

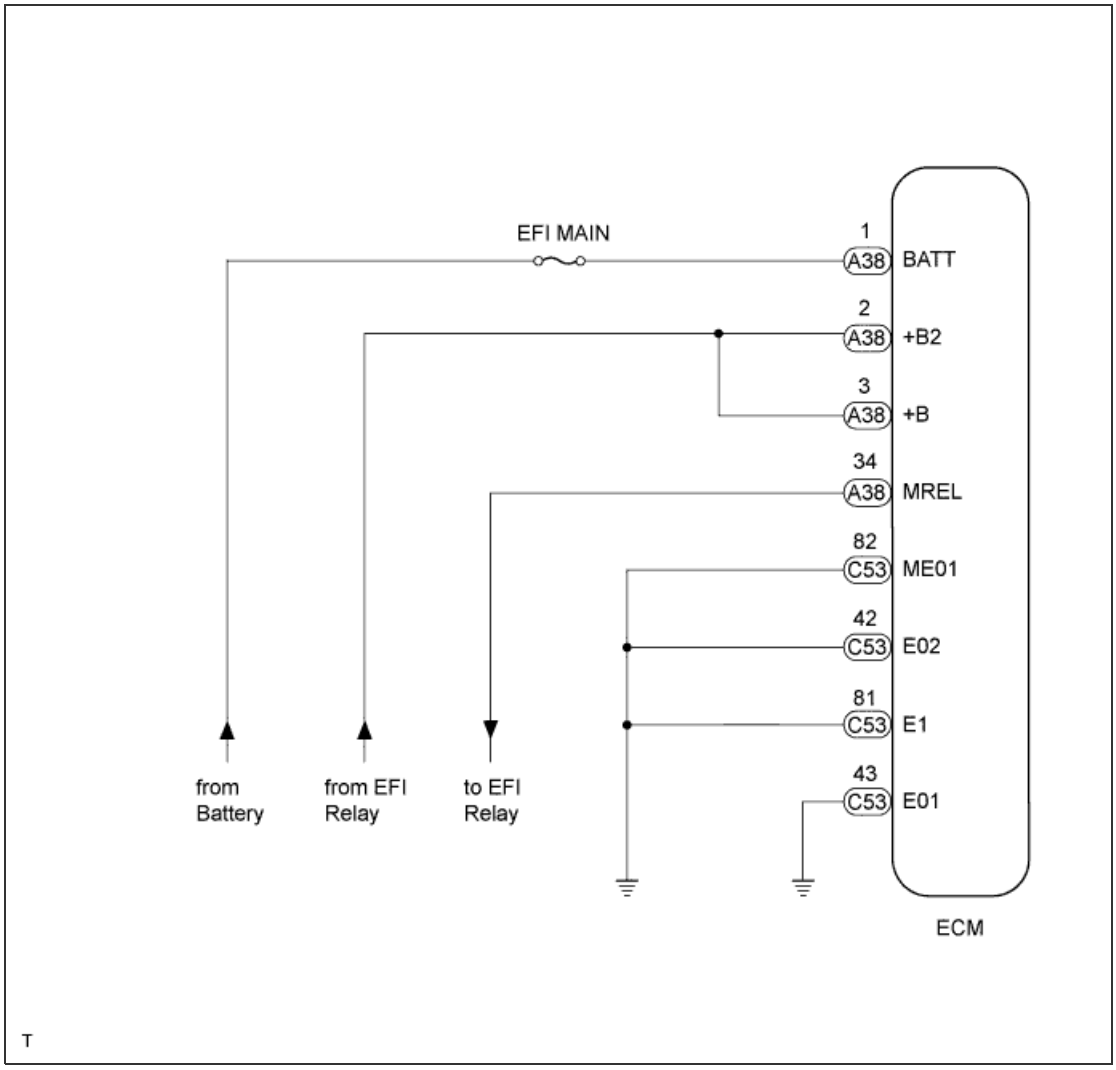
REPLACE ECM (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
ECM Communication Stop Mode	When either condition below is met: • "ECM (Engine)" is not displayed on "CAN Bus Check". • Applies to "ECM Communication Stop Mode" in "DTC Combination Table".	• Power source or ECM • ECM

WIRING DIAGRAM



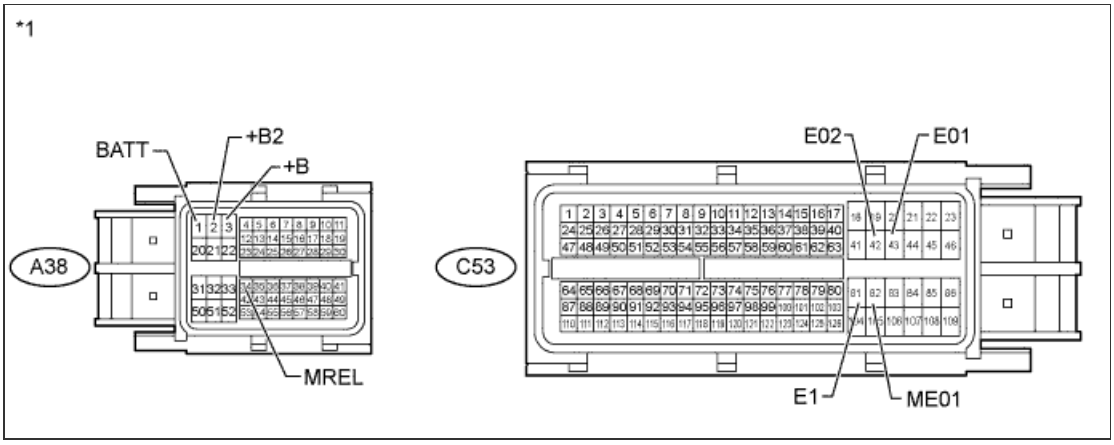
INSPECTION PROCEDURE

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

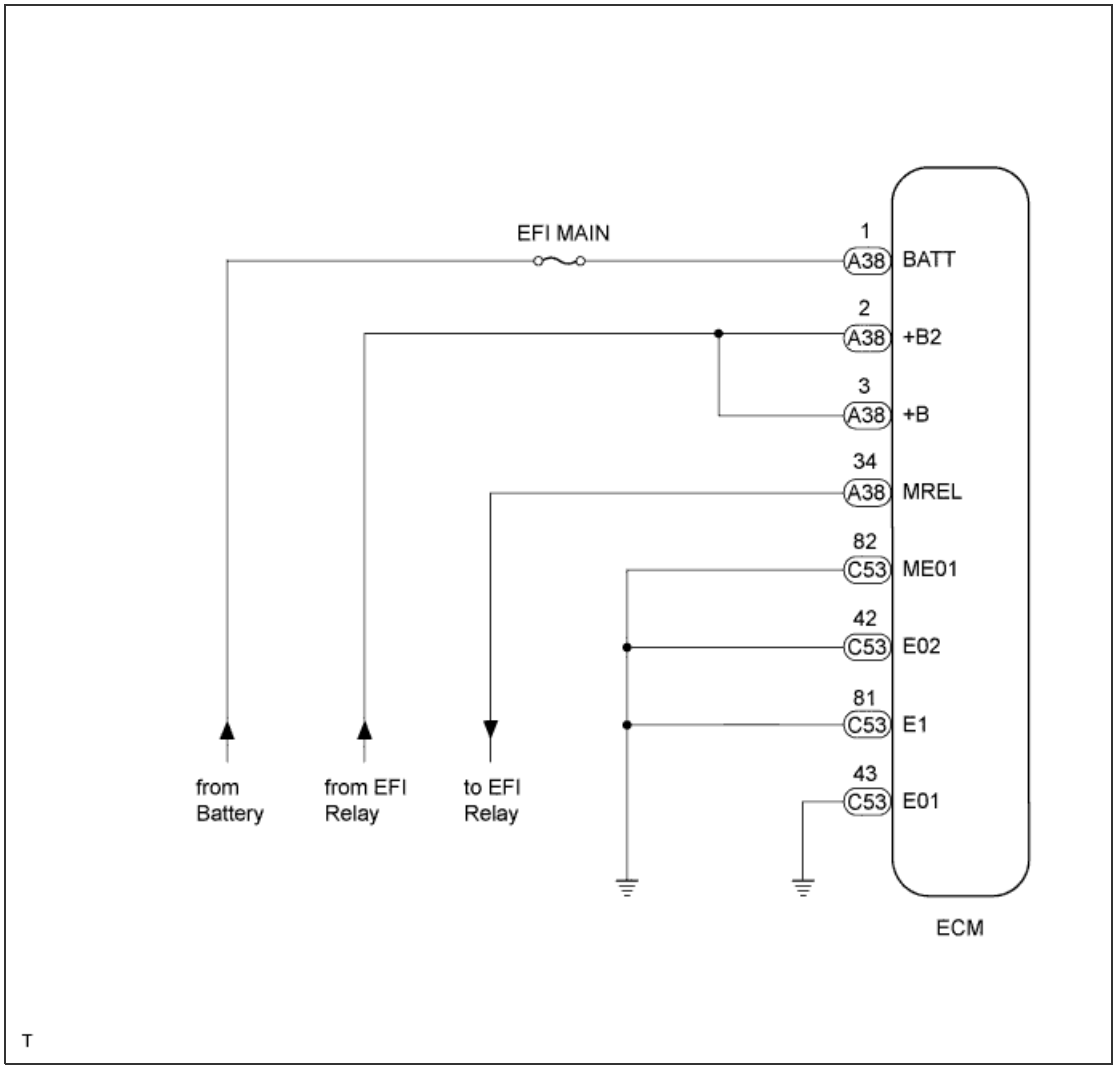
REPLACE ECM (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
ECM Communication Stop Mode	When either condition below is met: • "ECM (Engine)" is not displayed on "CAN Bus Check". • Applies to "ECM Communication Stop Mode" in "DTC Combination Table".	• Power source or ECM • ECM

WIRING DIAGRAM



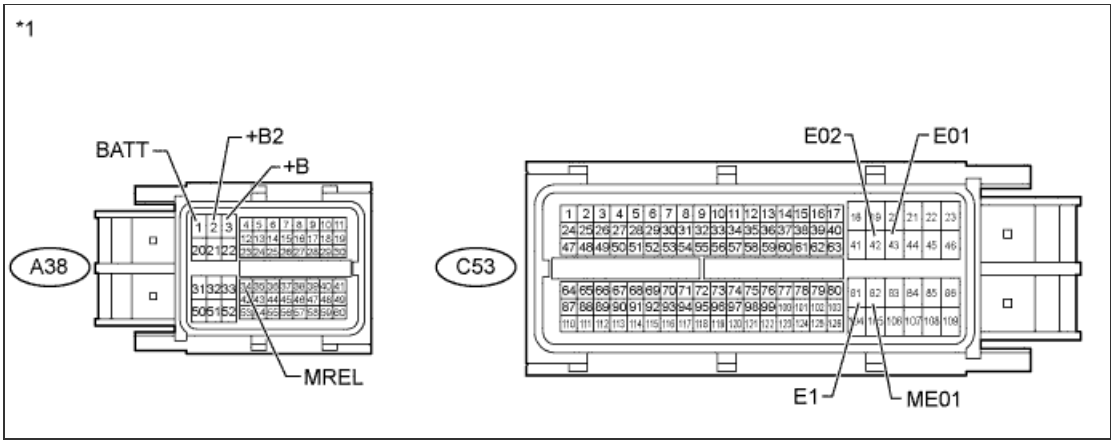
INSPECTION PROCEDURE

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

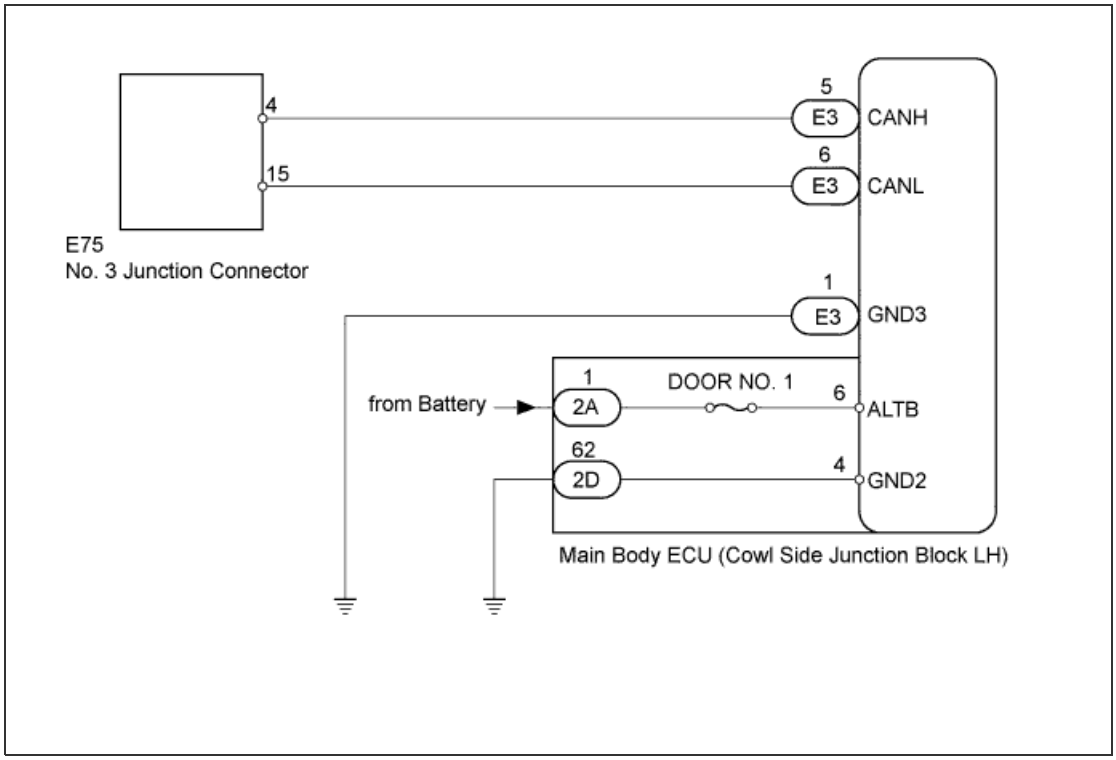
REPLACE ECM (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Main Body ECU Communication Stop Mode	When either condition below is met: • "Main Body" is not displayed on "CAN Bus Check". • Applies to "Main Body ECU Communication Stop Mode" in "DTC Combination Table"	• Power source or inside main body ECU (cowl side junction block LH) • Main body ECU (cowl side junction block LH) branch wire or connector • 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

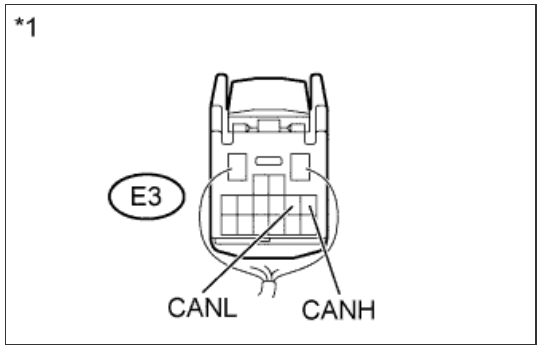
3.CHECK FOR OPEN IN CAN BUS WIRE (MAIN BODY ECU CAN BRANCH WIRE)

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

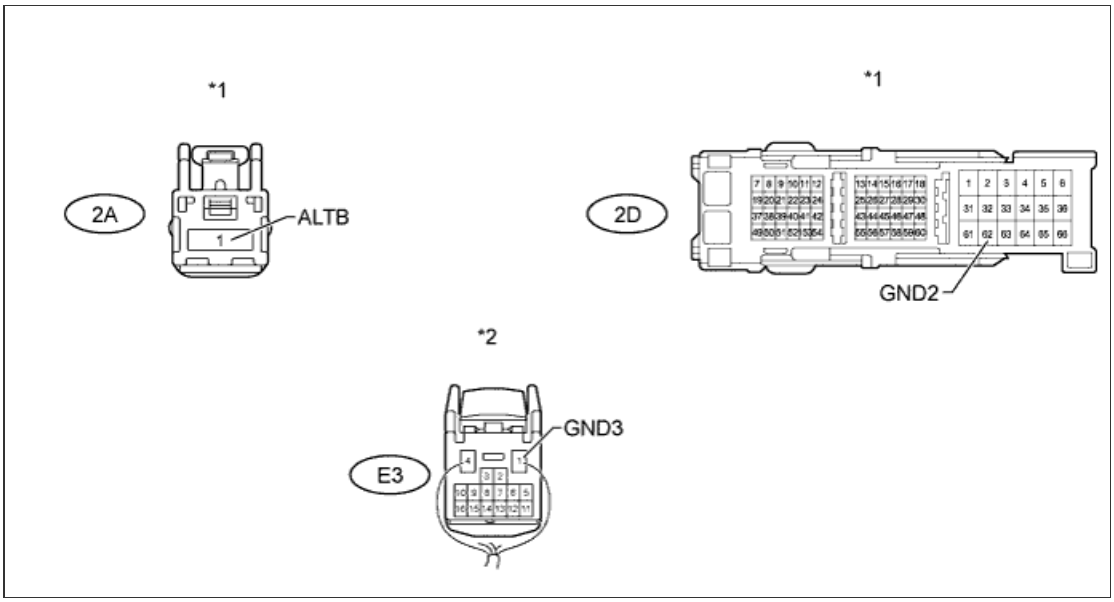
*1	Rear view of wire harness connector (to Main Body ECU [Cowl Side Junction Block LH])

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

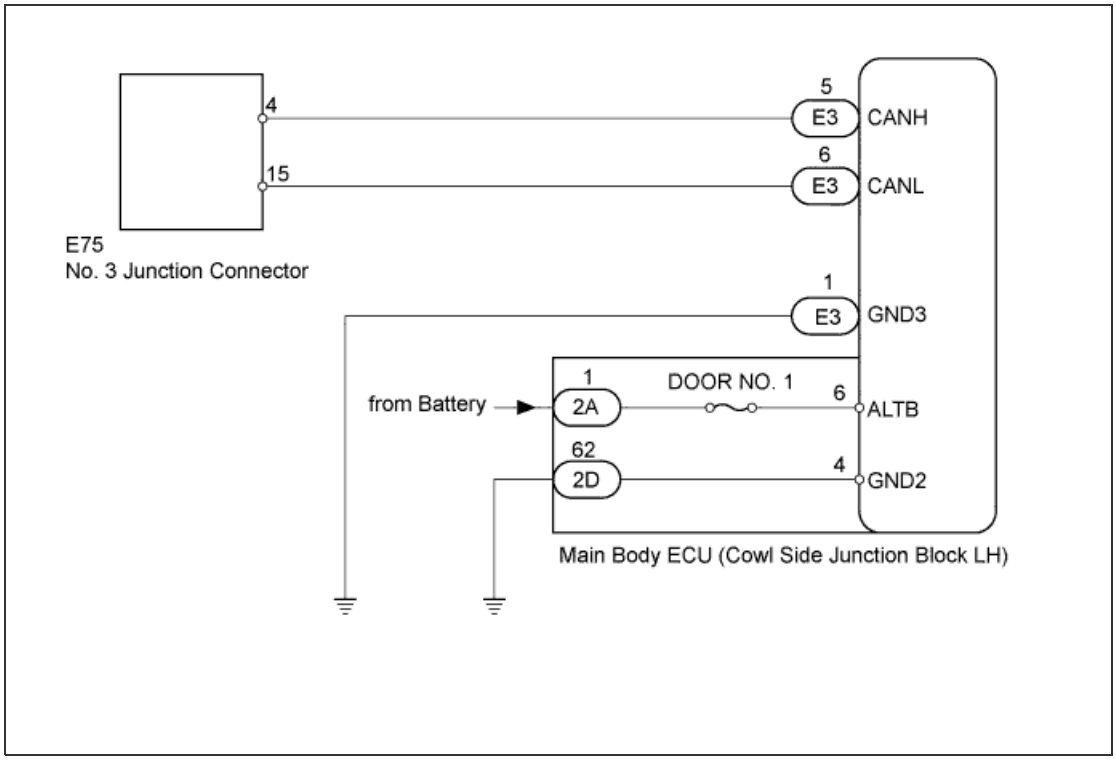
OK → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Main Body ECU Communication Stop Mode	When either condition below is met: • "Main Body" is not displayed on "CAN Bus Check". • Applies to "Main Body ECU Communication Stop Mode" in "DTC Combination Table"	• Power source or inside main body ECU (cowl side junction block LH) • Main body ECU (cowl side junction block LH) branch wire or connector • 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

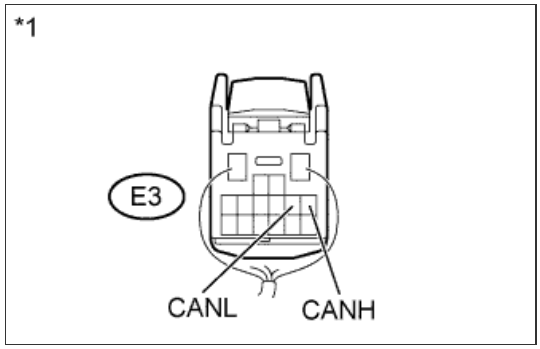
3.CHECK FOR OPEN IN CAN BUS WIRE (MAIN BODY ECU CAN BRANCH WIRE)

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

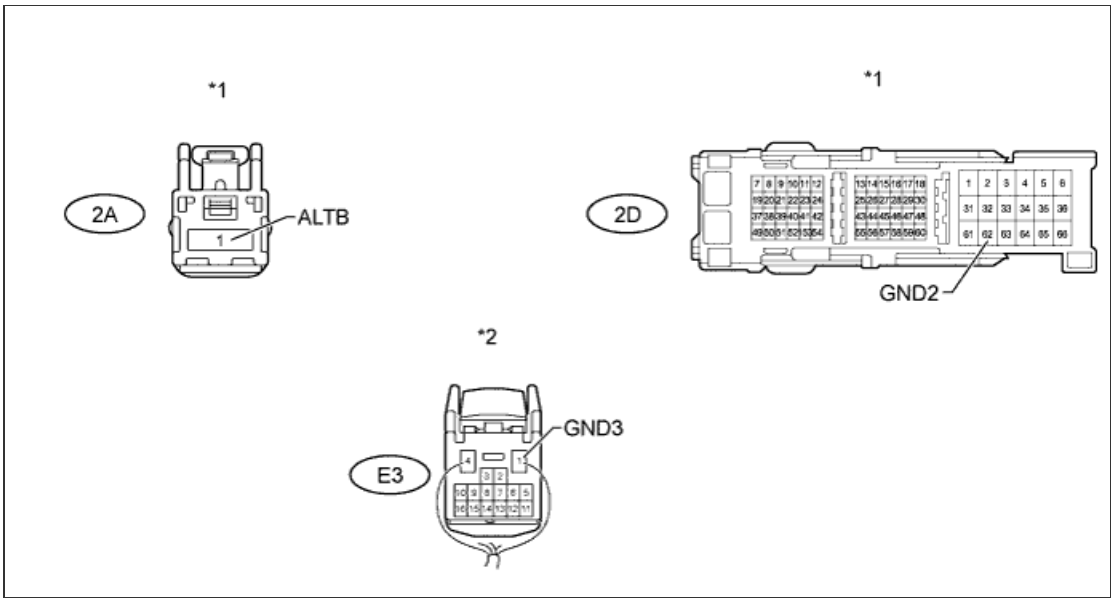
*1	Rear view of wire harness connector (to Main Body ECU [Cowl Side Junction Block LH])

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

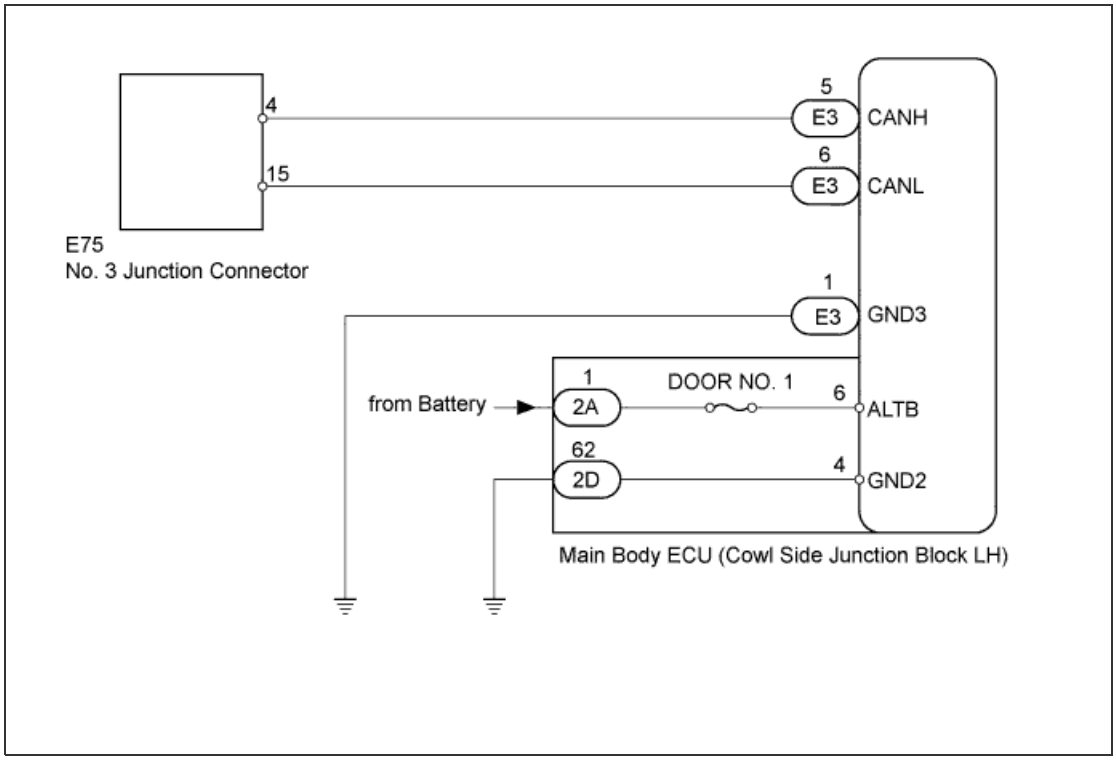
OK → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Main Body ECU Communication Stop Mode	When either condition below is met: • "Main Body" is not displayed on "CAN Bus Check". • Applies to "Main Body ECU Communication Stop Mode" in "DTC Combination Table"	• Power source or inside main body ECU (cowl side junction block LH) • Main body ECU (cowl side junction block LH) branch wire or connector • 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

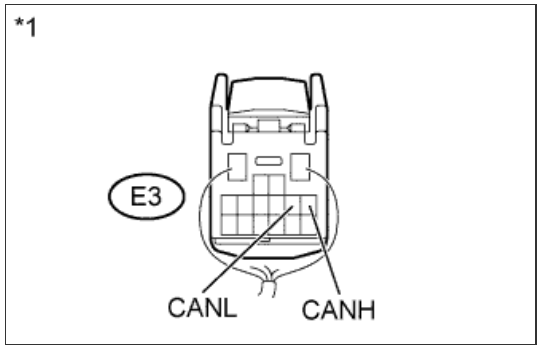
3.CHECK FOR OPEN IN CAN BUS WIRE (MAIN BODY ECU CAN BRANCH WIRE)

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

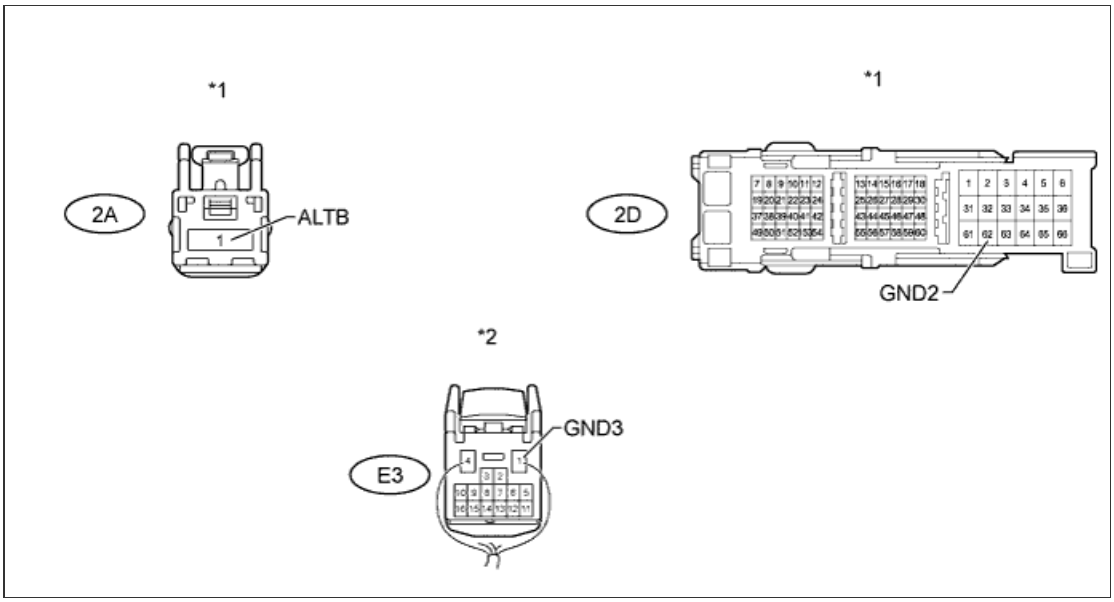
*1	Rear view of wire harness connector (to Main Body ECU [Cowl Side Junction Block LH])

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

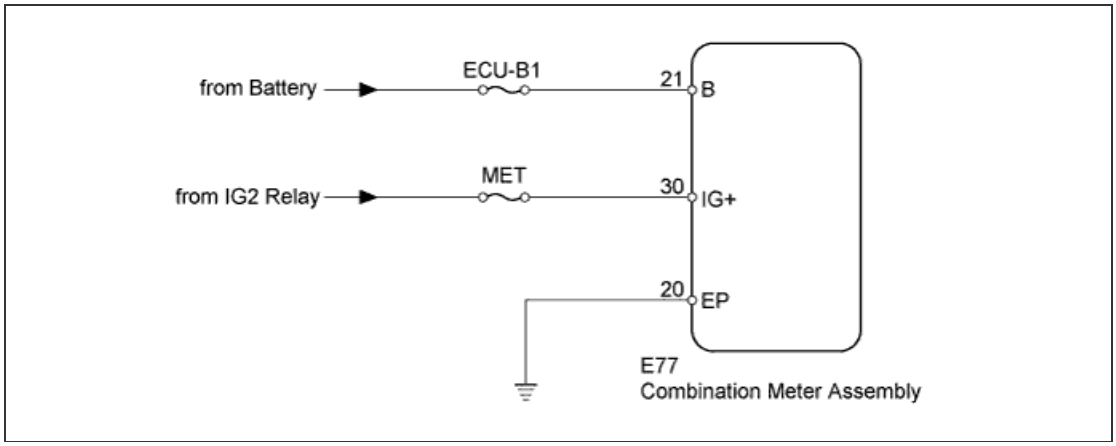
OK → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Combination Meter ECU Communication Stop Mode	When either condition below is met: • "Combination Meter" is not displayed on "CAN Bus Check". • Applies to "Combination Meter ECU Communication Stop Mode" in "DTC Combination Table".	• Power source or inside combination meter assembly • 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.

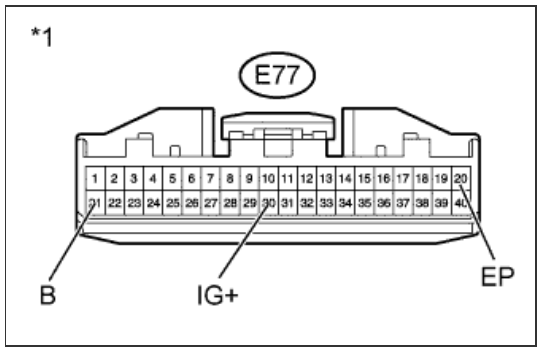
Standard Voltage:

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

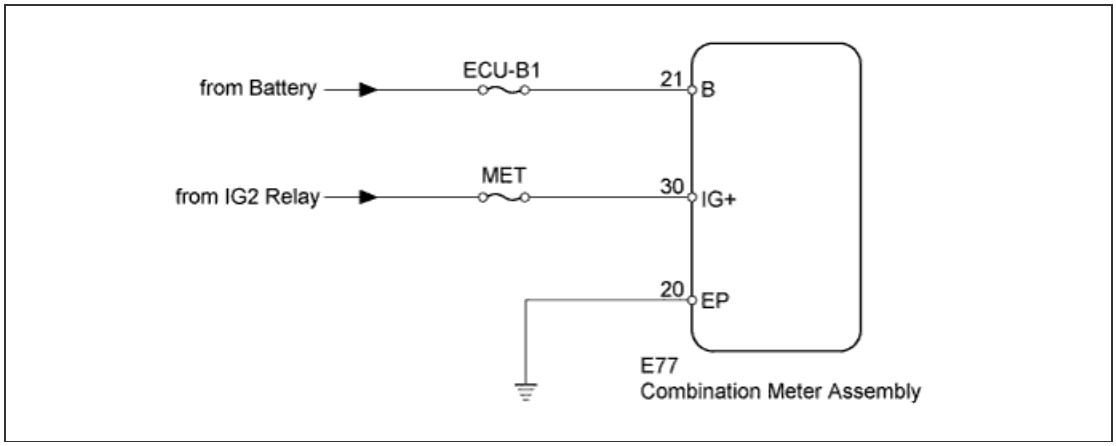
REPLACE COMBINATION METER ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Combination Meter ECU Communication Stop Mode	When either condition below is met: • "Combination Meter" is not displayed on "CAN Bus Check". • Applies to "Combination Meter ECU Communication Stop Mode" in "DTC Combination Table".	• Power source or inside combination meter assembly • 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.

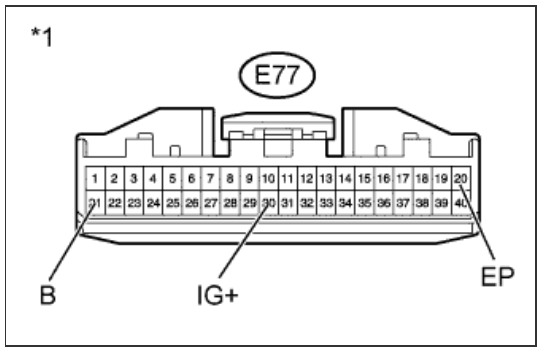
Standard Voltage:

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

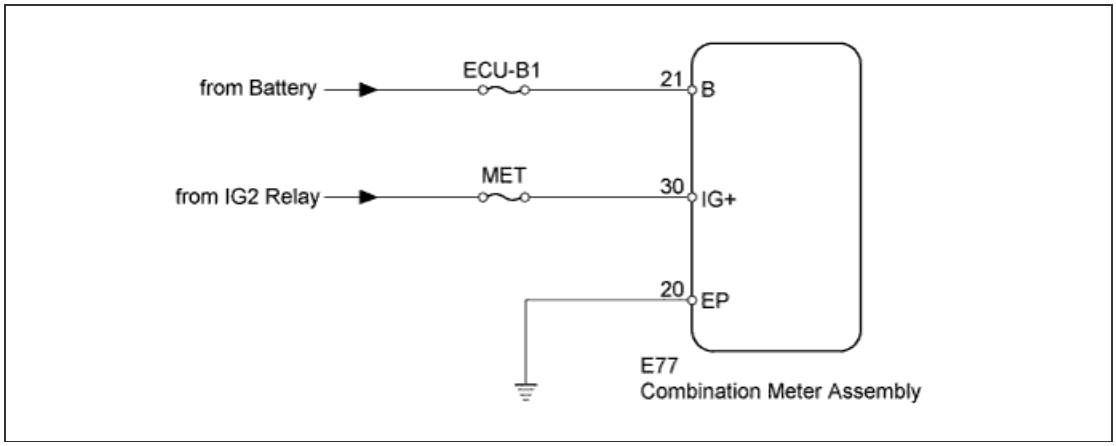
REPLACE COMBINATION METER ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Combination Meter ECU Communication Stop Mode	When either condition below is met: • "Combination Meter" is not displayed on "CAN Bus Check". • Applies to "Combination Meter ECU Communication Stop Mode" in "DTC Combination Table".	• Power source or inside combination meter assembly • 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.

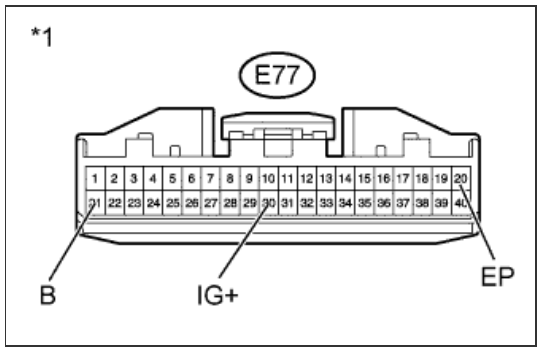
Standard Voltage:

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

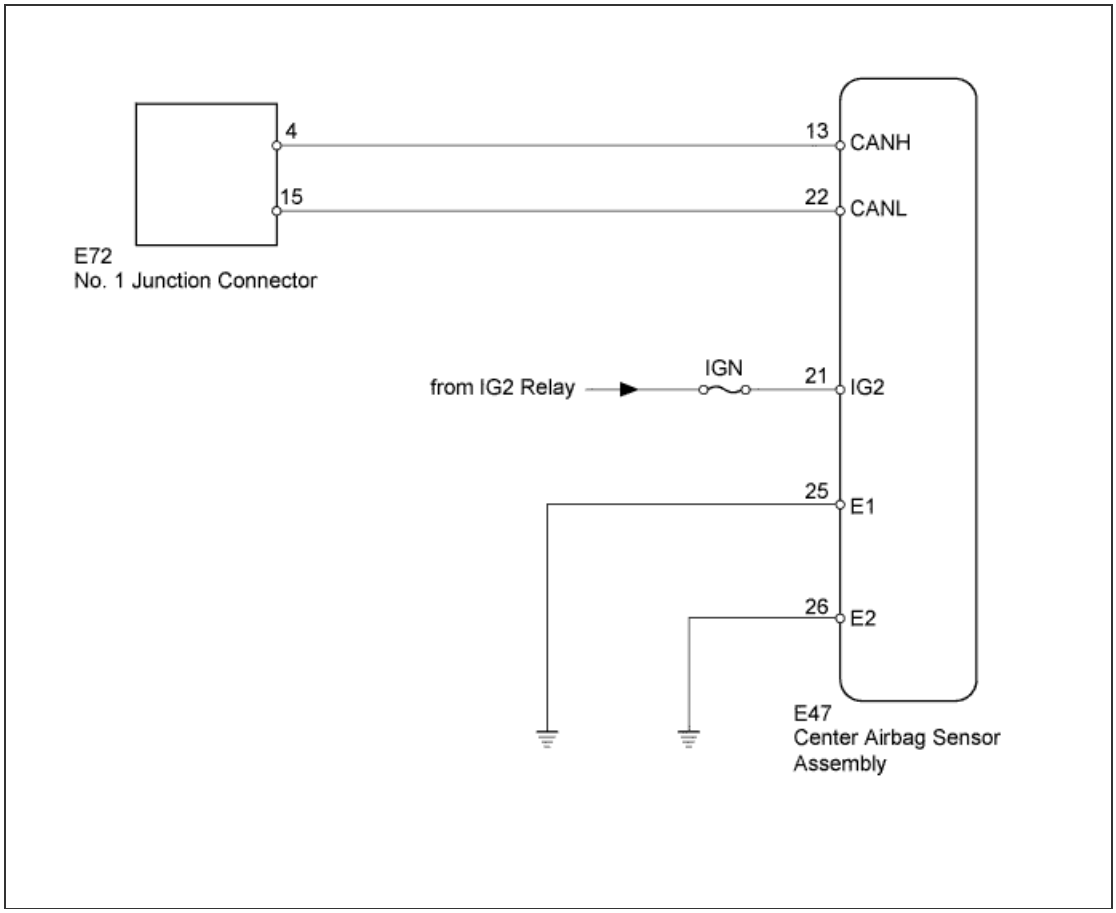
REPLACE COMBINATION METER ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Center Airbag Sensor Communication Stop Mode	When either condition below is met: • "Airbag" is not displayed on "CAN Bus Check". • Applies to "Center Airbag Sensor Communication Stop Mode" in "DTC Combination Table".	• Power source or center airbag sensor assembly • Center airbag sensor assembly CAN branch wire or connector • 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).

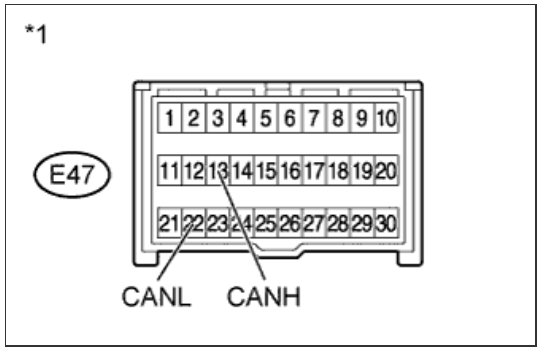
b. Measure the resistance according to the value(s) in the table below.

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.

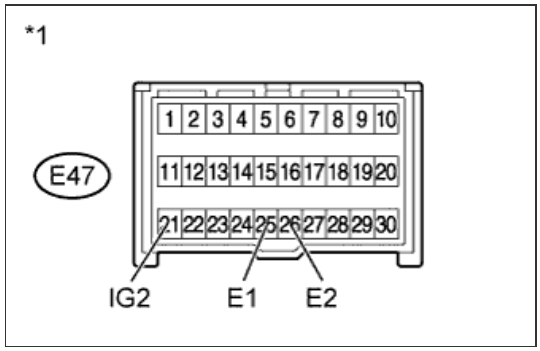
NOTICE:

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

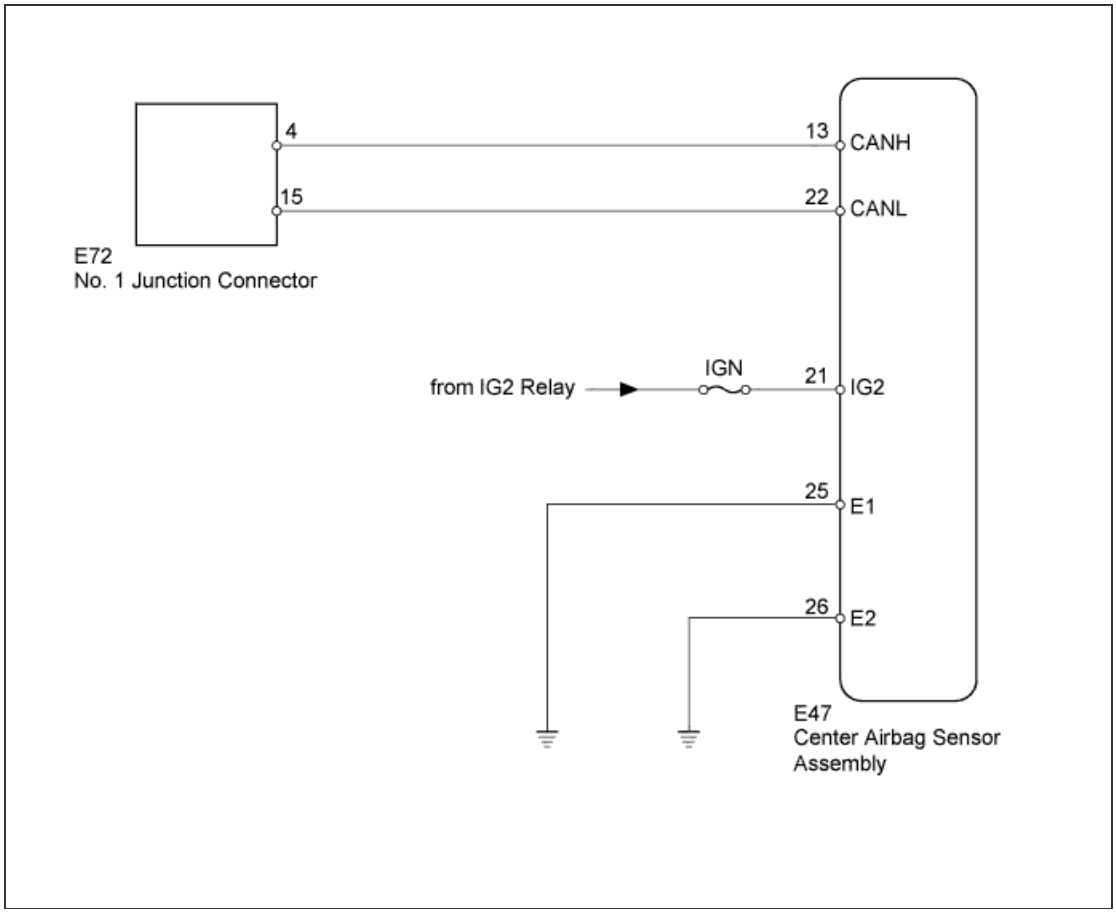
REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Center Airbag Sensor Communication Stop Mode	When either condition below is met: • "Airbag" is not displayed on "CAN Bus Check". • Applies to "Center Airbag Sensor Communication Stop Mode" in "DTC Combination Table".	• Power source or center airbag sensor assembly • Center airbag sensor assembly CAN branch wire or connector • 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).

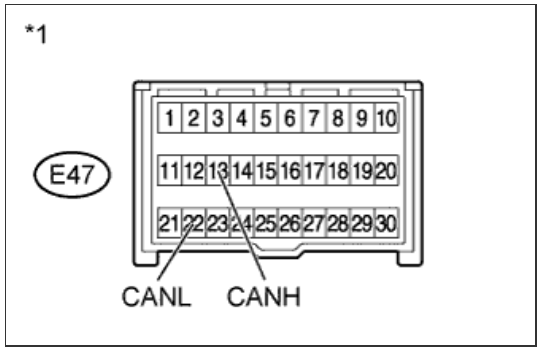
b. Measure the resistance according to the value(s) in the table below.

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.

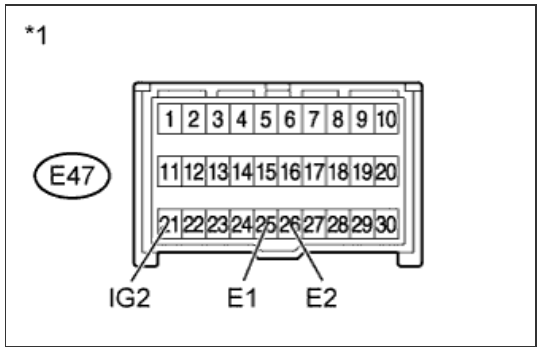
NOTICE:

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

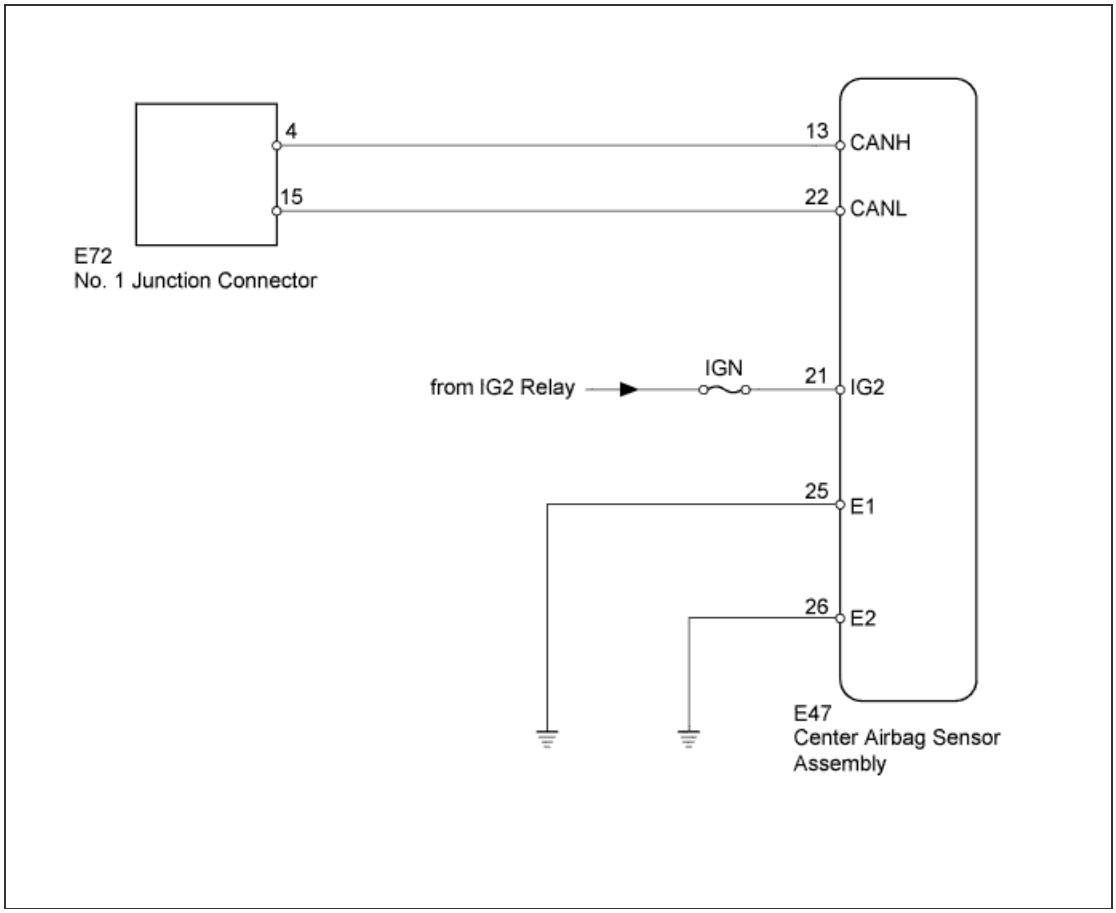
REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Center Airbag Sensor Communication Stop Mode	When either condition below is met: • "Airbag" is not displayed on "CAN Bus Check". • Applies to "Center Airbag Sensor Communication Stop Mode" in "DTC Combination Table".	• Power source or center airbag sensor assembly • Center airbag sensor assembly CAN branch wire or connector • 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).

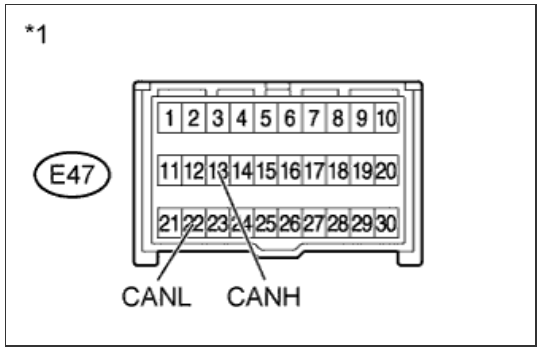
b. Measure the resistance according to the value(s) in the table below.

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.

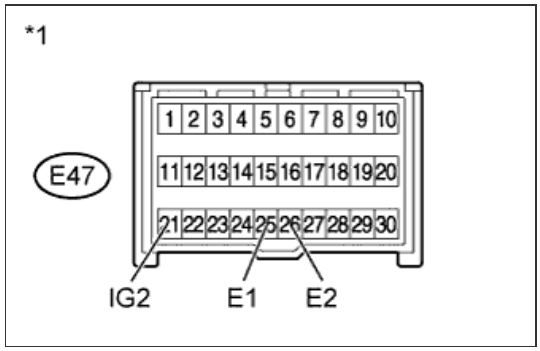
NOTICE:

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

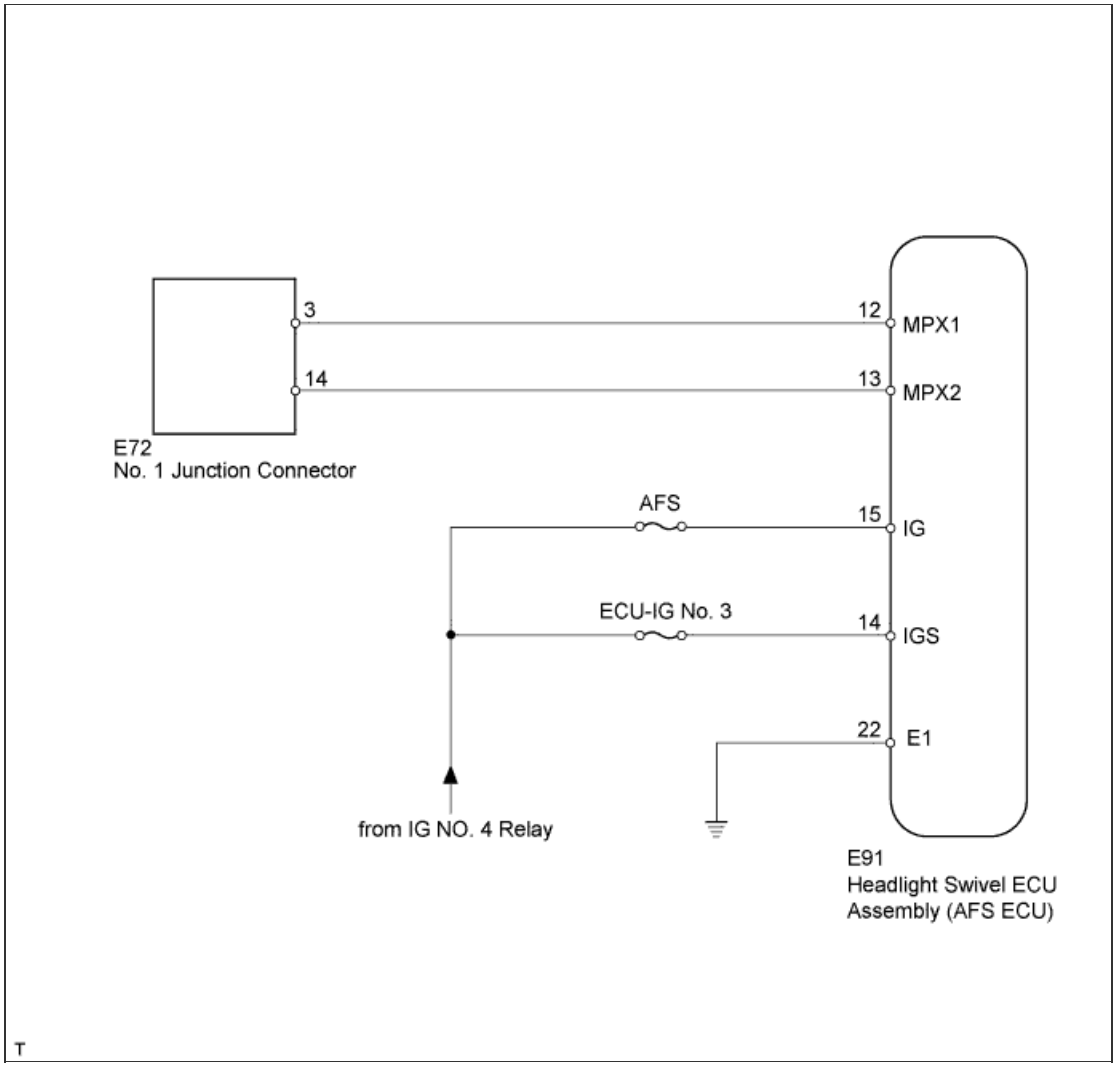
REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
AFS ECU Communication Stop Mode	When either condition below is met: • "Headlight swivel (AFS)" is not displayed on "CAN Bus Check". • Applies to "AFS ECU Communication Stop Mode" in "DTC Combination Table".	• Power source or inside headlight swivel ECU assembly (AFS ECU) • Headlight swivel ECU assembly (AFS ECU) CAN branch wire or connector • 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.

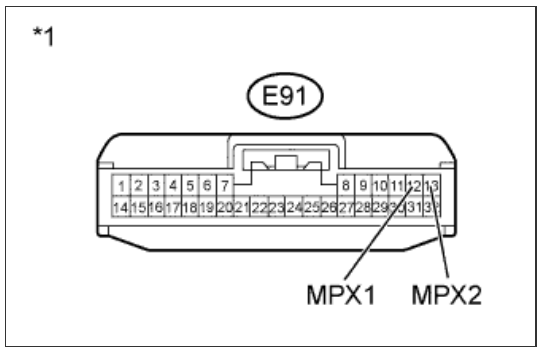
b. Measure the resistance according to the value(s) in the table below.

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.

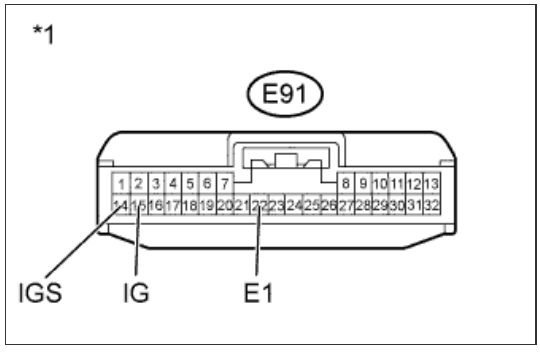
NOTICE:

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 (to Headlight Swivel ECU Assembly [AFS ECU])

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

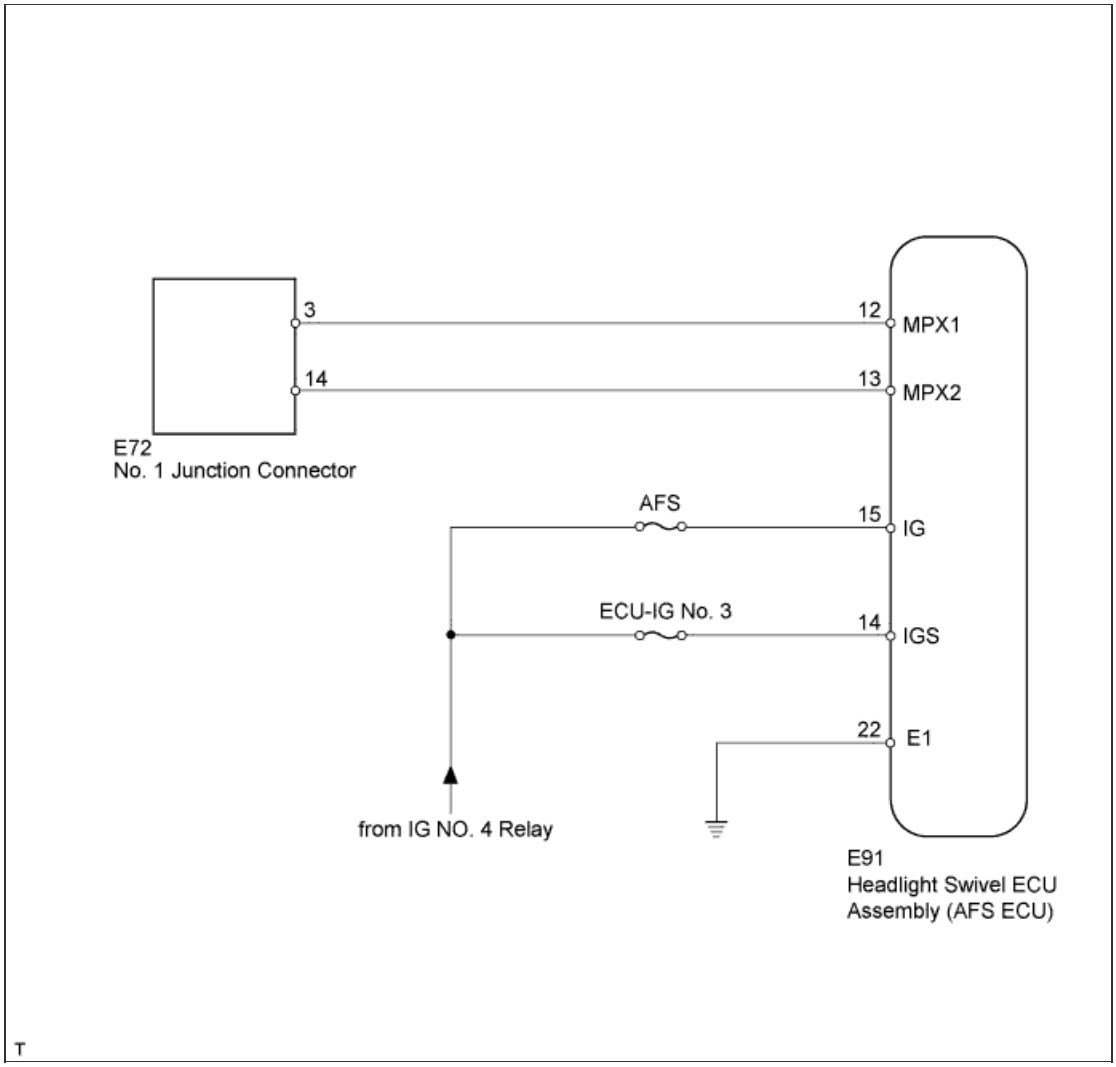
REPLACE HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU) (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
AFS ECU Communication Stop Mode	When either condition below is met: • "Headlight swivel (AFS)" is not displayed on "CAN Bus Check". • Applies to "AFS ECU Communication Stop Mode" in "DTC Combination Table".	• Power source or inside headlight swivel ECU assembly (AFS ECU) • Headlight swivel ECU assembly (AFS ECU) CAN branch wire or connector • 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.

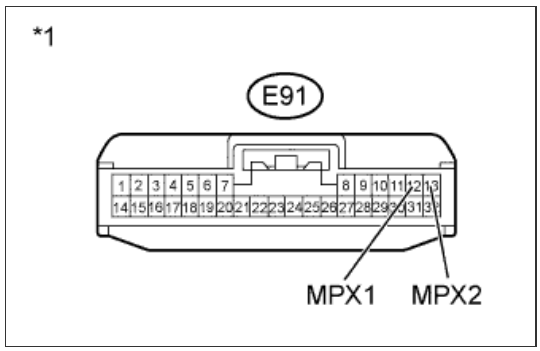
b. Measure the resistance according to the value(s) in the table below.

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.

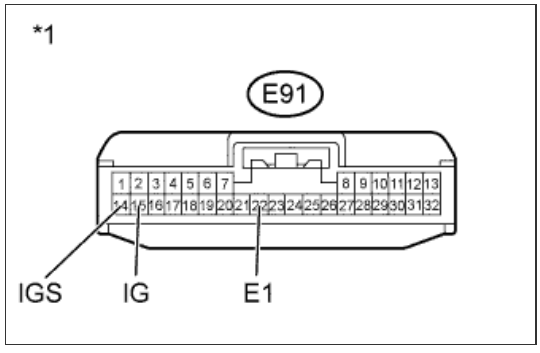
NOTICE:

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 (to Headlight Swivel ECU Assembly [AFS ECU])

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

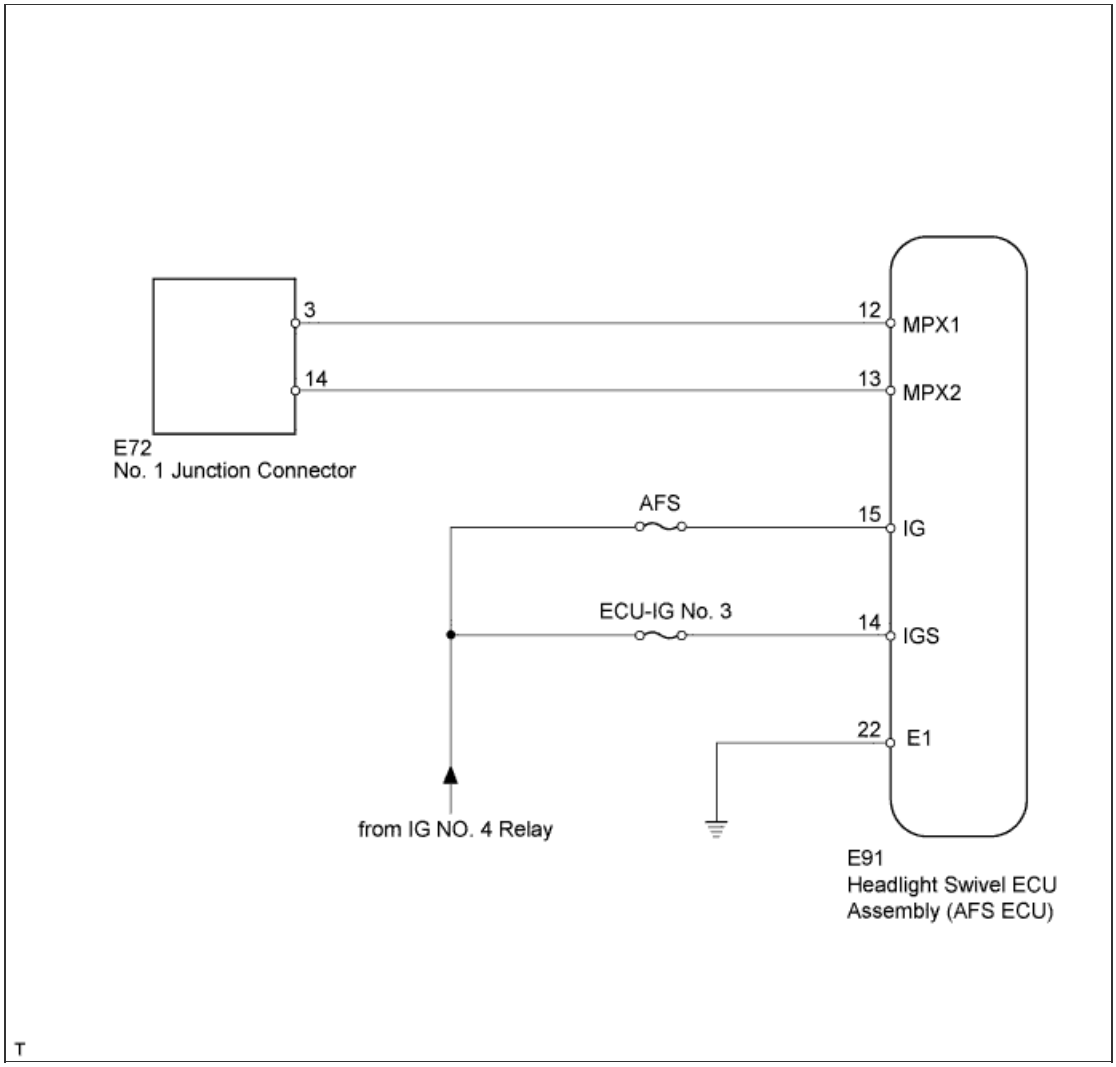
REPLACE HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU) (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
AFS ECU Communication Stop Mode	When either condition below is met: • "Headlight swivel (AFS)" is not displayed on "CAN Bus Check". • Applies to "AFS ECU Communication Stop Mode" in "DTC Combination Table".	• Power source or inside headlight swivel ECU assembly (AFS ECU) • Headlight swivel ECU assembly (AFS ECU) CAN branch wire or connector • 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.

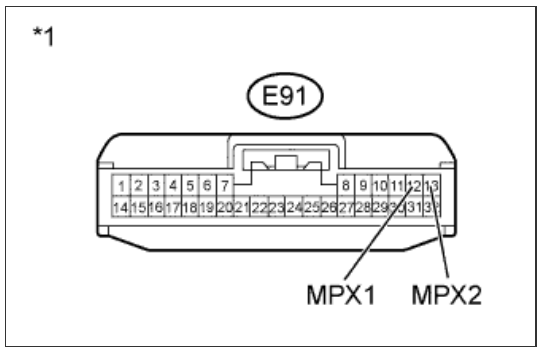
b. Measure the resistance according to the value(s) in the table below.

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.

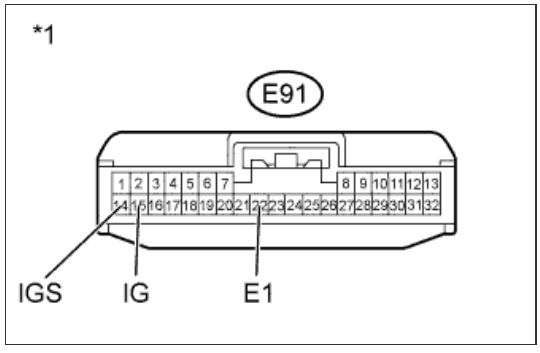
NOTICE:

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 (to Headlight Swivel ECU Assembly [AFS ECU])

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

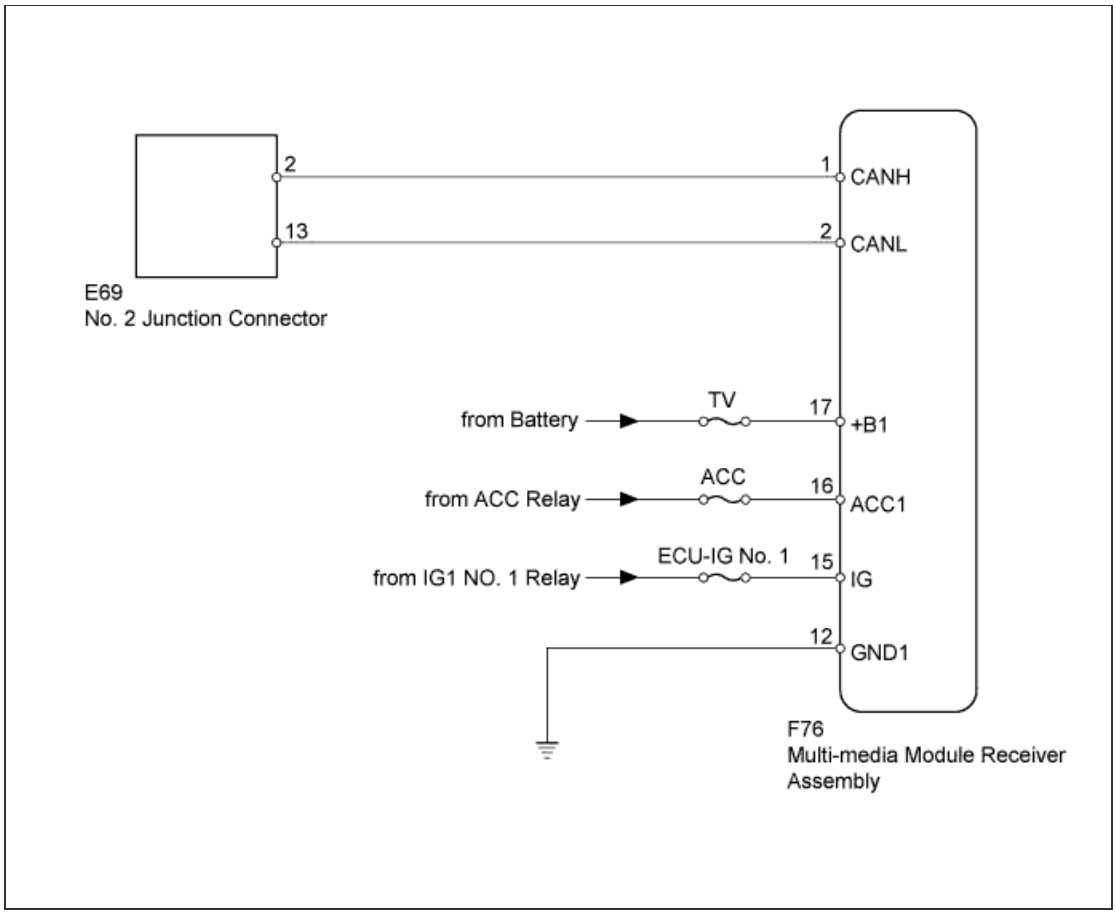
REPLACE HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU) (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Multi-media Module Receiver Assembly Communication Stop Mode	When either condition below is met: • "Display and Navigation (AVN)" is not displayed on "CAN Bus Check". • Applies to "Multi-media Module Receiver Assembly Communication Stop Mode" in "DTC Combination Table".	• Power source or inside multi-media module receiver assembly • Multi-media module receiver assembly CAN branch wire or connector • 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.

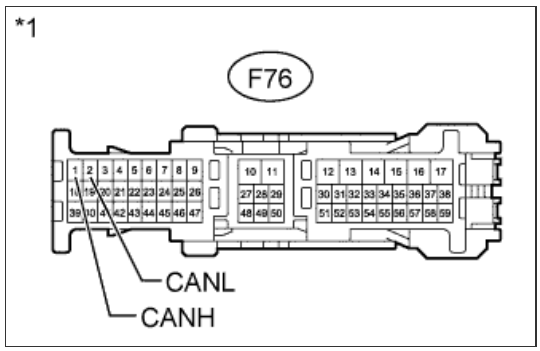
b. Measure the resistance according to the value(s) in the table below.

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.

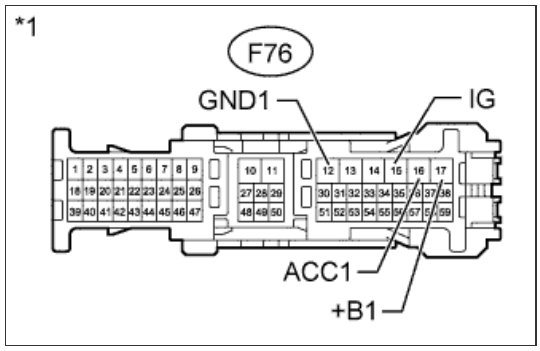
NOTICE:

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

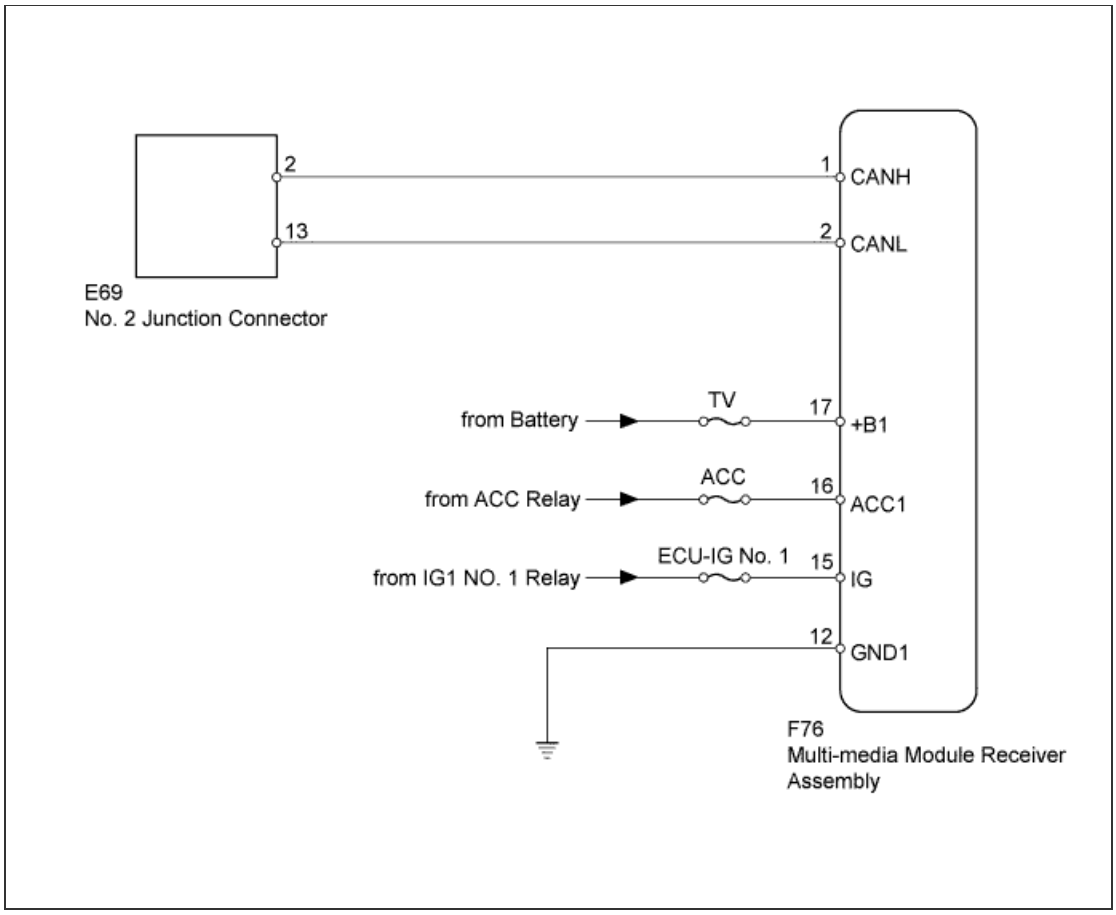
REPLACE MULTI-MEDIA MODULE RECEIVER ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Multi-media Module Receiver Assembly Communication Stop Mode	When either condition below is met: • "Display and Navigation (AVN)" is not displayed on "CAN Bus Check". • Applies to "Multi-media Module Receiver Assembly Communication Stop Mode" in "DTC Combination Table".	• Power source or inside multi-media module receiver assembly • Multi-media module receiver assembly CAN branch wire or connector • 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.

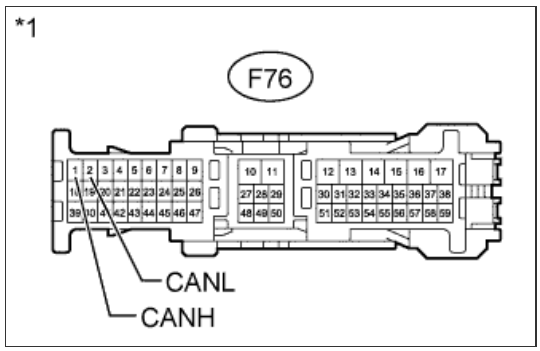
b. Measure the resistance according to the value(s) in the table below.

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.

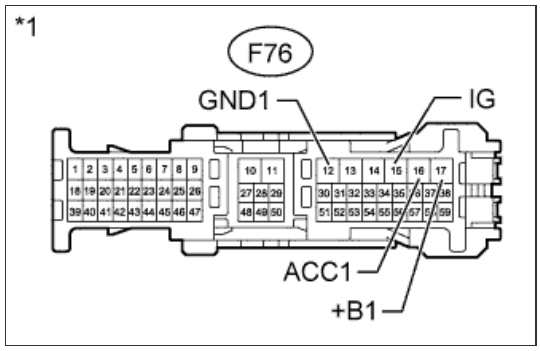
NOTICE:

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

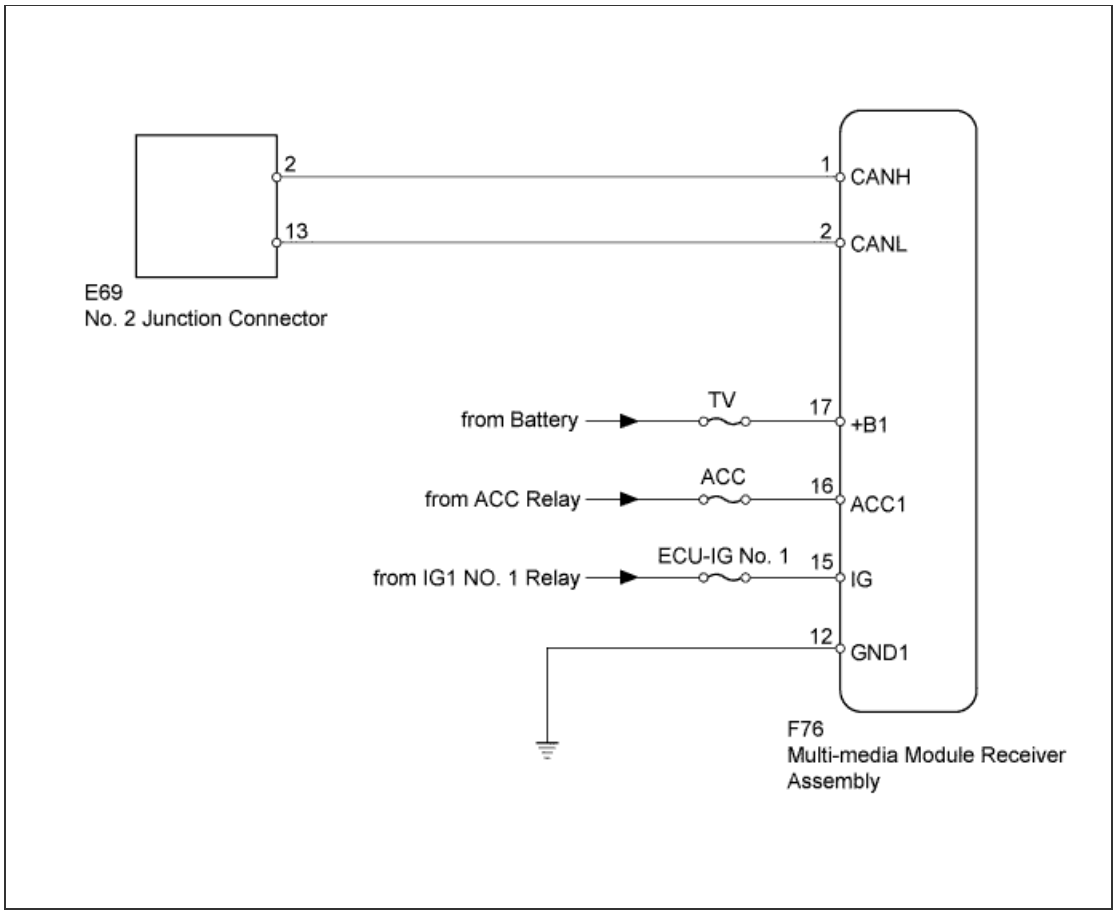
REPLACE MULTI-MEDIA MODULE RECEIVER ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Multi-media Module Receiver Assembly Communication Stop Mode	When either condition below is met: • "Display and Navigation (AVN)" is not displayed on "CAN Bus Check". • Applies to "Multi-media Module Receiver Assembly Communication Stop Mode" in "DTC Combination Table".	• Power source or inside multi-media module receiver assembly • Multi-media module receiver assembly CAN branch wire or connector • 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.

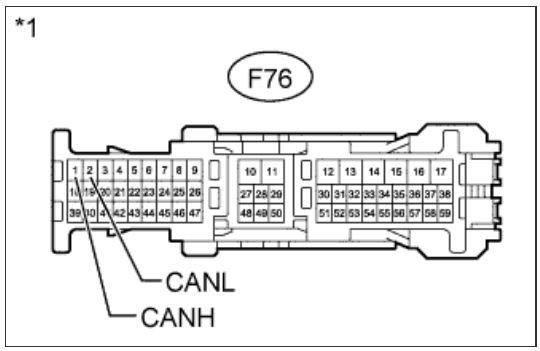
b. Measure the resistance according to the value(s) in the table below.

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.

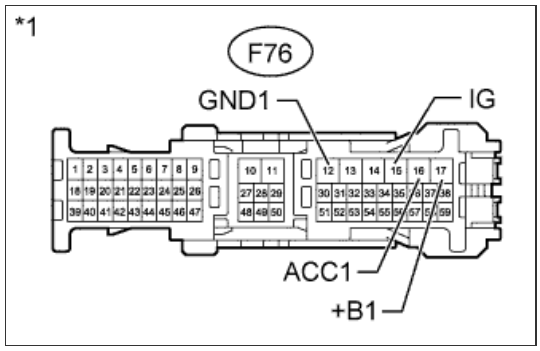
NOTICE:

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)

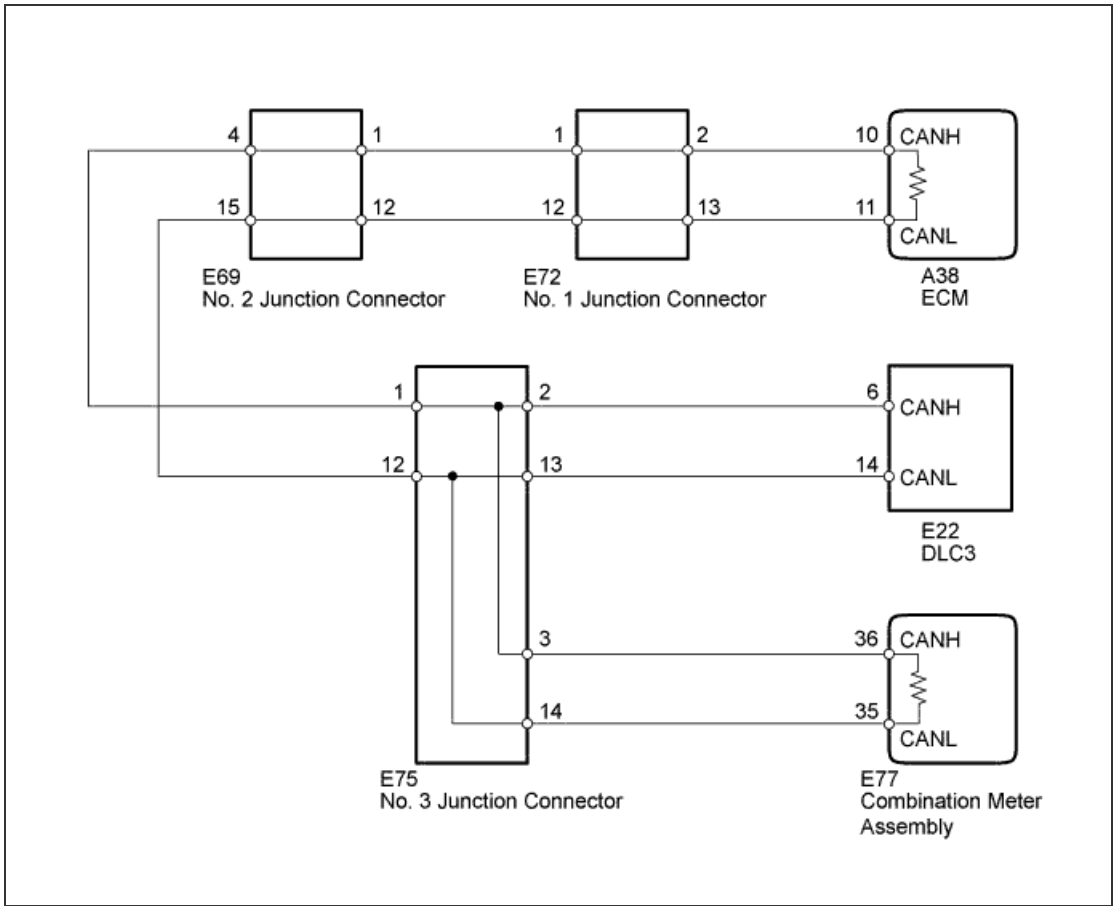
for Preparation Click here

DESCRIPTION

There may be an open circuit in the CAN main wire and/or DLC3 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 • No. 1 junction connector • No. 2 junction connector • No. 3 junction connector • ECM • Combination meter assembly • 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)

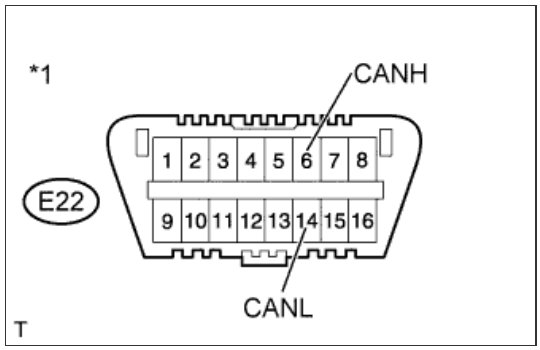
a. Measure the resistance according to the value(s) in the table below.

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.

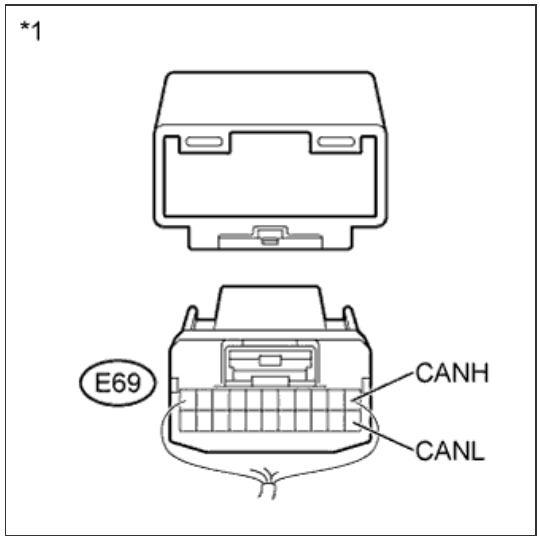
b. Measure the resistance according to the value(s) in the table below.

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)

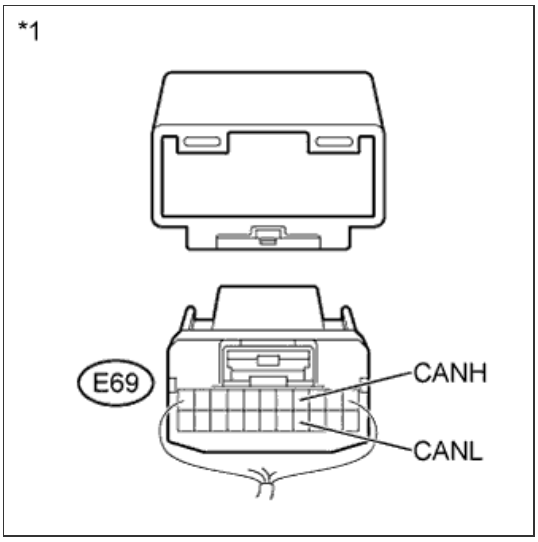
a. Measure the resistance according to the value(s) in the table below.

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.

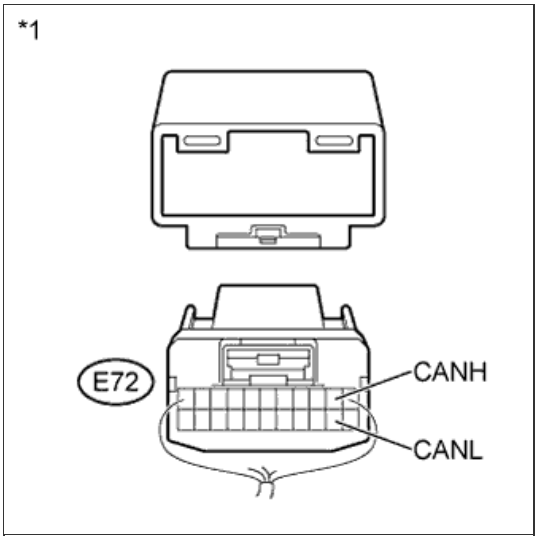
b. Measure the resistance according to the value(s) in the table below.

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)

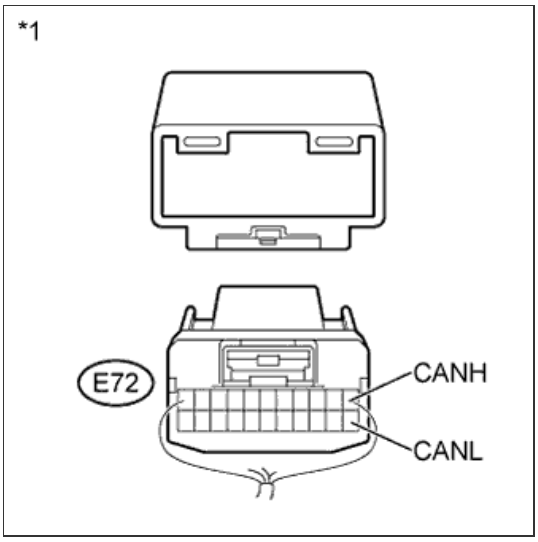
a. Measure the resistance according to the value(s) in the table below.

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.

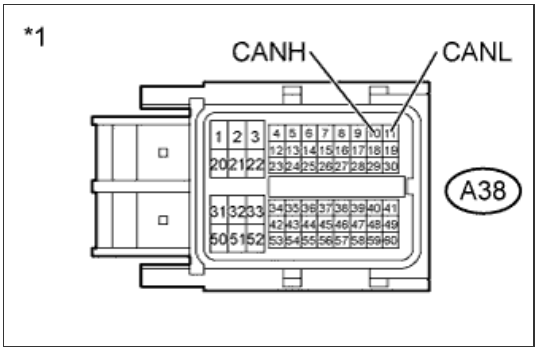
b. Measure the resistance according to the value(s) in the table below.

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.

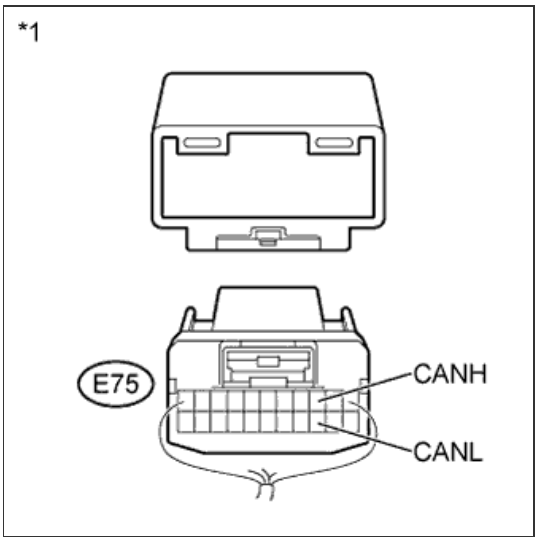
b. Measure the resistance according to the value(s) in the table below.

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)

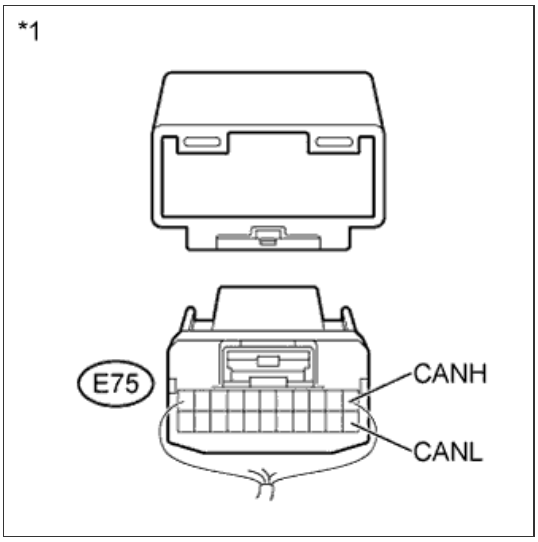
a. Measure the resistance according to the value(s) in the table below.

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.

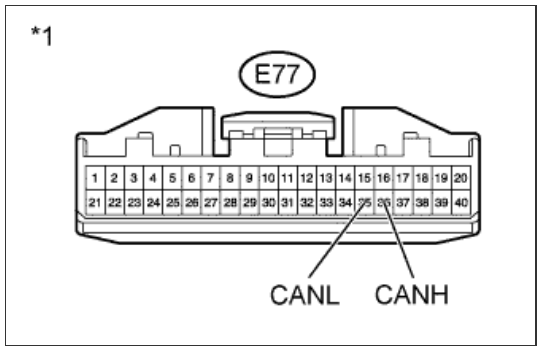
b. Measure the resistance according to the value(s) in the table below.

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)

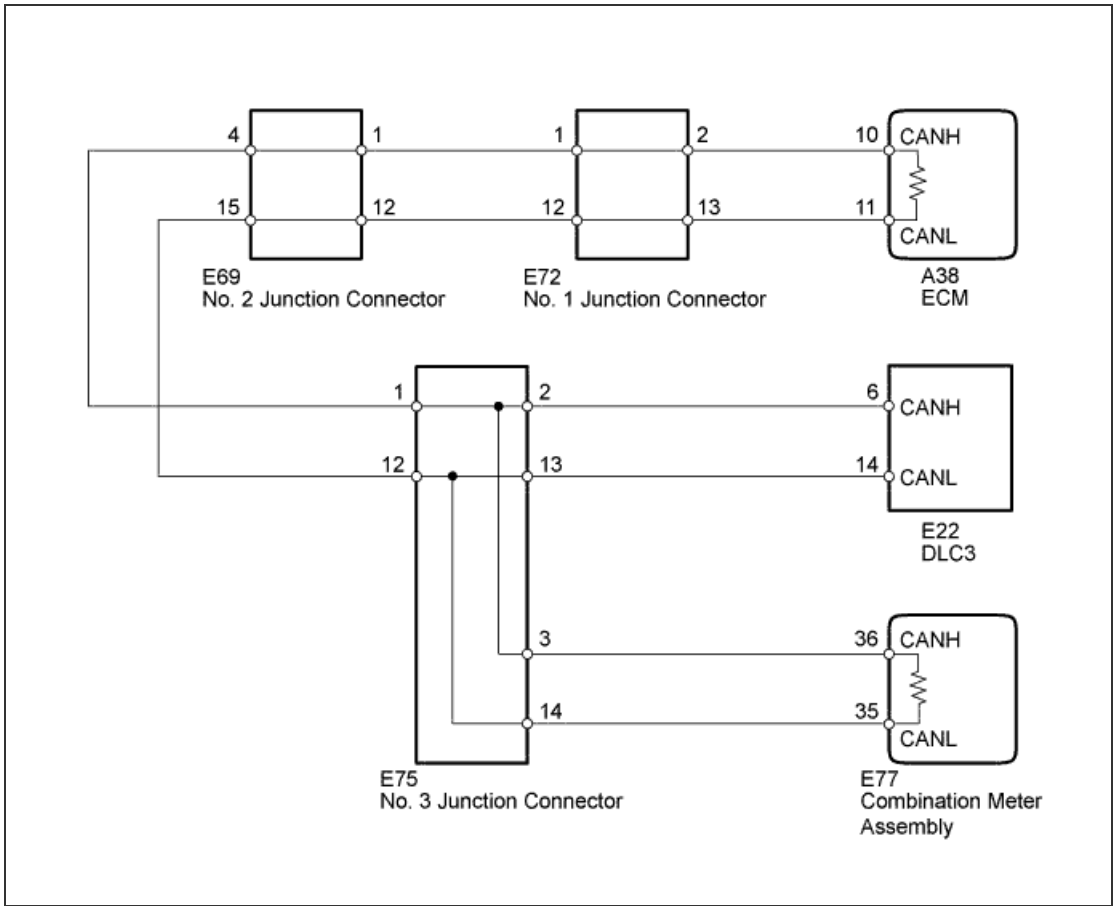
for Preparation Click here

DESCRIPTION

There may be 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 • No. 1 junction connector • No. 2 junction connector • No. 3 junction connector • ECM • Combination meter assembly • 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)

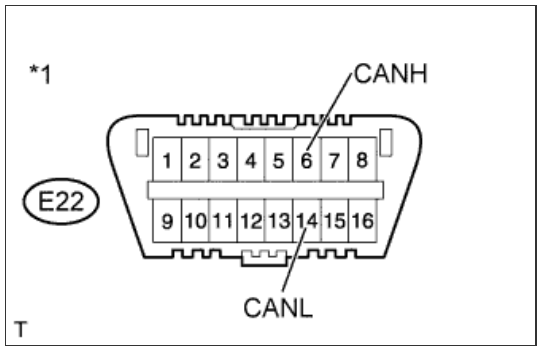
a. Measure the resistance according to the value(s) in the table below.

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.

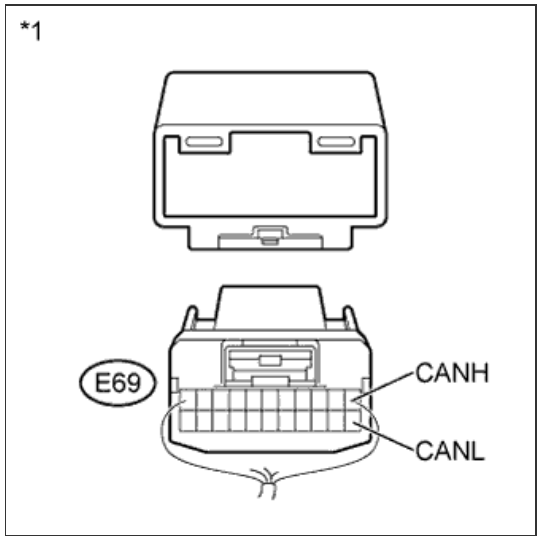
b. Measure the resistance according to the value(s) in the table below.

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)

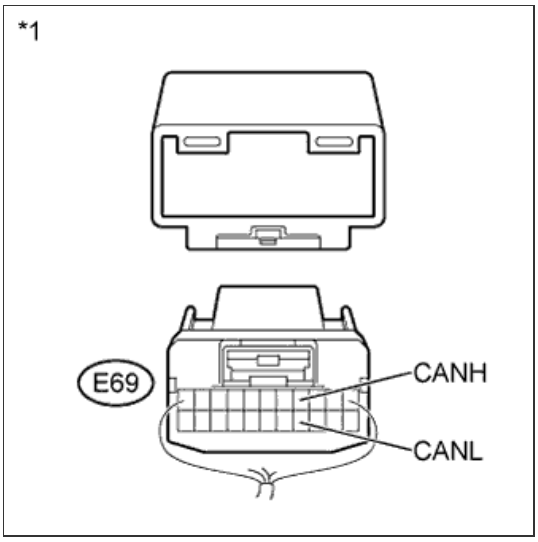
a. Measure the resistance according to the value(s) in the table below.

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.

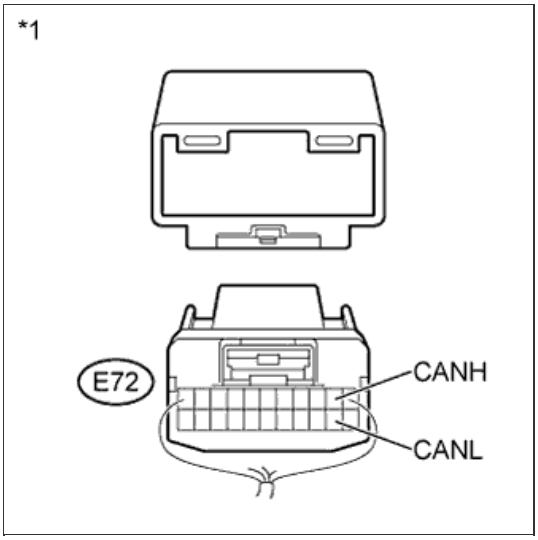
b. Measure the resistance according to the value(s) in the table below.

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)

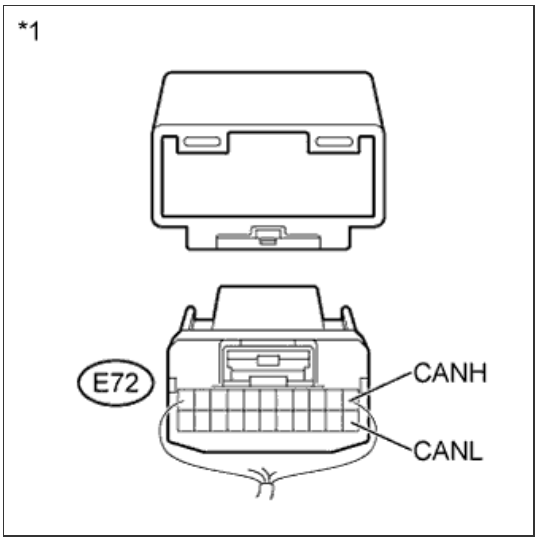
a. Measure the resistance according to the value(s) in the table below.

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.

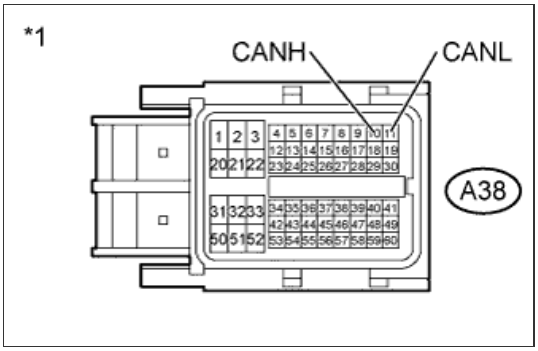
b. Measure the resistance according to the value(s) in the table below.

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.

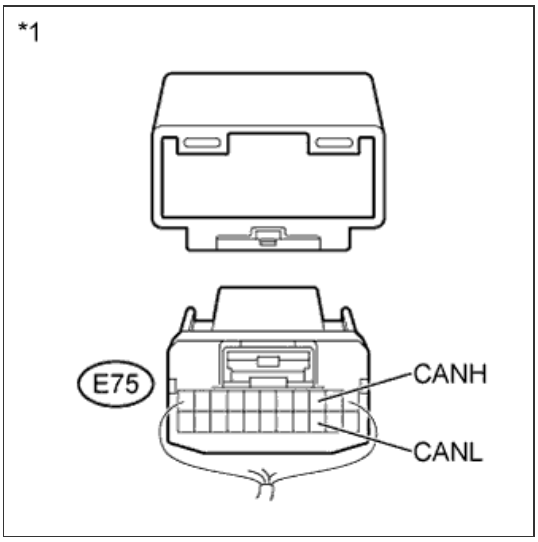
b. Measure the resistance according to the value(s) in the table below.

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)

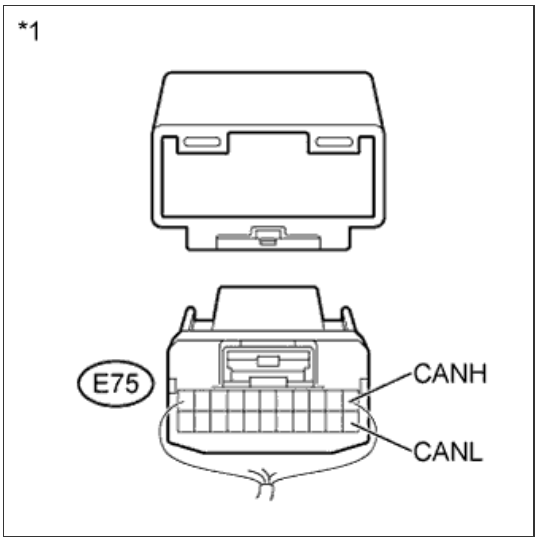
a. Measure the resistance according to the value(s) in the table below.

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.

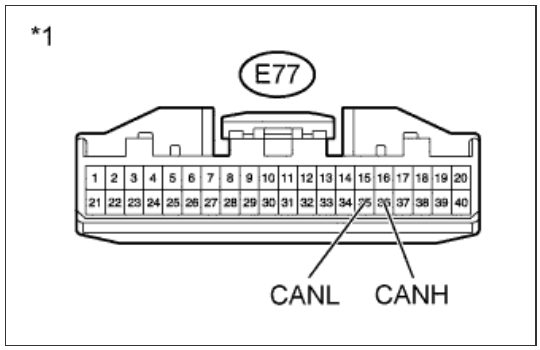
b. Measure the resistance according to the value(s) in the table below.

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)

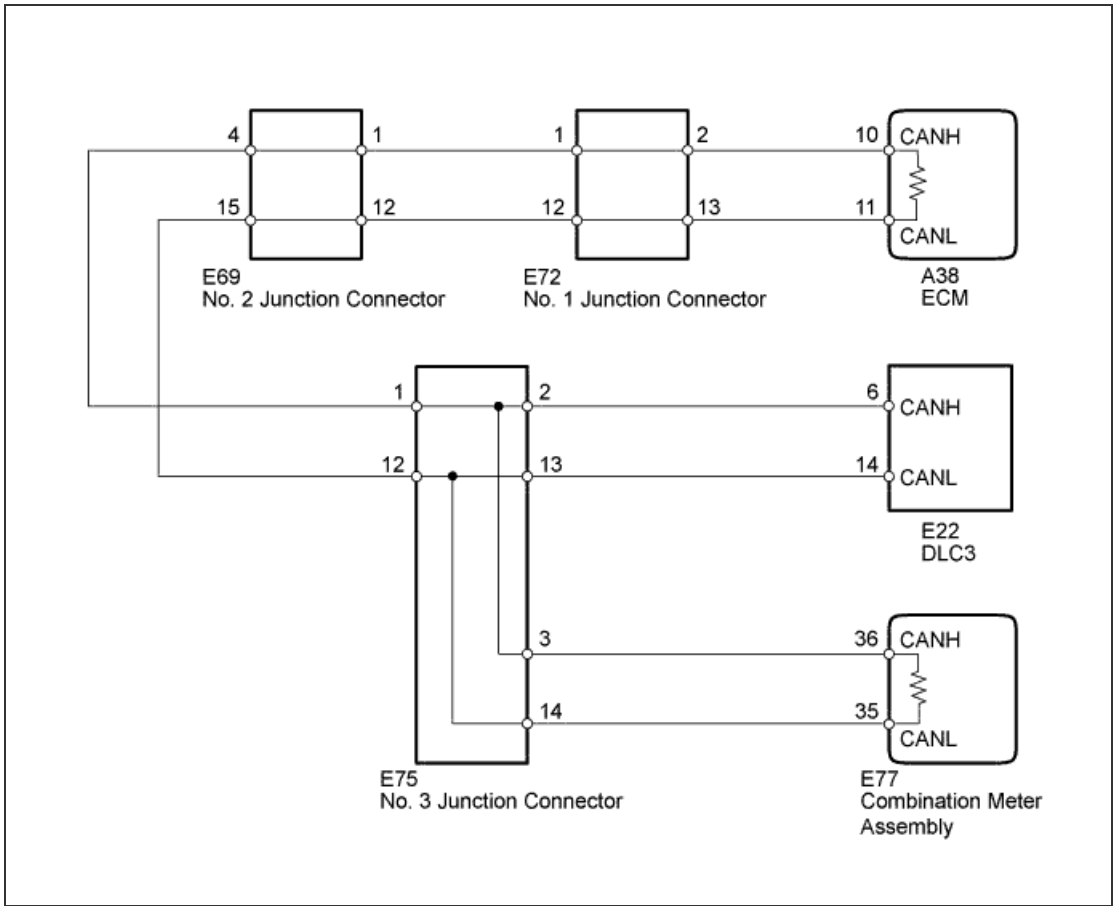
for Preparation Click here

DESCRIPTION

There may be 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 • No. 1 junction connector • No. 2 junction connector • No. 3 junction connector • ECM • Combination meter assembly • 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)

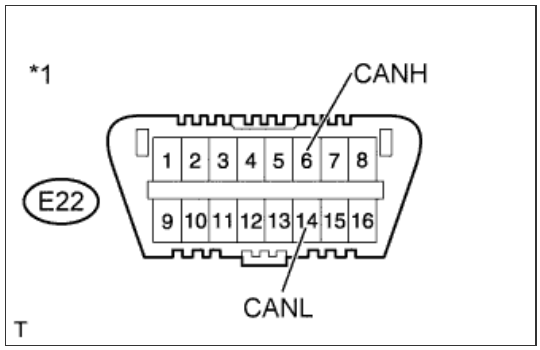
a. Measure the resistance according to the value(s) in the table below.

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.

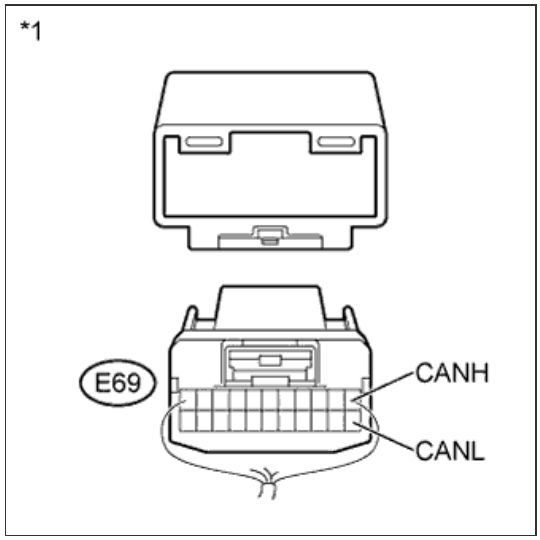
b. Measure the resistance according to the value(s) in the table below.

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)

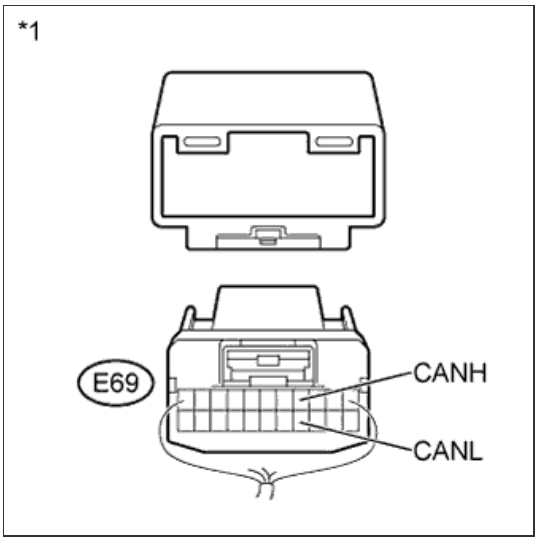
a. Measure the resistance according to the value(s) in the table below.

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.

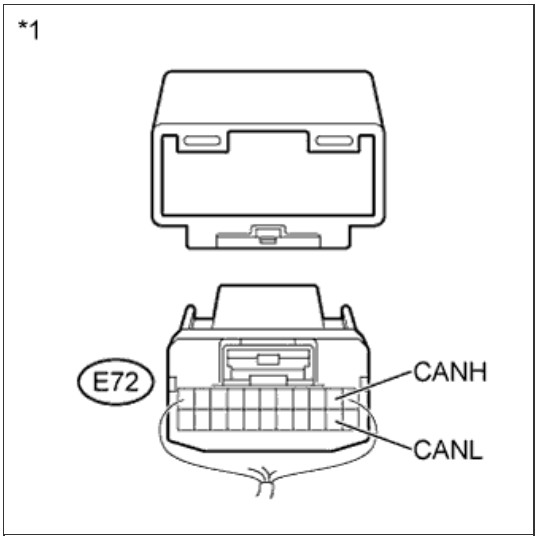
b. Measure the resistance according to the value(s) in the table below.

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)

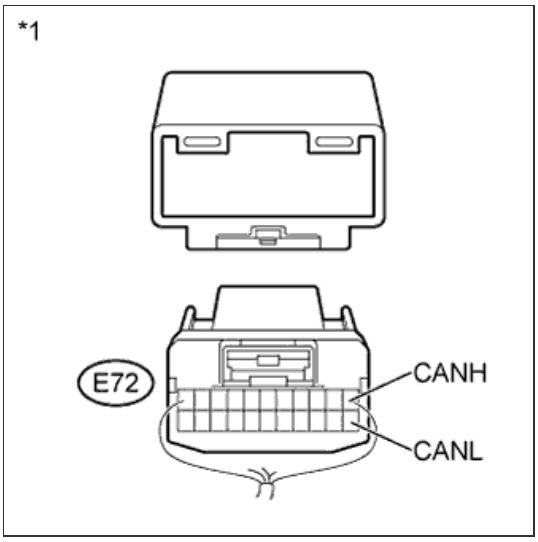
a. Measure the resistance according to the value(s) in the table below.

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.

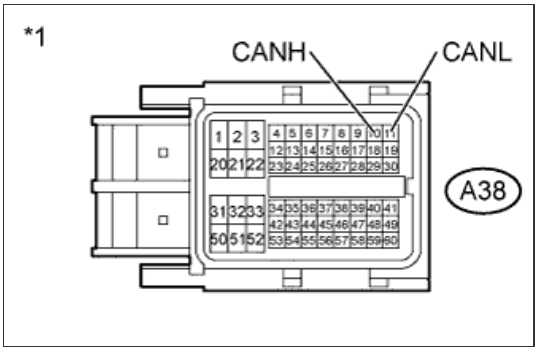
b. Measure the resistance according to the value(s) in the table below.

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.

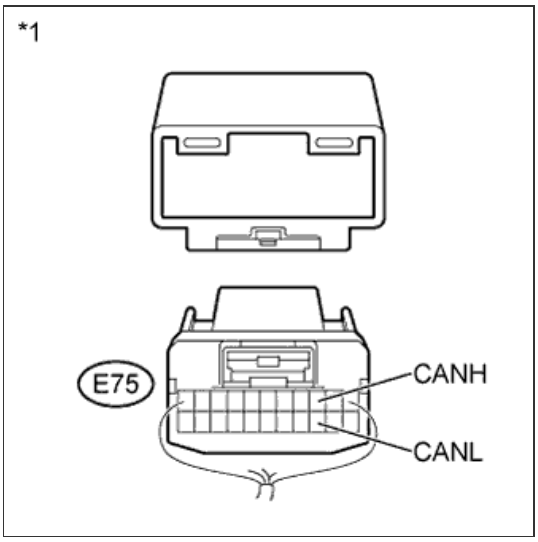
b. Measure the resistance according to the value(s) in the table below.

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)

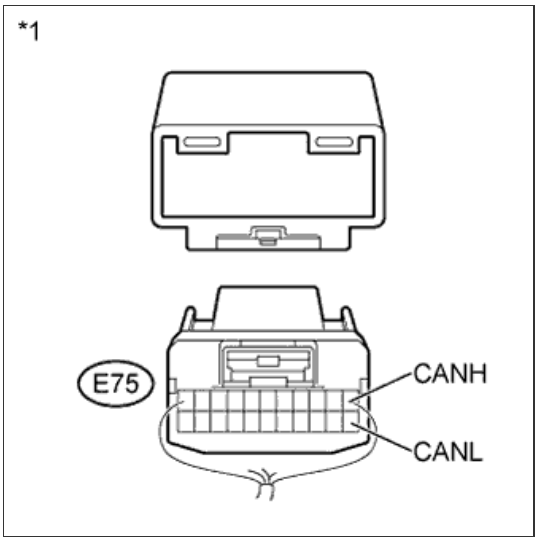
a. Measure the resistance according to the value(s) in the table below.

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.

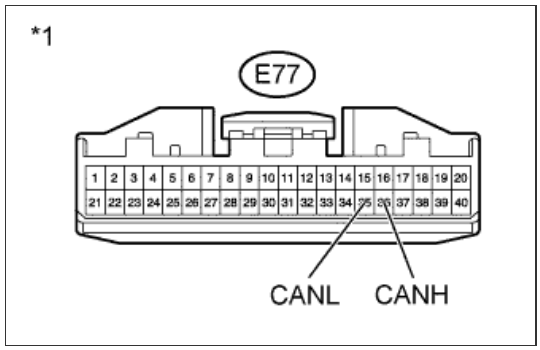
b. Measure the resistance according to the value(s) in the table below.

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)

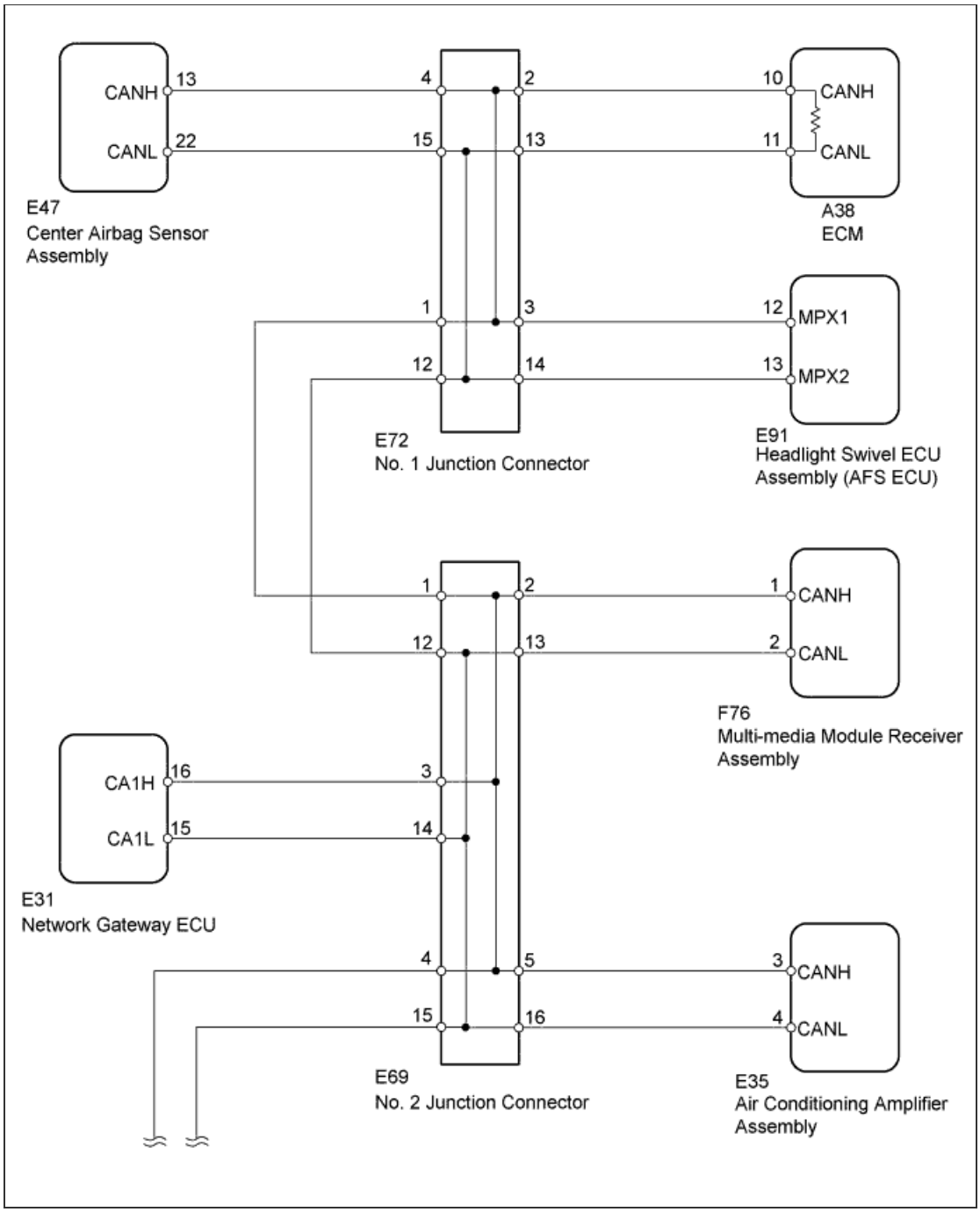
for Preparation Click here

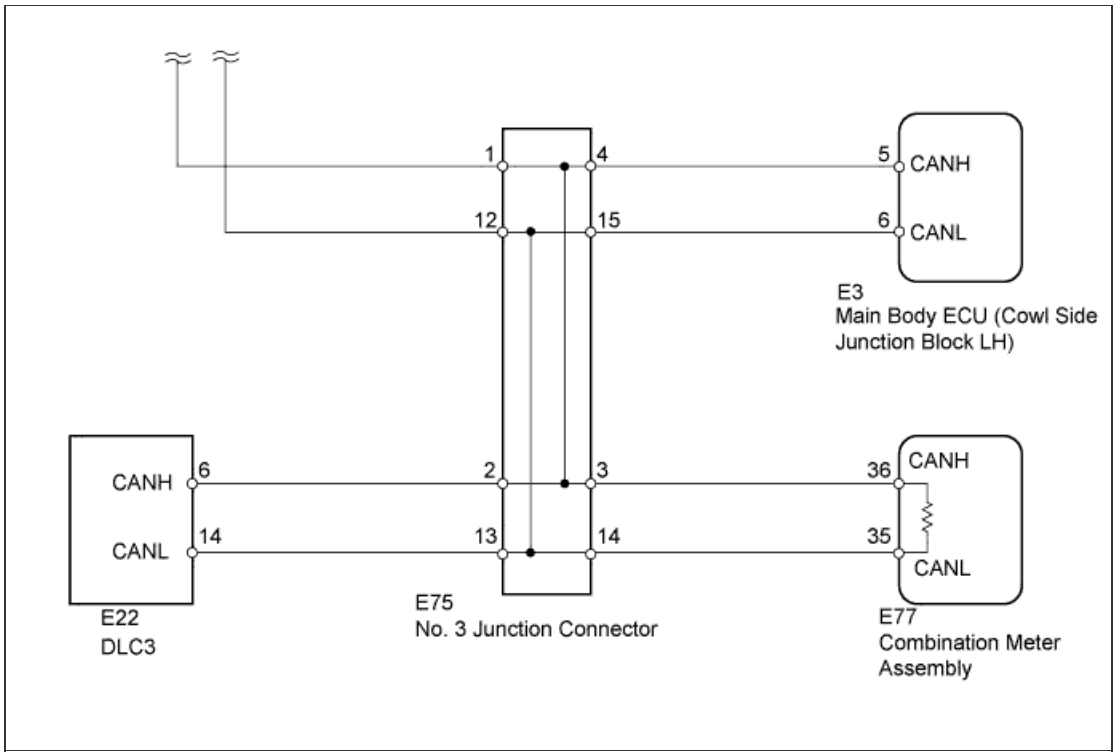
DESCRIPTION

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 • ECM • Center airbag sensor assembly • Multi-media module receiver assembly • Headlight swivel ECU assembly (AFS ECU) • Air conditioning amplifier assembly • Network gateway ECU • Main body ECU (cowl side junction block LH) • Combination meter assembly • No. 1 junction connector • No. 2 junction connector • 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.

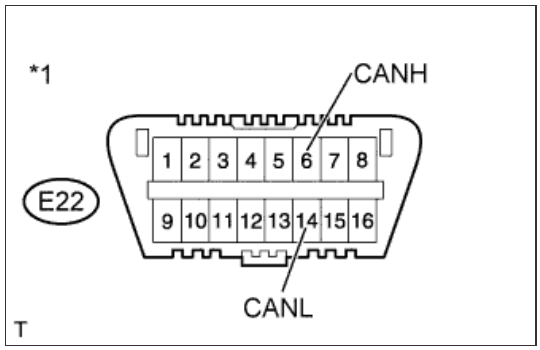
b. Measure the resistance according to the value(s) in the table below.

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.

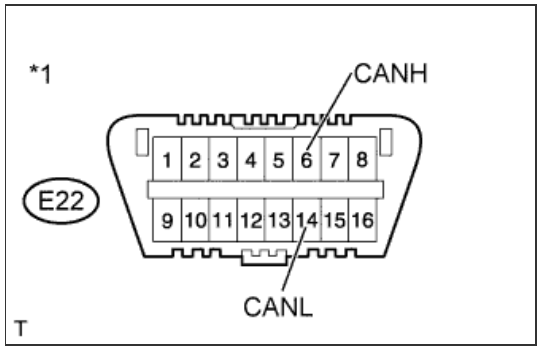
b. Measure the resistance according to the value(s) in the table below.

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)

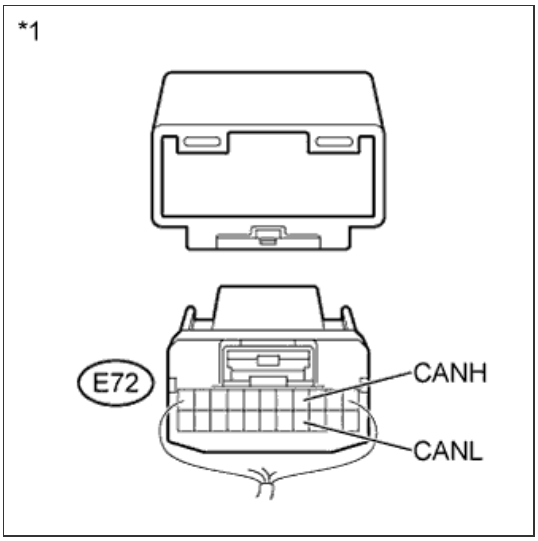
a. Measure the resistance according to the value(s) in the table below.

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)

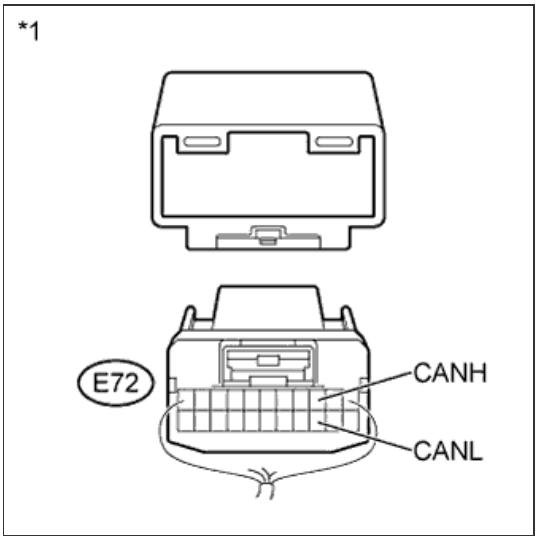


NG → Go to step 9

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)

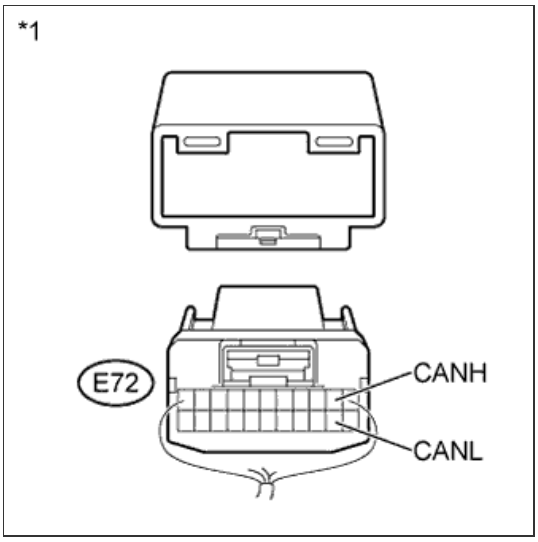
a. Measure the resistance according to the value(s) in the table below.

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).

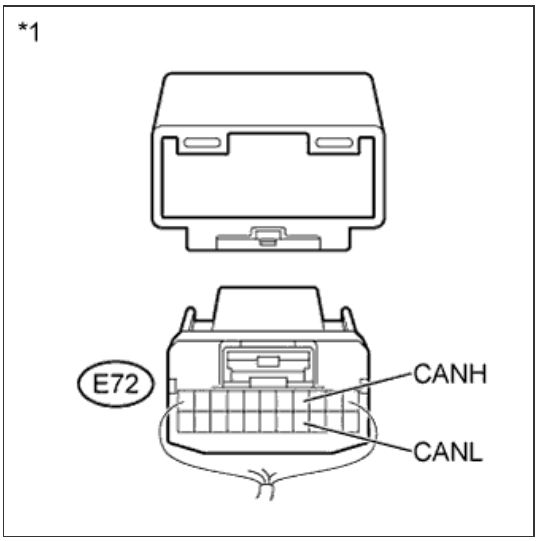
b. Measure the resistance according to the value(s) in the table below.

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.

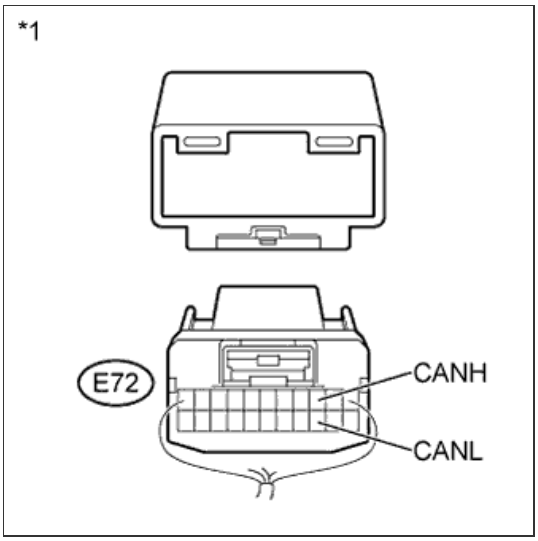
Standard Resistance:

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.

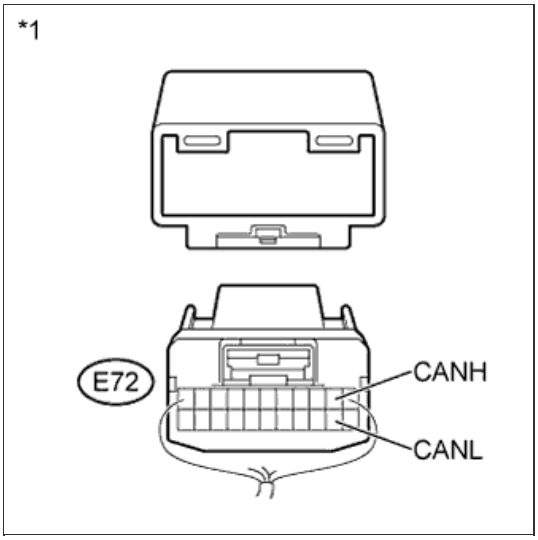
b. Measure the resistance according to the value(s) in the table below.

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.

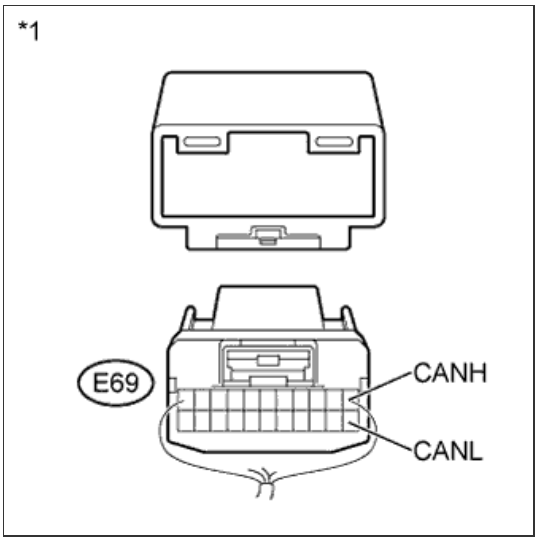
b. Measure the resistance according to the value(s) in the table below.

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)

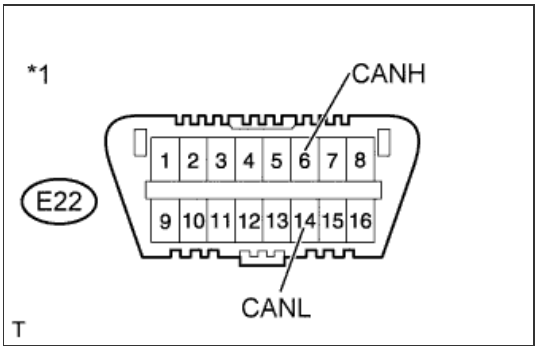
a. Measure the resistance according to the value(s) in the table below.

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)

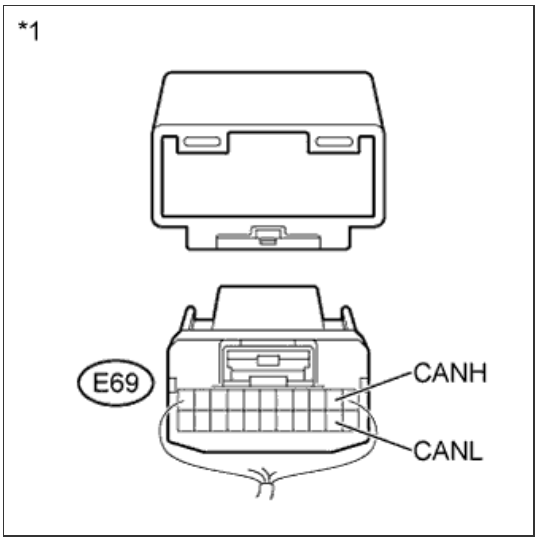
a. Measure the resistance according to the value(s) in the table below.

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)

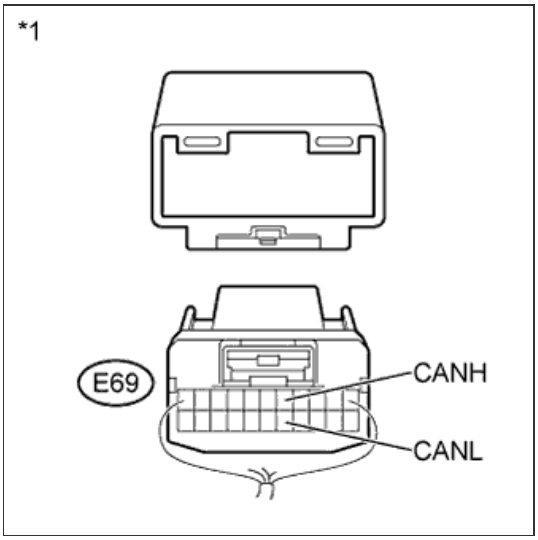


NG → Go to step 18

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)

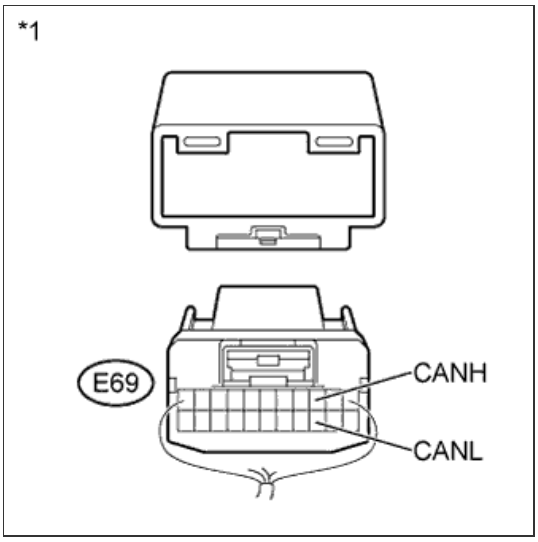
a. Measure the resistance according to the value(s) in the table below.

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.

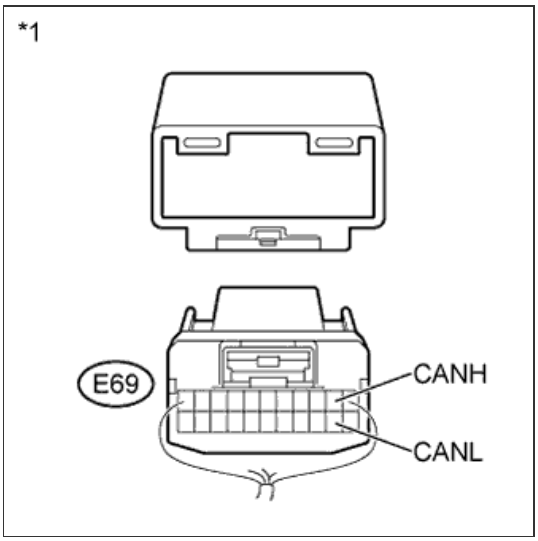
b. Measure the resistance according to the value(s) in the table below.

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.

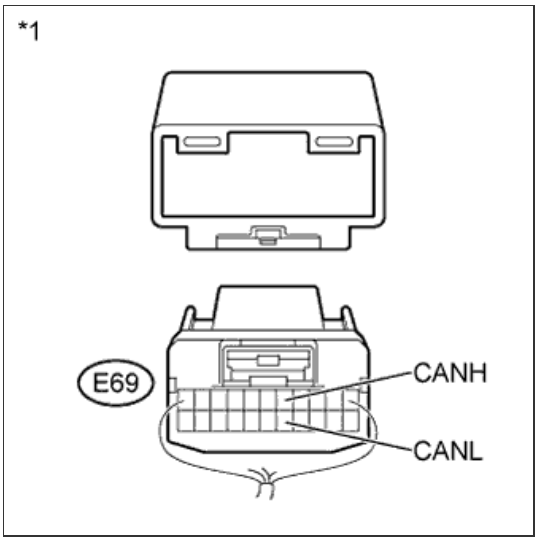
b. Measure the resistance according to the value(s) in the table below.

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.

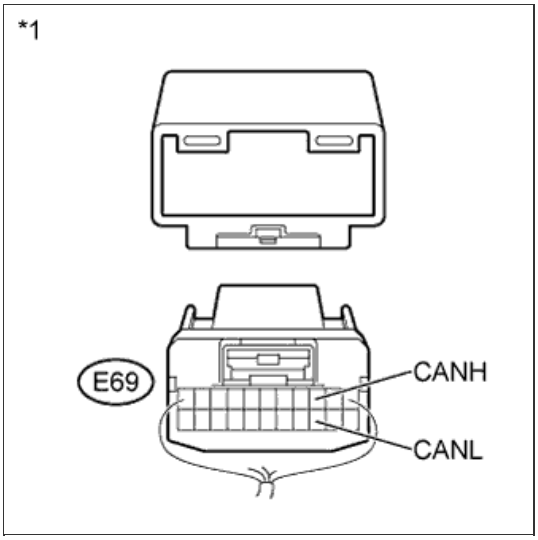
b. Measure the resistance according to the value(s) in the table below.

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.

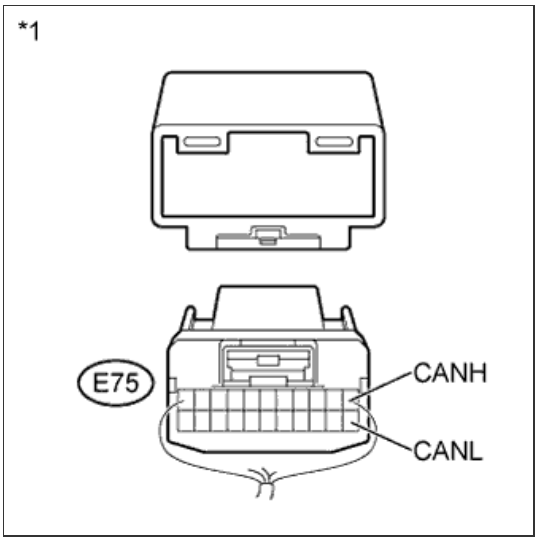
b. Measure the resistance according to the value(s) in the table below.

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)

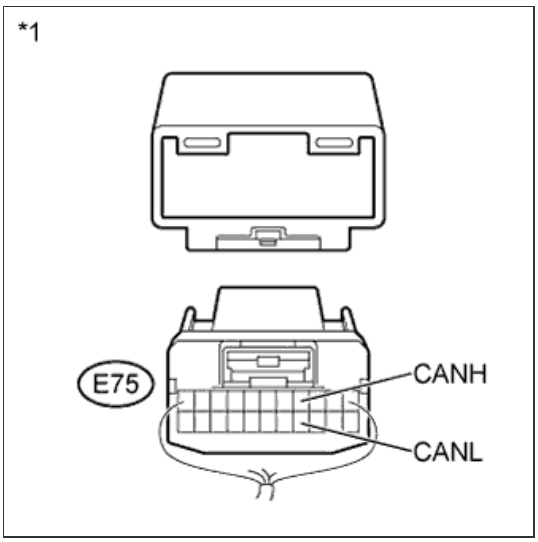
a. Measure the resistance according to the value(s) in the table below.

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.

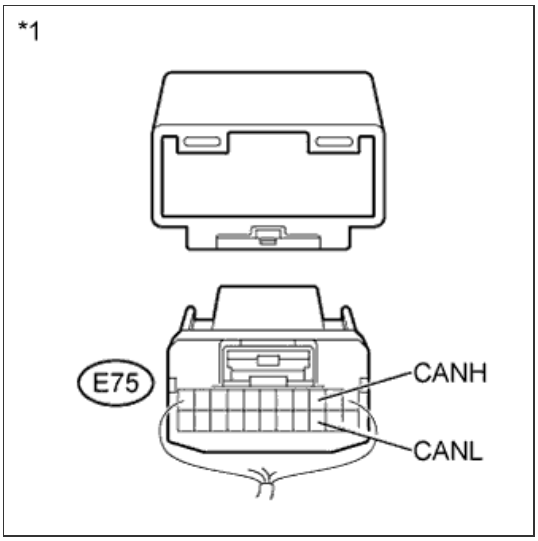
Standard Resistance:

Tester Connection	Switch Condition	Specified

E75-3 (CANH) - E75-14 (CANL)	Engine switch off	Condition 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.

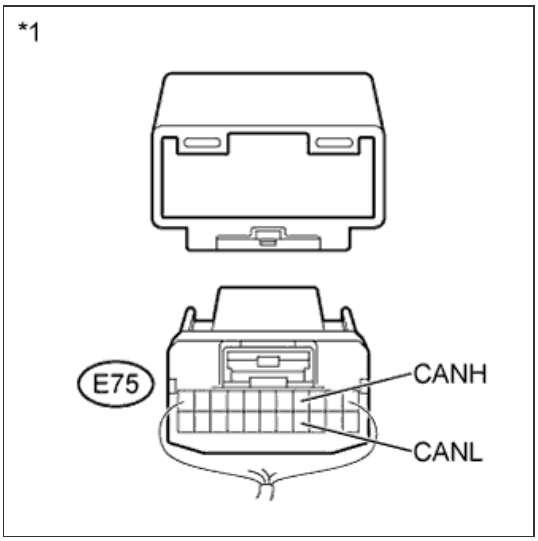
b. Measure the resistance according to the value(s) in the table below.

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.

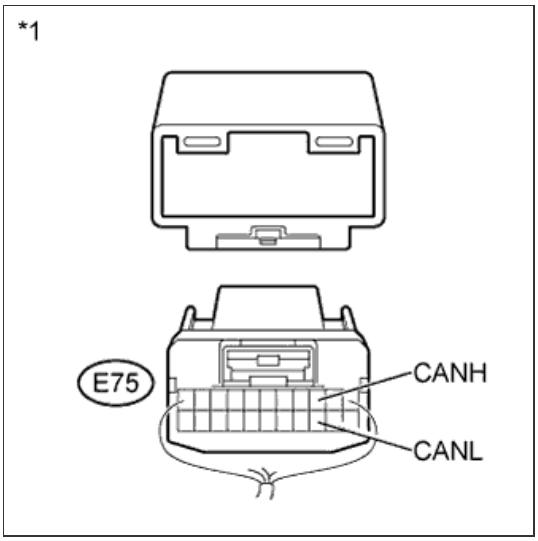
b. Measure the resistance according to the value(s) in the table below.

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 (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)

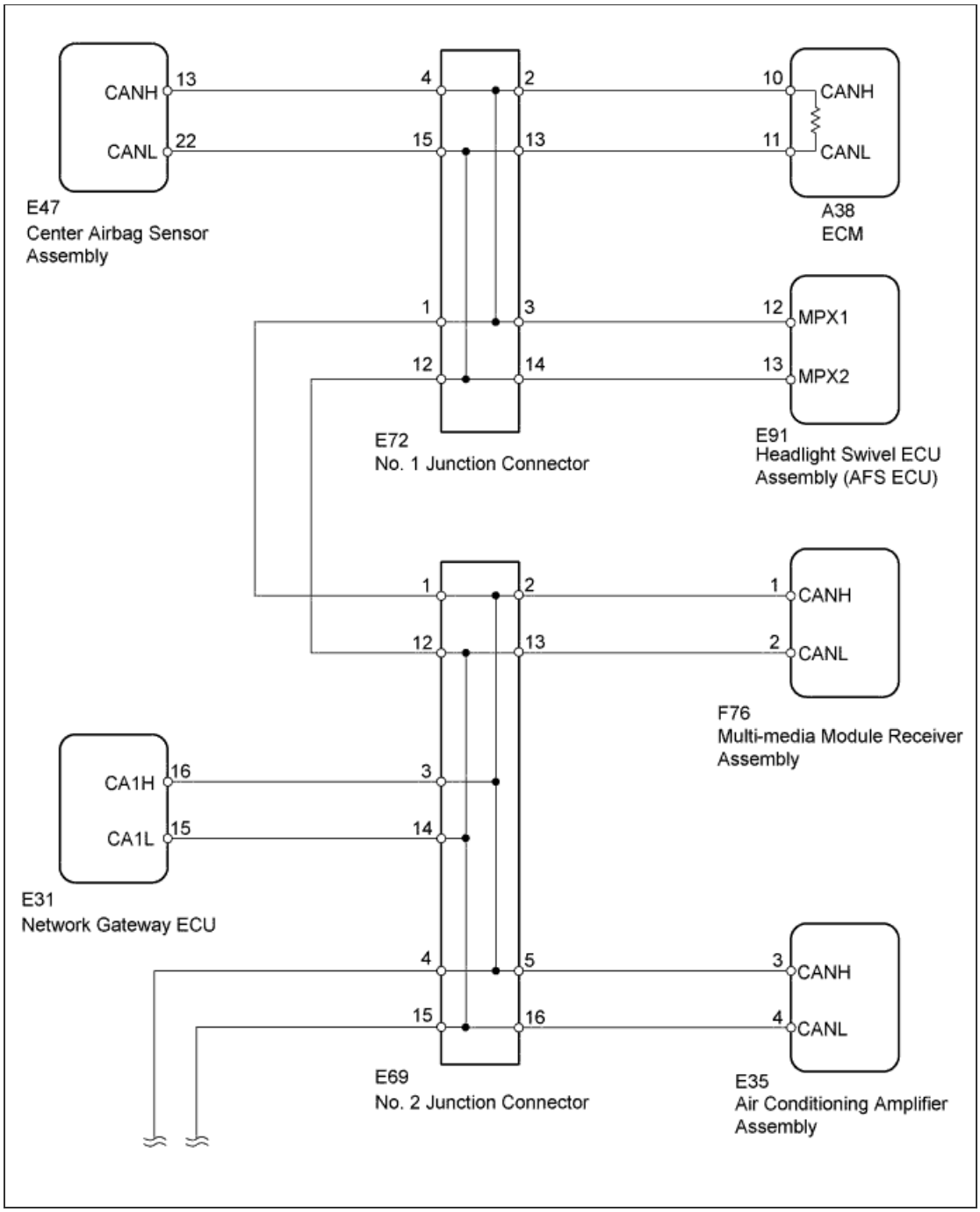
for Preparation Click here

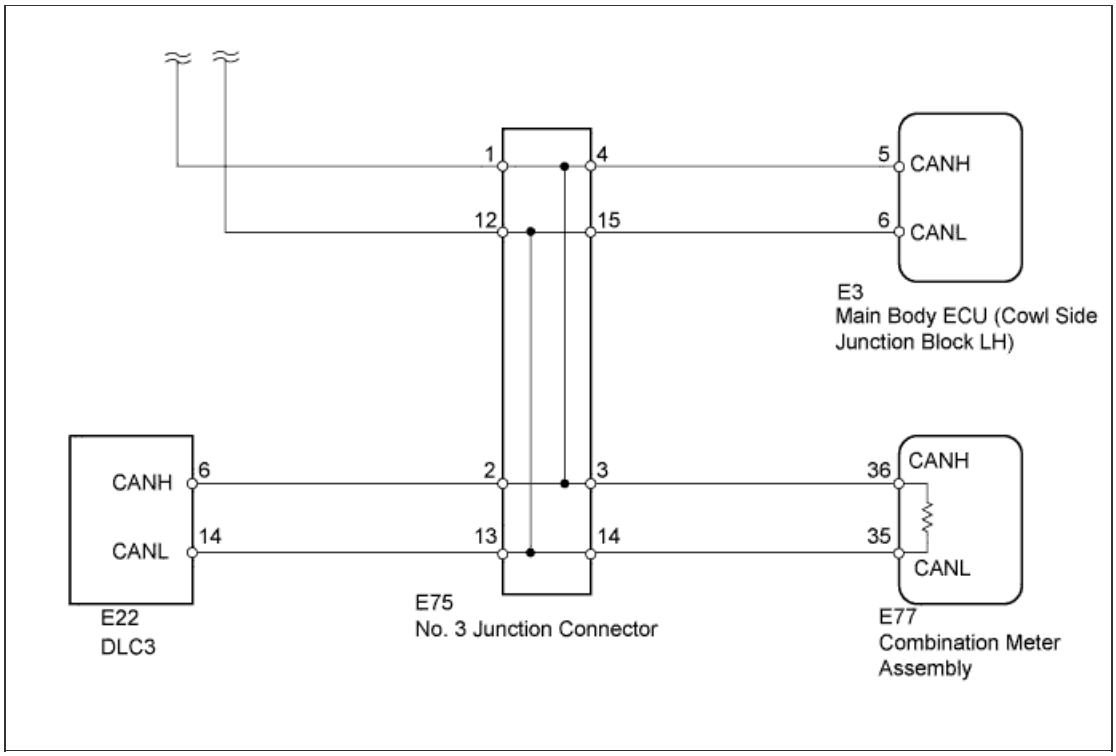
DESCRIPTION

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 • ECM • Center airbag sensor assembly • Multi-media module receiver assembly • Headlight swivel ECU assembly (AFS ECU) • Air conditioning amplifier assembly • Network gateway ECU • Main body ECU (cowl side junction block LH) • Combination meter assembly • No. 1 junction connector • No. 2 junction connector • 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.

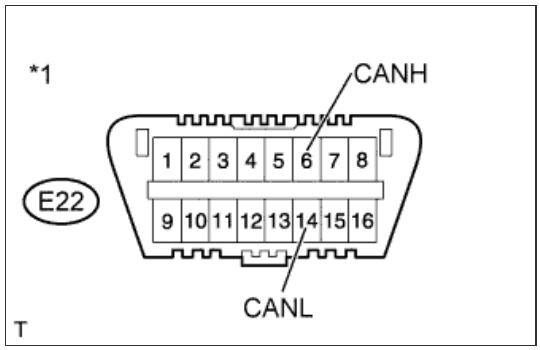
b. Measure the resistance according to the value(s) in the table below.

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.

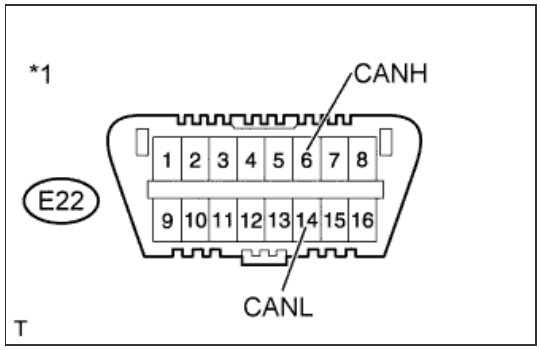
b. Measure the resistance according to the value(s) in the table below.

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)

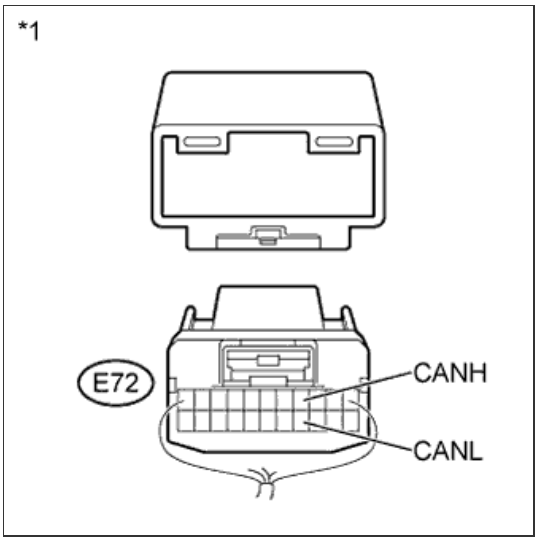
a. Measure the resistance according to the value(s) in the table below.

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)

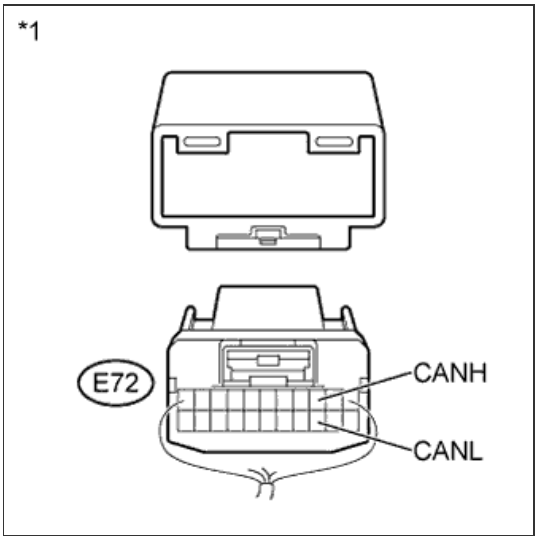


NG → Go to step 9

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)

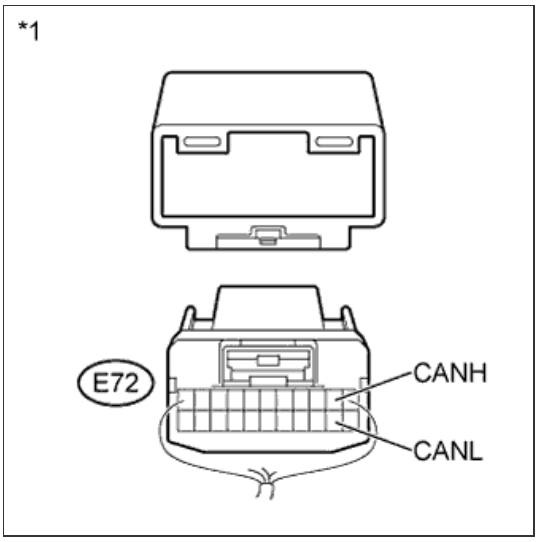
a. Measure the resistance according to the value(s) in the table below.

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).

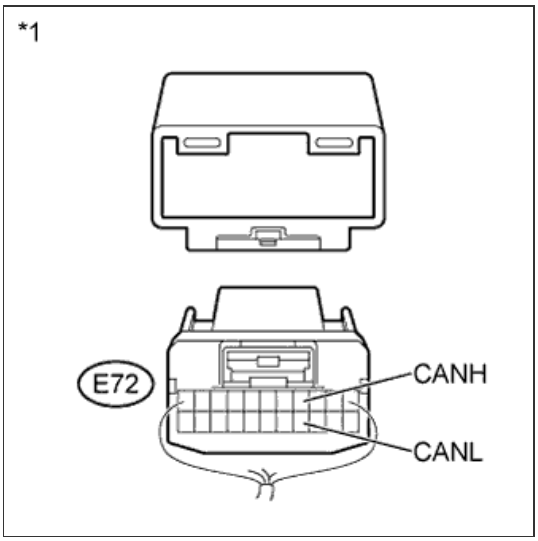
b. Measure the resistance according to the value(s) in the table below.

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.

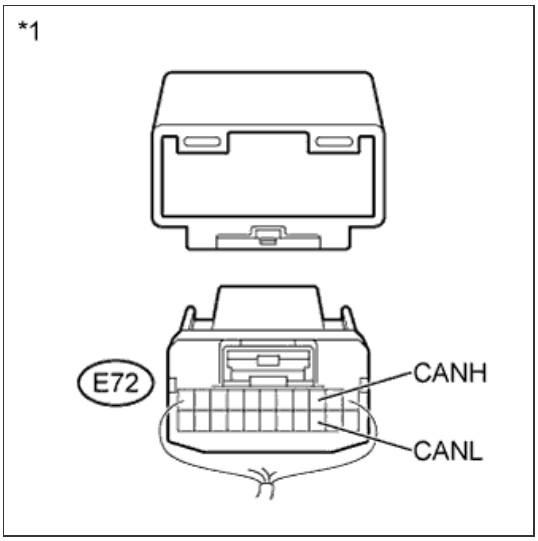
Standard Resistance:

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.

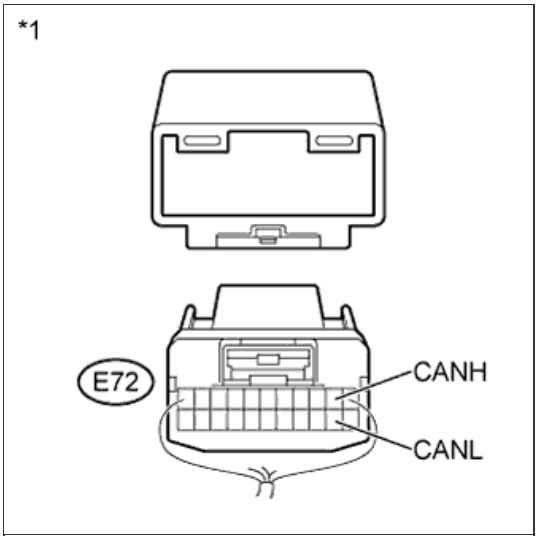
b. Measure the resistance according to the value(s) in the table below.

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.

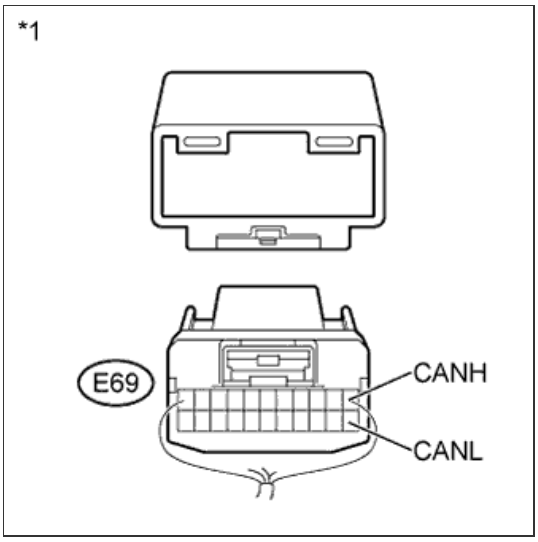
b. Measure the resistance according to the value(s) in the table below.

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)

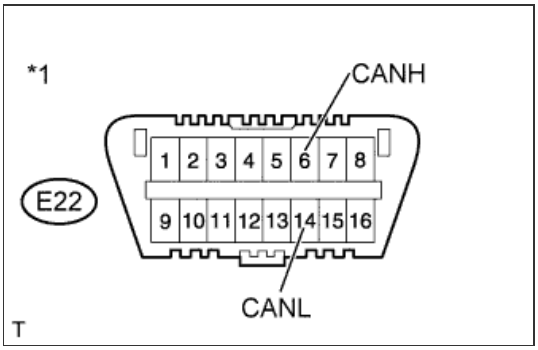
a. Measure the resistance according to the value(s) in the table below.

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)

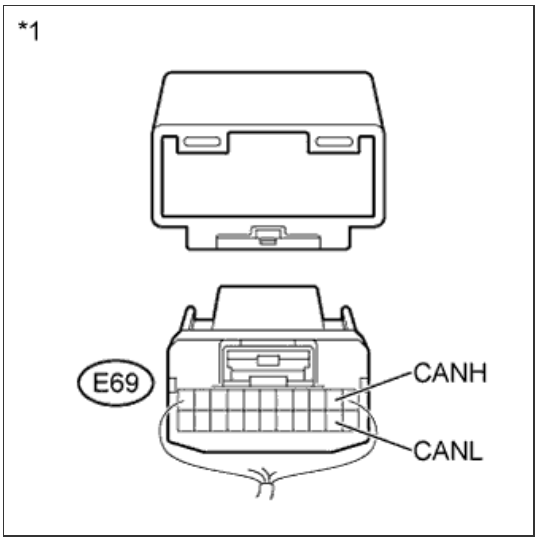
a. Measure the resistance according to the value(s) in the table below.

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)

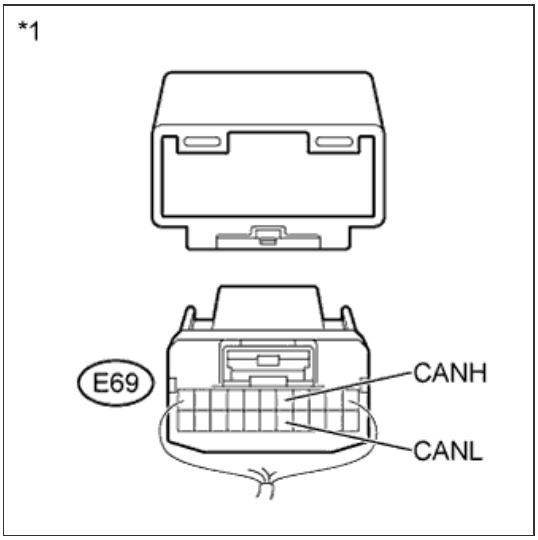


NG → Go to step 18

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)

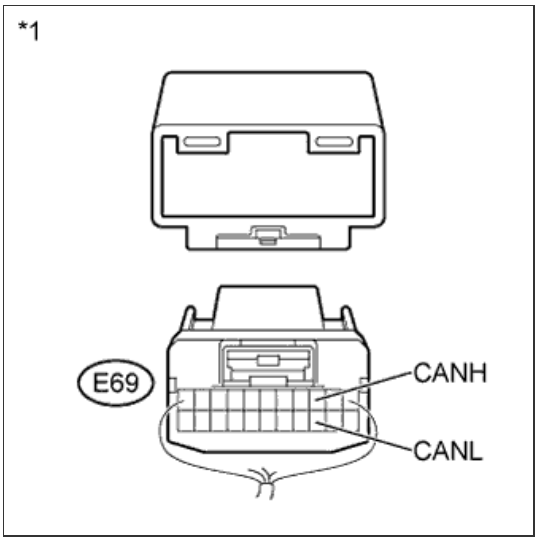
a. Measure the resistance according to the value(s) in the table below.

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.

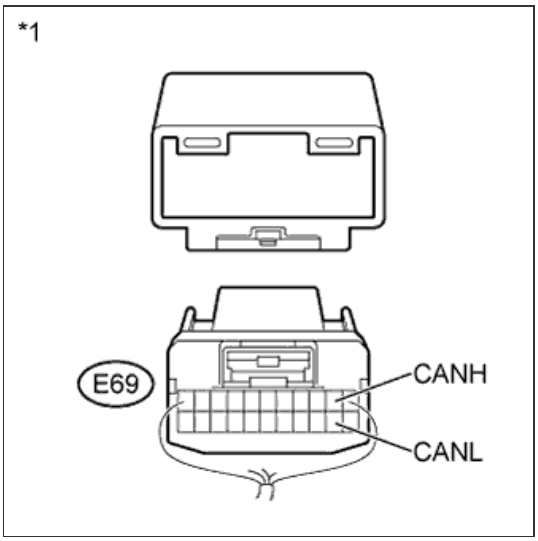
b. Measure the resistance according to the value(s) in the table below.

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.

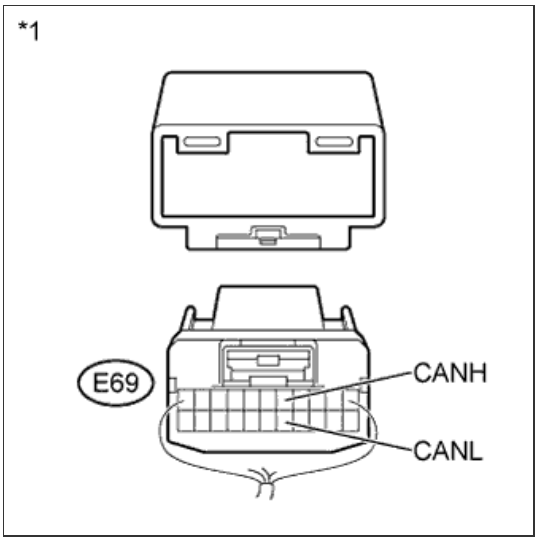
b. Measure the resistance according to the value(s) in the table below.

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.

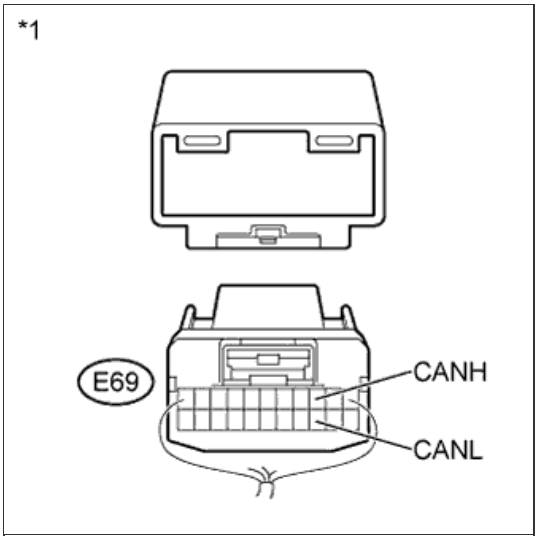
b. Measure the resistance according to the value(s) in the table below.

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.

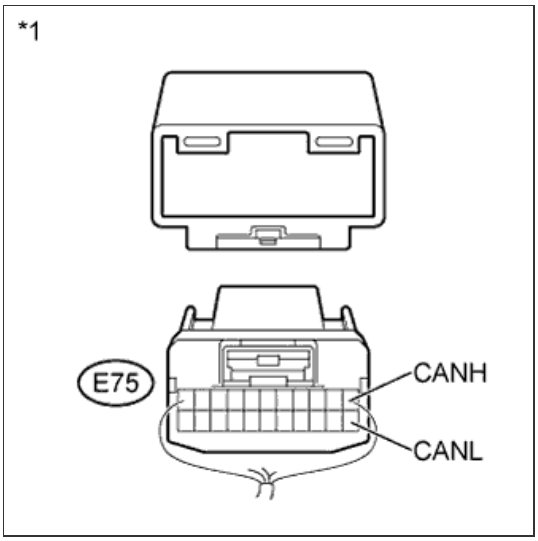
b. Measure the resistance according to the value(s) in the table below.

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)

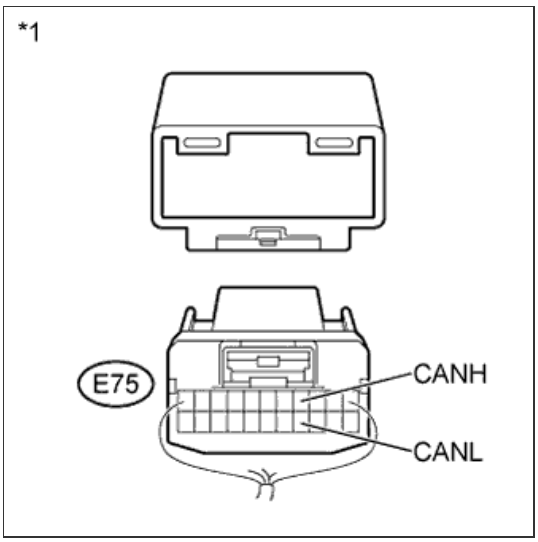
a. Measure the resistance according to the value(s) in the table below.

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.

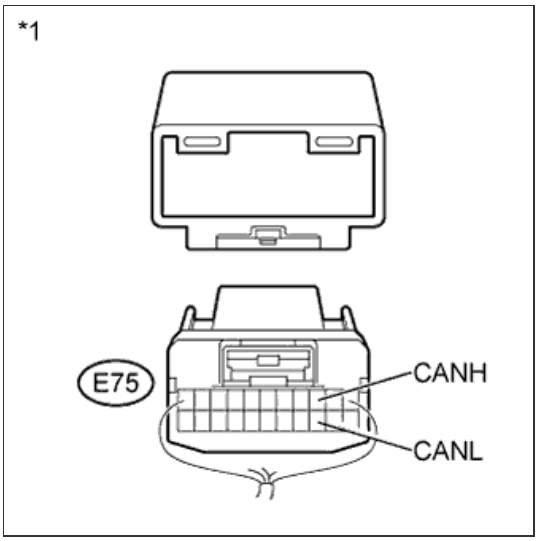
Standard Resistance:

Tester Connection	Switch Condition	Specified

E75-3 (CANH) - E75-14 (CANL)	Engine switch off	Condition 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.

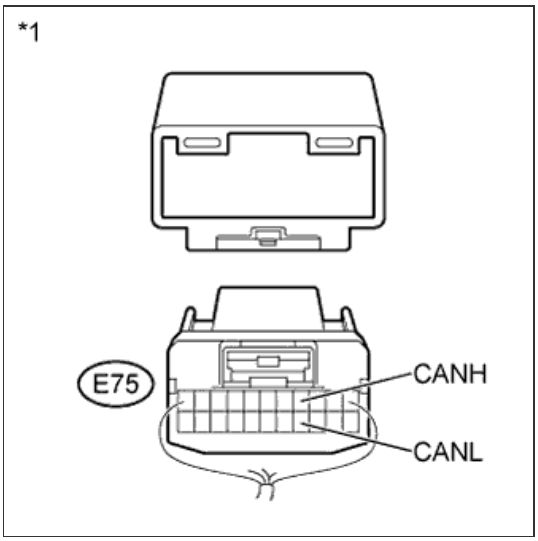
b. Measure the resistance according to the value(s) in the table below.

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.

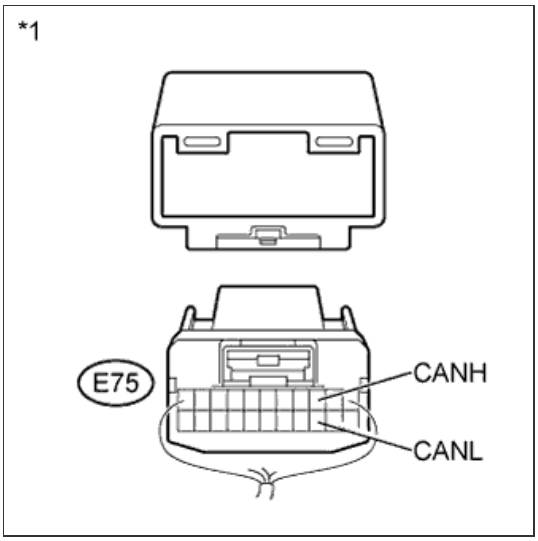
b. Measure the resistance according to the value(s) in the table below.

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 (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)

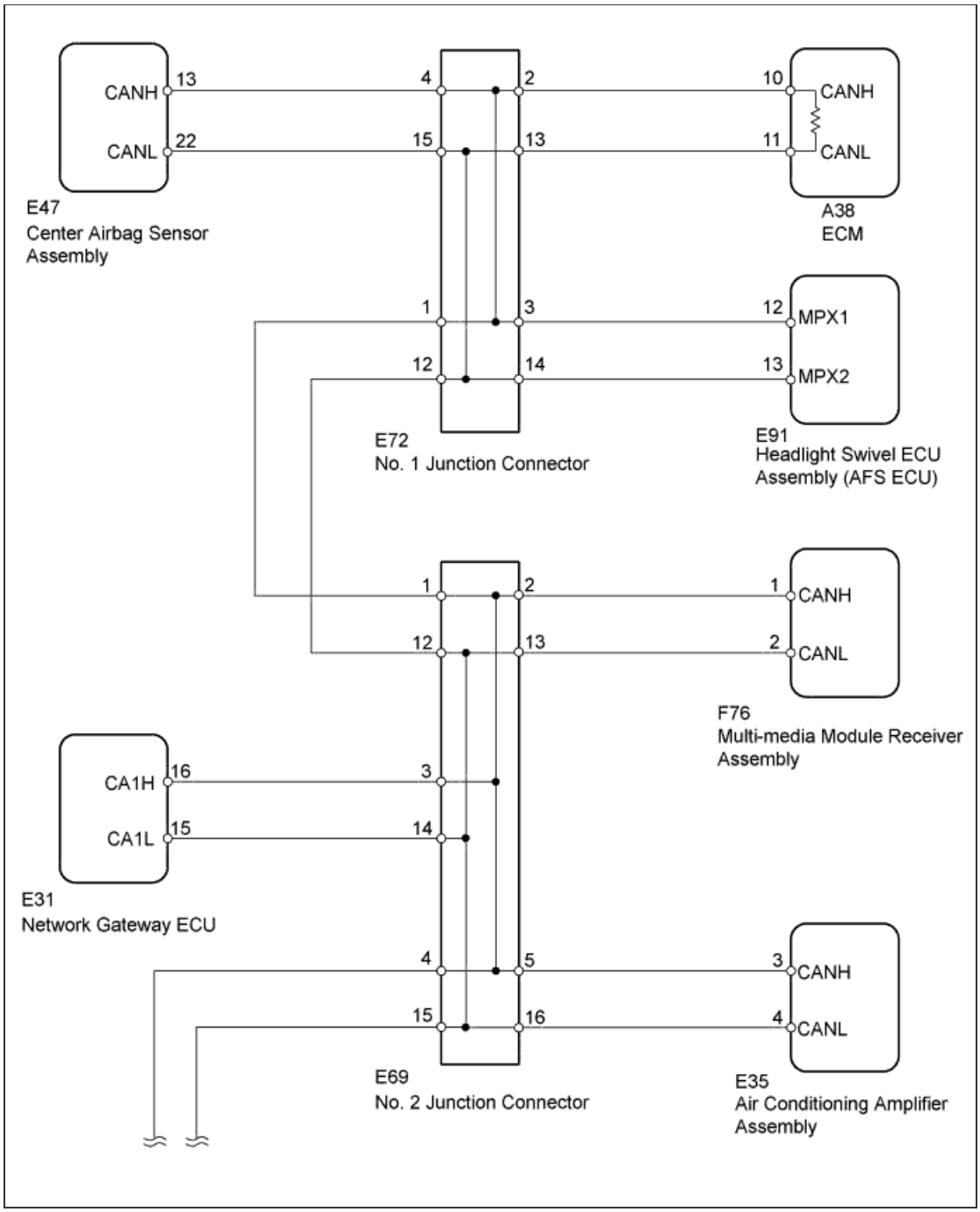
for Preparation Click here

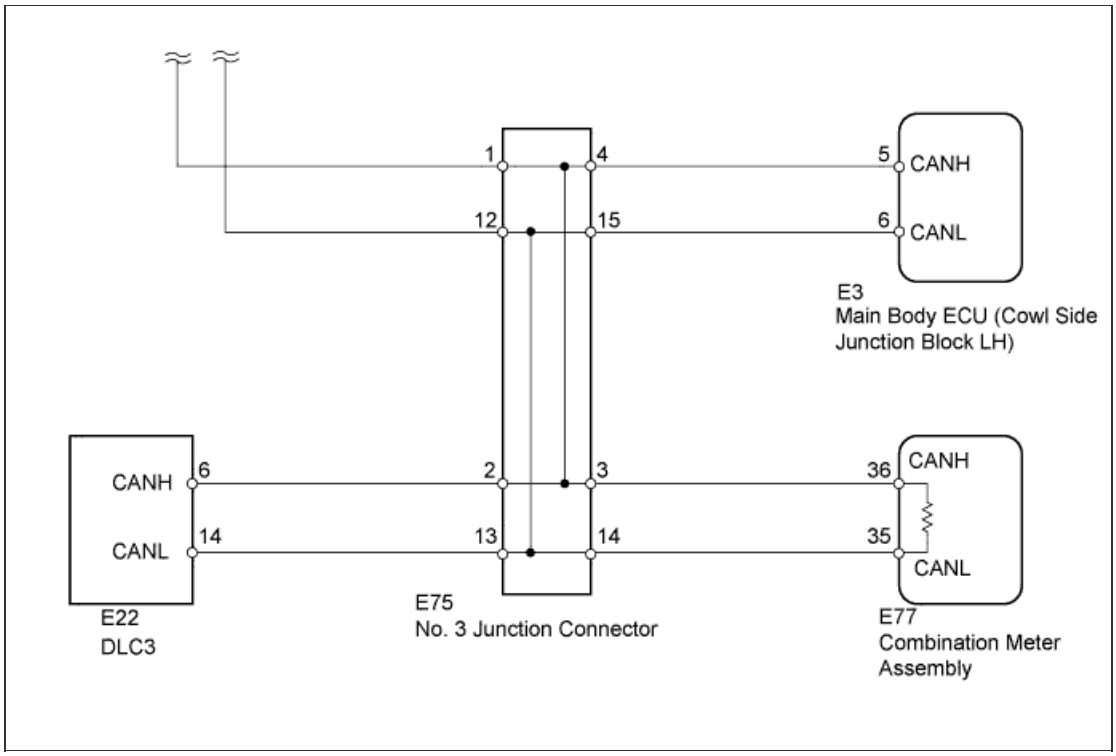
DESCRIPTION

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 • ECM • Center airbag sensor assembly • Multi-media module receiver assembly • Headlight swivel ECU assembly (AFS ECU) • Air conditioning amplifier assembly • Network gateway ECU • Main body ECU (cowl side junction block LH) • Combination meter assembly • No. 1 junction connector • No. 2 junction connector • 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.

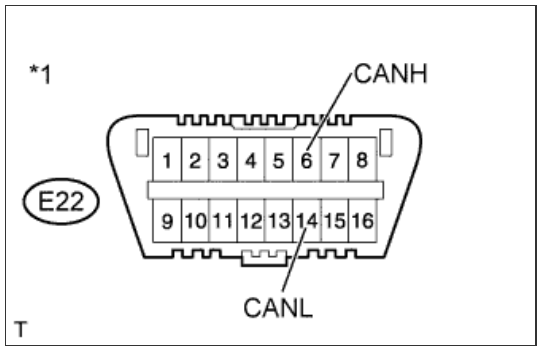
b. Measure the resistance according to the value(s) in the table below.

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.

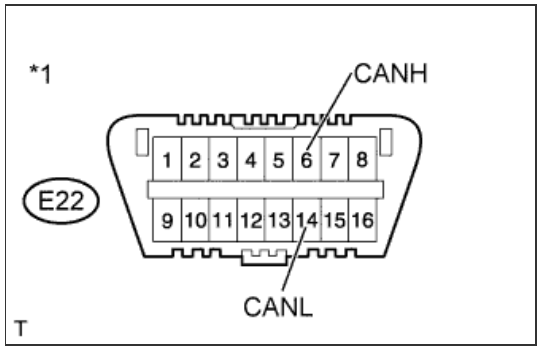
b. Measure the resistance according to the value(s) in the table below.

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)

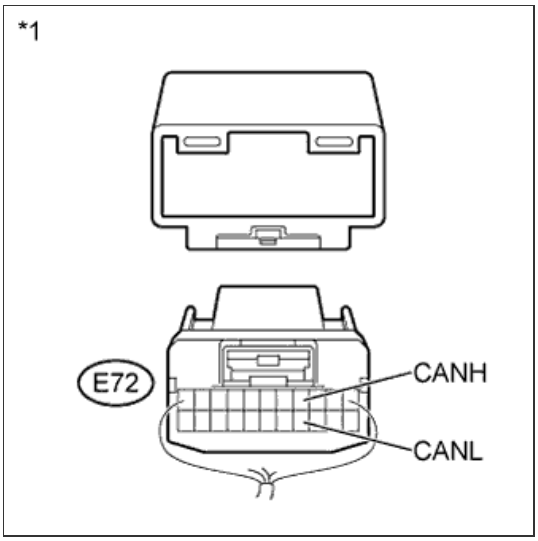
a. Measure the resistance according to the value(s) in the table below.

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)

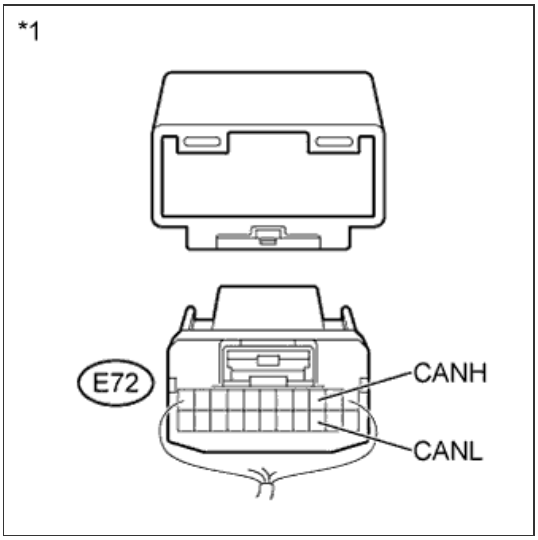


NG → Go to step 9

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)

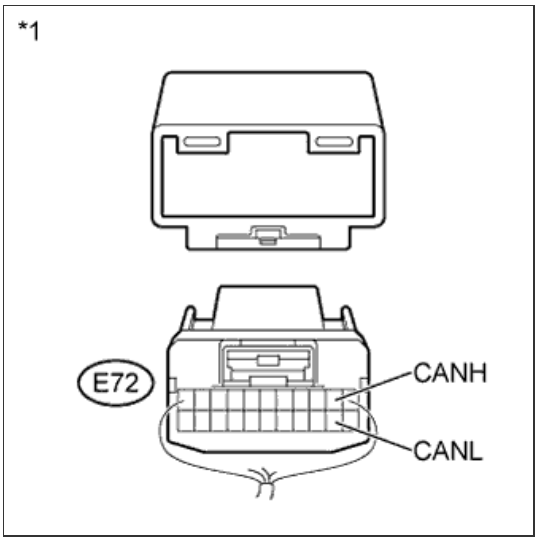
a. Measure the resistance according to the value(s) in the table below.

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).

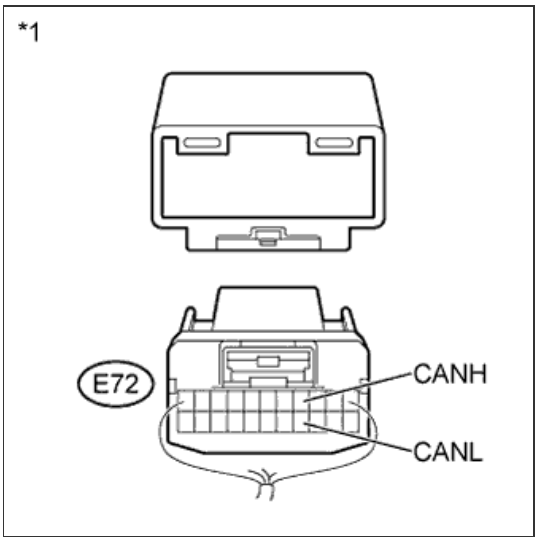
b. Measure the resistance according to the value(s) in the table below.

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.

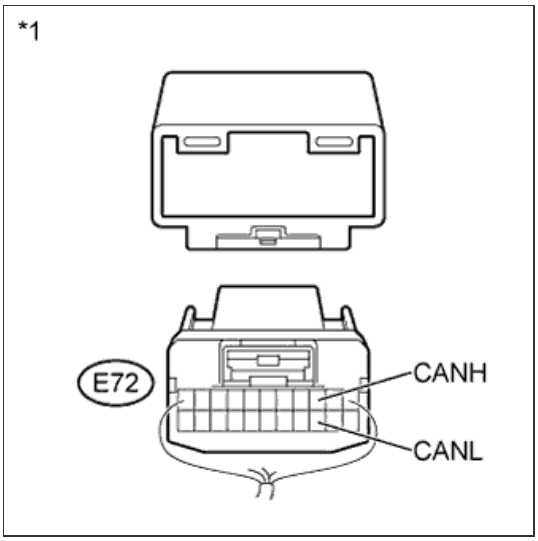
Standard Resistance:

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.

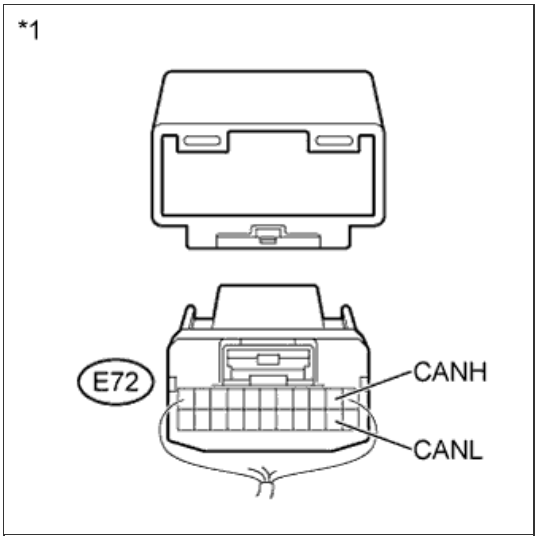
b. Measure the resistance according to the value(s) in the table below.

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.

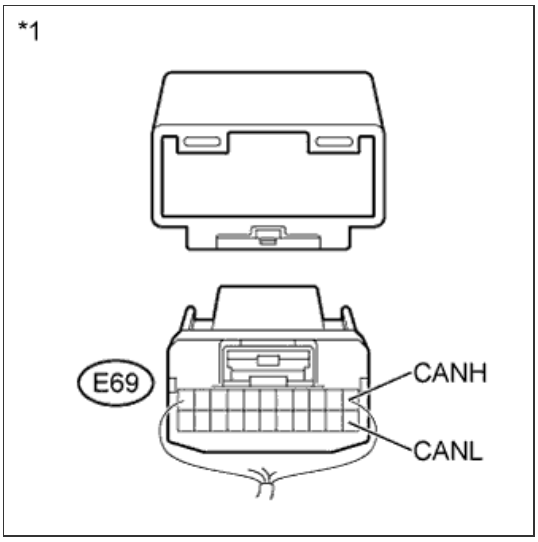
b. Measure the resistance according to the value(s) in the table below.

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)

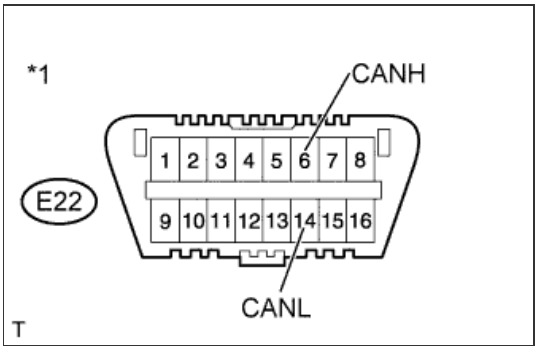
a. Measure the resistance according to the value(s) in the table below.

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)

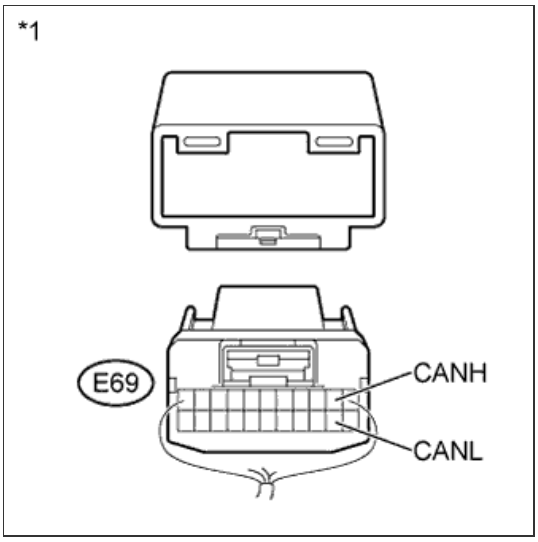
a. Measure the resistance according to the value(s) in the table below.

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)

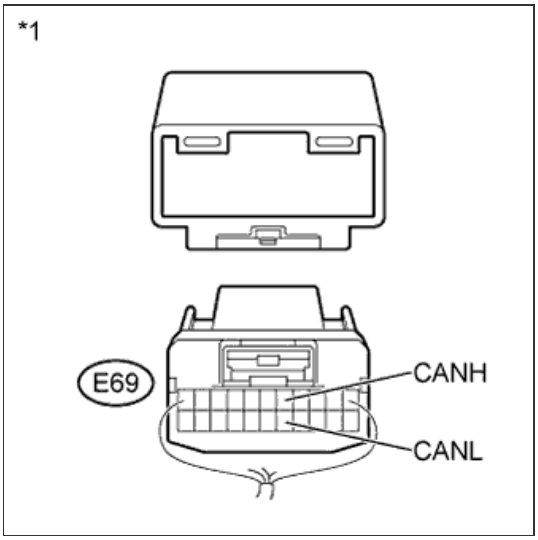


NG → Go to step 18

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)

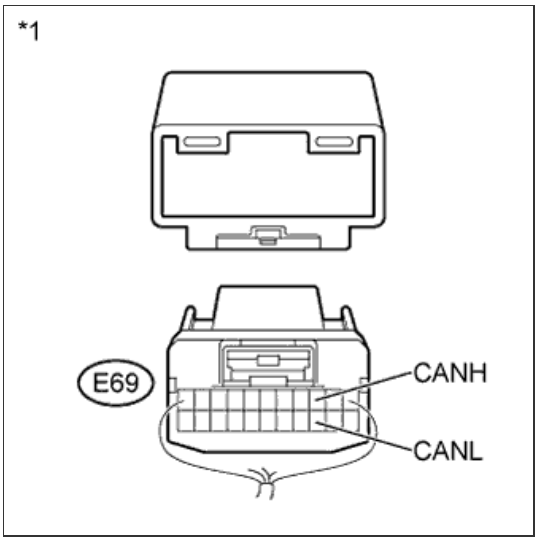
a. Measure the resistance according to the value(s) in the table below.

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.

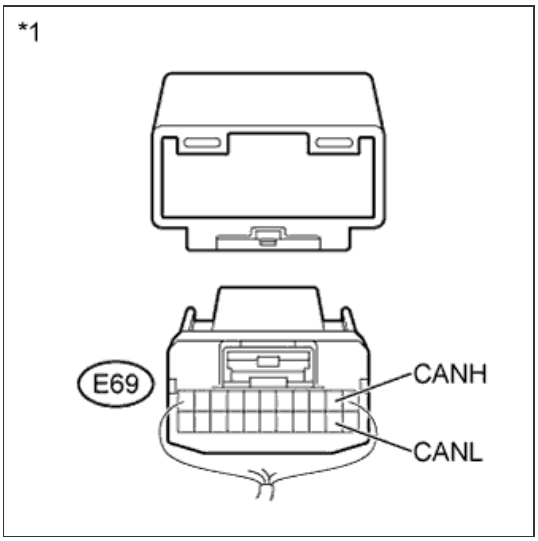
b. Measure the resistance according to the value(s) in the table below.

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.

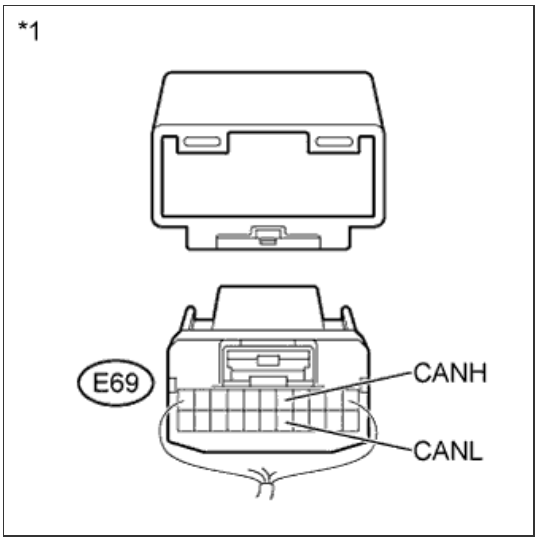
b. Measure the resistance according to the value(s) in the table below.

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.

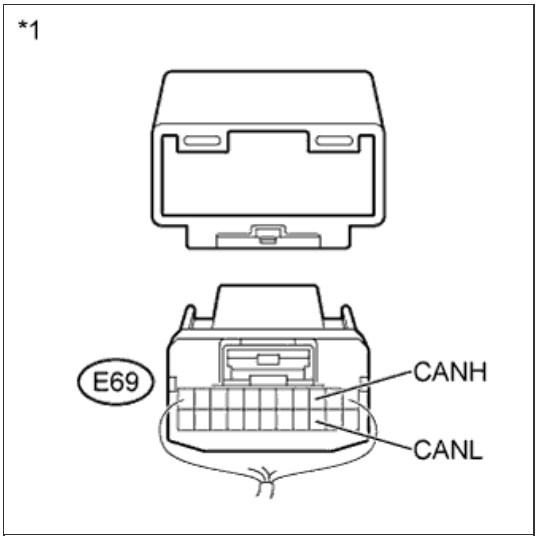
b. Measure the resistance according to the value(s) in the table below.

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.

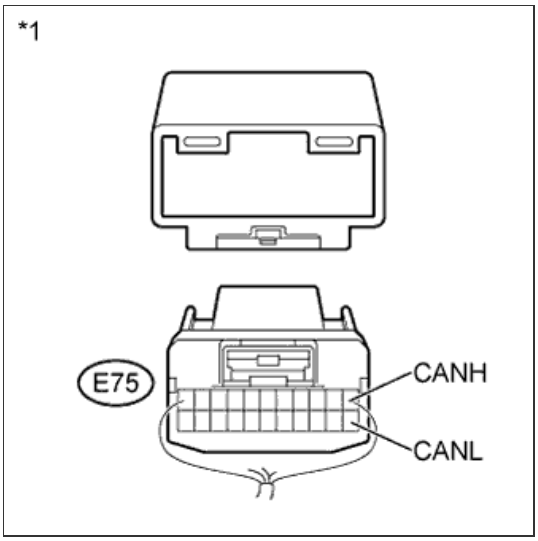
b. Measure the resistance according to the value(s) in the table below.

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)

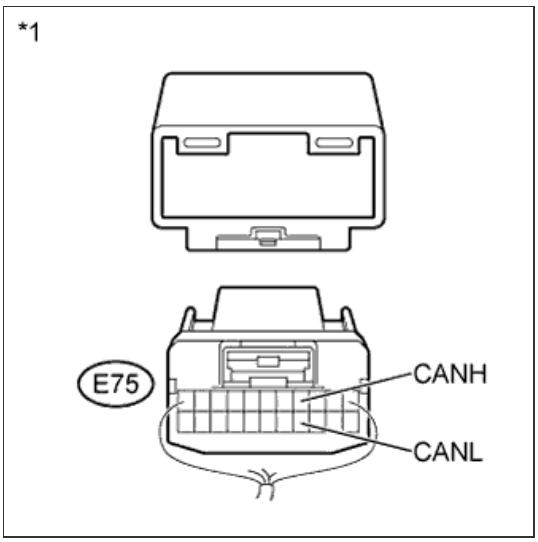
a. Measure the resistance according to the value(s) in the table below.

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.

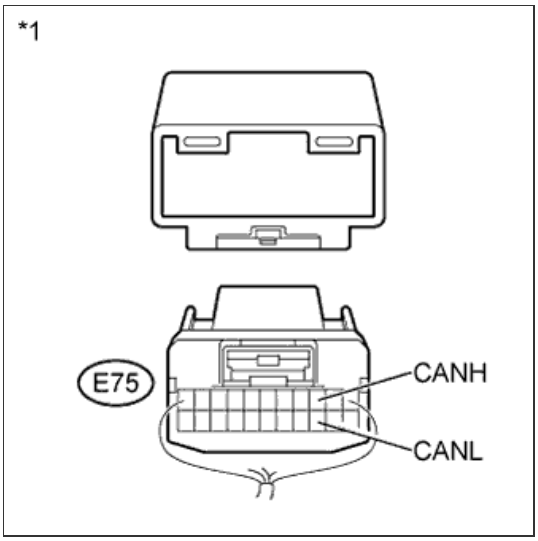
Standard Resistance:

Tester Connection	Switch Condition	Specified

E75-3 (CANH) - E75-14 (CANL)	Engine switch off	Condition 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.

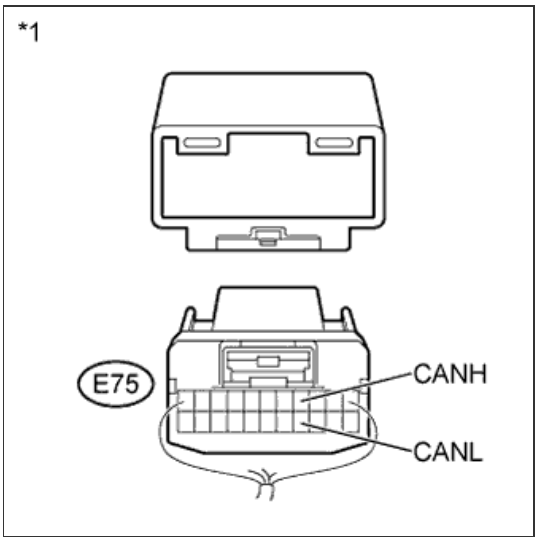
b. Measure the resistance according to the value(s) in the table below.

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.

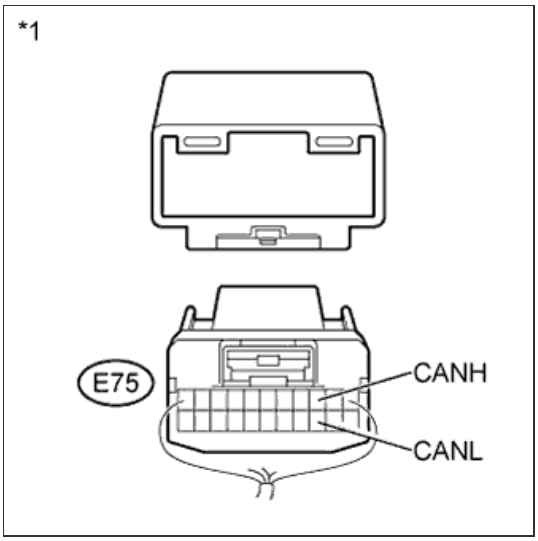
b. Measure the resistance according to the value(s) in the table below.

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 (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)

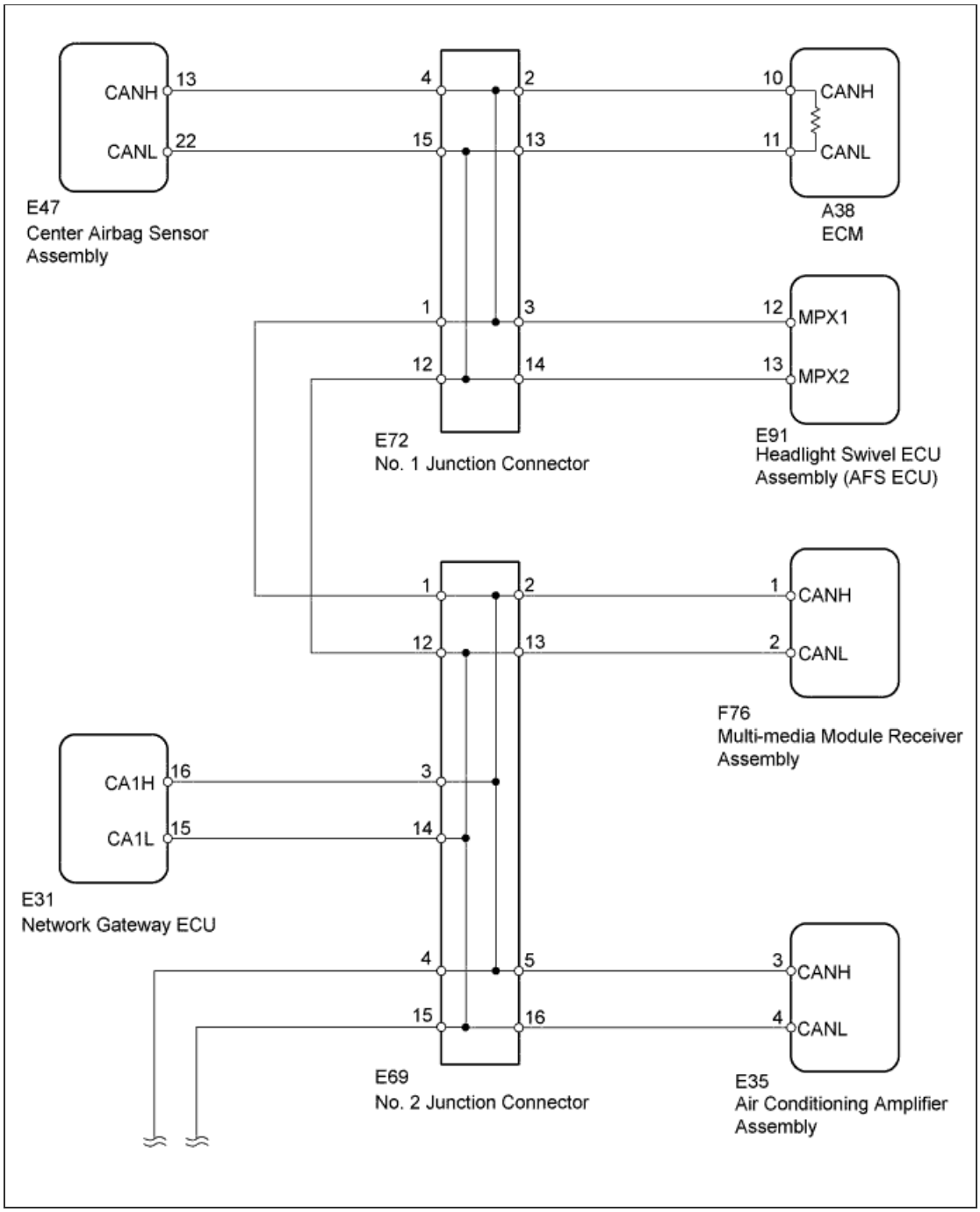
for Preparation Click here

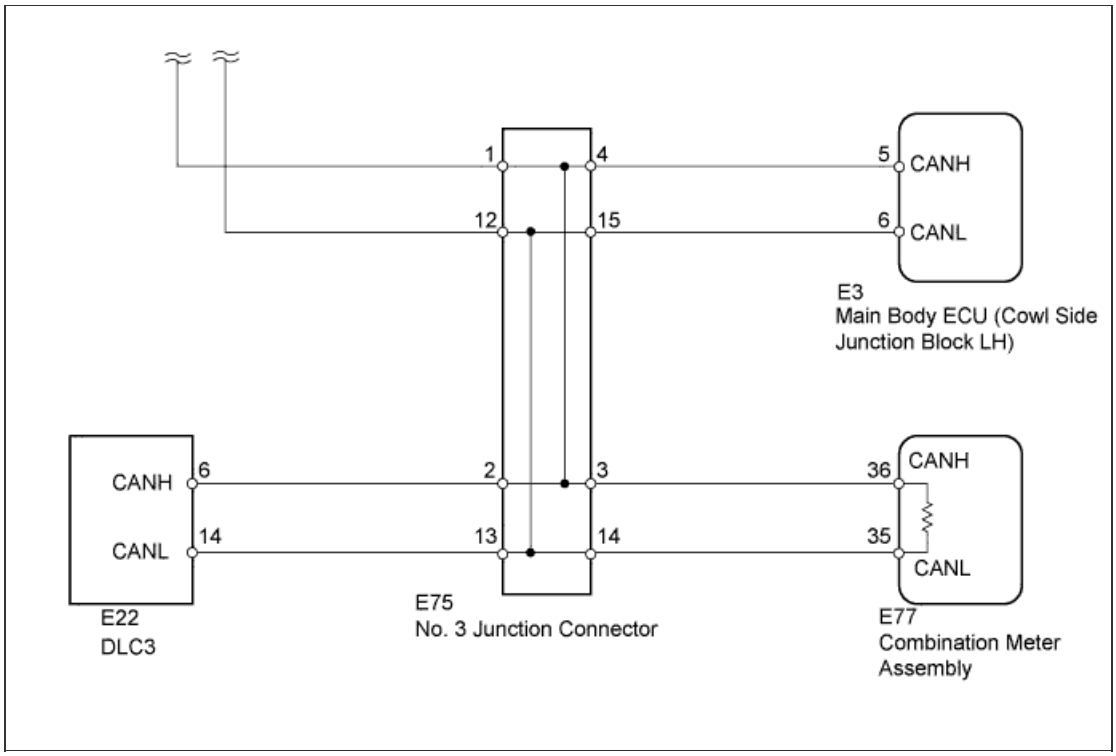
DESCRIPTION

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 • ECM • Center airbag sensor assembly • Headlight swivel ECU assembly (AFS ECU) • Multi-media module receiver assembly • Air conditioning amplifier assembly • Network gateway ECU • Main body ECU (cowl side junction block LH) • Combination meter assembly • No. 1 junction connector • No. 2 junction connector • 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

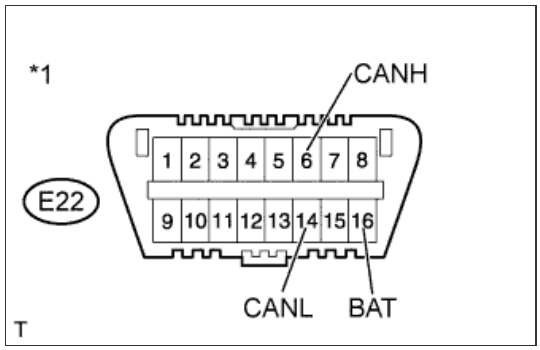
3.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (DLC3 BRANCH WIRE)

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

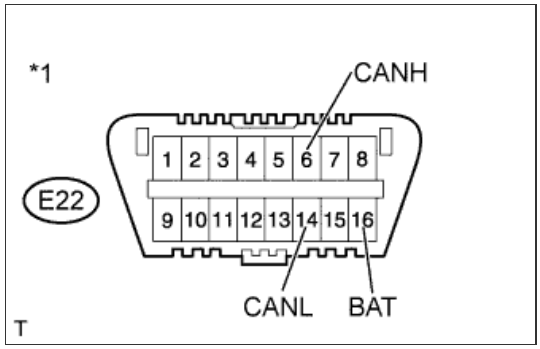
a. Reconnect the E75 No. 3 junction connector.

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.

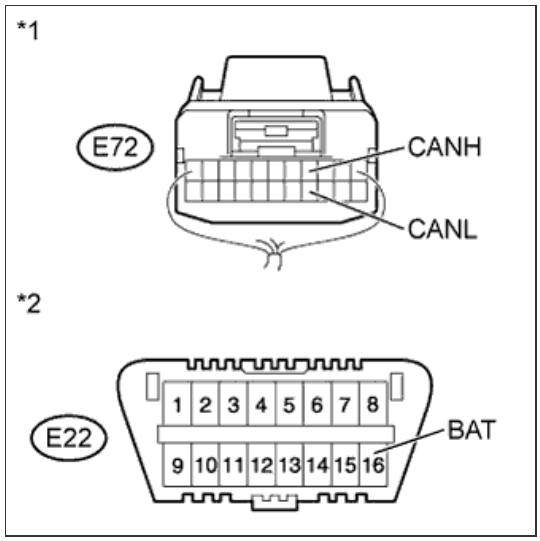
Standard Resistance:

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)

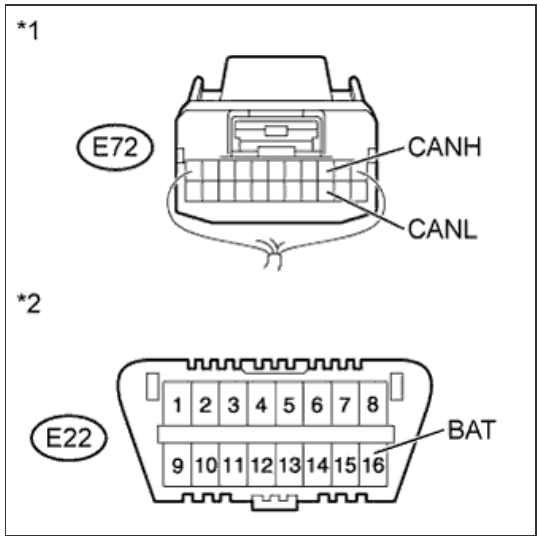
a. Measure the resistance according to the value(s) in the table below.

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.

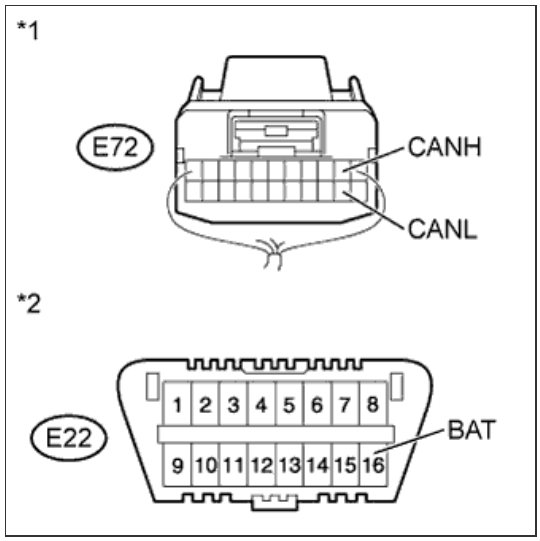
Standard Resistance:

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).

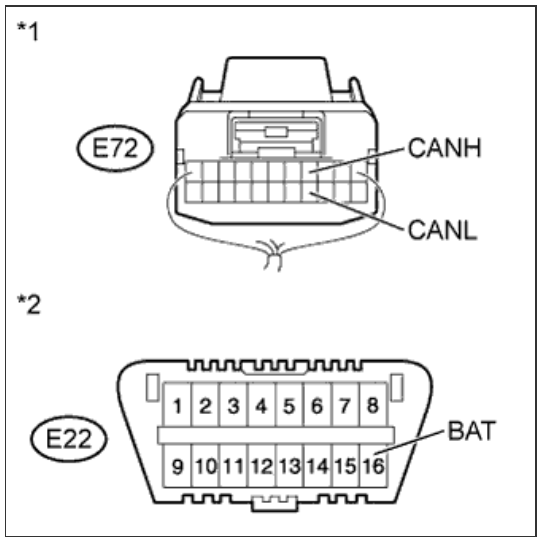
b. Measure the resistance according to the value(s) in the table below.

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.

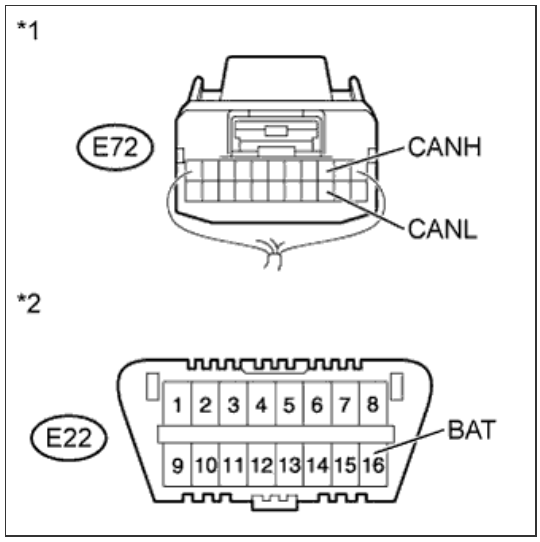
b. Measure the resistance according to the value(s) in the table below.

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.

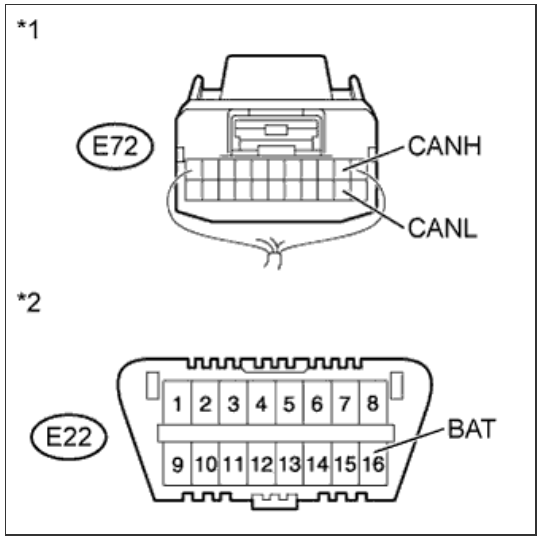
b. Measure the resistance according to the value(s) in the table below.

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.

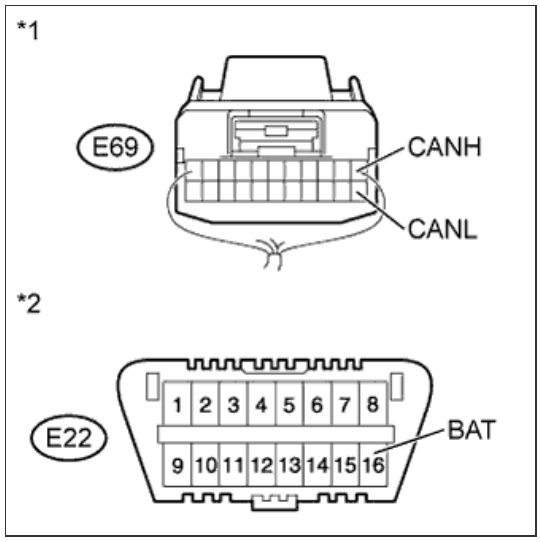
Standard Resistance:

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)

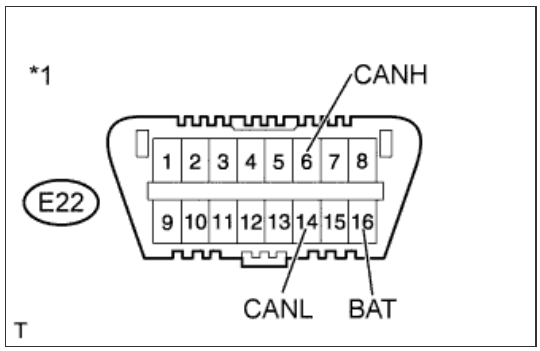
a. Measure the resistance according to the value(s) in the table below.

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.

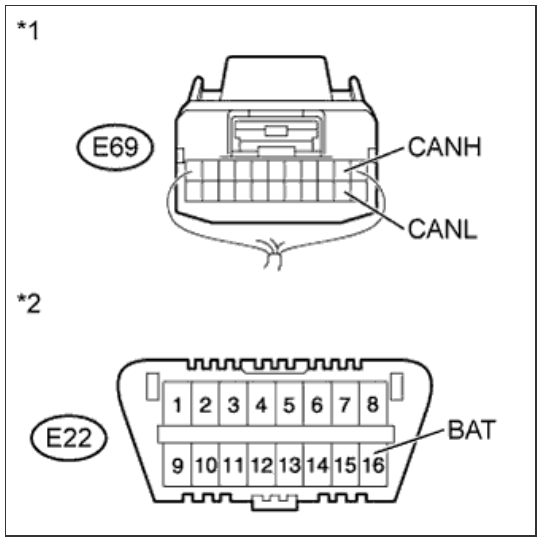
Standard Resistance:

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)

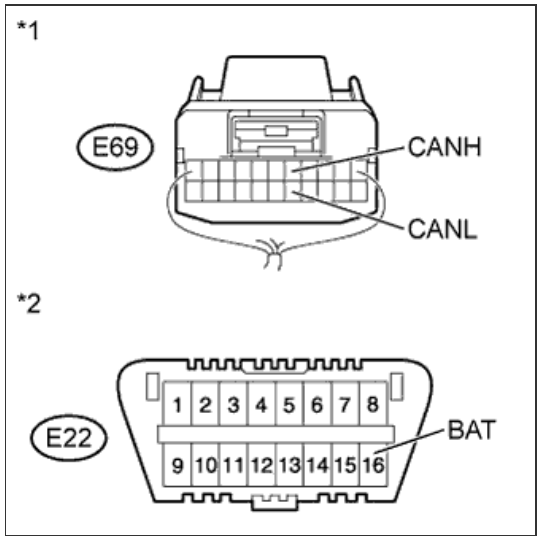
a. Measure the resistance according to the value(s) in the table below.

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.

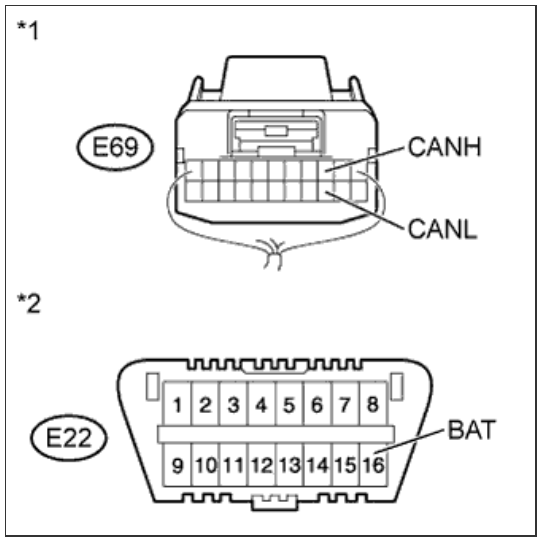
Standard Resistance:

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.

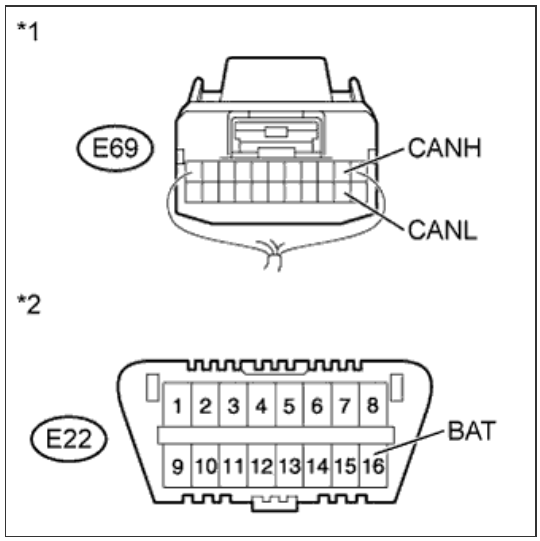
b. Measure the resistance according to the value(s) in the table below.

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.

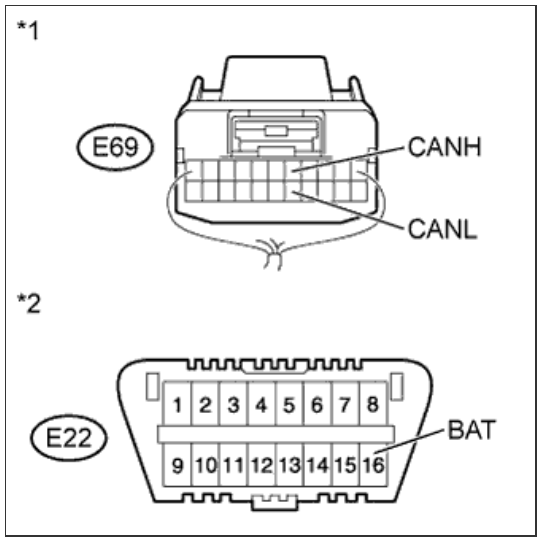
Standard Resistance:

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.

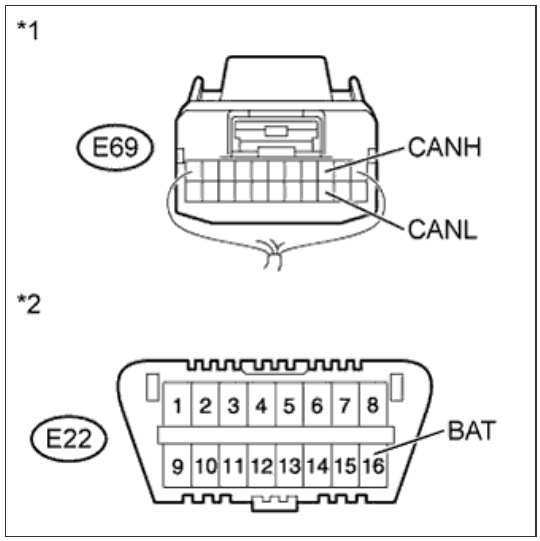
b. Measure the resistance according to the value(s) in the table below.

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.

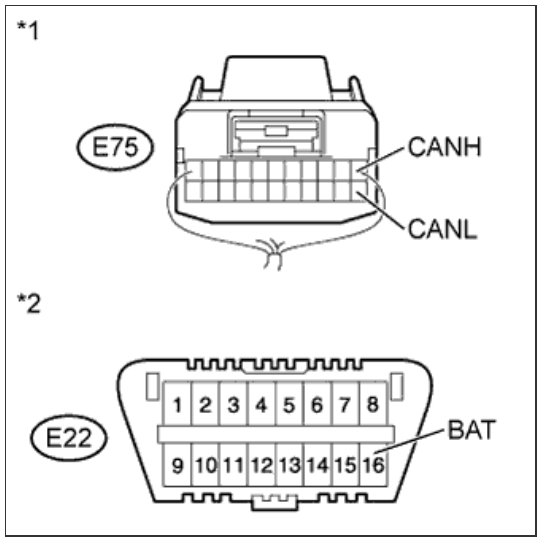
b. Measure the resistance according to the value(s) in the table below.

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)

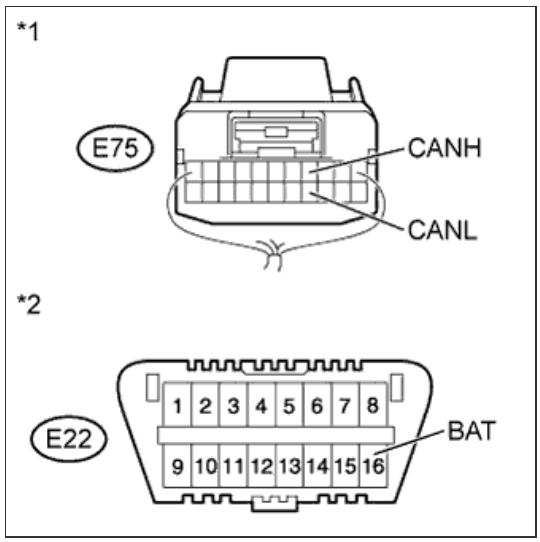
a. Measure the resistance according to the value(s) in the table below.

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.

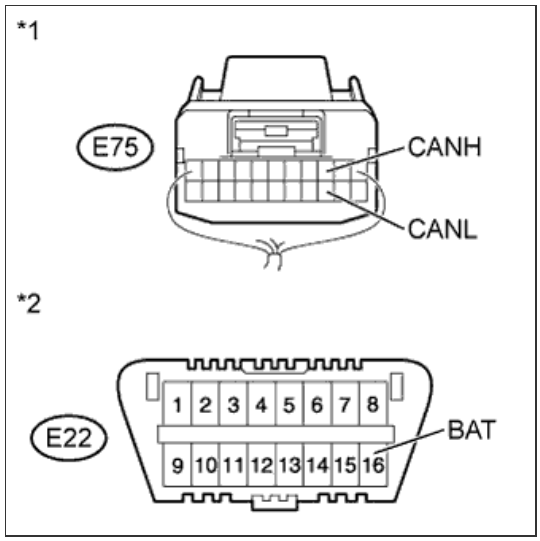
Standard Resistance:

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.

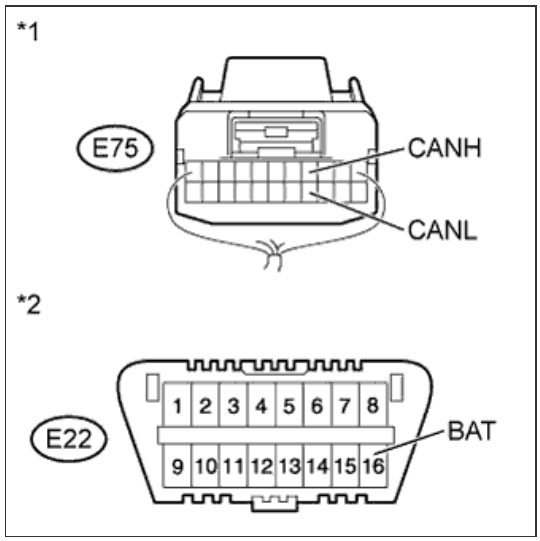
b. Measure the resistance according to the value(s) in the table below.

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.

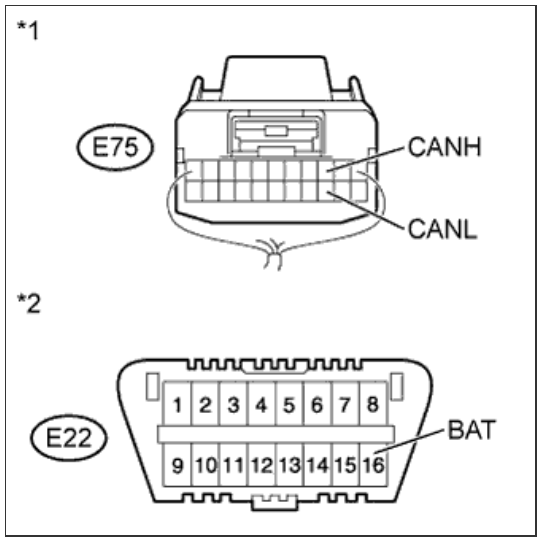
Standard Resistance:

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)

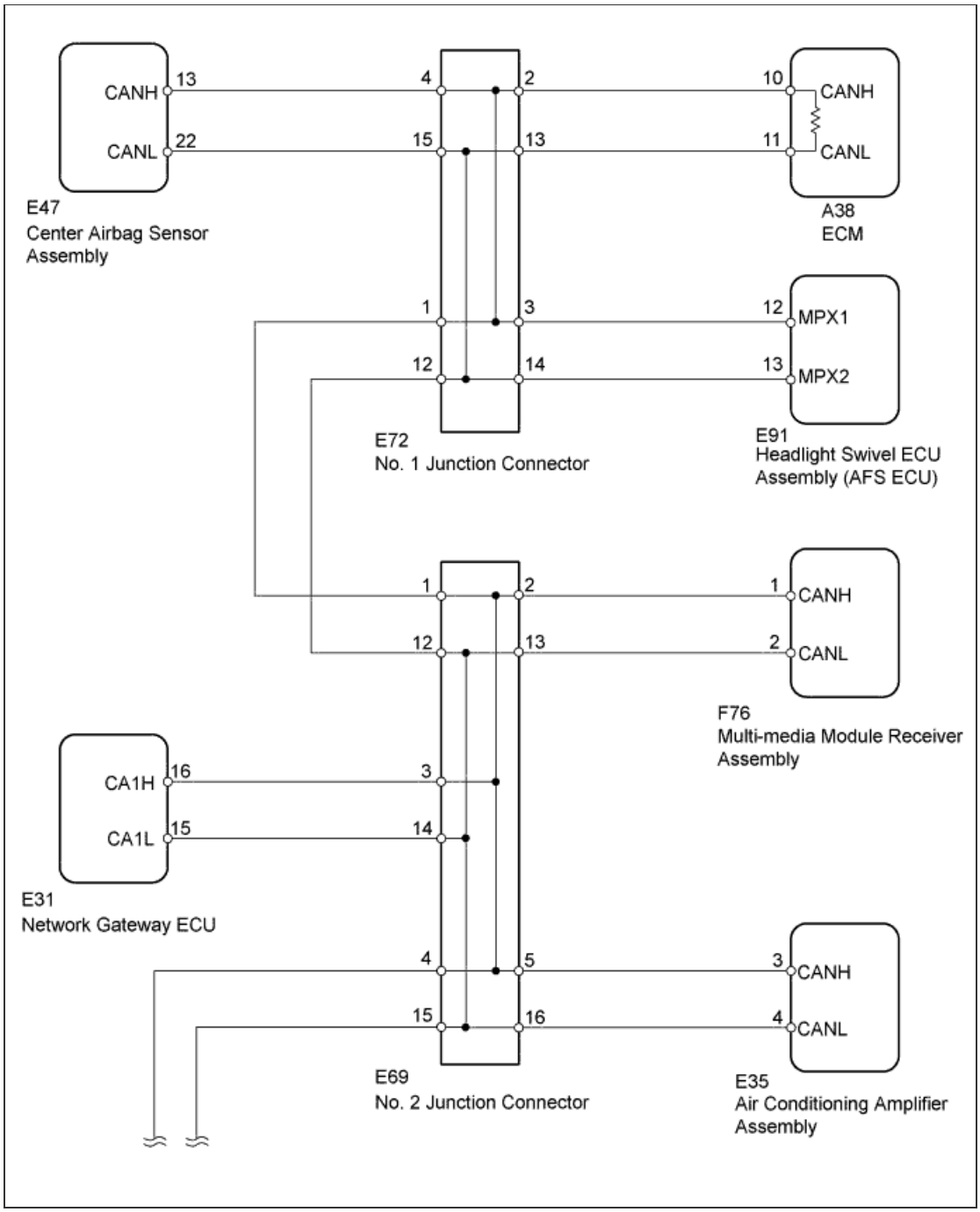
for Preparation Click here

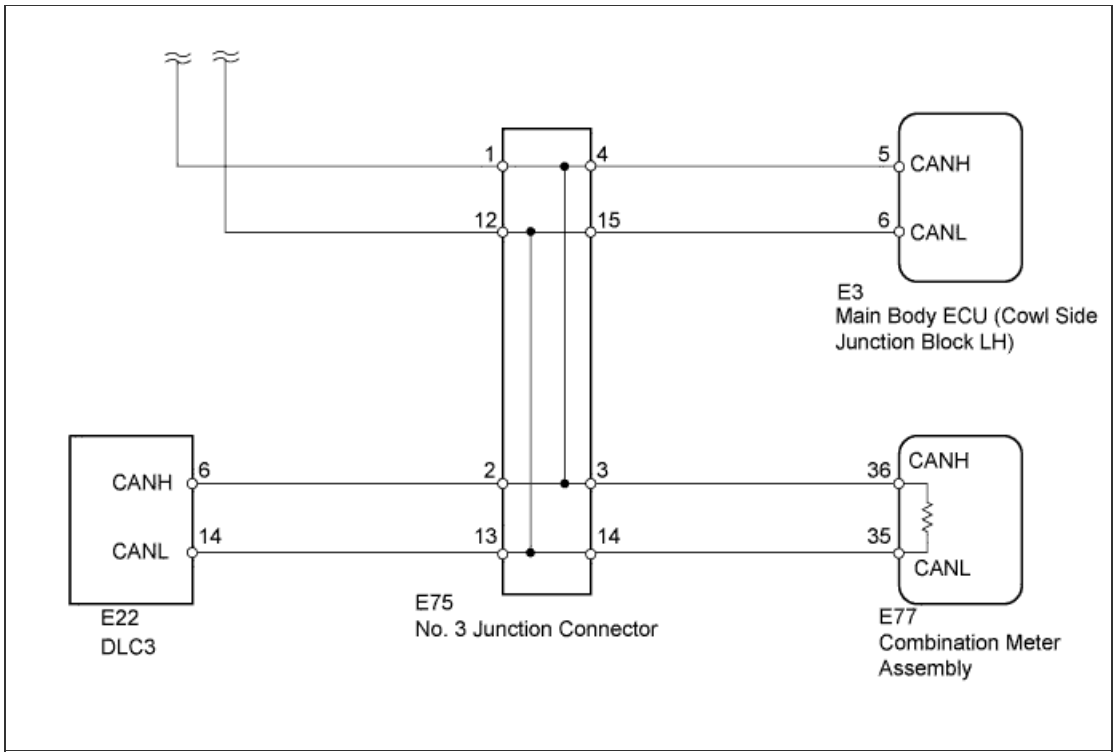
DESCRIPTION

There may be a short circuit between the CAN bus line and +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 • ECM • Center airbag sensor assembly • Headlight swivel ECU assembly (AFS ECU) • Multi-media module receiver assembly • Air conditioning amplifier assembly • Network gateway ECU • Main body ECU (cowl side junction block LH) • Combination meter assembly • No. 1 junction connector • No. 2 junction connector • 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

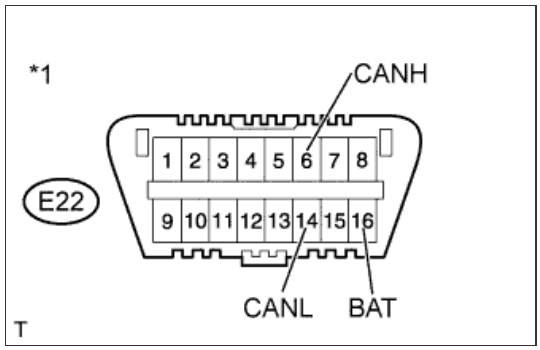
3.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (DLC3 BRANCH WIRE)

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

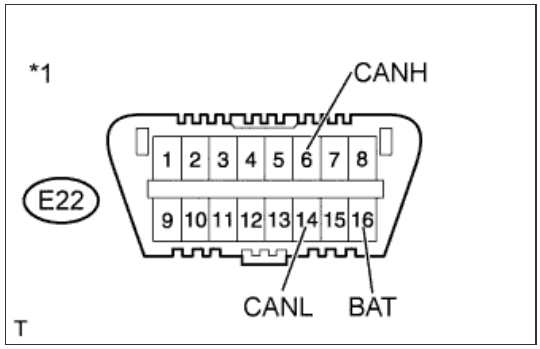
a. Reconnect the E75 No. 3 junction connector.

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.

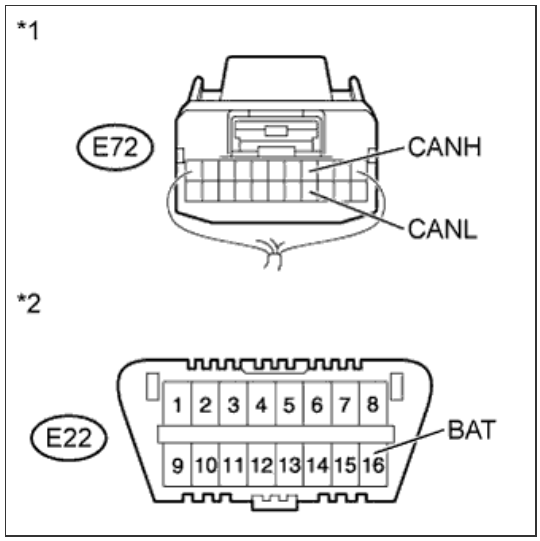
Standard Resistance:

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)

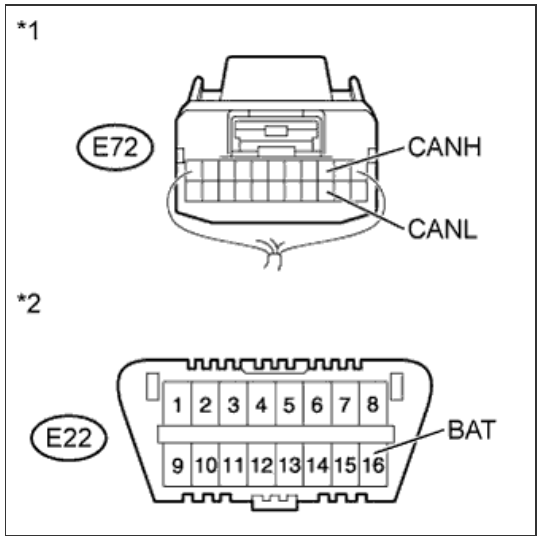
a. Measure the resistance according to the value(s) in the table below.

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.

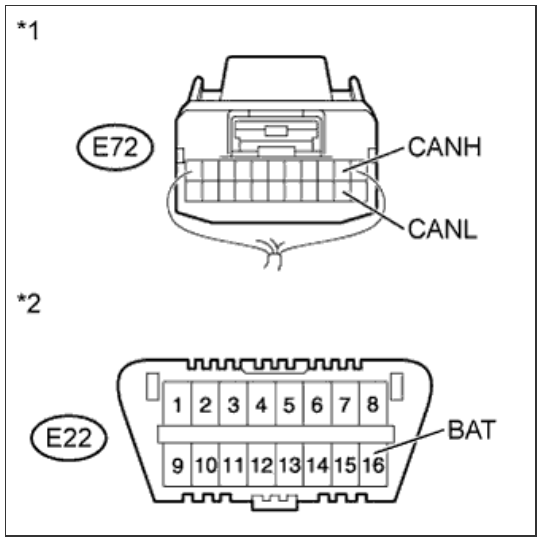
Standard Resistance:

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).

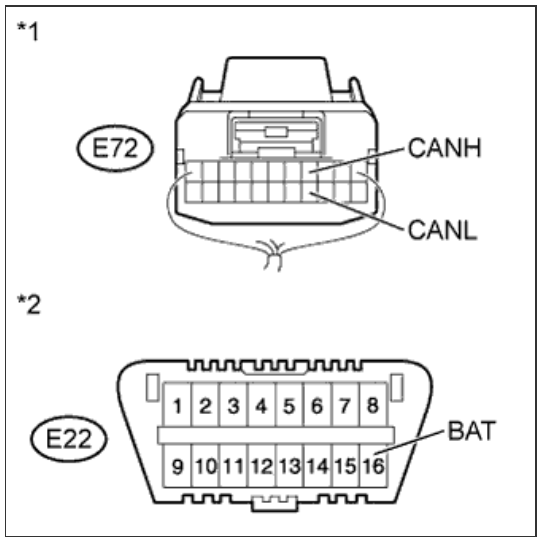
b. Measure the resistance according to the value(s) in the table below.

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.

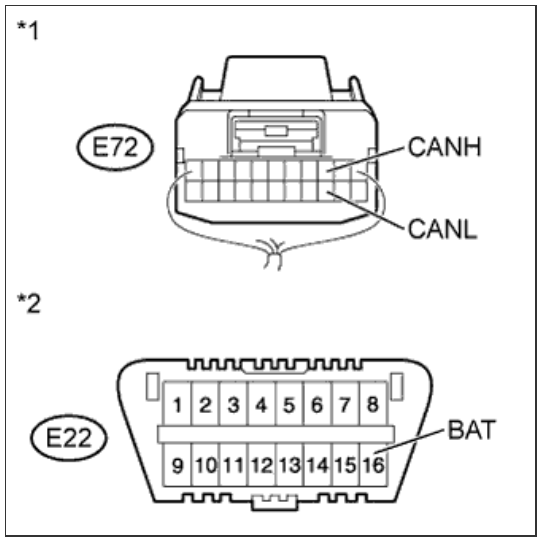
b. Measure the resistance according to the value(s) in the table below.

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.

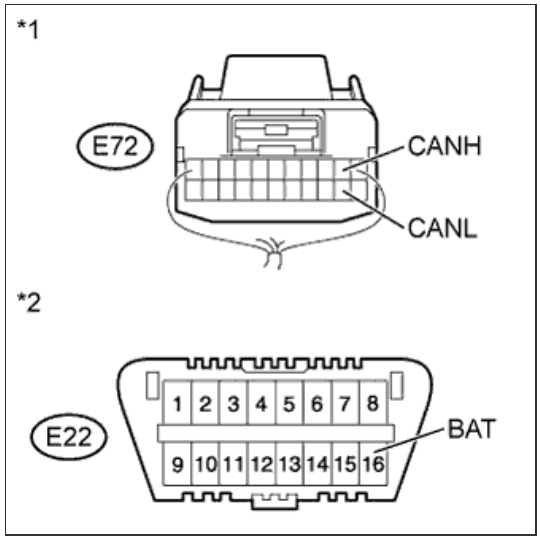
b. Measure the resistance according to the value(s) in the table below.

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.

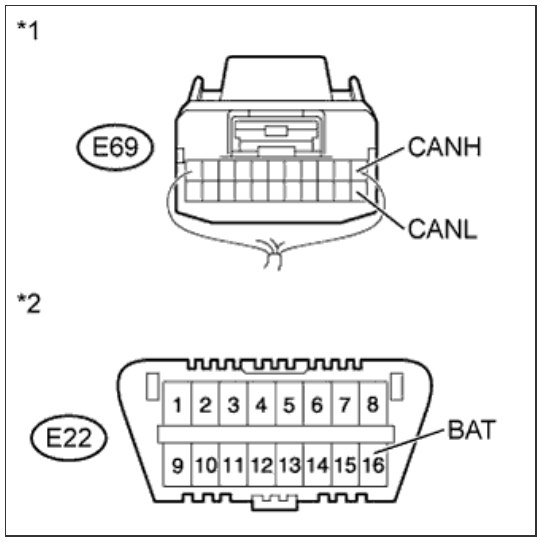
Standard Resistance:

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)

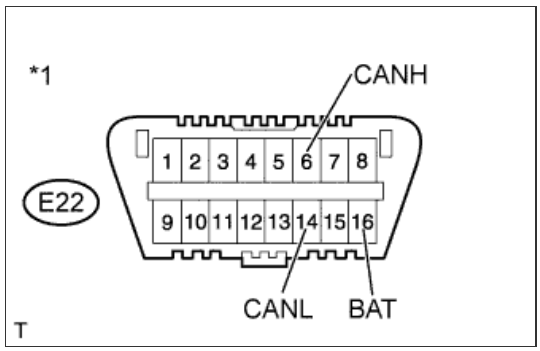
a. Measure the resistance according to the value(s) in the table below.

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.

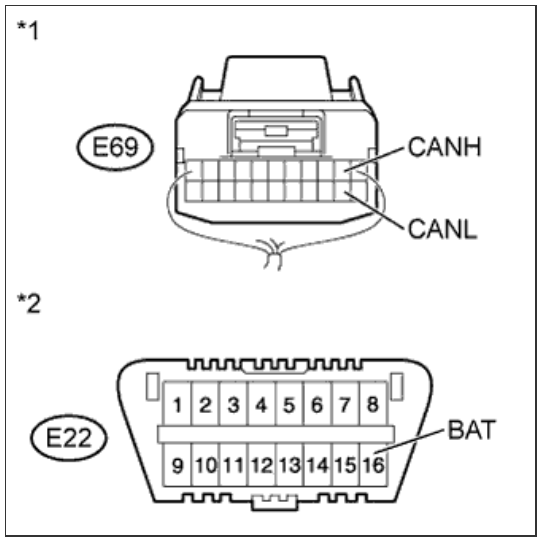
Standard Resistance:

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)

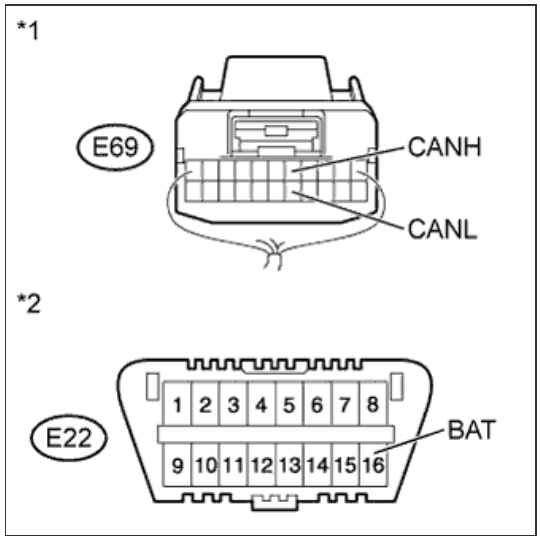
a. Measure the resistance according to the value(s) in the table below.

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.

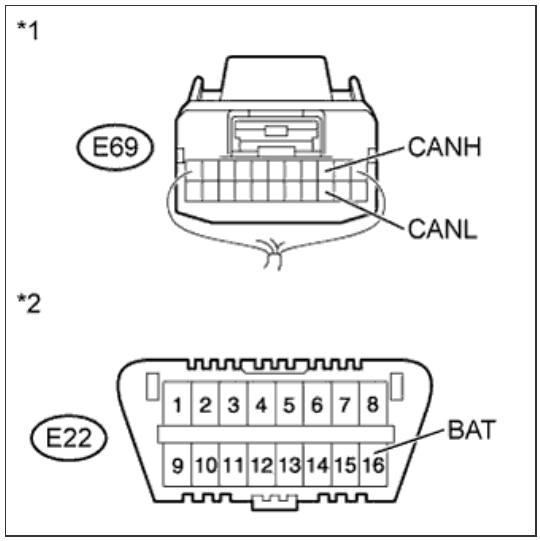
Standard Resistance:

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.

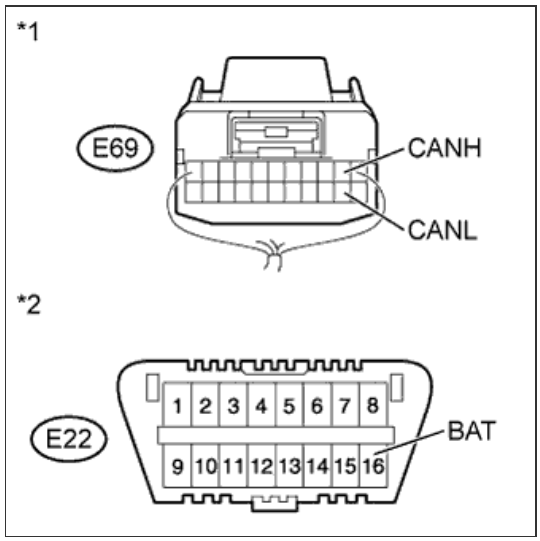
b. Measure the resistance according to the value(s) in the table below.

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.

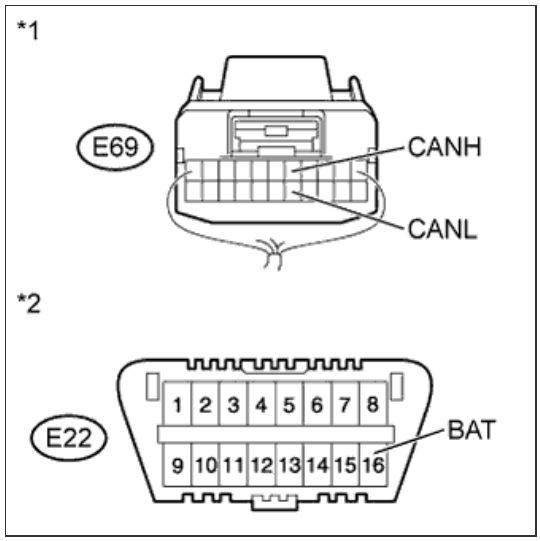
Standard Resistance:

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.

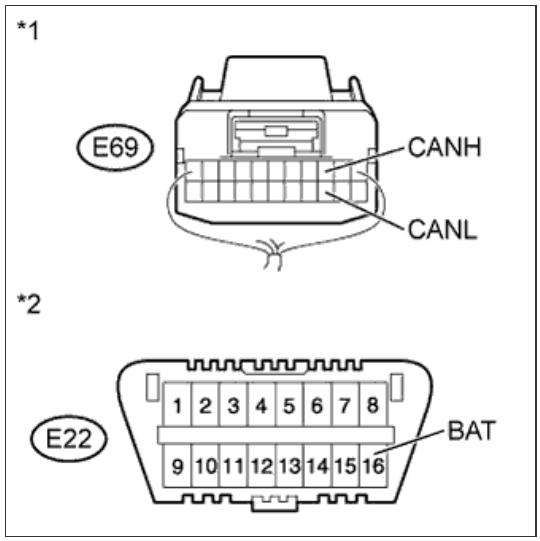
b. Measure the resistance according to the value(s) in the table below.

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.

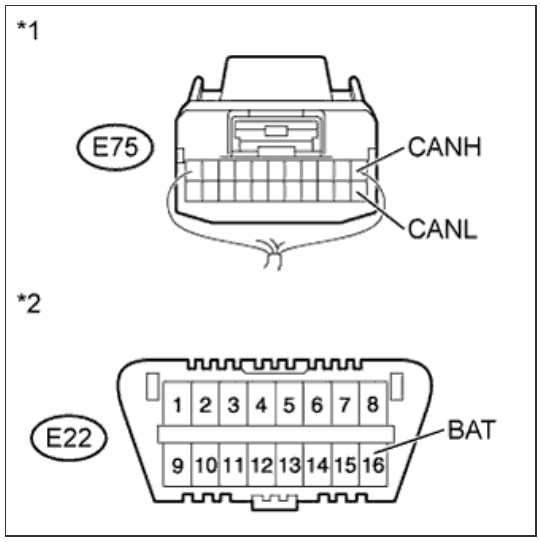
b. Measure the resistance according to the value(s) in the table below.

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)

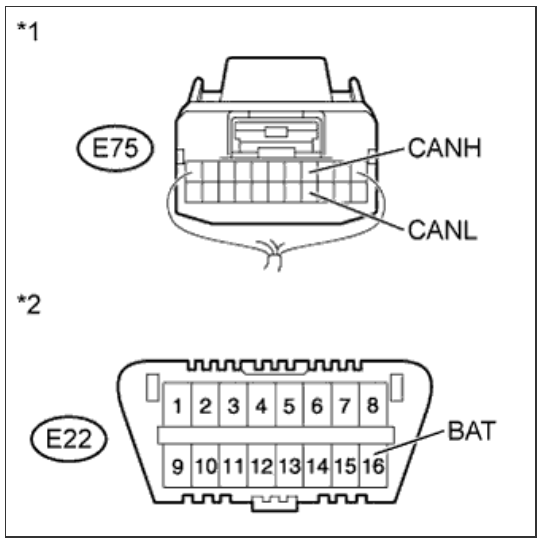
a. Measure the resistance according to the value(s) in the table below.

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.

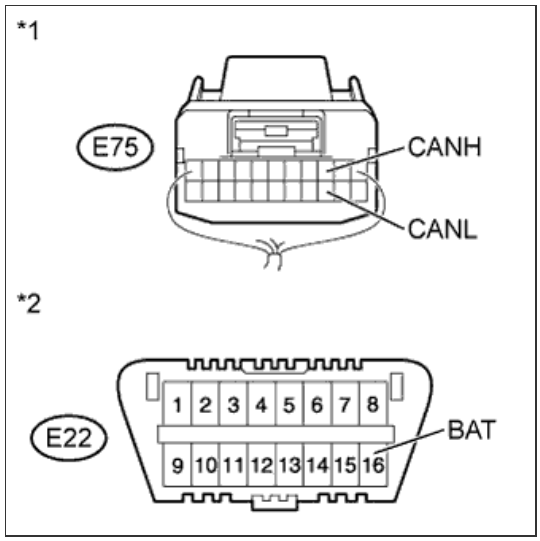
Standard Resistance:

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.

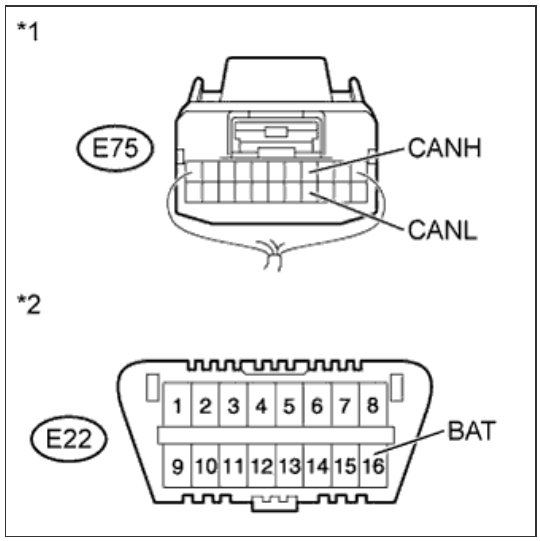
b. Measure the resistance according to the value(s) in the table below.

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.

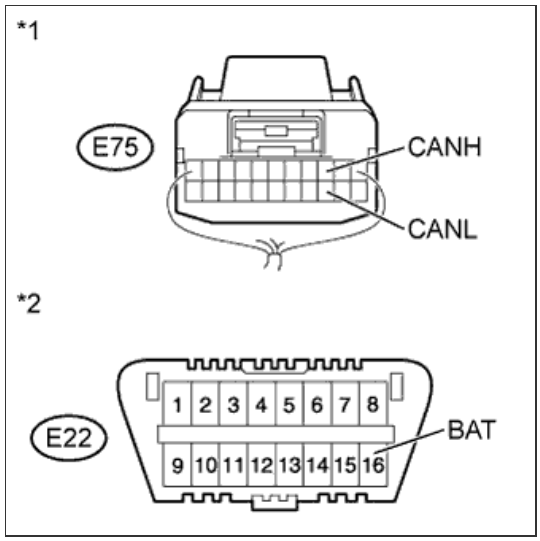
Standard Resistance:

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)

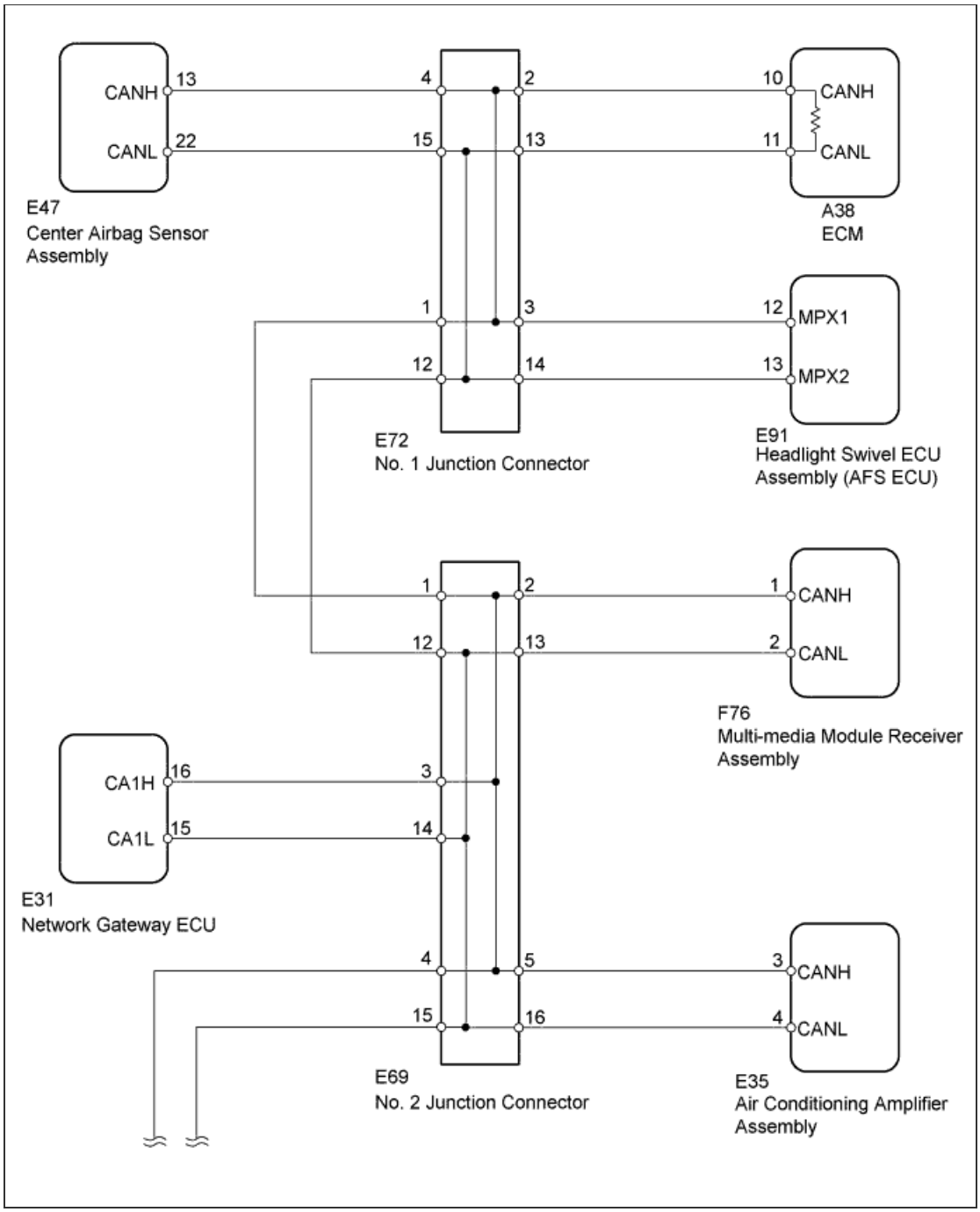
for Preparation Click here

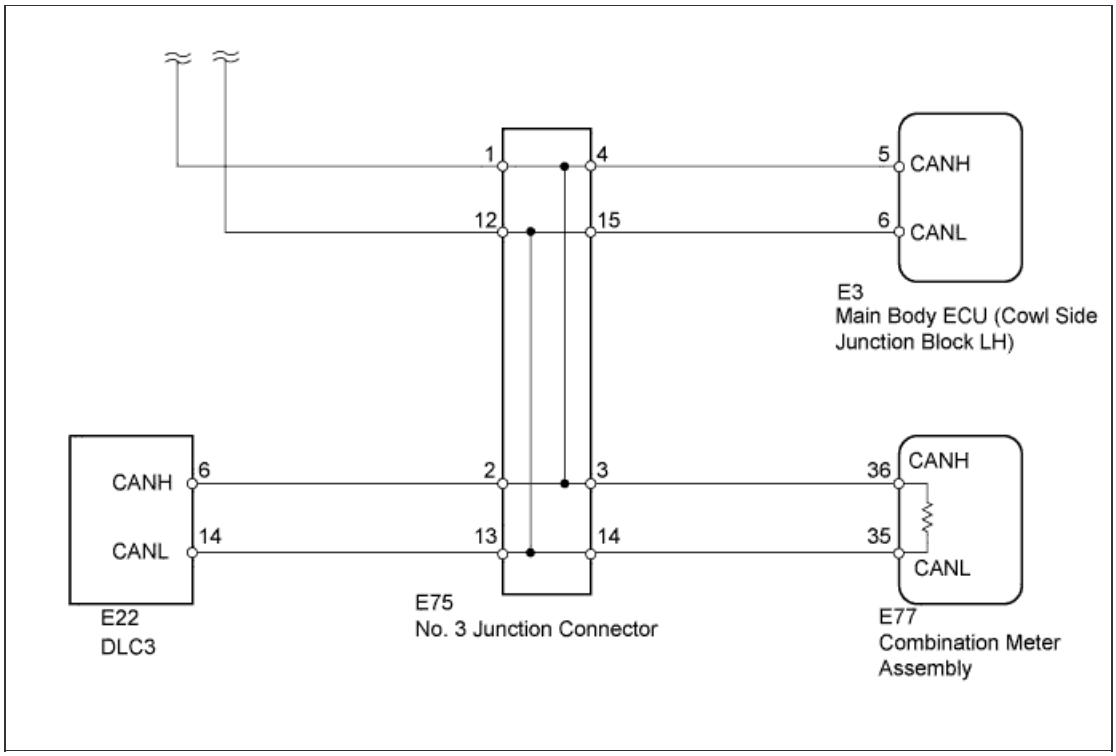
DESCRIPTION

There may be a short circuit between the CAN bus line and +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 • ECM • Center airbag sensor assembly • Headlight swivel ECU assembly (AFS ECU) • Multi-media module receiver assembly • Air conditioning amplifier assembly • Network gateway ECU • Main body ECU (cowl side junction block LH) • Combination meter assembly • No. 1 junction connector • No. 2 junction connector • 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

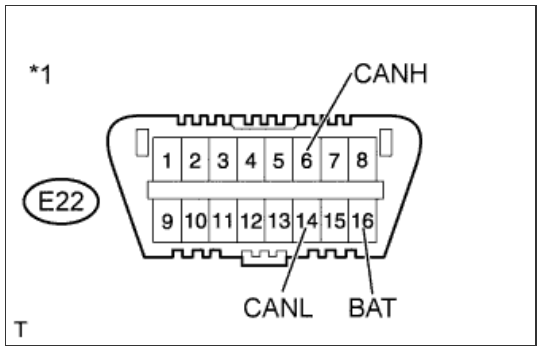
3.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (DLC3 BRANCH WIRE)

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

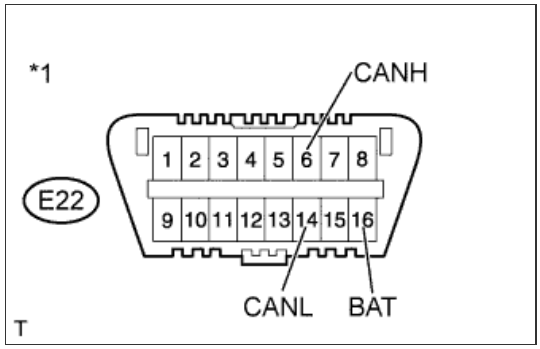
a. Reconnect the E75 No. 3 junction connector.

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.

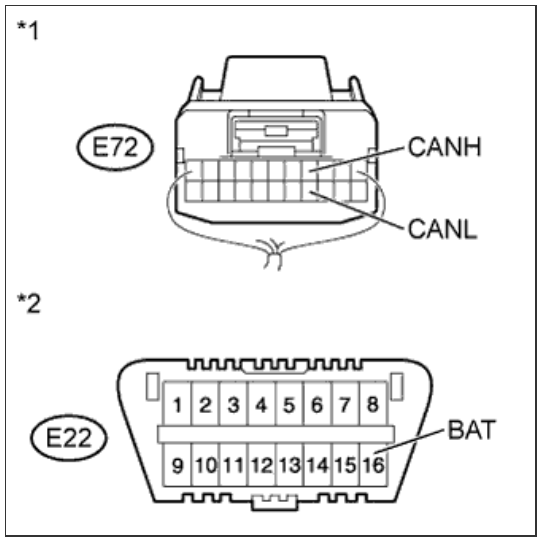
Standard Resistance:

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)

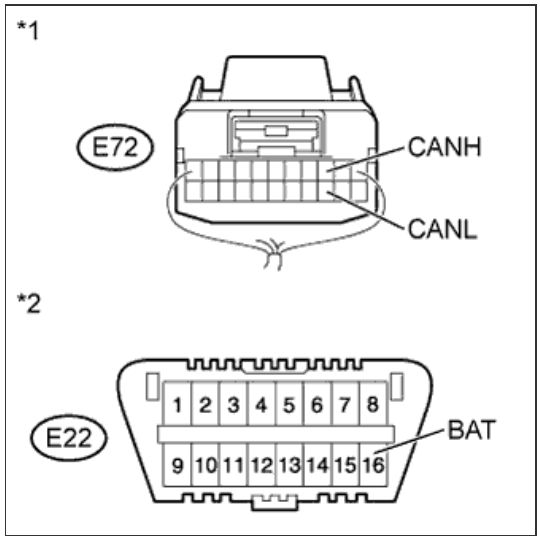
a. Measure the resistance according to the value(s) in the table below.

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.

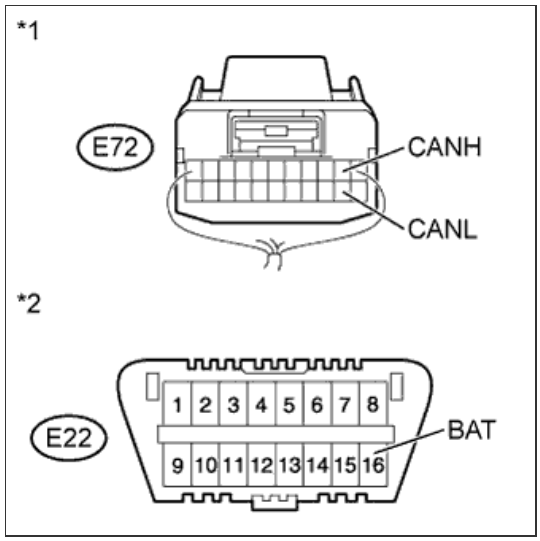
Standard Resistance:

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).

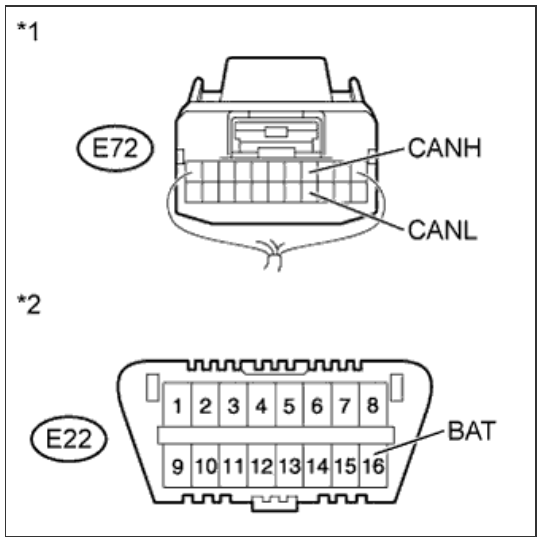
b. Measure the resistance according to the value(s) in the table below.

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.

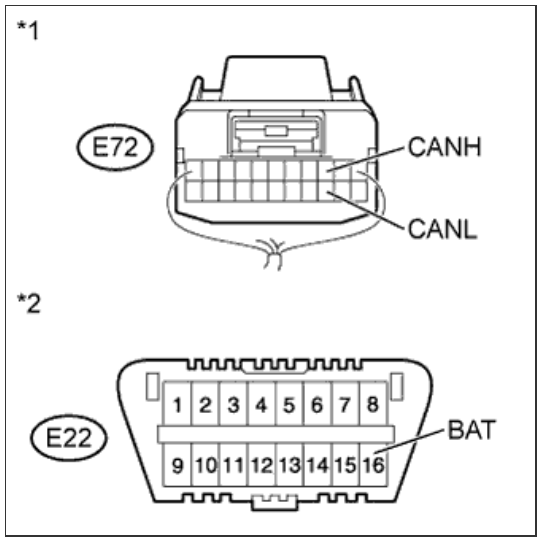
b. Measure the resistance according to the value(s) in the table below.

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.

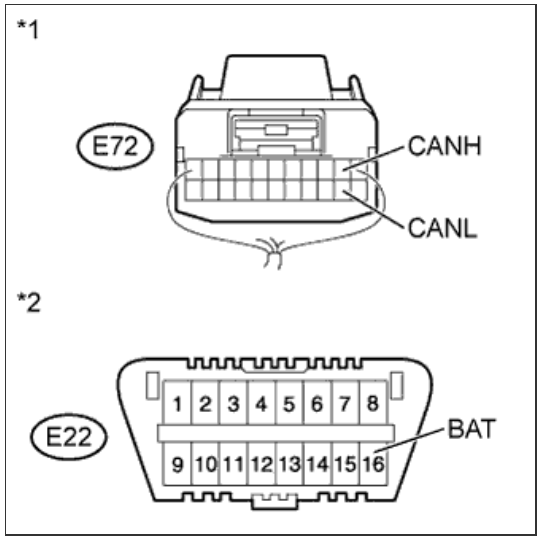
b. Measure the resistance according to the value(s) in the table below.

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.

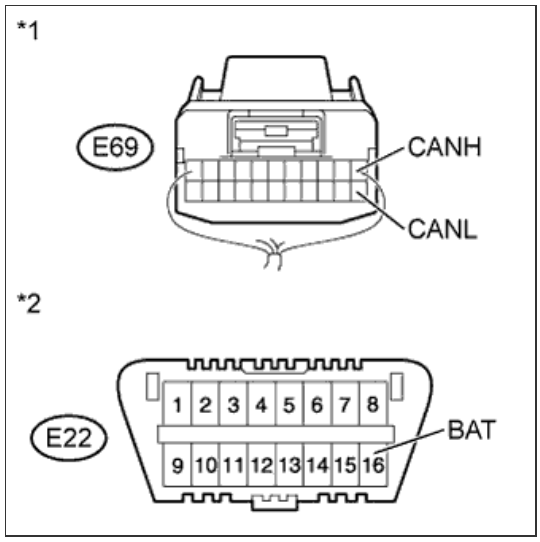
Standard Resistance:

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)

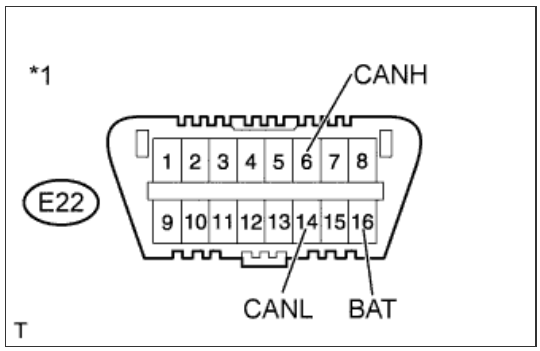
a. Measure the resistance according to the value(s) in the table below.

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.

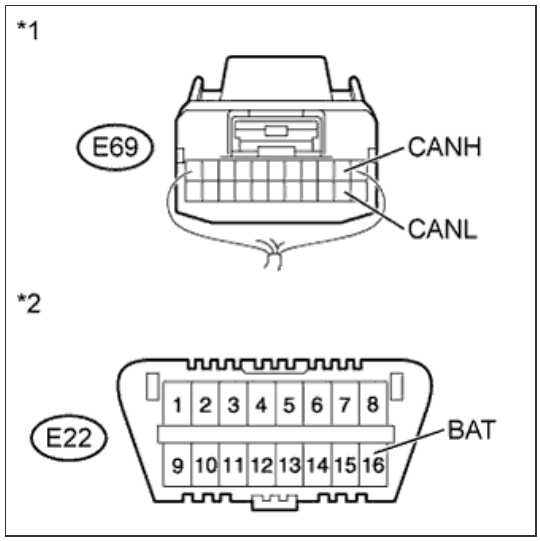
Standard Resistance:

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)

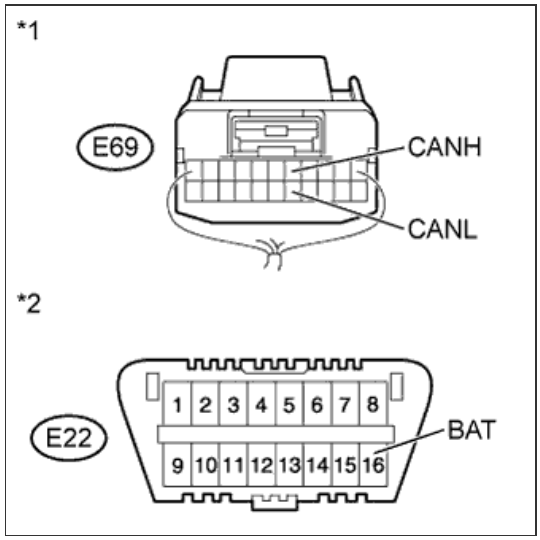
a. Measure the resistance according to the value(s) in the table below.

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.

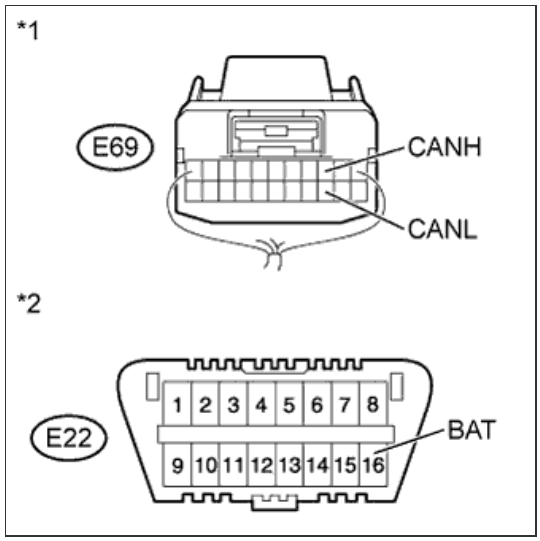
Standard Resistance:

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.

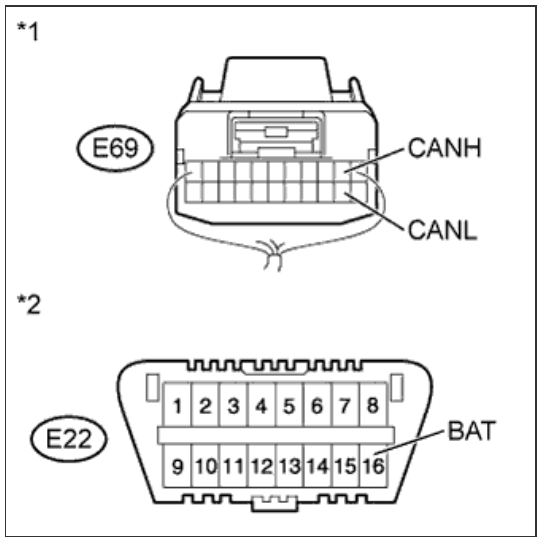
b. Measure the resistance according to the value(s) in the table below.

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.

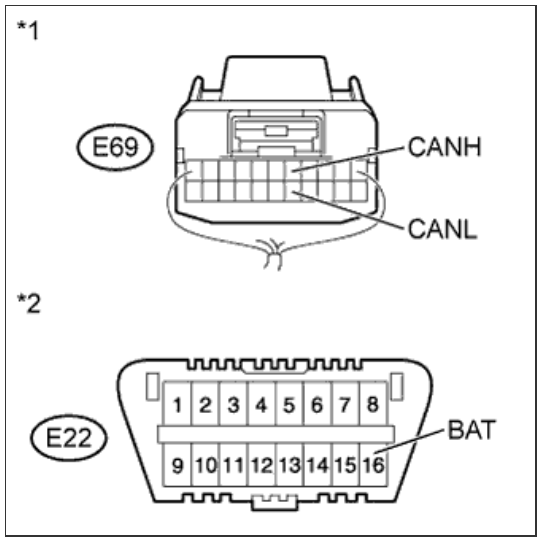
Standard Resistance:

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.

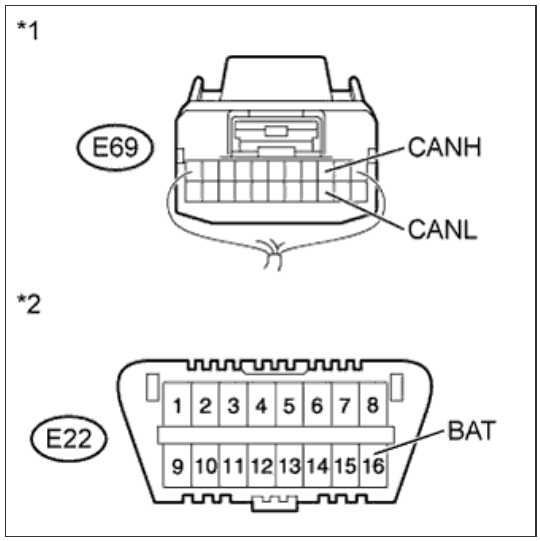
b. Measure the resistance according to the value(s) in the table below.

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.

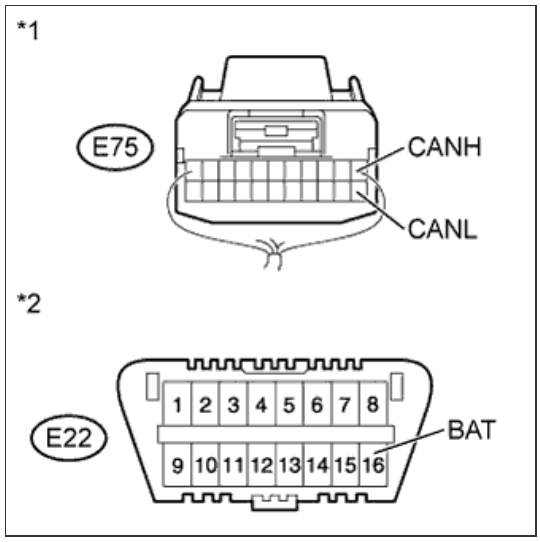
b. Measure the resistance according to the value(s) in the table below.

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)

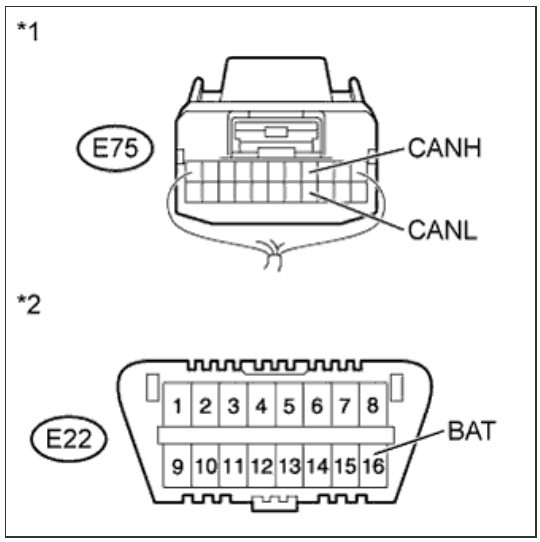
a. Measure the resistance according to the value(s) in the table below.

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.

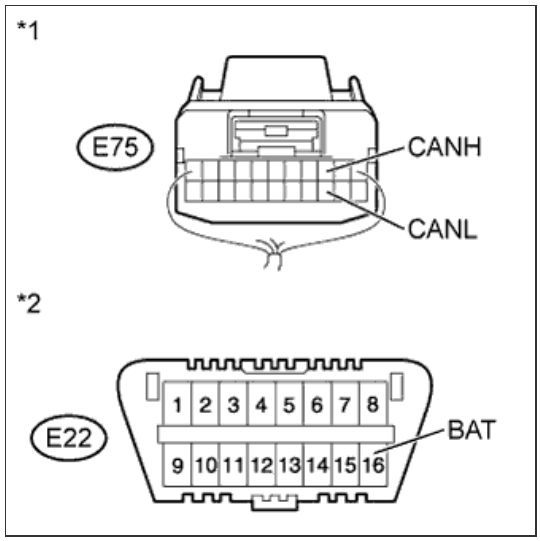
Standard Resistance:

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.

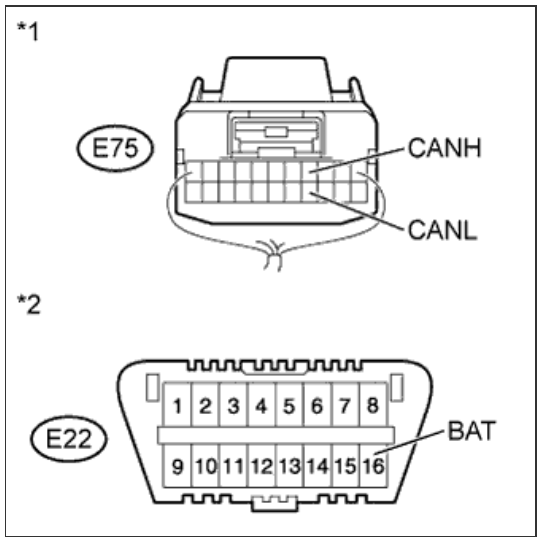
b. Measure the resistance according to the value(s) in the table below.

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.

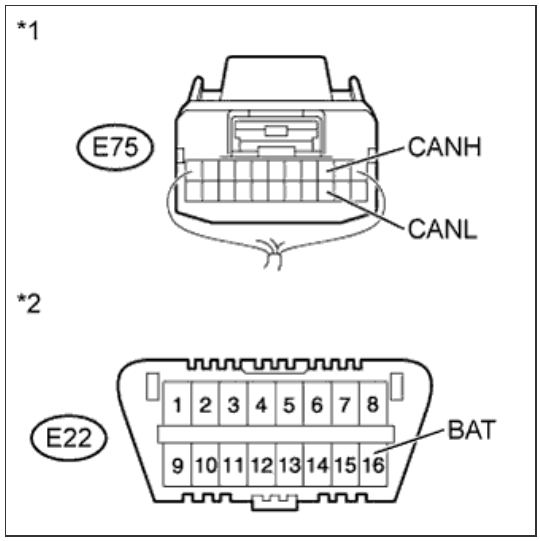
Standard Resistance:

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)

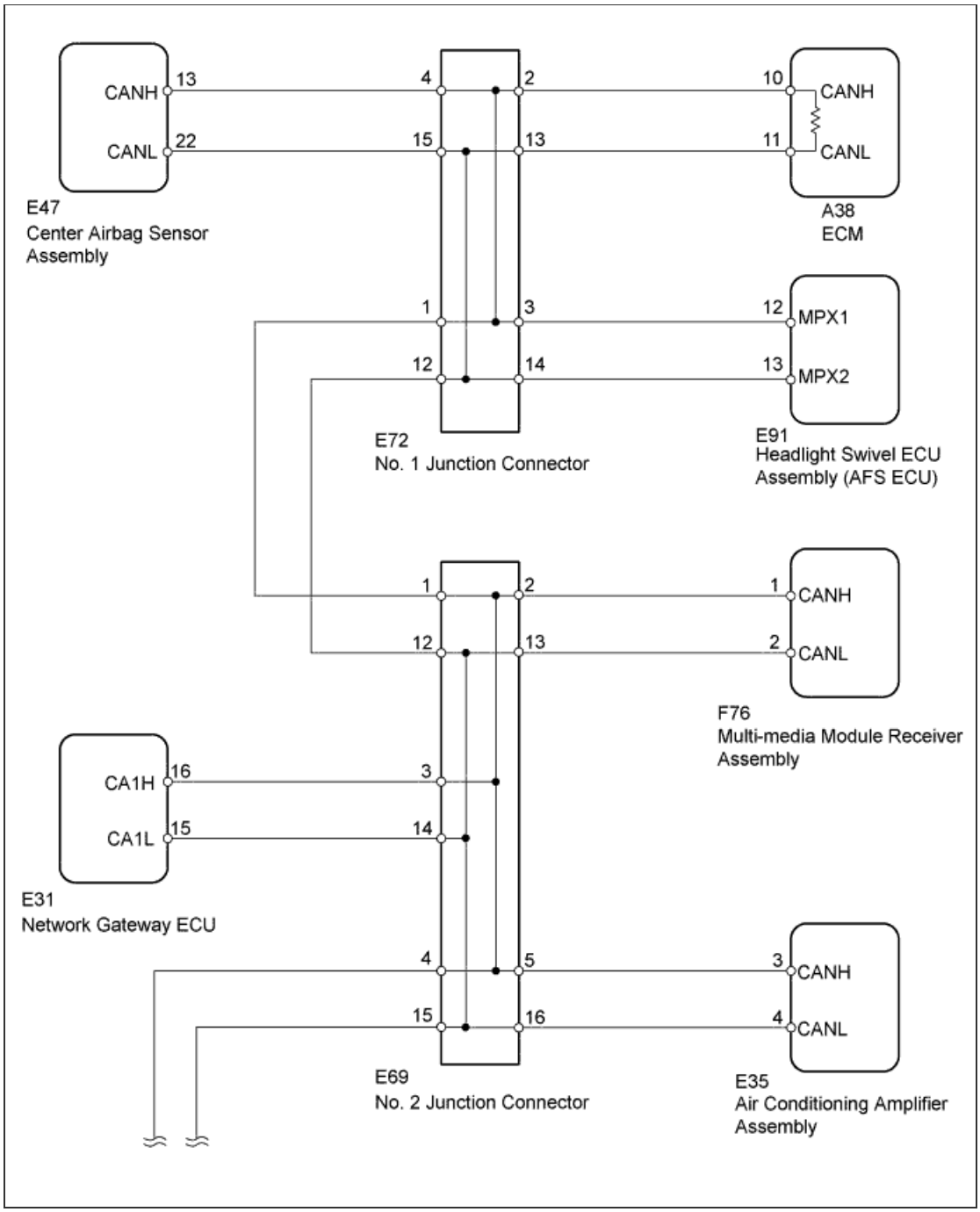
for Preparation Click here

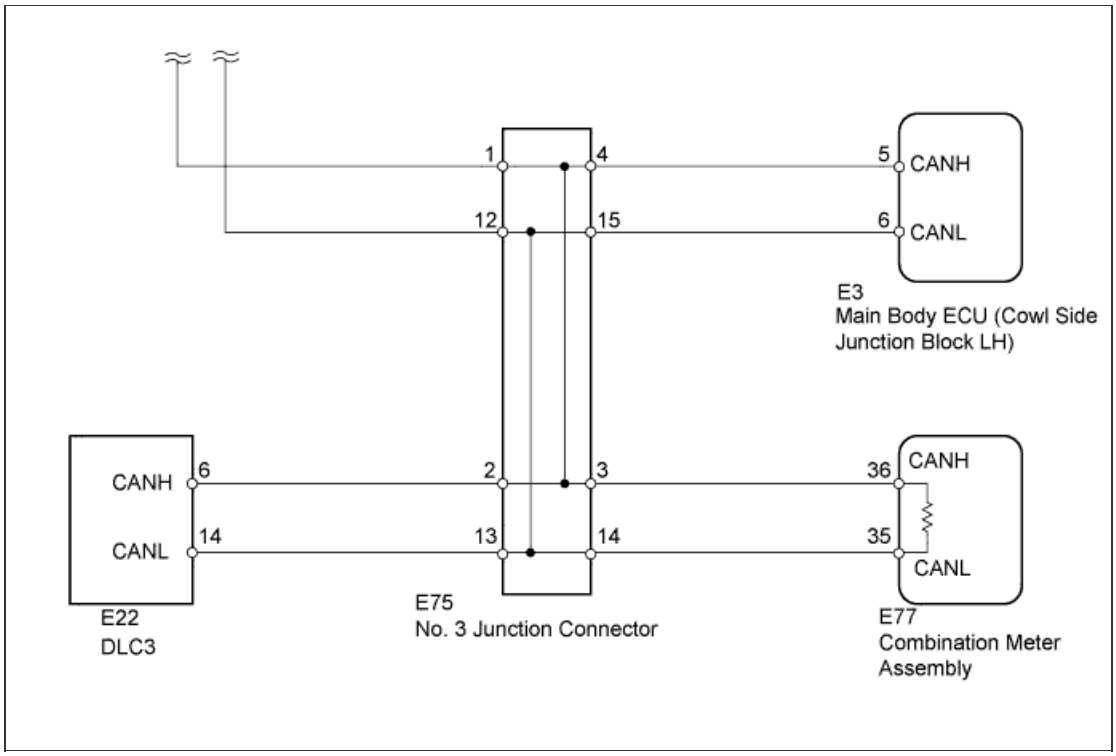
DESCRIPTION

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 • ECM • Center airbag sensor assembly • Headlight swivel ECU assembly (AFS ECU) • Multi-media module receiver assembly • Air conditioning amplifier assembly • Network gateway ECU • Main body ECU (cowl side junction block LH) • Combination meter assembly • No. 1 junction connector • No. 2 junction connector • 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.

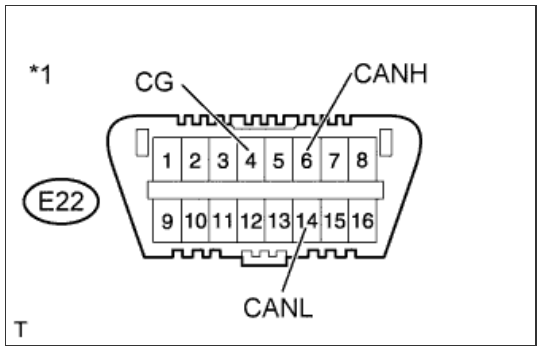
b. Measure the resistance according to the value(s) in the table below.

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.

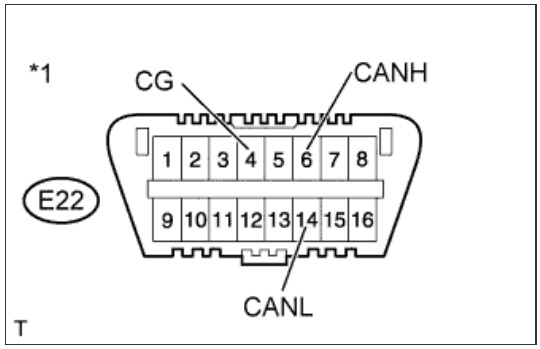
b. Measure the resistance according to the value(s) in the table below.

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.

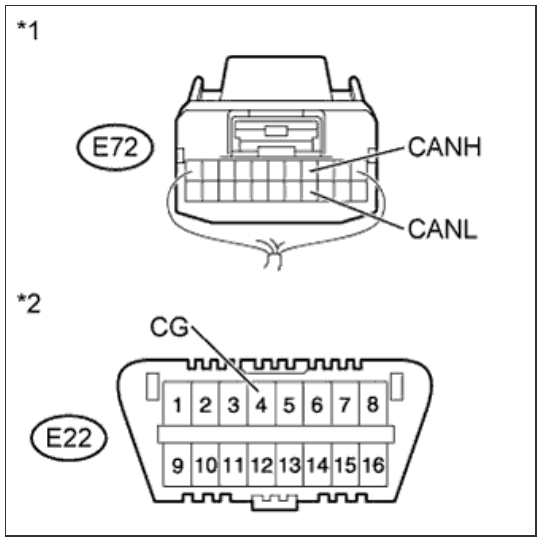
Standard Resistance:

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)

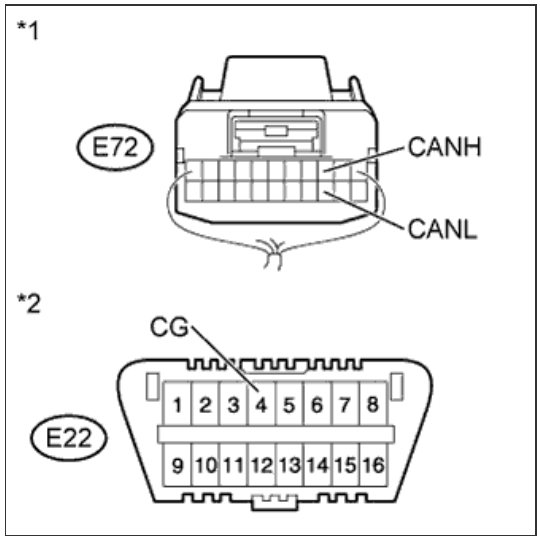
a. Measure the resistance according to the value(s) in the table below.

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.

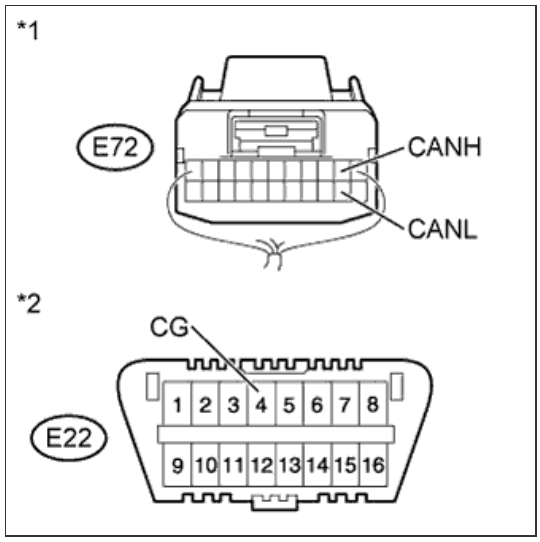
Standard Resistance:

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).

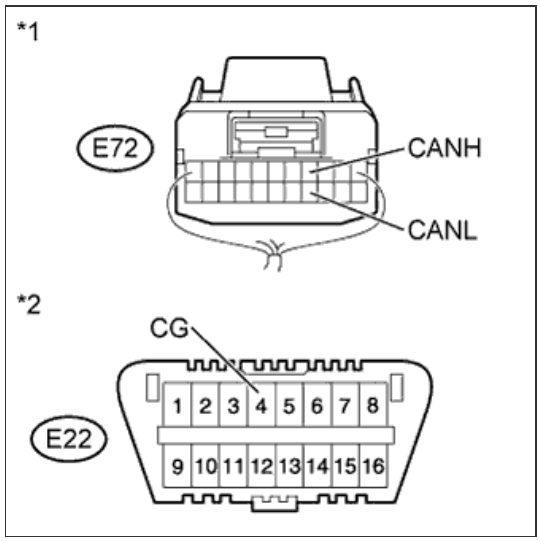
b. Measure the resistance according to the value(s) in the table below.

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.

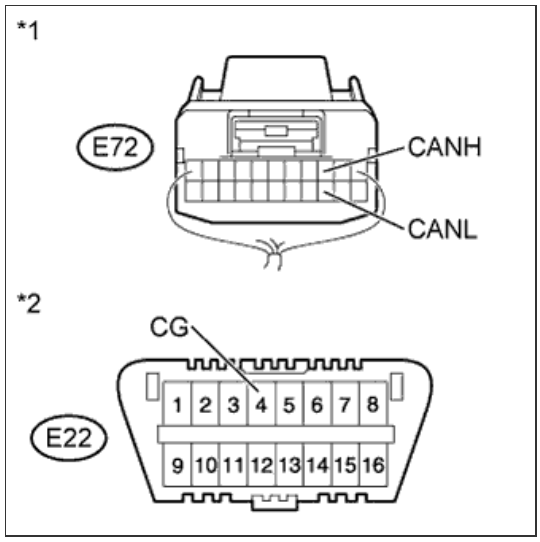
b. Measure the resistance according to the value(s) in the table below.

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.

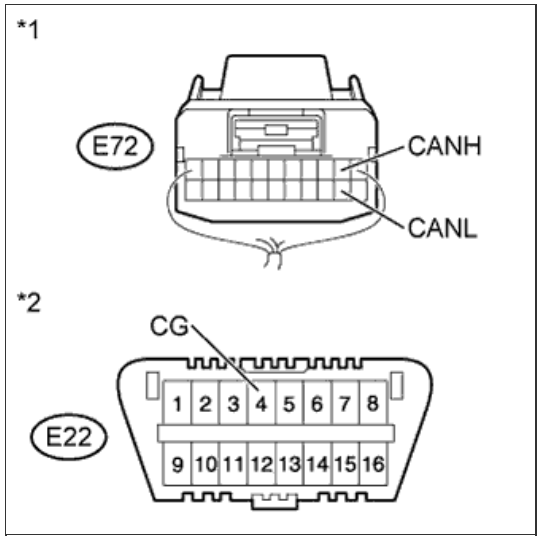
b. Measure the resistance according to the value(s) in the table below.

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.

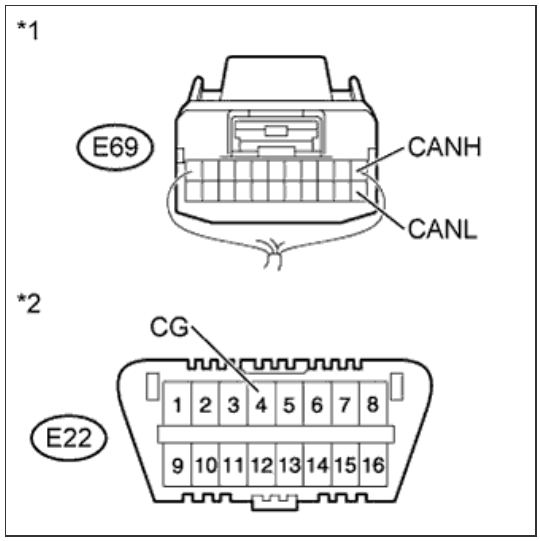
Standard Resistance:

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)

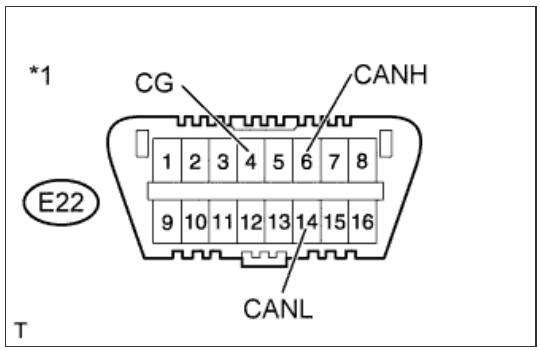
a. Measure the resistance according to the value(s) in the table below.

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.

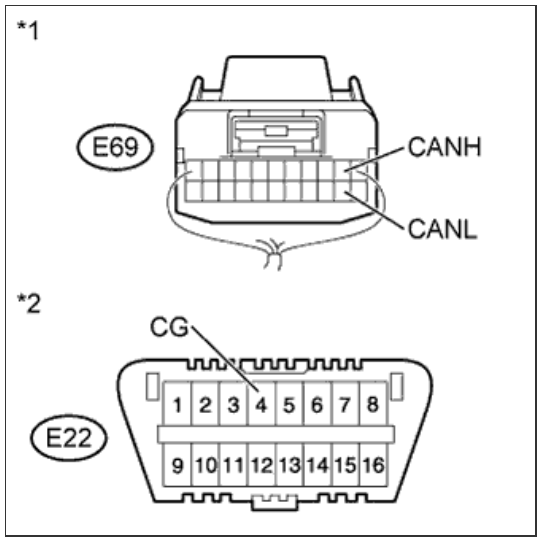
Standard Resistance:

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)

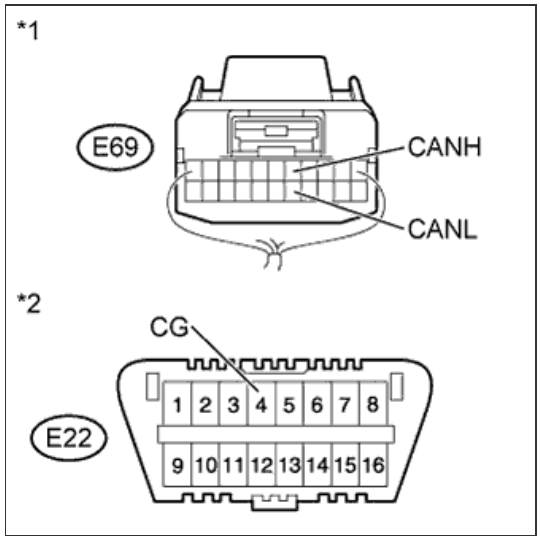
a. Measure the resistance according to the value(s) in the table below.

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.

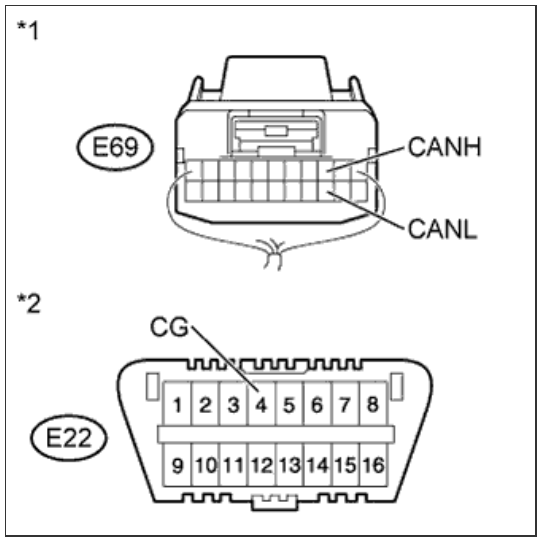
Standard Resistance:

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.

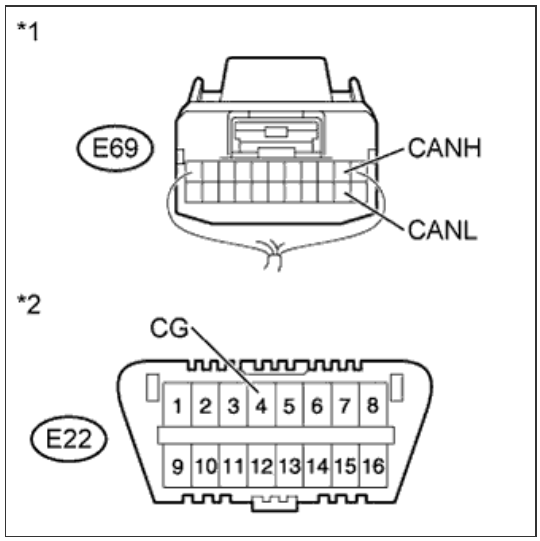
b. Measure the resistance according to the value(s) in the table below.

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.

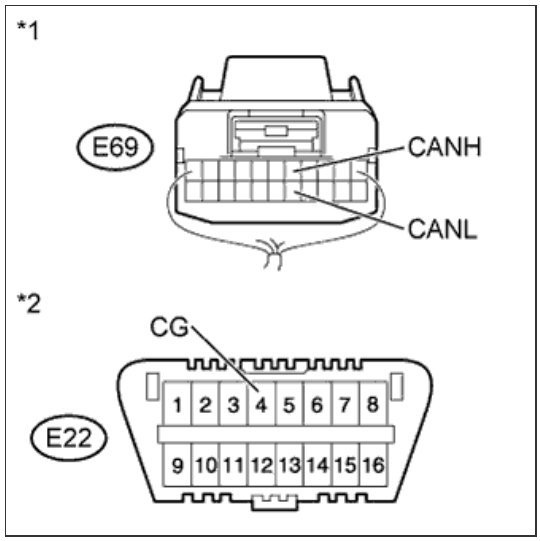
Standard Resistance:

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.

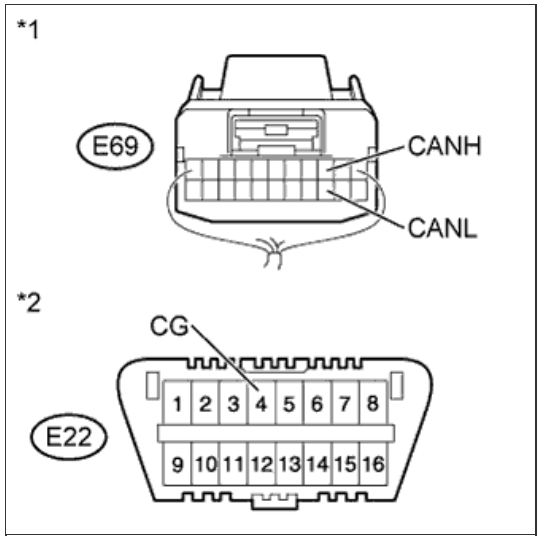
b. Measure the resistance according to the value(s) in the table below.

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.

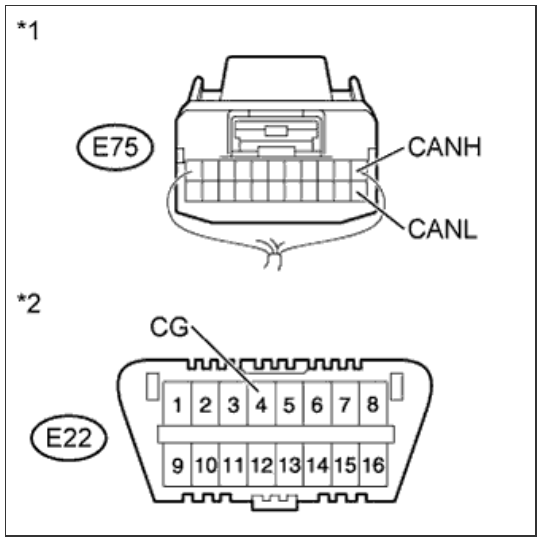
Standard Resistance:

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)

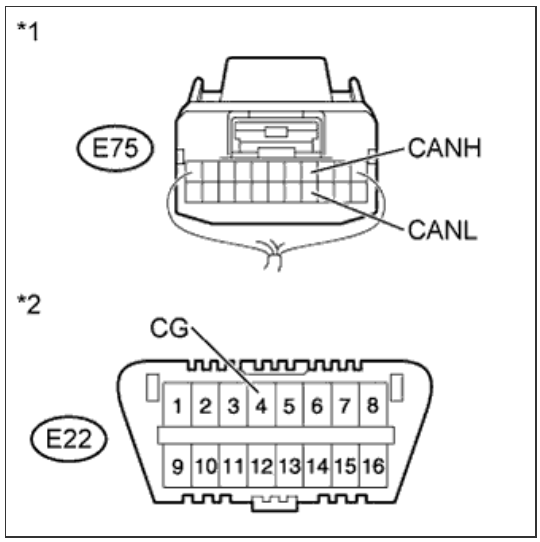
a. Measure the resistance according to the value(s) in the table below.

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

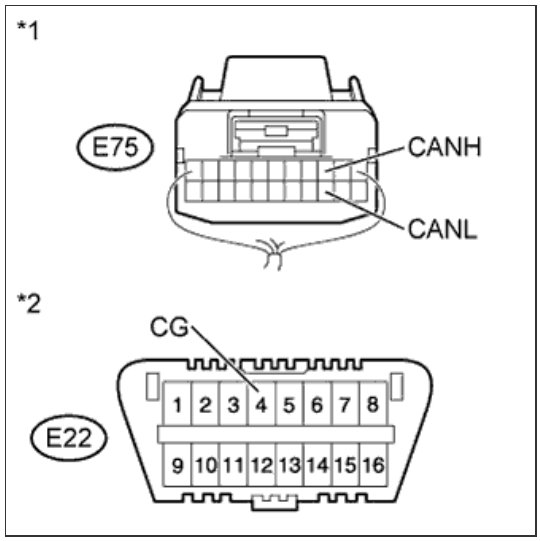
24.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - COMBINATION METER)

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

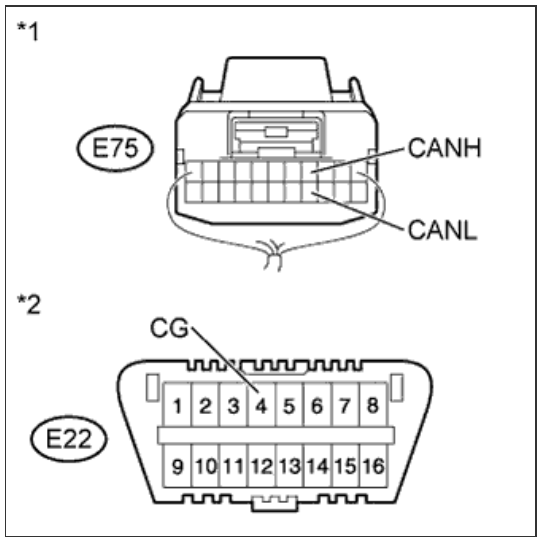
25.CHECK FOR SHORT TO GND IN CAN BUS WIRE (MAIN BODY ECU)

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.

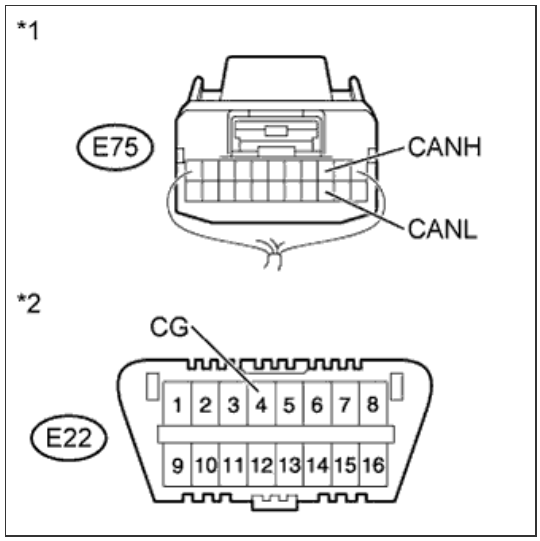
Standard Resistance:

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)

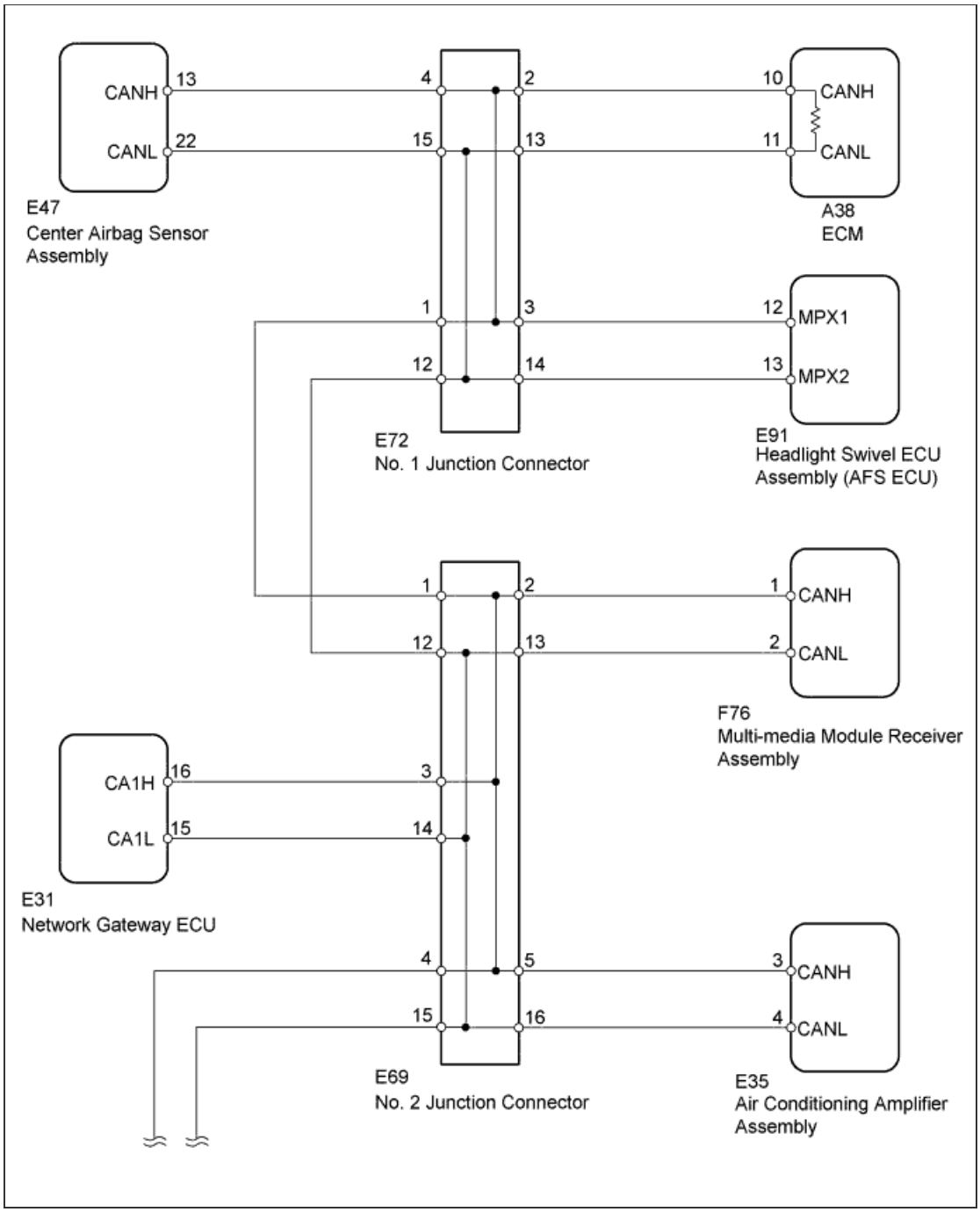
for Preparation Click here

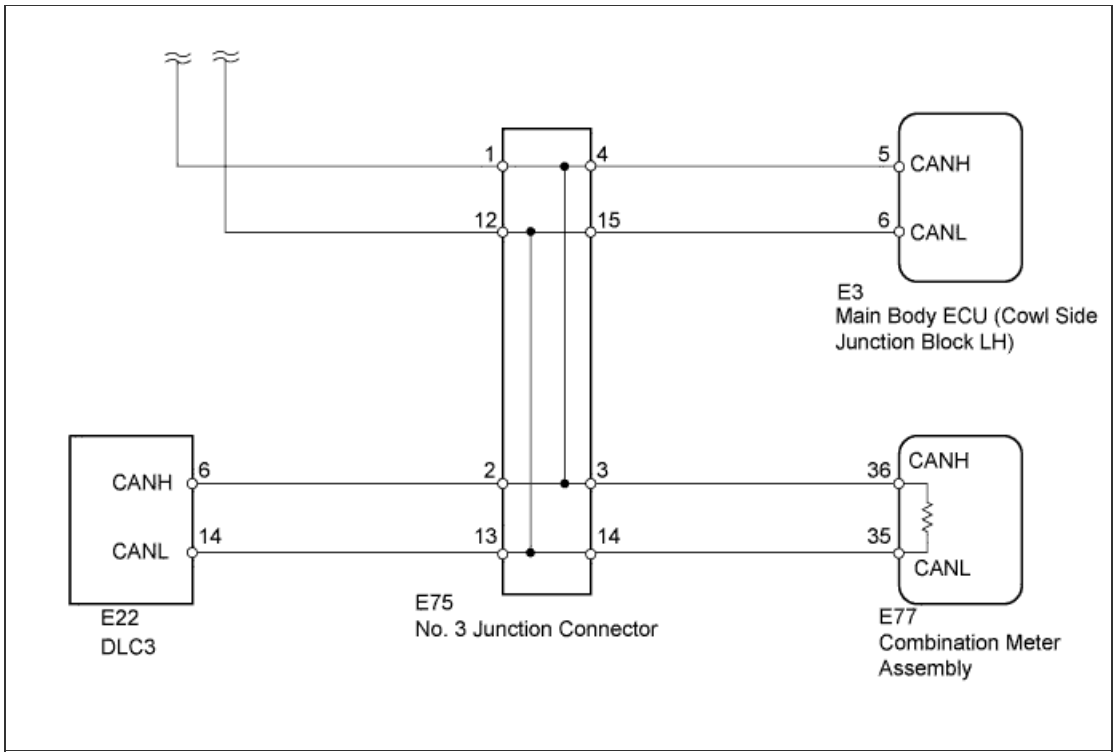
DESCRIPTION

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 • ECM • Center airbag sensor assembly • Headlight swivel ECU assembly (AFS ECU) • Multi-media module receiver assembly • Air conditioning amplifier assembly • Network gateway ECU • Main body ECU (cowl side junction block LH) • Combination meter assembly • No. 1 junction connector • No. 2 junction connector • 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.

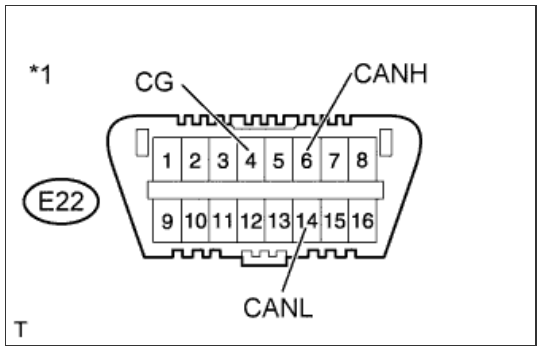
b. Measure the resistance according to the value(s) in the table below.

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.

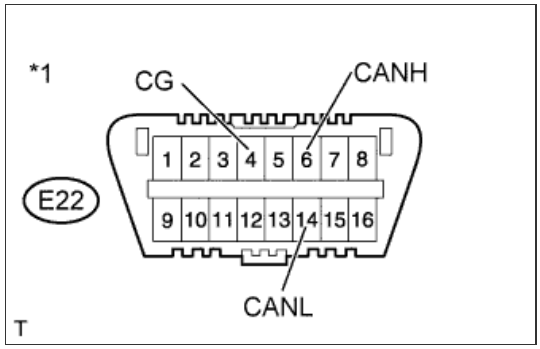
b. Measure the resistance according to the value(s) in the table below.

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.

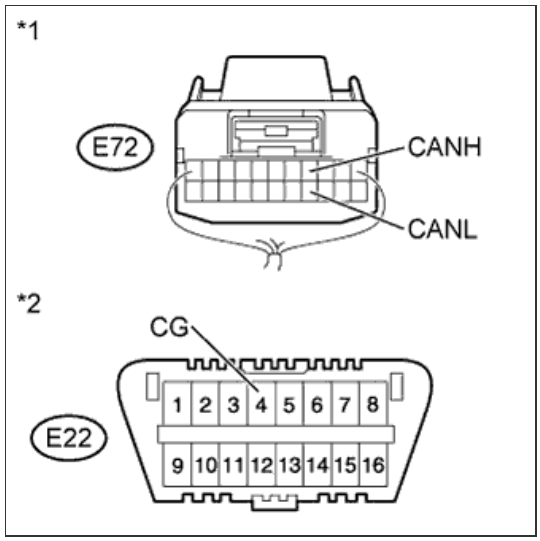
Standard Resistance:

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)

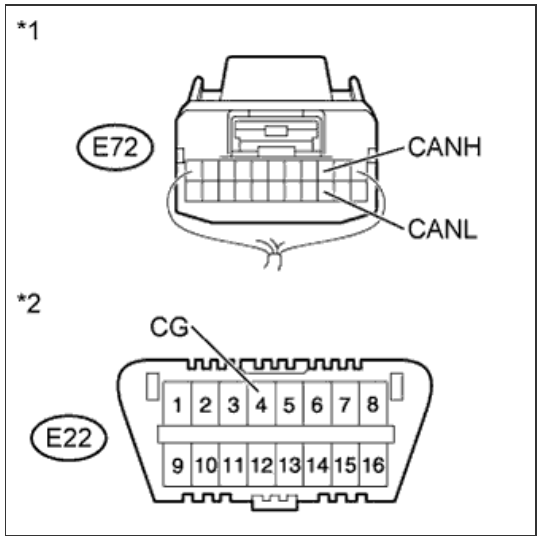
a. Measure the resistance according to the value(s) in the table below.

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.

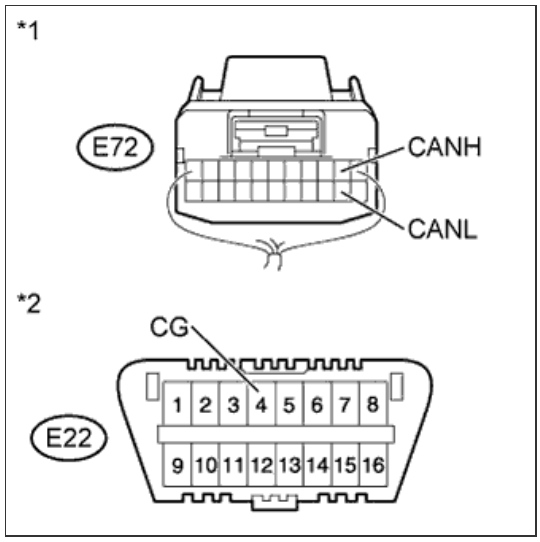
Standard Resistance:

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).

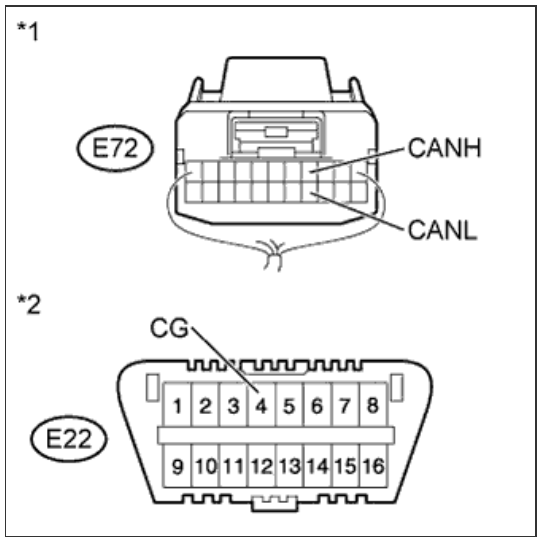
b. Measure the resistance according to the value(s) in the table below.

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.

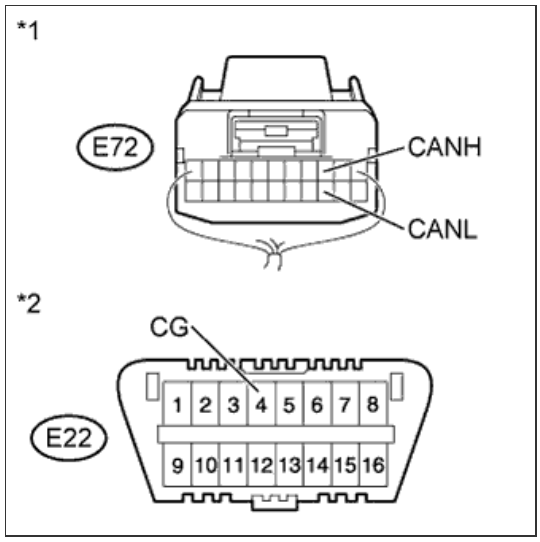
b. Measure the resistance according to the value(s) in the table below.

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.

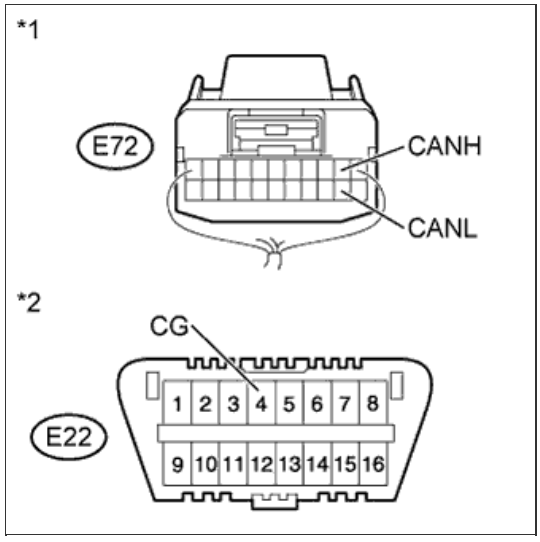
b. Measure the resistance according to the value(s) in the table below.

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.

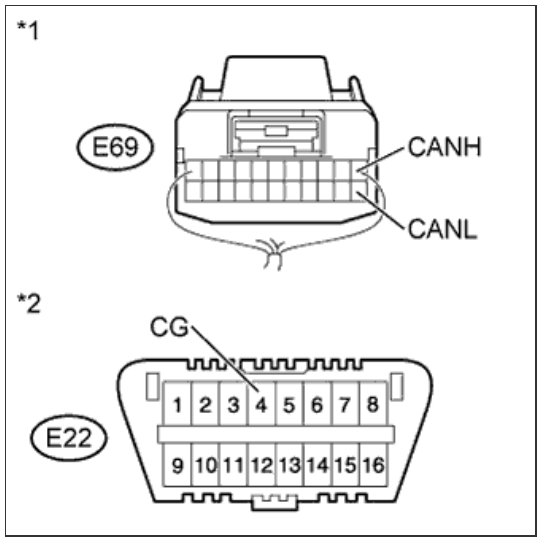
Standard Resistance:

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)

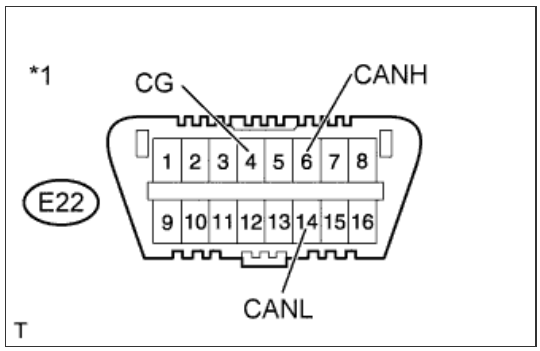
a. Measure the resistance according to the value(s) in the table below.

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.

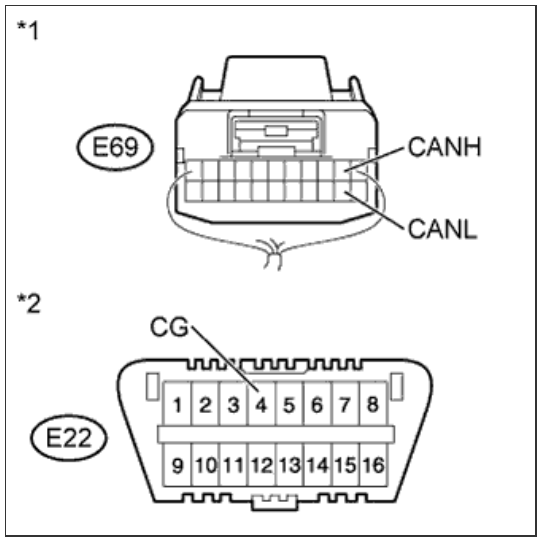
Standard Resistance:

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)

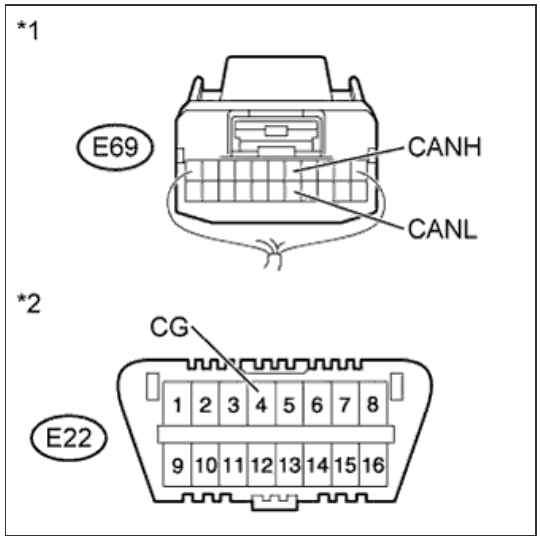
a. Measure the resistance according to the value(s) in the table below.

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.

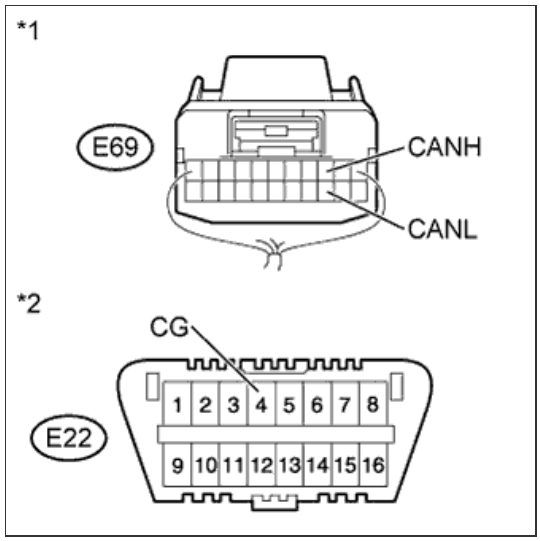
Standard Resistance:

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.

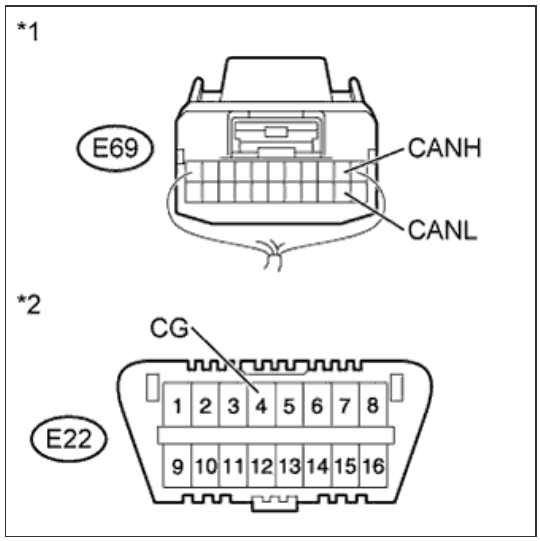
b. Measure the resistance according to the value(s) in the table below.

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.

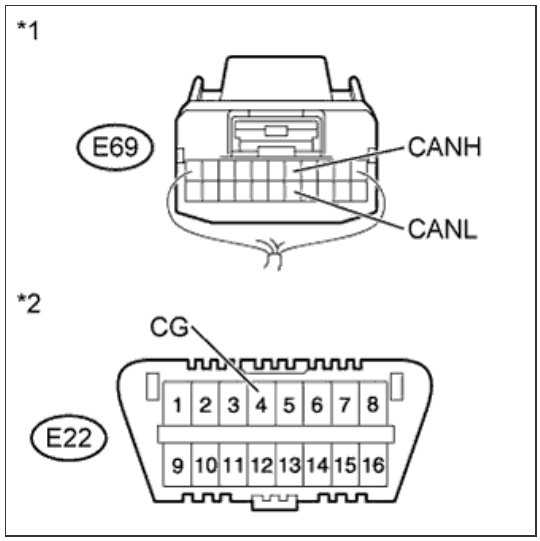
Standard Resistance:

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.

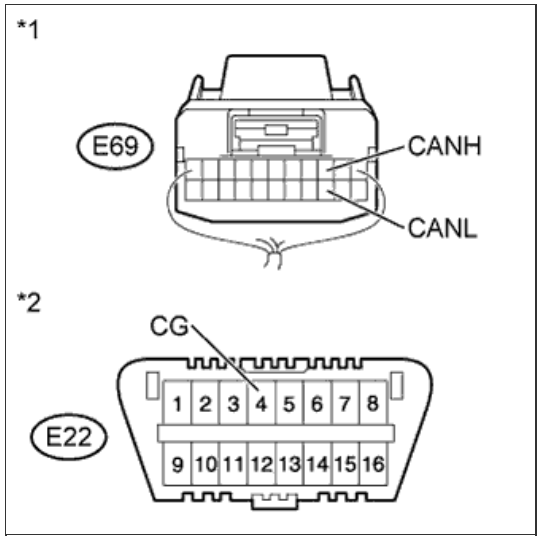
b. Measure the resistance according to the value(s) in the table below.

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.

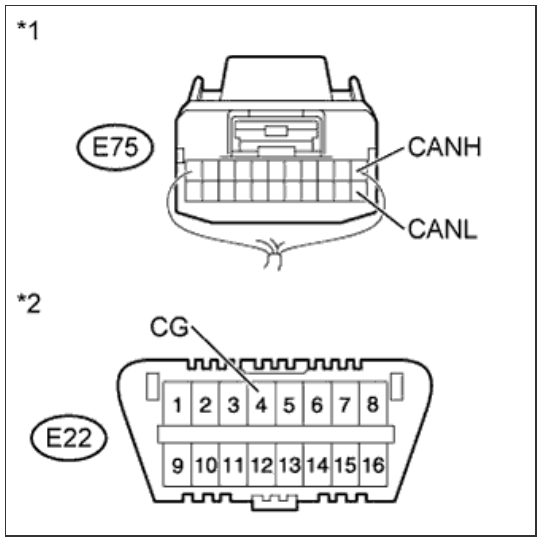
Standard Resistance:

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)

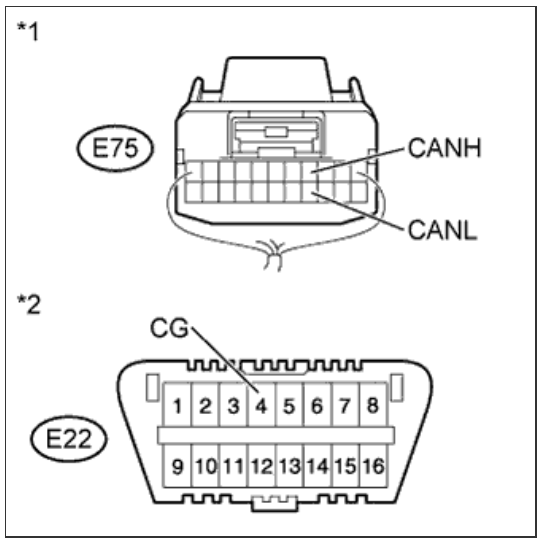
a. Measure the resistance according to the value(s) in the table below.

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

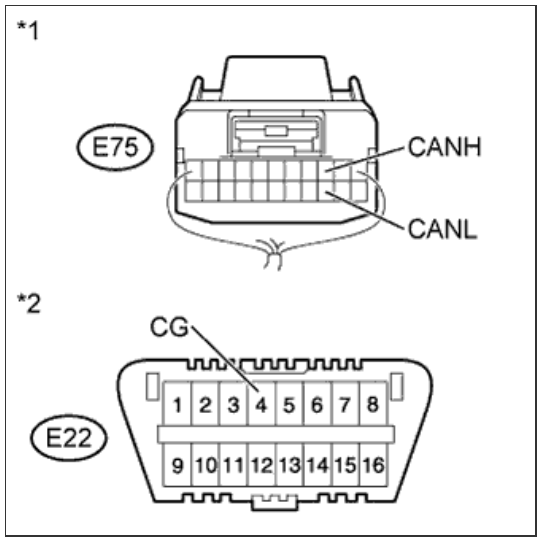
24.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - COMBINATION METER)

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

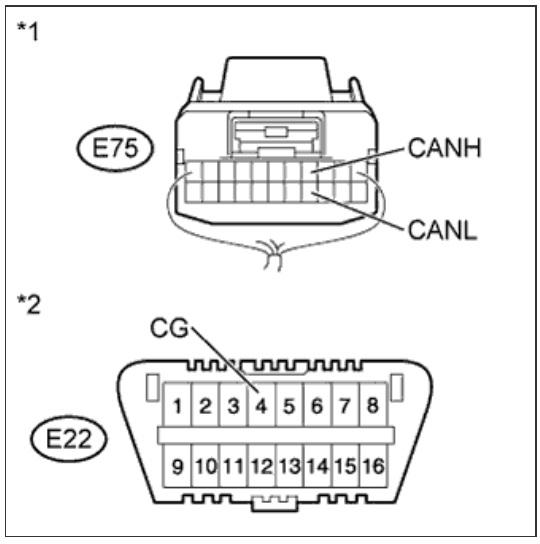
25.CHECK FOR SHORT TO GND IN CAN BUS WIRE (MAIN BODY ECU)

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.

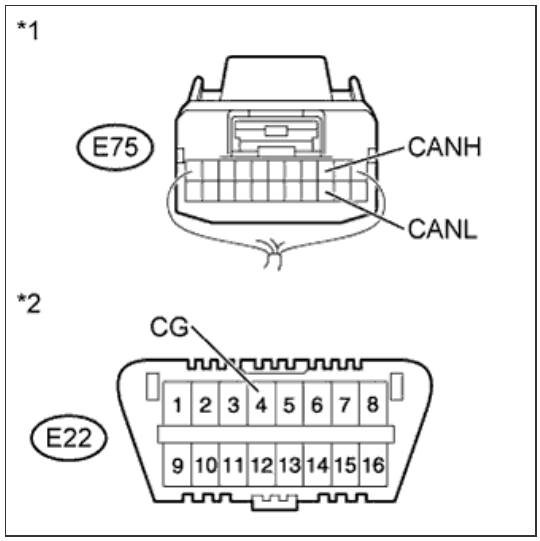
Standard Resistance:

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)

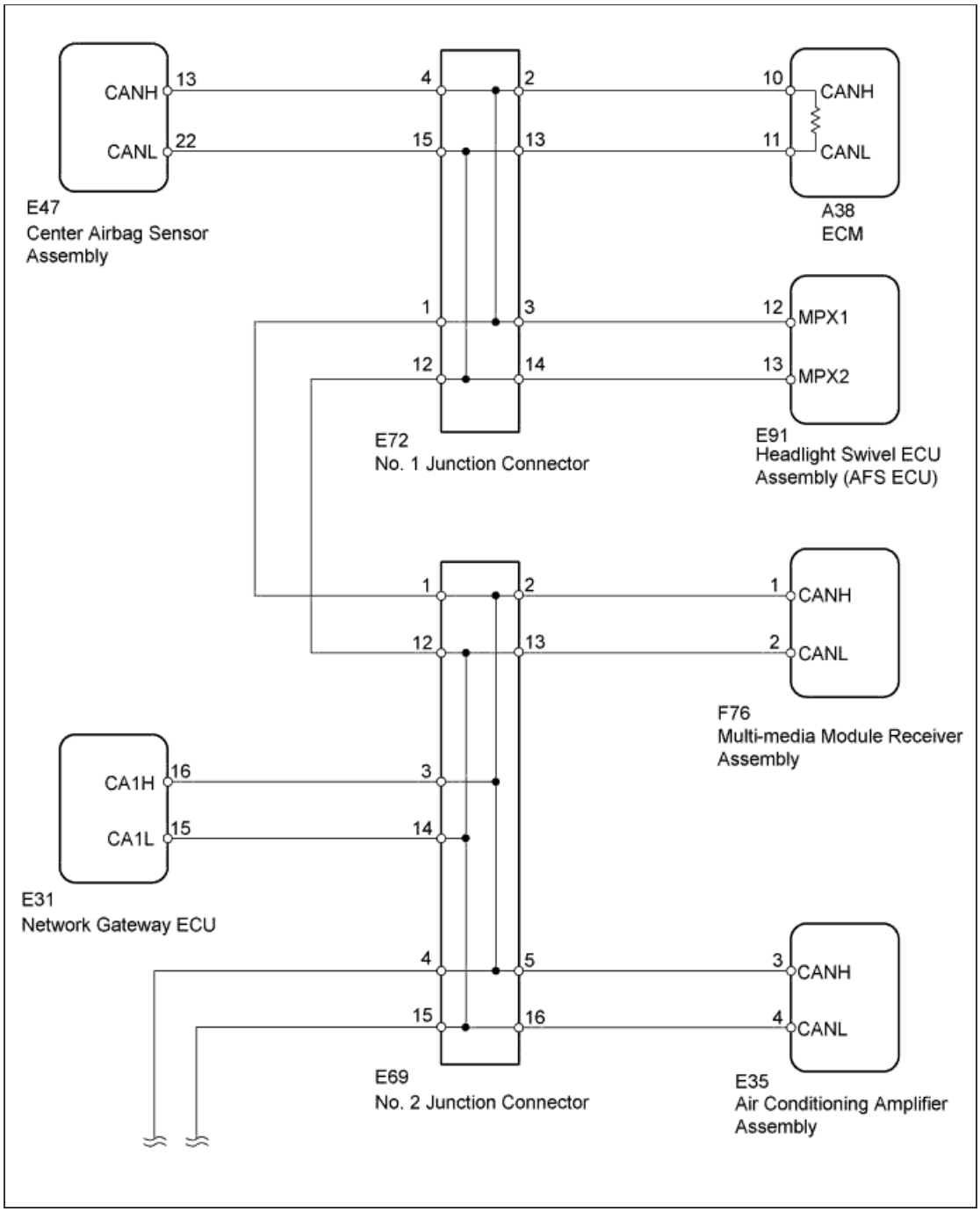
for Preparation Click here

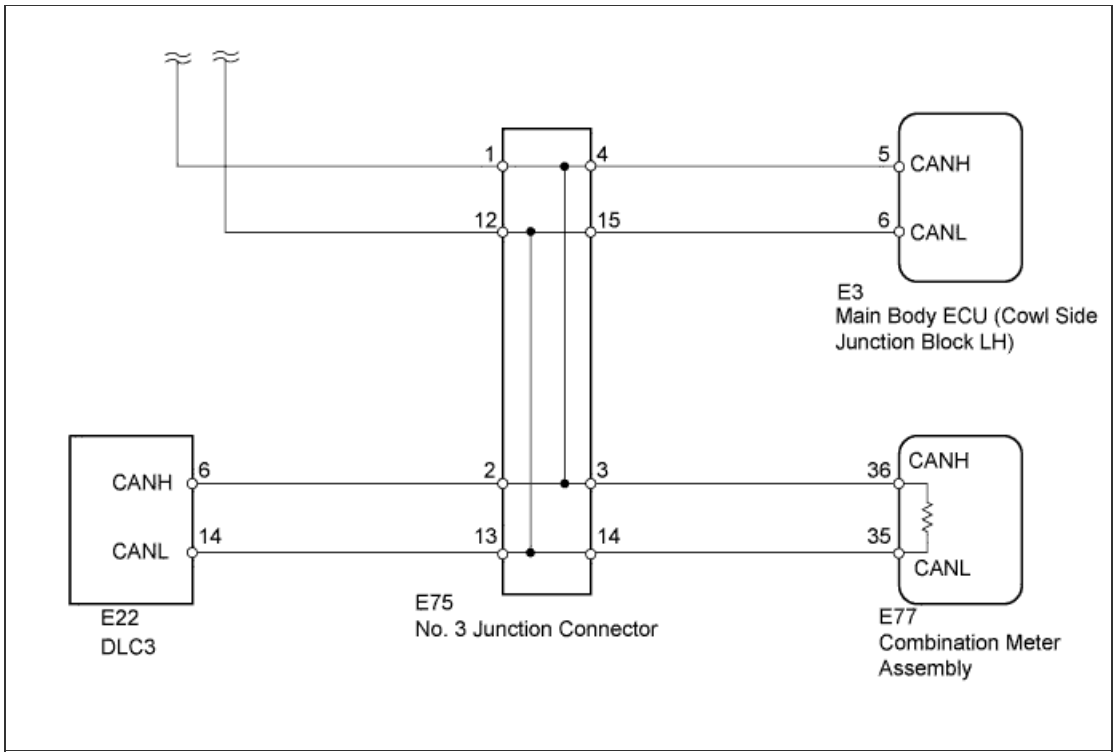
DESCRIPTION

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 • ECM • Center airbag sensor assembly • Headlight swivel ECU assembly (AFS ECU) • Multi-media module receiver assembly • Air conditioning amplifier assembly • Network gateway ECU • Main body ECU (cowl side junction block LH) • Combination meter assembly • No. 1 junction connector • No. 2 junction connector • 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.

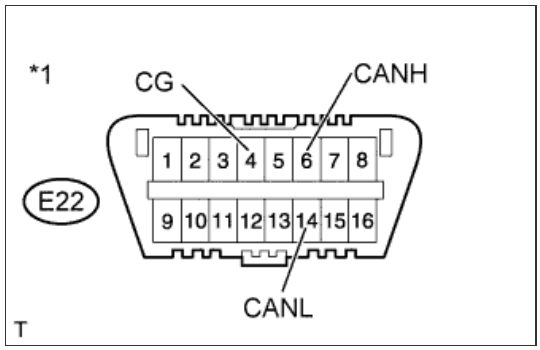
b. Measure the resistance according to the value(s) in the table below.

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.

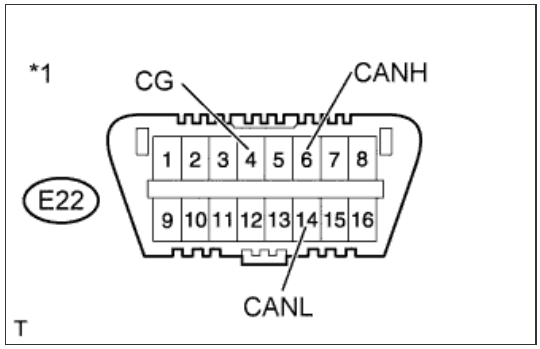
b. Measure the resistance according to the value(s) in the table below.

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.

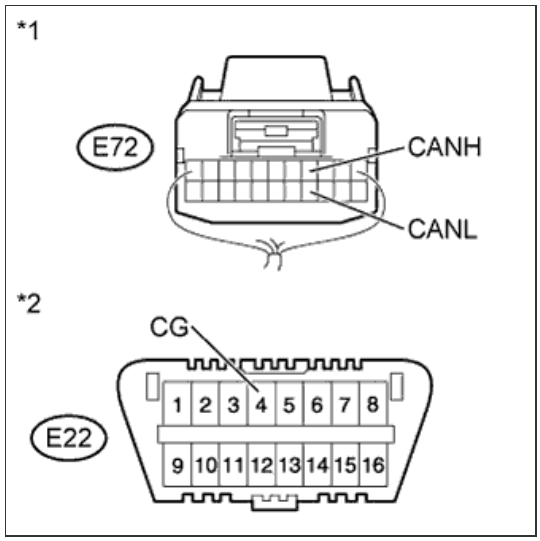
Standard Resistance:

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)

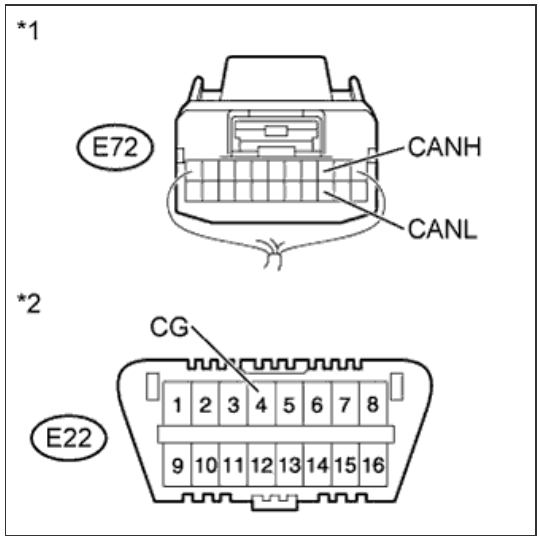
a. Measure the resistance according to the value(s) in the table below.

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.

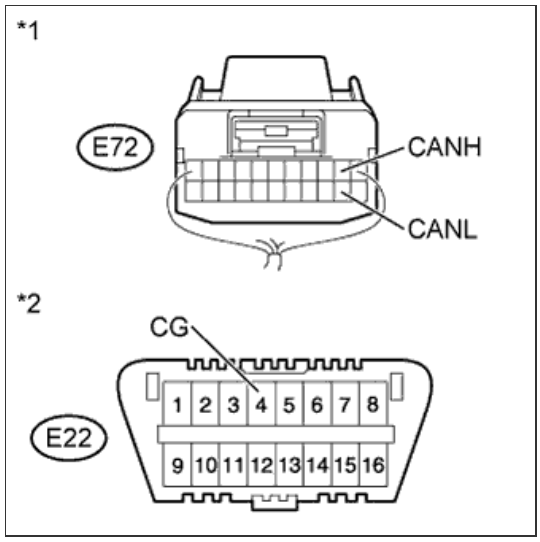
Standard Resistance:

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).

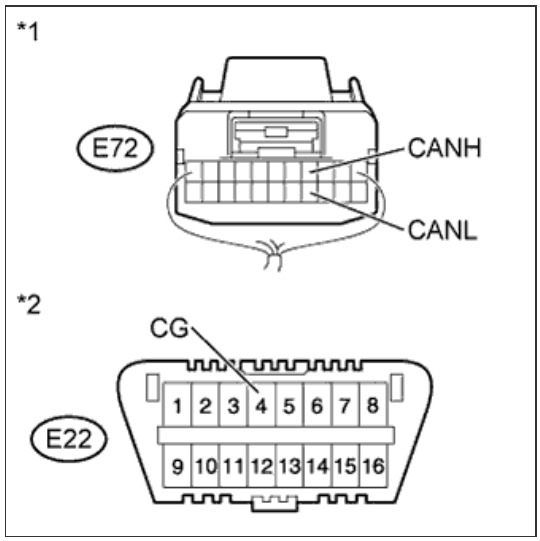
b. Measure the resistance according to the value(s) in the table below.

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.

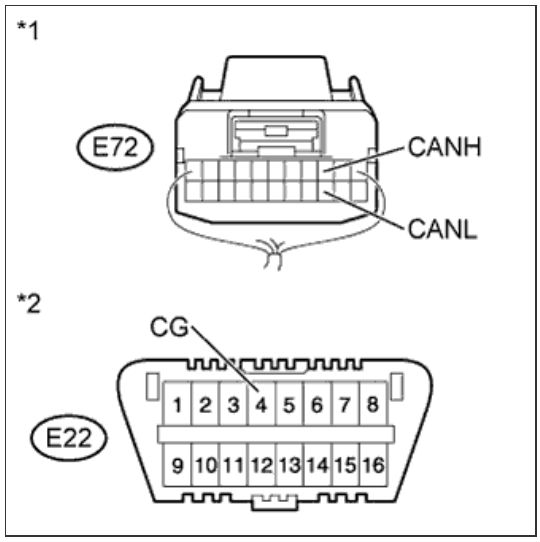
b. Measure the resistance according to the value(s) in the table below.

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.

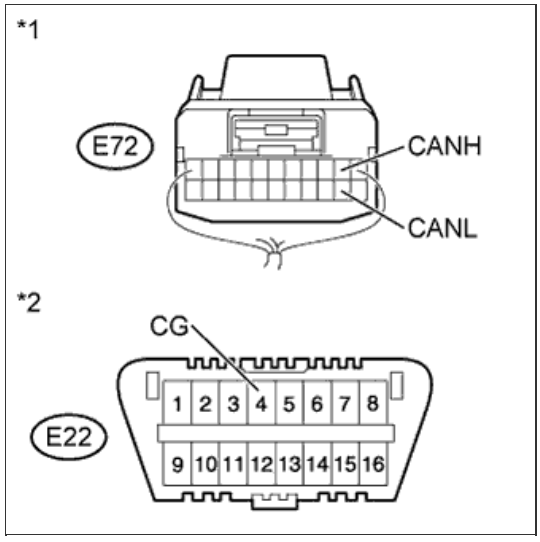
b. Measure the resistance according to the value(s) in the table below.

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.

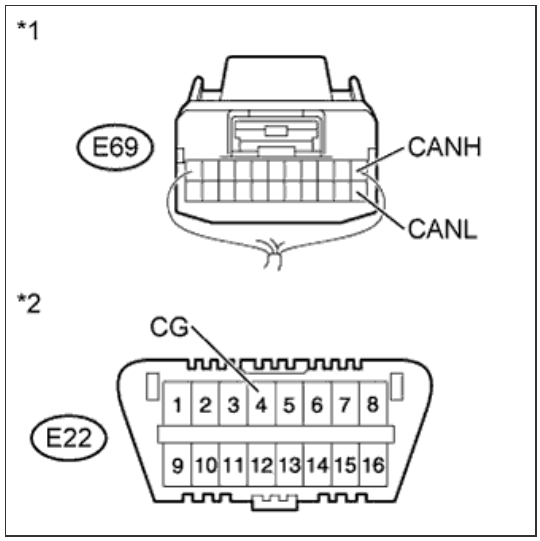
Standard Resistance:

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)

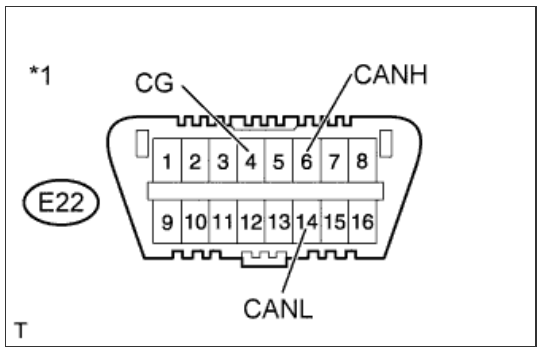
a. Measure the resistance according to the value(s) in the table below.

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.

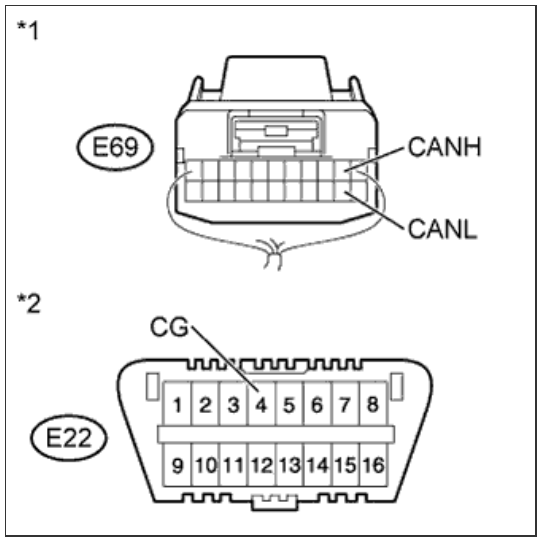
Standard Resistance:

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)

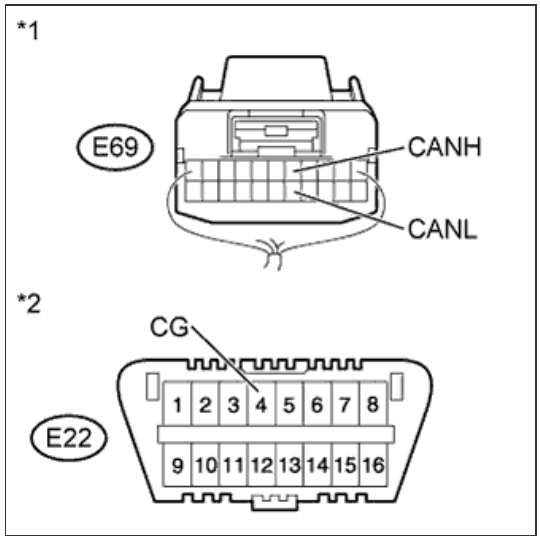
a. Measure the resistance according to the value(s) in the table below.

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.

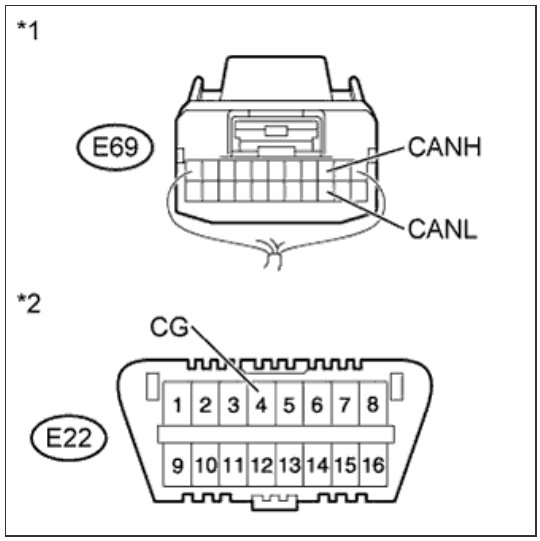
Standard Resistance:

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.

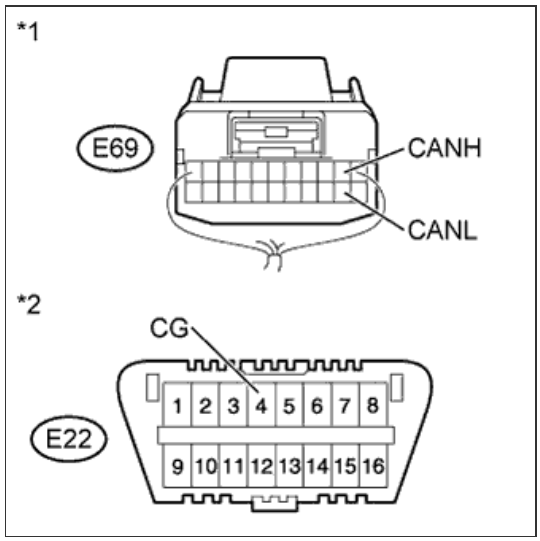
b. Measure the resistance according to the value(s) in the table below.

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.

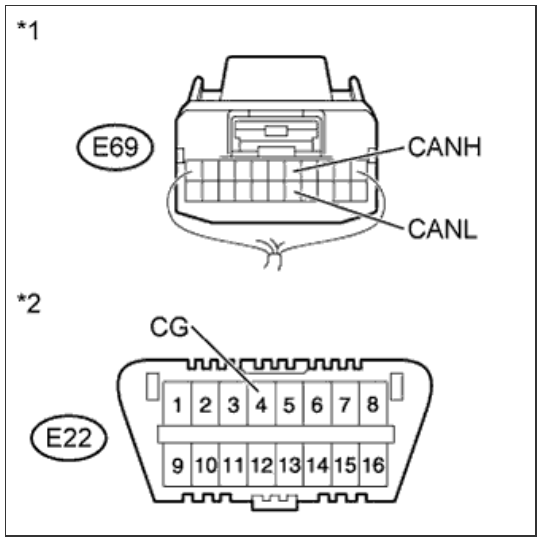
Standard Resistance:

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.

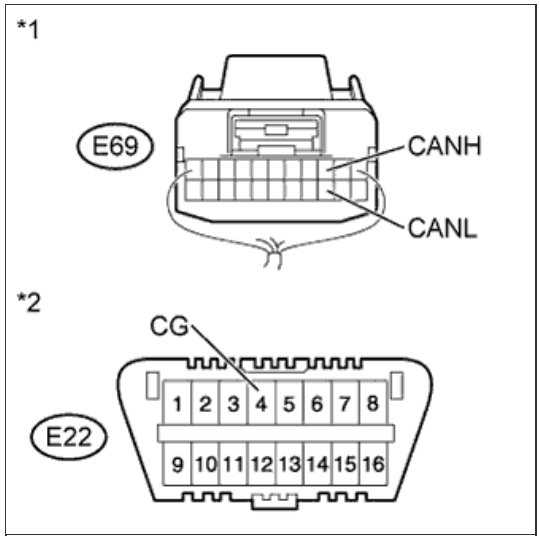
b. Measure the resistance according to the value(s) in the table below.

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.

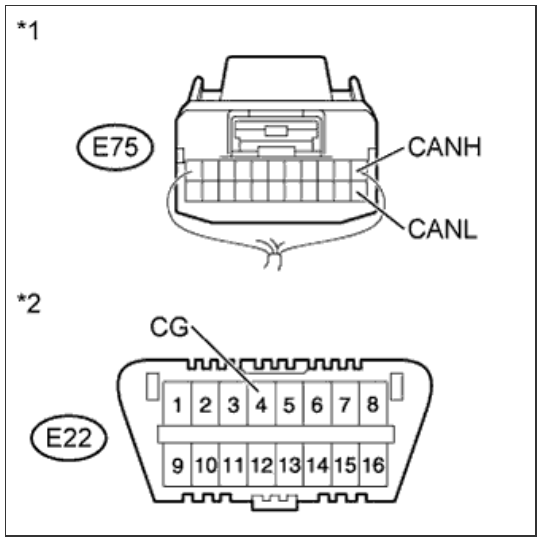
Standard Resistance:

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)

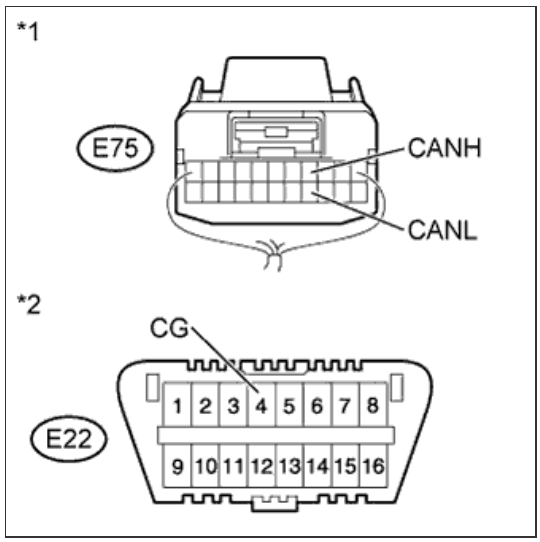
a. Measure the resistance according to the value(s) in the table below.

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

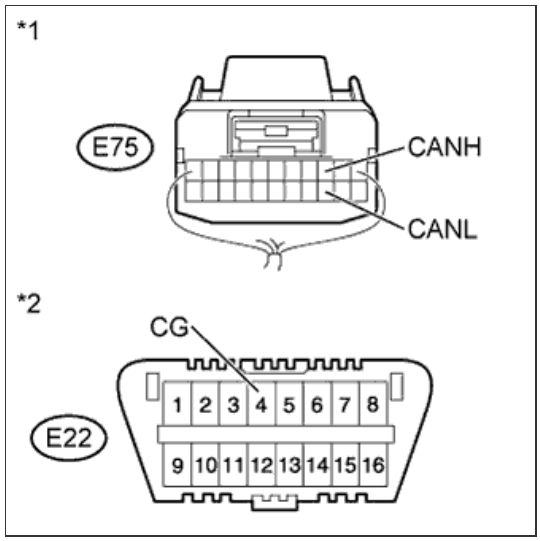
24.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - COMBINATION METER)

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

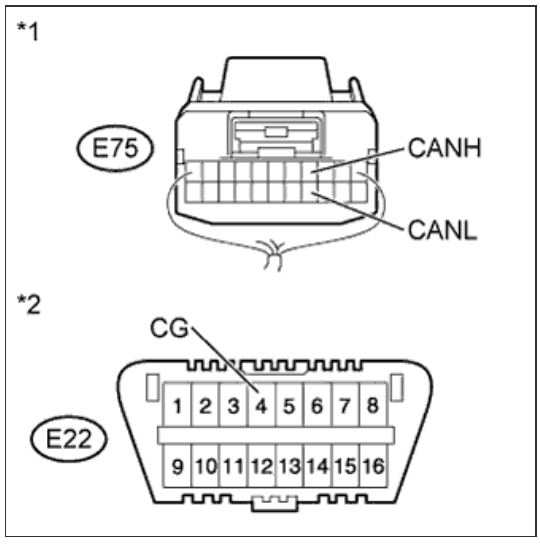
25.CHECK FOR SHORT TO GND IN CAN BUS WIRE (MAIN BODY ECU)

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.

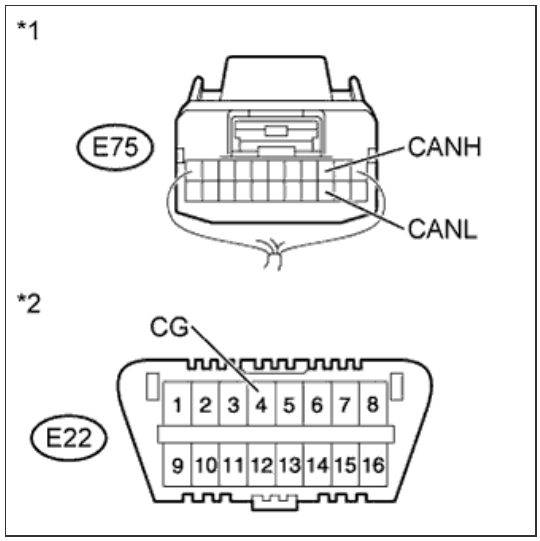
Standard Resistance:

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)

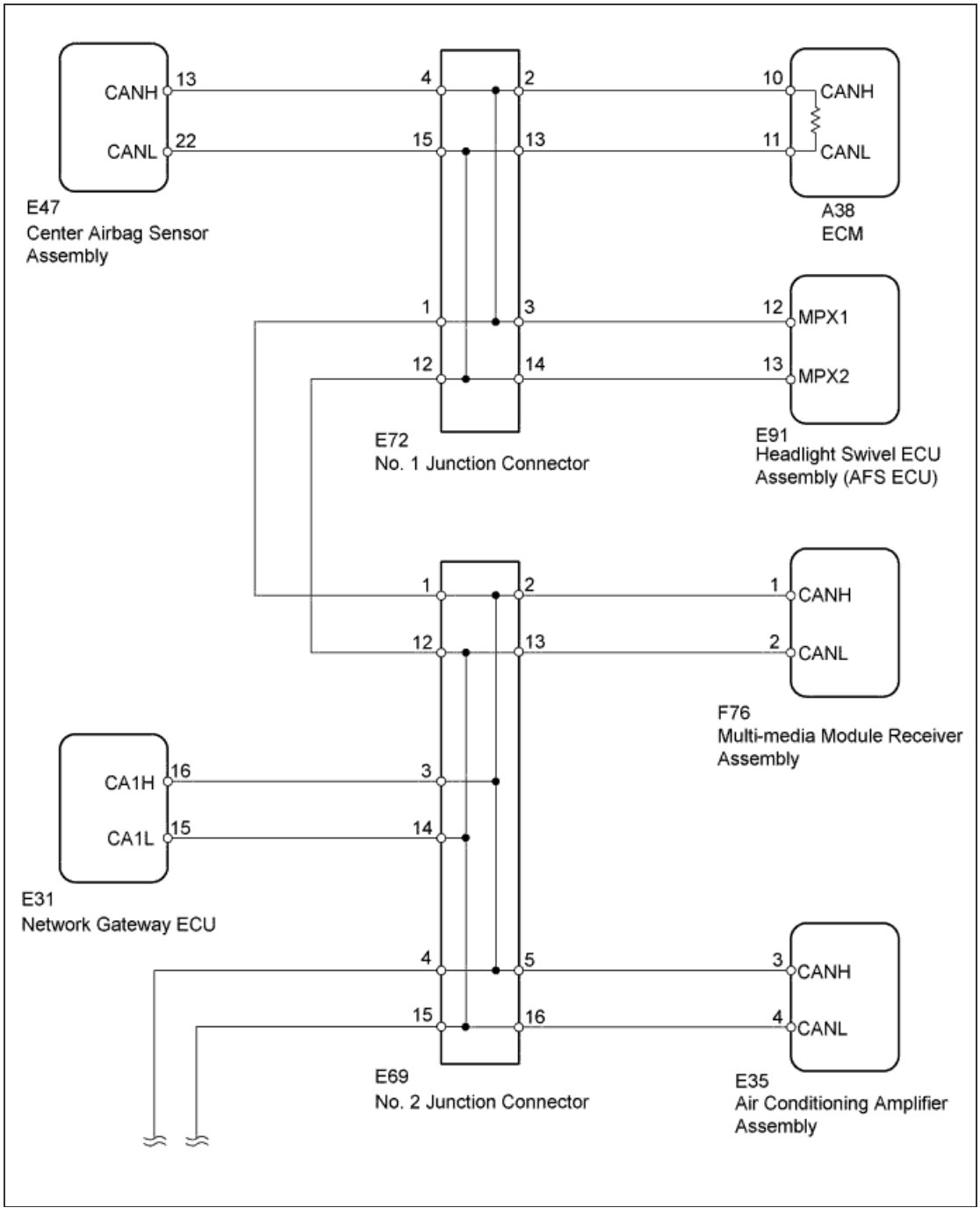
for Preparation Click here

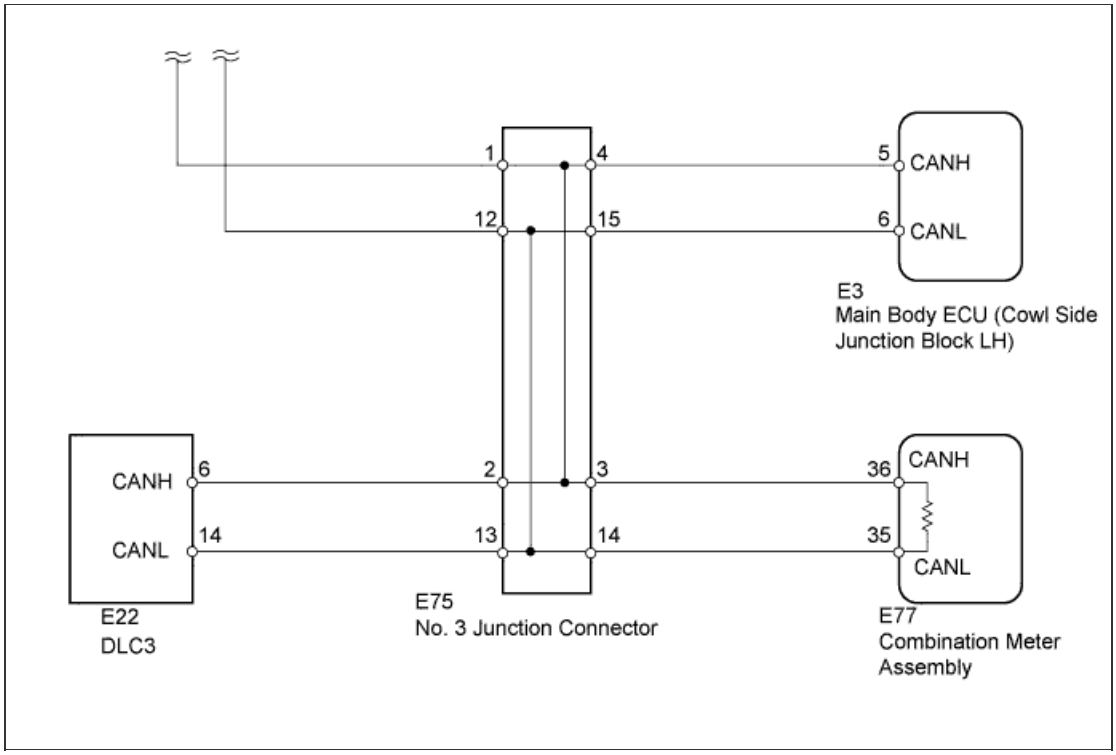
DESCRIPTION

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 • Center airbag sensor assembly • Multi-media module receiver assembly • Air conditioning amplifier assembly • Main body ECU (cowl side junction block LH) • Headlight swivel ECU assembly (AFS ECU) • 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)

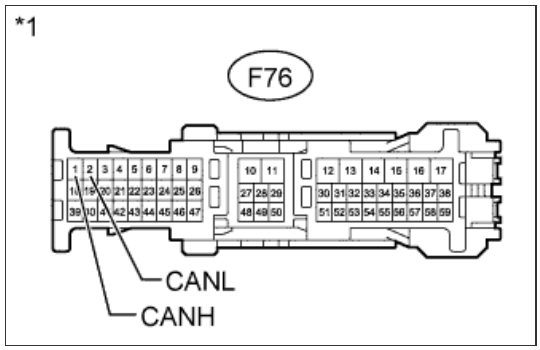
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

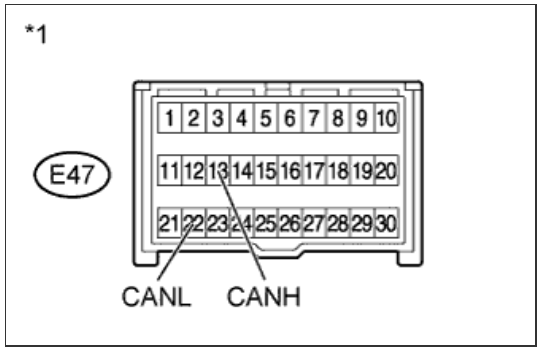
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

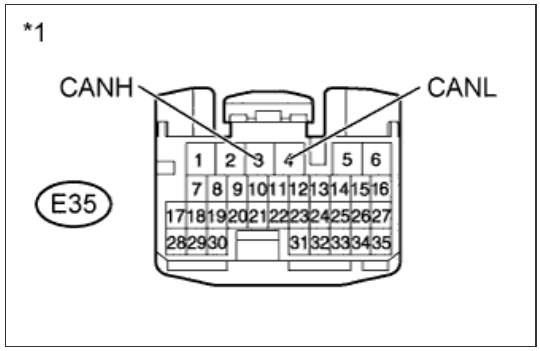
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

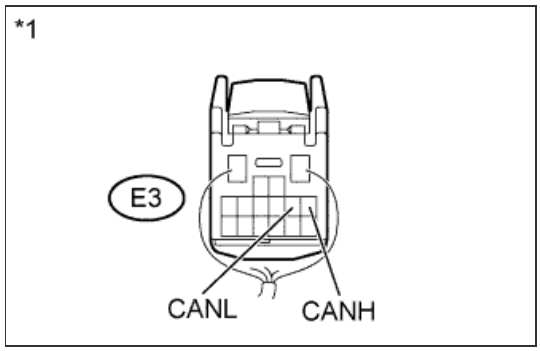
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

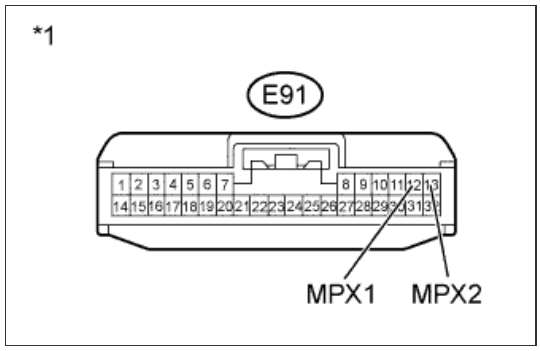
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

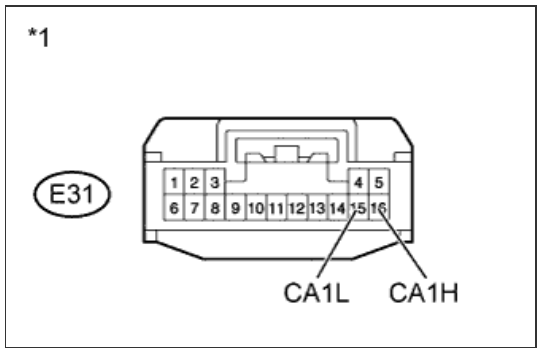
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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 (to Network Gateway ECU)

NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (NETWORK GATEWAY ECU)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

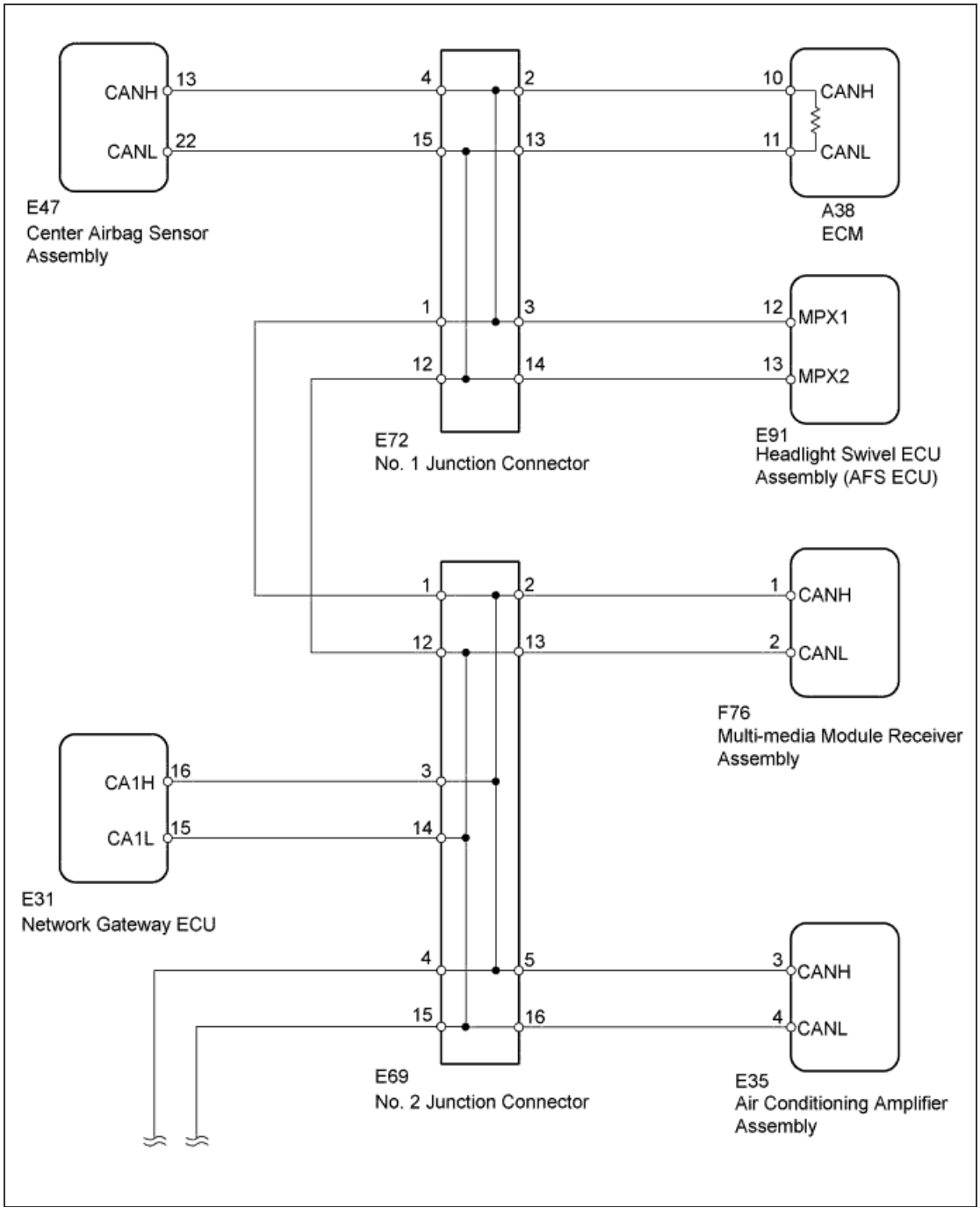
for Preparation Click here

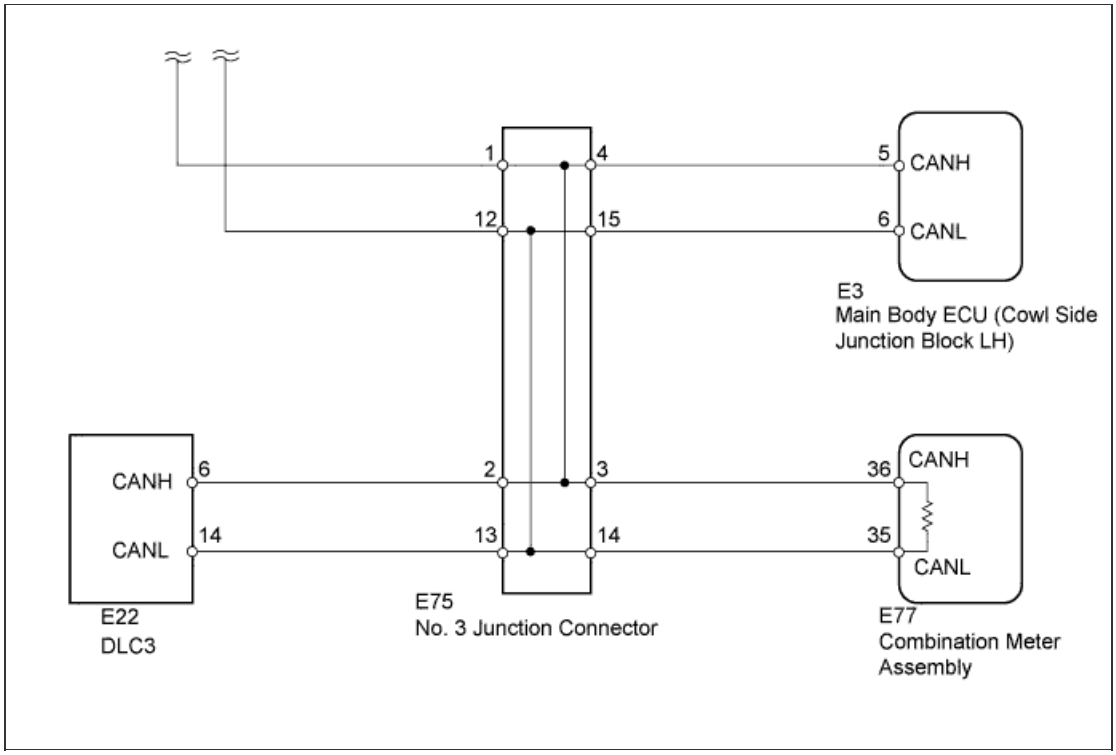
DESCRIPTION

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 • Center airbag sensor assembly • Multi-media module receiver assembly • Air conditioning amplifier assembly • Main body ECU (cowl side junction block LH) • Headlight swivel ECU assembly (AFS ECU) • 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)

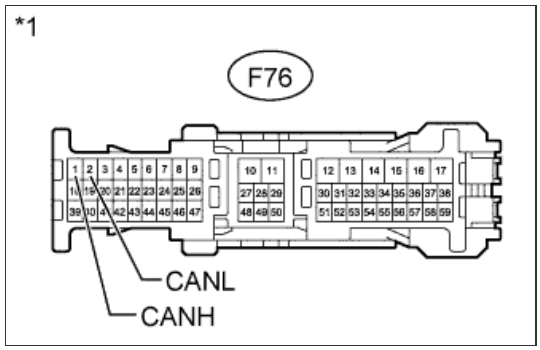
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

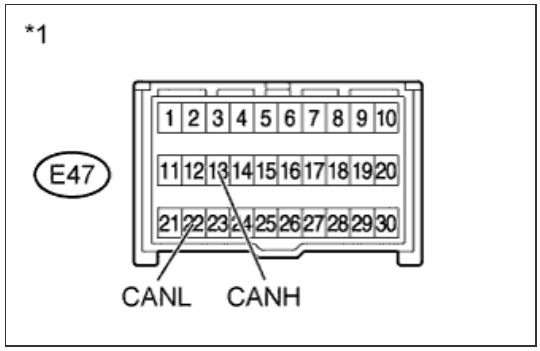
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

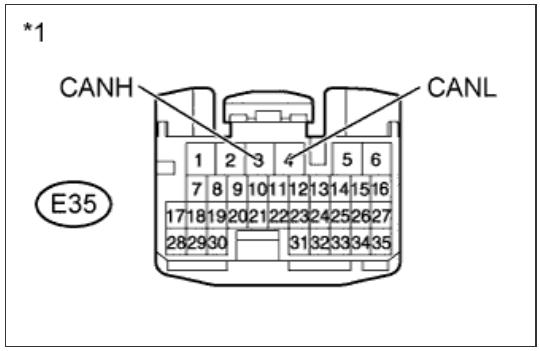
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

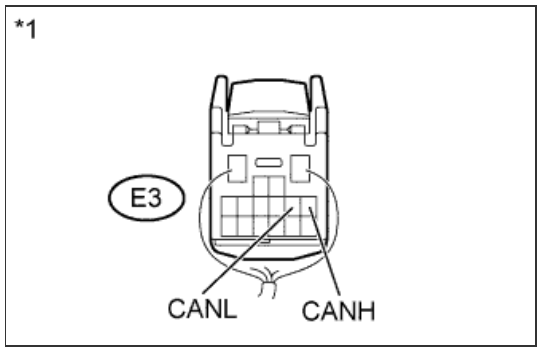
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

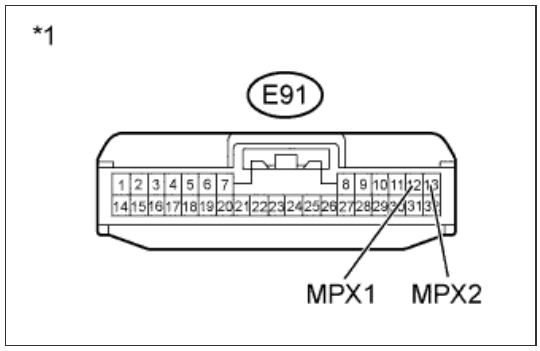
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

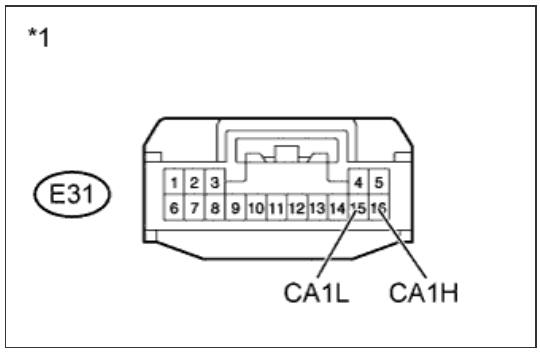
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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 (to Network Gateway ECU)

NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (NETWORK GATEWAY ECU)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

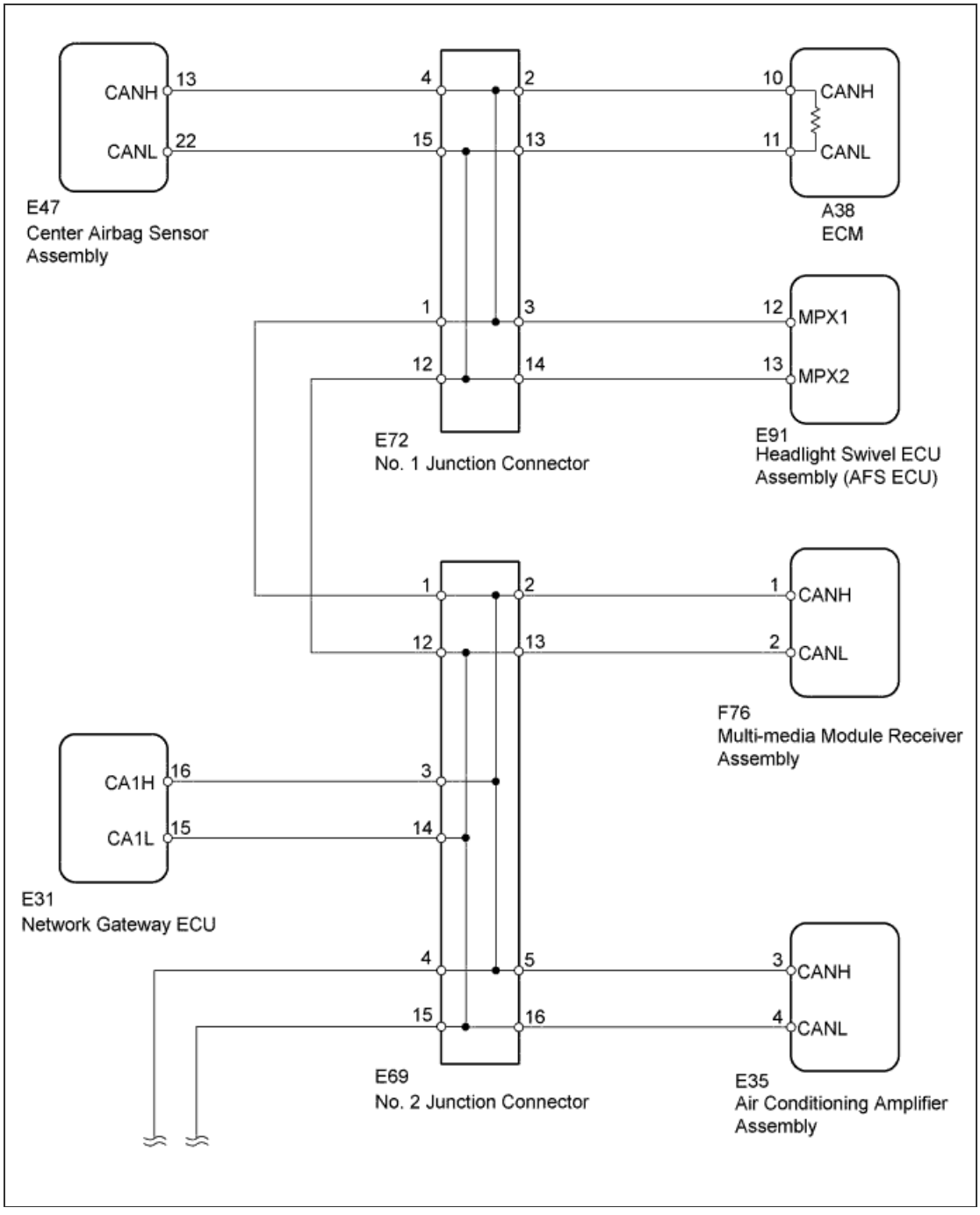
for Preparation Click here

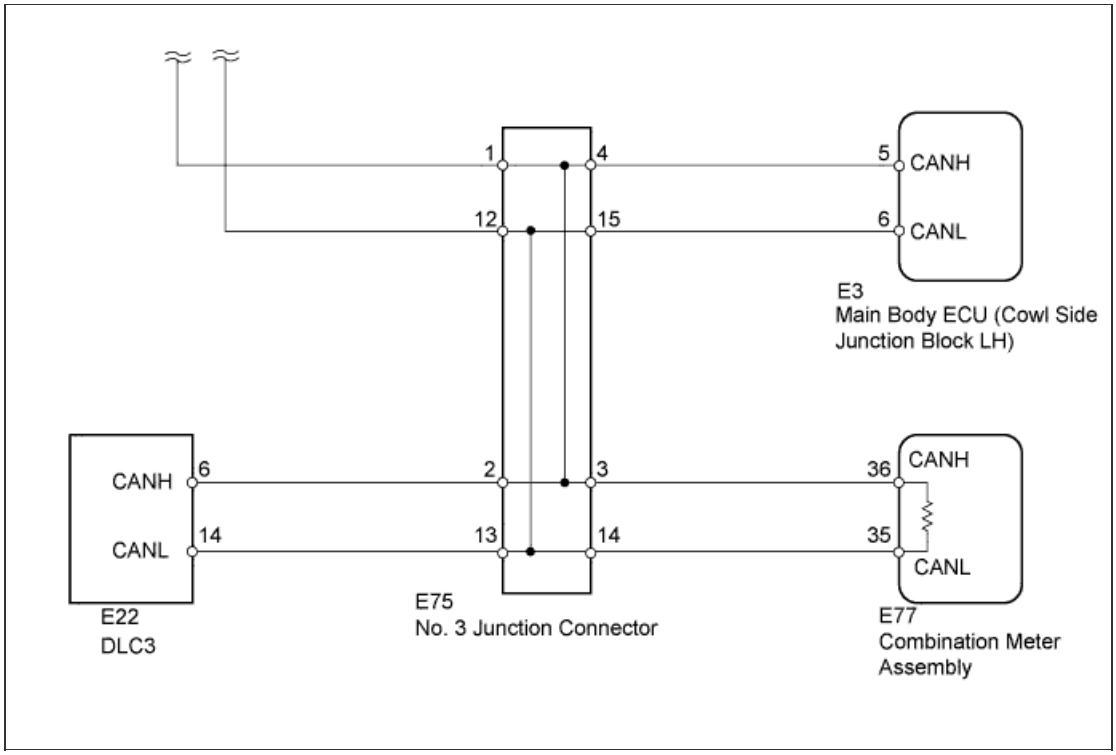
DESCRIPTION

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 • Center airbag sensor assembly • Multi-media module receiver assembly • Air conditioning amplifier assembly • Main body ECU (cowl side junction block LH) • Headlight swivel ECU assembly (AFS ECU) • 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)

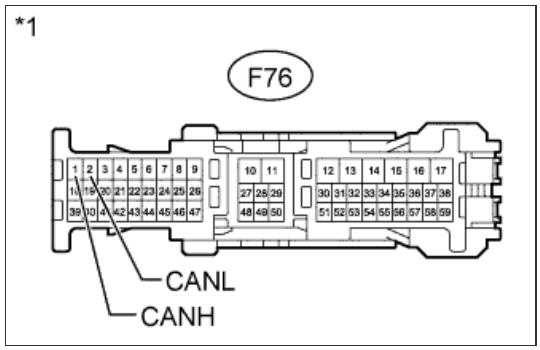
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

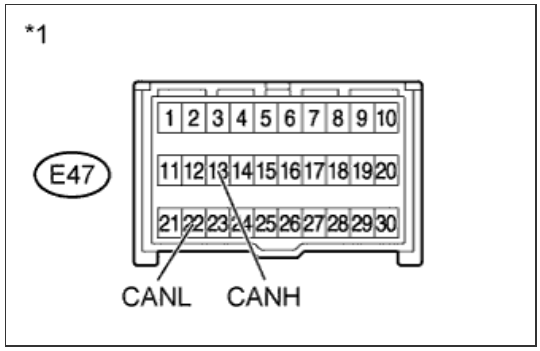
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

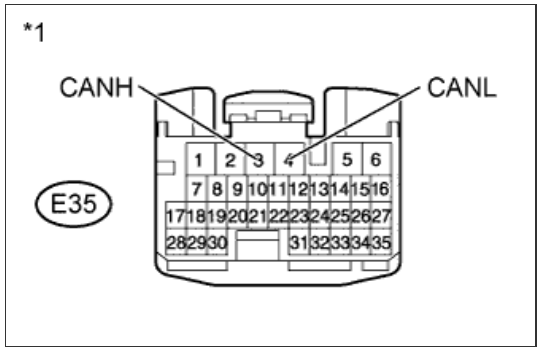
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

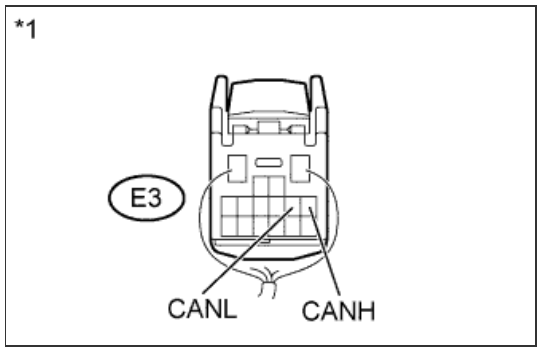
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

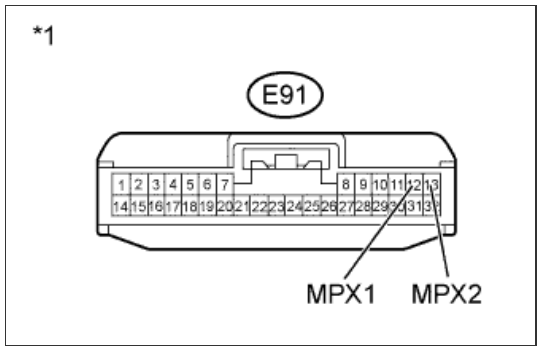
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

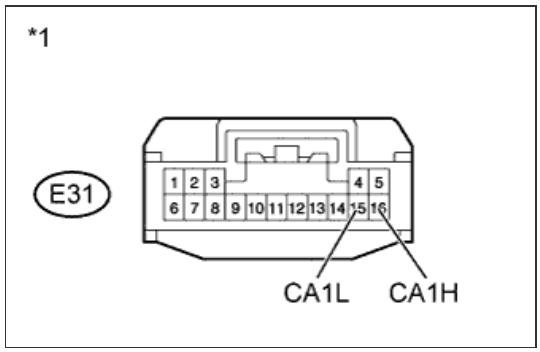
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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 (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

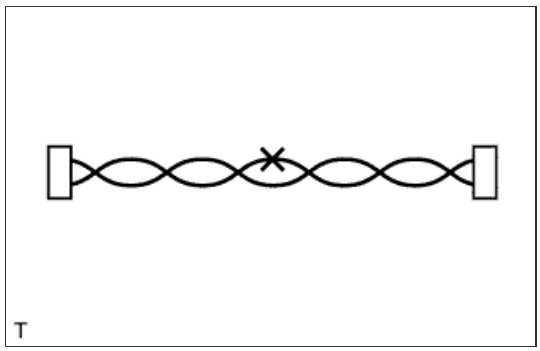
a. This vehicle is equipped with an SRS (Supplemental Restraint System), such as the driver airbag and front passenger airbag. Failure to carry out service operations in the correct sequence could cause unexpected SRS deployment during servicing and may lead to a serious accident. Before servicing (including 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:

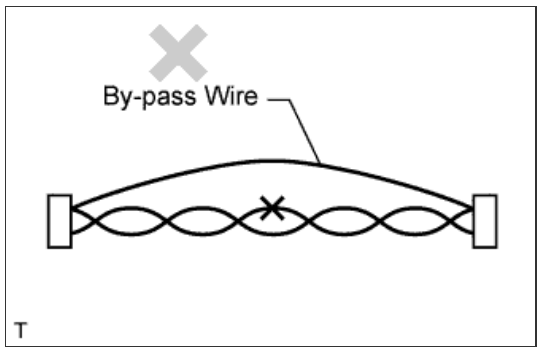
- **The CANL bus line and CANH bus line must be installed together.**
- **When installing the CAN bus lines, make sure to twist them.**
- **CAN bus lines are likely to be influenced by noise if the bus lines are not twisted together.**
- **The difference in length between the CANL bus line and CANH bus 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.

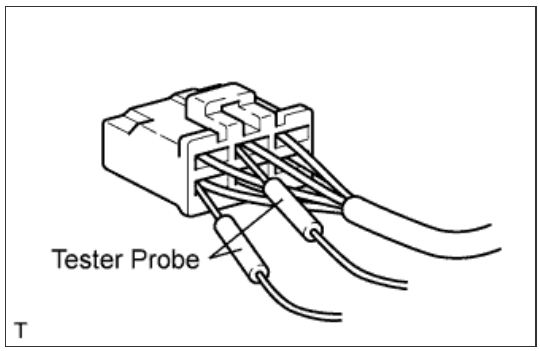
NOTICE:

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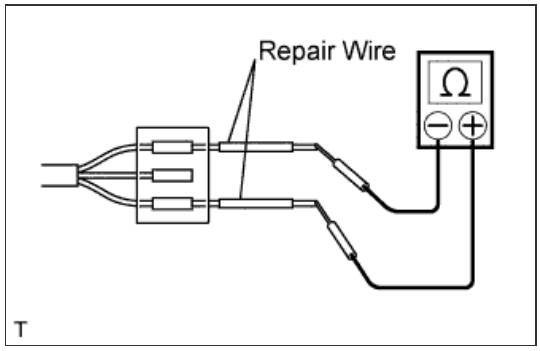


4.CONNECTOR HANDLING

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

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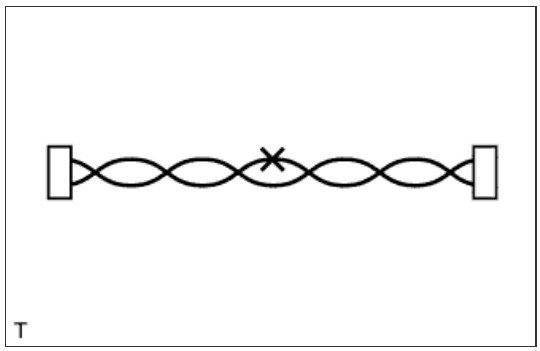
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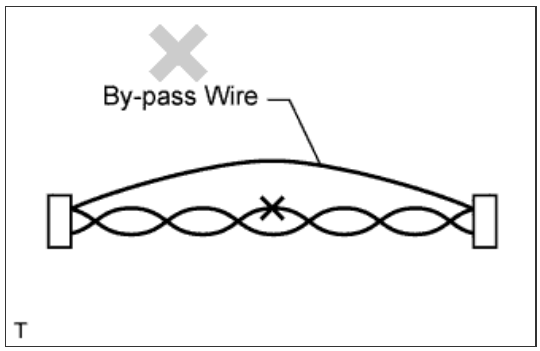
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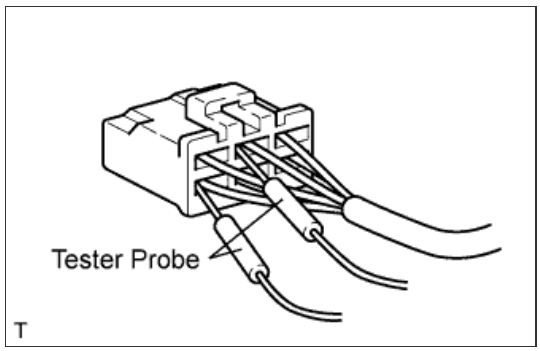
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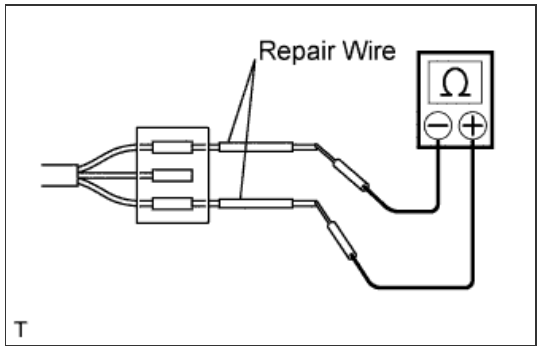


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for Preparation Click here

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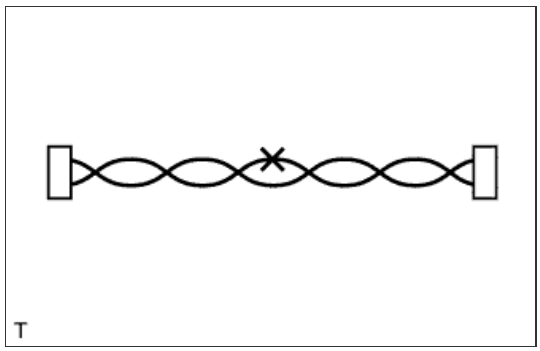
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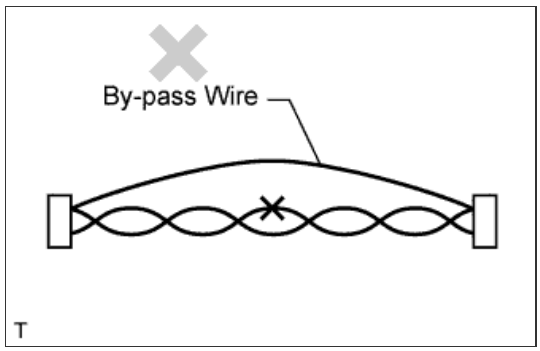
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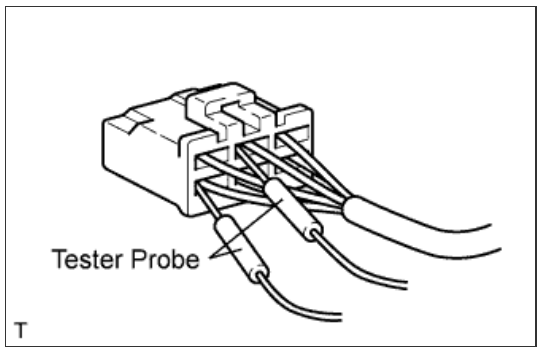
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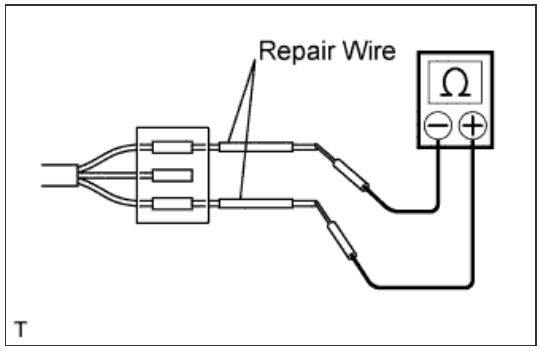


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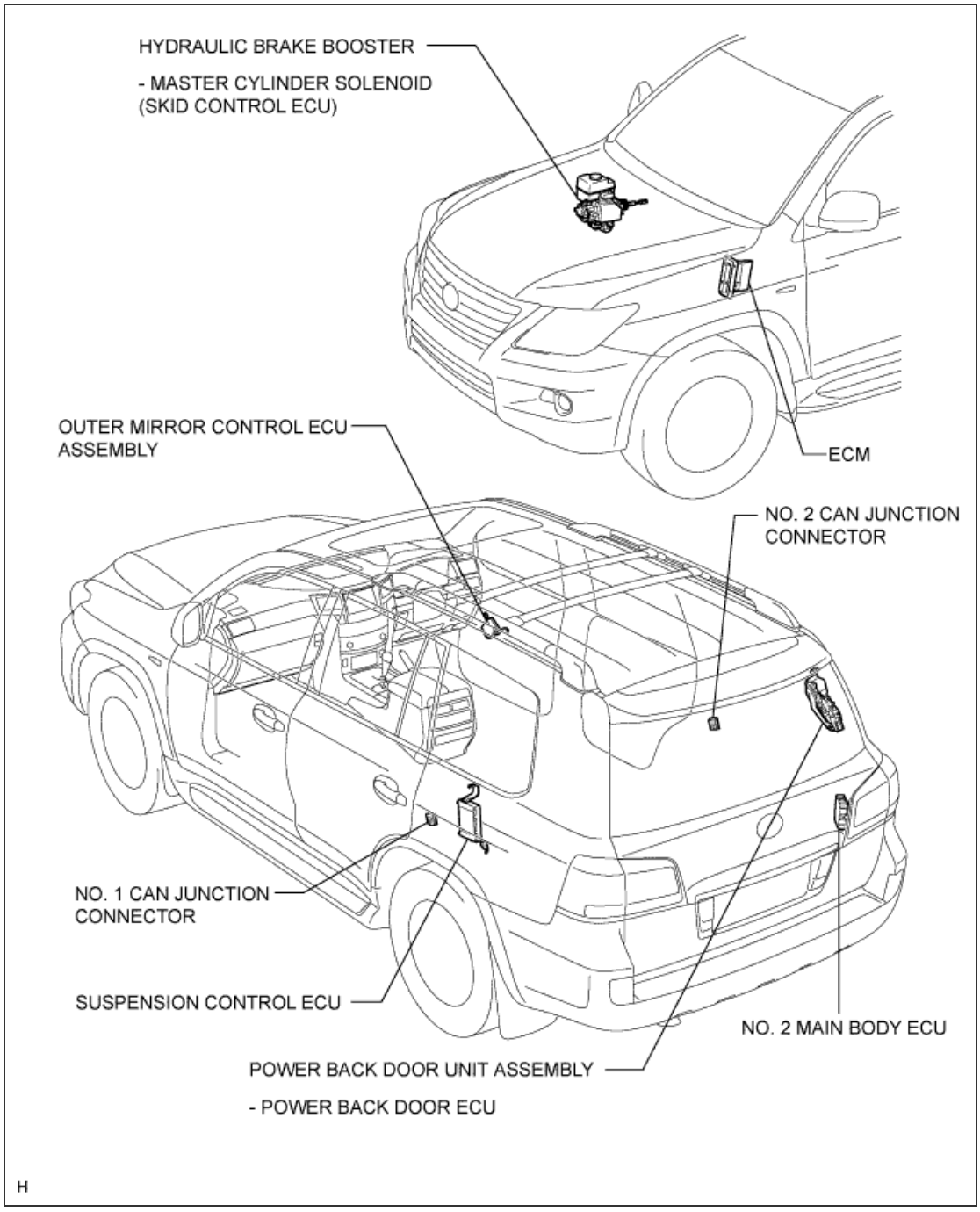
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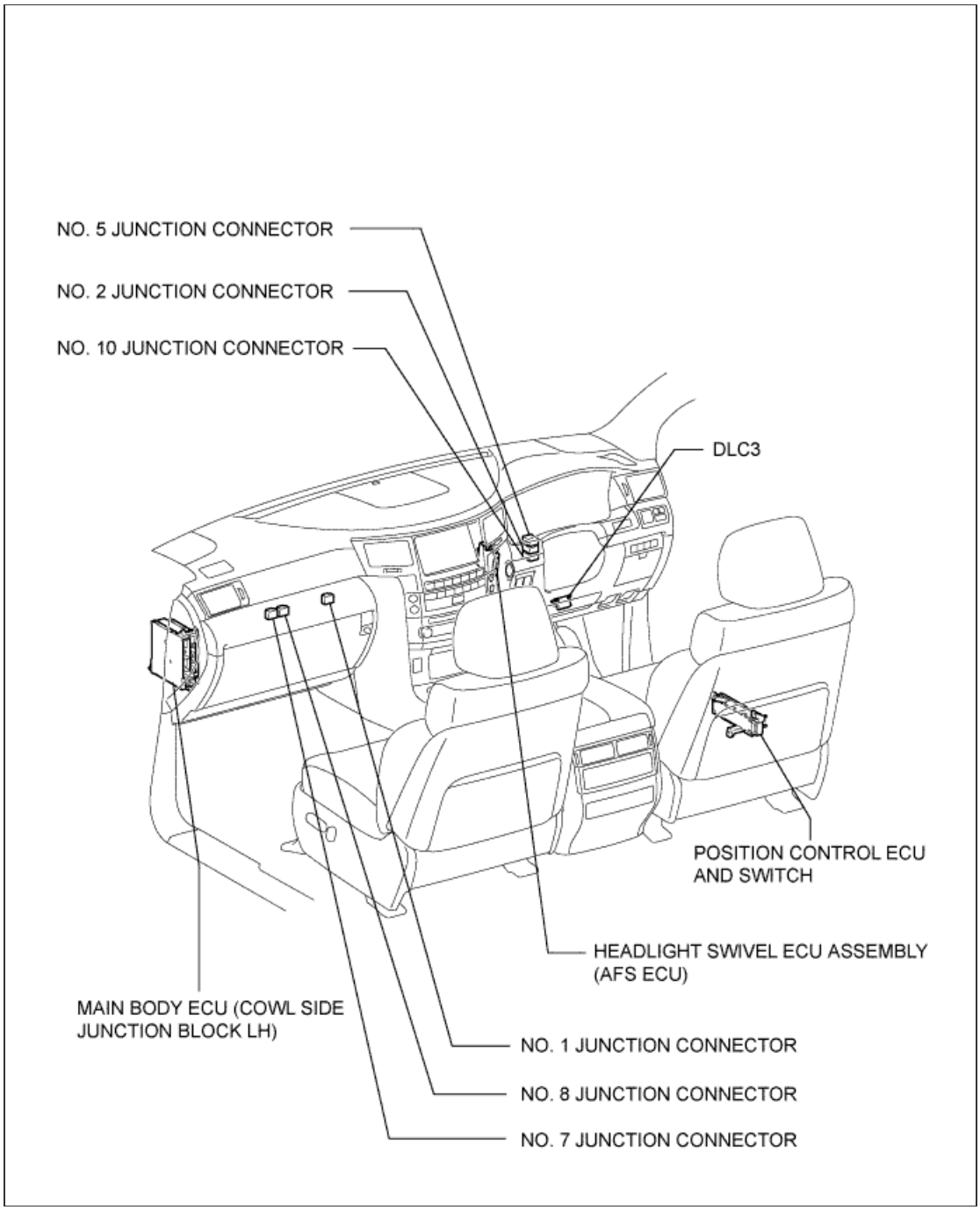


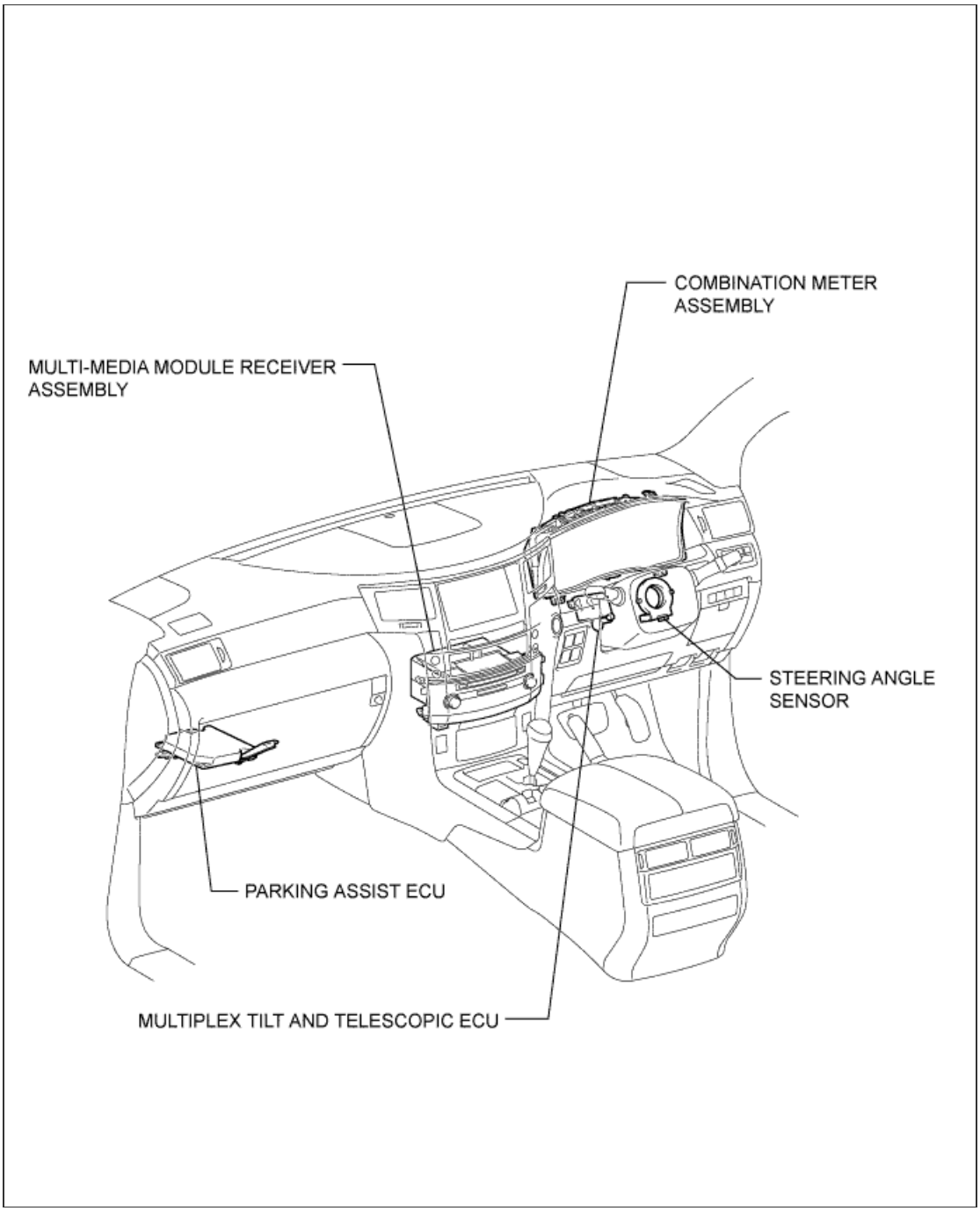
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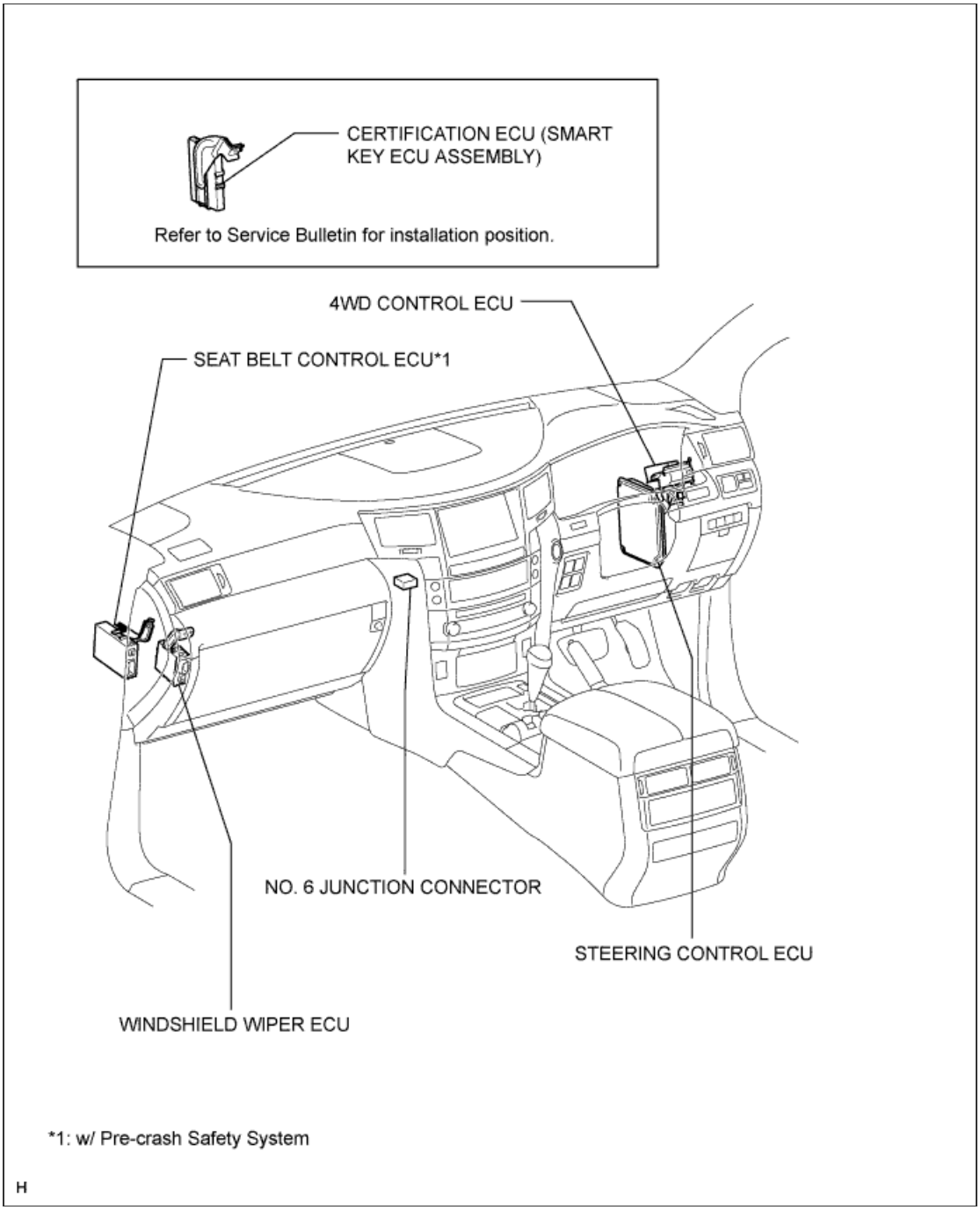


for Preparation Click here



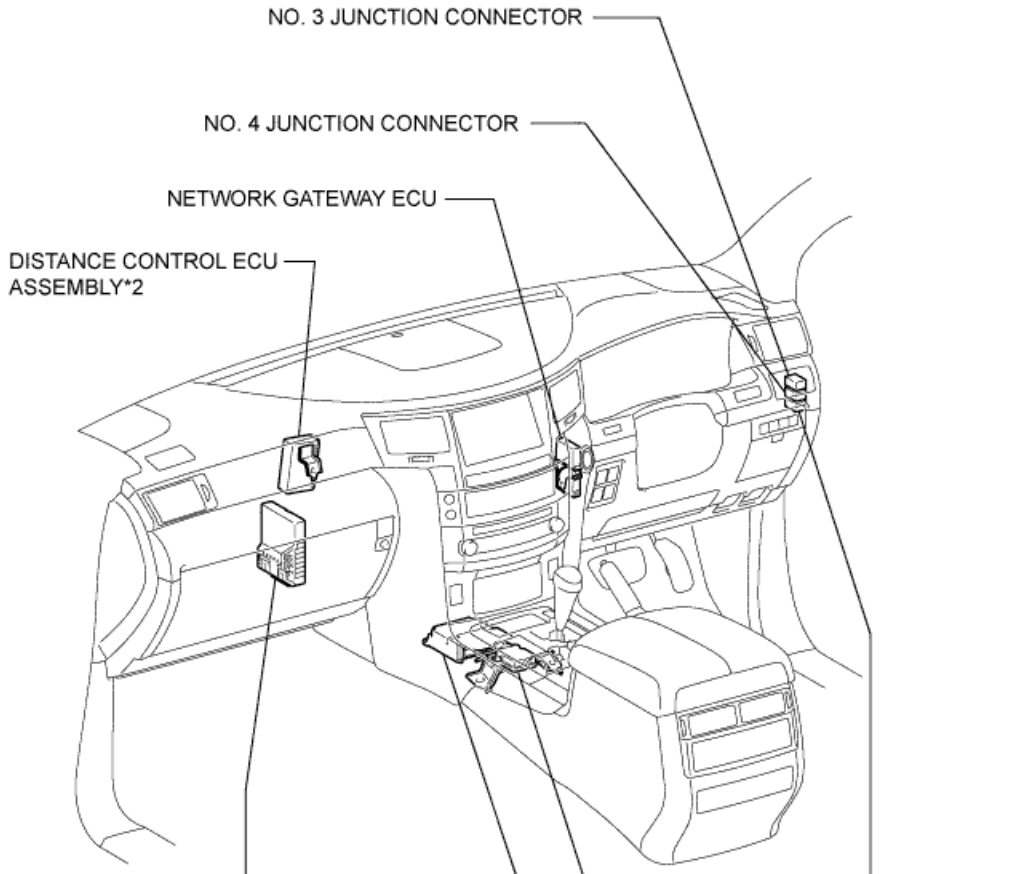

NO. 5 JUNCTION CONNECTOR
NO. 2 JUNCTION CONNECTOR
NO. 10 JUNCTION CONNECTOR
DLC3
POSITION CONTROL ECU AND SWITCH
HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU)
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)
NO. 1 JUNCTION CONNECTOR
NO. 8 JUNCTION CONNECTOR
NO. 7 JUNCTION CONNECTOR


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

H



*2: w/ Dynamic Radar Cruise Control System

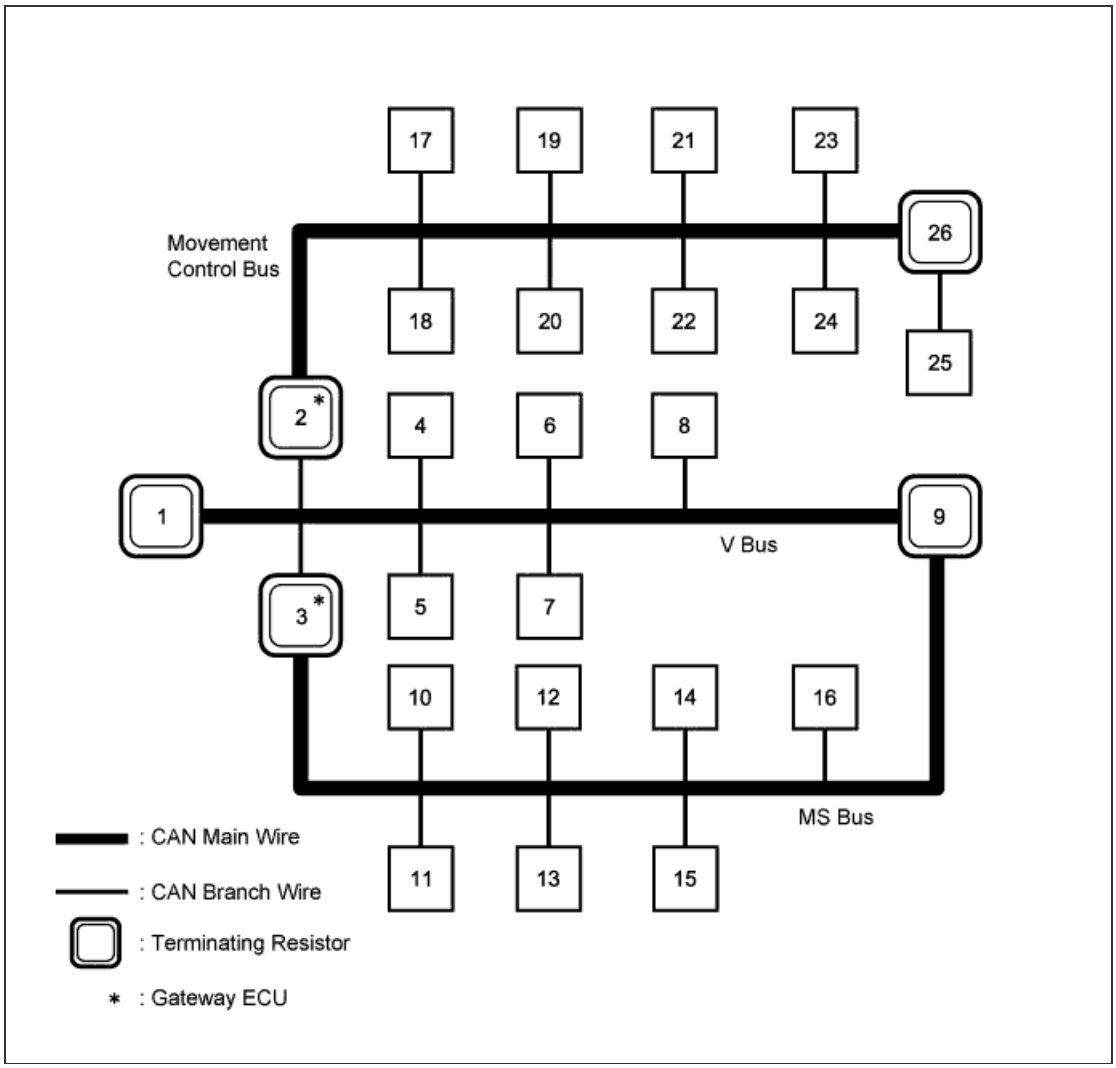
H

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

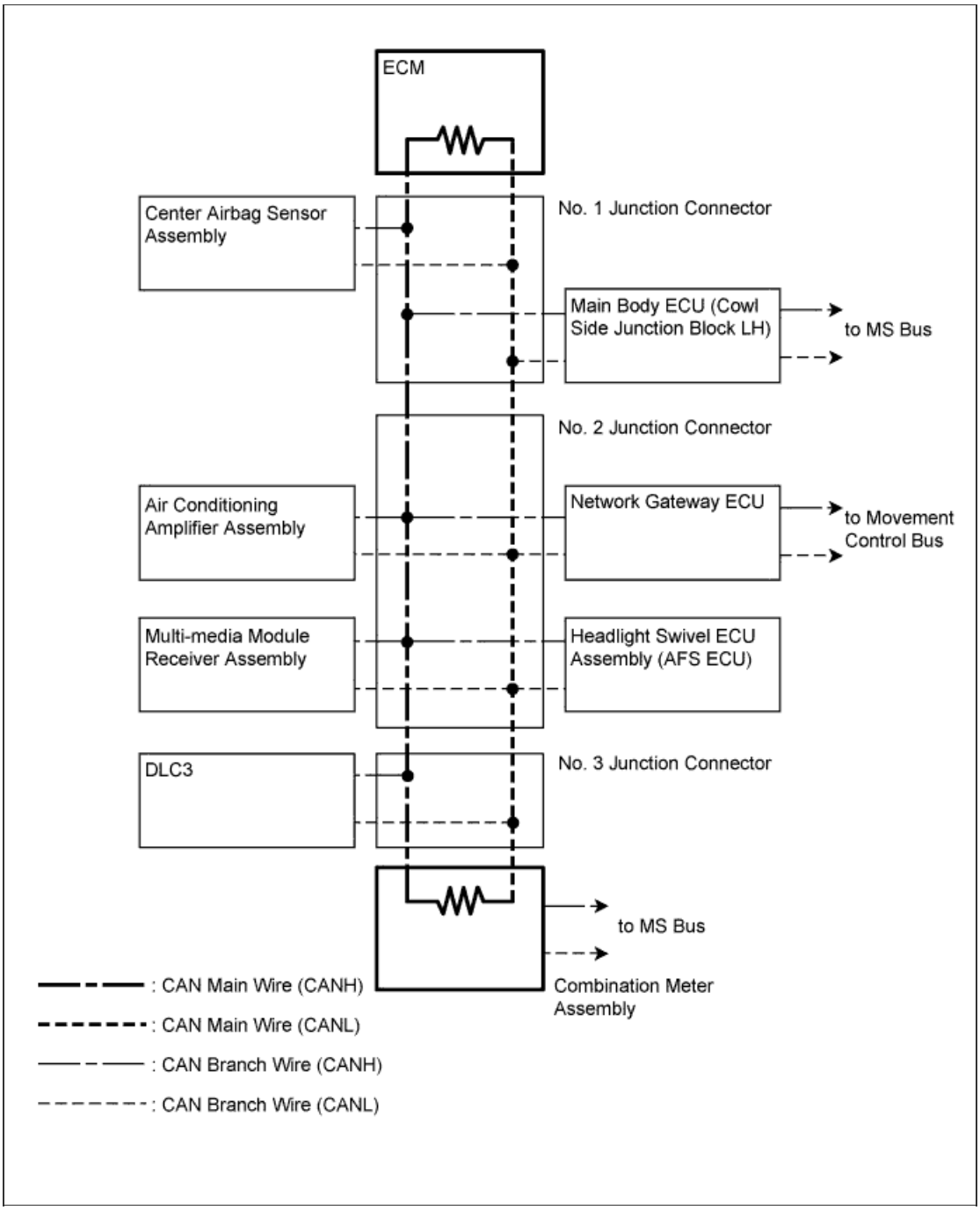


No.	ECU/Sensor Name
1	ECM
2	Network gateway ECU
3	Main body ECU (cowl side junction block LH)
4	DLC3
5	Air conditioning amplifier assembly
6	Center airbag sensor assembly
7	Multi-media module receiver assembly
8	Headlight Swivel ECU assembly (AFS ECU)
9	Combination meter assembly
10	Certification ECU (smart key ECU assembly)
11	Multiplex tilt and telescopic ECU
12	Outer mirror control ECU assembly

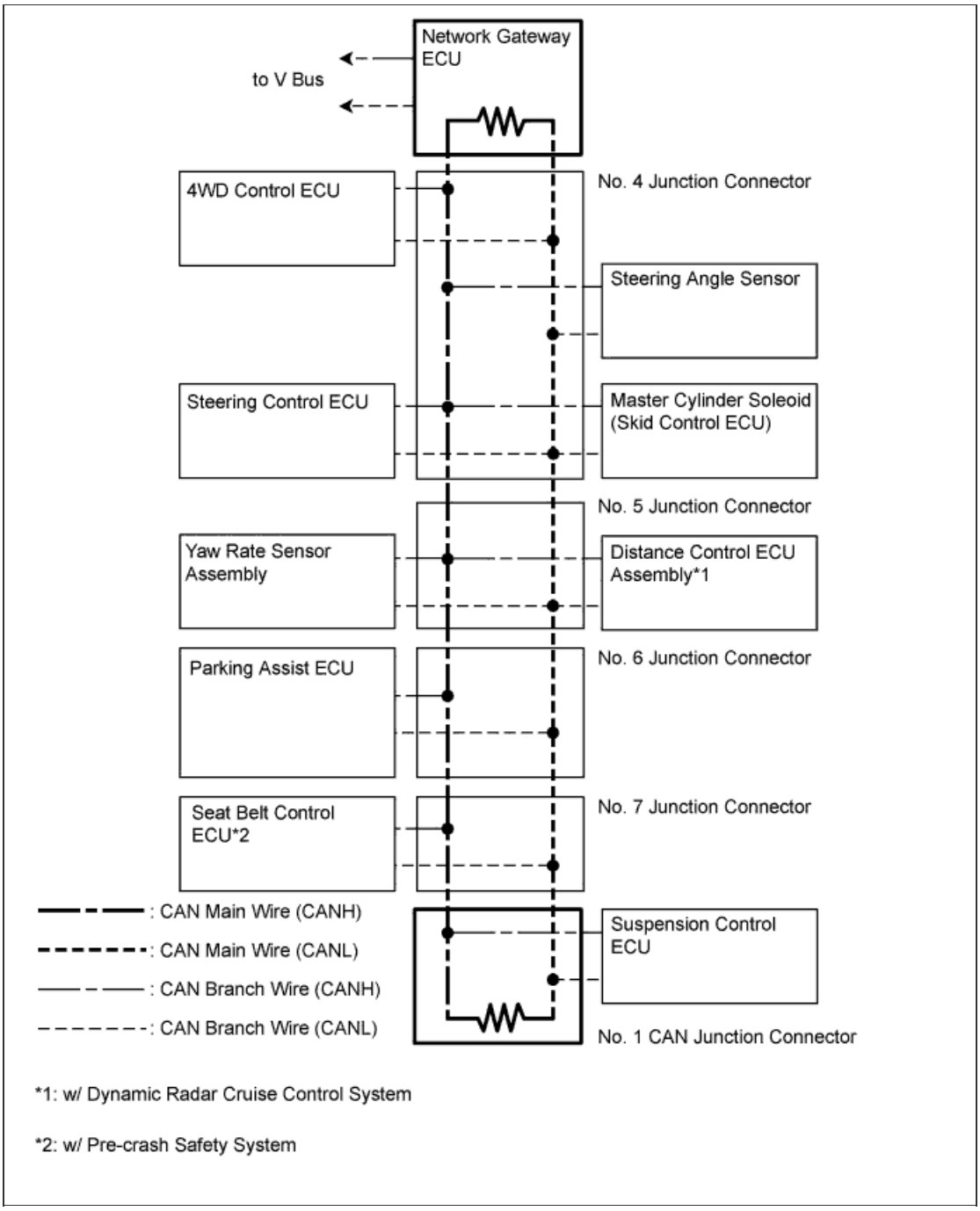
13	Position control ECU and switch
14	No. 2 main body ECU
15	Power back door unit assembly (power back door ECU)
16	Windshield wiper ECU
17	Master cylinder solenoid (skid control ECU)
18	Yaw rate sensor assembly
19	Steering angle sensor
20	4WD control ECU
21	Parking assist ECU
22	Seat belt control ECU*1
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

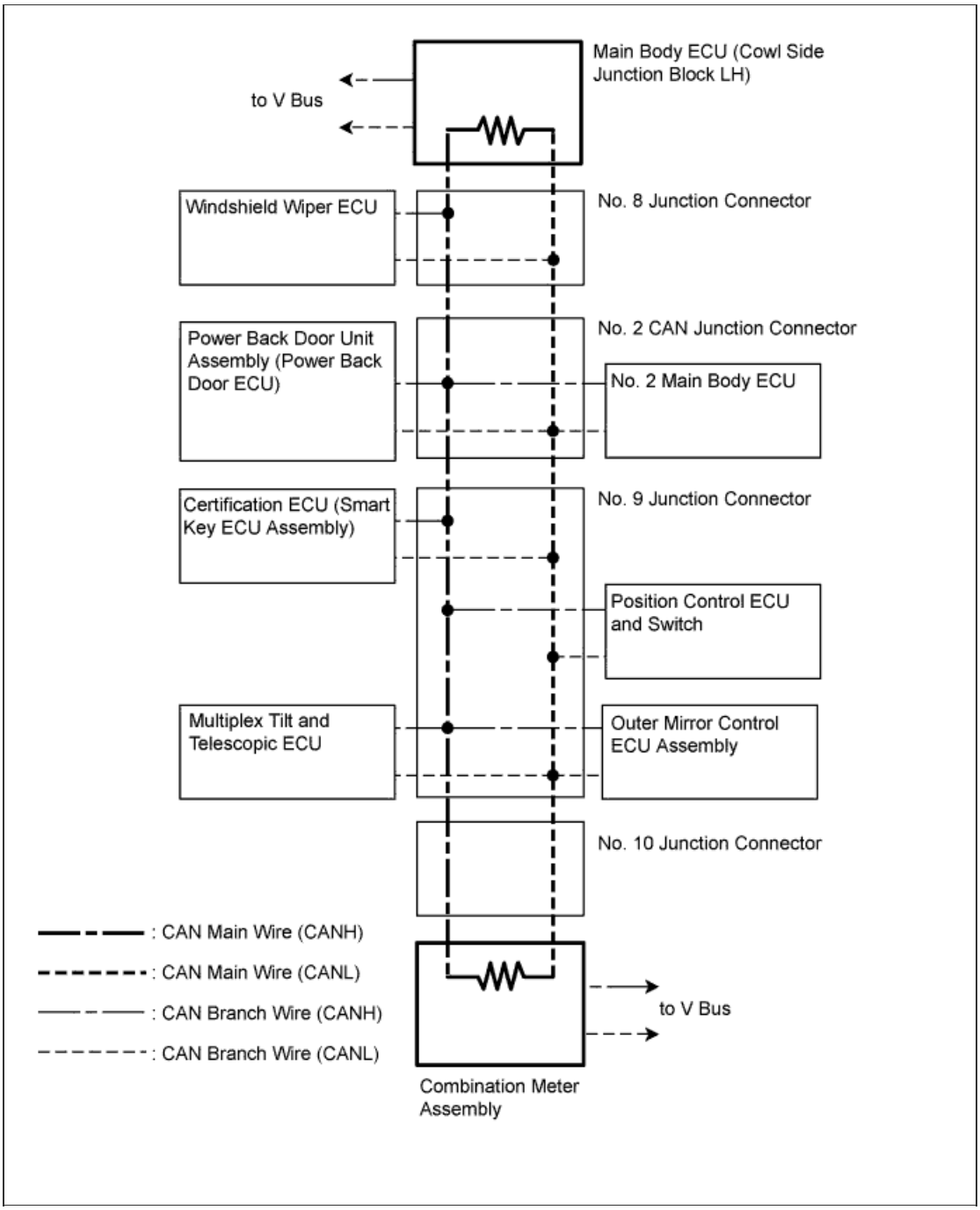
V Bus



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 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

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.

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ECU OR SENSOR WHICH COMMUNICATE VIA CAN COMMUNICATION SYSTEM

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c. ECM

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h. Steering angle sensor

i. Yaw rate sensor assembly

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m. Multiplex tilt and telescopic ECU

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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

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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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b. Air conditioning amplifier assembly

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d. Main body ECU (cowl side junction block LH)

e. Combination meter assembly

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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)

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*1: w/ Pre-crash Safety System
*2: w/ Dynamic Radar Cruise Control 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.

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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, 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

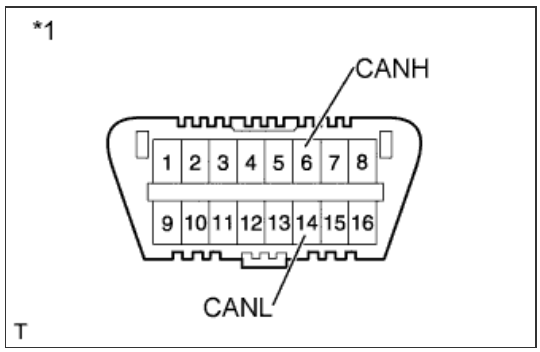
5.CHECK DLC3 BRANCH WIRE AND V BUS CIRCUIT MAIN WIRE (CANH - CANL)

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 according to the value(s) in the table below.

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)

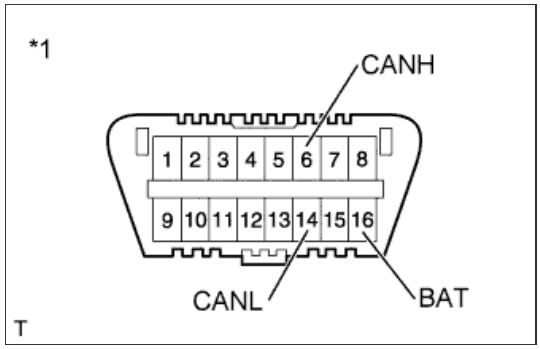
A

6.CHECK V BUS CIRCUIT +B (CANH, CANL - BAT)

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

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)

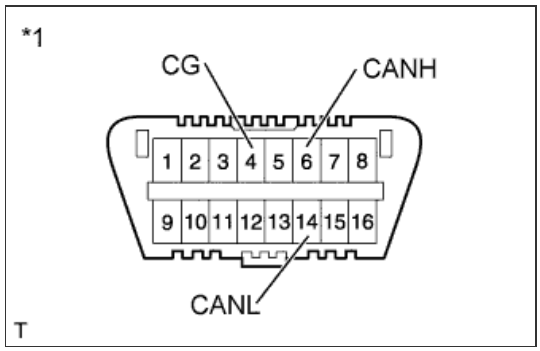
OK

7.CHECK V BUS CIRCUIT GND (CANH, CANL - CG)

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

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. 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. 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

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

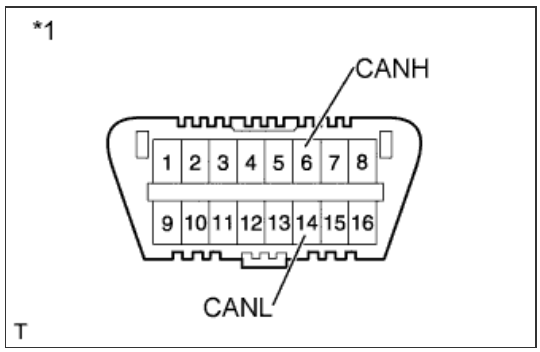
5.CHECK DLC3 BRANCH WIRE AND V BUS CIRCUIT MAIN WIRE (CANH - CANL)

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 according to the value(s) in the table below.

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)

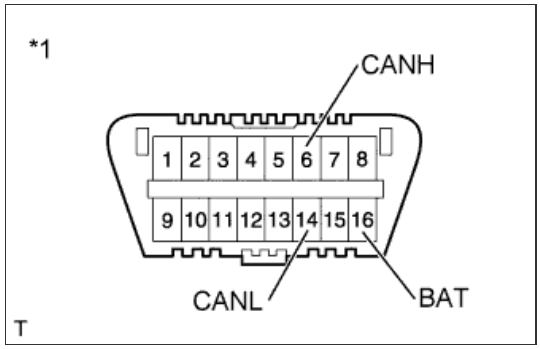
A

6.CHECK V BUS CIRCUIT +B (CANH, CANL - BAT)

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

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)

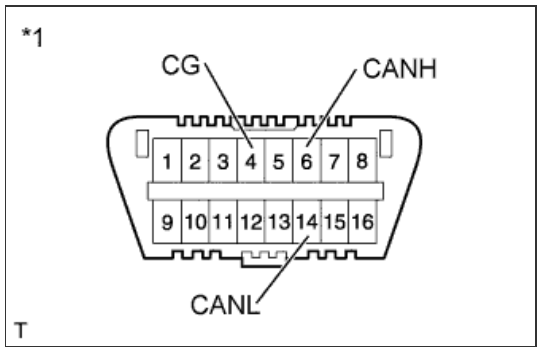
OK

7.CHECK V BUS CIRCUIT GND (CANH, CANL - CG)

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

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. 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. 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

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

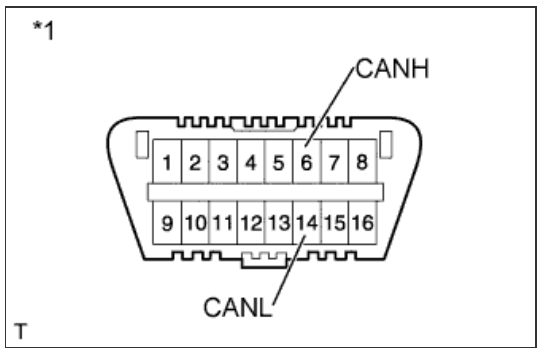
5.CHECK DLC3 BRANCH WIRE AND V BUS CIRCUIT MAIN WIRE (CANH - CANL)

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 according to the value(s) in the table below.

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)

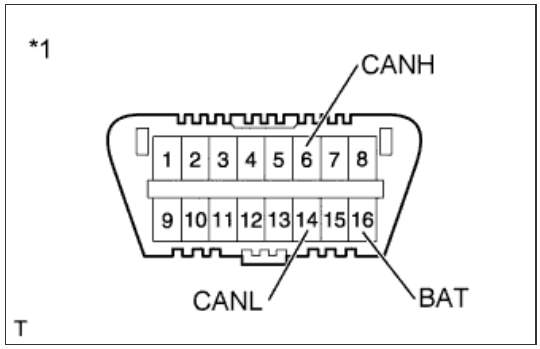
A

6.CHECK V BUS CIRCUIT +B (CANH, CANL - BAT)

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

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)

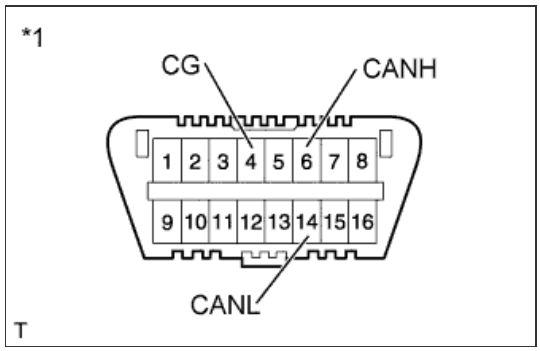
OK

7.CHECK V BUS CIRCUIT GND (CANH, CANL - CG)

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

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. 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. 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 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:

- **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:

- **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:

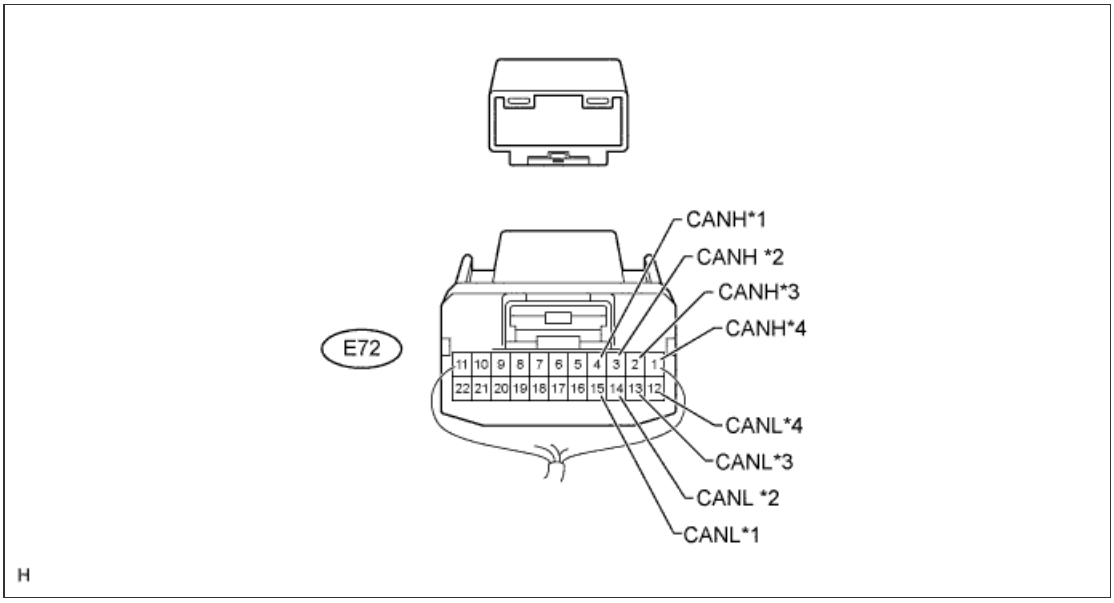
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

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.**
- **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



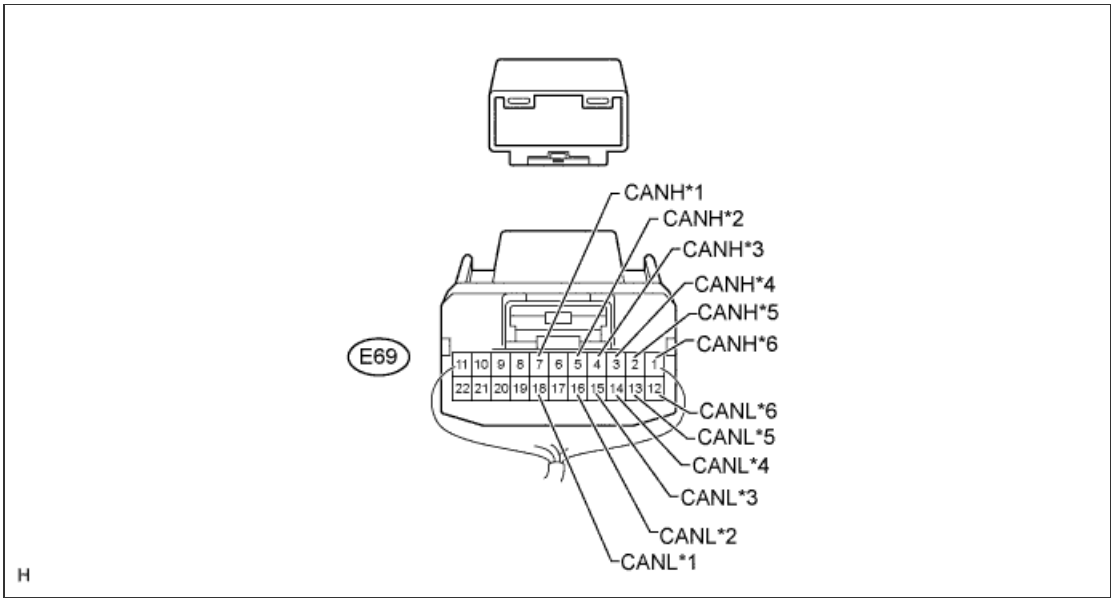
Text in Illustration

*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

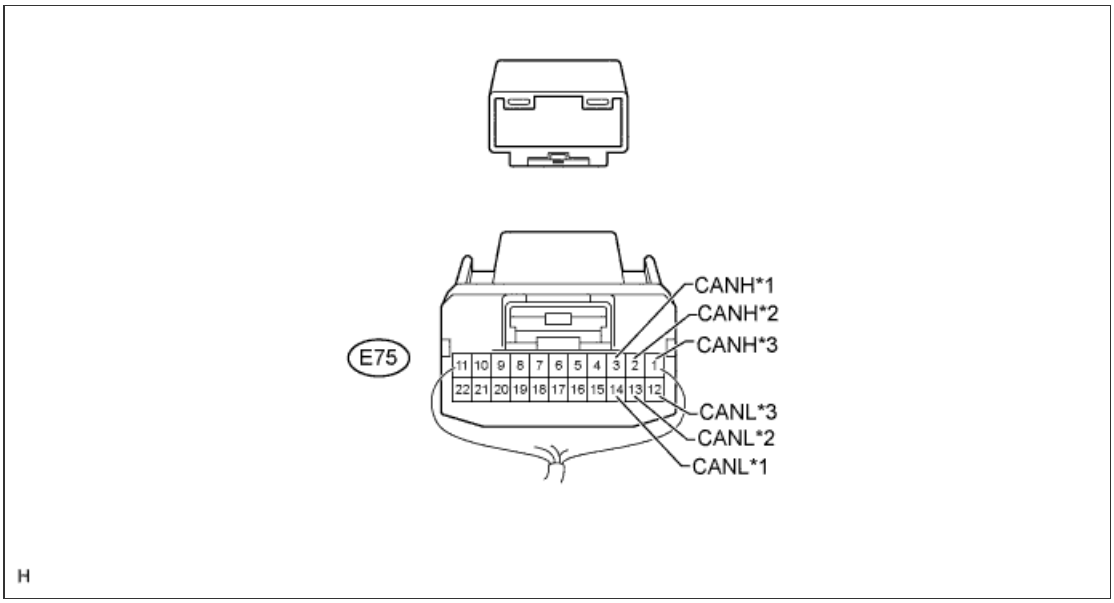


Text in Illustration

*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)	SB	No. 3 junction connector
E69-12 (CANL)	B	
E69-2 (CANH)	P	Multi-media module receiver assembly
E69-13 (CANL)	B	
E69-3 (CANH)	BE	Network gateway ECU (V bus)
E69-14 (CANL)	B	
E69-4 (CANH)	SB	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

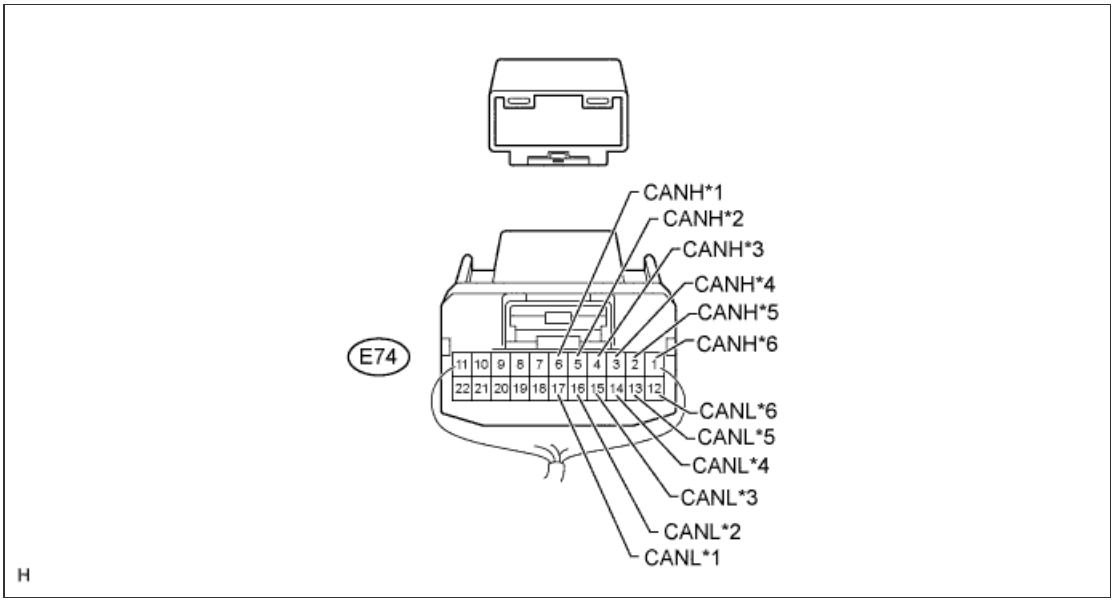


Text in Illustration

*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)	SB	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



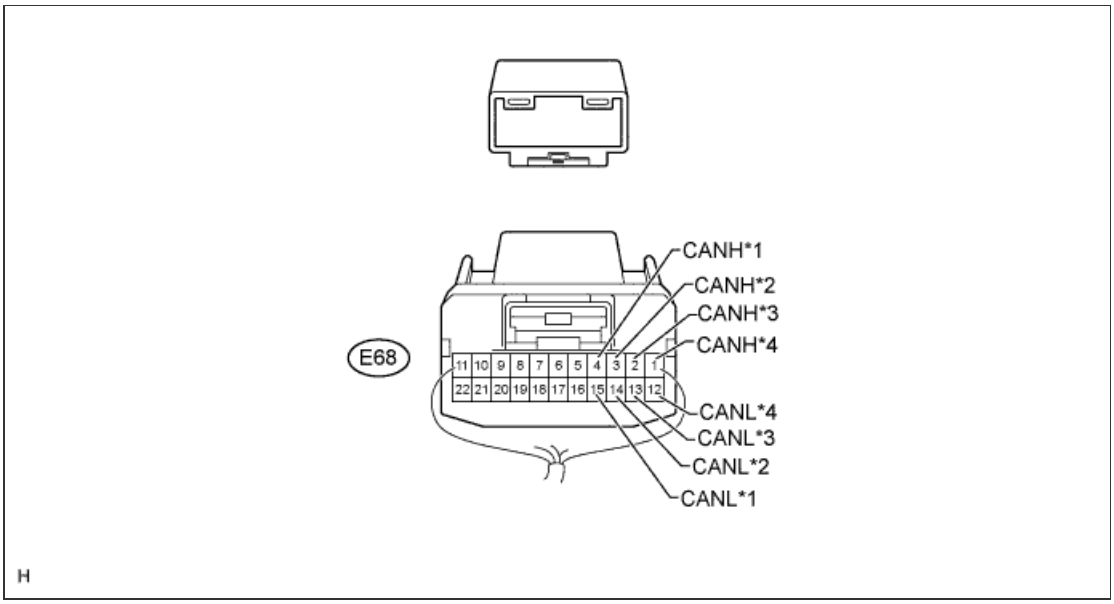
Text in Illustration

*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) E74-12 (CANL)	W 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



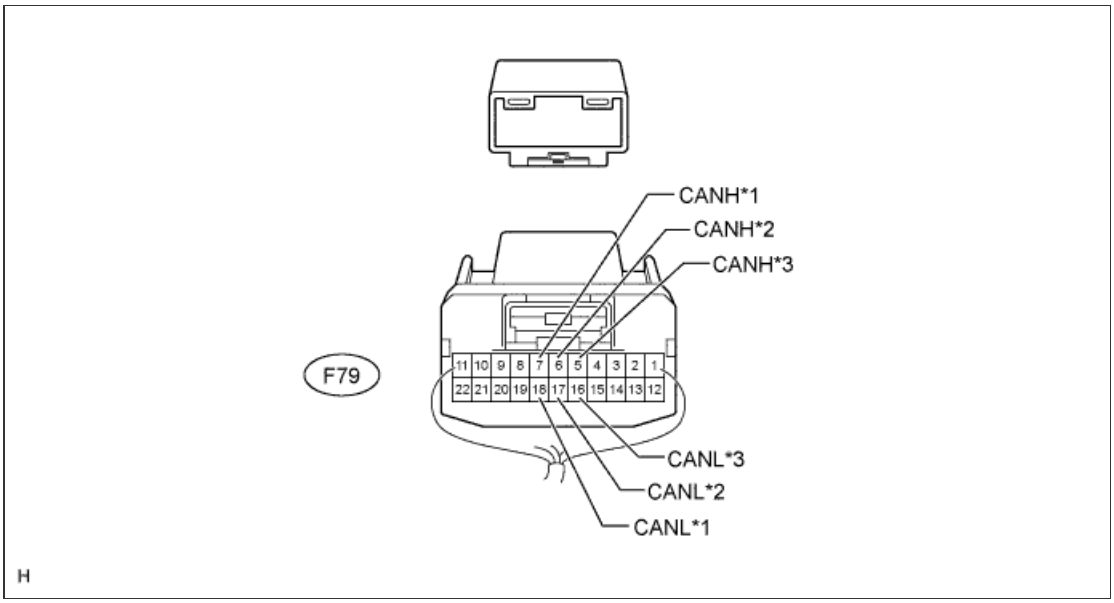
Text in Illustration

*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

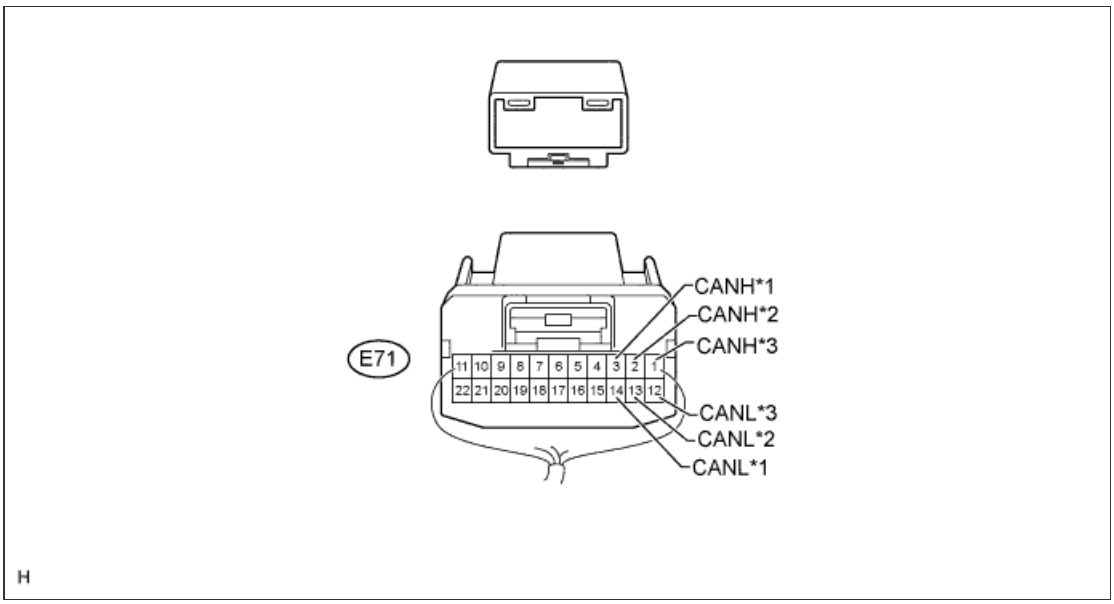


Text in Illustration

*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)	SB	No. 7 junction connector
F79-17 (CANL)	L	
F79-7 (CANH)	SB	No. 5 junction connector
F79-18 (CANL)	L	

g. NO. 7 JUNCTION CONNECTOR



Text in Illustration

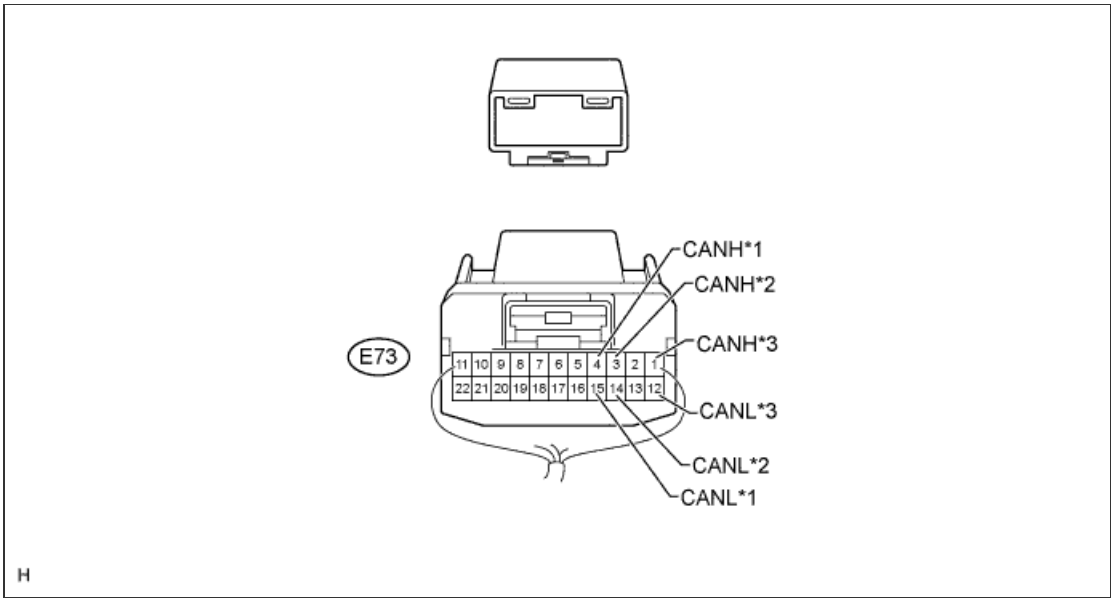
*1	to No. 1 CAN Junction Connector	*2	to Seat Belt Control ECU (w/ Pre-crash Safety System)
*3	to No. 6 Junction Connector	-	-

No. 7 Junction Connector	Wiring Color	Connect to
E71-1 (CANH)	SB	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

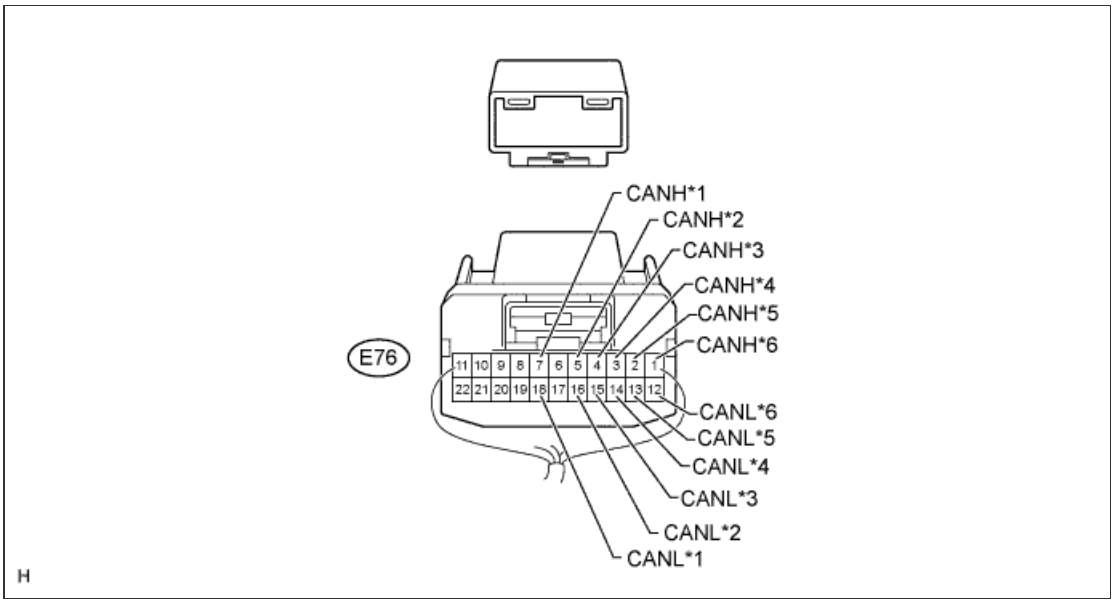


Text in Illustration

*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

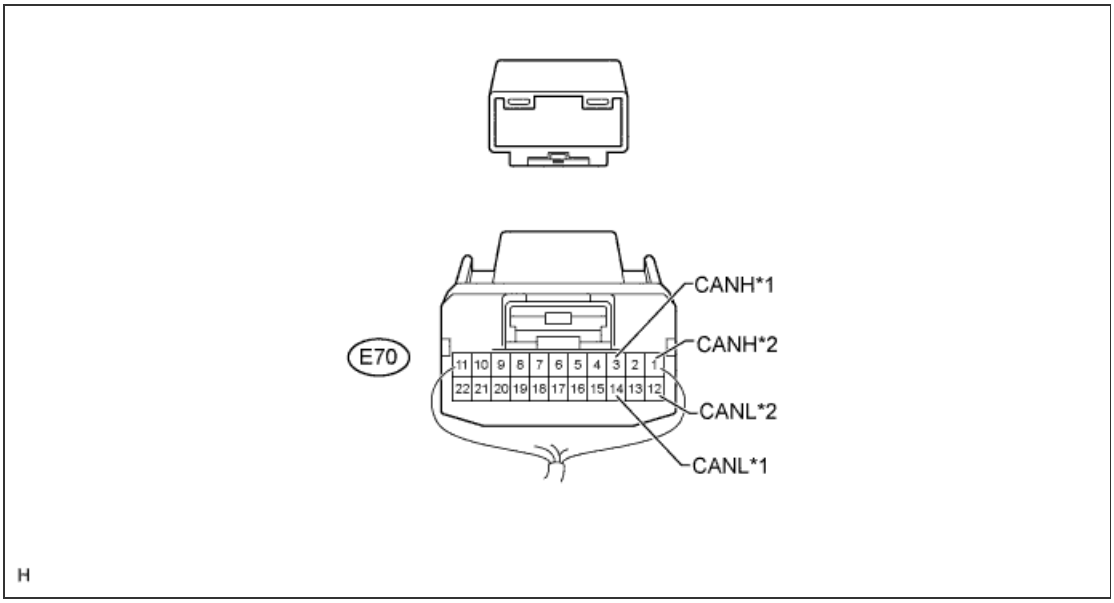


Text in Illustration

*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

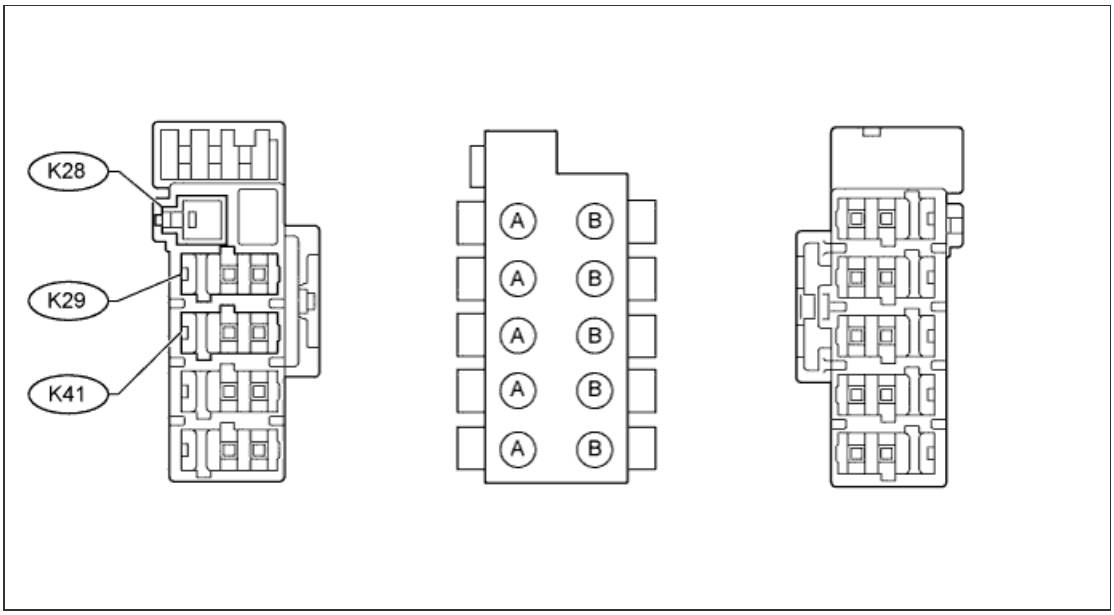


Text in Illustration

*1	to Combination Meter Assembly: MS Bus	*2	to No. 9 Junction Connector

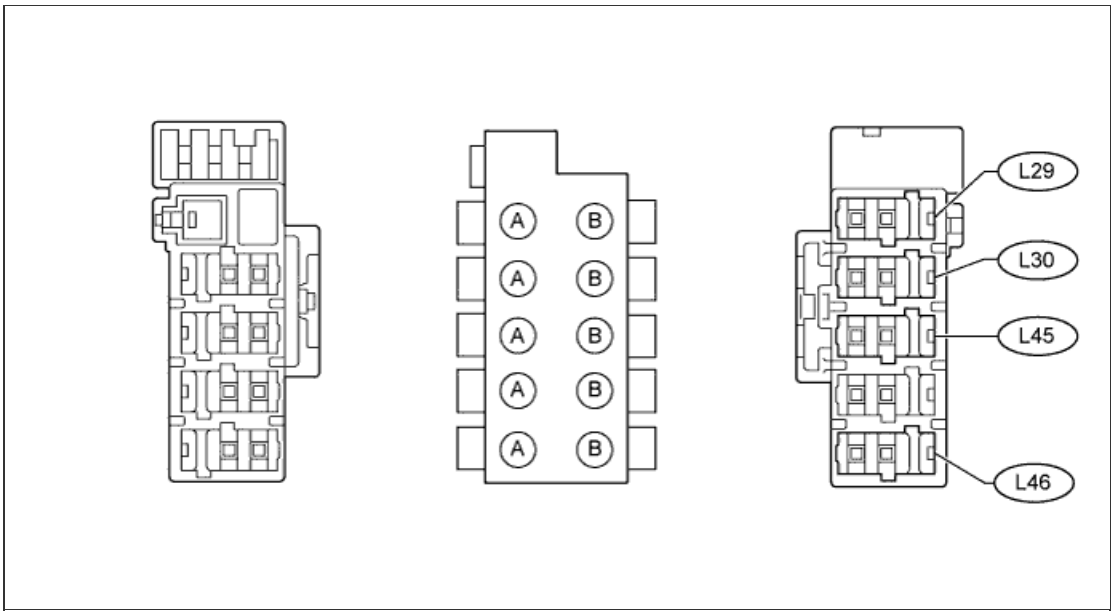
No. 10 Junction Connector	Wiring Color	Connect to
E70-1 (CANH)	W	No. 9 junction connector
E70-12 (CANL)	R	
E70-3 (CANH)	LG	Combination meter assembly (MS bus)
E70-14 (CANL)	R	

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

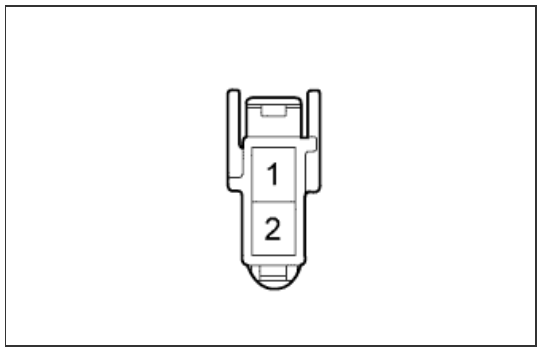
l. NO. 2 CAN JUNCTION CONNECTOR



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

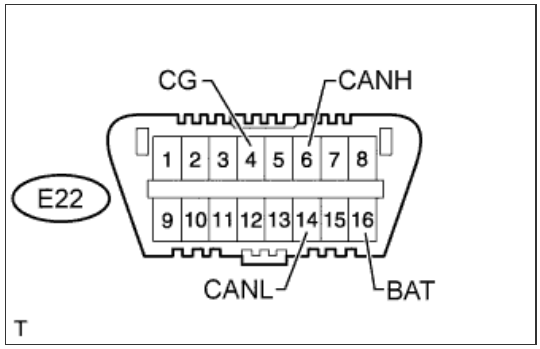


CHECK DLC3

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).**

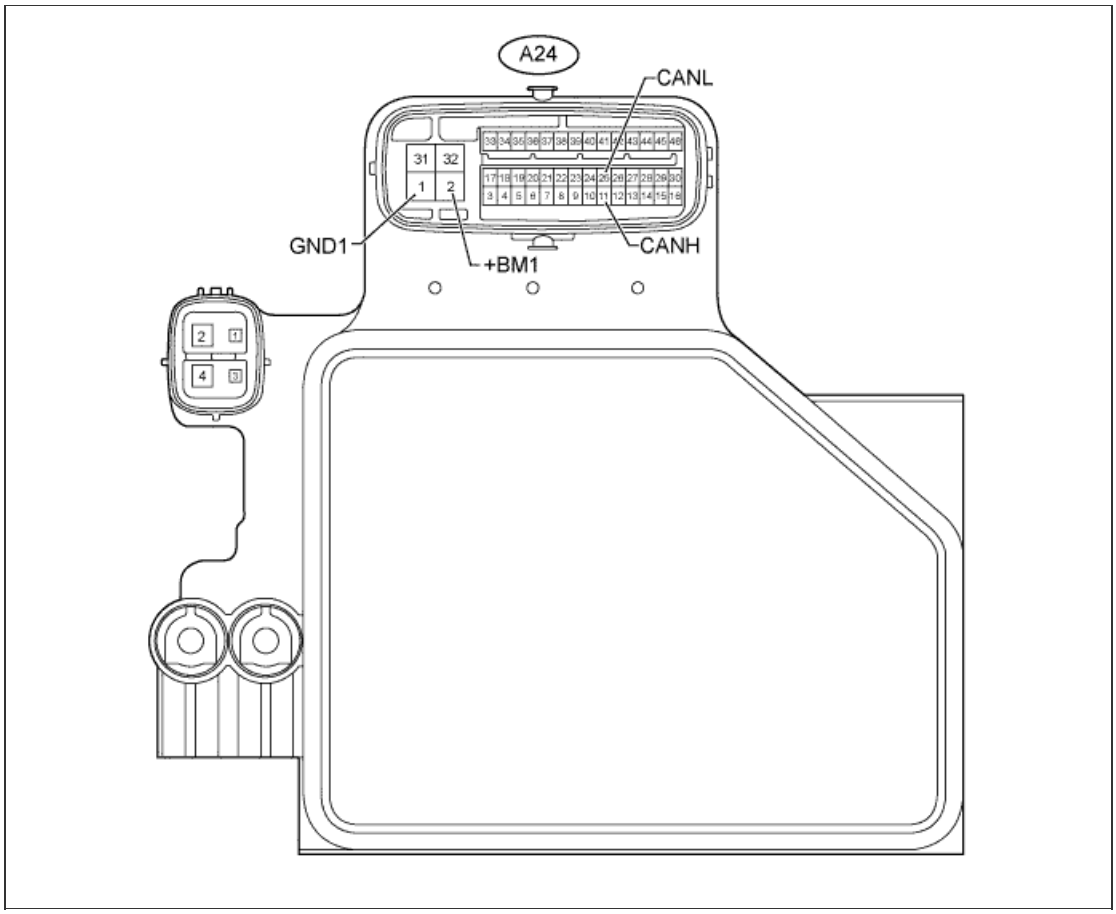


b. Measure the resistance according to the value(s) in the table below.

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)

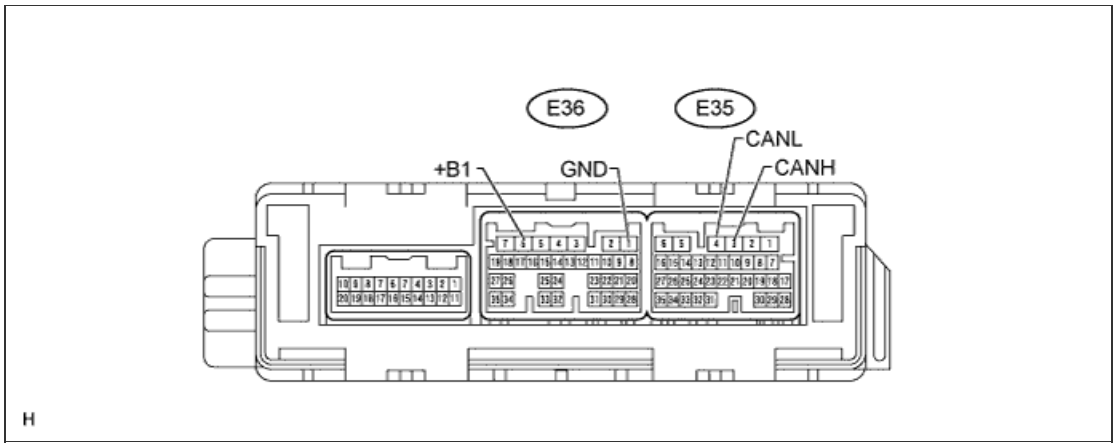


a. Disconnect the A24 master cylinder solenoid (skid control ECU) connector.

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

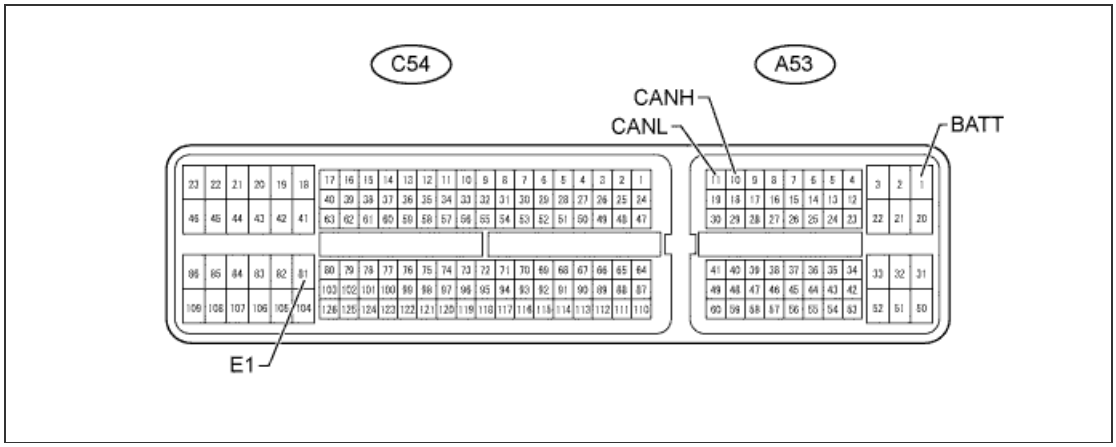


a. Disconnect the E35 and E36 air conditioning amplifier assembly connectors.

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

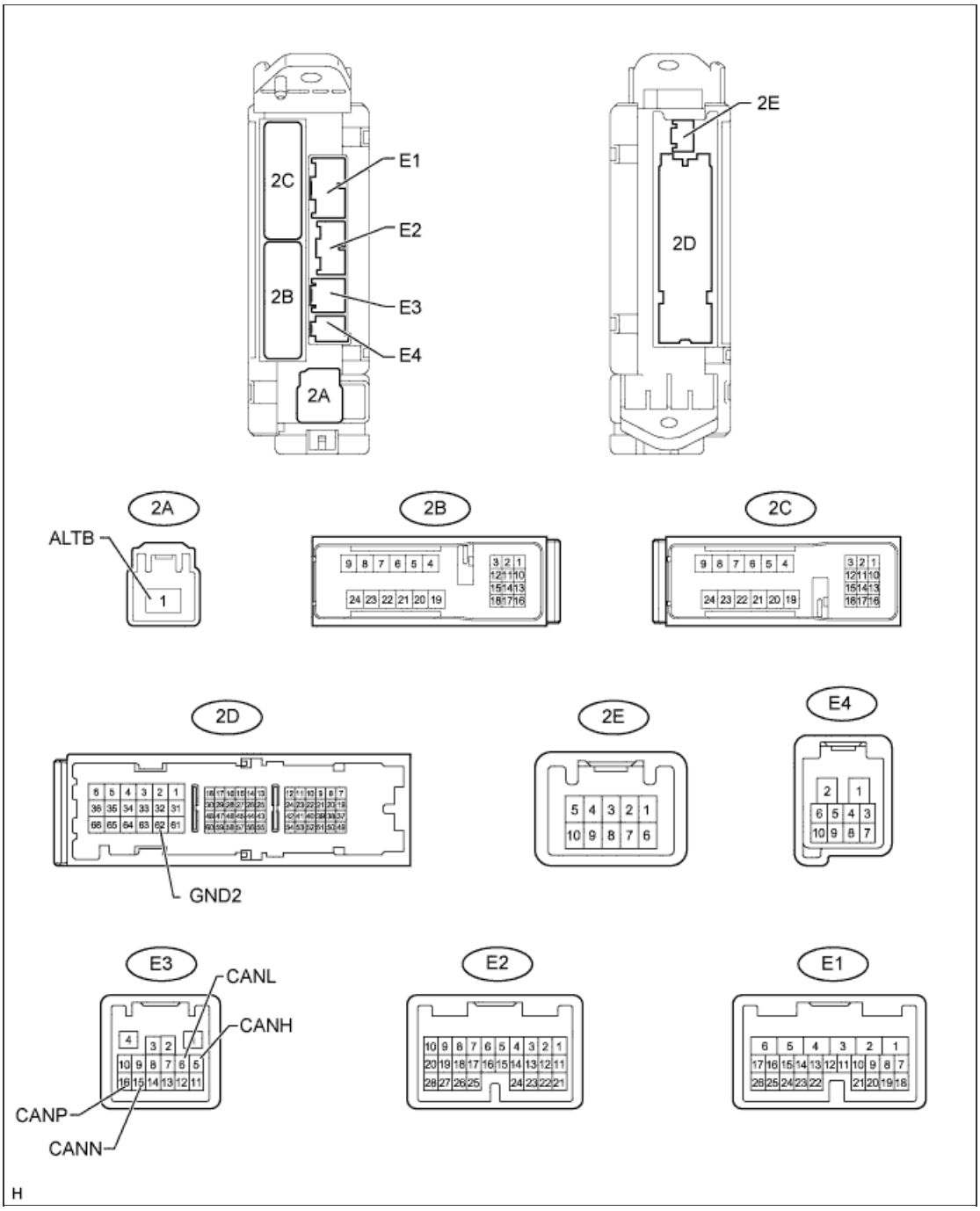


a. Disconnect the A53 and C54 ECM connectors.

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.

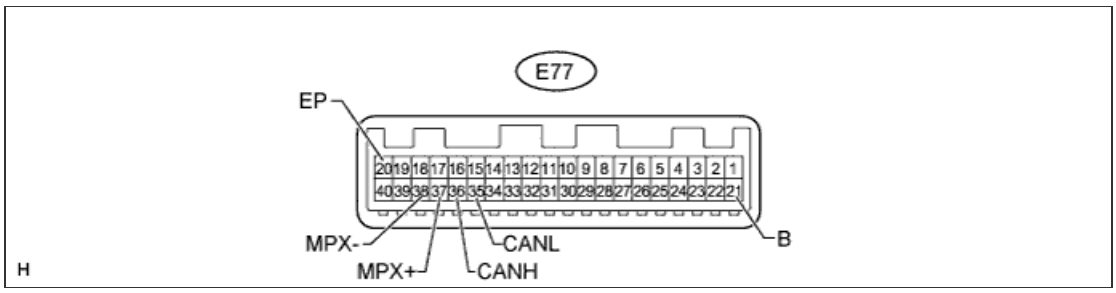
V Bus

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.

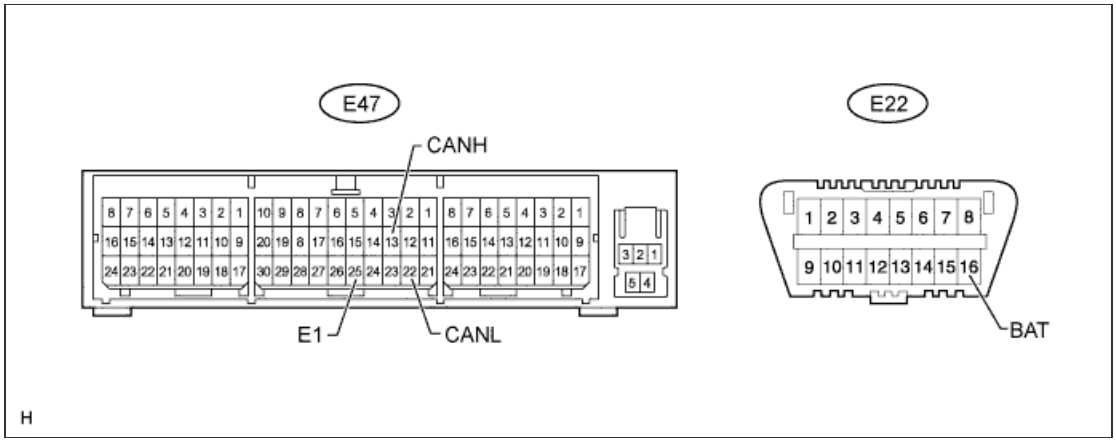
V Bus

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

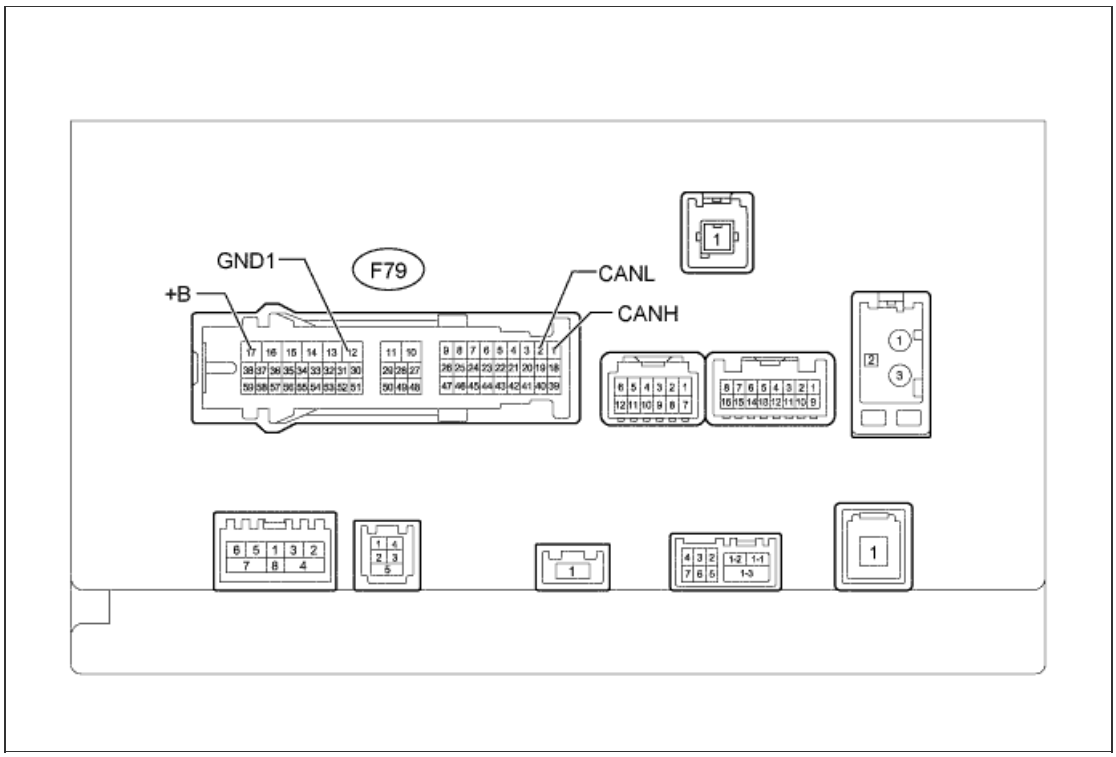


a. Disconnect the E47 center airbag sensor assembly connector (Click here).

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

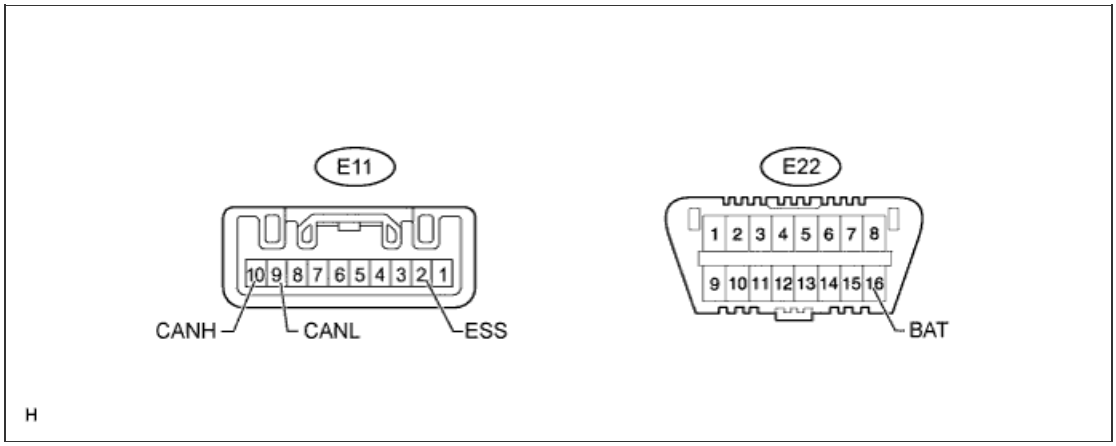


a. Disconnect the F76 multi-media module receiver assembly connector.

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



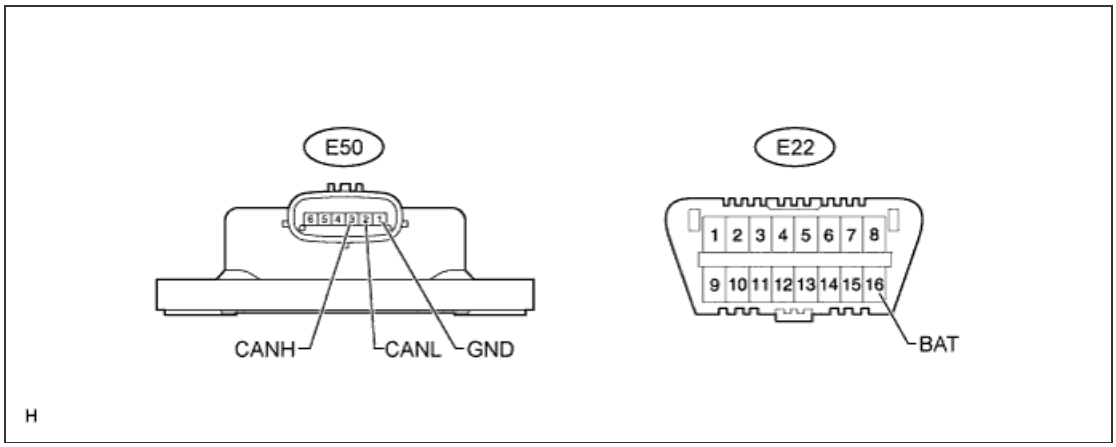
a. Disconnect the E11 st5eering angle sensor connector.

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

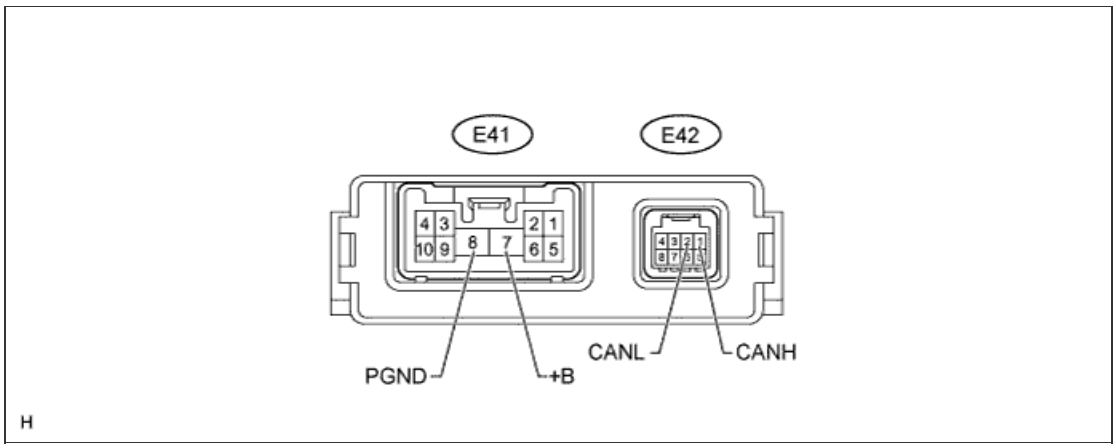


a. Disconnect the E50 yaw rate sensor assembly connector.

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)

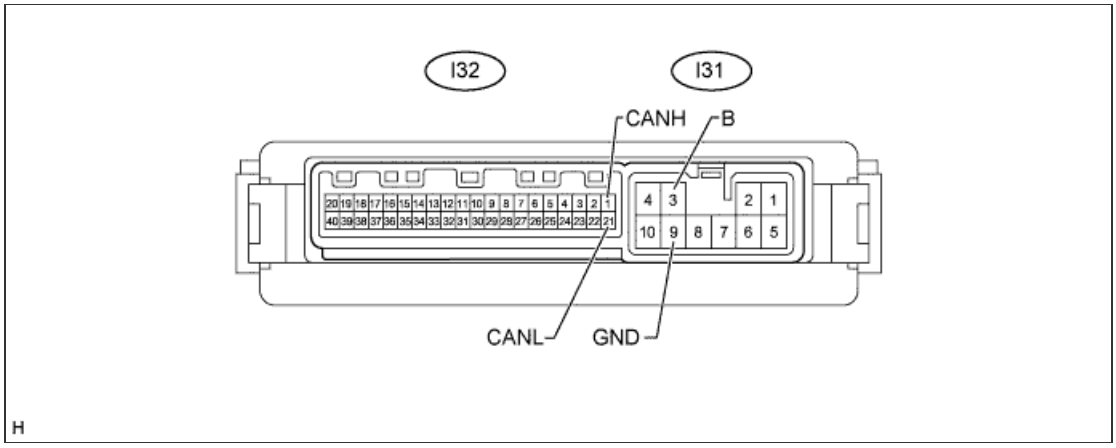


a. Disconnect the E41 and E42 seat belt control ECU connectors.

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

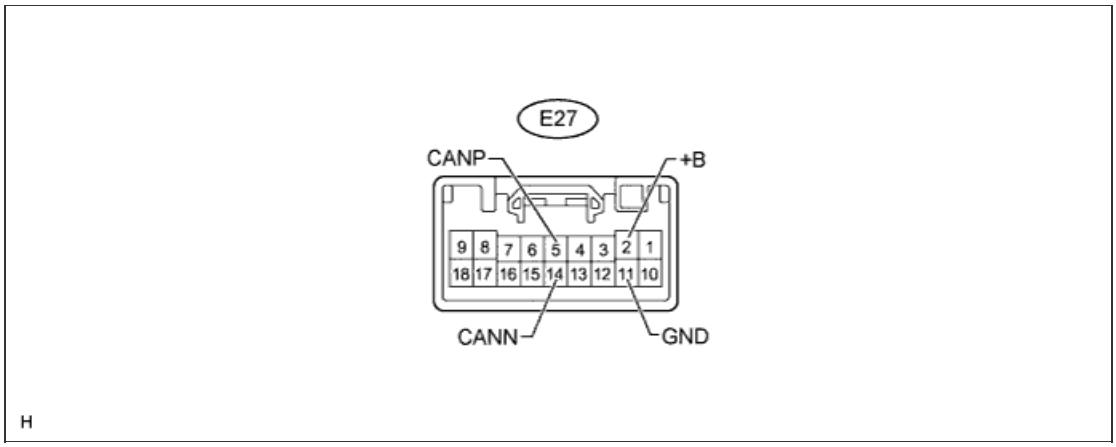


a. Disconnect the I31 and I32 outer mirror control ECU assembly connectors.

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

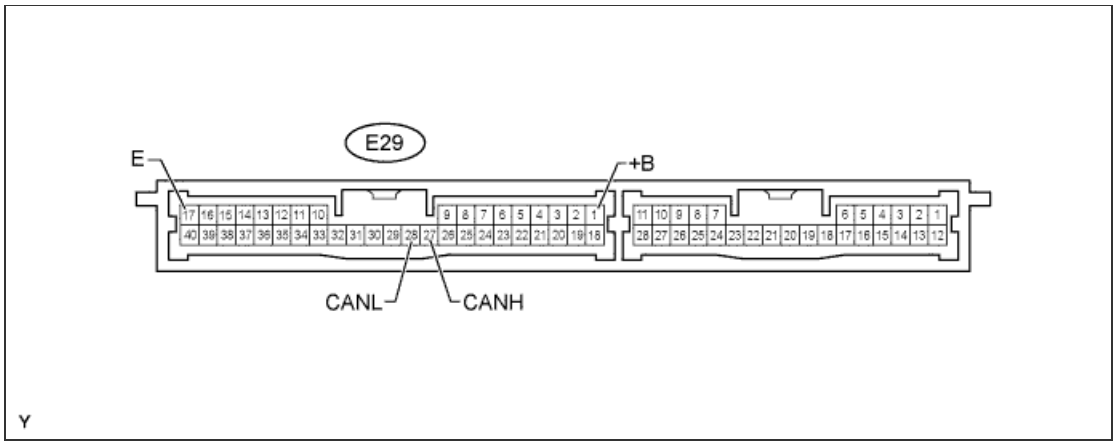


a. Disconnect the E27 multiplex tilt and telescopic ECU connector.

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)

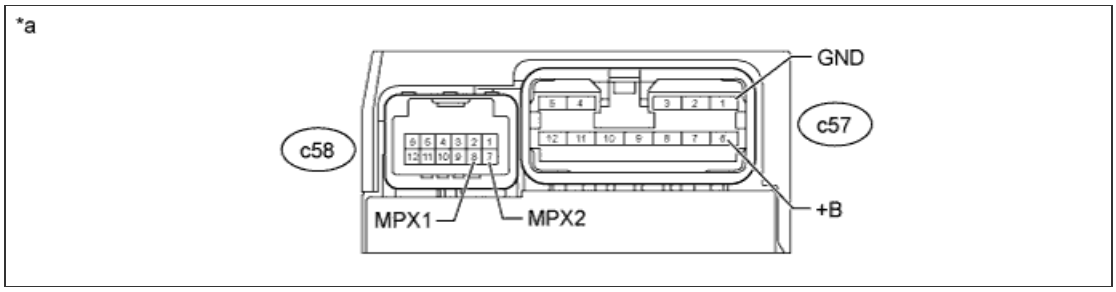


a. Disconnect the E29 certification ECU (smart key ECU assembly) connector.

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

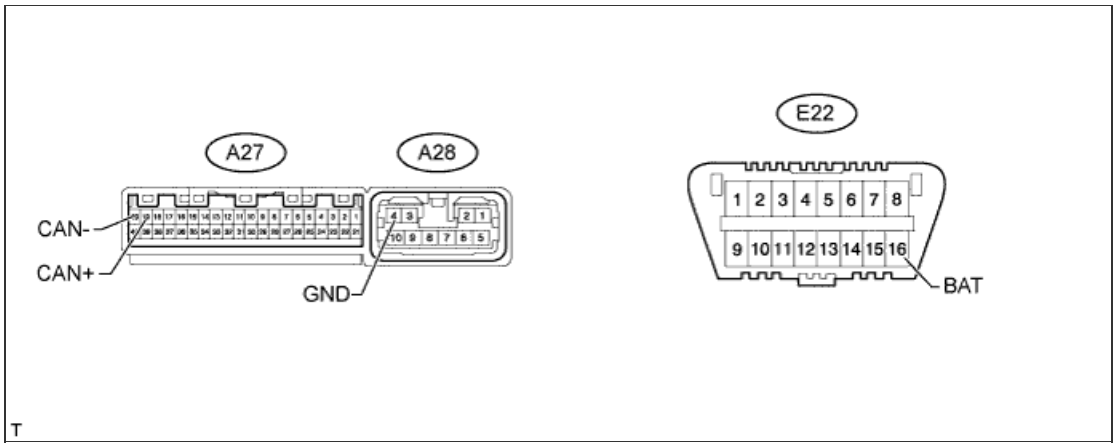


a. Disconnect the c57 and c58 position control ECU and switch connectors.

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

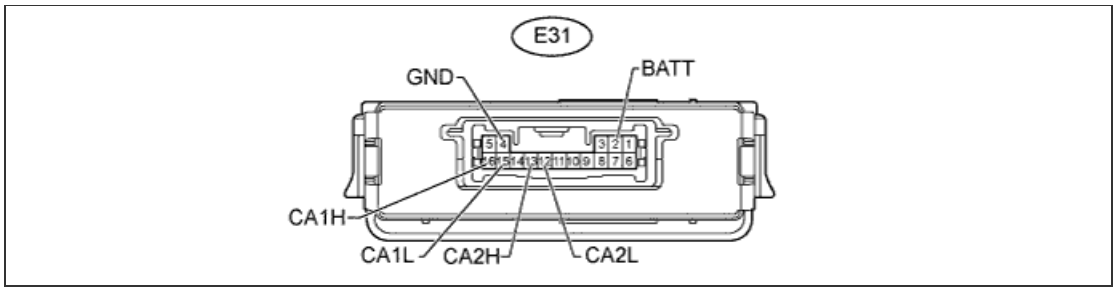


a. Disconnect the A27 and A28 4WD control ECU connectors.

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.

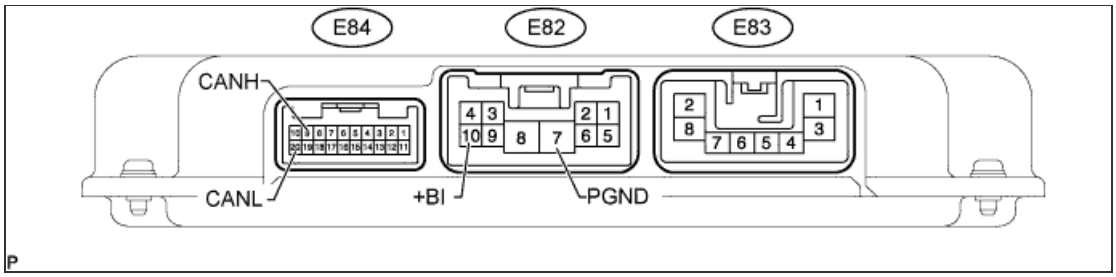
V Bus

Terminal No. (Symbol)	Wiring Color	Switch Condition	Specified Condition
E31-16 (CA1H) - E31-15 (CA1L)	BE - B	Engine switch off	54 to 69 Ω
E31-16 (CA1H) - E31-4 (GND)	BE - 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)	BE - 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

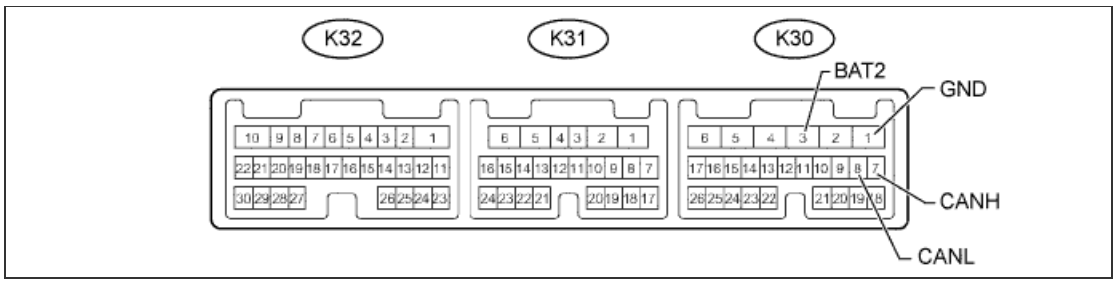


a. Disconnect the E82 and E84 steering control ECU connectors.

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

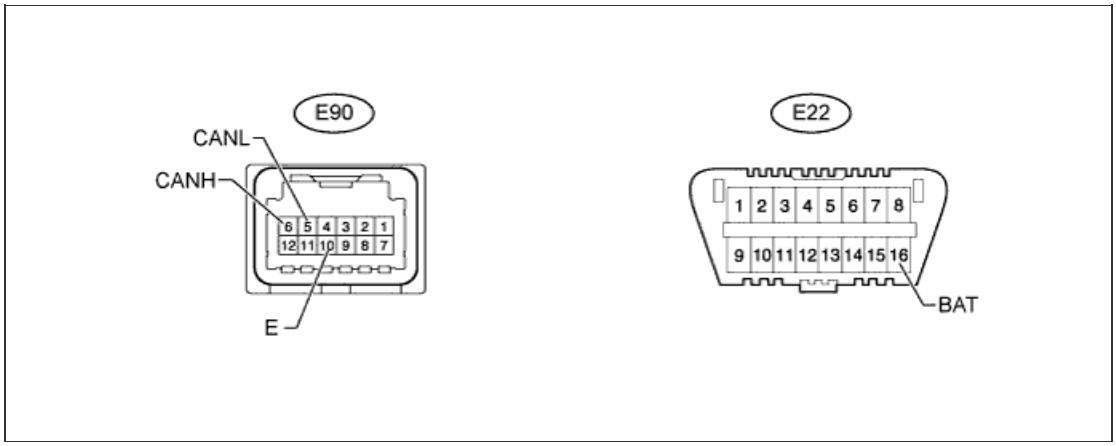


a. Disconnect the K30 suspension control ECU connector.

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

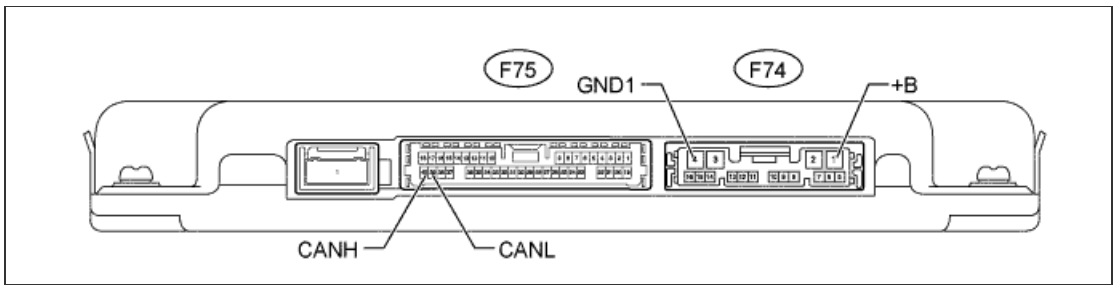


a. Disconnect the E90 windshield wiper ECU connector.

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

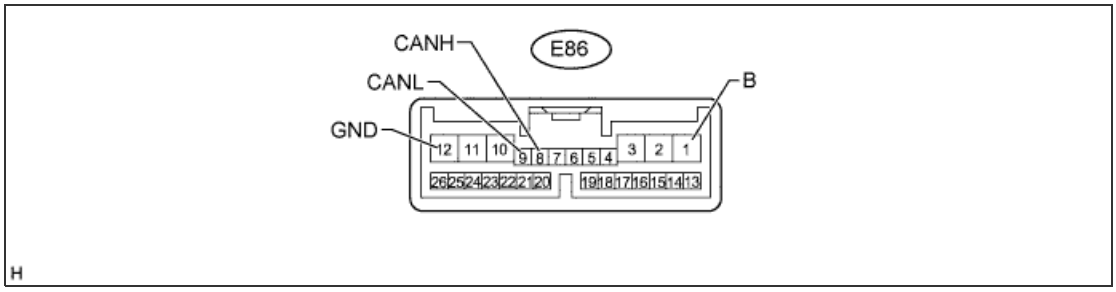


a. Disconnect the F74 and F75 parking assist ECU connector.

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)

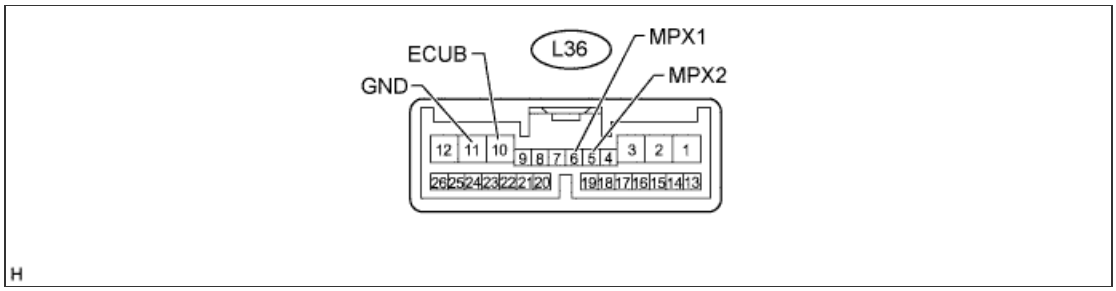


a. Disconnect the E86 distance control ECU assembly connector.

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)

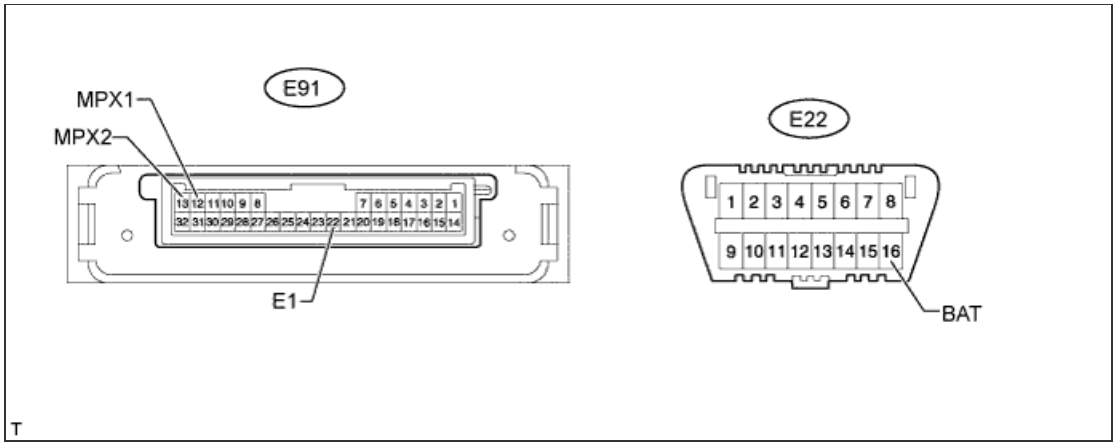


a. Disconnect the L36 power back door unit assembly (power back door ECU) connector.

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)

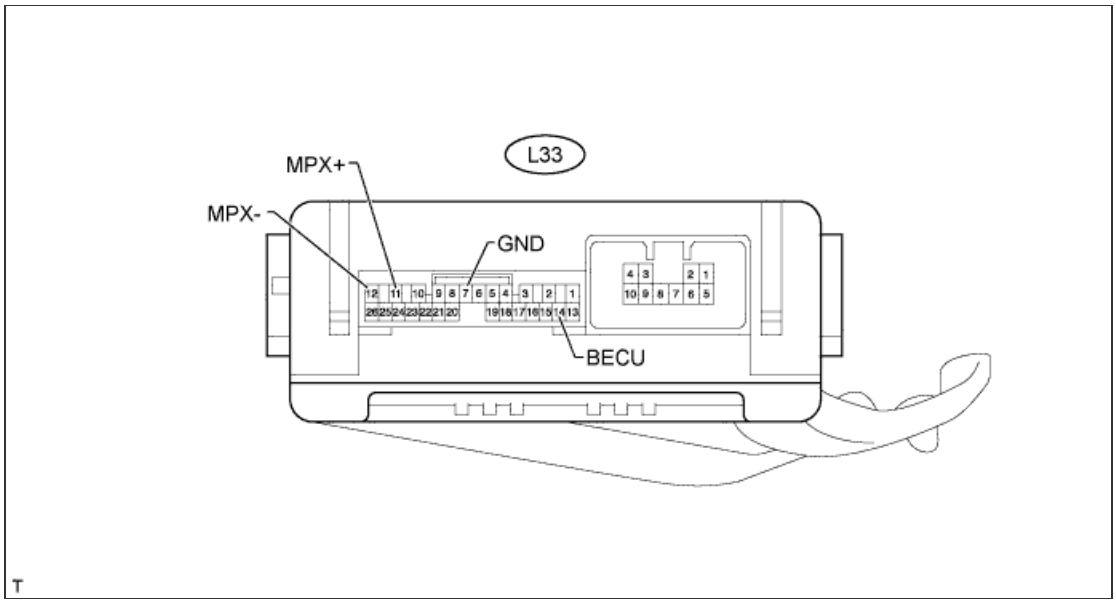


a. Disconnect the E91 headlight swivel ECU assembly (AFS ECU) connector.

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

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:

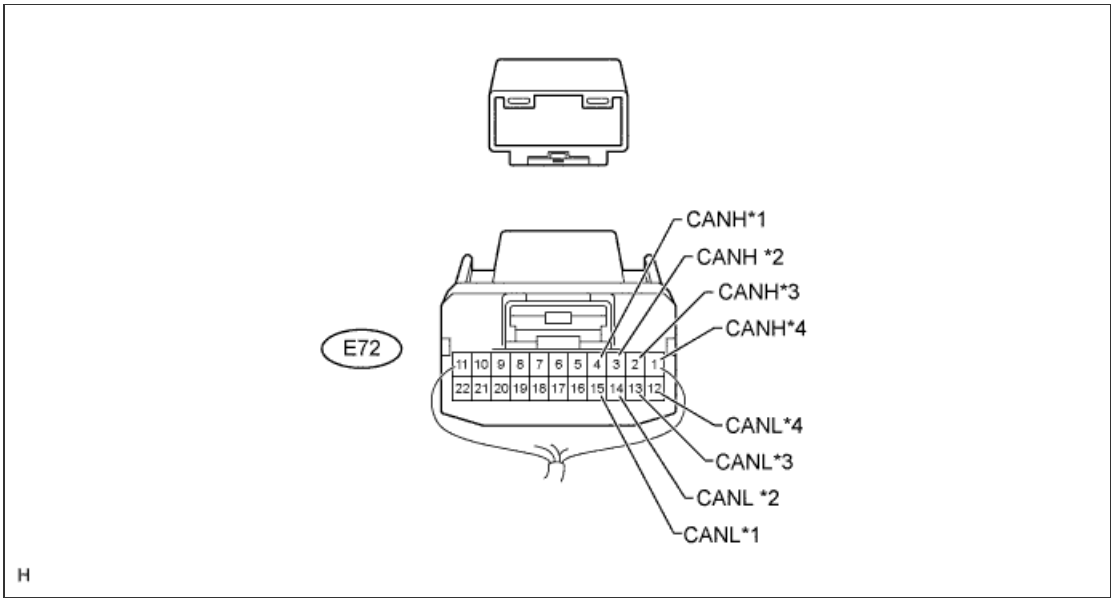
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

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



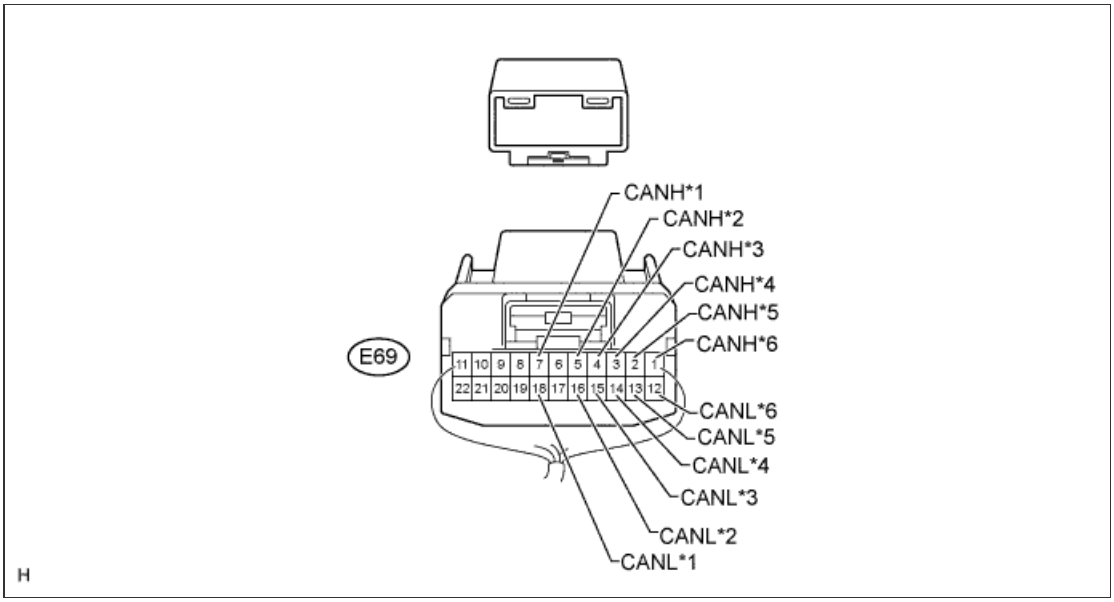
Text in Illustration

*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

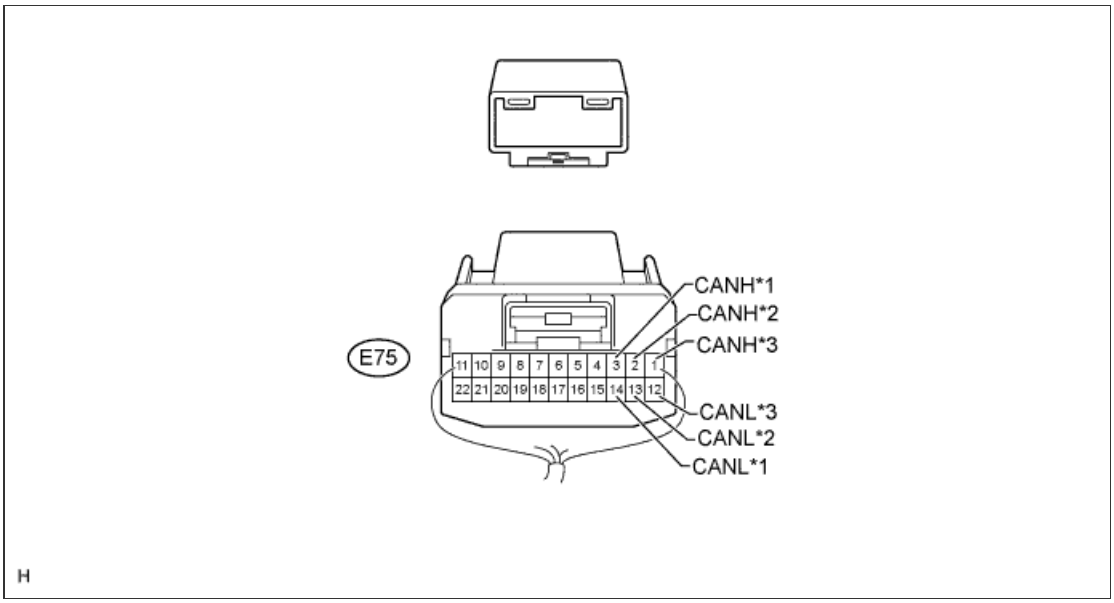


Text in Illustration

*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)	SB	No. 3 junction connector
E69-12 (CANL)	B	
E69-2 (CANH)	P	Multi-media module receiver assembly
E69-13 (CANL)	B	
E69-3 (CANH)	BE	Network gateway ECU (V bus)
E69-14 (CANL)	B	
E69-4 (CANH)	SB	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

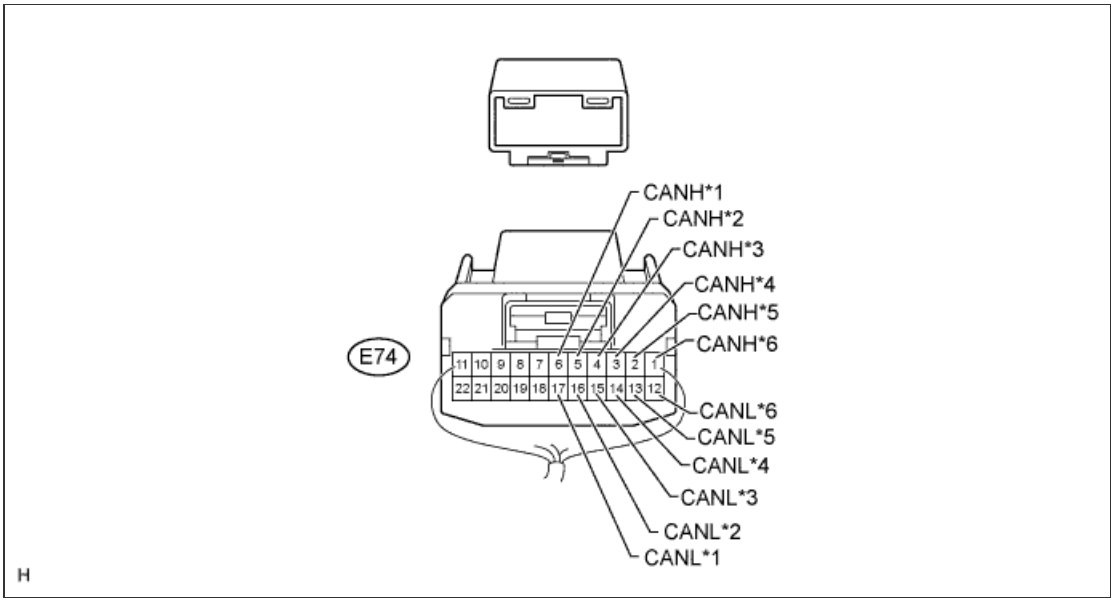


Text in Illustration

*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)	SB	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



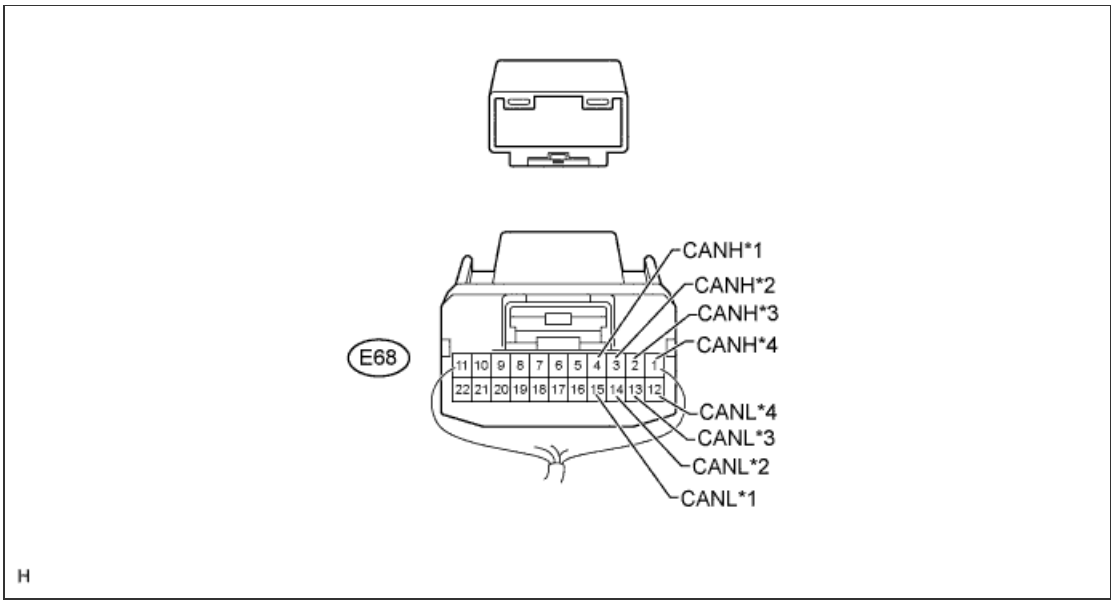
Text in Illustration

*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) E74-12 (CANL)	W 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



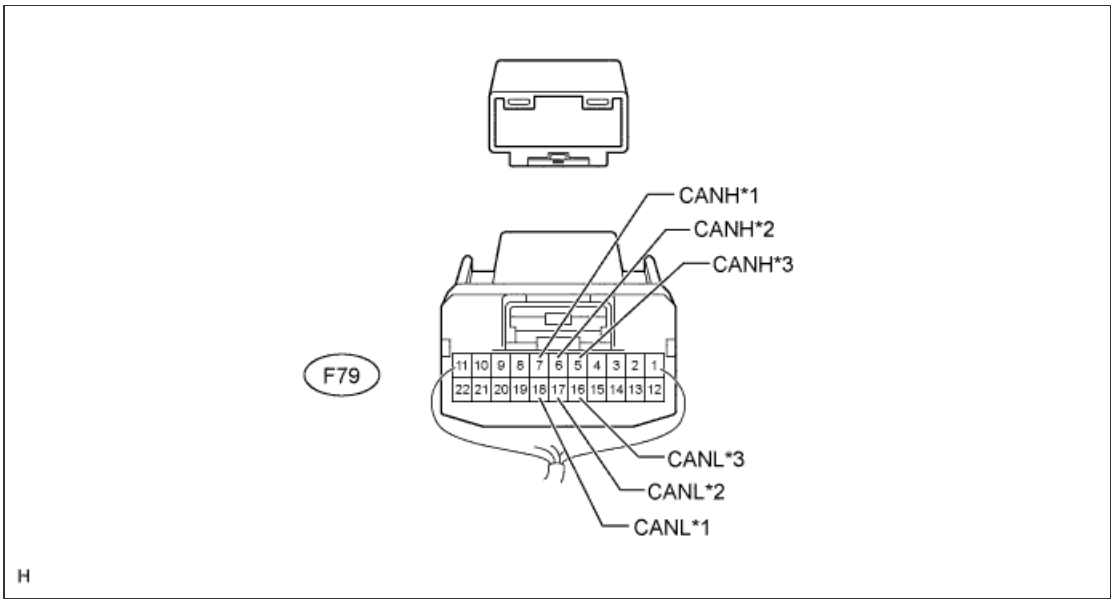
Text in Illustration

*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

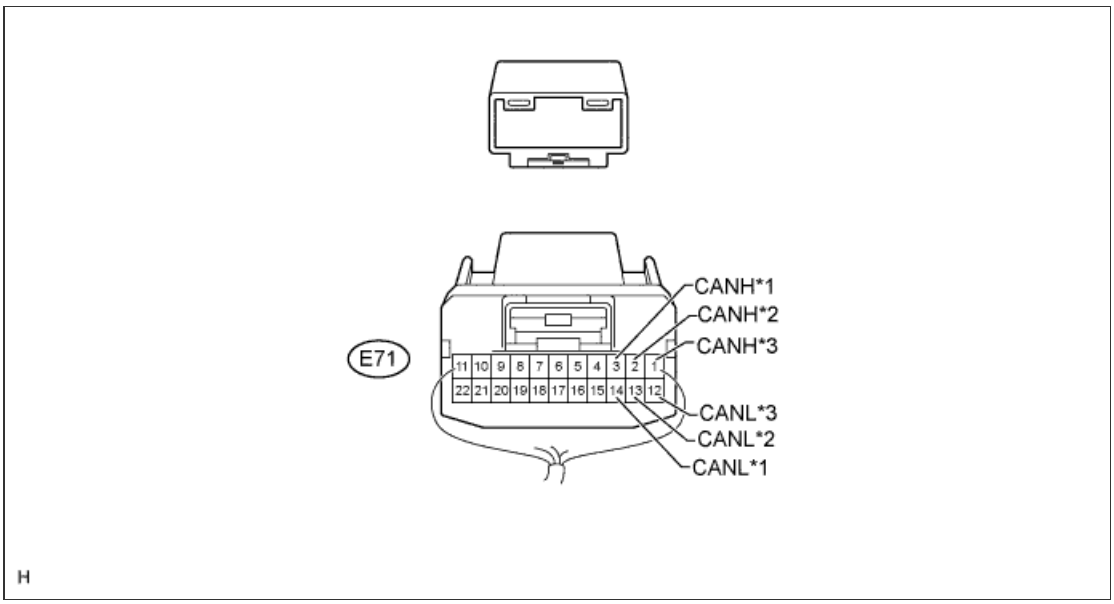


Text in Illustration

*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)	SB	No. 7 junction connector
F79-17 (CANL)	L	
F79-7 (CANH)	SB	No. 5 junction connector
F79-18 (CANL)	L	

g. NO. 7 JUNCTION CONNECTOR



Text in Illustration

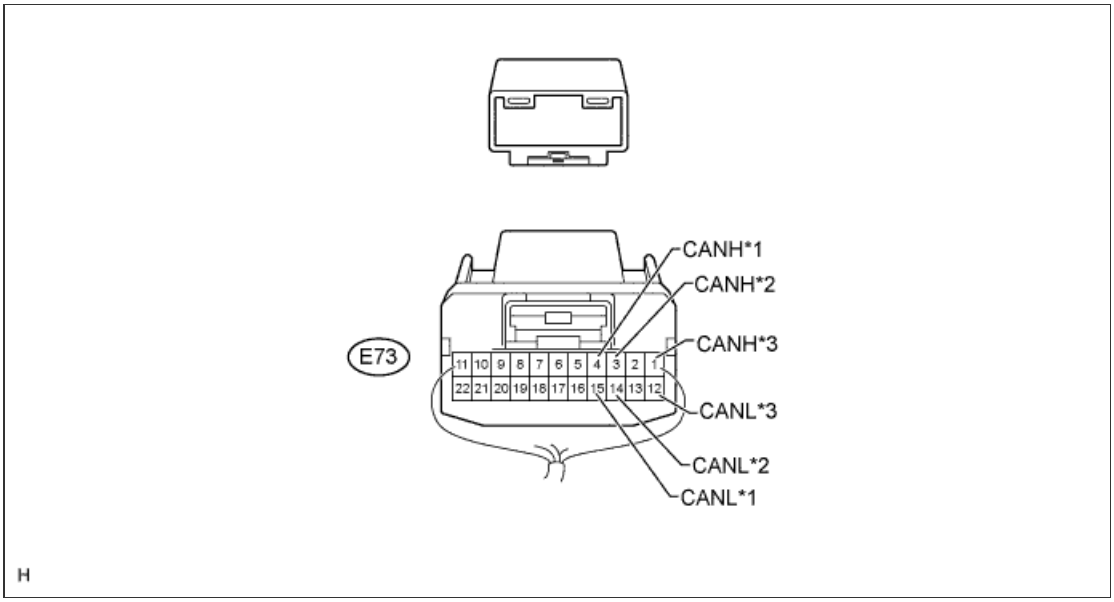
*1	to No. 1 CAN Junction Connector	*2	to Seat Belt Control ECU (w/ Pre-crash Safety System)
*3	to No. 6 Junction Connector	-	-

No. 7 Junction Connector	Wiring Color	Connect to
E71-1 (CANH)	SB	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

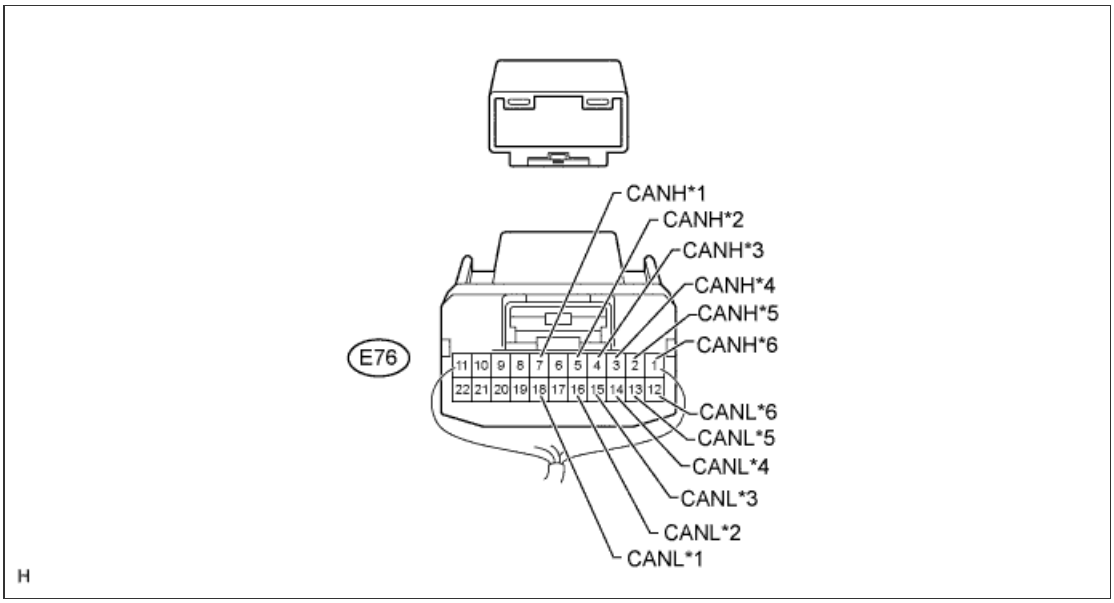


Text in Illustration

*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

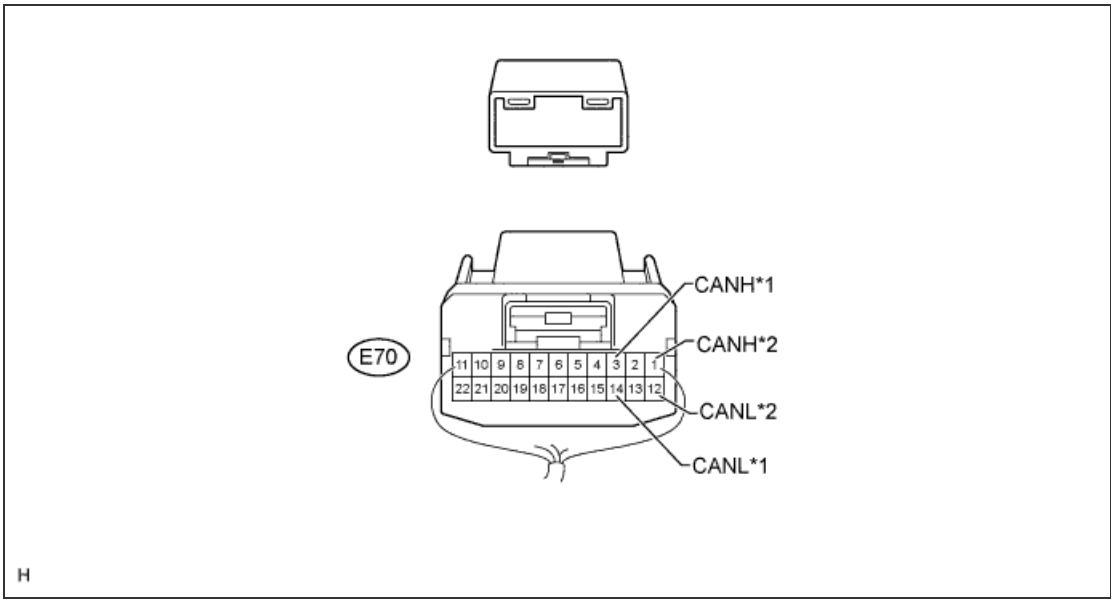


Text in Illustration

*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

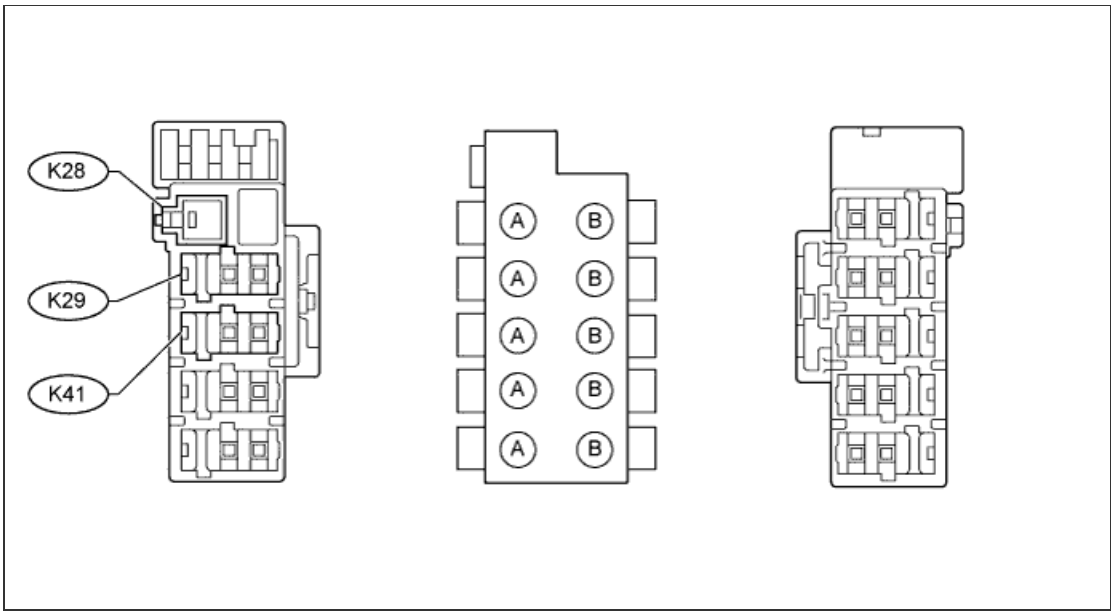


Text in Illustration

*1	to Combination Meter Assembly: MS Bus	*2	to No. 9 Junction Connector

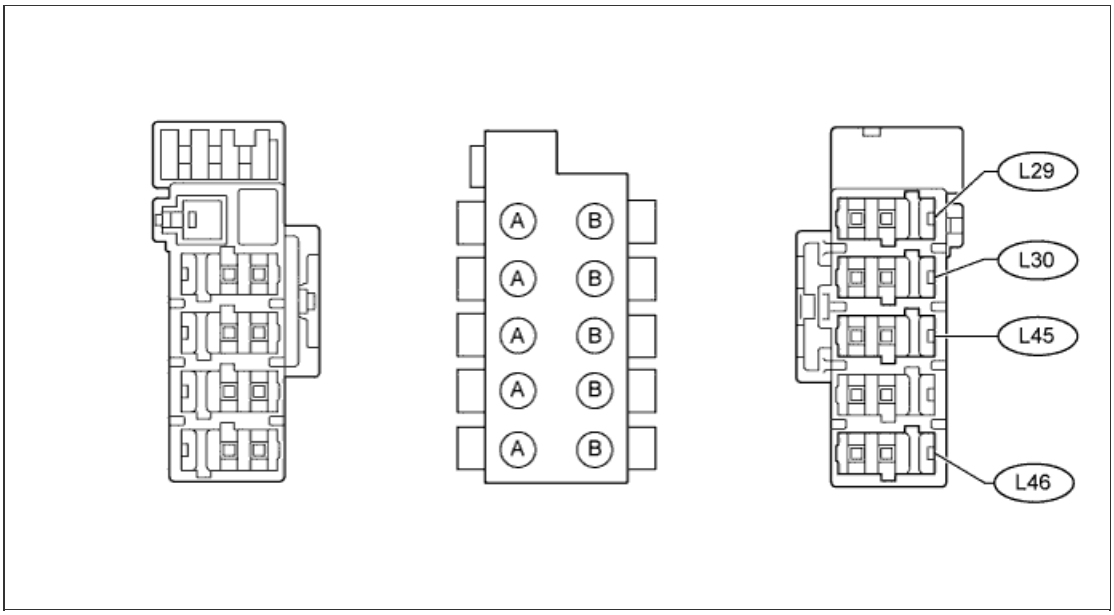
No. 10 Junction Connector	Wiring Color	Connect to
E70-1 (CANH)	W	No. 9 junction connector
E70-12 (CANL)	R	
E70-3 (CANH)	LG	Combination meter assembly (MS bus)
E70-14 (CANL)	R	

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

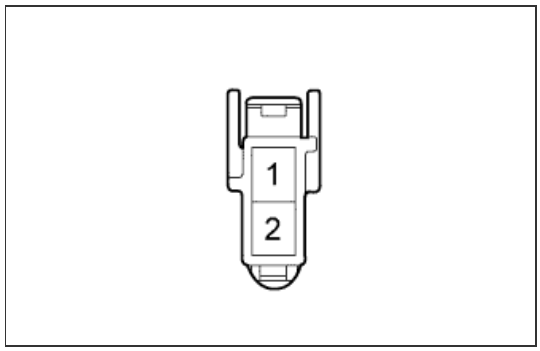
l. NO. 2 CAN JUNCTION CONNECTOR



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

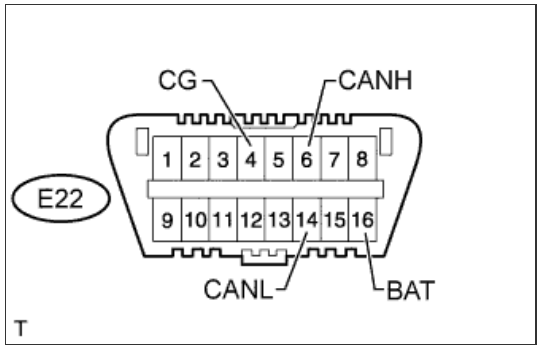


CHECK DLC3

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).**

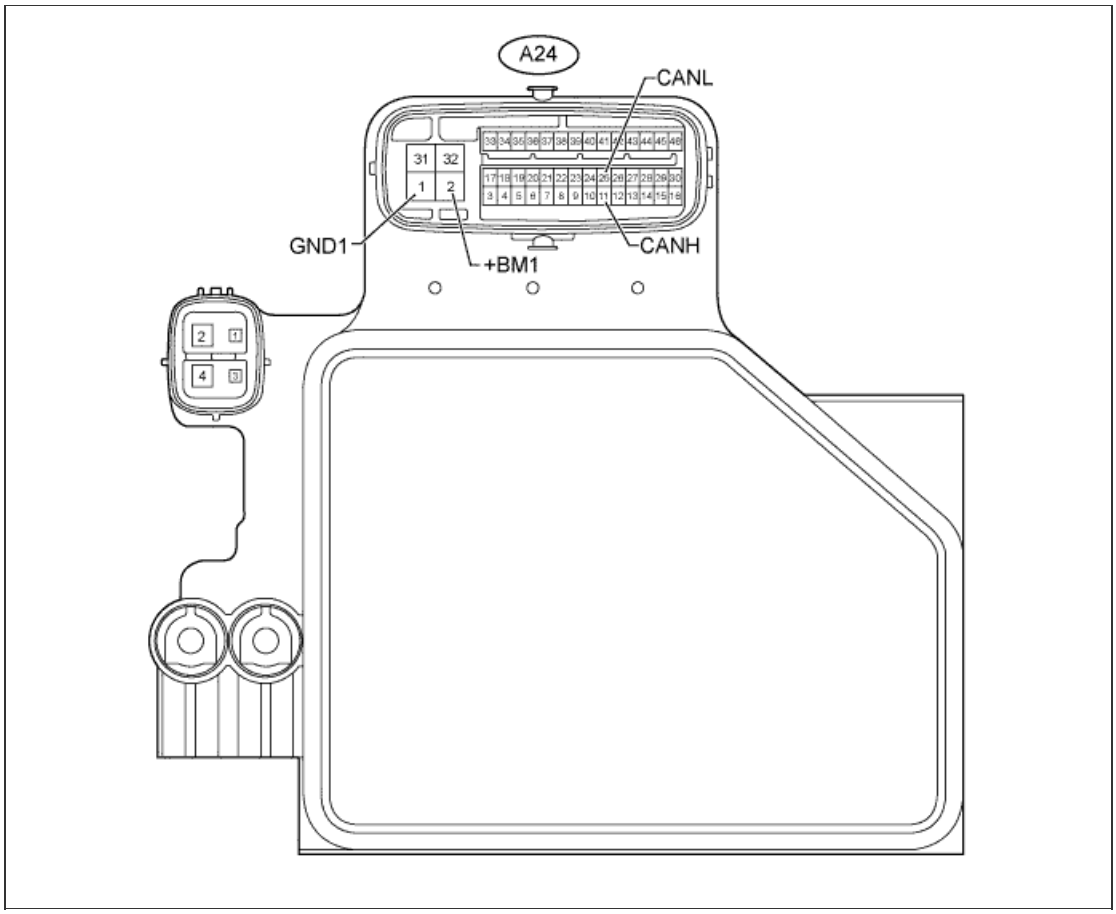


b. Measure the resistance according to the value(s) in the table below.

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)

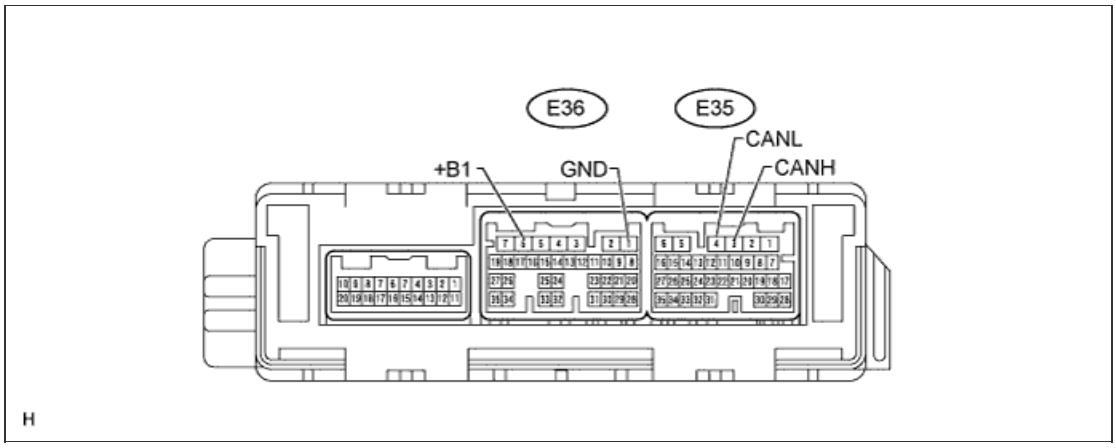


a. Disconnect the A24 master cylinder solenoid (skid control ECU) connector.

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

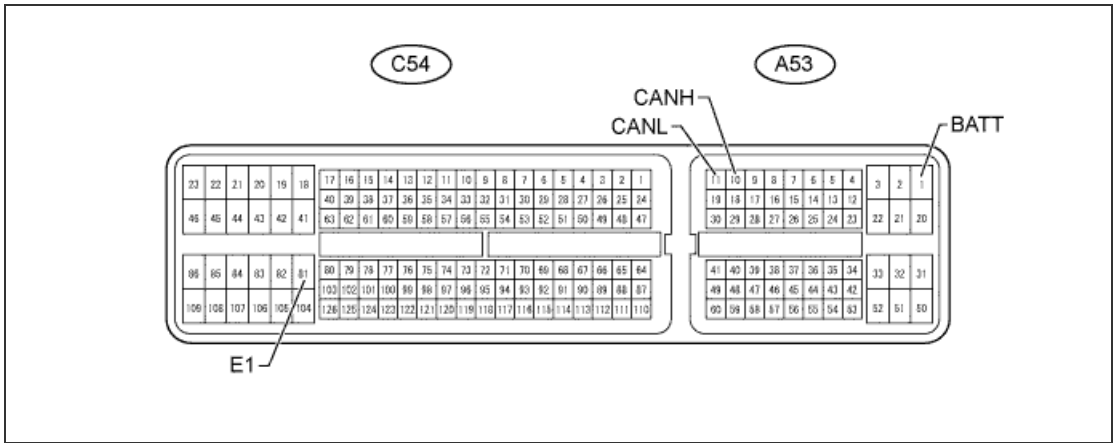


a. Disconnect the E35 and E36 air conditioning amplifier assembly connectors.

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

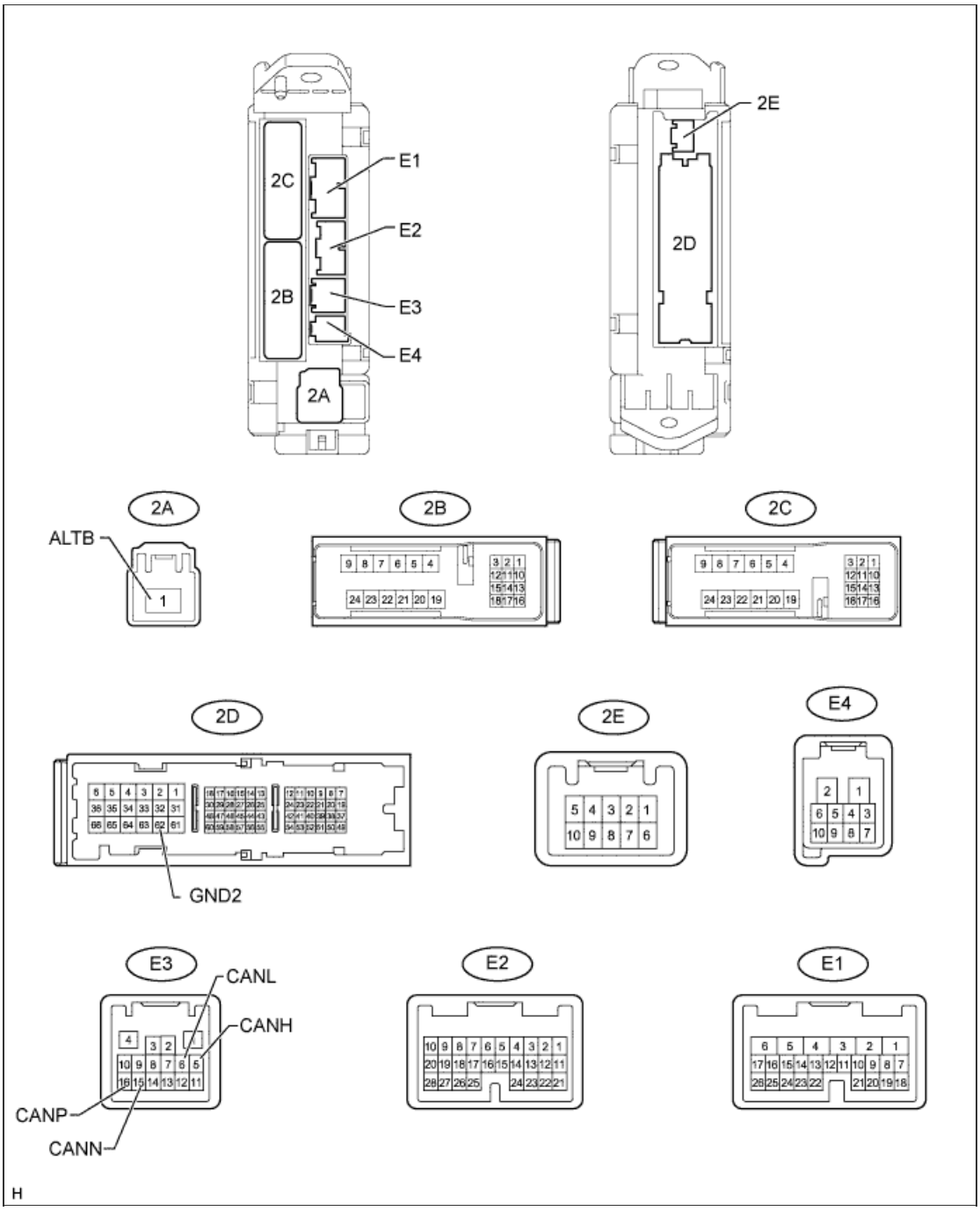


a. Disconnect the A53 and C54 ECM connectors.

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.

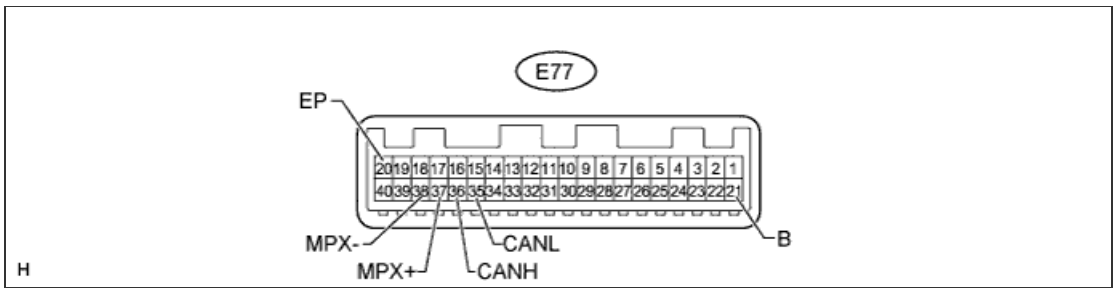
V Bus

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.

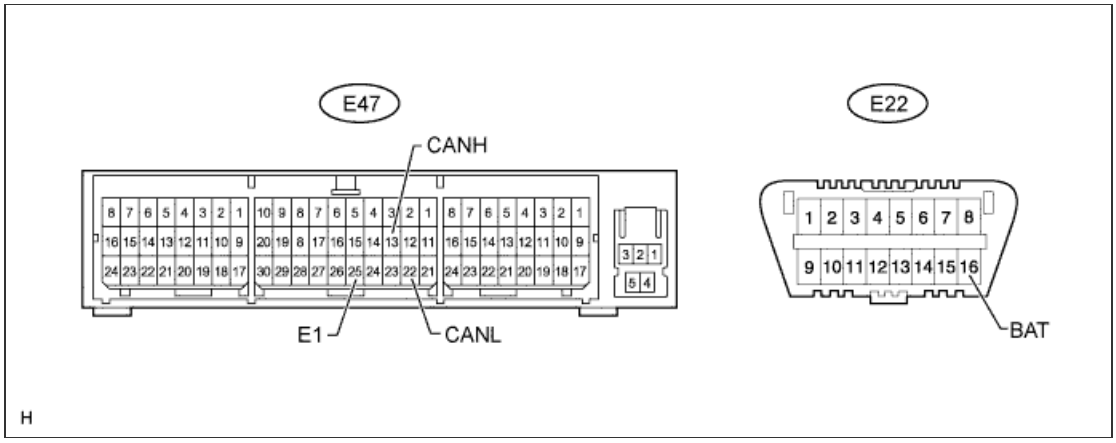
V Bus

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

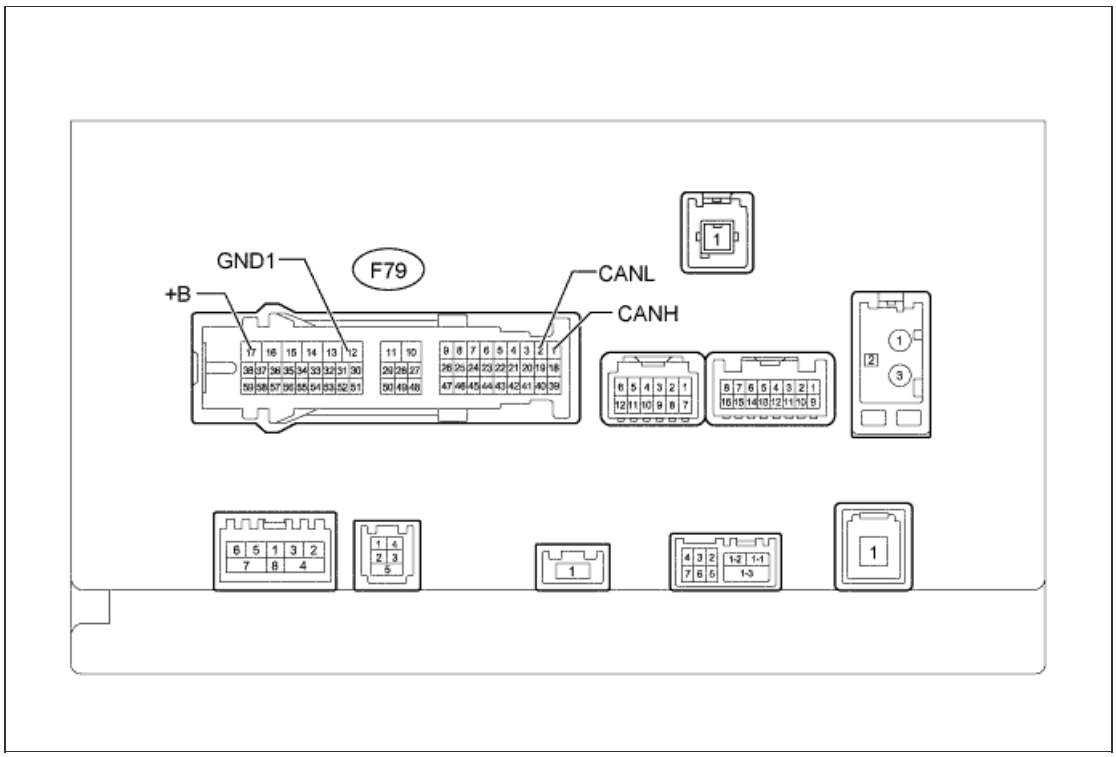


a. Disconnect the E47 center airbag sensor assembly connector (Click here).

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

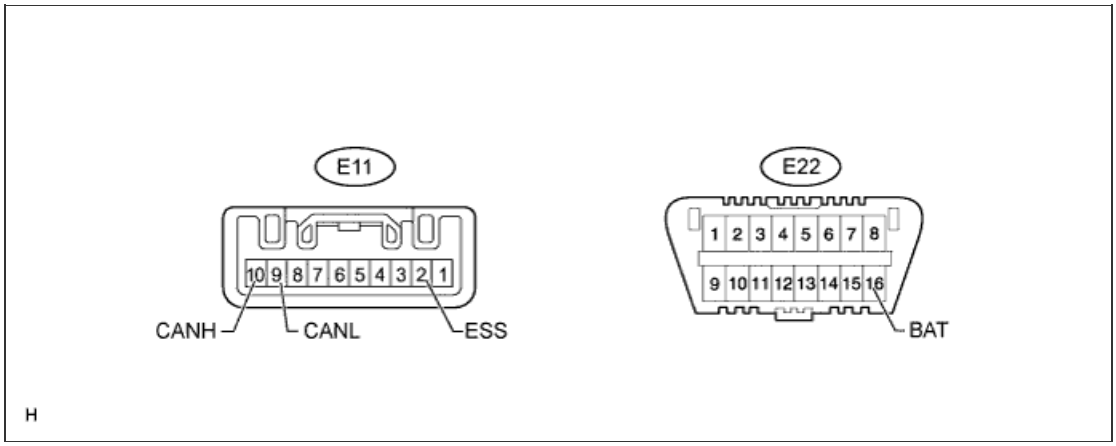


a. Disconnect the F76 multi-media module receiver assembly connector.

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



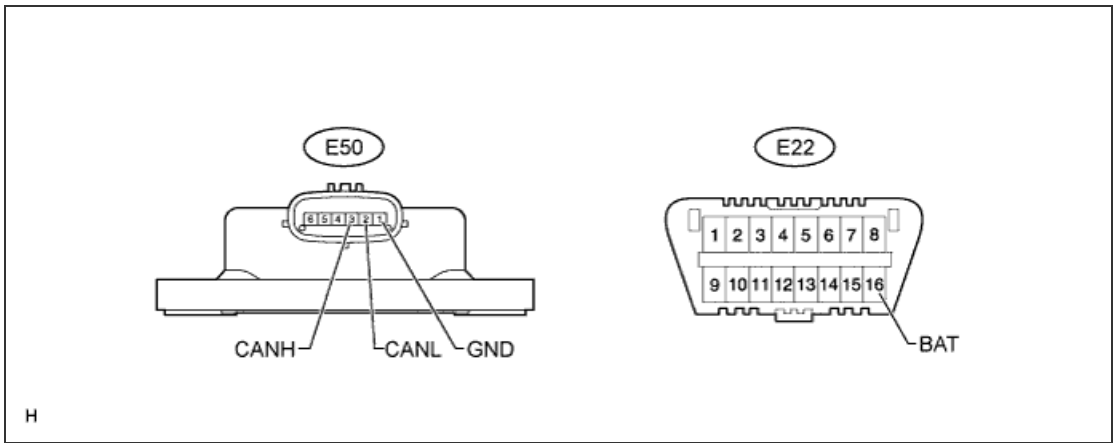
a. Disconnect the E11 st5eering angle sensor connector.

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

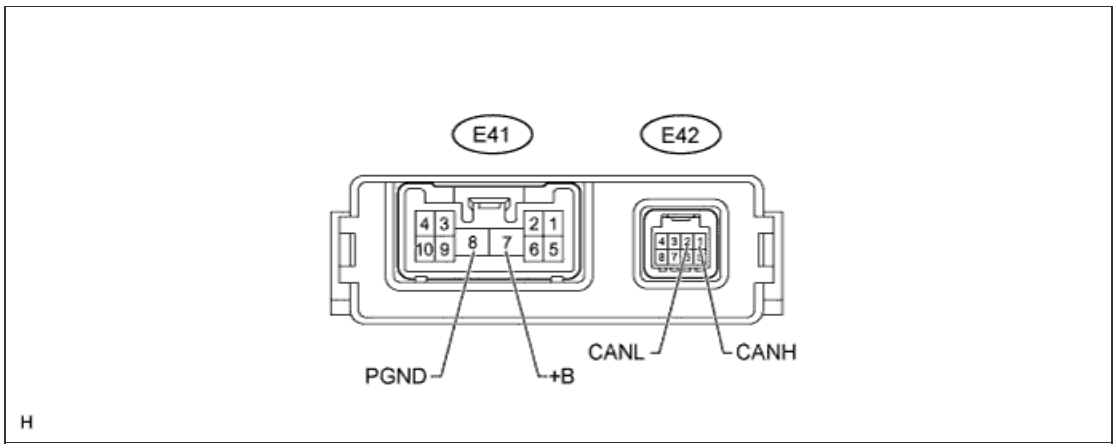


a. Disconnect the E50 yaw rate sensor assembly connector.

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)

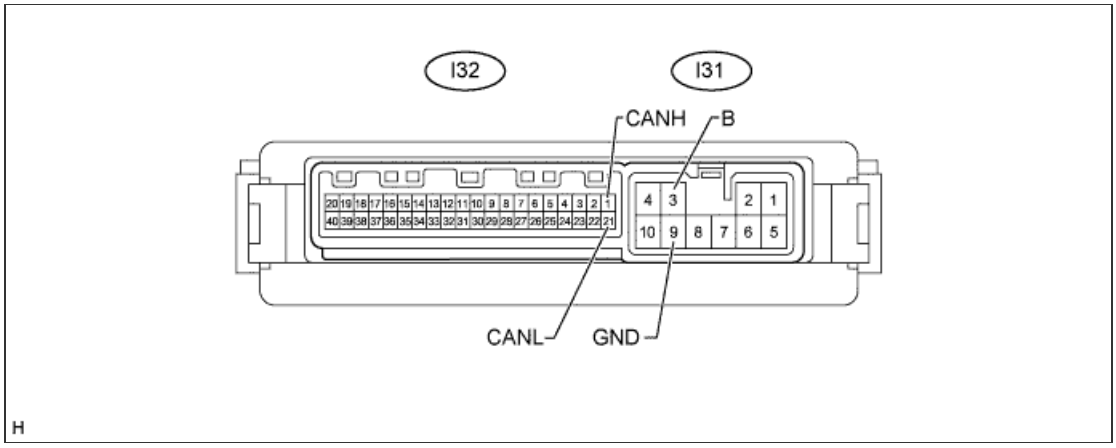


a. Disconnect the E41 and E42 seat belt control ECU connectors.

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

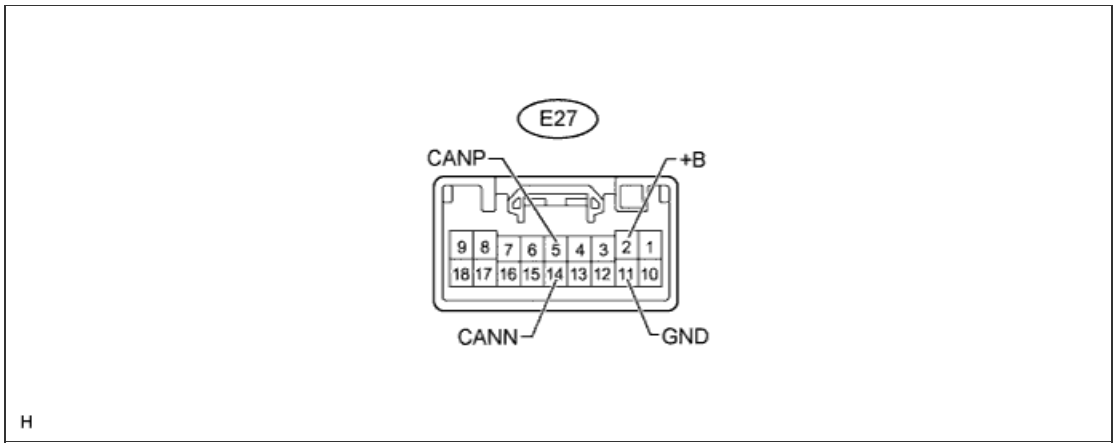


a. Disconnect the I31 and I32 outer mirror control ECU assembly connectors.

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

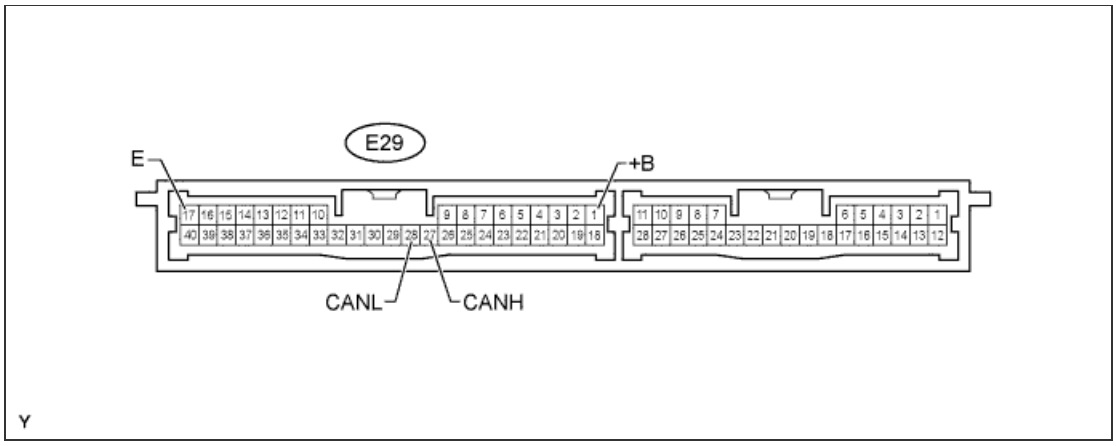


a. Disconnect the E27 multiplex tilt and telescopic ECU connector.

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)

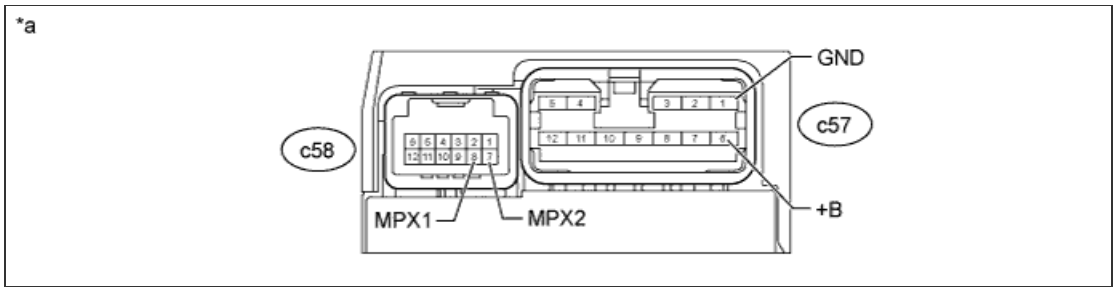


a. Disconnect the E29 certification ECU (smart key ECU assembly) connector.

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

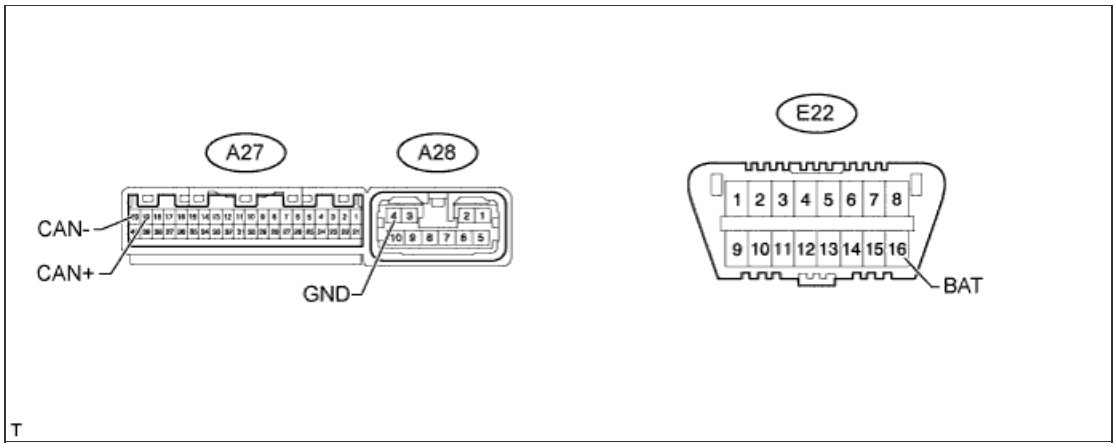


a. Disconnect the c57 and c58 position control ECU and switch connectors.

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

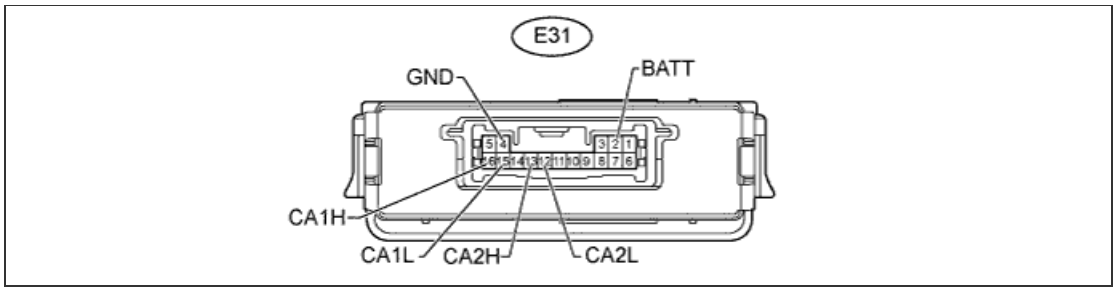


a. Disconnect the A27 and A28 4WD control ECU connectors.

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.

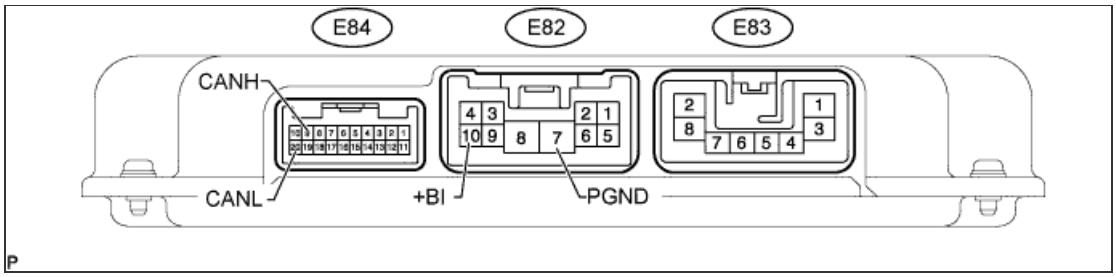
V Bus

Terminal No. (Symbol)	Wiring Color	Switch Condition	Specified Condition
E31-16 (CA1H) - E31-15 (CA1L)	BE - B	Engine switch off	54 to 69 Ω
E31-16 (CA1H) - E31-4 (GND)	BE - 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)	BE - 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

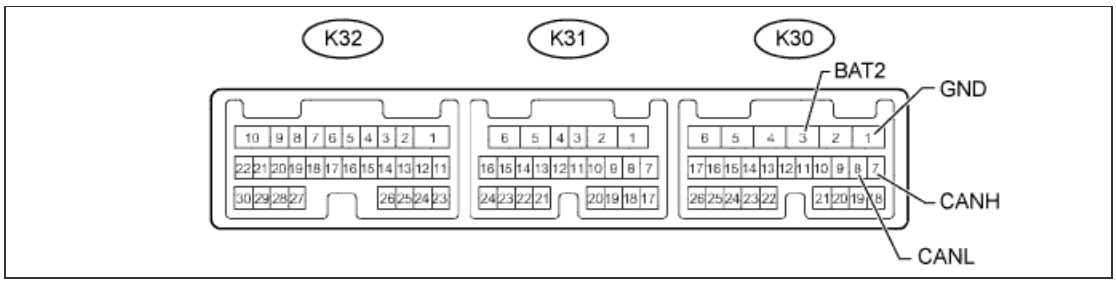


a. Disconnect the E82 and E84 steering control ECU connectors.

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

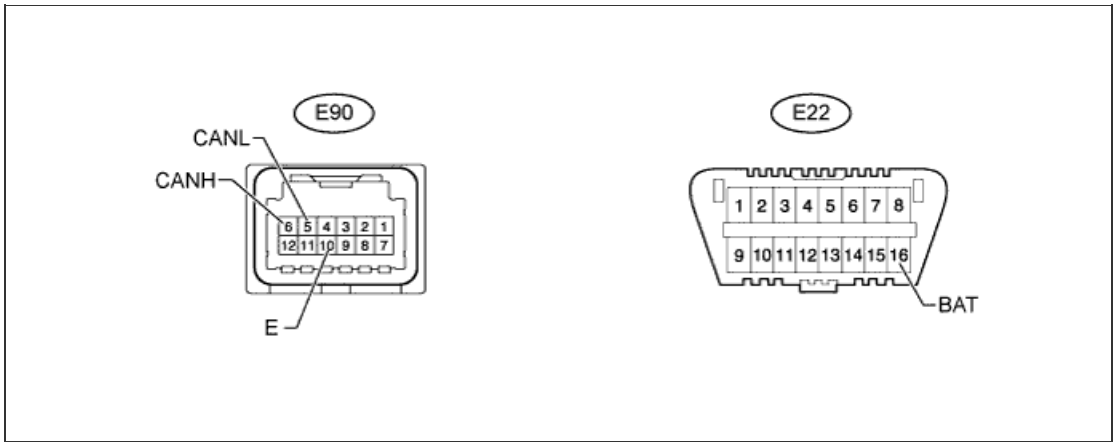


a. Disconnect the K30 suspension control ECU connector.

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

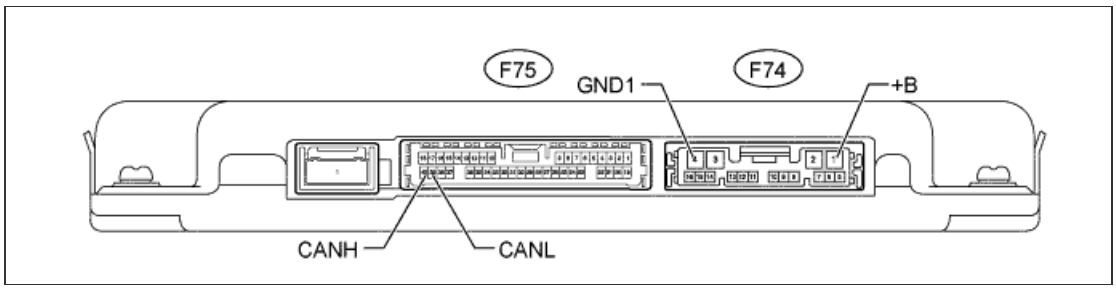


a. Disconnect the E90 windshield wiper ECU connector.

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

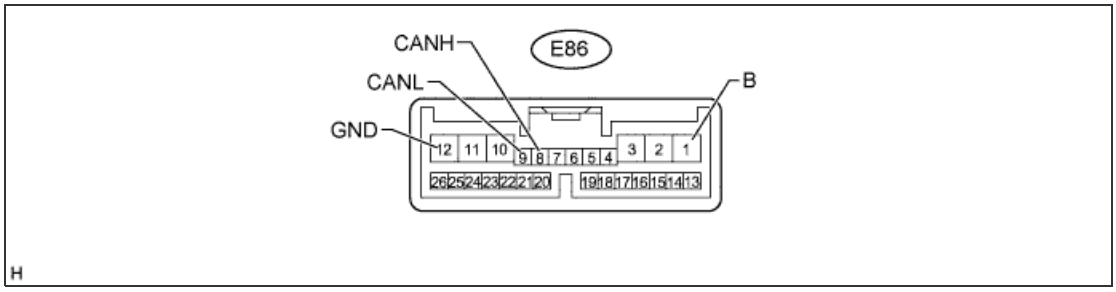


a. Disconnect the F74 and F75 parking assist ECU connector.

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)

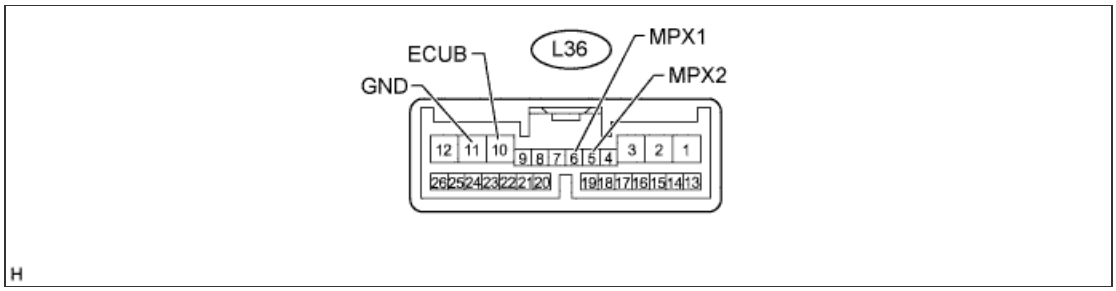


a. Disconnect the E86 distance control ECU assembly connector.

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)

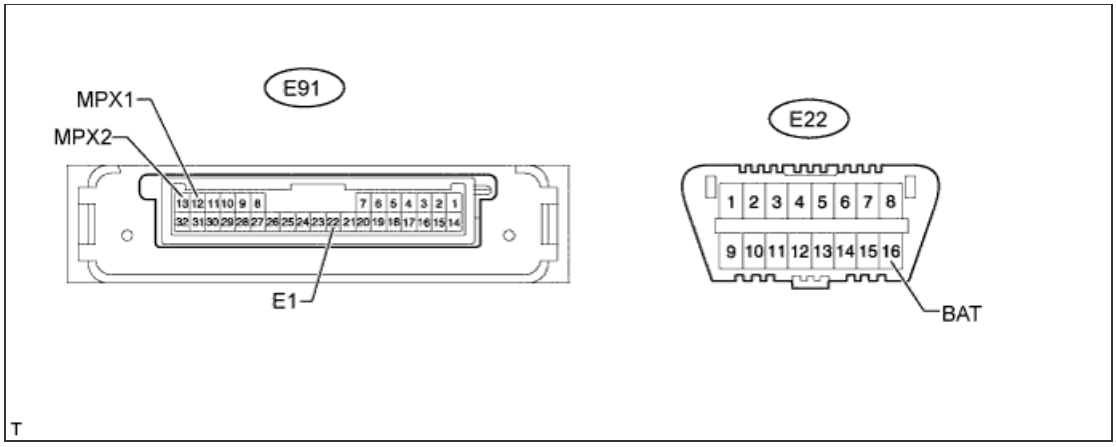


a. Disconnect the L36 power back door unit assembly (power back door ECU) connector.

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)

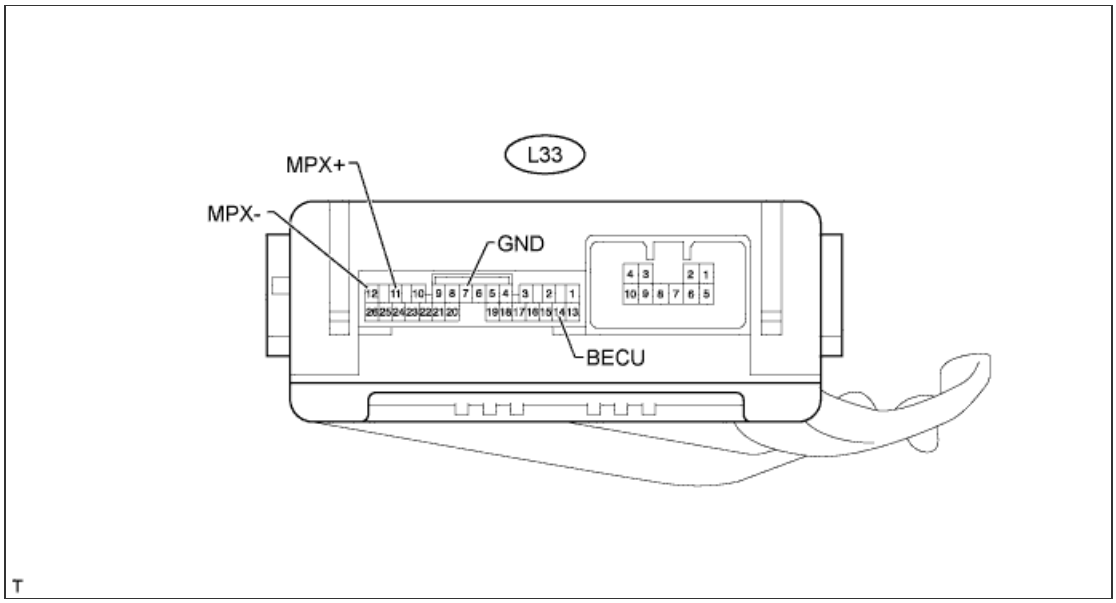


a. Disconnect the E91 headlight swivel ECU assembly (AFS ECU) connector.

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

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:

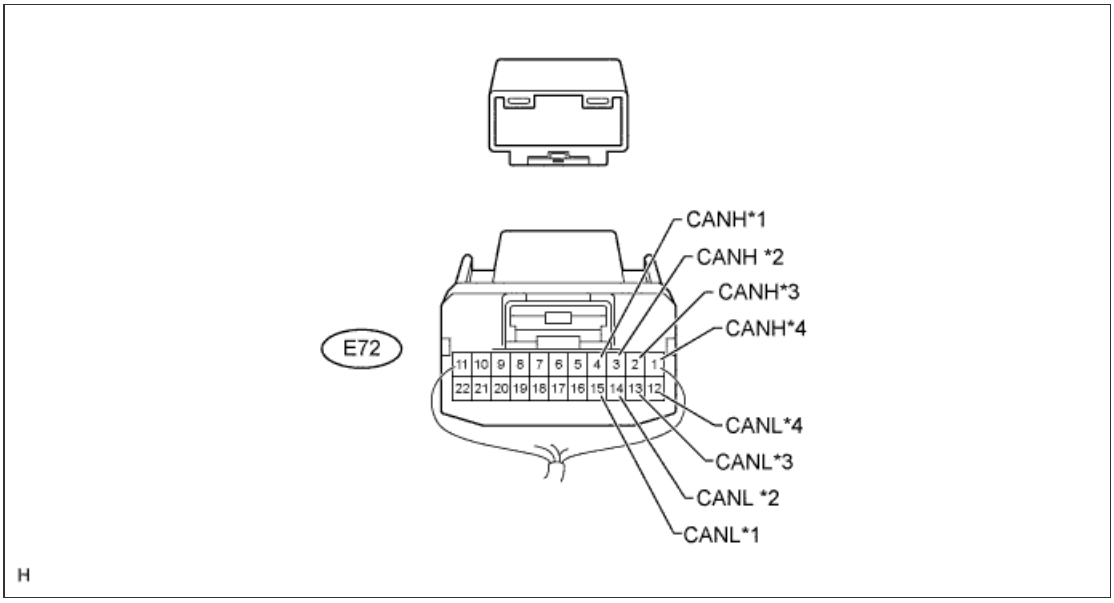
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

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



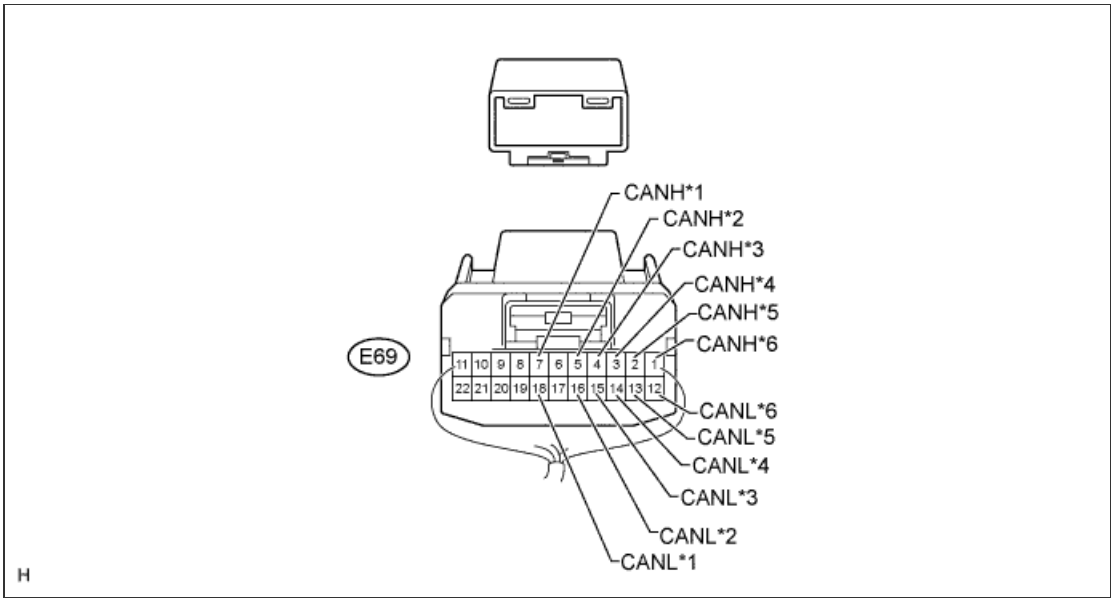
Text in Illustration

*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

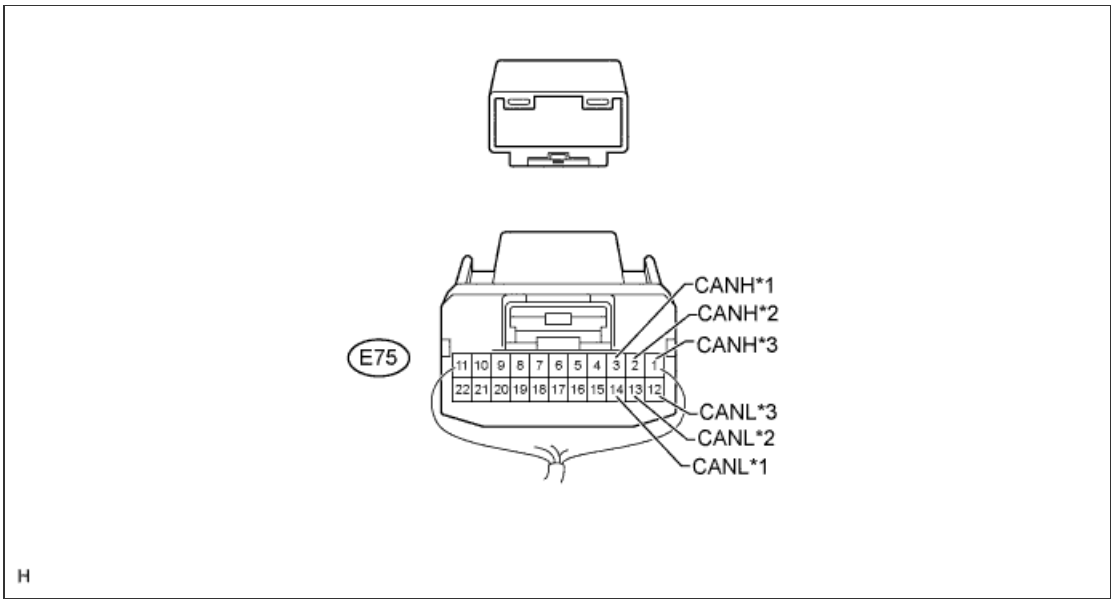


Text in Illustration

*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)	SB	No. 3 junction connector
E69-12 (CANL)	B	
E69-2 (CANH)	P	Multi-media module receiver assembly
E69-13 (CANL)	B	
E69-3 (CANH)	BE	Network gateway ECU (V bus)
E69-14 (CANL)	B	
E69-4 (CANH)	SB	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

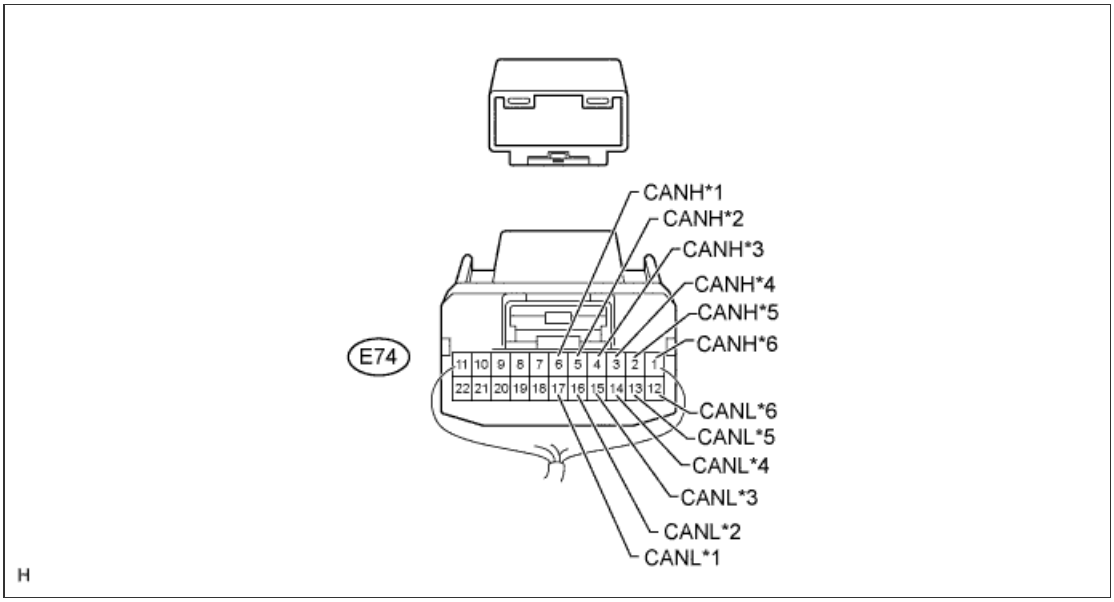


Text in Illustration

*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)	SB	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



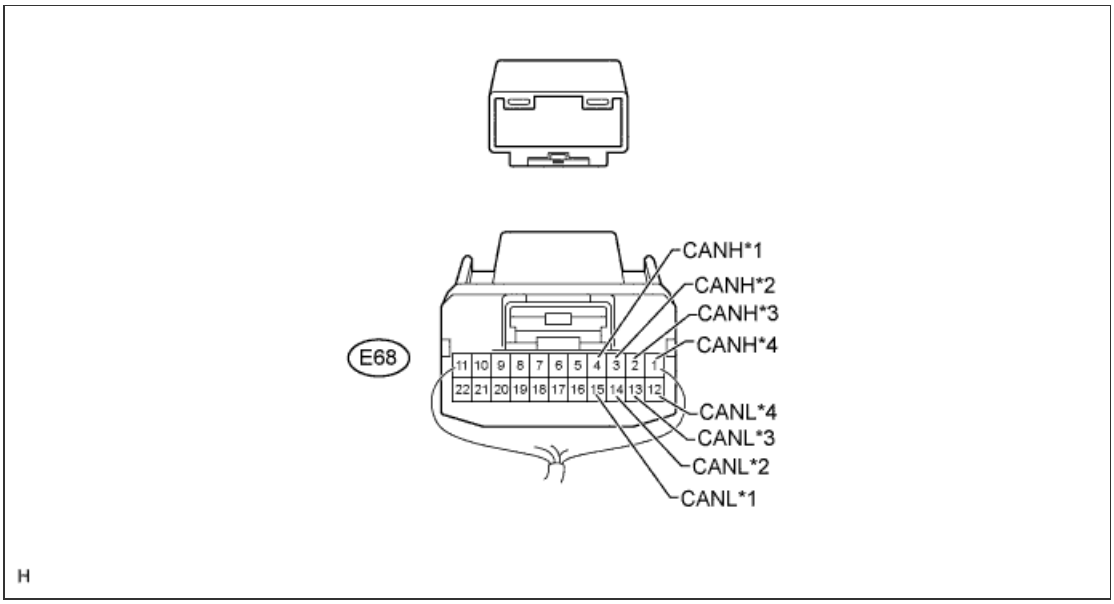
Text in Illustration

*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) E74-12 (CANL)	W 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



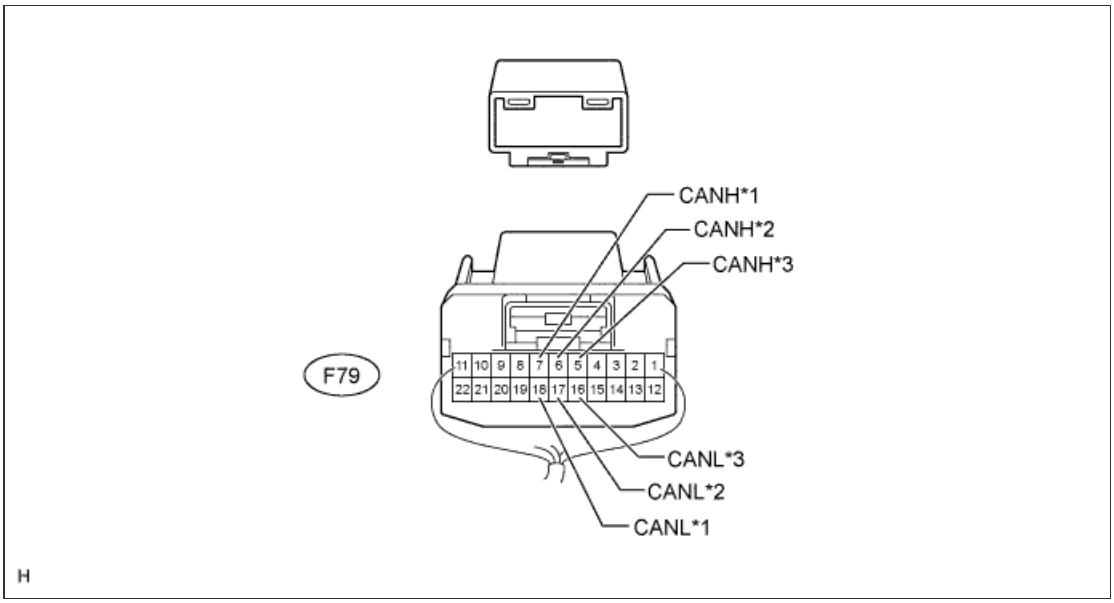
Text in Illustration

*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

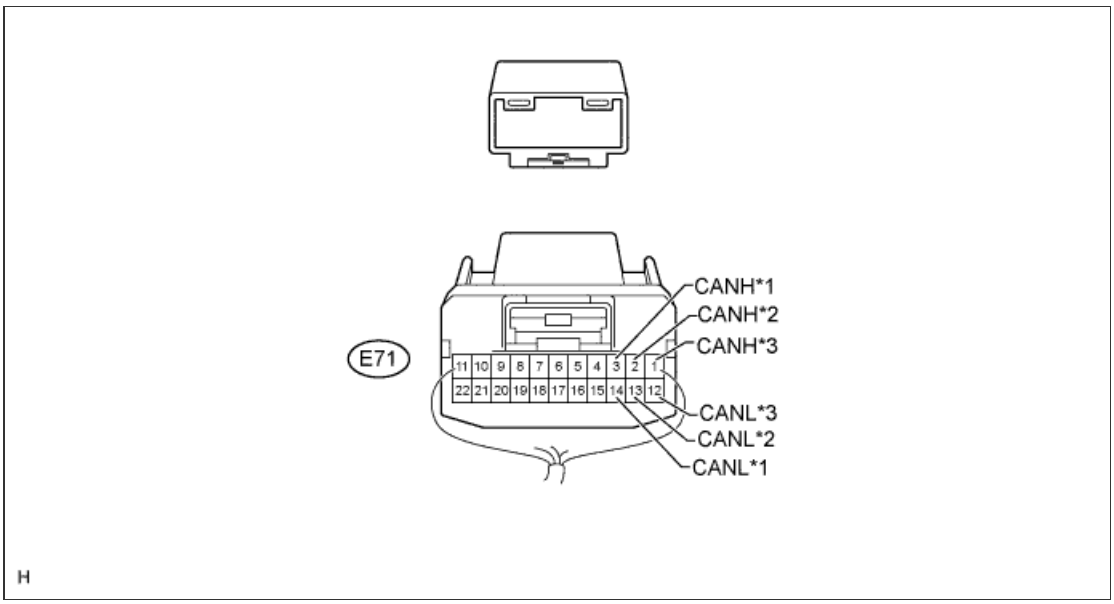


Text in Illustration

*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)	SB	No. 7 junction connector
F79-17 (CANL)	L	
F79-7 (CANH)	SB	No. 5 junction connector
F79-18 (CANL)	L	

g. NO. 7 JUNCTION CONNECTOR



Text in Illustration

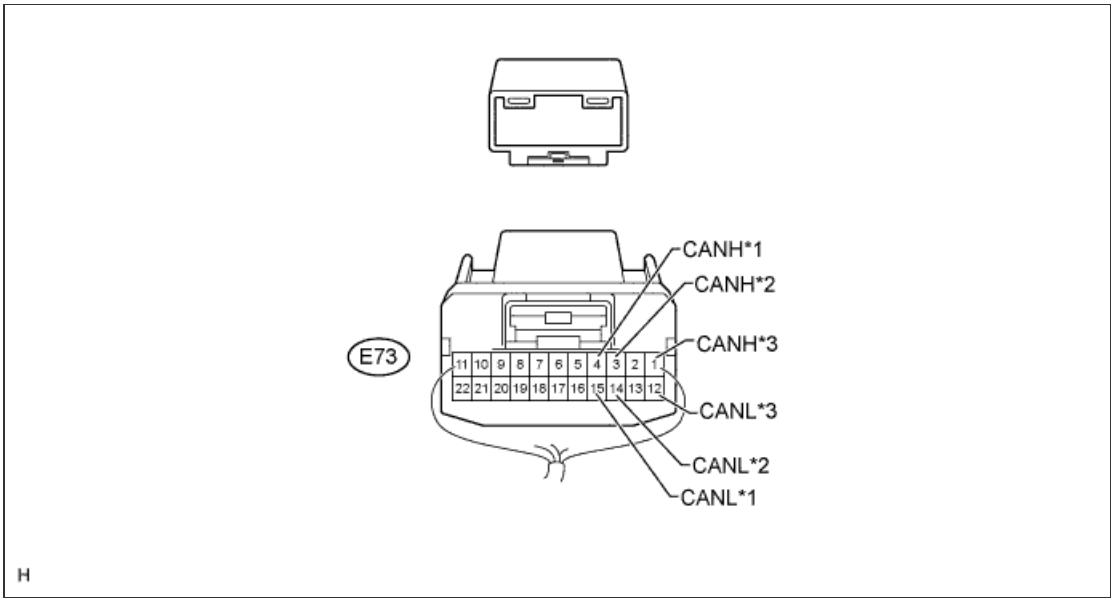
*1	to No. 1 CAN Junction Connector	*2	to Seat Belt Control ECU (w/ Pre-crash Safety System)
*3	to No. 6 Junction Connector	-	-

No. 7 Junction Connector	Wiring Color	Connect to
E71-1 (CANH)	SB	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

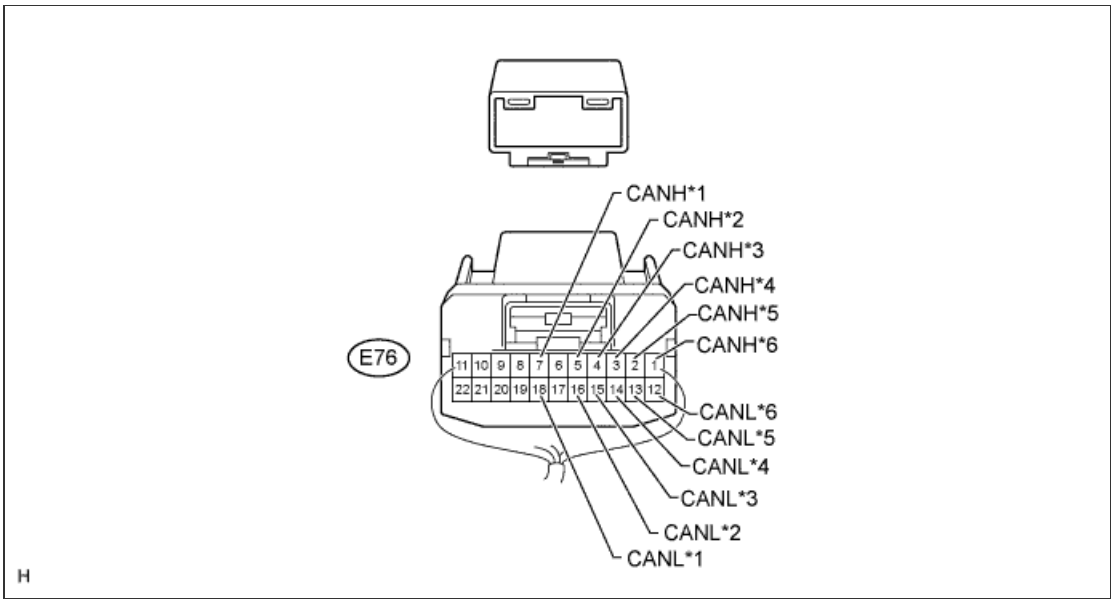


Text in Illustration

*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

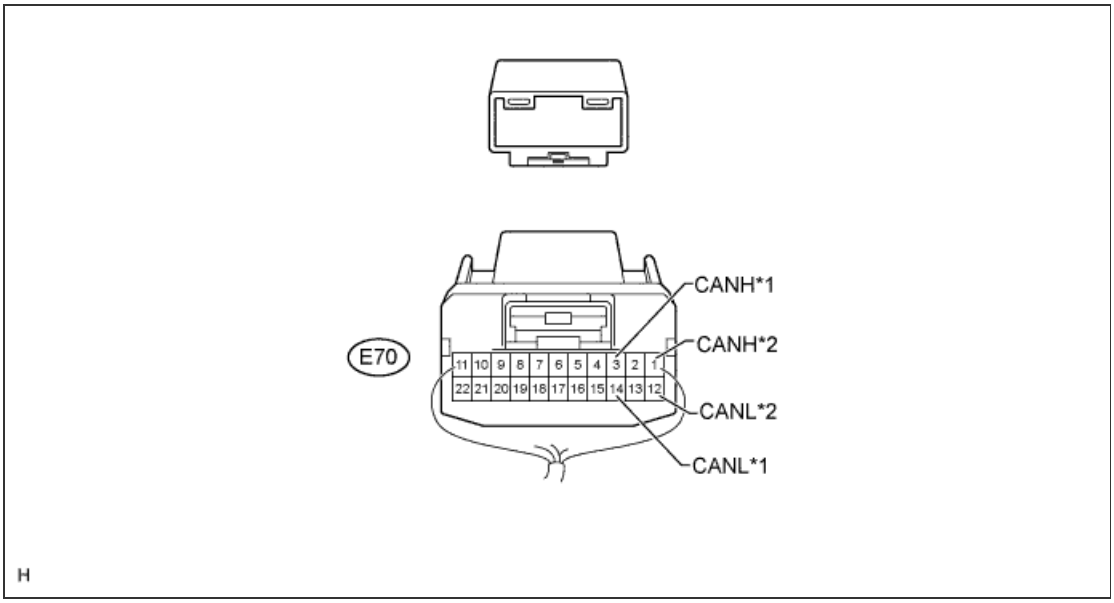


Text in Illustration

*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

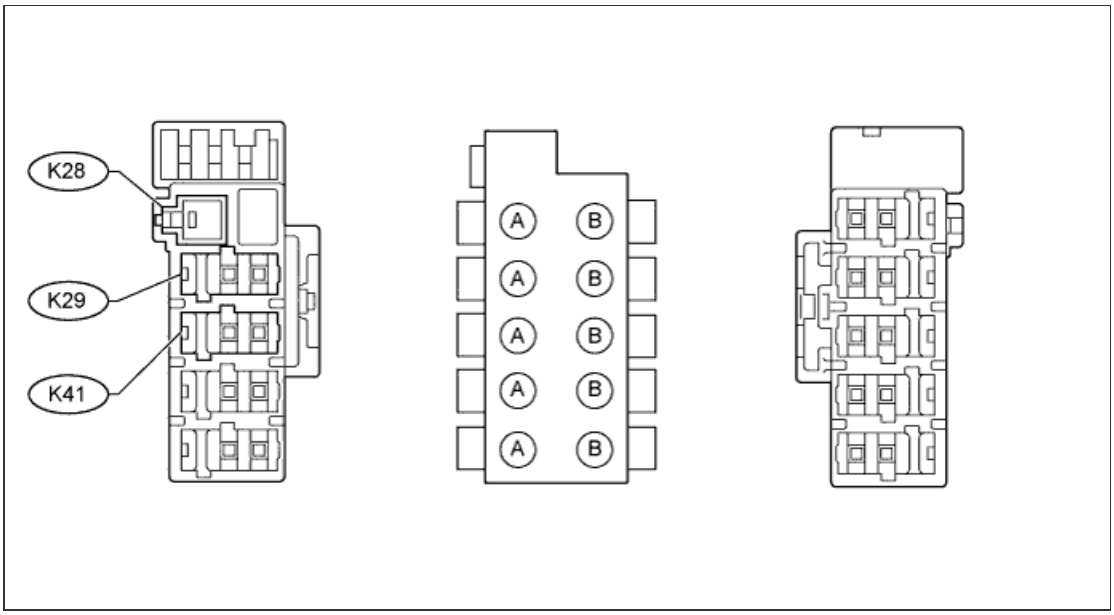


Text in Illustration

*1	to Combination Meter Assembly: MS Bus	*2	to No. 9 Junction Connector

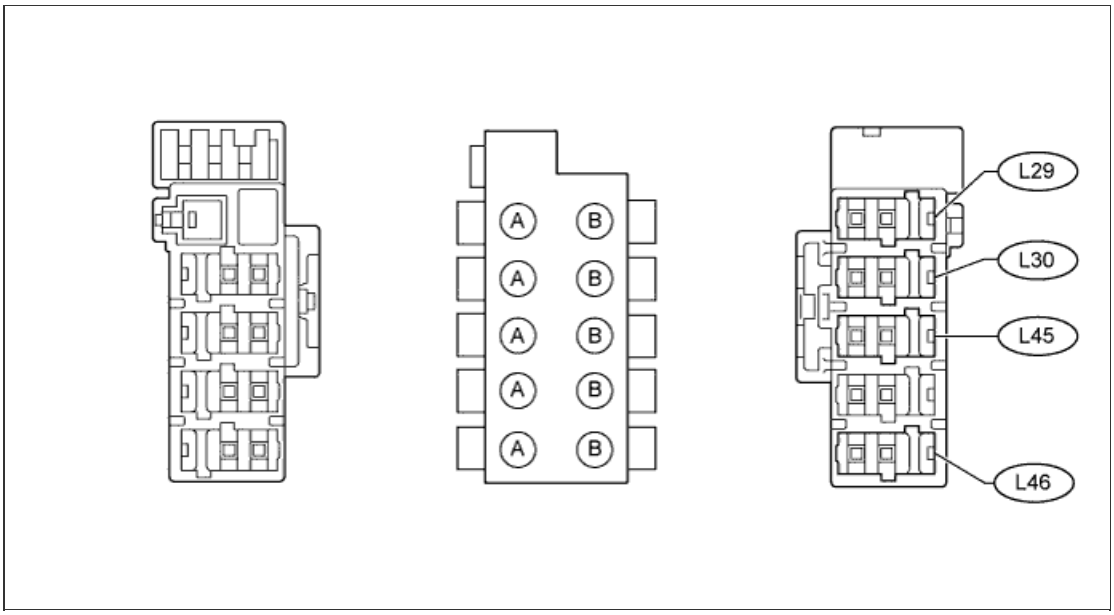
No. 10 Junction Connector	Wiring Color	Connect to
E70-1 (CANH)	W	No. 9 junction connector
E70-12 (CANL)	R	
E70-3 (CANH)	LG	Combination meter assembly (MS bus)
E70-14 (CANL)	R	

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

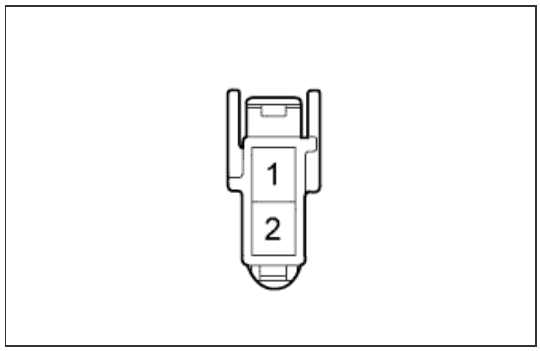
l. NO. 2 CAN JUNCTION CONNECTOR



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

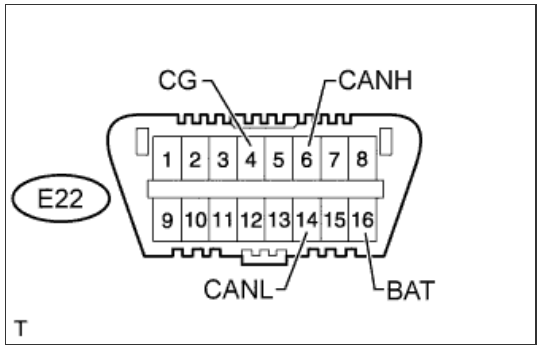


CHECK DLC3

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).**

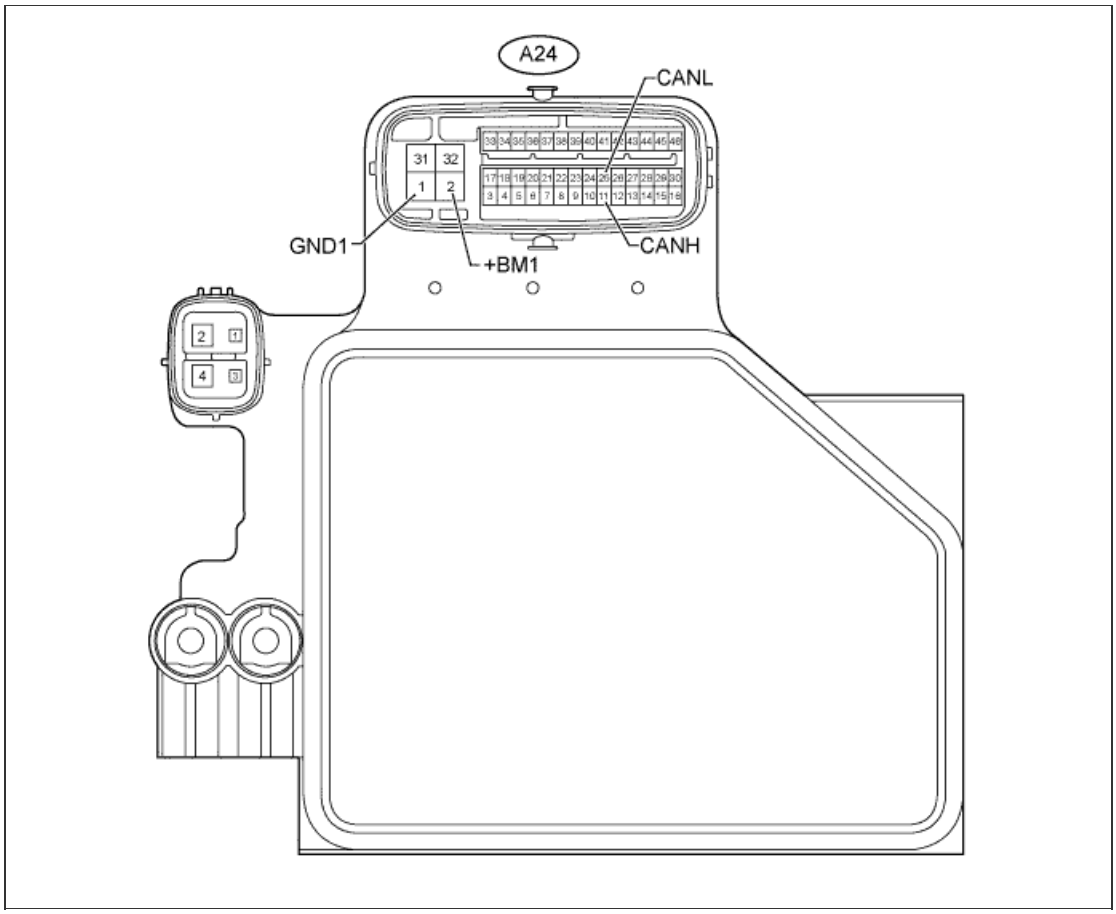


b. Measure the resistance according to the value(s) in the table below.

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)

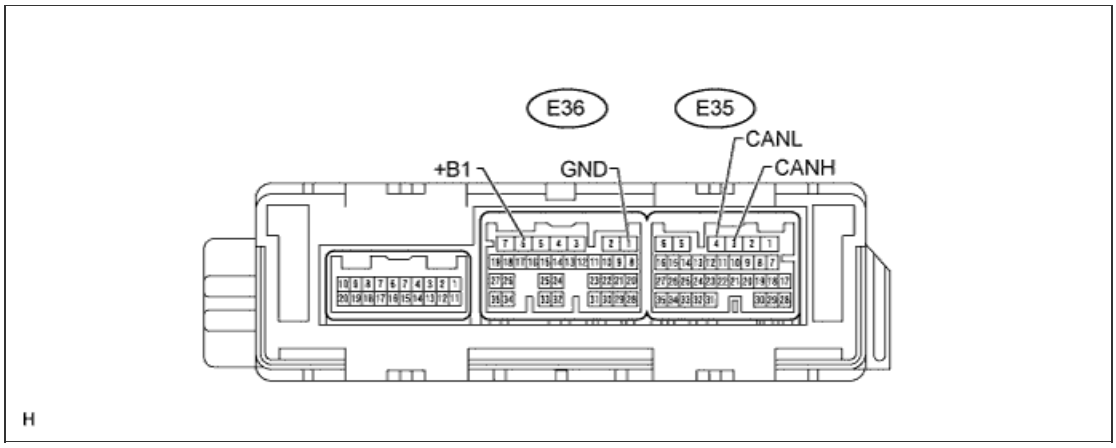


a. Disconnect the A24 master cylinder solenoid (skid control ECU) connector.

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

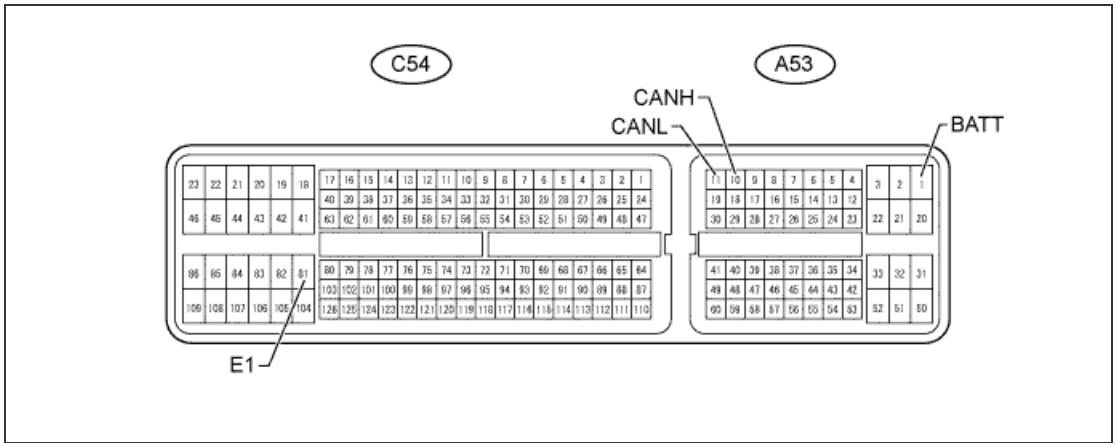


a. Disconnect the E35 and E36 air conditioning amplifier assembly connectors.

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

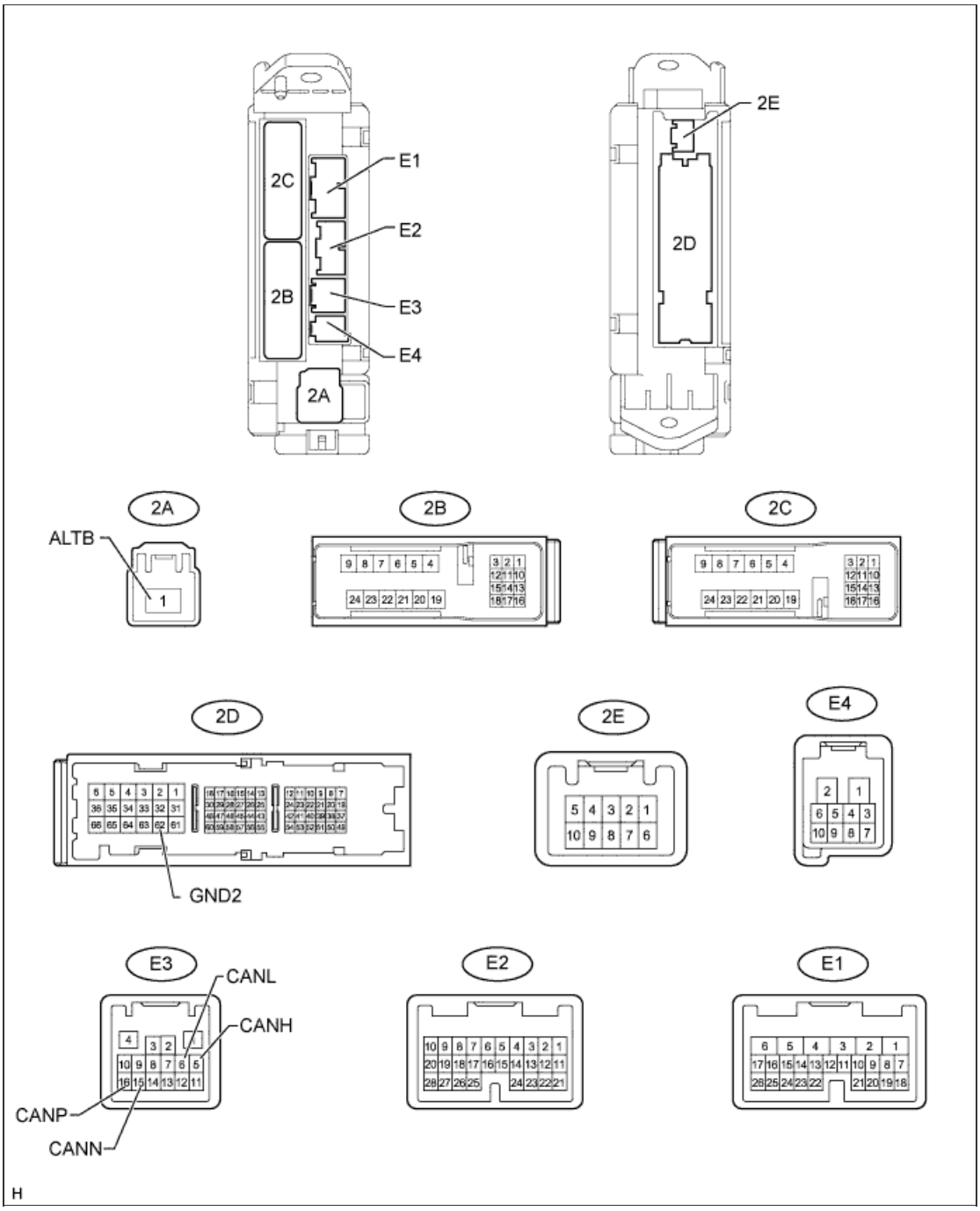


a. Disconnect the A53 and C54 ECM connectors.

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.

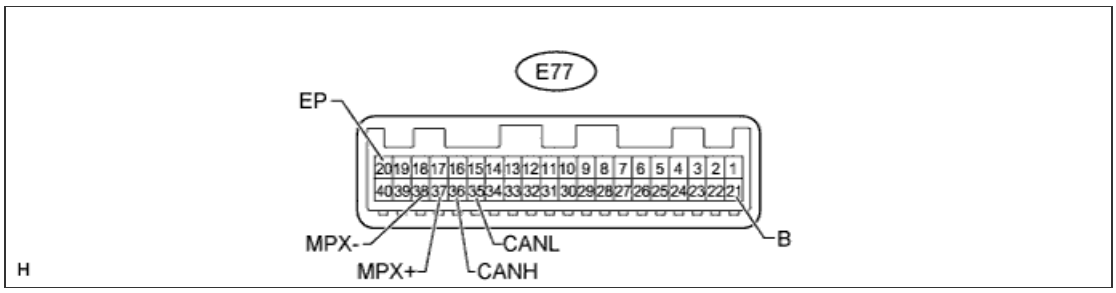
V Bus

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.

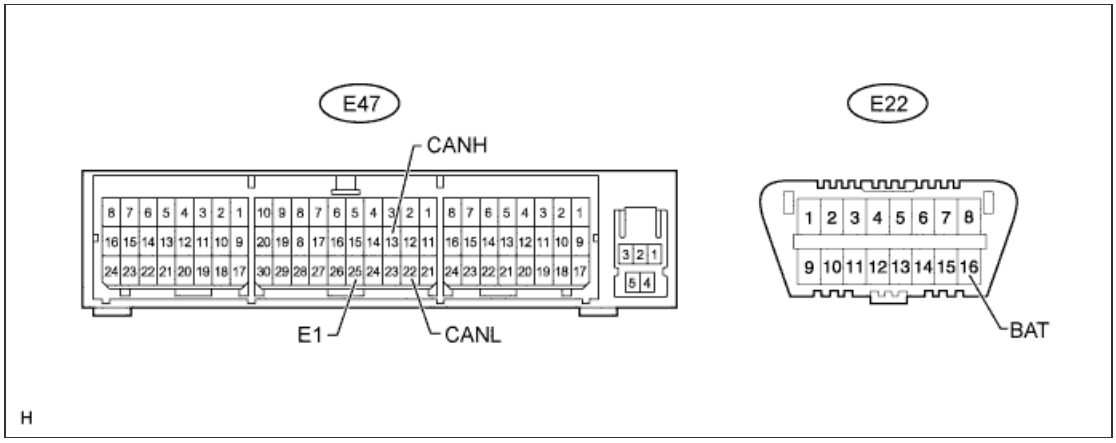
V Bus

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

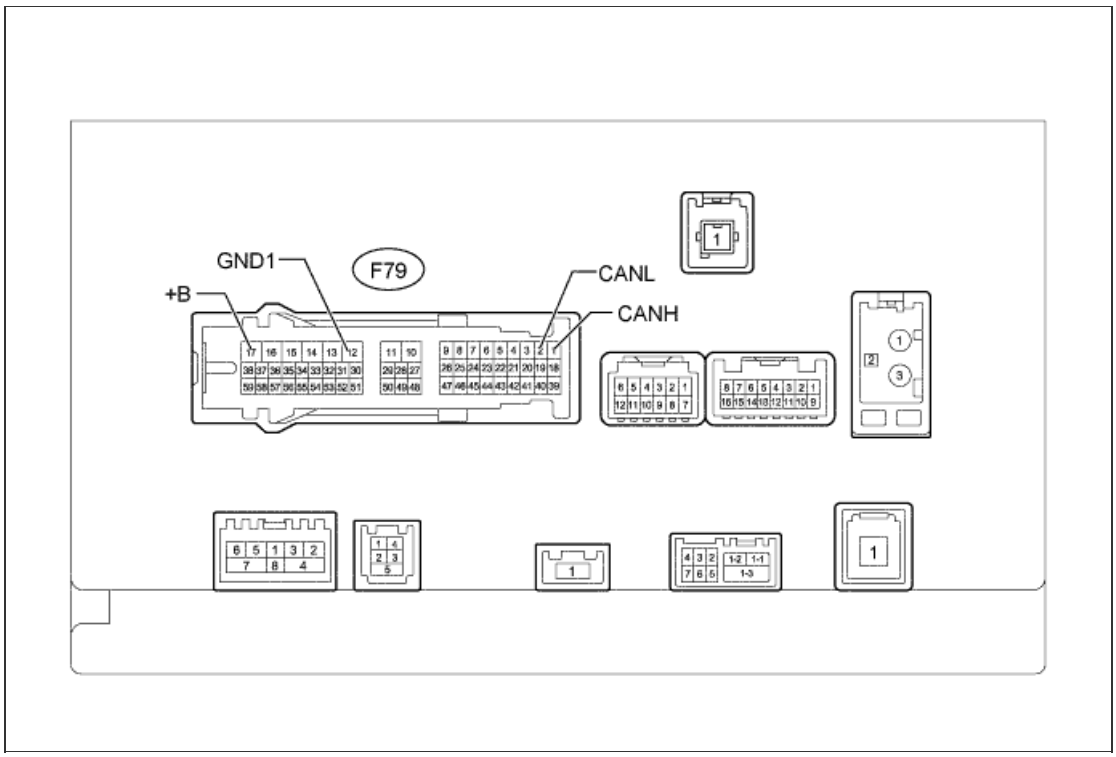


a. Disconnect the E47 center airbag sensor assembly connector (Click here).

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

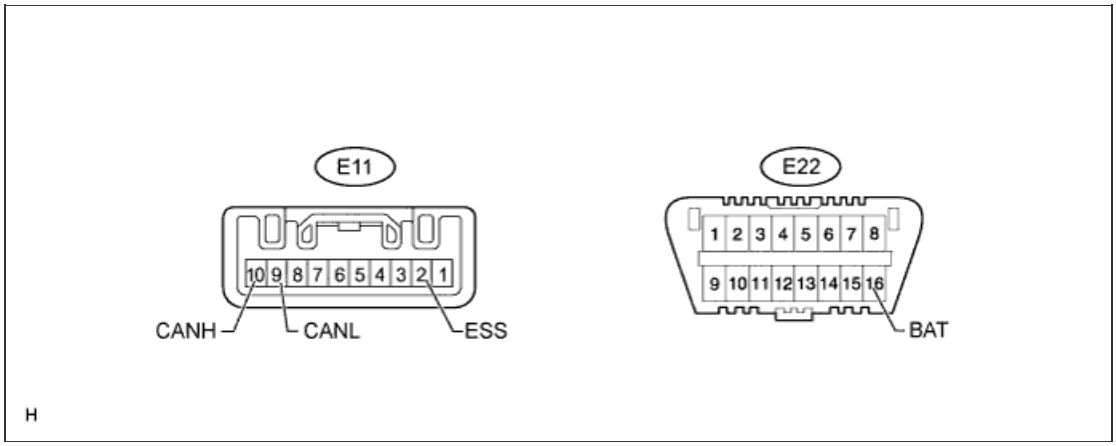


a. Disconnect the F76 multi-media module receiver assembly connector.

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



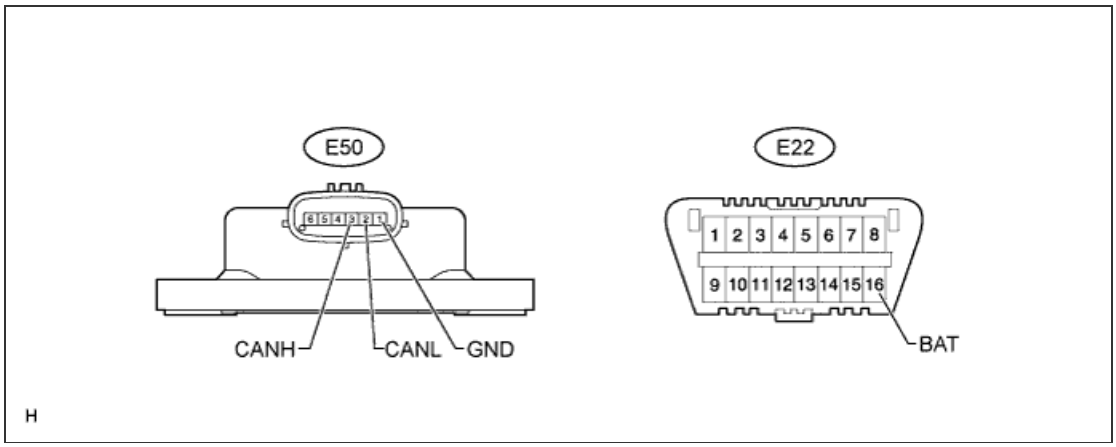
a. Disconnect the E11 st5eering angle sensor connector.

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

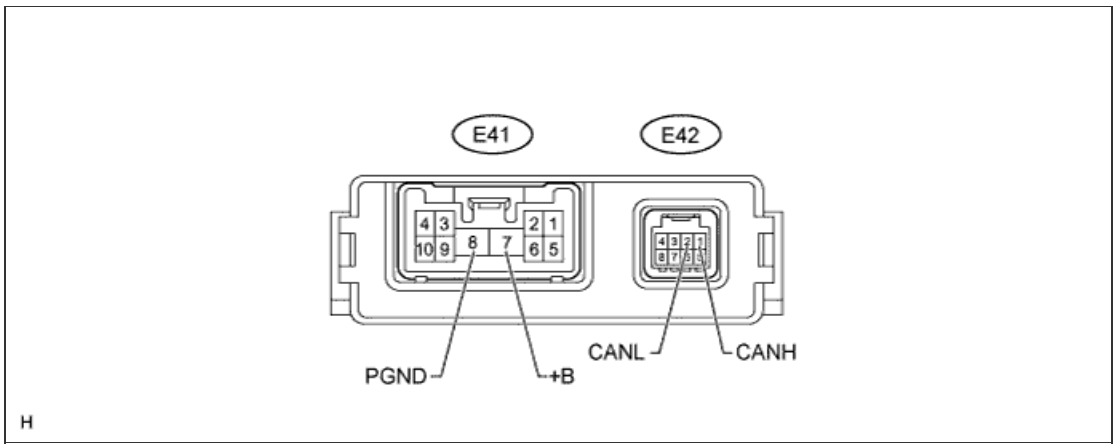


a. Disconnect the E50 yaw rate sensor assembly connector.

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)

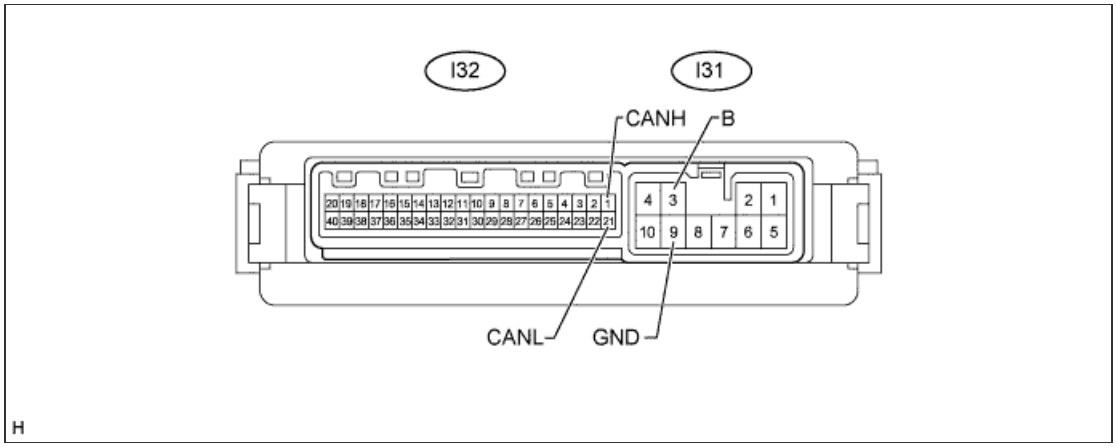


a. Disconnect the E41 and E42 seat belt control ECU connectors.

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

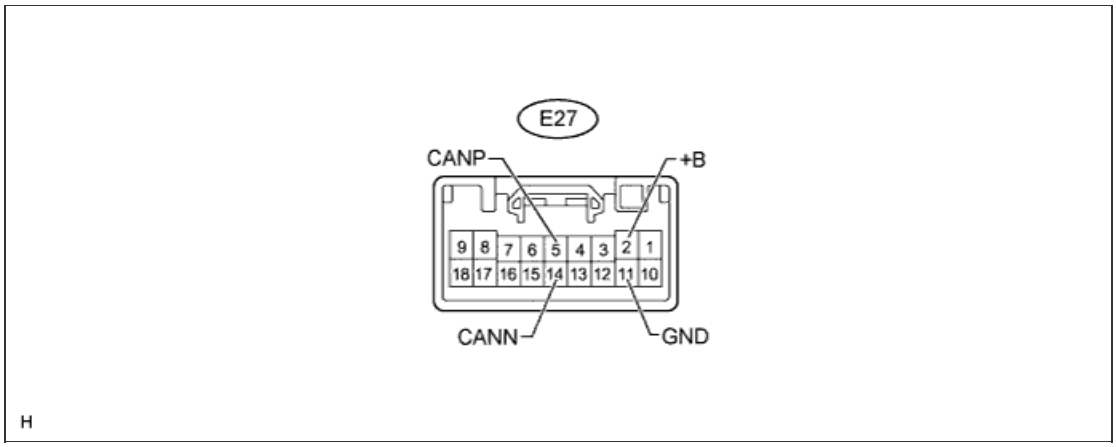


a. Disconnect the I31 and I32 outer mirror control ECU assembly connectors.

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

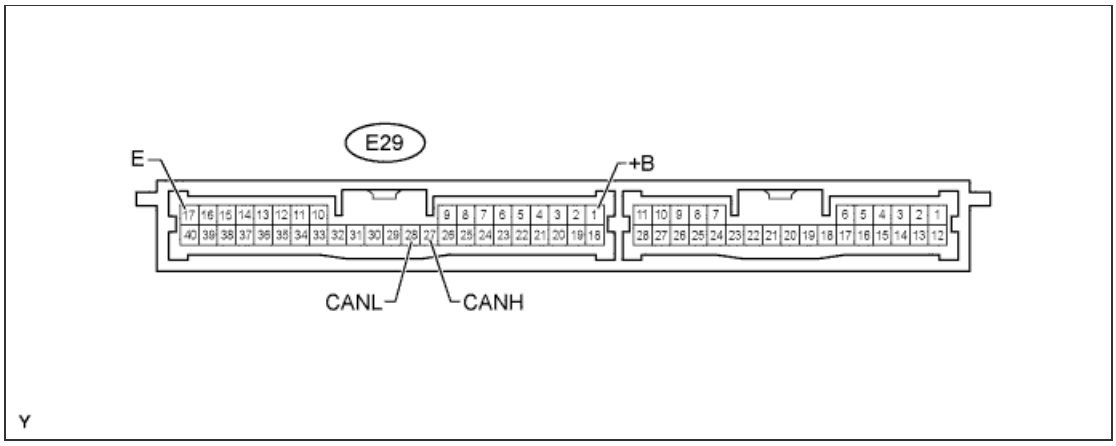


a. Disconnect the E27 multiplex tilt and telescopic ECU connector.

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)

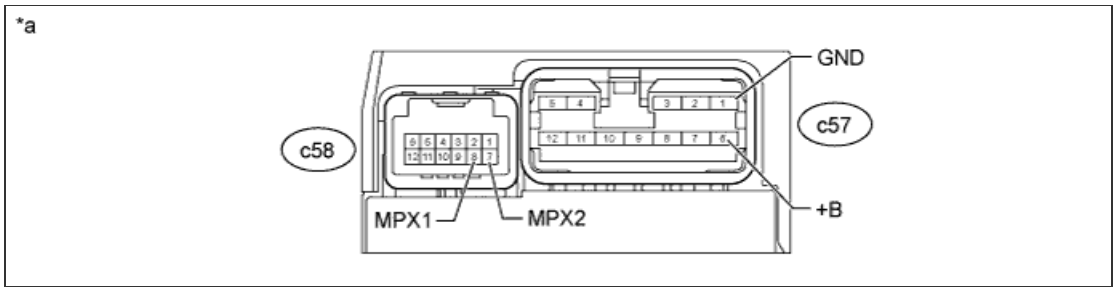


a. Disconnect the E29 certification ECU (smart key ECU assembly) connector.

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

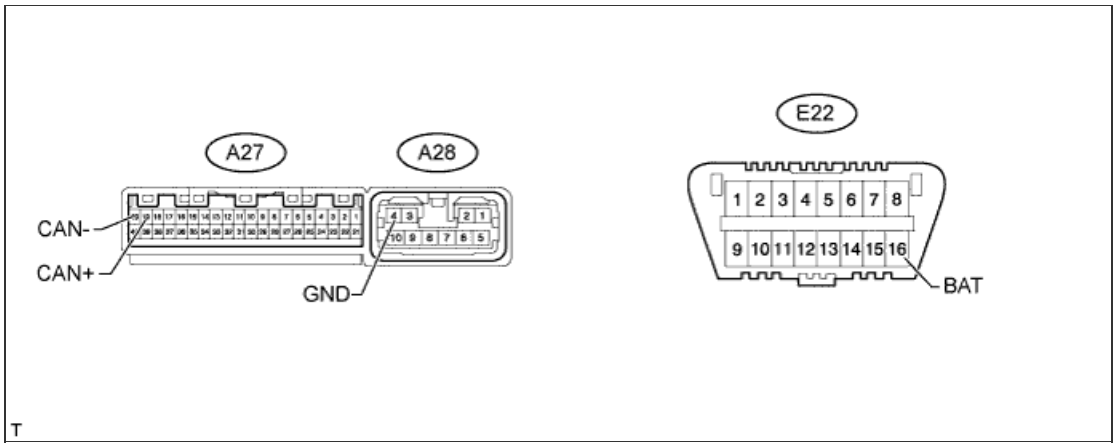


a. Disconnect the c57 and c58 position control ECU and switch connectors.

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

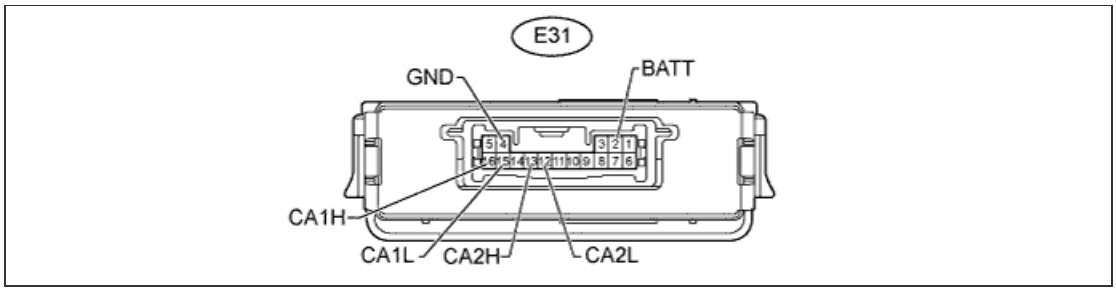


a. Disconnect the A27 and A28 4WD control ECU connectors.

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.

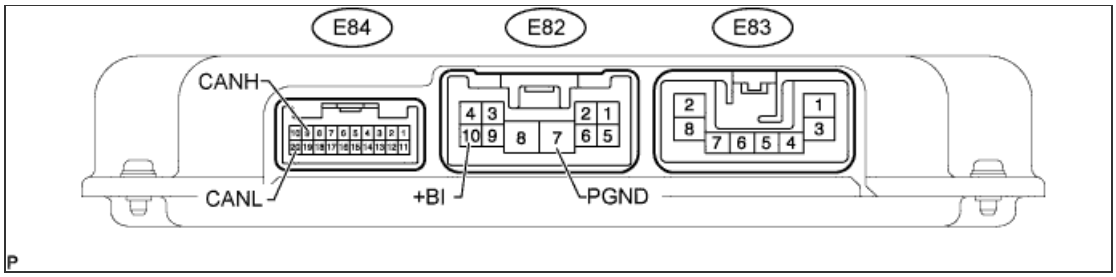
V Bus

Terminal No. (Symbol)	Wiring Color	Switch Condition	Specified Condition
E31-16 (CA1H) - E31-15 (CA1L)	BE - B	Engine switch off	54 to 69 Ω
E31-16 (CA1H) - E31-4 (GND)	BE - 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)	BE - 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

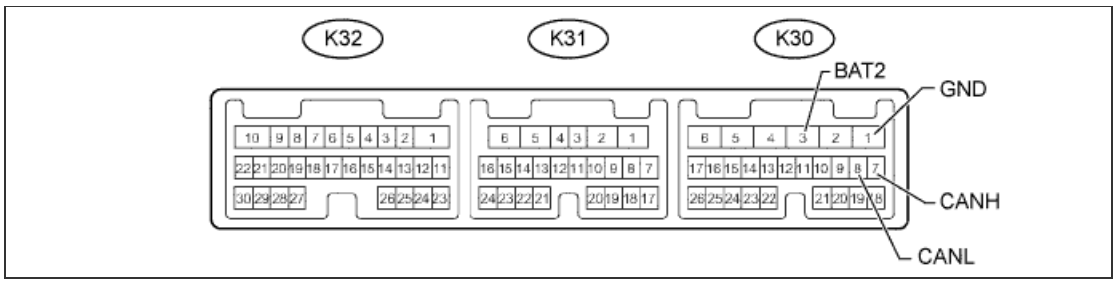


a. Disconnect the E82 and E84 steering control ECU connectors.

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

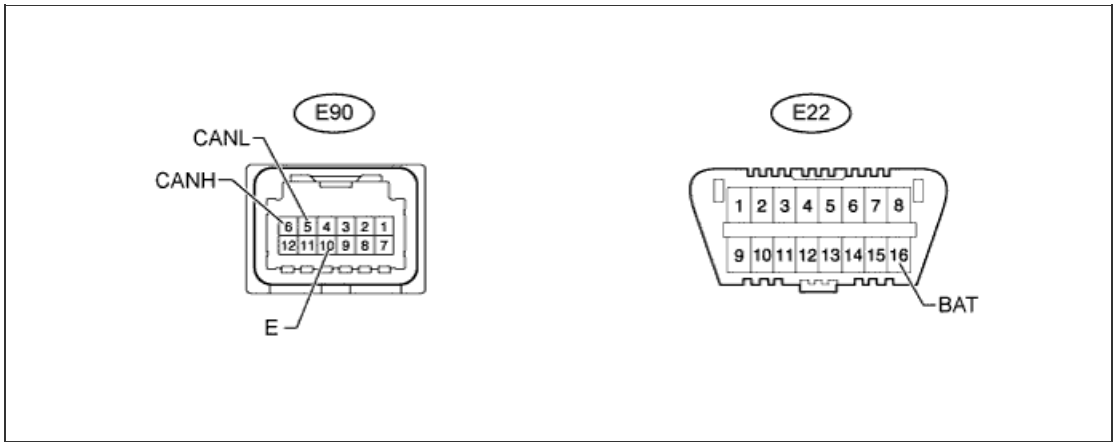


a. Disconnect the K30 suspension control ECU connector.

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

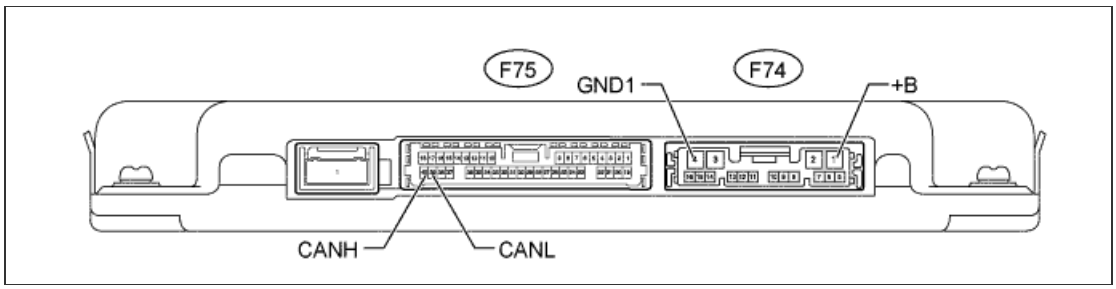


a. Disconnect the E90 windshield wiper ECU connector.

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

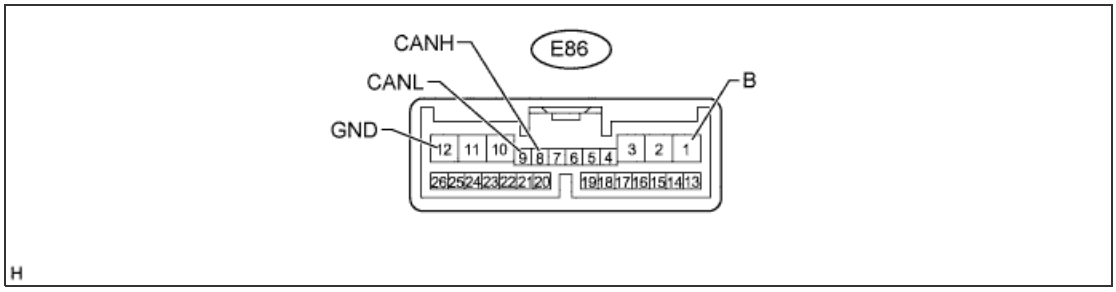


a. Disconnect the F74 and F75 parking assist ECU connector.

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)

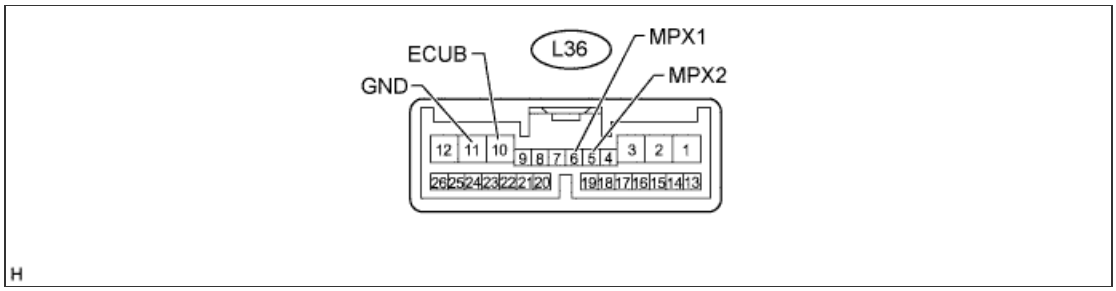


a. Disconnect the E86 distance control ECU assembly connector.

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)

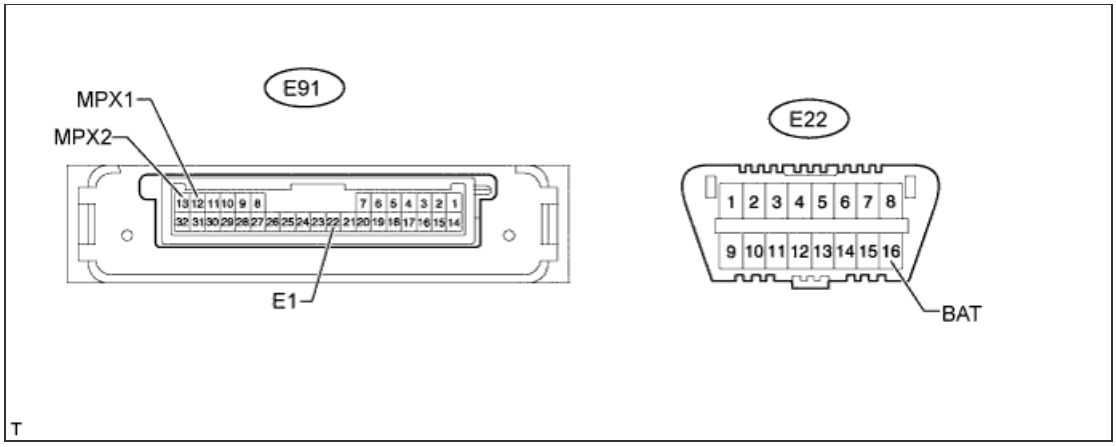


a. Disconnect the L36 power back door unit assembly (power back door ECU) connector.

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)

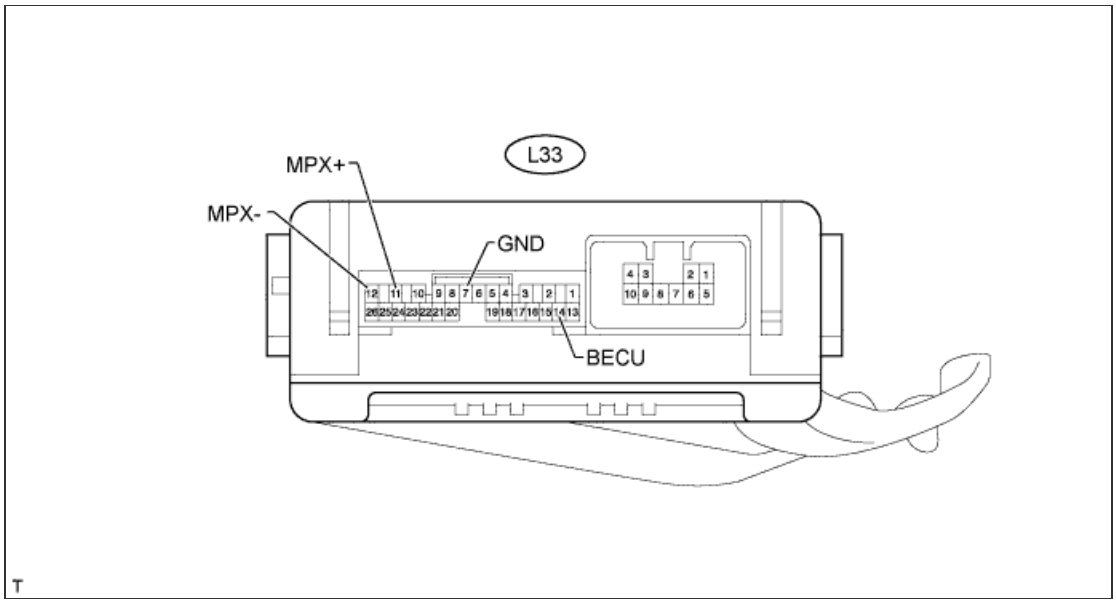


a. Disconnect the E91 headlight swivel ECU assembly (AFS ECU) connector.

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

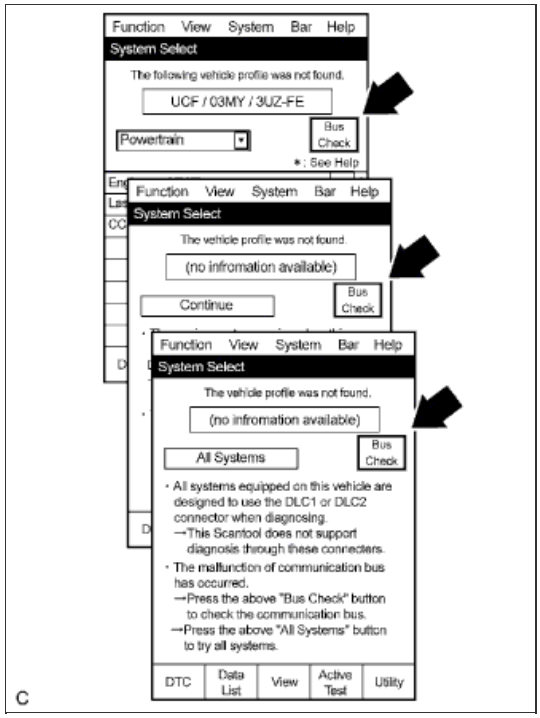
for Preparation Click here

BUS CHECK (COMMUNICATION MALFUNCTION ECU)

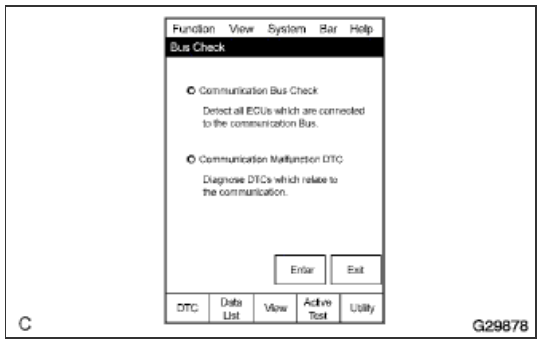
HINT:

Only CAN communication system DTCs for each ECU can be displayed on the intelligent tester.

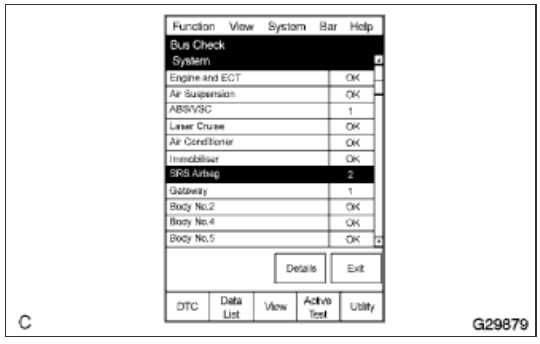
a. Select "Bus Check" from the "System Select" screen on the intelligent tester.



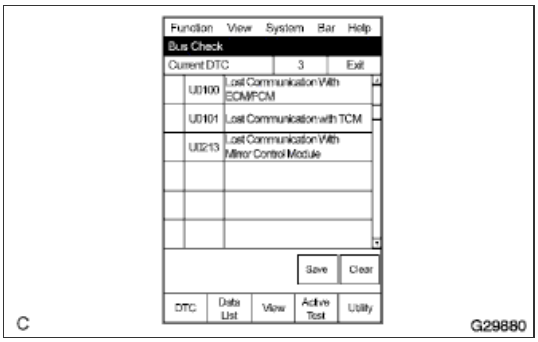
b. Select "Communication Malfunction DTC" from the "Bus Check" screen, and then select "Enter".



c. Select the system of the DTC to be checked and select "Details".



d. CAN communication system DTCs are displayed.

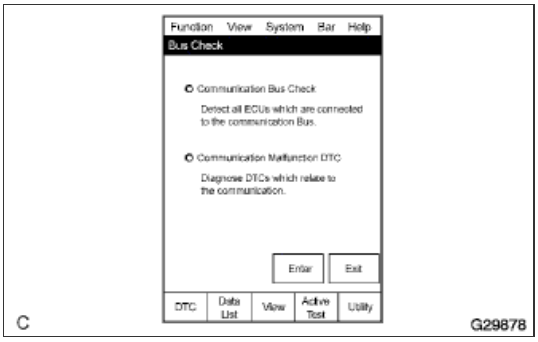


BUS CHECK (COMMUNICATION BUS CHECK)

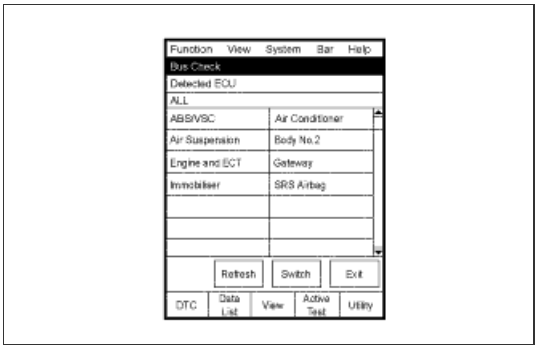
HINT:

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.

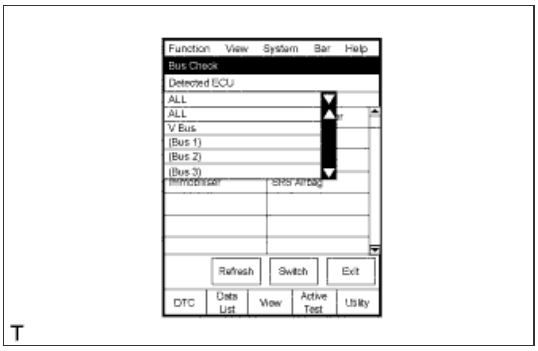


b. The screen displays the ECUs and sensors that are properly connected to the CAN communication system.



HINT:

- **If any properly connected ECUs or sensors are not displayed, there is a communication stop in the system (Click here).**



- **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

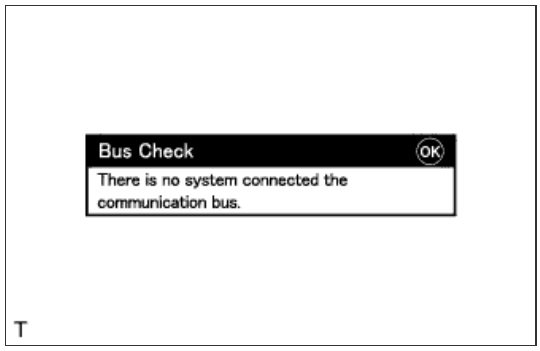
ECU (Sensor) with no Data Monitor History

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"	-	-	-	-

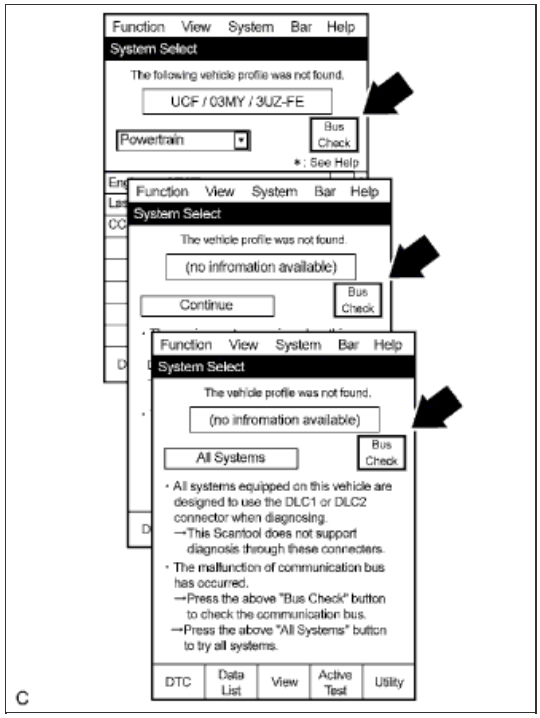
for Preparation Click here

BUS CHECK (COMMUNICATION MALFUNCTION ECU)

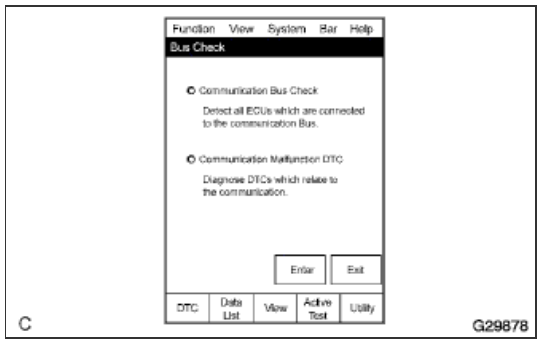
HINT:

Only CAN communication system DTCs for each ECU can be displayed on the intelligent tester.

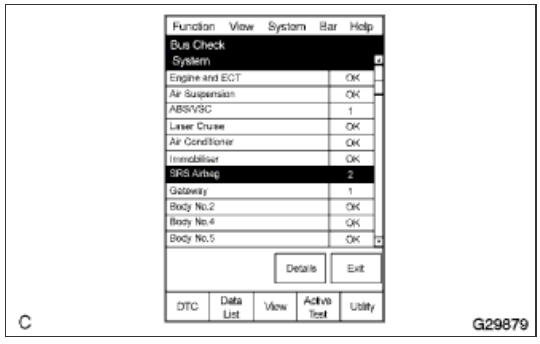
a. Select "Bus Check" from the "System Select" screen on the intelligent tester.



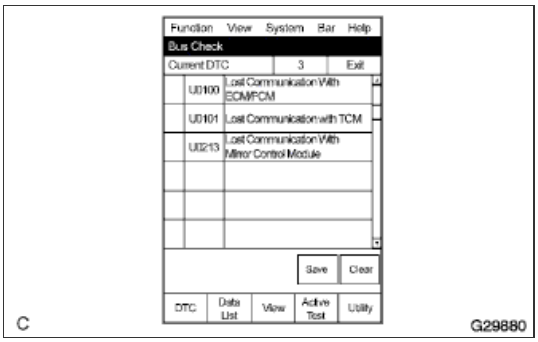
b. Select "Communication Malfunction DTC" from the "Bus Check" screen, and then select "Enter".



c. Select the system of the DTC to be checked and select "Details".



d. CAN communication system DTCs are displayed.

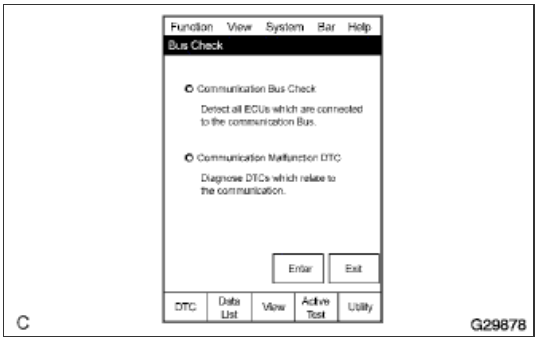


BUS CHECK (COMMUNICATION BUS CHECK)

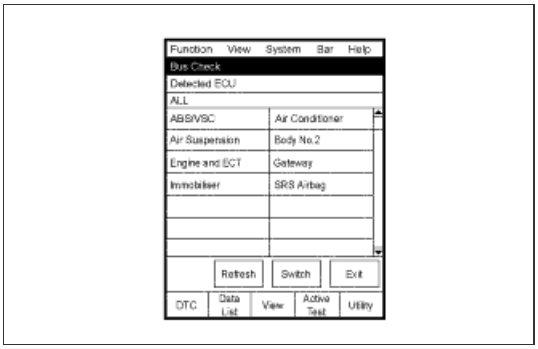
HINT:

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.

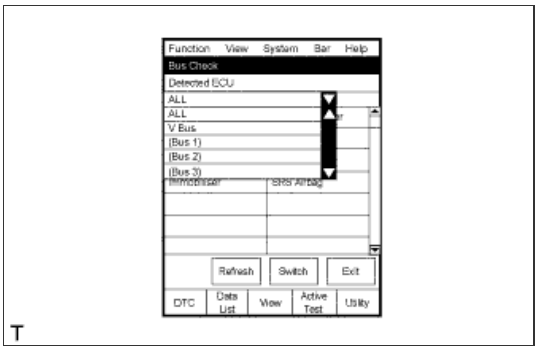


b. The screen displays the ECUs and sensors that are properly connected to the CAN communication system.



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

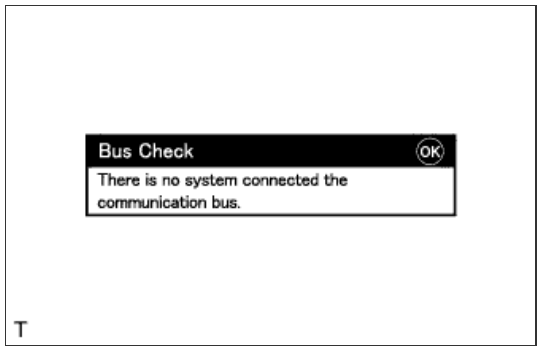
ECU (Sensor) with no Data Monitor History

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"	-	-	-	-

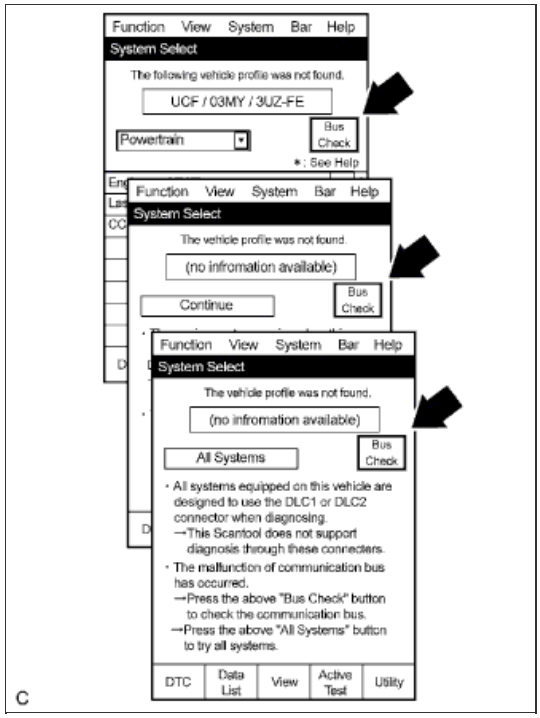
for Preparation Click here

BUS CHECK (COMMUNICATION MALFUNCTION ECU)

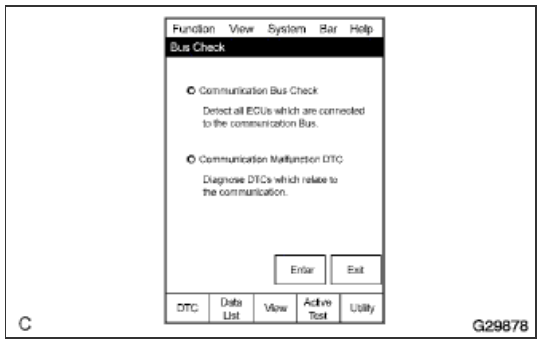
HINT:

Only CAN communication system DTCs for each ECU can be displayed on the intelligent tester.

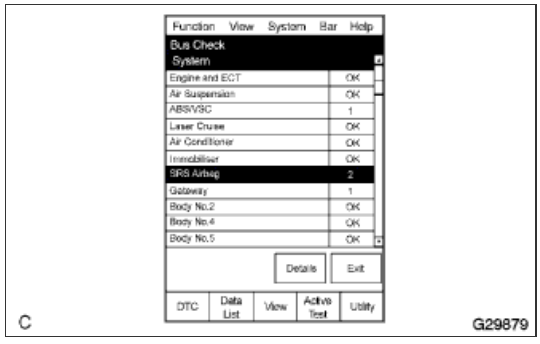
a. Select "Bus Check" from the "System Select" screen on the intelligent tester.



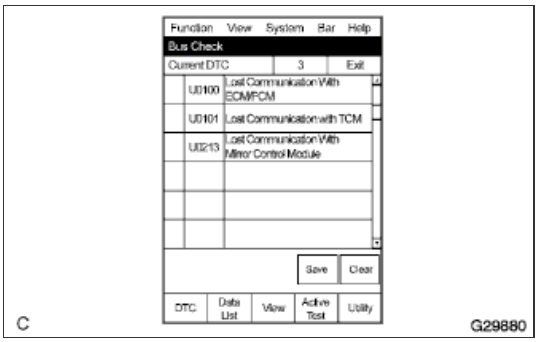
b. Select "Communication Malfunction DTC" from the "Bus Check" screen, and then select "Enter".



c. Select the system of the DTC to be checked and select "Details".



d. CAN communication system DTCs are displayed.

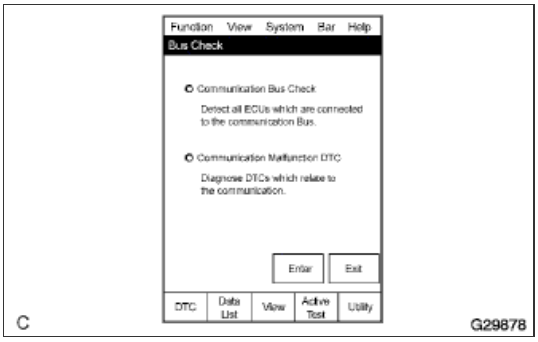


BUS CHECK (COMMUNICATION BUS CHECK)

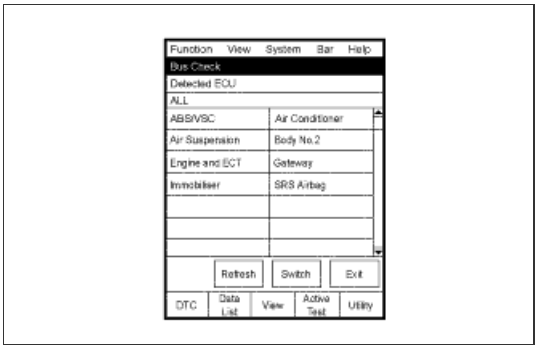
HINT:

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.

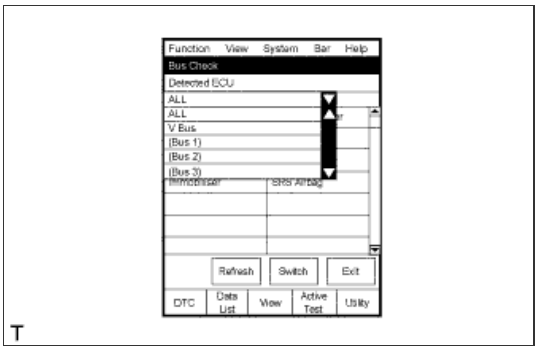


b. The screen displays the ECUs and sensors that are properly connected to the CAN communication system.



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

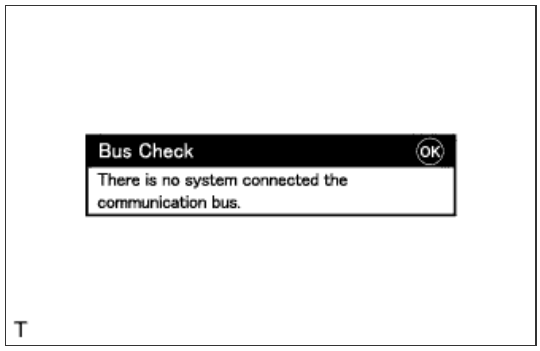
ECU (Sensor) with no Data Monitor History

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 2. System Related 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 2. ECM 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 2. ECM, Master cylinder solenoid (skid control ECU), Steering angle sensor, Yaw rate sensor assembly 3. -	An invalid value is stored in the EDR.	-
	SRS warning light control	Turns the SRS warning light on/off.	1. Combination meter assembly 2. Center airbag sensor assembly 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 2. Center airbag sensor assembly 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 2. Center airbag sensor assembly 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) 2. - 3. Combination meter assembly	-	-
			1. Master cylinder solenoid		

Brake (VSC)	ABS control	ABS control according to the G sensor signal.	(skid control ECU) 2. Yaw rate sensor assembly 3. Master cylinder solenoid (skid control ECU)	The ABS does not operate.	VSC warning light illuminates.
	TRC control CRAWL control	Brake control and engine torque control during acceleration slip.	1. Master cylinder solenoid (skid control ECU) 2. ECM, 4WD control ECU 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) 2. ECM, 4WD control ECU, Steering angle sensor, Yaw rate sensor assembly, Steering control ECU 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) 2. ECM 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. - 2. ECM 3. ECM	ACC control is canceled.	• "Check Cruise System" is displayed on the multi-information display. • The master warning light turns on and the warning buzzer sounds.
			1. - 2. Steering angle sensor 3. -		
			1. - 2. Yaw rate sensor assembly 3. -		
			1. - 2. Master cylinder solenoid (skid control ECU) 3. Master cylinder solenoid (skid control ECU)	-	-
			1. Distance control ECU assembly 2. - 3. -	-	-

			1. - 2. Steering control ECU 3. -	-	-
			1. - 2. Combination meter assembly 3. -	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	-	-
Pre-crash Safety System (PCS)	PCS	Seat belt and brake control immediately before a crash.	1. - 2. ECM 3. -	PCS control stops.	• "Check Cruise System" is displayed on the multi-information display. • The master warning light turns on and the warning buzzer sounds.
			1. - 2. Steering angle sensor 3. -		
			1. - 2. Yaw rate sensor assembly 3. -		
			1. - 2. Master cylinder solenoid (skid control ECU) 3. Master cylinder solenoid (skid control ECU)		
			1. Distance control ECU assembly 2. - 3. -		
			1. - 2. Steering control ECU 3. -		
			1. - 2. - 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 2. Position control ECU and switch, Accessory bus buffer, Main body ECU (cowl side junction block LH), Combination meter assembly 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 2. Position control ECU and switch 3. -	Memorization and recall control does not operate.	-
		Switching between High	1. 4WD control ECU 2. -	-	-

		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.	3. -		
	Switching control between High and Low		1. - 2. ECM, Master cylinder solenoid (skid control ECU) 3. -	Switching between High and Low is prohibited. **HINT:** 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).
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 2. - 3. -	-	-
			1. - 2. ECM, Master cylinder solenoid (skid control ECU) 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 2. - 3. -	-	-
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	Center differential lock switching is prohibited. **HINT:** 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 2. - 3. -	-	-
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	Rear differential lock switching is prohibited. **HINT:** 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 2. - 3. -	-	-
			1. - 2. Master cylinder solenoid (skid control ECU) 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 2. - 3. -	-	-
			1. - 2. Air conditioning amplifier assembly, ECM 3. -	Changes the temperature used for the calculation of ACT temperature adjustment control.	No user notification.
	Specialized control during wheel speed	When there is a wheel speed failure, switching is permitted only when specified conditions are met (the wheel speed malfunction is 1 wheel or	1. 4WD control ECU 2. - 3. -	-	-
			1. - 2. ECM,	If the wheel speed malfunction is 1 wheel or more and 3 wheels or less,	Center differential lock

	during wheel speed failure	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).	Master cylinder solenoid (skid control ECU) 3. -	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).	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 2. - 3. -	-	-
	High-Low actuator failure signal output	When the High-Low actuator limit switch is malfunctioning, a signal is output.	1. 4WD control ECU 2. - 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 2. - 3. -	-	-
	L4 status signal condition output	A signal is output when switching between the L4F and L4L position is completed.	1. 4WD control ECU 2. - 3. -	-	-
	C/D lock condition signal output	CDL switch condition is output.	1. 4WD control ECU 2. - 3. -	-	-
	R/D lock condition signal output	R switch condition is output.	1. 4WD control ECU 2. - 3. -	-	-
	T/F N condition signal output	NP switch condition is output.	1. 4WD control ECU 2. - 3. -	-	-
Gasoline Engine	Engine control system	Adjusts the fuel injection volume according to each sensor value and controls the engine.	1. ECM 2. - 3. -	-	-
	ECT control system	Changes the ECT shift position based on the vehicle speed and torque.	1. ECM 2. - 3. -	-	-
	Cruise control system	Maintains a constant vehicle speed and drives the vehicle.	1. ECM 2. - 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) 2. - 3. Power back door unit assembly (power back door ECU)	-	-
			1. - 2. Main body ECU (cowl side junction block LH), Combination meter assembly, ECM 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	1. Power back door unit assembly (power back door ECU) 2. - 3. Power back door unit assembly (power back door ECU)	-	-
			1. -		

Power Back Door (BKD)		and begins the power back door operation.	2. Main body ECU (cowl side junction block LH), Certification ECU (smart key ECU assembly) 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) 2. Main body ECU (cowl side junction block LH) 3. Power back door unit assembly (power back door ECU)	When the back door operation begins, the hazard warning lights may not illuminate.	-
			1. - 2. - 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) 2. - 3. Power back door unit assembly (power back door ECU)	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	DTC function does not operate.	-
Active Height Control Suspension (4-WHEEL AHC)	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 2. - 3. Suspension control ECU	-	-
			1. - 2. ECM 3. -	Uses the fail-safe constant and continues damping force control. Damping force control is prohibited.	A warning is displayed.
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	Damping force control is prohibited.	
			1. - 2. Steering angle sensor 3. -		
			1. - 2. Yaw rate sensor assembly 3. -		
			1. - 2. Steering control ECU 3. -		
			1. Suspension control ECU 2. - 3. Suspension control ECU	-	-

			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	Spring rate switching control is prohibited.	"Check 4-WHEEL AHC System" illuminates.
	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. - 2. Master cylinder solenoid (skid control ECU) 3. -	• Anti-roll spring rate switching control is prohibited. • Anti-dive spring rate switching control continues.	A warning is displayed.
			1. - 2. Steering angle sensor 3. -		
			1. - 2. Steering control ECU 3. -		
			1. - 2. Yaw rate sensor assembly 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 2. - 3. Suspension control ECU	-	-
			1. - 2. Combination meter assembly 3. -	-	A warning is displayed.
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	The vehicle returns to vehicle height "N" and vehicle height control is prohibited.	
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -		
			1. - 2. Steering angle sensor 3. -		
			1. - 2. Steering control ECU 3. -		
			1. - 2. Yaw rate sensor assembly 3. -		
		• Air conditioning vent temperature control according to the engine coolant temperature information. • Air conditioning vent switching control according to the engine			

Air Conditioner (ACN)	Air conditioning system	the engine coolant temperature information. • Air conditioning vent airflow amount control according to the engine coolant temperature information. • Compensation of the engine coolant temperature information according to the engine type. • Compressor lock judgment value switching according to the engine type.	1. Air conditioning amplifier assembly 2. ECM 3. -	Coolant information: Control is performed by using the default value (80°C [176°F]). 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 2. ECM 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 2. ECM 3. -	Load control: No load control (normal control).	-
		• Activation control according to the viscous heater activation permission information. • Activation control according to the PTC heater activation permission information.	1. Air conditioning amplifier assembly 2. ECM 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. • Exhaust gas automatic air presence judgment and circulation control switching according to exhaust gas automatic air presence information.	1. Air conditioning amplifier assembly 2. Multi-media module receiver assembly 3. -	None (Air conditioning system operation condition switching is not possible).	-
			1. Air conditioning		

		Dimmer information output to the LIN panel according to the display dimmer information.	amplifier assembly 2. Main body ECU (cowl side junction block LH) 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 2. Main body ECU (cowl side junction block LH) 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 2. Main body ECU (cowl side junction block LH) 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 2. Combination meter assembly 3. -	• Decrease in reliability and consistency of the exterior temperature value of the outside temperature display. • 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 2. Master cylinder solenoid (skid control ECU) 3. -	• Initialization condition: Data output response request (STS=0). • 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. • 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 2. - 3. Position control ECU and switch	-	-
			1. - 2. ECM 3. -	The memorization and recall functions do not operate.	-
			1. - 2. ECM 3. -		
			1. - 2. Main body ECU (cowl side junction block LH) 3. -		
			1. - 2. Outer mirror control ECU		

			control ECU assembly 3. -		
Seat (DST)	Memory Call Function	Acquires card key information from the certification ECU and performs automatic recall.	1. Position control ECU and switch 2. - 3. Position control ECU and switch	-	-
			1. - 2. Certification ECU (smart key ECU assembly) 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 2. - 3. -	-	-
			1. - 2. Multiplex tilt and telescopic ECU 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 2. - 3. Position control ECU and switch	-	-
			1. - 2. ECM 3. -	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	The away function does not operate.	-
			1. - 2. Combination meter assembly 3. -	The away and return functions do not operate.	-
Mirror (DRD)	Mirror surface manual control	Function that adjusts the mirror surface with the manual switch.	1. Outer mirror control ECU assembly 2. Main body ECU (cowl side junction block LH) 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 2. Position control ECU and switch, Main body ECU (cowl side junction block LH) 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 assembly 2. Position control ECU and switch 3. -	The mirror surface recovery function does not operate (if disrupted during the operation, the function does not operate from the next trigger condition).	-
		Function that tilts the	1. Outer mirror control ECU assembly 2. Main body	The reverse shift-linked function does not operate (if disrupted during the	

	Mirror surface reverse control	mirror surface downward when the vehicle is moving in reverse.	2. Main body ECU (cowl side junction block LH), ECM 3. -	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 2. Main body ECU (cowl side junction block LH), ECM 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 2. Main body ECU (cowl side junction block LH) 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 2. - 3. -	-	-
			1. - 2. ECM 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. - 2. Main body ECU (cowl side junction block LH) 3. -		
			1. - 2. Combination meter assembly 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. • With the engine switch on (IG), the washer fluid delay timing becomes fixed. • 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 2. - 3. -	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 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. - 2. Combination meter assembly 3. -		
Navigation (EMVN)	Air Conditioning Control	Controls the selecting of the registers, temperature adjustment, etc. according to the operation of the touch panel switches on the display.	1. Multi-media module receiver assembly 2. Air conditioning amplifier assembly 3. Air conditioning amplifier assembly	• Turns off any indicators related to the air conditioning system. • If the set air temperature is displayed on an external display device, the system clears the set air temperature display. • Disables the functions used to operate the air conditioning system.	The "Climate control 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 2. ECM, Parking assist ECU 3. Parking assist ECU	• If communication stop occurs while clearance sonar settings screen is displayed, settings screen is cleared. • 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 2. Combination meter assembly, ECM, Master cylinder solenoid (skid control ECU) 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. • The most recent value for the fuel consumption graph on the eco navigation (eco drive) screen is cleared. • 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). • 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 information and VGRS information).	1. Multi-media module receiver assembly 2. Main body ECU (cowl side junction block LH), ECM, Steering angle sensor, Steering control ECU 3. -	-	• 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. • 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 2. Main body ECU (cowl side junction block LH) 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 2. Combination meter assembly, ECM, Master cylinder solenoid (skid control ECU), Steering control ECU, Suspension control ECU 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 2. Position control ECU and switch, Certification ECU (smart key ECU assembly), Main body ECU (cowl side junction block LH), Air conditioning amplifier assembly 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. • 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 2. - 3. -	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 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. - 2. Combination meter assembly 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. - 2. ECM 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. - 2. Windshield wiper ECU 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 2. - 3. -	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	Does not activate release, and does not release the lower door latch.	-

			1. - 2. Combination meter assembly 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 2. - 3. -	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 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 2. - 3. -	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	Routes the disrupted value data to the overhead module.	-
			1. - 2. Certification ECU (smart key ECU assembly) 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 2. - 3. Steering control ECU	-	-
			1. - 2. Steering angle sensor 3. -	VGRS system does not operate.	Master warning light illuminates and display is shown on multi-information display (meter display).
			1. - 2. ECM 3. -		
			1. - 2. Master cylinder solenoid (skid control ECU) 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 2. - 3. -	-	-
			1. - 2. Air conditioning amplifier assembly 3. -	The sonar system functions normally. Maintains distance by maintaining the outside temperature at 25°C (77°F).	-
			1. - 2. Windshield wiper ECU 3. -	The sonar system functions normally. Operates the obstacle judgments with the wiper off (except in rain).	-
			1. - 2. ECU 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. - 2. Main body ECU (cowl side junction block LH) 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. - 2. Combination	If data received from the meter ECU is	

			2. Combination meter assembly 3. -	lost, the system is inoperable as the clearance sonar is controlled at 20 km/h (12.5 mph) or more.	-
			1. - 2. Multi-media module receiver assembly 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) 2. - 3. -	-	-
			1. - 2. ECM 3. -	• Leveling control continues. • Swivel control centers the headlights.	AFS OFF indicator blinks.
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	• Leveling control continues with the vehicle speed set to 0 km/h (0 mph). • Swivel control centers the headlights.	
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	• Leveling control continues. • Swivel control centers the headlights.	
			1. - 2. Steering control ECU 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) 2. - 3. -	-	-
			1. - 2. ECM 3. -	• Leveling control continues. • Swivel control centers the headlights.	AFS OFF indicator blinks.
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	• Leveling control continues with the vehicle speed set to 0. • Swivel control centers the headlights.	
			1. - 2. Steering angle sensor, Steering control ECU 3. -	• Leveling control continues. • Swivel control centers the headlights.	
			1. - 2. Steering angle sensor 3. -	• Leveling control continues. • Swivel control centers the headlights.	
			1. - 2. Main Body ECU (Cowl Side Junction Black LH) (V Bus). 3. -	• Level control continues. • Swivel control centers the headlights.	
			1. Headlight swivel ECU assembly (AFS ECU) 2.		

	AFS indicator	Monitors for AFS system malfunctions and blinks the indicator of the meter when a malfunction is detected.	2. - 3. Headlight swivel ECU assembly (AFS ECU)	-	-
			1. - 2. Combination meter assembly 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 2. - 3. -	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	The guidelines cannot be adjusted.	-
			1. - 2. ECM 3. -	The screen does not change to the camera screen even when the shift lever is moved to R.	-
			1. - 2. Steering angle sensor, Steering control ECU 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 2. - 3. -	-	-
			1. - 2. ECM 3. -	• The automatic display function does not operate. • The screen does not change to the camera screen even when the main switch is pushed.	-
			1. - 2. Steering angle sensor, Steering control ECU 3. -	-	On the bottom of the screen, "Guidance unavailable" is displayed, and the change display mode switch is not displayed.
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	• Automatic display mode does not operate. • 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 2. - 3. -	-	-
			1. - 2. ECM 3. -	• The automatic display function does not operate. • The screen does not change to the camera screen even when the main switch is pushed.	-
			1. - 2. Steering angle sensor, Steering control ECU 3. -	-	On the bottom of the screen, "Guidance unavailable" is displayed, and the change display mode switch is not displayed.
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	• Automatic display mode does not operate. • The screen does not change to the camera screen even when the main switch is pushed.	-
			1. - 2. 4WD control	• The front single screen cannot be displayed when	

			2. 4WD control ECU 3. -	the transfer is in L4. • 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 2. - 3. Seat belt control ECU	-	• "Check PCS System" is displayed on the multi-information display. • The master warning light turns on and the warning buzzer sounds.
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	The PSB ECU detects a communication failure. Control stops. However, control continues until the end if the communication failure occurs during control.	
			1. - 2. Center airbag sensor assembly 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 2. - 3. Seat belt control ECU	-	
			1. - 2. Distance control ECU assembly 3. -	The PCS system does not operate. However, seat belt operation during sudden braking is an exception.	
			1. - 2. Center airbag sensor assembly 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 2. - 3. Combination meter assembly	-	-
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	The speedometer indicates 0 km/h (0 mph).	-
	Tachometer	Indicates the engine speed according to the engine speed signal.	1. Combination meter assembly 2. - 3. Combination meter assembly	-	-
			1. - 2. ECM 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 2. - 3. Combination meter assembly	-	-
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	• The ODO/TRIP meter stops calculating and the last displayed value continues to be displayed. • Optitron meter: In multi-display. • Regular analog meter: Independent LCD.	-
		Indicates the coolant	1. Combination meter assembly 2. -	-	-

	Engine coolant temperature gauge	Indicates the coolant temperature according to the engine coolant temperature signal.	3. Combination meter assembly		
			1. - 2. ECM 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 2. - 3. Combination meter assembly	-	-
			1. - 2. Master cylinder solenoid (skid control ECU) 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 2. - 3. Combination meter assembly	-	-
			1. - 2. ECM 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 2. - 3. Combination meter assembly	-	-
			1. - 2. ECM 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 2. - 3. Combination meter assembly	-	-
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	-	-
			1. - 2. Main body ECU (cowl side junction block LH), Master cylinder solenoid (skid control ECU)	Conditions for the seat belt buzzer not sounding: Conditions for the seat belt buzzer not sounding: • When VSC1S03 is lost: Does not sound. • When BDB1S01 is lost: Does not sound. • When ECT1S90 is lost: Control is performed with B_R=0b. • When ECT1S95 is lost: Control is performed with B_CPKB=0b.	-
				Conditions for the seat belt buzzer sounding: • When VSC1S03 is	

			3. -	lost: Control is performed with the vehicle speed as 0 km/h (0 mph). • When VSC1S95 is lost: Control is performed with B_CPKB=0b. • 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. - 2. Main body ECU (cowl side junction block LH) 3. -	The light reminder buzzer does not sound.	-
				The sliding roof buzzer condition is maintained (until bus sleep).	-
			1. - 2. ECM 3. -	The A/T reverse buzzer does not sound.	-
				• The sports shift reject buzzer condition is maintained. • The radar cruise low speed cancel buzzer does not sound. • The radar cruise warning buzzer does not sound.	-
			1. - 2. 4WD control ECU 3. -	The last state of the 4WD buzzer is maintained.	-
			1. - 2. Certification ECU (smart key ECU assembly) 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 2. - 3. Combination meter assembly	-	-
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	ABS warning indicator turns on.	ABS warning indicator turns on.
			1. - 2. Main body ECU (cowl side junction block LH), Master cylinder solenoid (skid control ECU) 3. -	Brake warning light • When VSC1S95 is lost: Illuminates. • When BDB1S01 is lost: Control is performed with PKB_BDB=0b.	-
			1. - 2. Master cylinder	• SLIP indicator light condition is maintained. • VSC OFF indicator light condition is maintained. • The downhill assist control indicator condition is maintained. • The slight low speed TRC indicator condition is maintained. • The condition of the multi-terrain select indicator is maintained.	-

			2. Master cylinder solenoid (skid control ECU) 3. -	maintained. • 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. 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. - 2. Headlight swivel ECU assembly (AFS ECU) 3. -	• Maintains the AFS OFF indicator light condition. • Maintains the Headlight beam level control system warning light condition.	-
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	When there is determined to be a disruption, the following indicators operate as follows: While the engine switch is on (IG): Condition is maintained. When the engine switch is off: Turns off. • DOOR indicator light • Driver side seat belt warning light	-
				When there is determined to be a disruption, the following indicators operate as follows: While the engine switch is on (IG): Condition is maintained. When the engine switch is off: Turns off. • FRONT FOG indicator light • REAR FOG indicator light • TAIL indicator light • HEAD indicator light • BEAM indicator light	-
				Automatic high beam.	-
Meter (MET)	Telltale	Turns on/blinks/turns off indicators based on the various signals.	1. - 2. Parking assist ECU 3. -	The clearance sonar indicator turns off.	-
			1. - 2. ECM 3. -	• The A/T P warning light condition is maintained. • The ECT PW indicator light condition is maintained. • The 2nd START indicator light condition is maintained. • The cruise control indicator condition is maintained. • The SET indicator condition is maintained. • The radar cruise control indicator condition is maintained.	-
			1. - 2. ECM, 4WD control ECU 3. -	The A/T P warning light conditions are maintained.	-
			1. - 2. ECM, Master cylinder solenoid (skid control ECU) 3. -	The eco drive indicator light is turned off.	-
			1. - 2. 4WD control ECU 3. -	• The center differential lock indicator light turns off. • The 4LO indicator light turns off.	-
			1. - 2. Seat belt control ECU	The PCS indicator light condition is maintained.	-

			3. -		
			1. - 2. Suspension control ECU 3. -	ACCESS MODE indicator light • When the engine switch is on (IG): The condition is maintained. • When the engine switch is off: Turns off.	-
			1. - 2. Center airbag sensor assembly 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 2. - 3. Combination meter assembly	-	-
			1. - 2. ECM, Master cylinder solenoid (skid control ECU) 3. -	• Drive monitor calculations stop and the display is blank. • The current fuel consumption, average fuel consumption after refilling, distance to empty and average vehicle speed.	-
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	The digital speedometer displays 0 km/h (0 mph).	-
			1. - 2. ECM, Master cylinder solenoid (skid control ECU) 3. -	The eco drive indicator zone display is turned off.	-
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	Parking brake drag warning display conditions: • When VSC1S03 is lost: Control is performed with the vehicle speed as 0 km/h (0 mph). • When VSC1S95 is lost: Control is performed with B_CPKB=0b. • When BDB1S01 is lost: Control is performed with PKB_BDB=0b.	-
			1. - 2. Main body ECU (cowl side junction block LH), Master cylinder solenoid (skid control ECU) 3. -	• The CRAWL system display is maintained. • The VSC display is maintained.	-
			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	• The condition of the multi-terrain select indicator is maintained. • The condition of the turn assist indicator is maintained.	-
				Control is performed with the speed	

			1. - 2. Master cylinder solenoid (skid control ECU) 3. -	condition as 0 km/h (0 mph) for the following displays: Door open while driving display, FUEL FILTER clog display. ODO calculation stops for the following display conditions: Oil maintenance display, T-BELT display.	-
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. - 2. Main body ECU (cowl side junction block LH), Master cylinder solenoid (skid control ECU) 3. -	Conditions for the door open display and door open while driving display: • VSC1S03: Control is performed with the vehicle speed as 0 km/h (0 mph). • BSB1S01: Display state is maintained. • BDB1S08: No display.	-
			1. - 2. Air conditioning amplifier assembly 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. - 2. Main body ECU (cowl side junction block LH) 3. -	The shift position display turns off.	-
				The door control transmitter display condition is as follows: • While the engine switch is on (IG): Condition is maintained. • The door control transmitter display condition is as follows:	-
				The sliding roof open display condition is as follows: • While the engine switch is on (IG): Condition is maintained. • When the engine switch is off: Turns off.	
				The condition of the automatic high beam display is maintained.	-
			1. - 2. Parking assist ECU 3. -	The clearance warning sonar display condition is maintained.	-
		Displays information about	1. - 2. ECM 3. -	The A/T shift position display turns off.	-
				The A/T OIL TEMP display state is maintained. • When ECT1S92 is lost: Condition is maintained. • When ENG1S03 is lost: Controlled as ENG-OFF.	-
			1. - 2. Seat belt control ECU 3. -	The PCS display condition is maintained.	-
			1. - 2. Certification ECU (smart	• The door control transmitter display condition is maintained. • The security display condition is maintained	

Meter (MET)	Multi-display	the drive monitor, tire pressure, warning, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals.	key ECU assembly) 3. -	condition is maintained. • The door control transmitter unlock mode display condition is maintained.	-
			1. - 2. Suspension control ECU 3. -	4-WHEEL AHC vehicle height display turns off. "Check 4-WHEEL AHC System" is displayed.	4-WHEEL AHC vehicle height display turns off. "Check 4-WHEEL AHC System" is displayed.
			1. - 2. Multi-media module receiver assembly 3. -	Arrow navigation is displayed.	-
			1. - 2. Steering angle sensor, Steering control ECU 3. -	The steering angle display is turned off.	-
			1. - 2. Steering control ECU 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 2. - 3. Combination meter assembly	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	Daytime brightness.	-
			1. - 2. ECM 3. -	-	-
	Passenger seat belt warning indicator	Blinks the passenger seat belt warning indicator according to the CAN signals.	1. Combination meter assembly 2. - 3. Combination meter assembly	-	-
			1. - 2. Center airbag sensor assembly 3. -	The passenger seat belt warning indicator condition is maintained.	-
			1. - 2. - 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) 2. Combination meter assembly, ECM 3. -	The forced engine switch off function does not operate.	-
				When the power supply switching conditions are met, power supply switching control is permitted. 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.	-
	Security	The system that operates the warning when a theft	1. Main body ECU (cowl side junction block LH) 2. Certification ECU (smart key ECU	The security control does not operate (The headlight/taillight warning light output, horn warning output, and hazard warning light output do not operate). The forced door lock function lock output does not operate. The dome light warning control does not operate. The lighting system answer back control does not operate.	-

Body (BDB)		is detected.	key ECU assembly) 3. Main body ECU (cowl side junction block LH)	(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. 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) 2. Certification ECU (smart key ECU assembly) 3. Main body ECU (cowl side junction block LH)	Entry and start/wireless control does not operate. 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) 2. Combination meter assembly, ECM 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) 2. Combination meter assembly, ECM 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) 2. ECM 3. Main body ECU (cowl side junction block LH)	DRL control does not operate. **HINT:** 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) 2. Certification ECU (smart key ECU assembly), Combination meter assembly, ECM, Parking assist ECU 3. Outer mirror control ECU assembly, No. 2 main body ECU, Main body ECU (cowl side junction block LH)	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. 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.	-
			1. Power back door unit assembly (power back door ECU)		

	Back door	System that operates the hazard warning lights as an answer back when the power back door begins to operate.	door ECU) 2. Power back door unit assembly (power back door ECU) 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) 2. Combination meter assembly 3. Main body ECU (cowl side junction block LH)	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) 2. Power back door unit assembly (power back door ECU) 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) 2. Combination meter assembly 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. 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 control.	1. Main body ECU (cowl side junction block LH) 2. Certification ECU (smart key ECU assembly) 3. -	Power window control does not operate. Power window control stops during wireless/smart power window control operation.	-
	Entry function	Entry and start/lock/back door/warning, etc.	1. Certification ECU (smart key ECU assembly) 2. - 3. -	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	• The entry lock/ unlock does not operate. • The entry back door does not operate. • The entry and start warning message does not operate. • The key lock-in prevention function does not operate.	-

				• The entry illumination does not operate.	
				Package default setting.	-
			1. - 2. Combination meter assembly 3. -	The vehicle speed is determined to be 0 km/h (0 mph).	-
				-	-
Verification (IDT)			1. Certification ECU (smart key ECU assembly) 2. - 3. -	-	-
	Wireless buzzer function	The wireless buzzer sounding control.	1. - 2. Main body ECU (cowl side junction block LH) 3. Main body ECU (cowl side junction block LH)	Does not sound even though there is a wireless buzzer request.	-
				Package default settings.	-
			1. - 2. Suspension control ECU 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) 2. - 3. -	-	-
			1. - 2. ECM 3. -	The engine switch is forcibly turned off.	-
Verification (IDT)	Wireless function	Wireless electric wave information transmission.	1. Certification ECU (smart key ECU assembly) 2. - 3. -	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	-	-
	Security function	Security alarm control.	1. Certification ECU (smart key ECU assembly) 2. - 3. -	-	-
			1. - 2. Main body ECU (cowl side junction block LH) 3. -	The alarm is not unset. The alarm is not set.	-
			1. - 2. ECM 3. -	The alarm is not unset by the engine start.	-
			1. Network gateway ECU 2. Seat belt control ECU 3. -		
			1. Network gateway ECU 2. Distance control ECU assembly 3. -		
			1. Network gateway ECU 2. Parking		

Gateway (CGW)	Gateway function	Transmits frames between the V bus and motion control system bus.	1. [illegible] assist ECU 2. - 3. -	• Transmission interval counter (the selected RAM and CAN controller initialization). • Extremely late frame rejection function (the RAM of the gateway application and the selected RAM initialization). • Reception interval counter (the selected RAM and CAN controller initialization).	-
			1. Network gateway ECU 2. Steering angle sensor 3. -		
			1. Network gateway ECU 2. Suspension control ECU 3. -		
			1. Network gateway ECU 2. Master cylinder solenoid (skid control ECU) 3. -		
			1. Network gateway ECU 2. Yaw rate sensor assembly 3. -		
			1. Network gateway ECU 2. Steering control ECU 3. -		
			1. Network gateway ECU 2. 4WD control ECU 3. -		
			1. Network gateway ECU 2. - 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	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

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
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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

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
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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

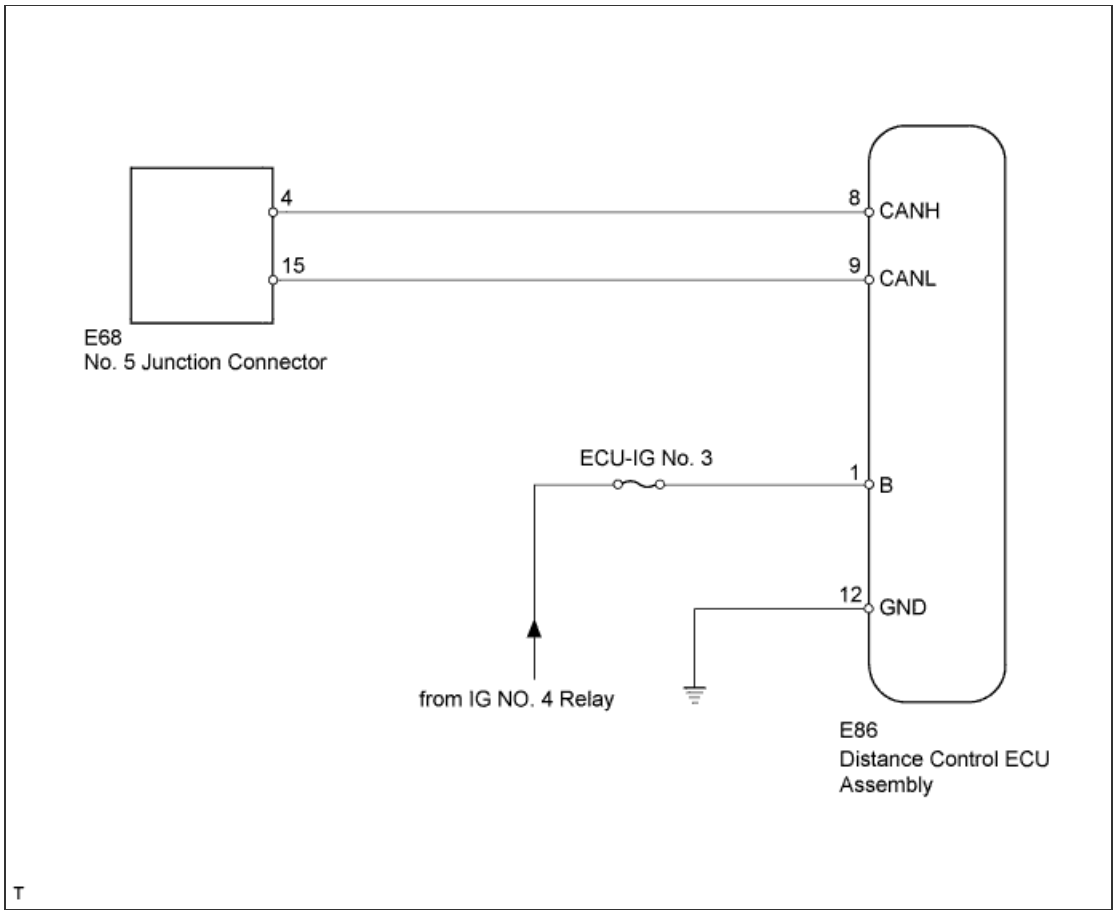
for Preparation Click here

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 • Distance control ECU assembly CAN branch wire or connector • Distance control ECU assembly

For vehicles with a 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.

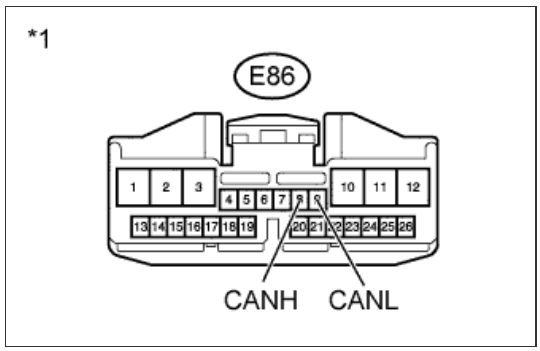
b. Measure the resistance according to the value(s) in the table below.

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.

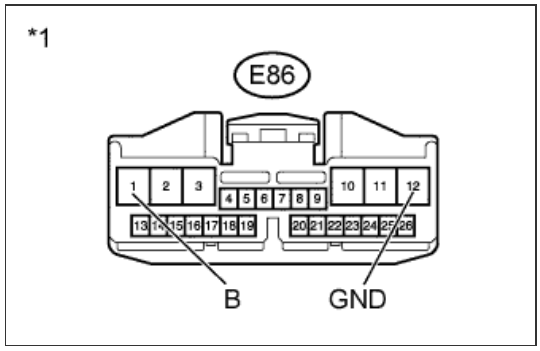
NOTICE:

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 (to Distance Control ECU Assembly)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE DISTANCE CONTROL ECU ASSEMBLY (Click here)

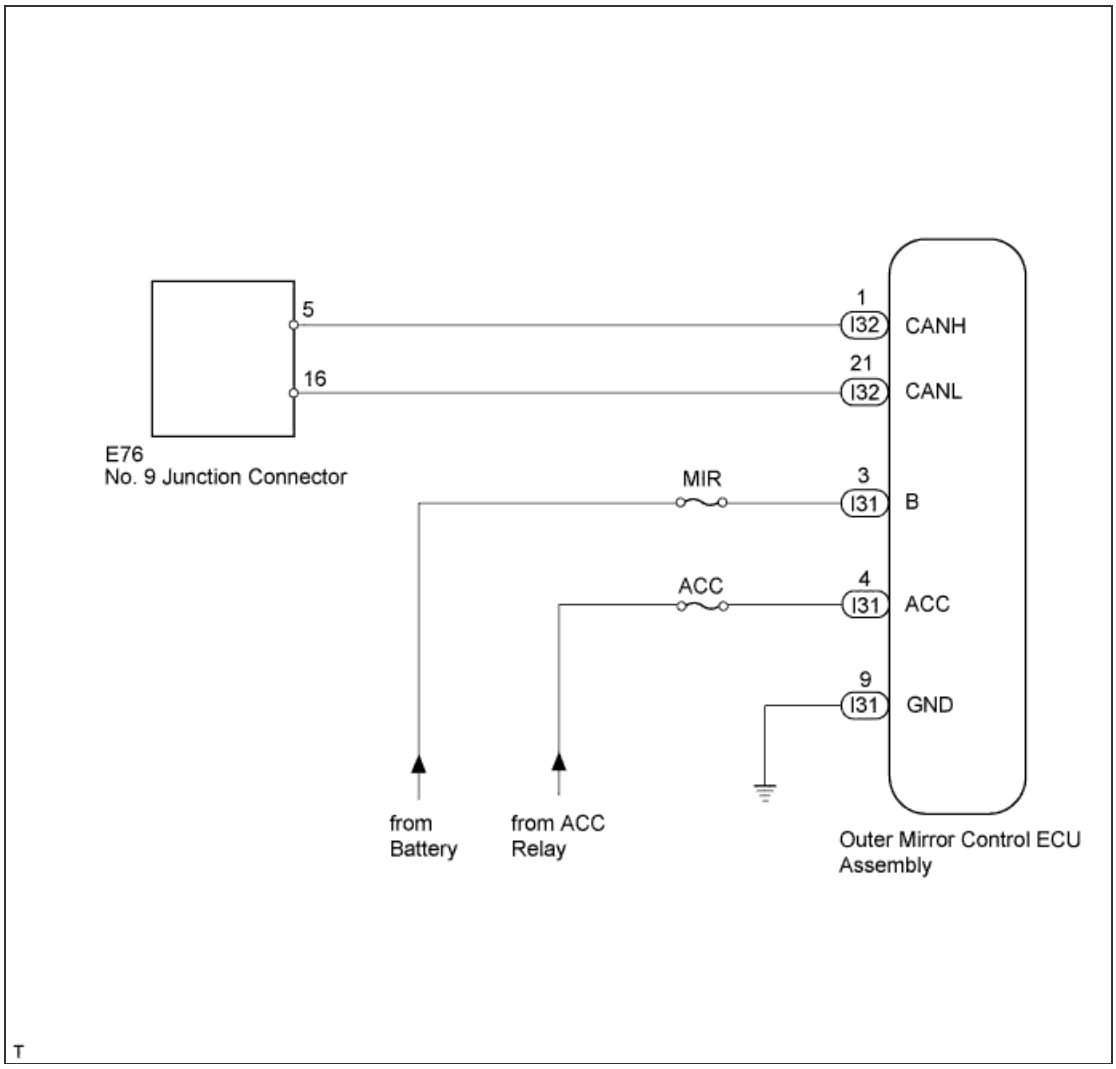
DTC U0199 Lost Communication with "Door Control Module A"

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 • Outer mirror control ECU assembly CAN branch wire or connector • 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.

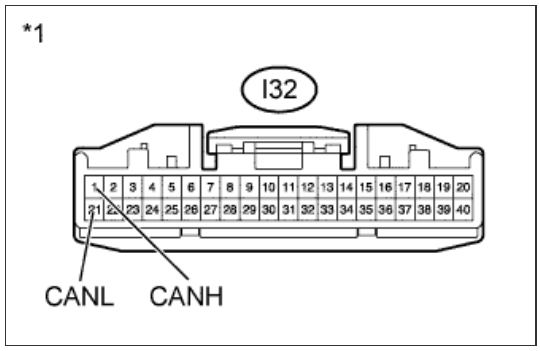
b. Measure the resistance according to the value(s) in the table below.

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:

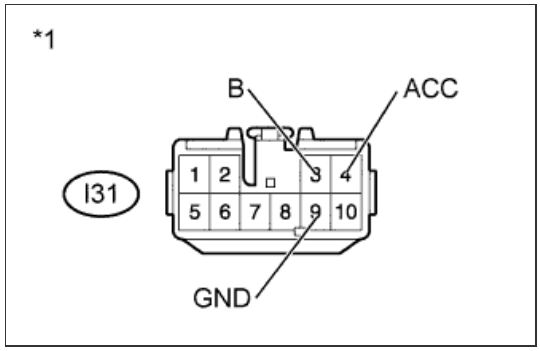
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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 U0104 Lost Communication with Driving Support ECU

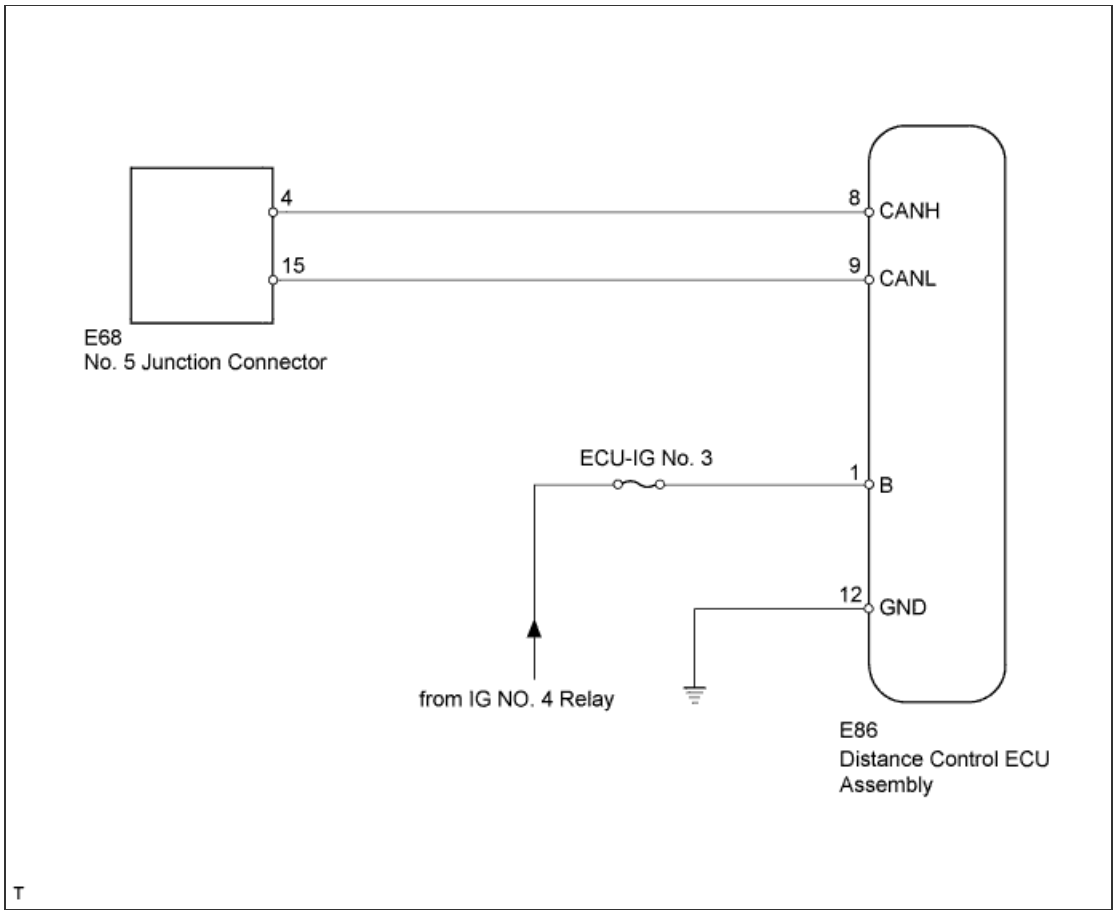
for Preparation Click here

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 • Distance control ECU assembly CAN branch wire or connector • Distance control ECU assembly

For vehicles with a 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.

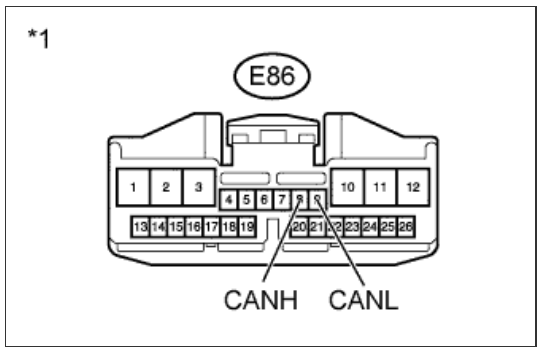
b. Measure the resistance according to the value(s) in the table below.

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.

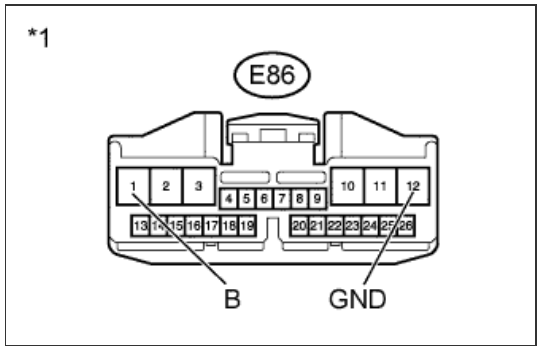
NOTICE:

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 (to Distance Control ECU Assembly)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE DISTANCE CONTROL ECU ASSEMBLY (Click here)

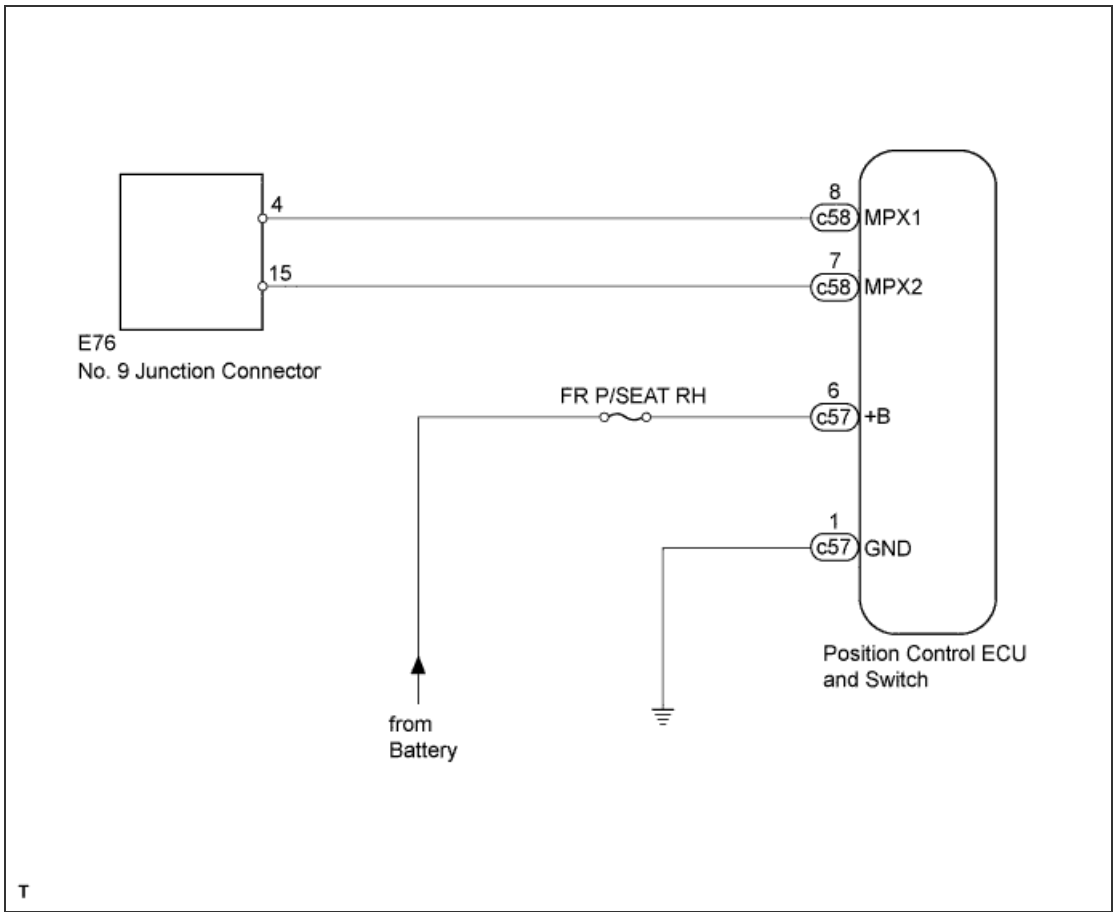
DTC U0208 Lost Communication with "Seat Control Module A"

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 • Position control ECU and switch • 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.

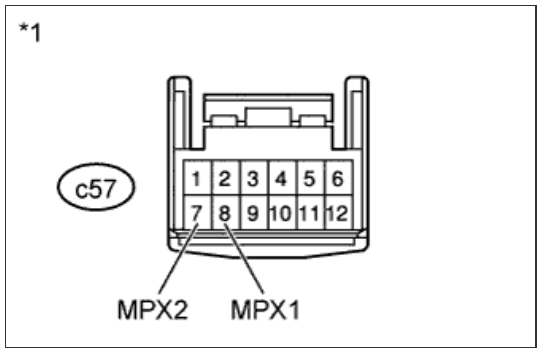
b. Measure the resistance according to the value(s) in the table below.

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.

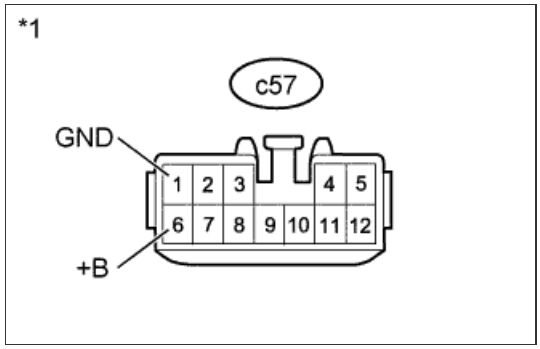
Standard Voltage:

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 (to Position Control ECU and Switch)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE POSITION CONTROL ECU AND SWITCH (Click here)

DTC U0104 Lost Communication with Driving Support ECU

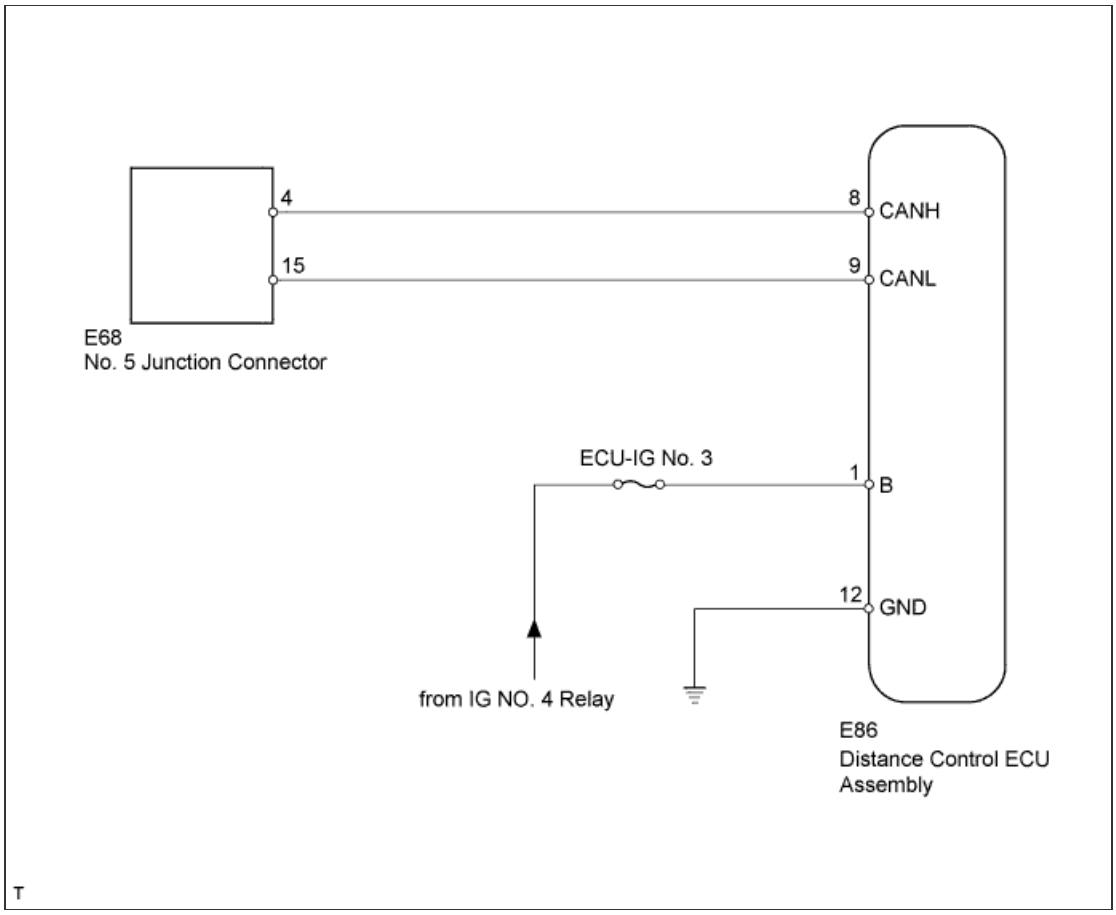
for Preparation Click here

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 • Distance control ECU assembly CAN branch wire or connector • Distance control ECU assembly

For vehicles with a 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.

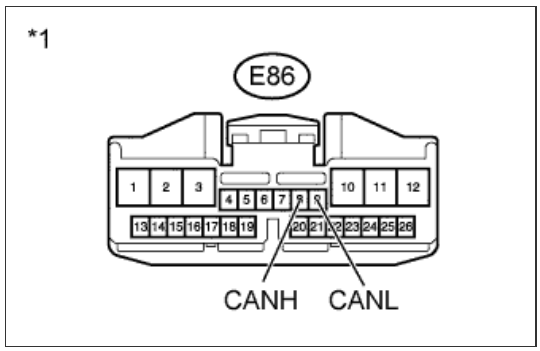
b. Measure the resistance according to the value(s) in the table below.

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.

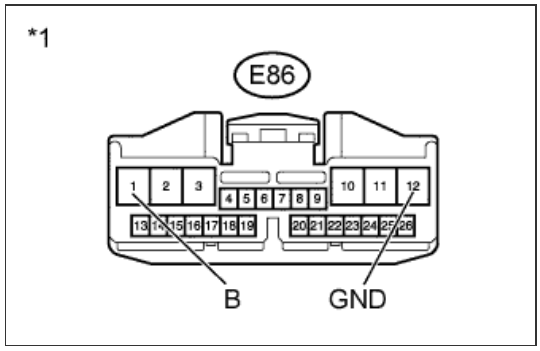
NOTICE:

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 (to Distance Control ECU Assembly)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE DISTANCE CONTROL ECU ASSEMBLY (Click here)

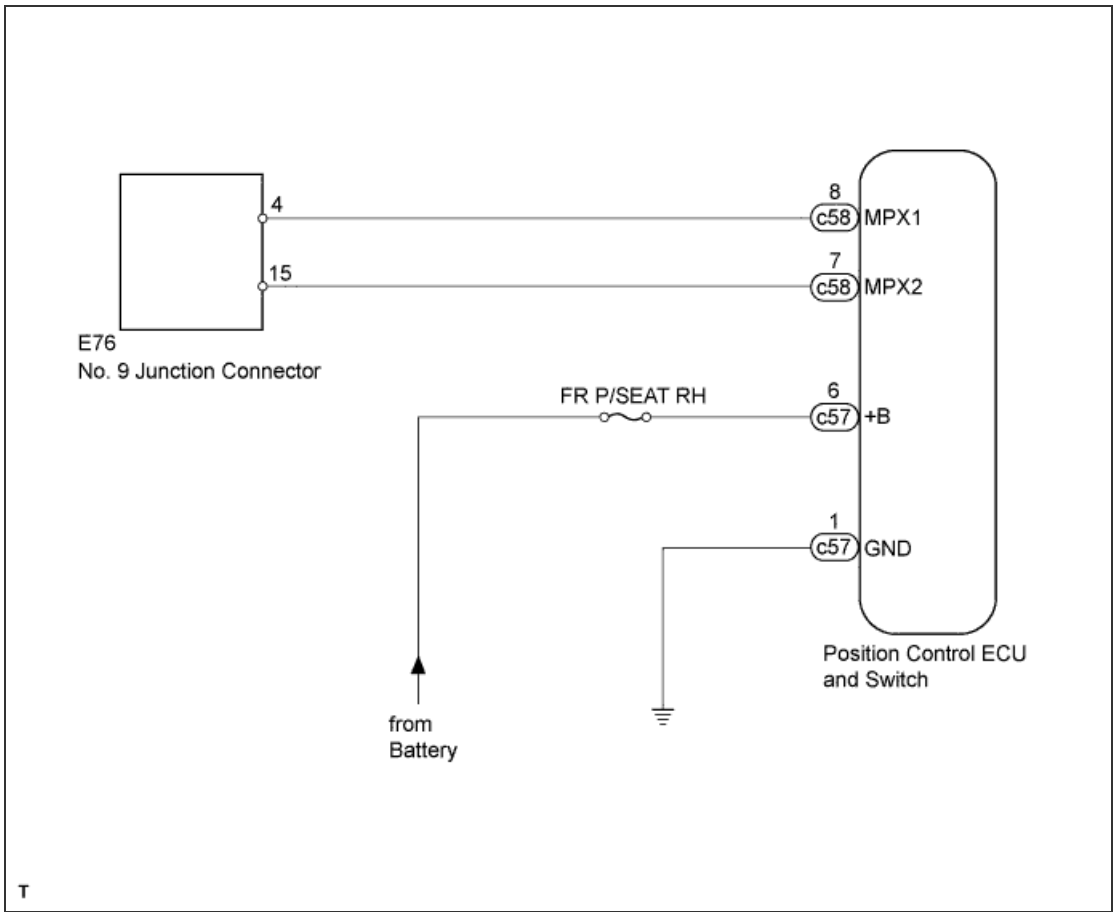
DTC U0208 Lost Communication with "Seat Control Module A"

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 • Position control ECU and switch • 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.

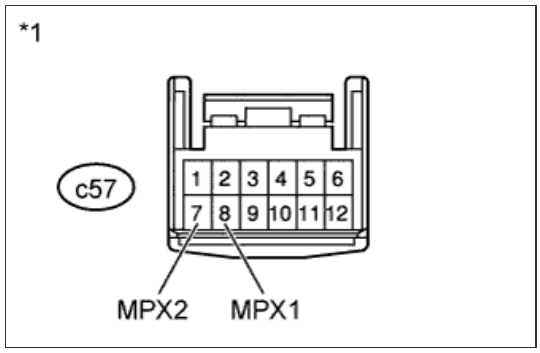
b. Measure the resistance according to the value(s) in the table below.

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.

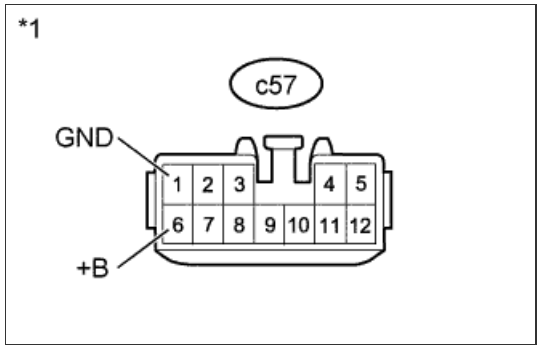
Standard Voltage:

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 (to Position Control ECU and Switch)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE POSITION CONTROL ECU AND SWITCH (Click here)

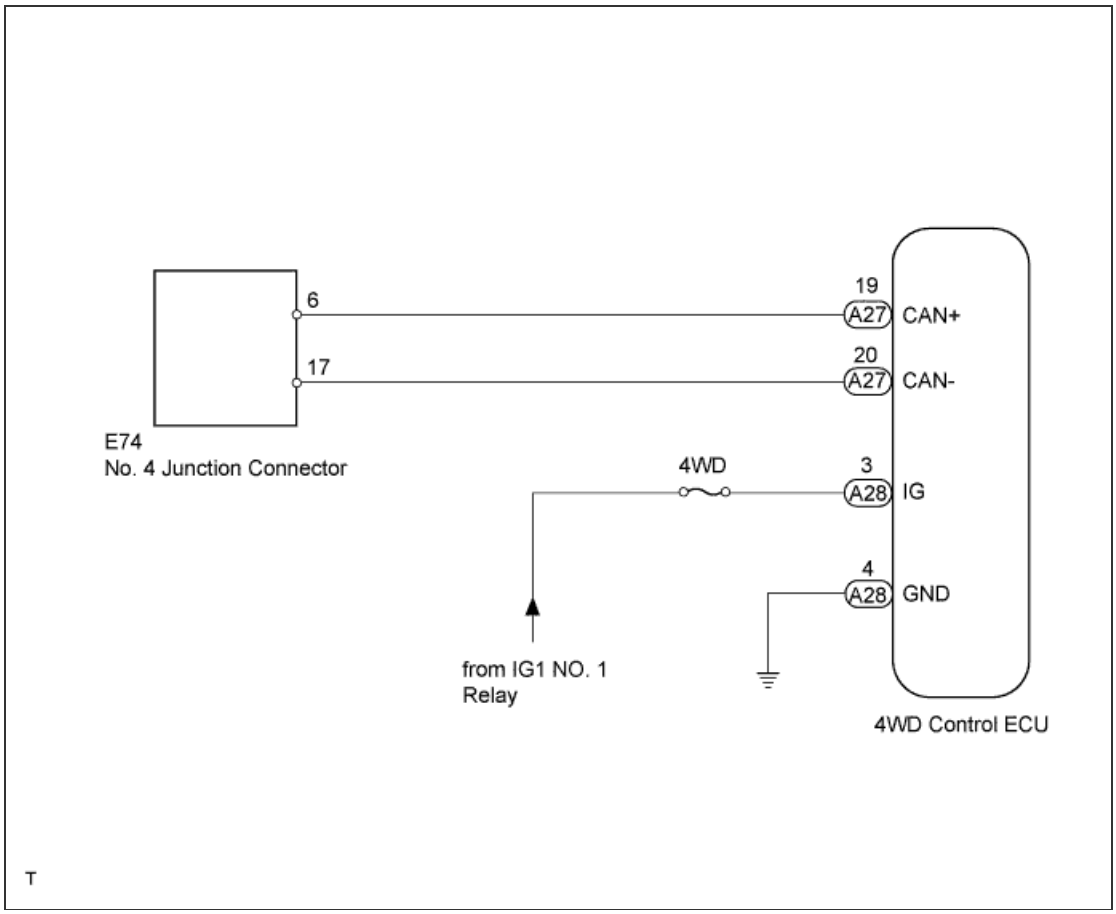
DTC U0114/38 Lost Communication with 4WD Control ECU

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 • 4WD control ECU • 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.

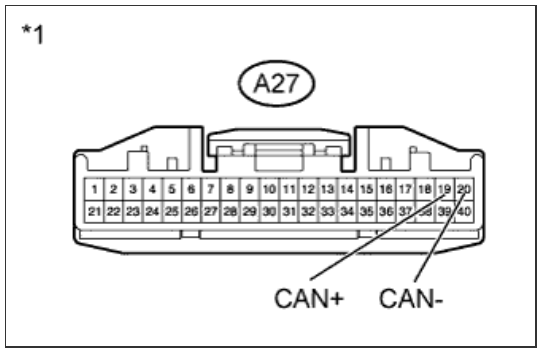
b. Measure the resistance according to the value(s) in the table below.

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.

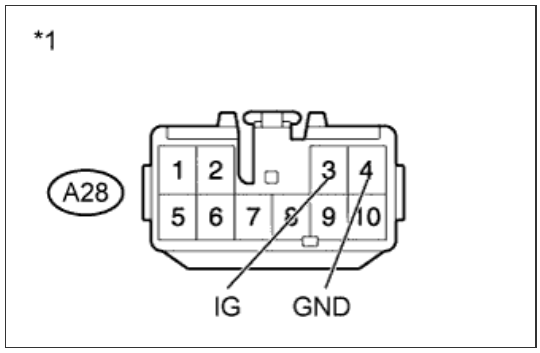
Standard Voltage:

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)

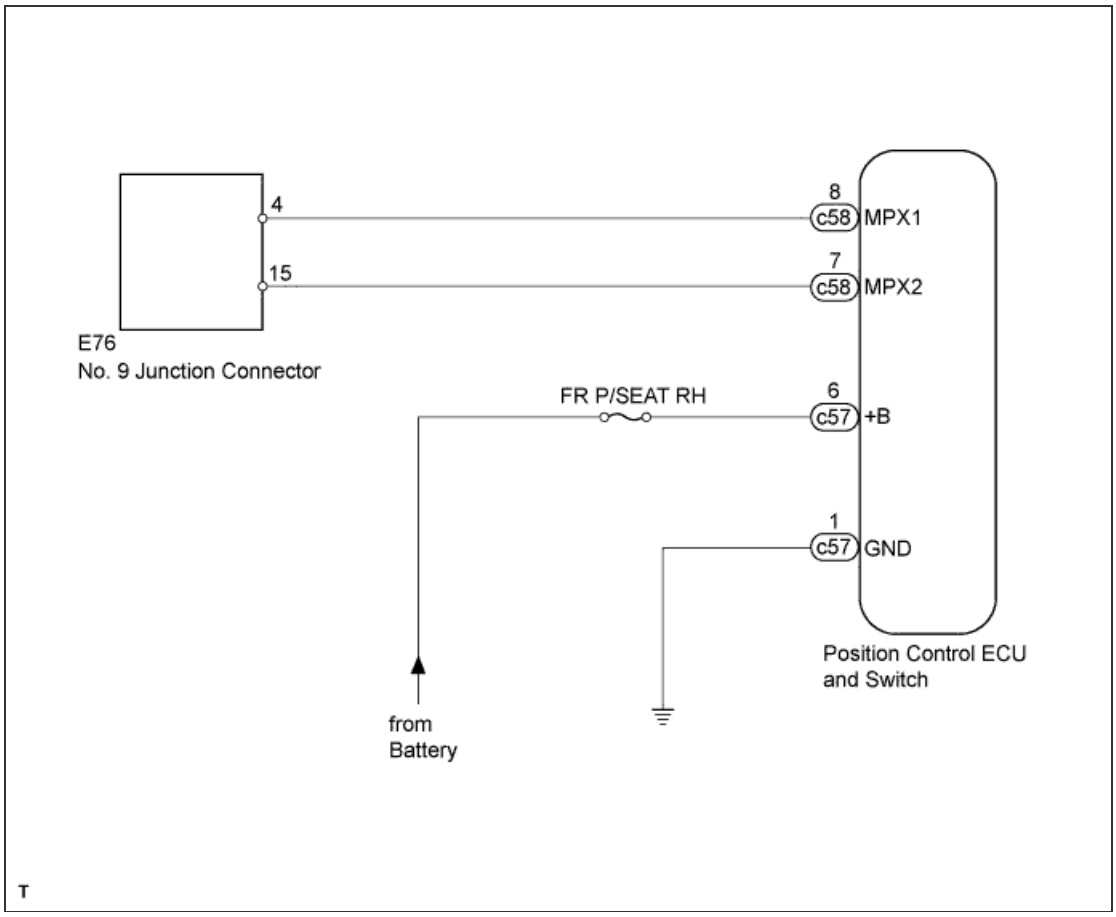
DTC U0208 Lost Communication with "Seat Control Module A"

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 • Position control ECU and switch • 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.

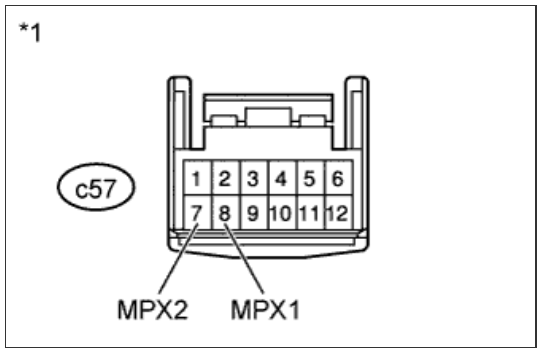
b. Measure the resistance according to the value(s) in the table below.

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.

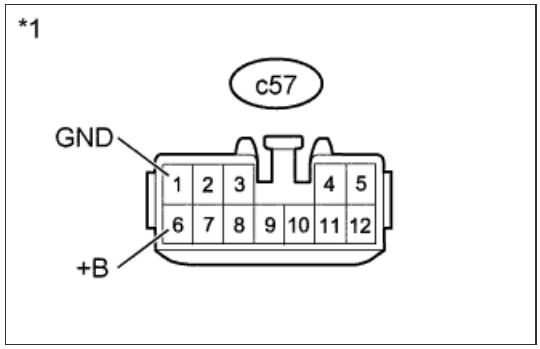
Standard Voltage:

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 (to Position Control ECU and Switch)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE POSITION CONTROL ECU AND SWITCH (Click here)

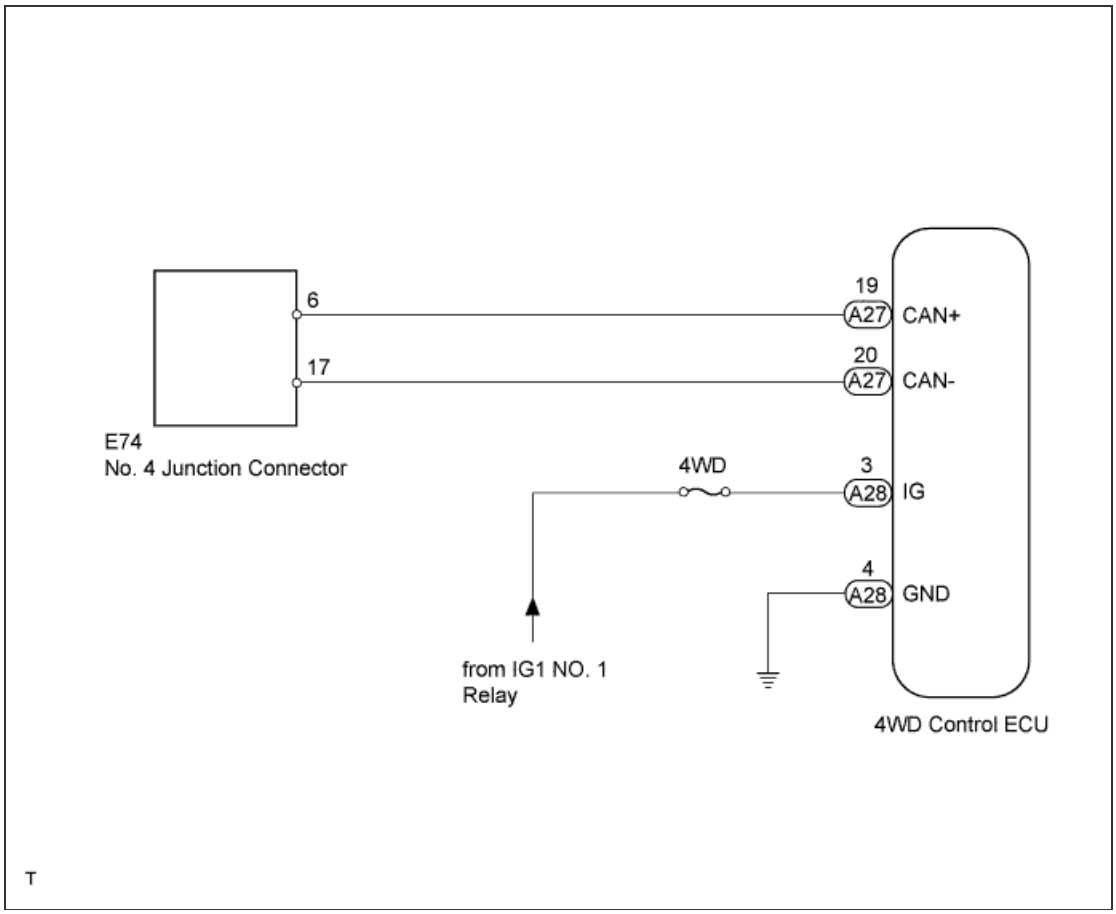
DTC U0114/38 Lost Communication with 4WD Control ECU

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 • 4WD control ECU • 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.

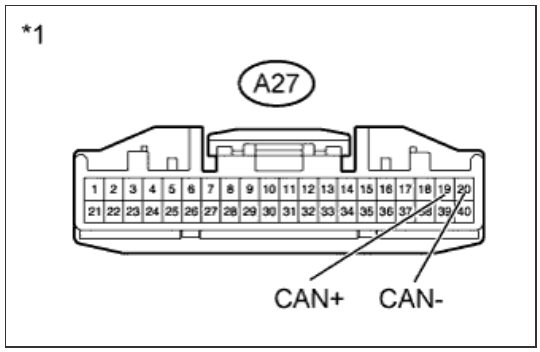
b. Measure the resistance according to the value(s) in the table below.

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.

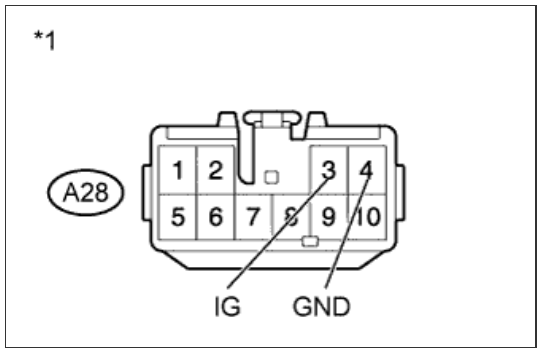
Standard Voltage:

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)

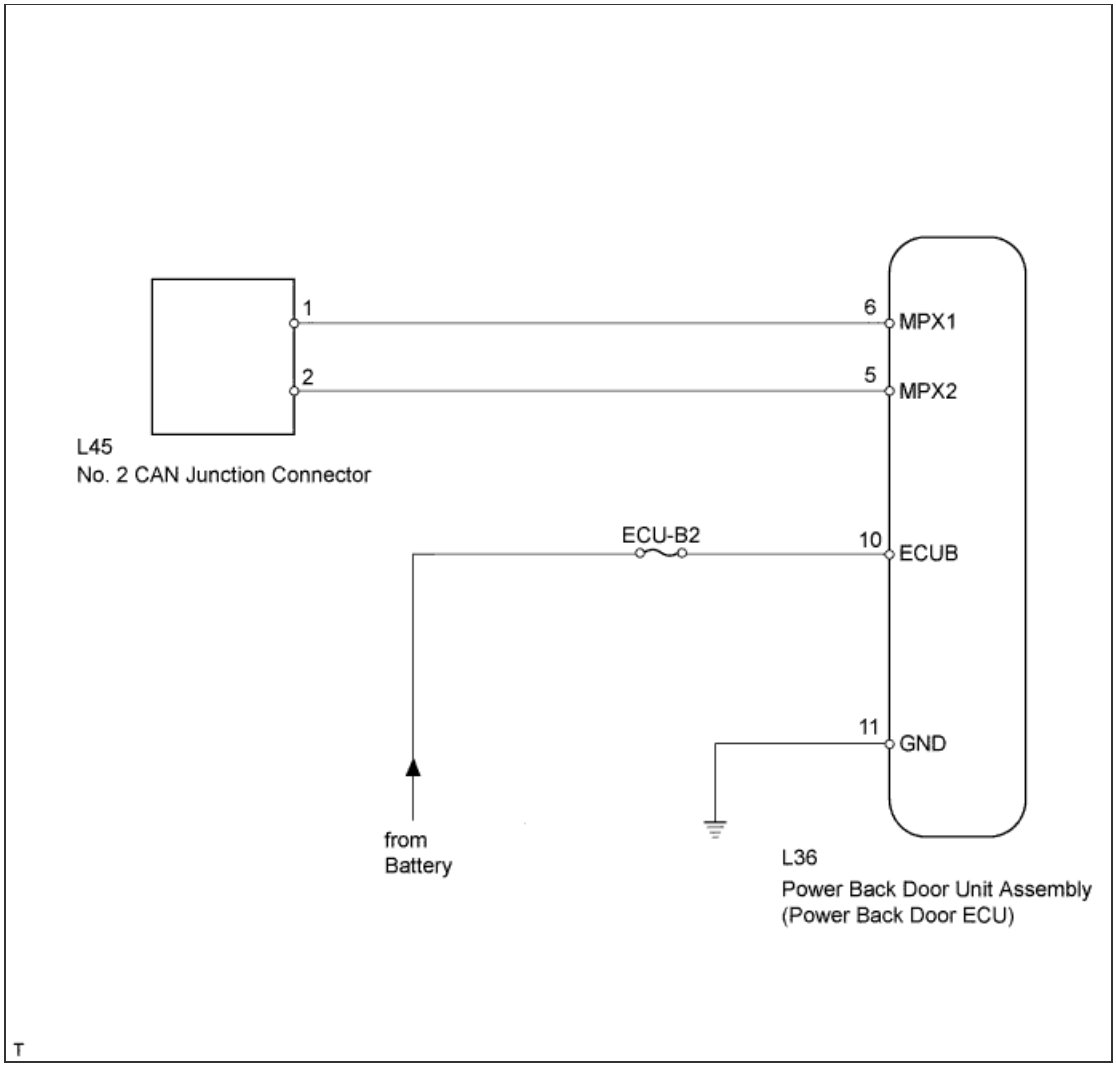
DTC U0230 Lost Communication with Rear Gate Module

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) • Power back door unit assembly (power back door ECU) CAN branch wire or connector • 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.

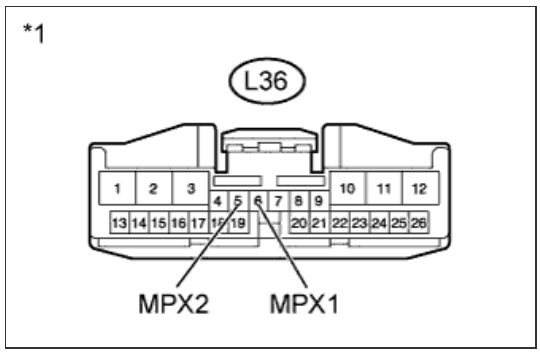
b. Measure the resistance according to the value(s) in the table below.

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:

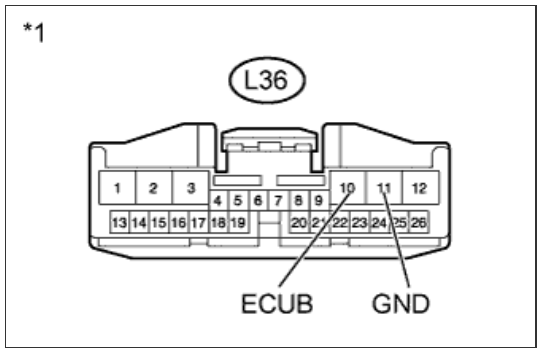
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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)

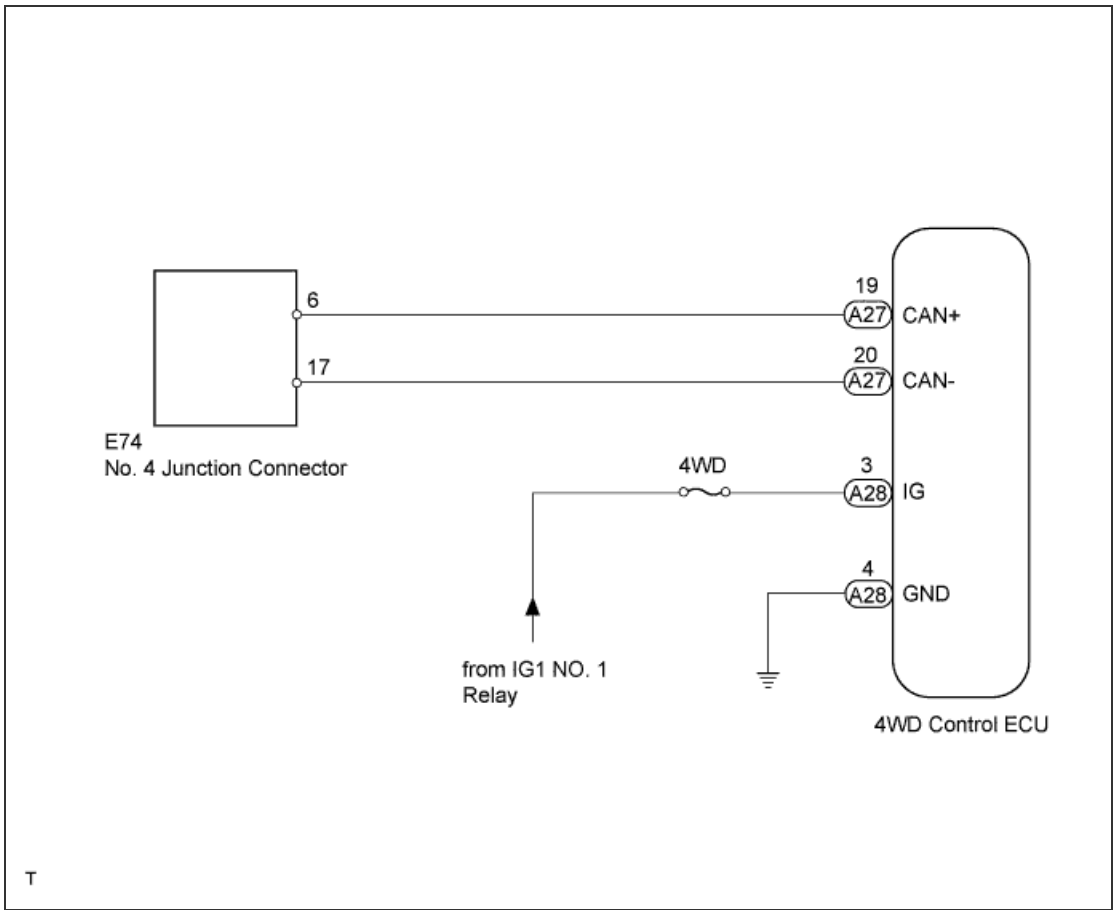
DTC U0114/38 Lost Communication with 4WD Control ECU

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 • 4WD control ECU • 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.

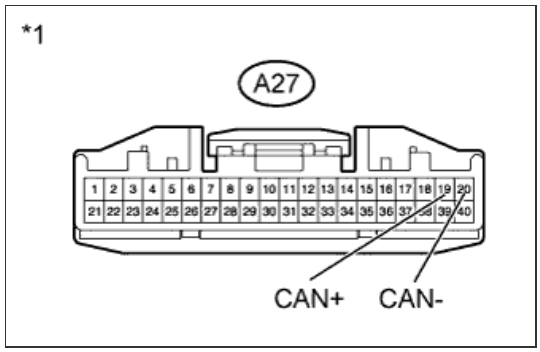
b. Measure the resistance according to the value(s) in the table below.

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.

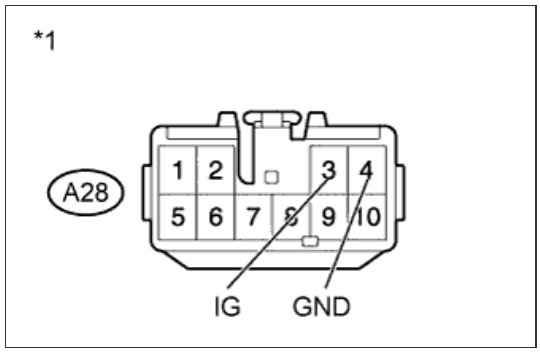
Standard Voltage:

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)

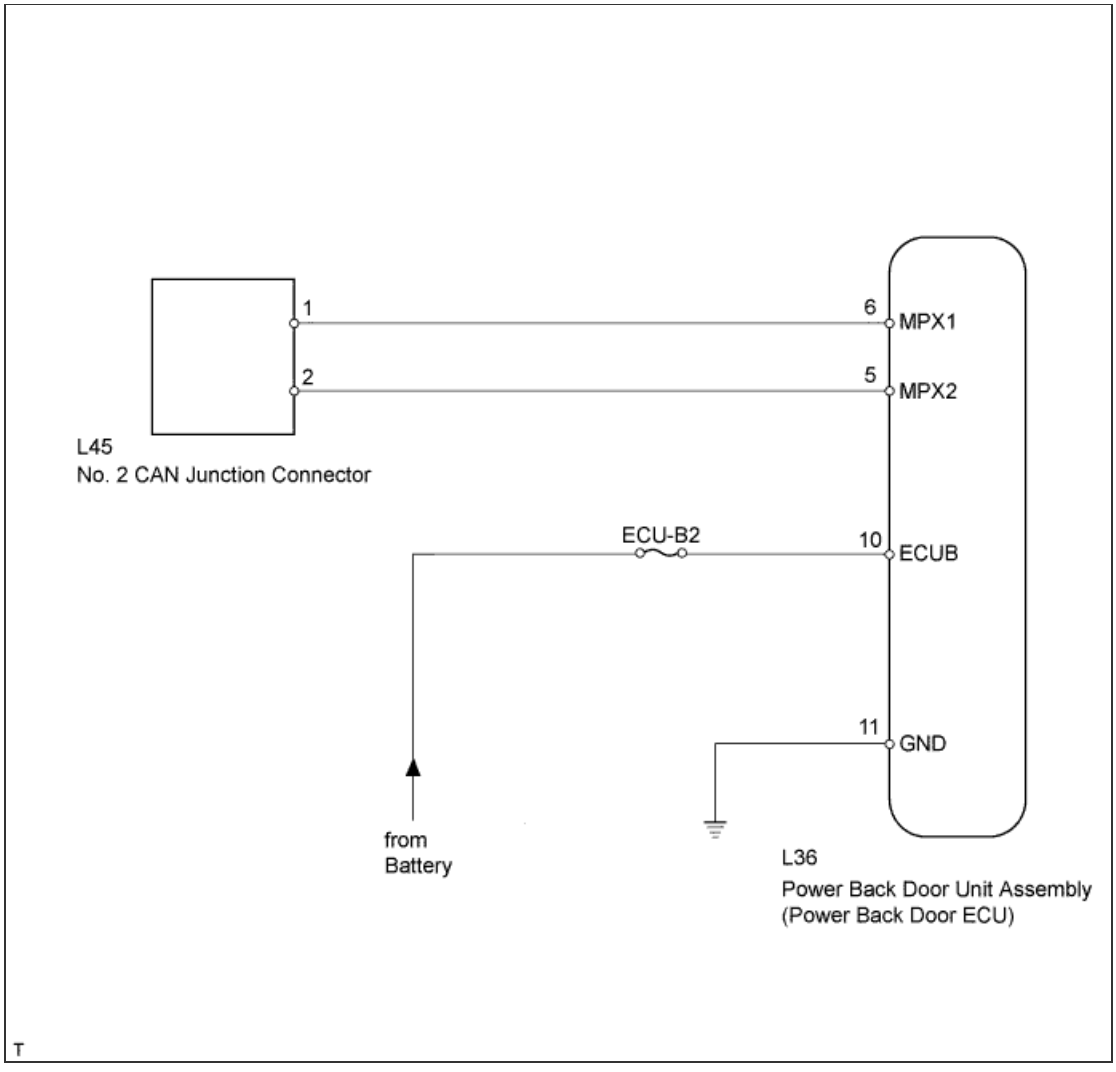
DTC U0230 Lost Communication with Rear Gate Module

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) • Power back door unit assembly (power back door ECU) CAN branch wire or connector • 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.

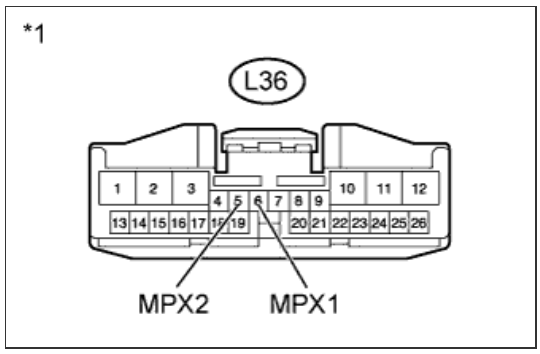
b. Measure the resistance according to the value(s) in the table below.

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:

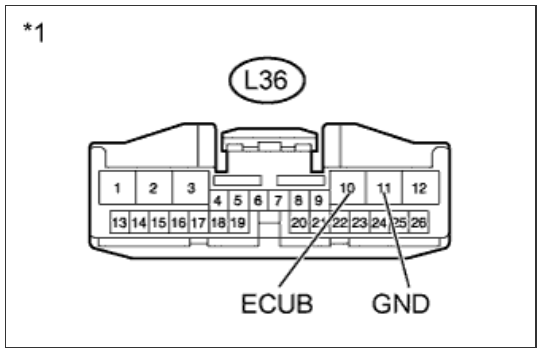
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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 U0125 Lost Communication with Yaw Rate Sensor Module

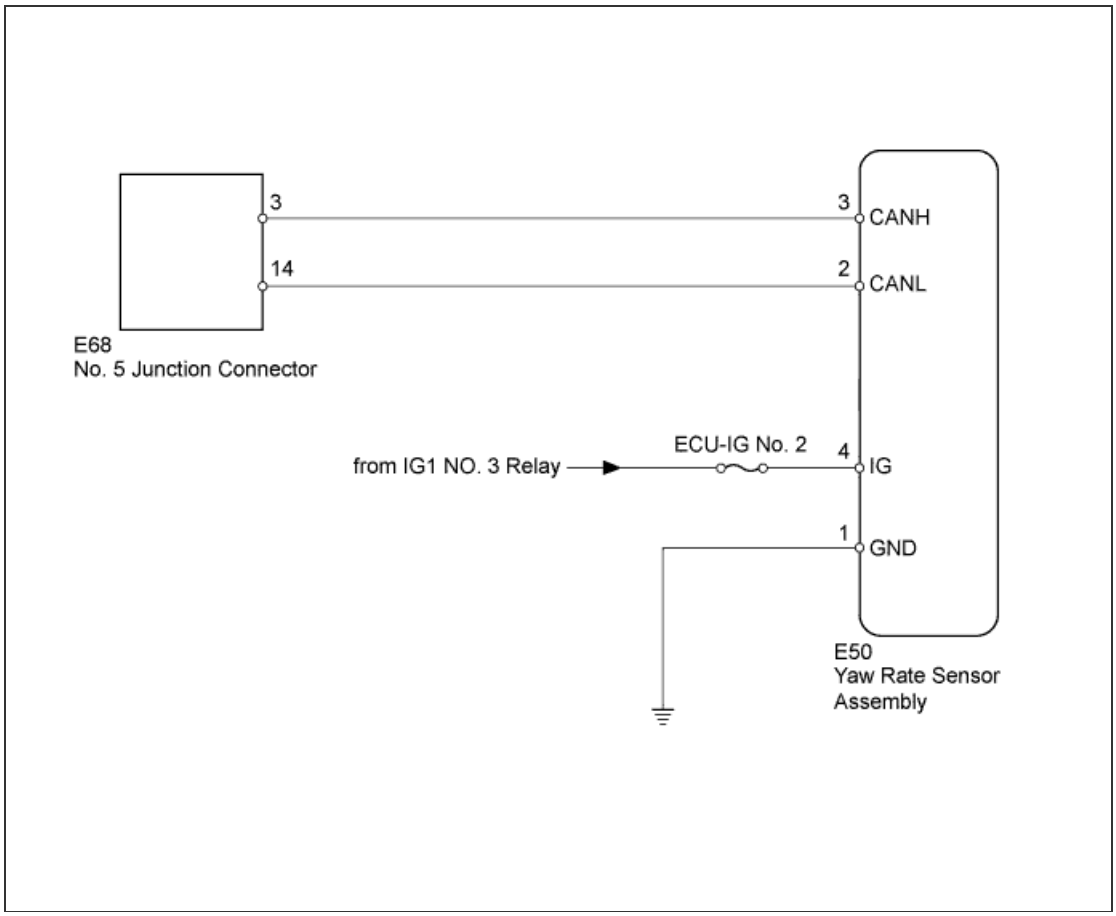
DTC U0124 Lost Communication with Lateral Acceleration Sensor Module

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 • Yaw rate sensor CAN branch wire or connector • 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 • Yaw rate sensor CAN branch wire or connector • 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.

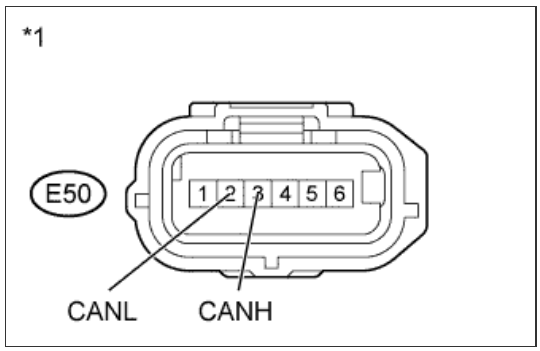
b. Measure the resistance according to the value(s) in the table below.

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).

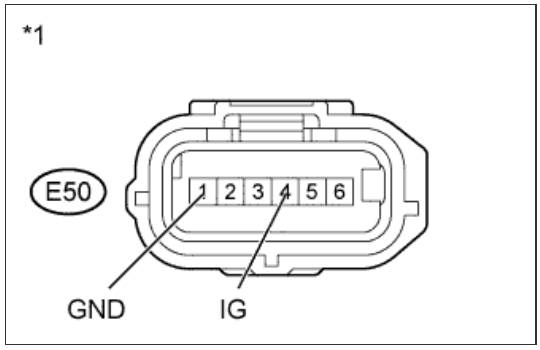
b. Measure the voltage according to the value(s) in table below.

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)

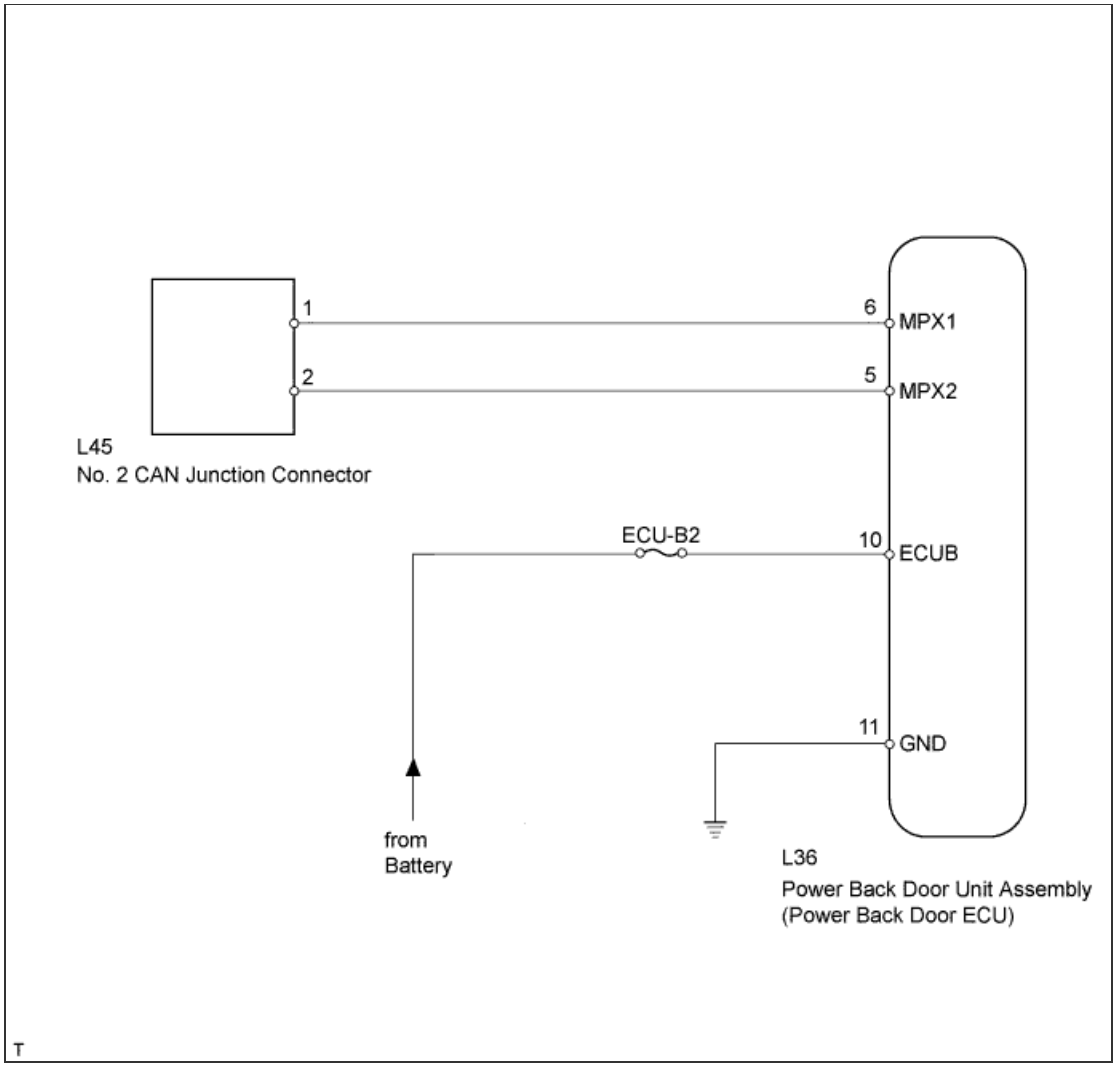
DTC U0230 Lost Communication with Rear Gate Module

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) • Power back door unit assembly (power back door ECU) CAN branch wire or connector • 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.

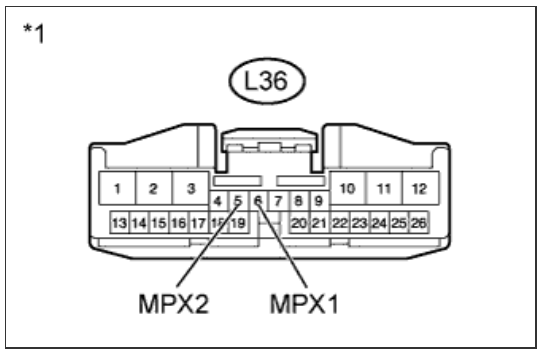
b. Measure the resistance according to the value(s) in the table below.

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:

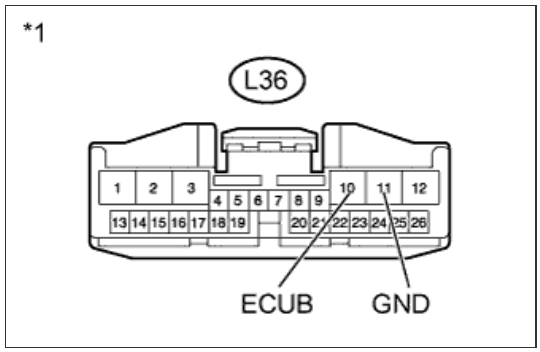
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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 U0125 Lost Communication with Yaw Rate Sensor Module

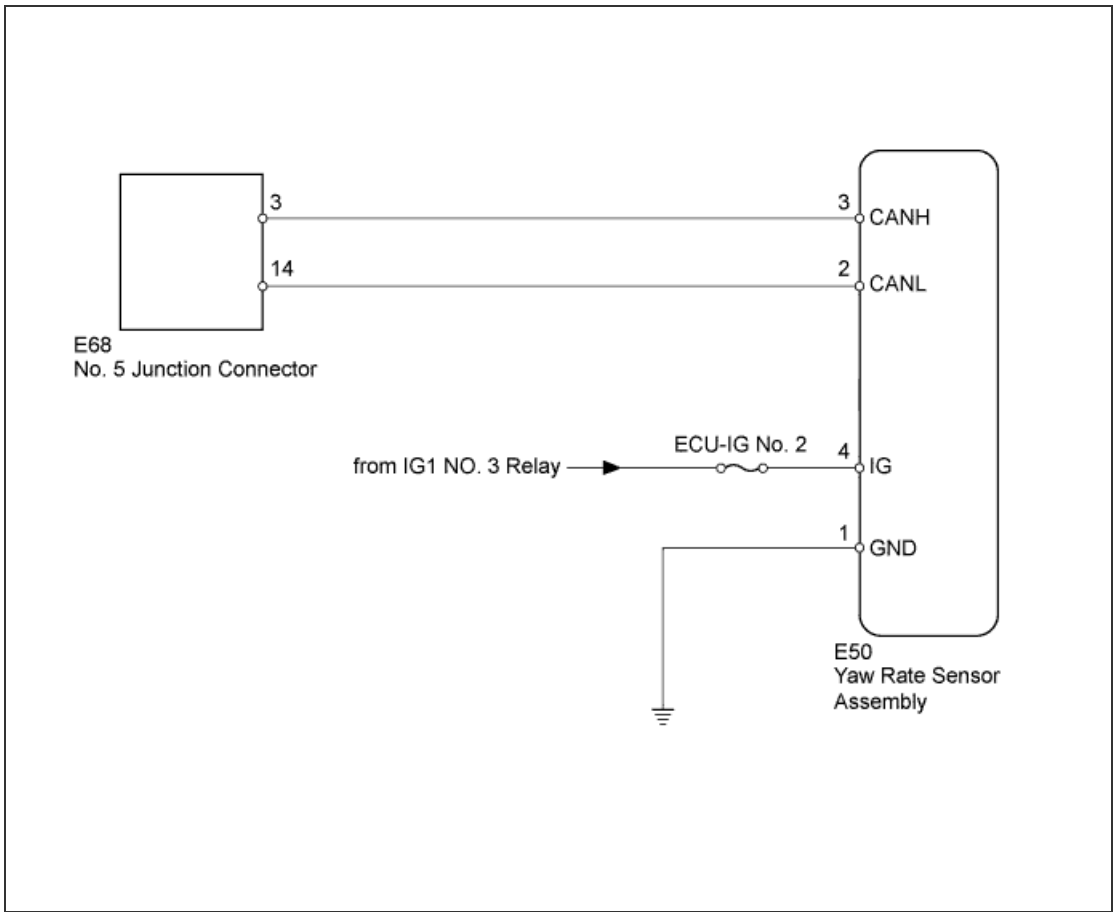
DTC U0124 Lost Communication with Lateral Acceleration Sensor Module

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 • Yaw rate sensor CAN branch wire or connector • 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 • Yaw rate sensor CAN branch wire or connector • 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.

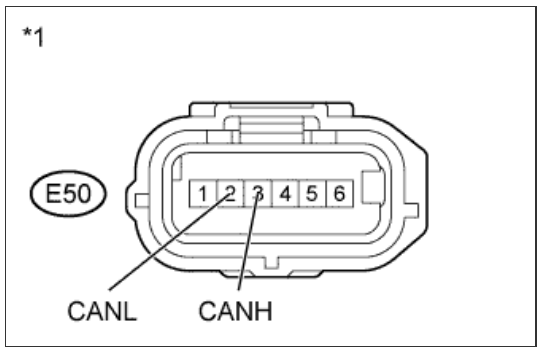
b. Measure the resistance according to the value(s) in the table below.

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).

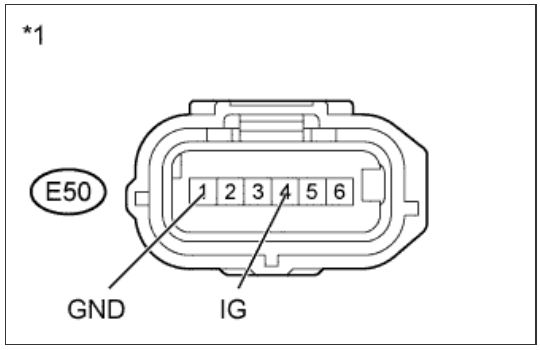
b. Measure the voltage according to the value(s) in table below.

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)

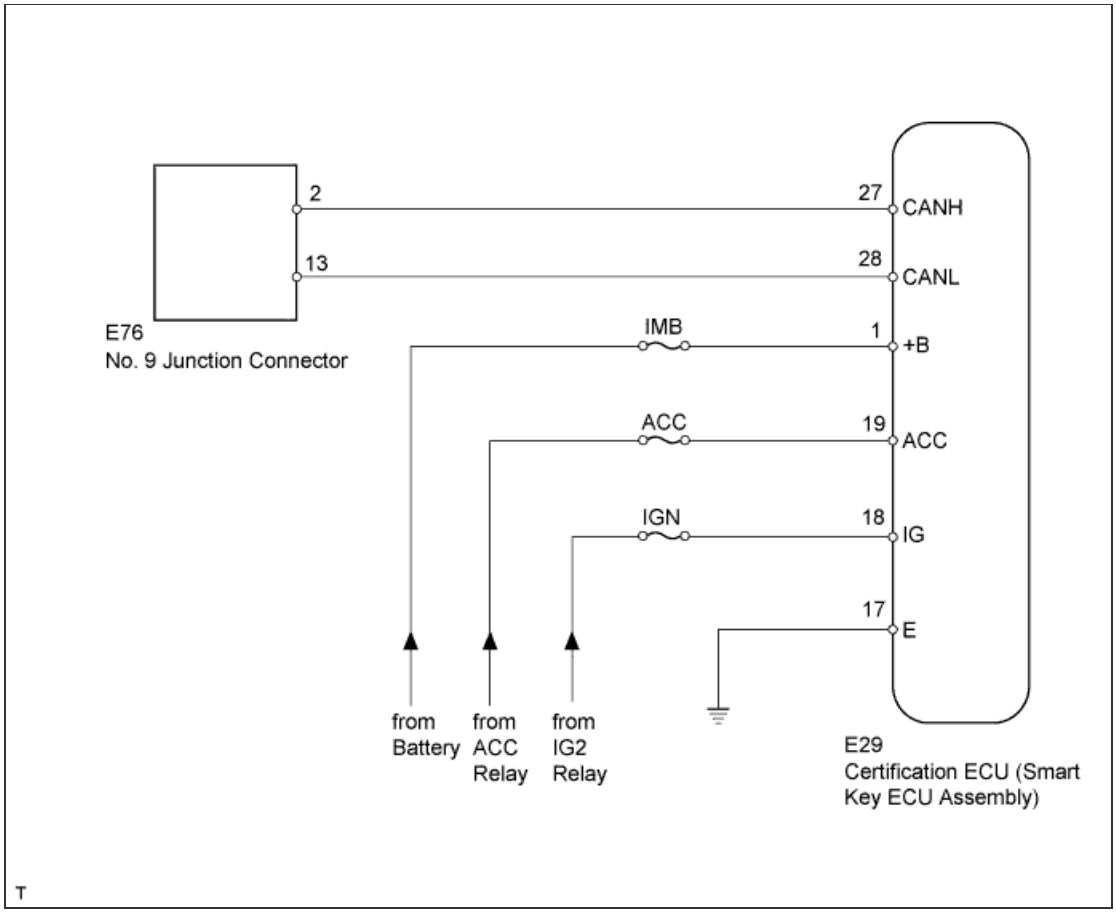
DTC U0327 Software Incompatibility with Vehicle Security Control Module

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) • Certification ECU (smart key ECU assembly) CAN branch wire or connector • 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.

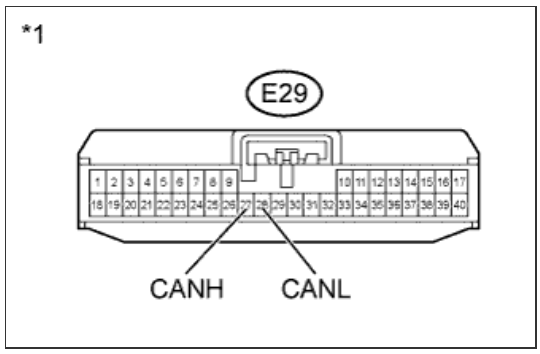
b. Measure the resistance according to the value(s) in the table below.

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.

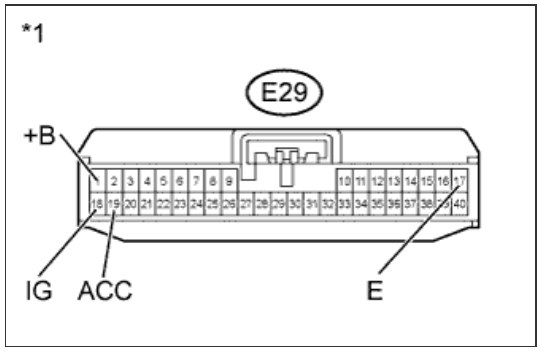
NOTICE:

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 (to Certification ECU [Smart Key ECU Assembly])

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE CERTIFICATION ECU ASSEMBLY (SMART KEY ECU)

DTC U0125 Lost Communication with Yaw Rate Sensor Module

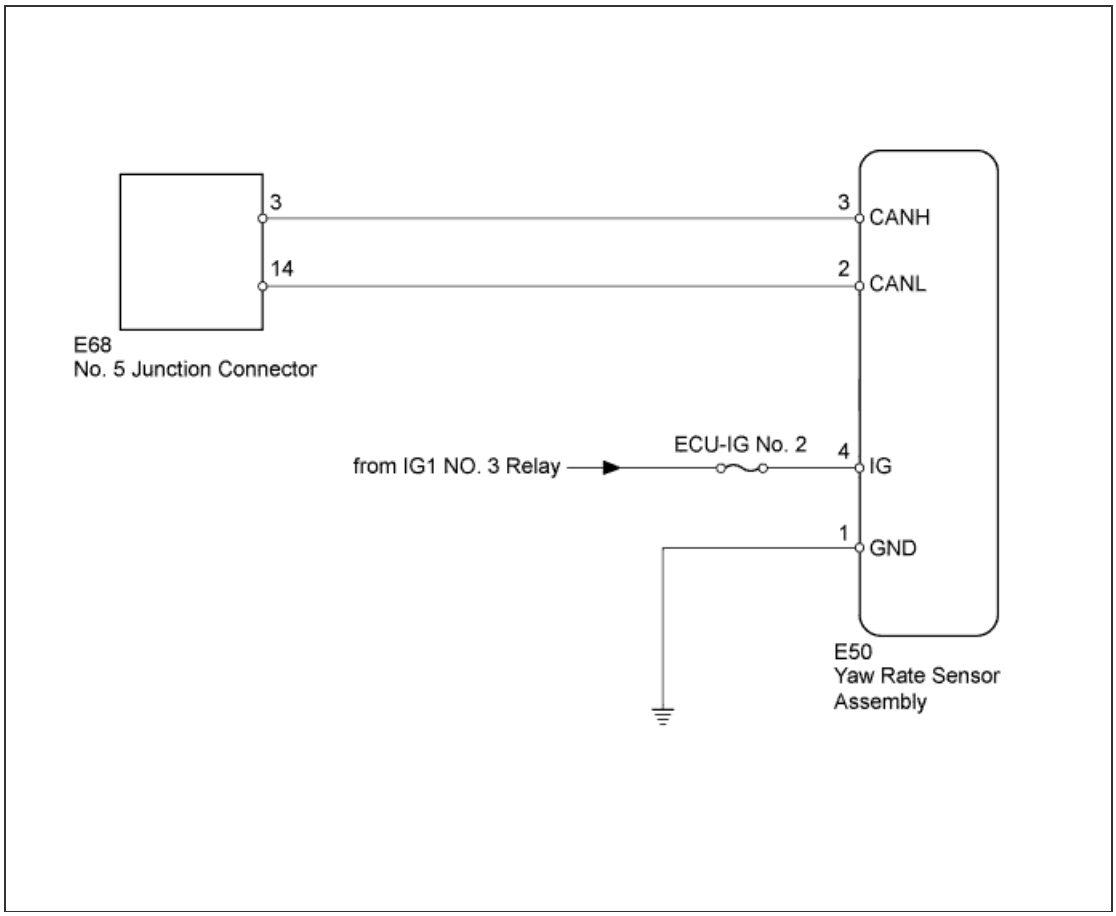
DTC U0124 Lost Communication with Lateral Acceleration Sensor Module

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 • Yaw rate sensor CAN branch wire or connector • 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 • Yaw rate sensor CAN branch wire or connector • 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.

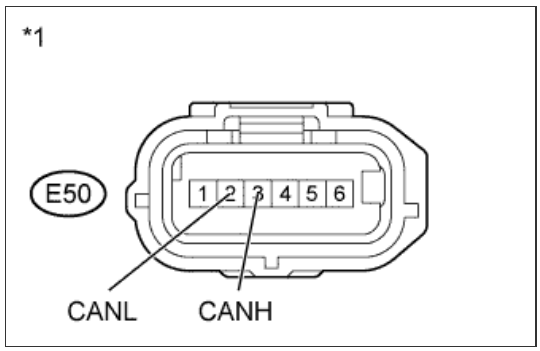
b. Measure the resistance according to the value(s) in the table below.

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).

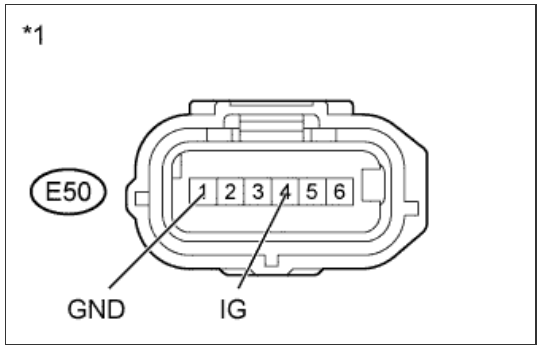
b. Measure the voltage according to the value(s) in table below.

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)

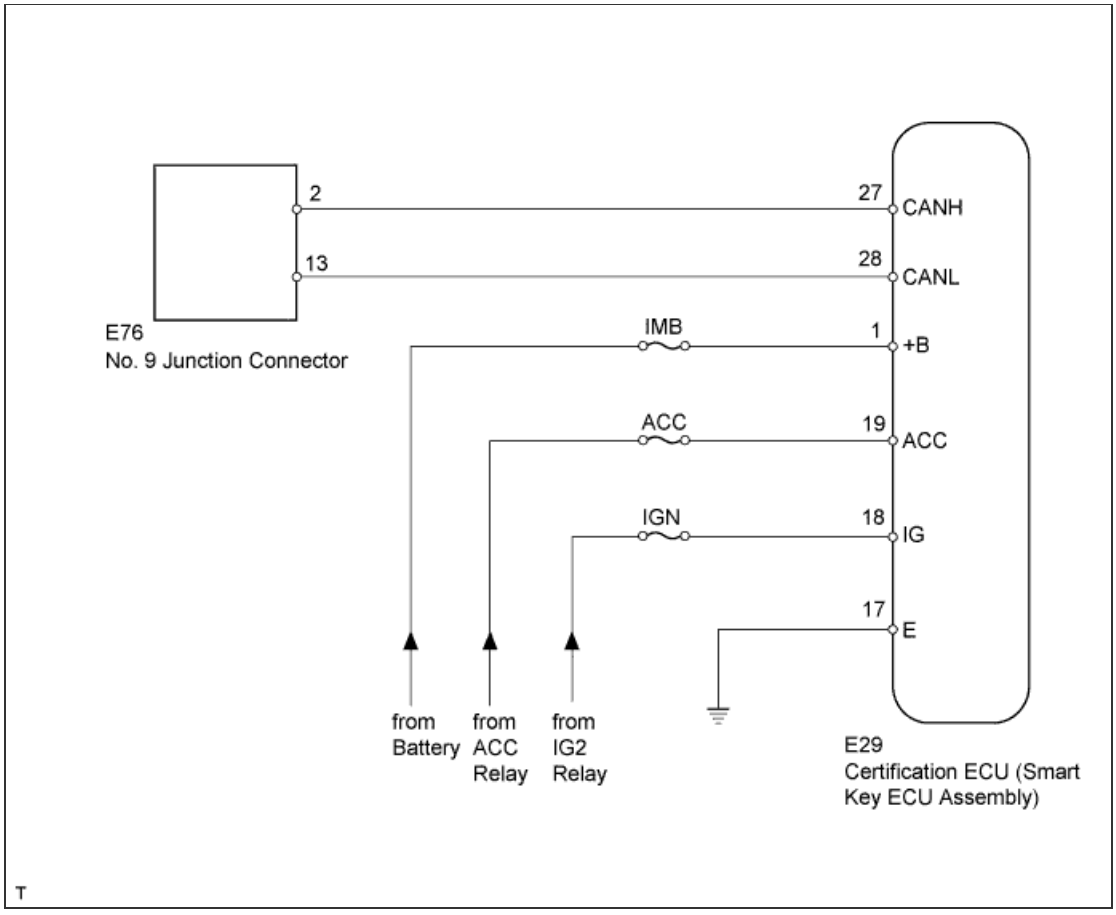
DTC U0327 Software Incompatibility with Vehicle Security Control Module

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) • Certification ECU (smart key ECU assembly) CAN branch wire or connector • 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.

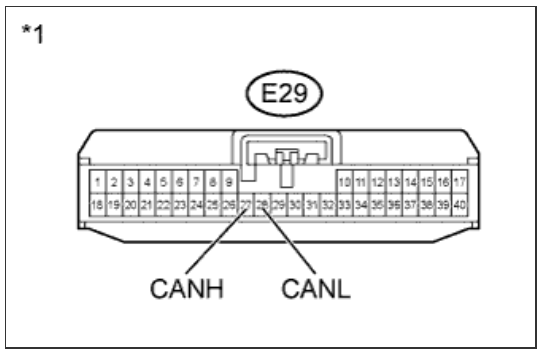
b. Measure the resistance according to the value(s) in the table below.

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.

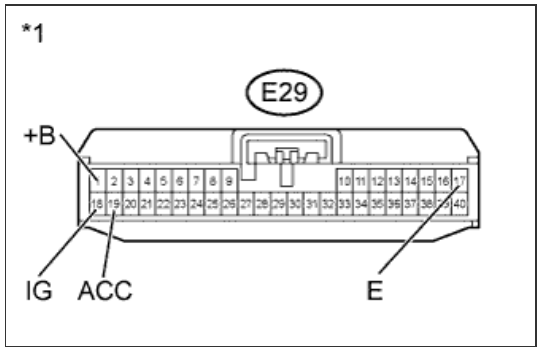
NOTICE:

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 (to Certification ECU [Smart Key ECU Assembly])

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE CERTIFICATION ECU ASSEMBLY (SMART KEY ECU)

DTC U0125 Lost Communication with Yaw Rate Sensor Module

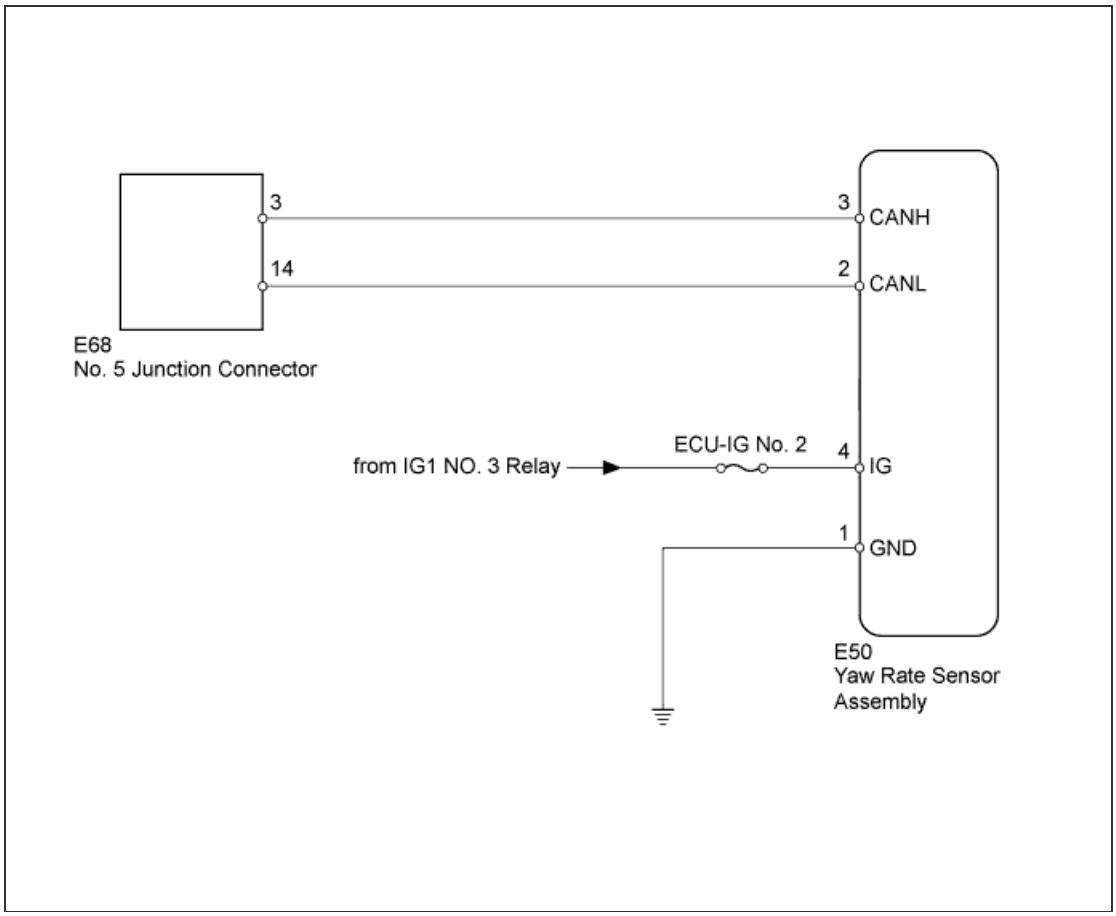
DTC U0124 Lost Communication with Lateral Acceleration Sensor Module

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 • Yaw rate sensor CAN branch wire or connector • 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 • Yaw rate sensor CAN branch wire or connector • 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.

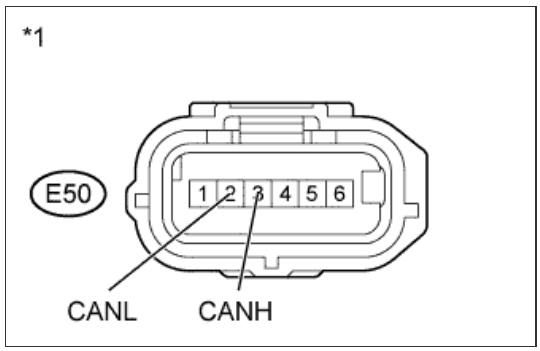
b. Measure the resistance according to the value(s) in the table below.

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).

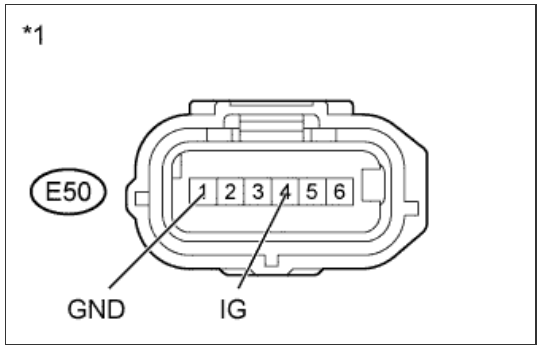
b. Measure the voltage according to the value(s) in table below.

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)

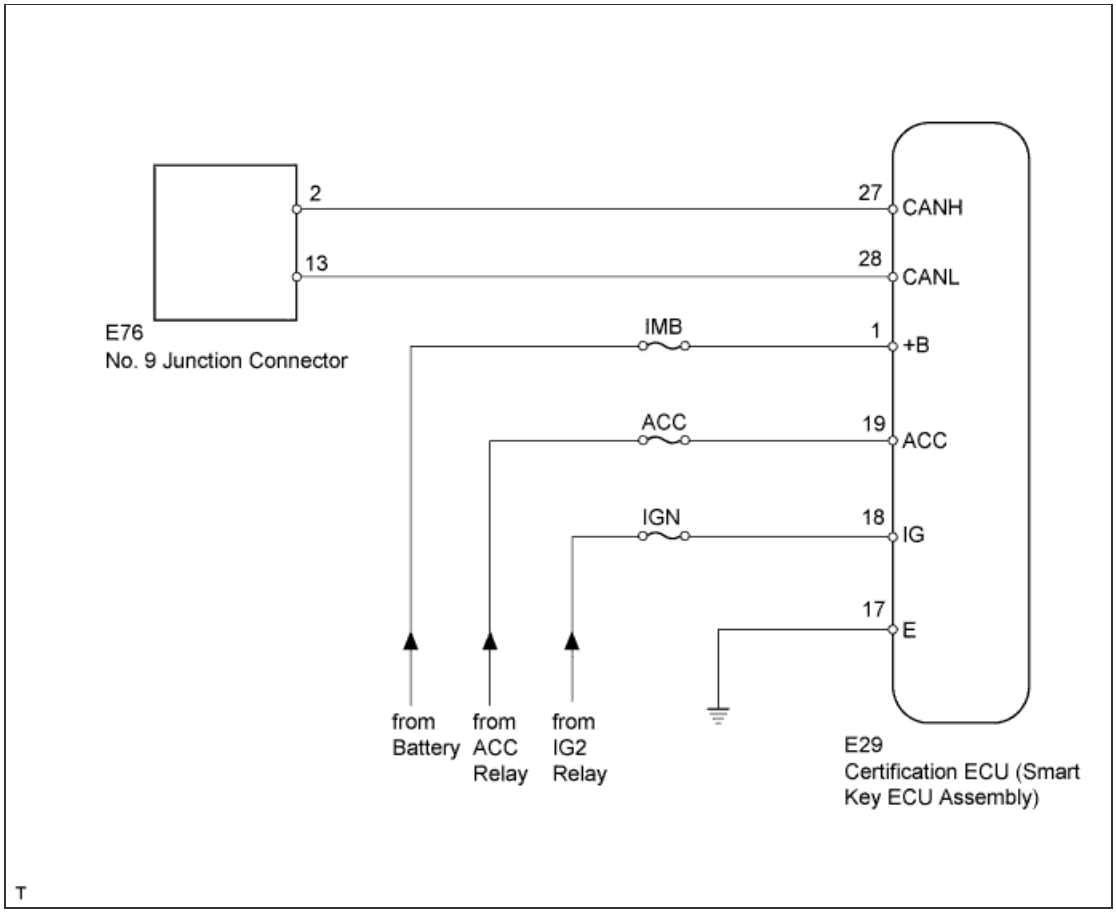
DTC U0327 Software Incompatibility with Vehicle Security Control Module

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) • Certification ECU (smart key ECU assembly) CAN branch wire or connector • 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.

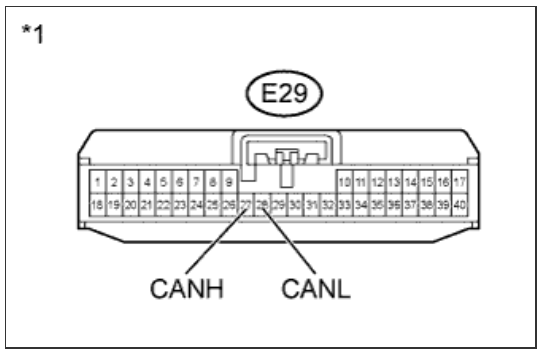
b. Measure the resistance according to the value(s) in the table below.

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.

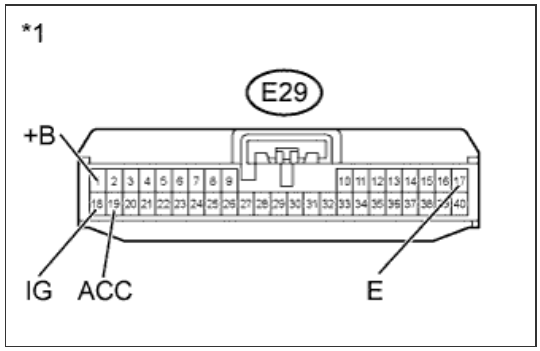
NOTICE:

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 (to Certification ECU [Smart Key ECU Assembly])

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE CERTIFICATION ECU ASSEMBLY (SMART KEY ECU)

DTC U0125 Lost Communication with Yaw Rate Sensor Module

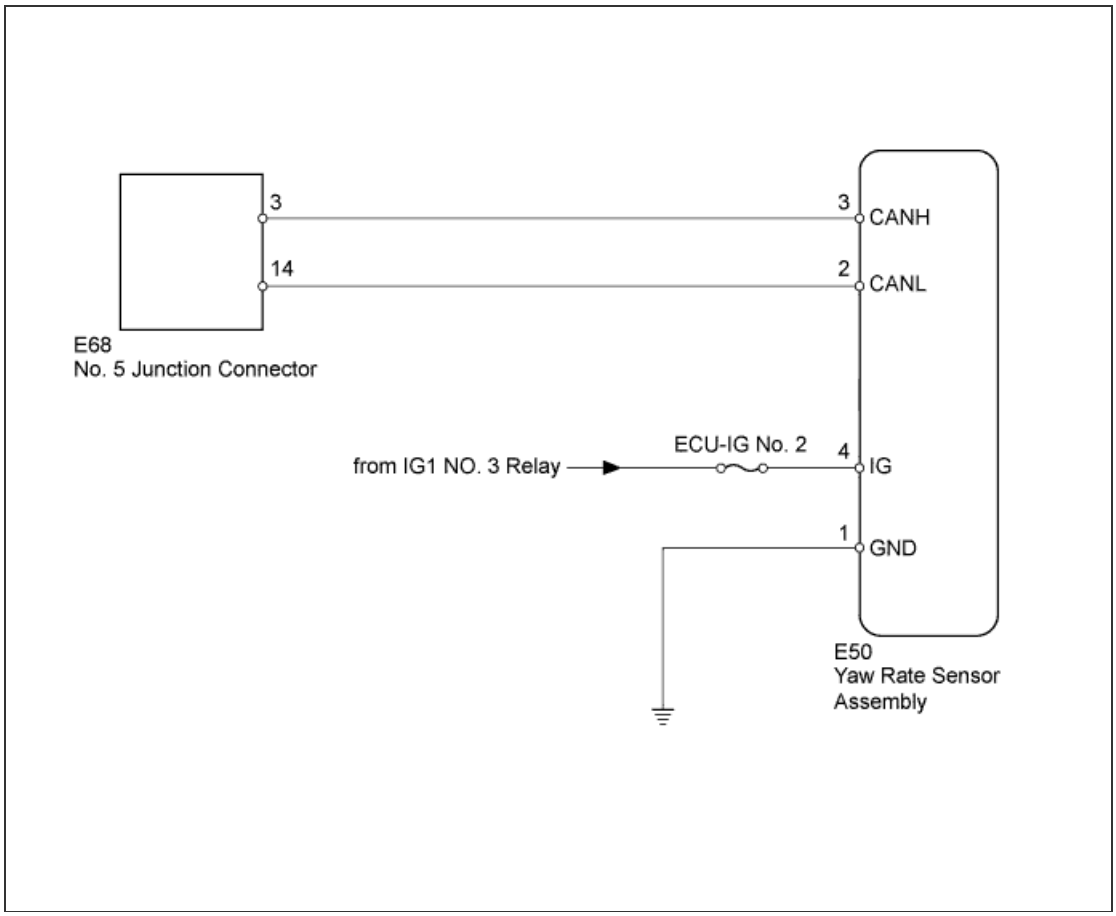
DTC U0124 Lost Communication with Lateral Acceleration Sensor Module

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 • Yaw rate sensor CAN branch wire or connector • 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 • Yaw rate sensor CAN branch wire or connector • 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.

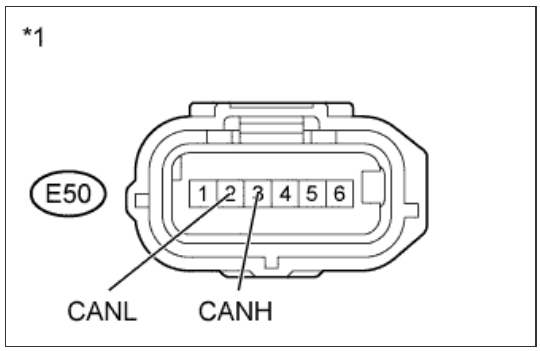
b. Measure the resistance according to the value(s) in the table below.

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).

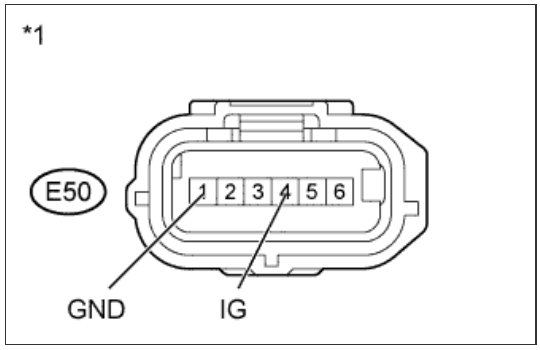
b. Measure the voltage according to the value(s) in table below.

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)

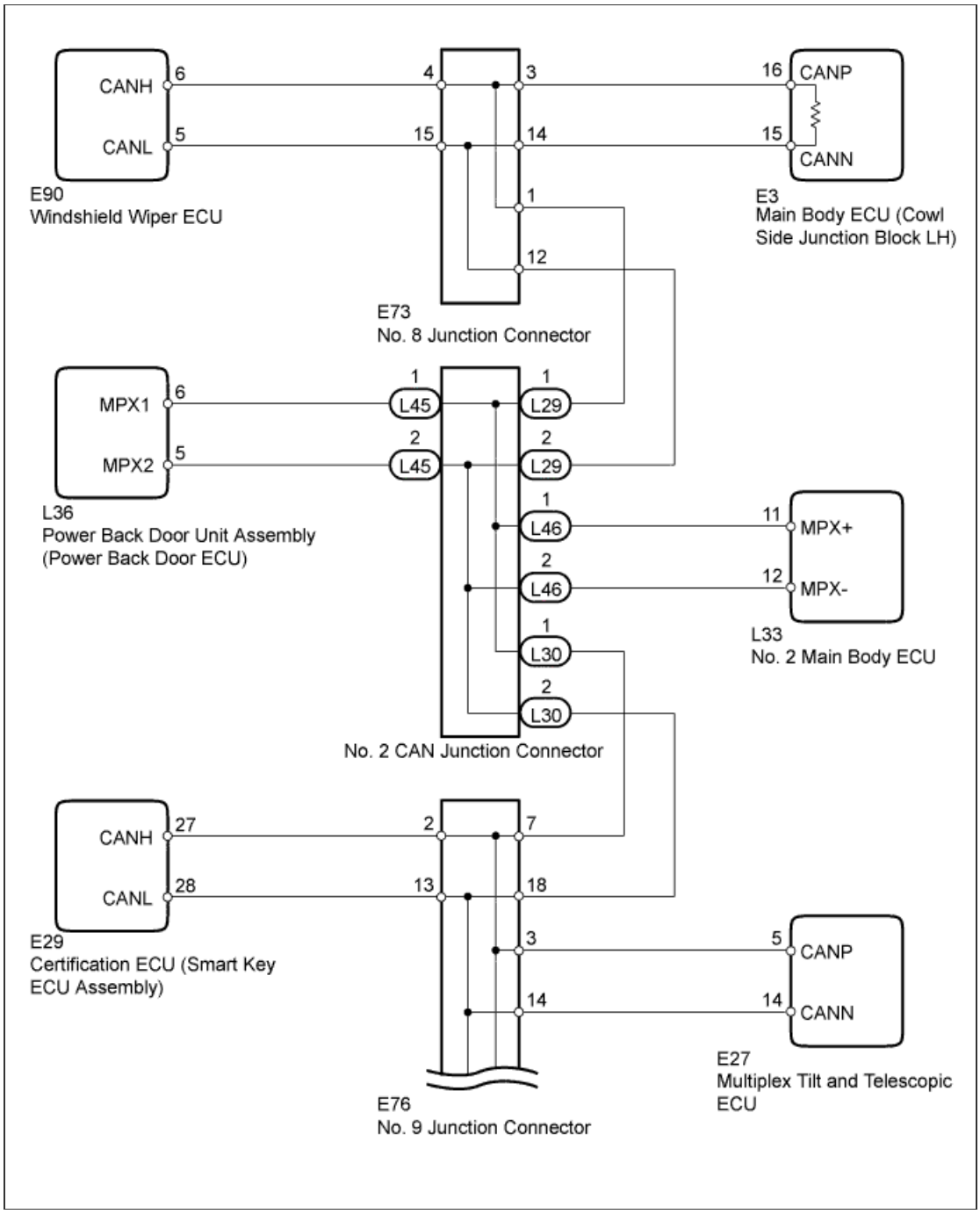
for Preparation Click here

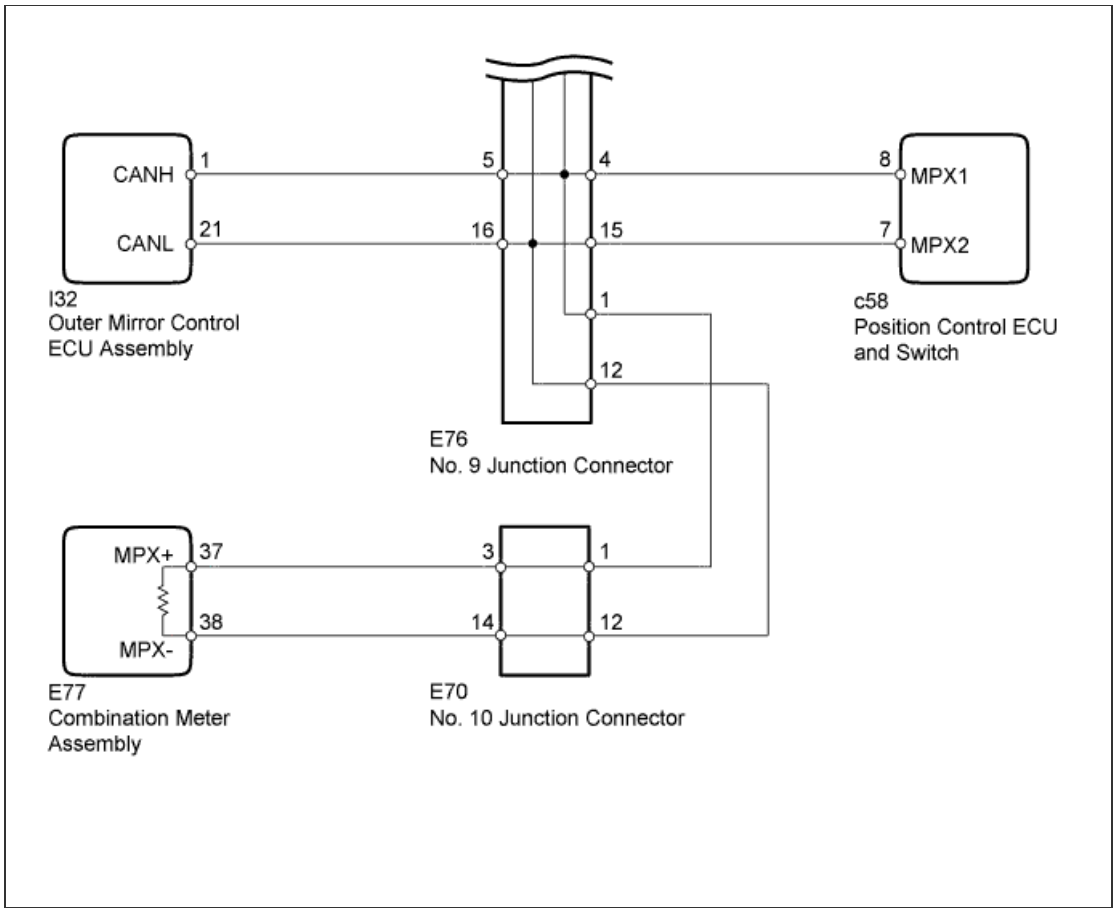
DESCRIPTION

- 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 • Windshield wiper ECU CAN branch wire or connector • Position control ECU and switch CAN branch wire or connector • Outer mirror control ECU assembly CAN branch wire or connector • Multiplex tilt and telescopic ECU branch wire or connector • Certification ECU (smart key ECU assembly) CAN branch wire or connector • Power back door unit assembly (power back door ECU) CAN branch wire or connector • No. 2 main body ECU CAN branch wire or connector • Main body ECU (cowl side junction block LH) CAN main wire or connector • Combination meter assembly CAN main wire or connector • Windshield wiper ECU • Position control ECU and switch • Outer mirror control ECU assembly • Multiplex tilt and telescopic ECU • Certification ECU (smart key ECU assembly) • Power back door unit assembly (power back door ECU) • No. 2 main body ECU • Main body ECU (cowl side junction block LH) • Combination meter assembly • No. 8 junction connector • No. 9 junction connector • No. 10 junction connector • 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).

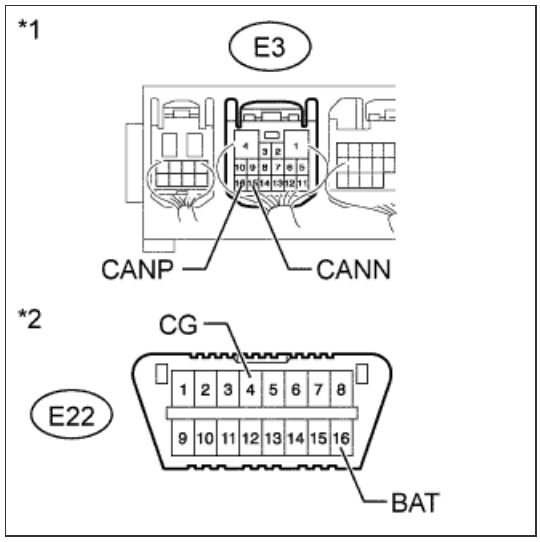
NEXT

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 • Open in CAN main wire	A
NG • Short in line • +B short • Ground short	B
OK	C

B → Go to step 19

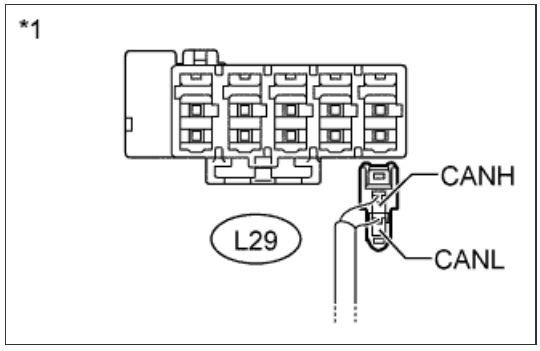
C → Go to step 55

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.

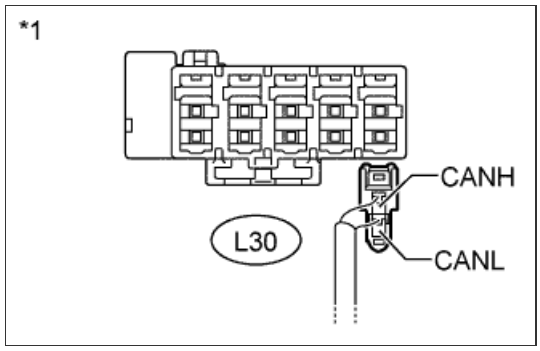
b. Measure the resistance according to the value(s) in the table below.

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.

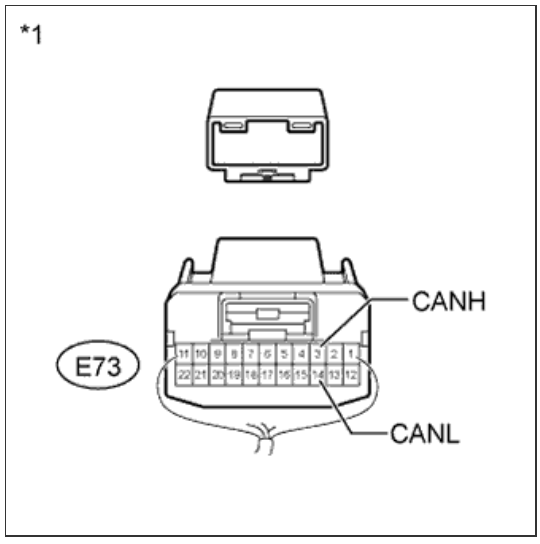
b. Measure the resistance according to the value(s) in the table below.

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)

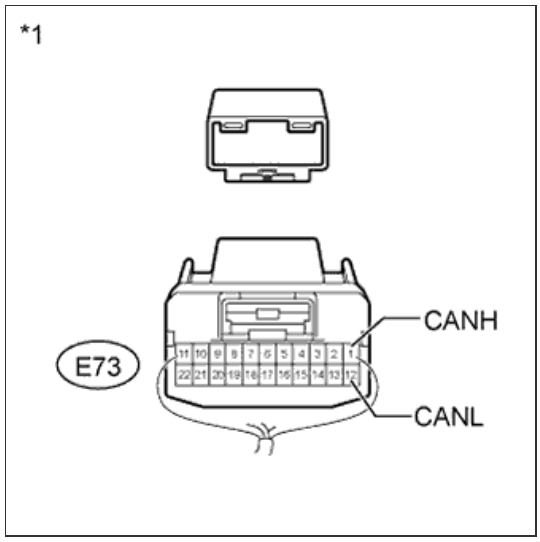
a. Measure the resistance according to the value(s) in the table below.

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.

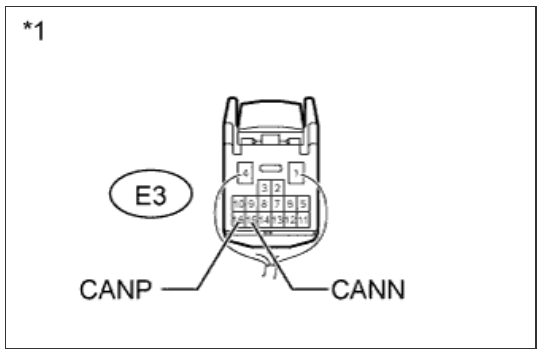
b. Measure the resistance according to the value(s) in the table below.

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.

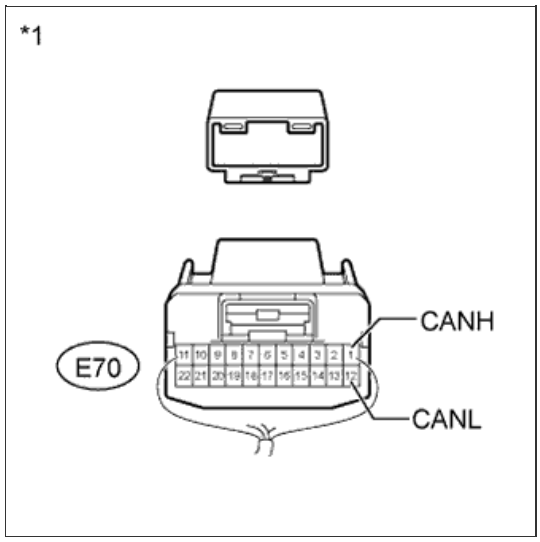
b. Measure the resistance according to the value(s) in the table below.

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)

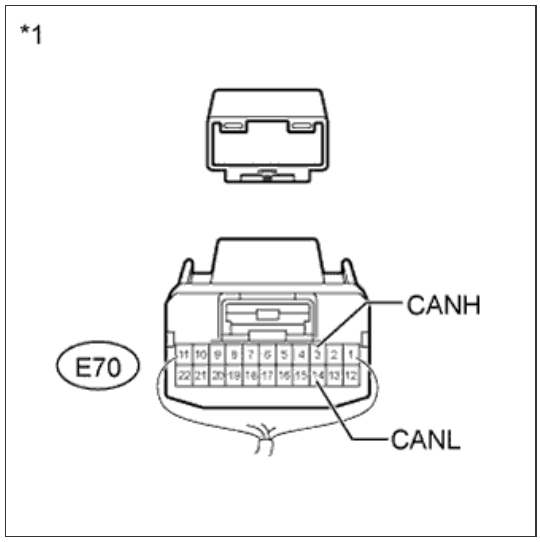
a. Measure the resistance according to the value(s) in the table below.

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.

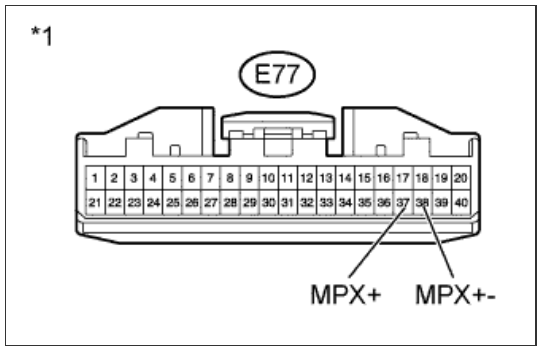
b. Measure the resistance according to the value(s) in the table below.

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.

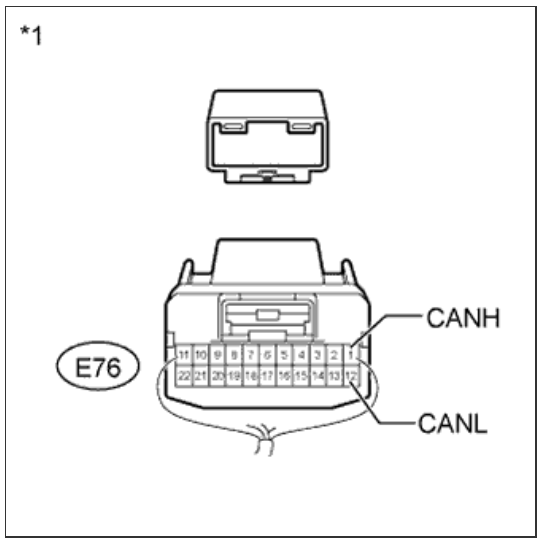
b. Measure the resistance according to the value(s) in the table below.

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

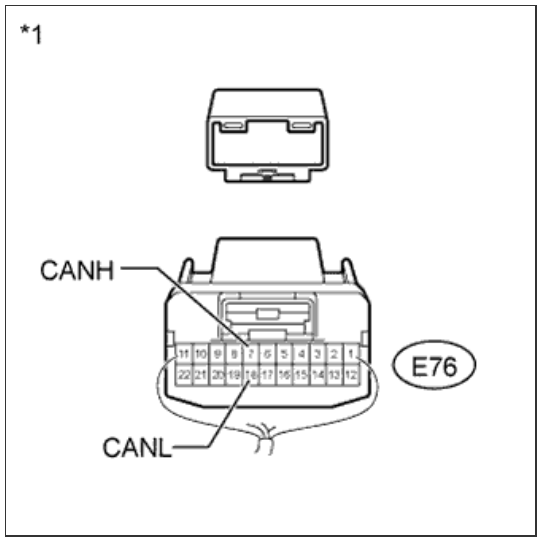
18.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 9 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

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

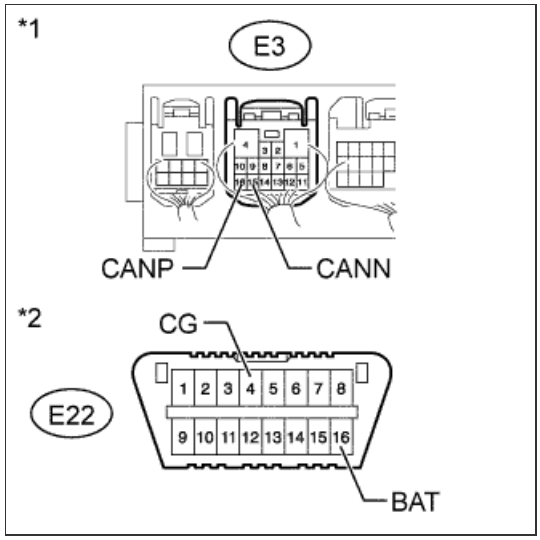
19.CHECK FOR SHORT IN CAN BUS WIRES (NO. 10 JUNCTION CONNECTOR SIDE)

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

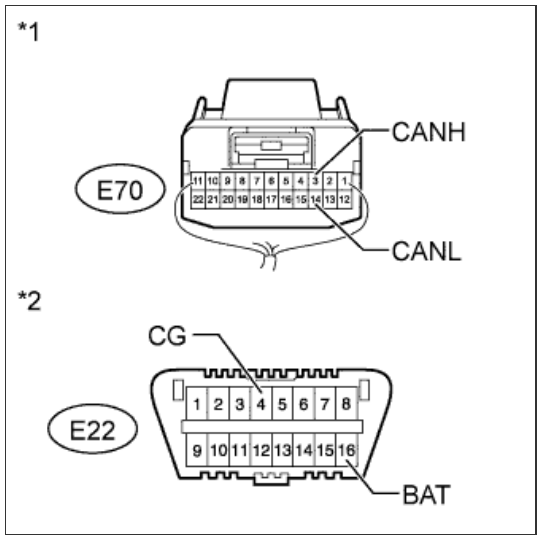
20.CHECK FOR SHORT IN CAN BUS WIRES (NO. 10 JUNCTION CONNECTOR - COMBINATION METER ASSEMBLY)

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

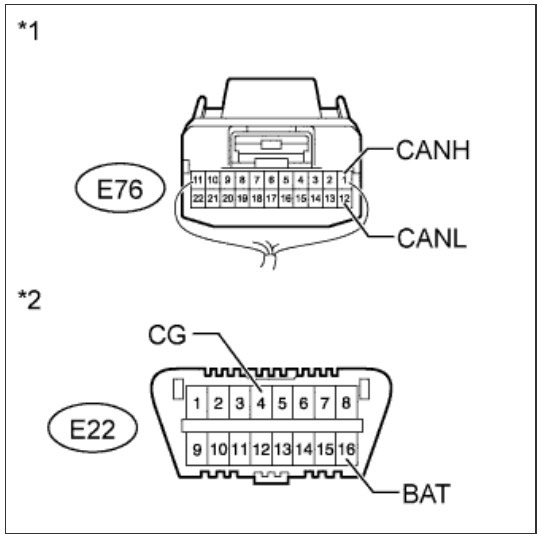
22.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR - NO. 10 JUNCTION CONNECTOR)

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)

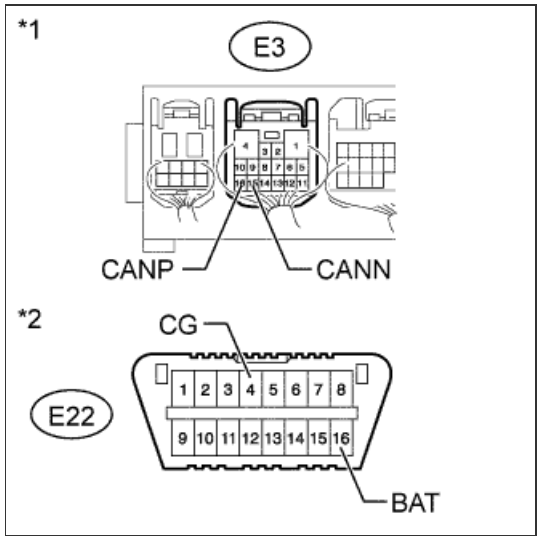
OK

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

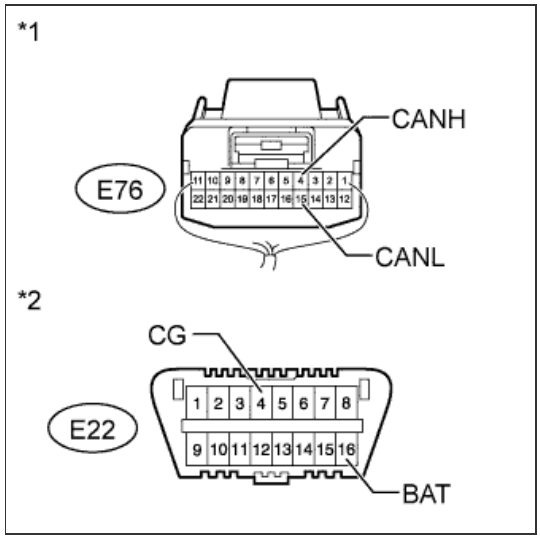
OK

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

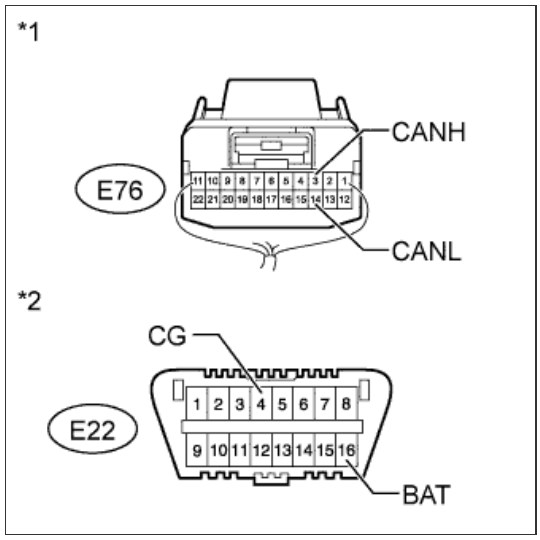
OK

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

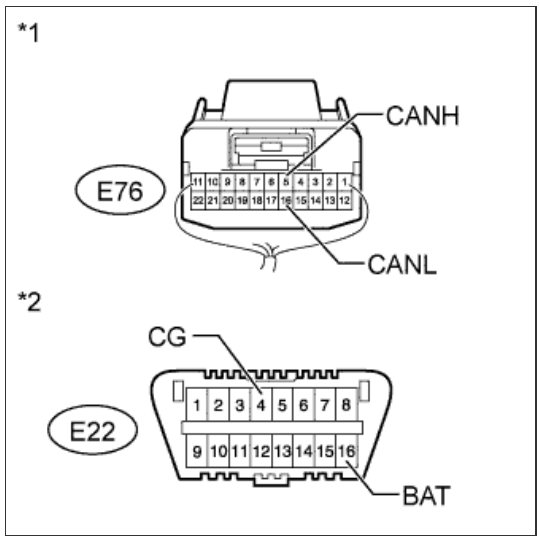
OK

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

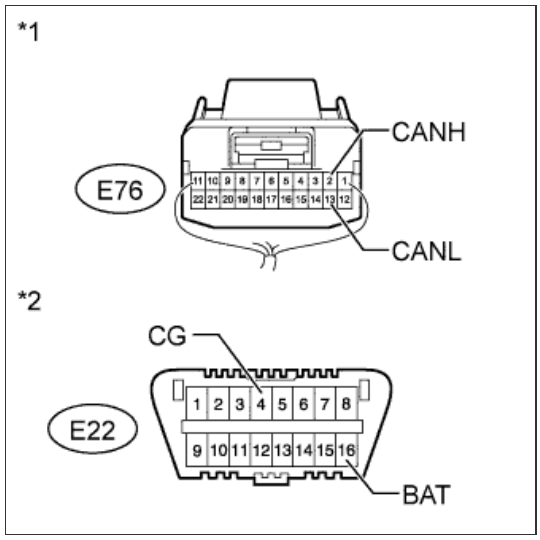
27.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR - CERTIFICATION ECU)

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

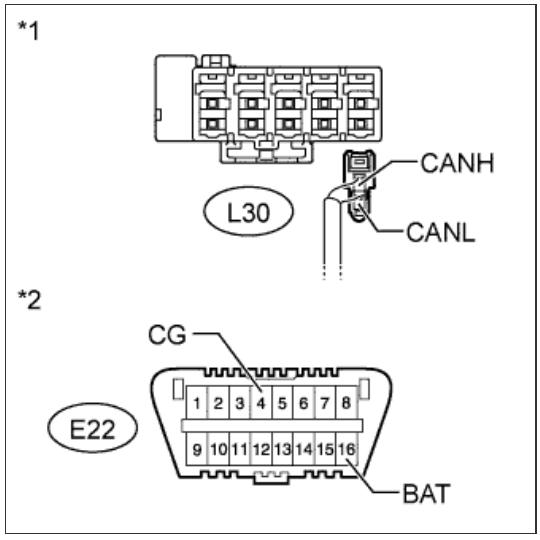
29.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - NO. 9 JUNCTION CONNECTOR)

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

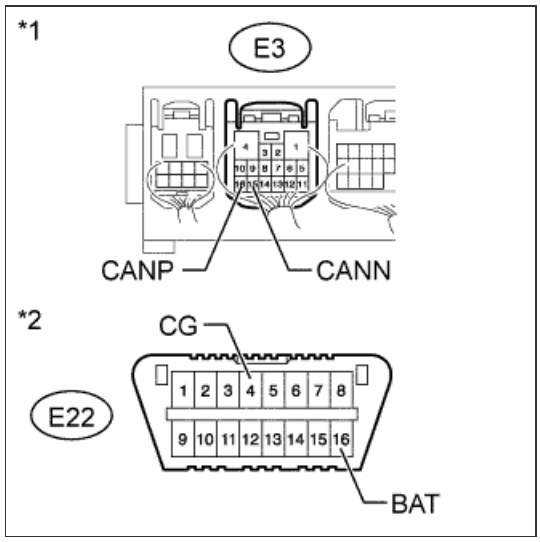
30.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR SIDE)

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

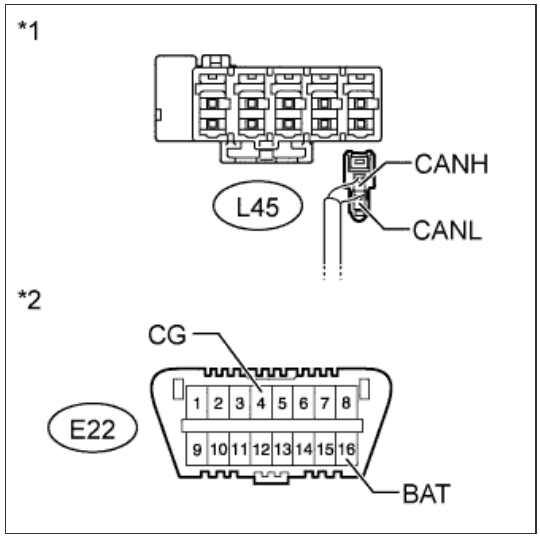
31.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - POWER BACK DOOR ECU)

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

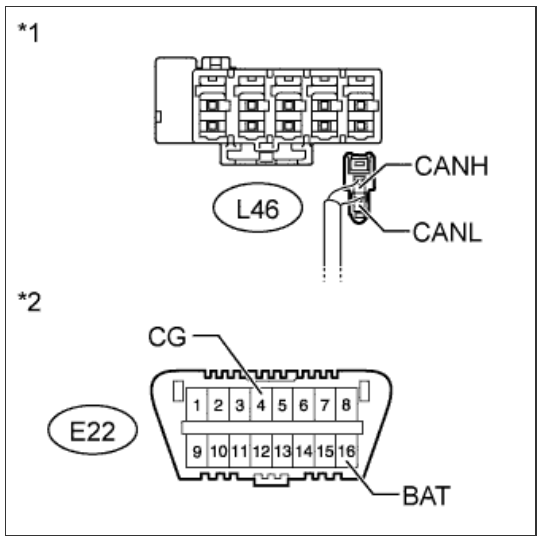
32.CHECK FOR FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - NO. 2 MAIN BODY ECU)

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

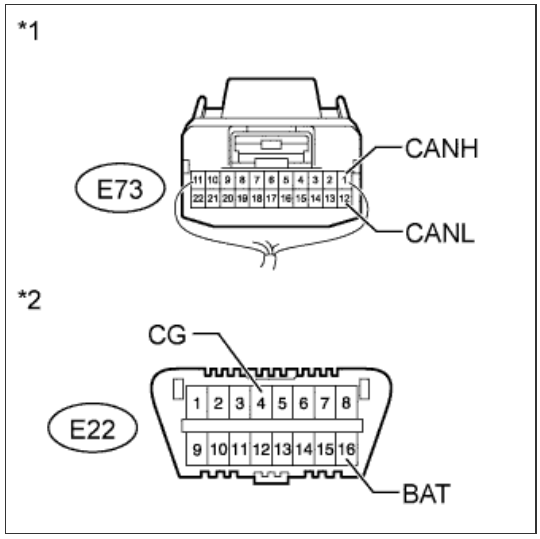
34.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

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)

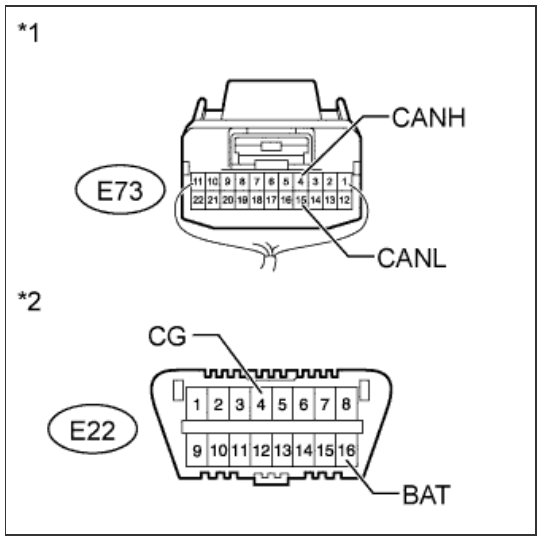
OK

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

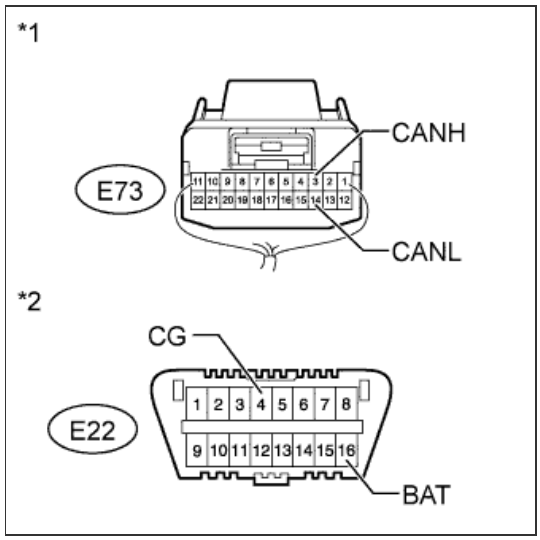
OK

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

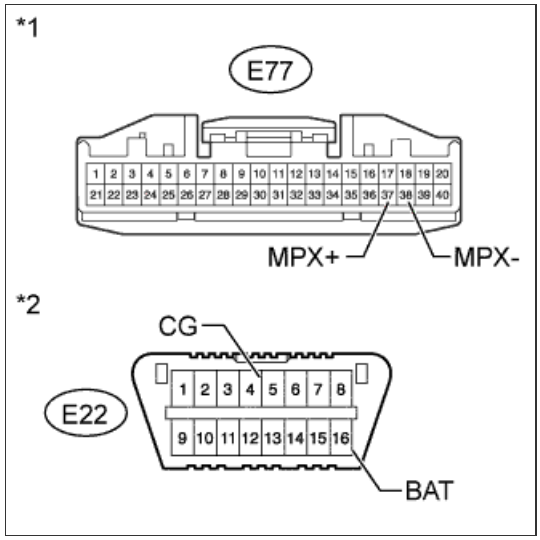
38.CHECK FOR SHORT IN CAN BUS WIRES (COMBINATION METER ASSEMBLY)

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)

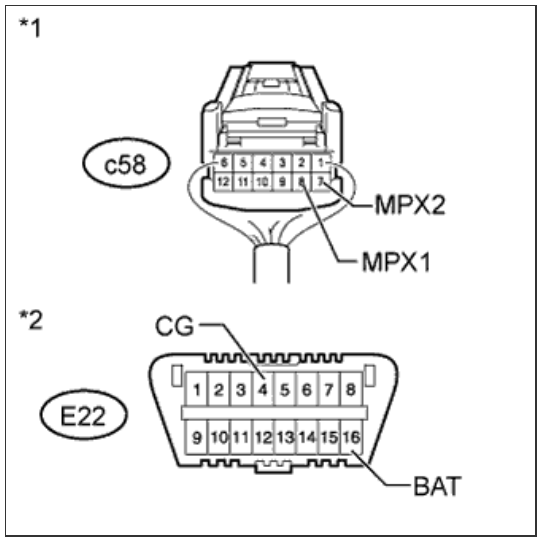
a. Disconnect the c58 position control ECU and switch connector.

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

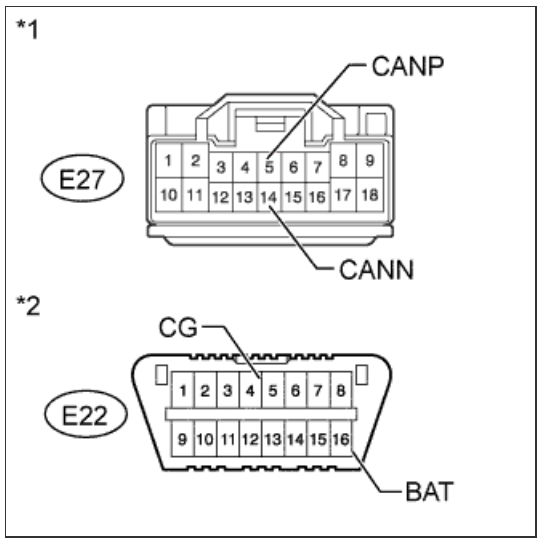
a. Reconnect the E76 No. 9 junction connector.

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

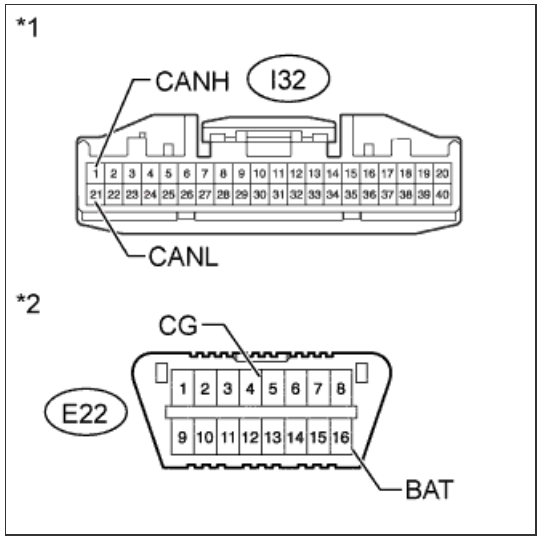
44.CHECK FOR SHORT IN CAN BUS WIRES (OUTER MIRROR CONTROL ECU ASSEMBLY)

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)

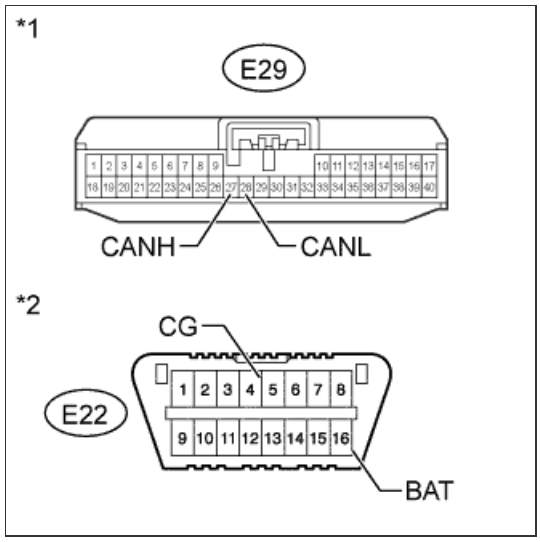
a. Disconnect the E29 certification ECU (smart key ECU assembly) connector.

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

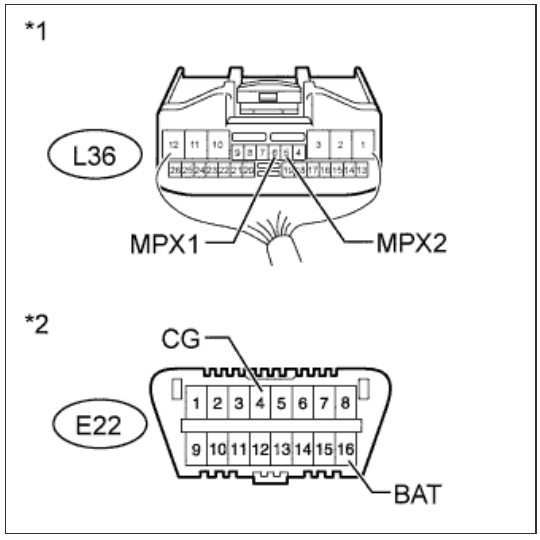
48.CHECK FOR SHORT IN CAN BUS WIRES (POWER BACK DOOR ECU)

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

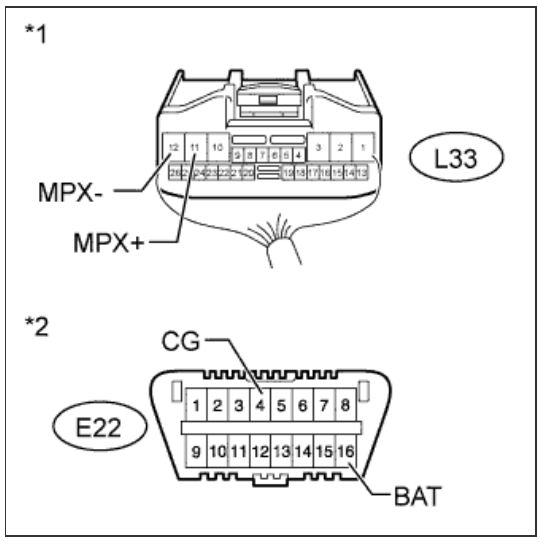
50.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 MAIN BODY ECU)

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)

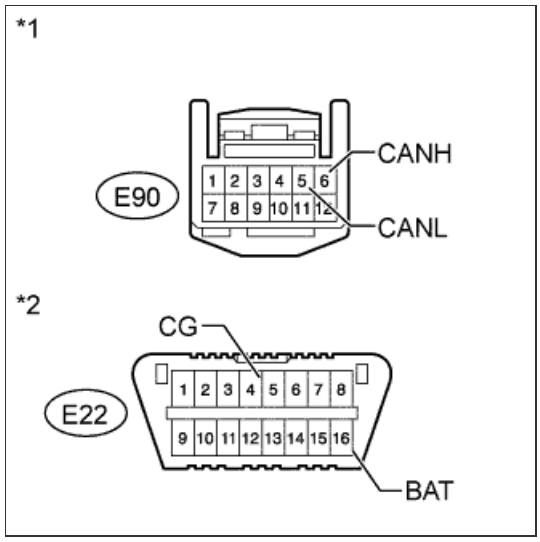
a. Disconnect the E90 windshield wiper ECU connector.

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

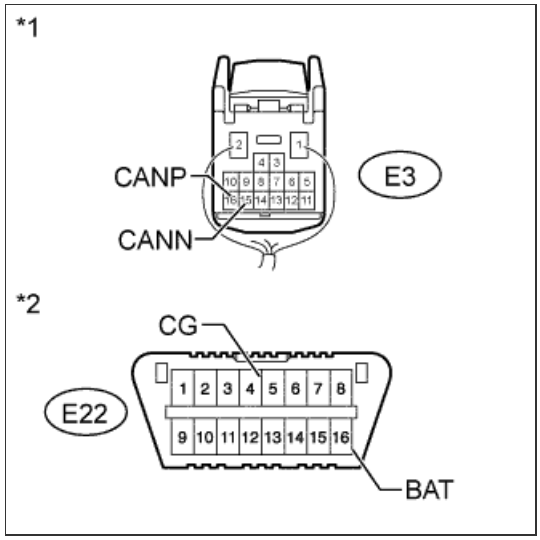
54.CHECK FOR SHORT IN CAN BUS WIRES (MAIN BODY ECU)

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

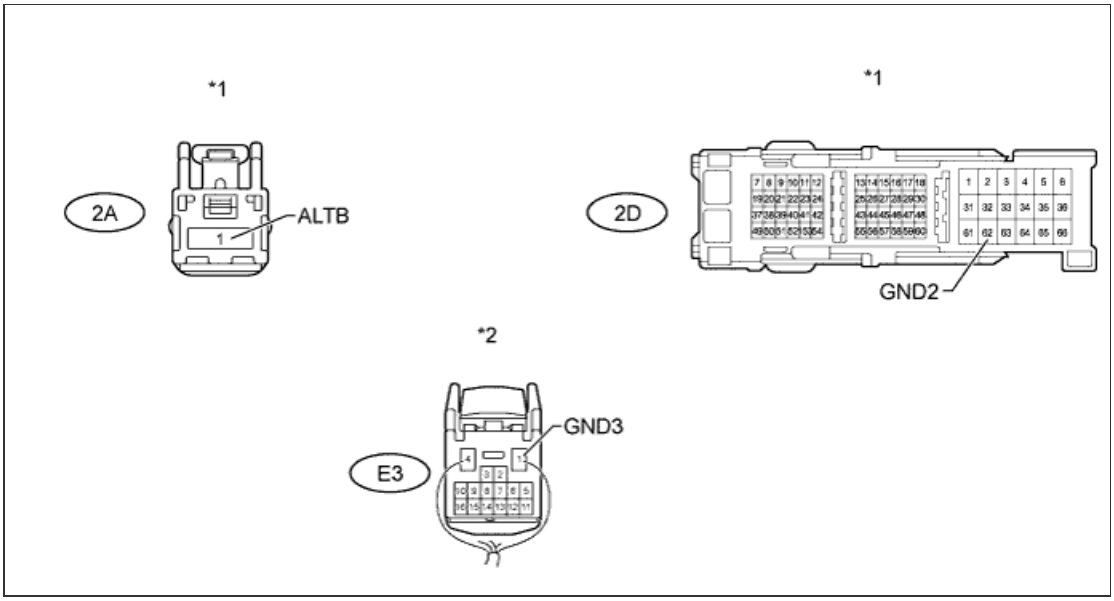
NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO MAIN BODY ECU (CANP, CANN)

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

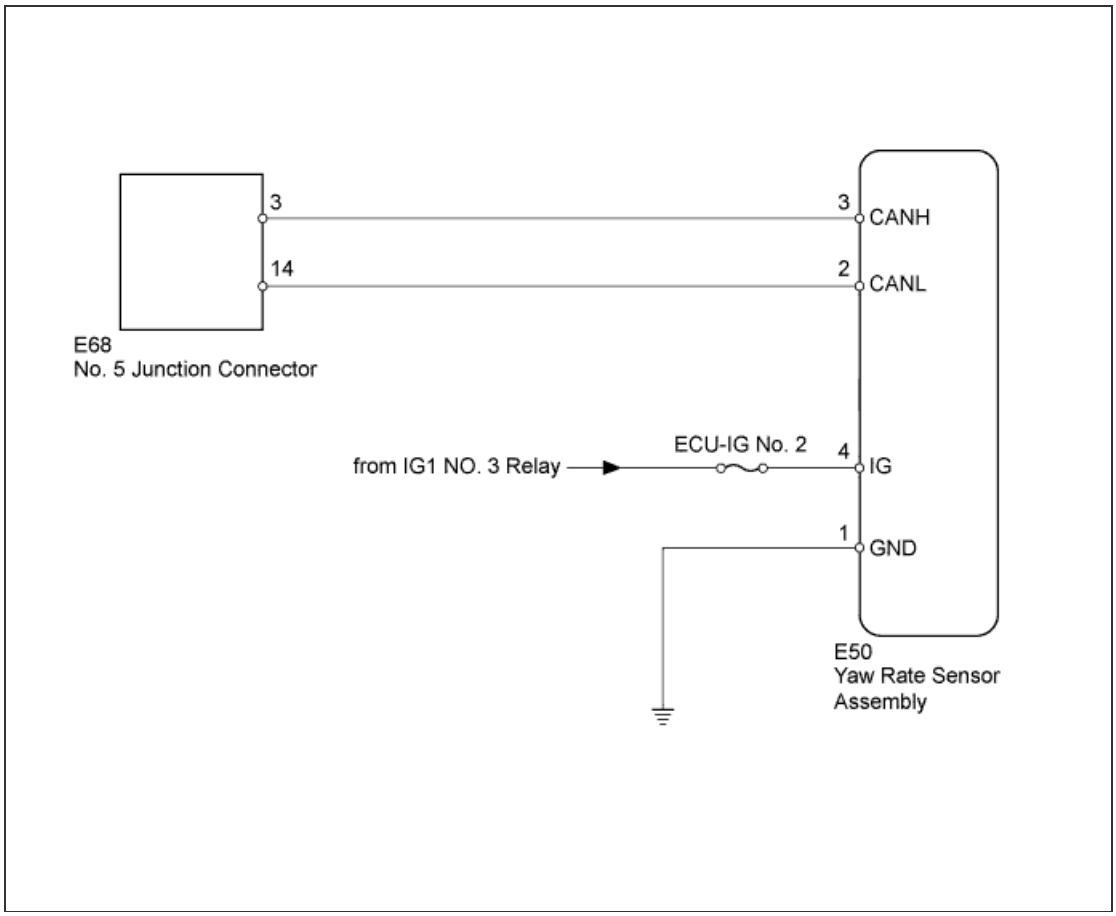
DTC U0124 Lost Communication with Lateral Acceleration Sensor Module

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 • Yaw rate sensor CAN branch wire or connector • 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 • Yaw rate sensor CAN branch wire or connector • 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.

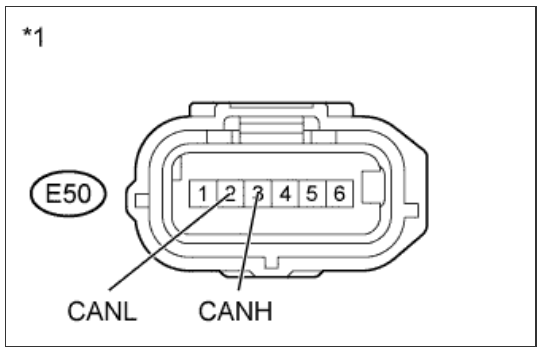
b. Measure the resistance according to the value(s) in the table below.

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).

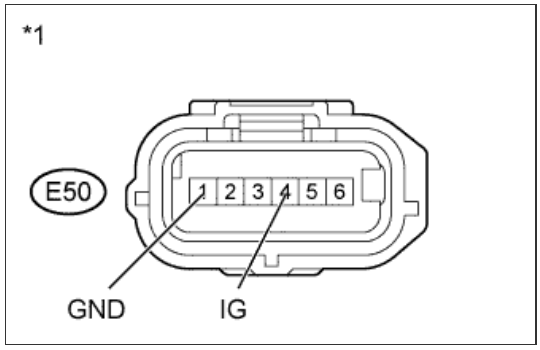
b. Measure the voltage according to the value(s) in table below.

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)

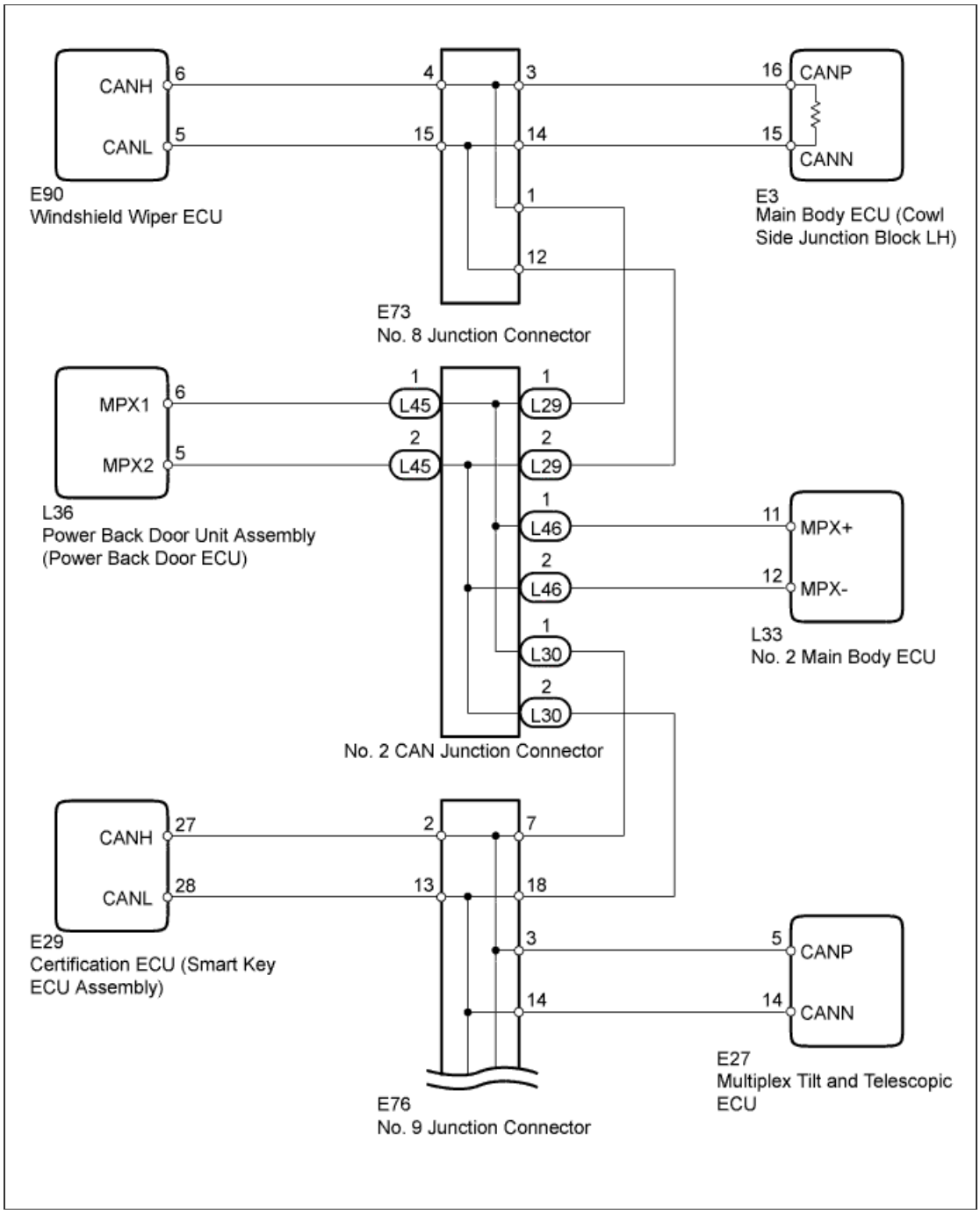
for Preparation Click here

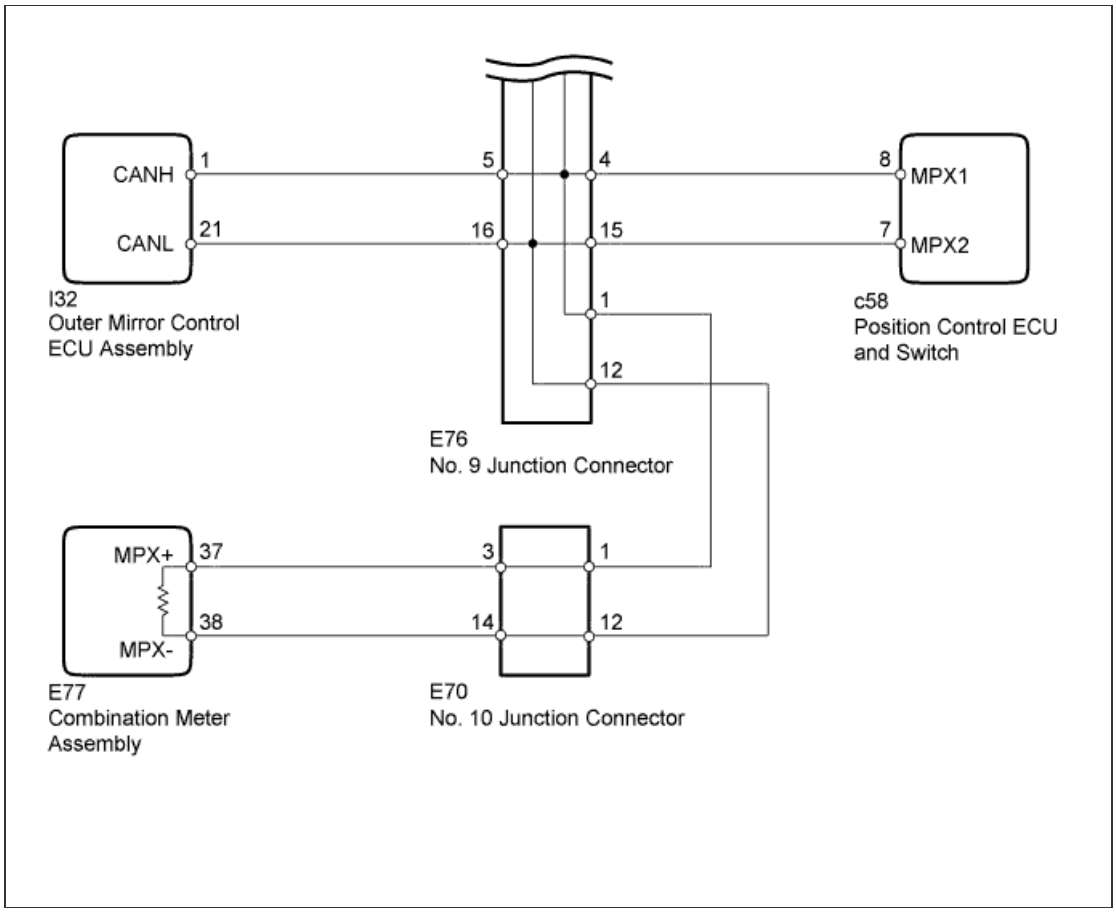
DESCRIPTION

- 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 • Windshield wiper ECU CAN branch wire or connector • Position control ECU and switch CAN branch wire or connector • Outer mirror control ECU assembly CAN branch wire or connector • Multiplex tilt and telescopic ECU branch wire or connector • Certification ECU (smart key ECU assembly) CAN branch wire or connector • Power back door unit assembly (power back door ECU) CAN branch wire or connector • No. 2 main body ECU CAN branch wire or connector • Main body ECU (cowl side junction block LH) CAN main wire or connector • Combination meter assembly CAN main wire or connector • Windshield wiper ECU • Position control ECU and switch • Outer mirror control ECU assembly • Multiplex tilt and telescopic ECU • Certification ECU (smart key ECU assembly) • Power back door unit assembly (power back door ECU) • No. 2 main body ECU • Main body ECU (cowl side junction block LH) • Combination meter assembly • No. 8 junction connector • No. 9 junction connector • No. 10 junction connector • 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).

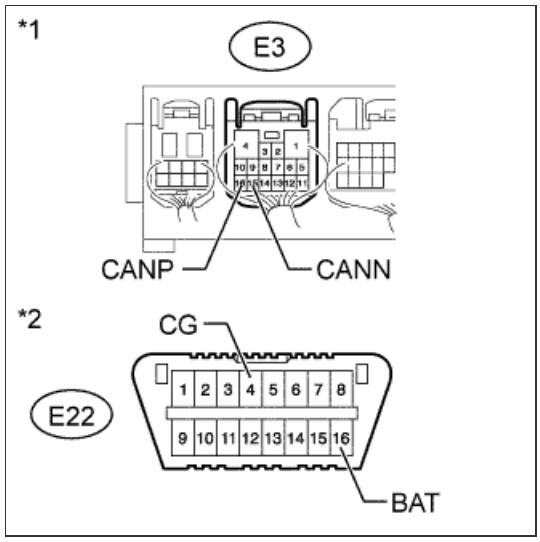
NEXT

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 • Open in CAN main wire	A
NG • Short in line • +B short • Ground short	B
OK	C

B → Go to step 19

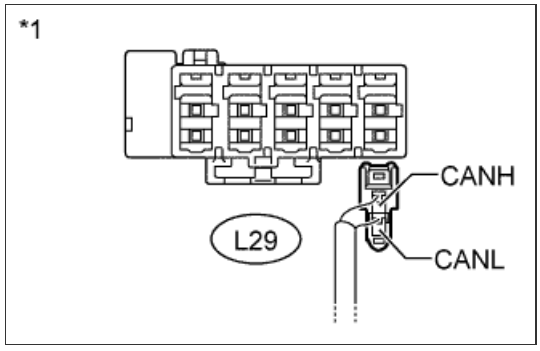
C → Go to step 55

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.

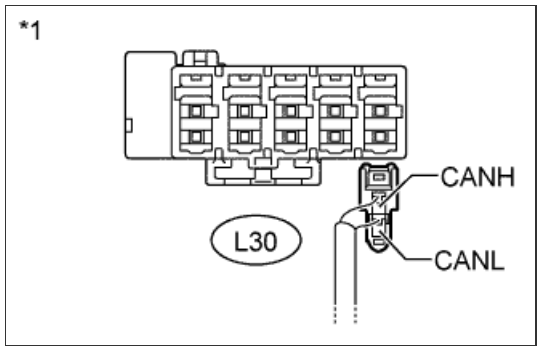
b. Measure the resistance according to the value(s) in the table below.

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.

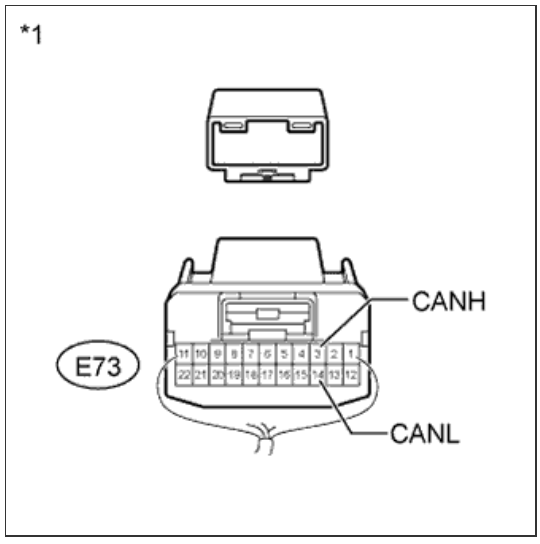
b. Measure the resistance according to the value(s) in the table below.

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)

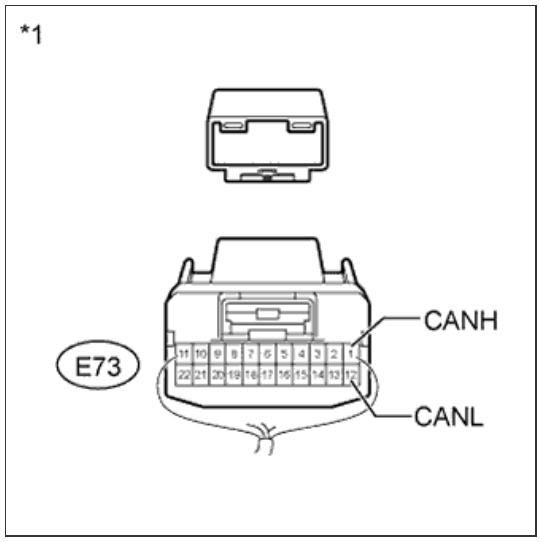
a. Measure the resistance according to the value(s) in the table below.

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.

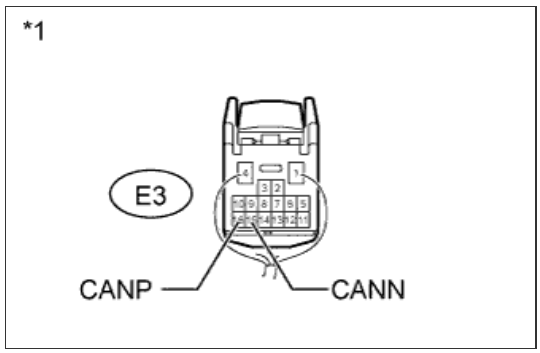
b. Measure the resistance according to the value(s) in the table below.

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.

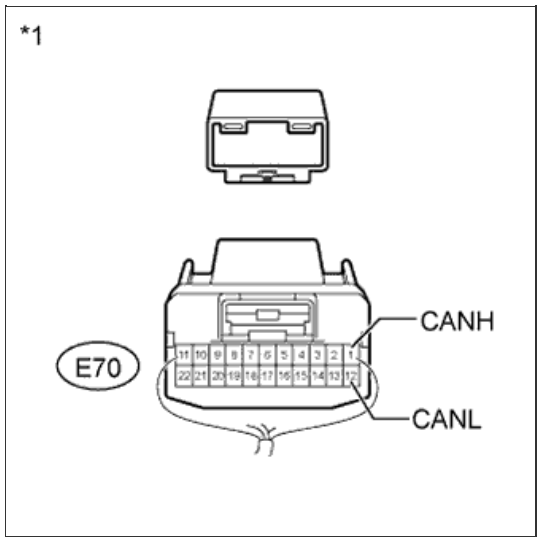
b. Measure the resistance according to the value(s) in the table below.

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)

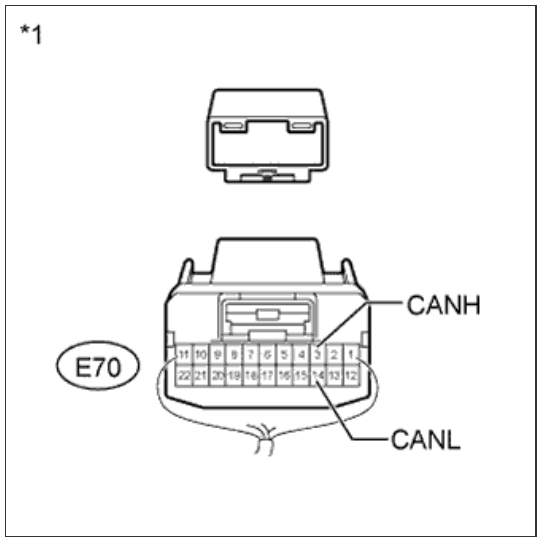
a. Measure the resistance according to the value(s) in the table below.

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.

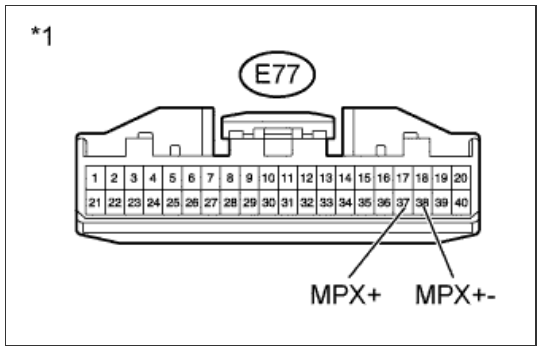
b. Measure the resistance according to the value(s) in the table below.

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.

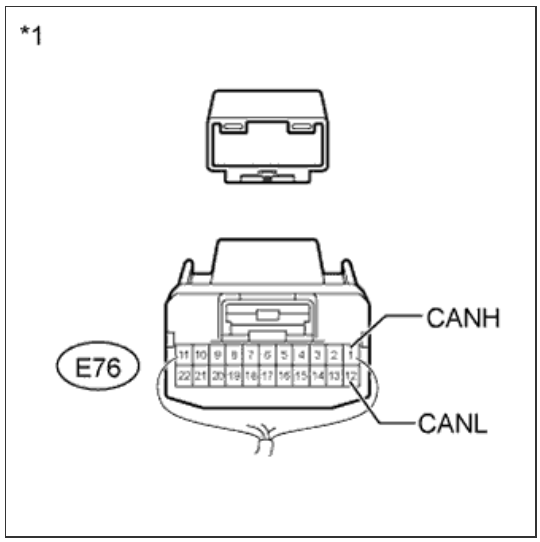
b. Measure the resistance according to the value(s) in the table below.

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

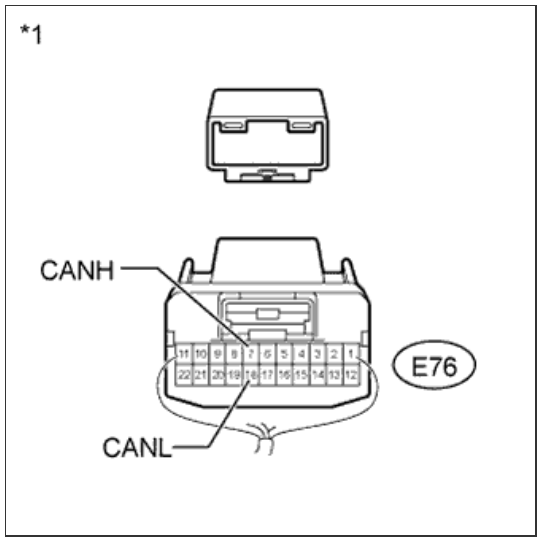
18.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 9 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

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

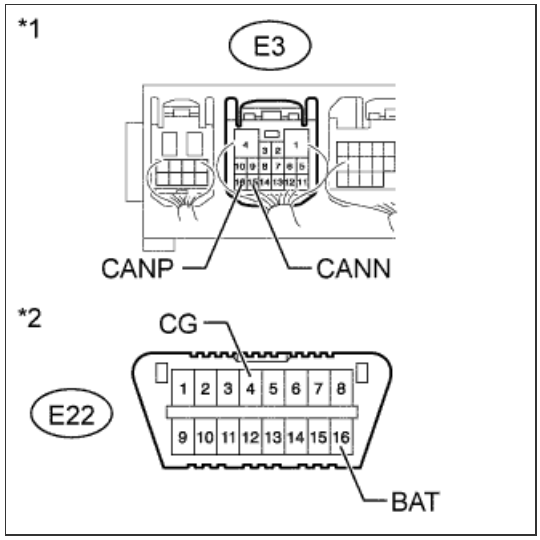
19.CHECK FOR SHORT IN CAN BUS WIRES (NO. 10 JUNCTION CONNECTOR SIDE)

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

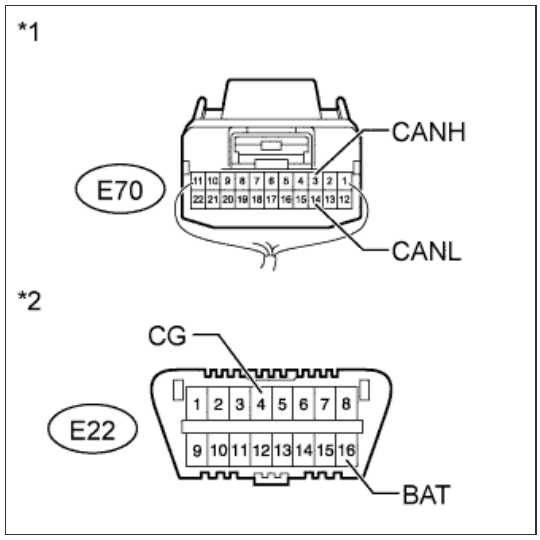
20.CHECK FOR SHORT IN CAN BUS WIRES (NO. 10 JUNCTION CONNECTOR - COMBINATION METER ASSEMBLY)

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

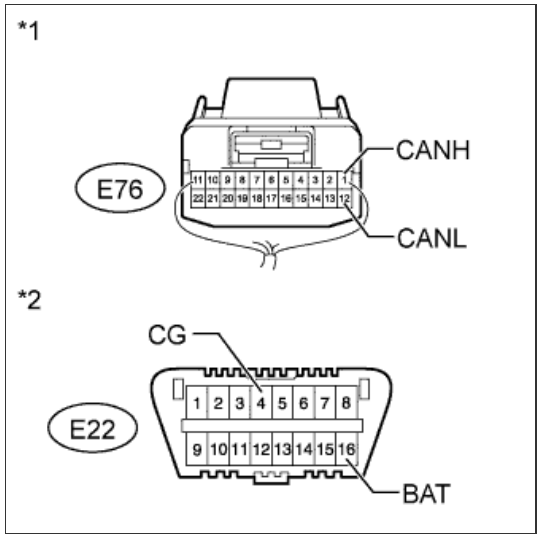
22.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR - NO. 10 JUNCTION CONNECTOR)

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)

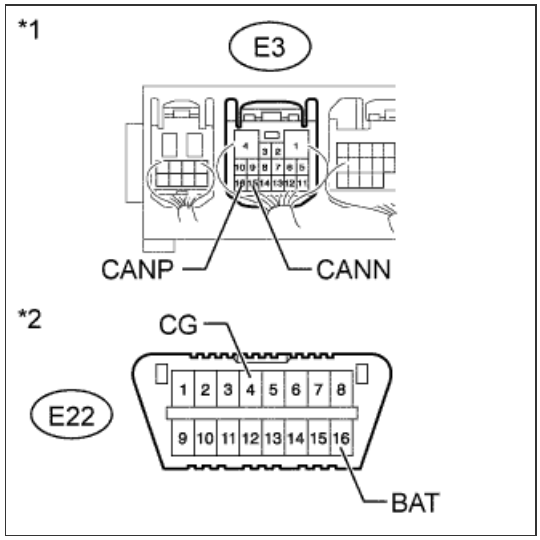
OK

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

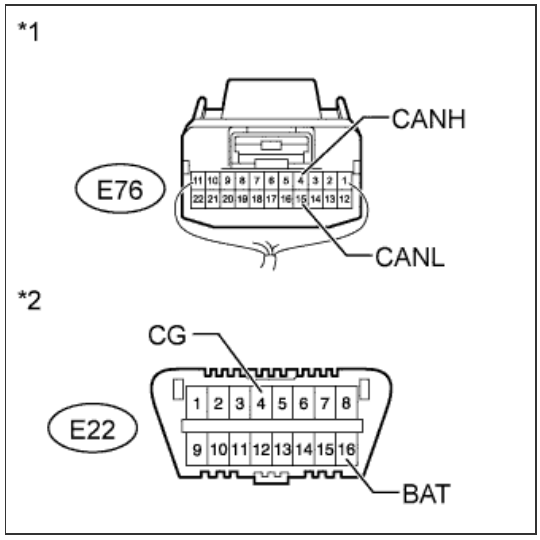
OK

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

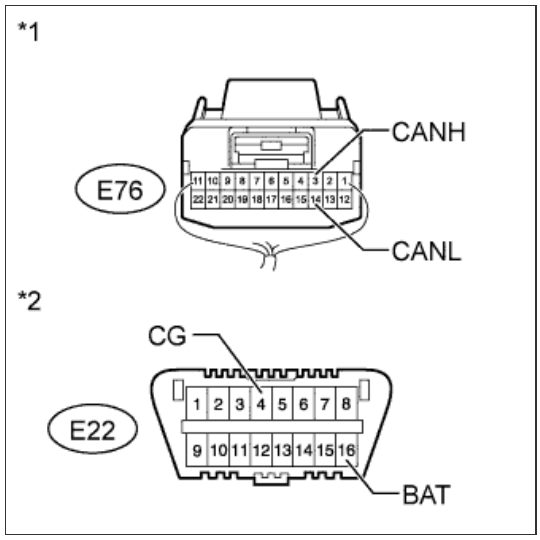
OK

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

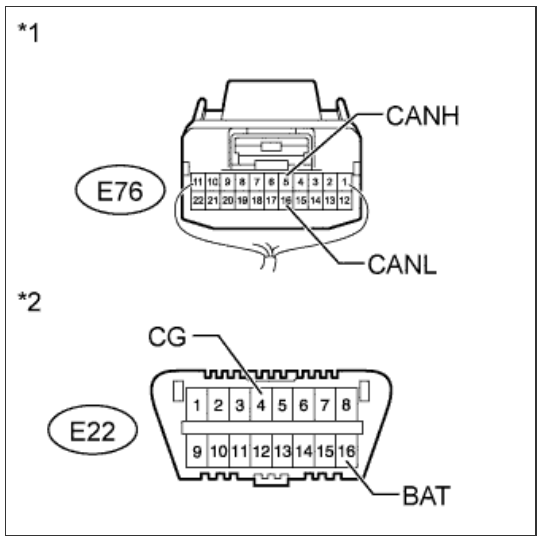
OK

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

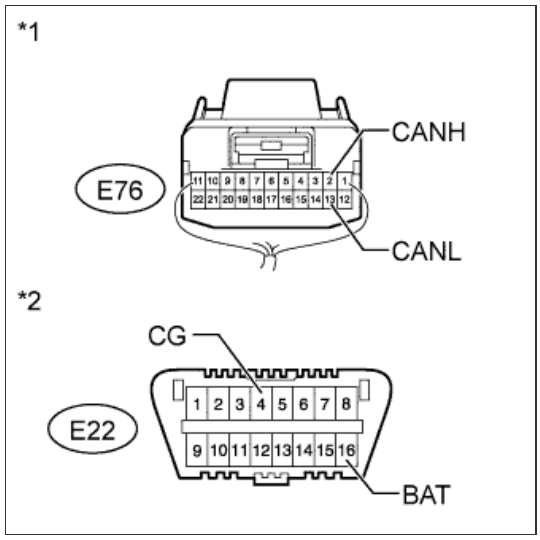
27.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR - CERTIFICATION ECU)

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

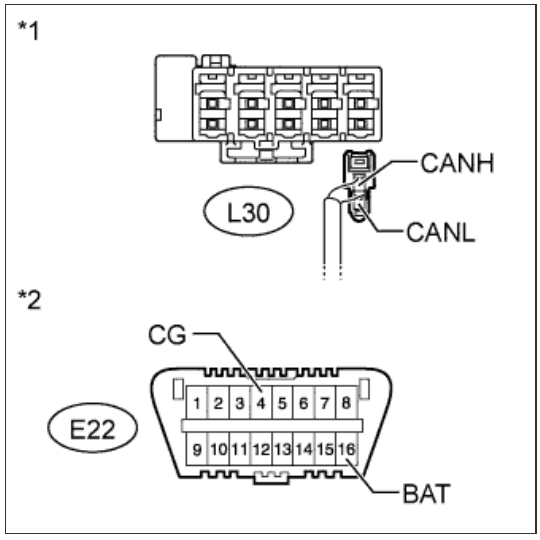
29.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - NO. 9 JUNCTION CONNECTOR)

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

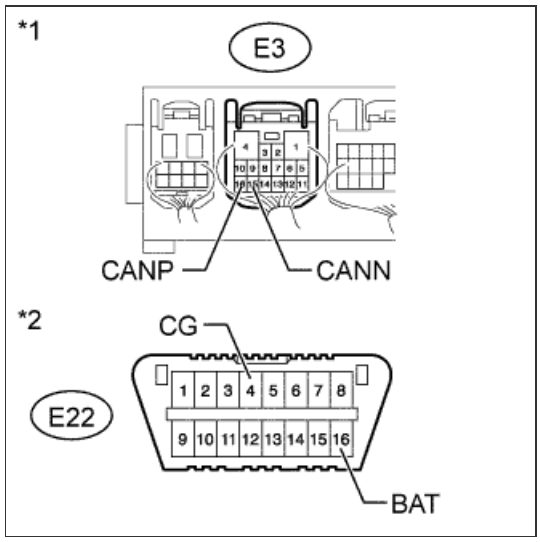
30.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR SIDE)

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

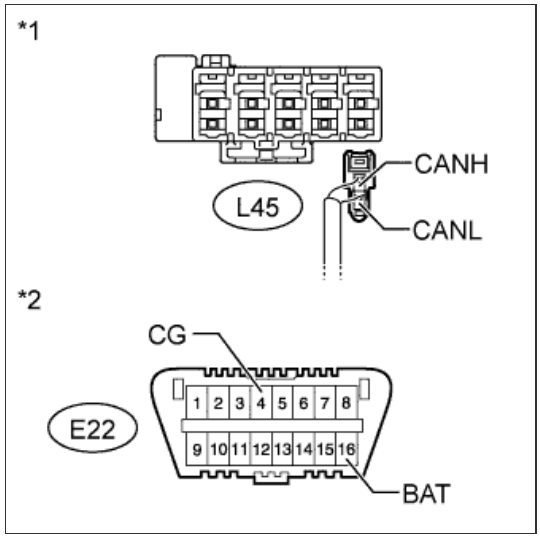
31.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - POWER BACK DOOR ECU)

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

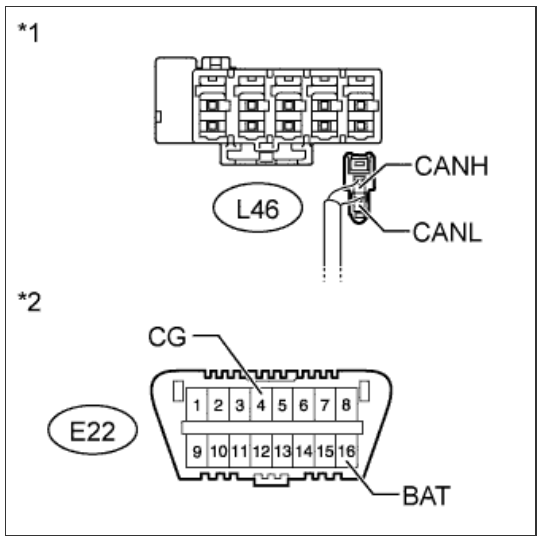
32.CHECK FOR FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - NO. 2 MAIN BODY ECU)

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

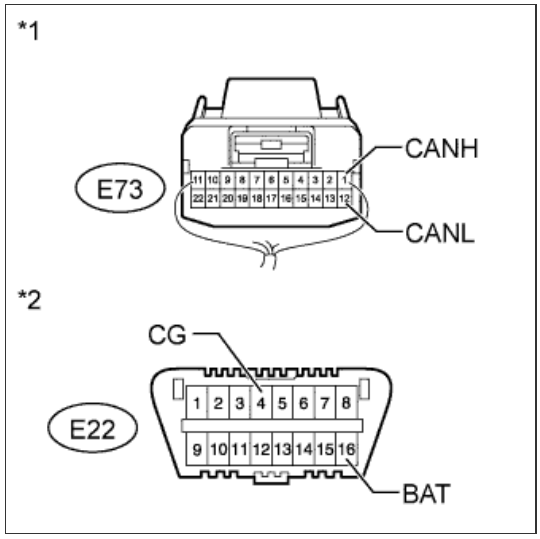
34.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

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)

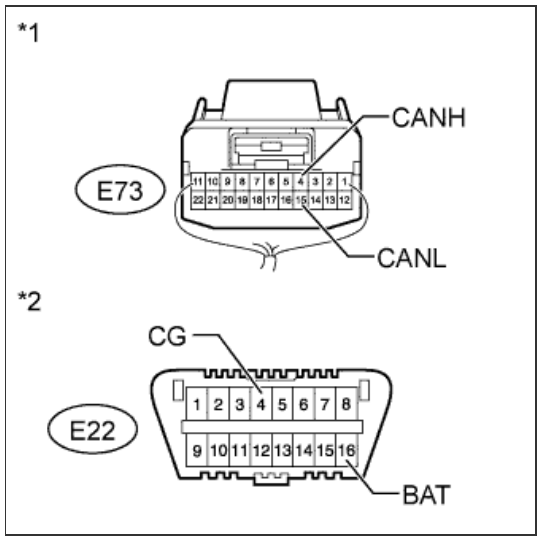
OK

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

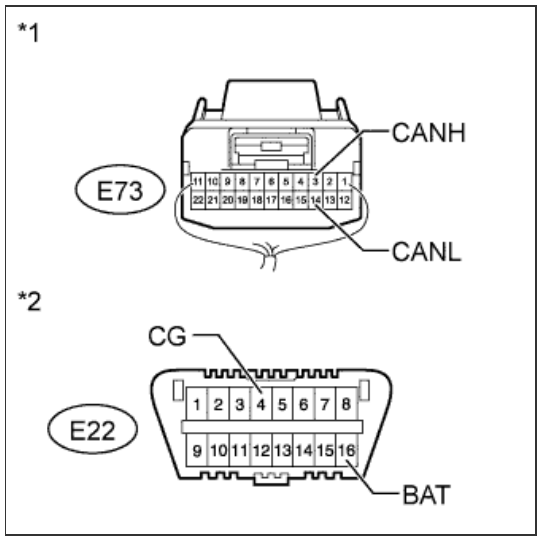
OK

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

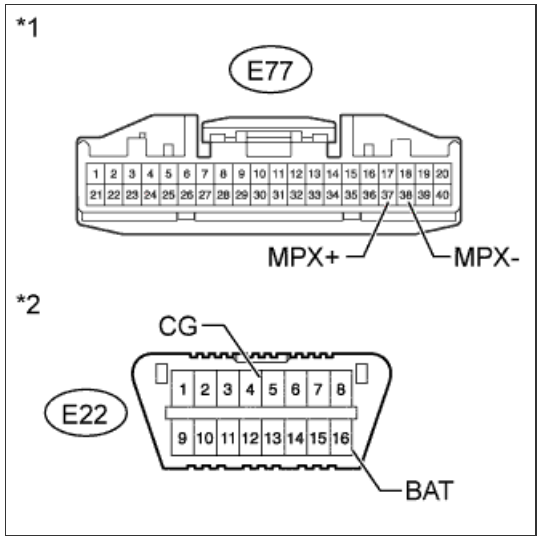
38.CHECK FOR SHORT IN CAN BUS WIRES (COMBINATION METER ASSEMBLY)

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)

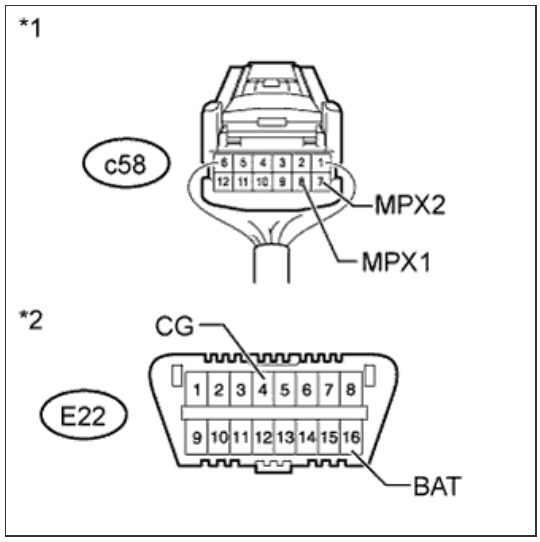
a. Disconnect the c58 position control ECU and switch connector.

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

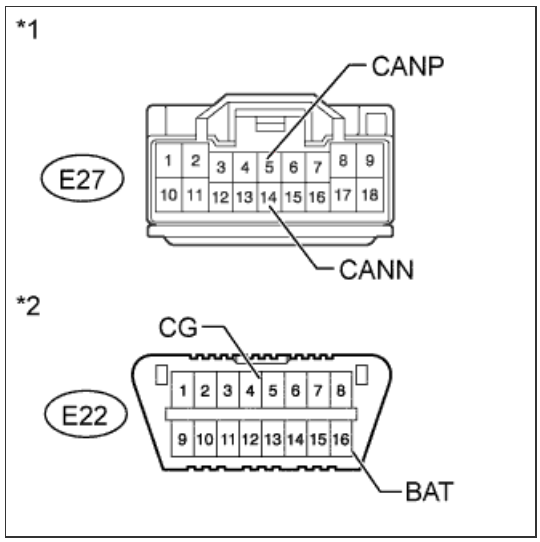
a. Reconnect the E76 No. 9 junction connector.

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

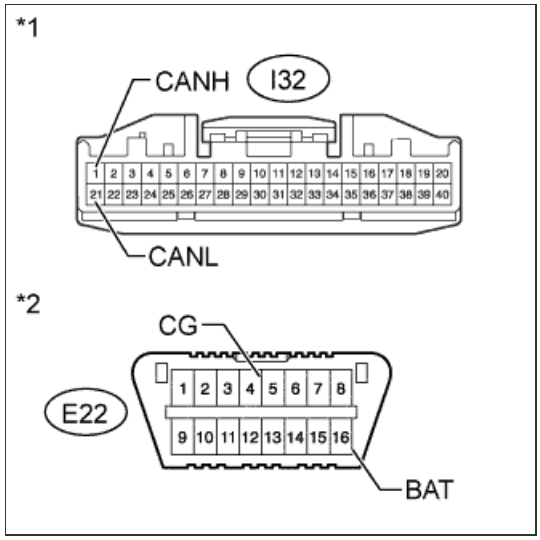
44.CHECK FOR SHORT IN CAN BUS WIRES (OUTER MIRROR CONTROL ECU ASSEMBLY)

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)

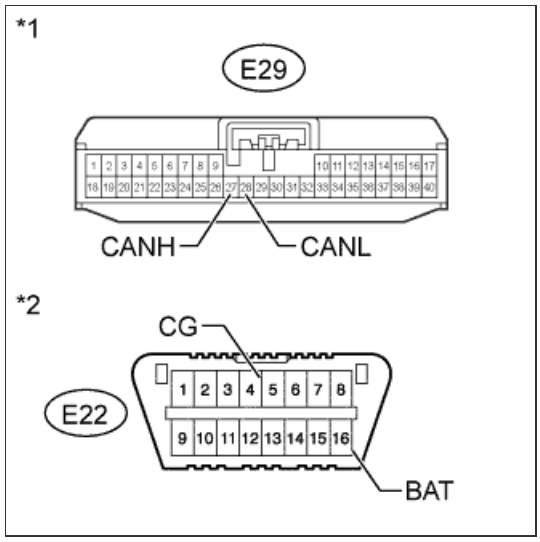
a. Disconnect the E29 certification ECU (smart key ECU assembly) connector.

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

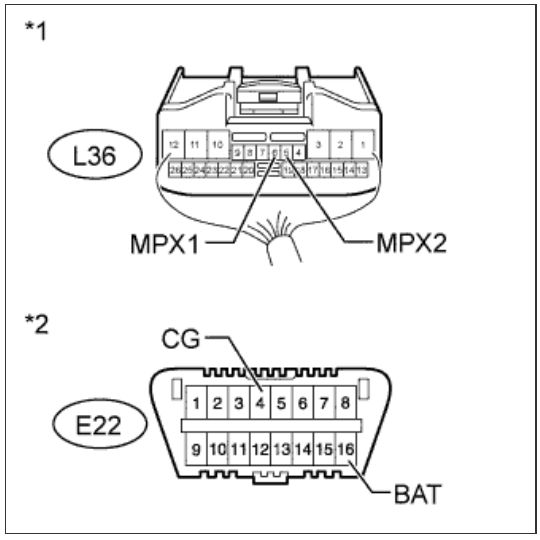
48.CHECK FOR SHORT IN CAN BUS WIRES (POWER BACK DOOR ECU)

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

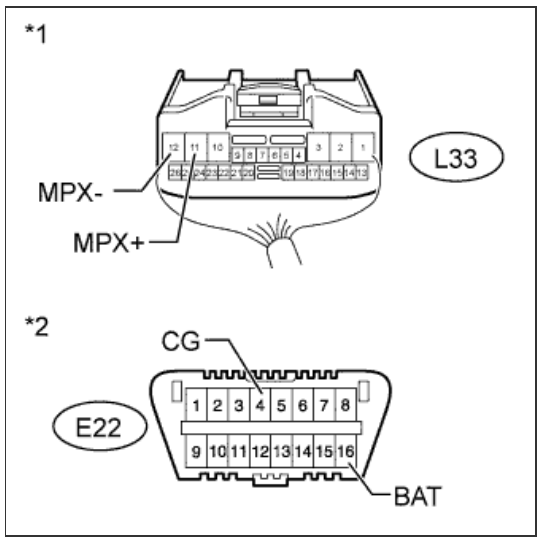
50.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 MAIN BODY ECU)

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)

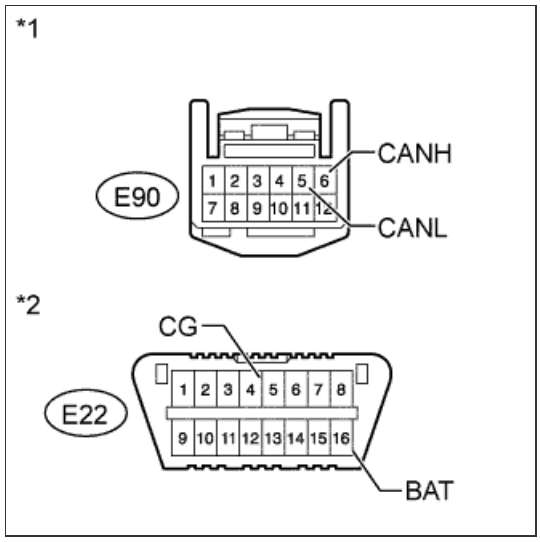
a. Disconnect the E90 windshield wiper ECU connector.

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

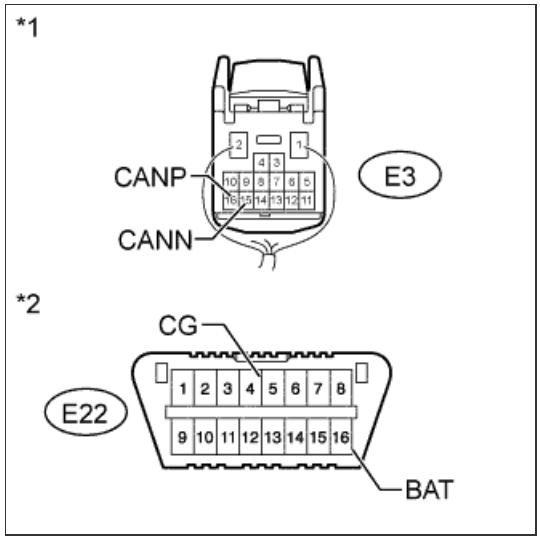
54.CHECK FOR SHORT IN CAN BUS WIRES (MAIN BODY ECU)

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

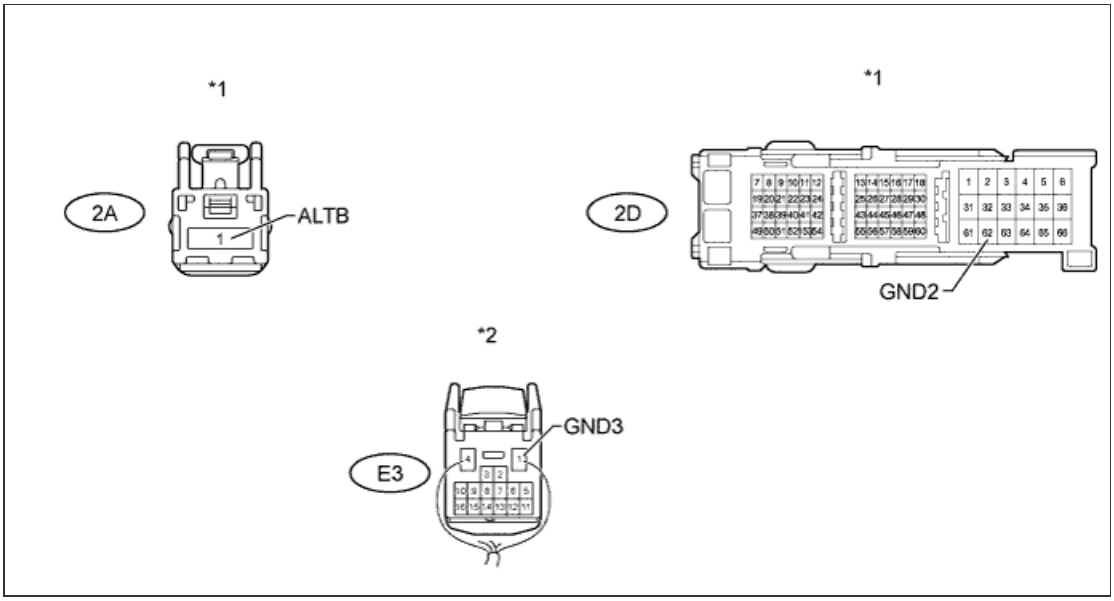
NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO MAIN BODY ECU (CANP, CANN)

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)

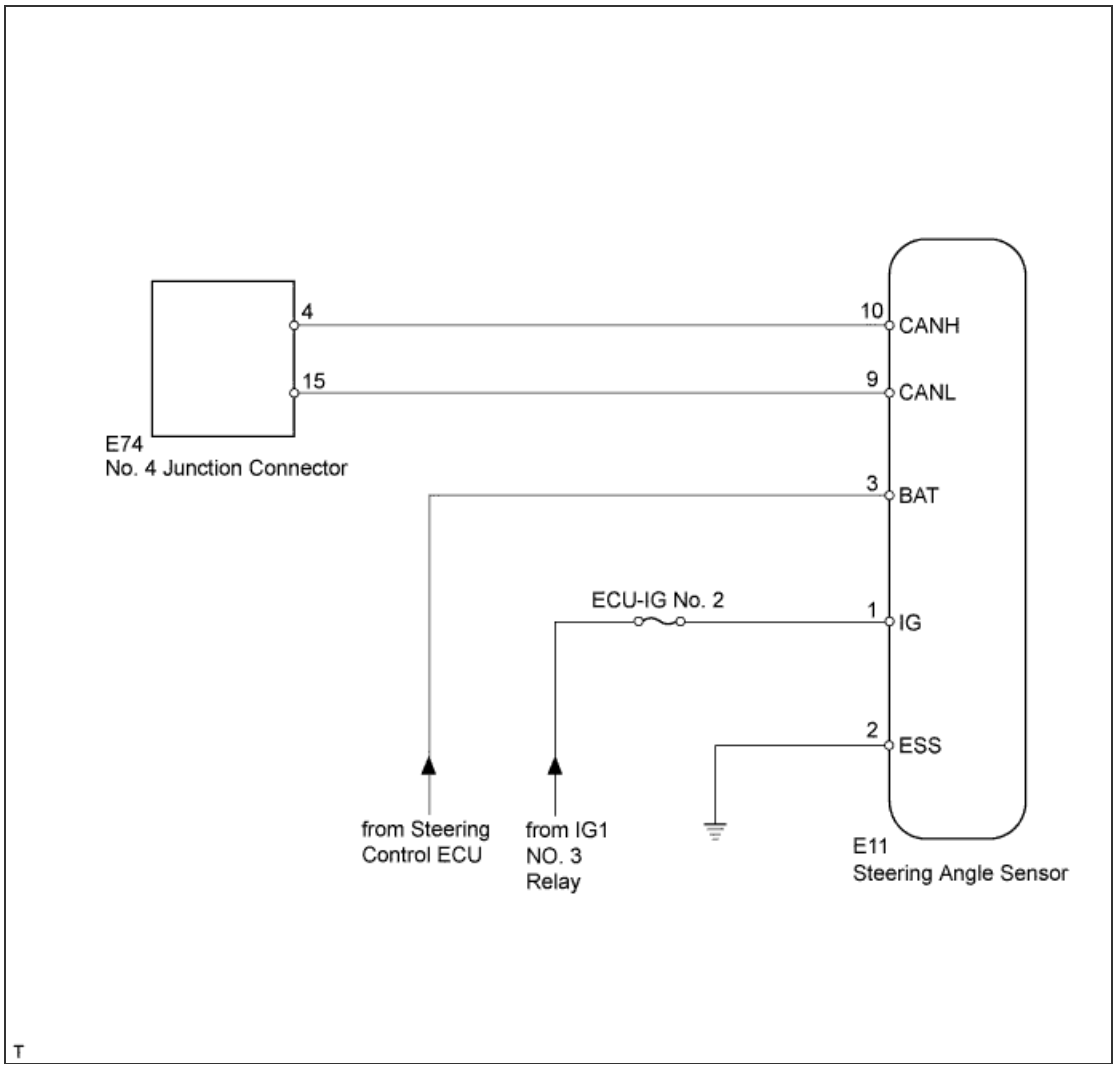
DTC U0126 Lost Communication with Steering Angle Sensor Module

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 • Steering angle sensor CAN branch wire or connector • 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.

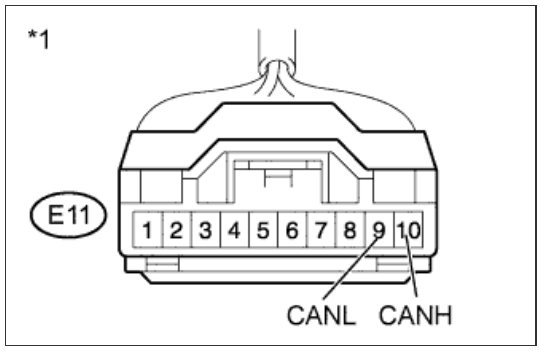
b. Measure the resistance according to the value(s) in the table below.

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.

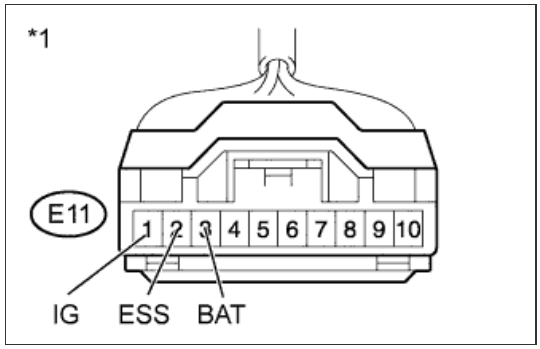
NOTICE:

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 U1002 (CAN MS BUS) Lost Communication with Gateway Module (Main body ECU)

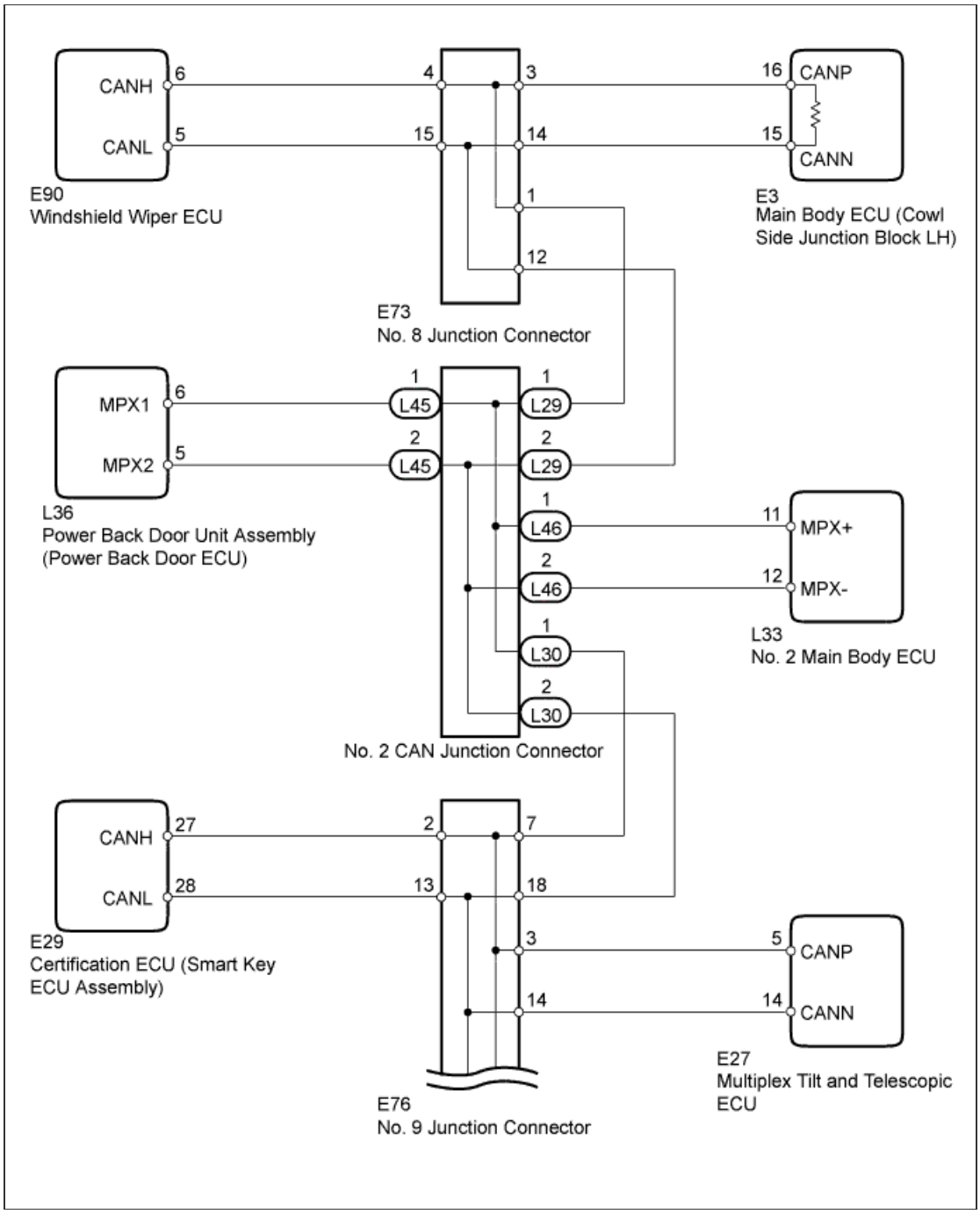
for Preparation Click here

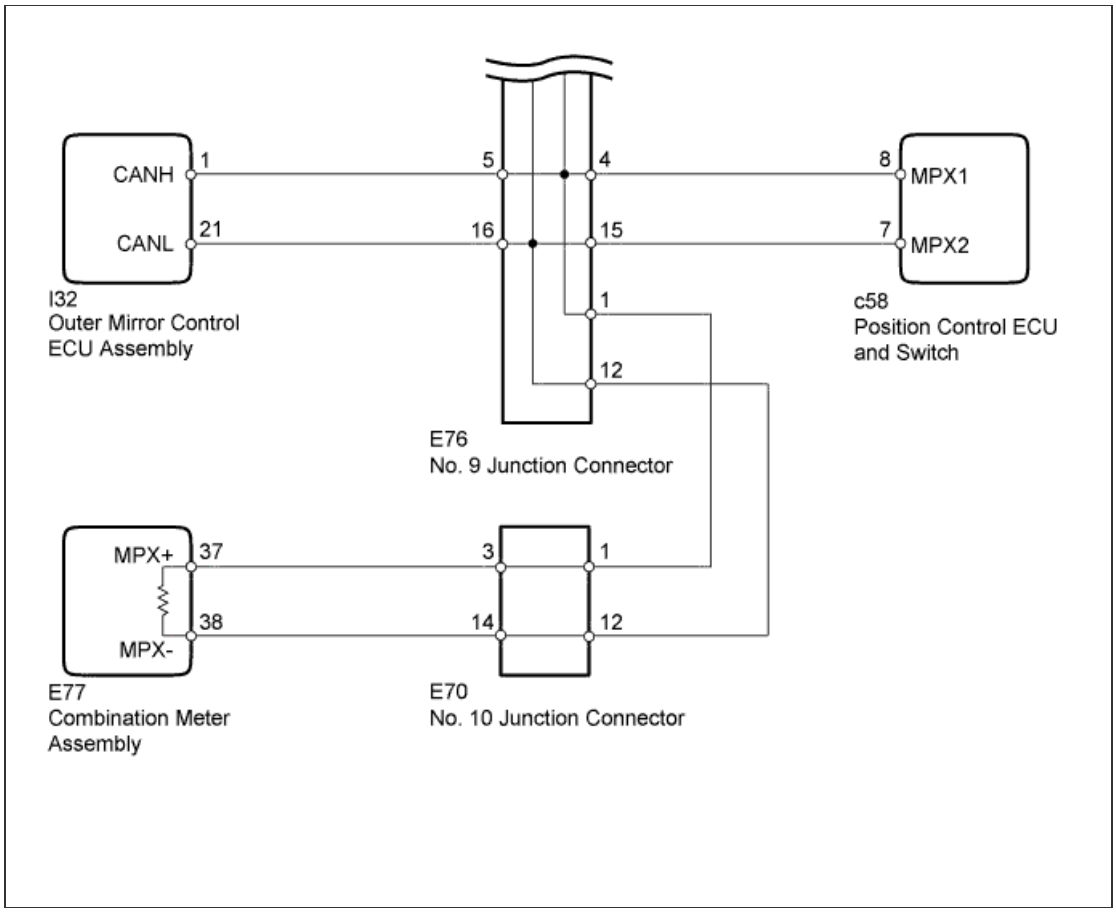
DESCRIPTION

- 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 • Windshield wiper ECU CAN branch wire or connector • Position control ECU and switch CAN branch wire or connector • Outer mirror control ECU assembly CAN branch wire or connector • Multiplex tilt and telescopic ECU branch wire or connector • Certification ECU (smart key ECU assembly) CAN branch wire or connector • Power back door unit assembly (power back door ECU) CAN branch wire or connector • No. 2 main body ECU CAN branch wire or connector • Main body ECU (cowl side junction block LH) CAN main wire or connector • Combination meter assembly CAN main wire or connector • Windshield wiper ECU • Position control ECU and switch • Outer mirror control ECU assembly • Multiplex tilt and telescopic ECU • Certification ECU (smart key ECU assembly) • Power back door unit assembly (power back door ECU) • No. 2 main body ECU • Main body ECU (cowl side junction block LH) • Combination meter assembly • No. 8 junction connector • No. 9 junction connector • No. 10 junction connector • 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).

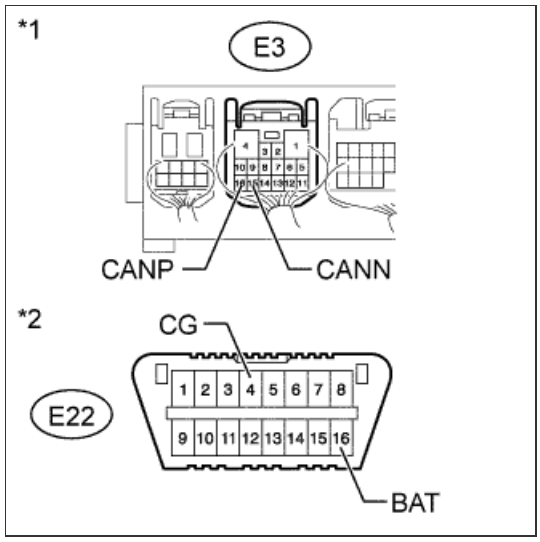
NEXT

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 • Open in CAN main wire	A
NG • Short in line • +B short • Ground short	B
OK	C

B → Go to step 19

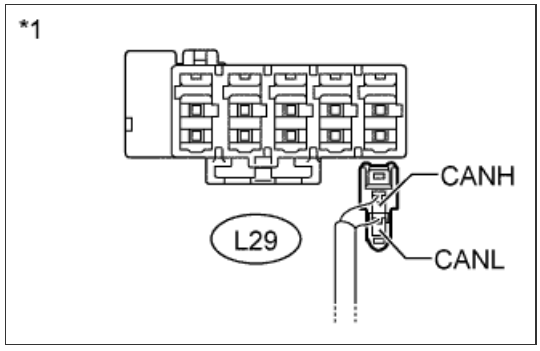
C → Go to step 55

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.

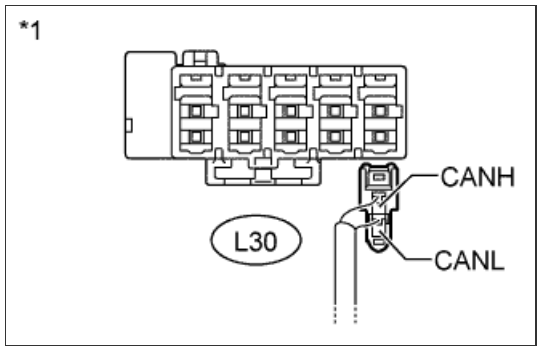
b. Measure the resistance according to the value(s) in the table below.

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.

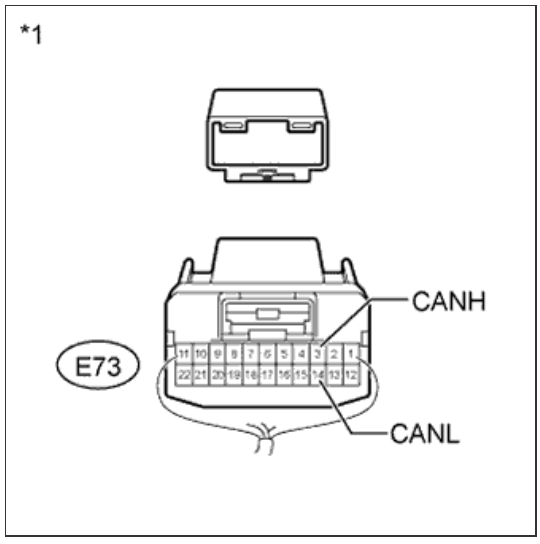
b. Measure the resistance according to the value(s) in the table below.

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)

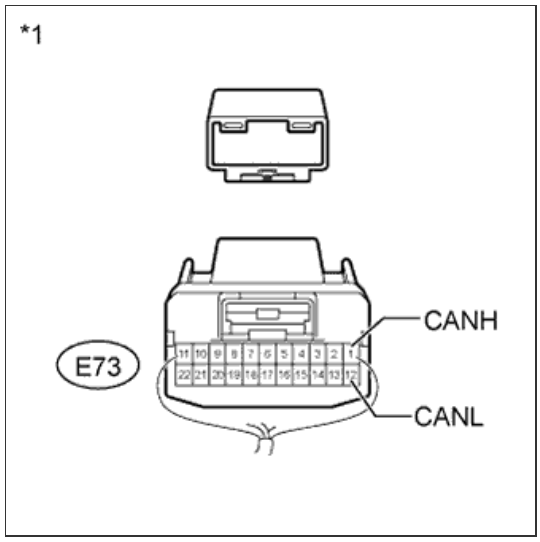
a. Measure the resistance according to the value(s) in the table below.

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.

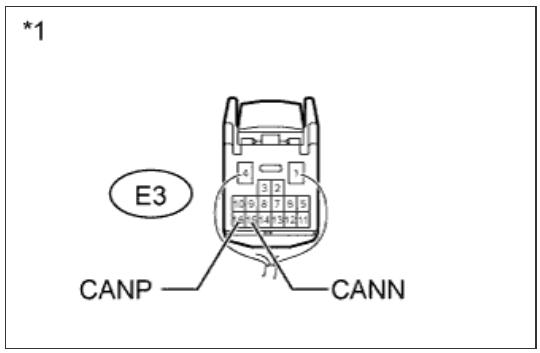
b. Measure the resistance according to the value(s) in the table below.

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.

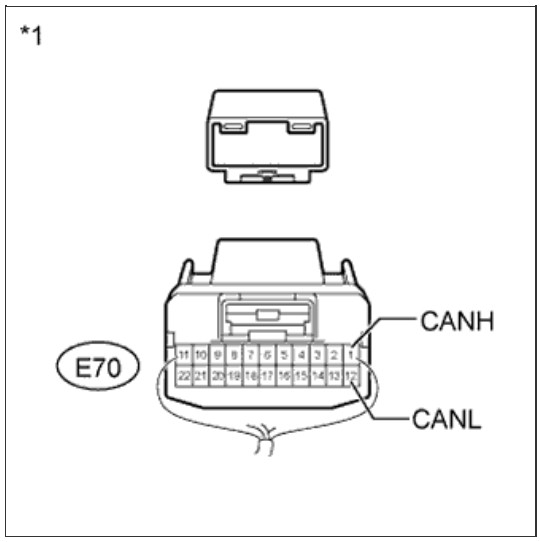
b. Measure the resistance according to the value(s) in the table below.

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)

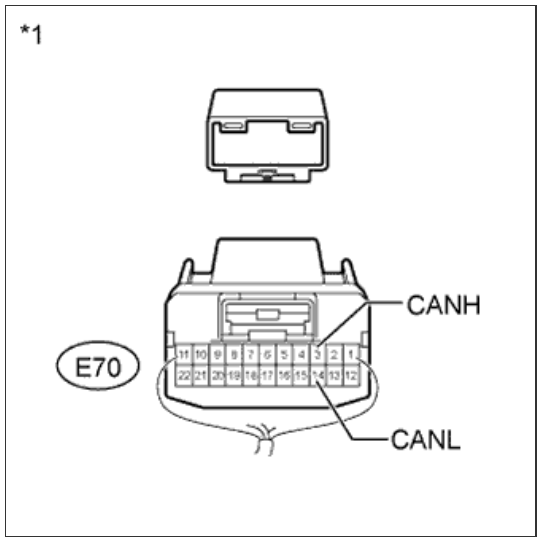
a. Measure the resistance according to the value(s) in the table below.

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.

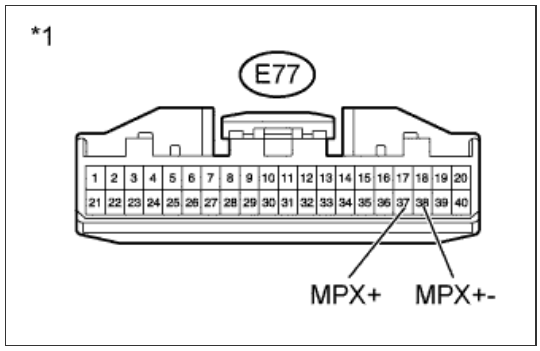
b. Measure the resistance according to the value(s) in the table below.

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.

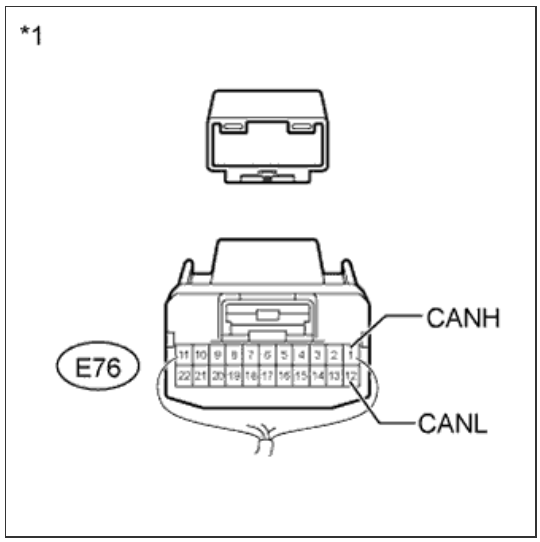
b. Measure the resistance according to the value(s) in the table below.

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

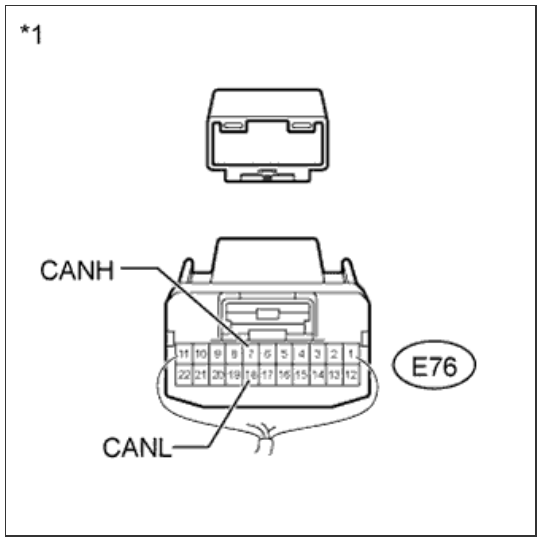
18.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 9 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

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

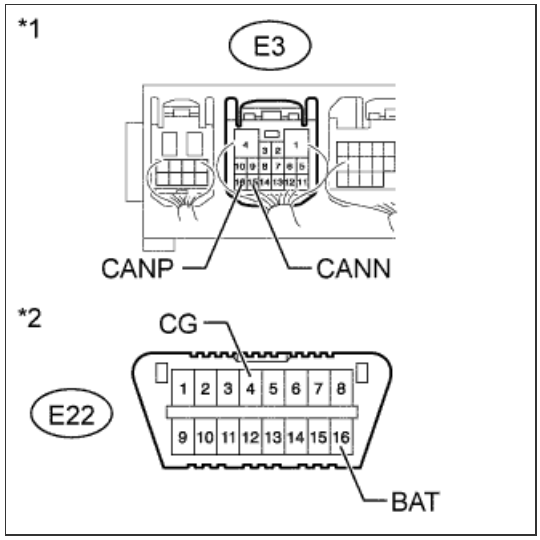
19.CHECK FOR SHORT IN CAN BUS WIRES (NO. 10 JUNCTION CONNECTOR SIDE)

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

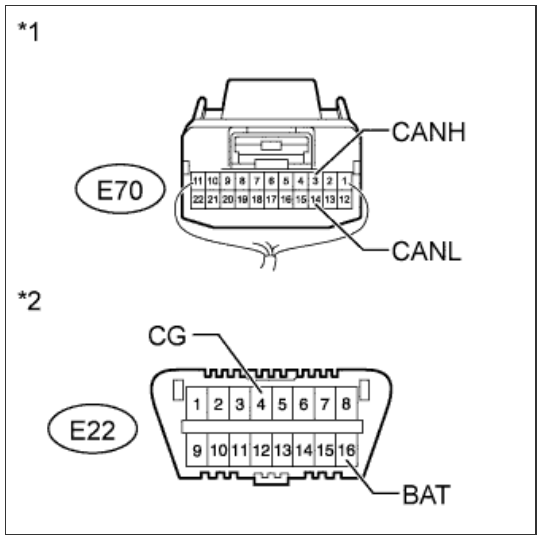
20.CHECK FOR SHORT IN CAN BUS WIRES (NO. 10 JUNCTION CONNECTOR - COMBINATION METER ASSEMBLY)

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

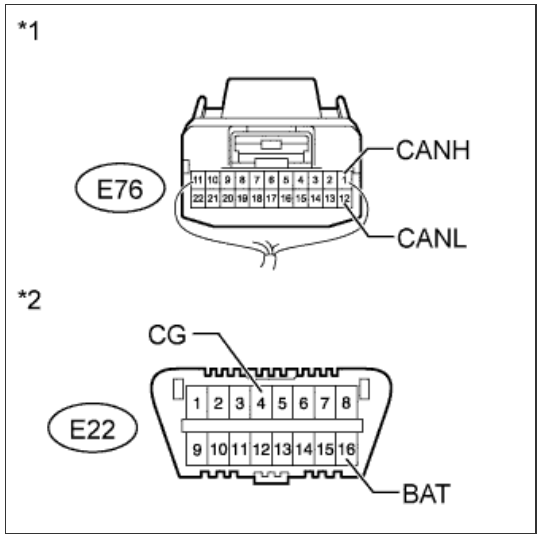
22.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR - NO. 10 JUNCTION CONNECTOR)

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)

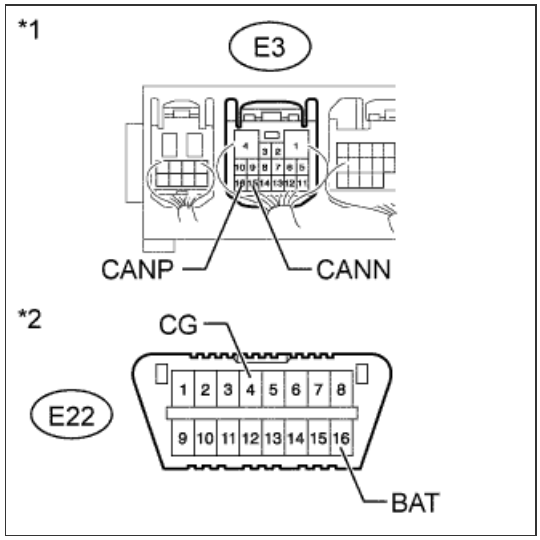
OK

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

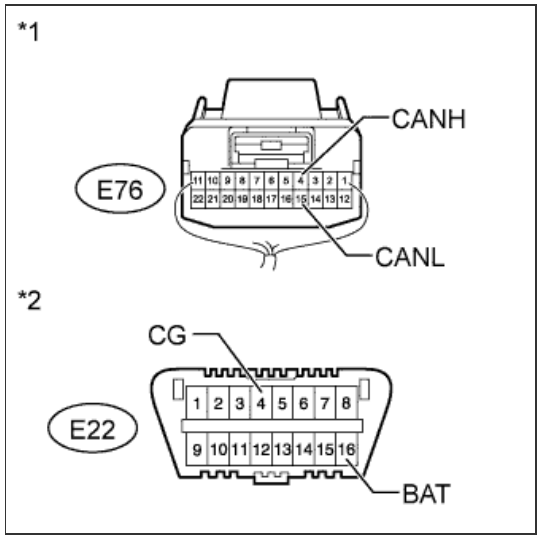
OK

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

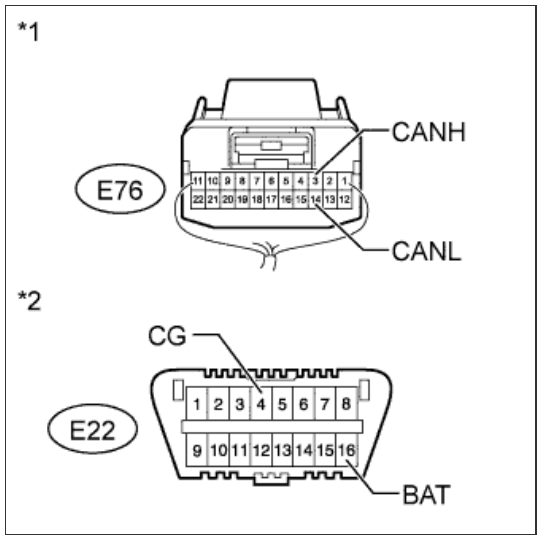
OK

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

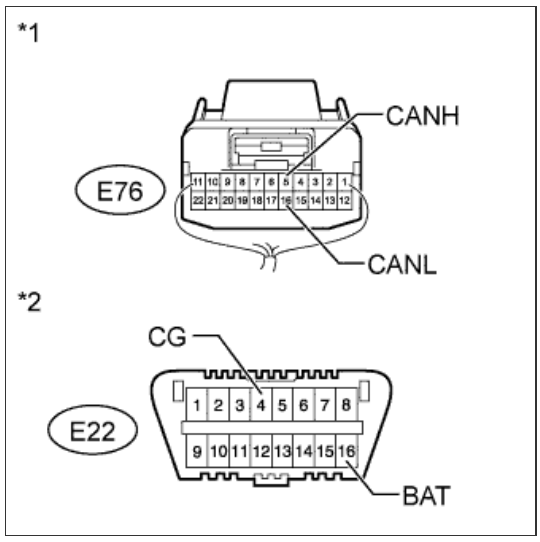
OK

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

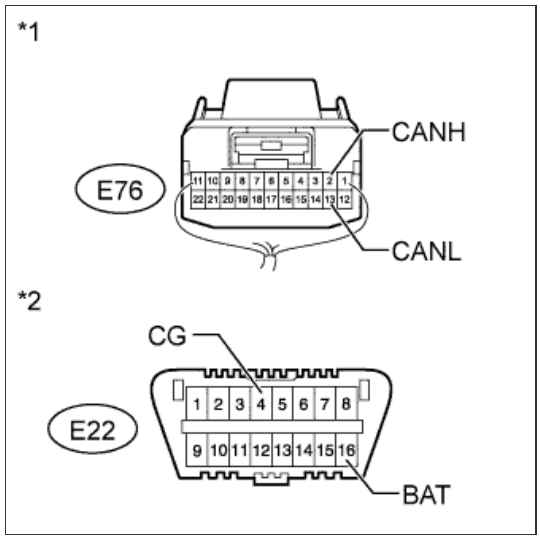
27.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR - CERTIFICATION ECU)

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

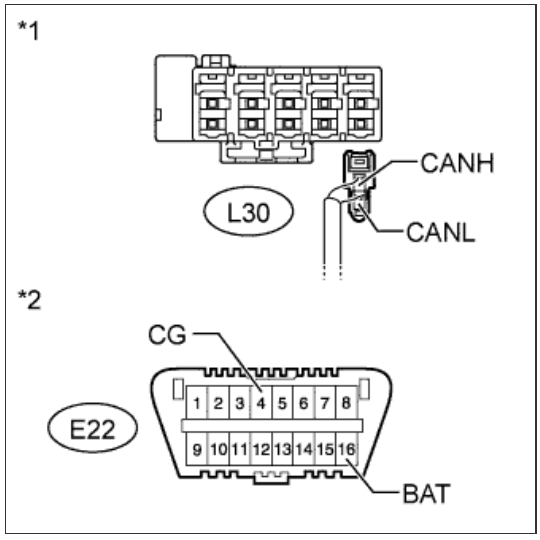
29.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - NO. 9 JUNCTION CONNECTOR)

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

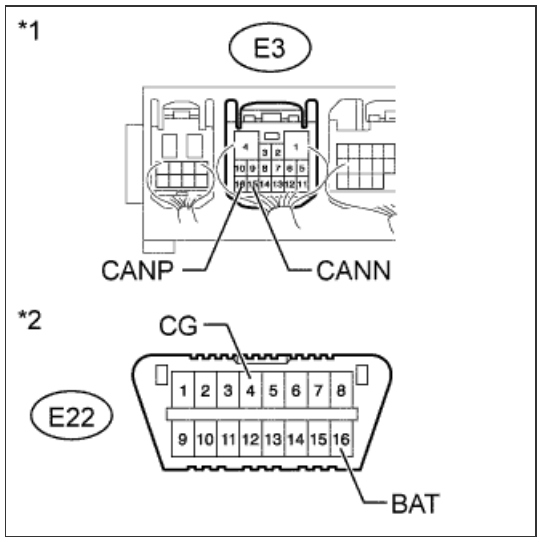
30.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR SIDE)

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

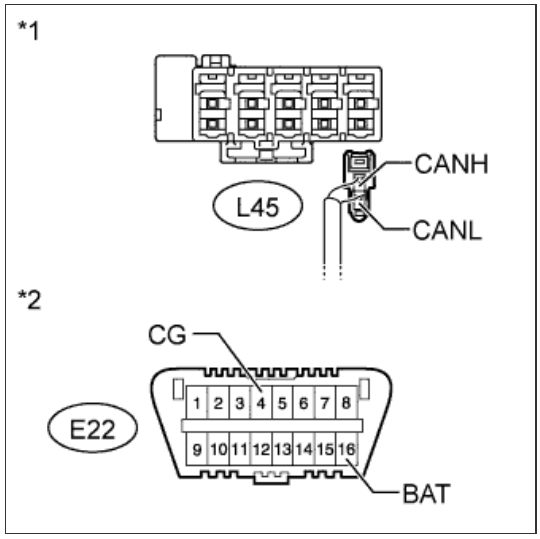
31.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - POWER BACK DOOR ECU)

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

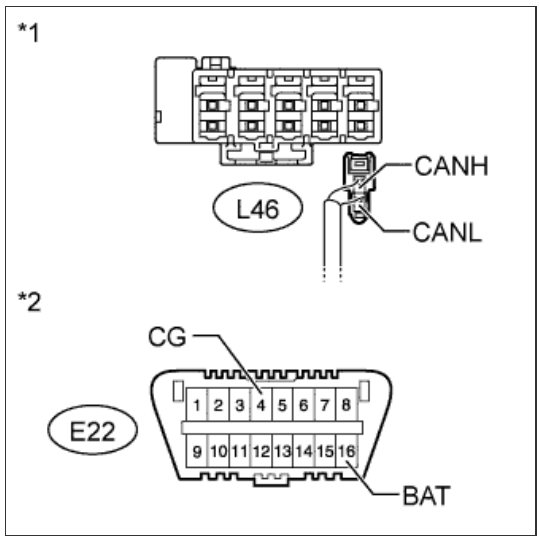
32.CHECK FOR FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - NO. 2 MAIN BODY ECU)

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

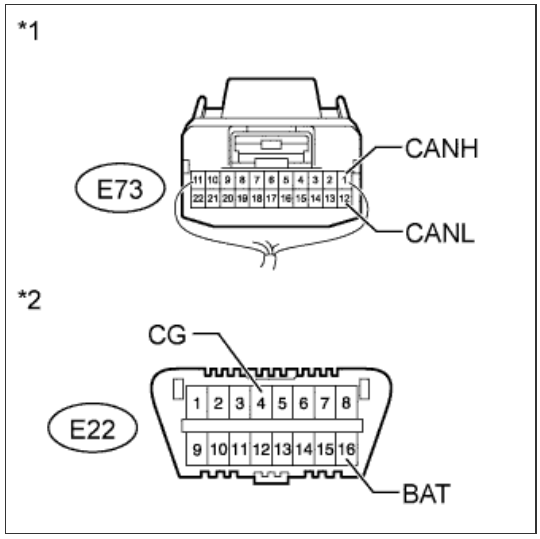
34.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

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)

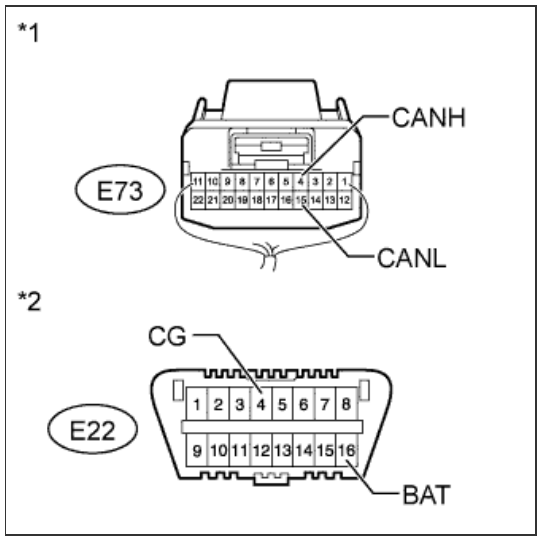
OK

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

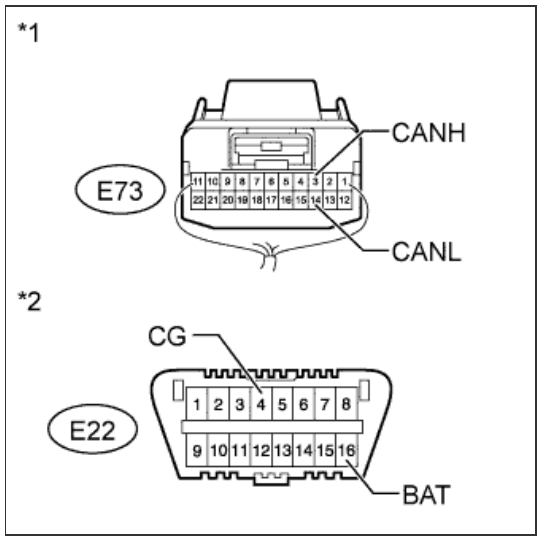
OK

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

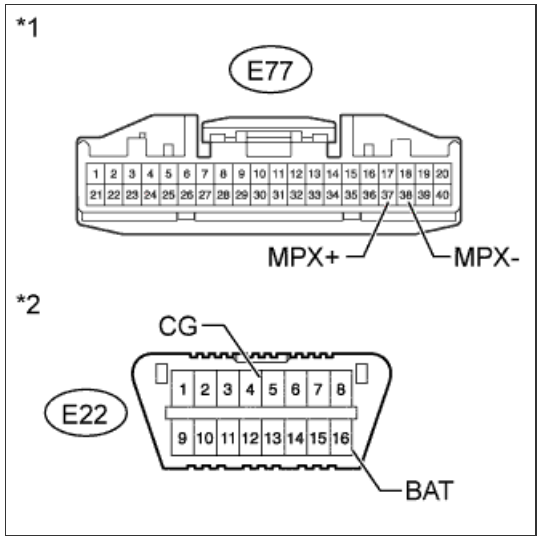
38.CHECK FOR SHORT IN CAN BUS WIRES (COMBINATION METER ASSEMBLY)

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)

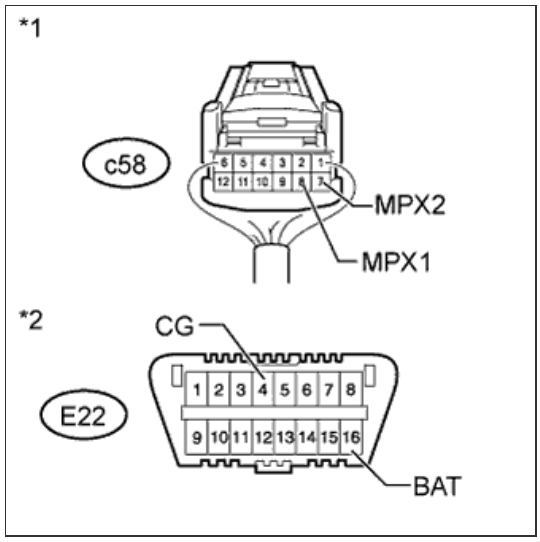
a. Disconnect the c58 position control ECU and switch connector.

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

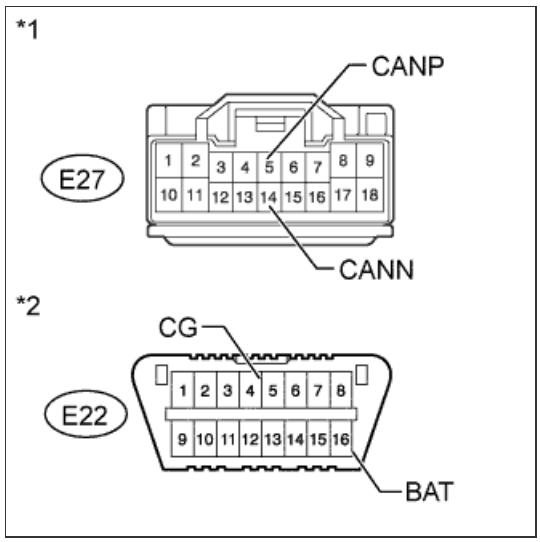
a. Reconnect the E76 No. 9 junction connector.

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

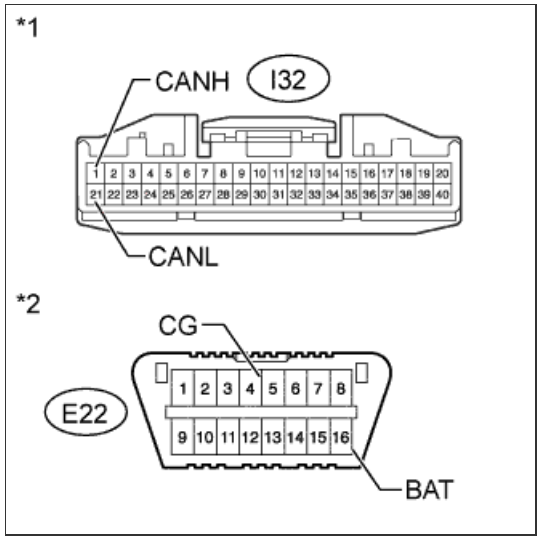
44.CHECK FOR SHORT IN CAN BUS WIRES (OUTER MIRROR CONTROL ECU ASSEMBLY)

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)

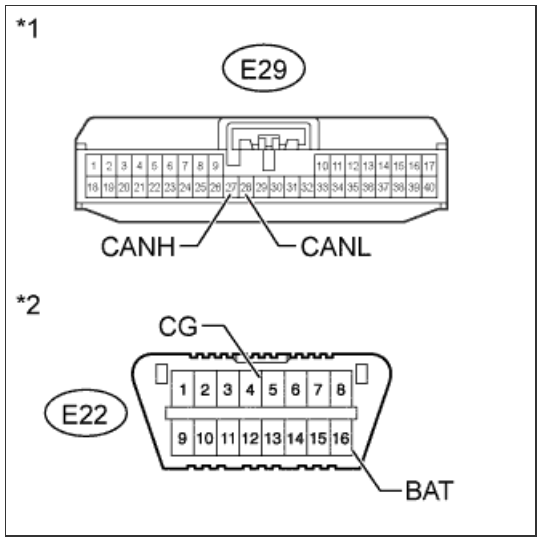
a. Disconnect the E29 certification ECU (smart key ECU assembly) connector.

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

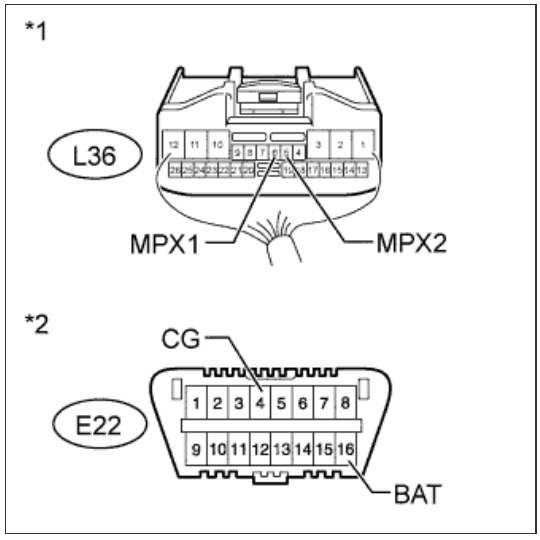
48.CHECK FOR SHORT IN CAN BUS WIRES (POWER BACK DOOR ECU)

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

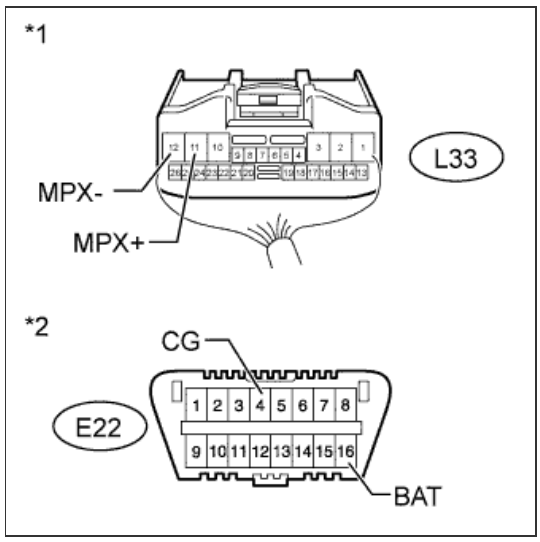
50.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 MAIN BODY ECU)

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)

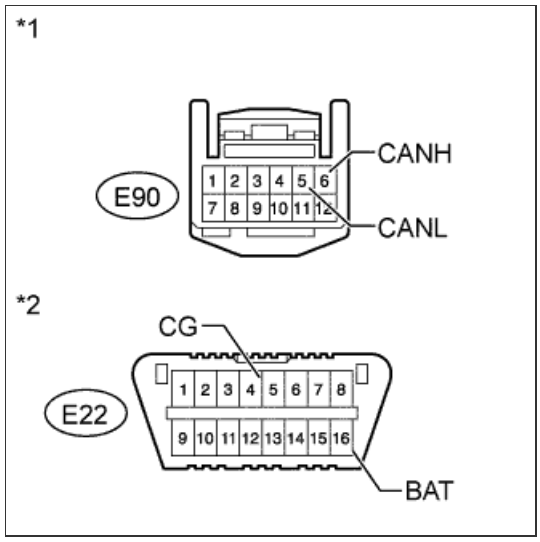
a. Disconnect the E90 windshield wiper ECU connector.

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

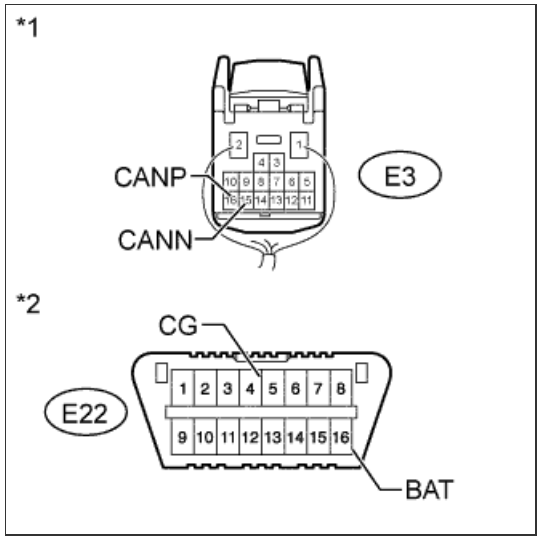
54.CHECK FOR SHORT IN CAN BUS WIRES (MAIN BODY ECU)

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

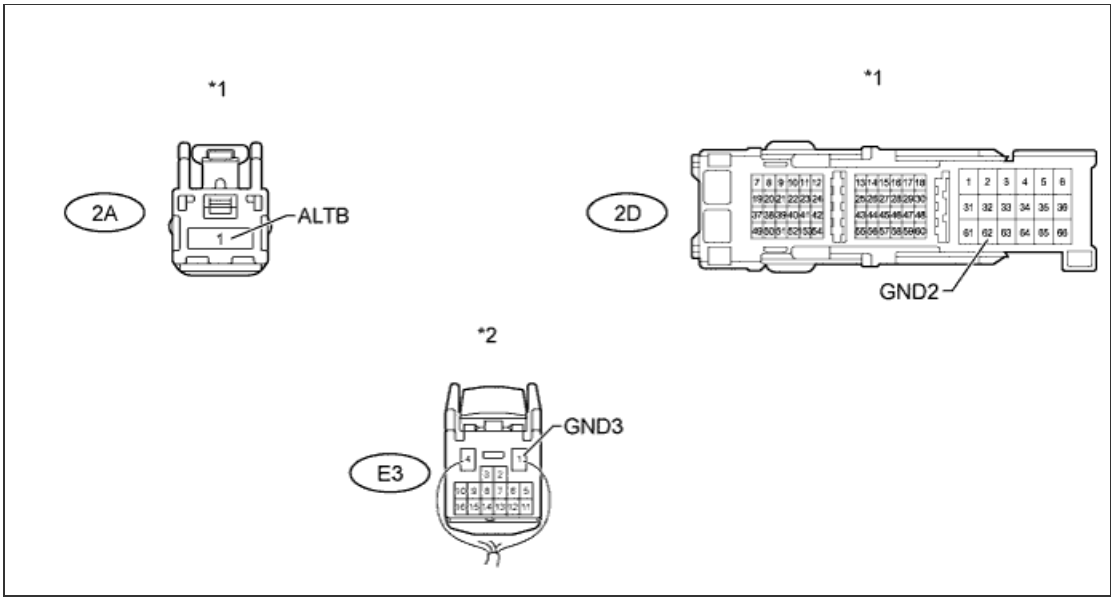
NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO MAIN BODY ECU (CANP, CANN)

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)

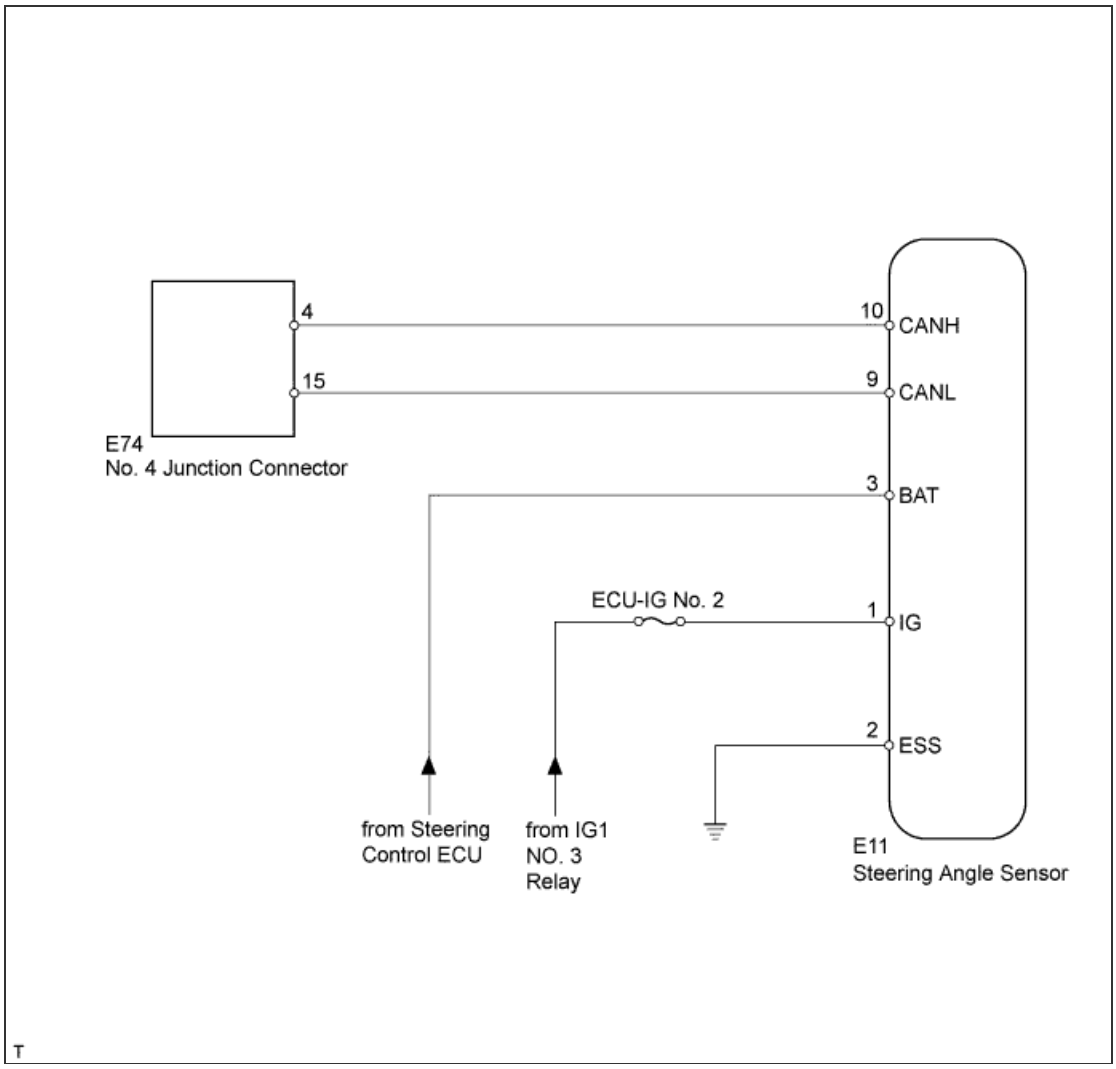
DTC U0126 Lost Communication with Steering Angle Sensor Module

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 • Steering angle sensor CAN branch wire or connector • 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.

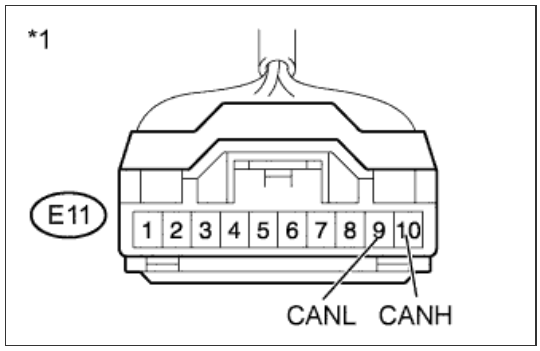
b. Measure the resistance according to the value(s) in the table below.

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.

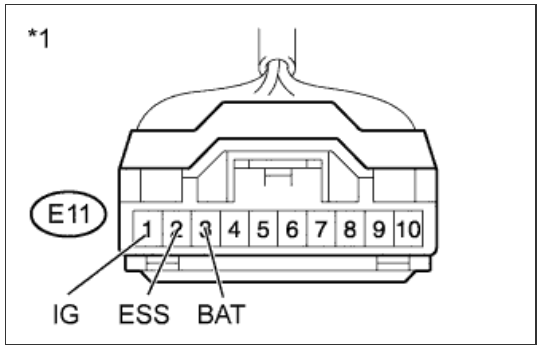
NOTICE:

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 U1002 (CAN No. 2 BUS) Lost Communication with Gateway Module (Network Gateway ECU)

for Preparation Click here

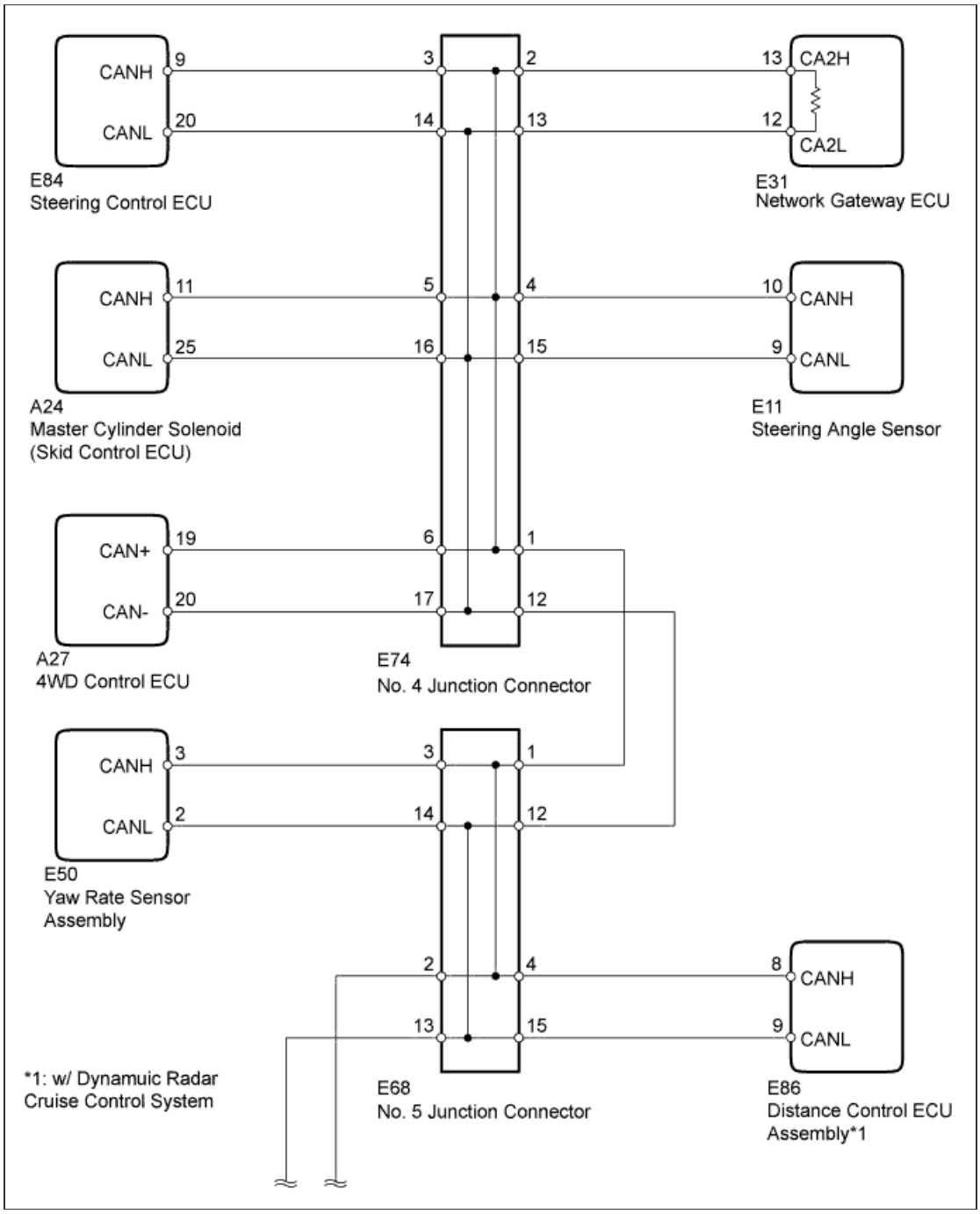
DESCRIPTION

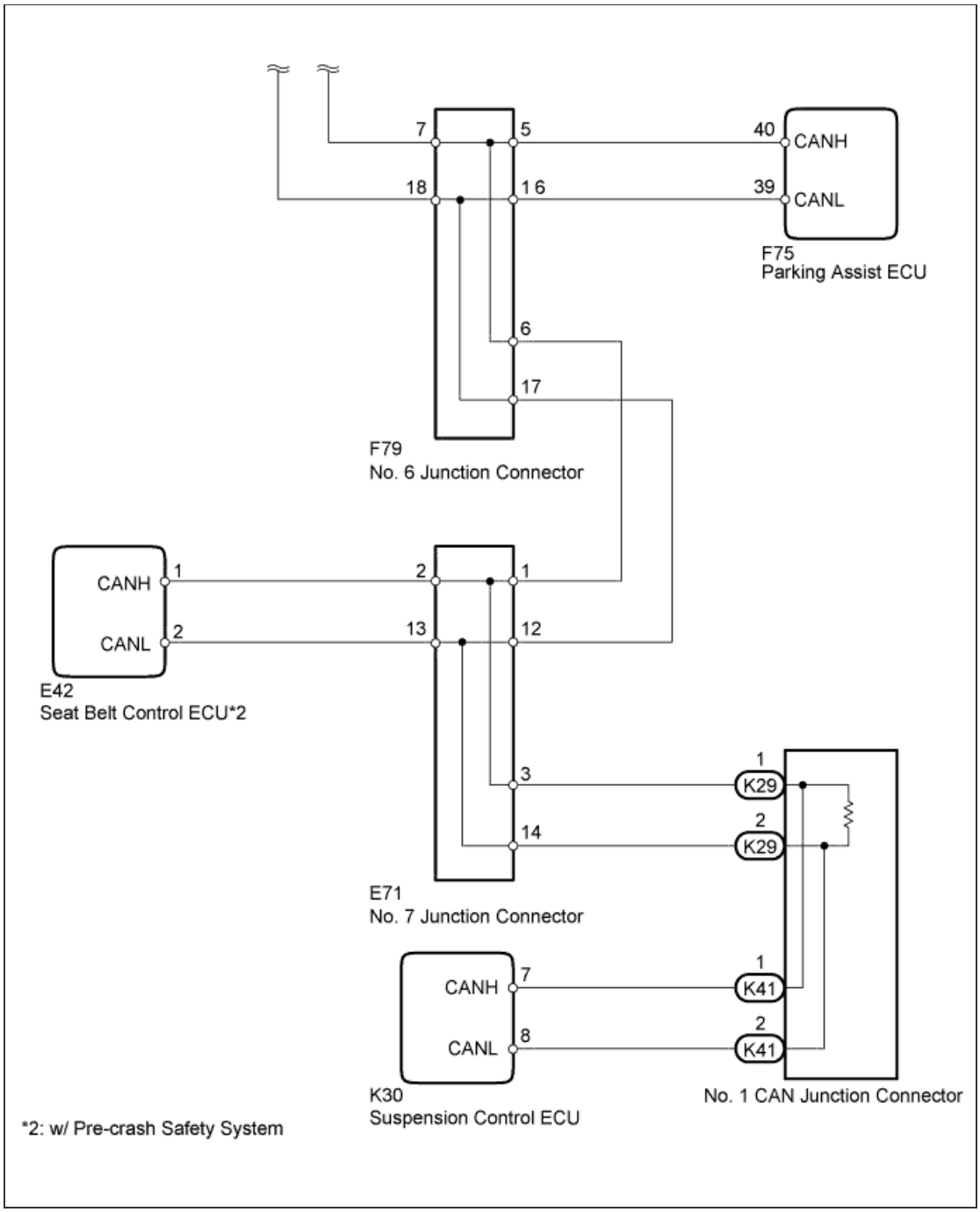
- The network gateway ECU stores this DTC when no signals can be received from the ECUs that have been memorized as those connected to the CAN movement control bus.
- When the network gateway ECU receives a response signal from the ECUs connected to the CAN movement control bus, the network gateway ECU 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 • 4WD control ECU CAN branch wire or connector • Yaw rate sensor assembly CAN branch wire or connector • Distance control ECU assembly CAN branch wire or connector*1 • Seat belt control ECU CAN branch wire or connector*2 • Parking assist ECU CAN branch wire or connector • Master cylinder solenoid (skid control ECU) CAN branch wire or connector • Steering angle sensor CAN branch wire or connector • Network gateway ECU CAN main wire or connector • Steering control ECU CAN branch wire or connector • Suspension control ECU CAN branch wire or connector • 4WD control ECU • Yaw rate sensor assembly • Distance control ECU assembly*1 • Seat belt control ECU*2 • Parking assist ECU • Master cylinder solenoid (skid control ECU) • Steering angle sensor • Steering control ECU • Suspension control ECU • Network gateway ECU • No. 4 junction connector • No. 5 junction connector • No. 6 junction connector • No. 7 junction connector • 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.

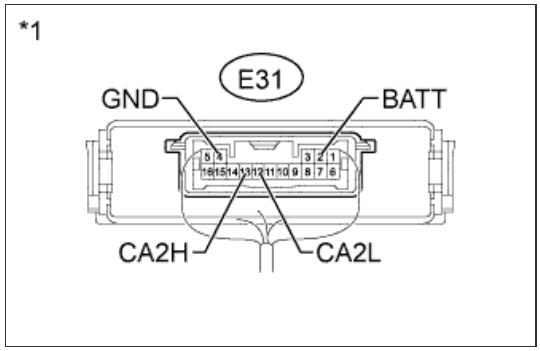
NOTICE:

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 • Open in CAN main wire	A
NG • Short in line • +B short • 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.

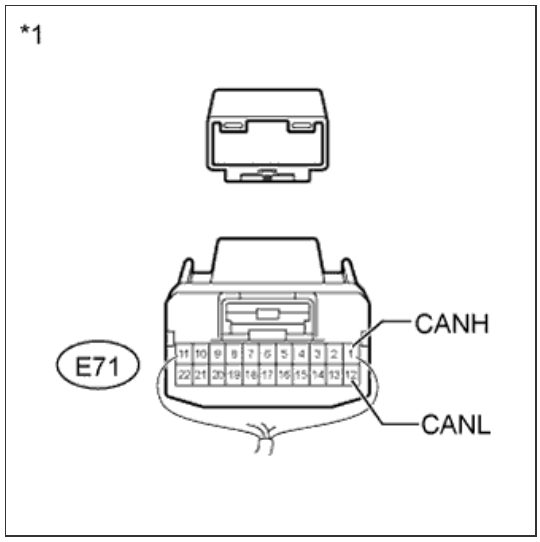
b. Measure the resistance according to the value(s) in the table below.

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)

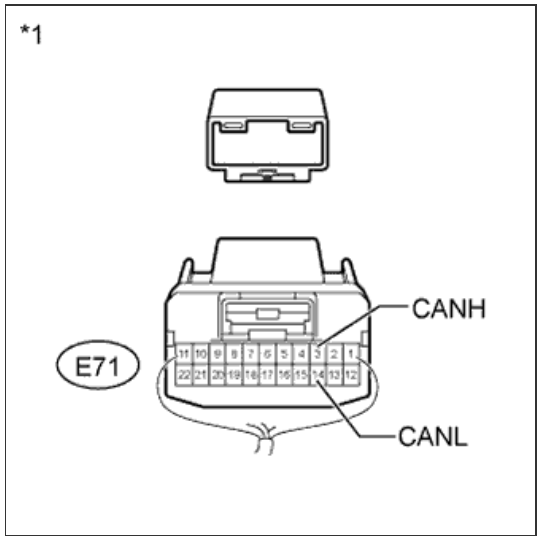
a. Measure the resistance according to the value(s) in the table below.

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.

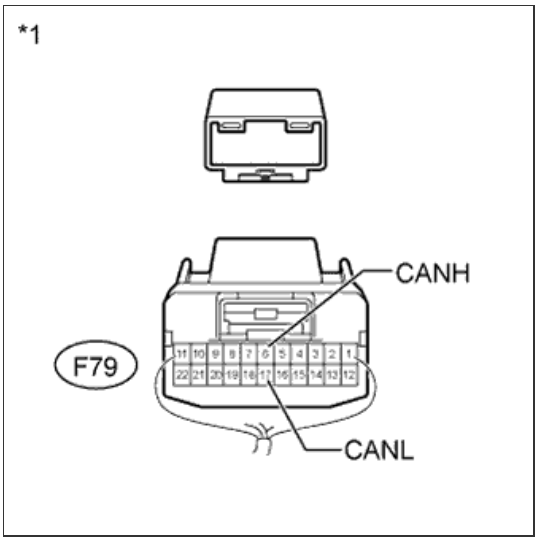
b. Measure the resistance according to the value(s) in the table below.

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)

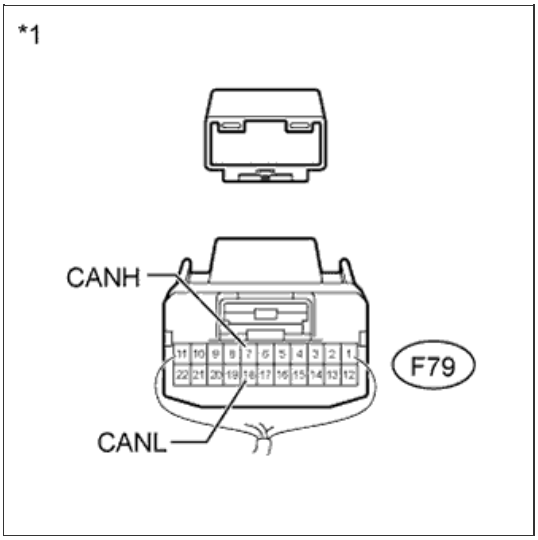
a. Measure the resistance according to the value(s) in the table below.

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.

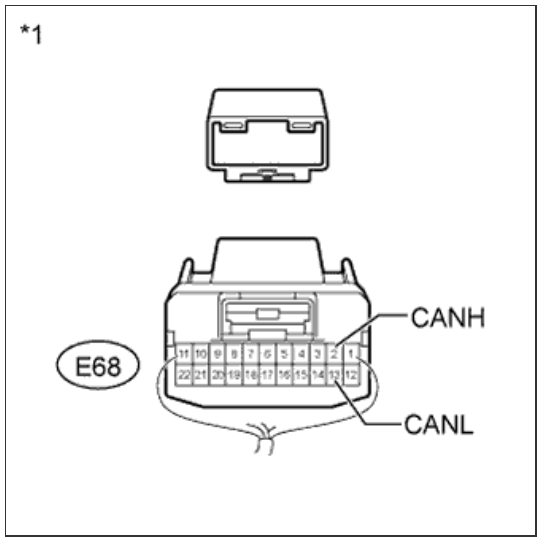
b. Measure the resistance according to the value(s) in the table below.

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)

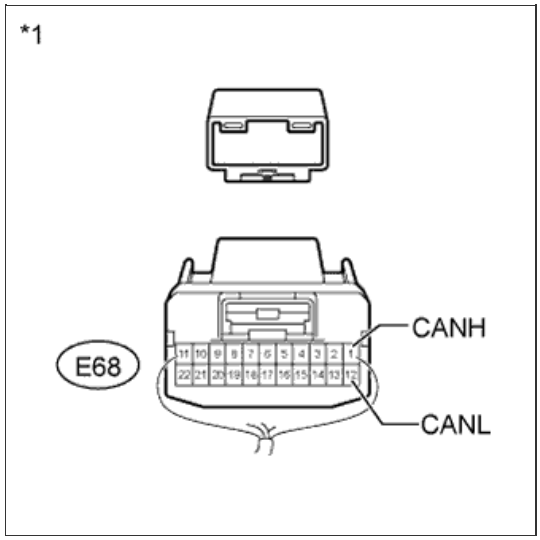
a. Measure the resistance according to the value(s) in the table below.

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.

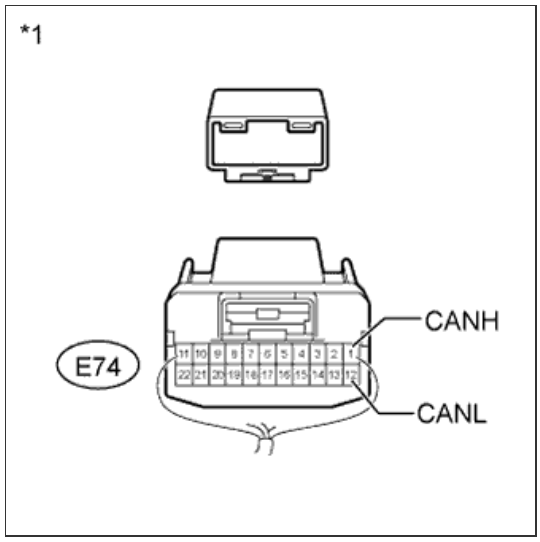
b. Measure the resistance according to the value(s) in the table below.

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)

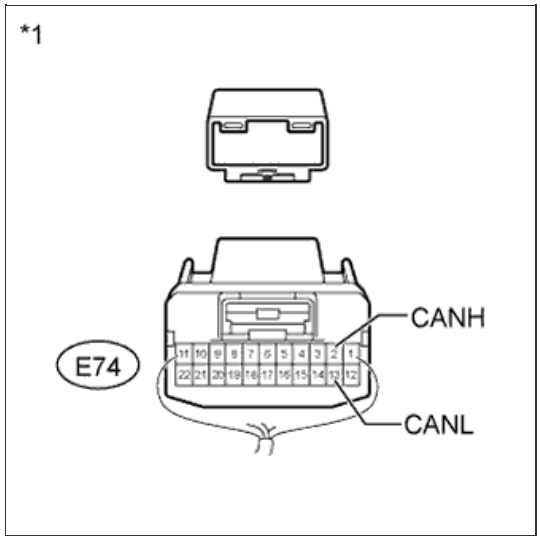
a. Measure the resistance according to the value(s) in the table below.

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.

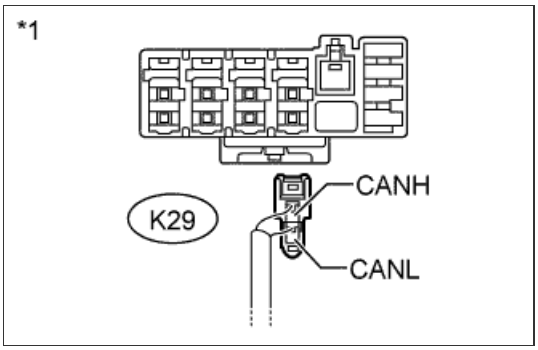
b. Measure the resistance according to the value(s) in the table below.

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.

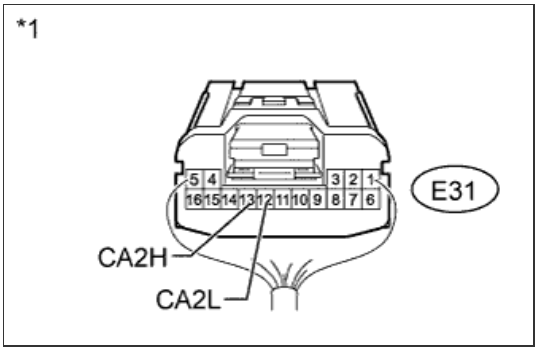
b. Measure the resistance according to the value(s) in the table below.

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)

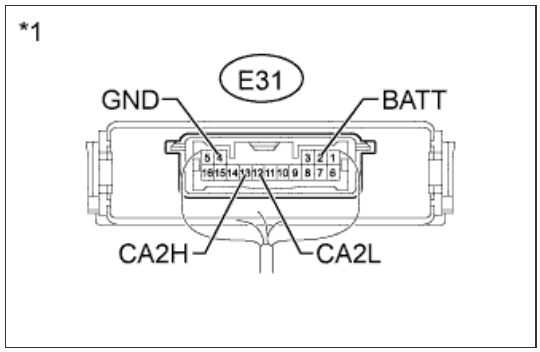
a. Disconnect the E71 No. 7 junction connector.

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)

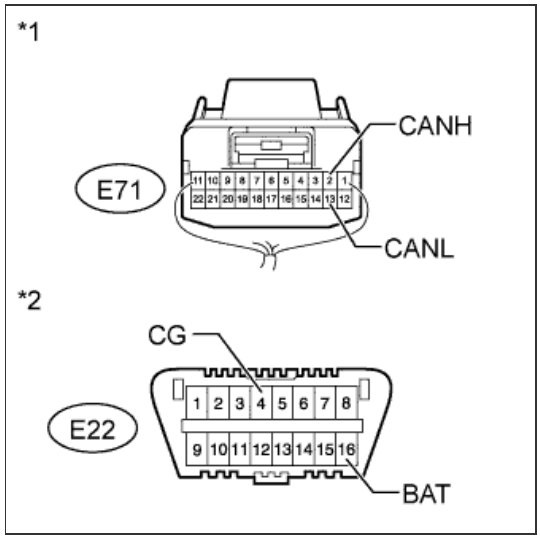
NOTICE:

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

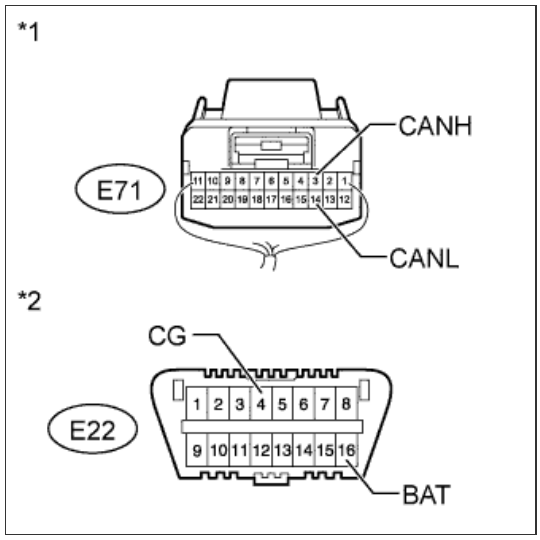
21.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR - NO. 1 CAN JUNCTION CONNECTOR)

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

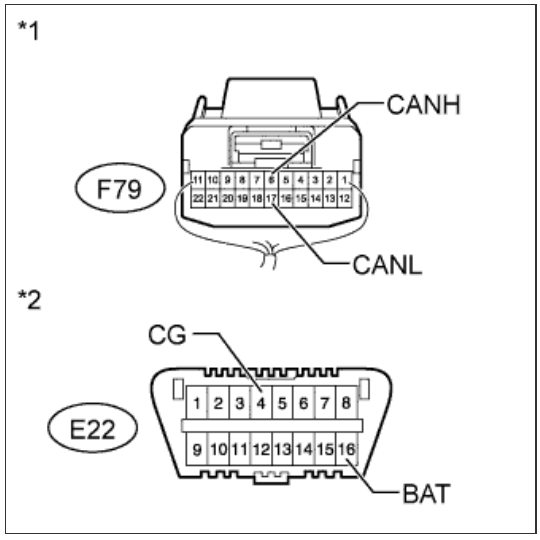
23.CHECK FOR SHORT IN CAN BUS WIRES (NO. 6 JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)

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)

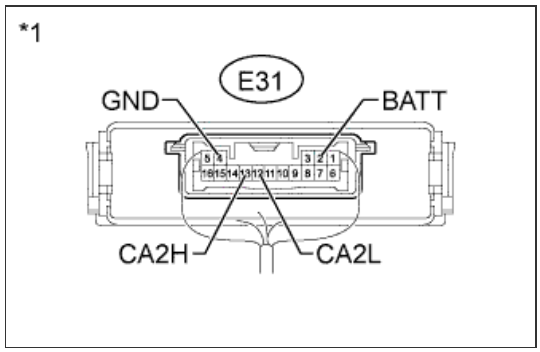
OK

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

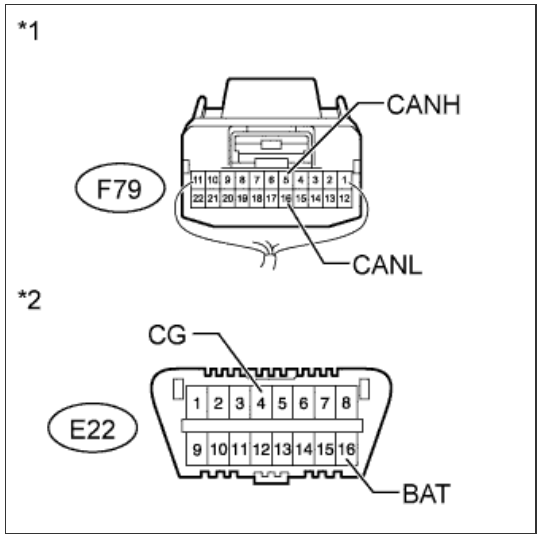
OK

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

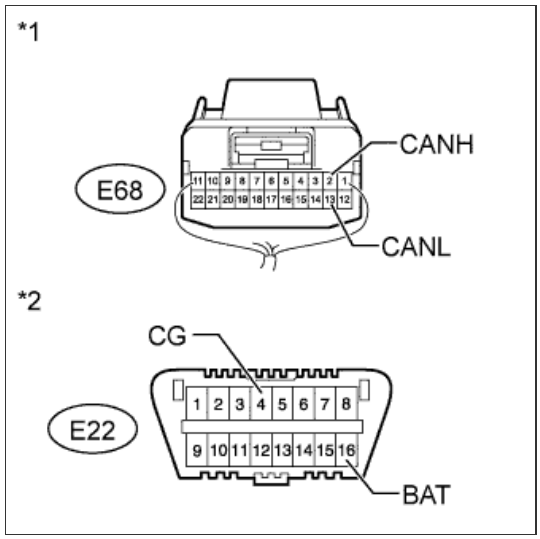
27.CHECK FOR SHORT IN CAN BUS WIRES (NO. 5 JUNCTION CONNECTOR - NO. 6 JUNCTION CONNECTOR)

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)

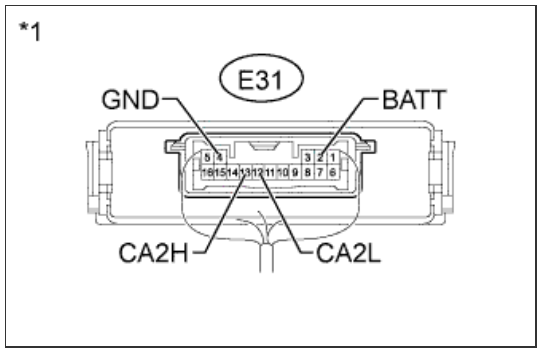
OK

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

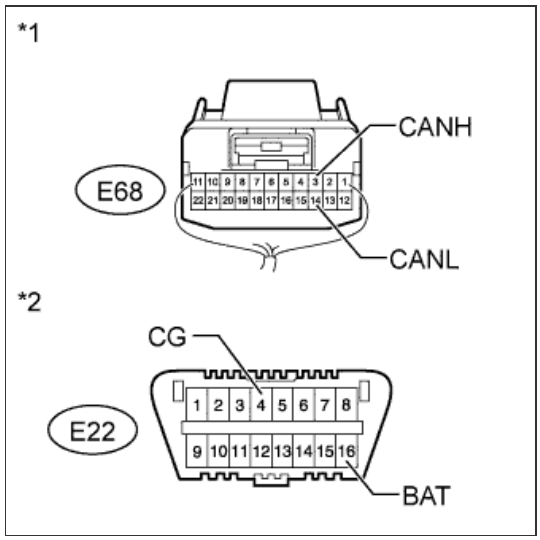
OK

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)

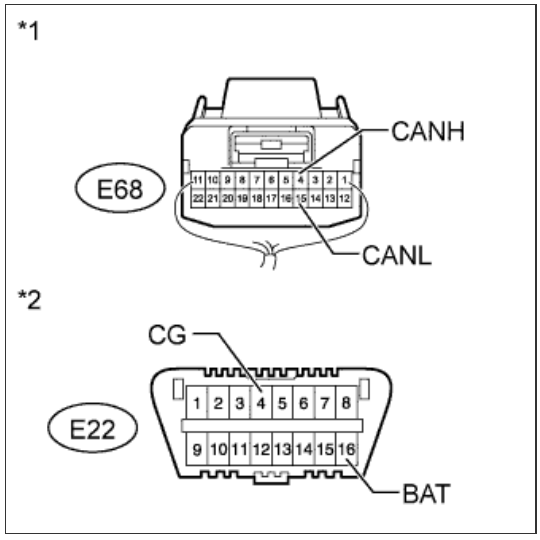
NOTICE:

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

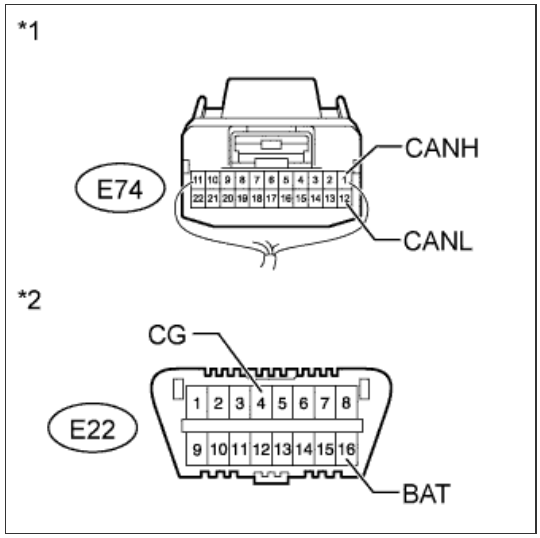
32.CHECK FOR SHORT IN CAN BUS WIRES (NO. 4 JUNCTION CONNECTOR - NO. 5 JUNCTION CONNECTOR)

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)

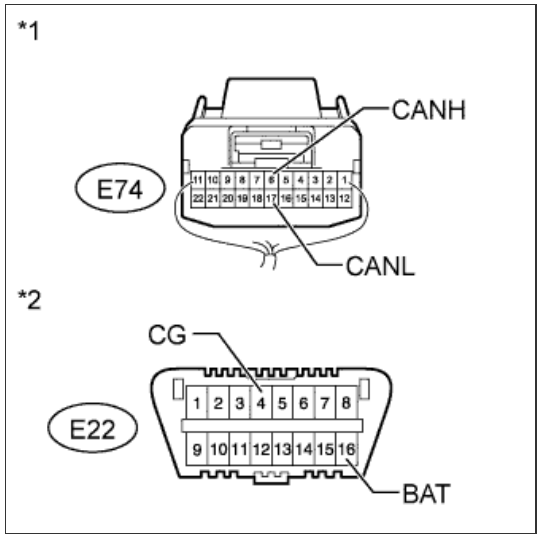
OK

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

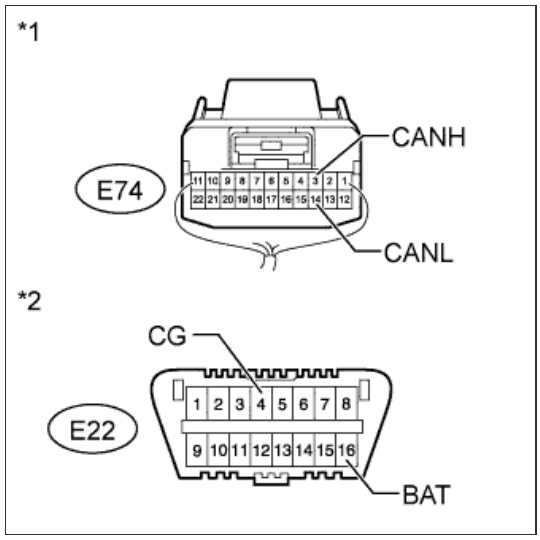
OK

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

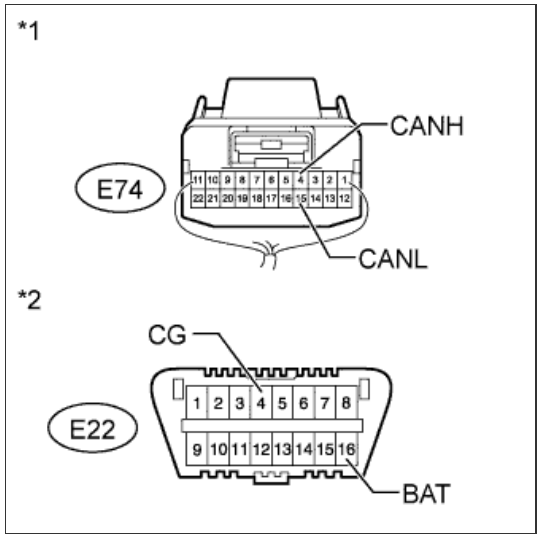
OK

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

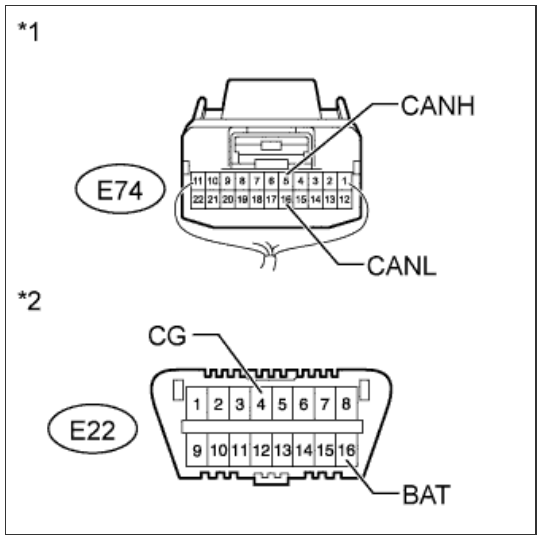
OK

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

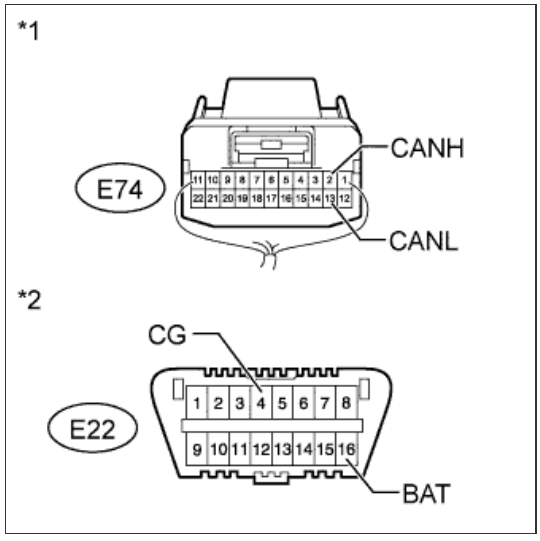
OK

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

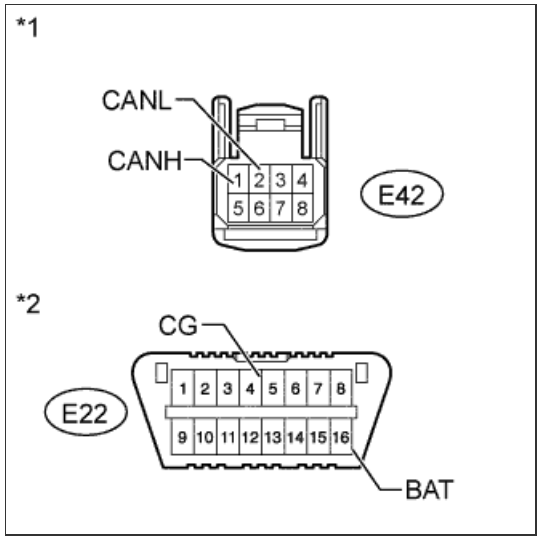
39.CHECK FOR SHORT IN CAN BUS WIRES (SEAT BELT CONTROL ECU)

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)

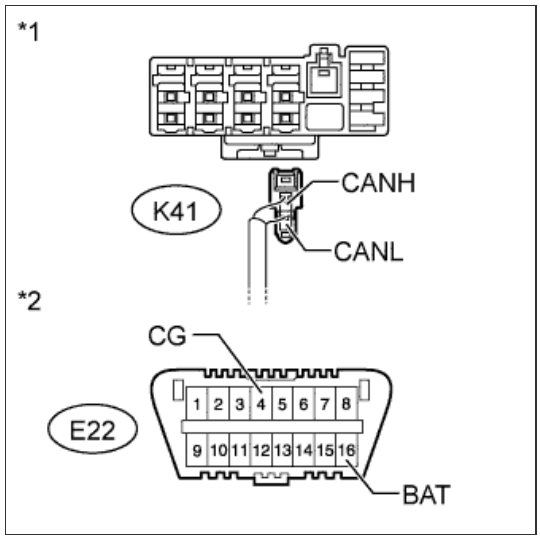
a. Disconnect the K41 No. 1 CAN junction connector.

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

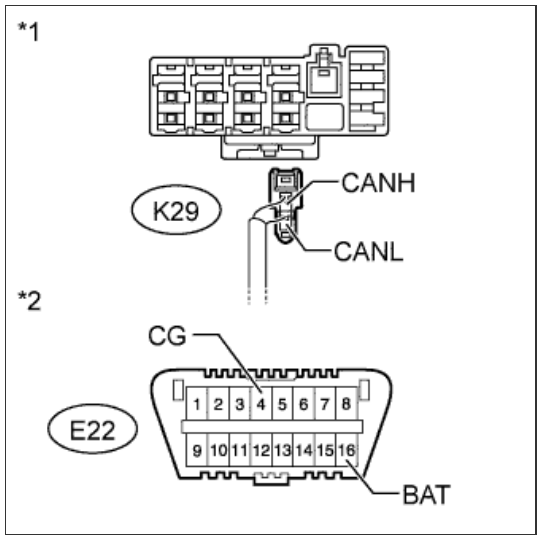
42.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 CAN JUNCTION CONNECTOR)

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

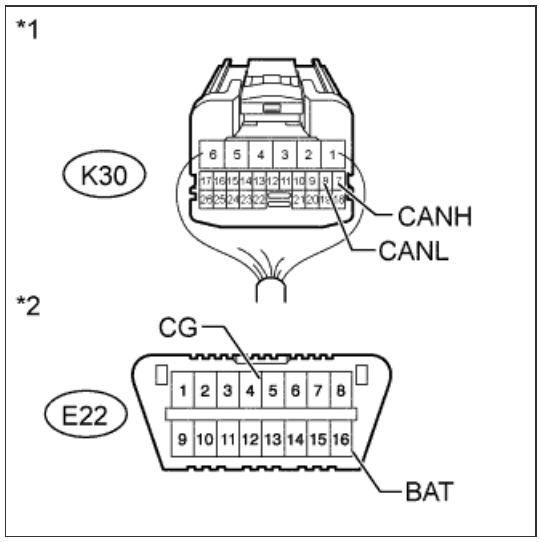
44.CHECK FOR SHORT IN CAN BUS WIRES (SUSPENSION CONTROL ECU)

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

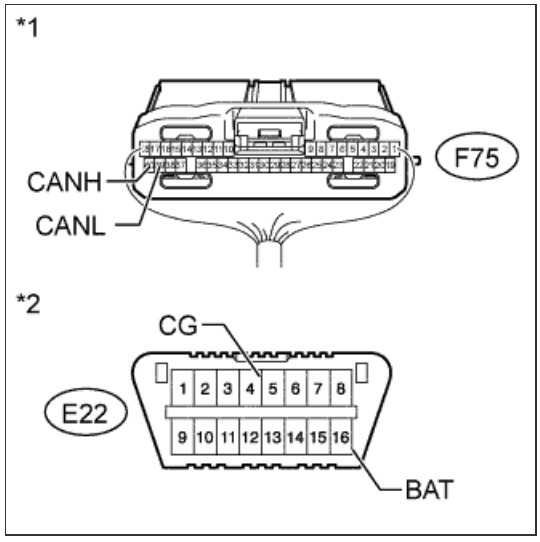
46.CHECK FOR SHORT IN CAN BUS WIRES (PARKING ASSIST ECU)

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

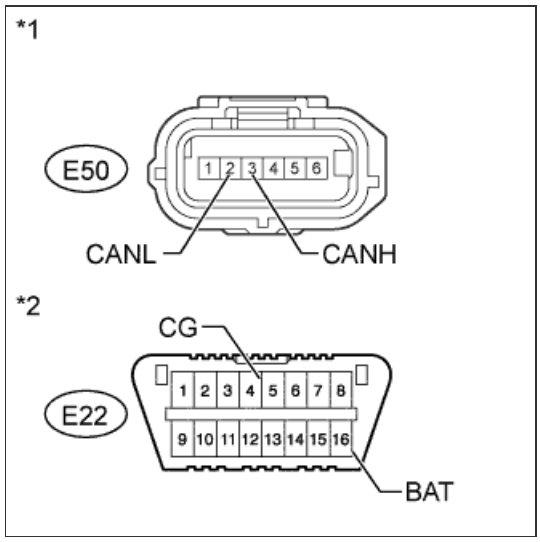
48.CHECK FOR SHORT IN CAN BUS WIRES (YAW RATE SENSOR ASSEMBLY)

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

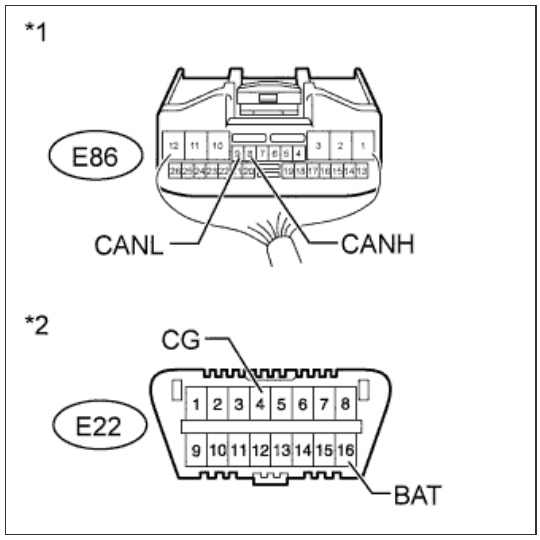
50.CHECK FOR SHORT IN CAN BUS WIRES (DISTANCE CONTROL ECU ASSEMBLY)

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

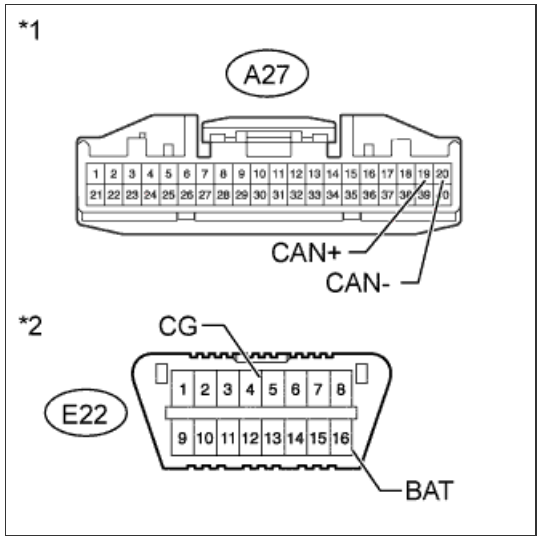
52.CHECK FOR SHORT IN CAN BUS WIRES (4WD CONTROL ECU)

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

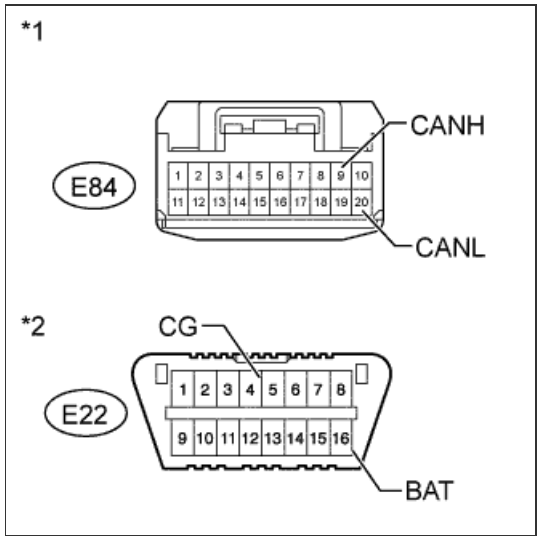
54.CHECK FOR SHORT IN CAN BUS WIRES (STEERING CONTROL ECU)

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)

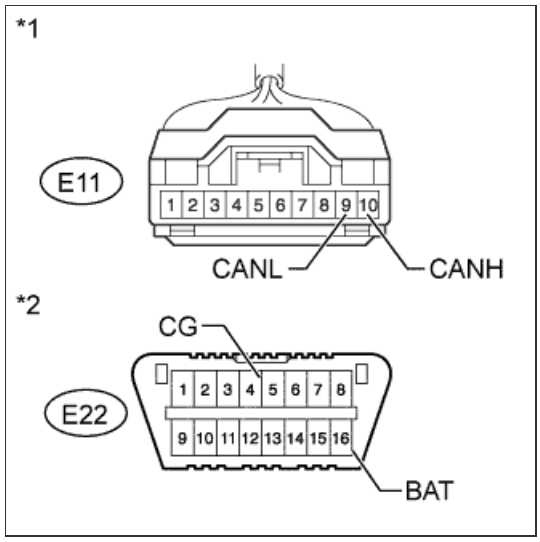
a. Disconnect the E11 steering angle sensor connector.

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

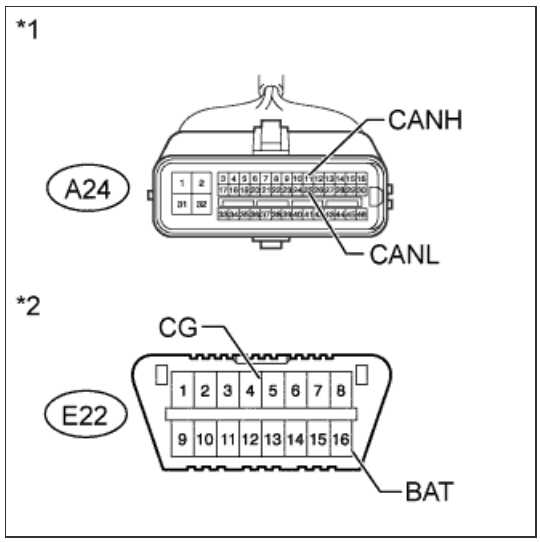
58.CHECK FOR SHORT IN CAN BUS WIRES (SKID CONTROL ECU)

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

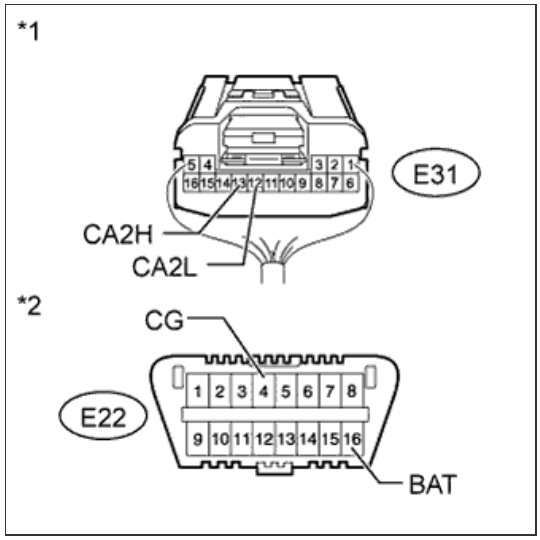
60.CHECK FOR SHORT IN CAN BUS WIRES (NETWORK GATEWAY ECU)

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:

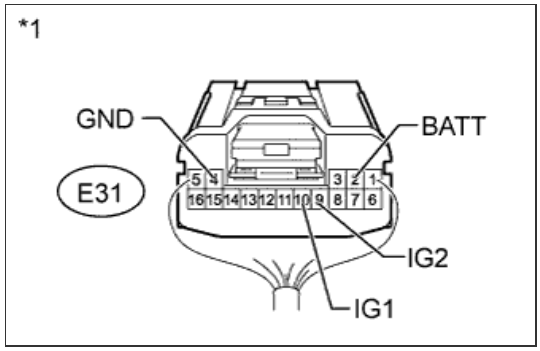
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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)

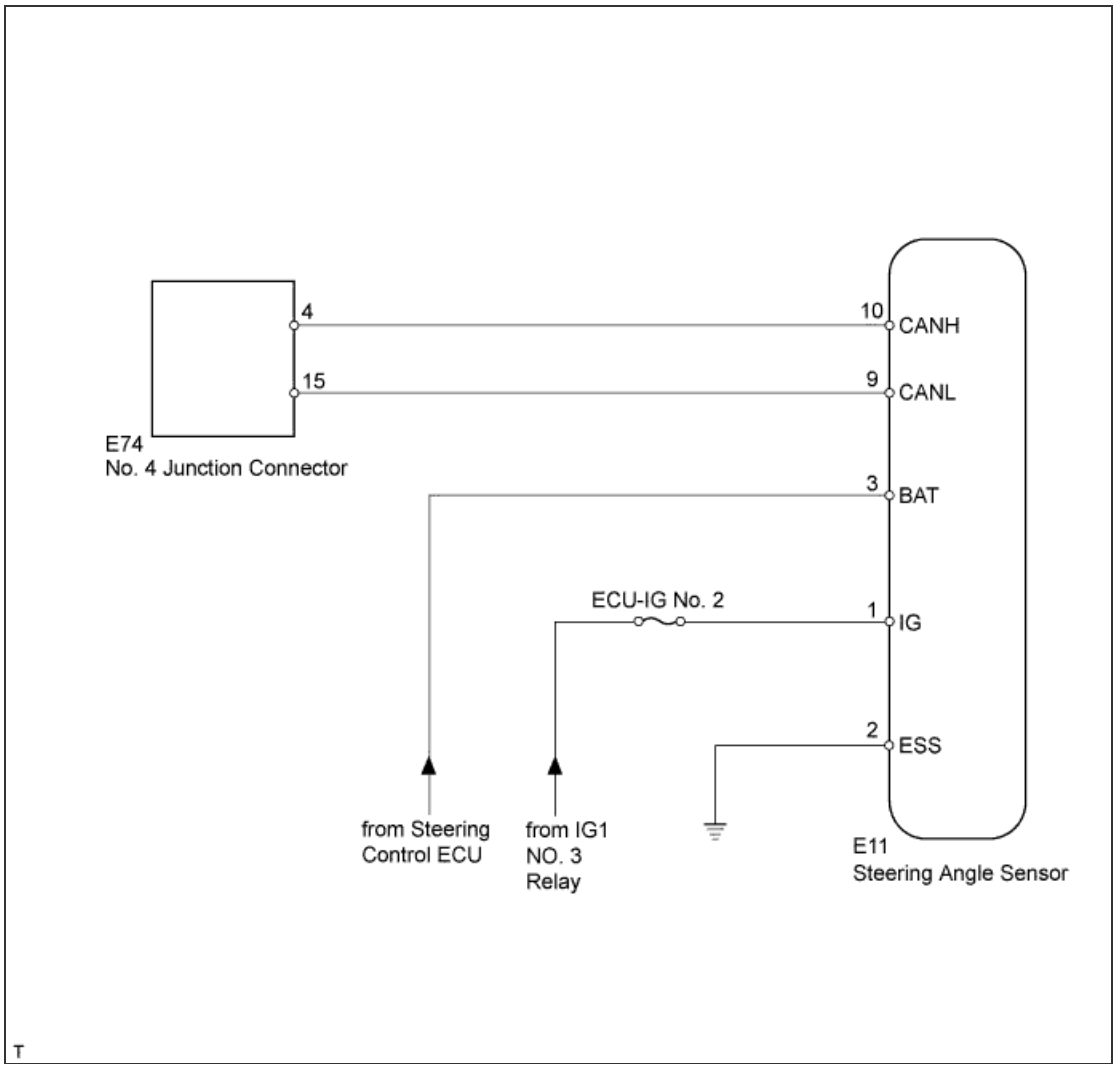
DTC U0126 Lost Communication with Steering Angle Sensor Module

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 • Steering angle sensor CAN branch wire or connector • 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.

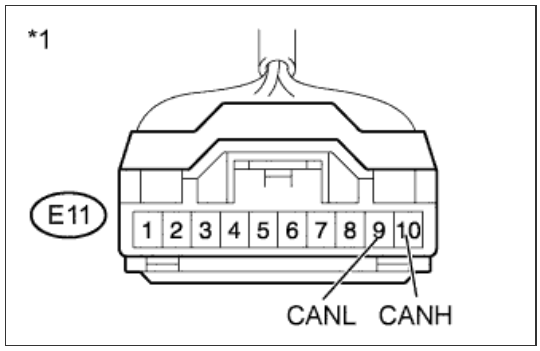
b. Measure the resistance according to the value(s) in the table below.

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.

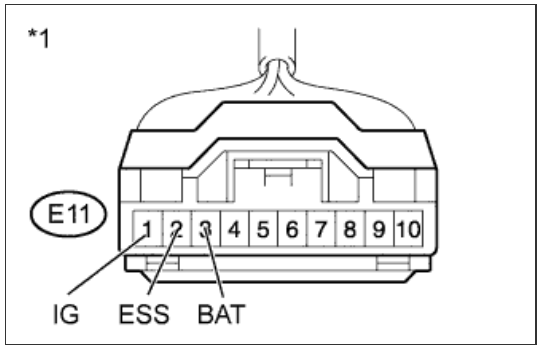
NOTICE:

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 U1002 (CAN No. 2 BUS) Lost Communication with Gateway Module (Network Gateway ECU)

for Preparation Click here

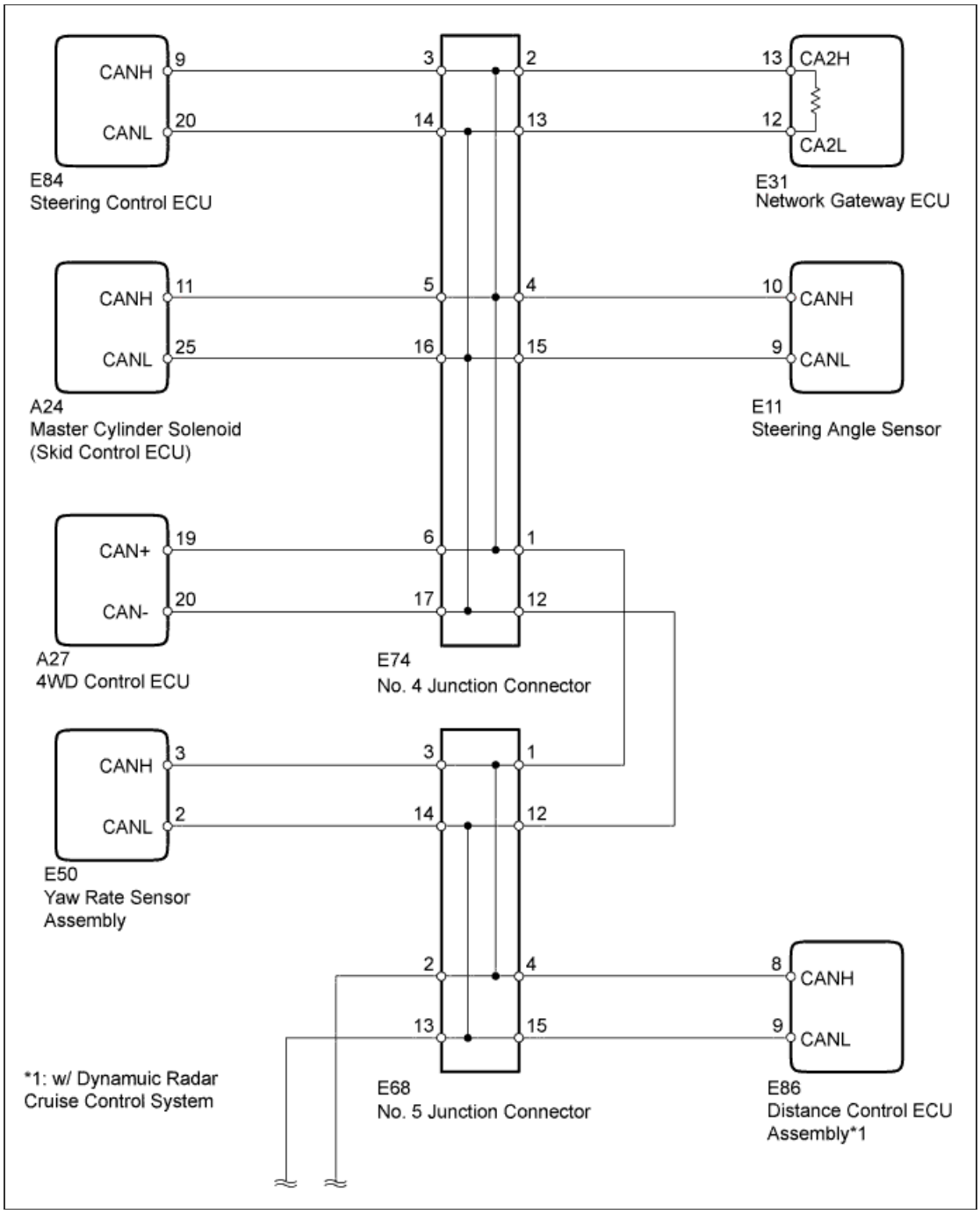
DESCRIPTION

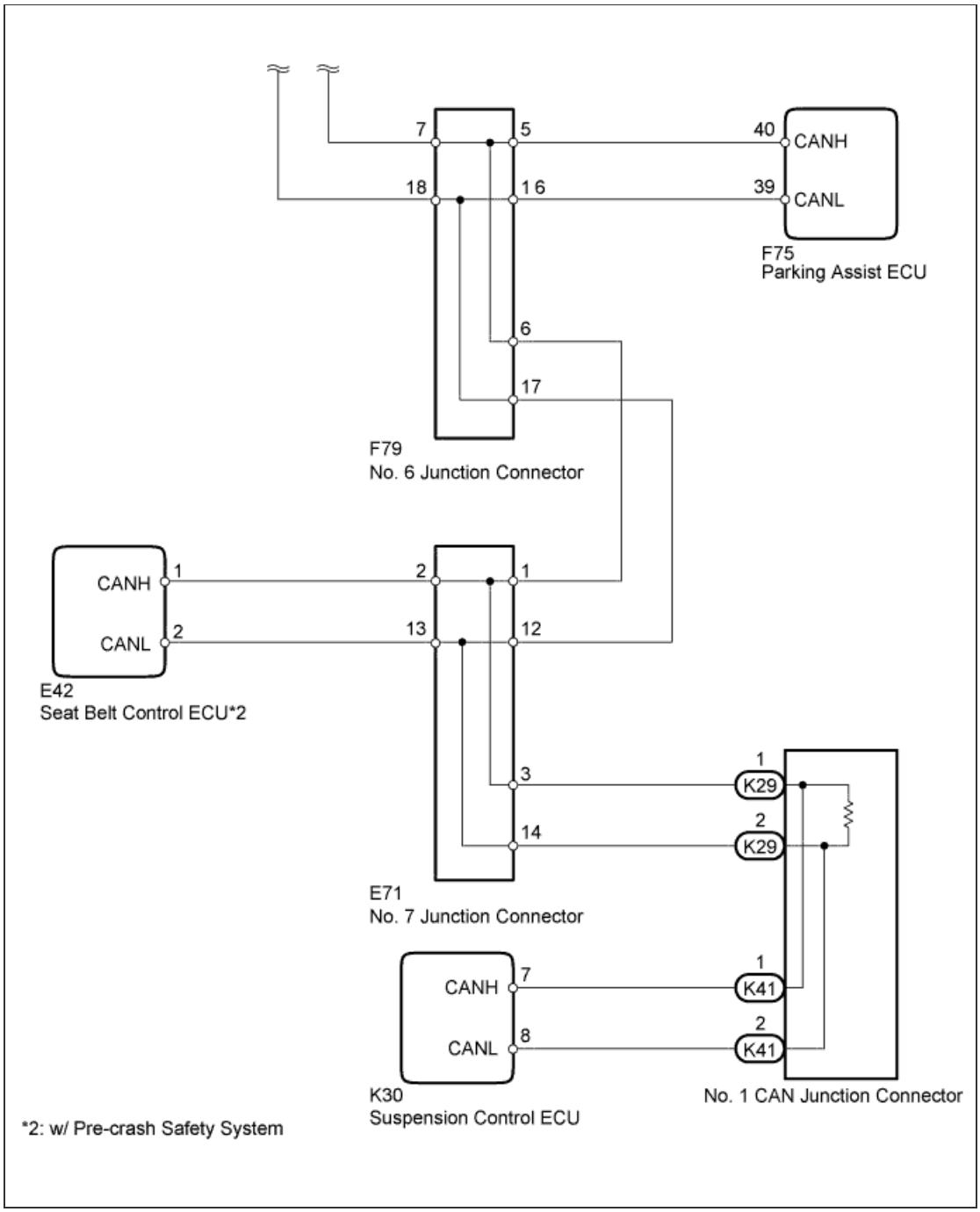
- The network gateway ECU stores this DTC when no signals can be received from the ECUs that have been memorized as those connected to the CAN movement control bus.
- When the network gateway ECU receives a response signal from the ECUs connected to the CAN movement control bus, the network gateway ECU 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 • 4WD control ECU CAN branch wire or connector • Yaw rate sensor assembly CAN branch wire or connector • Distance control ECU assembly CAN branch wire or connector*1 • Seat belt control ECU CAN branch wire or connector*2 • Parking assist ECU CAN branch wire or connector • Master cylinder solenoid (skid control ECU) CAN branch wire or connector • Steering angle sensor CAN branch wire or connector • Network gateway ECU CAN main wire or connector • Steering control ECU CAN branch wire or connector • Suspension control ECU CAN branch wire or connector • 4WD control ECU • Yaw rate sensor assembly • Distance control ECU assembly*1 • Seat belt control ECU*2 • Parking assist ECU • Master cylinder solenoid (skid control ECU) • Steering angle sensor • Steering control ECU • Suspension control ECU • Network gateway ECU • No. 4 junction connector • No. 5 junction connector • No. 6 junction connector • No. 7 junction connector • 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.

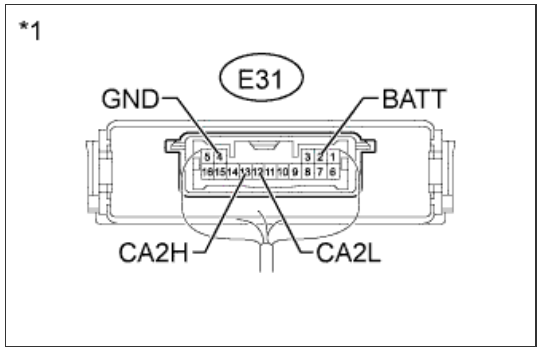
NOTICE:

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 • Open in CAN main wire	A
NG • Short in line • +B short • 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.

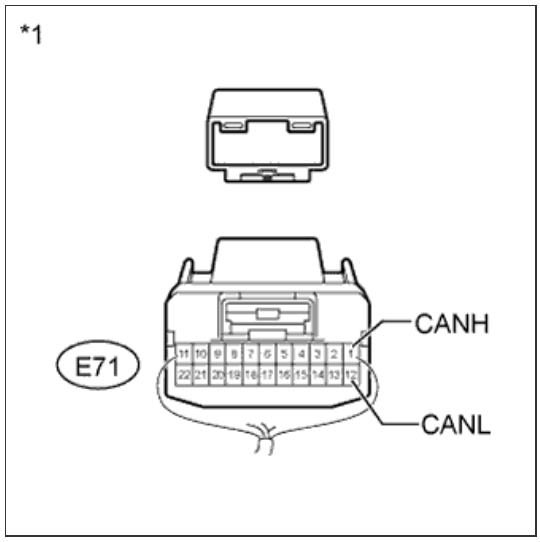
b. Measure the resistance according to the value(s) in the table below.

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)

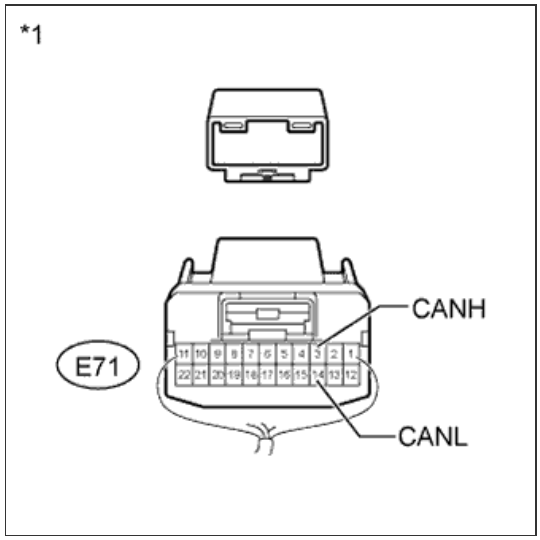
a. Measure the resistance according to the value(s) in the table below.

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.

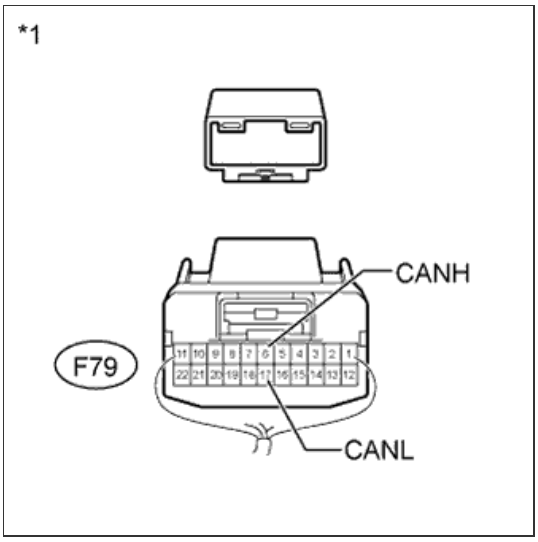
b. Measure the resistance according to the value(s) in the table below.

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)

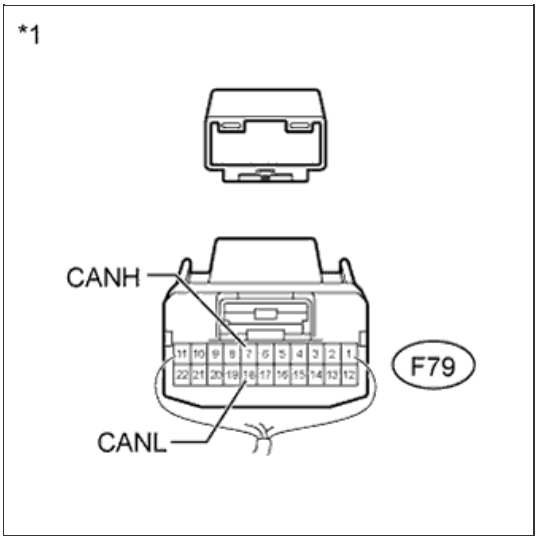
a. Measure the resistance according to the value(s) in the table below.

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.

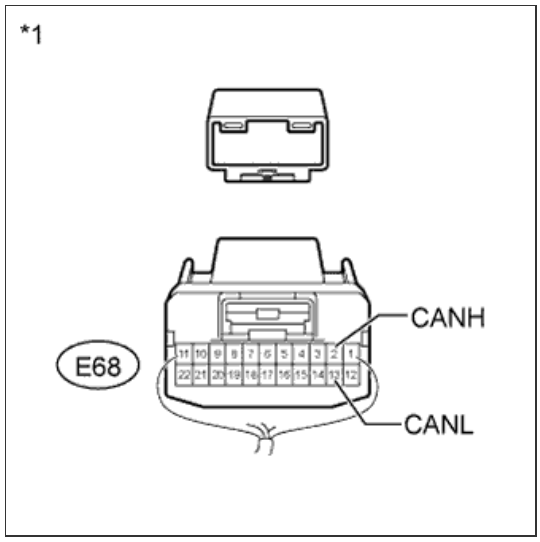
b. Measure the resistance according to the value(s) in the table below.

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)

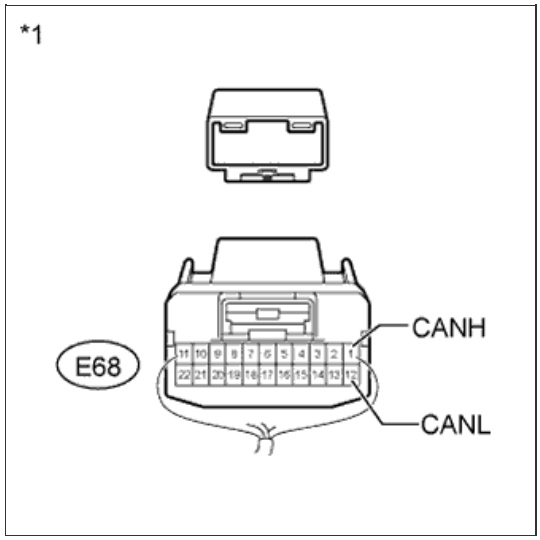
a. Measure the resistance according to the value(s) in the table below.

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.

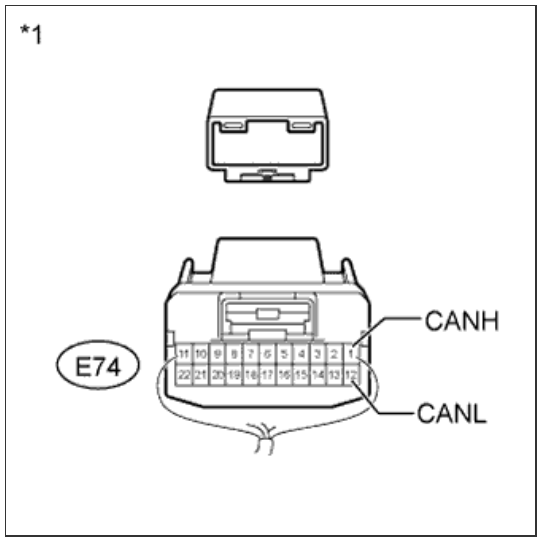
b. Measure the resistance according to the value(s) in the table below.

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)

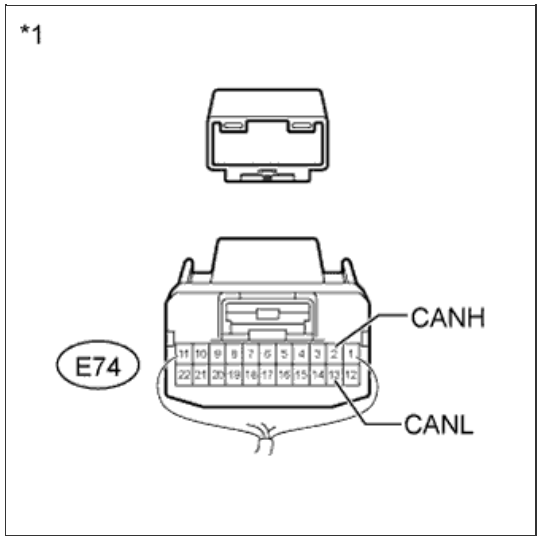
a. Measure the resistance according to the value(s) in the table below.

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.

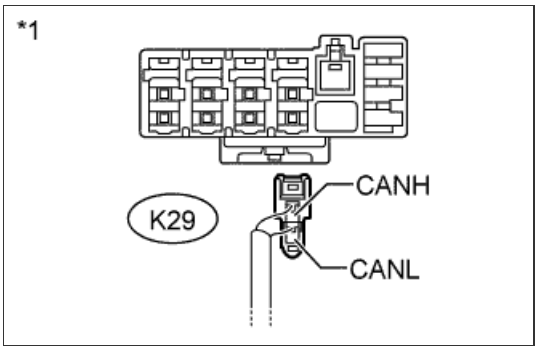
b. Measure the resistance according to the value(s) in the table below.

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.

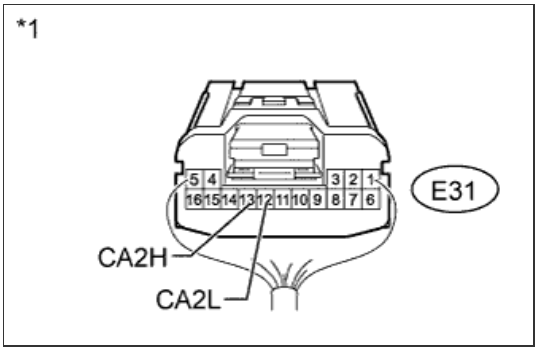
b. Measure the resistance according to the value(s) in the table below.

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)

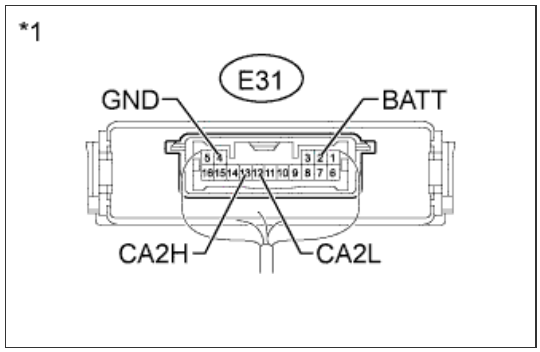
a. Disconnect the E71 No. 7 junction connector.

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)

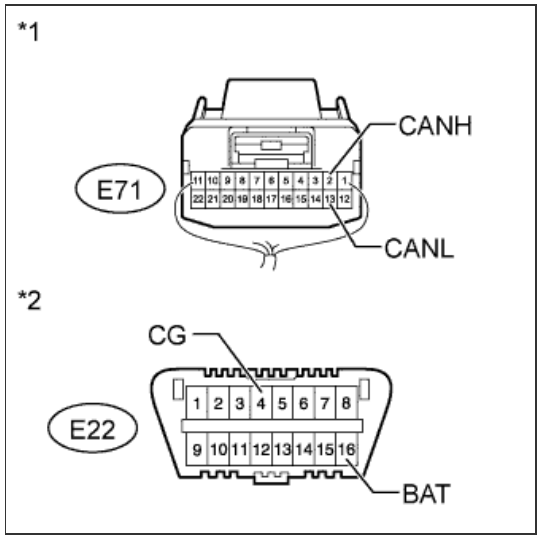
NOTICE:

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

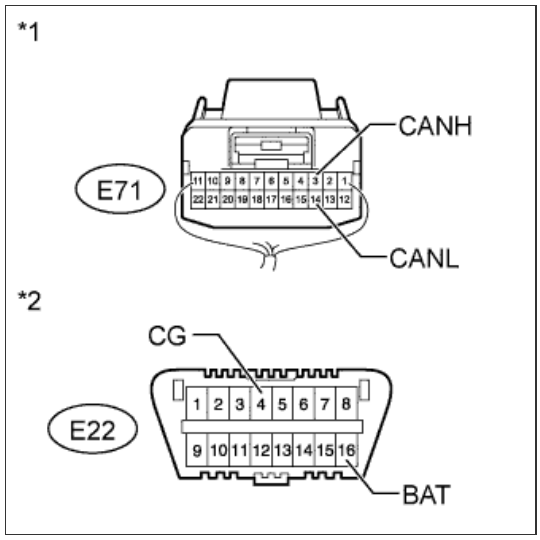
21.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR - NO. 1 CAN JUNCTION CONNECTOR)

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

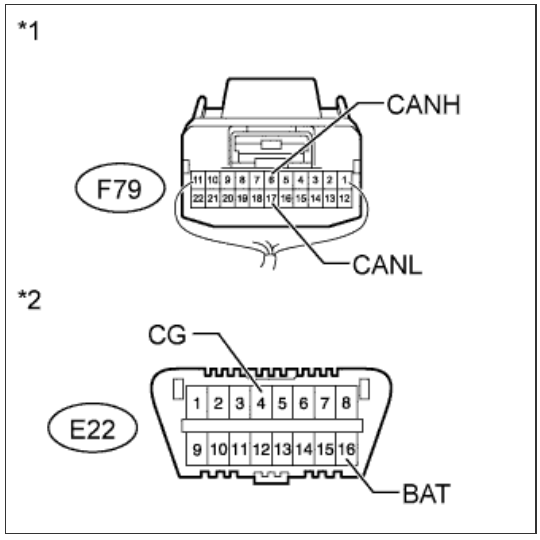
23.CHECK FOR SHORT IN CAN BUS WIRES (NO. 6 JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)

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)

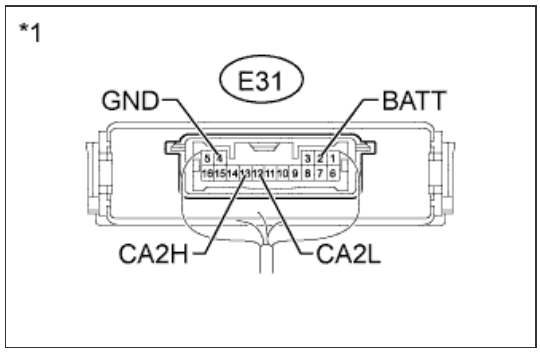
OK

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

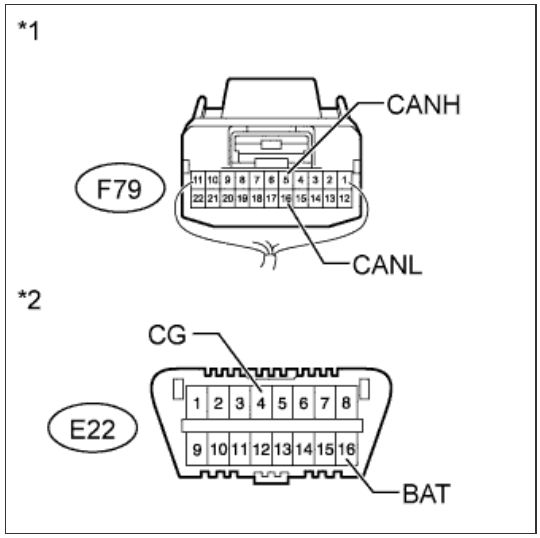
OK

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

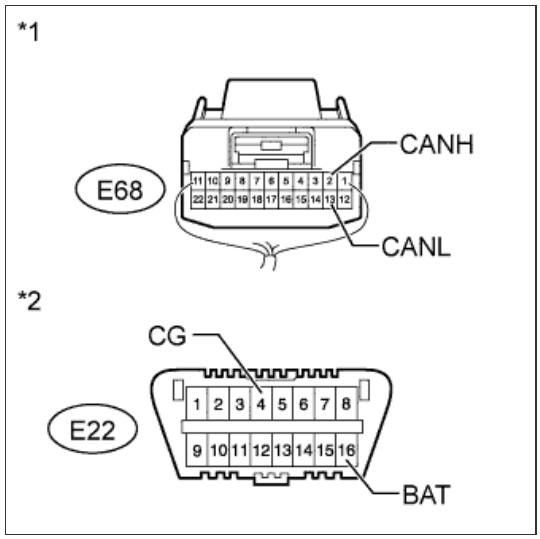
27.CHECK FOR SHORT IN CAN BUS WIRES (NO. 5 JUNCTION CONNECTOR - NO. 6 JUNCTION CONNECTOR)

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)

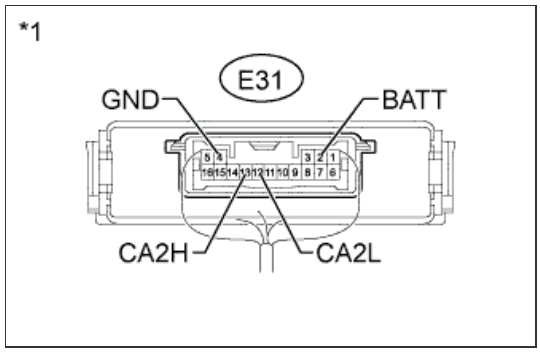
OK

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

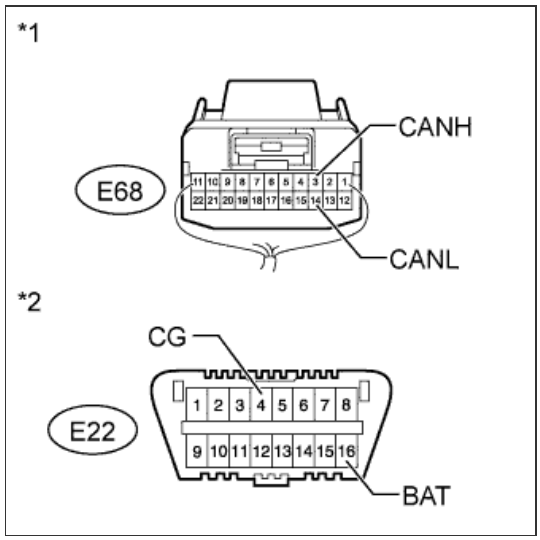
OK

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)

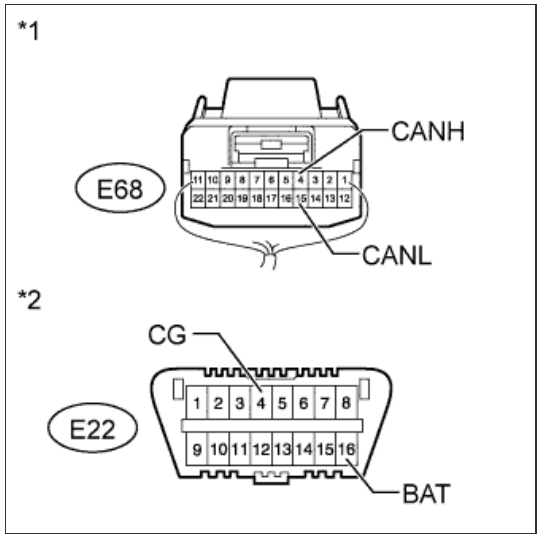
NOTICE:

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

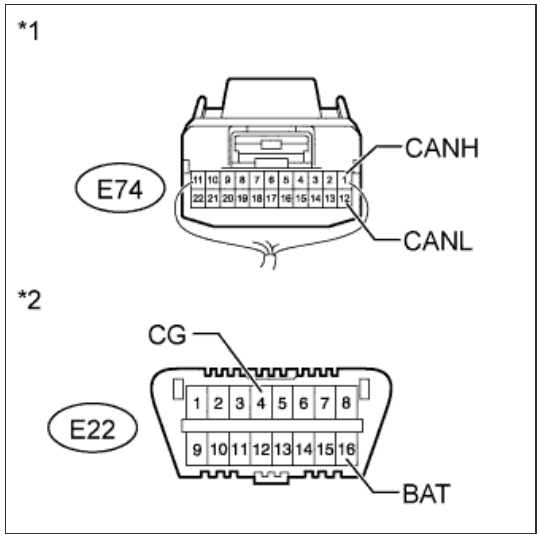
32.CHECK FOR SHORT IN CAN BUS WIRES (NO. 4 JUNCTION CONNECTOR - NO. 5 JUNCTION CONNECTOR)

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)

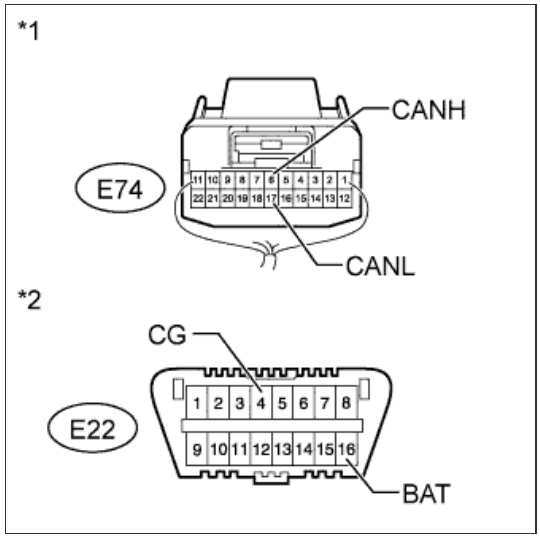
OK

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

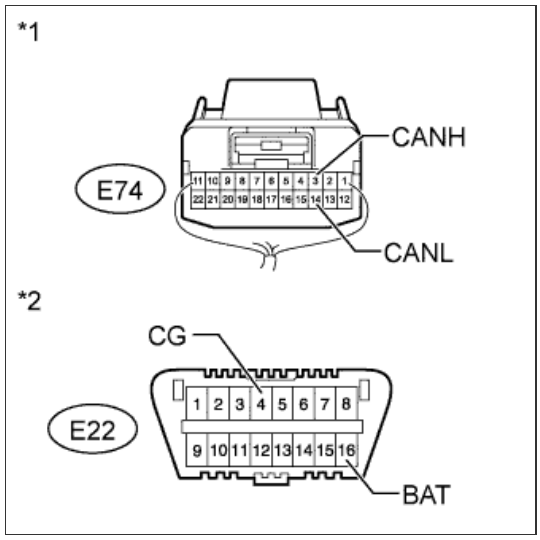
OK

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

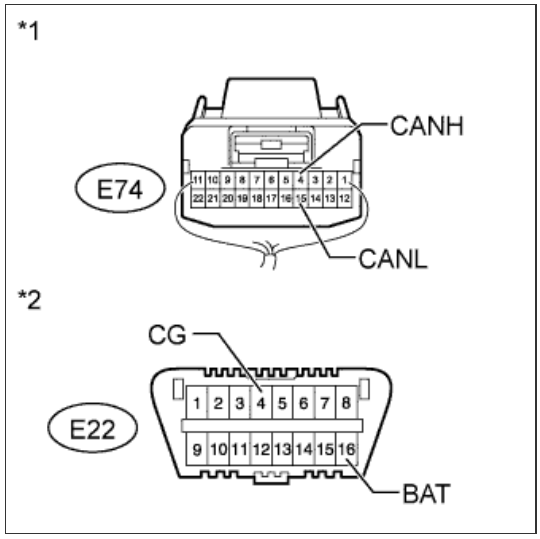
OK

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

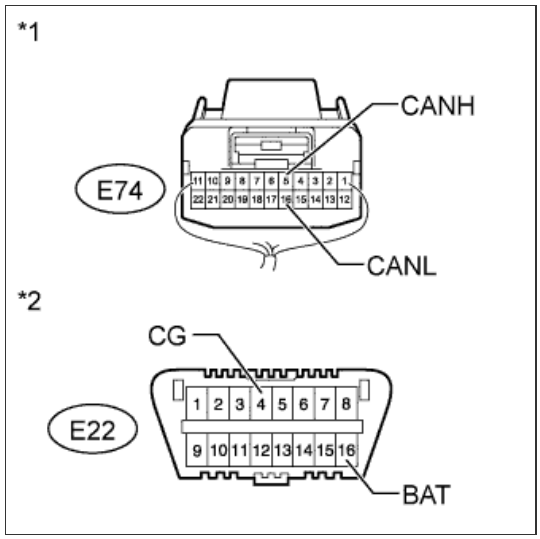
OK

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

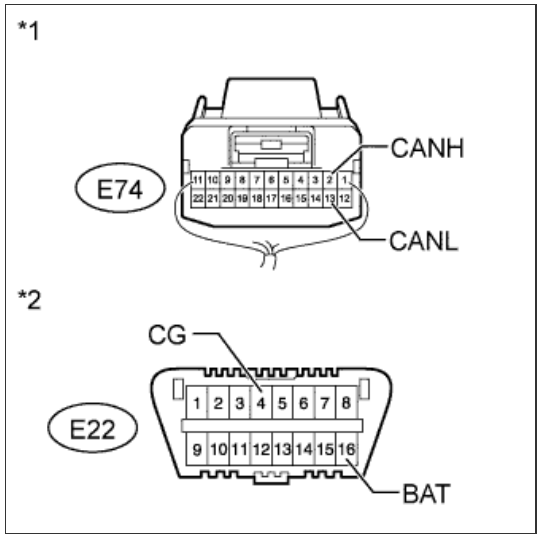
OK

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

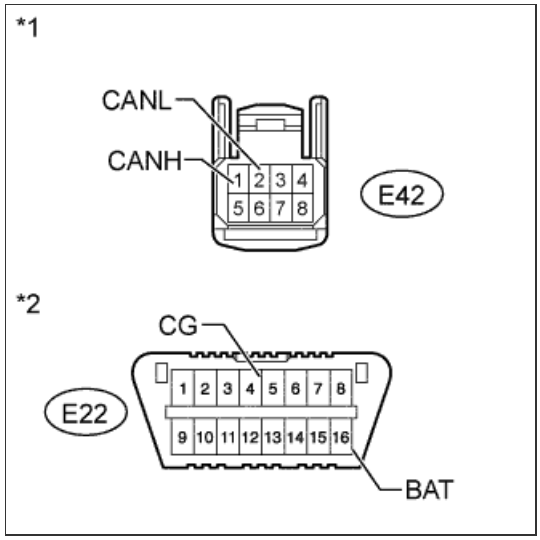
39.CHECK FOR SHORT IN CAN BUS WIRES (SEAT BELT CONTROL ECU)

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)

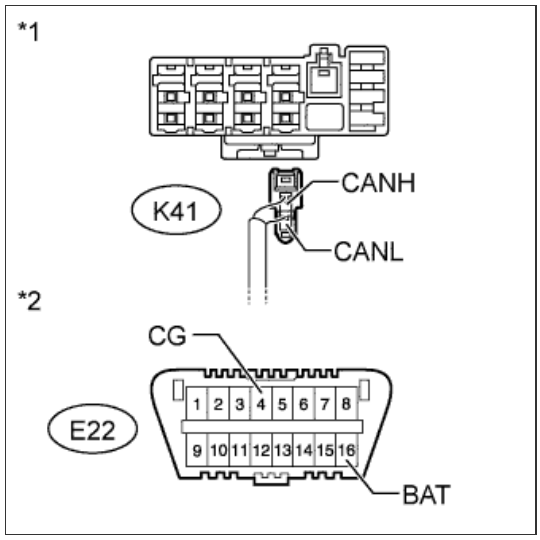
a. Disconnect the K41 No. 1 CAN junction connector.

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

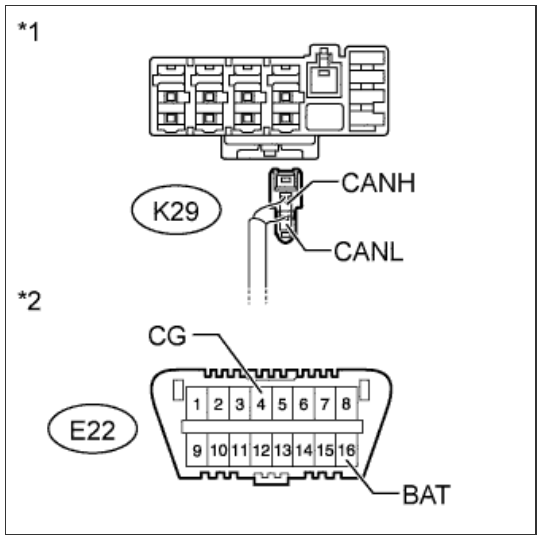
42.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 CAN JUNCTION CONNECTOR)

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

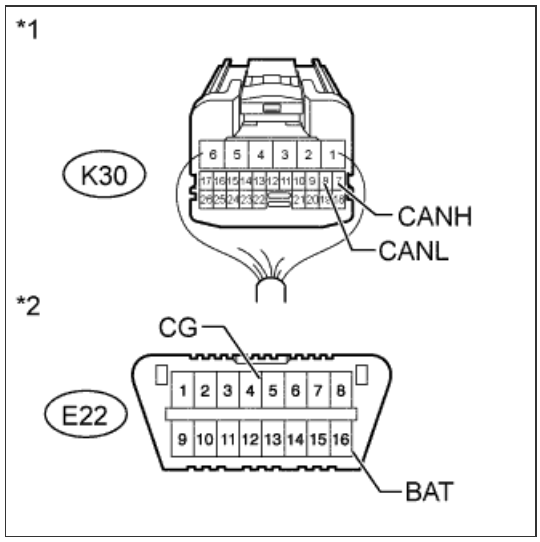
44.CHECK FOR SHORT IN CAN BUS WIRES (SUSPENSION CONTROL ECU)

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

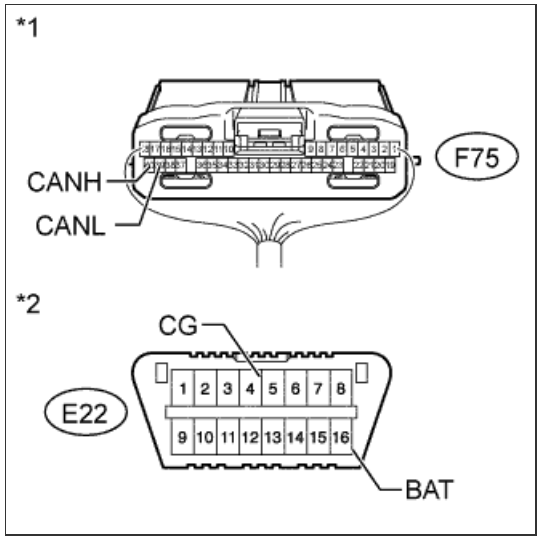
46.CHECK FOR SHORT IN CAN BUS WIRES (PARKING ASSIST ECU)

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

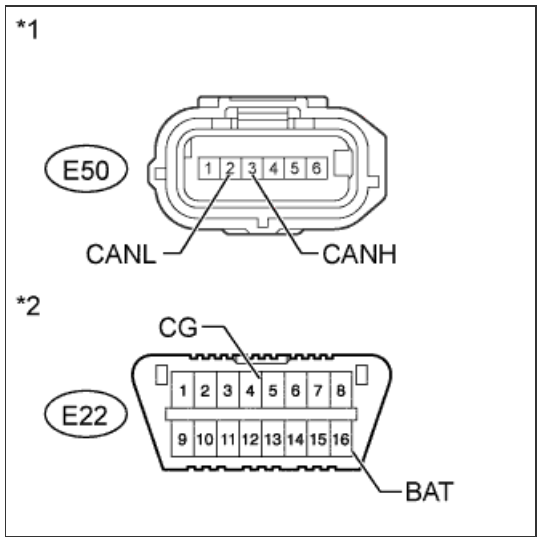
48.CHECK FOR SHORT IN CAN BUS WIRES (YAW RATE SENSOR ASSEMBLY)

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

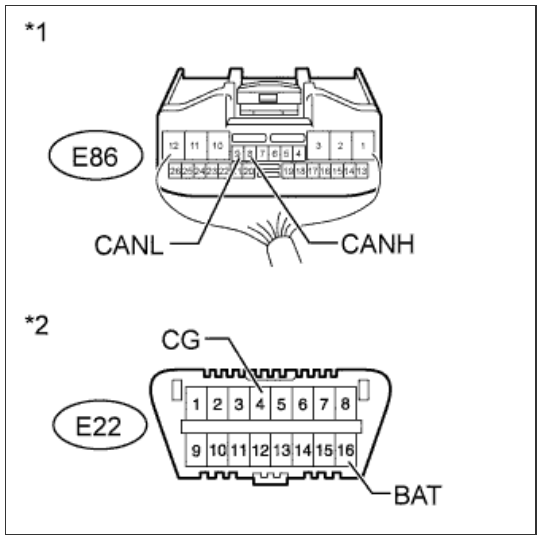
50.CHECK FOR SHORT IN CAN BUS WIRES (DISTANCE CONTROL ECU ASSEMBLY)

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

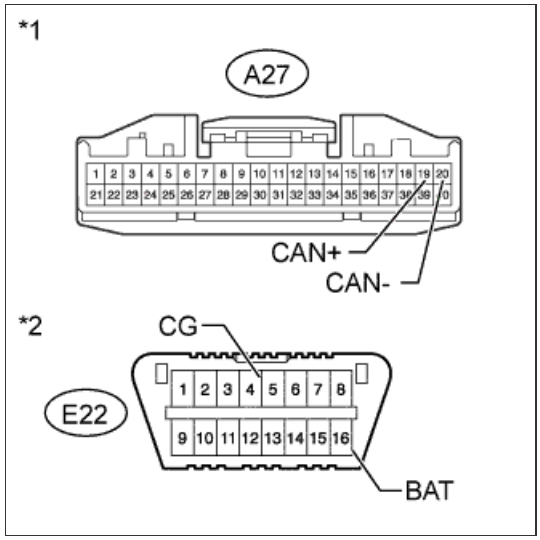
52.CHECK FOR SHORT IN CAN BUS WIRES (4WD CONTROL ECU)

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

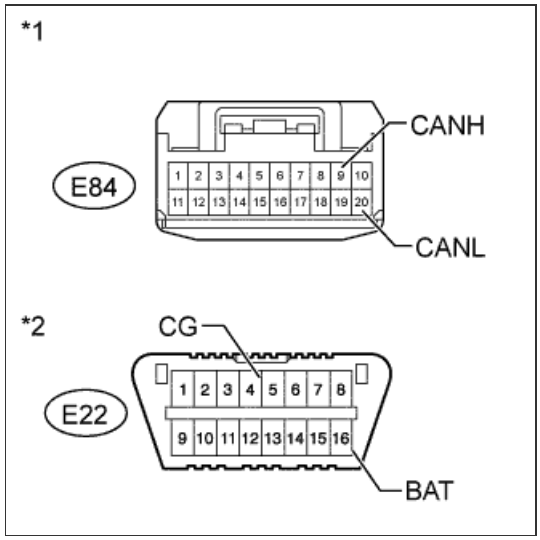
54.CHECK FOR SHORT IN CAN BUS WIRES (STEERING CONTROL ECU)

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)

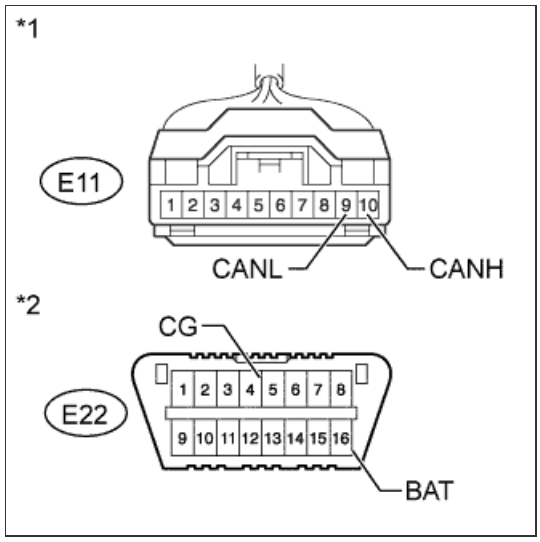
a. Disconnect the E11 steering angle sensor connector.

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

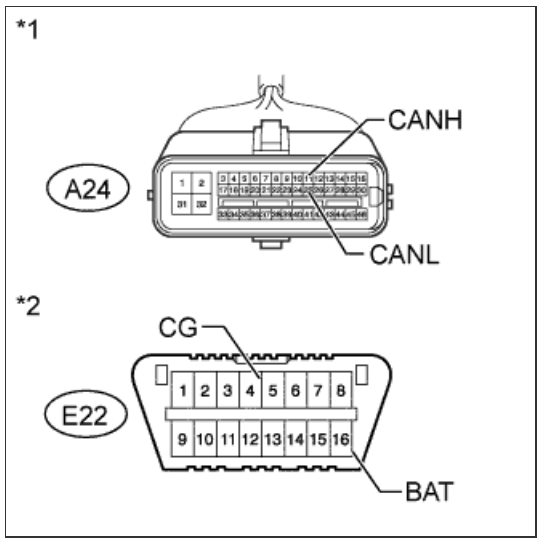
58.CHECK FOR SHORT IN CAN BUS WIRES (SKID CONTROL ECU)

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

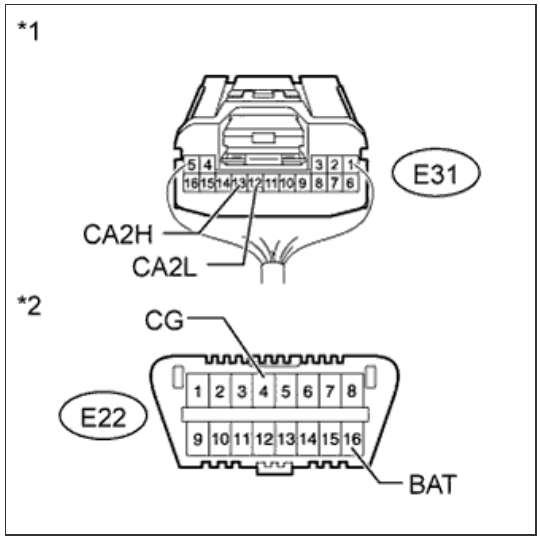
60.CHECK FOR SHORT IN CAN BUS WIRES (NETWORK GATEWAY ECU)

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:

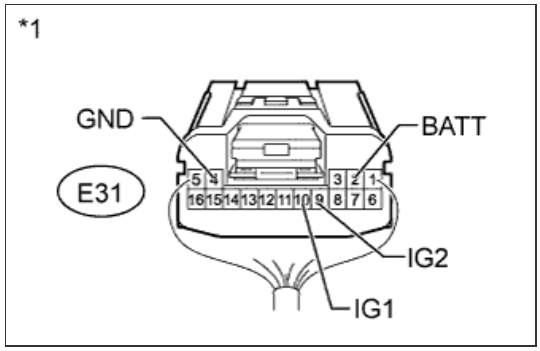
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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)

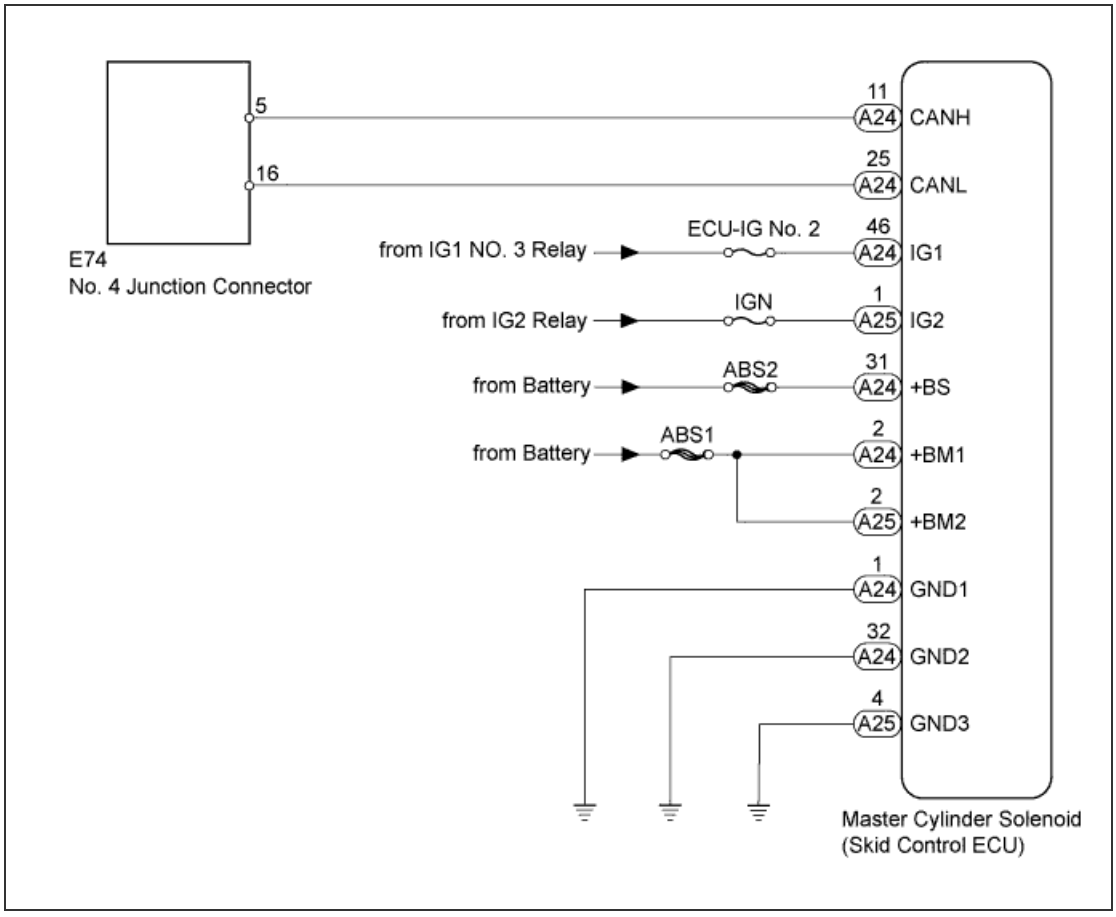
DTC U0129 Lost Communication with Brake System Control Module

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) • One side of CAN branch wire of other systems • Master cylinder solenoid (skid control ECU) • 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.

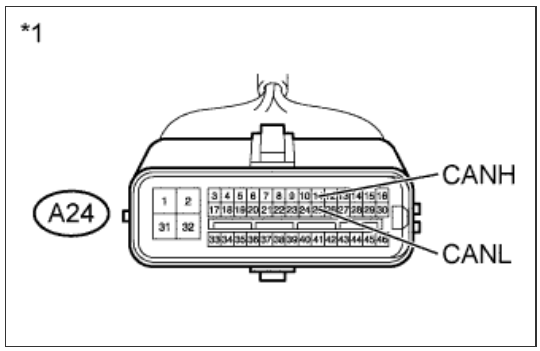
b. Measure the resistance according to the value(s) in the table below.

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:

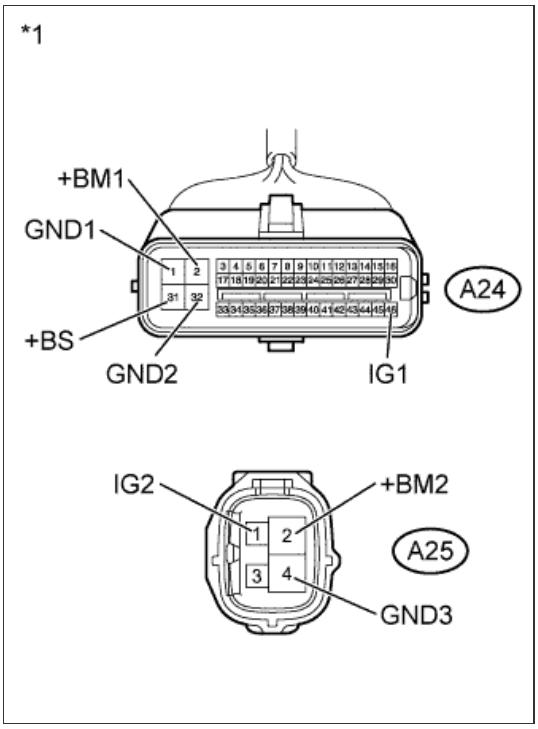
Tester Connection	Condition	Specified Condition
A24-2 (+BM1) - Body ground	Always	11 to 14 V
A24-31 (+BS) - Body ground	Always	11 to 14 V
A25-2 (+BM2) - Body ground	Always	11 to 14 V
A24-46 (IG1) - Body ground	Engine switch on (IG)	11 to 14 V

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 U1002 (CAN No. 2 BUS) Lost Communication with Gateway Module (Network Gateway ECU)

for Preparation Click here

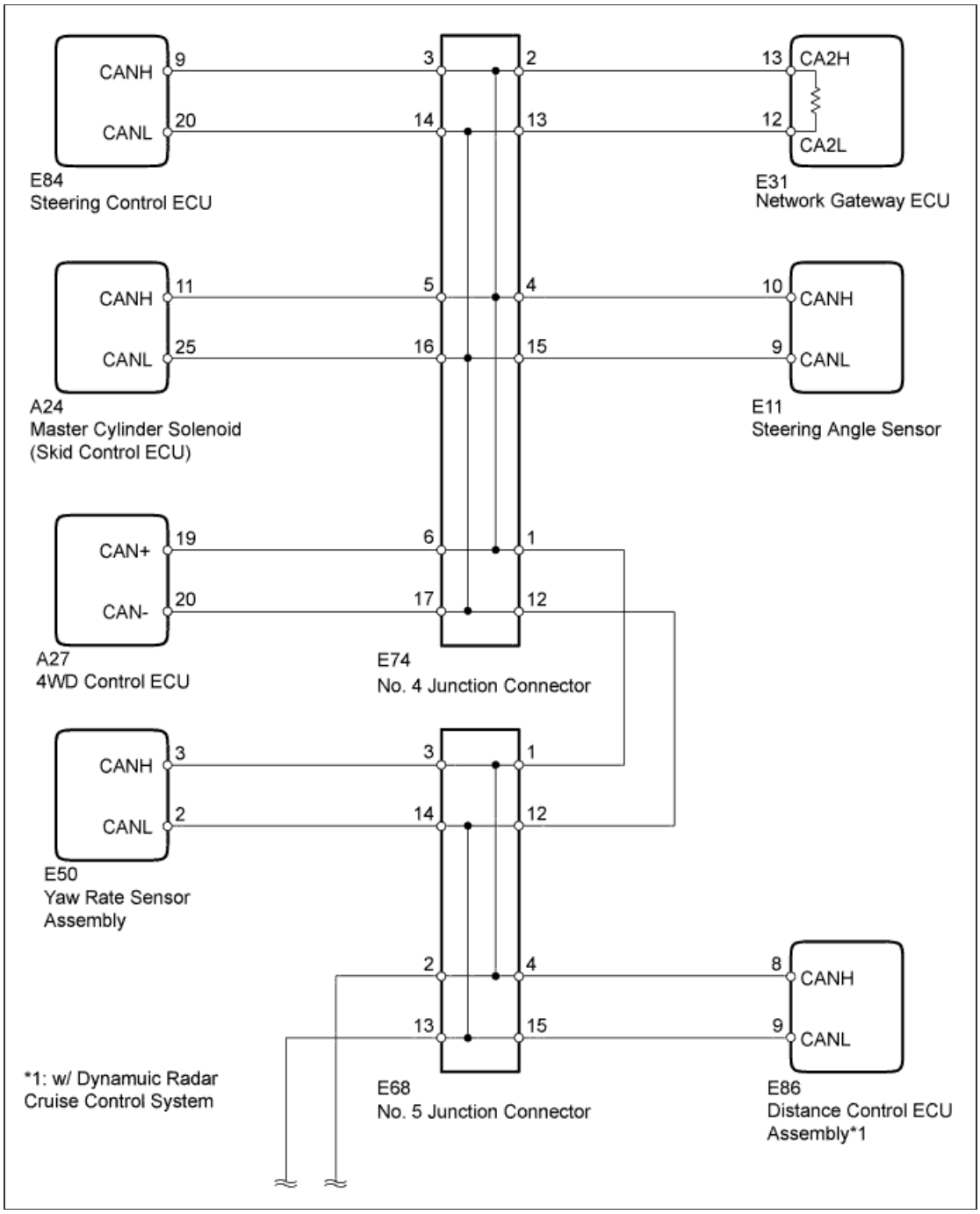
DESCRIPTION

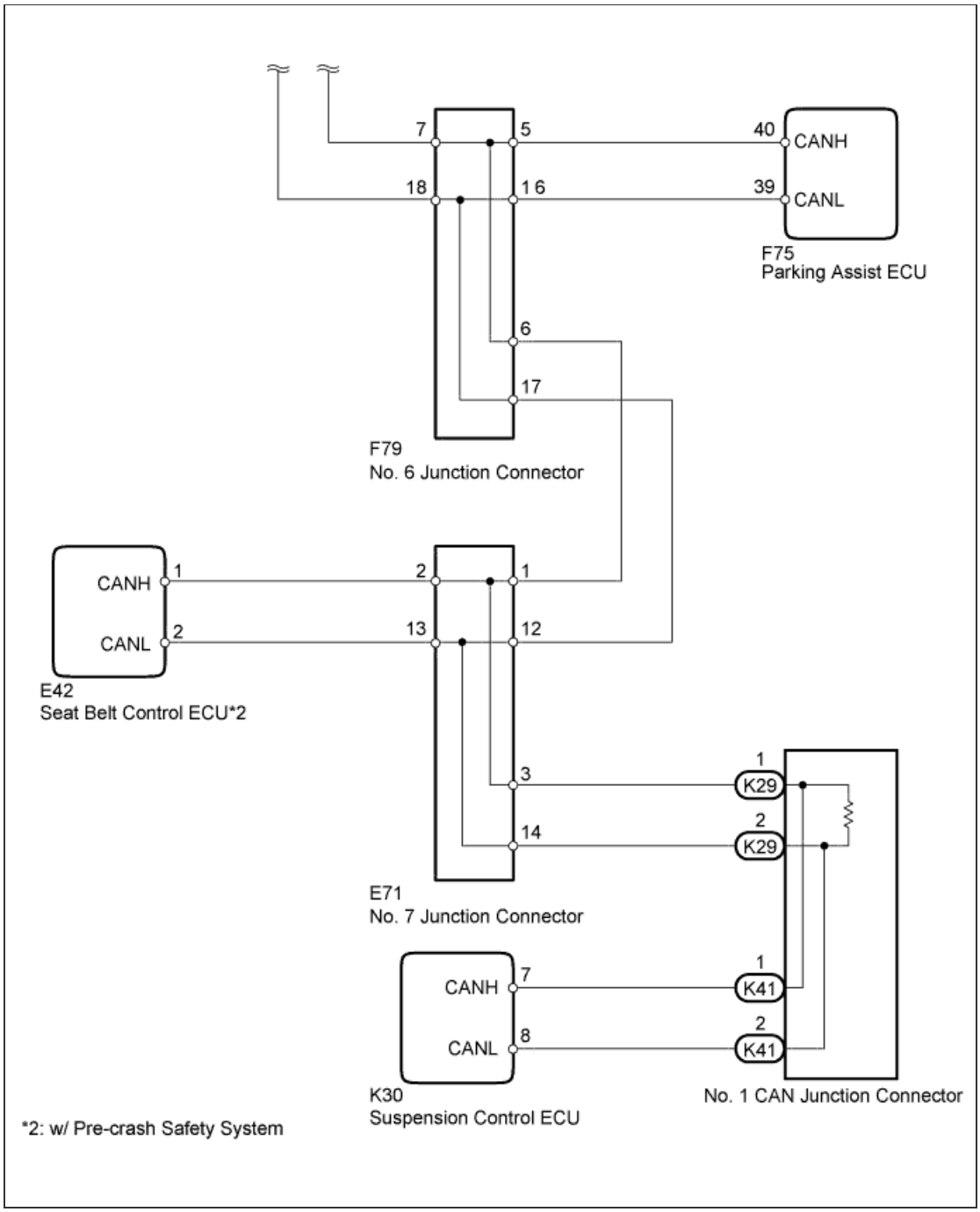
- The network gateway ECU stores this DTC when no signals can be received from the ECUs that have been memorized as those connected to the CAN movement control bus.
- When the network gateway ECU receives a response signal from the ECUs connected to the CAN movement control bus, the network gateway ECU 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 • 4WD control ECU CAN branch wire or connector • Yaw rate sensor assembly CAN branch wire or connector • Distance control ECU assembly CAN branch wire or connector*1 • Seat belt control ECU CAN branch wire or connector*2 • Parking assist ECU CAN branch wire or connector • Master cylinder solenoid (skid control ECU) CAN branch wire or connector • Steering angle sensor CAN branch wire or connector • Network gateway ECU CAN main wire or connector • Steering control ECU CAN branch wire or connector • Suspension control ECU CAN branch wire or connector • 4WD control ECU • Yaw rate sensor assembly • Distance control ECU assembly*1 • Seat belt control ECU*2 • Parking assist ECU • Master cylinder solenoid (skid control ECU) • Steering angle sensor • Steering control ECU • Suspension control ECU • Network gateway ECU • No. 4 junction connector • No. 5 junction connector • No. 6 junction connector • No. 7 junction connector • 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.

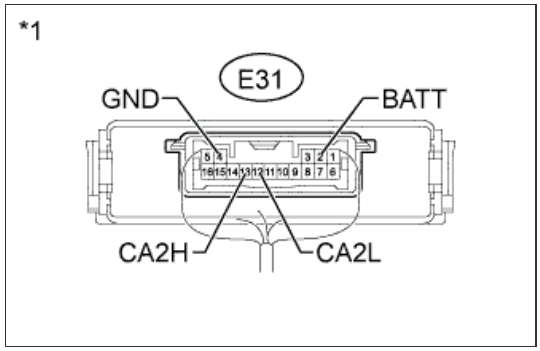
NOTICE:

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 • Open in CAN main wire	A
NG • Short in line • +B short • 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.

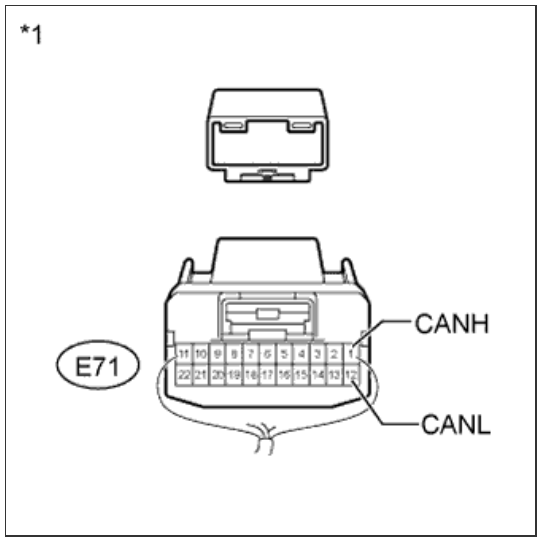
b. Measure the resistance according to the value(s) in the table below.

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)

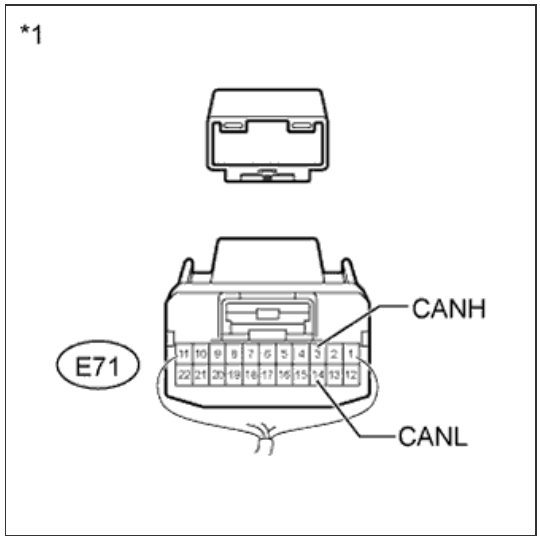
a. Measure the resistance according to the value(s) in the table below.

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.

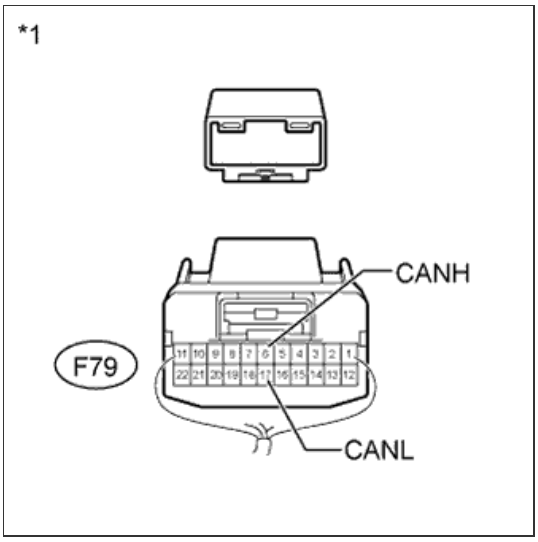
b. Measure the resistance according to the value(s) in the table below.

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)

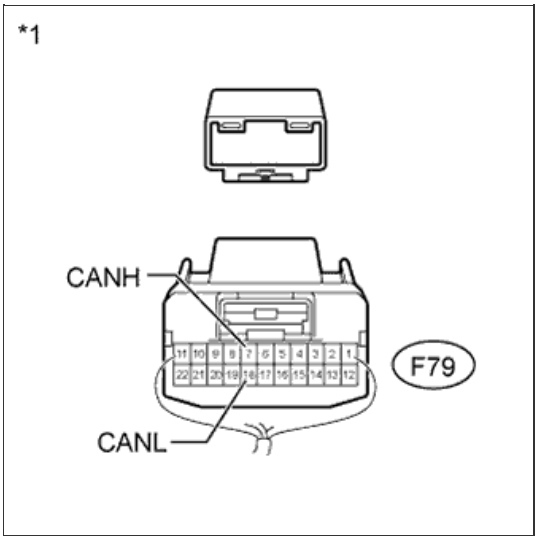
a. Measure the resistance according to the value(s) in the table below.

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.

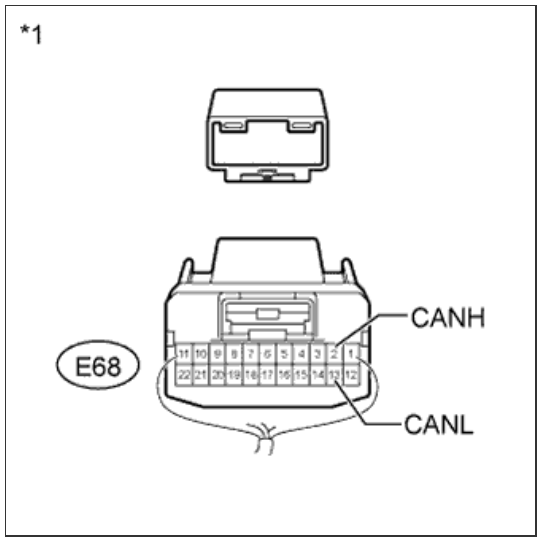
b. Measure the resistance according to the value(s) in the table below.

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)

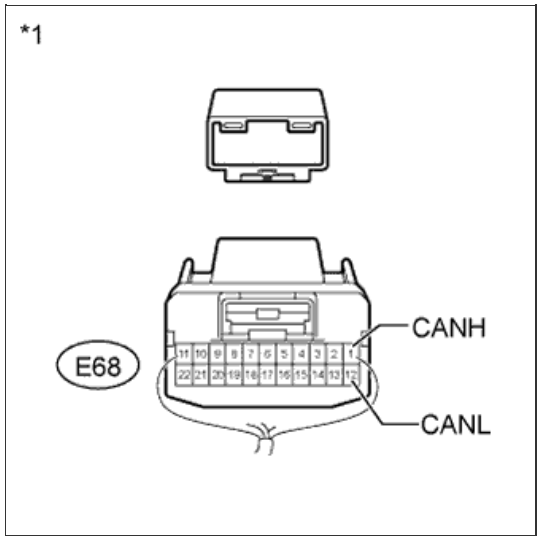
a. Measure the resistance according to the value(s) in the table below.

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.

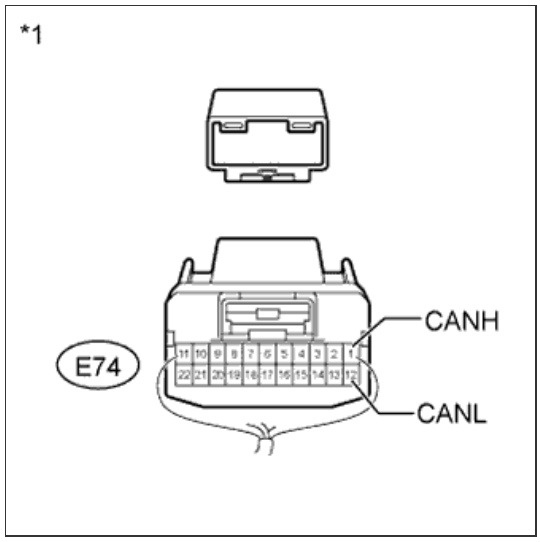
b. Measure the resistance according to the value(s) in the table below.

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)

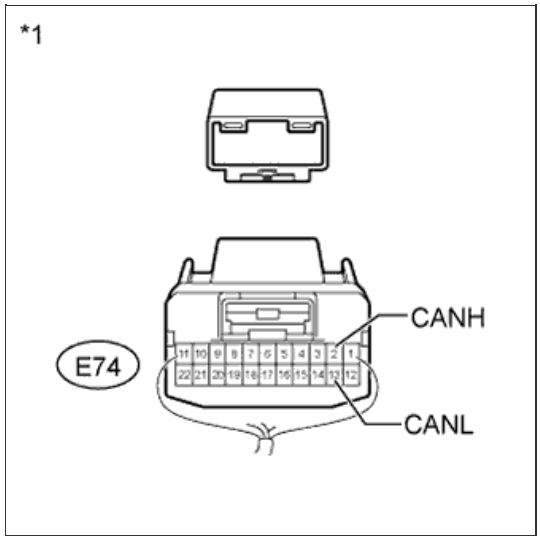
a. Measure the resistance according to the value(s) in the table below.

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.

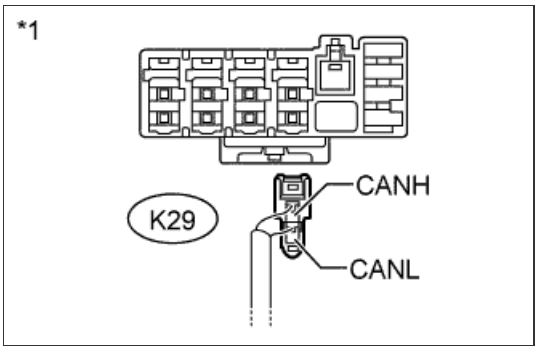
b. Measure the resistance according to the value(s) in the table below.

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.

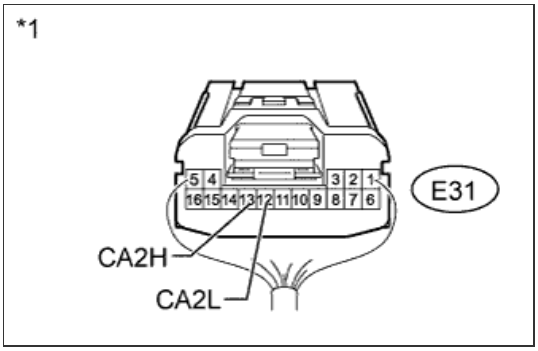
b. Measure the resistance according to the value(s) in the table below.

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)

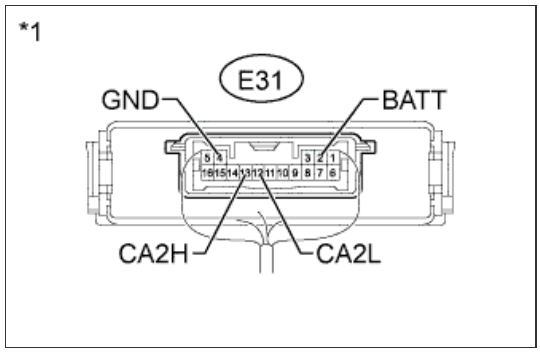
a. Disconnect the E71 No. 7 junction connector.

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)

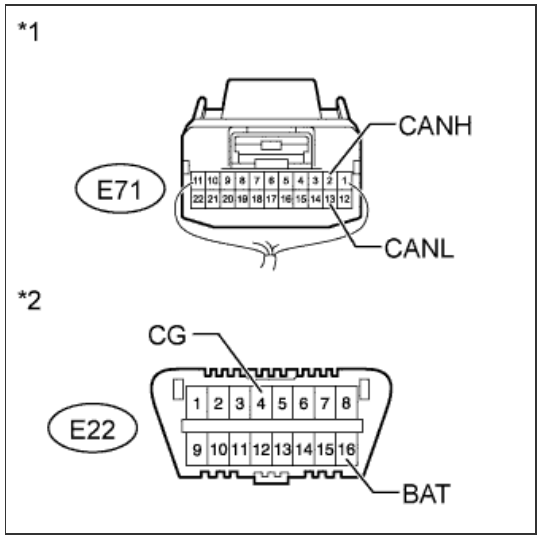
NOTICE:

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

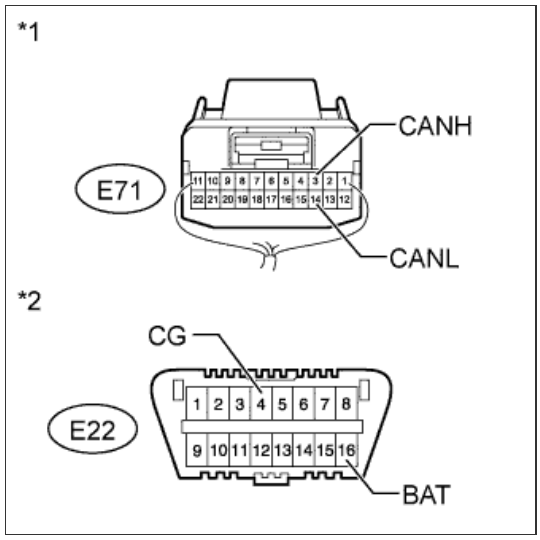
21.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR - NO. 1 CAN JUNCTION CONNECTOR)

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

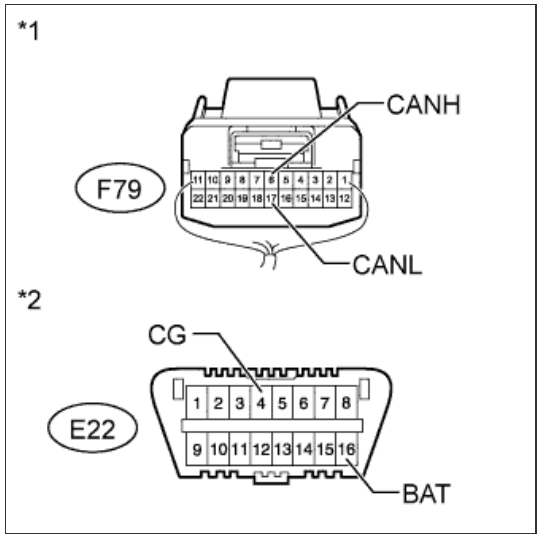
23.CHECK FOR SHORT IN CAN BUS WIRES (NO. 6 JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)

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)

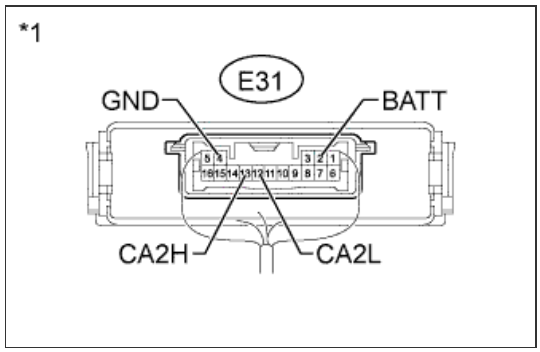
OK

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

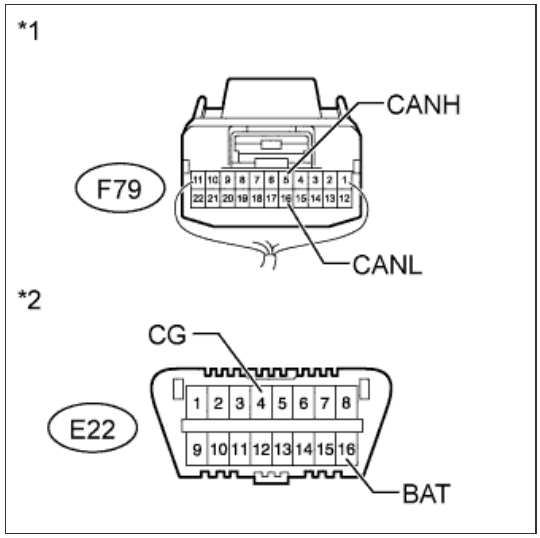
OK

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

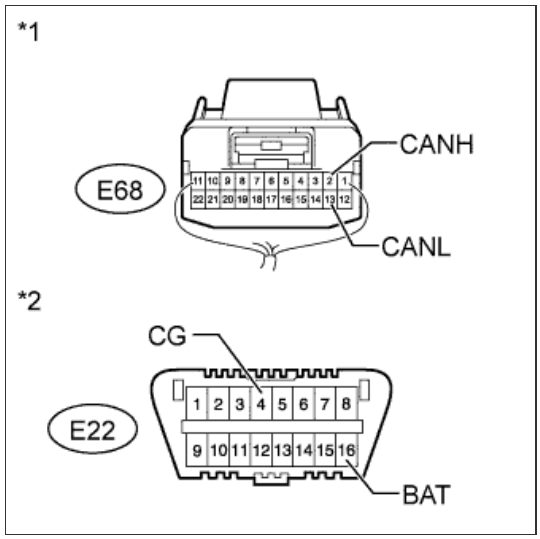
27.CHECK FOR SHORT IN CAN BUS WIRES (NO. 5 JUNCTION CONNECTOR - NO. 6 JUNCTION CONNECTOR)

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)

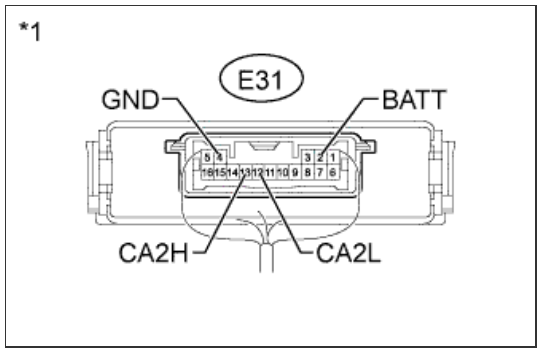
OK

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

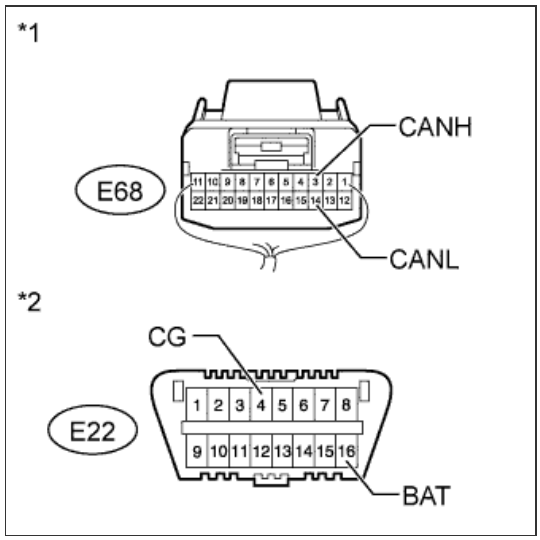
OK

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)

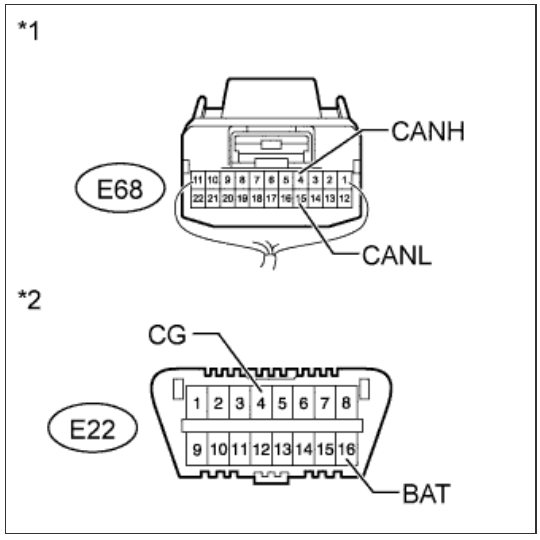
NOTICE:

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

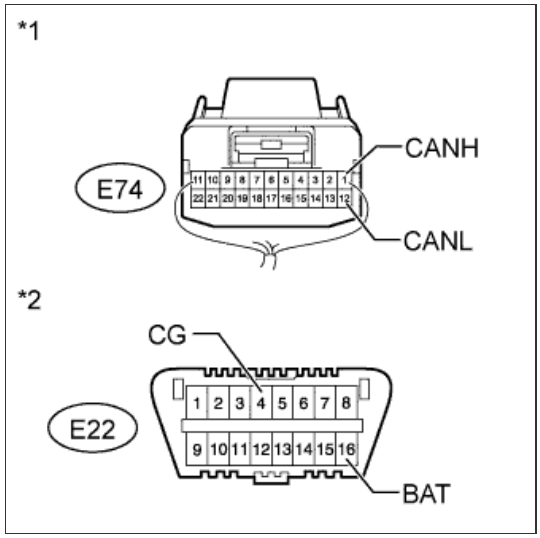
32.CHECK FOR SHORT IN CAN BUS WIRES (NO. 4 JUNCTION CONNECTOR - NO. 5 JUNCTION CONNECTOR)

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)

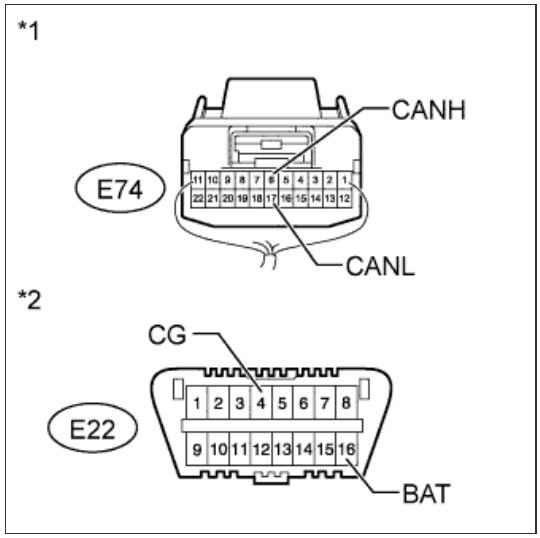
OK

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

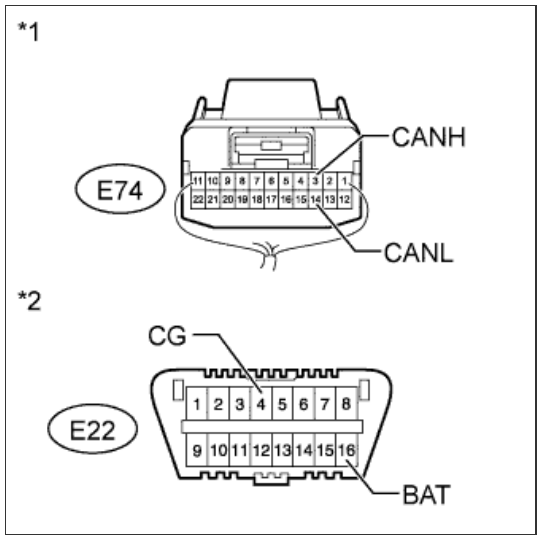
OK

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

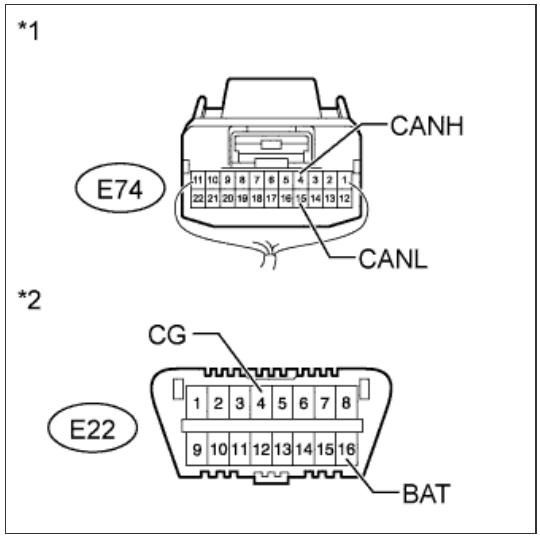
OK

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

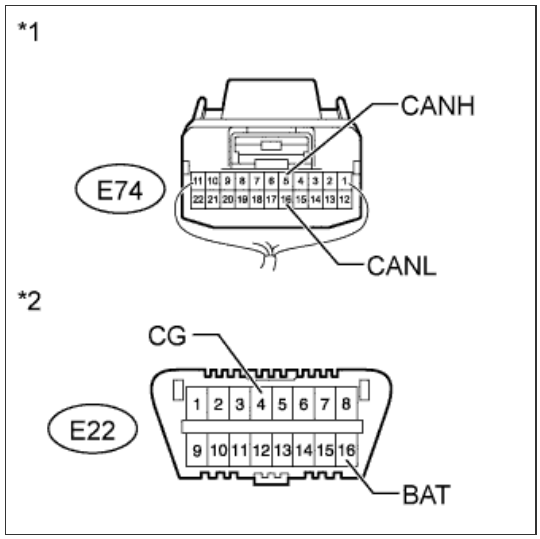
OK

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

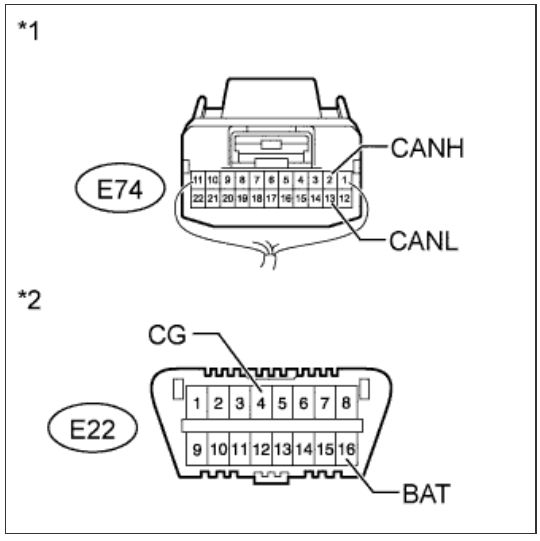
OK

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

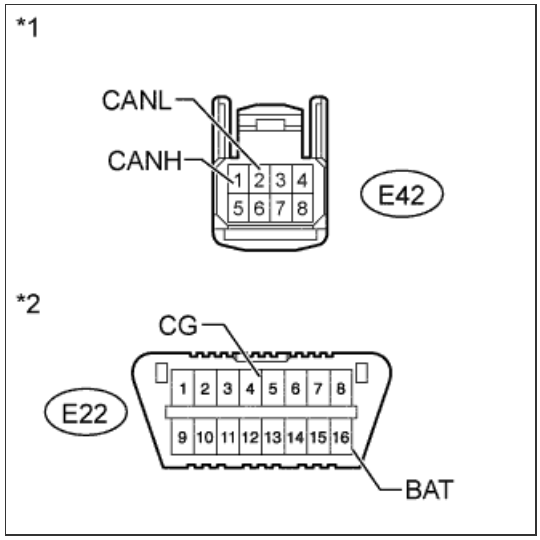
39.CHECK FOR SHORT IN CAN BUS WIRES (SEAT BELT CONTROL ECU)

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)

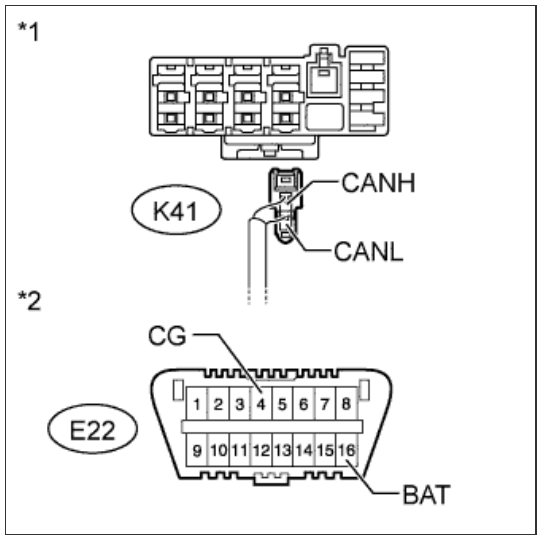
a. Disconnect the K41 No. 1 CAN junction connector.

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

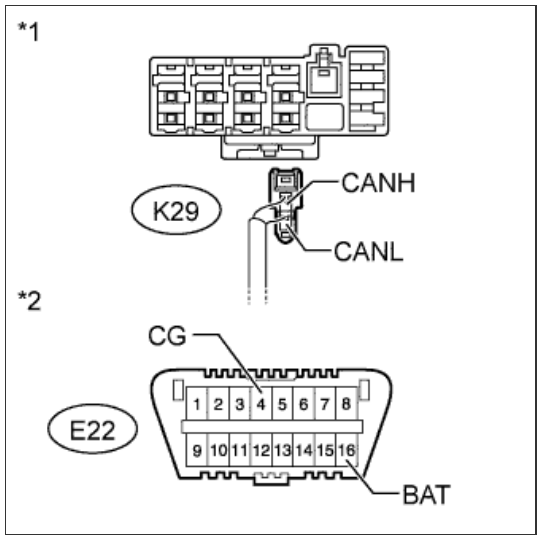
42.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 CAN JUNCTION CONNECTOR)

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

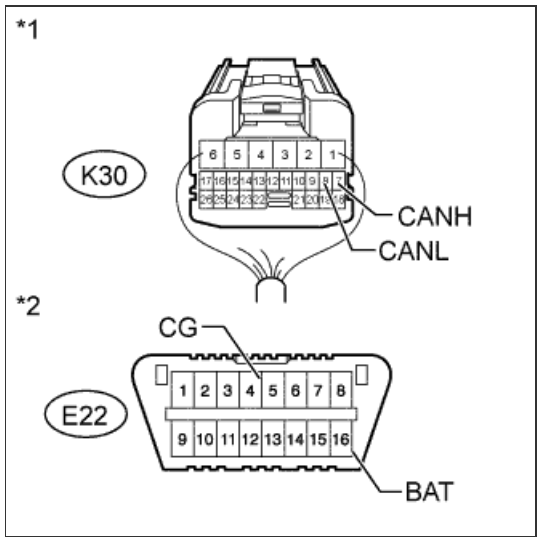
44.CHECK FOR SHORT IN CAN BUS WIRES (SUSPENSION CONTROL ECU)

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

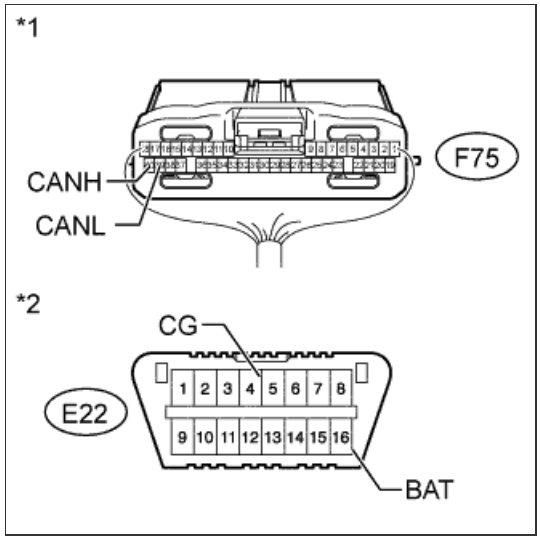
46.CHECK FOR SHORT IN CAN BUS WIRES (PARKING ASSIST ECU)

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

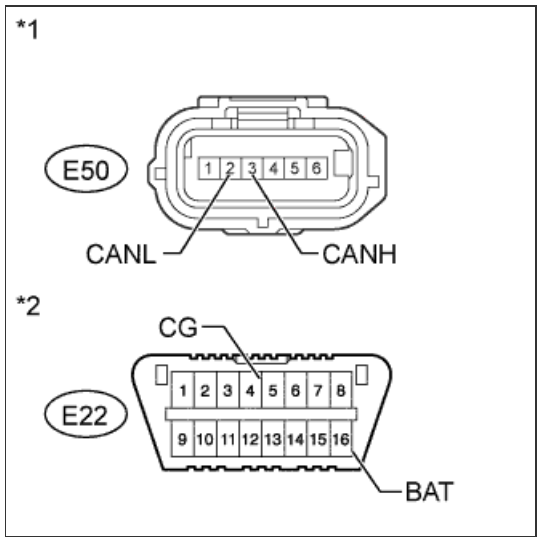
48.CHECK FOR SHORT IN CAN BUS WIRES (YAW RATE SENSOR ASSEMBLY)

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

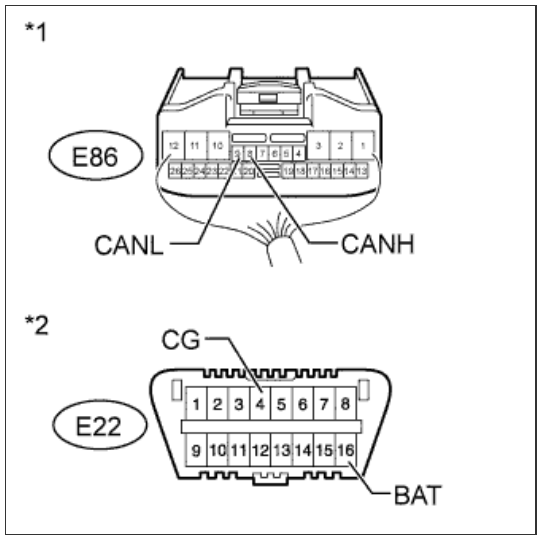
50.CHECK FOR SHORT IN CAN BUS WIRES (DISTANCE CONTROL ECU ASSEMBLY)

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

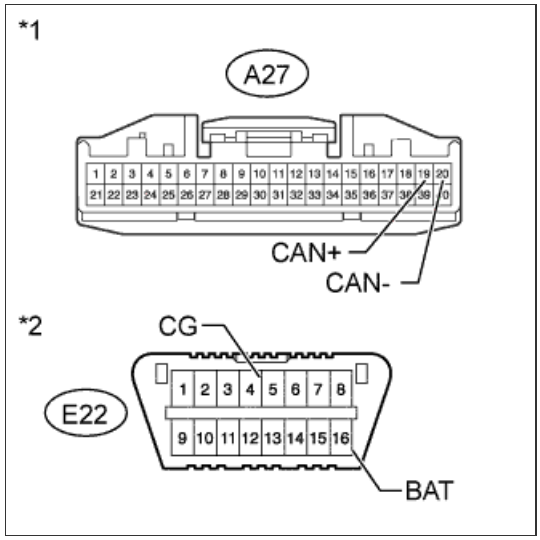
52.CHECK FOR SHORT IN CAN BUS WIRES (4WD CONTROL ECU)

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

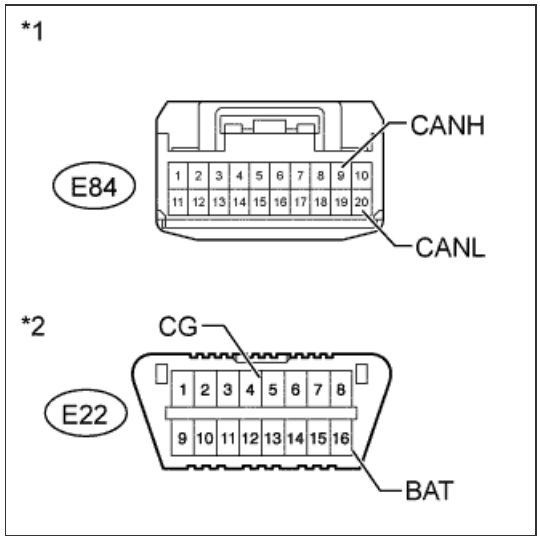
54.CHECK FOR SHORT IN CAN BUS WIRES (STEERING CONTROL ECU)

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)

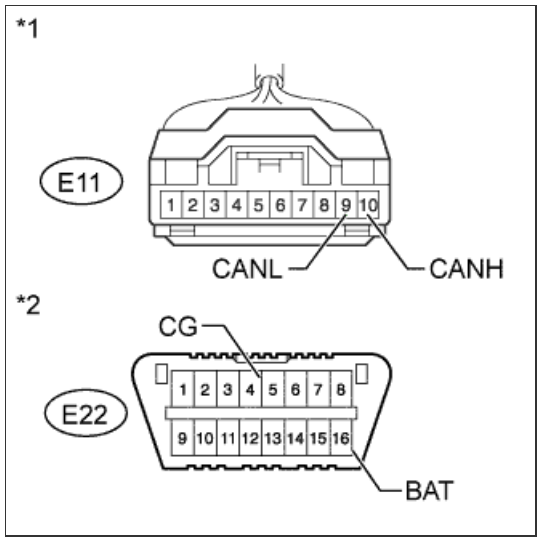
a. Disconnect the E11 steering angle sensor connector.

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

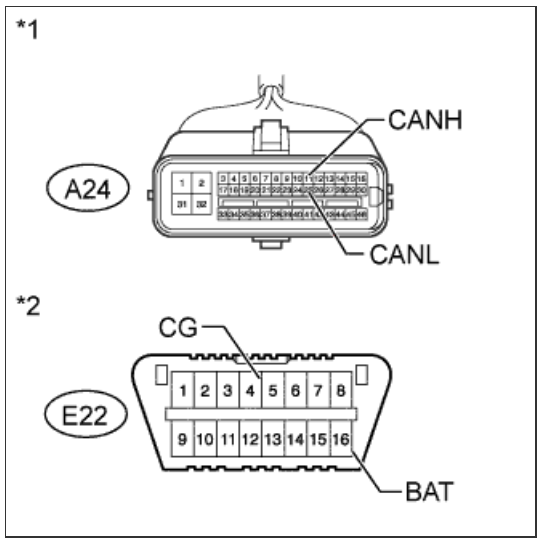
58.CHECK FOR SHORT IN CAN BUS WIRES (SKID CONTROL ECU)

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

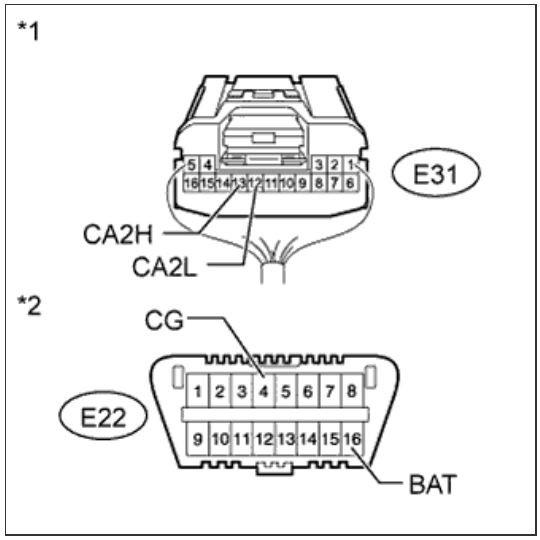
60.CHECK FOR SHORT IN CAN BUS WIRES (NETWORK GATEWAY ECU)

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:

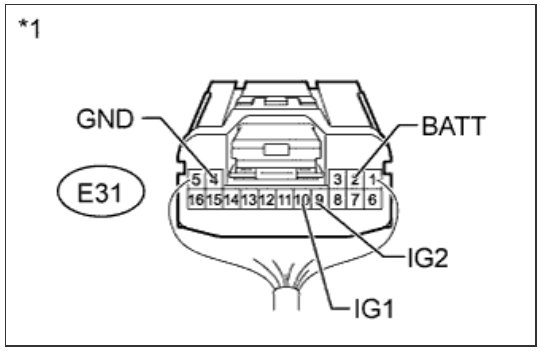
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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)

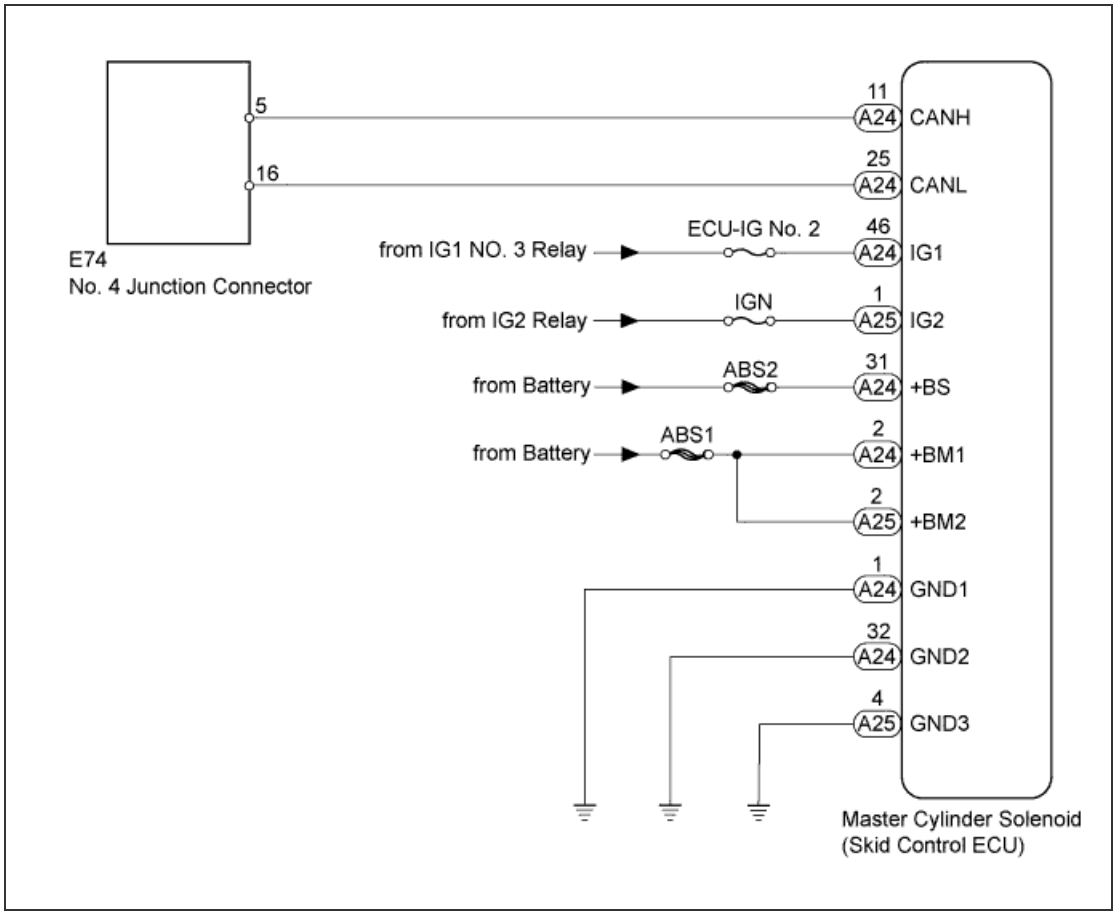
DTC U0129 Lost Communication with Brake System Control Module

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) • One side of CAN branch wire of other systems • Master cylinder solenoid (skid control ECU) • 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.

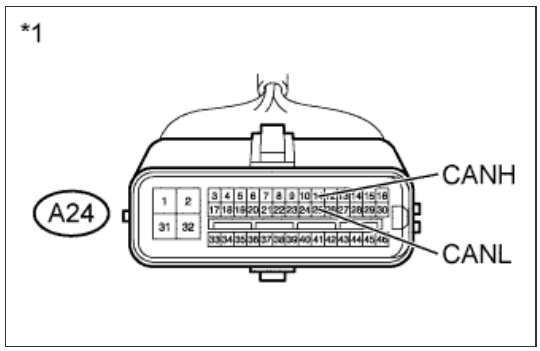
b. Measure the resistance according to the value(s) in the table below.

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:

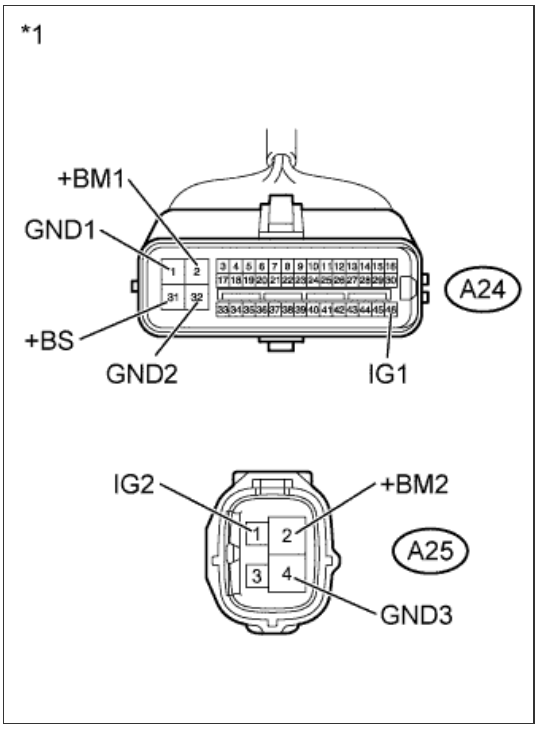
Tester Connection	Condition	Specified Condition
A24-2 (+BM1) - Body ground	Always	11 to 14 V
A24-31 (+BS) - Body ground	Always	11 to 14 V
A25-2 (+BM2) - Body ground	Always	11 to 14 V
A24-46 (IG1) - Body ground	Engine switch on (IG)	11 to 14 V

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

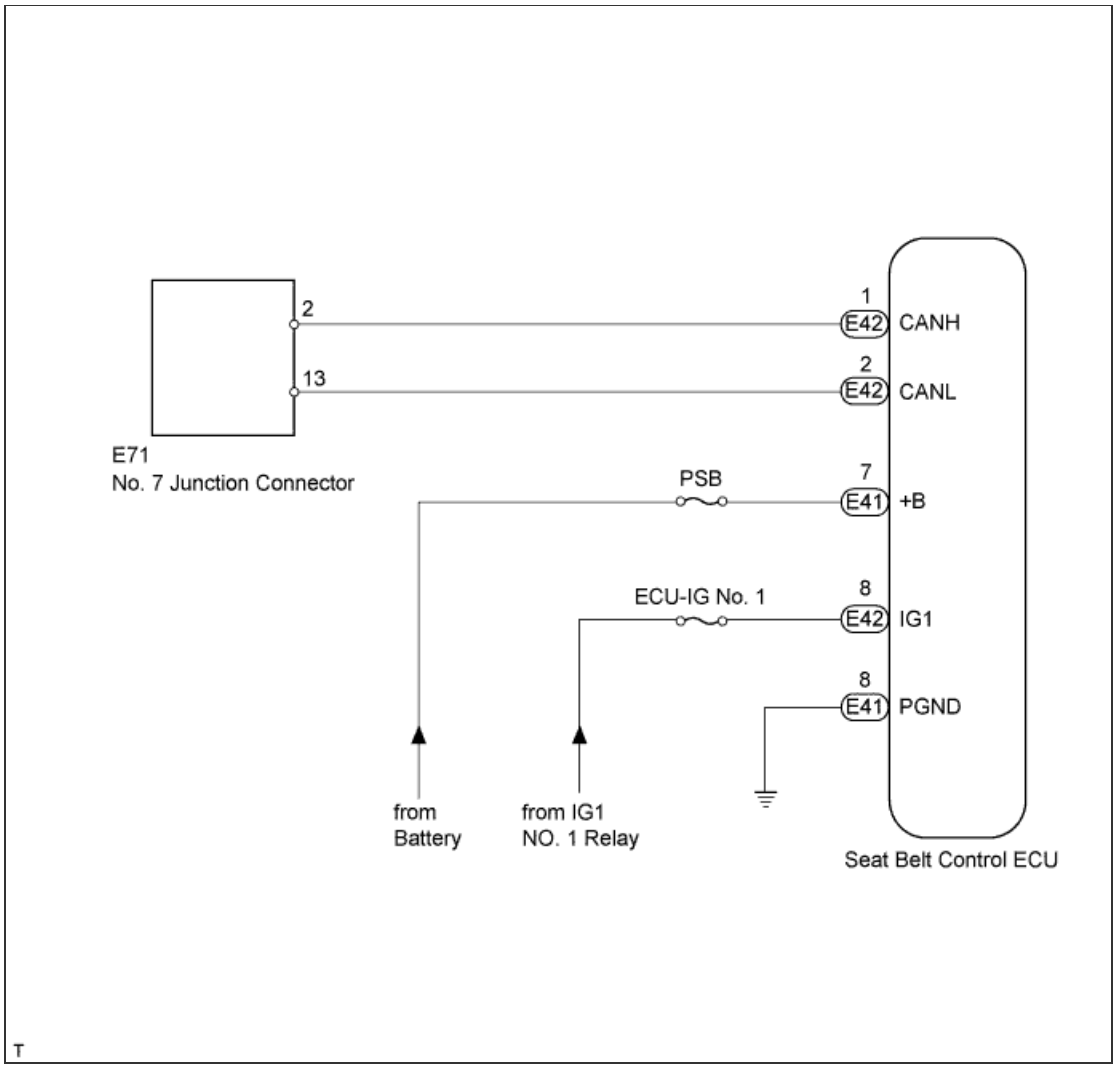
for Preparation Click here

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 • Seat belt control ECU CAN branch wire or connector • 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.

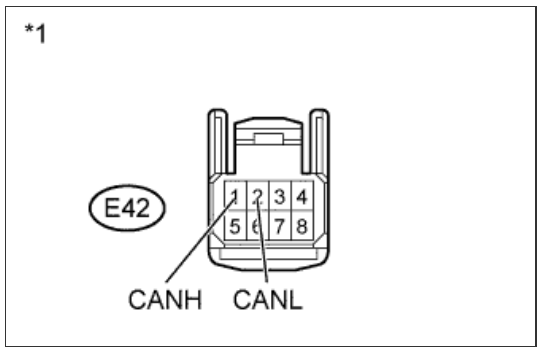
b. Measure the resistance according to the value(s) in the table below.

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.

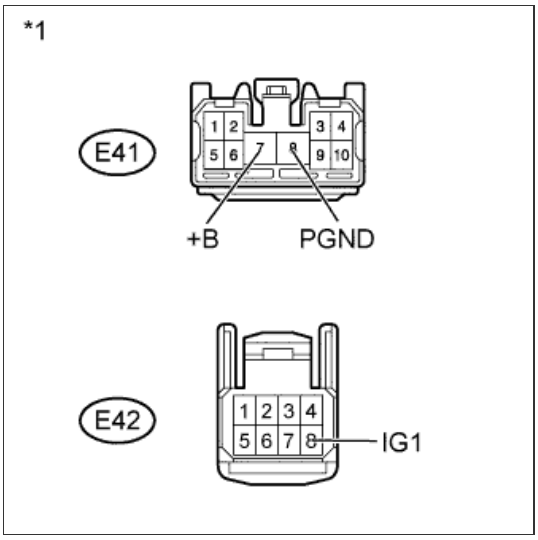
Standard Voltage:

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)

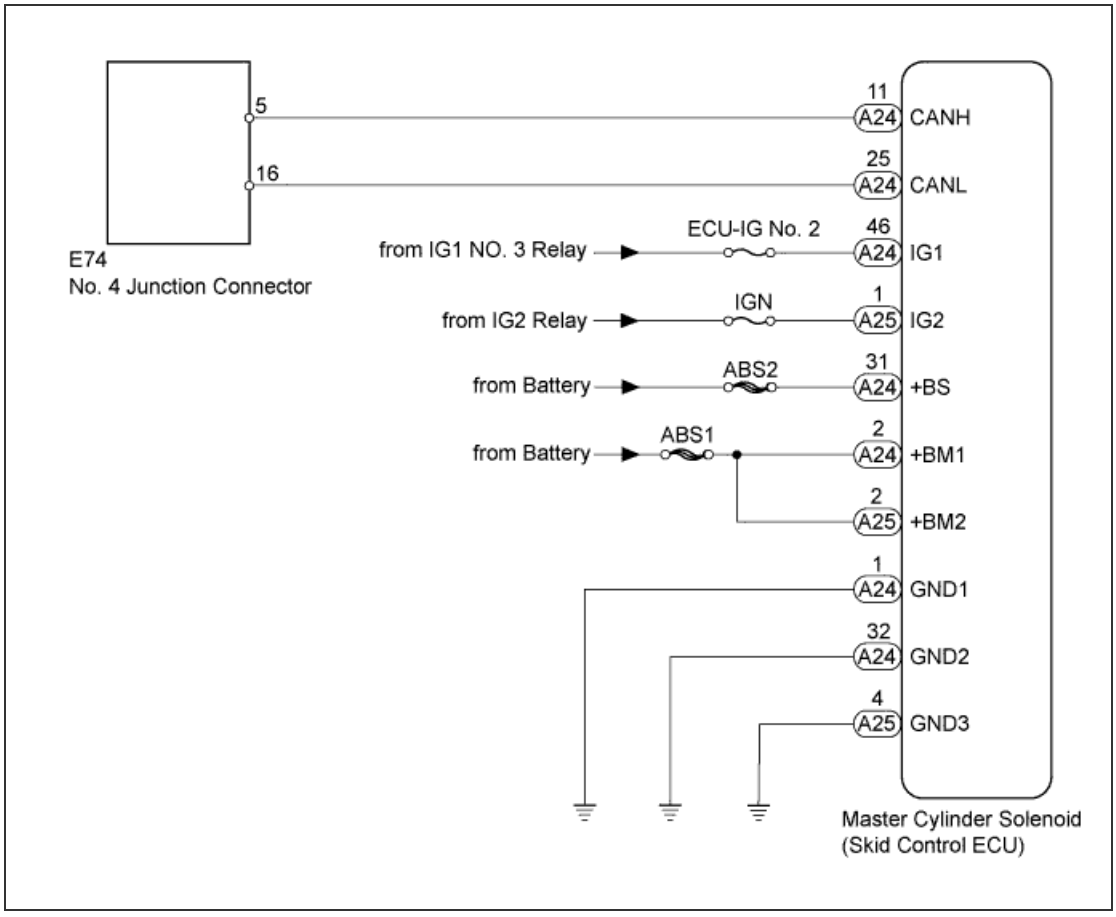
DTC U0129 Lost Communication with Brake System Control Module

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) • One side of CAN branch wire of other systems • Master cylinder solenoid (skid control ECU) • 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.

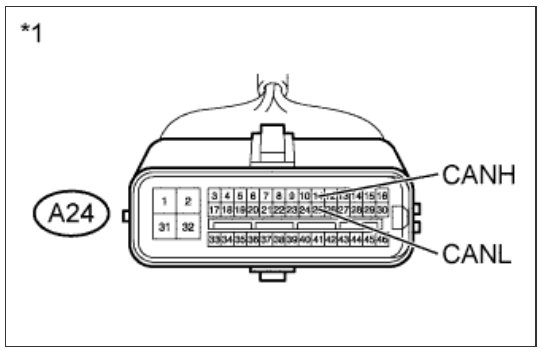
b. Measure the resistance according to the value(s) in the table below.

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:

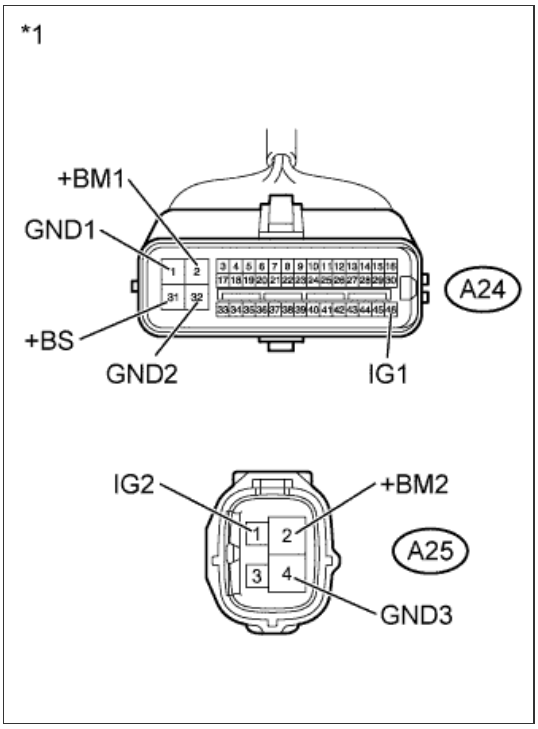
Tester Connection	Condition	Specified Condition
A24-2 (+BM1) - Body ground	Always	11 to 14 V
A24-31 (+BS) - Body ground	Always	11 to 14 V
A25-2 (+BM2) - Body ground	Always	11 to 14 V
A24-46 (IG1) - Body ground	Engine switch on (IG)	11 to 14 V

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

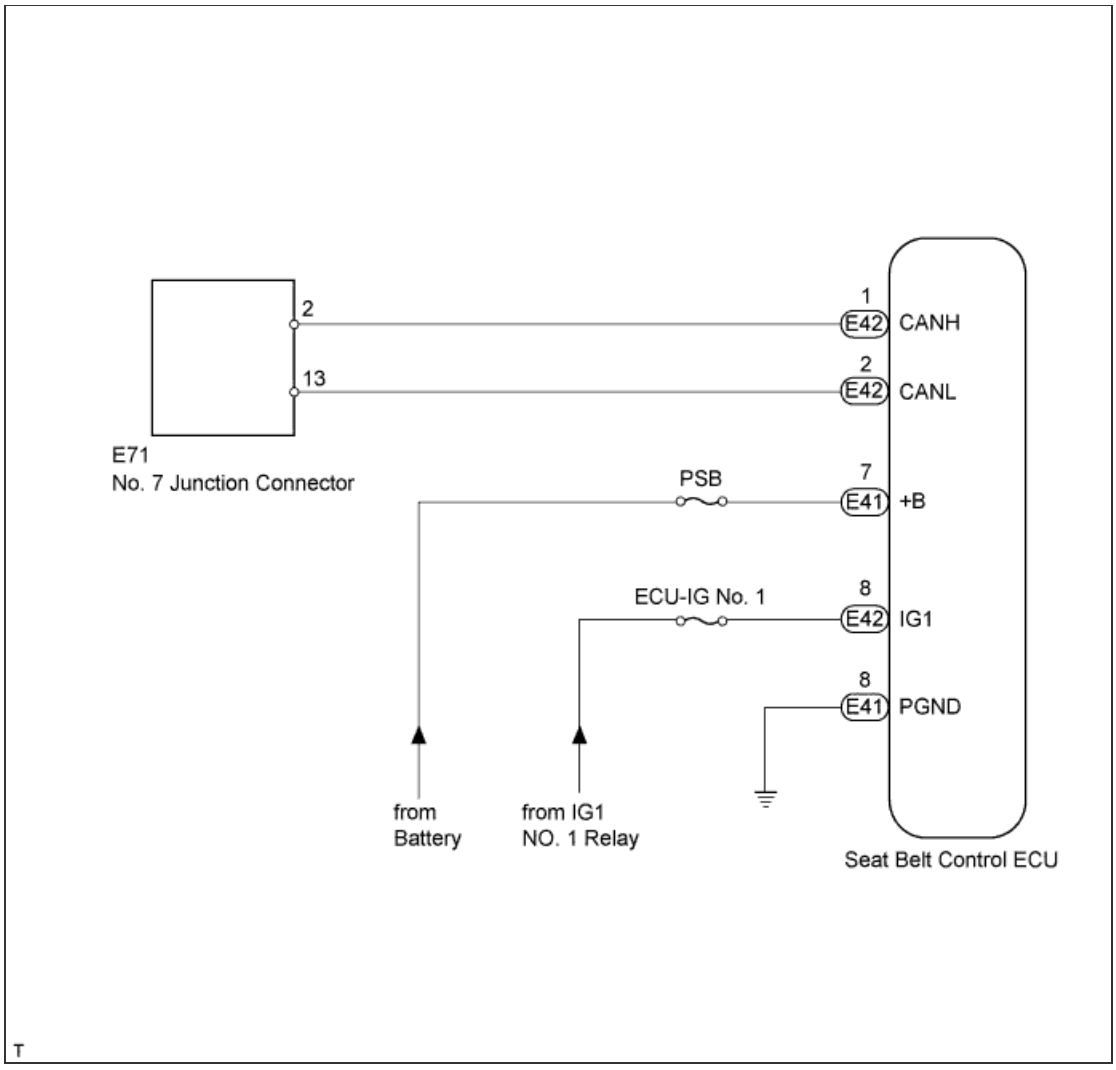
for Preparation Click here

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 • Seat belt control ECU CAN branch wire or connector • 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.

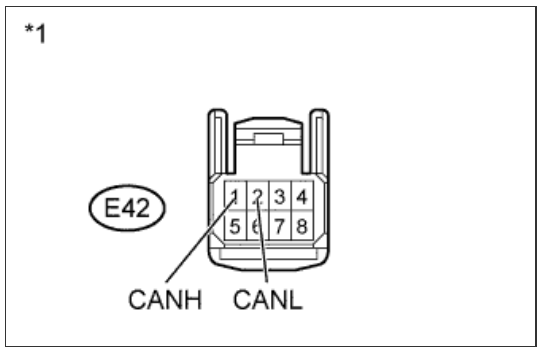
b. Measure the resistance according to the value(s) in the table below.

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.

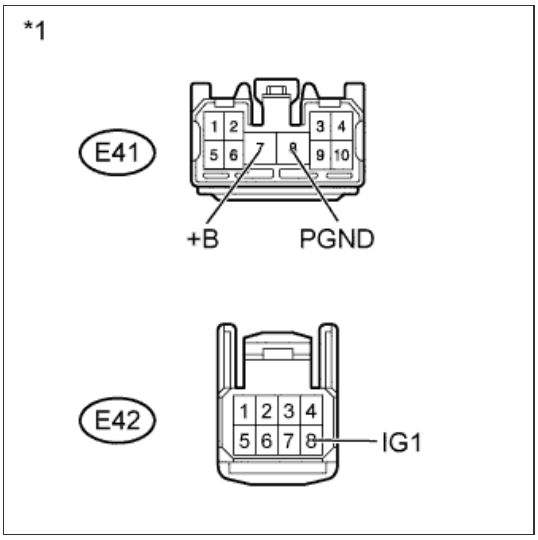
Standard Voltage:

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)

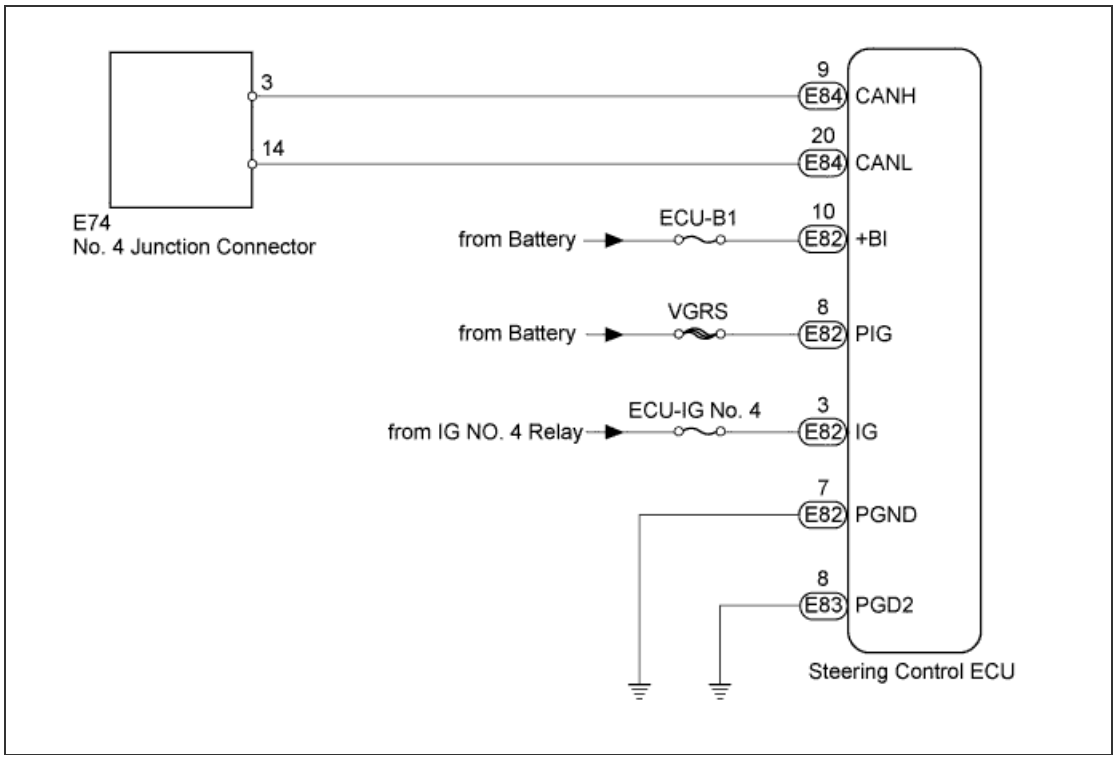
DTC U0130 Lost Communication with Steering Effort Control Module

for Preparation Click here

DESCRIPTION

DTC Code	DTC Detection Condition	Trouble Area
U0130	There is no communication from the steering control ECU.	• Power source circuit of steering control ECU • Steering control ECU CAN branch wire or connector • 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.

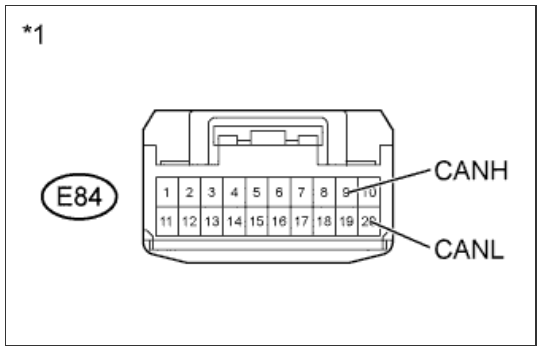
b. Measure the resistance according to the value(s) in the table below.

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.

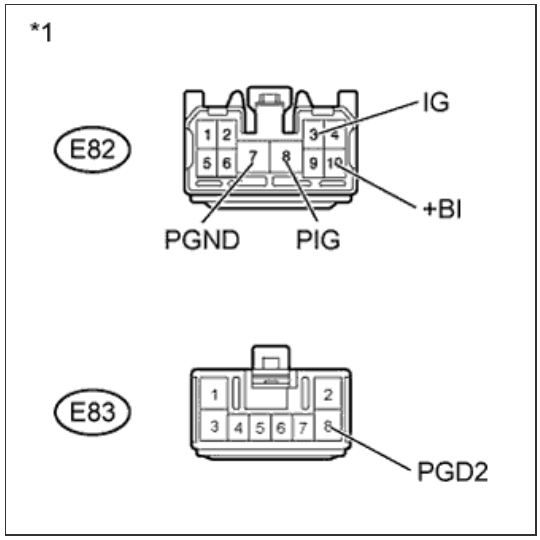
Standard Voltage:

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 (to Steering Control ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE STEERING CONTROL ECU (Click here)

DTC U1100 Lost Communication with Seat Belt Control ECU

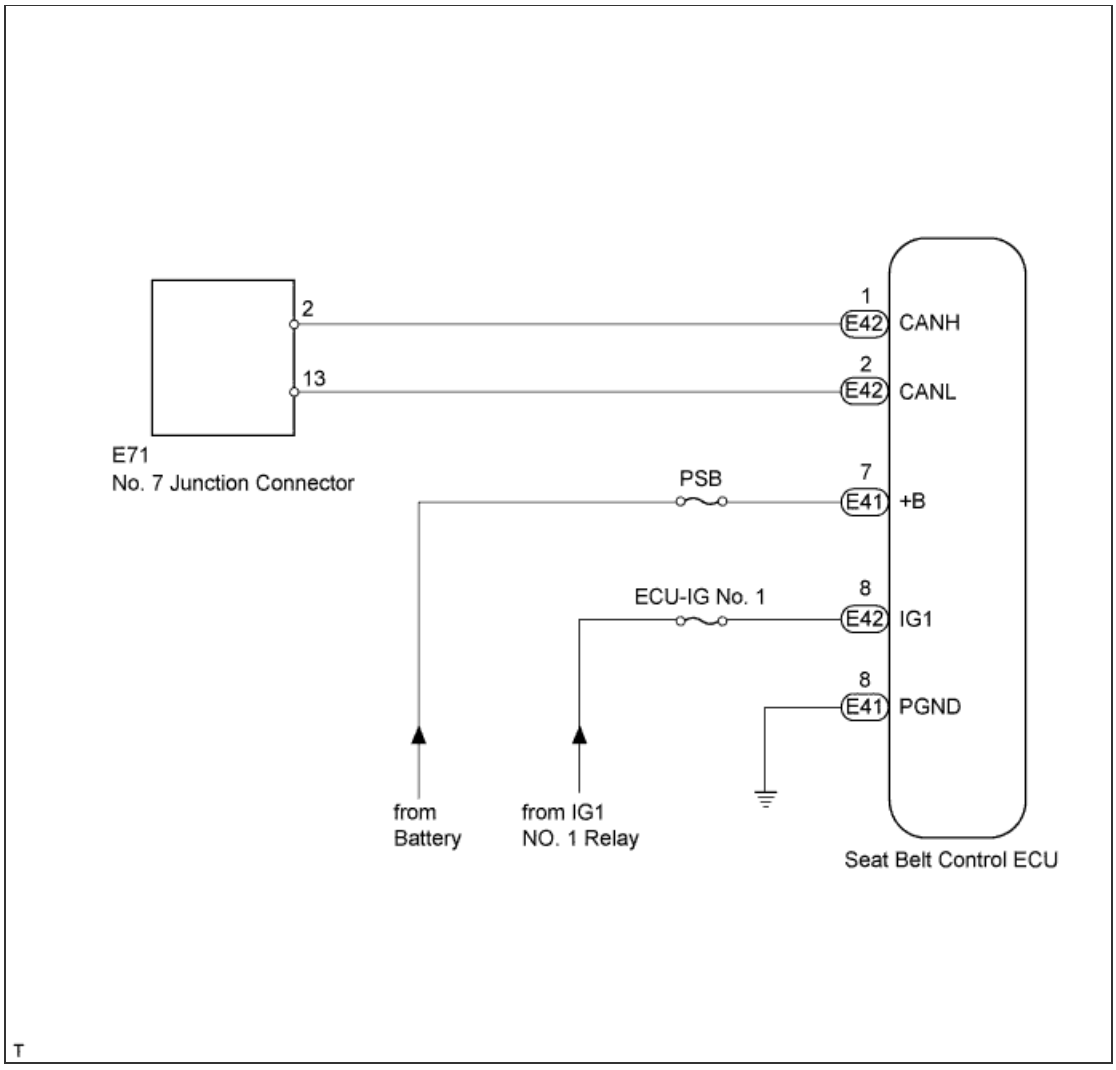
for Preparation Click here

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 • Seat belt control ECU CAN branch wire or connector • 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.

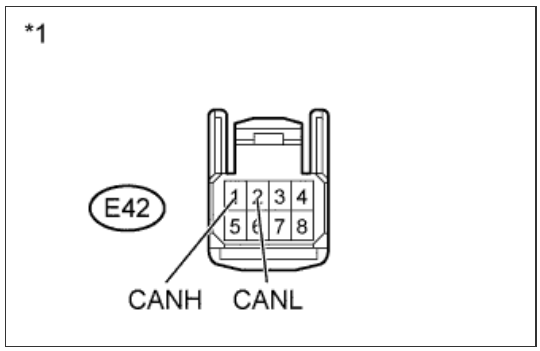
b. Measure the resistance according to the value(s) in the table below.

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.

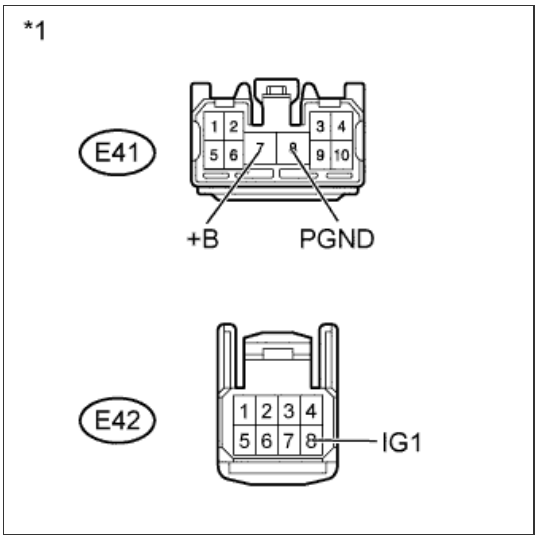
Standard Voltage:

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)

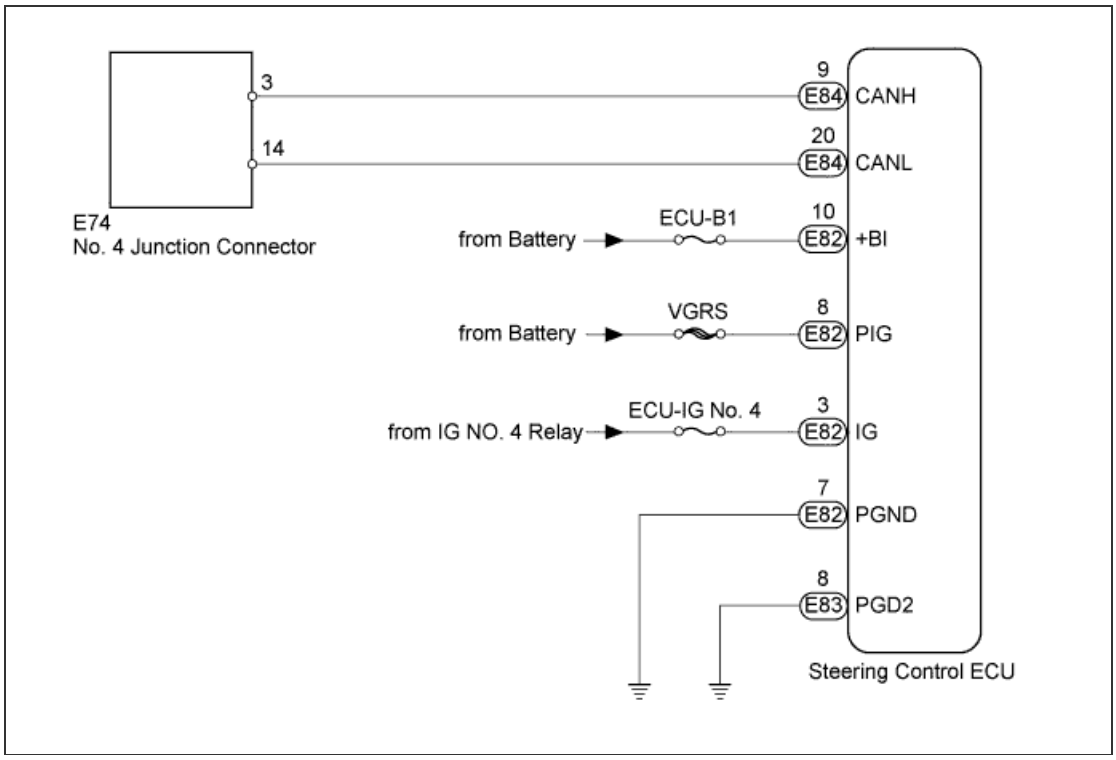
DTC U0130 Lost Communication with Steering Effort Control Module

for Preparation Click here

DESCRIPTION

DTC Code	DTC Detection Condition	Trouble Area
U0130	There is no communication from the steering control ECU.	• Power source circuit of steering control ECU • Steering control ECU CAN branch wire or connector • 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.

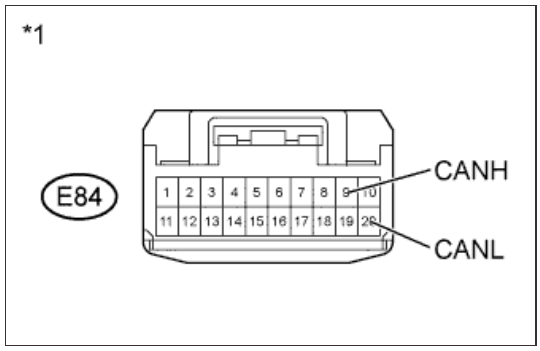
b. Measure the resistance according to the value(s) in the table below.

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.

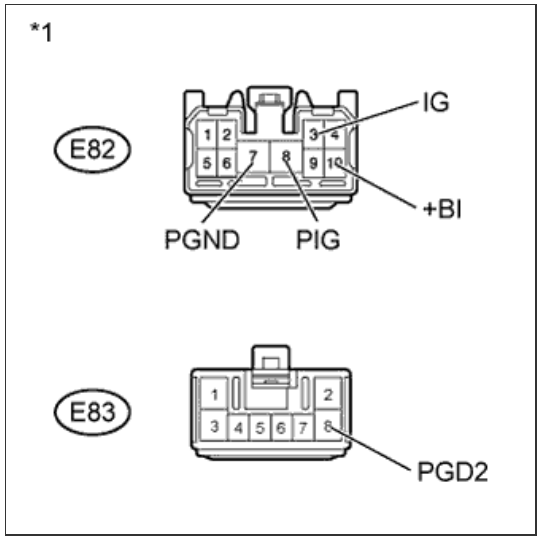
Standard Voltage:

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 (to Steering Control ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE STEERING CONTROL ECU (Click here)

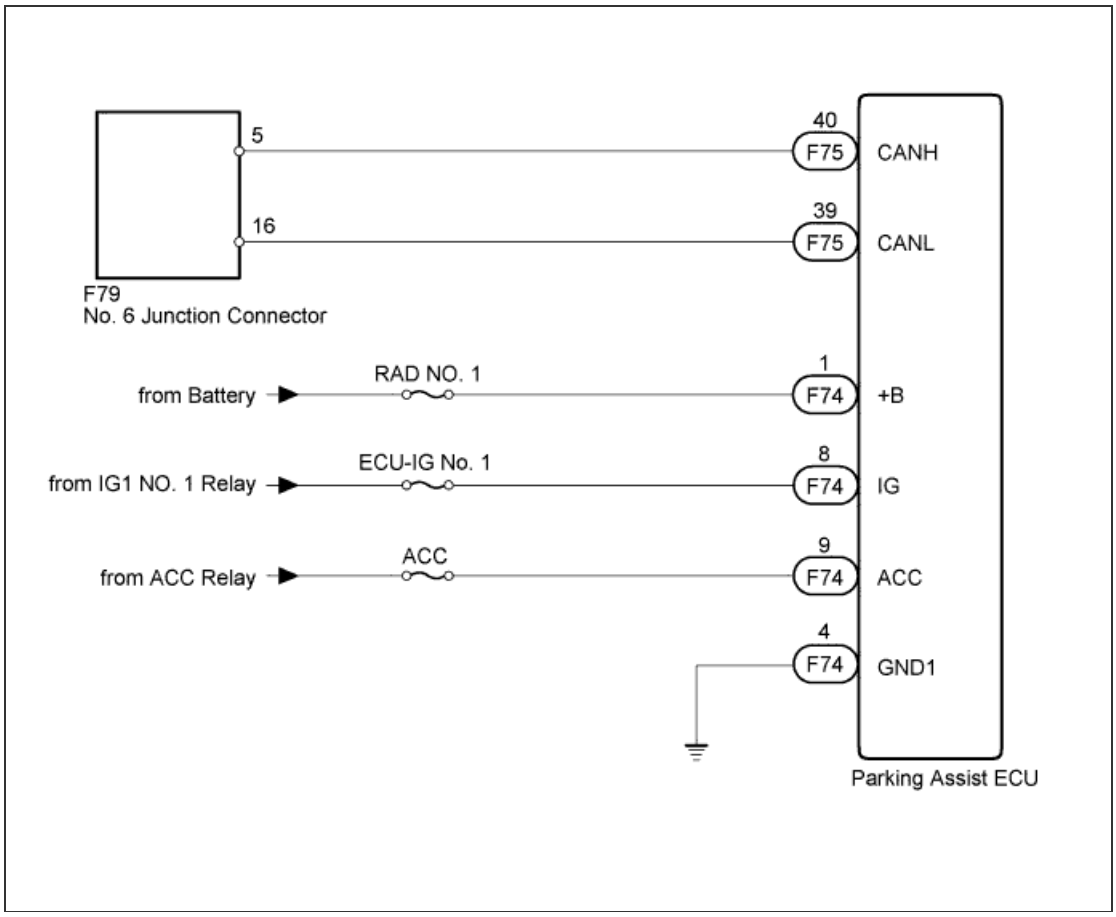
DTC U110B Lost Communication with Parking Assist Control Module "B"

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 • Parking assist ECU CAN branch wire or connector • 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.

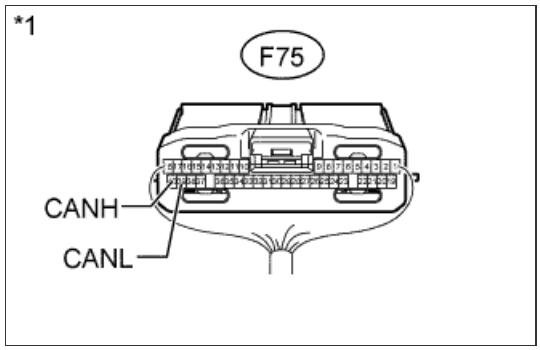
b. Measure the resistance according to the value(s) in the table below.

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:

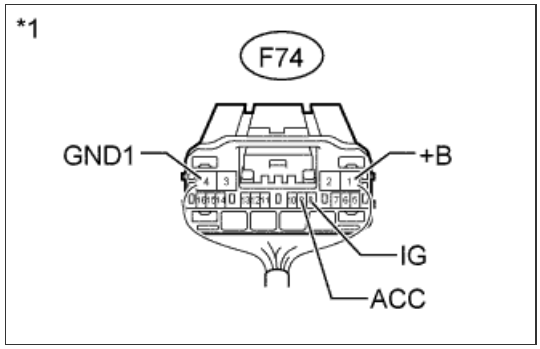
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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)

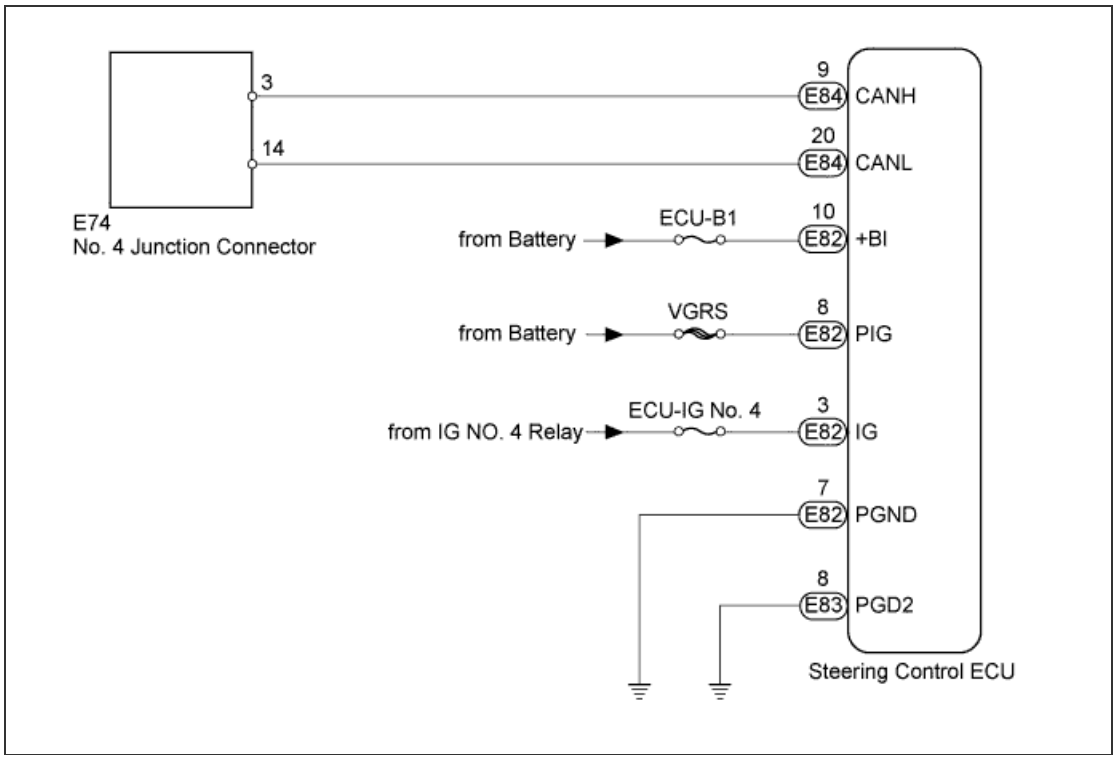
DTC U0130 Lost Communication with Steering Effort Control Module

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 • Steering control ECU CAN branch wire or connector • 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.

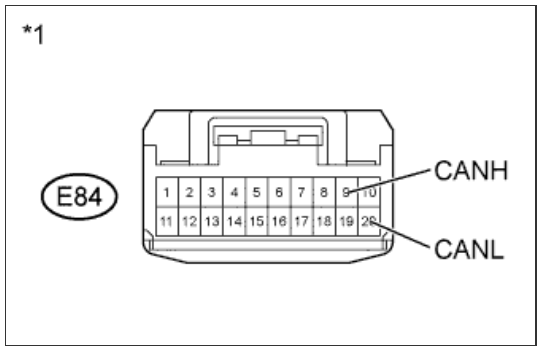
b. Measure the resistance according to the value(s) in the table below.

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.

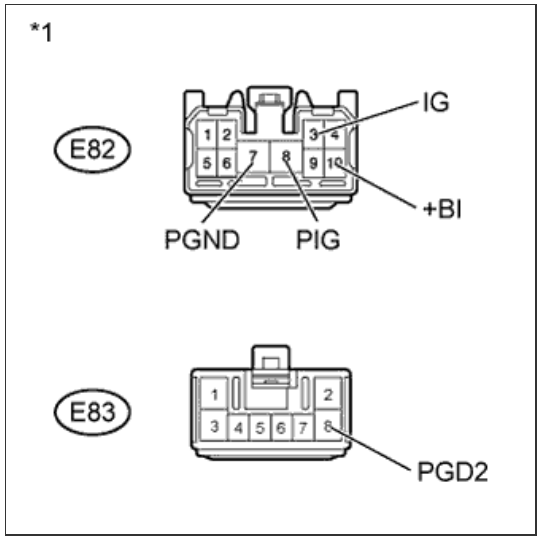
Standard Voltage:

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 (to Steering Control ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE STEERING CONTROL ECU (Click here)

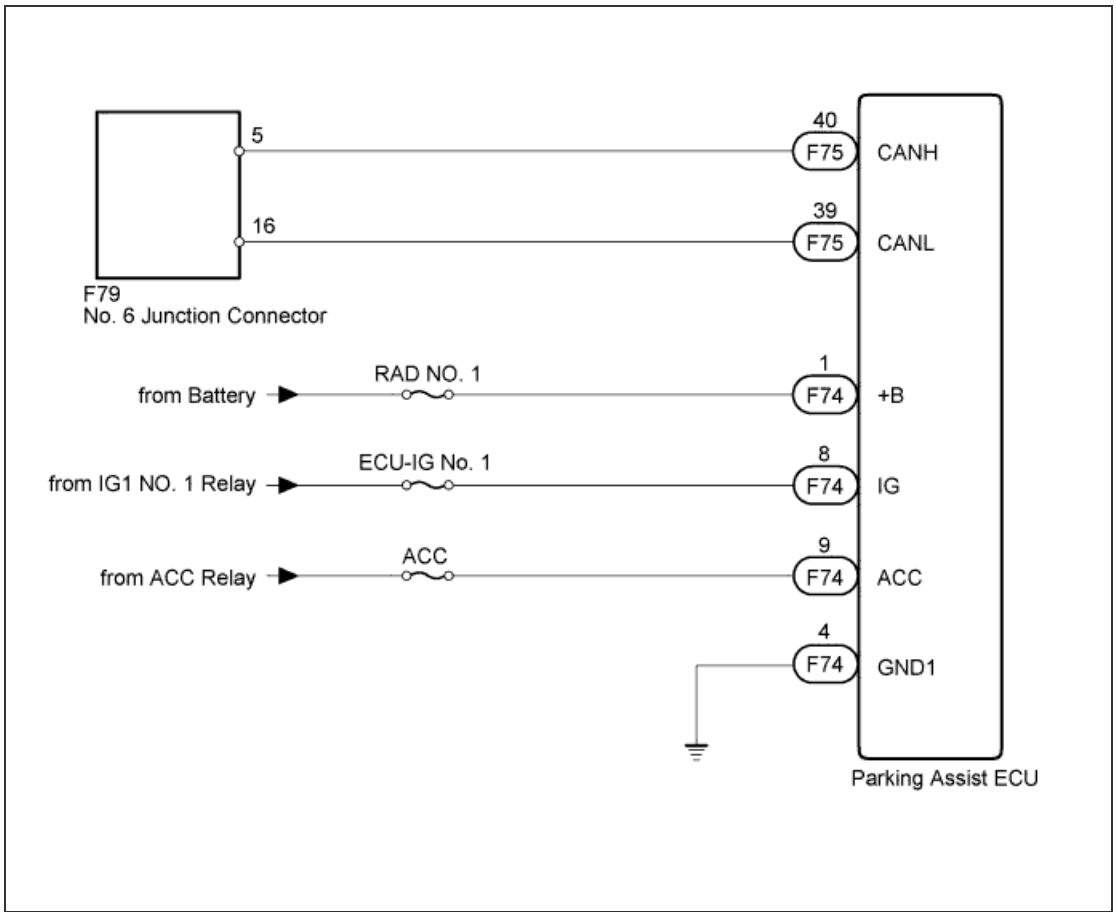
DTC U110B Lost Communication with Parking Assist Control Module "B"

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 • Parking assist ECU CAN branch wire or connector • 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.

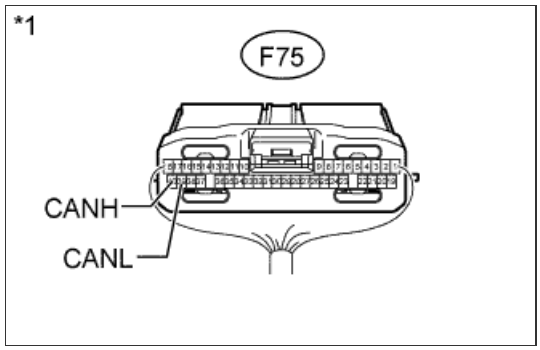
b. Measure the resistance according to the value(s) in the table below.

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:

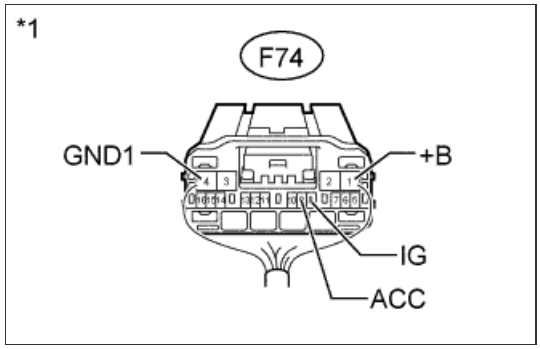
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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)

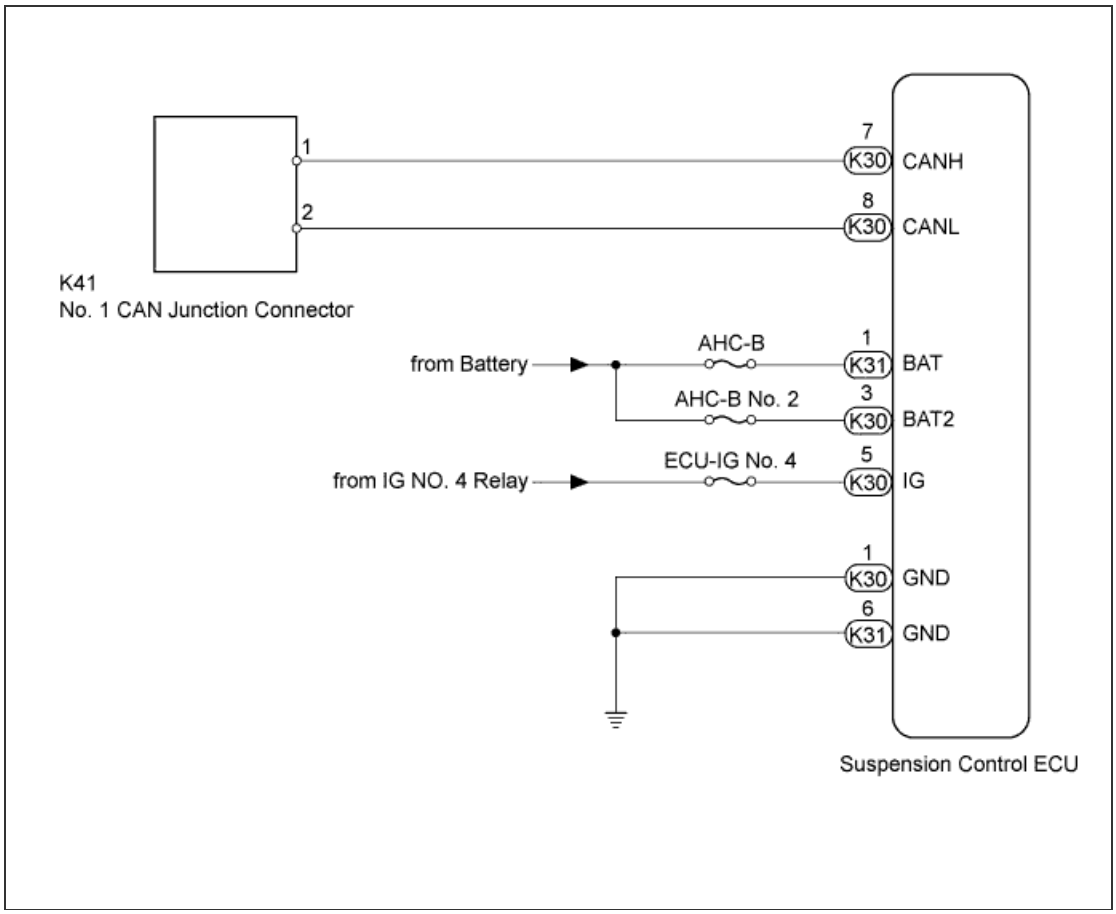
DTC U0132 Lost Communication with Suspension Control ECU

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 • Suspension control ECU CAN branch wire or connector • 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.

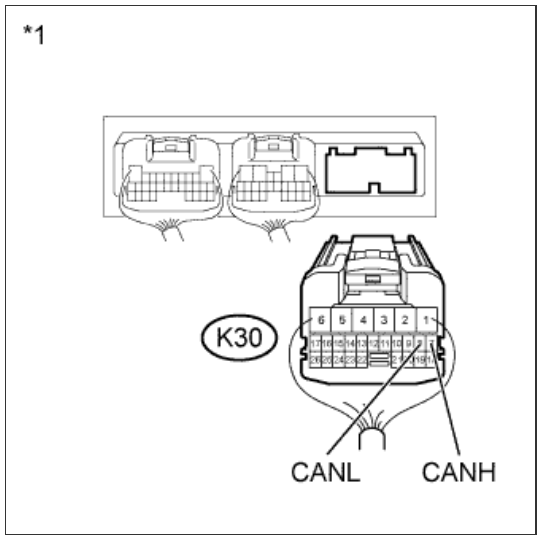
b. Measure the resistance according to the value(s) in the table below.

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.

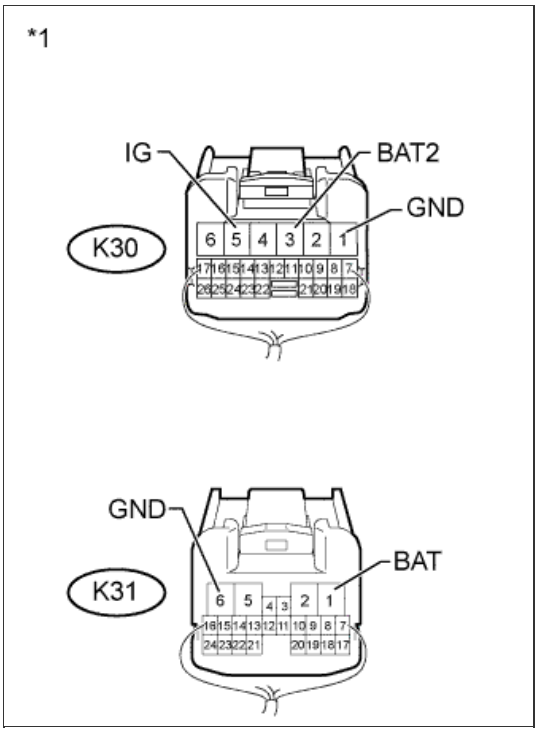
Standard Voltage:

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)

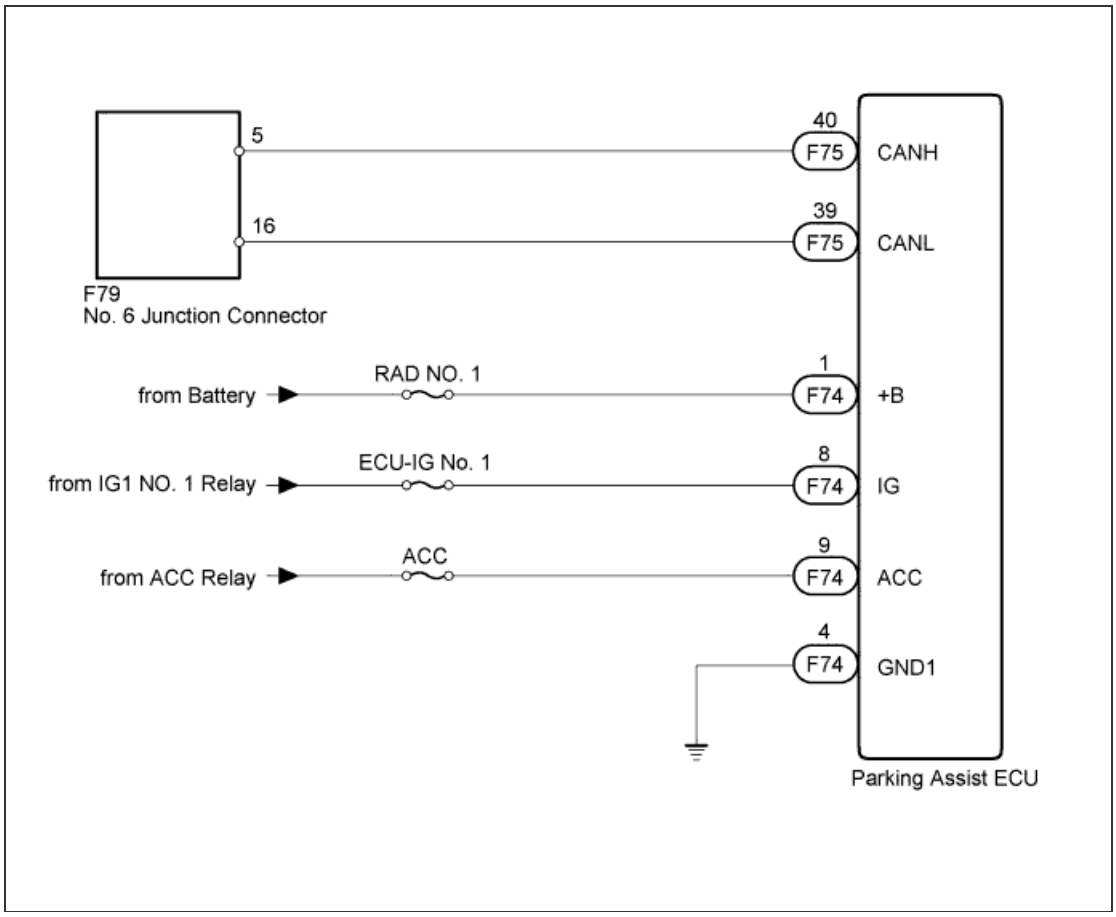
DTC U110B Lost Communication with Parking Assist Control Module "B"

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 • Parking assist ECU CAN branch wire or connector • 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.

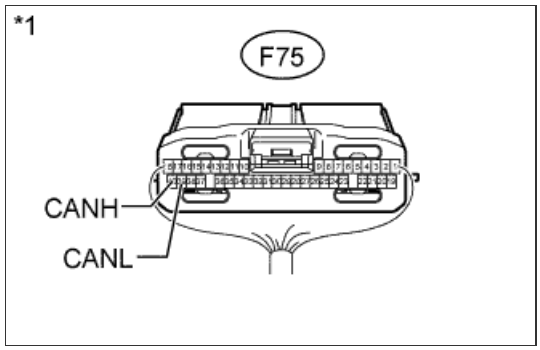
b. Measure the resistance according to the value(s) in the table below.

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:

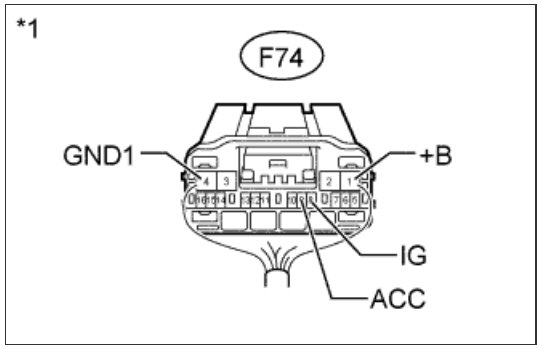
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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)

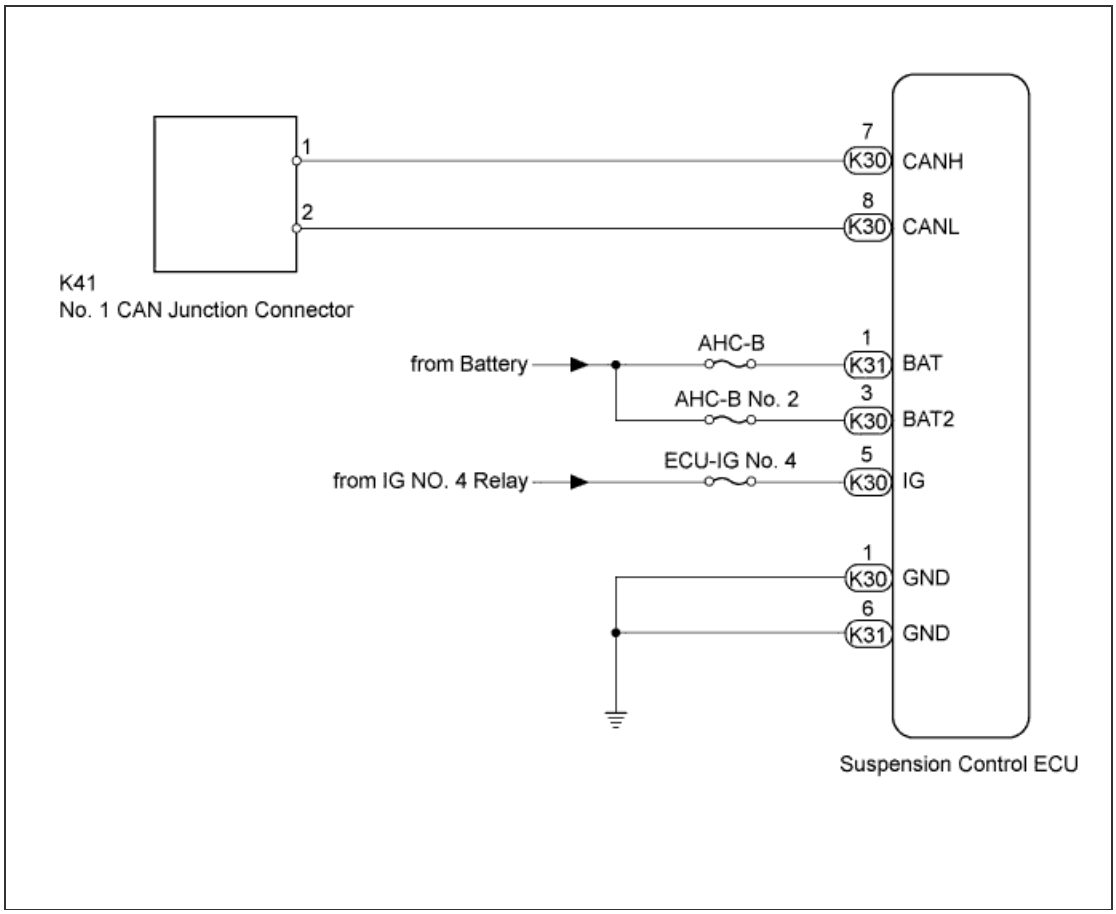
DTC U0132 Lost Communication with Suspension Control ECU

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 • Suspension control ECU CAN branch wire or connector • 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.

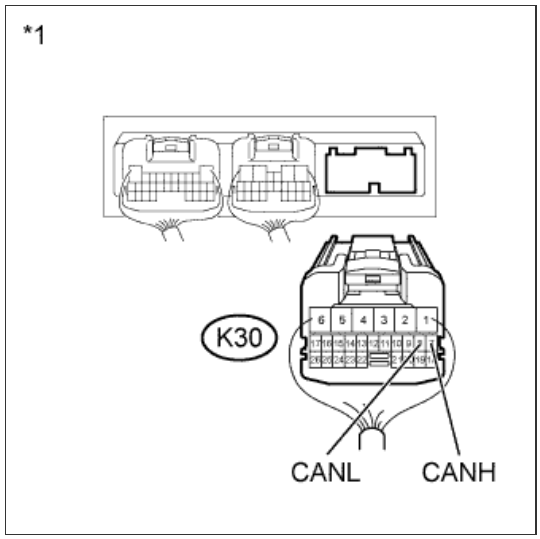
b. Measure the resistance according to the value(s) in the table below.

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.

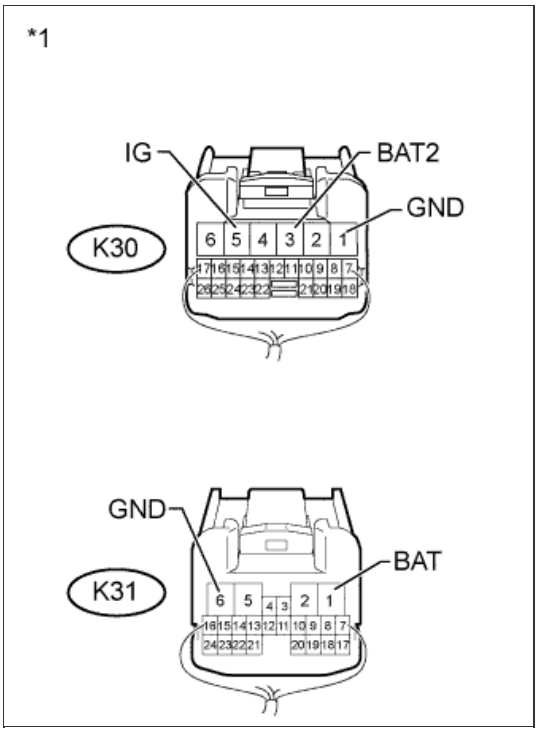
Standard Voltage:

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)

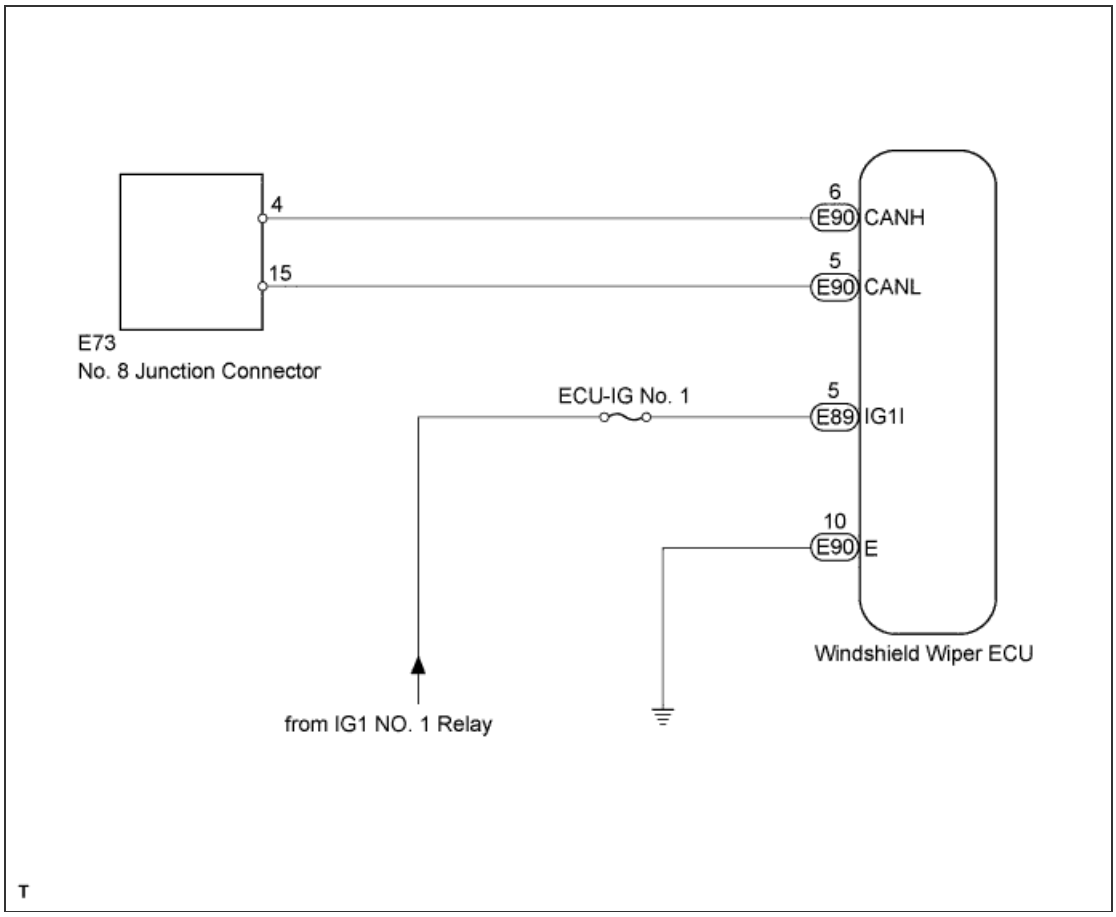
DTC U1111 Lost Communication with Body No. 5 Module

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 • Windshield wiper ECU CAN branch wire or connector • 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

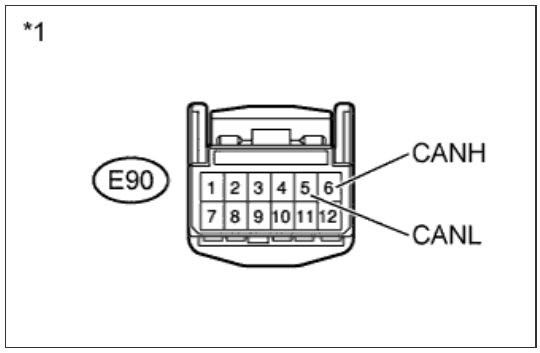
3.CHECK FOR OPEN IN CAN BUS WIRE (WINDSHIELD WIPER ECU CAN BRANCH WIRE)

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.

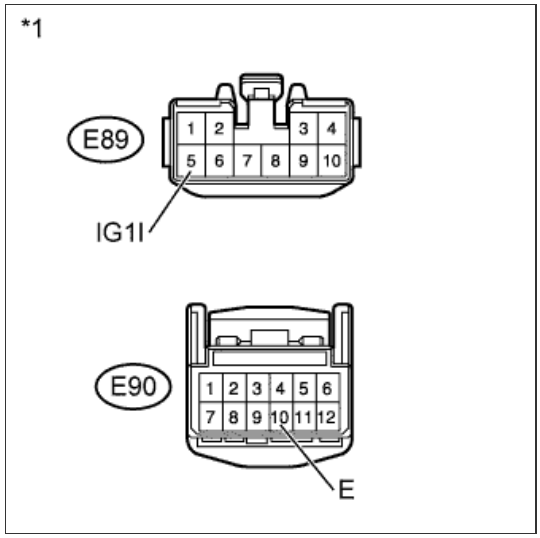
Standard Voltage:

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 (to Windshield Wiper ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ↓

REPLACE WINDSHIELD WIPER ECU (Click here)

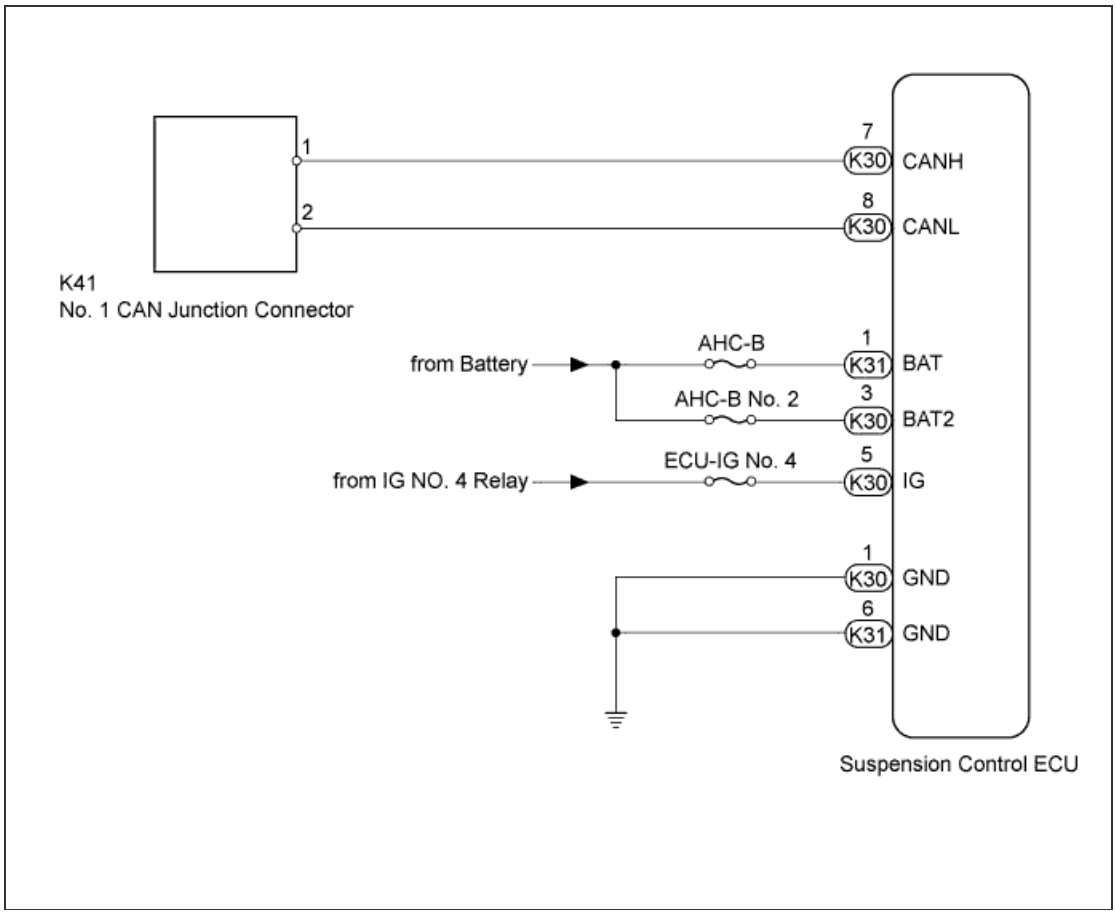
DTC U0132 Lost Communication with Suspension Control ECU

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 • Suspension control ECU CAN branch wire or connector • 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.

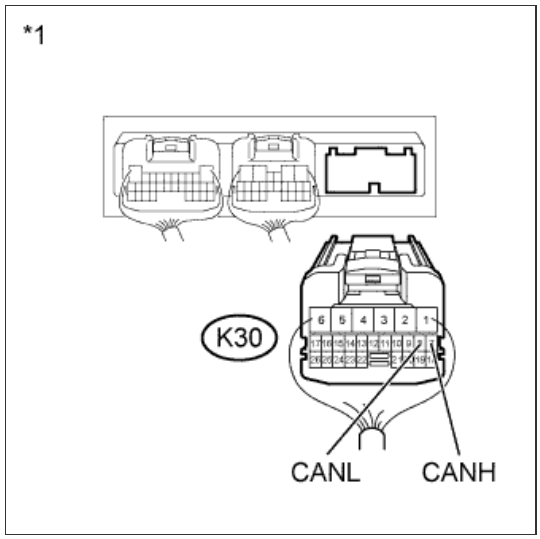
b. Measure the resistance according to the value(s) in the table below.

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.

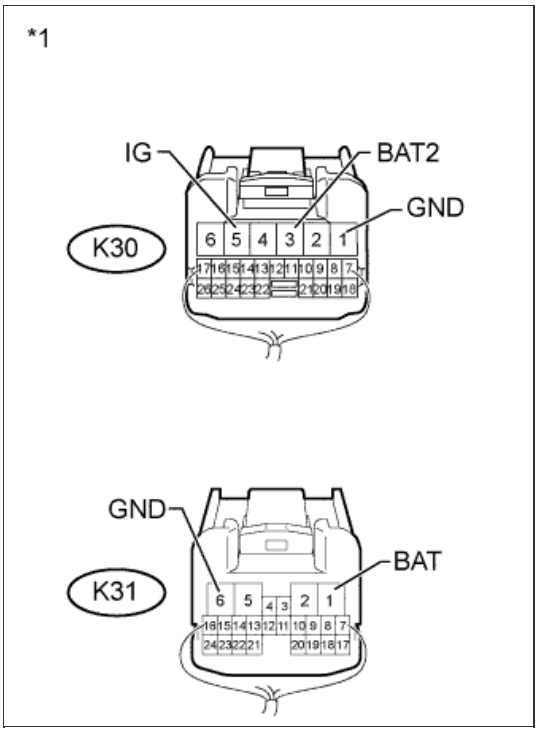
Standard Voltage:

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)

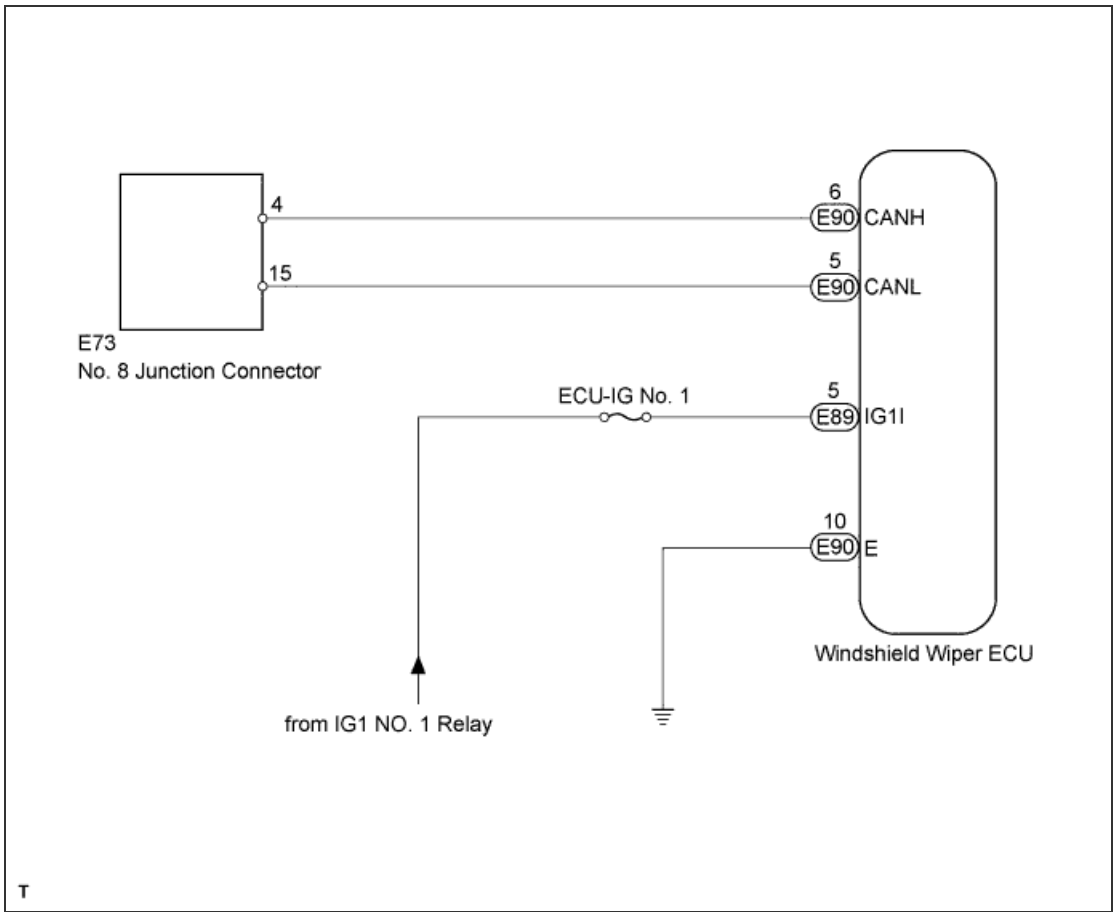
DTC U1111 Lost Communication with Body No. 5 Module

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 • Windshield wiper ECU CAN branch wire or connector • 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

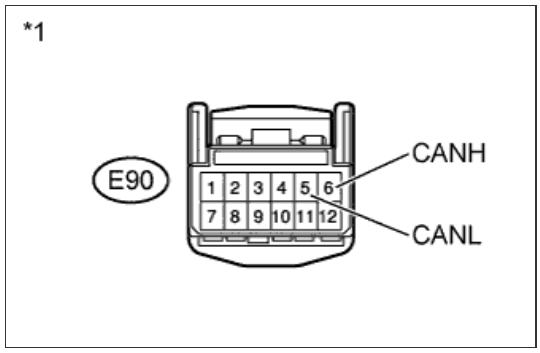
3.CHECK FOR OPEN IN CAN BUS WIRE (WINDSHIELD WIPER ECU CAN BRANCH WIRE)

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.

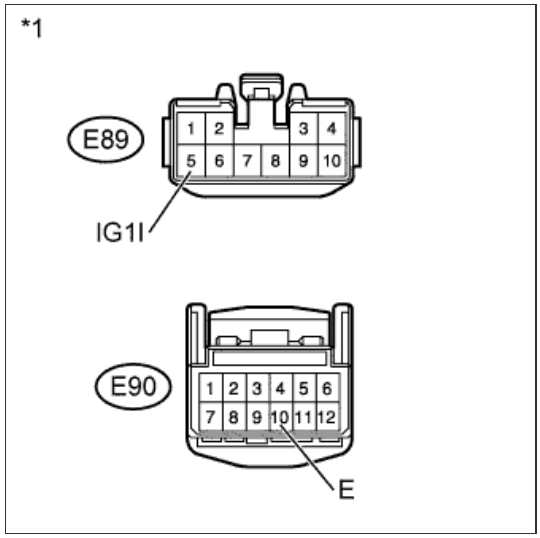
Standard Voltage:

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 (to Windshield Wiper ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ↓

REPLACE WINDSHIELD WIPER ECU (Click here)

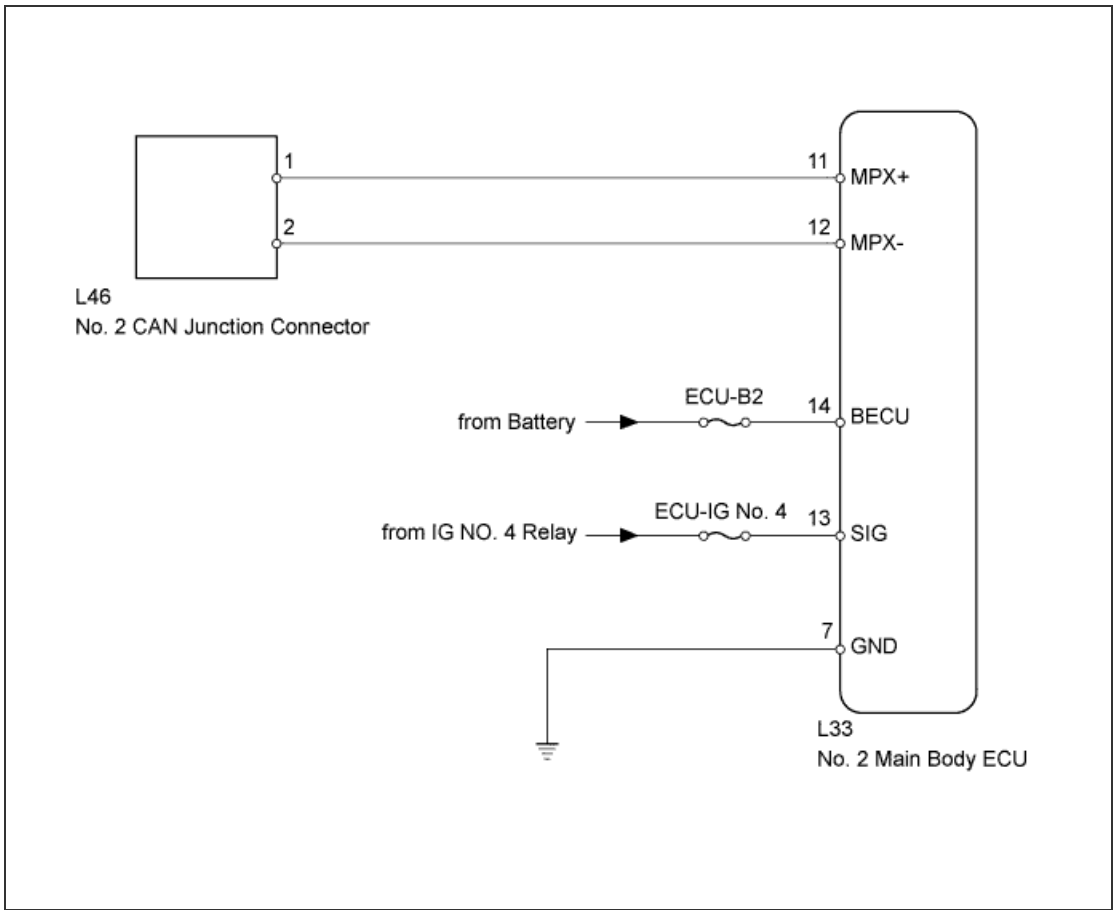
DTC U0141 Lost Communication with Body Control Module "A"

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 • No. 2 main body ECU CAN branch wire or connector • 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.

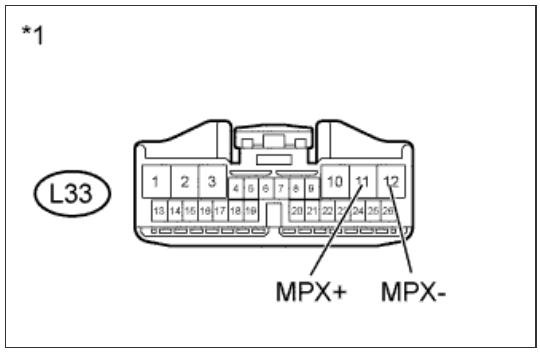
b. Measure the resistance according to the value(s) in the table below.

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.

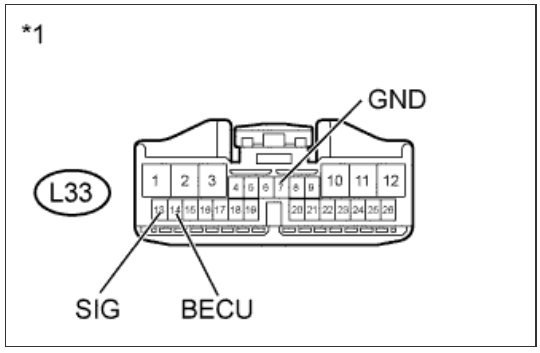
NOTICE:

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 (to No. 2 Main Body ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

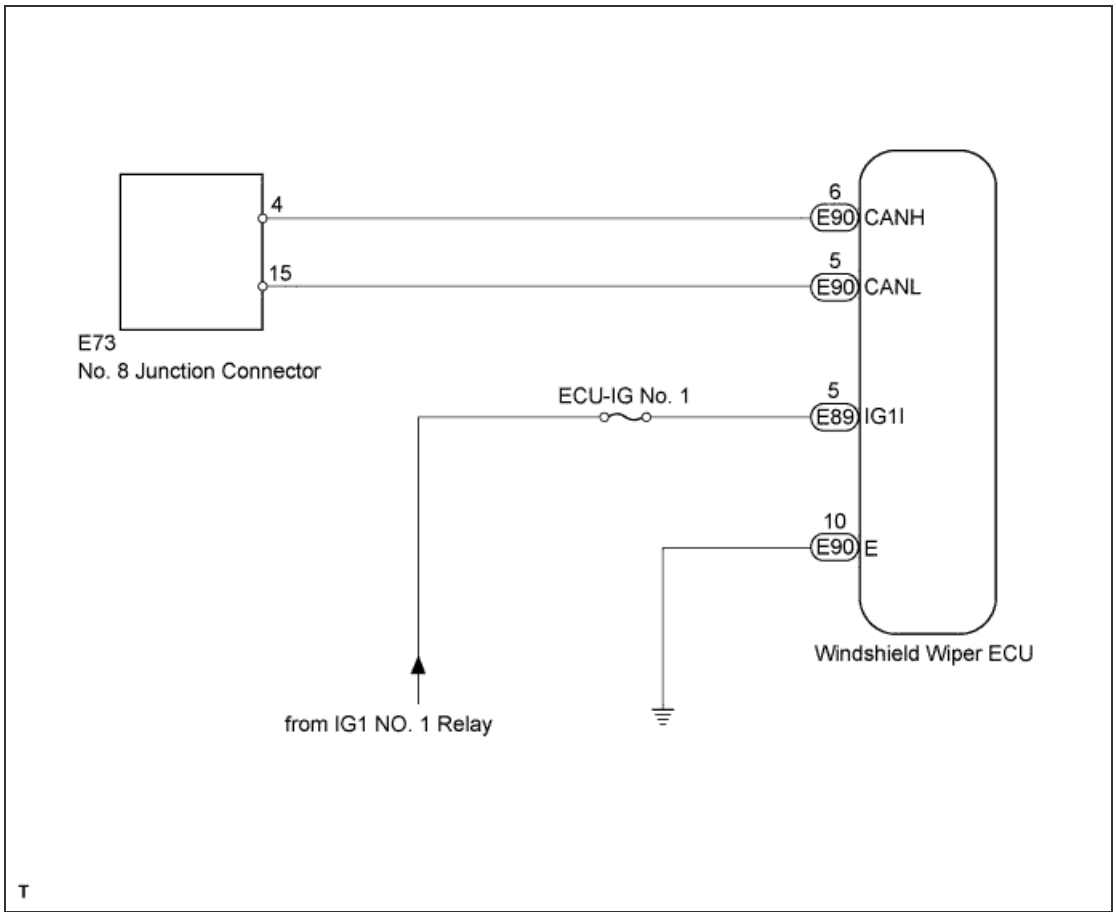
DTC U1111 Lost Communication with Body No. 5 Module

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 • Windshield wiper ECU CAN branch wire or connector • 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

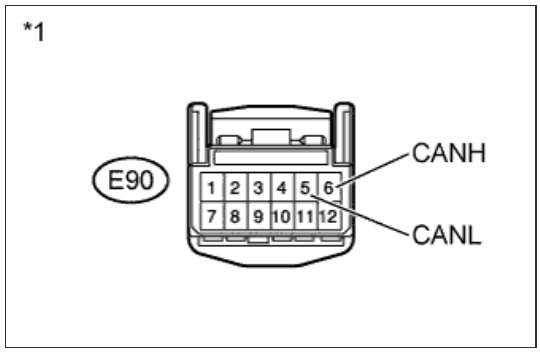
3.CHECK FOR OPEN IN CAN BUS WIRE (WINDSHIELD WIPER ECU CAN BRANCH WIRE)

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.

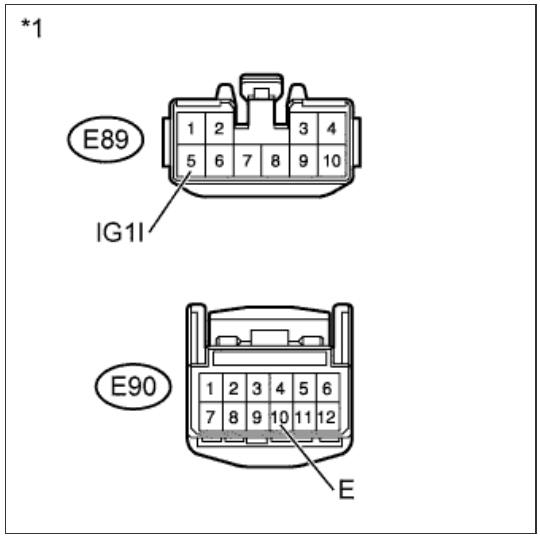
Standard Voltage:

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 (to Windshield Wiper ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ↓

REPLACE WINDSHIELD WIPER ECU (Click here)

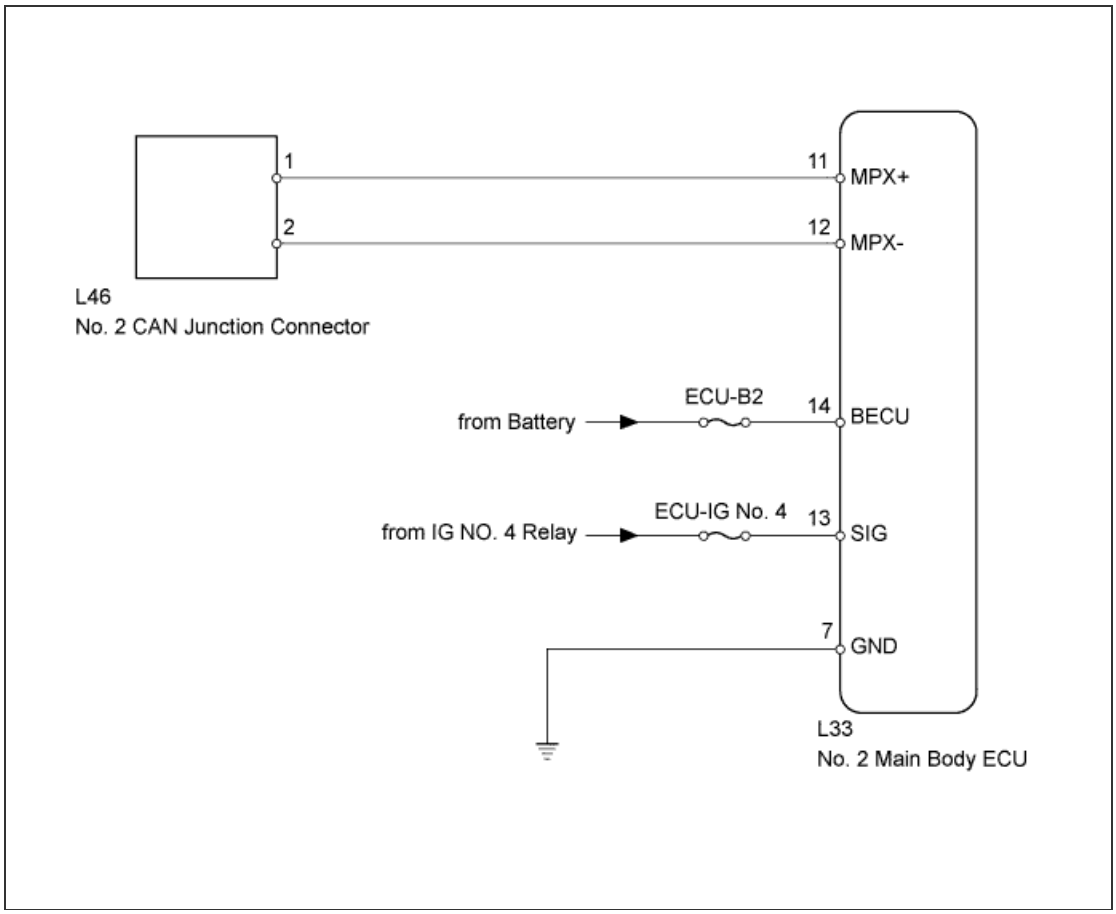
DTC U0141 Lost Communication with Body Control Module "A"

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 • No. 2 main body ECU CAN branch wire or connector • 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.

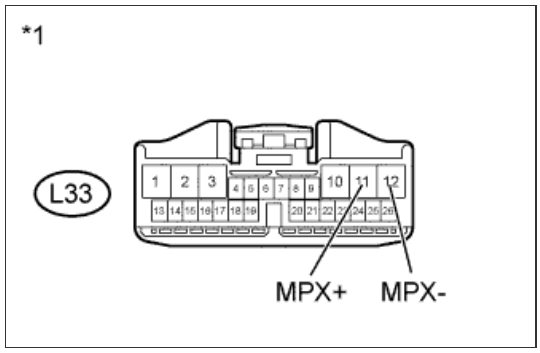
b. Measure the resistance according to the value(s) in the table below.

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.

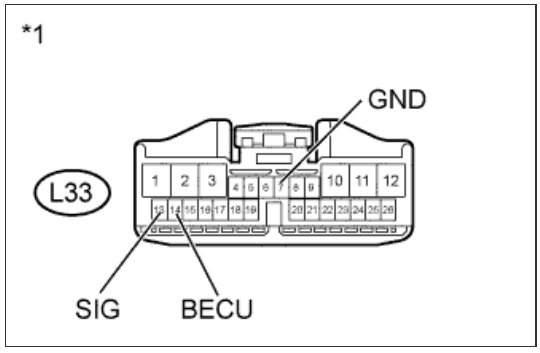
NOTICE:

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 (to No. 2 Main Body ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

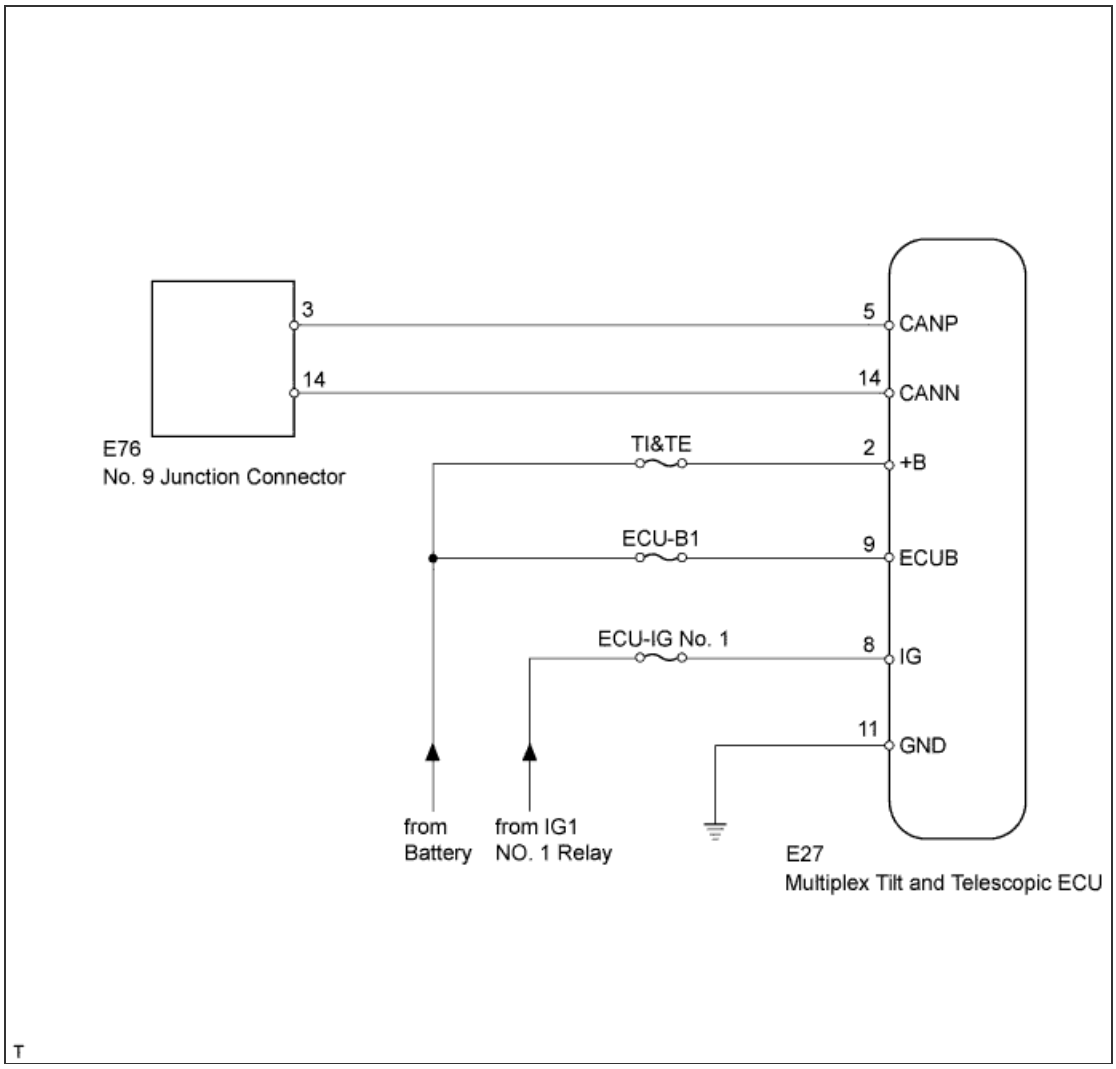
DTC U1115 Lost Communication with Tilt and Telescopic Module

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 • Multiplex tilt and telescopic ECU CAN branch wire or connector • 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.

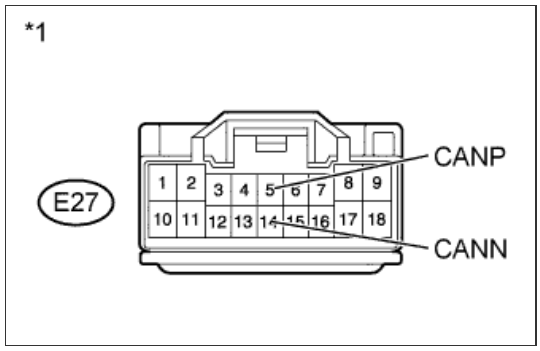
b. Measure the resistance according to the value(s) in the table below.

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.

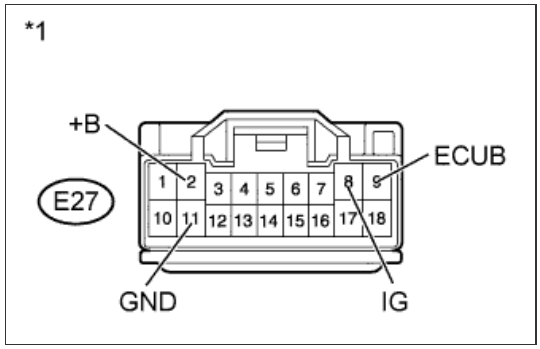
NOTICE:

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)

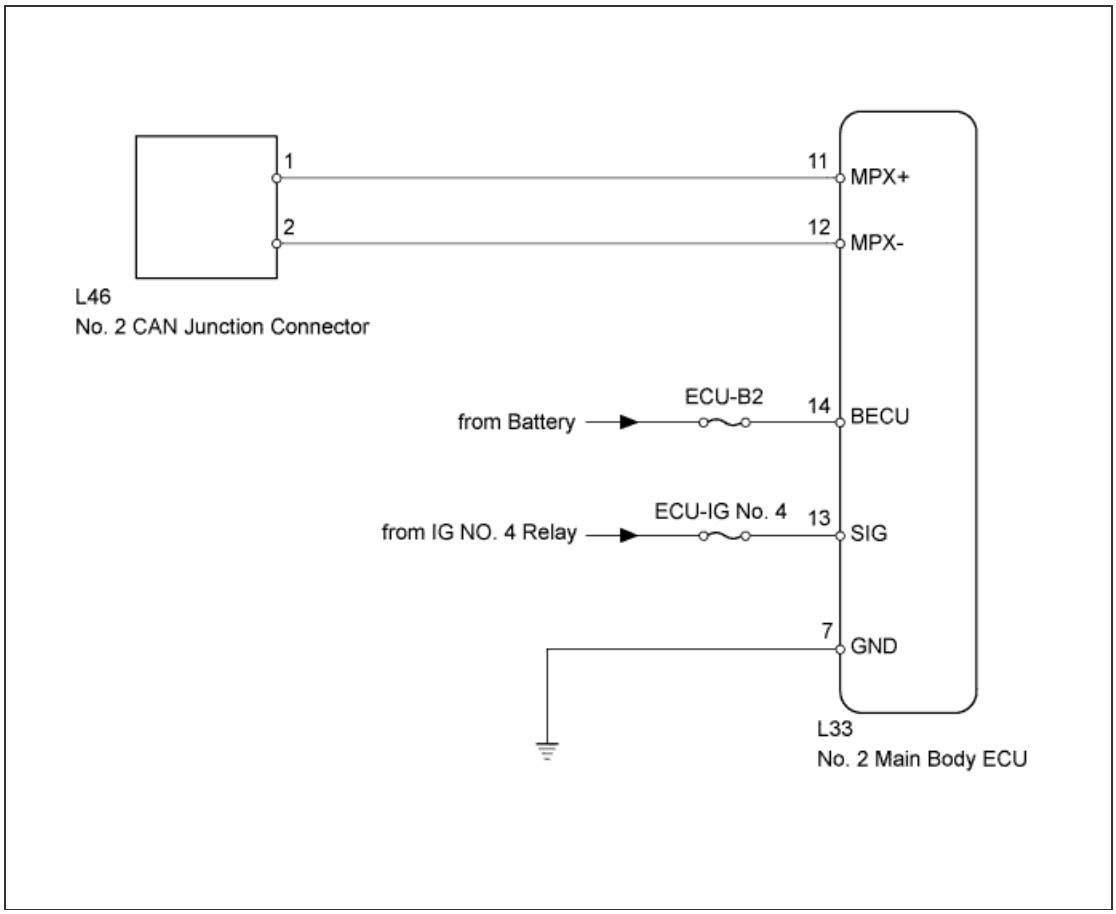
DTC U0141 Lost Communication with Body Control Module "A"

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 • No. 2 main body ECU CAN branch wire or connector • 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.

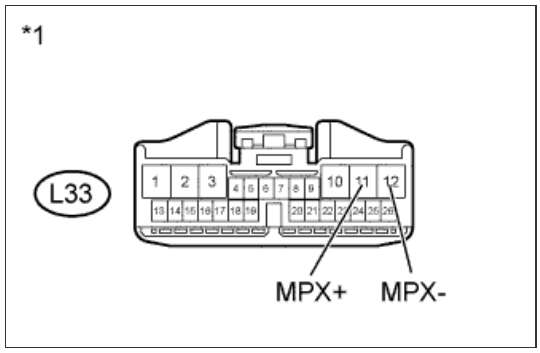
b. Measure the resistance according to the value(s) in the table below.

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.

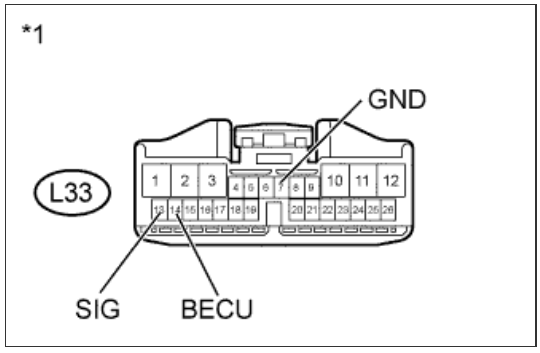
NOTICE:

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 (to No. 2 Main Body ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

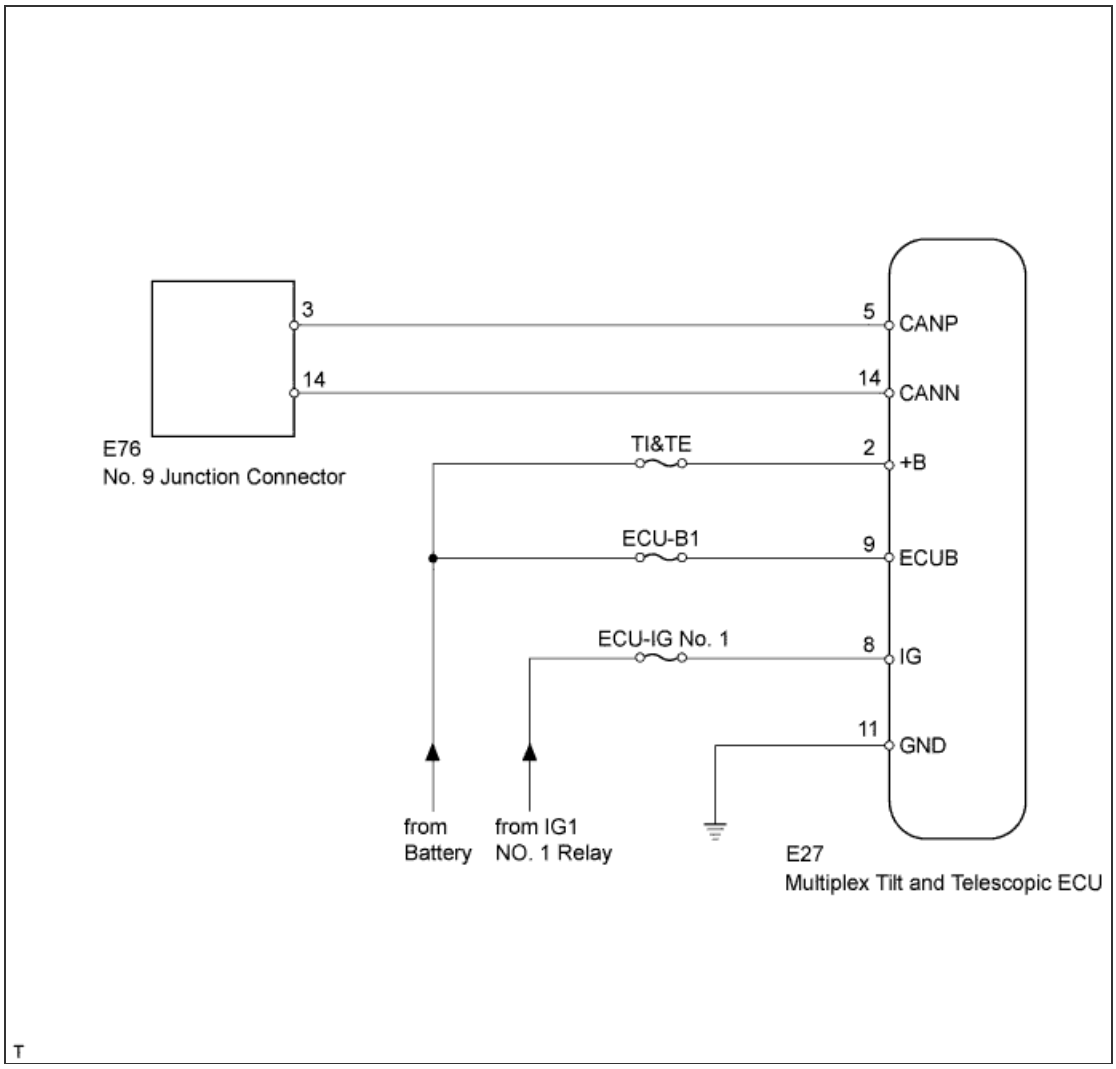
DTC U1115 Lost Communication with Tilt and Telescopic Module

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 • Multiplex tilt and telescopic ECU CAN branch wire or connector • 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.

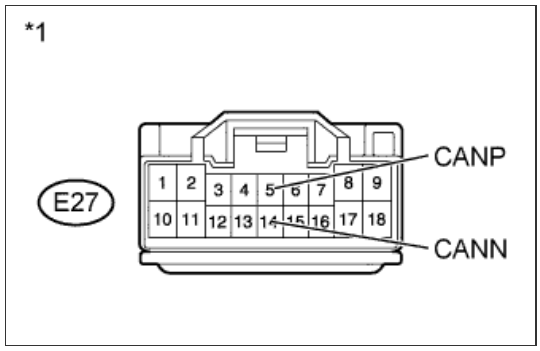
b. Measure the resistance according to the value(s) in the table below.

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.

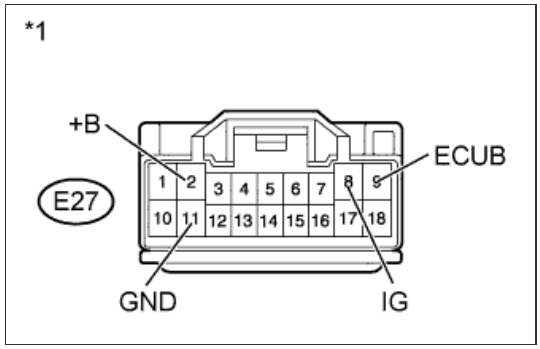
NOTICE:

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)

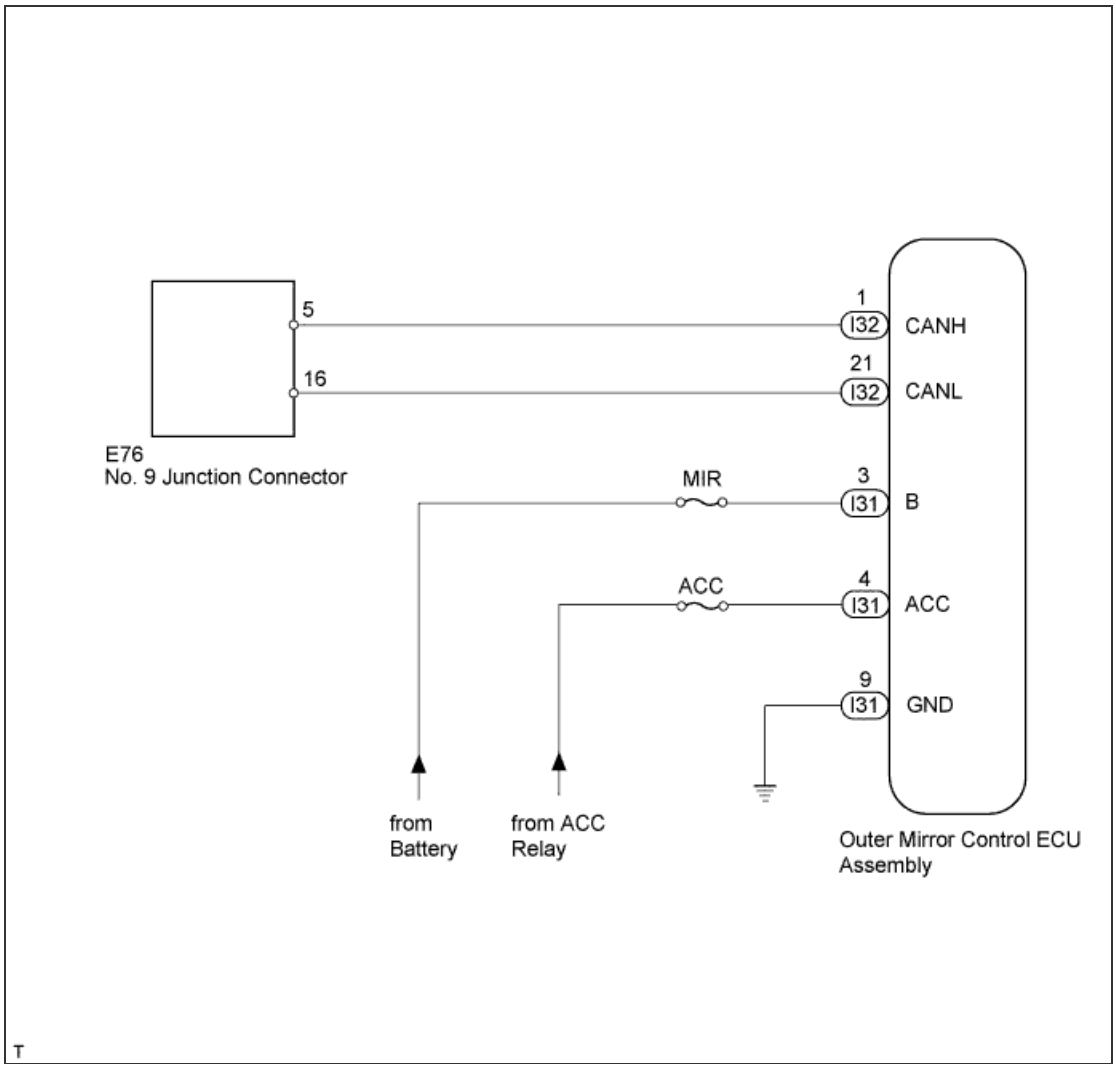
DTC U0199 Lost Communication with "Door Control Module A"

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 • Outer mirror control ECU assembly CAN branch wire or connector • 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.

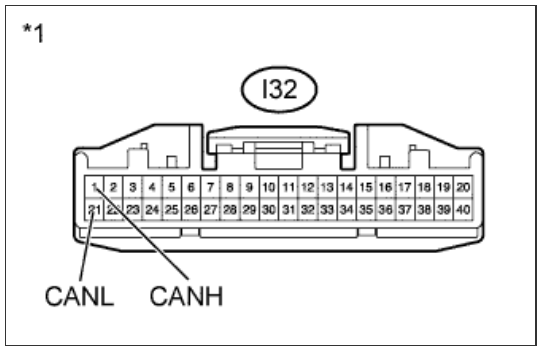
b. Measure the resistance according to the value(s) in the table below.

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:

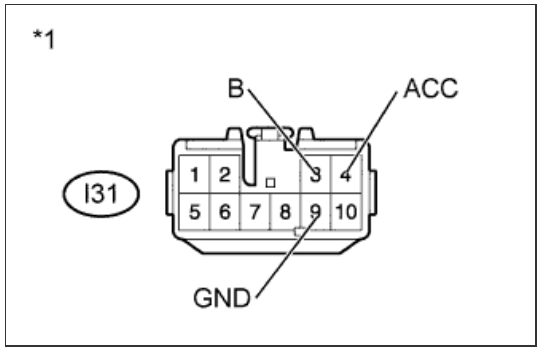
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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)

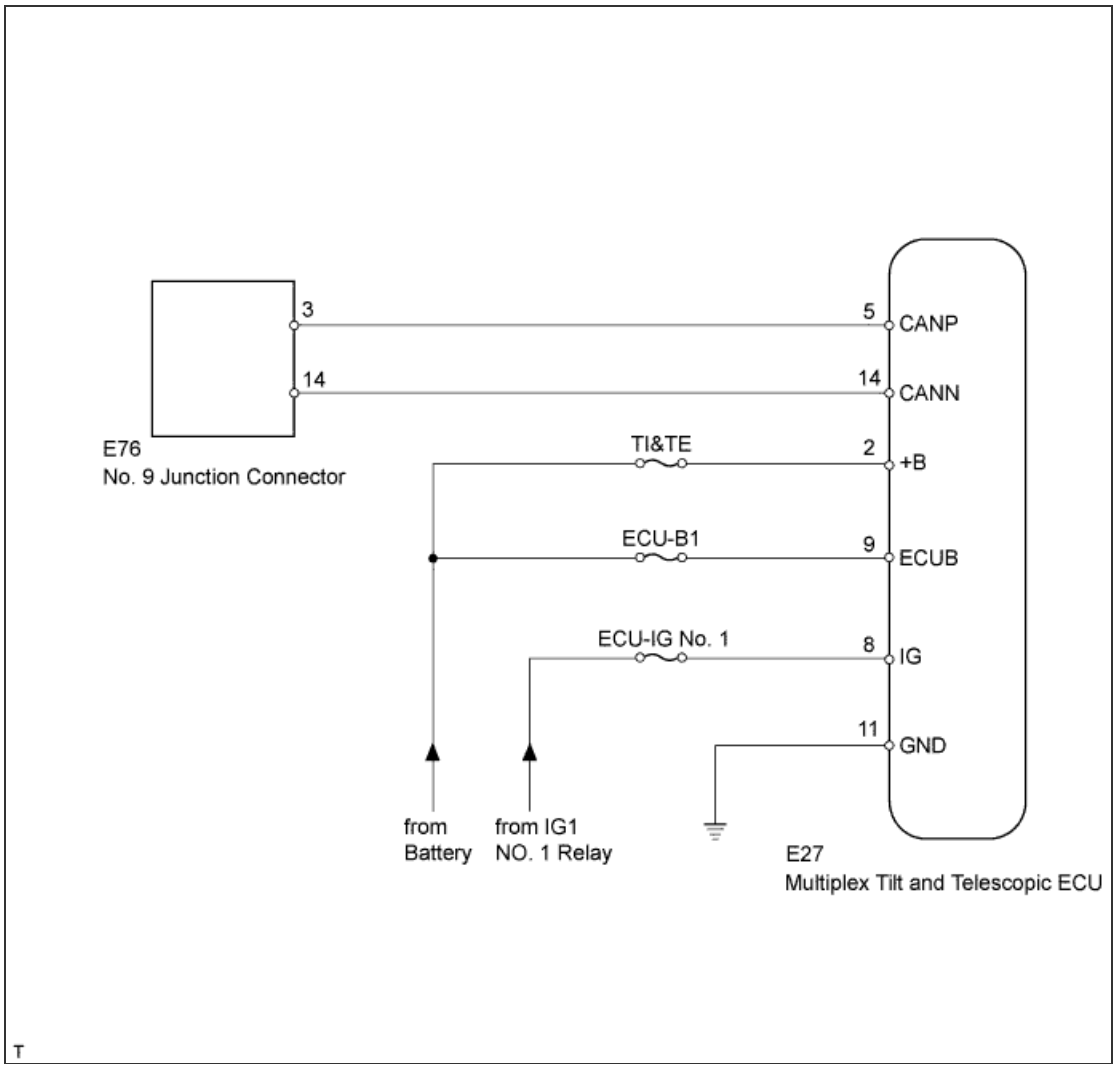
DTC U1115 Lost Communication with Tilt and Telescopic Module

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 • Multiplex tilt and telescopic ECU CAN branch wire or connector • 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.

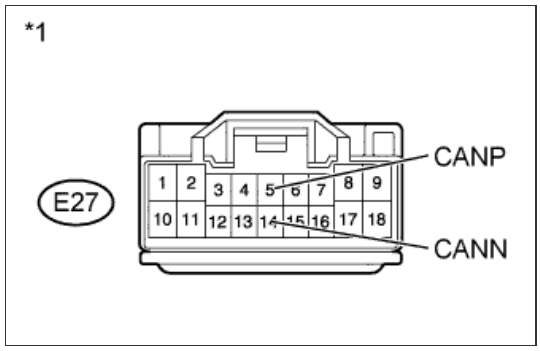
b. Measure the resistance according to the value(s) in the table below.

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.

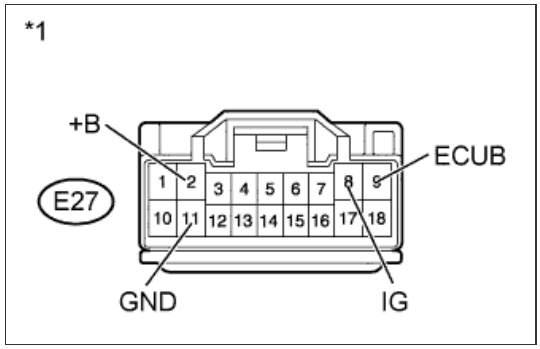
NOTICE:

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)

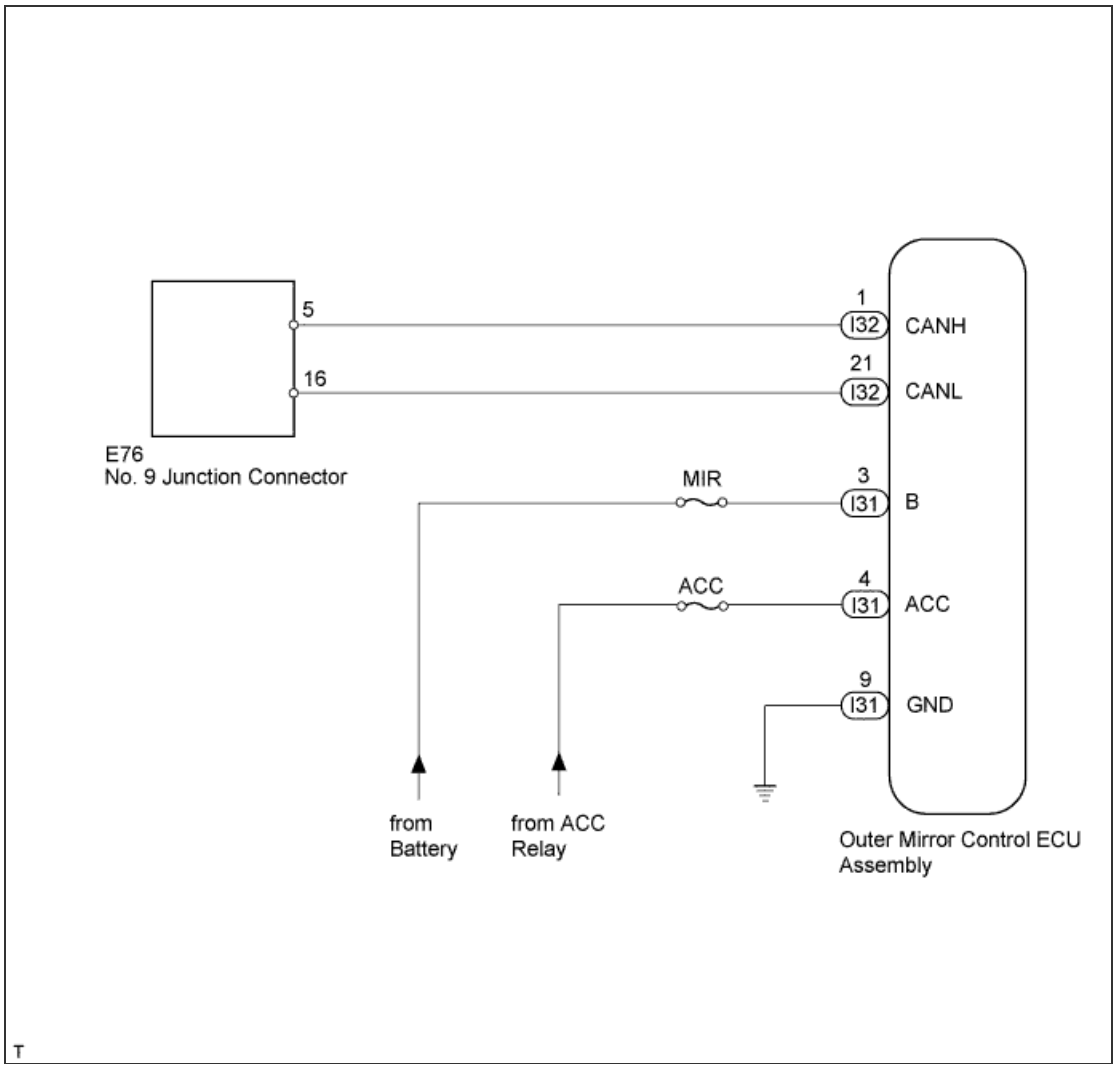
DTC U0199 Lost Communication with "Door Control Module A"

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 • Outer mirror control ECU assembly CAN branch wire or connector • 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.

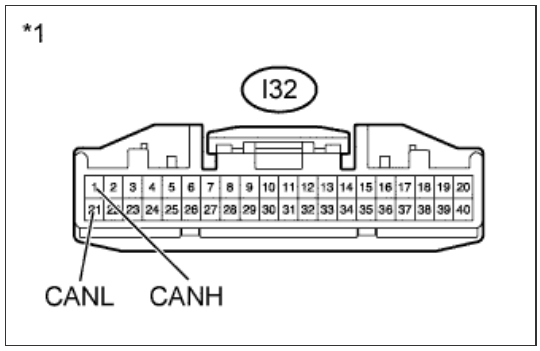
b. Measure the resistance according to the value(s) in the table below.

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:

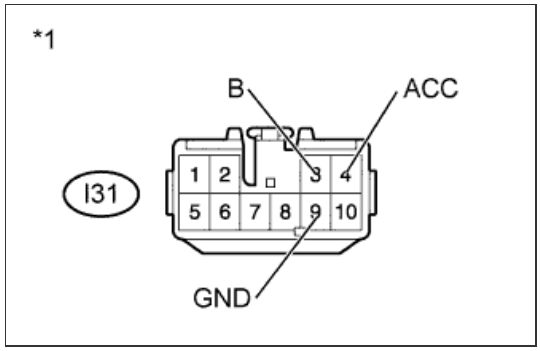
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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

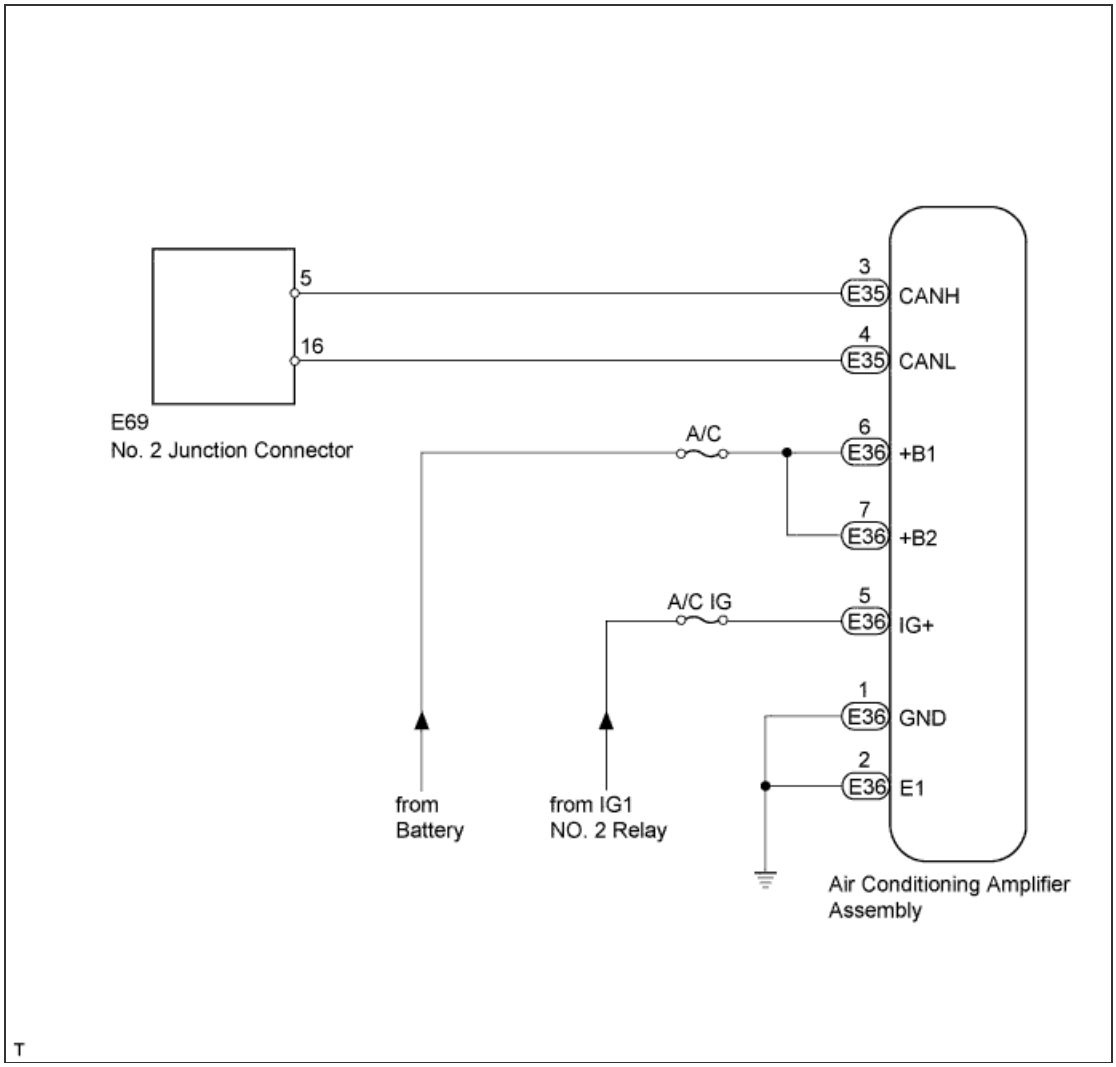
REPLACE OUTER MIRROR CONTROL ECU ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Air Conditioning Amplifier Communication Stop Mode	When either condition below is met: • "Air Conditioning Amplifier" is not displayed on "CAN Bus Check". • Applies to "Air Conditioning Amplifier Communication Stop Mode" in "DTC Combination Table".	• Power source or inside air conditioning amplifier assembly • Air conditioning amplifier assembly • 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.

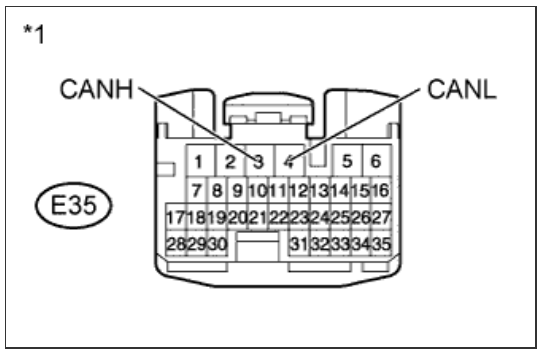
b. Measure the resistance according to the value(s) in the table below.

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:

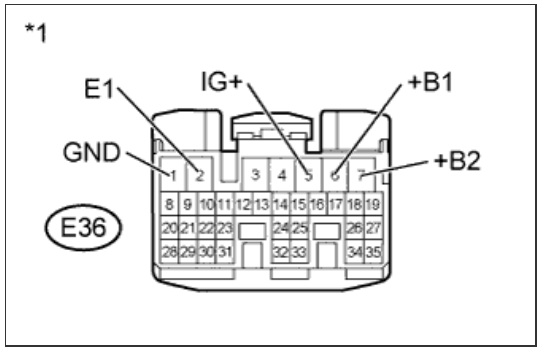
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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

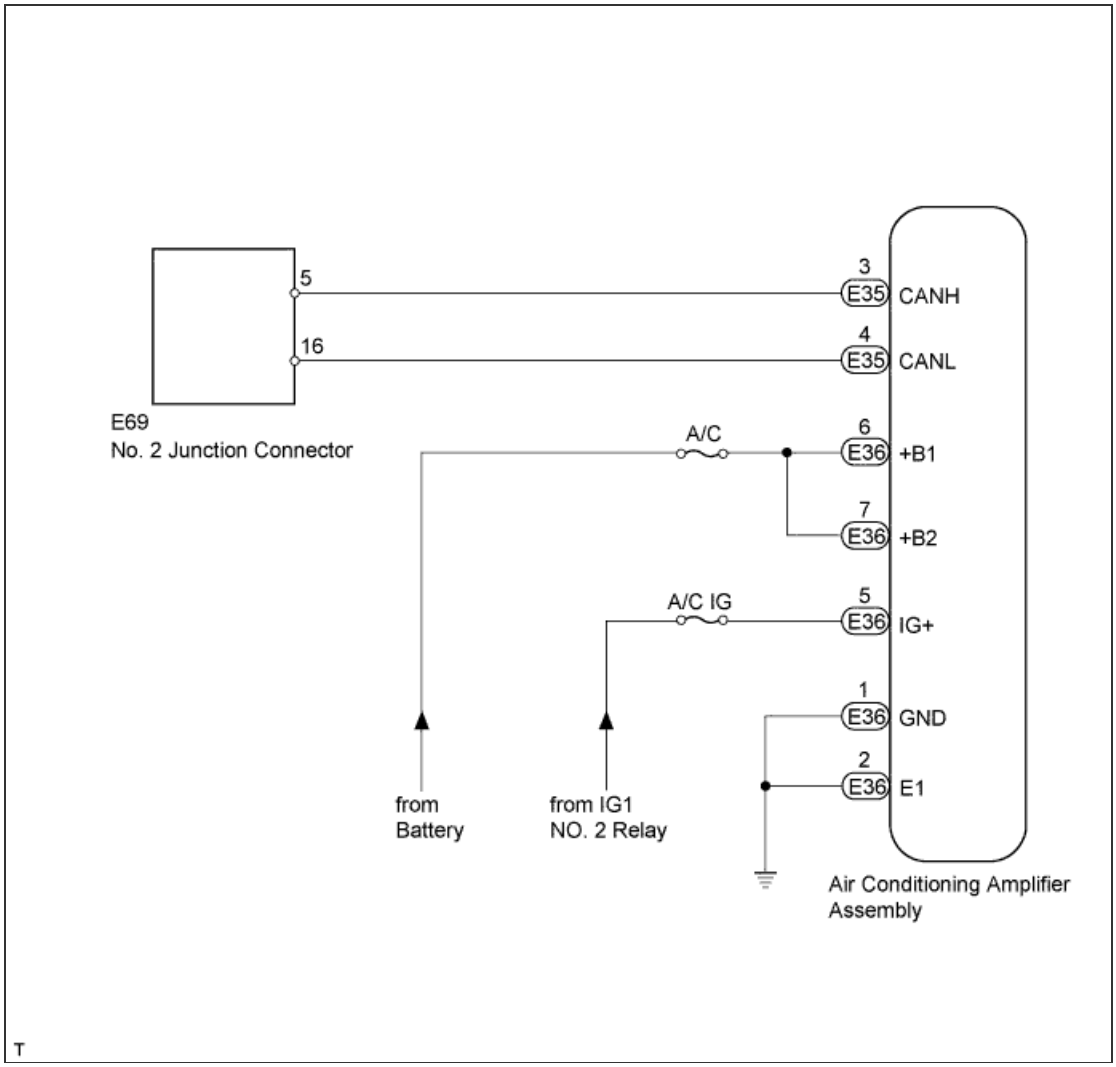
REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Air Conditioning Amplifier Communication Stop Mode	When either condition below is met: • "Air Conditioning Amplifier" is not displayed on "CAN Bus Check". • Applies to "Air Conditioning Amplifier Communication Stop Mode" in "DTC Combination Table".	• Power source or inside air conditioning amplifier assembly • Air conditioning amplifier assembly • 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.

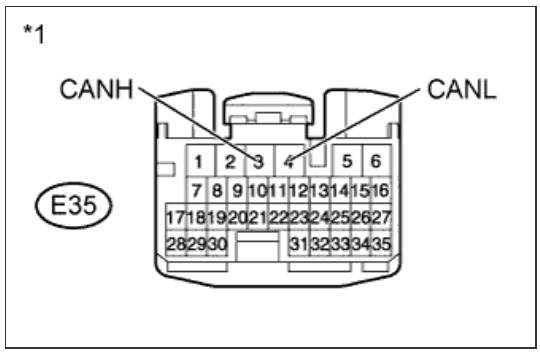
b. Measure the resistance according to the value(s) in the table below.

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:

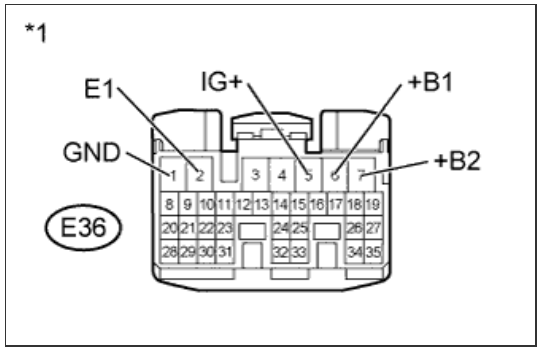
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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

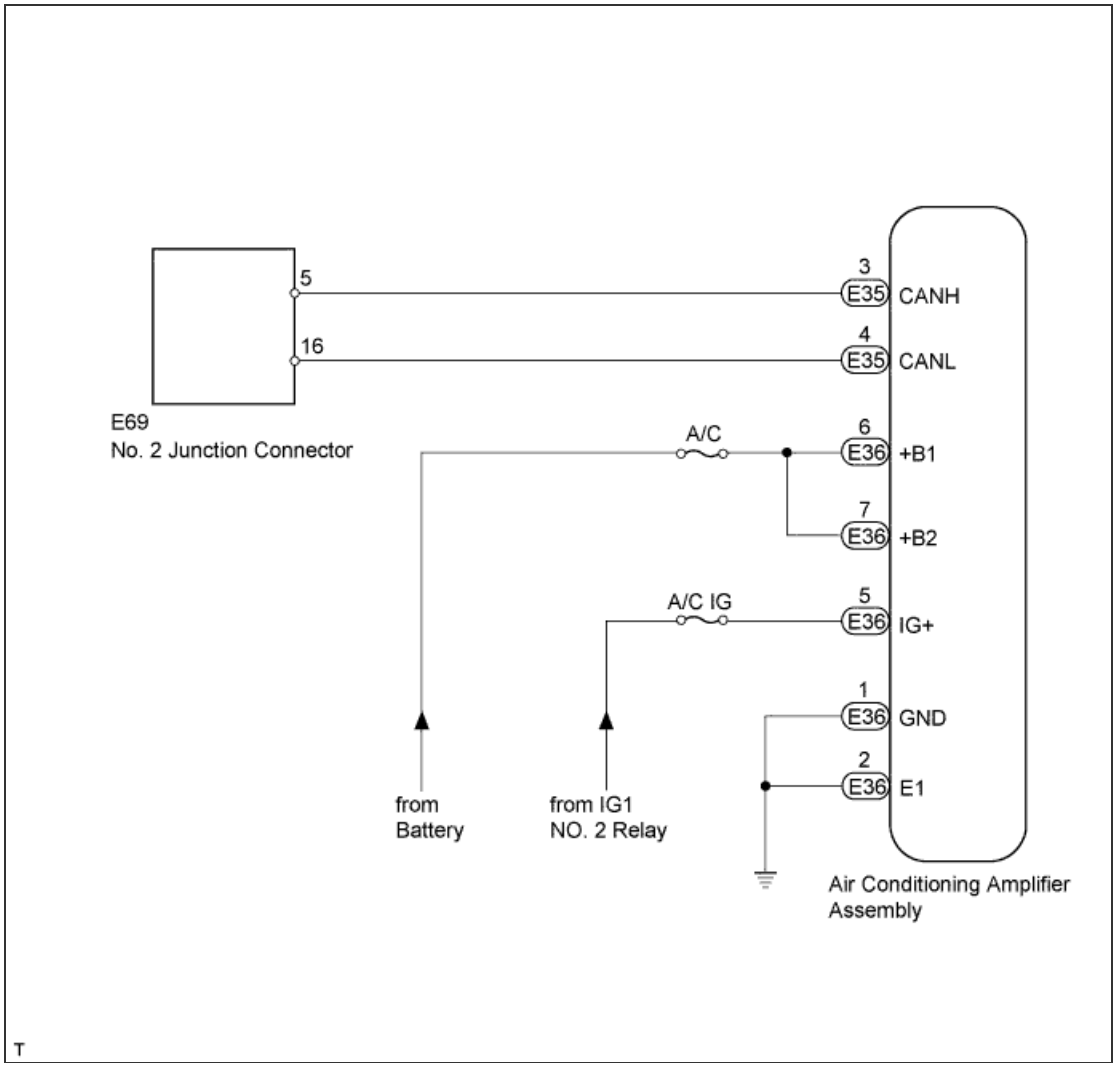
REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Air Conditioning Amplifier Communication Stop Mode	When either condition below is met: • "Air Conditioning Amplifier" is not displayed on "CAN Bus Check". • Applies to "Air Conditioning Amplifier Communication Stop Mode" in "DTC Combination Table".	• Power source or inside air conditioning amplifier assembly • Air conditioning amplifier assembly • 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.

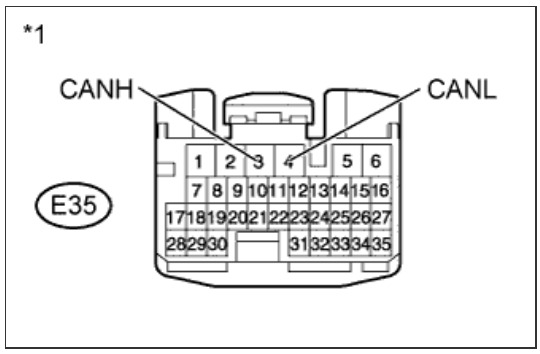
b. Measure the resistance according to the value(s) in the table below.

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:

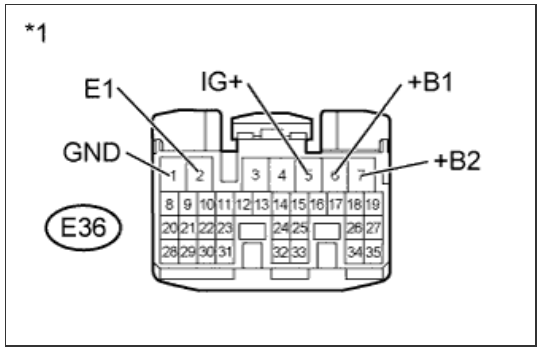
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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

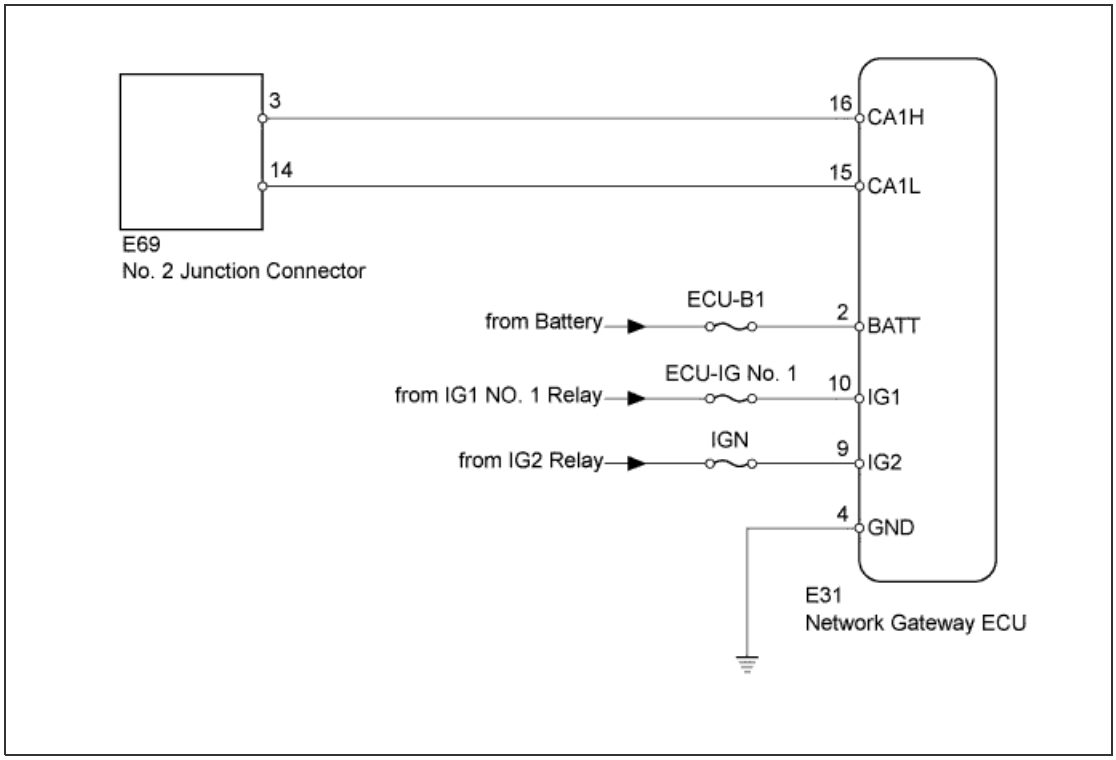
REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Gateway ECU Communication Stop Mode	When either condition below is met: • "CAN Gateway" is not displayed on "CAN Bus Check". • Applies to "Gateway Communication Stop Mode" in "DTC Combination Table".	• Power source or inside network gateway ECU • Network gateway ECU CAN branch wire or connector • 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.

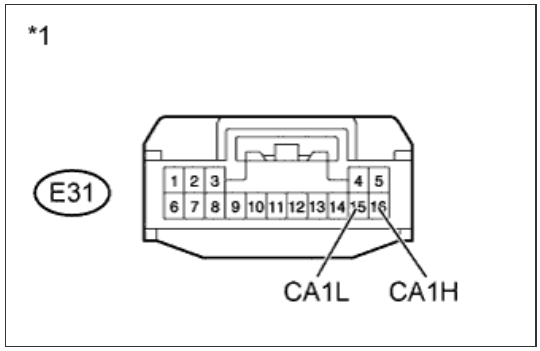
b. Measure the resistance according to the value(s) in the table below.

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.

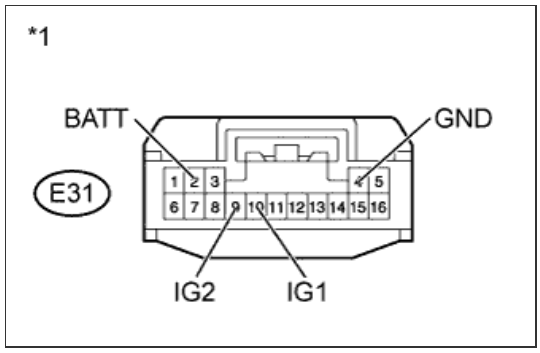
Standard Voltage:

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 (to Network Gateway ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

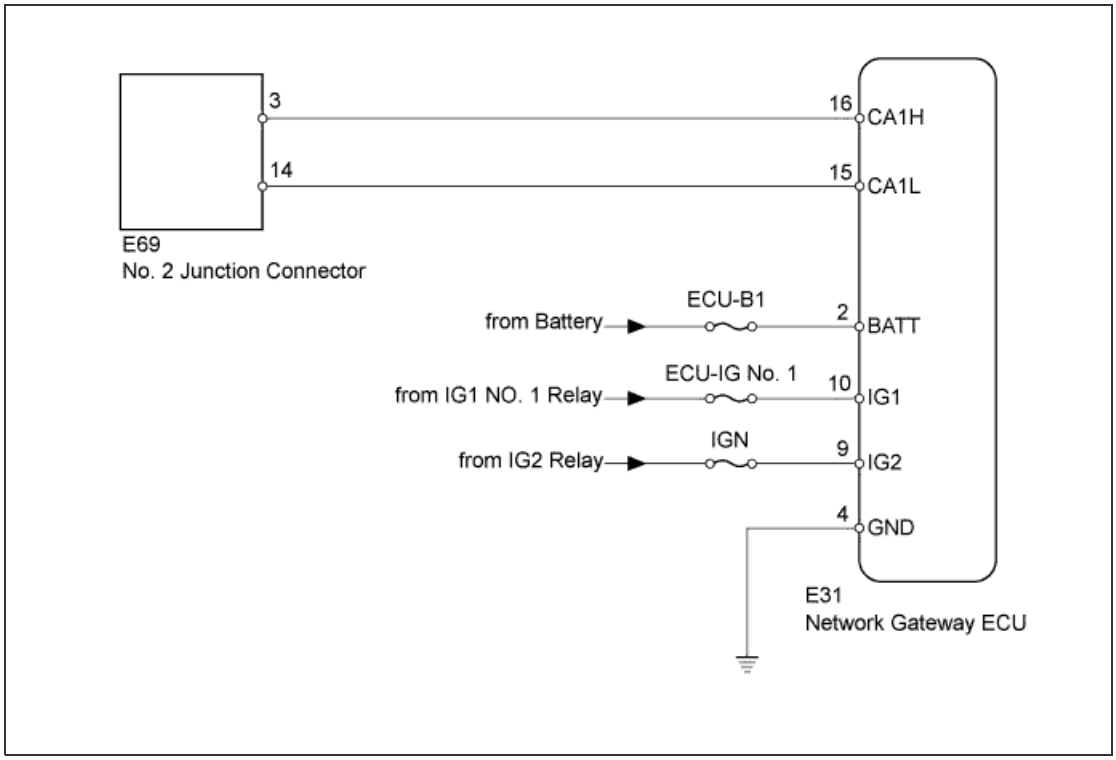
REPLACE NETWORK GATEWAY ECU (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Gateway ECU Communication Stop Mode	When either condition below is met: • "CAN Gateway" is not displayed on "CAN Bus Check". • Applies to "Gateway Communication Stop Mode" in "DTC Combination Table".	• Power source or inside network gateway ECU • Network gateway ECU CAN branch wire or connector • 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.

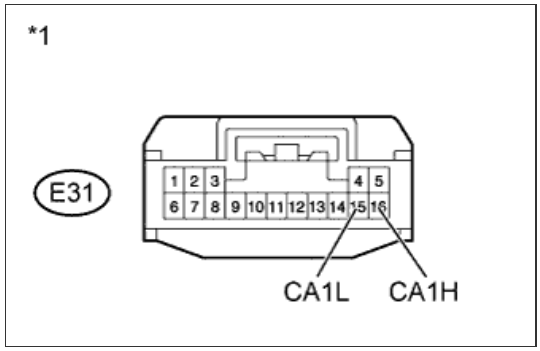
b. Measure the resistance according to the value(s) in the table below.

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.

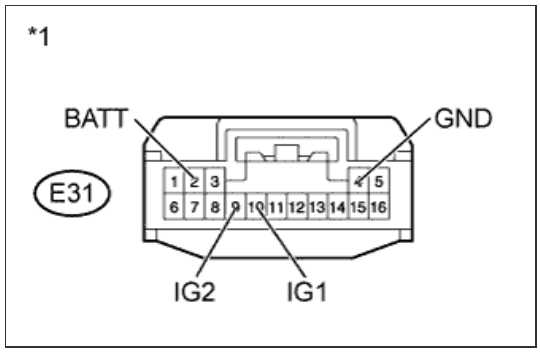
Standard Voltage:

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 (to Network Gateway ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

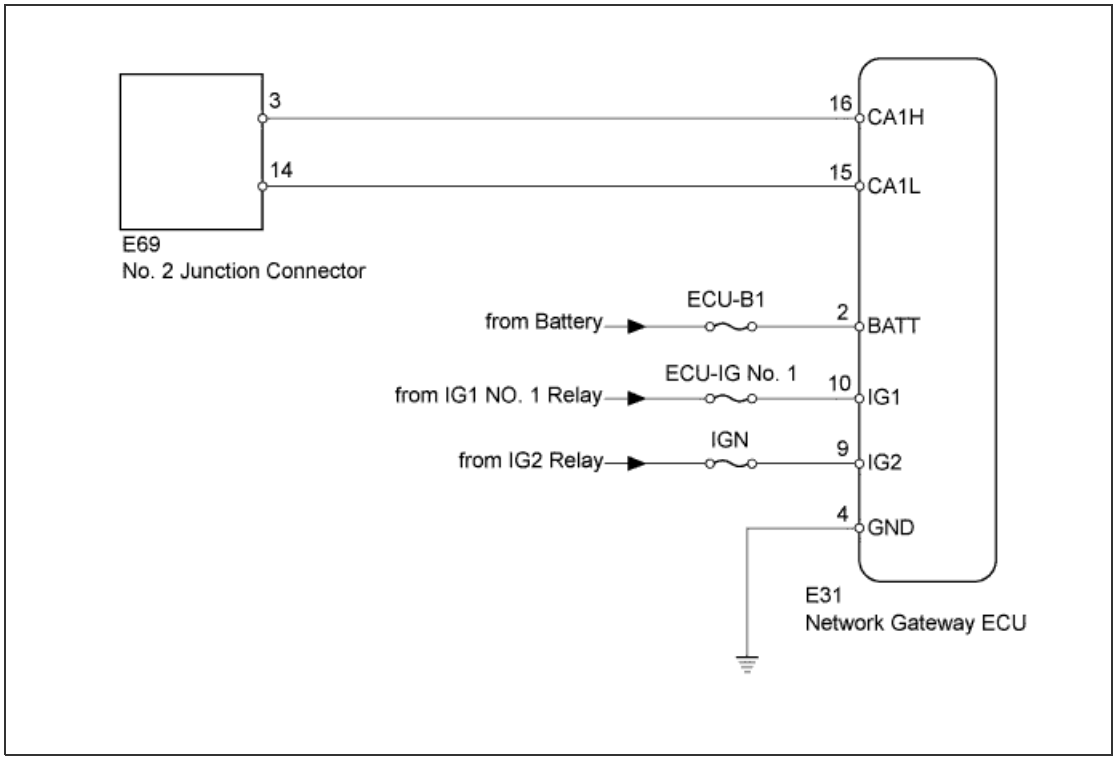
REPLACE NETWORK GATEWAY ECU (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Gateway ECU Communication Stop Mode	When either condition below is met: • "CAN Gateway" is not displayed on "CAN Bus Check". • Applies to "Gateway Communication Stop Mode" in "DTC Combination Table".	• Power source or inside network gateway ECU • Network gateway ECU CAN branch wire or connector • 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.

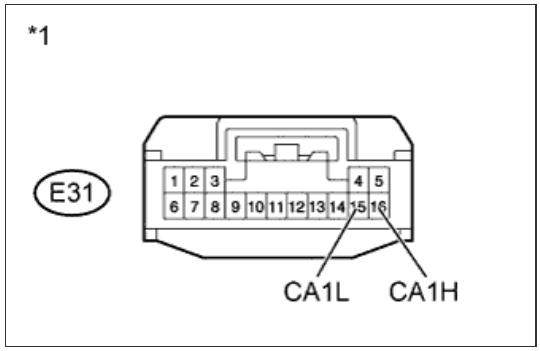
b. Measure the resistance according to the value(s) in the table below.

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.

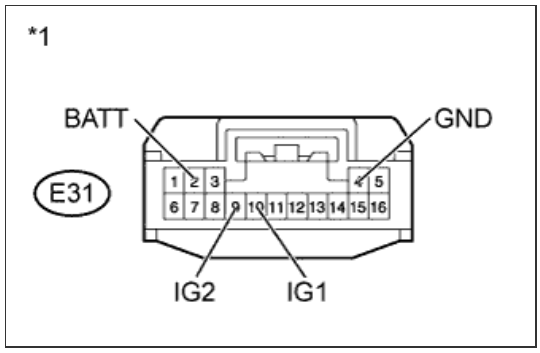
Standard Voltage:

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 (to Network Gateway ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

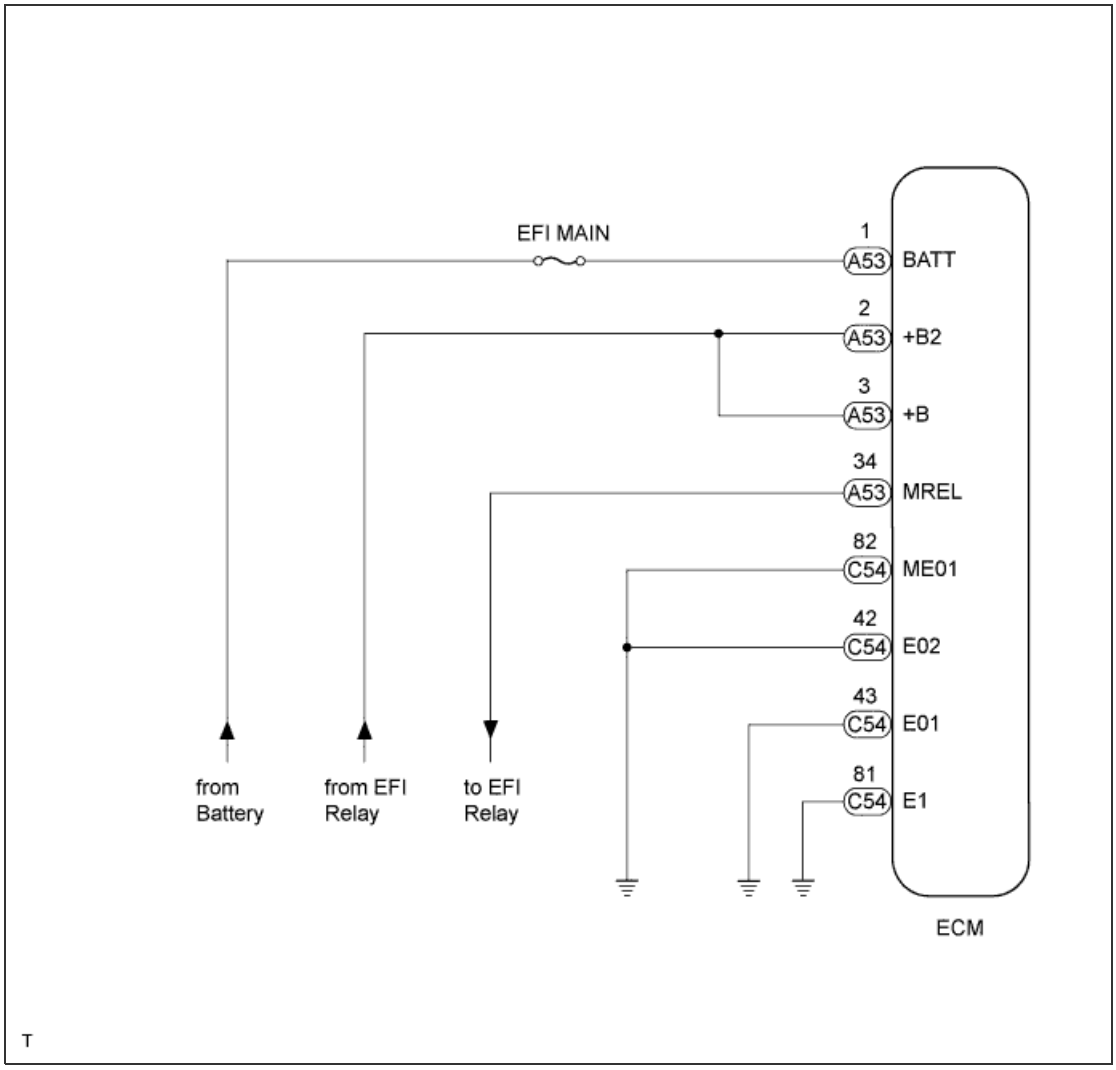
REPLACE NETWORK GATEWAY ECU (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
ECM Communication Stop Mode	When either condition below is met: • "ECM (Engine)" is not displayed on "CAN Bus Check". • Applies to "ECM Communication Stop Mode" in "DTC Combination Table".	• Power source or ECM • ECM

WIRING DIAGRAM



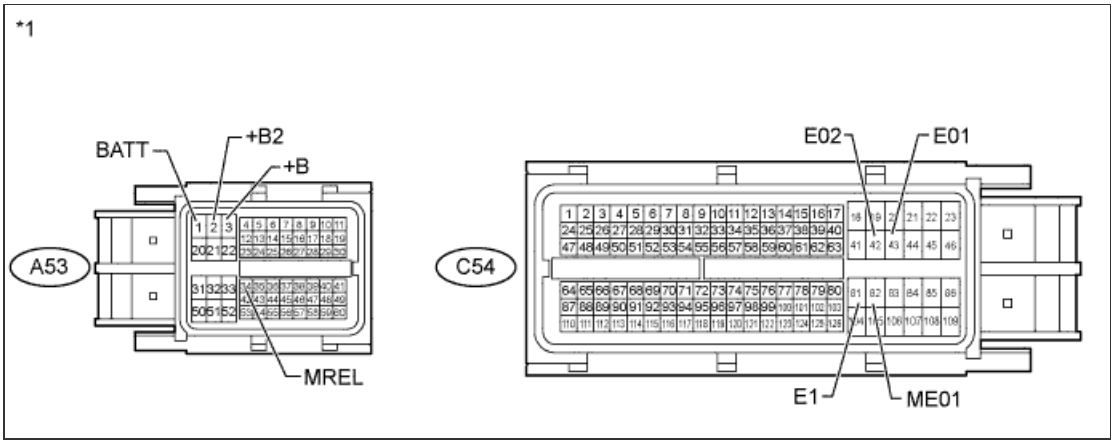
INSPECTION PROCEDURE

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

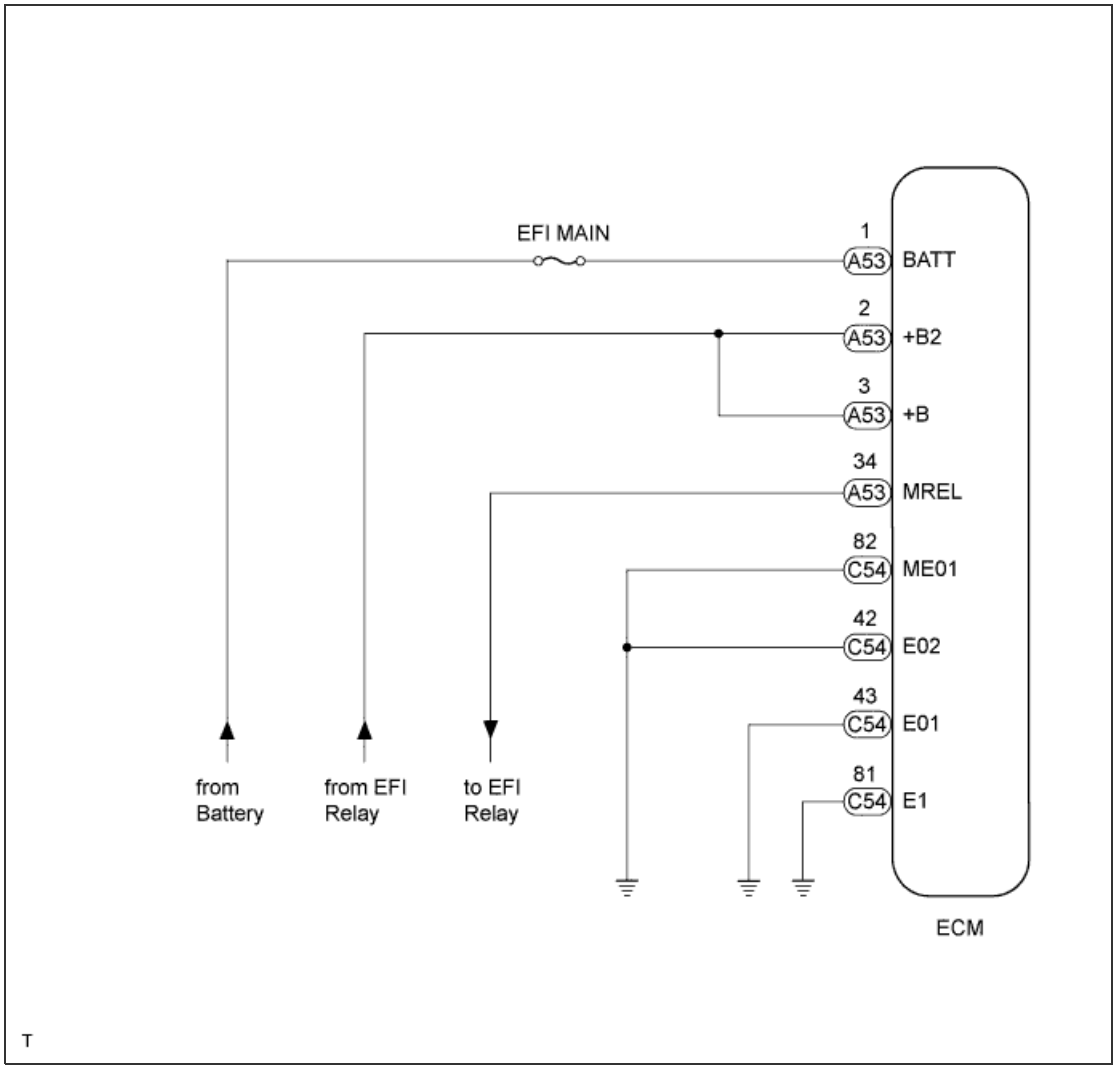
REPLACE ECM (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
ECM Communication Stop Mode	When either condition below is met: • "ECM (Engine)" is not displayed on "CAN Bus Check". • Applies to "ECM Communication Stop Mode" in "DTC Combination Table".	• Power source or ECM • ECM

WIRING DIAGRAM



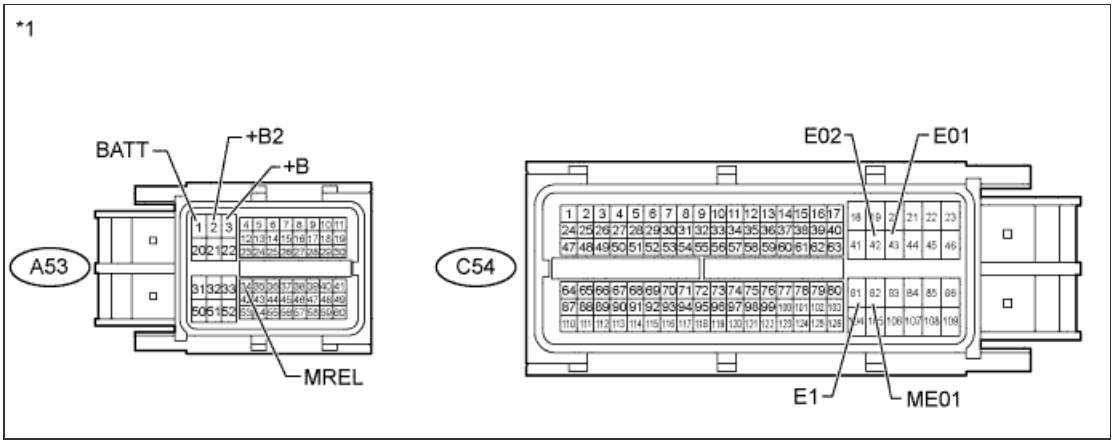
INSPECTION PROCEDURE

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

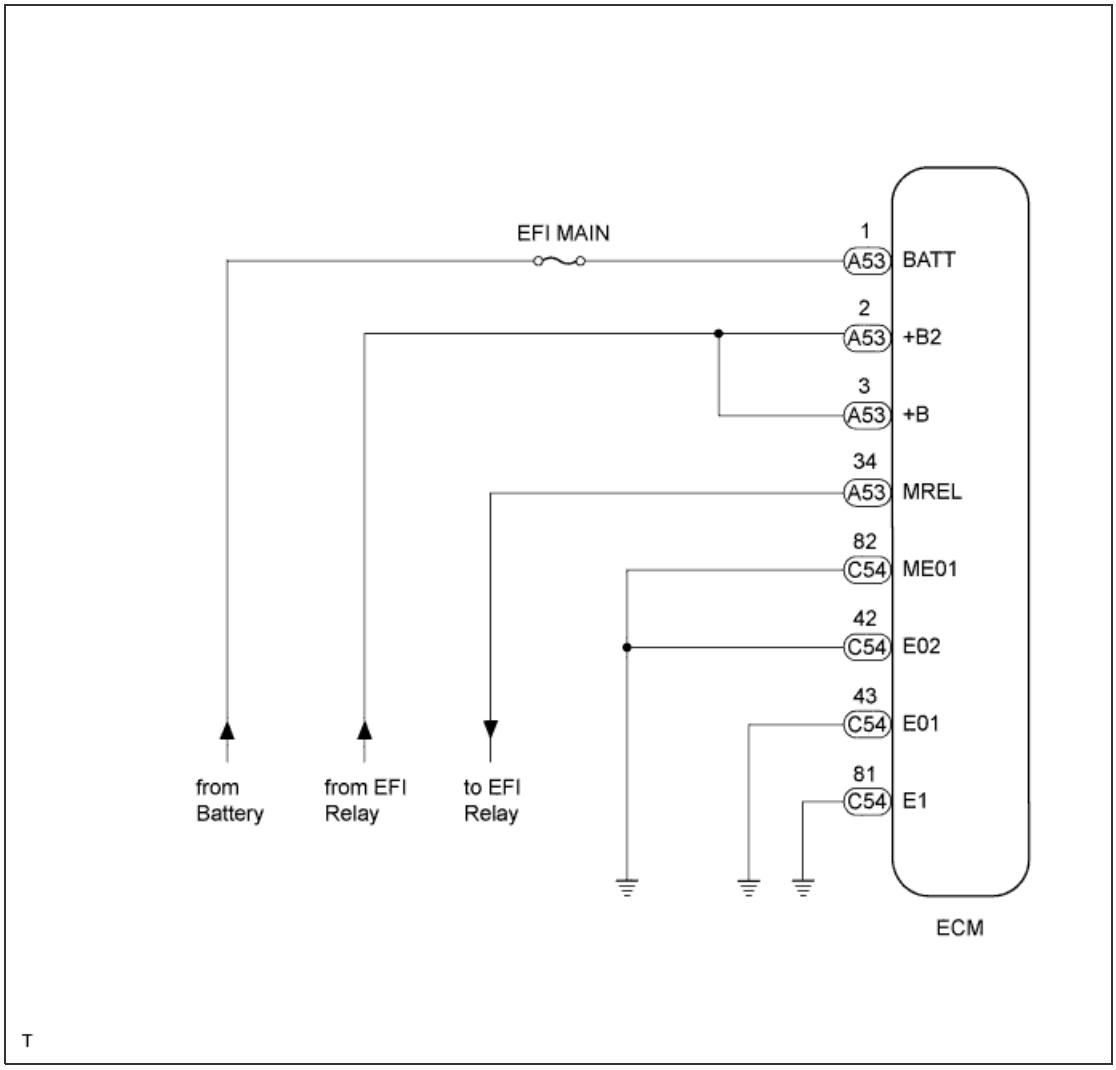
REPLACE ECM (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
ECM Communication Stop Mode	When either condition below is met: • "ECM (Engine)" is not displayed on "CAN Bus Check". • Applies to "ECM Communication Stop Mode" in "DTC Combination Table".	• Power source or ECM • ECM

WIRING DIAGRAM



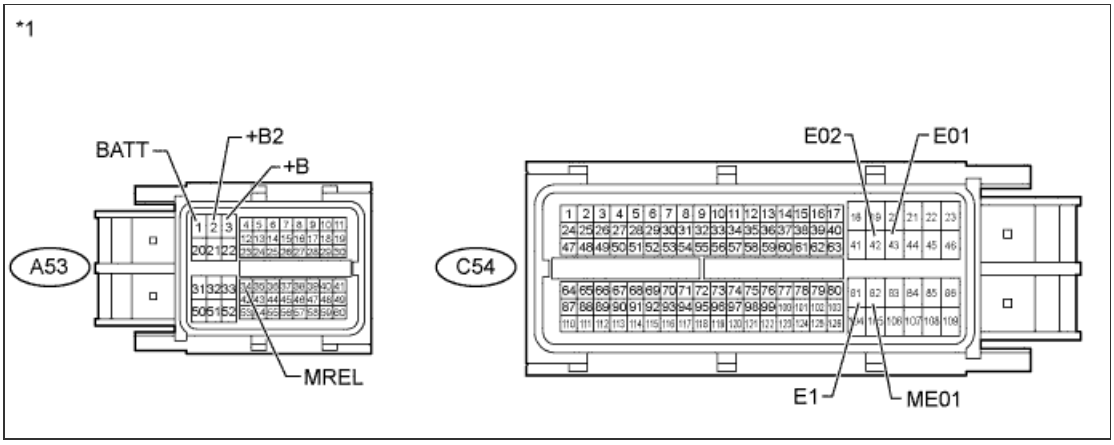
INSPECTION PROCEDURE

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

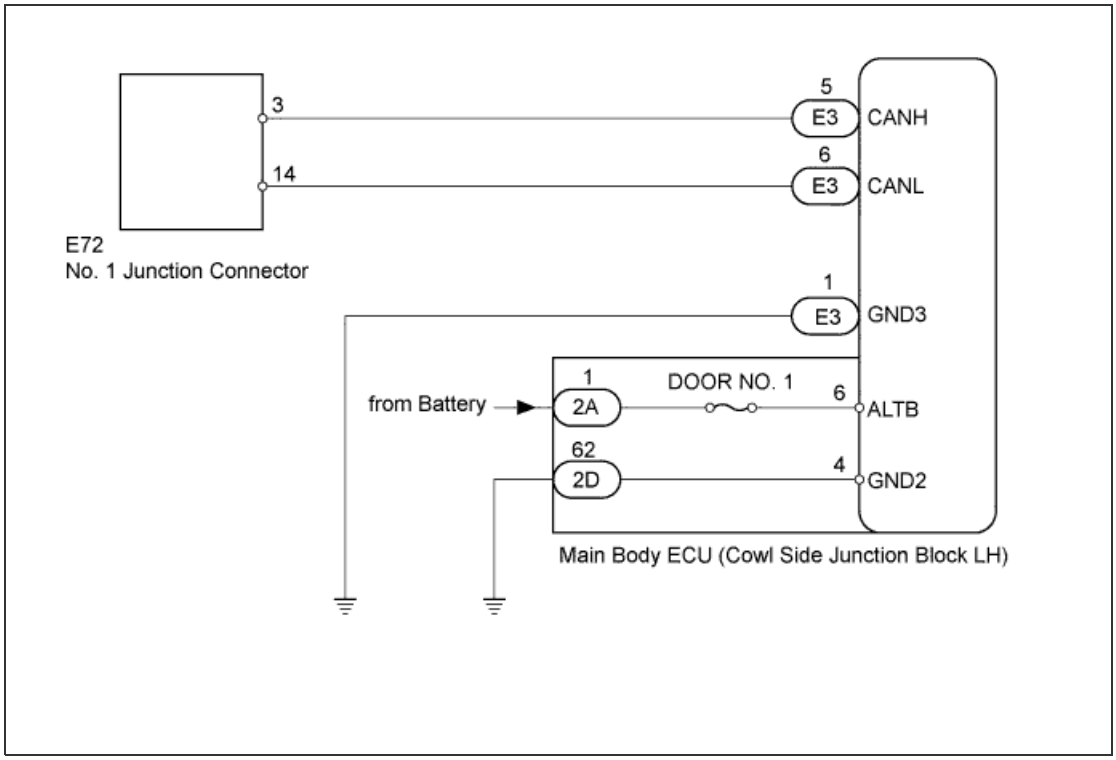
REPLACE ECM (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Main Body ECU Communication Stop Mode	When either condition below is met: • "Main Body" is not displayed on "CAN Bus Check". • Applies to "Main Body ECU Communication Stop Mode" in "DTC Combination Table"	• Power source or inside main body ECU (cowl side junction block LH) • Main body ECU (cowl side junction block LH) branch wire or connector • 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

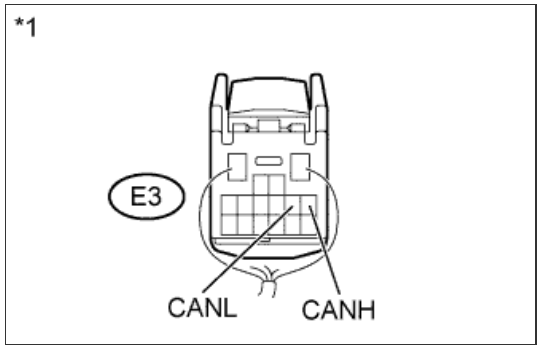
3.CHECK FOR OPEN IN CAN BUS WIRE (MAIN BODY ECU CAN BRANCH WIRE)

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

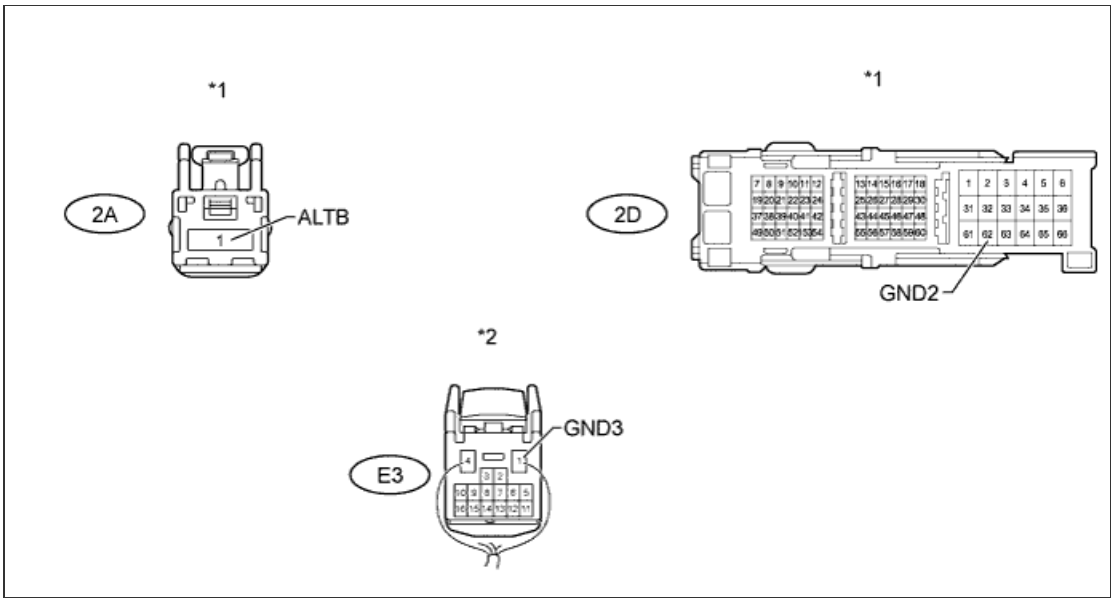
*1	Rear view of wire harness connector (to Main Body ECU [Cowl Side Junction Block LH])

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

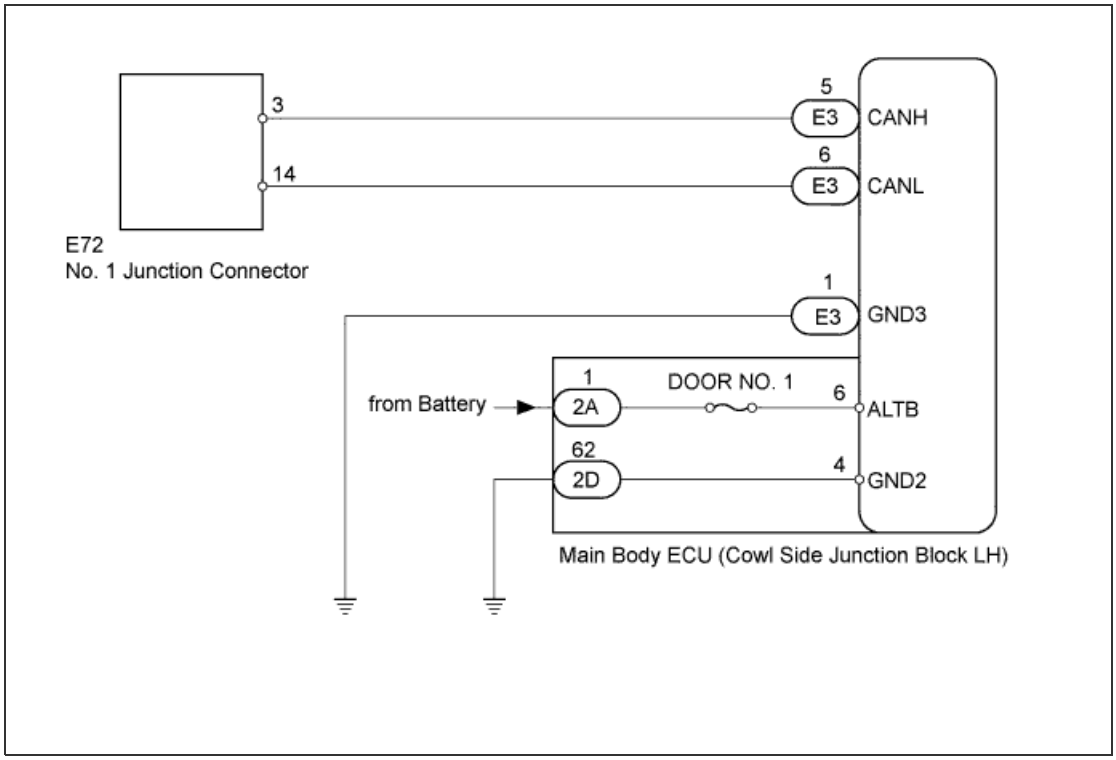
OK → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Main Body ECU Communication Stop Mode	When either condition below is met: • "Main Body" is not displayed on "CAN Bus Check". • Applies to "Main Body ECU Communication Stop Mode" in "DTC Combination Table"	• Power source or inside main body ECU (cowl side junction block LH) • Main body ECU (cowl side junction block LH) branch wire or connector • 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

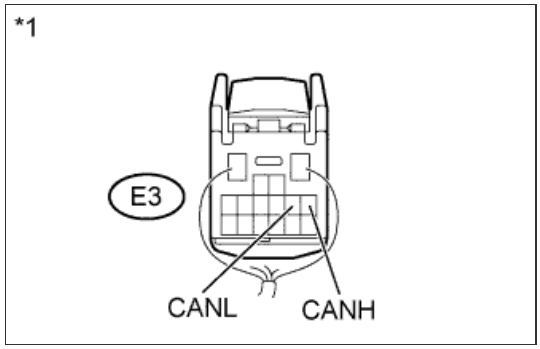
3.CHECK FOR OPEN IN CAN BUS WIRE (MAIN BODY ECU CAN BRANCH WIRE)

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

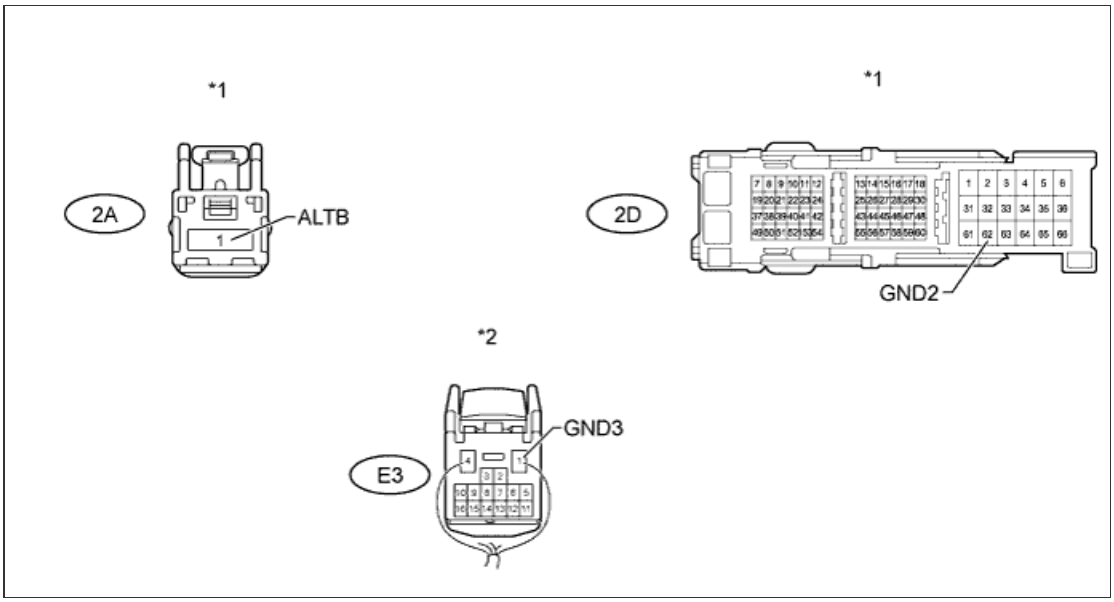
*1	Rear view of wire harness connector (to Main Body ECU [Cowl Side Junction Block LH])

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

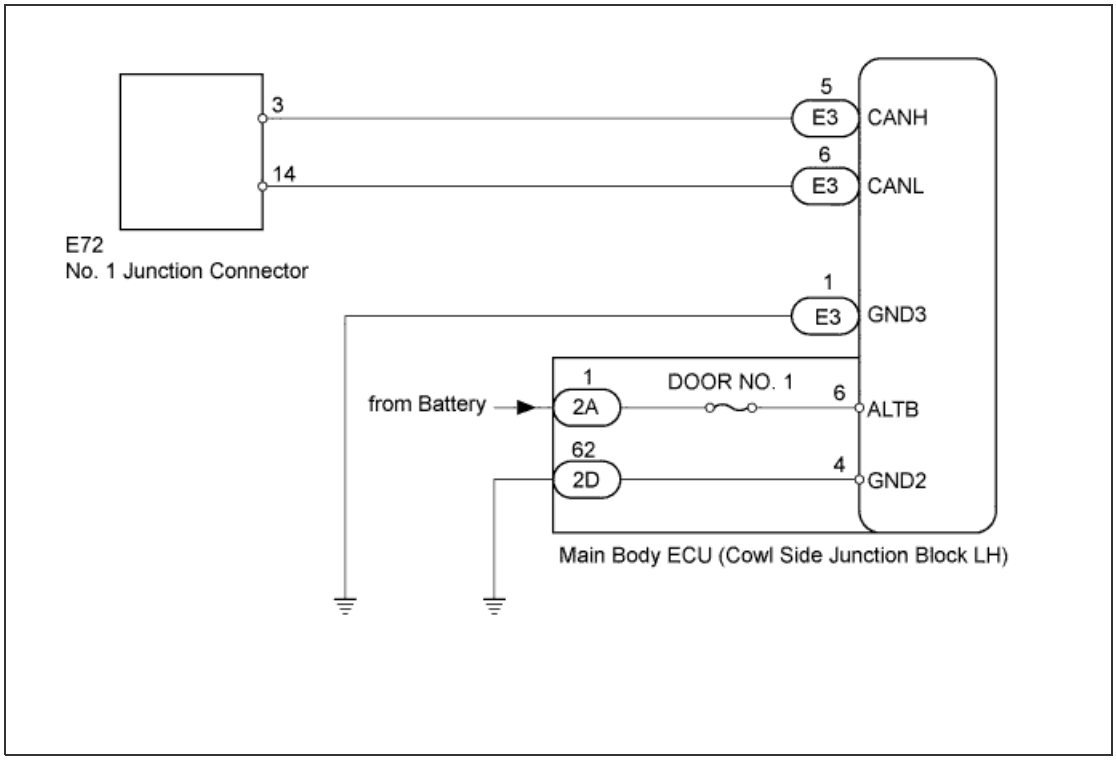
OK → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Main Body ECU Communication Stop Mode	When either condition below is met: • "Main Body" is not displayed on "CAN Bus Check". • Applies to "Main Body ECU Communication Stop Mode" in "DTC Combination Table"	• Power source or inside main body ECU (cowl side junction block LH) • Main body ECU (cowl side junction block LH) branch wire or connector • 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

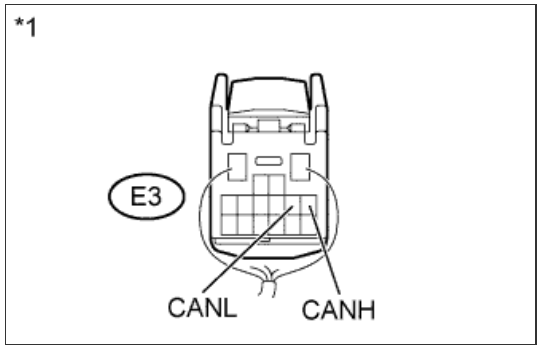
3.CHECK FOR OPEN IN CAN BUS WIRE (MAIN BODY ECU CAN BRANCH WIRE)

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

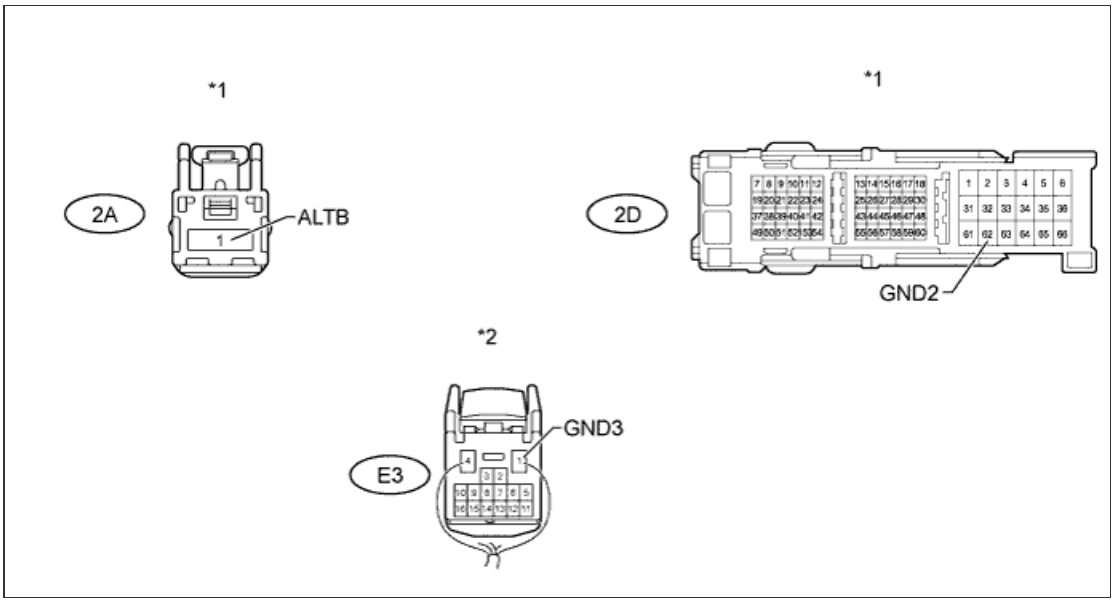
*1	Rear view of wire harness connector (to Main Body ECU [Cowl Side Junction Block LH])

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

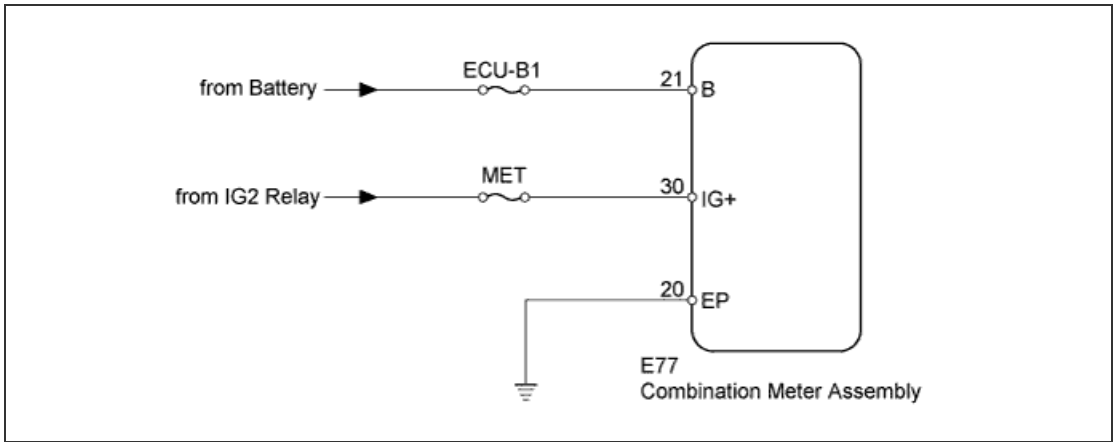
OK → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Combination Meter ECU Communication Stop Mode	When either condition below is met: • "Combination Meter" is not displayed on "CAN Bus Check". • Applies to "Combination Meter ECU Communication Stop Mode" in "DTC Combination Table".	• Power source or inside combination meter assembly • 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.

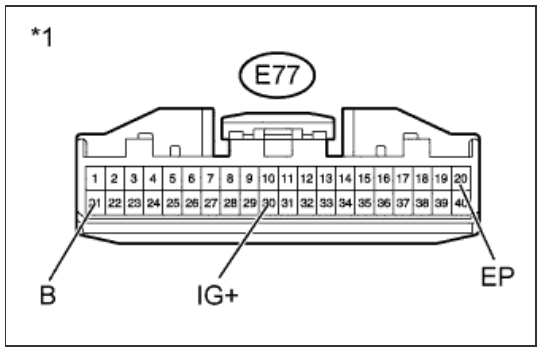
Standard Voltage:

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

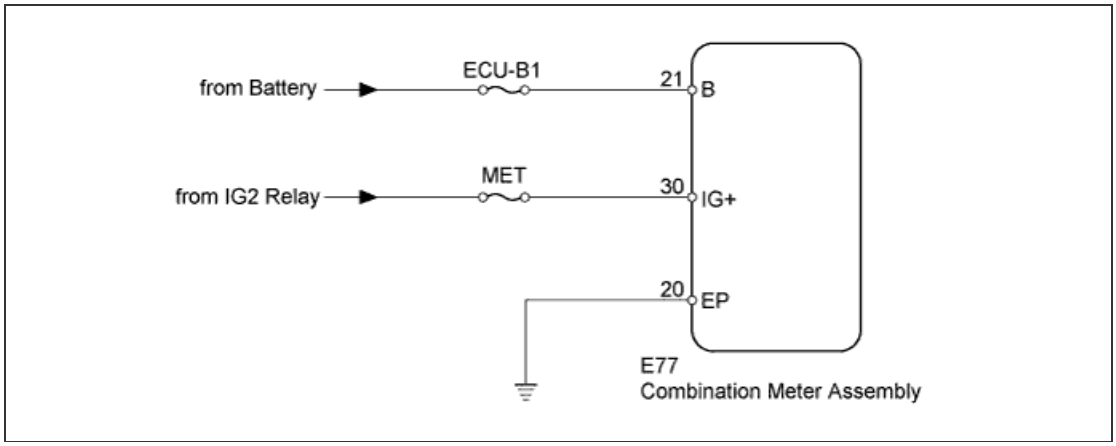
REPLACE COMBINATION METER ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Combination Meter ECU Communication Stop Mode	When either condition below is met: • "Combination Meter" is not displayed on "CAN Bus Check". • Applies to "Combination Meter ECU Communication Stop Mode" in "DTC Combination Table".	• Power source or inside combination meter assembly • 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.

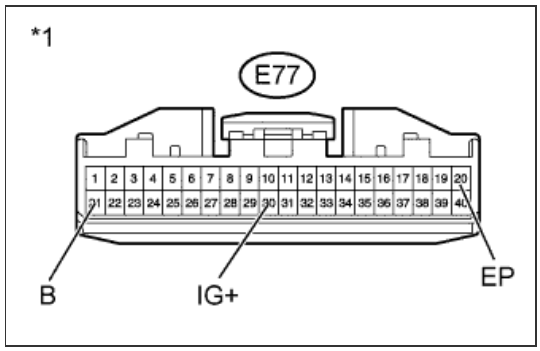
Standard Voltage:

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

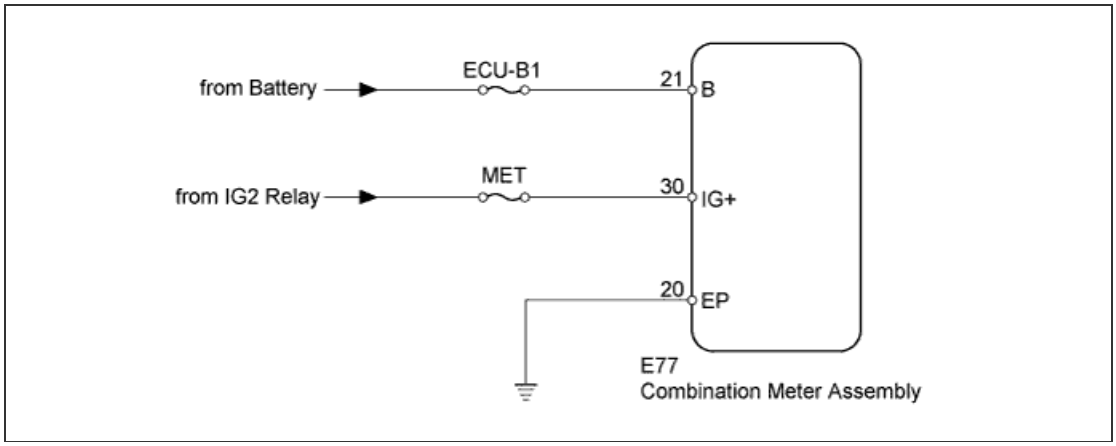
REPLACE COMBINATION METER ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Combination Meter ECU Communication Stop Mode	When either condition below is met: • "Combination Meter" is not displayed on "CAN Bus Check". • Applies to "Combination Meter ECU Communication Stop Mode" in "DTC Combination Table".	• Power source or inside combination meter assembly • 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.

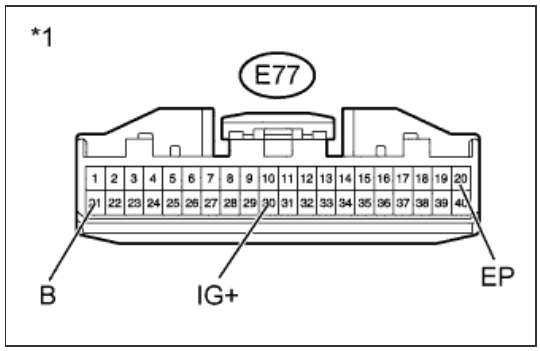
Standard Voltage:

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

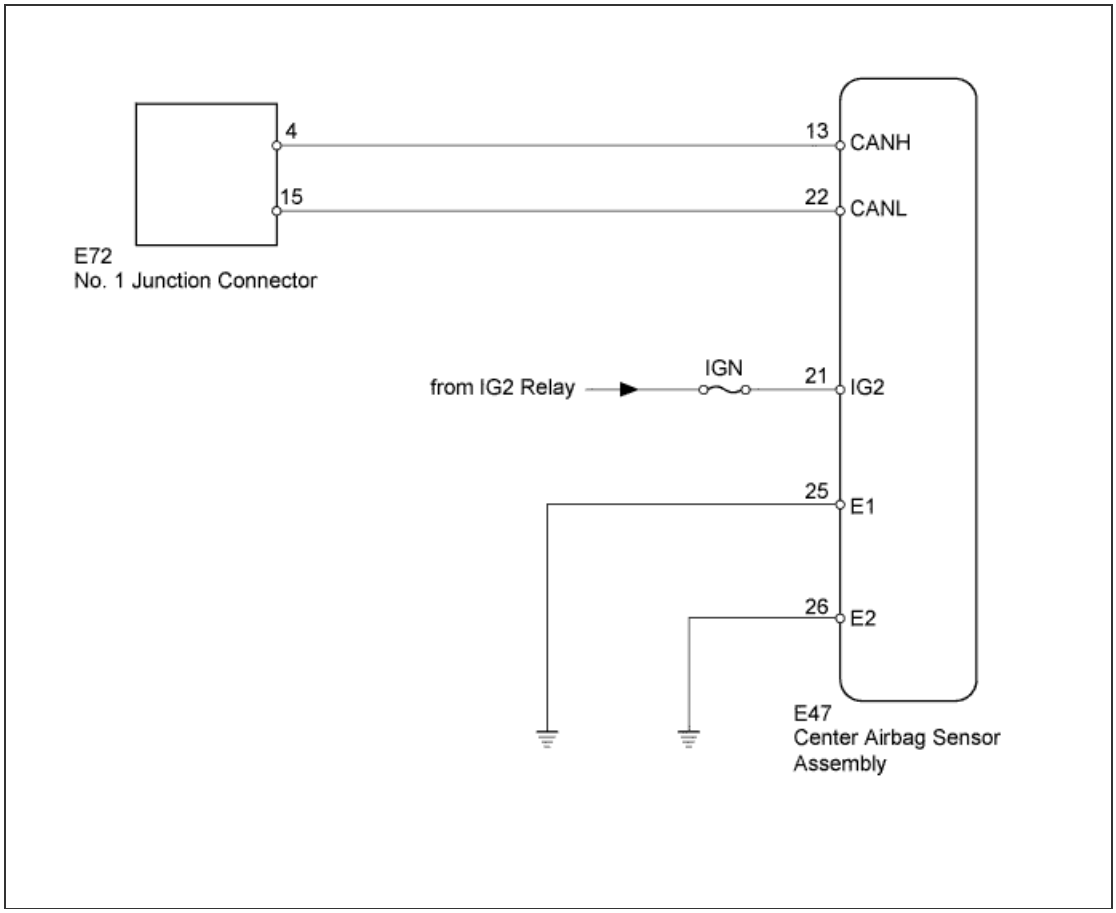
REPLACE COMBINATION METER ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Center Airbag Sensor Communication Stop Mode	When either condition below is met: • "Airbag" is not displayed on "CAN Bus Check". • Applies to "Center Airbag Sensor Communication Stop Mode" in "DTC Combination Table".	• Power source or center airbag sensor assembly • Center airbag sensor assembly CAN branch wire or connector • 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).

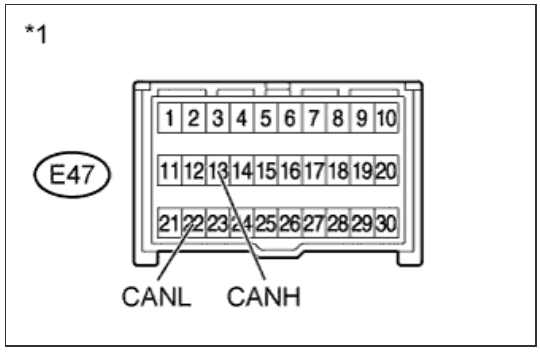
b. Measure the resistance according to the value(s) in the table below.

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.

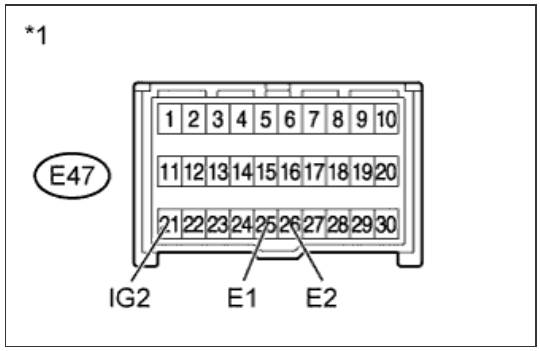
NOTICE:

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

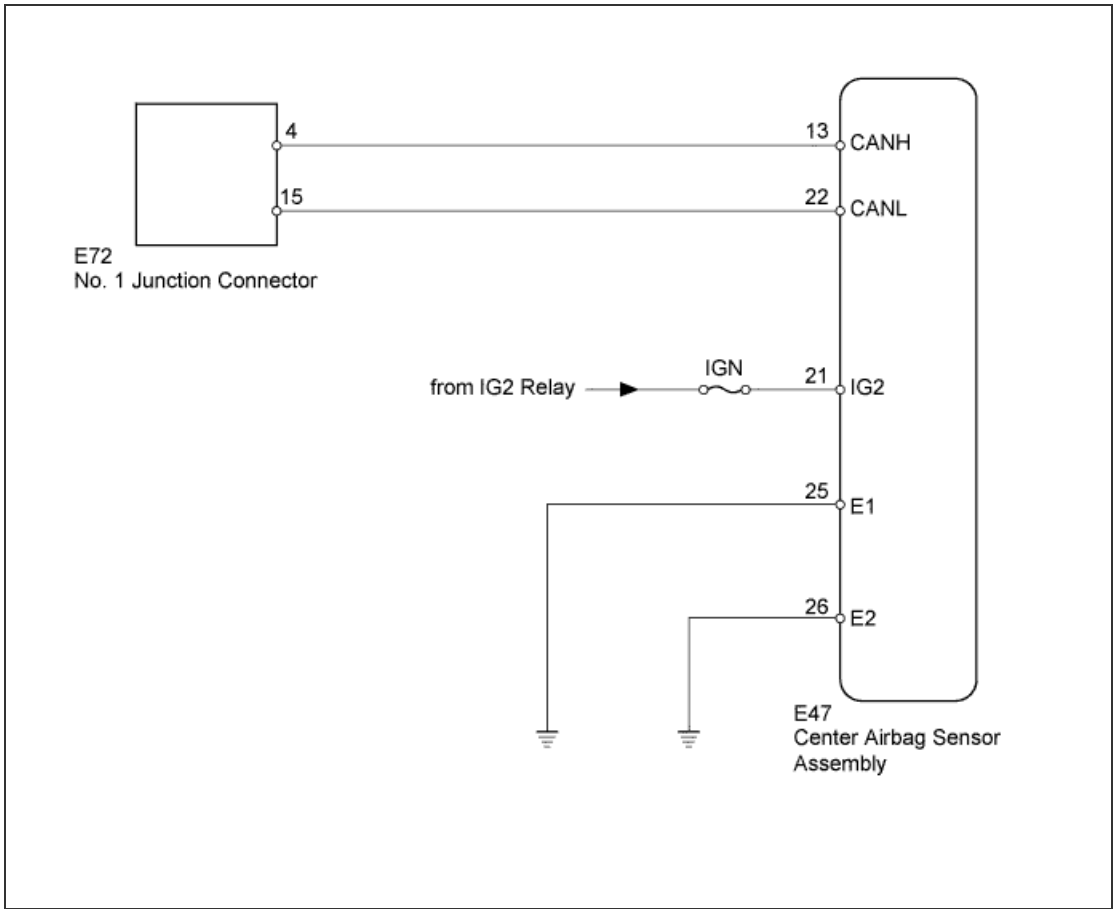
REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Center Airbag Sensor Communication Stop Mode	When either condition below is met: • "Airbag" is not displayed on "CAN Bus Check". • Applies to "Center Airbag Sensor Communication Stop Mode" in "DTC Combination Table".	• Power source or center airbag sensor assembly • Center airbag sensor assembly CAN branch wire or connector • 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).

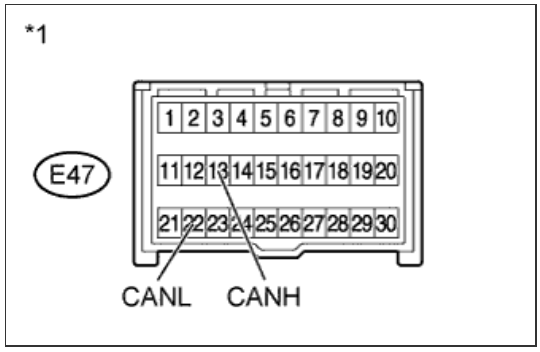
b. Measure the resistance according to the value(s) in the table below.

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.

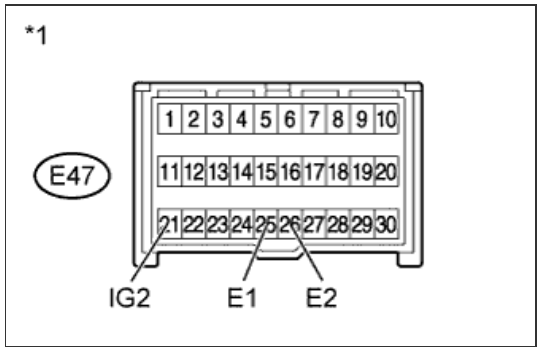
NOTICE:

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

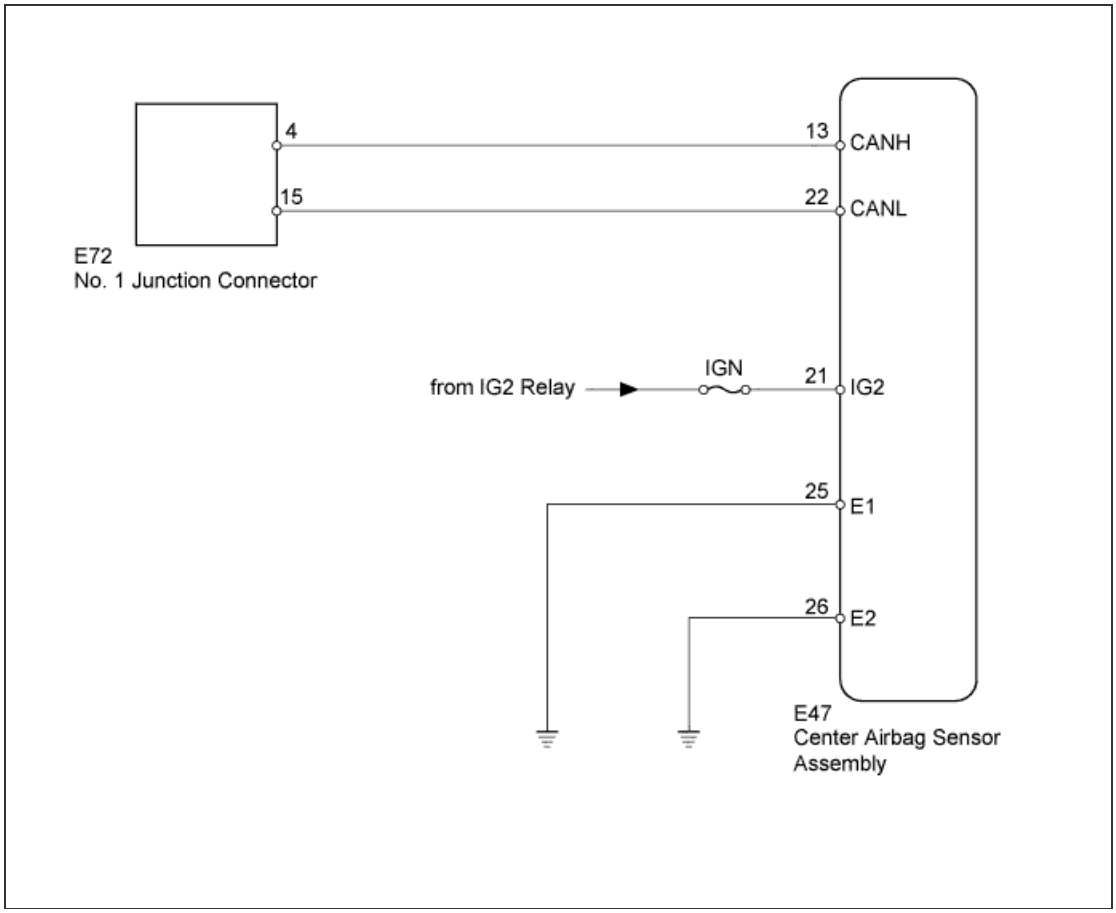
REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Center Airbag Sensor Communication Stop Mode	When either condition below is met: • "Airbag" is not displayed on "CAN Bus Check". • Applies to "Center Airbag Sensor Communication Stop Mode" in "DTC Combination Table".	• Power source or center airbag sensor assembly • Center airbag sensor assembly CAN branch wire or connector • 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).

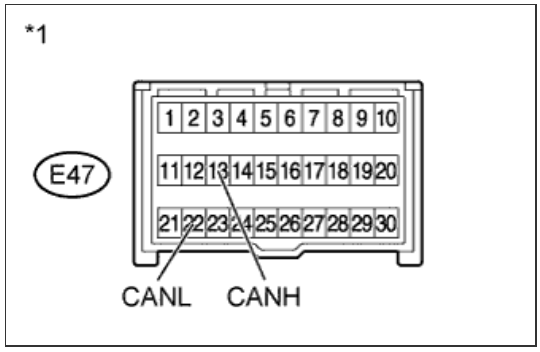
b. Measure the resistance according to the value(s) in the table below.

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.

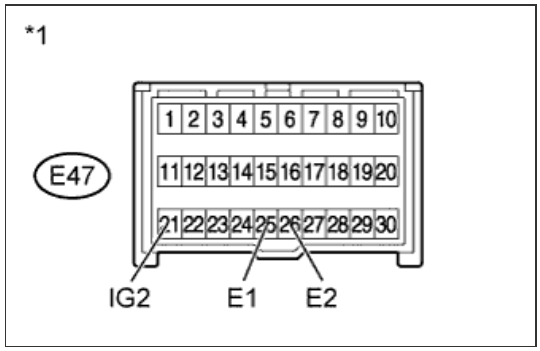
NOTICE:

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

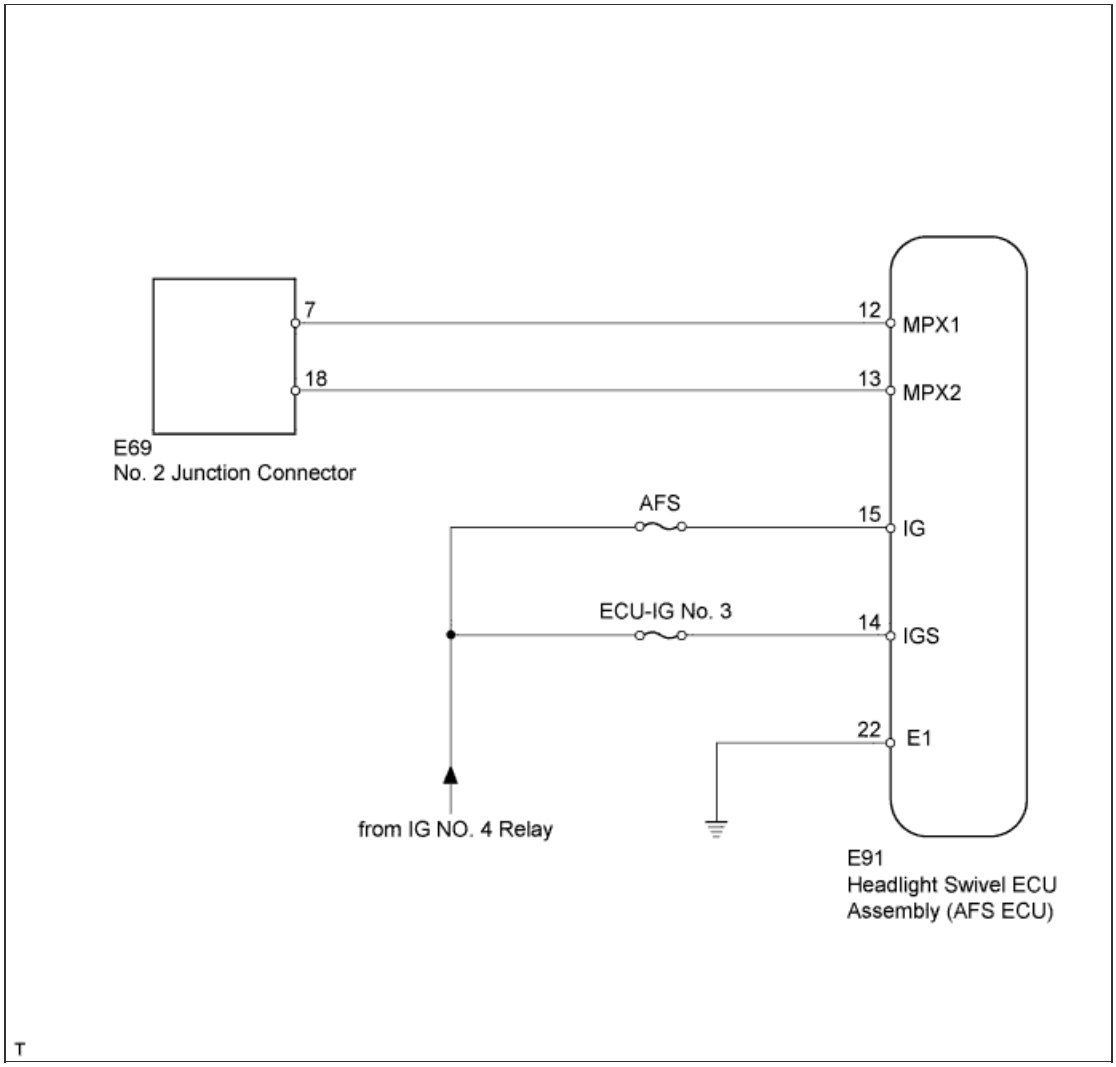
REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
AFS ECU Communication Stop Mode	When either condition below is met: • "Headlight swivel (AFS)" is not displayed on "CAN Bus Check". • Applies to "AFS ECU Communication Stop Mode" in "DTC Combination Table".	• Power source or inside headlight swivel ECU assembly (AFS ECU) • Headlight swivel ECU assembly (AFS ECU) CAN branch wire or connector • 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.

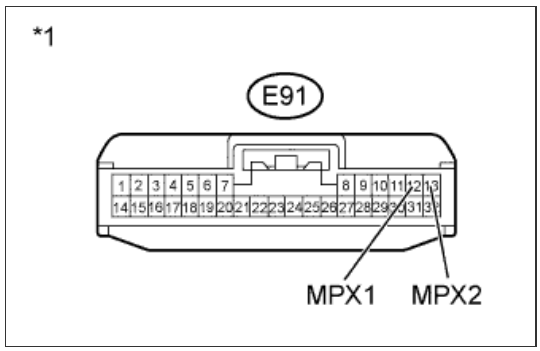
b. Measure the resistance according to the value(s) in the table below.

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.

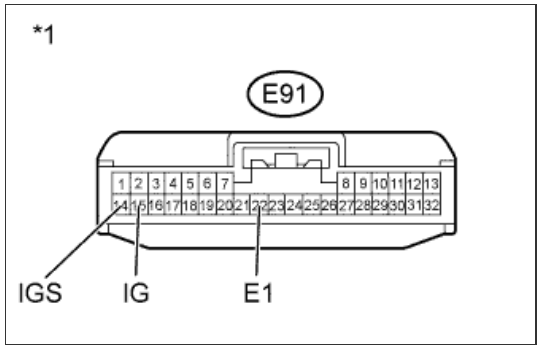
NOTICE:

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 (to Headlight Swivel ECU Assembly [AFS ECU])

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

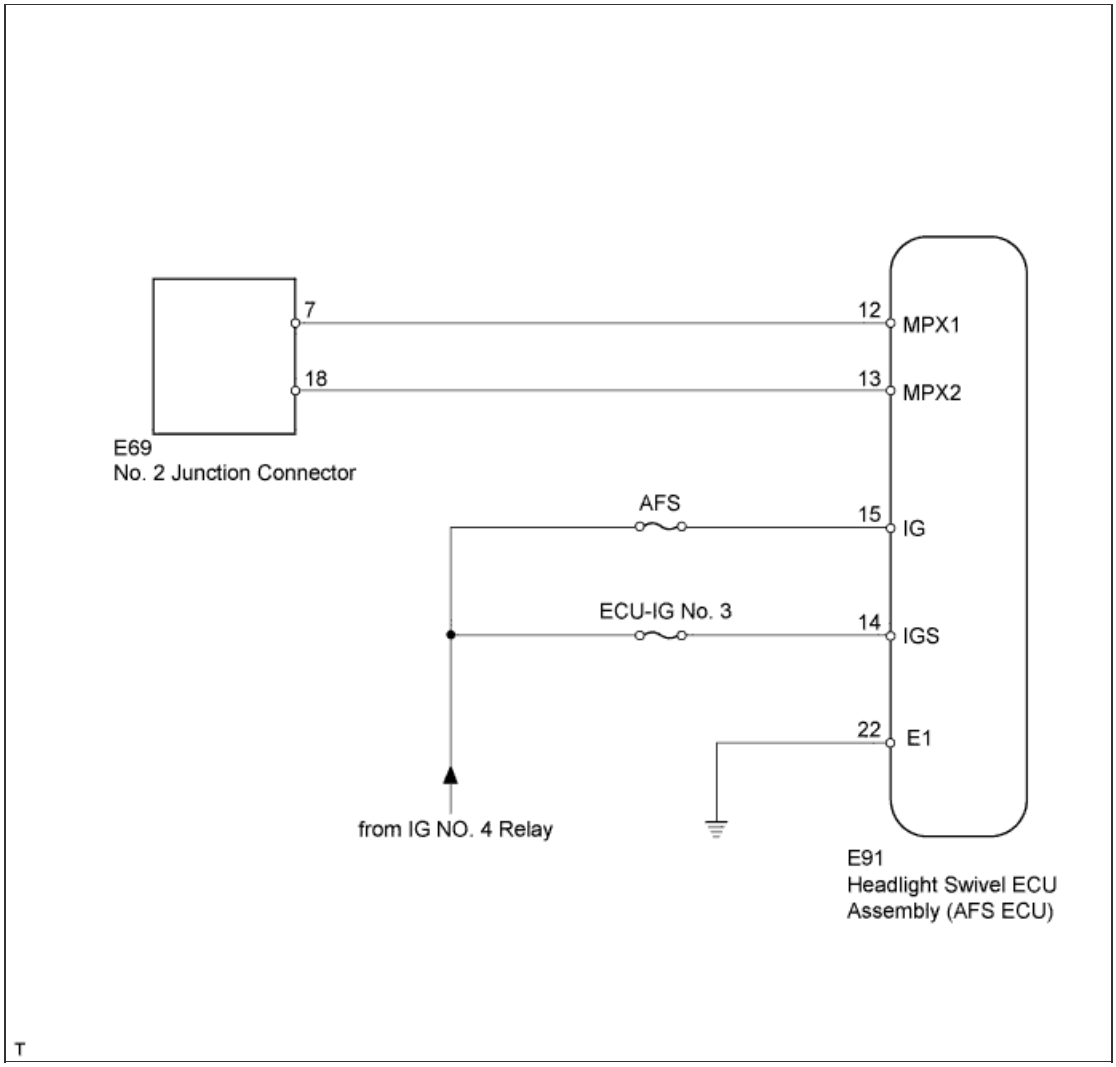
REPLACE HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU) (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
AFS ECU Communication Stop Mode	When either condition below is met: • "Headlight swivel (AFS)" is not displayed on "CAN Bus Check". • Applies to "AFS ECU Communication Stop Mode" in "DTC Combination Table".	• Power source or inside headlight swivel ECU assembly (AFS ECU) • Headlight swivel ECU assembly (AFS ECU) CAN branch wire or connector • 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.

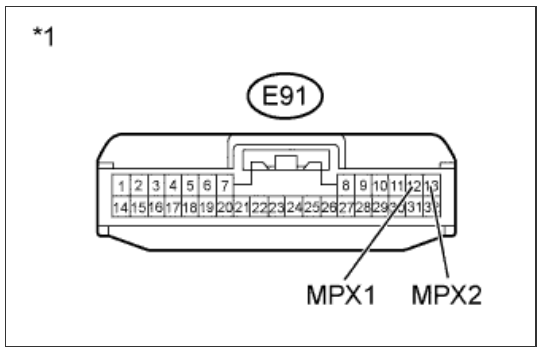
b. Measure the resistance according to the value(s) in the table below.

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.

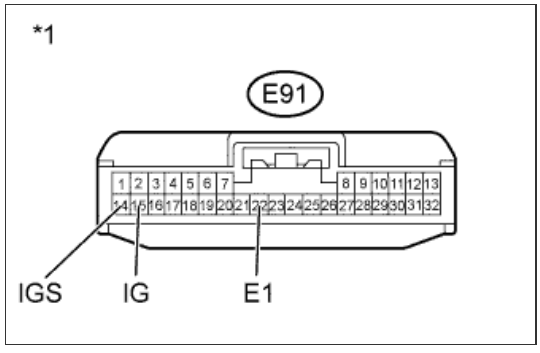
NOTICE:

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 (to Headlight Swivel ECU Assembly [AFS ECU])

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

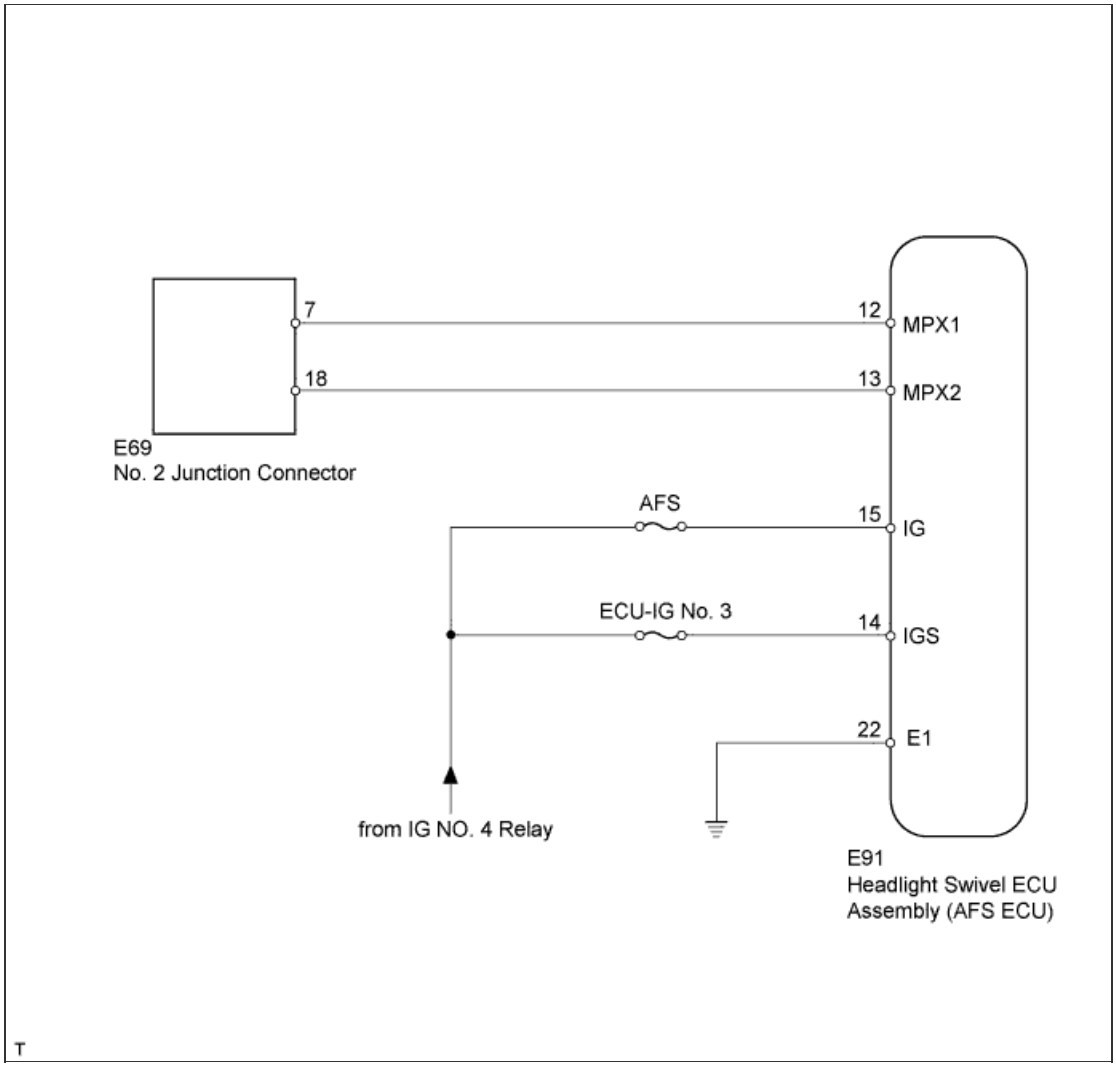
REPLACE HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU) (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
AFS ECU Communication Stop Mode	When either condition below is met: • "Headlight swivel (AFS)" is not displayed on "CAN Bus Check". • Applies to "AFS ECU Communication Stop Mode" in "DTC Combination Table".	• Power source or inside headlight swivel ECU assembly (AFS ECU) • Headlight swivel ECU assembly (AFS ECU) CAN branch wire or connector • 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.

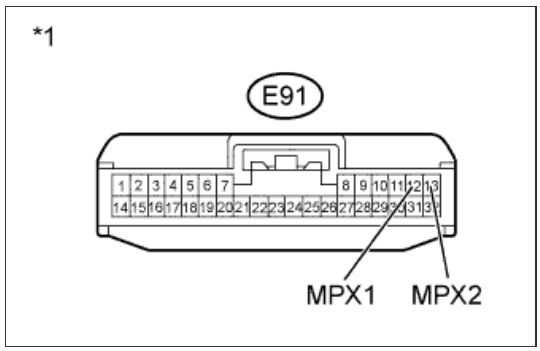
b. Measure the resistance according to the value(s) in the table below.

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.

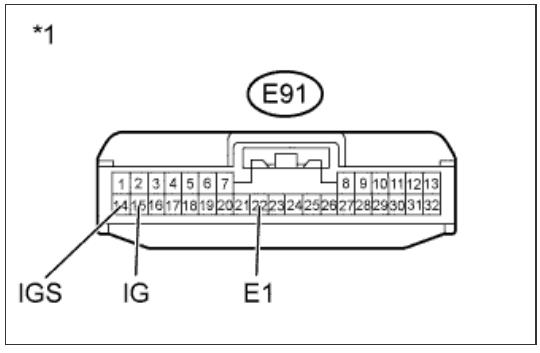
NOTICE:

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 (to Headlight Swivel ECU Assembly [AFS ECU])

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

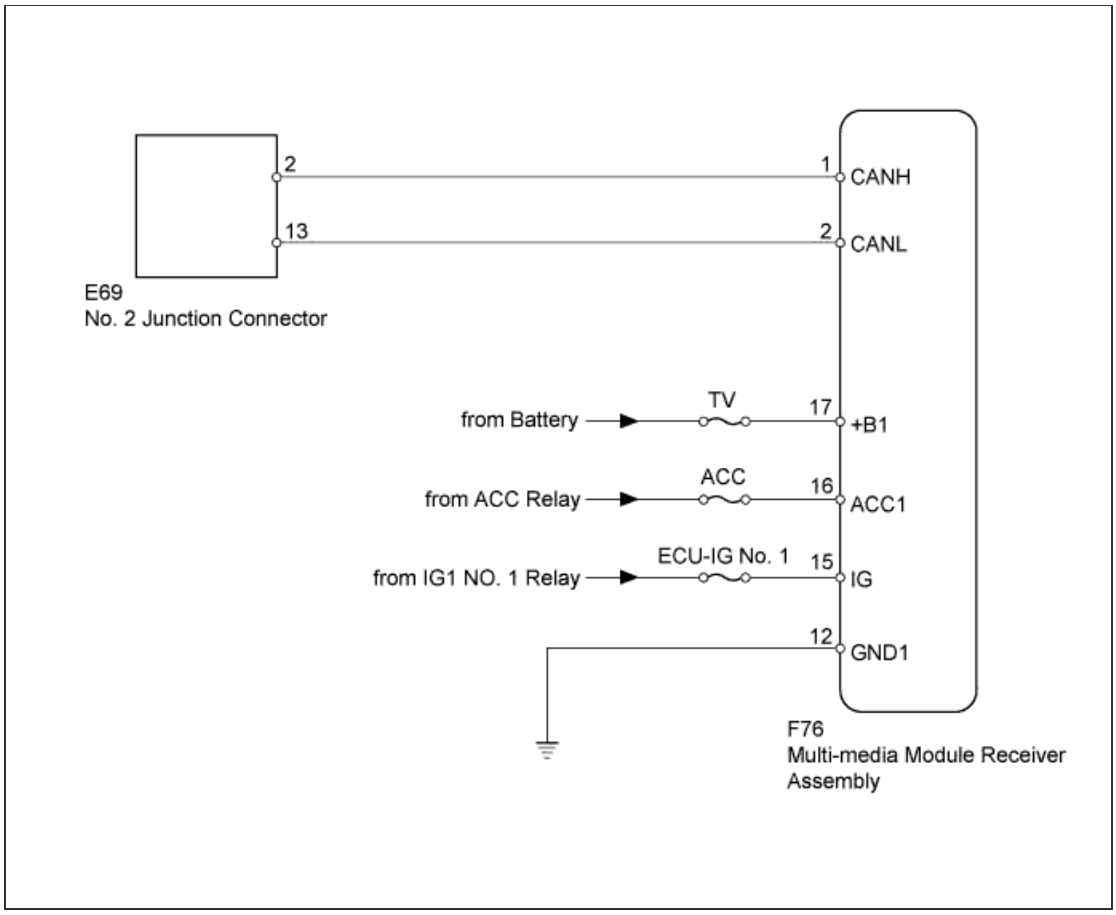
REPLACE HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU) (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Multi-media Module Receiver Assembly Communication Stop Mode	When either condition below is met: • "Display and Navigation (AVN)" is not displayed on "CAN Bus Check". • Applies to "Multi-media Module Receiver Assembly Communication Stop Mode" in "DTC Combination Table".	• Power source or inside multi-media module receiver assembly • Multi-media module receiver assembly CAN branch wire or connector • 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.

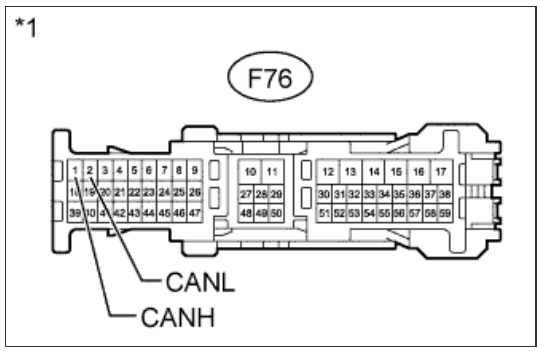
b. Measure the resistance according to the value(s) in the table below.

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.

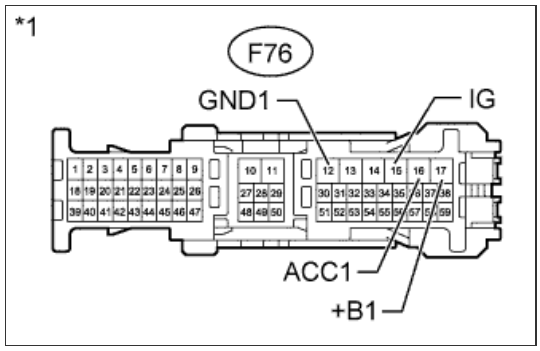
NOTICE:

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

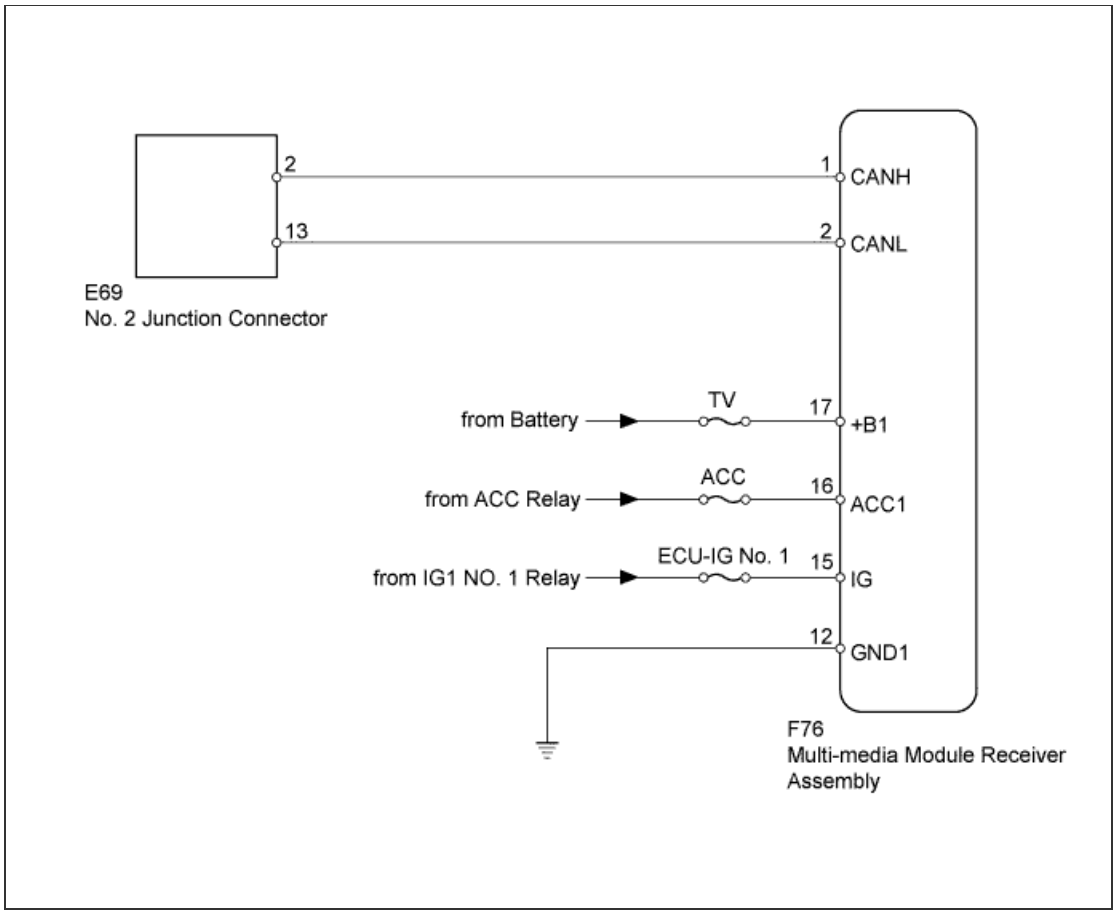
REPLACE MULTI-MEDIA MODULE RECEIVER ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Multi-media Module Receiver Assembly Communication Stop Mode	When either condition below is met: • "Display and Navigation (AVN)" is not displayed on "CAN Bus Check". • Applies to "Multi-media Module Receiver Assembly Communication Stop Mode" in "DTC Combination Table".	• Power source or inside multi-media module receiver assembly • Multi-media module receiver assembly CAN branch wire or connector • 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.

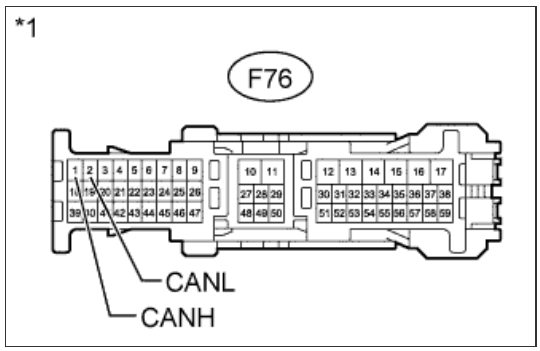
b. Measure the resistance according to the value(s) in the table below.

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.

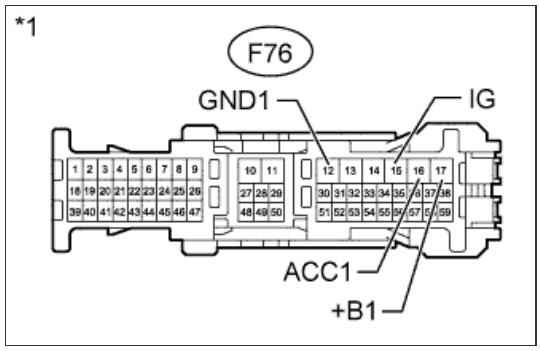
NOTICE:

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

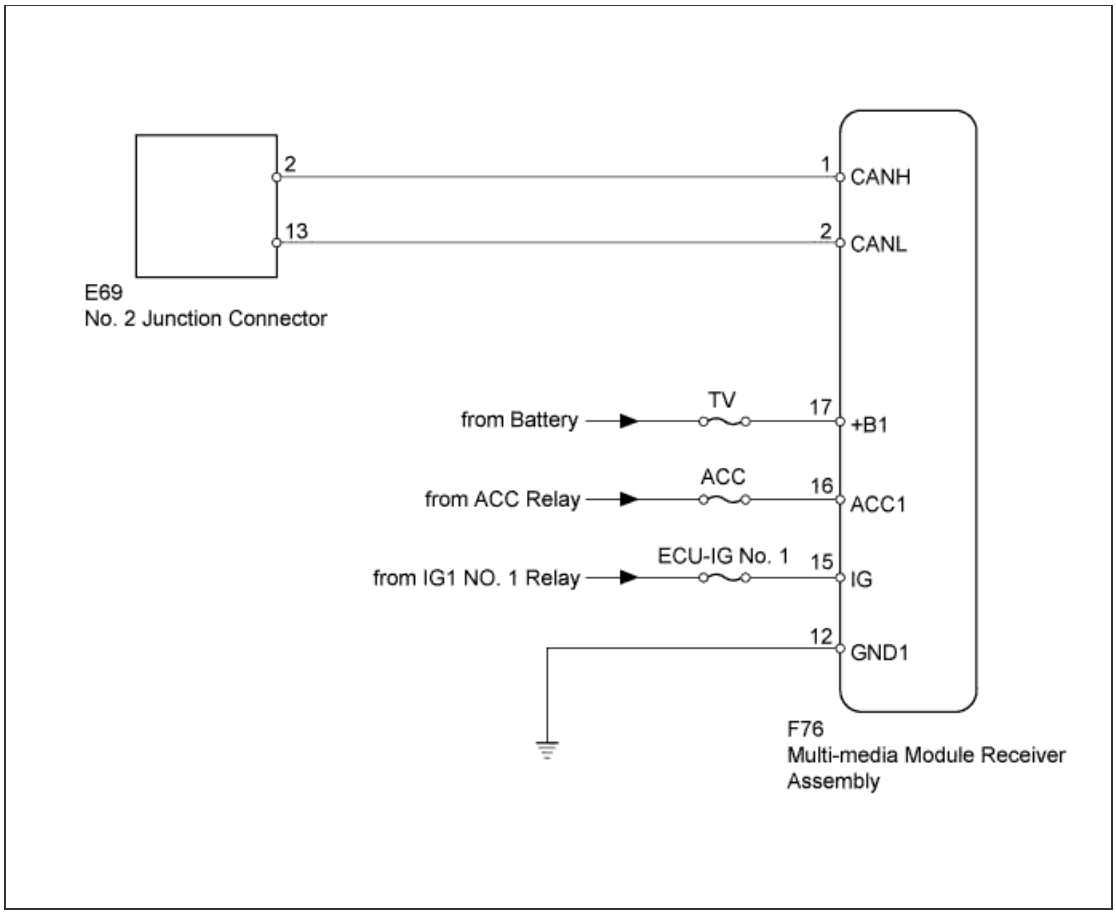
REPLACE MULTI-MEDIA MODULE RECEIVER ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

Detection Item	Symptom	Trouble Area
Multi-media Module Receiver Assembly Communication Stop Mode	When either condition below is met: • "Display and Navigation (AVN)" is not displayed on "CAN Bus Check". • Applies to "Multi-media Module Receiver Assembly Communication Stop Mode" in "DTC Combination Table".	• Power source or inside multi-media module receiver assembly • Multi-media module receiver assembly CAN branch wire or connector • 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.

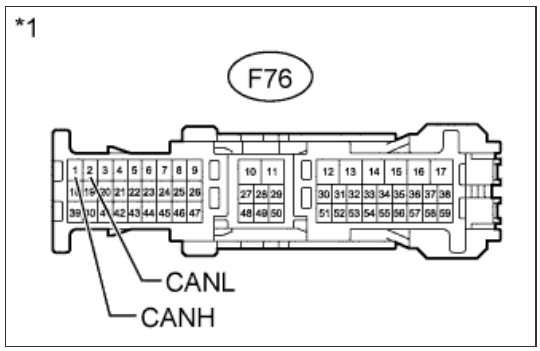
b. Measure the resistance according to the value(s) in the table below.

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.

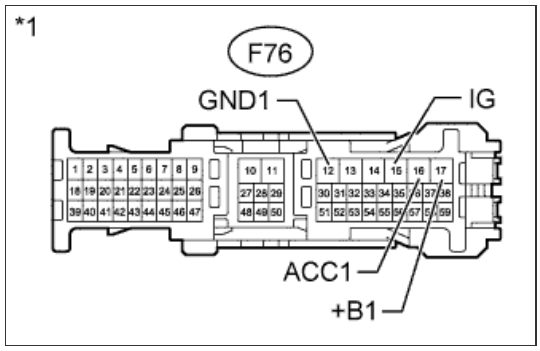
NOTICE:

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)

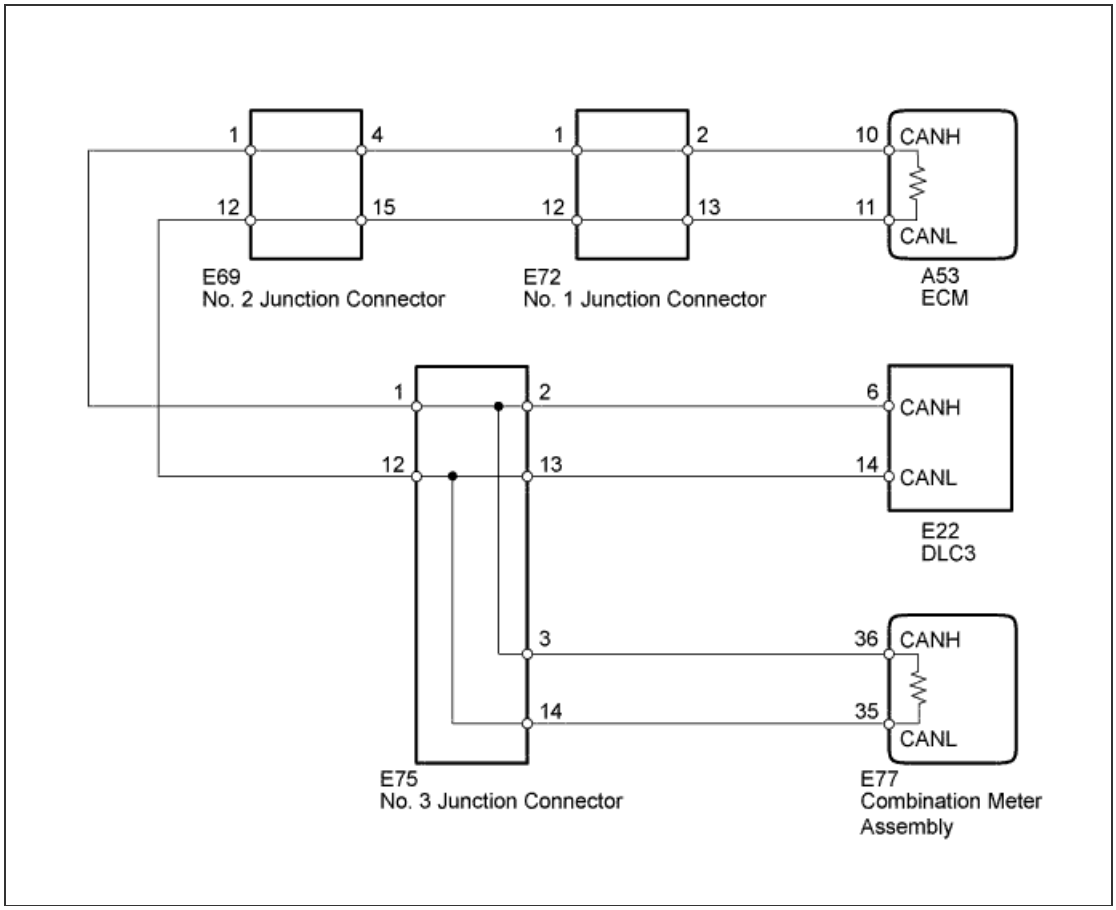
for Preparation Click here

DESCRIPTION

There may be an open circuit in the CAN main wire and/or DLC3 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 • No. 1 junction connector • No. 2 junction connector • No. 3 junction connector • ECM • Combination meter assembly • 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)

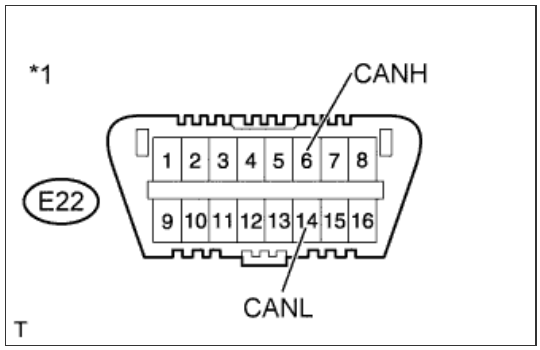
a. Measure the resistance according to the value(s) in the table below.

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.

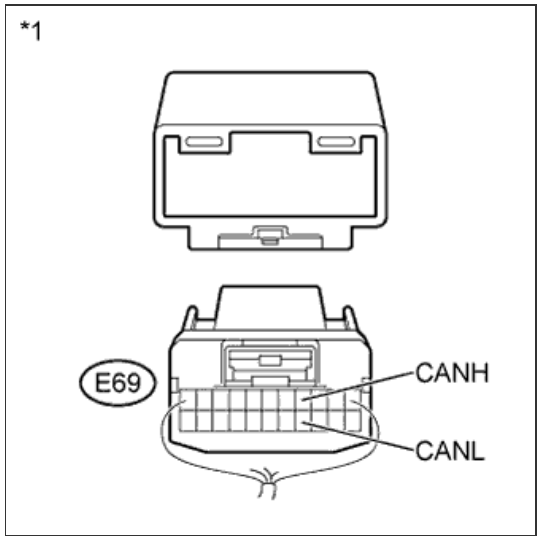
b. Measure the resistance according to the value(s) in the table below.

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)

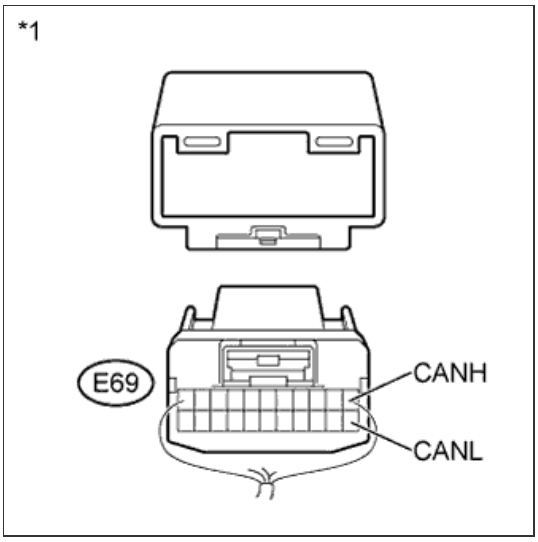
a. Measure the resistance according to the value(s) in the table below.

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.

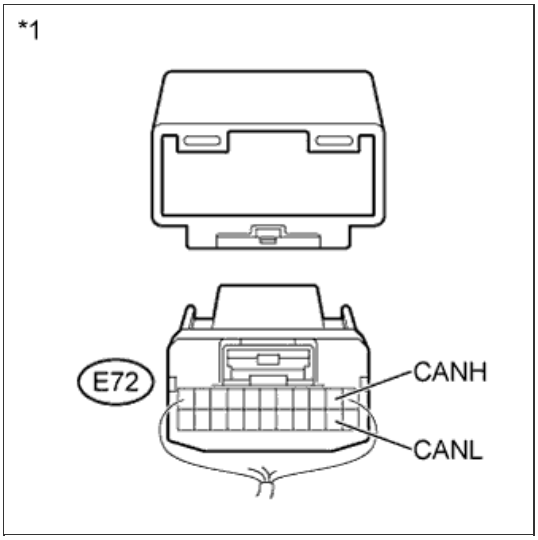
b. Measure the resistance according to the value(s) in the table below.

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)

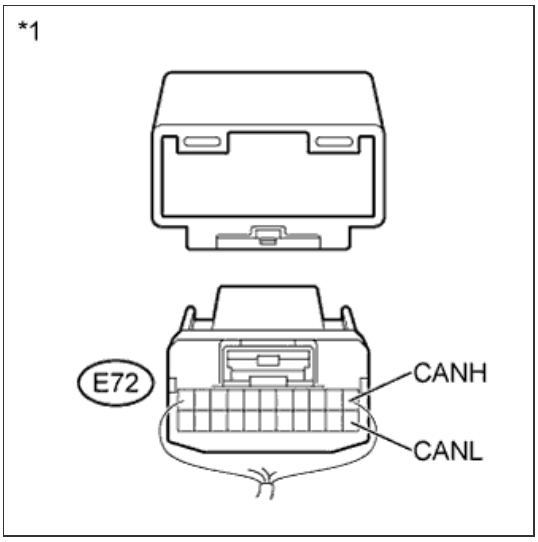
a. Measure the resistance according to the value(s) in the table below.

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:

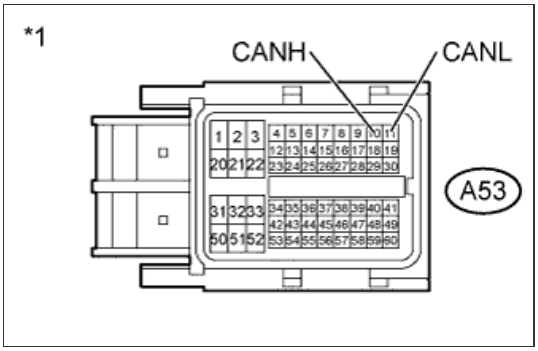
Tester Connection	Switch Condition	Specified Condition
A53-10 (CANH) - A53-11 (CANL)	Engine switch off	108 to 132 Ω

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.

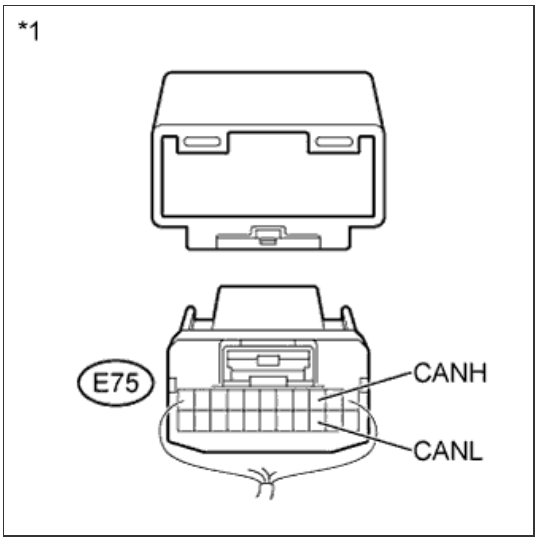
b. Measure the resistance according to the value(s) in the table below.

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)

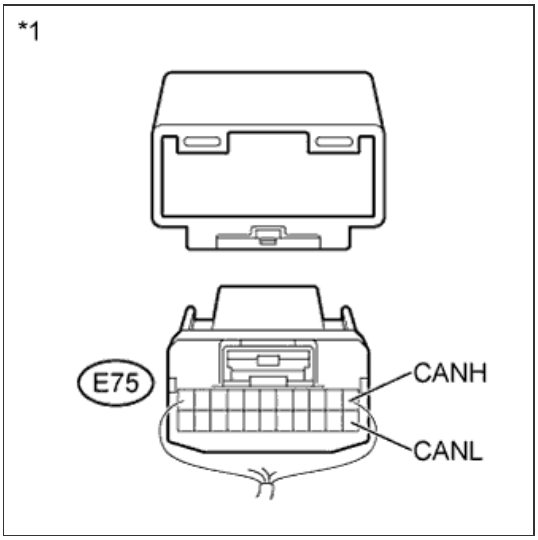
a. Measure the resistance according to the value(s) in the table below.

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.

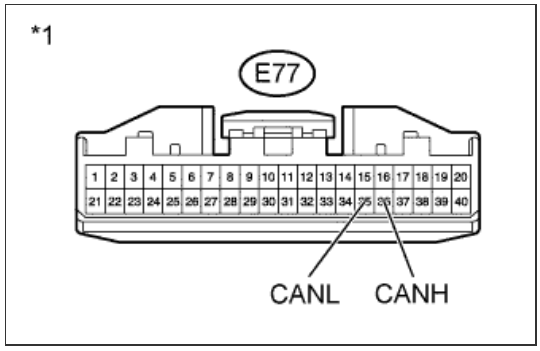
b. Measure the resistance according to the value(s) in the table below.

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)

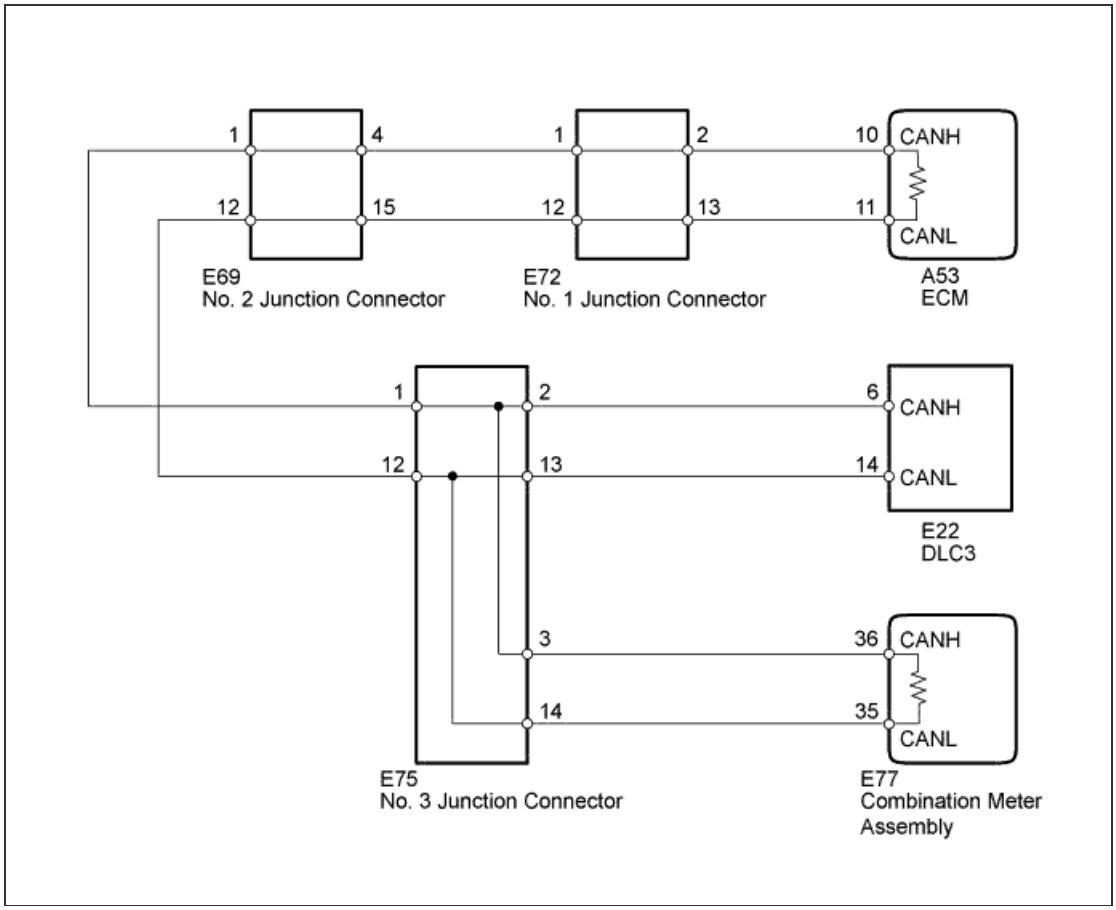
for Preparation Click here

DESCRIPTION

There may be 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 • No. 1 junction connector • No. 2 junction connector • No. 3 junction connector • ECM • Combination meter assembly • 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)

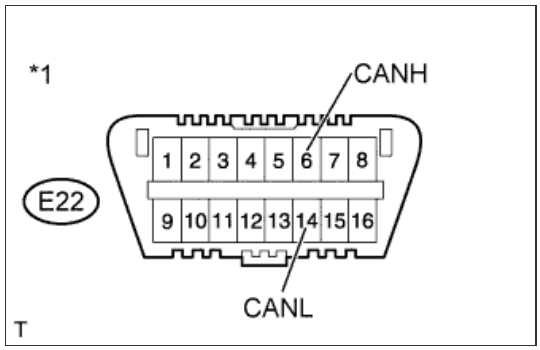
a. Measure the resistance according to the value(s) in the table below.

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.

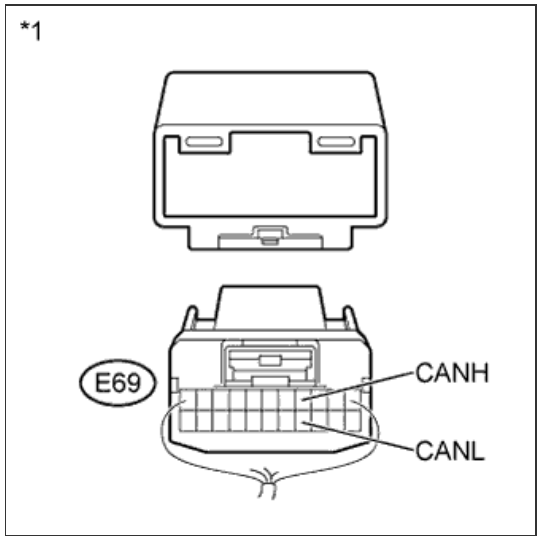
b. Measure the resistance according to the value(s) in the table below.

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)

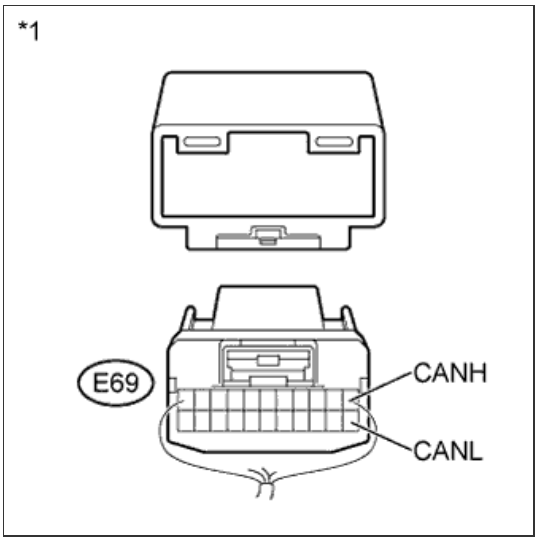
a. Measure the resistance according to the value(s) in the table below.

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.

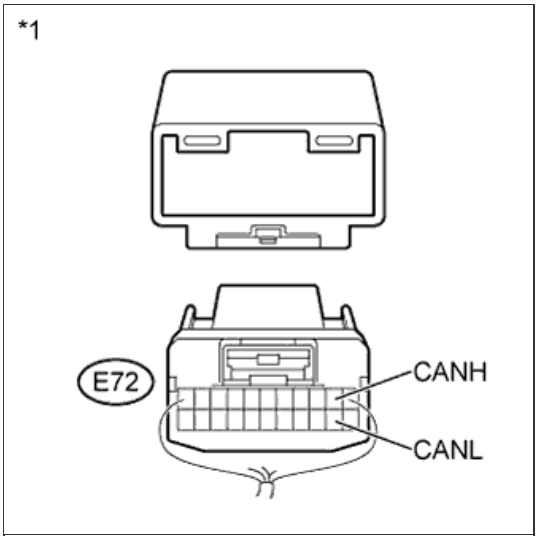
b. Measure the resistance according to the value(s) in the table below.

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)

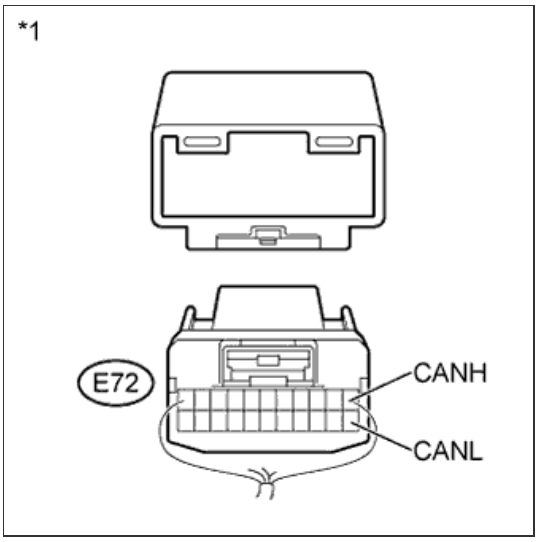
a. Measure the resistance according to the value(s) in the table below.

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:

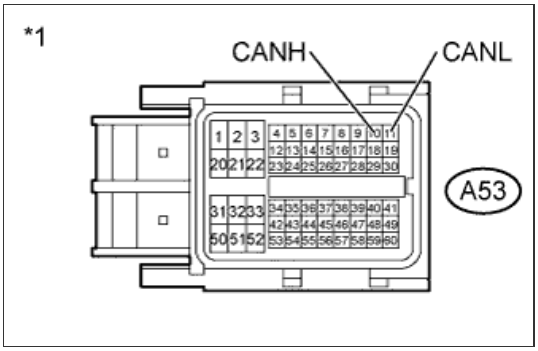
Tester Connection	Switch Condition	Specified Condition
A53-10 (CANH) - A53-11 (CANL)	Engine switch off	108 to 132 Ω

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.

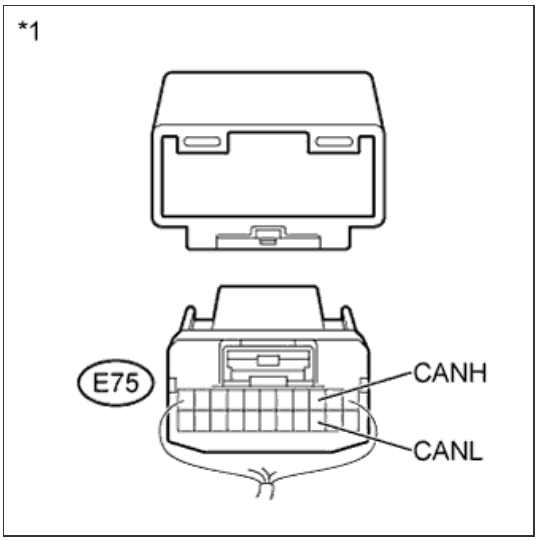
b. Measure the resistance according to the value(s) in the table below.

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)

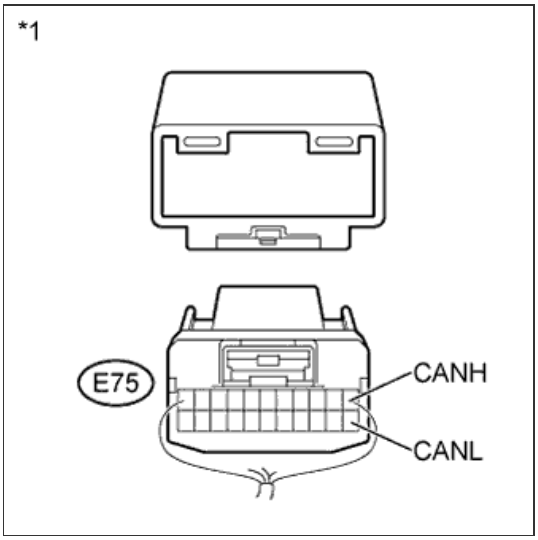
a. Measure the resistance according to the value(s) in the table below.

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.

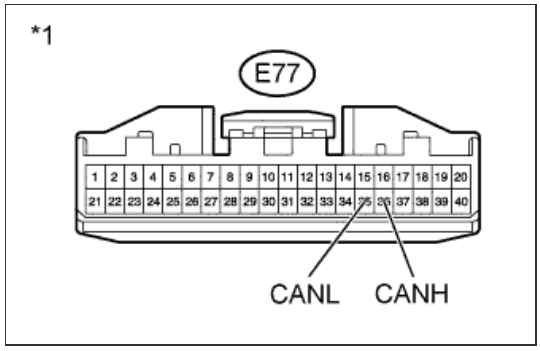
b. Measure the resistance according to the value(s) in the table below.

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)

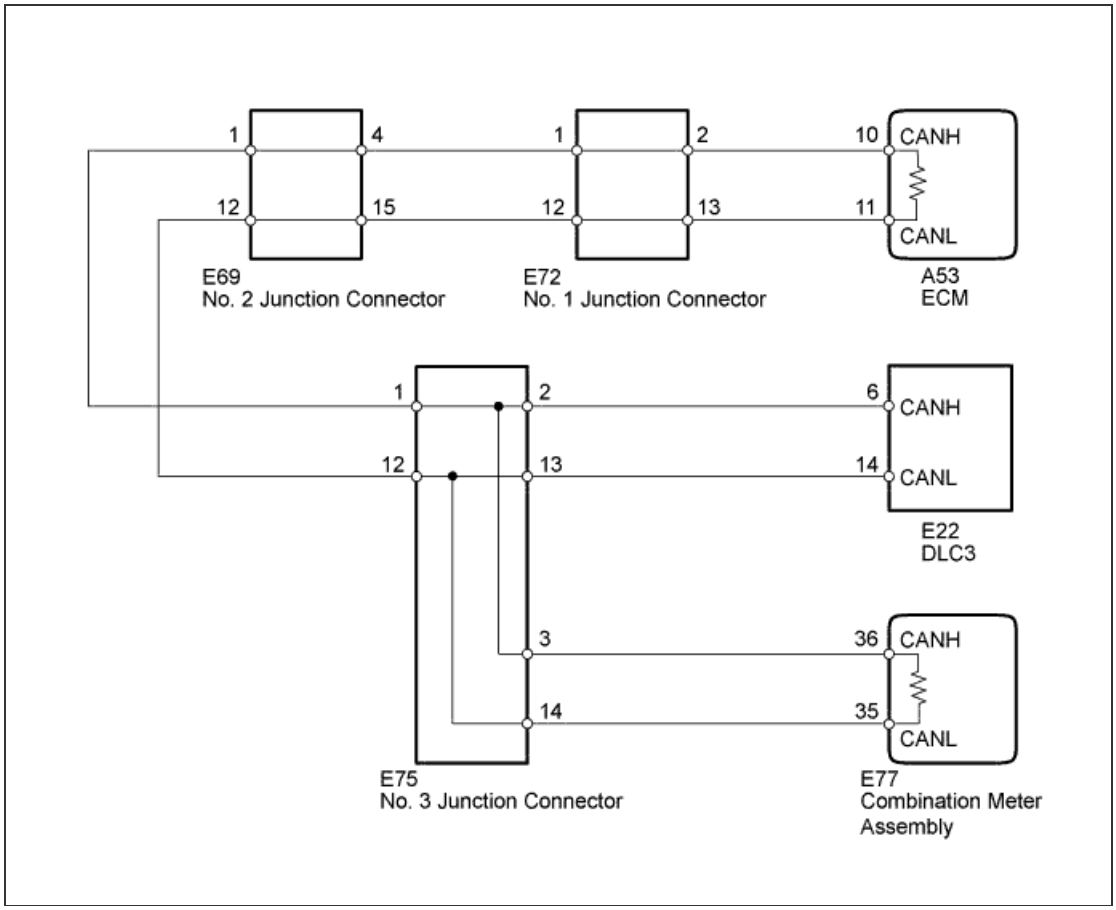
for Preparation Click here

DESCRIPTION

There may be 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 • No. 1 junction connector • No. 2 junction connector • No. 3 junction connector • ECM • Combination meter assembly • 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)

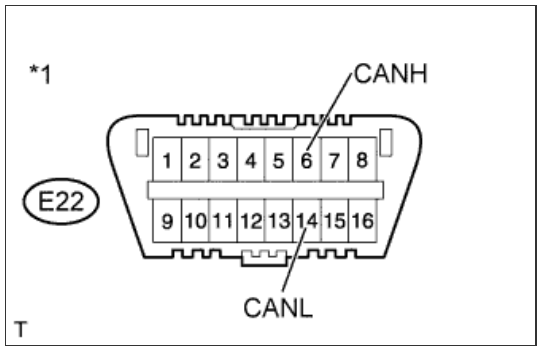
a. Measure the resistance according to the value(s) in the table below.

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.

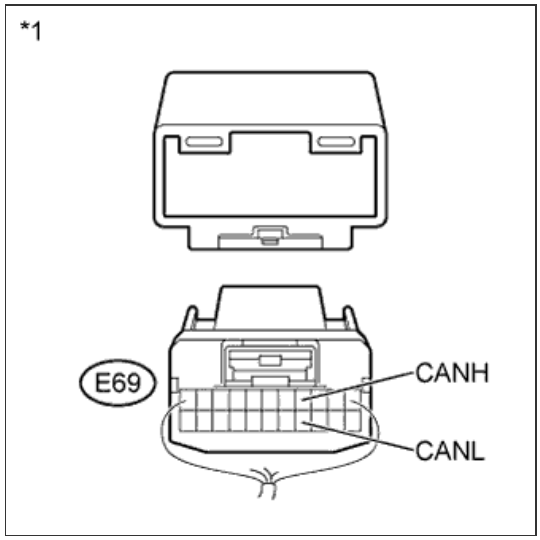
b. Measure the resistance according to the value(s) in the table below.

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)

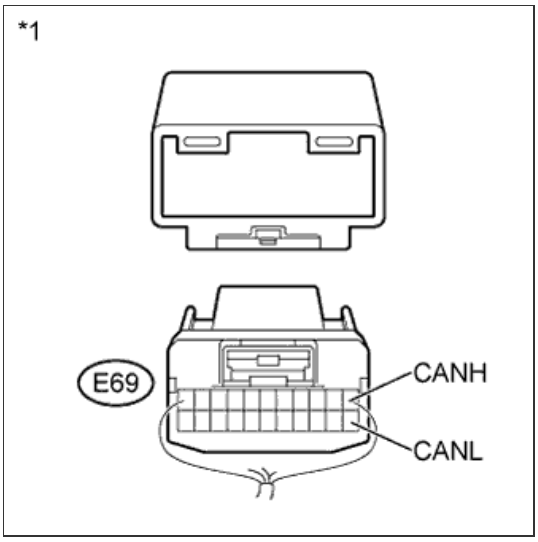
a. Measure the resistance according to the value(s) in the table below.

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.

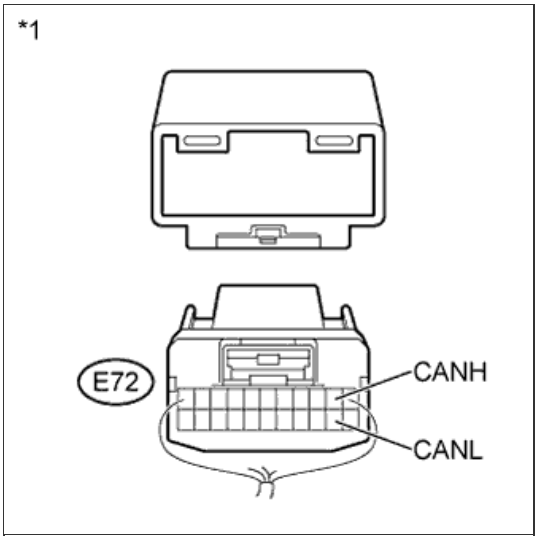
b. Measure the resistance according to the value(s) in the table below.

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)

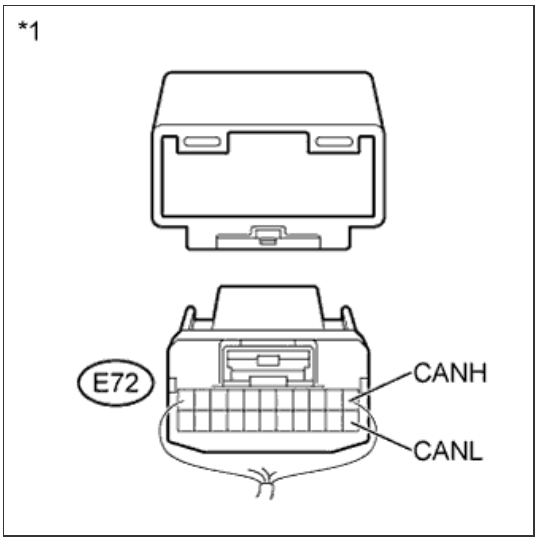
a. Measure the resistance according to the value(s) in the table below.

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:

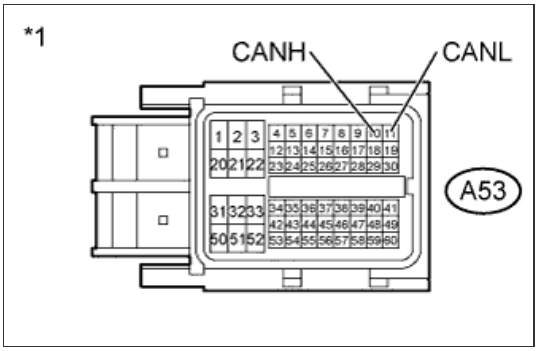
Tester Connection	Switch Condition	Specified Condition
A53-10 (CANH) - A53-11 (CANL)	Engine switch off	108 to 132 Ω

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.

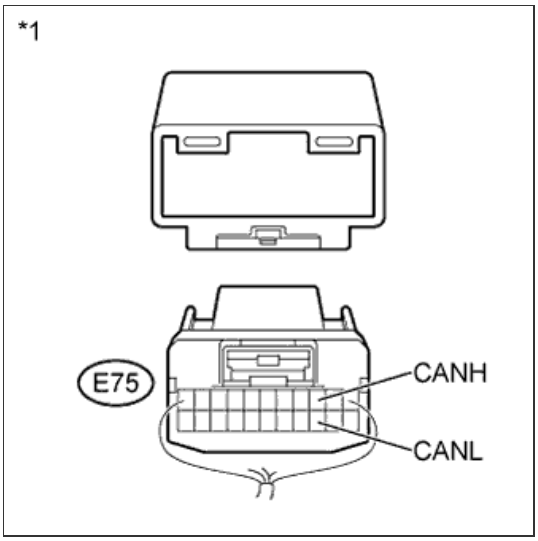
b. Measure the resistance according to the value(s) in the table below.

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)

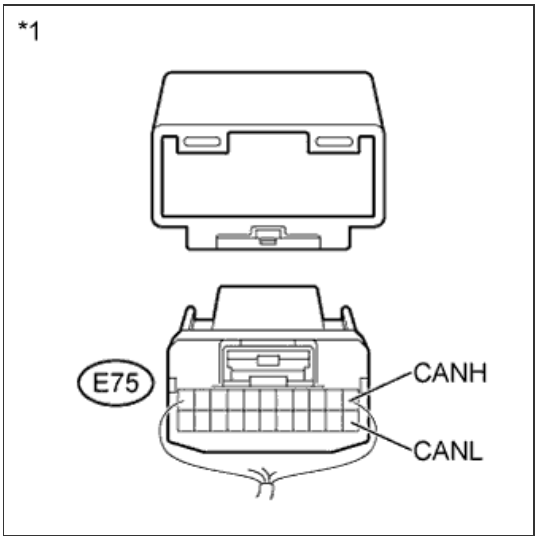
a. Measure the resistance according to the value(s) in the table below.

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.

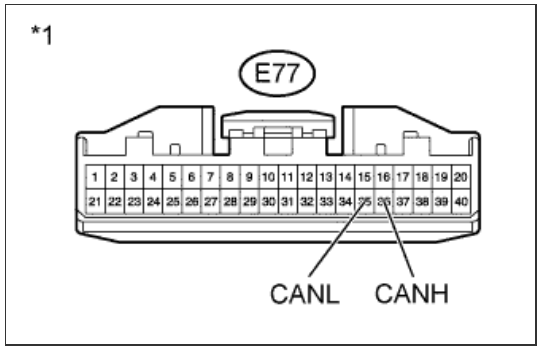
b. Measure the resistance according to the value(s) in the table below.

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)

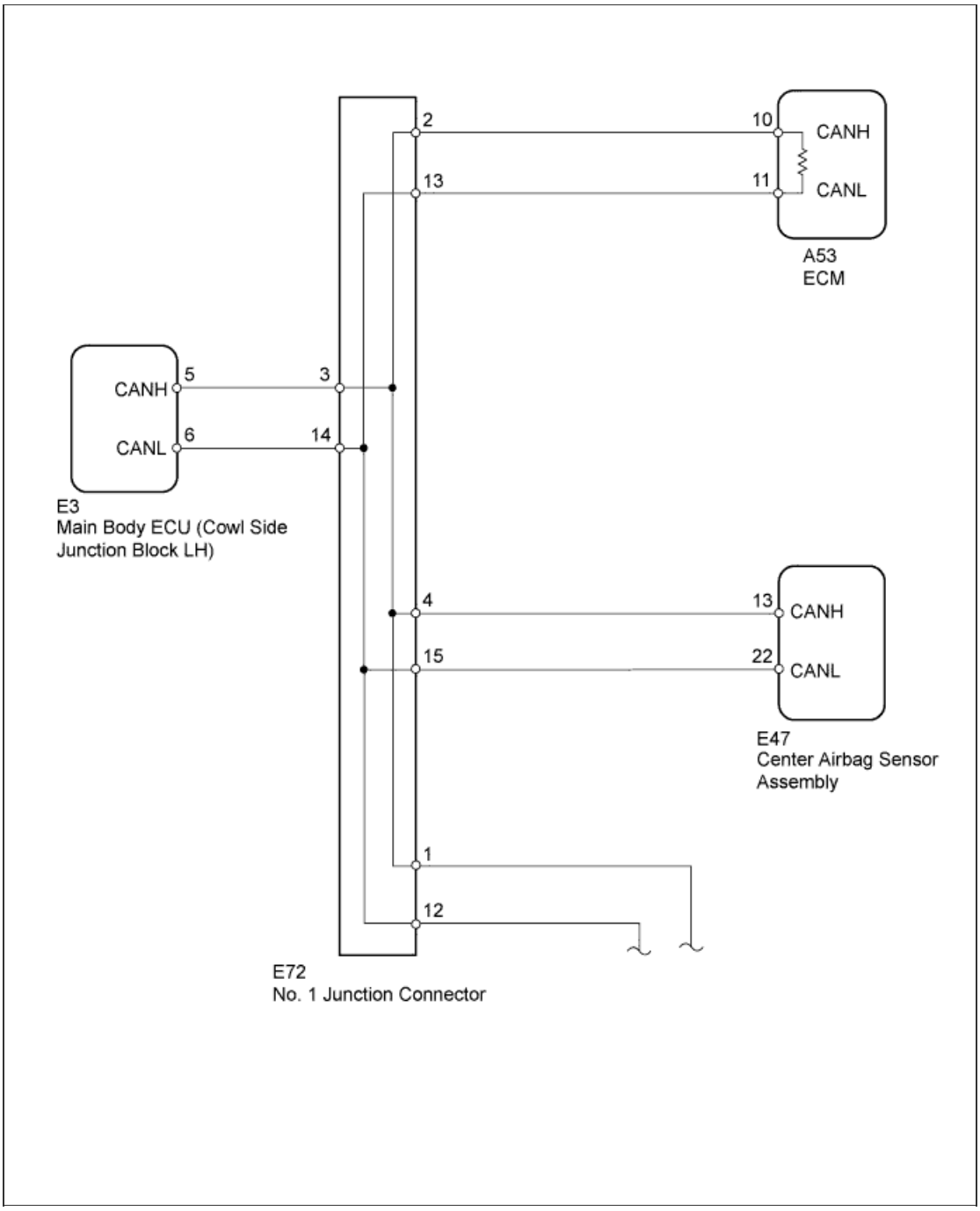
for Preparation Click here

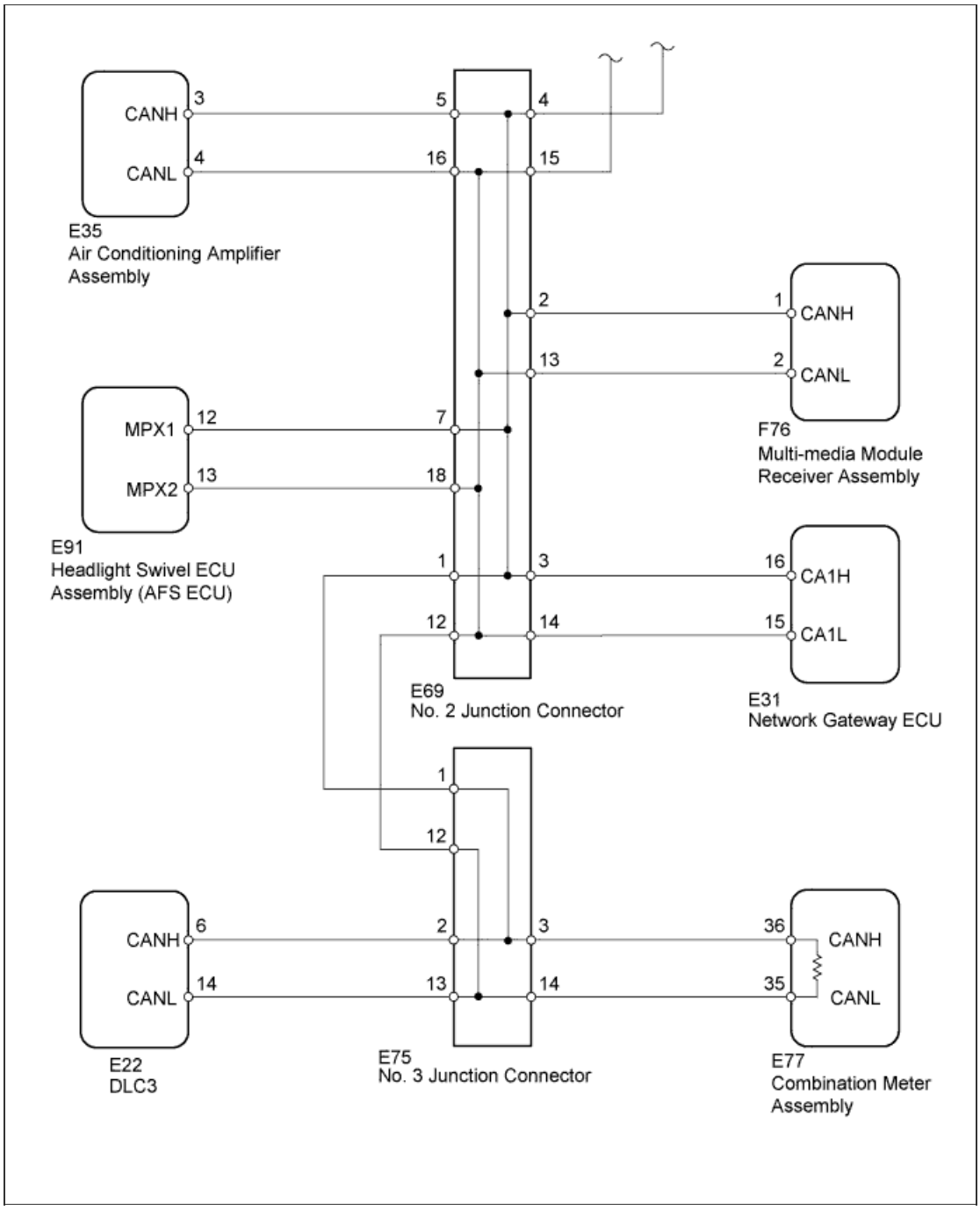
DESCRIPTION

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 • ECM • Center airbag sensor assembly • Multi-media module receiver assembly • Air conditioning amplifier assembly • Network gateway ECU • Main body ECU (cowl side junction block LH) • Headlight swivel ECU assembly (AFS ECU) • Combination meter assembly • No. 1 junction connector • No. 2 junction connector • 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

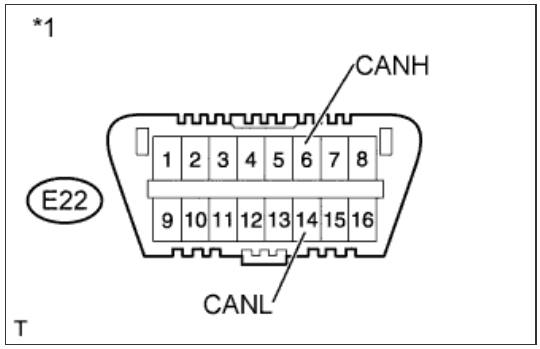
3.CHECK FOR SHORT IN CAN BUS WIRES (DLC3 BRANCH WIRE)

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

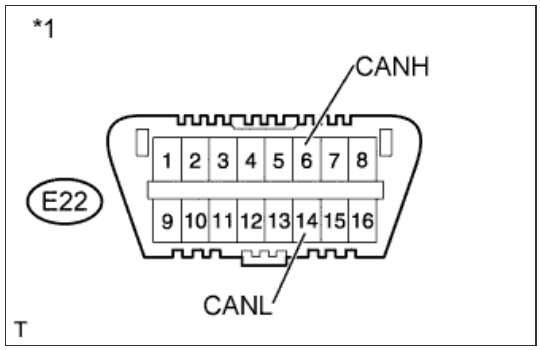
5.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR SIDE)

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)

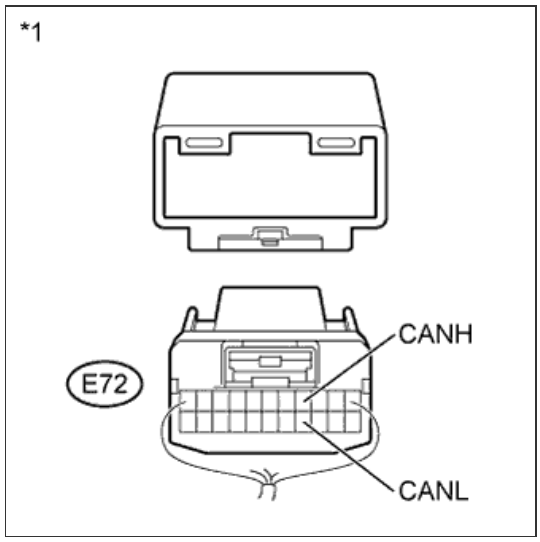
a. Measure the resistance according to the value(s) in the table below.

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)

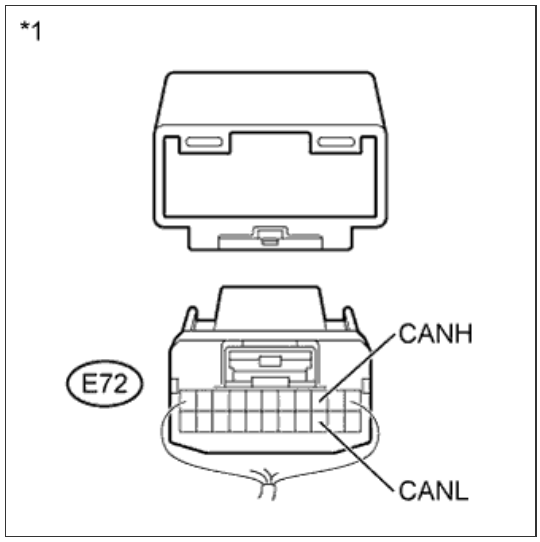
a. Measure the resistance according to the value(s) in the table below.

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.

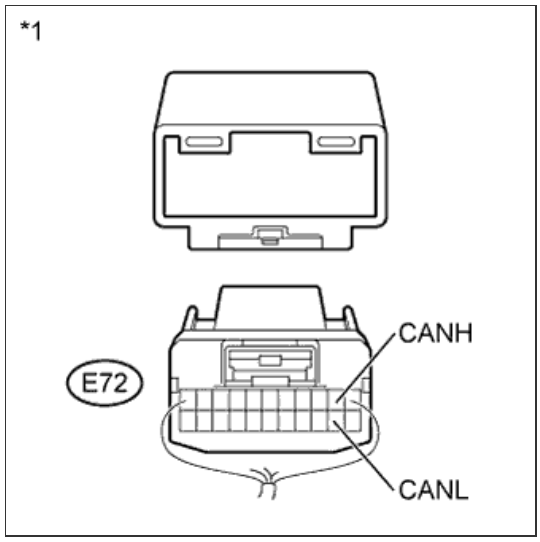
Standard Resistance:

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).

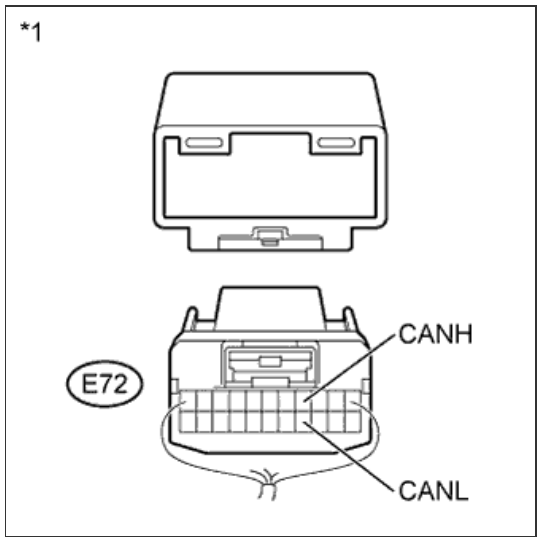
b. Measure the resistance according to the value(s) in the table below.

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.

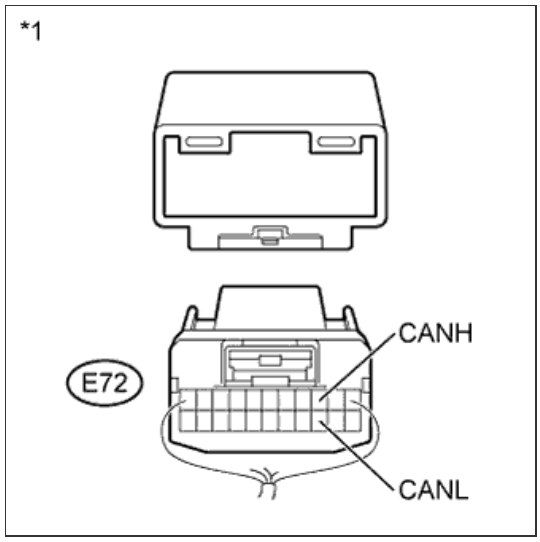
b. Measure the resistance according to the value(s) in the table below.

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.

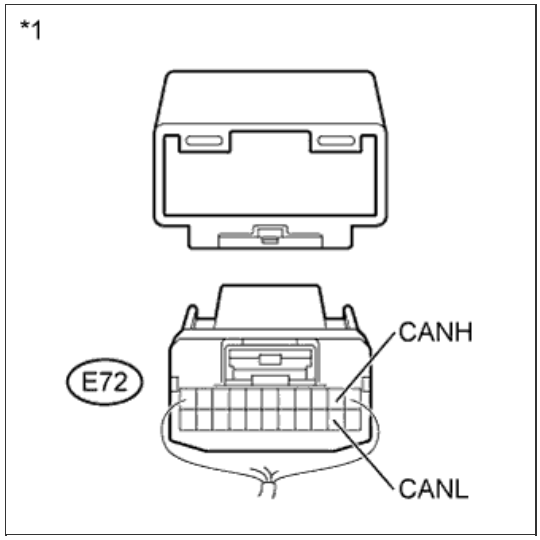
b. Measure the resistance according to the value(s) in the table below.

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.

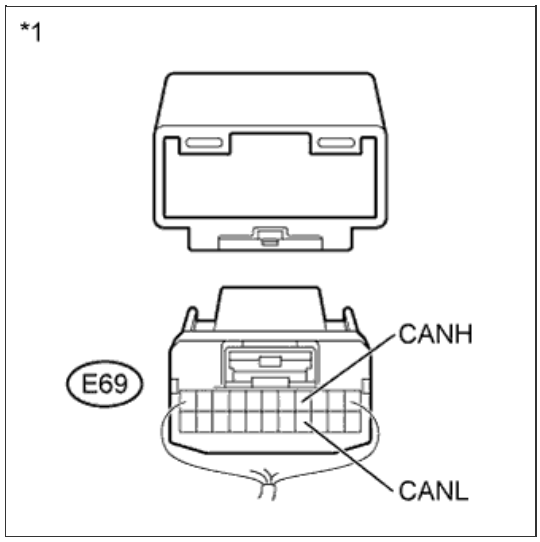
b. Measure the resistance according to the value(s) in the table below.

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)

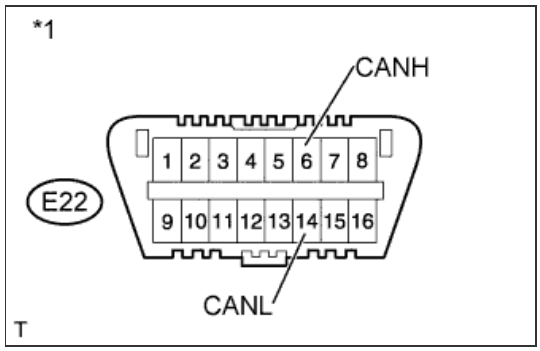
a. Measure the resistance according to the value(s) in the table below.

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)

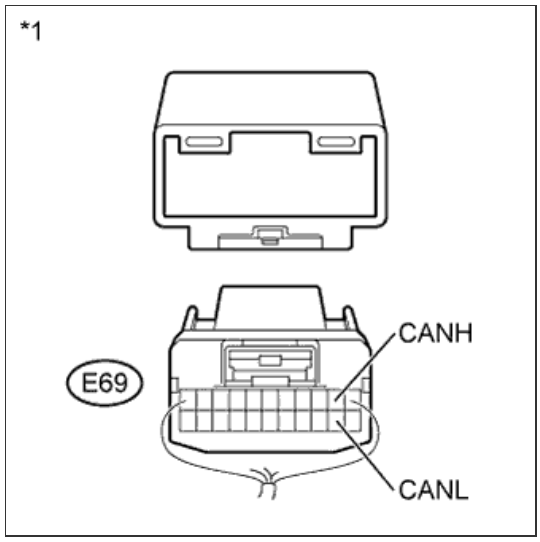
a. Measure the resistance according to the value(s) in the table below.

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)

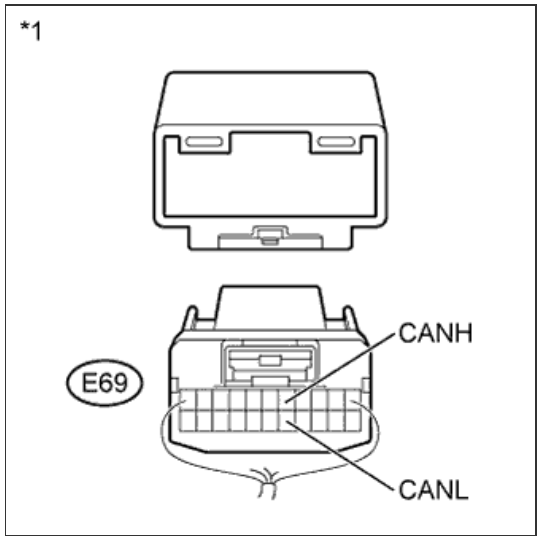


NG → Go to step 19

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)

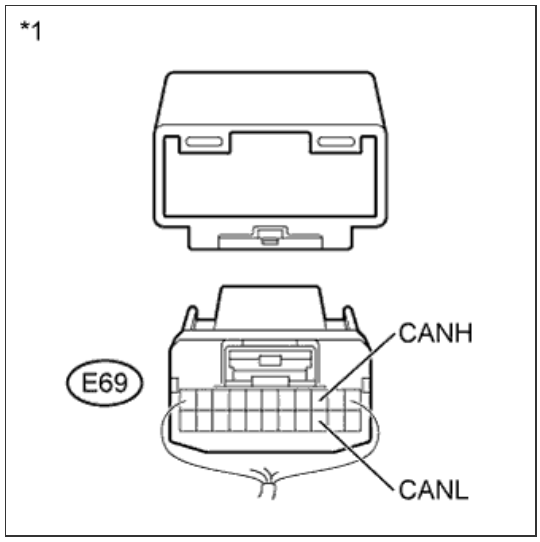
a. Measure the resistance according to the value(s) in the table below.

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)

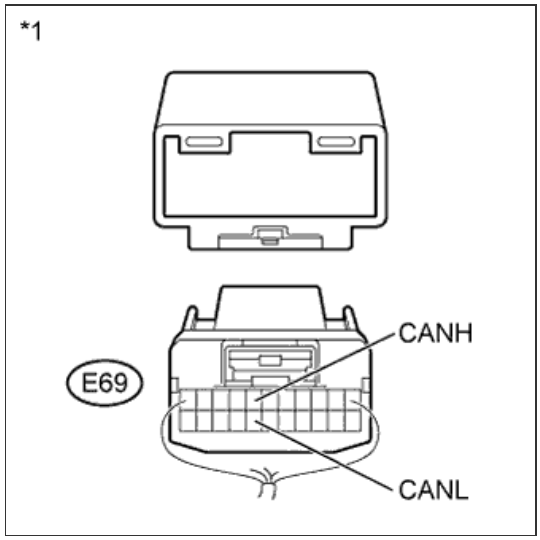


NG → Go to step 21

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.

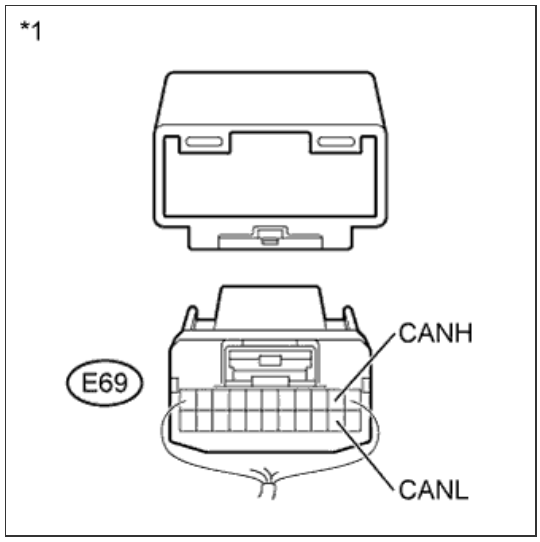
Standard Resistance:

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.

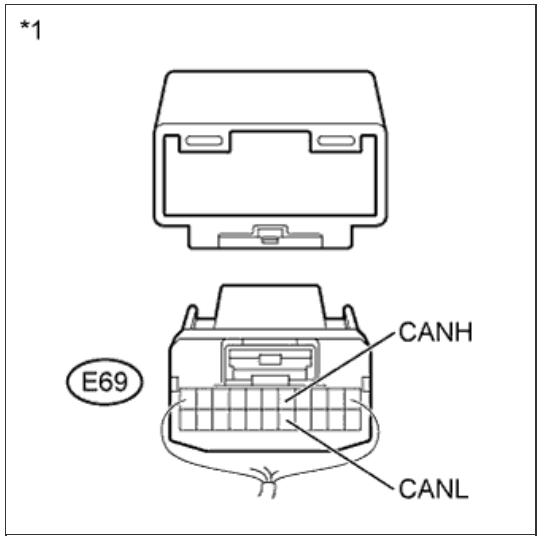
b. Measure the resistance according to the value(s) in the table below.

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.

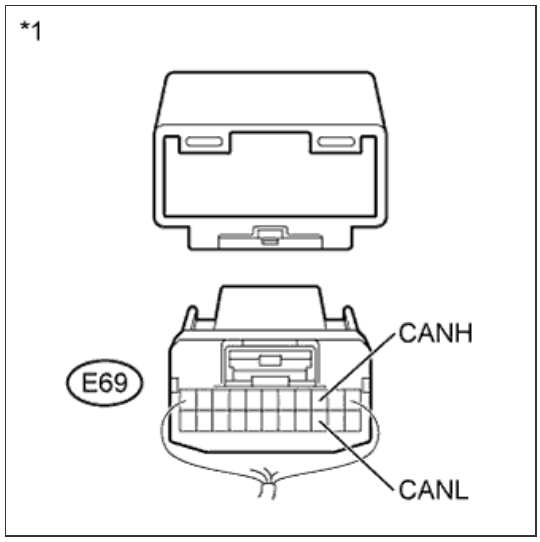
b. Measure the resistance according to the value(s) in the table below.

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.

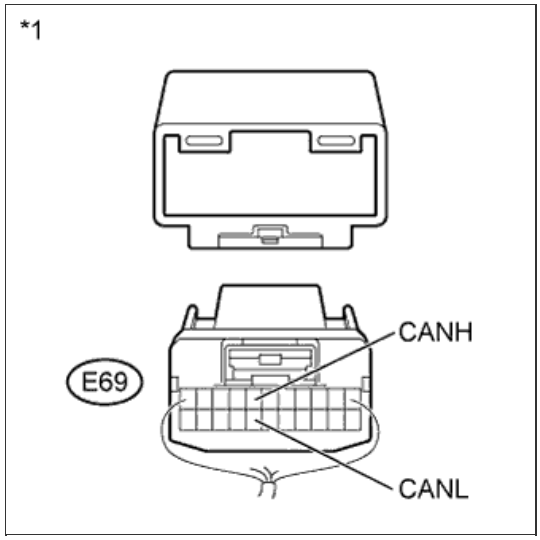
b. Measure the resistance according to the value(s) in the table below.

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.

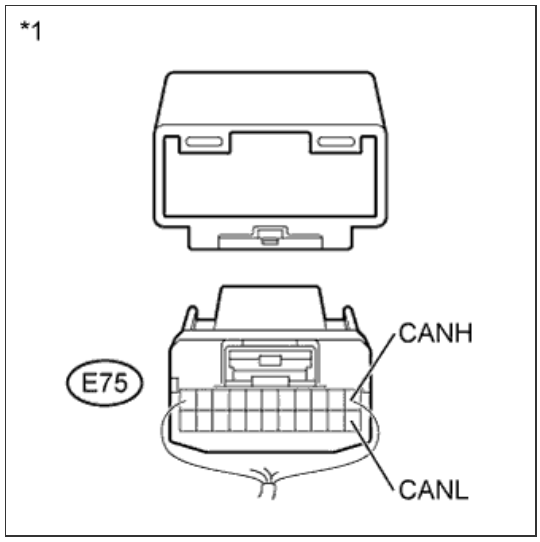
b. Measure the resistance according to the value(s) in the table below.

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)

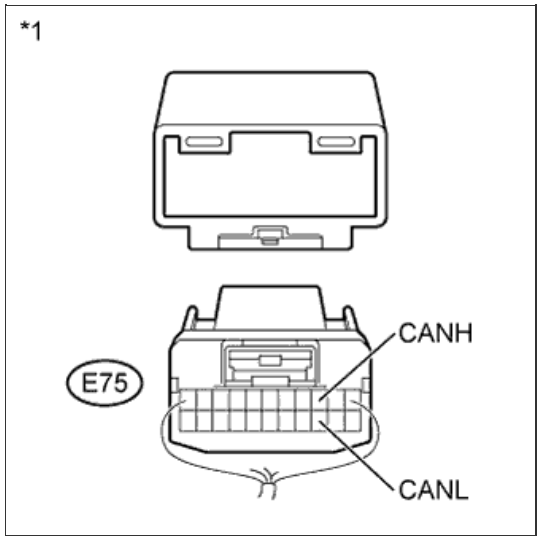
a. Measure the resistance according to the value(s) in the table below.

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.

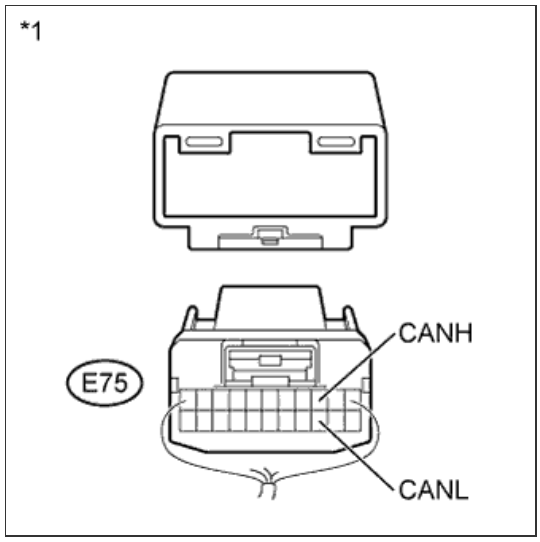
b. Measure the resistance according to the value(s) in the table below.

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 (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)

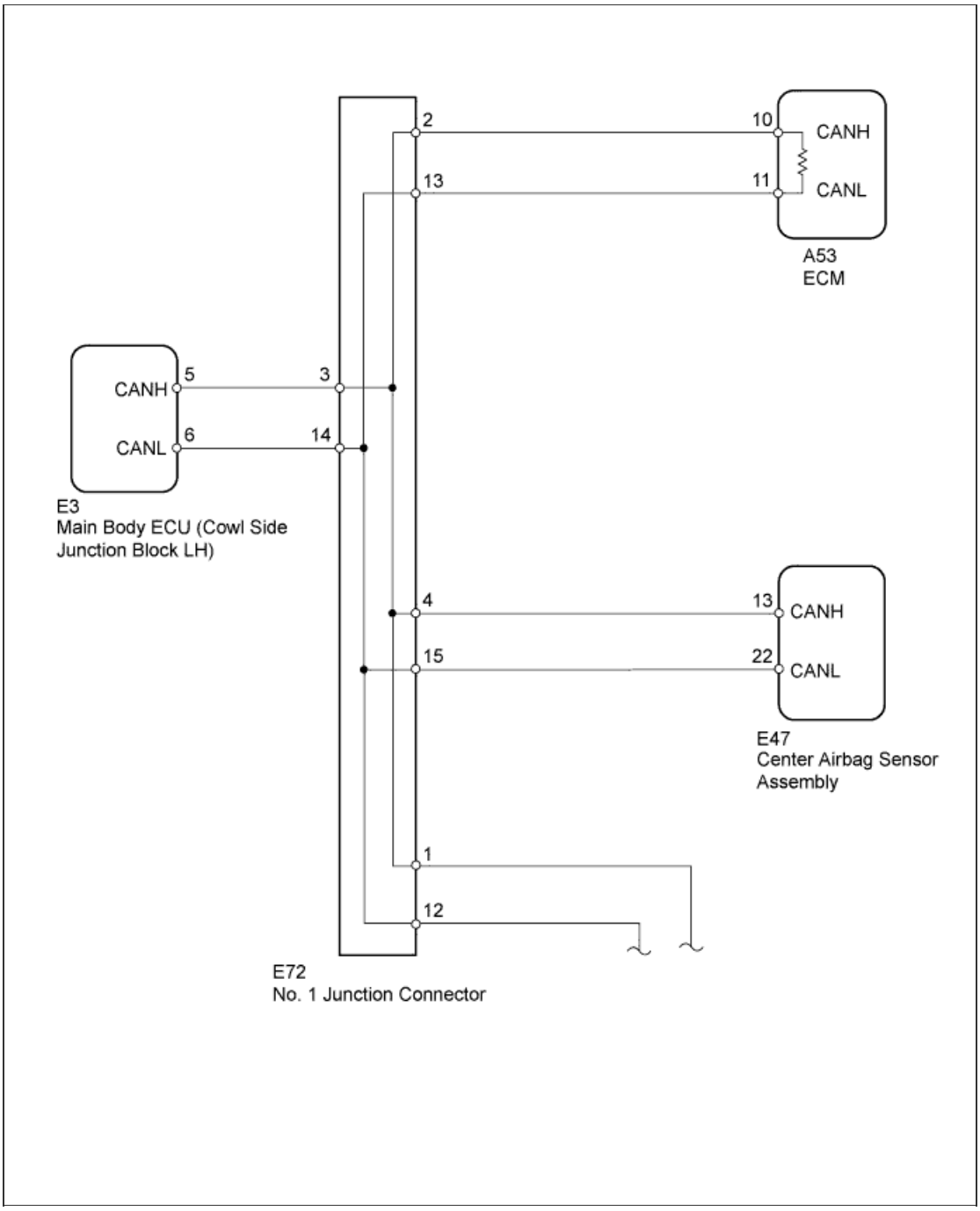
for Preparation Click here

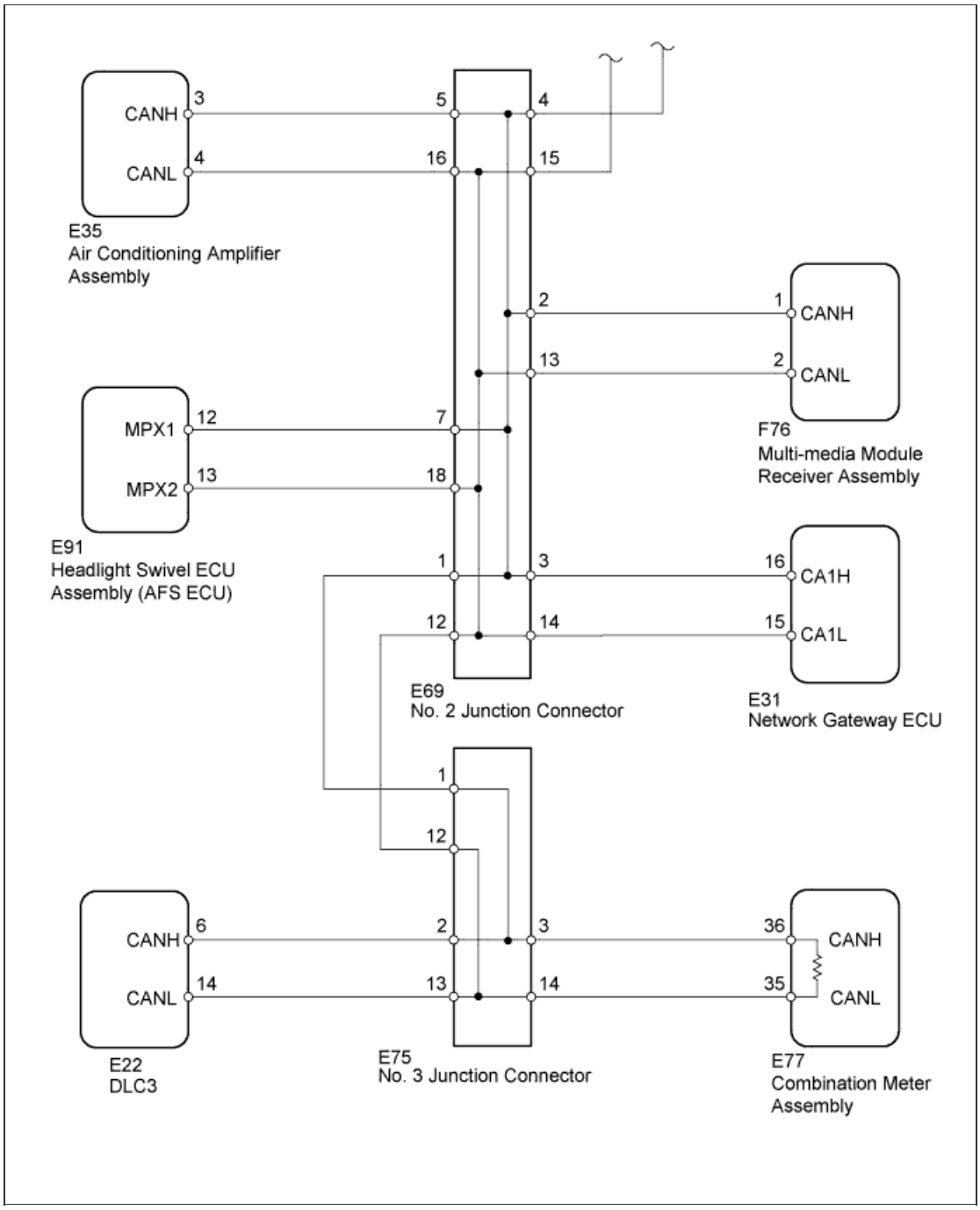
DESCRIPTION

There may be a short circuit between the CAN bus 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 • ECM • Center airbag sensor assembly • Multi-media module receiver assembly • Air conditioning amplifier assembly • Network gateway ECU • Main body ECU (cowl side junction block LH) • Headlight swivel ECU assembly (AFS ECU) • Combination meter assembly • No. 1 junction connector • No. 2 junction connector • 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

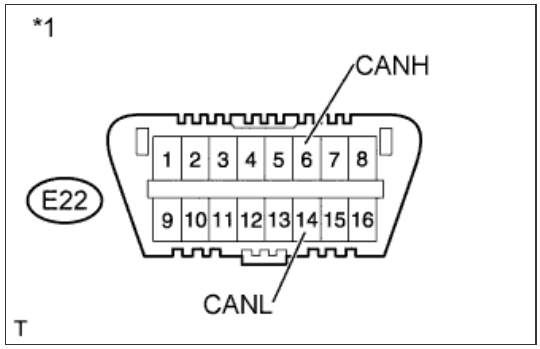
3.CHECK FOR SHORT IN CAN BUS WIRES (DLC3 BRANCH WIRE)

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

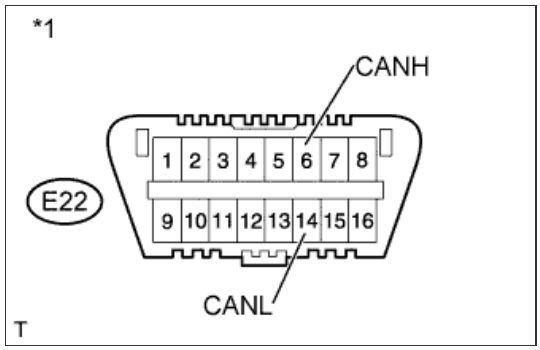
5.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR SIDE)

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)

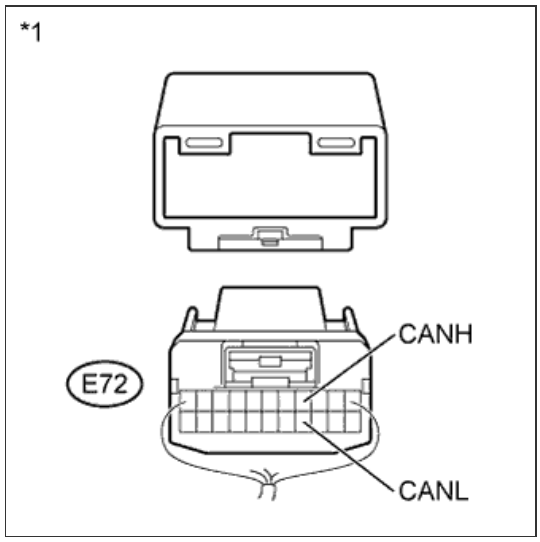
a. Measure the resistance according to the value(s) in the table below.

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)

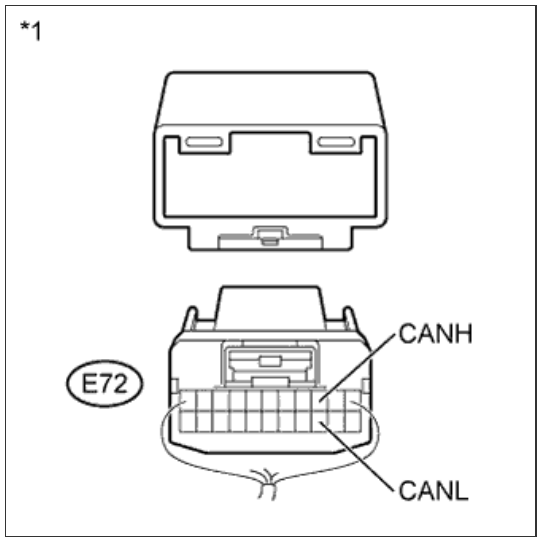
a. Measure the resistance according to the value(s) in the table below.

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.

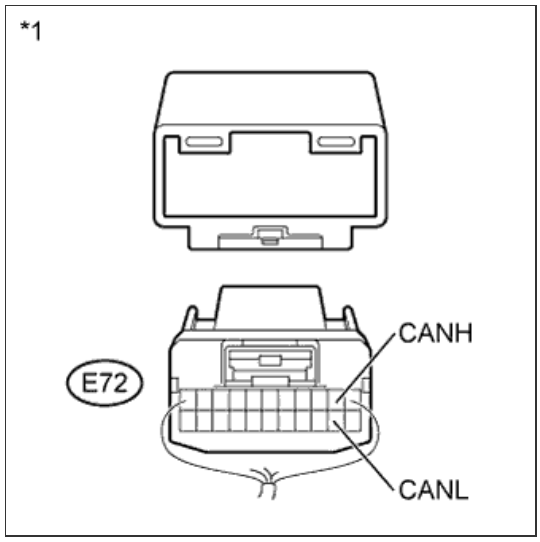
Standard Resistance:

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).

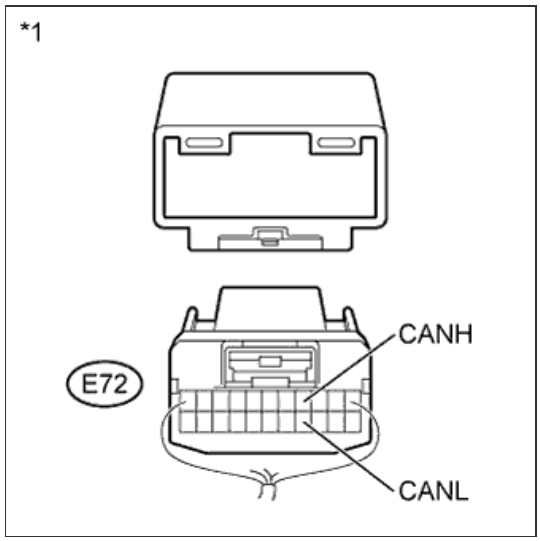
b. Measure the resistance according to the value(s) in the table below.

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.

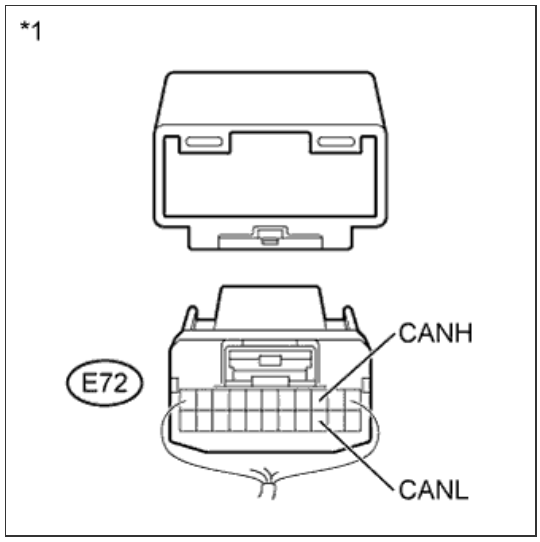
b. Measure the resistance according to the value(s) in the table below.

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.

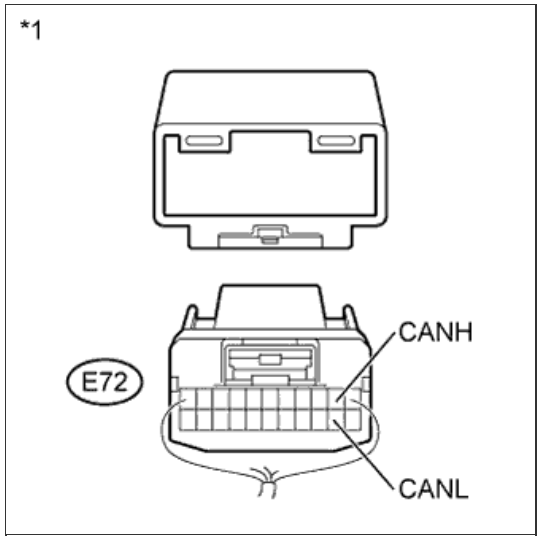
b. Measure the resistance according to the value(s) in the table below.

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.

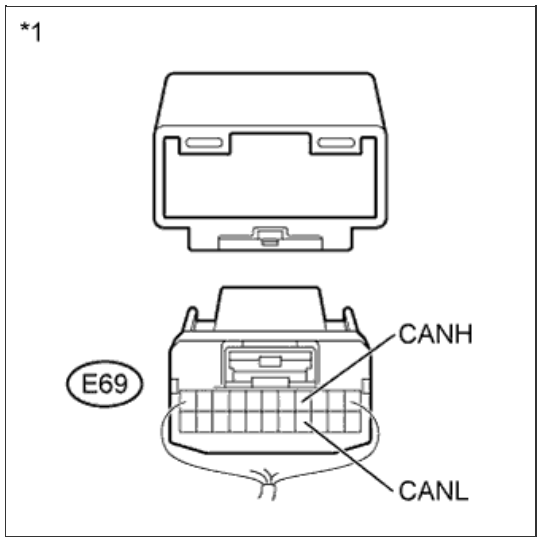
b. Measure the resistance according to the value(s) in the table below.

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)

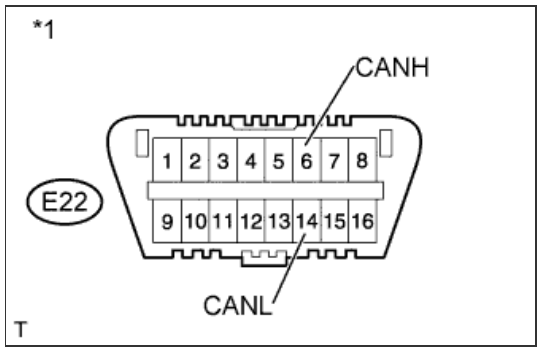
a. Measure the resistance according to the value(s) in the table below.

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)

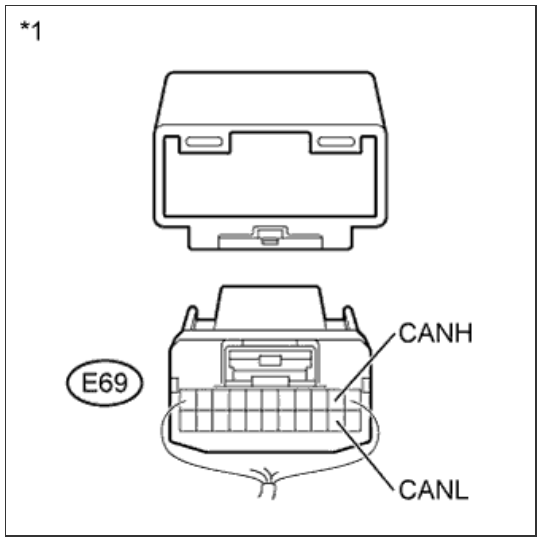
a. Measure the resistance according to the value(s) in the table below.

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)

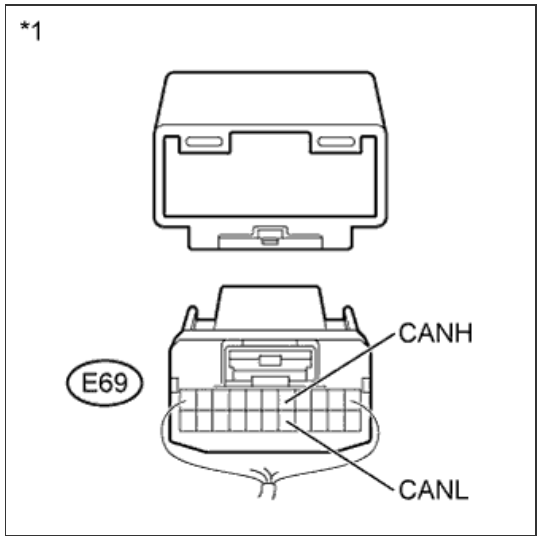


NG → Go to step 19

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)

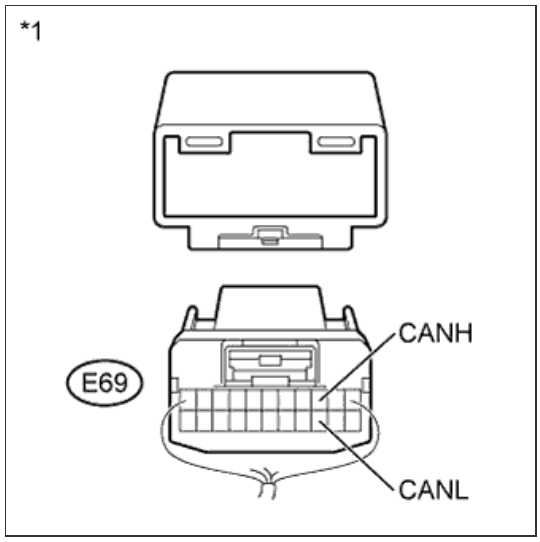
a. Measure the resistance according to the value(s) in the table below.

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)

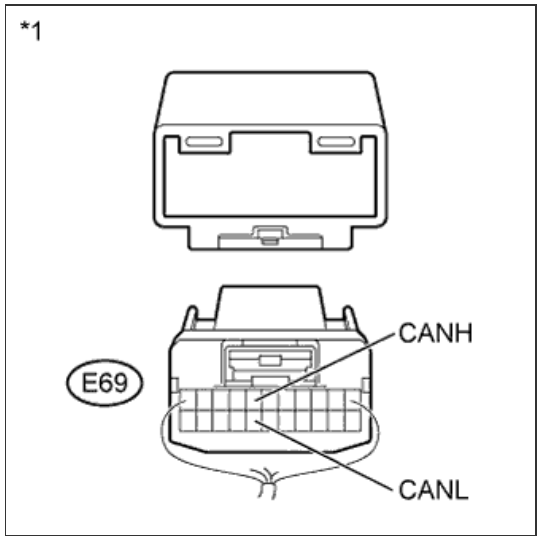


NG → Go to step 21

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.

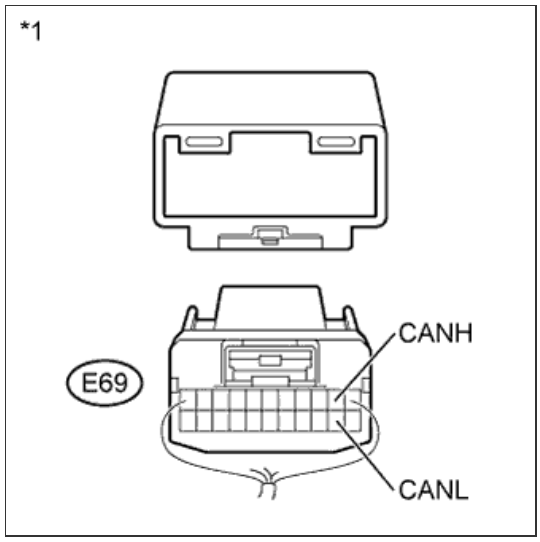
Standard Resistance:

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.

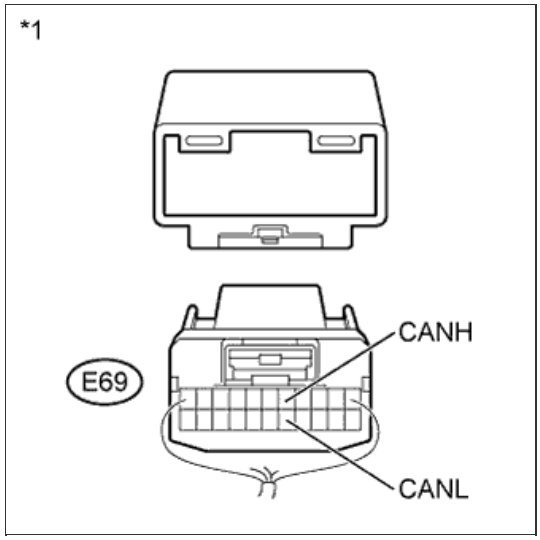
b. Measure the resistance according to the value(s) in the table below.

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.

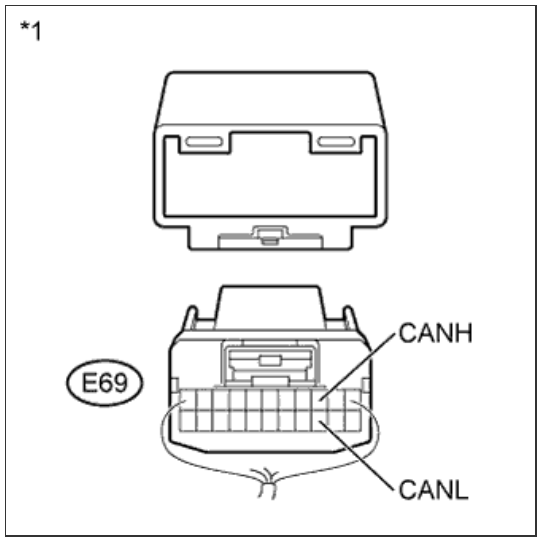
b. Measure the resistance according to the value(s) in the table below.

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.

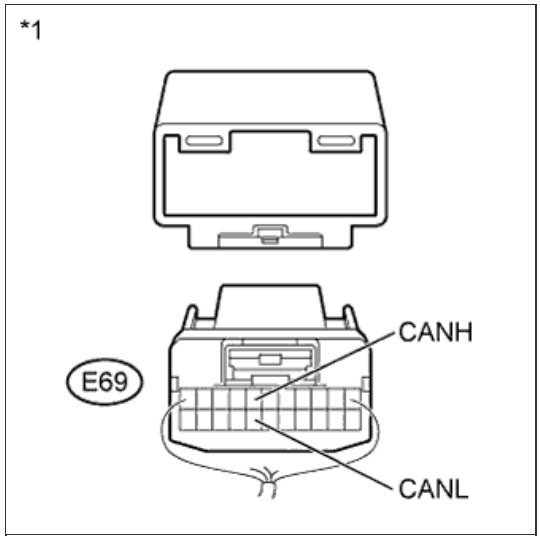
b. Measure the resistance according to the value(s) in the table below.

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.

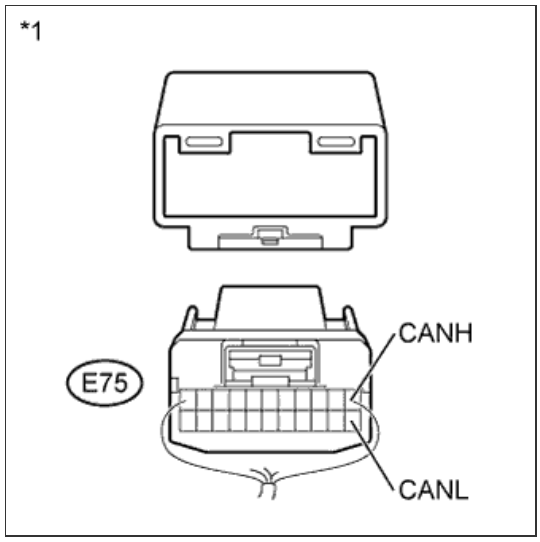
b. Measure the resistance according to the value(s) in the table below.

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)

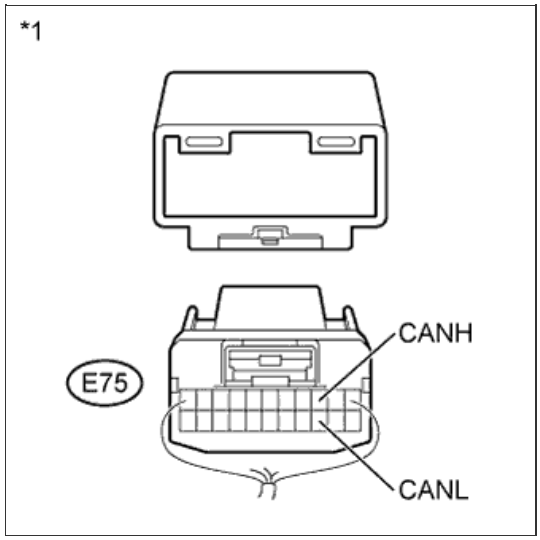
a. Measure the resistance according to the value(s) in the table below.

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.

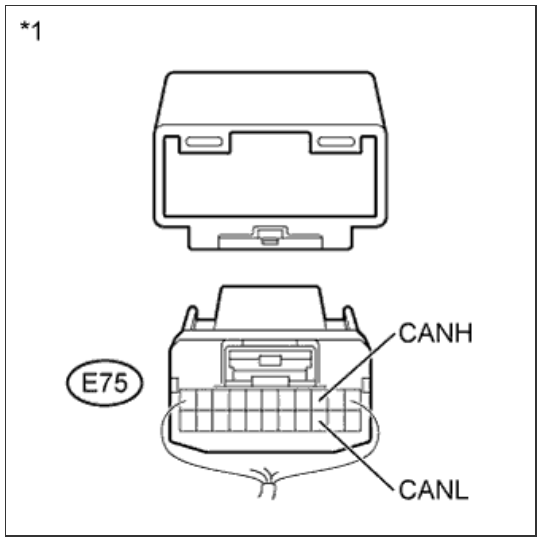
b. Measure the resistance according to the value(s) in the table below.

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 (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)

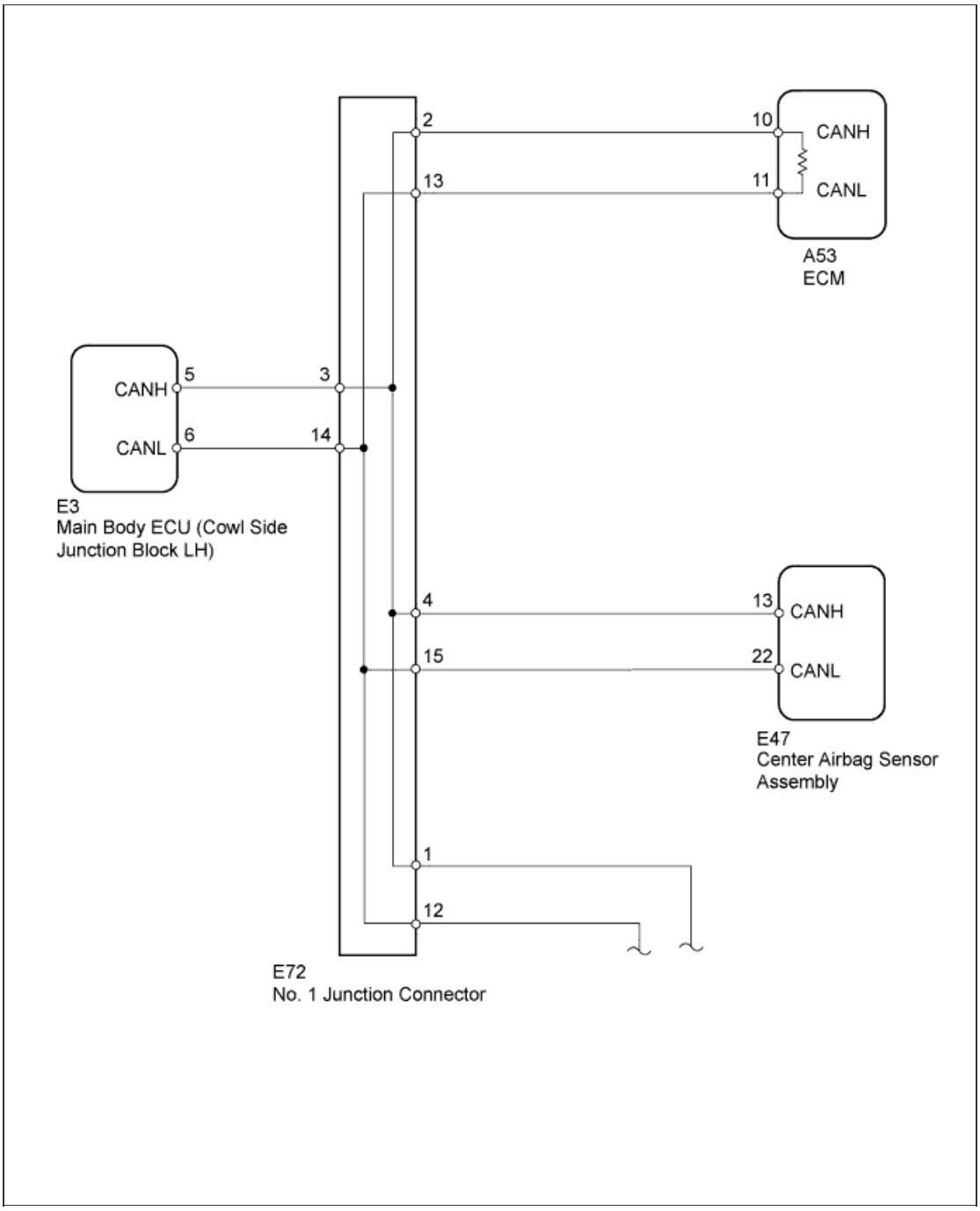
for Preparation Click here

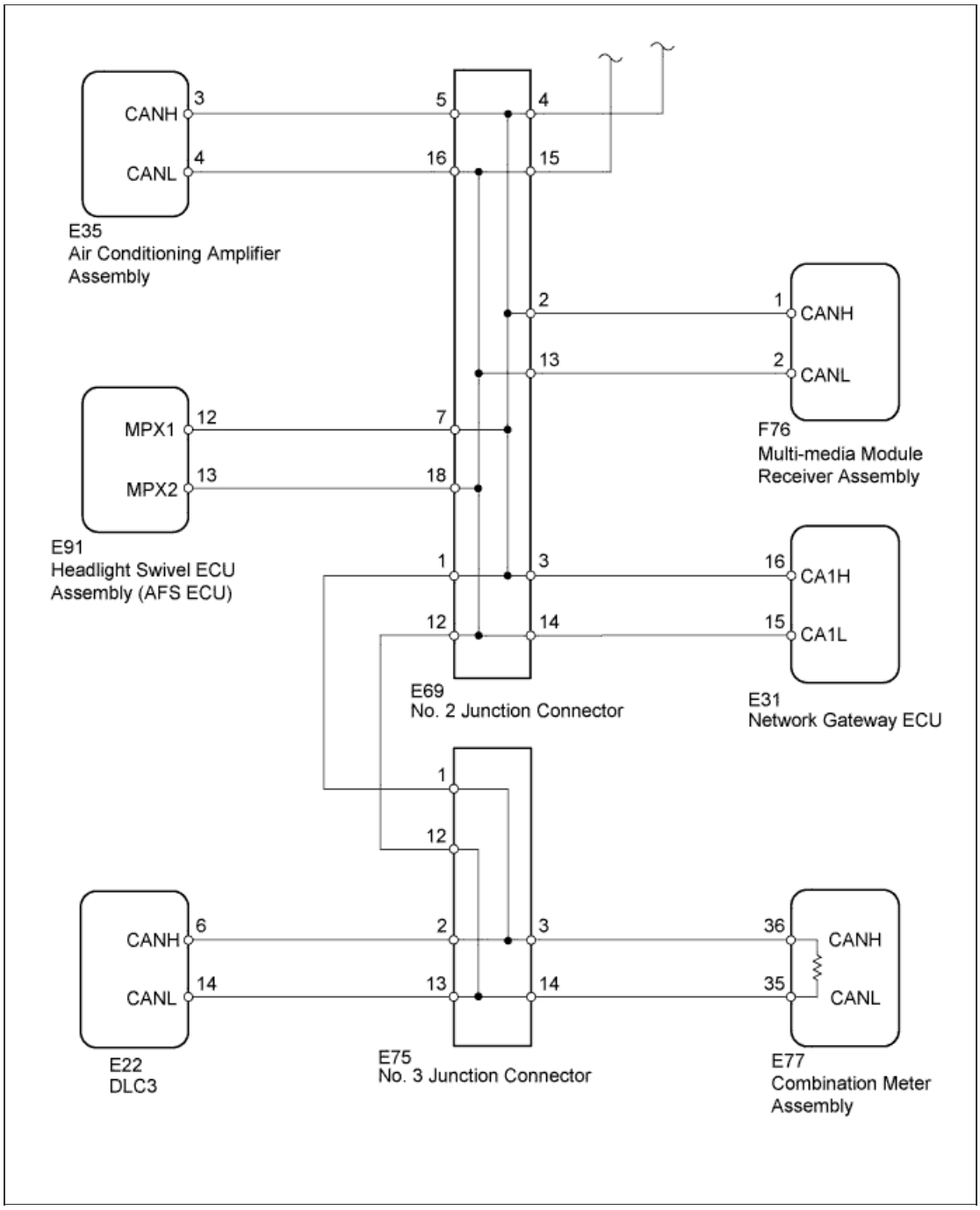
DESCRIPTION

There may be a short circuit between the CAN bus 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 • ECM • Center airbag sensor assembly • Multi-media module receiver assembly • Air conditioning amplifier assembly • Network gateway ECU • Main body ECU (cowl side junction block LH) • Headlight swivel ECU assembly (AFS ECU) • Combination meter assembly • No. 1 junction connector • No. 2 junction connector • 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

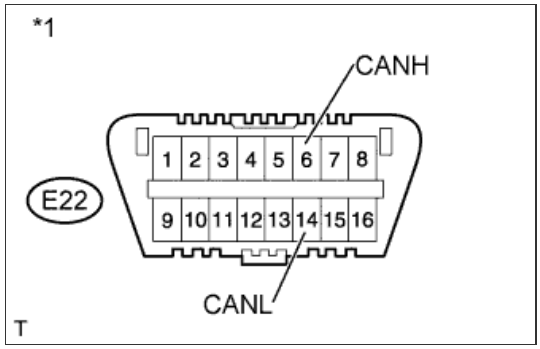
3.CHECK FOR SHORT IN CAN BUS WIRES (DLC3 BRANCH WIRE)

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

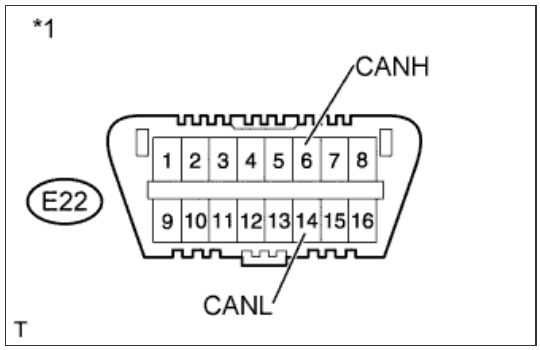
5.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR SIDE)

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)

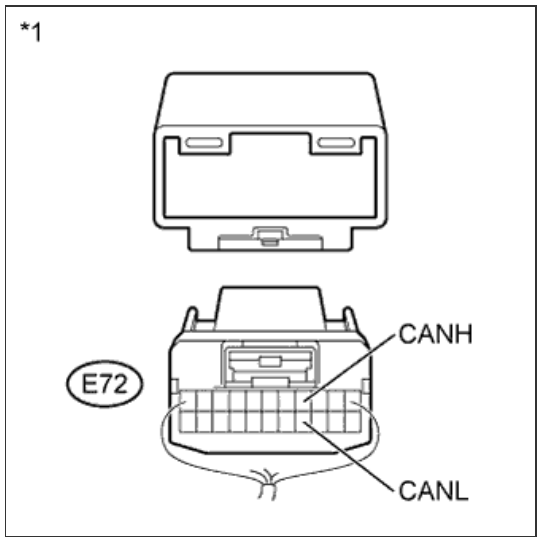
a. Measure the resistance according to the value(s) in the table below.

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)

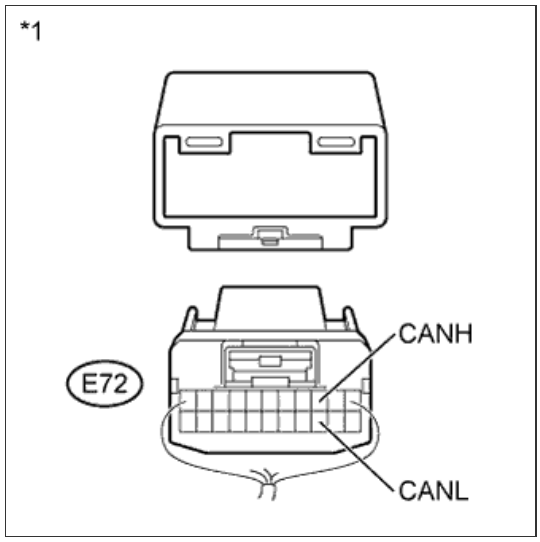
a. Measure the resistance according to the value(s) in the table below.

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.

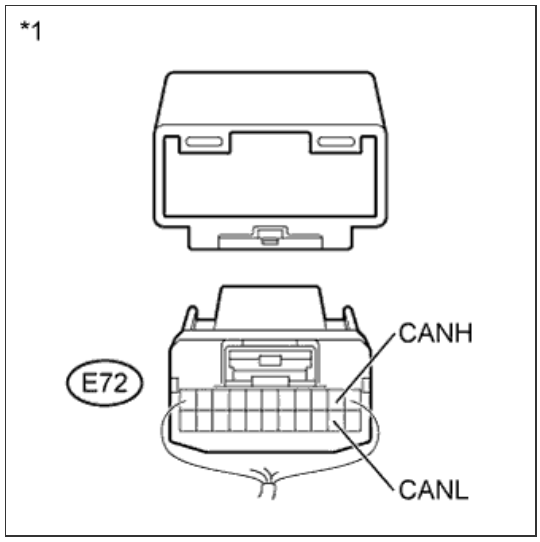
Standard Resistance:

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).

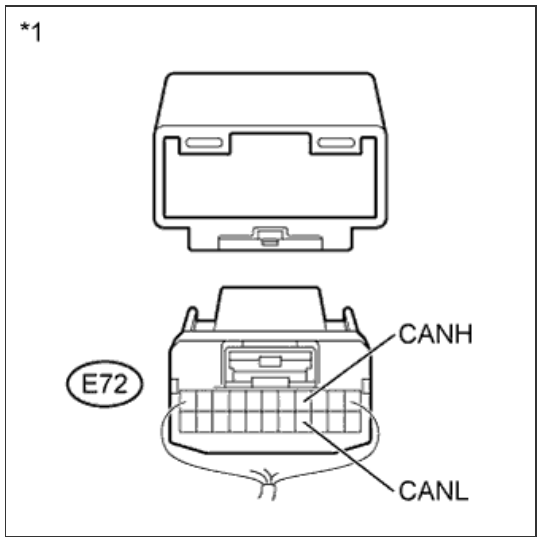
b. Measure the resistance according to the value(s) in the table below.

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.

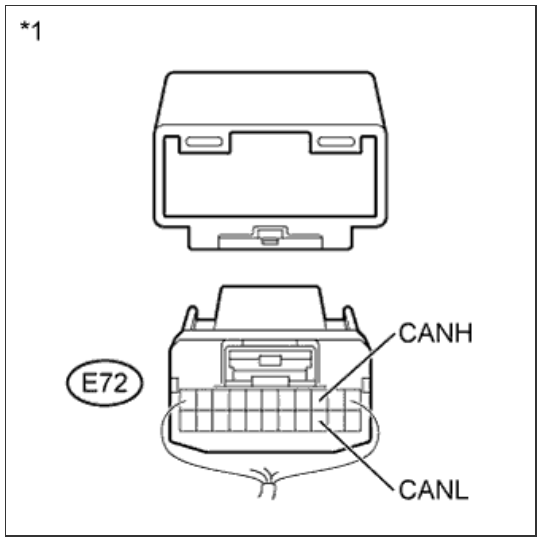
b. Measure the resistance according to the value(s) in the table below.

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.

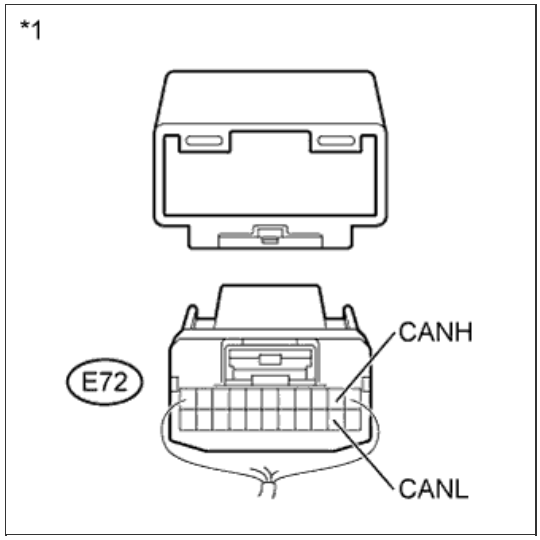
b. Measure the resistance according to the value(s) in the table below.

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.

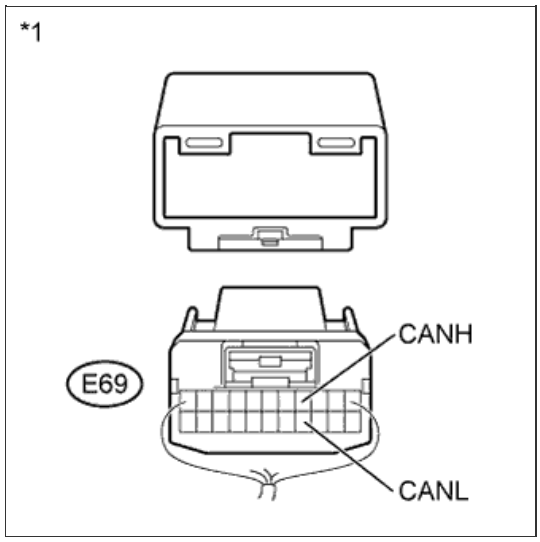
b. Measure the resistance according to the value(s) in the table below.

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)

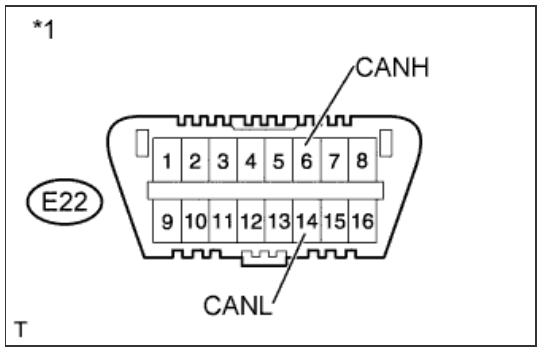
a. Measure the resistance according to the value(s) in the table below.

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)

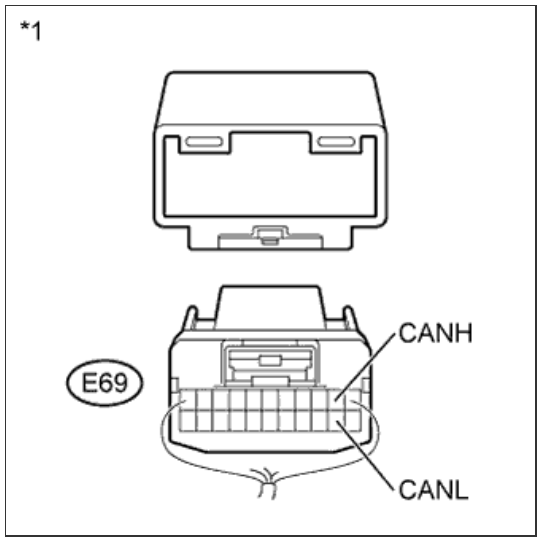
a. Measure the resistance according to the value(s) in the table below.

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)

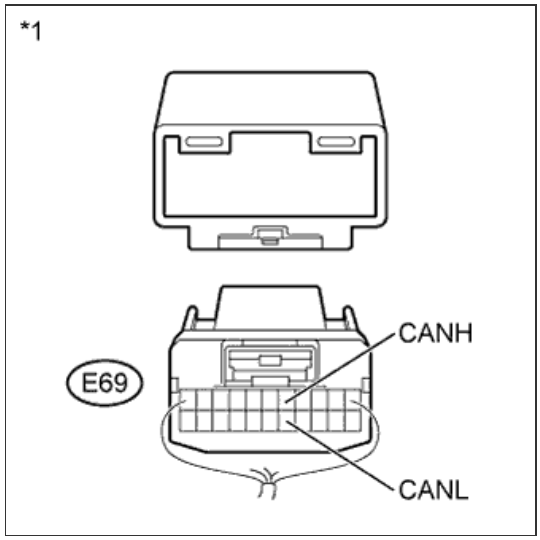


NG → Go to step 19

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)

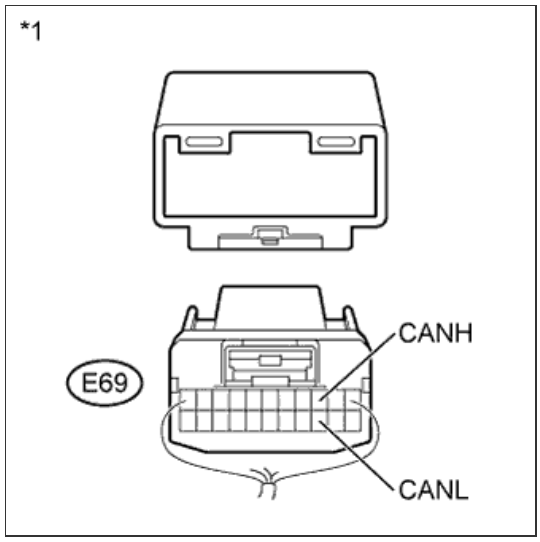
a. Measure the resistance according to the value(s) in the table below.

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)

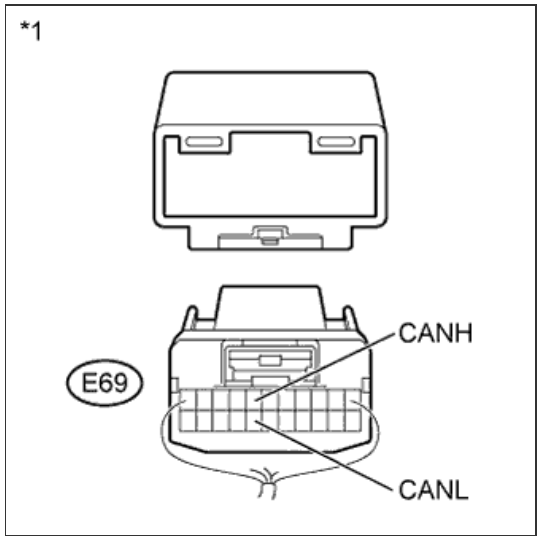


NG → Go to step 21

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.

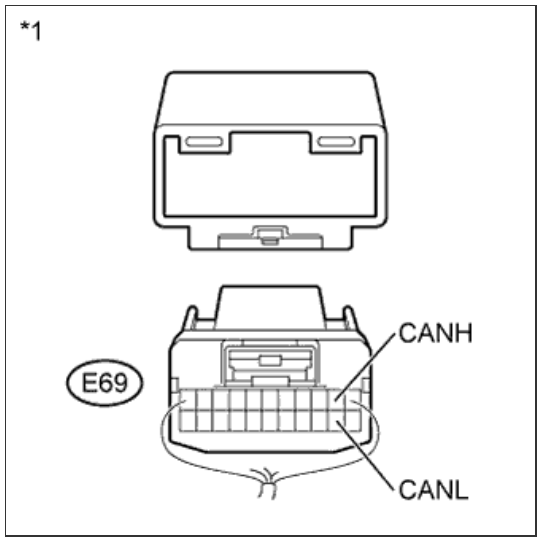
Standard Resistance:

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.

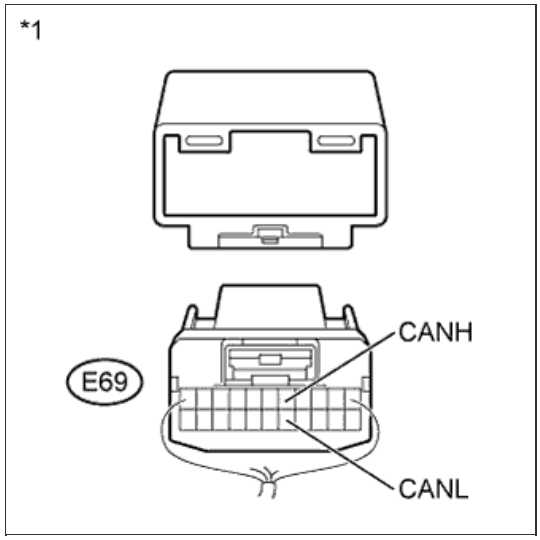
b. Measure the resistance according to the value(s) in the table below.

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.

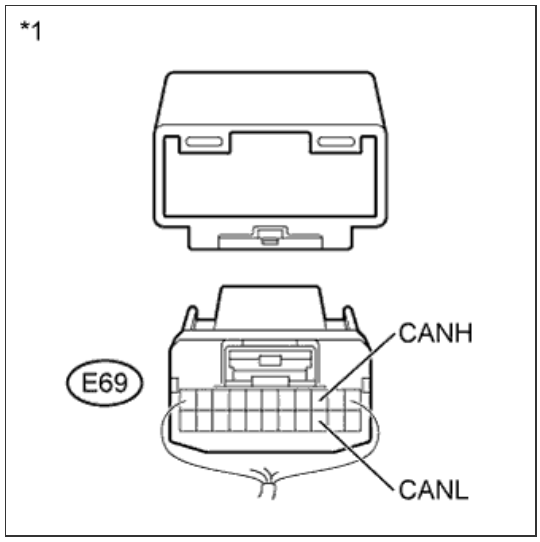
b. Measure the resistance according to the value(s) in the table below.

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.

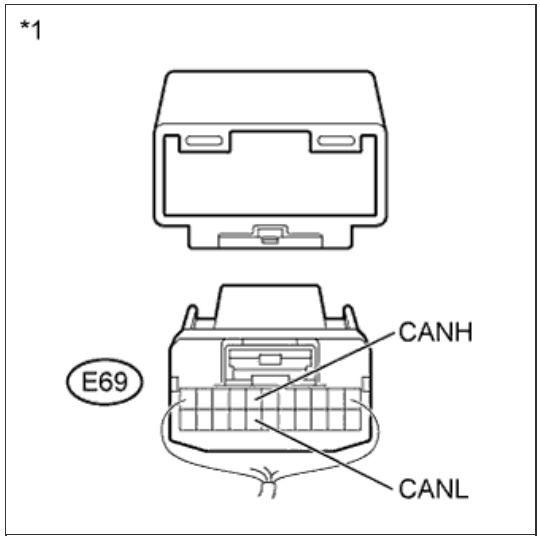
b. Measure the resistance according to the value(s) in the table below.

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.

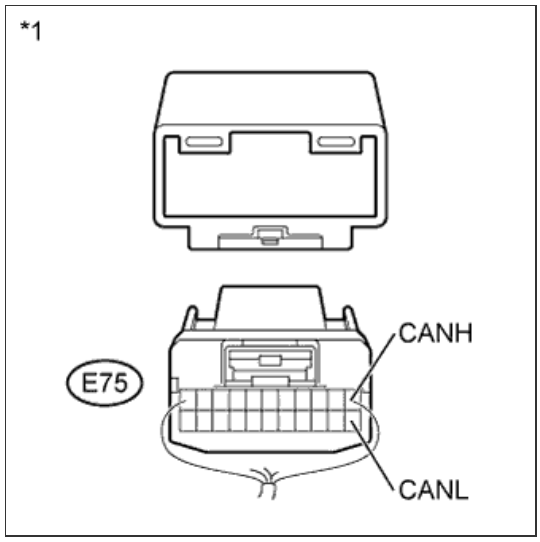
b. Measure the resistance according to the value(s) in the table below.

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)

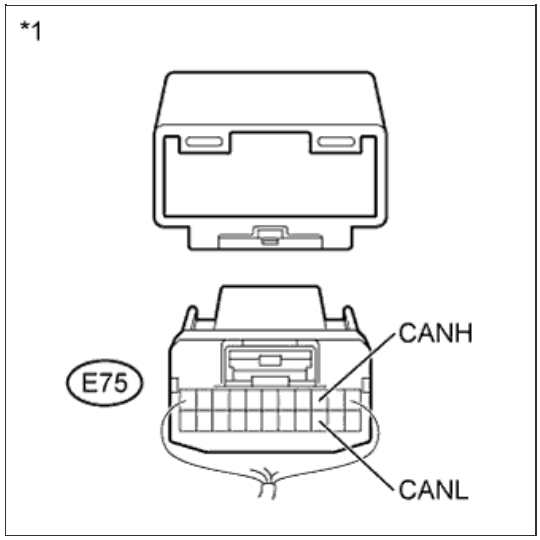
a. Measure the resistance according to the value(s) in the table below.

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.

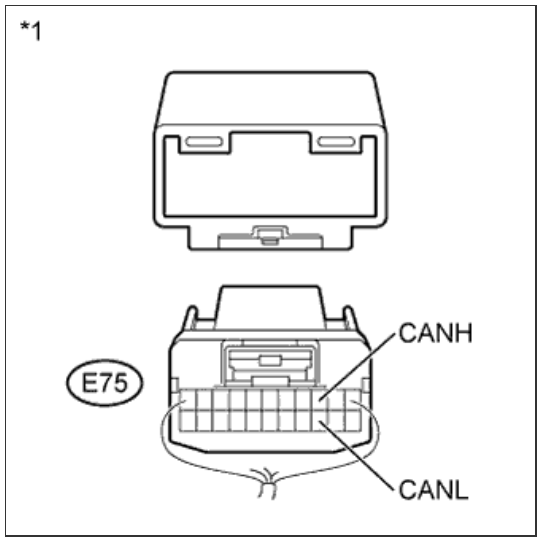
b. Measure the resistance according to the value(s) in the table below.

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 (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)

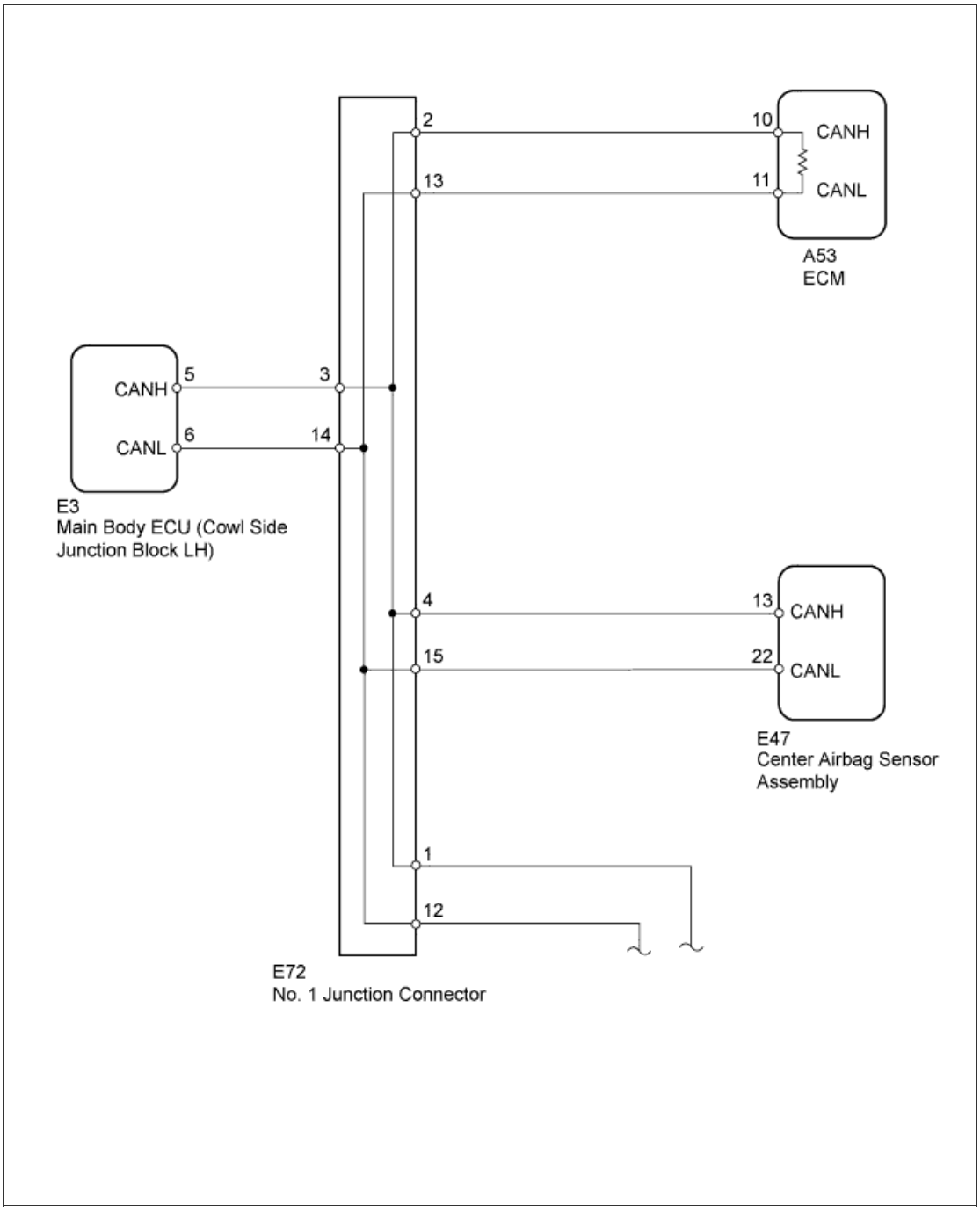
for Preparation Click here

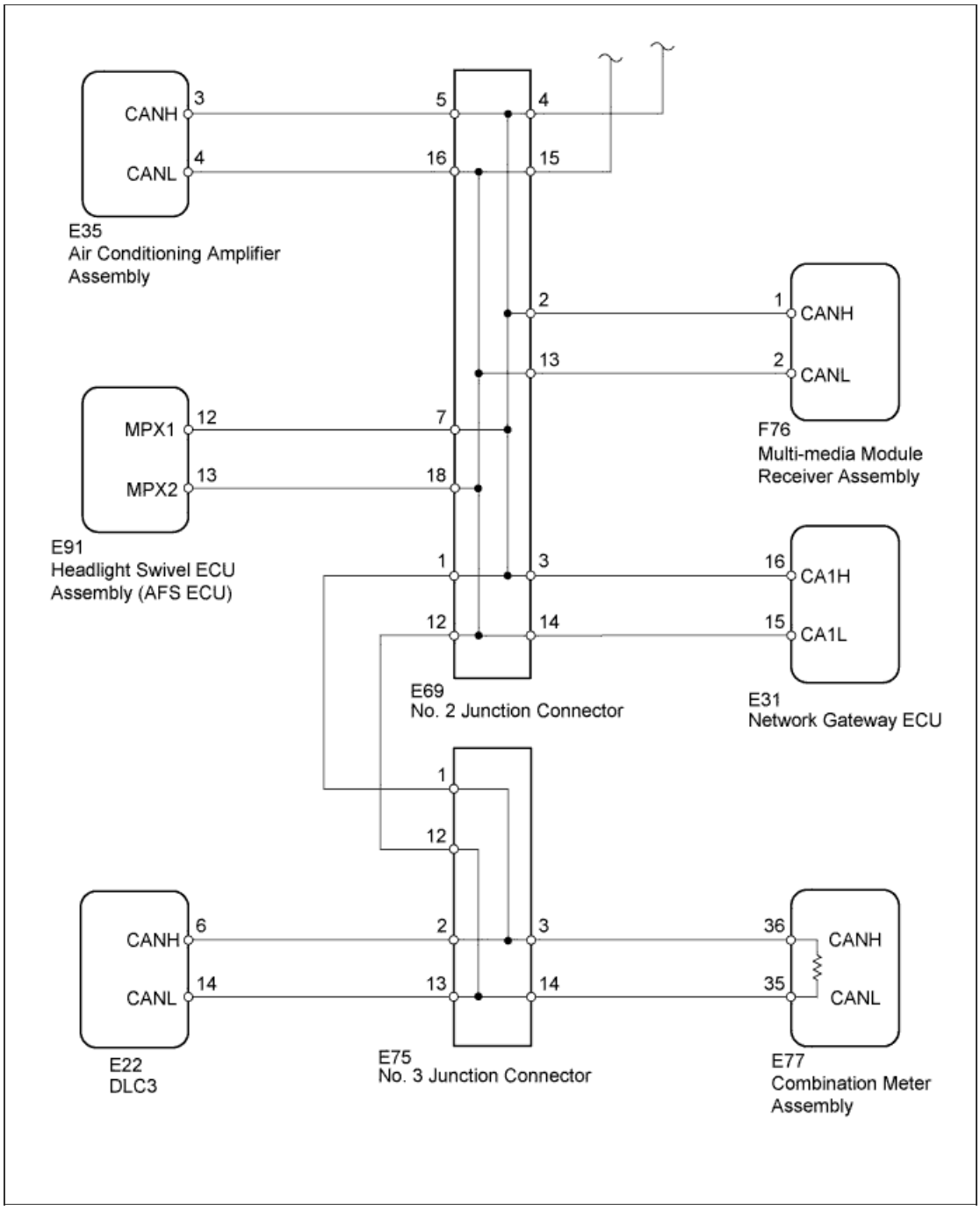
DESCRIPTION

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 • ECM • Center airbag sensor assembly • Multi-media module receiver assembly • Air conditioning amplifier assembly • Network gateway ECU • Main body ECU (cowl side junction block LH) • Headlight swivel ECU assembly (AFS ECU) • Combination meter assembly • No. 1 junction connector • No. 2 junction connector • 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

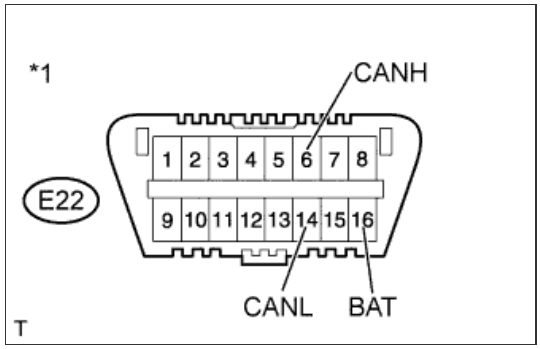
3.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (DLC3 BRANCH WIRE)

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

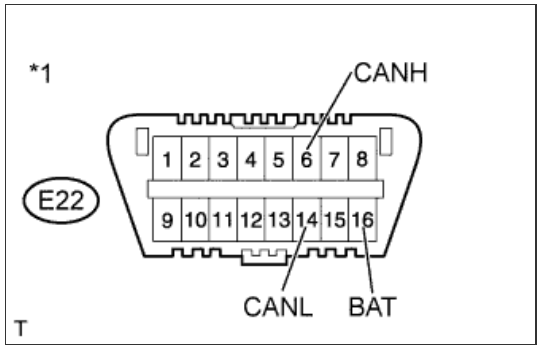
5.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR SIDE)

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)

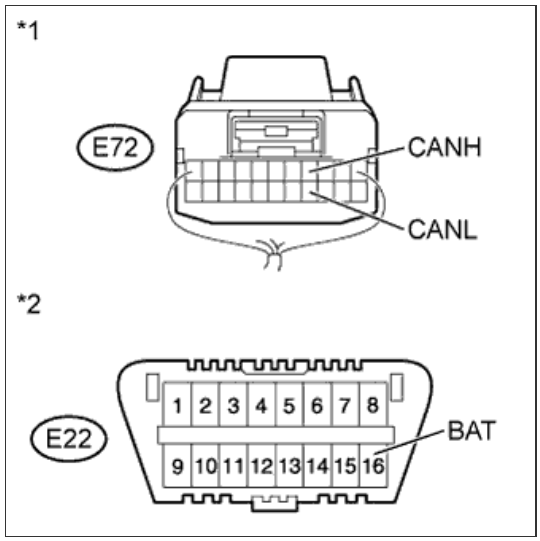
a. Measure the resistance according to the value(s) in the table below.

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)

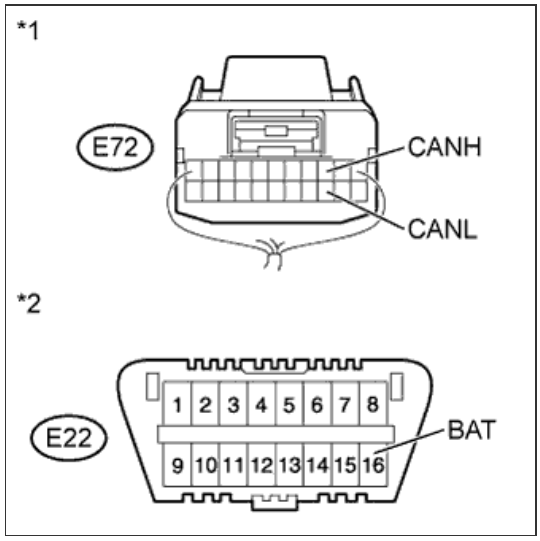
a. Measure the resistance according to the value(s) in the table below.

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.

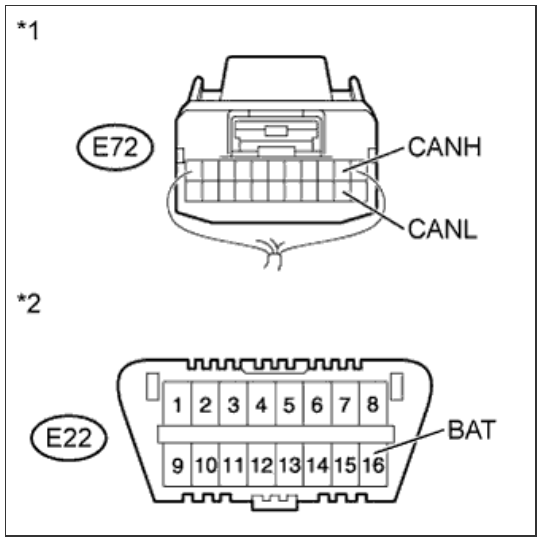
Standard Resistance:

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).

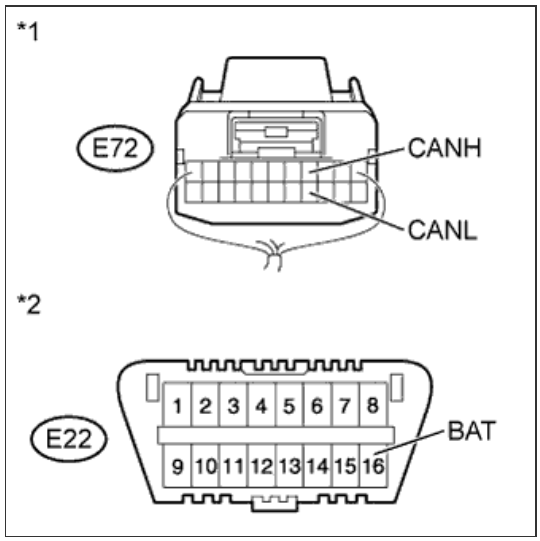
b. Measure the resistance according to the value(s) in the table below.

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.

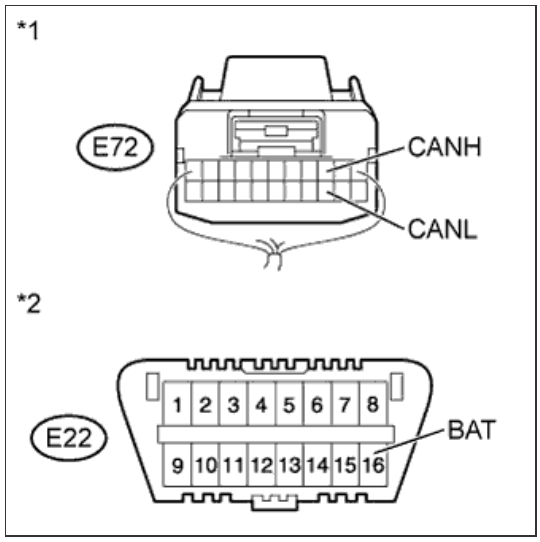
Standard Resistance:

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:

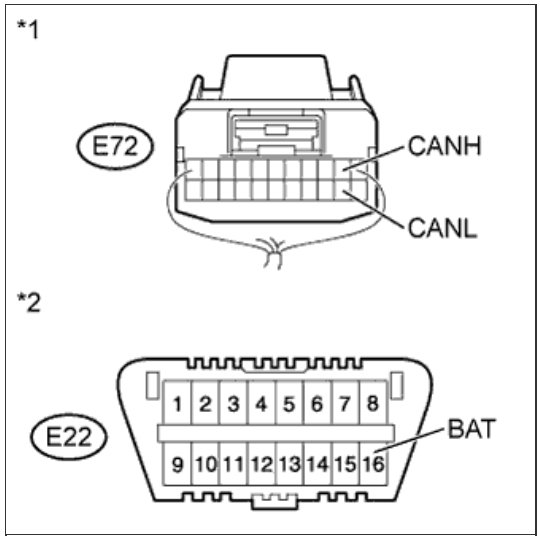
Tester Connection	Switch Condition	Specified Condition
E72-2 (CANH) - E22-16 (BAT)	Engine switch off	6 kΩ or higher
E72-13 (CANL) - E22-16 (BAT)	Engine switch off	6 kΩ or higher

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.

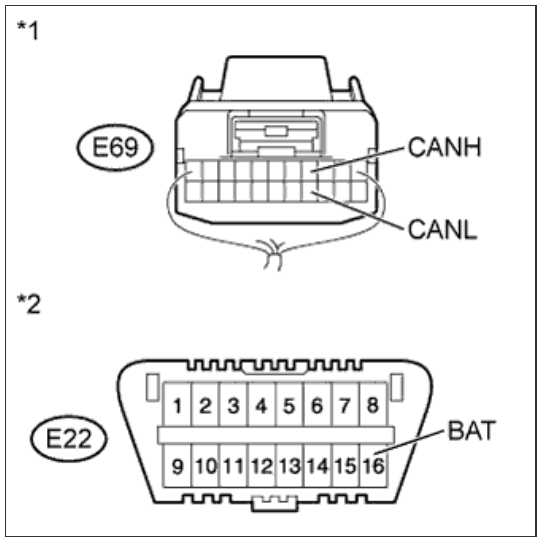
b. Measure the resistance according to the value(s) in the table below.

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)

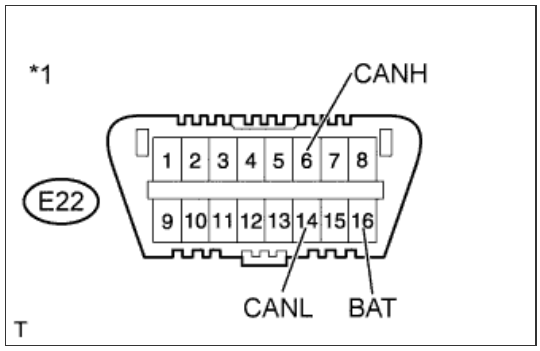
a. Measure the resistance according to the value(s) in the table below.

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.

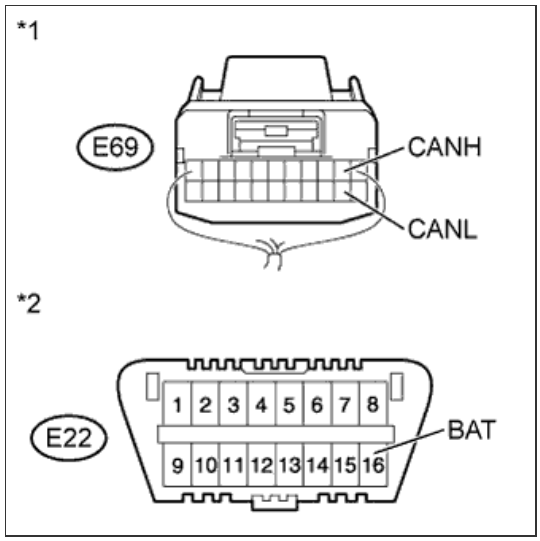
Standard Resistance:

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)

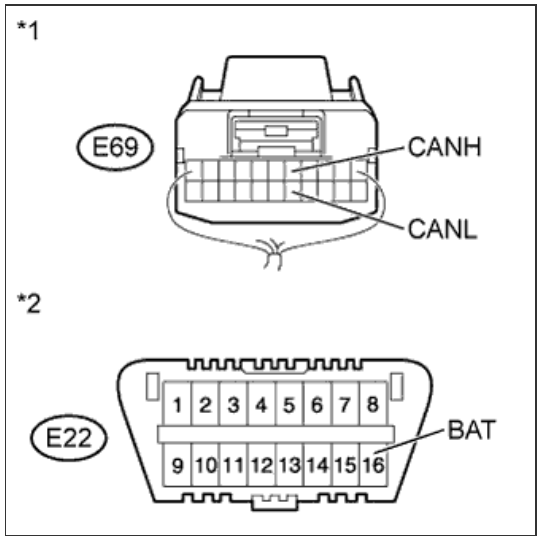
a. Measure the resistance according to the value(s) in the table below.

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.

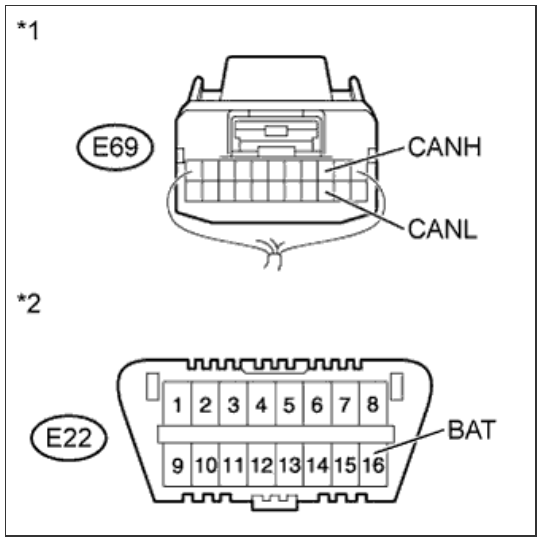
Standard Resistance:

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)

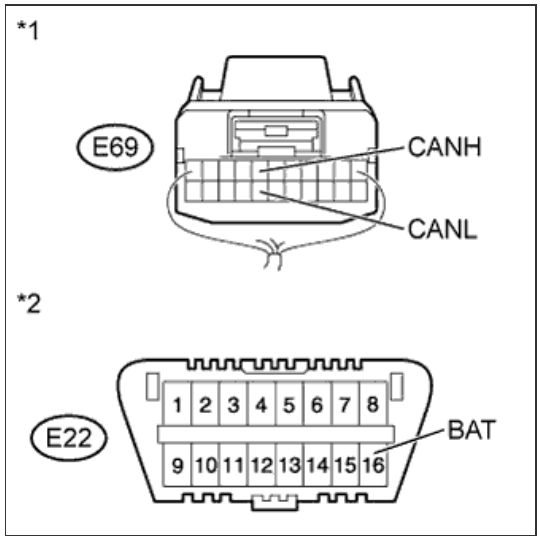
a. Measure the resistance according to the value(s) in the table below.

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.

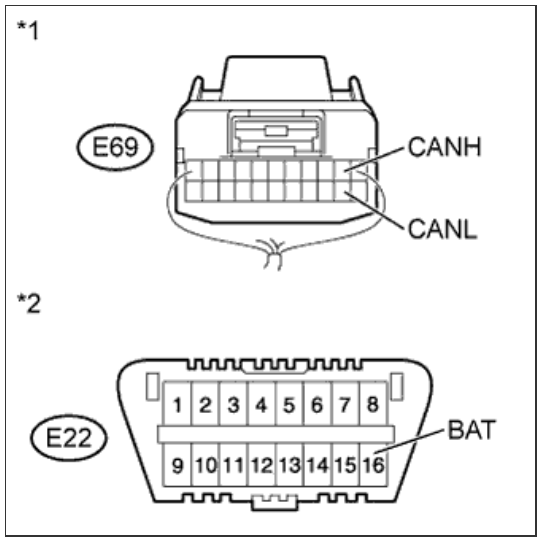
b. Measure the resistance according to the value(s) in the table below.

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.

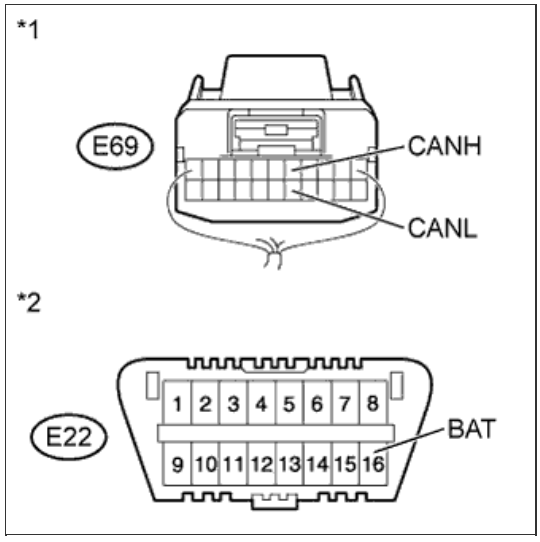
b. Measure the resistance according to the value(s) in the table below.

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.

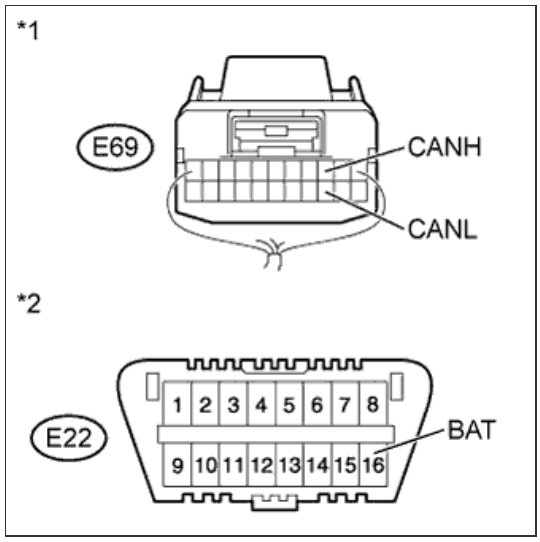
Standard Resistance:

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.

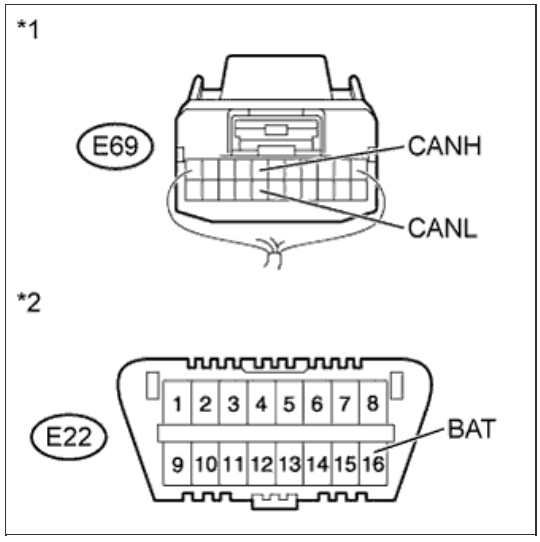
b. Measure the resistance according to the value(s) in the table below.

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.

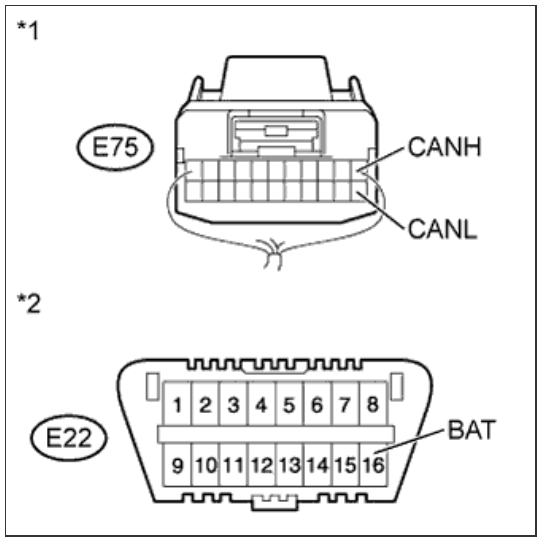
b. Measure the resistance according to the value(s) in the table below.

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)

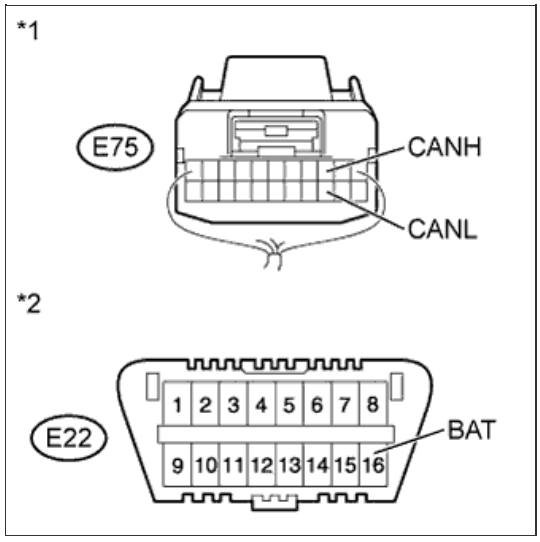
a. Measure the resistance according to the value(s) in the table below.

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.

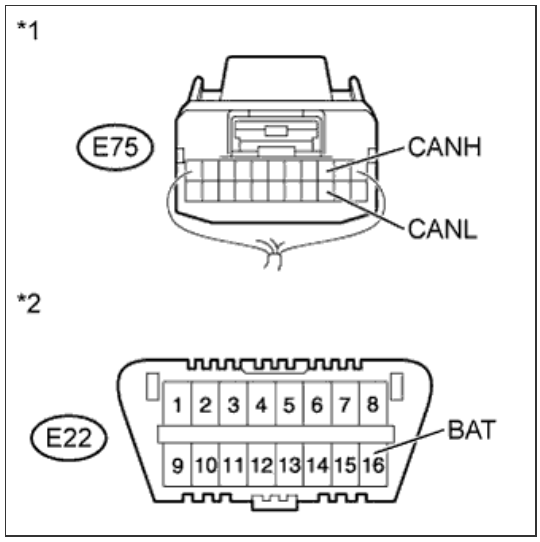
b. Measure the resistance according to the value(s) in the table below.

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 (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)

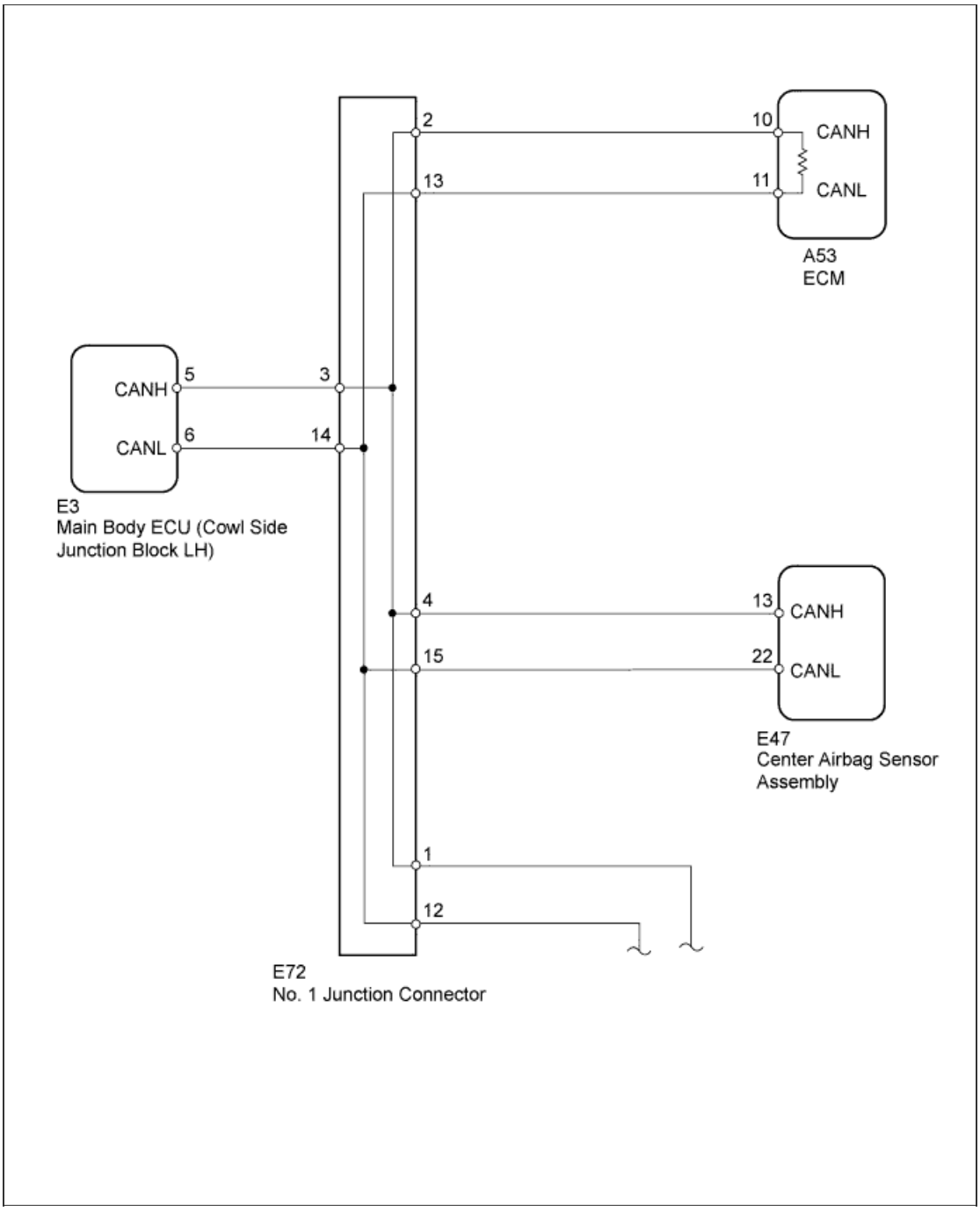
for Preparation Click here

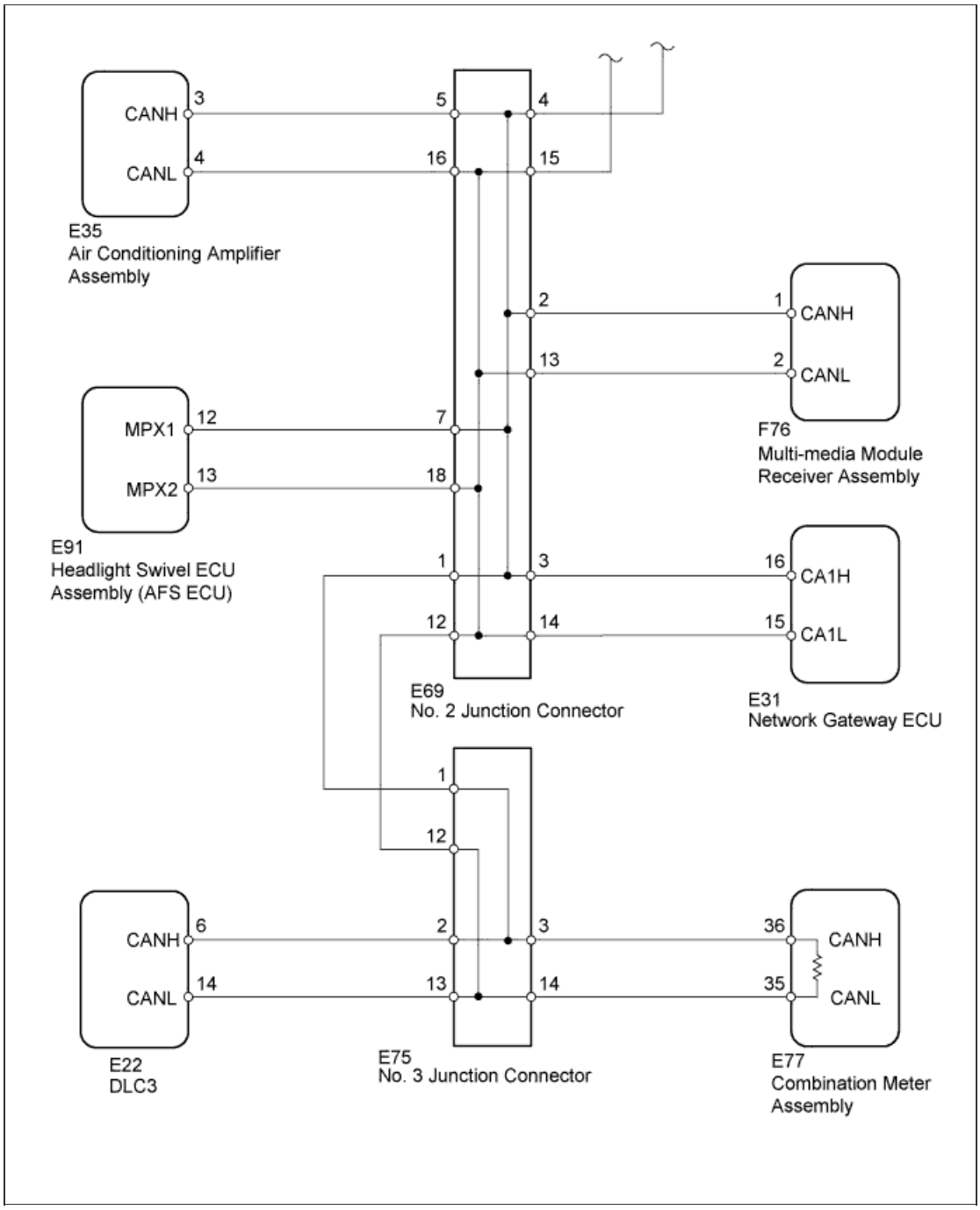
DESCRIPTION

There may be a short circuit between the CAN bus line and +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 • ECM • Center airbag sensor assembly • Multi-media module receiver assembly • Air conditioning amplifier assembly • Network gateway ECU • Main body ECU (cowl side junction block LH) • Headlight swivel ECU assembly (AFS ECU) • Combination meter assembly • No. 1 junction connector • No. 2 junction connector • 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

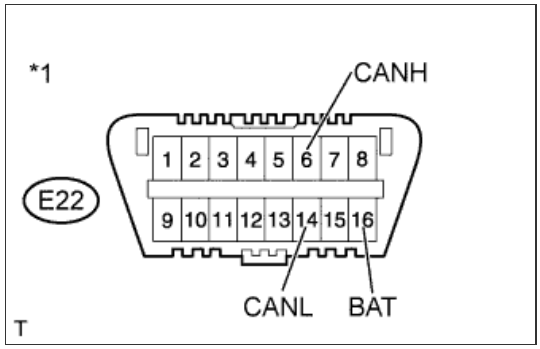
3.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (DLC3 BRANCH WIRE)

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

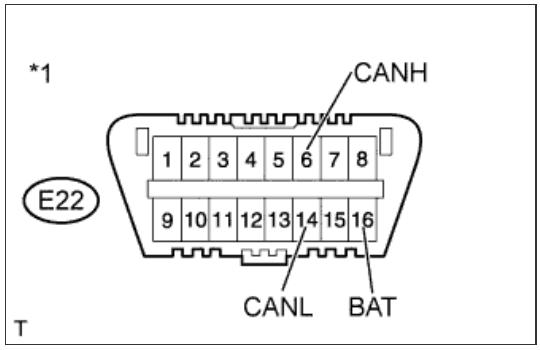
5.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR SIDE)

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)

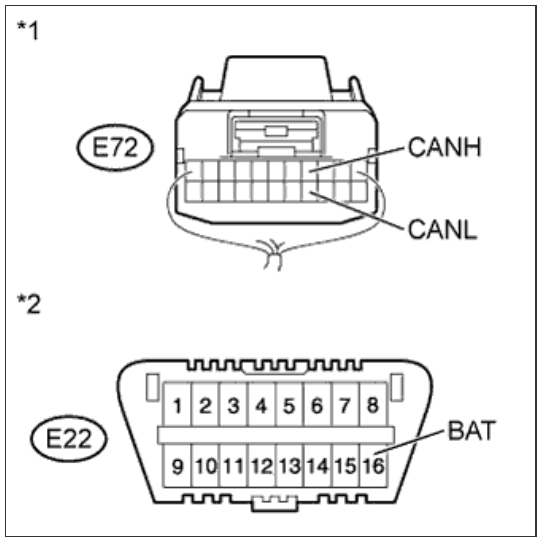
a. Measure the resistance according to the value(s) in the table below.

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)

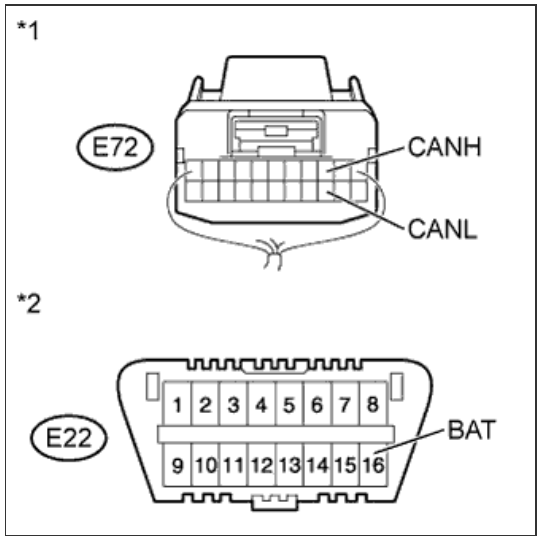
a. Measure the resistance according to the value(s) in the table below.

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.

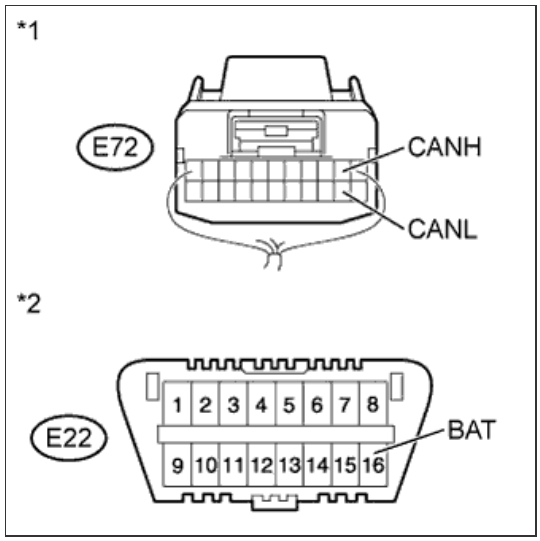
Standard Resistance:

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).

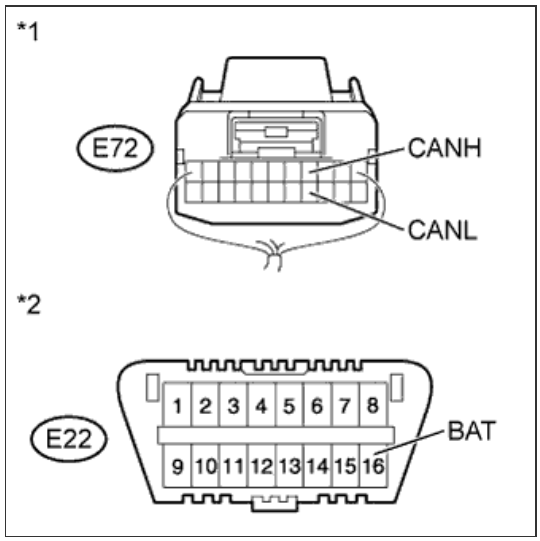
b. Measure the resistance according to the value(s) in the table below.

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.

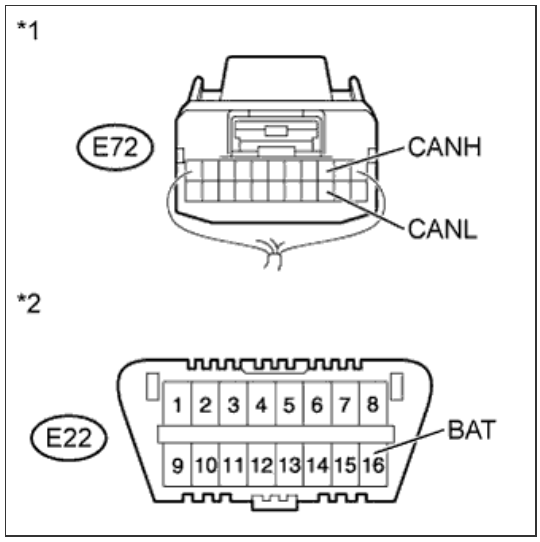
Standard Resistance:

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:

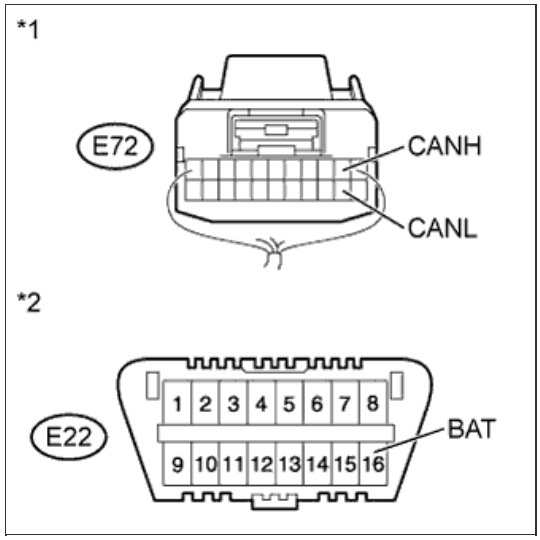
Tester Connection	Switch Condition	Specified Condition
E72-2 (CANH) - E22-16 (BAT)	Engine switch off	6 kΩ or higher
E72-13 (CANL) - E22-16 (BAT)	Engine switch off	6 kΩ or higher

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.

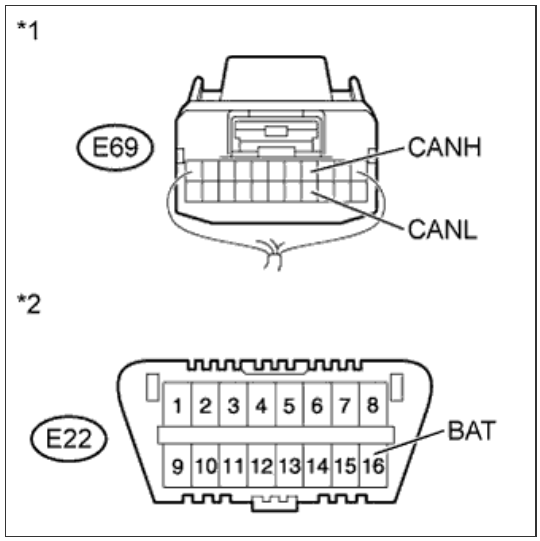
b. Measure the resistance according to the value(s) in the table below.

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)

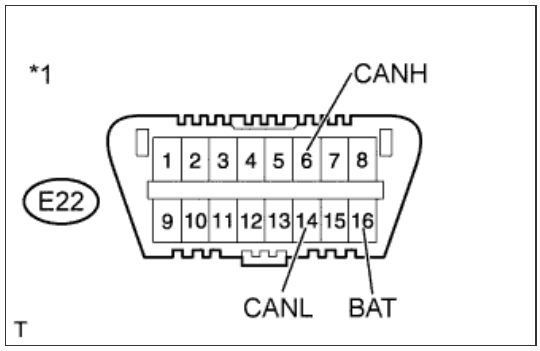
a. Measure the resistance according to the value(s) in the table below.

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.

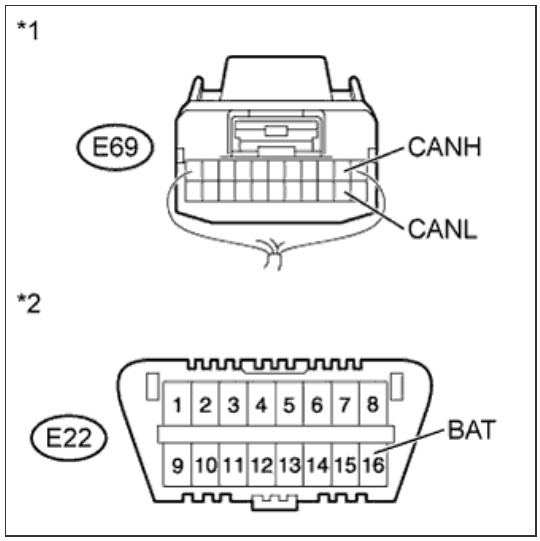
Standard Resistance:

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)

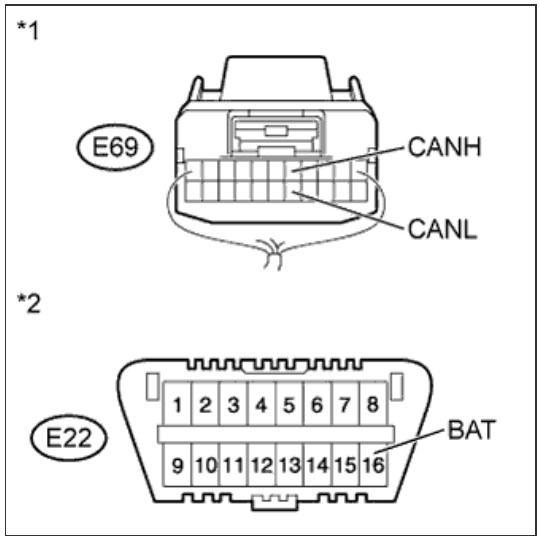
a. Measure the resistance according to the value(s) in the table below.

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.

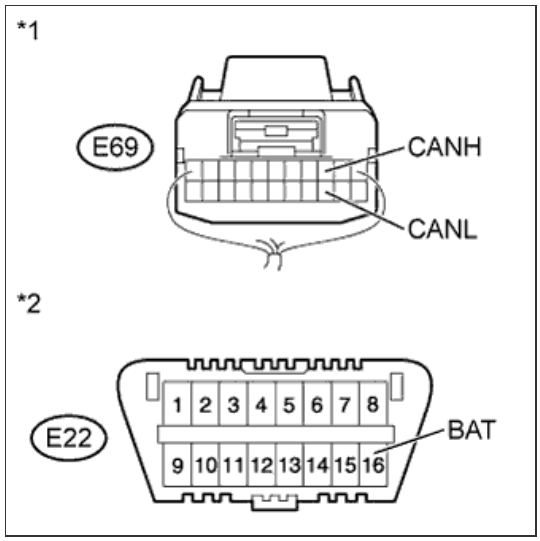
Standard Resistance:

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)

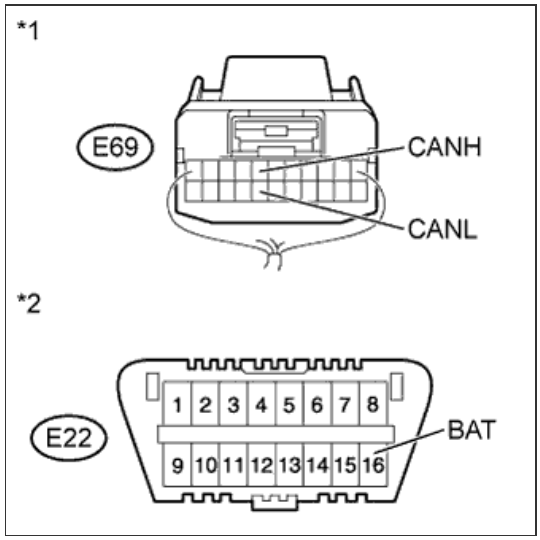
a. Measure the resistance according to the value(s) in the table below.

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.

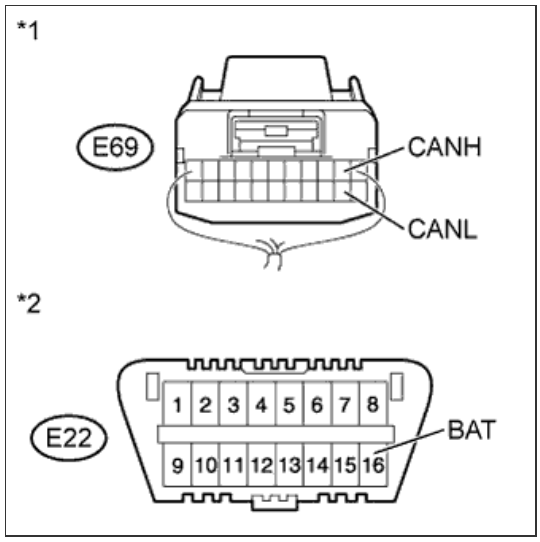
b. Measure the resistance according to the value(s) in the table below.

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.

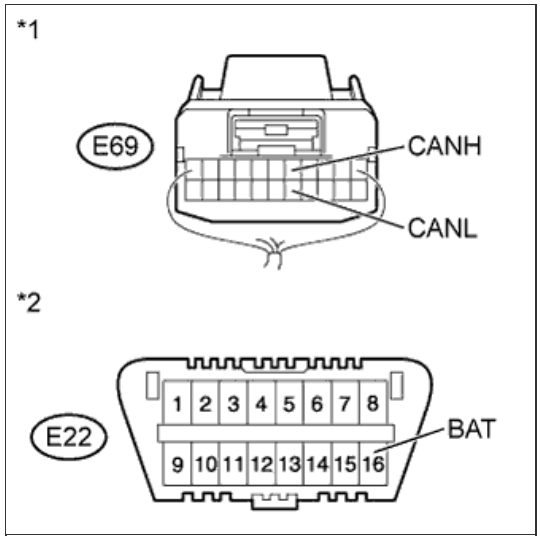
b. Measure the resistance according to the value(s) in the table below.

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.

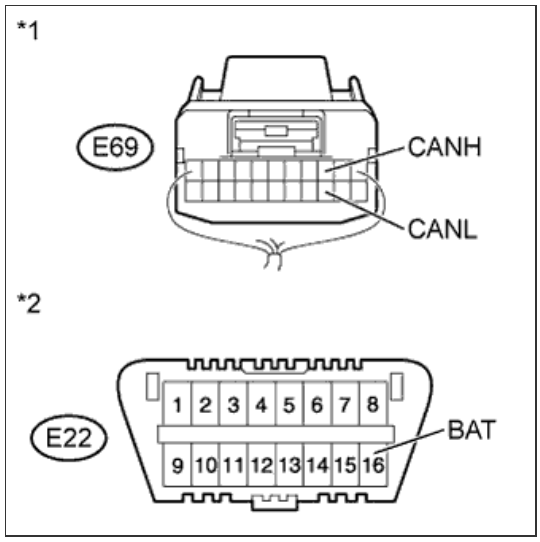
Standard Resistance:

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.

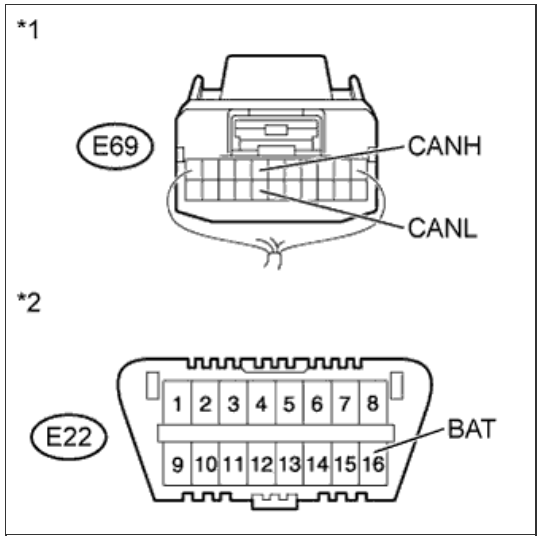
b. Measure the resistance according to the value(s) in the table below.

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.

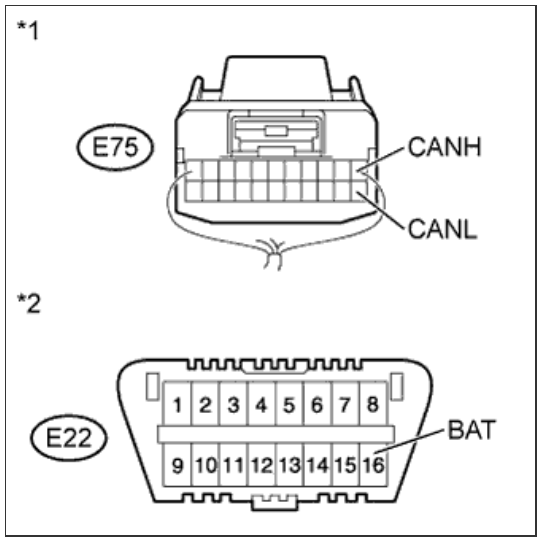
b. Measure the resistance according to the value(s) in the table below.

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)

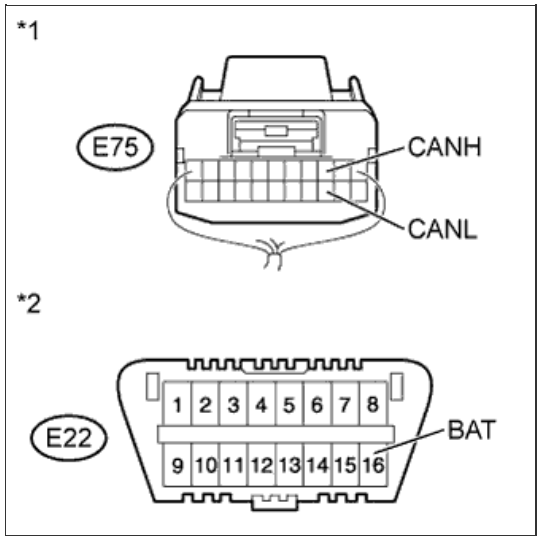
a. Measure the resistance according to the value(s) in the table below.

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.

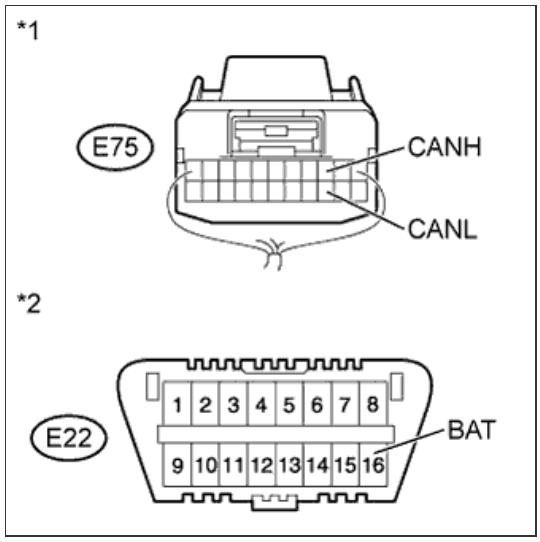
b. Measure the resistance according to the value(s) in the table below.

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 (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)

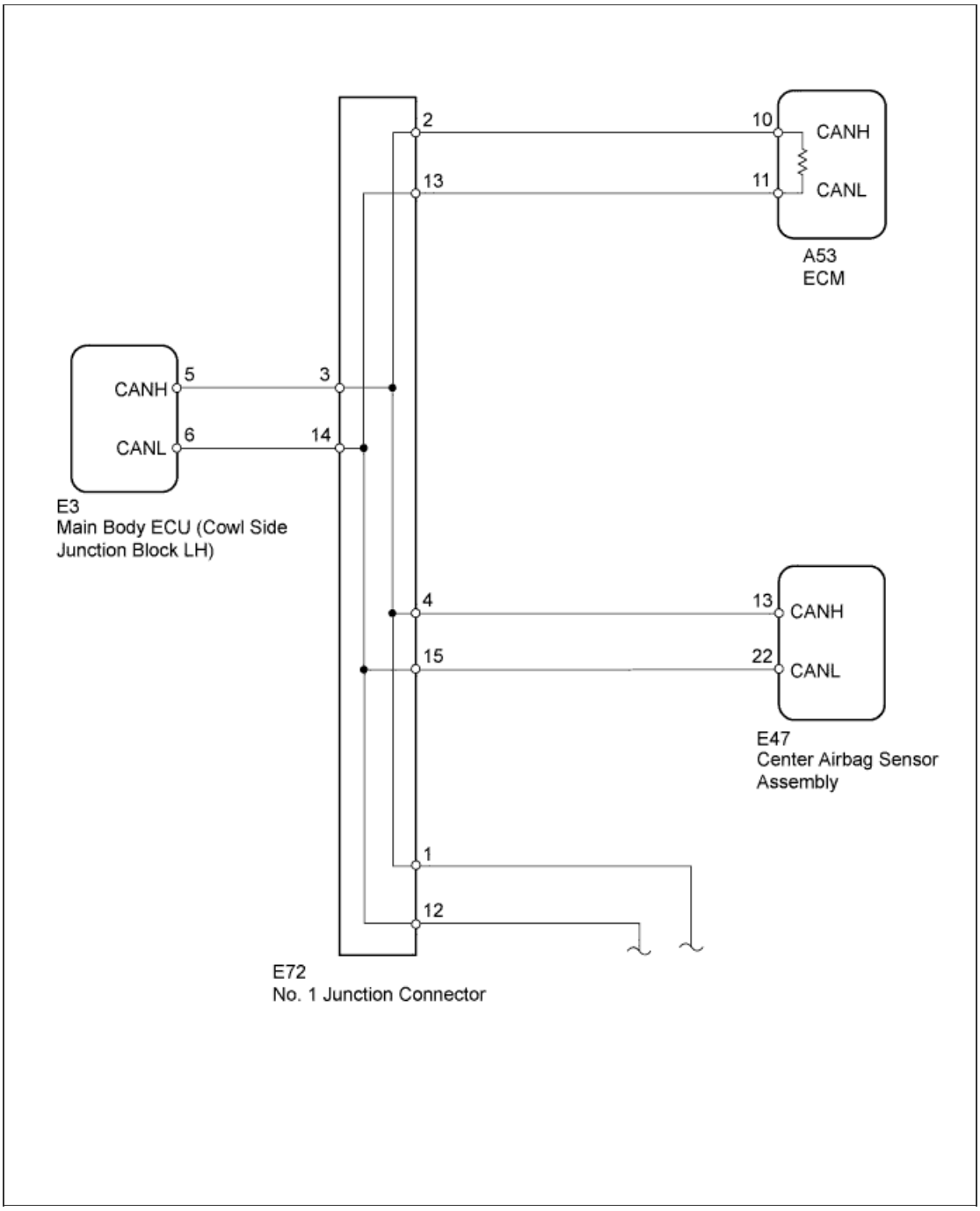
for Preparation Click here

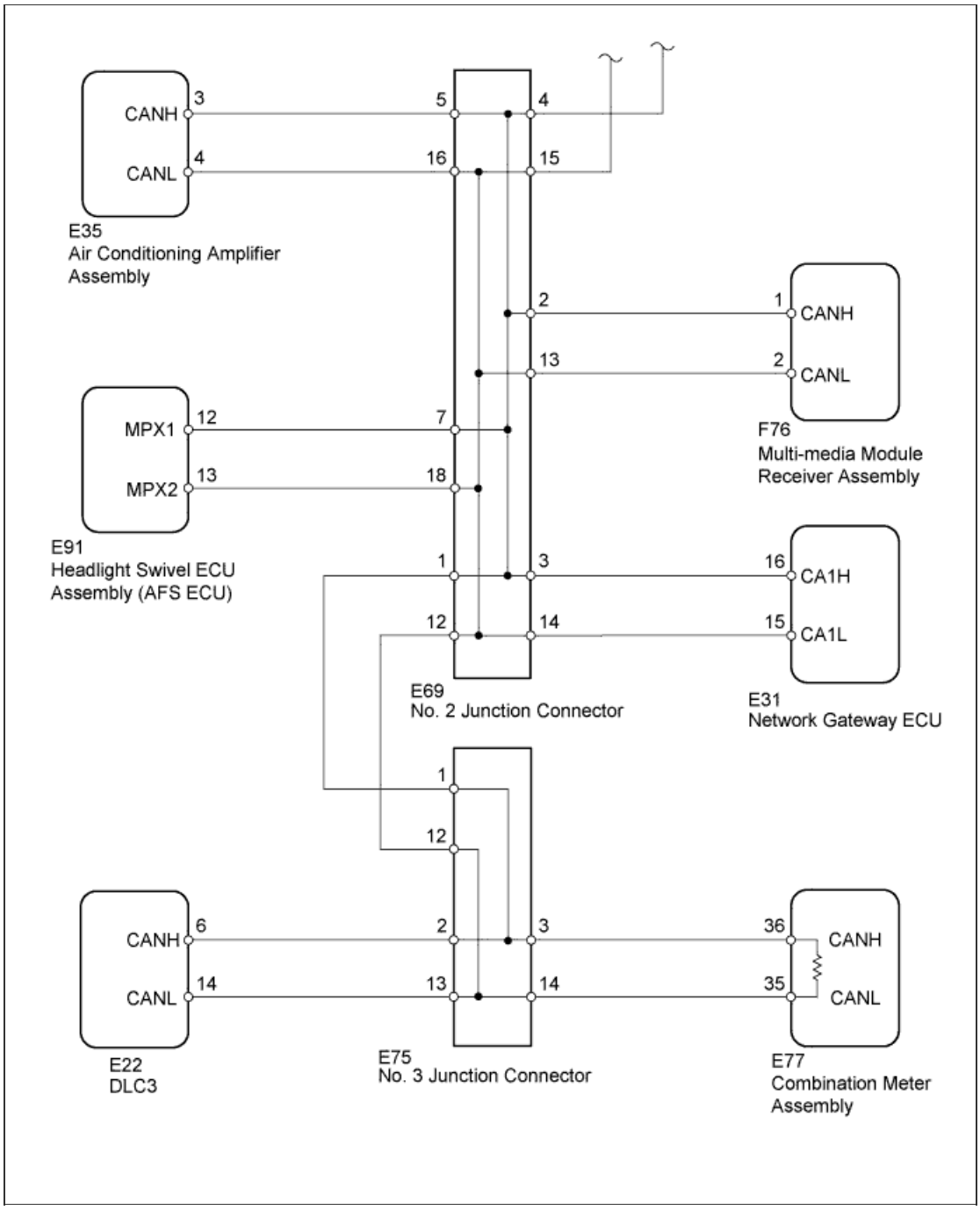
DESCRIPTION

There may be a short circuit between the CAN bus line and +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 • ECM • Center airbag sensor assembly • Multi-media module receiver assembly • Air conditioning amplifier assembly • Network gateway ECU • Main body ECU (cowl side junction block LH) • Headlight swivel ECU assembly (AFS ECU) • Combination meter assembly • No. 1 junction connector • No. 2 junction connector • 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

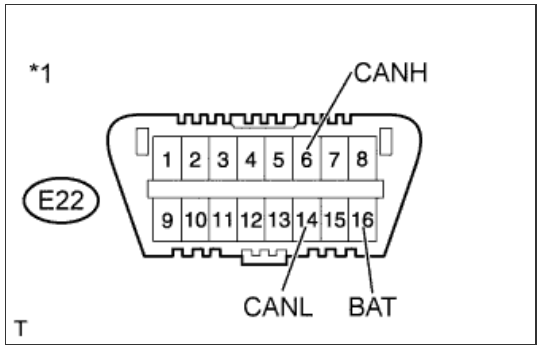
3.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (DLC3 BRANCH WIRE)

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

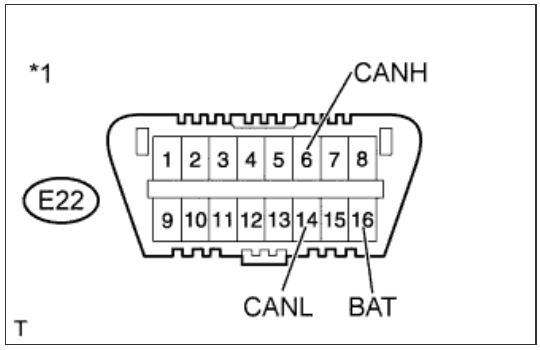
5.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR SIDE)

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)

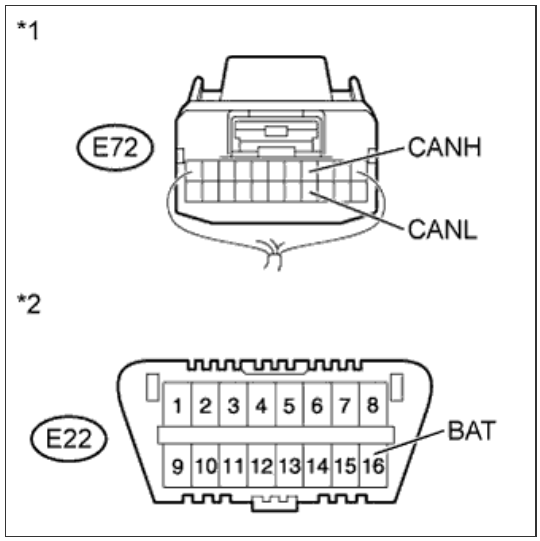
a. Measure the resistance according to the value(s) in the table below.

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)

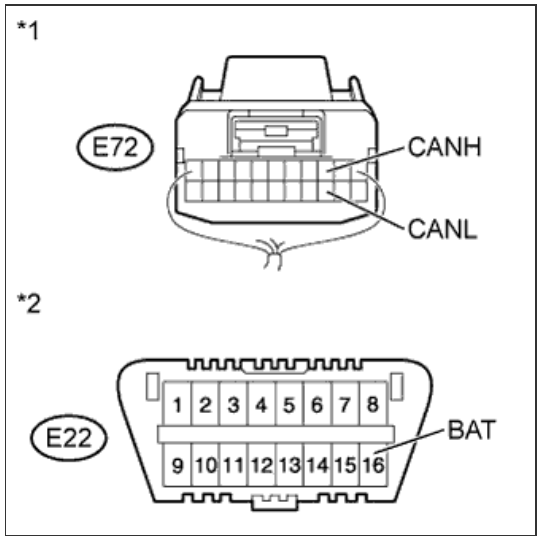
a. Measure the resistance according to the value(s) in the table below.

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.

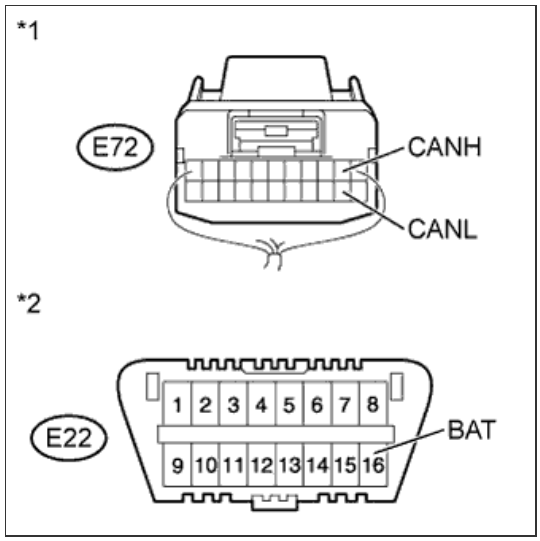
Standard Resistance:

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).

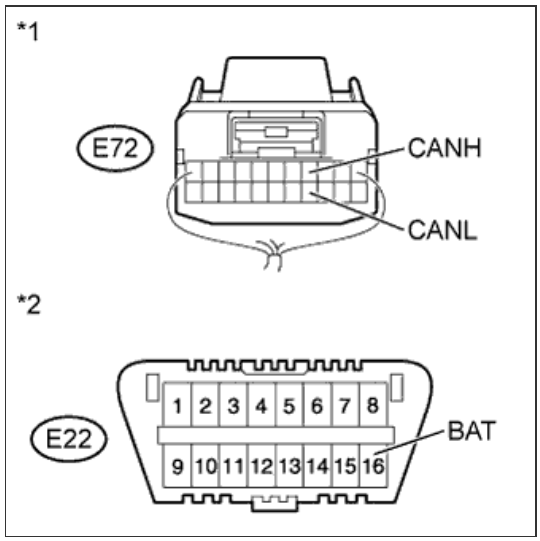
b. Measure the resistance according to the value(s) in the table below.

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.

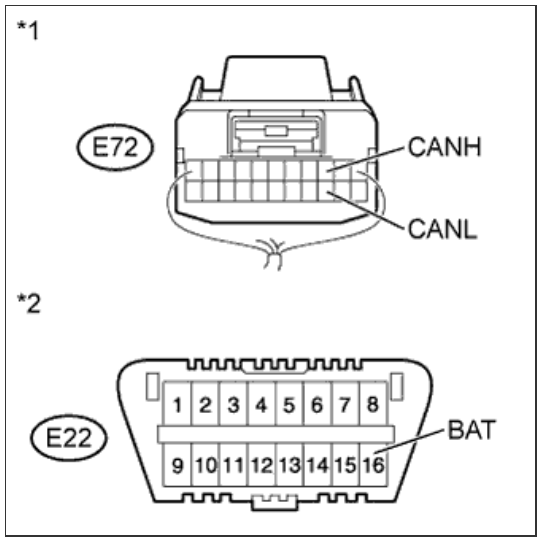
Standard Resistance:

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:

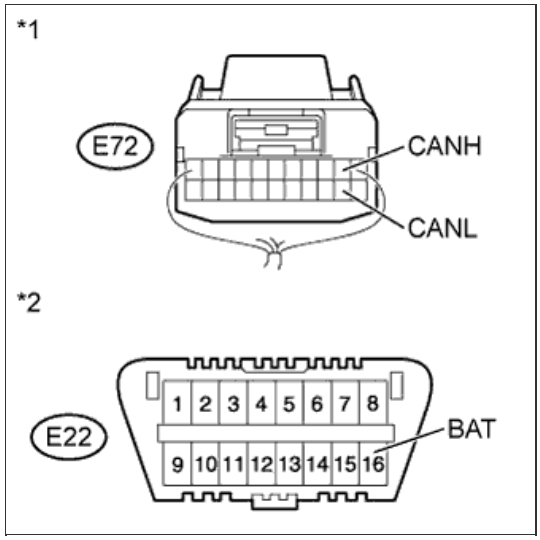
Tester Connection	Switch Condition	Specified Condition
E72-2 (CANH) - E22-16 (BAT)	Engine switch off	6 kΩ or higher
E72-13 (CANL) - E22-16 (BAT)	Engine switch off	6 kΩ or higher

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.

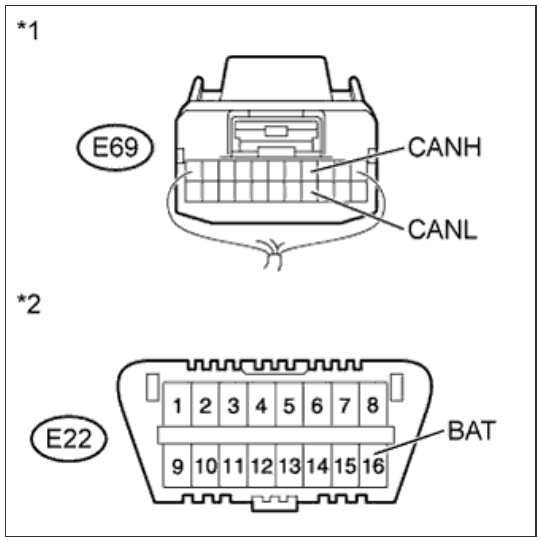
b. Measure the resistance according to the value(s) in the table below.

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)

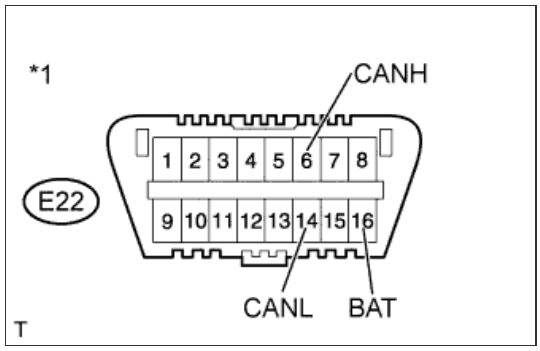
a. Measure the resistance according to the value(s) in the table below.

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.

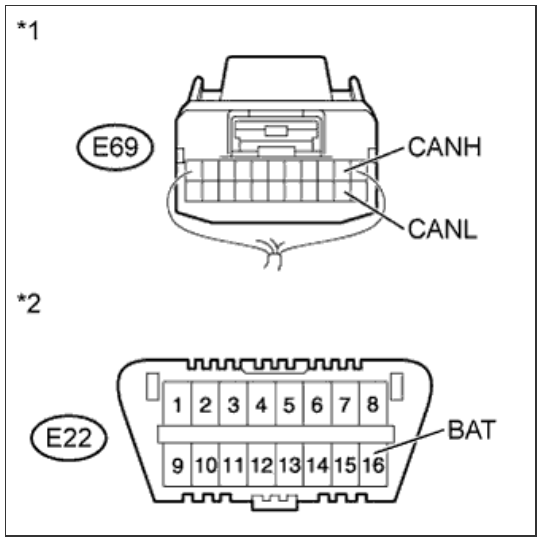
Standard Resistance:

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)

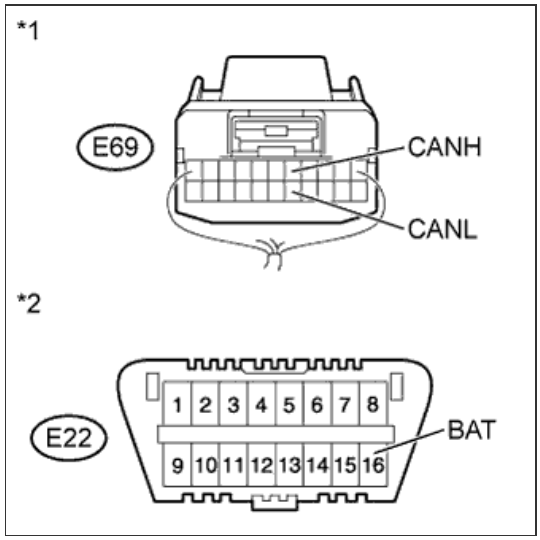
a. Measure the resistance according to the value(s) in the table below.

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.

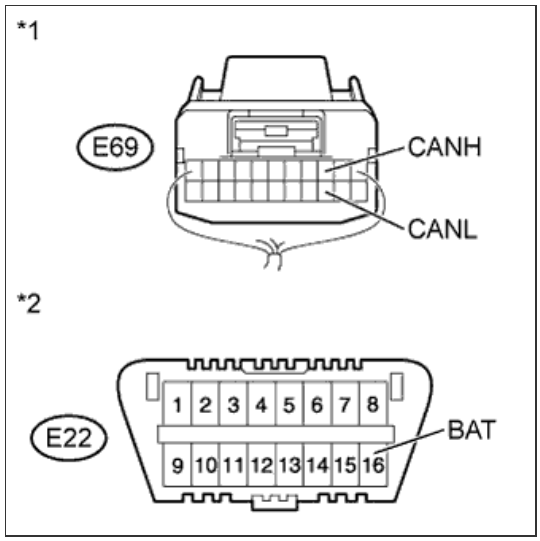
Standard Resistance:

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)

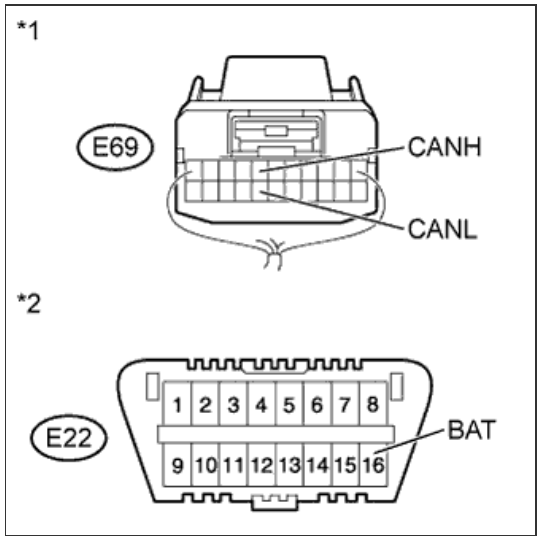
a. Measure the resistance according to the value(s) in the table below.

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.

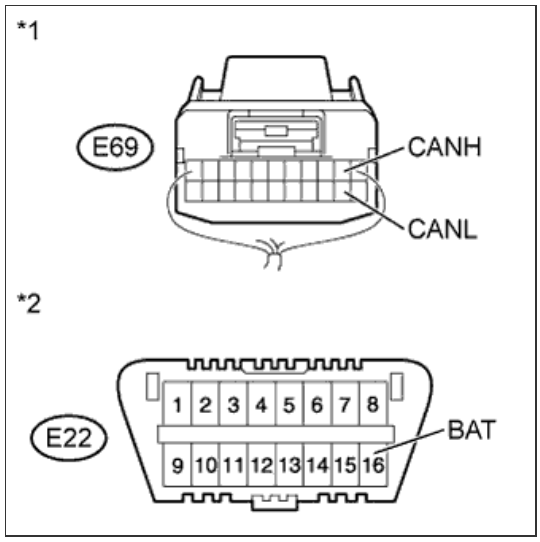
b. Measure the resistance according to the value(s) in the table below.

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.

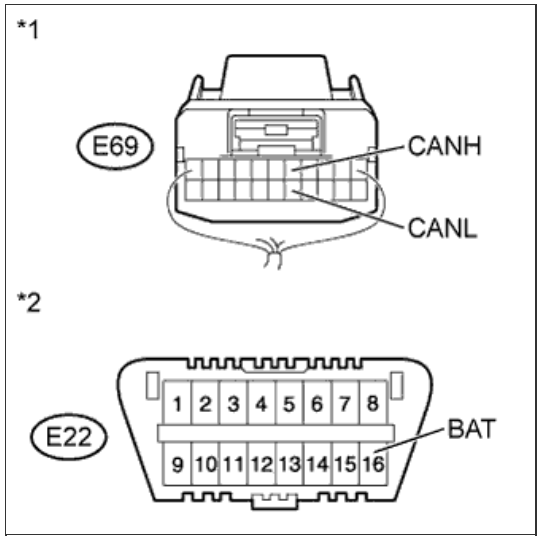
b. Measure the resistance according to the value(s) in the table below.

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.

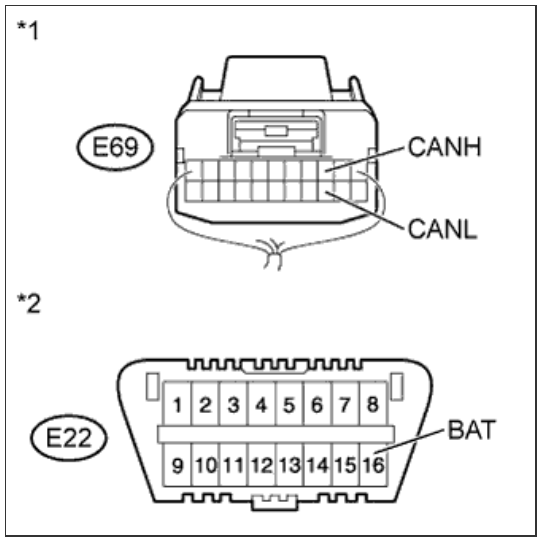
Standard Resistance:

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.

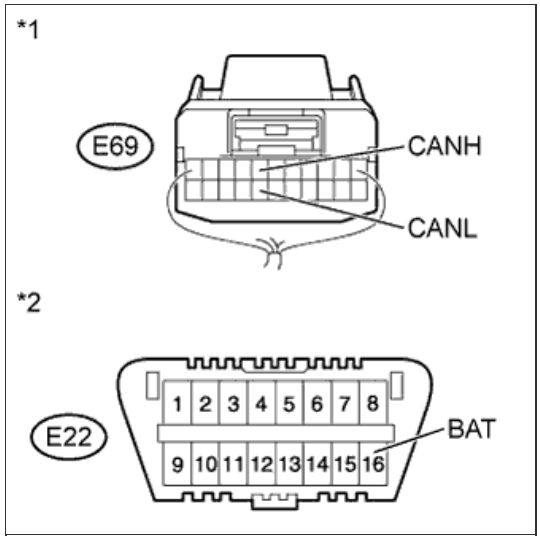
b. Measure the resistance according to the value(s) in the table below.

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.

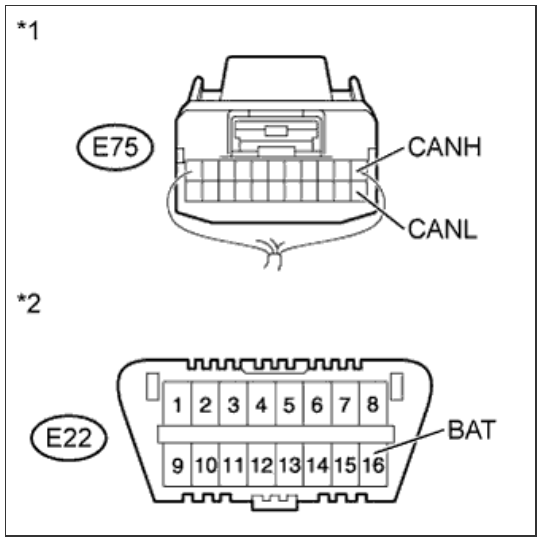
b. Measure the resistance according to the value(s) in the table below.

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)

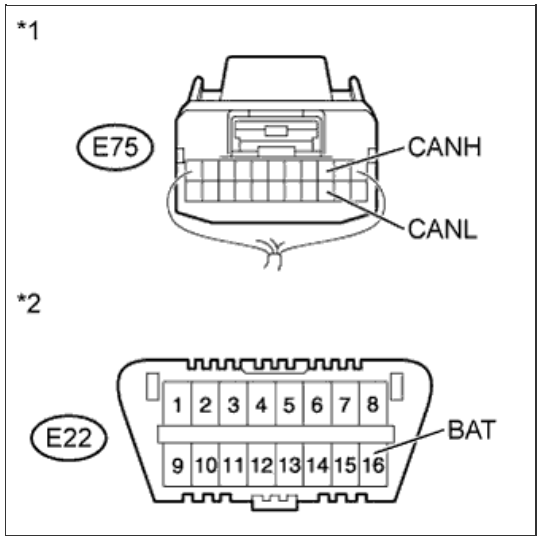
a. Measure the resistance according to the value(s) in the table below.

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.

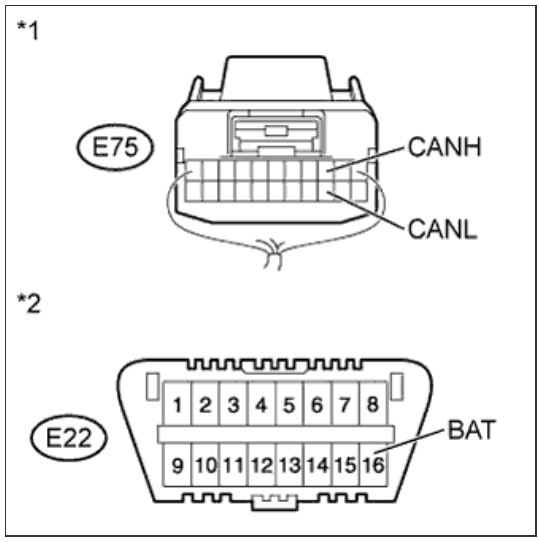
b. Measure the resistance according to the value(s) in the table below.

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 (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)

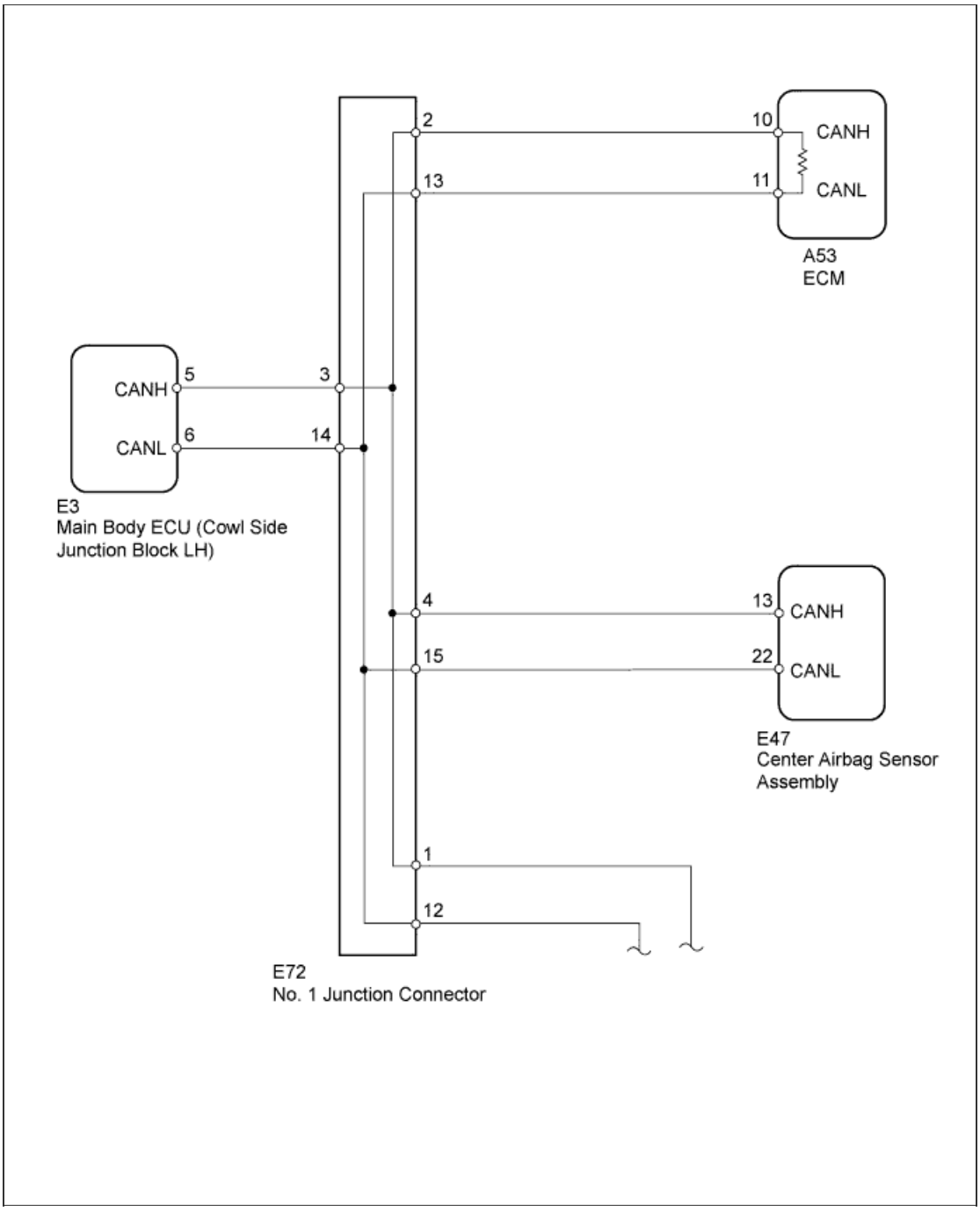
for Preparation Click here

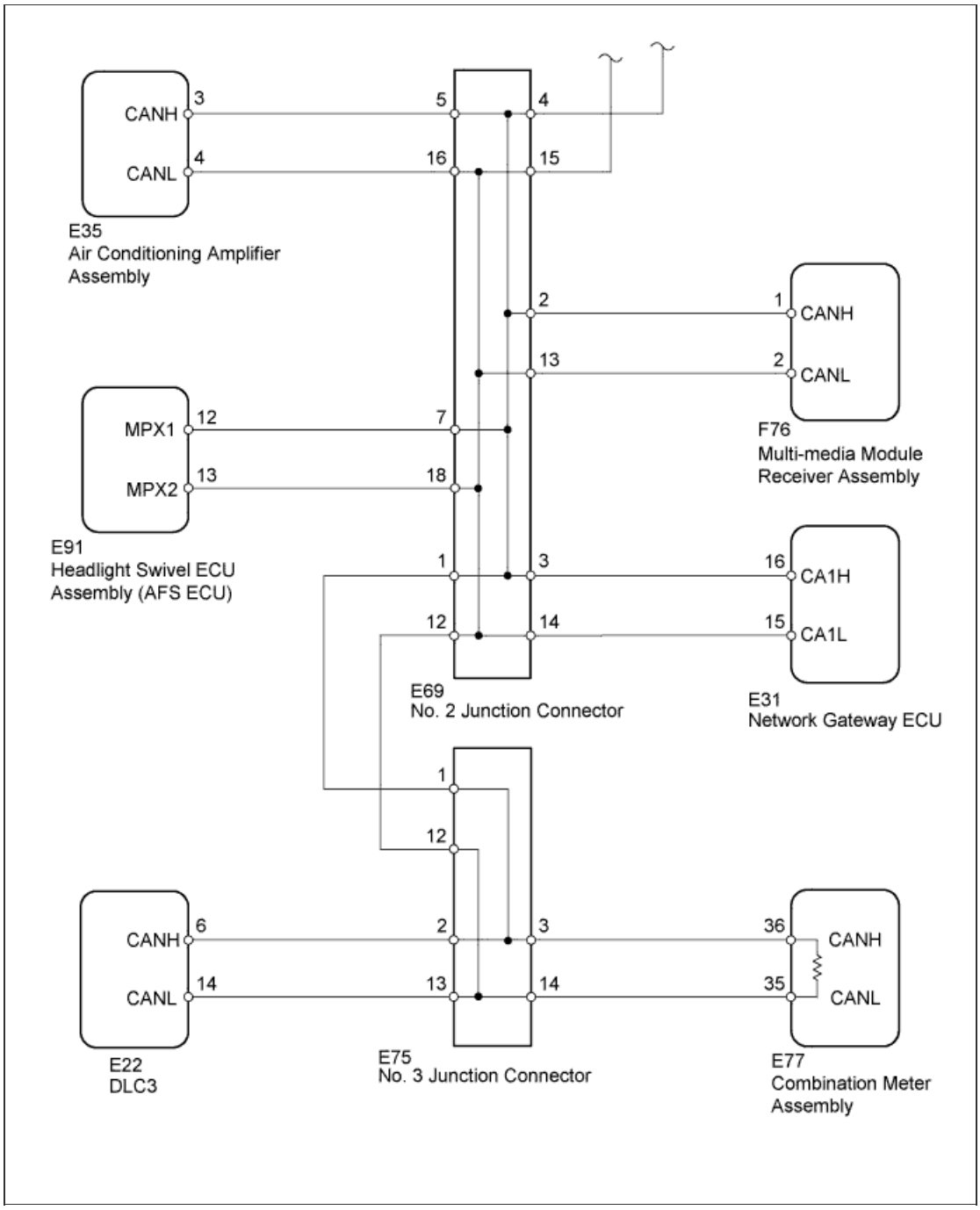
DESCRIPTION

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 • ECM • Center airbag sensor assembly • Multi-media module receiver assembly • Air conditioning amplifier assembly • Network gateway ECU • Main body ECU (cowl side junction block LH) • Headlight swivel ECU assembly (AFS ECU) • Combination meter assembly • No. 1 junction connector • No. 2 junction connector • 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

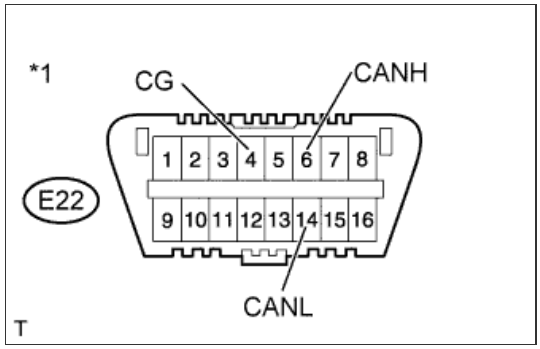
3.CHECK FOR SHORT TO GND IN CAN BUS WIRE (DLC3 BRANCH WIRE)

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

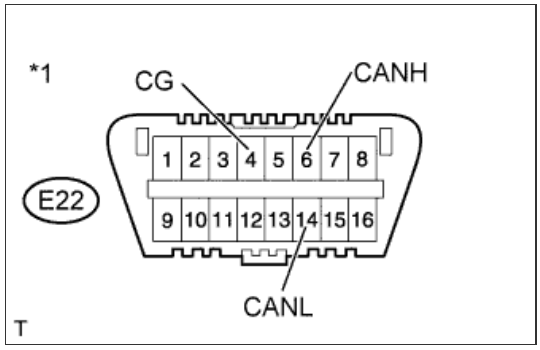
5.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR SIDE)

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)

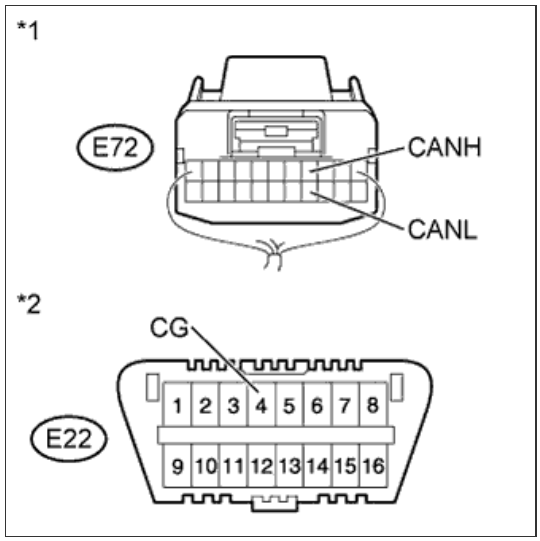
a. Measure the resistance according to the value(s) in the table below.

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)

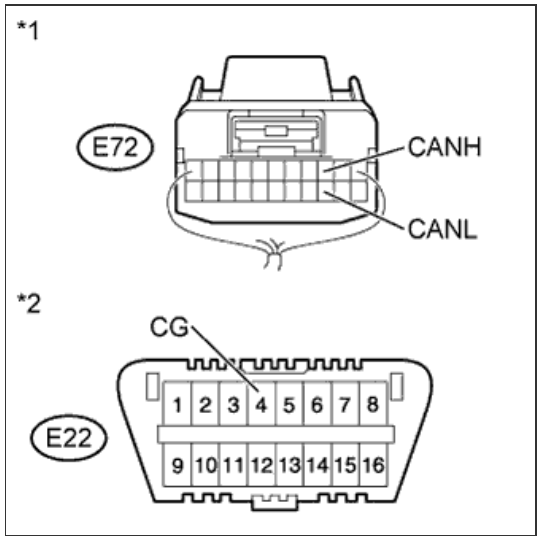
a. Measure the resistance according to the value(s) in the table below.

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.

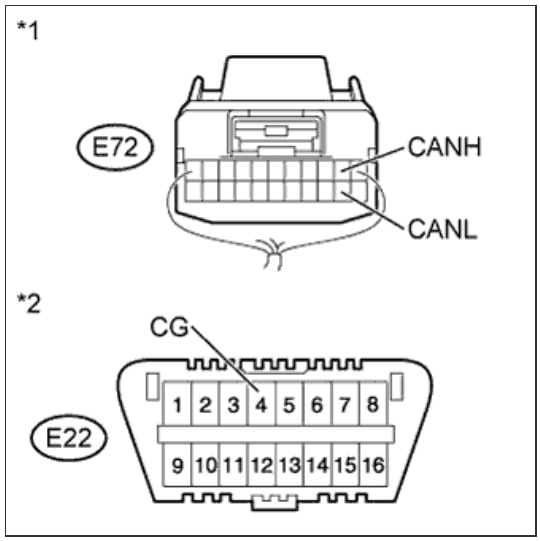
Standard Resistance:

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).

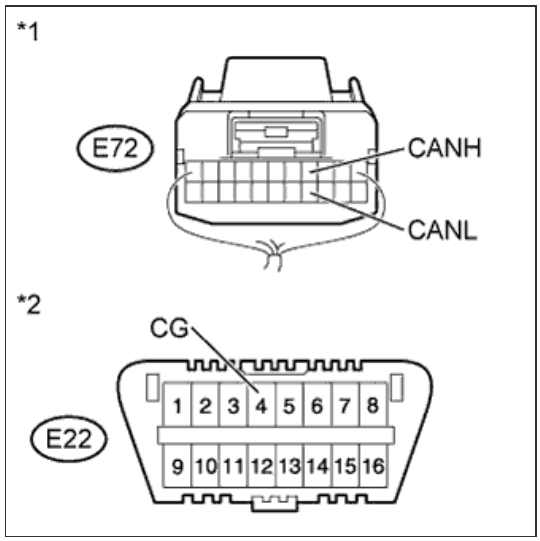
b. Measure the resistance according to the value(s) in the table below.

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.

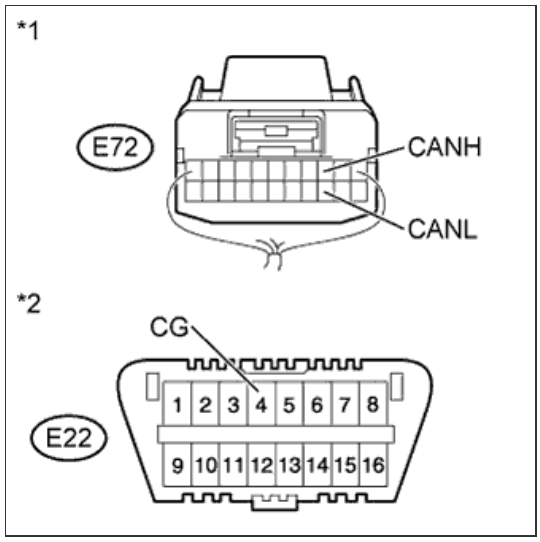
Standard Resistance:

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:

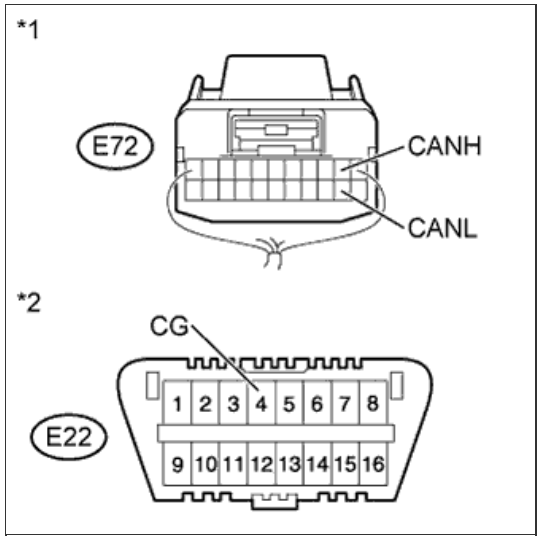
Tester Connection	Switch Condition	Specified Condition
E72-2 (CANH) - E22-4 (CG)	Engine switch off	200 Ω or higher
E72-13 (CANL) - E22-4 (CG)	Engine switch off	200 Ω or higher

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.

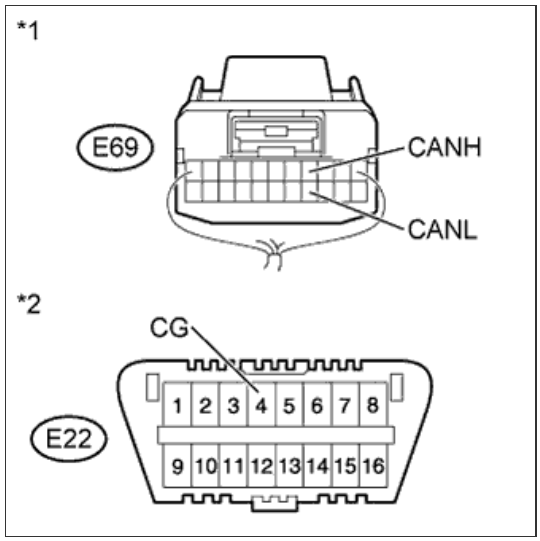
b. Measure the resistance according to the value(s) in the table below.

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)

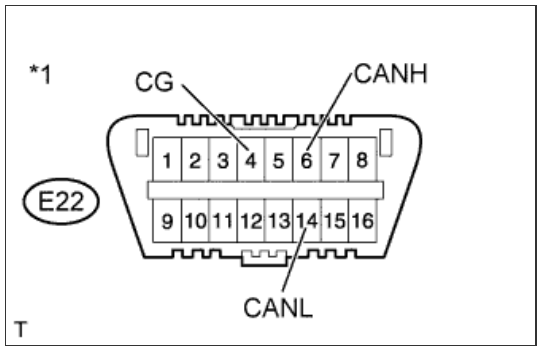
a. Measure the resistance according to the value(s) in the table below.

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.

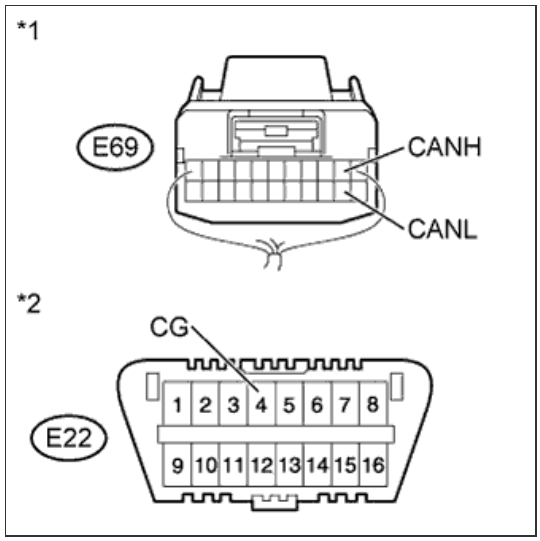
Standard Resistance:

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)

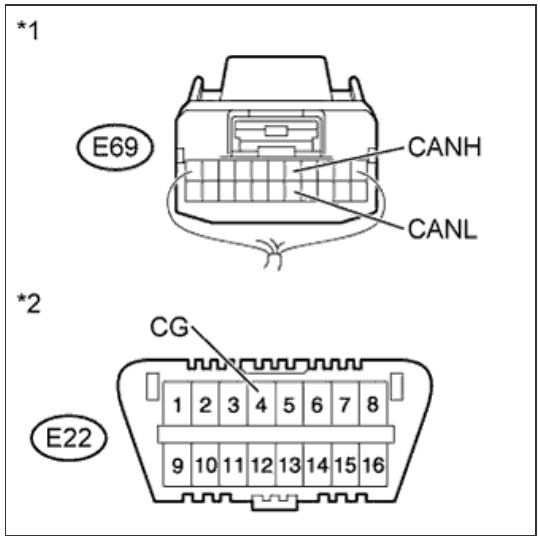
a. Measure the resistance according to the value(s) in the table below.

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.

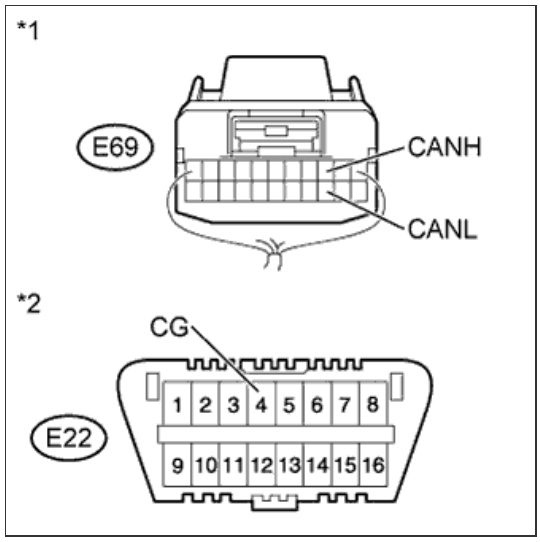
Standard Resistance:

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)

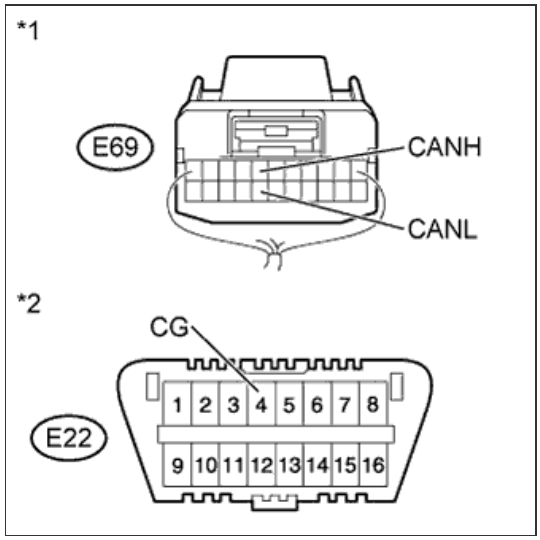
a. Measure the resistance according to the value(s) in the table below.

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.

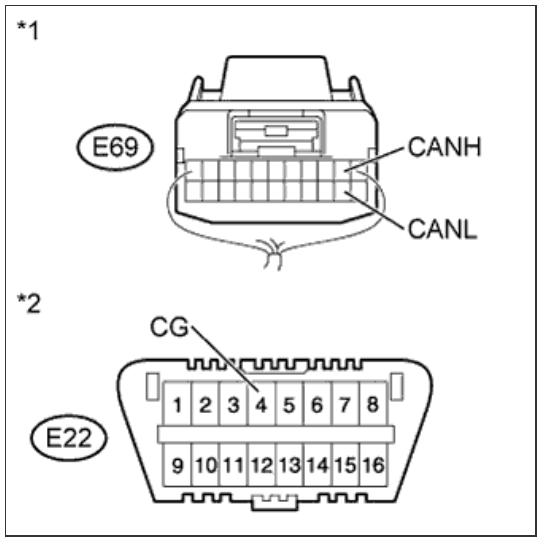
b. Measure the resistance according to the value(s) in the table below.

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.

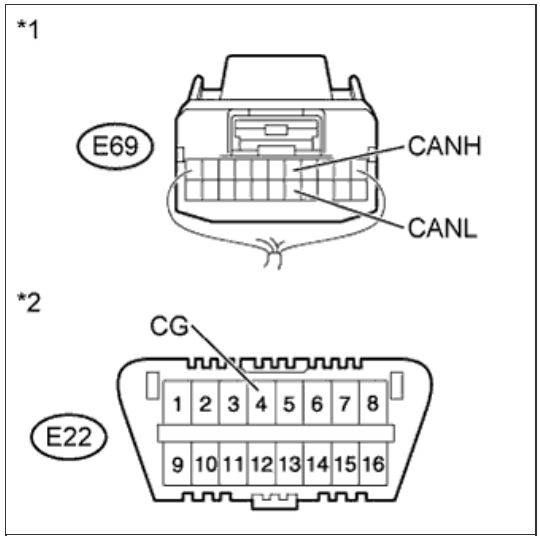
b. Measure the resistance according to the value(s) in the table below.

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.

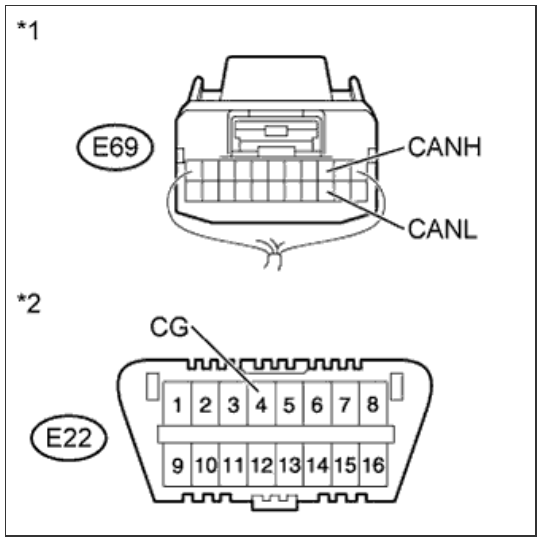
Standard Resistance:

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.

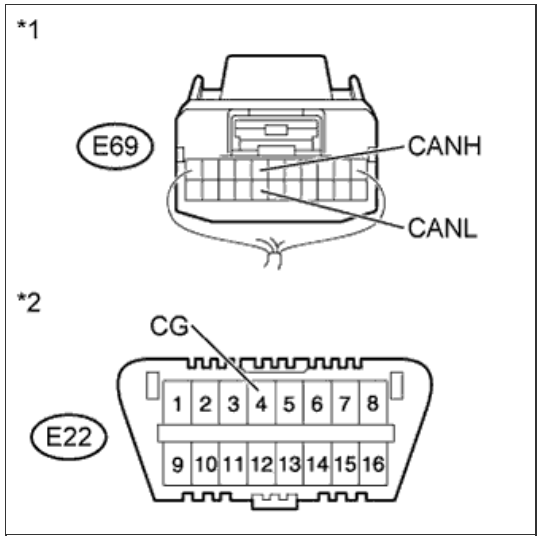
b. Measure the resistance according to the value(s) in the table below.

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.

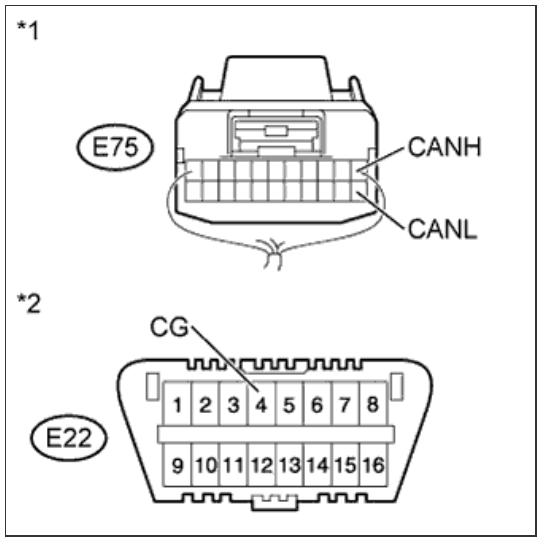
b. Measure the resistance according to the value(s) in the table below.

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)

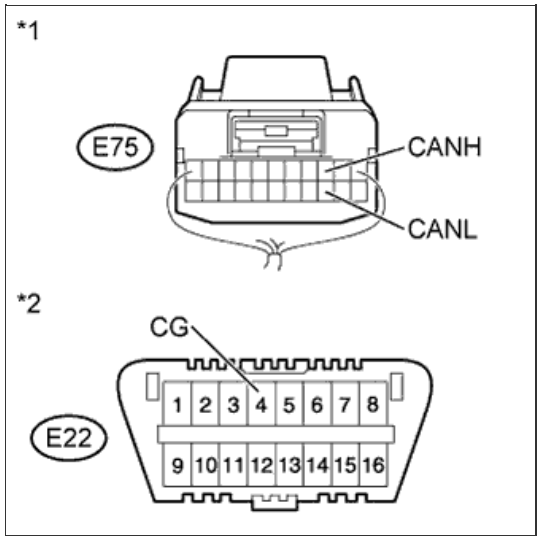
a. Measure the resistance according to the value(s) in the table below.

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.

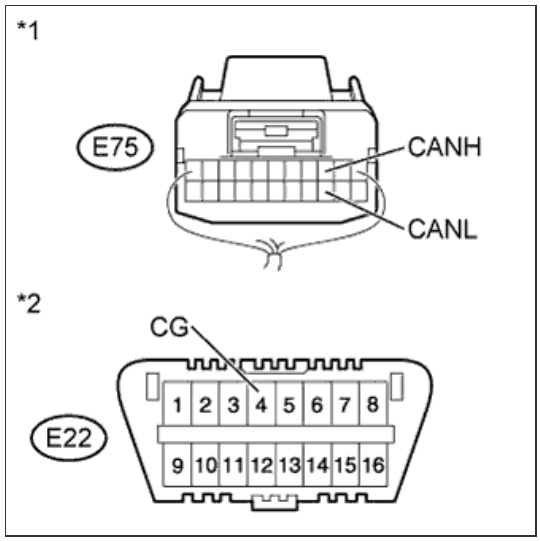
b. Measure the resistance according to the value(s) in the table below.

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 (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)

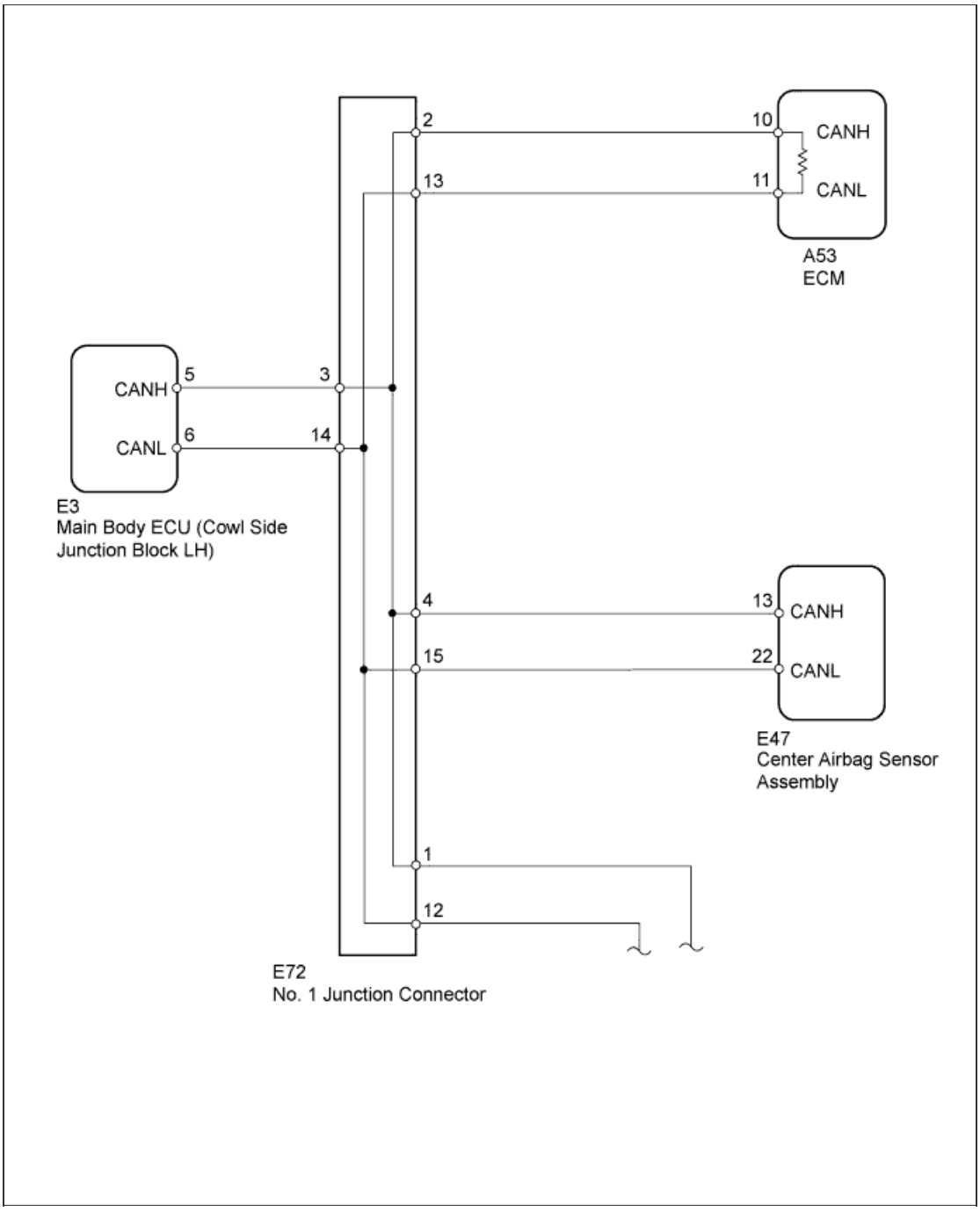
for Preparation Click here

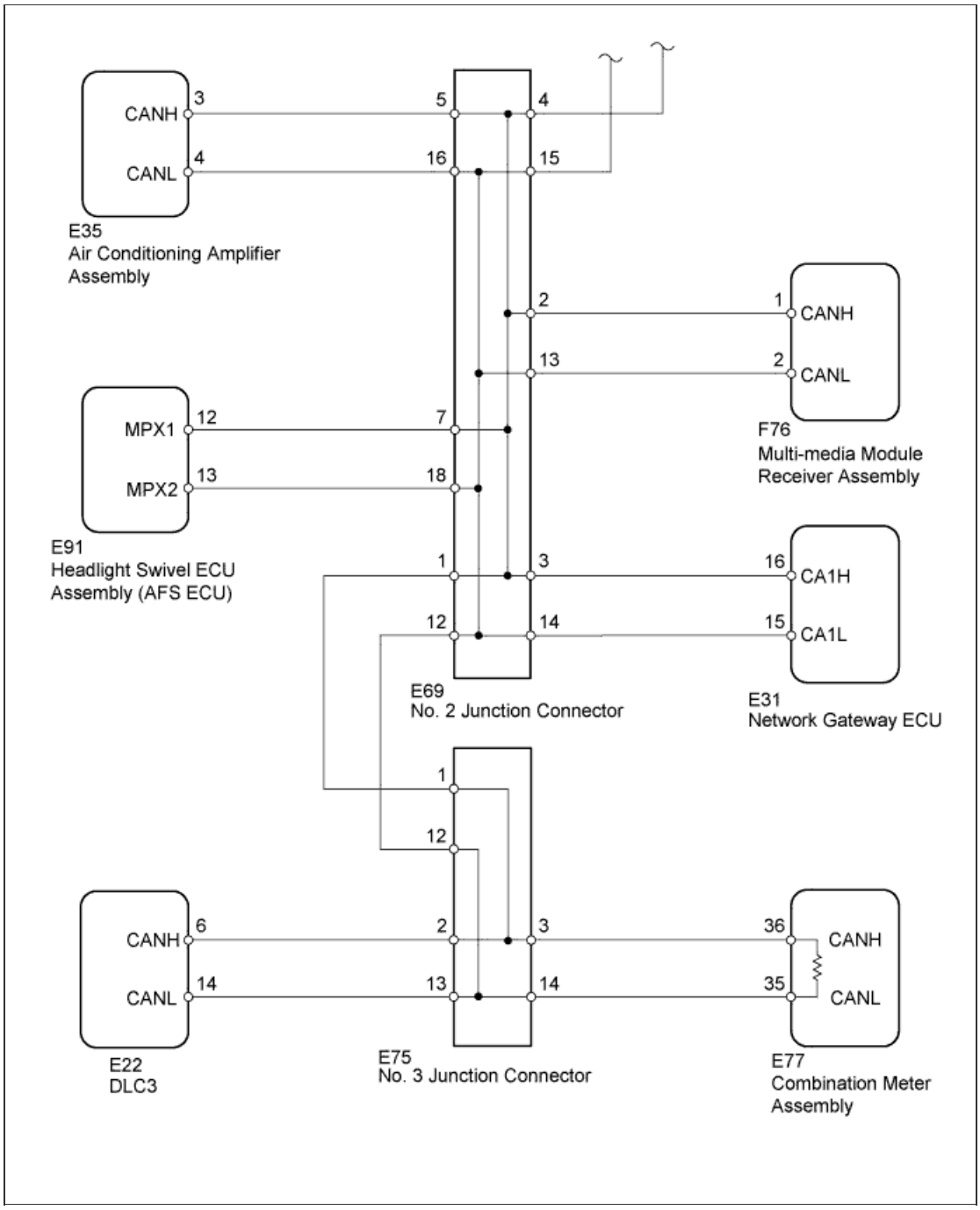
DESCRIPTION

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 • ECM • Center airbag sensor assembly • Multi-media module receiver assembly • Air conditioning amplifier assembly • Network gateway ECU • Main body ECU (cowl side junction block LH) • Headlight swivel ECU assembly (AFS ECU) • Combination meter assembly • No. 1 junction connector • No. 2 junction connector • 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

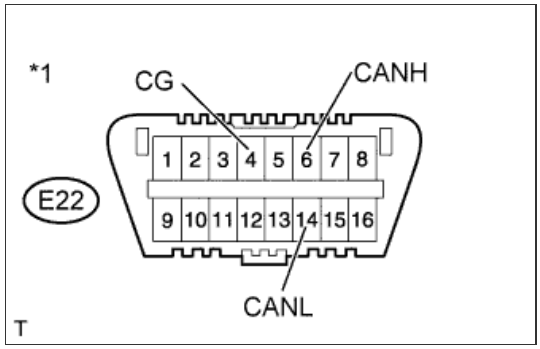
3.CHECK FOR SHORT TO GND IN CAN BUS WIRE (DLC3 BRANCH WIRE)

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

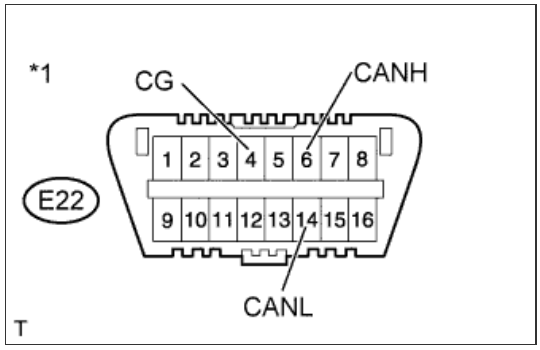
5.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR SIDE)

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)

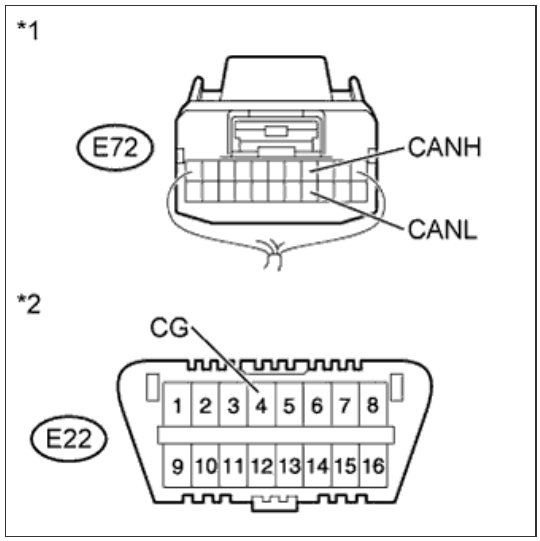
a. Measure the resistance according to the value(s) in the table below.

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)

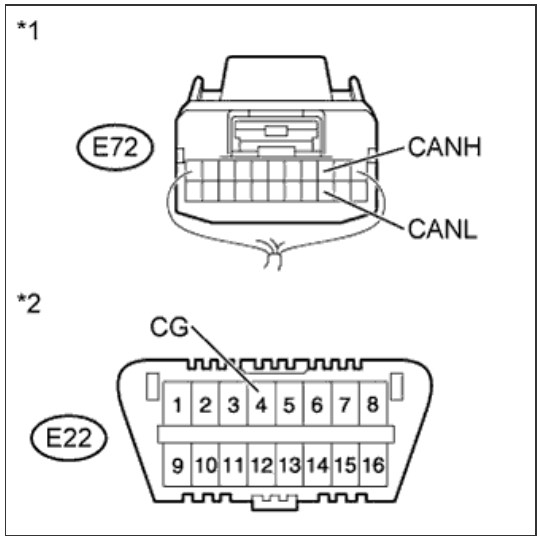
a. Measure the resistance according to the value(s) in the table below.

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.

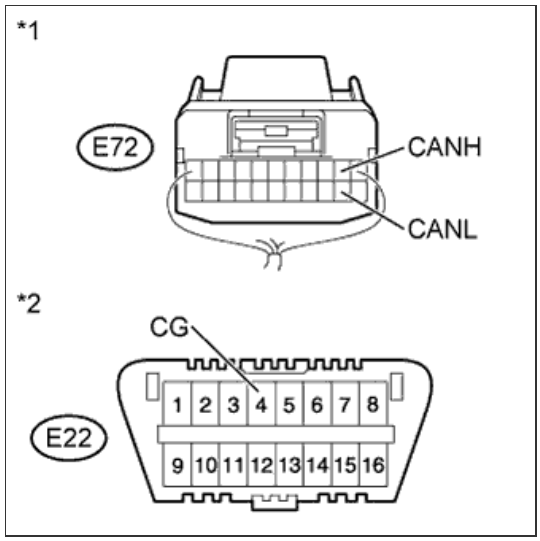
Standard Resistance:

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).

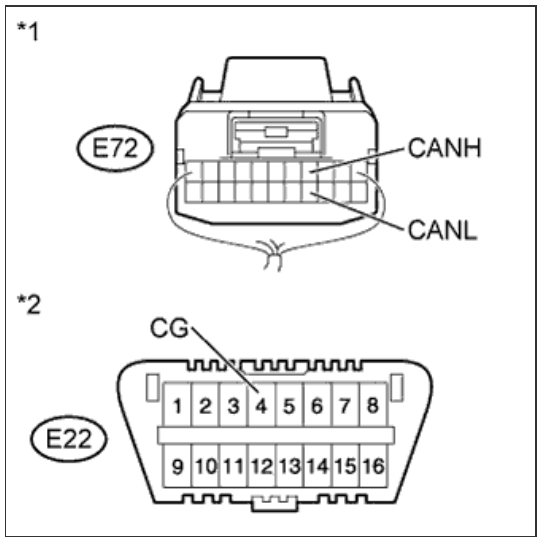
b. Measure the resistance according to the value(s) in the table below.

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.

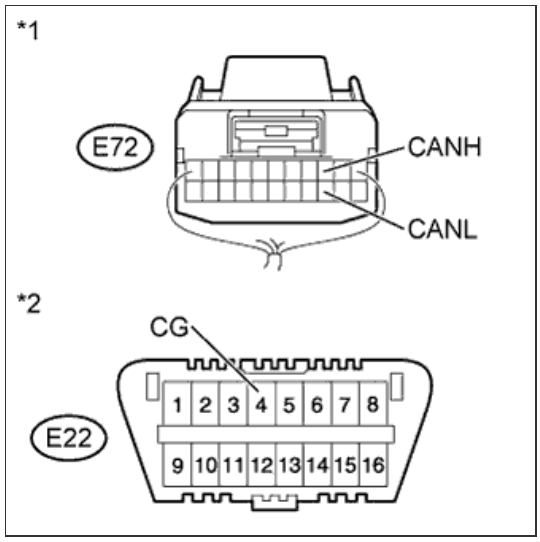
Standard Resistance:

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:

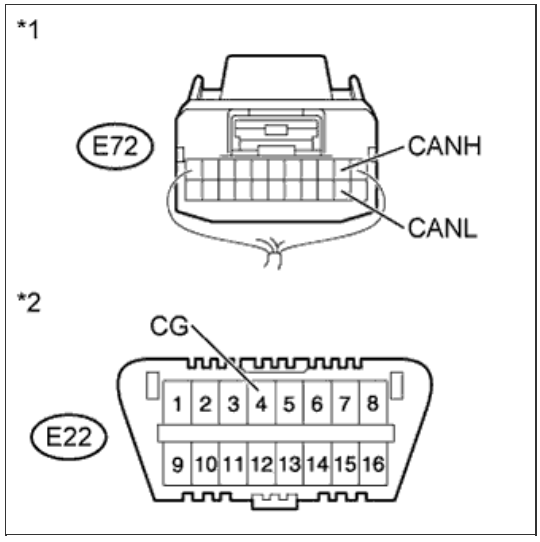
Tester Connection	Switch Condition	Specified Condition
E72-2 (CANH) - E22-4 (CG)	Engine switch off	200 Ω or higher
E72-13 (CANL) - E22-4 (CG)	Engine switch off	200 Ω or higher

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.

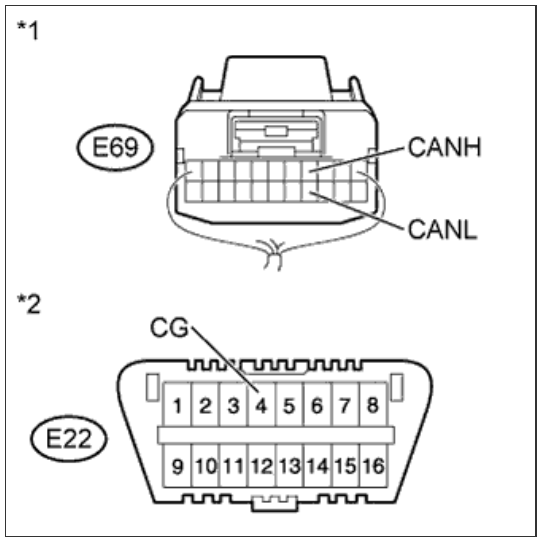
b. Measure the resistance according to the value(s) in the table below.

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)

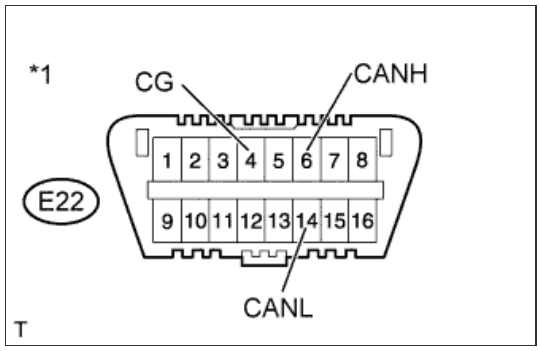
a. Measure the resistance according to the value(s) in the table below.

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.

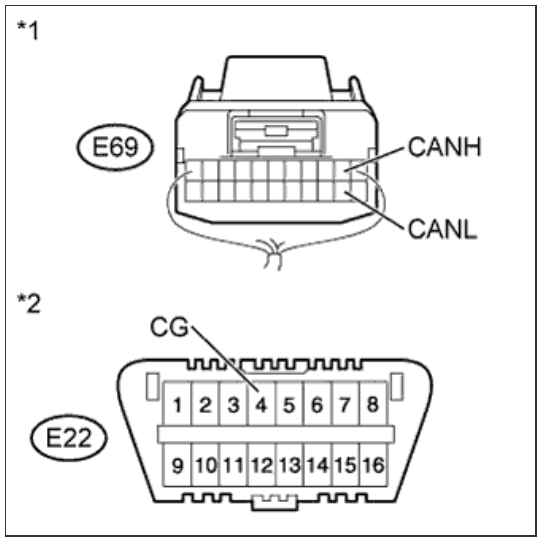
Standard Resistance:

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)

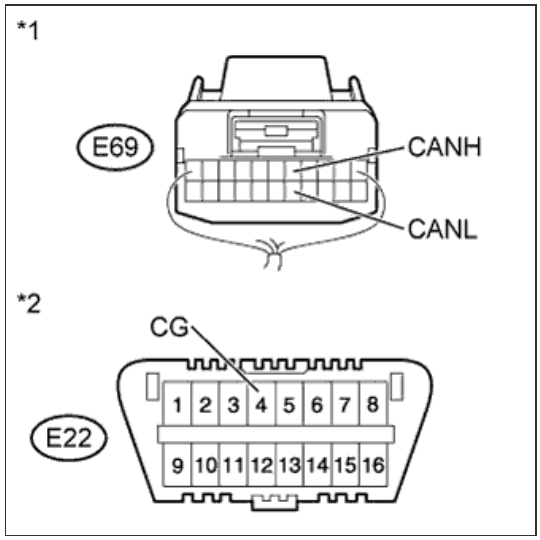
a. Measure the resistance according to the value(s) in the table below.

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.

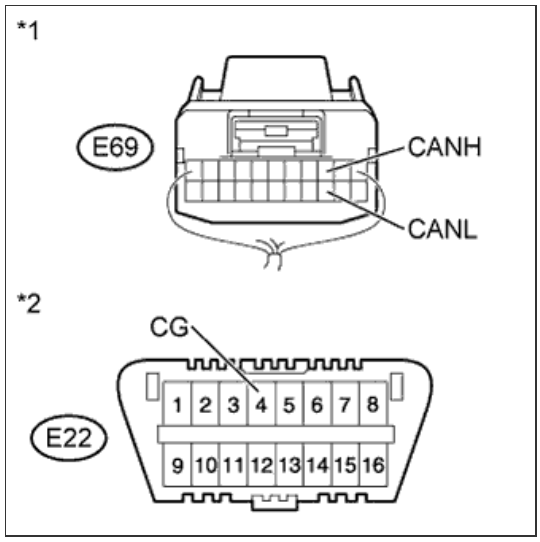
Standard Resistance:

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)

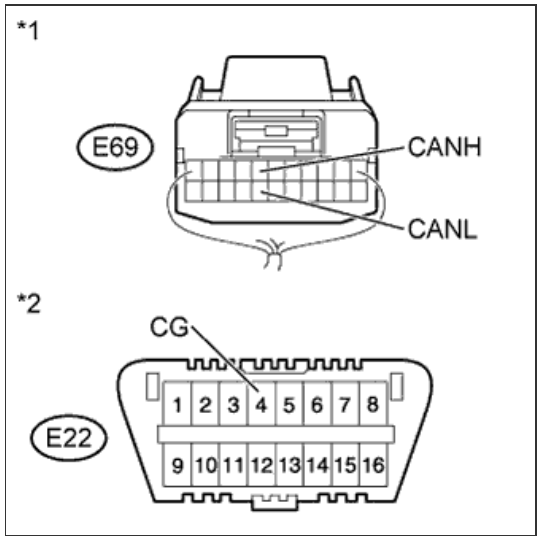
a. Measure the resistance according to the value(s) in the table below.

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.

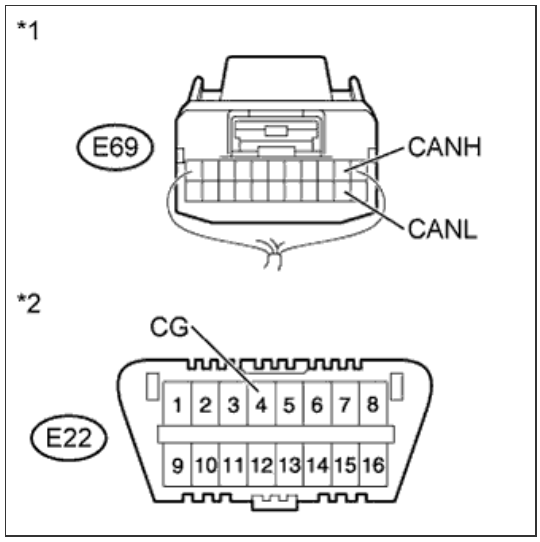
b. Measure the resistance according to the value(s) in the table below.

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.

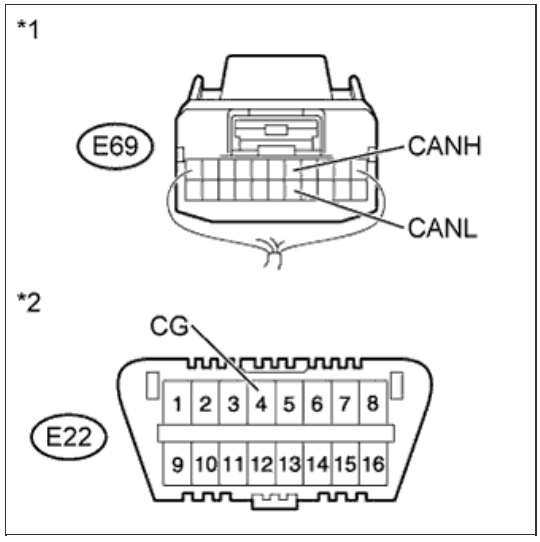
b. Measure the resistance according to the value(s) in the table below.

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.

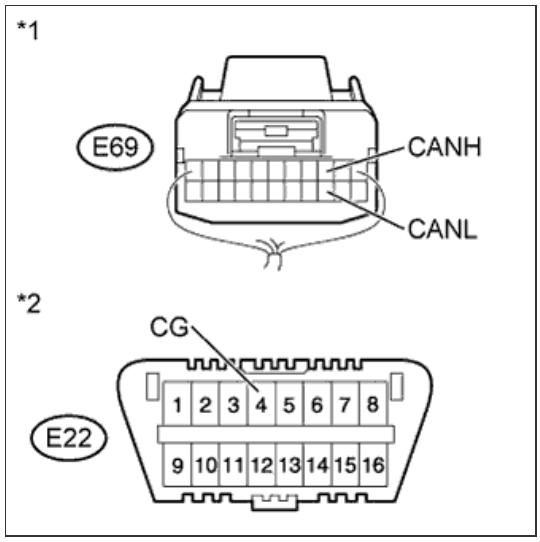
Standard Resistance:

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.

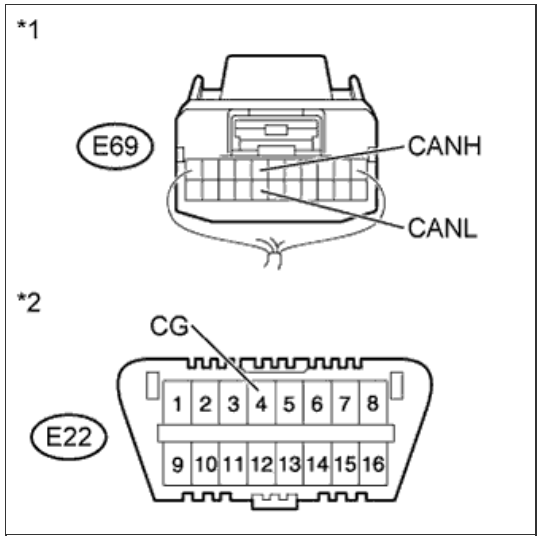
b. Measure the resistance according to the value(s) in the table below.

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.

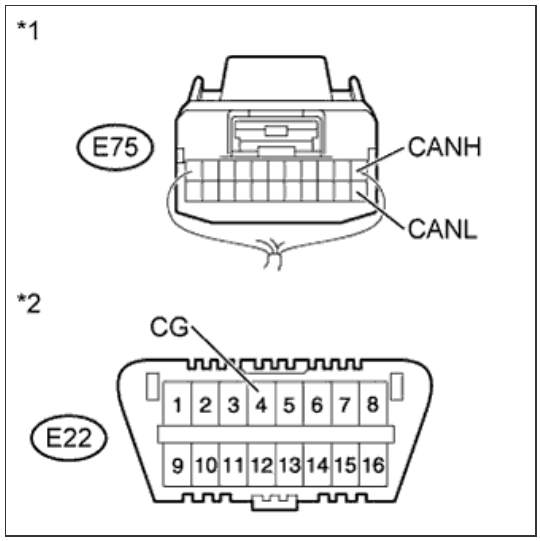
b. Measure the resistance according to the value(s) in the table below.

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)

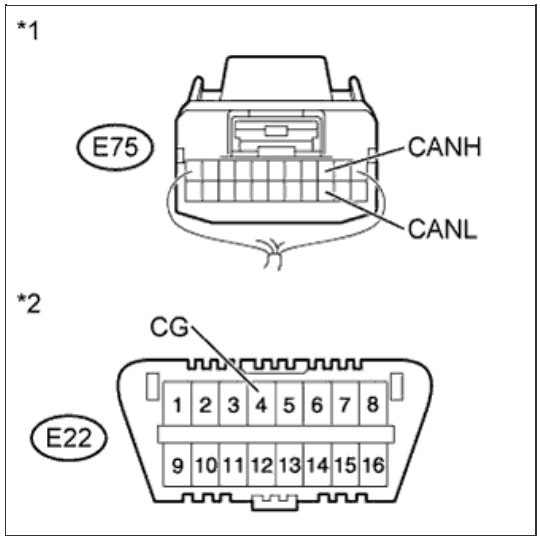
a. Measure the resistance according to the value(s) in the table below.

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.

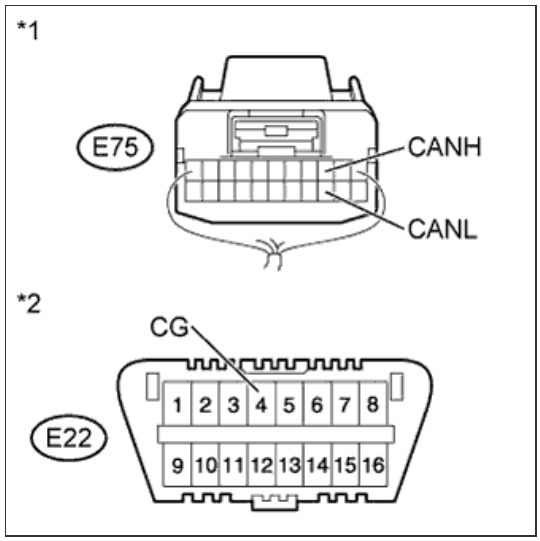
b. Measure the resistance according to the value(s) in the table below.

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 (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)

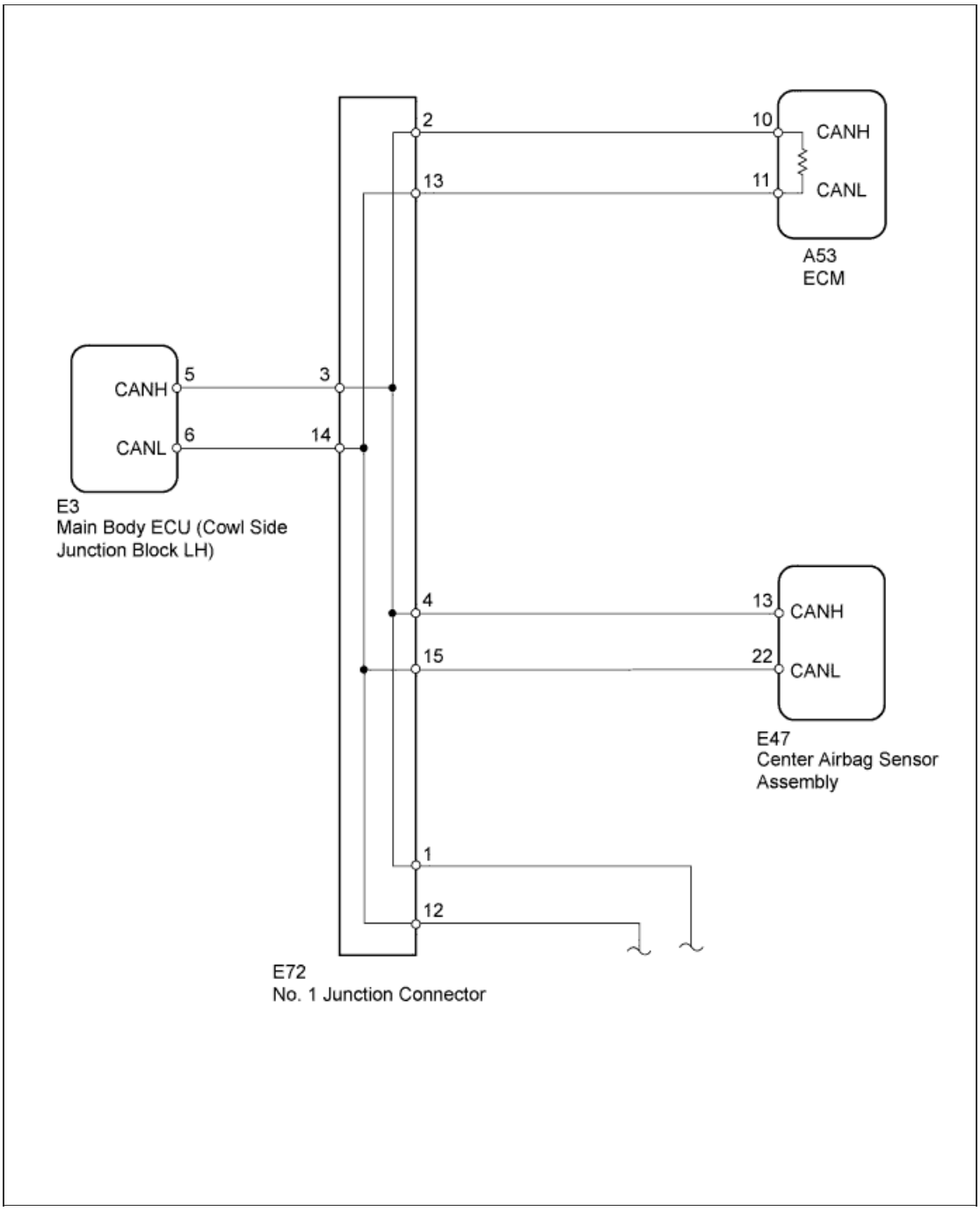
for Preparation Click here

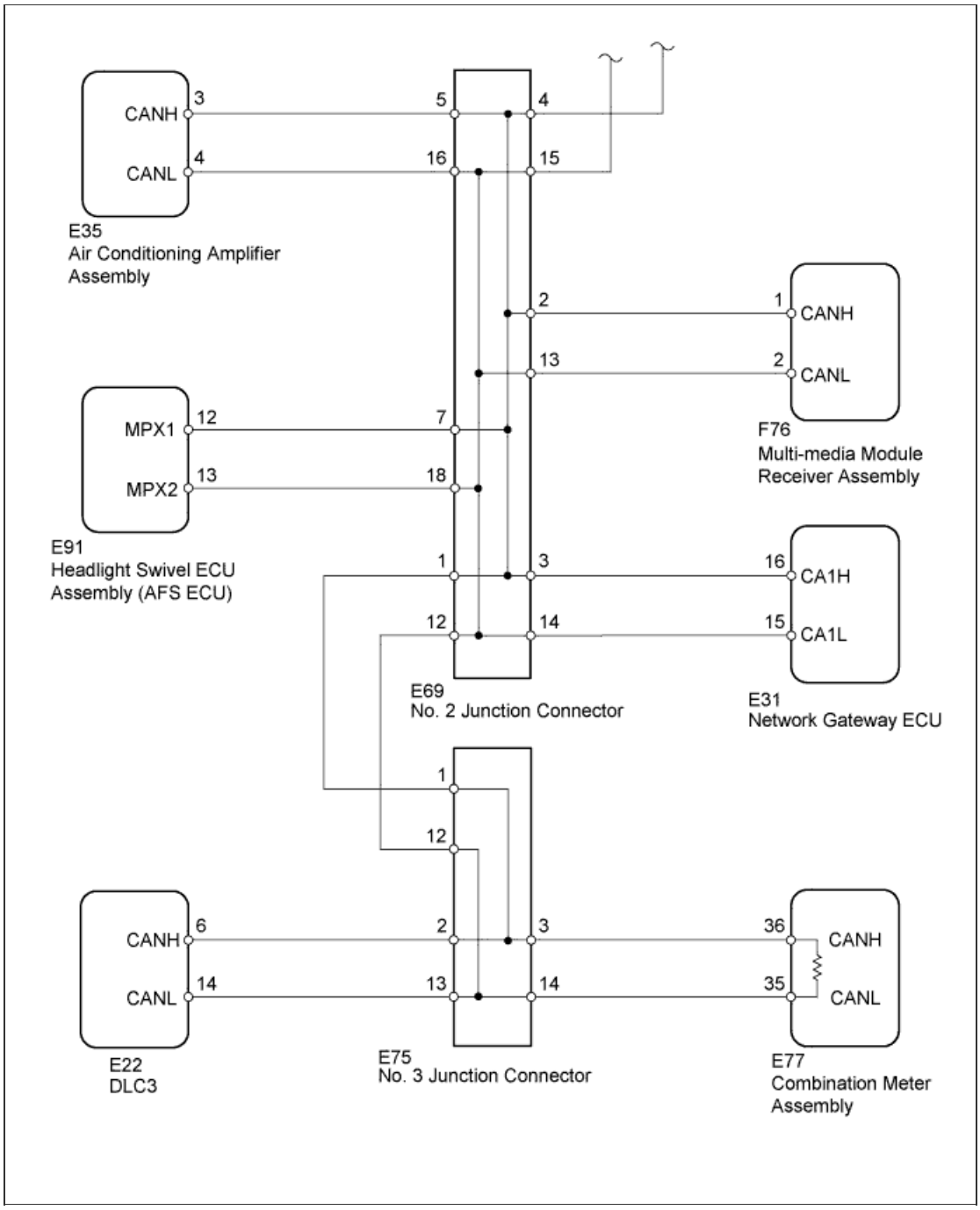
DESCRIPTION

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 • ECM • Center airbag sensor assembly • Multi-media module receiver assembly • Air conditioning amplifier assembly • Network gateway ECU • Main body ECU (cowl side junction block LH) • Headlight swivel ECU assembly (AFS ECU) • Combination meter assembly • No. 1 junction connector • No. 2 junction connector • 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

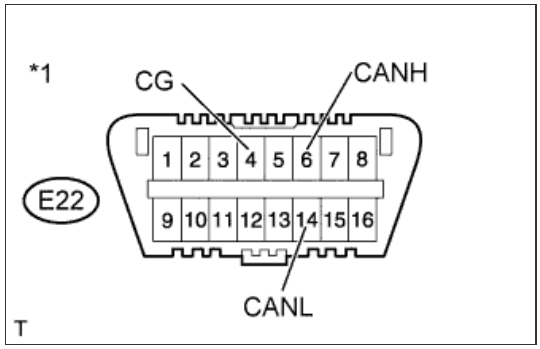
3.CHECK FOR SHORT TO GND IN CAN BUS WIRE (DLC3 BRANCH WIRE)

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

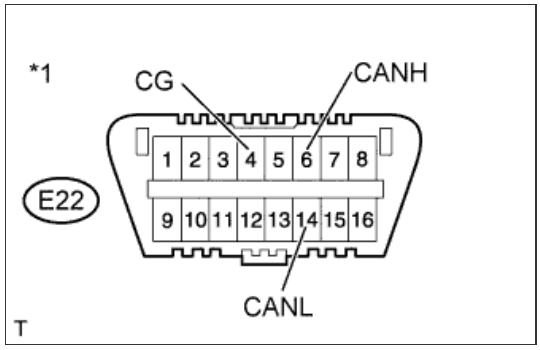
5.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR SIDE)

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)

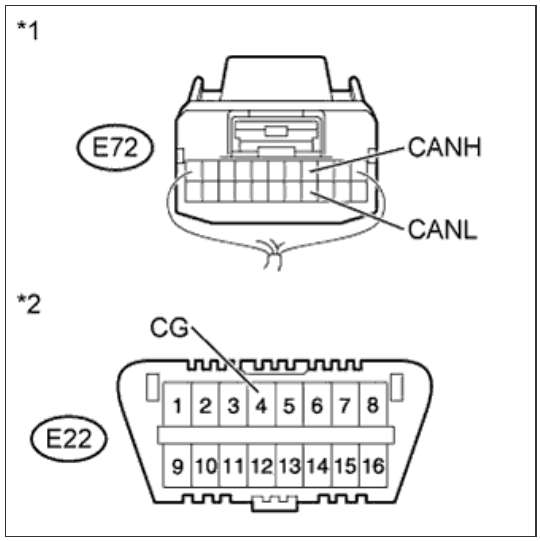
a. Measure the resistance according to the value(s) in the table below.

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)

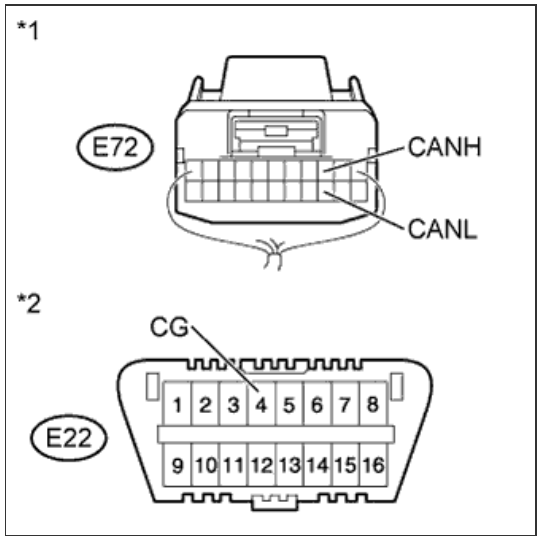
a. Measure the resistance according to the value(s) in the table below.

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.

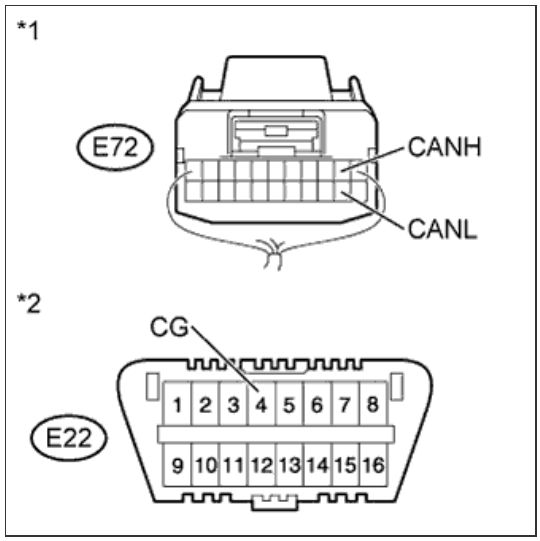
Standard Resistance:

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).

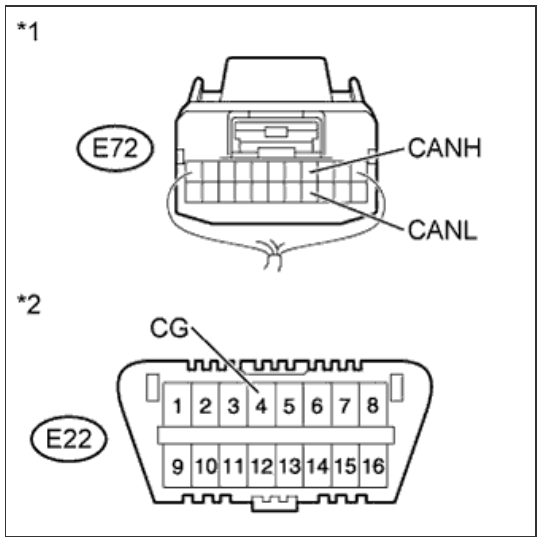
b. Measure the resistance according to the value(s) in the table below.

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.

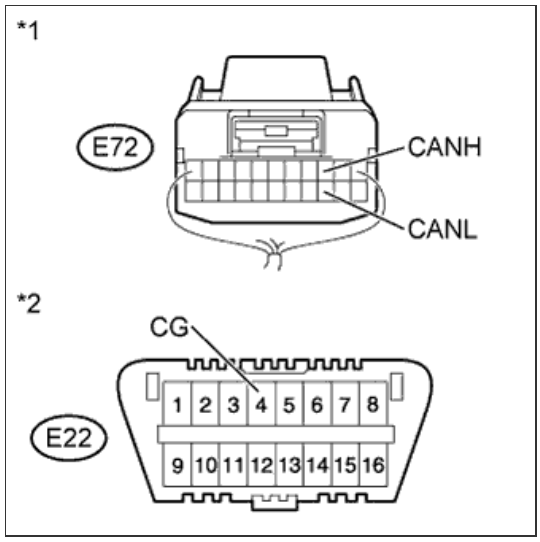
Standard Resistance:

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:

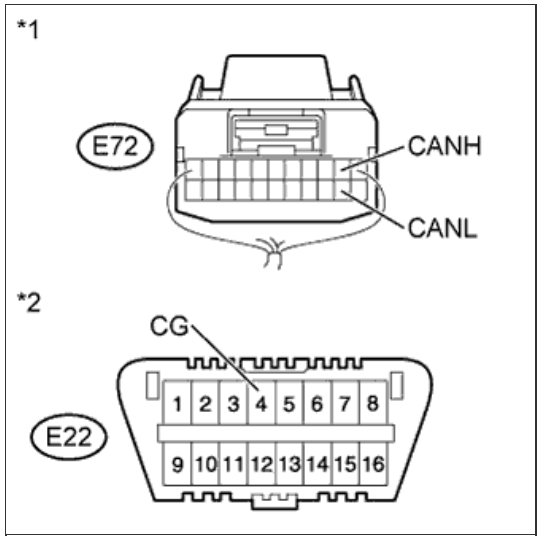
Tester Connection	Switch Condition	Specified Condition
E72-2 (CANH) - E22-4 (CG)	Engine switch off	200 Ω or higher
E72-13 (CANL) - E22-4 (CG)	Engine switch off	200 Ω or higher

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.

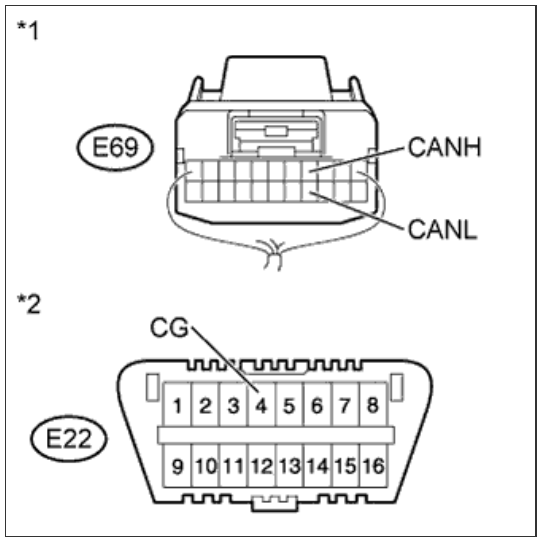
b. Measure the resistance according to the value(s) in the table below.

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)

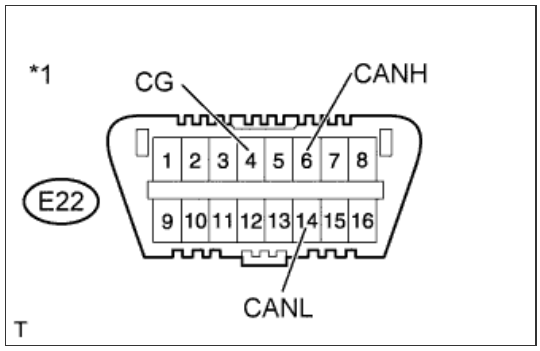
a. Measure the resistance according to the value(s) in the table below.

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.

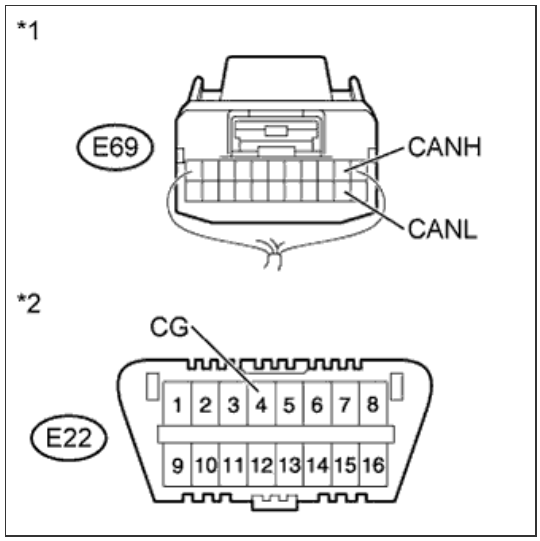
Standard Resistance:

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)

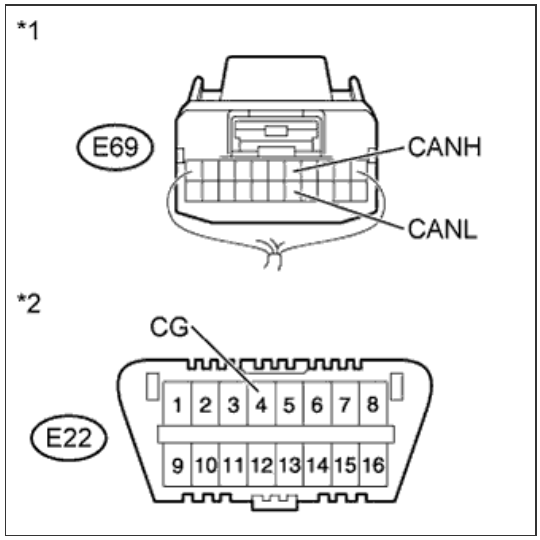
a. Measure the resistance according to the value(s) in the table below.

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.

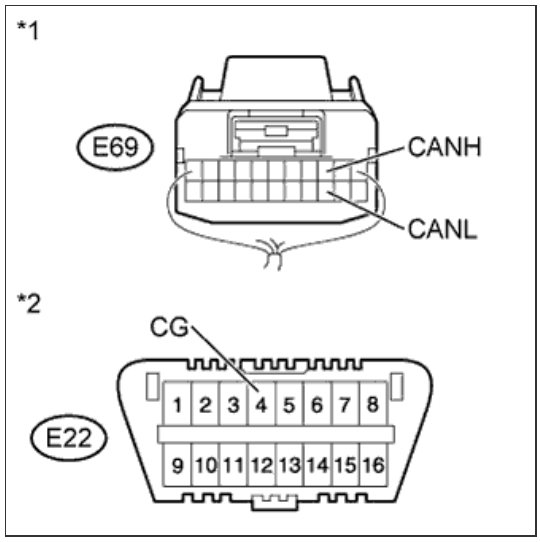
Standard Resistance:

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)

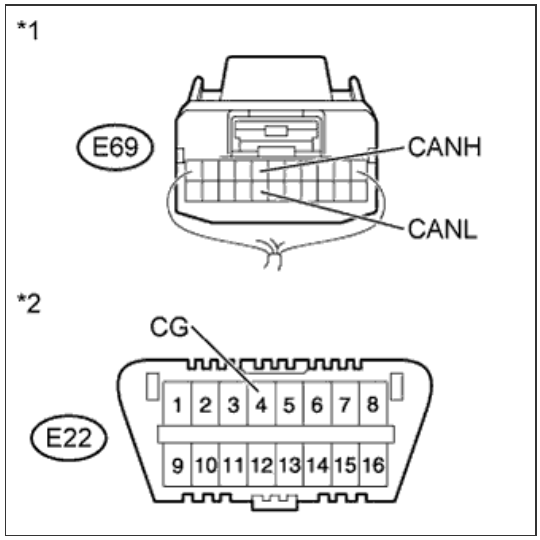
a. Measure the resistance according to the value(s) in the table below.

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.

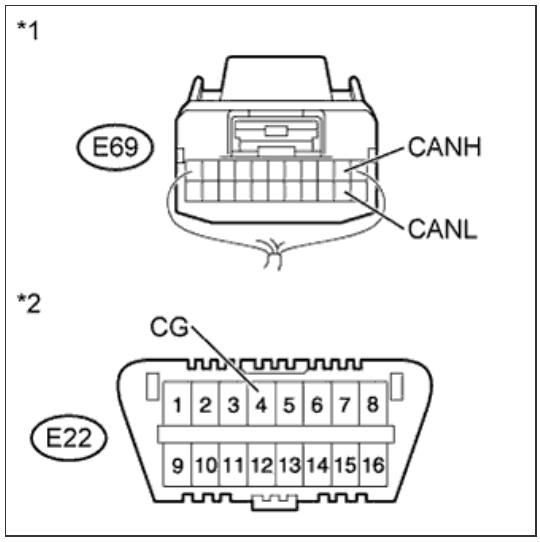
b. Measure the resistance according to the value(s) in the table below.

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.

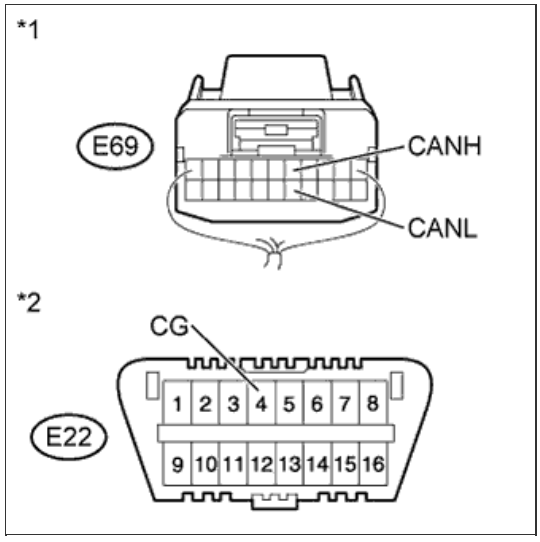
b. Measure the resistance according to the value(s) in the table below.

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.

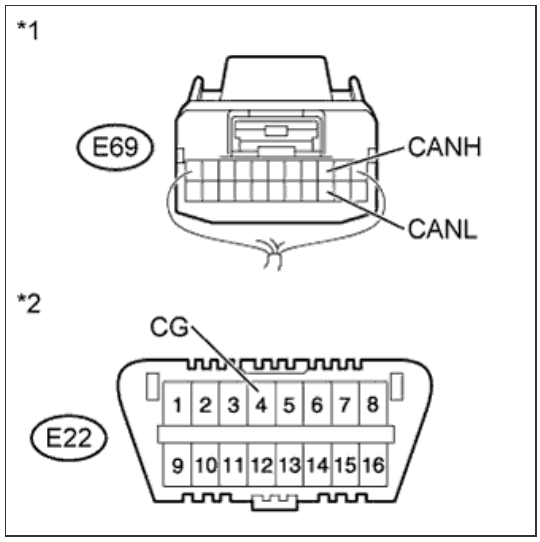
Standard Resistance:

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.

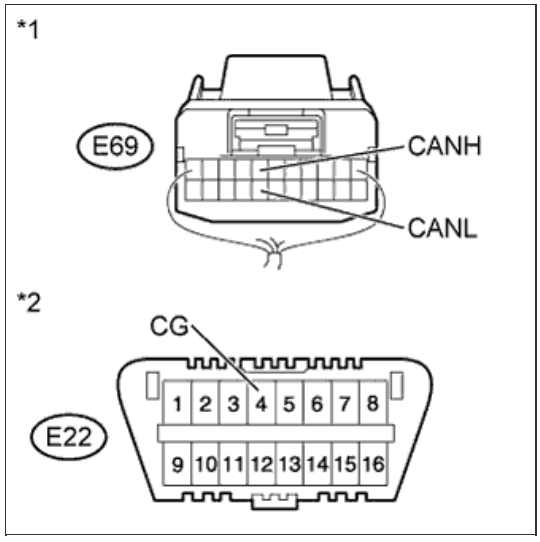
b. Measure the resistance according to the value(s) in the table below.

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.

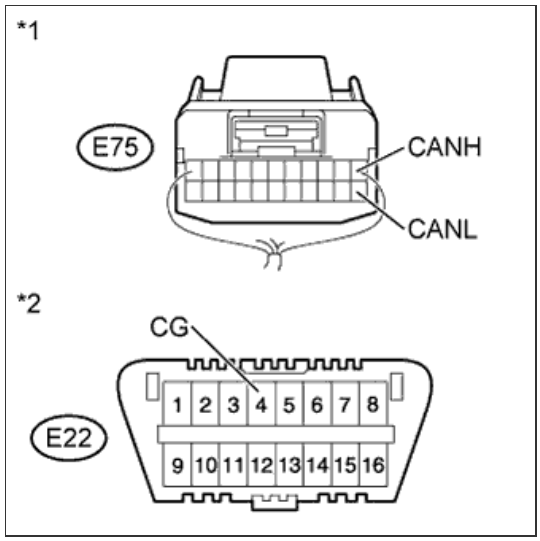
b. Measure the resistance according to the value(s) in the table below.

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)

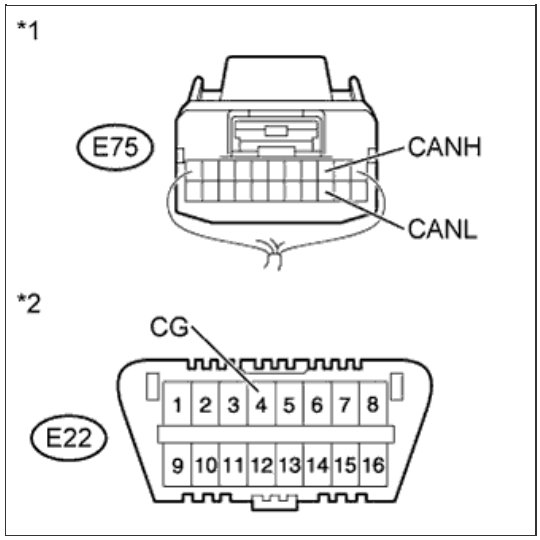
a. Measure the resistance according to the value(s) in the table below.

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.

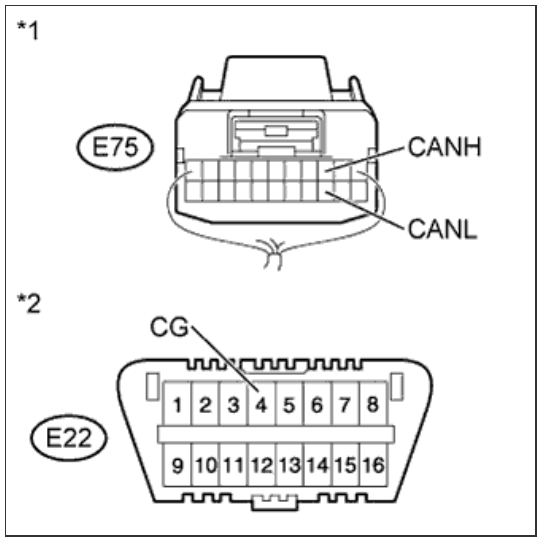
b. Measure the resistance according to the value(s) in the table below.

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 (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)

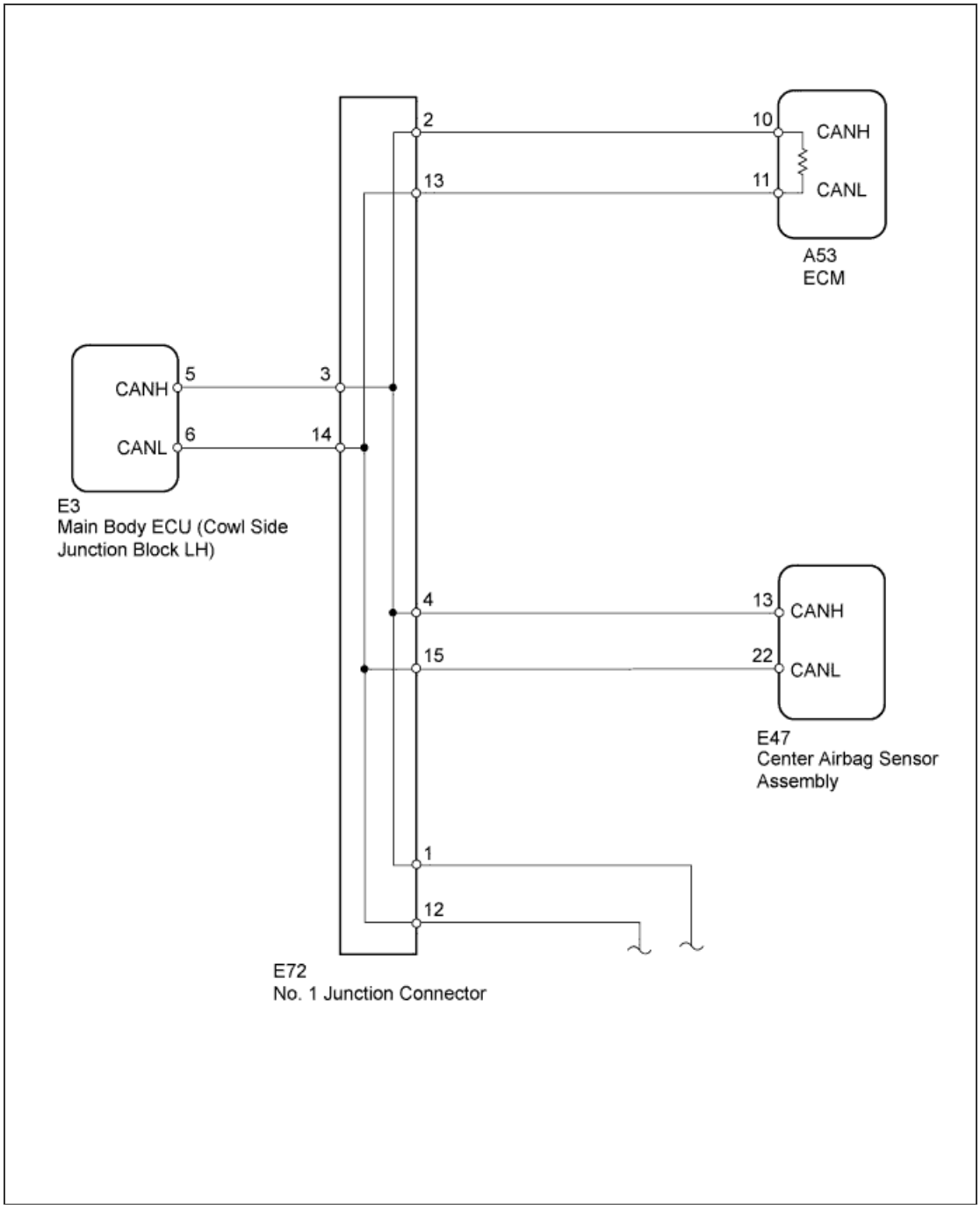
for Preparation Click here

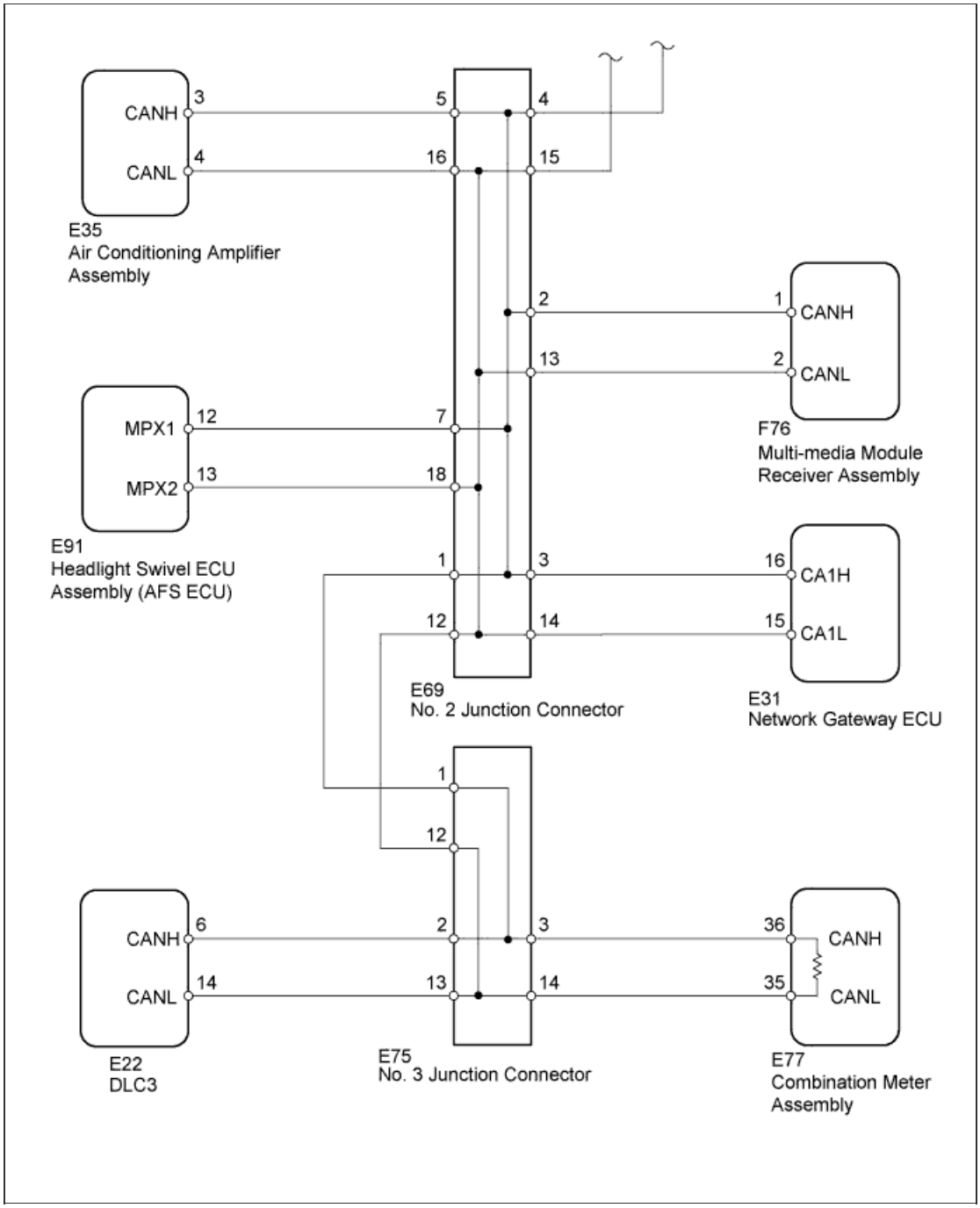
DESCRIPTION

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 • Center airbag sensor assembly • Multi-media module receiver assembly • Air conditioning amplifier assembly • Main body ECU (cowl side junction block LH) • Headlight swivel ECU assembly (AFS ECU) • 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)

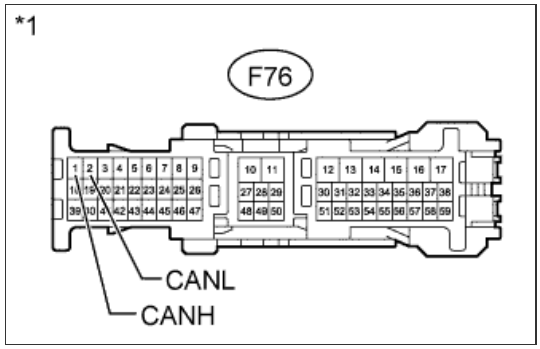
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

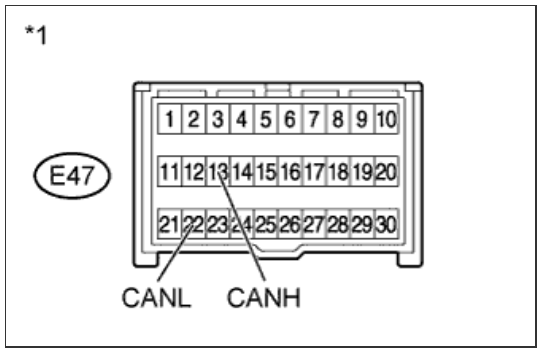
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

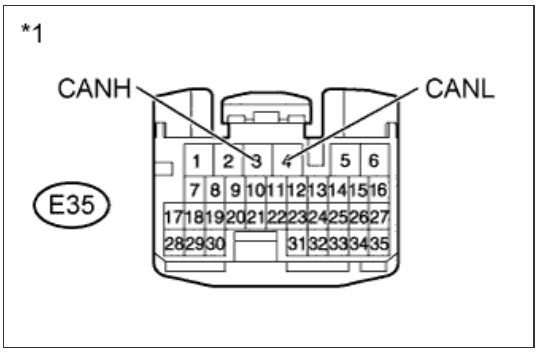
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

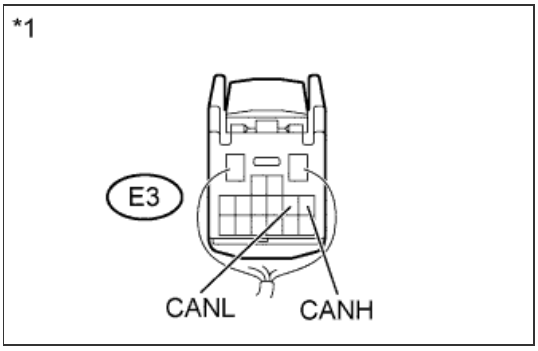
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

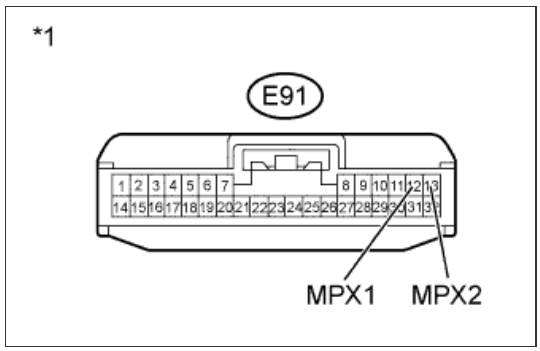
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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:

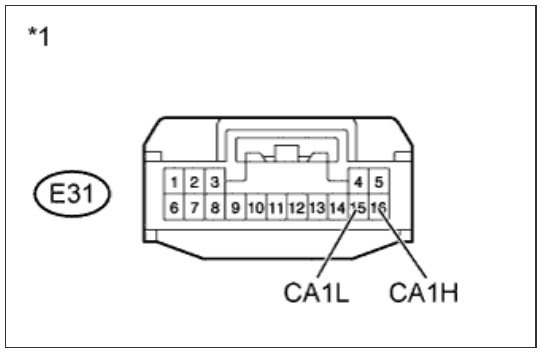
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

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)

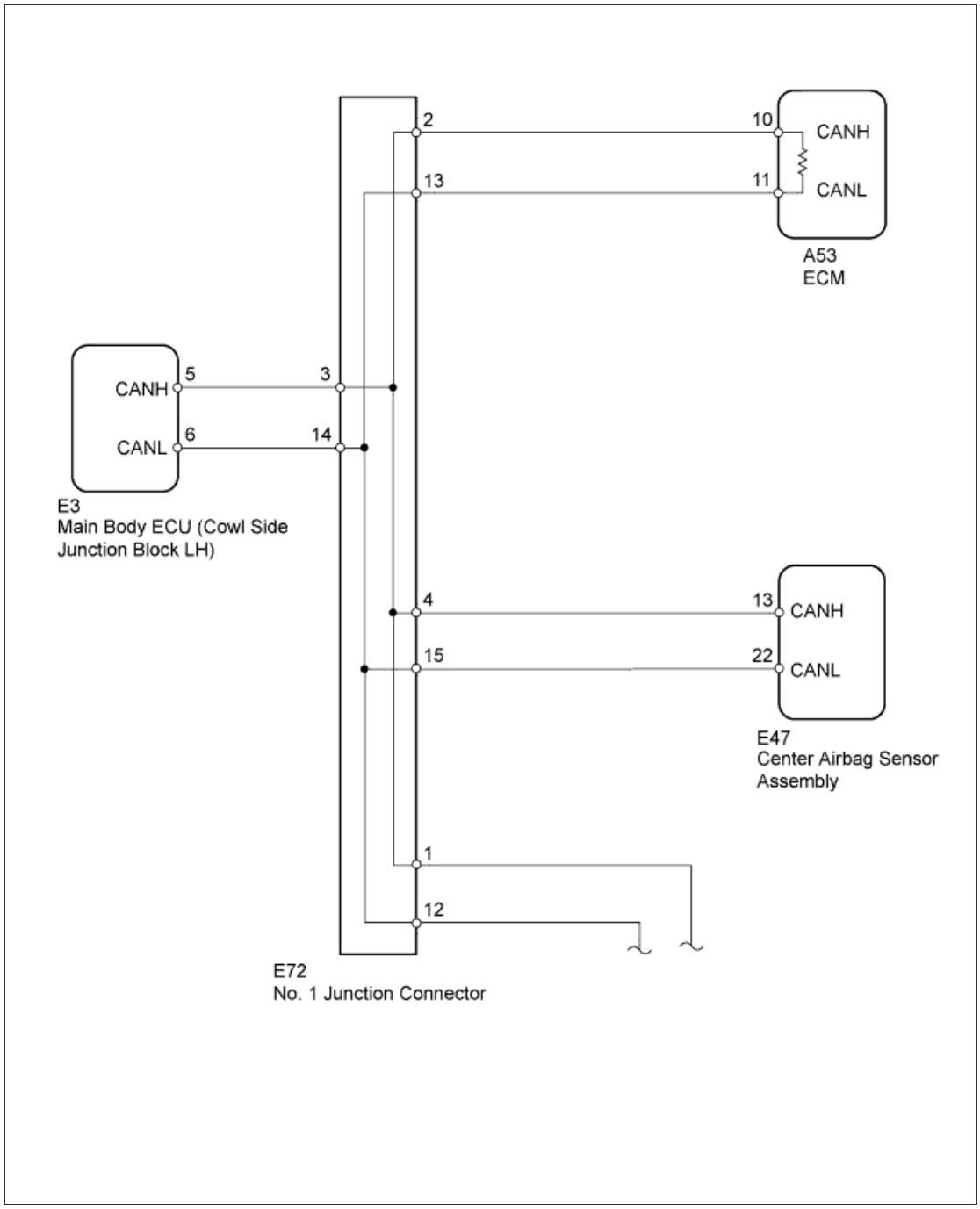
for Preparation Click here

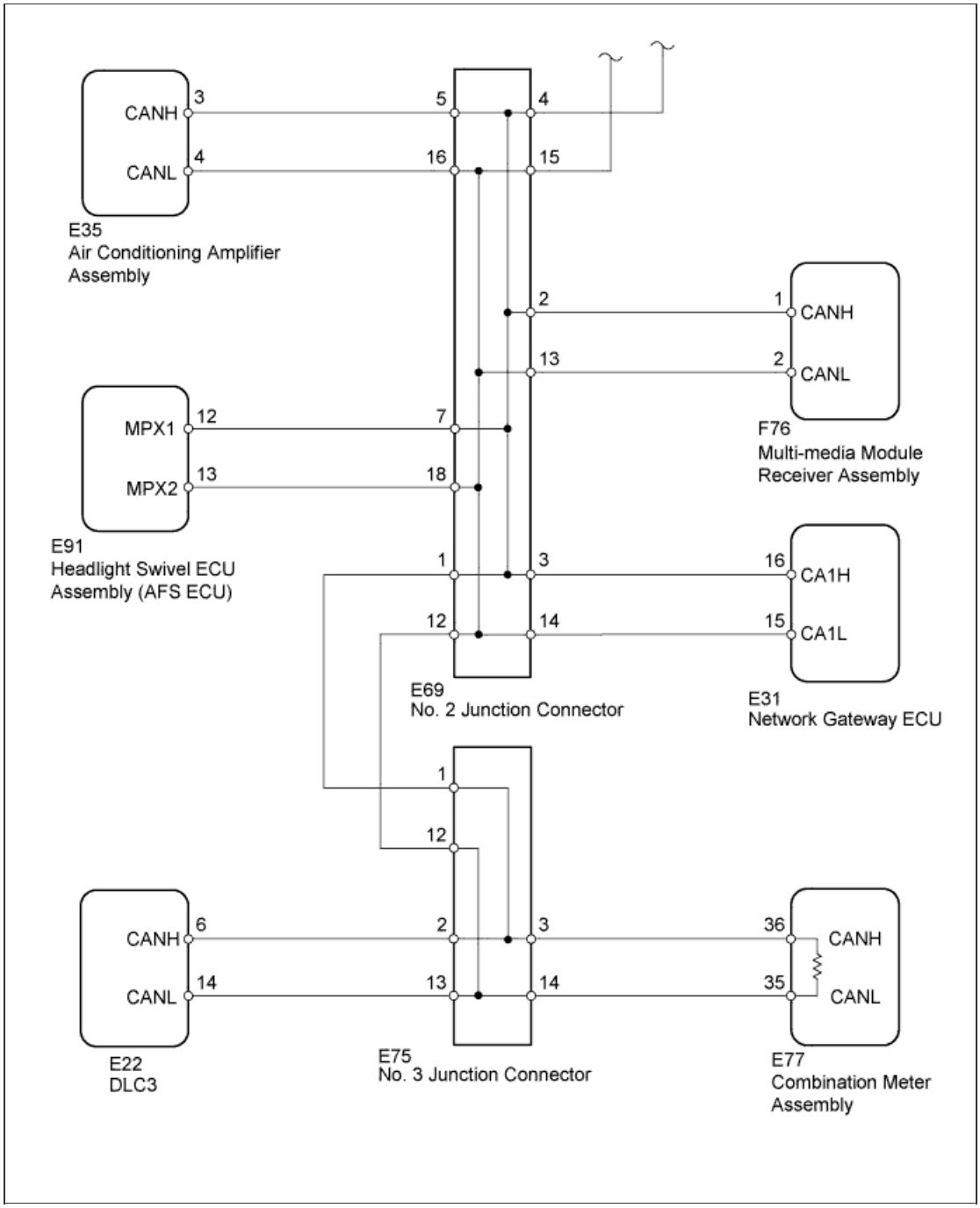
DESCRIPTION

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 • Center airbag sensor assembly • Multi-media module receiver assembly • Air conditioning amplifier assembly • Main body ECU (cowl side junction block LH) • Headlight swivel ECU assembly (AFS ECU) • 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)

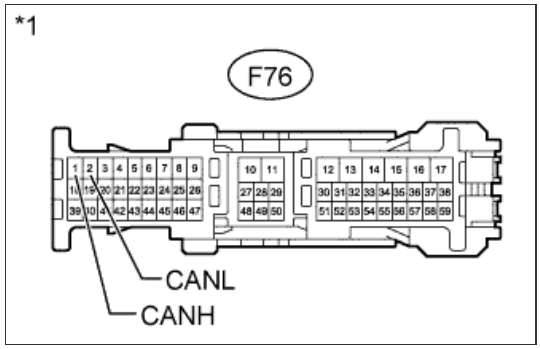
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

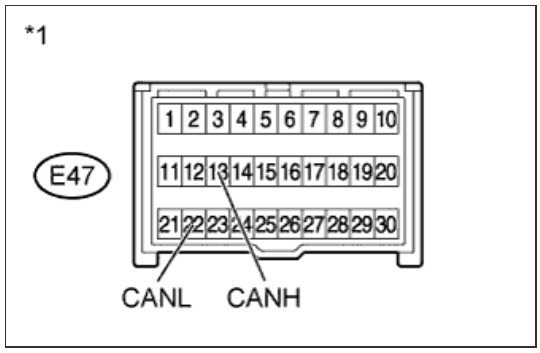
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

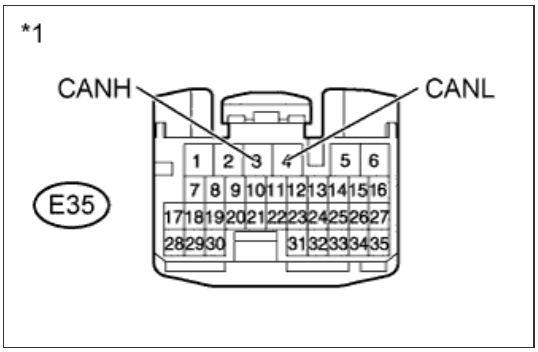
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

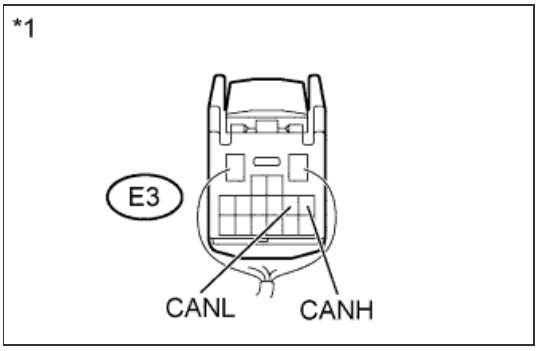
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

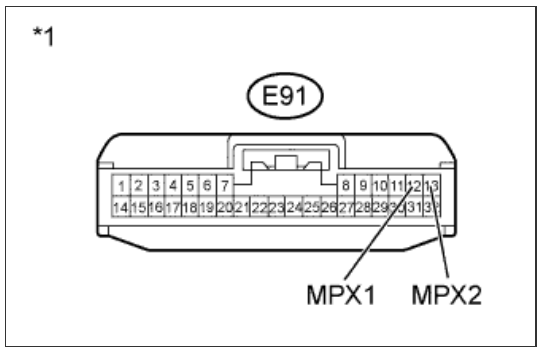
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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:

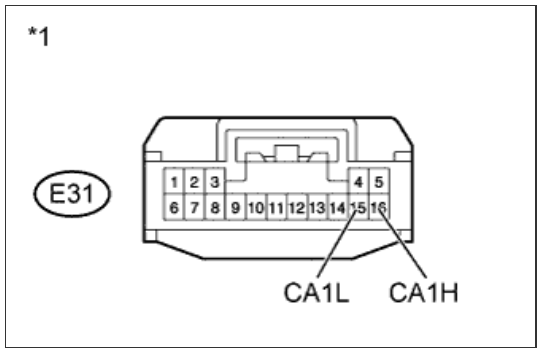
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

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)

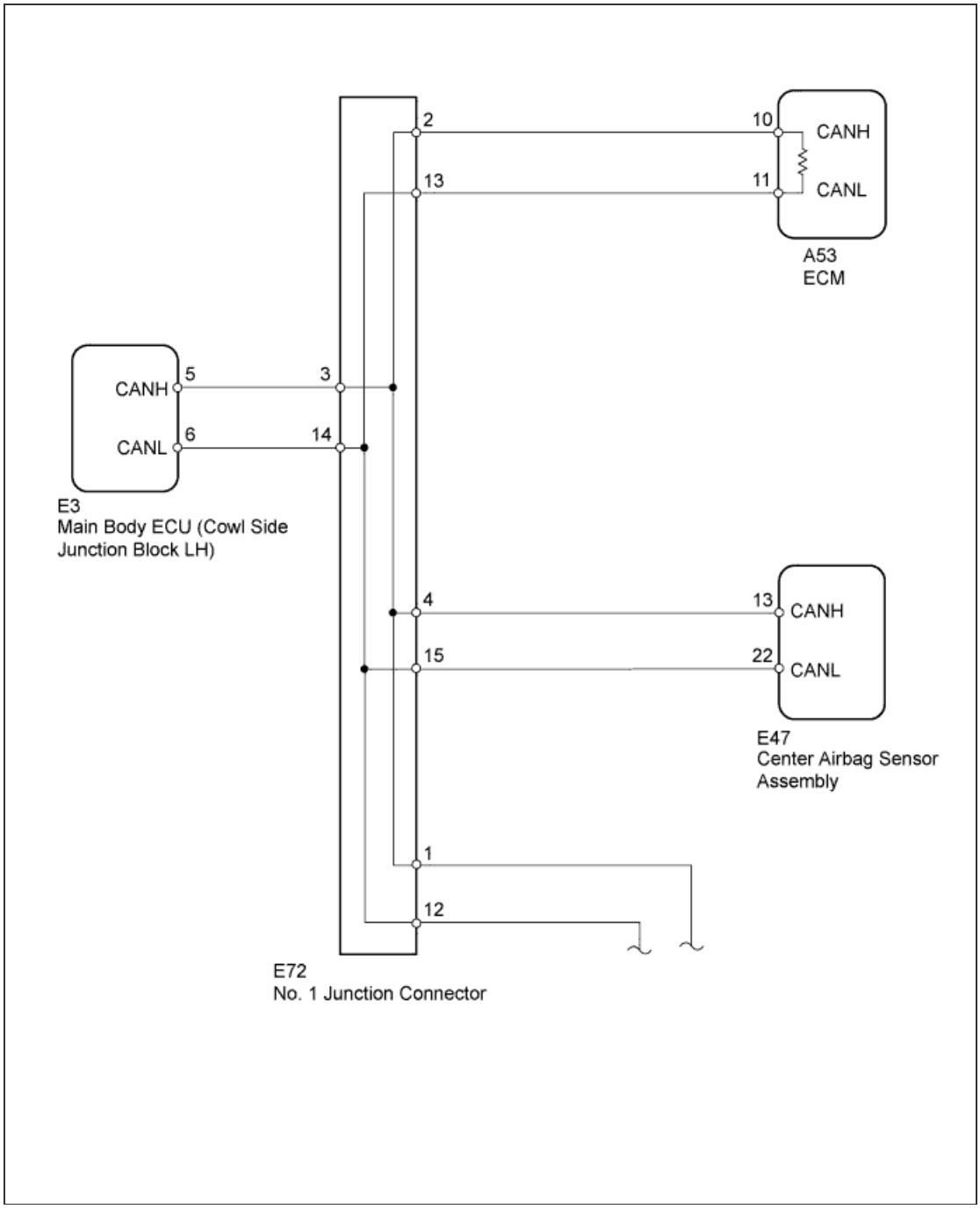
for Preparation Click here

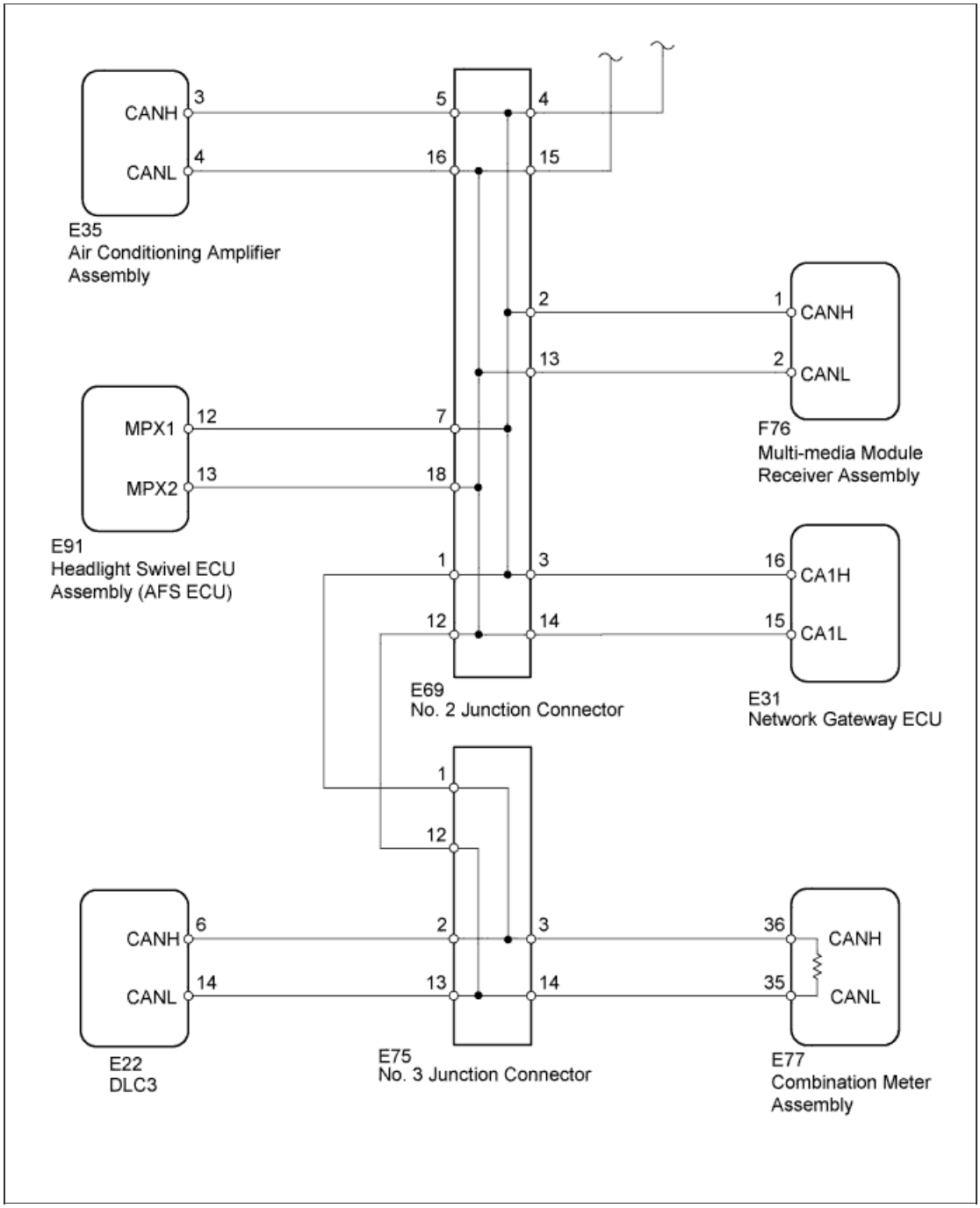
DESCRIPTION

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 • Center airbag sensor assembly • Multi-media module receiver assembly • Air conditioning amplifier assembly • Main body ECU (cowl side junction block LH) • Headlight swivel ECU assembly (AFS ECU) • 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)

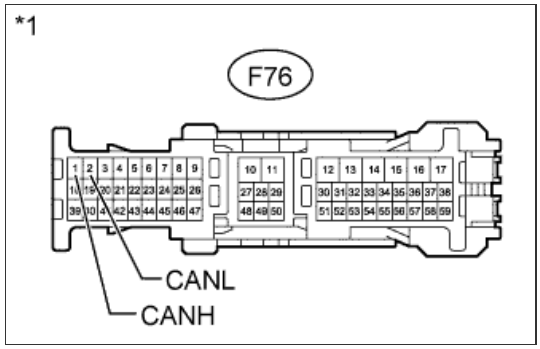
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

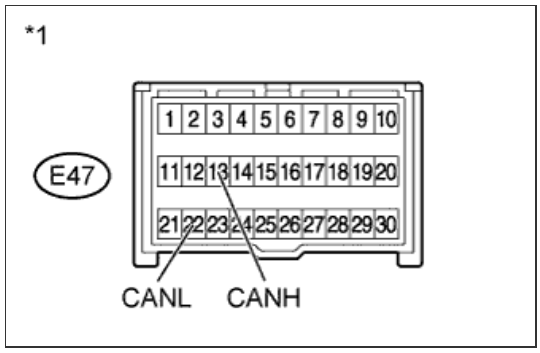
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

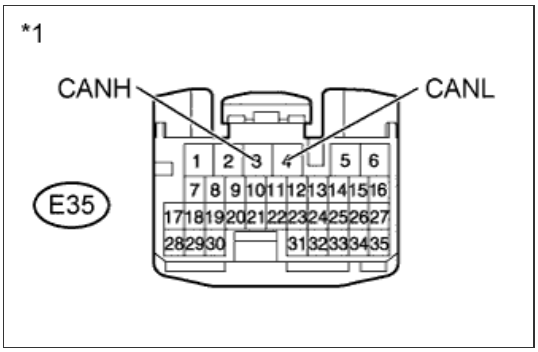
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

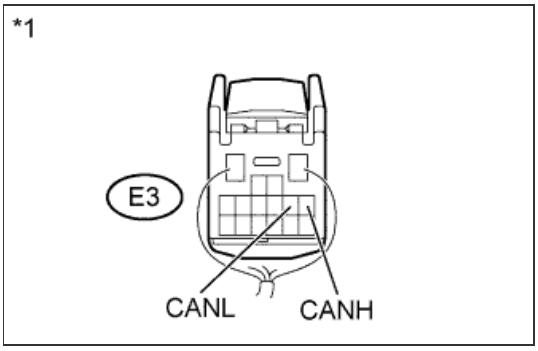
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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)

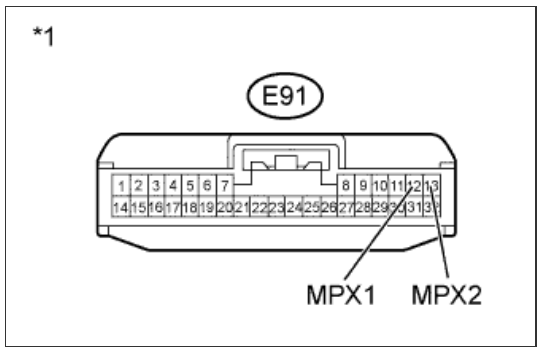
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

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:

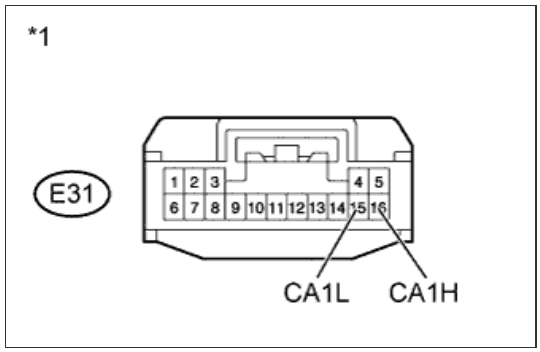
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

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

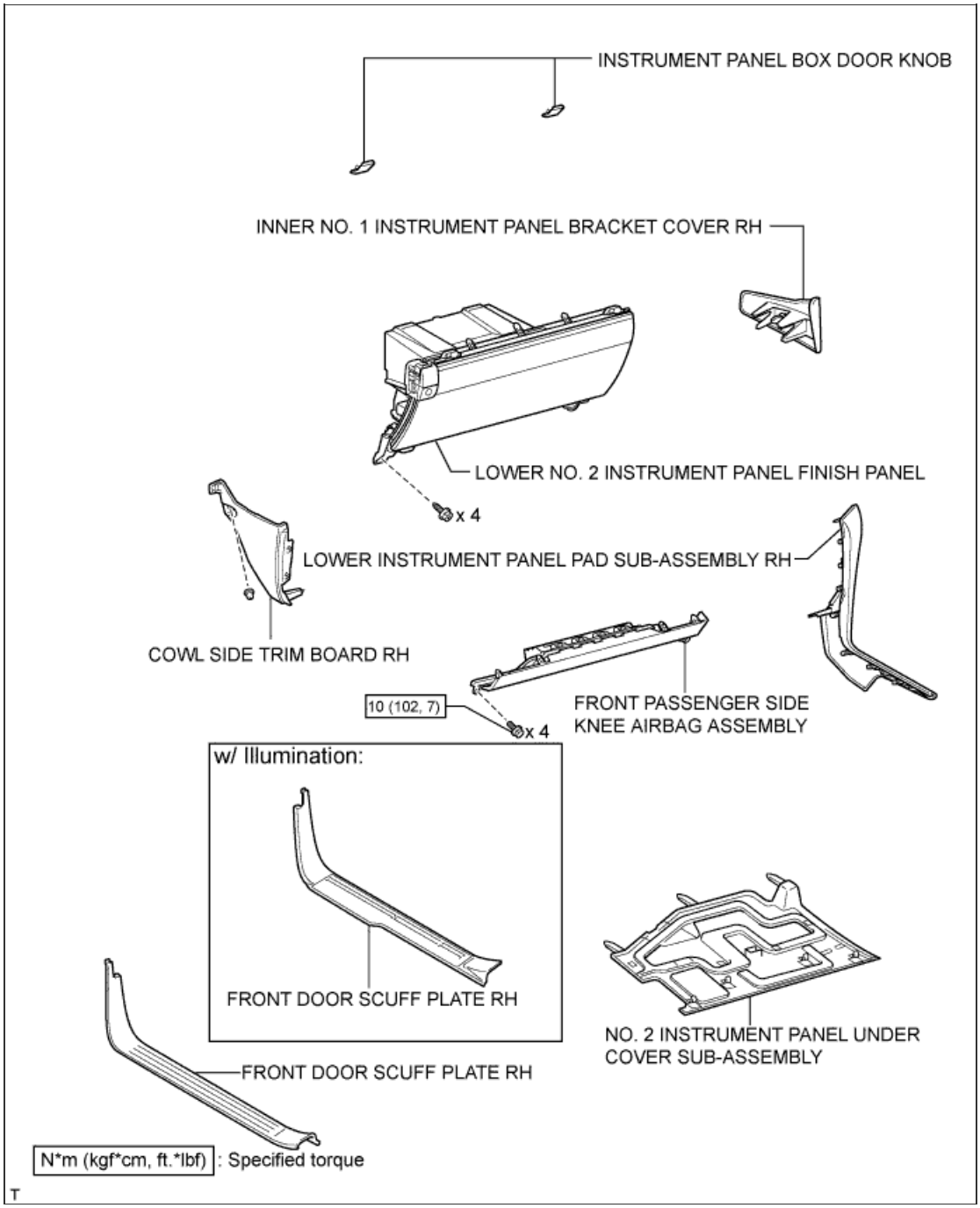
*1	Front view of wire harness connector (to Network Gateway ECU)

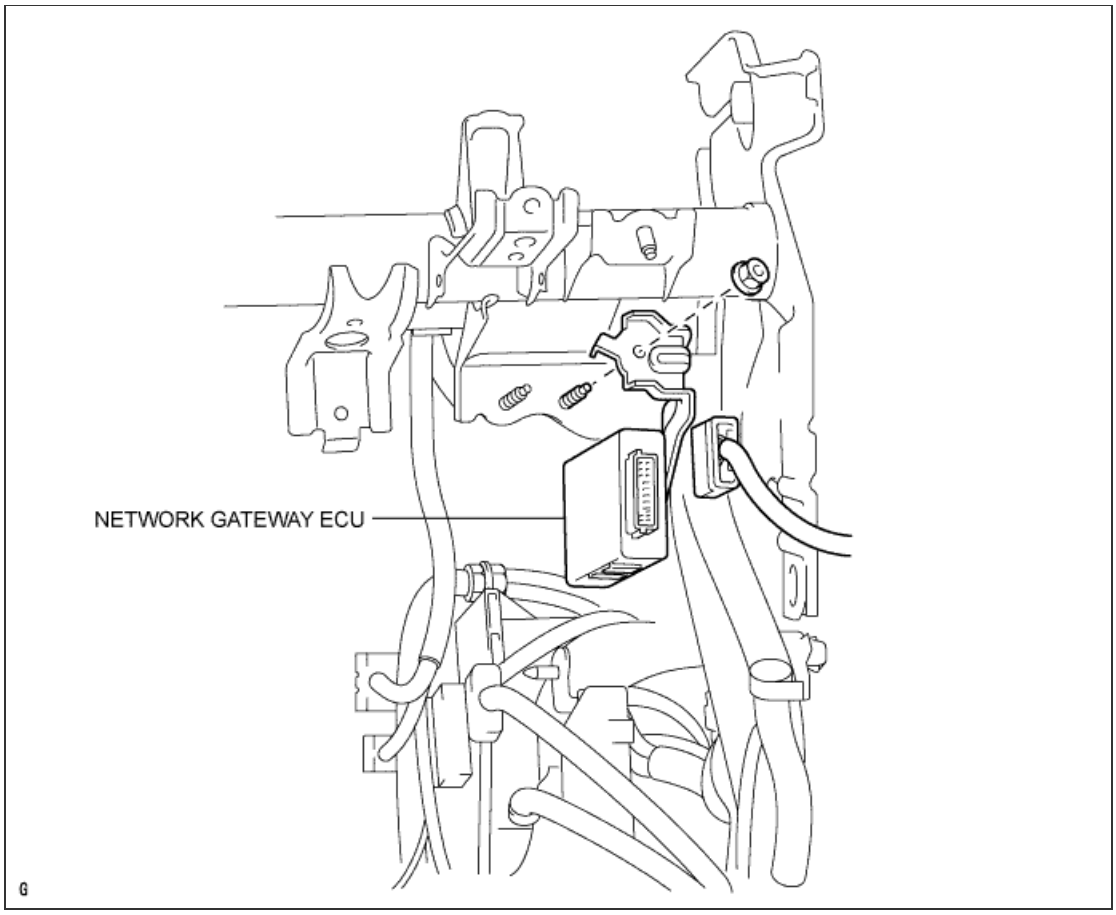
NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (NETWORK GATEWAY ECU)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

for Preparation Click here

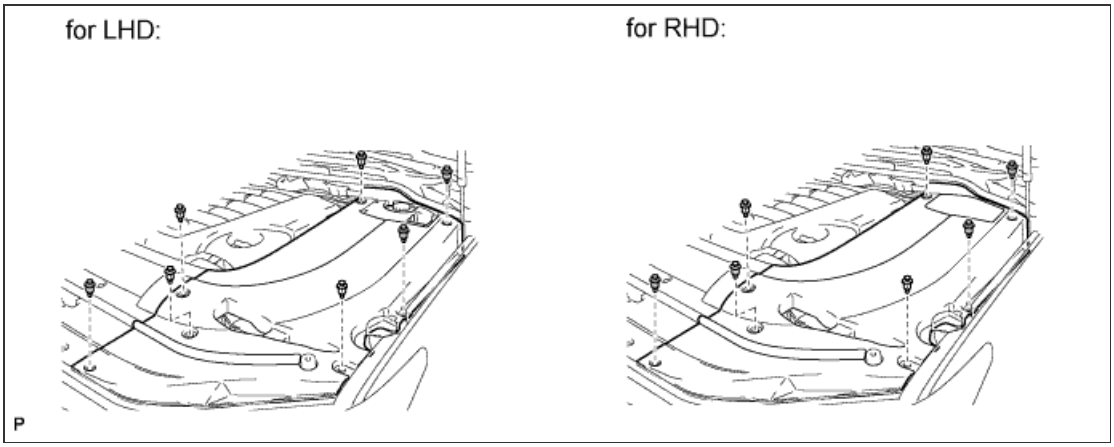



NETWORK GATEWAY ECU
G

for Preparation Click here

1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover LH.



2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

CAUTION:

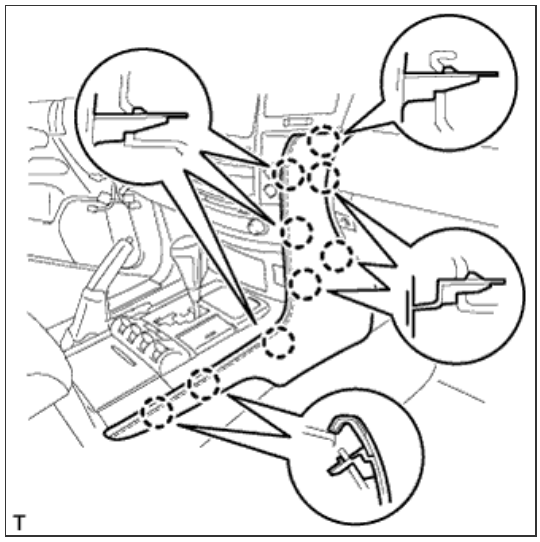
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

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).**

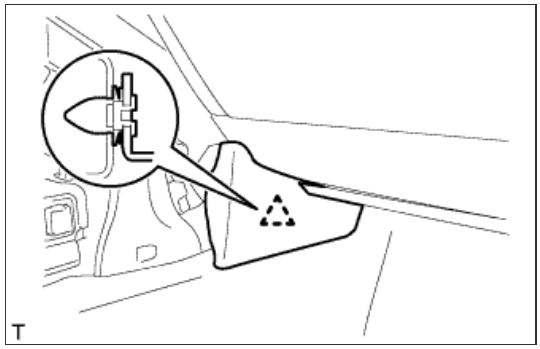
3. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Detach the 9 claws and remove the panel pad.



4. REMOVE INNER NO. 1 INSTRUMENT PANEL BRACKET COVER RH

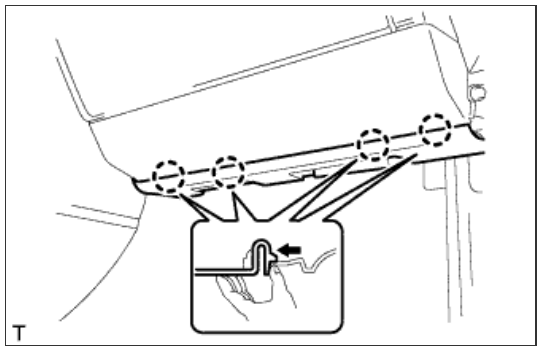
a. Detach the clip and remove the cover.



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

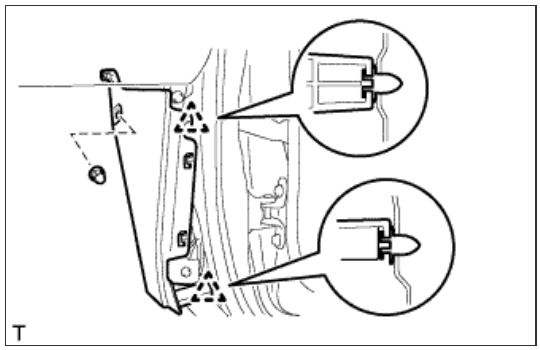
HINT:

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

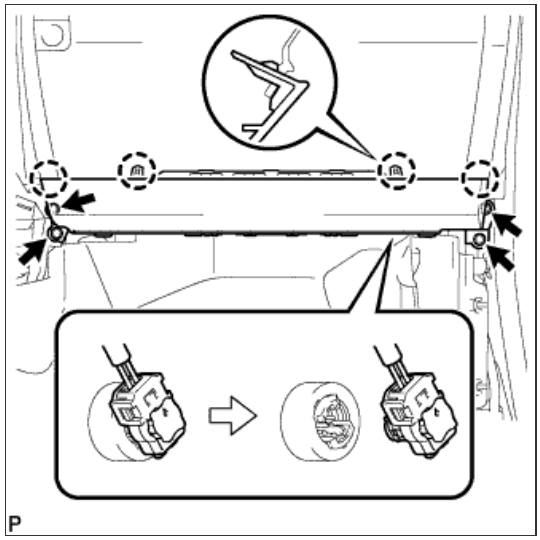
a. Remove the 4 bolts.

b. Detach the 4 claws and remove the front passenger side knee airbag.

c. Disconnect the connector.

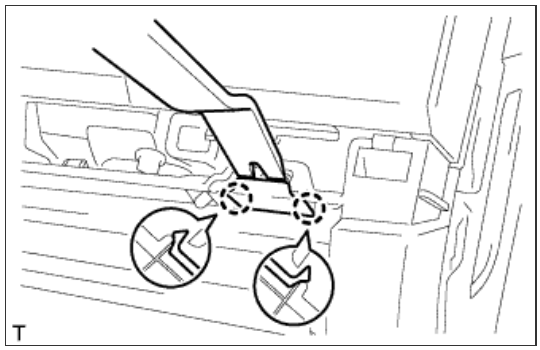
NOTICE:

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.

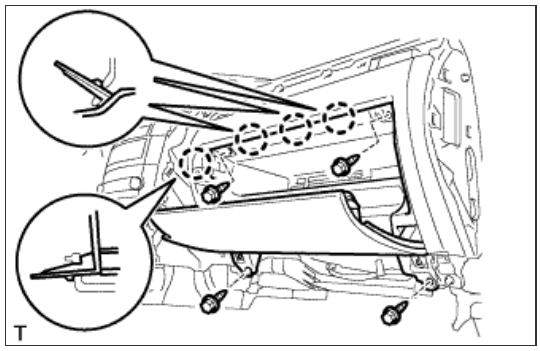


10. REMOVE LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL

a. Remove the 4 bolts.

b. Detach the 4 claws.

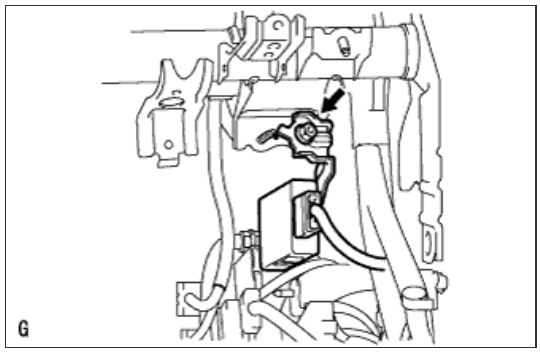
c. Remove the finish panel and then disconnect the connector.



11. REMOVE NETWORK GATEWAY ECU

a. Disconnect the connector.

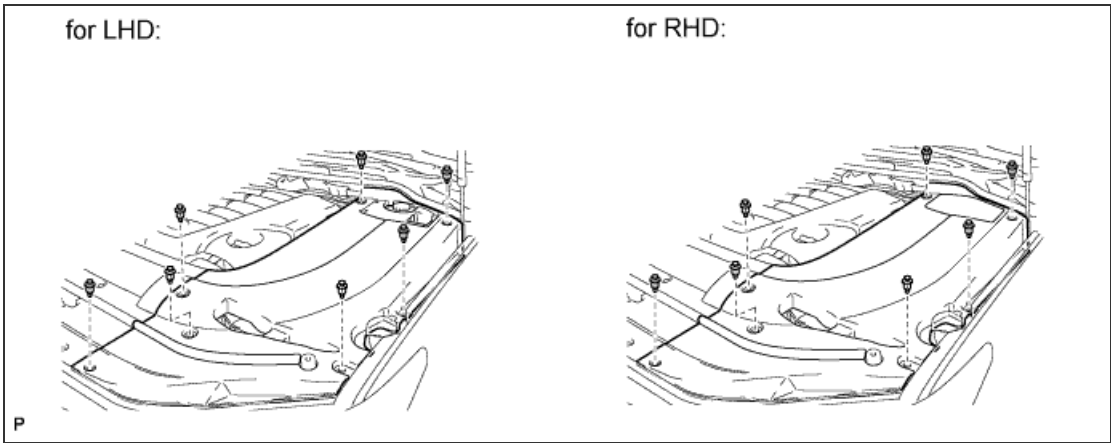
b. Remove the nut and ECU.



for Preparation Click here

1. 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:

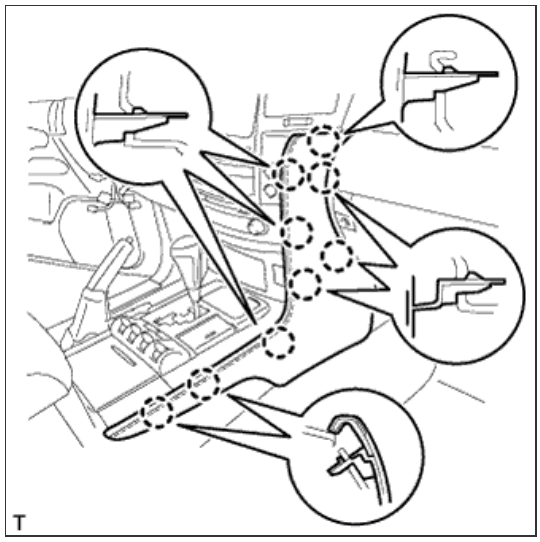
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

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).**

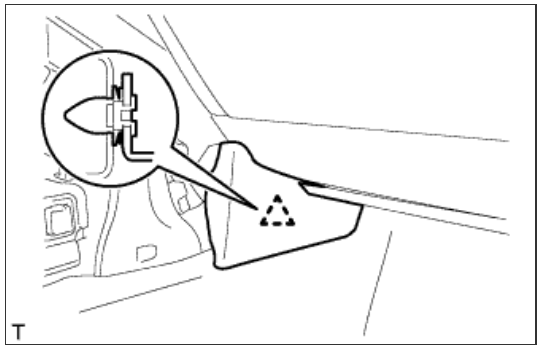
3. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Detach the 9 claws and remove the panel pad.



4. REMOVE INNER NO. 1 INSTRUMENT PANEL BRACKET COVER RH

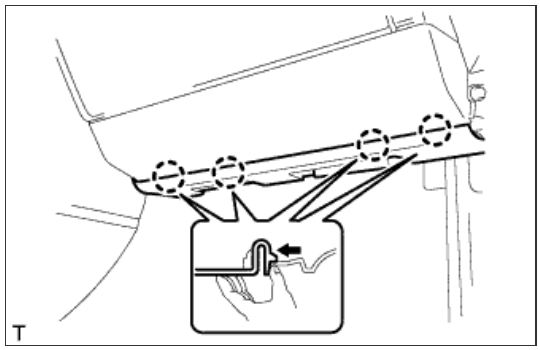
a. Detach the clip and remove the cover.



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

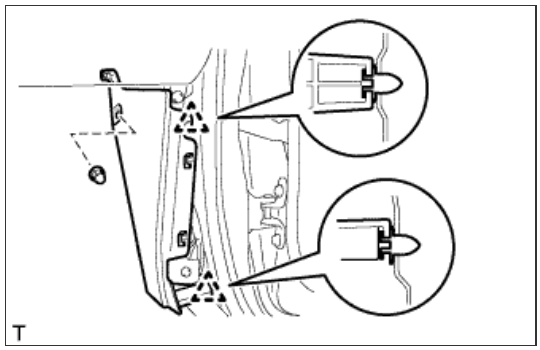
HINT:

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

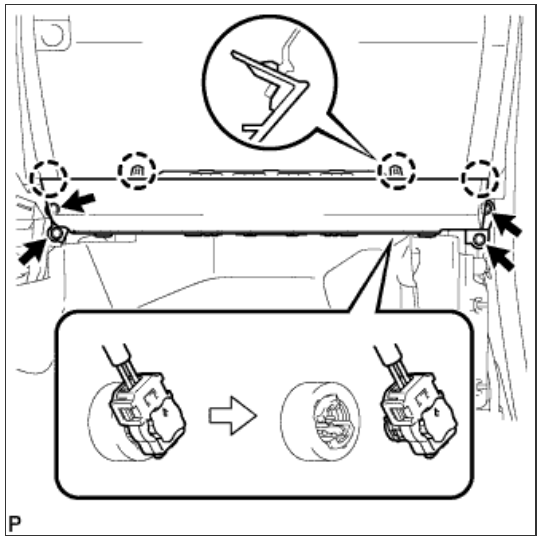
a. Remove the 4 bolts.

b. Detach the 4 claws and remove the front passenger side knee airbag.

c. Disconnect the connector.

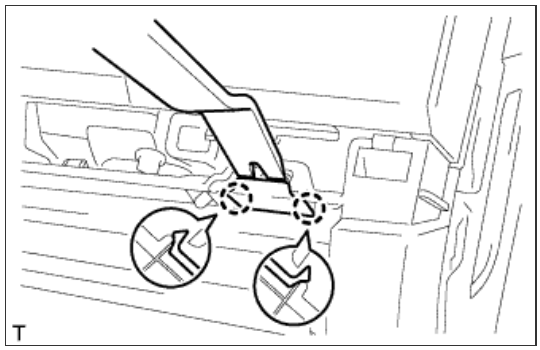
NOTICE:

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.

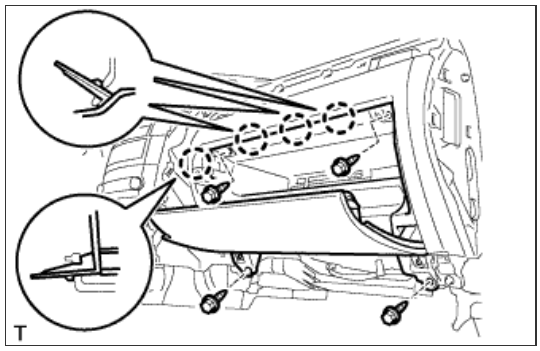


10. REMOVE LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL

a. Remove the 4 bolts.

b. Detach the 4 claws.

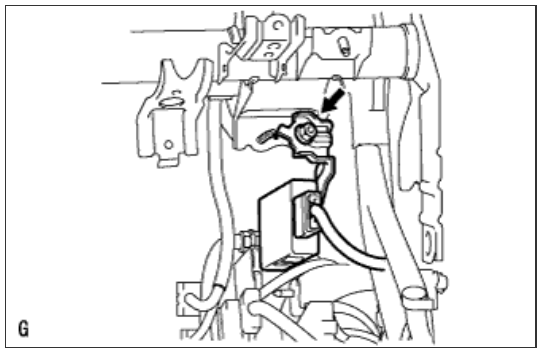
c. Remove the finish panel and then disconnect the connector.



11. REMOVE NETWORK GATEWAY ECU

a. Disconnect the connector.

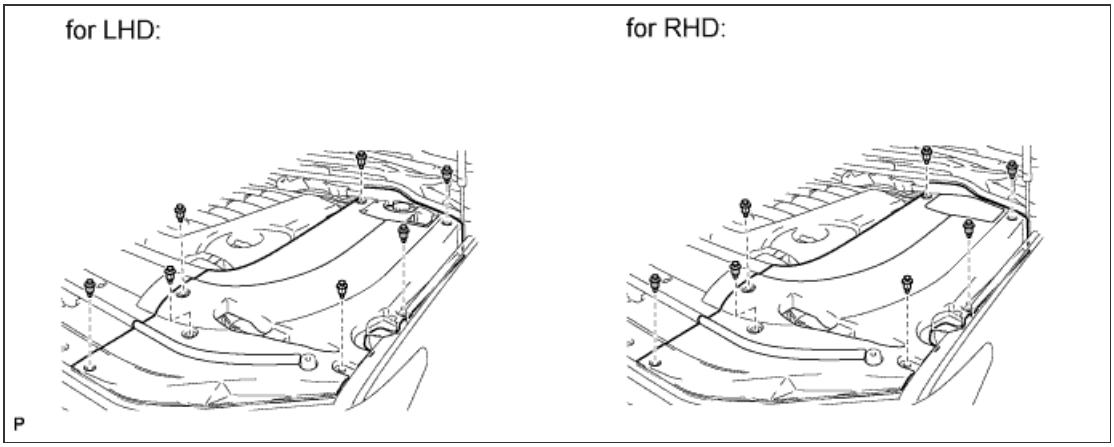
b. Remove the nut and ECU.



for Preparation Click here

1. 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:

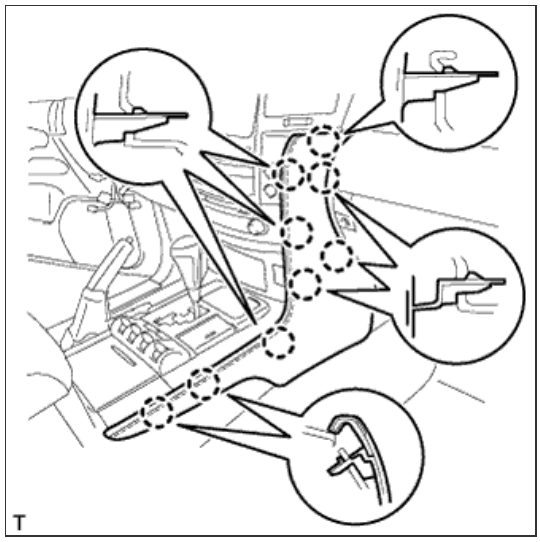
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

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).**

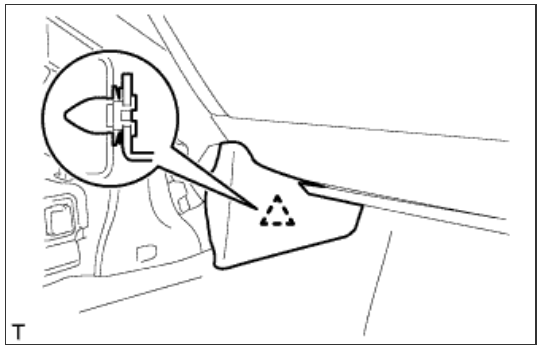
3. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Detach the 9 claws and remove the panel pad.



4. REMOVE INNER NO. 1 INSTRUMENT PANEL BRACKET COVER RH

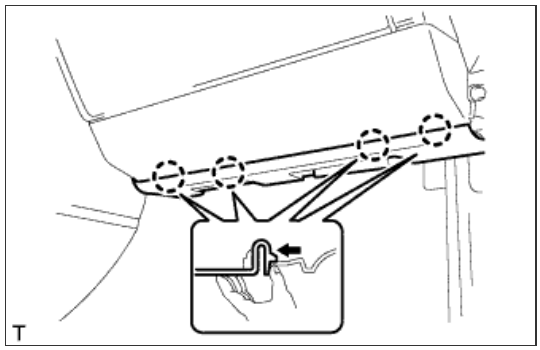
a. Detach the clip and remove the cover.



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

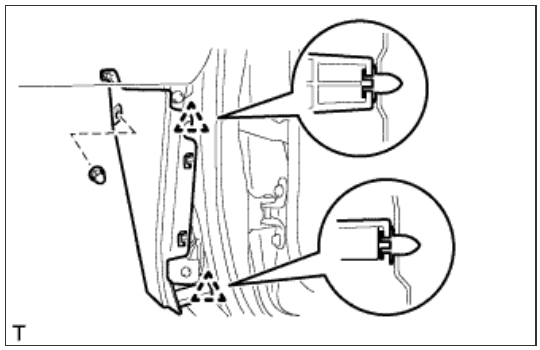
HINT:

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

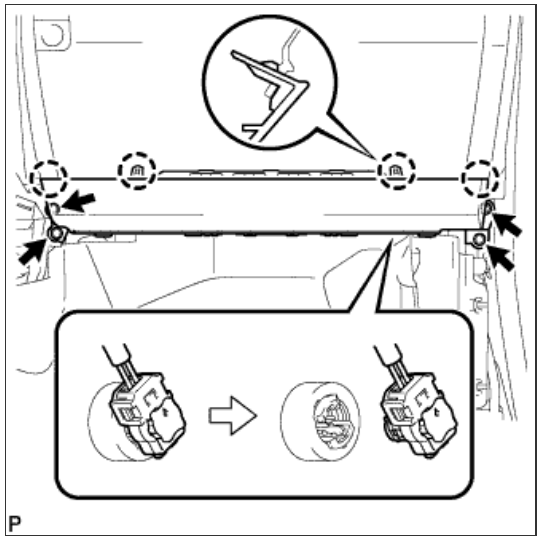
a. Remove the 4 bolts.

b. Detach the 4 claws and remove the front passenger side knee airbag.

c. Disconnect the connector.

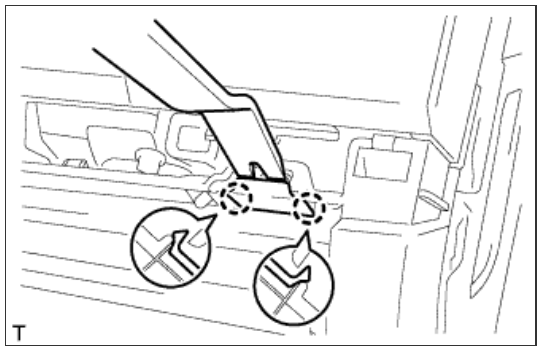
NOTICE:

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.

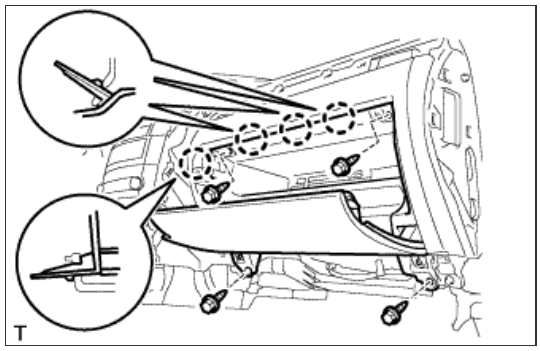


10. REMOVE LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL

a. Remove the 4 bolts.

b. Detach the 4 claws.

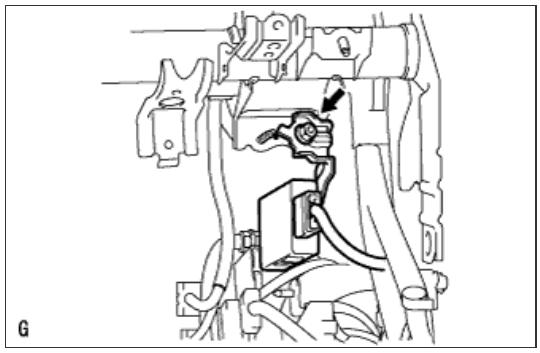
c. Remove the finish panel and then disconnect the connector.



11. REMOVE NETWORK GATEWAY ECU

a. Disconnect the connector.

b. Remove the nut and ECU.

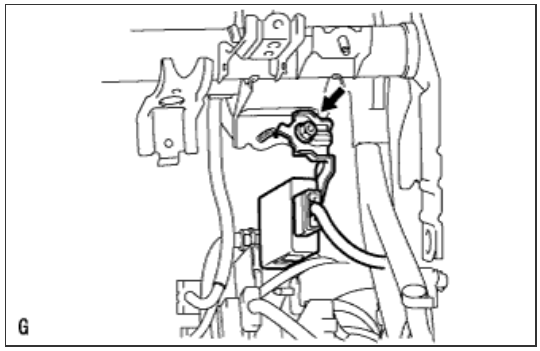


for Preparation Click here

1. INSTALL NETWORK GATEWAY ECU

a. Install the ECU with the nut.

b. Connect the connector.

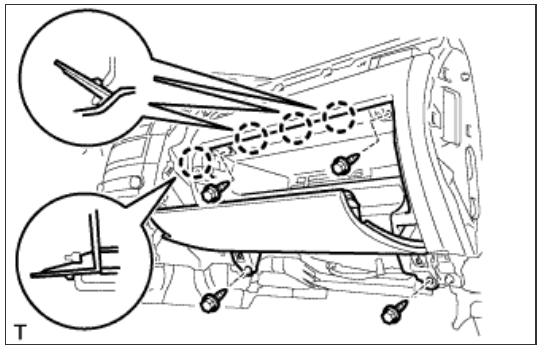


2. INSTALL LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL

a. Connect the connector.

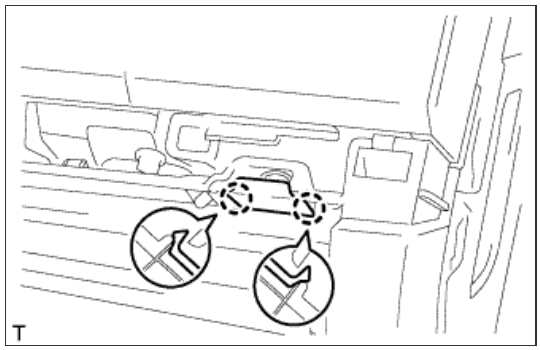
b. Attach the 4 claws to install the finish panel.

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.

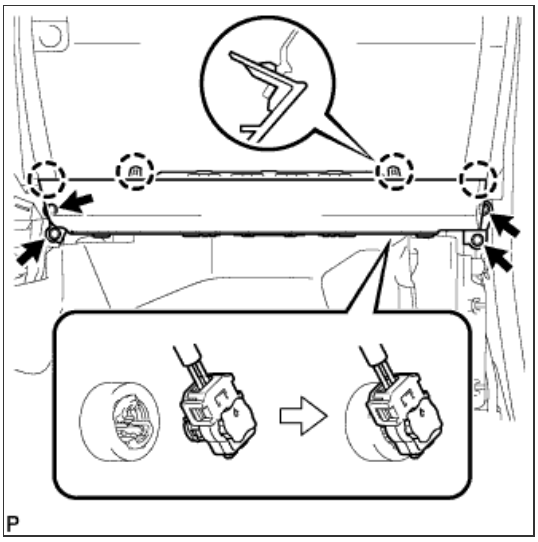
NOTICE:

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.

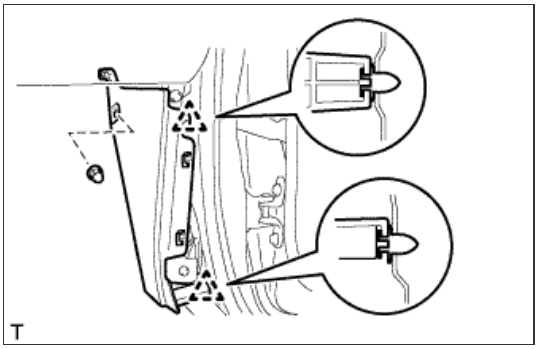
Torque:
10 N*m{ 102 kgf*cm , 7 ft.*lbf }



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

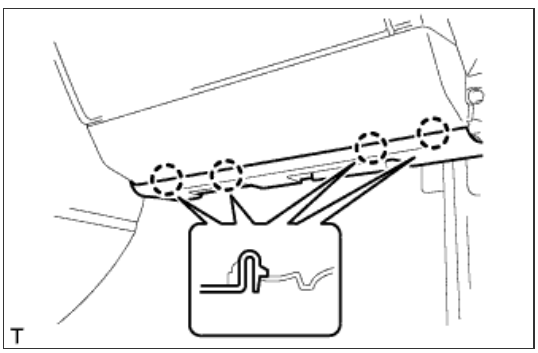
HINT:

Use the same procedures described for the LH side.

7. INSTALL NO. 2 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

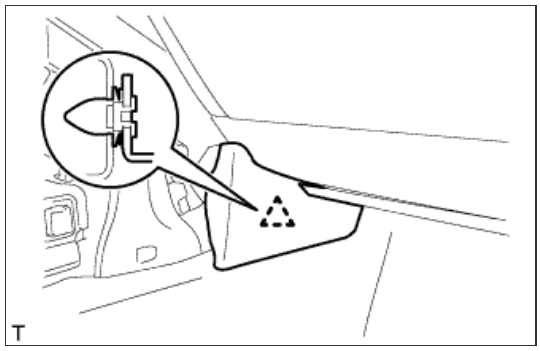
a. Connect the connector.

b. Attach the 4 claws to install the under cover.



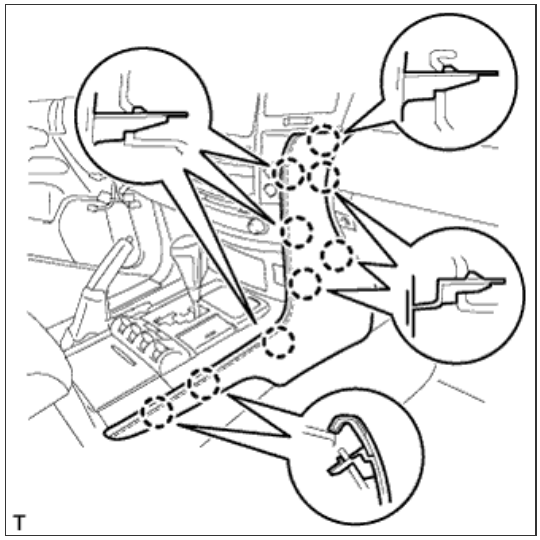
8. INSTALL INNER NO. 1 INSTRUMENT PANEL BRACKET COVER RH

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 LH with the 7 clips.

12. CHECK SRS WARNING LIGHT

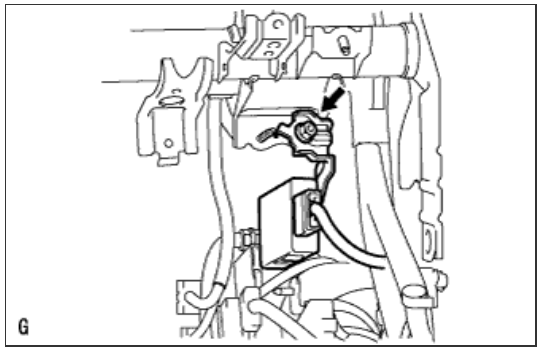
(Click here)

for Preparation Click here

1. INSTALL NETWORK GATEWAY ECU

a. Install the ECU with the nut.

b. Connect the connector.

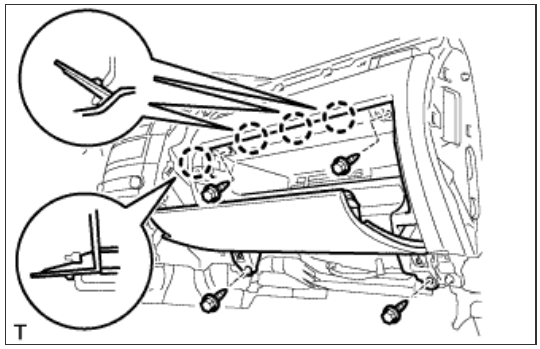


2. INSTALL LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL

a. Connect the connector.

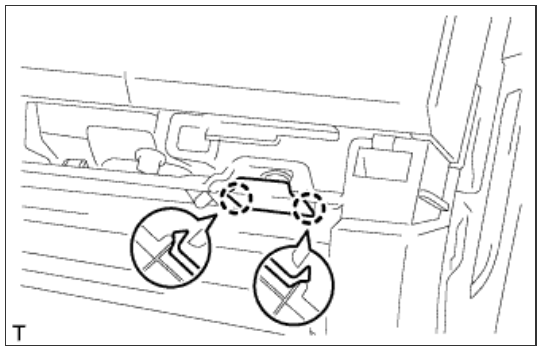
b. Attach the 4 claws to install the finish panel.

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.

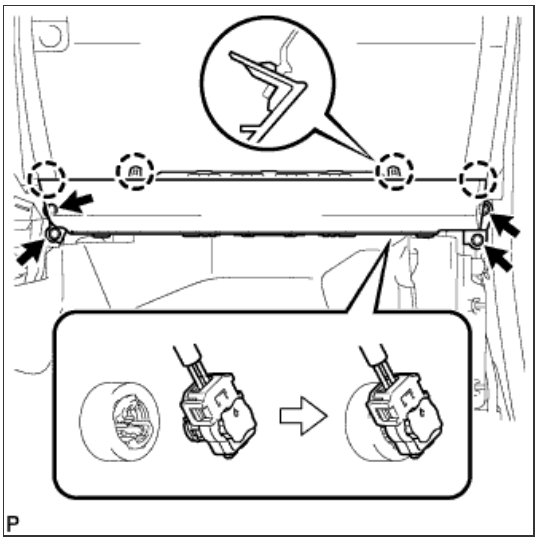
NOTICE:

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.

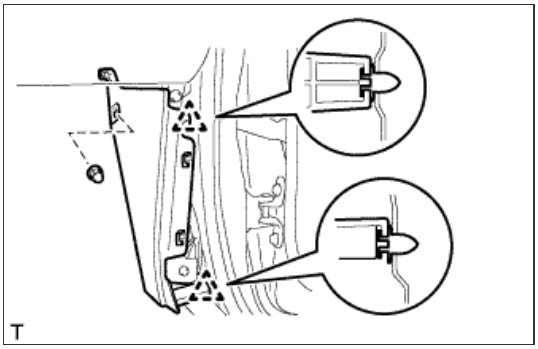
Torque:
10 N*m{ 102 kgf*cm , 7 ft.*lbf }



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

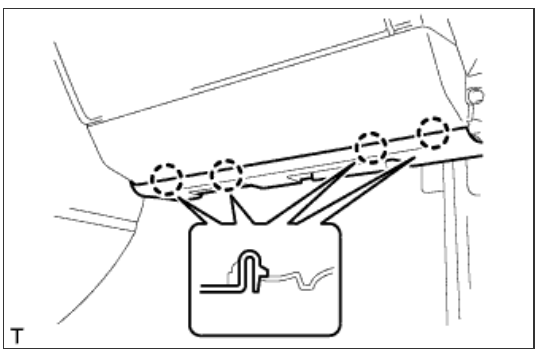
HINT:

Use the same procedures described for the LH side.

7. INSTALL NO. 2 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

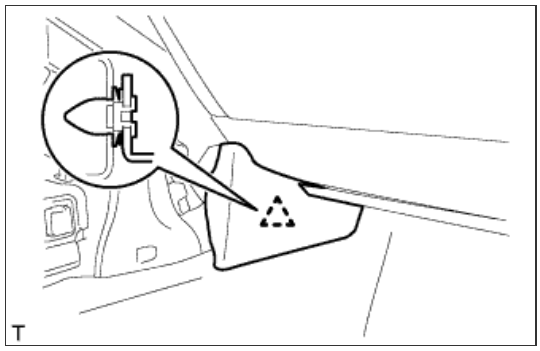
a. Connect the connector.

b. Attach the 4 claws to install the under cover.



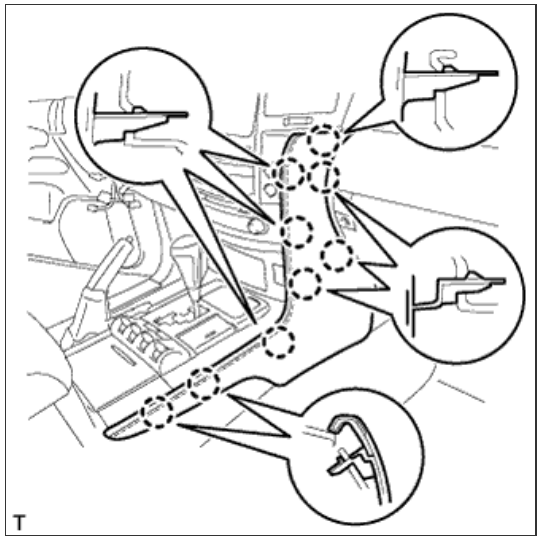
8. INSTALL INNER NO. 1 INSTRUMENT PANEL BRACKET COVER RH

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

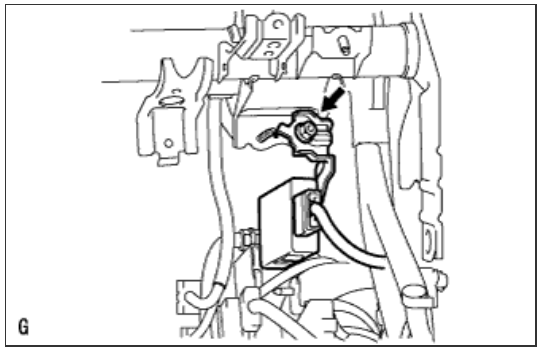
(Click here)

for Preparation Click here

1. INSTALL NETWORK GATEWAY ECU

a. Install the ECU with the nut.

b. Connect the connector.

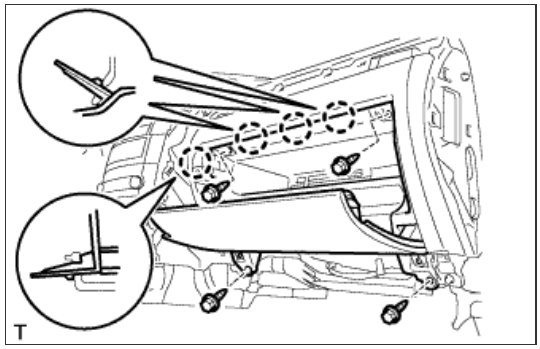


2. INSTALL LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL

a. Connect the connector.

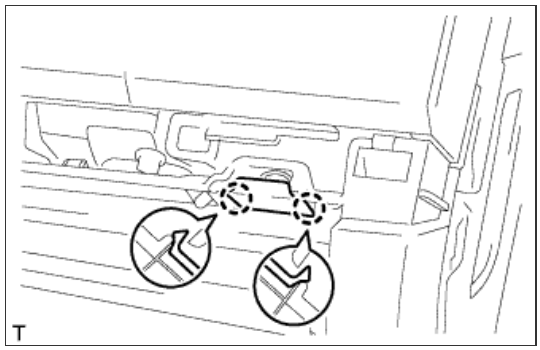
b. Attach the 4 claws to install the finish panel.

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.

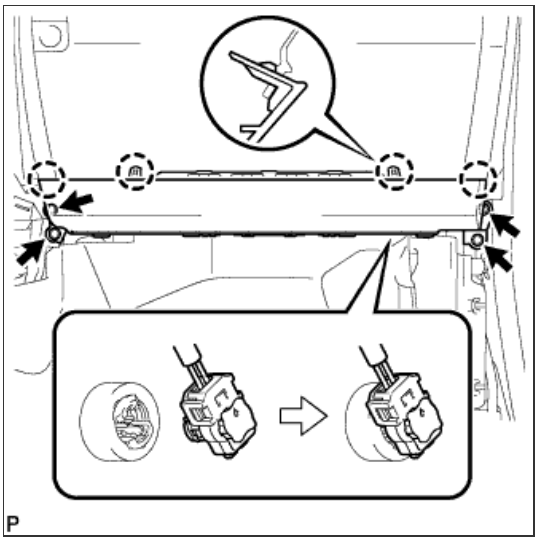
NOTICE:

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.

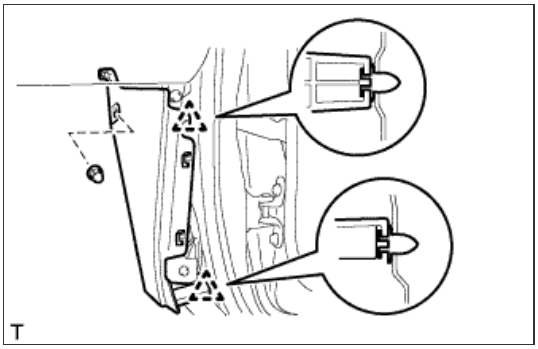
Torque:
10 N*m{ 102 kgf*cm , 7 ft.*lbf }



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

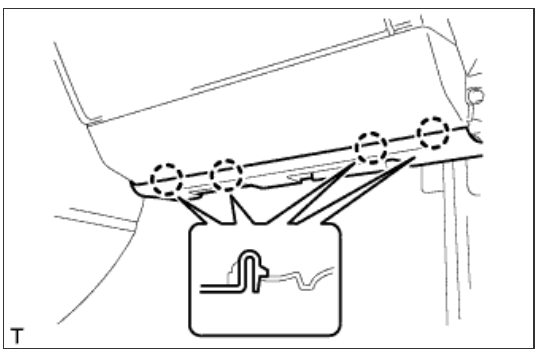
HINT:

Use the same procedures described for the LH side.

7. INSTALL NO. 2 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

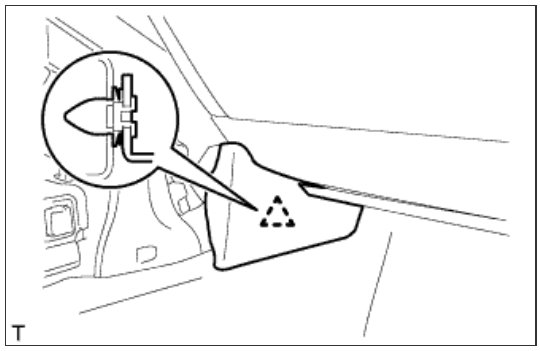
a. Connect the connector.

b. Attach the 4 claws to install the under cover.



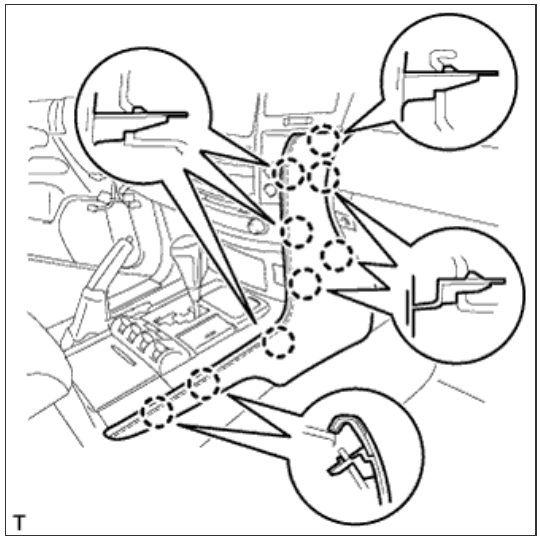
8. INSTALL INNER NO. 1 INSTRUMENT PANEL BRACKET COVER RH

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).

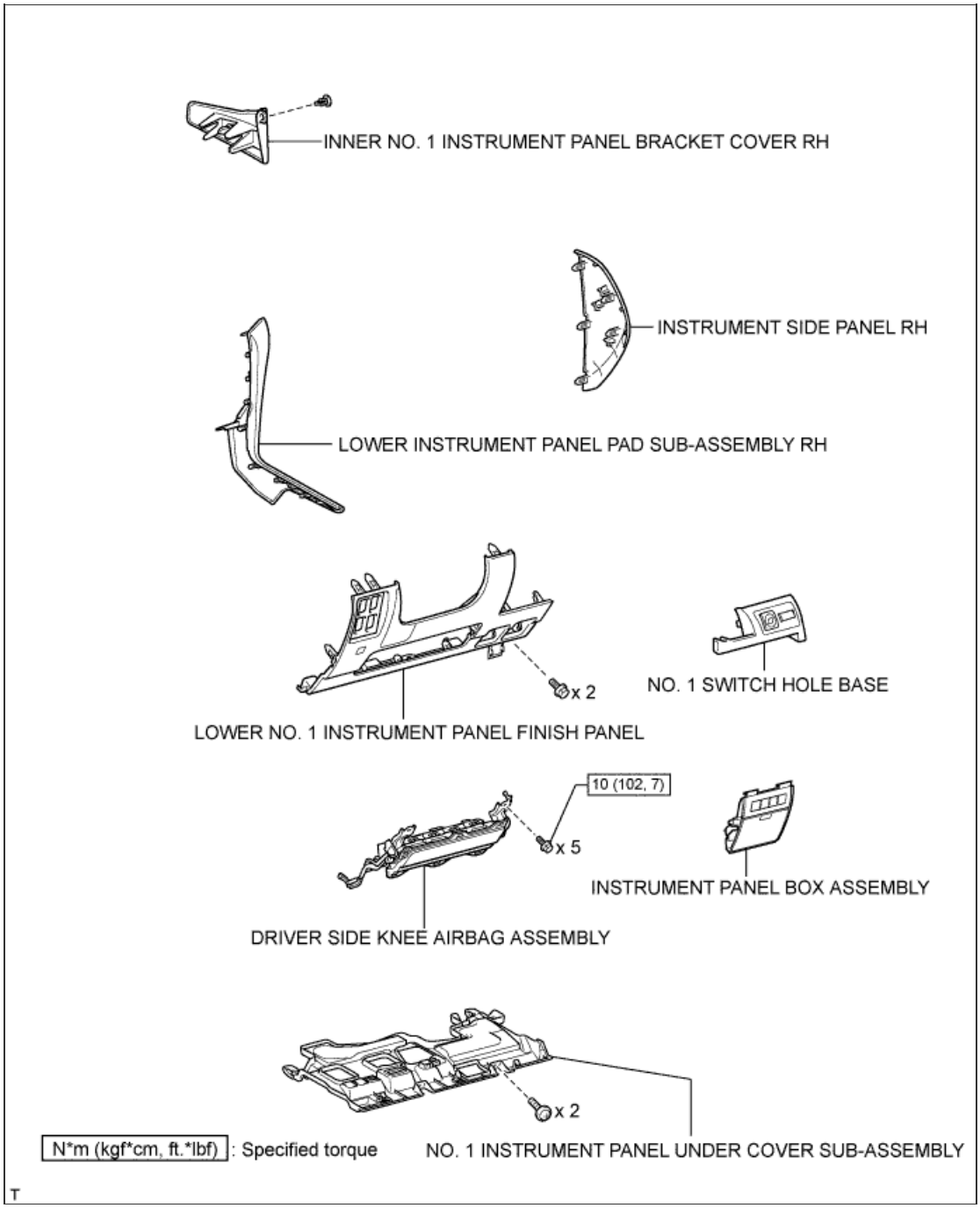
11. INSTALL ENGINE ROOM SIDE COVER LH

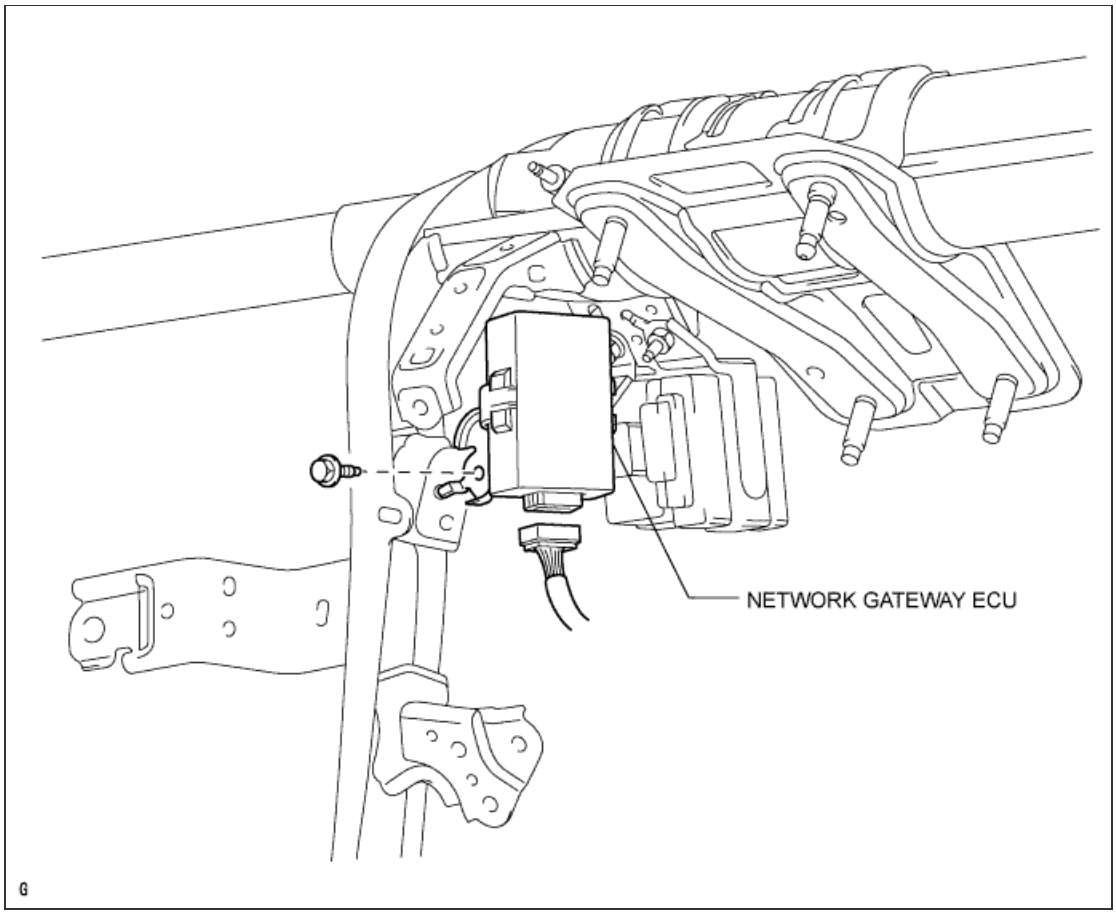
a. Install the engine room side cover LH with the 7 clips.

12. CHECK SRS WARNING LIGHT

(Click here)

for Preparation Click here

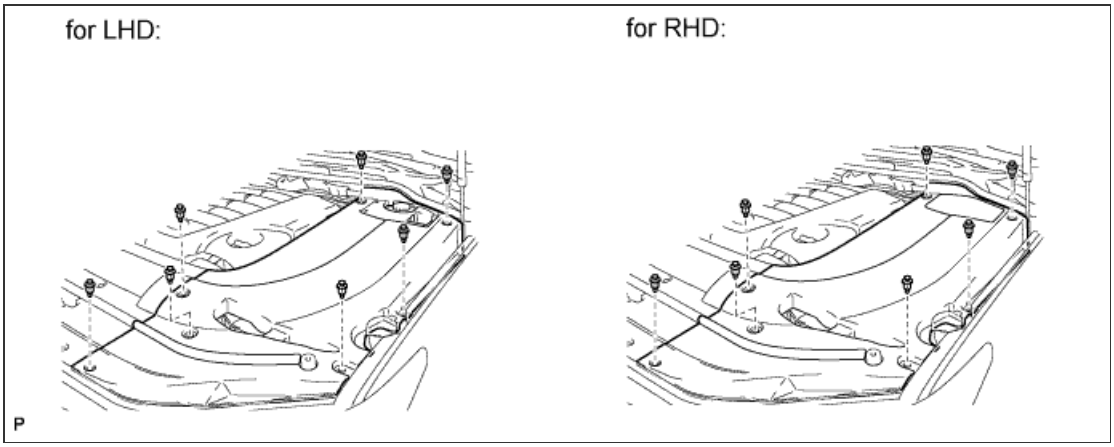



NETWORK GATEWAY ECU
G

for Preparation Click here

1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover LH.



2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

CAUTION:

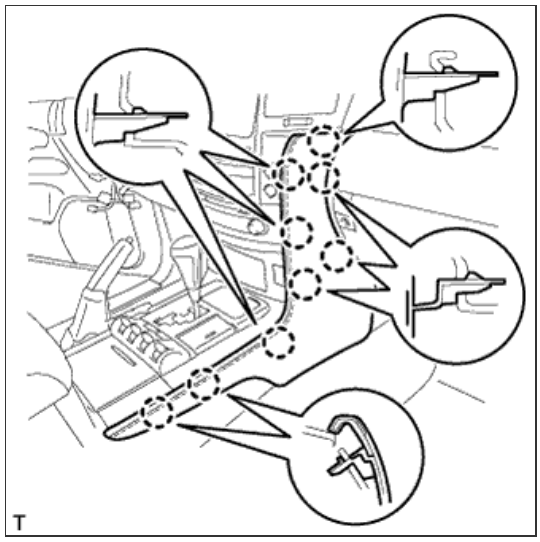
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

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).**

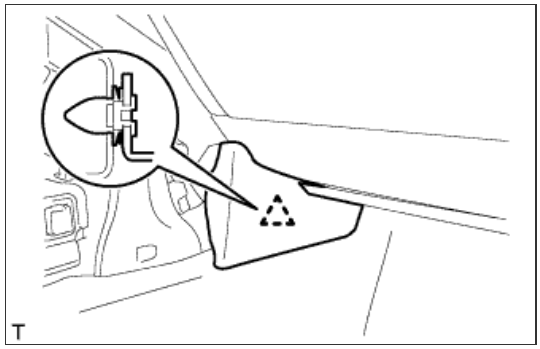
3. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

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.

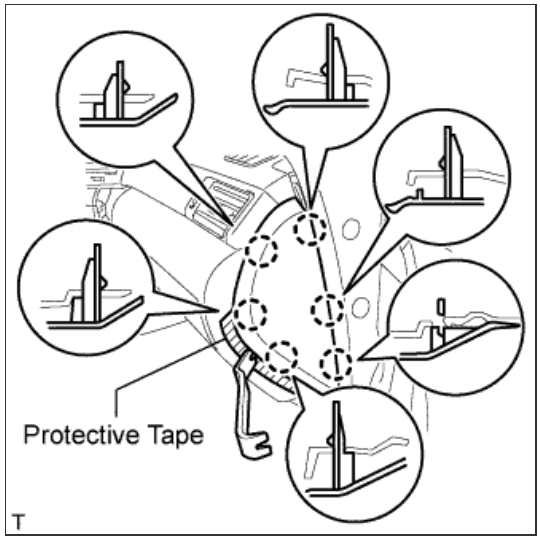
   ii. Using a moulding remover, detach the 6 claws and remove the side panel.

b. w/ Airbag Cut Off Switch:

   i. Place protective tape as shown in the illustration.

   ii. Using a moulding remover, detach the 6 claws.

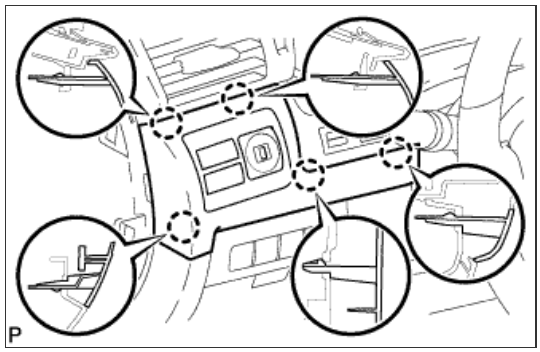
   iii. Remove the side panel and disconnect the connector.



6. REMOVE NO. 1 SWITCH HOLE BASE

a. Detach the 5 claws.

b. Disconnect the connectors and remove the switch hole base.

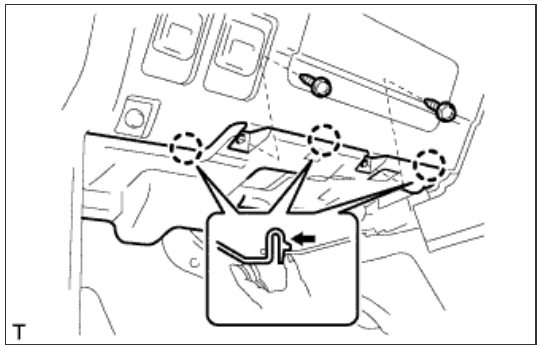


7. REMOVE NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

a. Remove the 2 screws.

b. Detach the 3 claws.

c. Remove the under cover and disconnect the connectors.

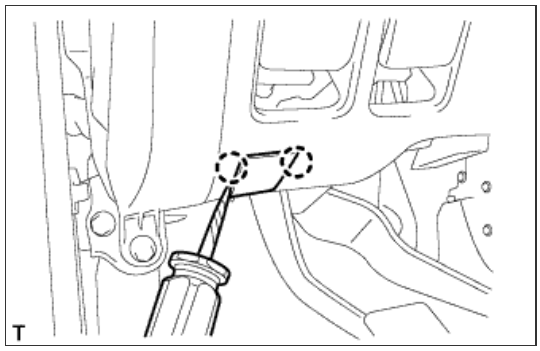


8. REMOVE LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

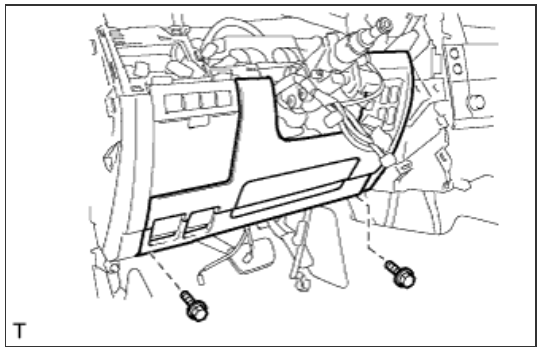
a. Using a screwdriver, detach the 2 claws and open the hole cover.

HINT:

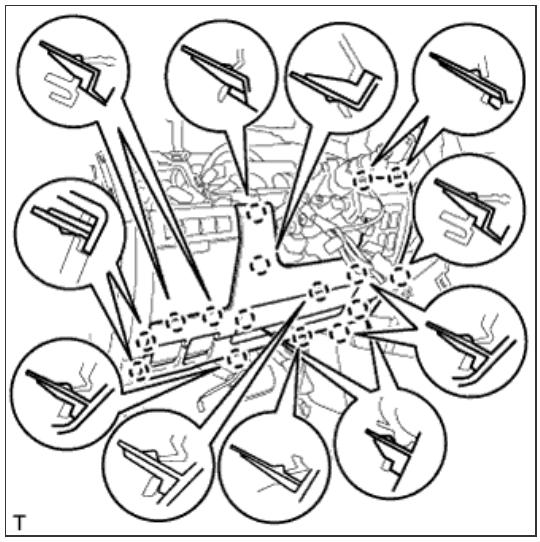
Tape the screwdriver tip before use.



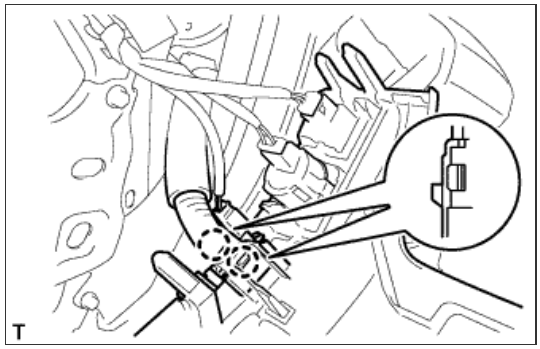
b. Remove the 2 bolts.



c. Detach the 16 claws.

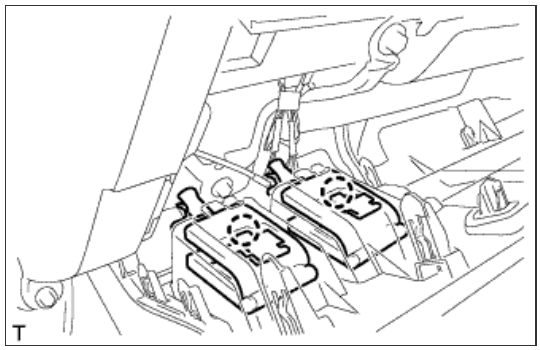


d. Detach the 2 claws and remove the sensor.



e. Detach the 2 claws and disconnect the 2 control cables.

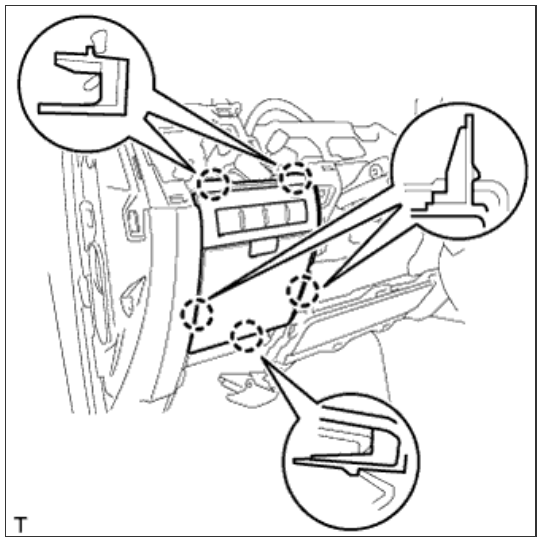
f. Remove the finish panel and then disconnect the connectors.



9. REMOVE INSTRUMENT PANEL BOX ASSEMBLY

a. Detach the 5 claws.

b. Remove the box and then disconnect the connectors.



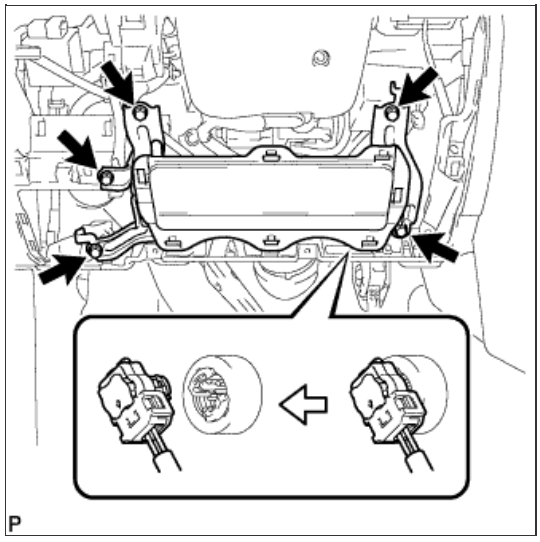
10. REMOVE DRIVER SIDE KNEE AIRBAG ASSEMBLY

a. Remove the 5 bolts and driver side knee airbag.

b. Disconnect the connector.

NOTICE:

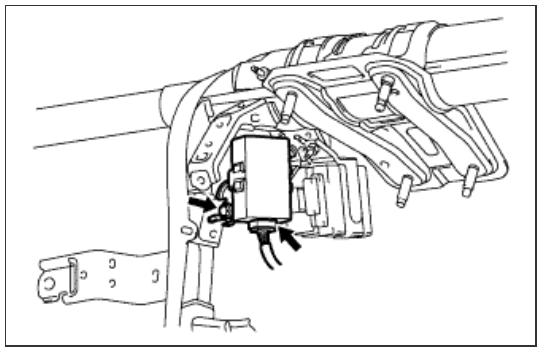
When handling the airbag connector, take care not to damage the airbag wire harness.



11. REMOVE NETWORK GATEWAY ECU

a. Disconnect the connector.

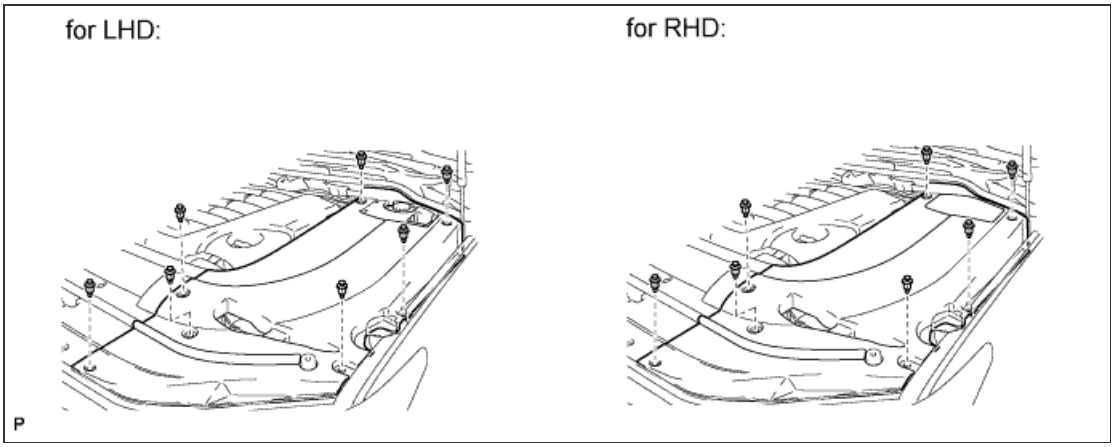
b. Remove the bolt and ECU.



for Preparation Click here

1. 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:

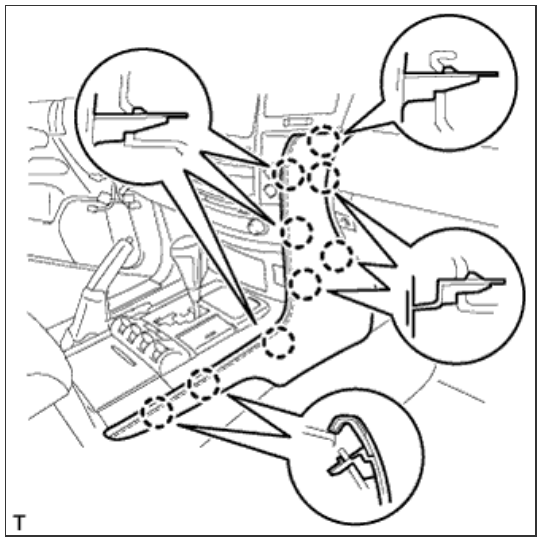
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

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).**

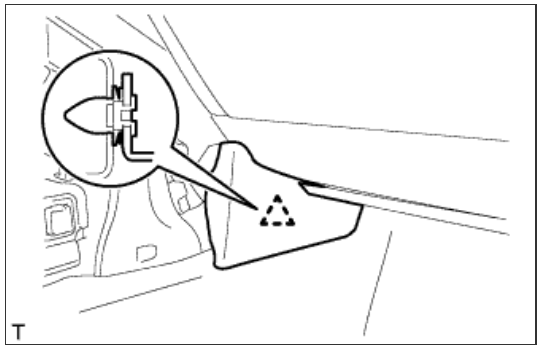
3. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

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.

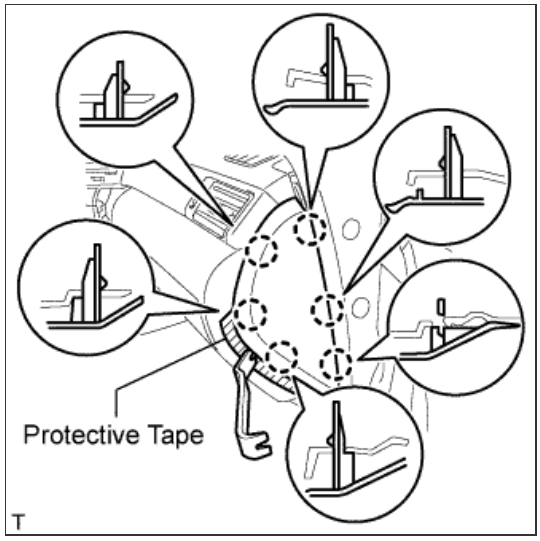
   ii. Using a moulding remover, detach the 6 claws and remove the side panel.

b. w/ Airbag Cut Off Switch:

   i. Place protective tape as shown in the illustration.

   ii. Using a moulding remover, detach the 6 claws.

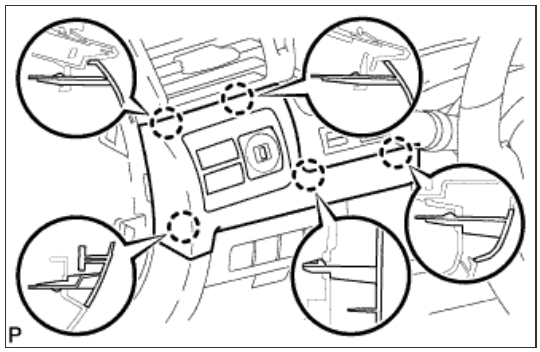
   iii. Remove the side panel and disconnect the connector.



6. REMOVE NO. 1 SWITCH HOLE BASE

a. Detach the 5 claws.

b. Disconnect the connectors and remove the switch hole base.

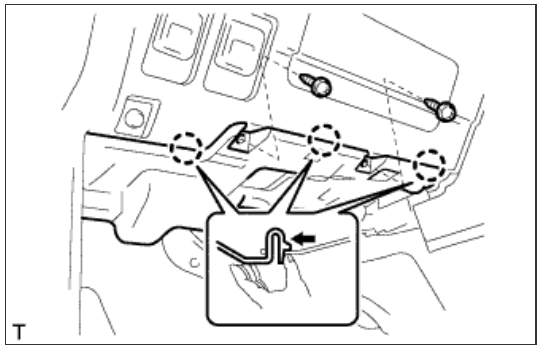


7. REMOVE NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

a. Remove the 2 screws.

b. Detach the 3 claws.

c. Remove the under cover and disconnect the connectors.

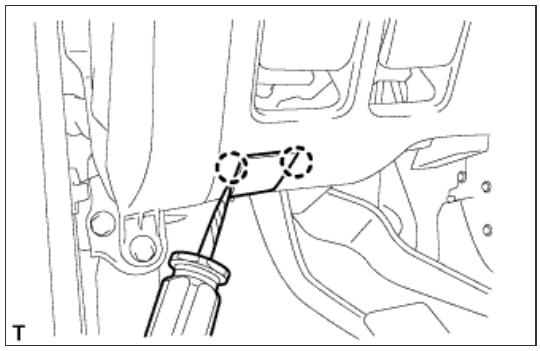


8. REMOVE LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

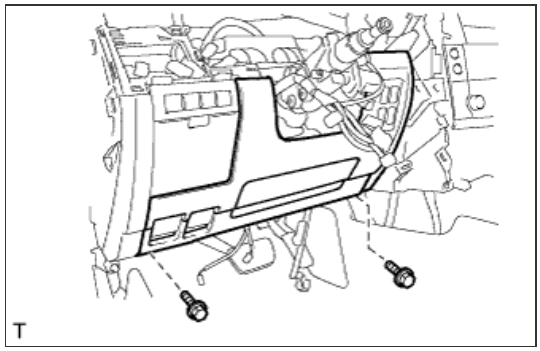
a. Using a screwdriver, detach the 2 claws and open the hole cover.

HINT:

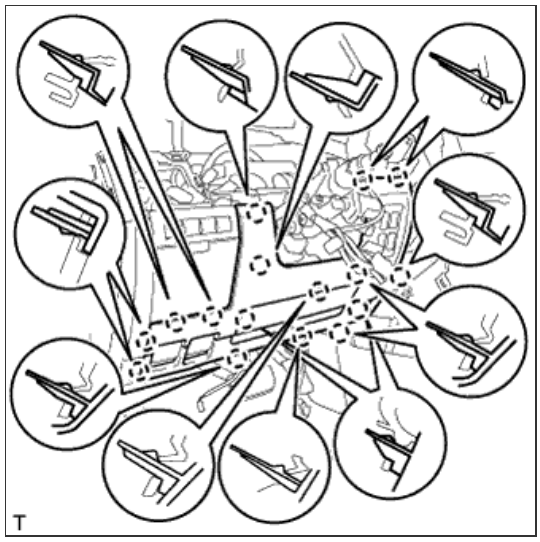
Tape the screwdriver tip before use.



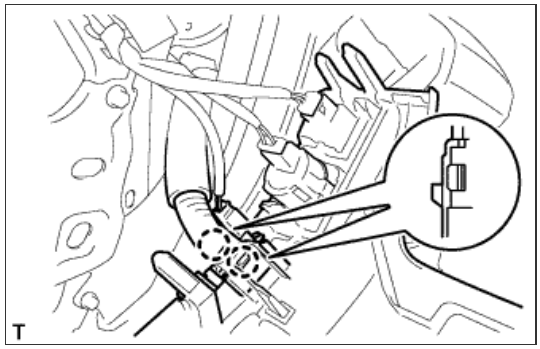
b. Remove the 2 bolts.



c. Detach the 16 claws.

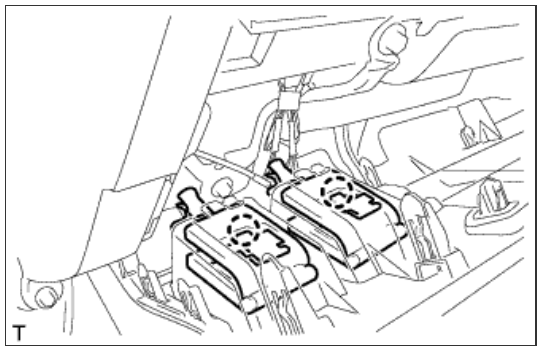


d. Detach the 2 claws and remove the sensor.



e. Detach the 2 claws and disconnect the 2 control cables.

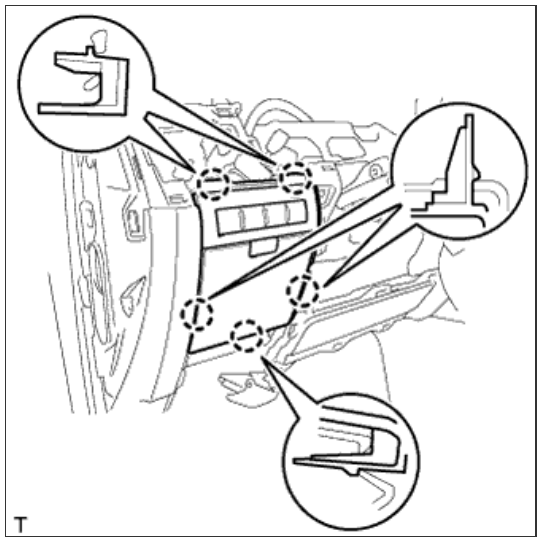
f. Remove the finish panel and then disconnect the connectors.



9. REMOVE INSTRUMENT PANEL BOX ASSEMBLY

a. Detach the 5 claws.

b. Remove the box and then disconnect the connectors.



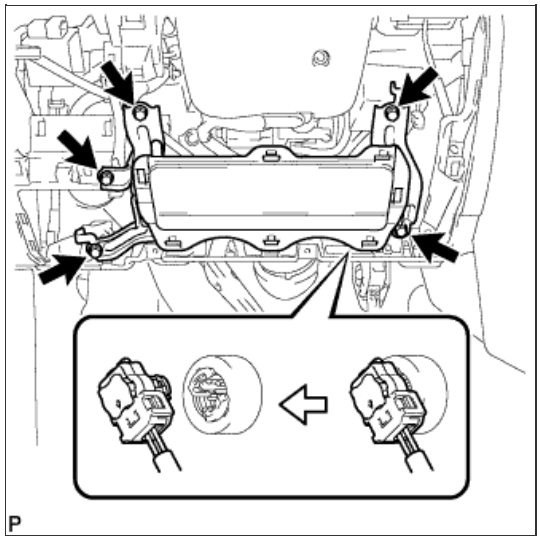
10. REMOVE DRIVER SIDE KNEE AIRBAG ASSEMBLY

a. Remove the 5 bolts and driver side knee airbag.

b. Disconnect the connector.

NOTICE:

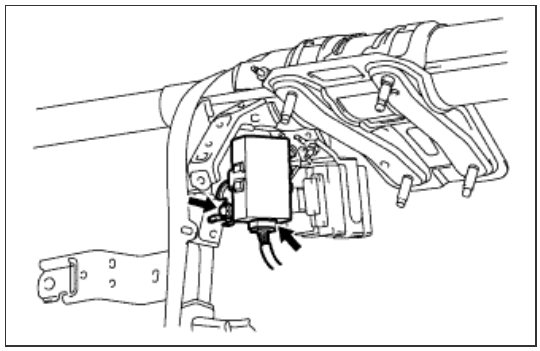
When handling the airbag connector, take care not to damage the airbag wire harness.



11. REMOVE NETWORK GATEWAY ECU

a. Disconnect the connector.

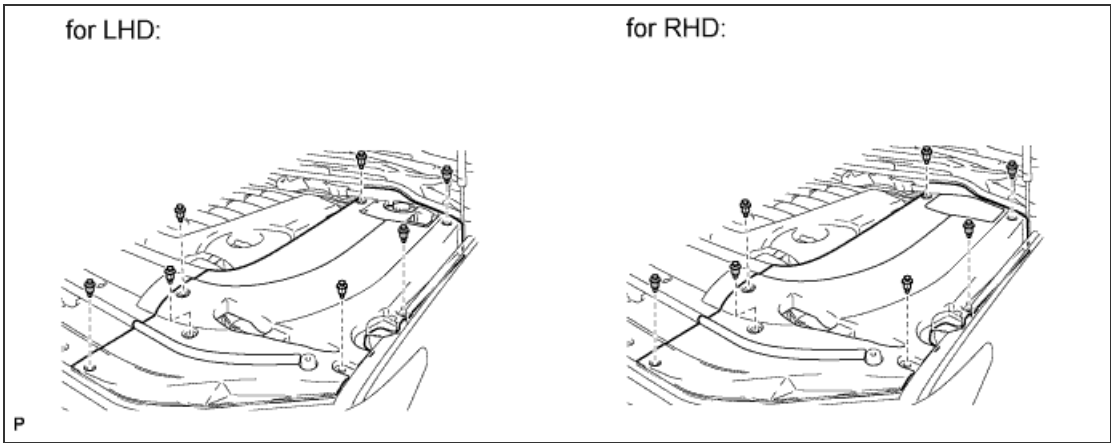
b. Remove the bolt and ECU.



for Preparation Click here

1. 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:

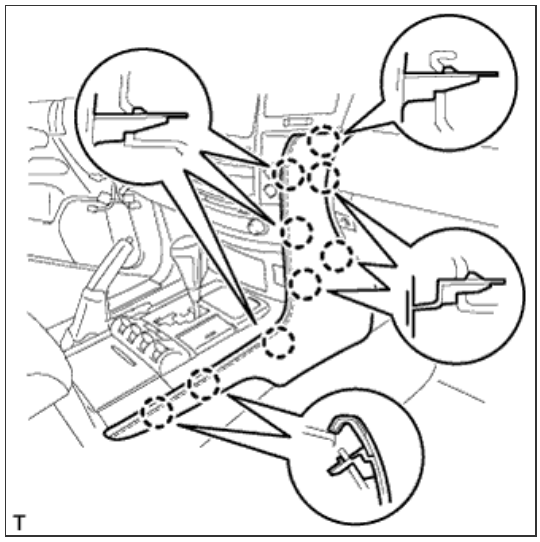
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

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).**

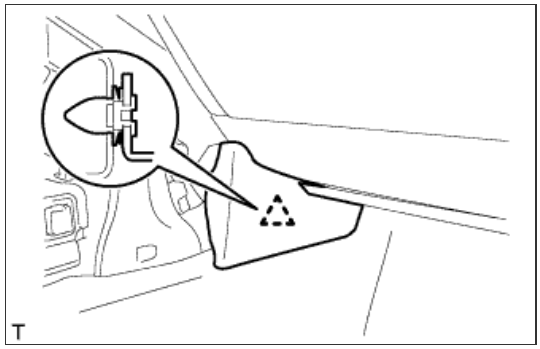
3. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

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.

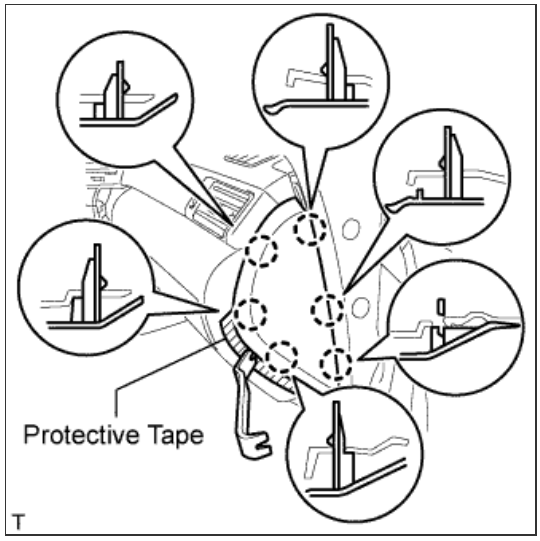
   ii. Using a moulding remover, detach the 6 claws and remove the side panel.

b. w/ Airbag Cut Off Switch:

   i. Place protective tape as shown in the illustration.

   ii. Using a moulding remover, detach the 6 claws.

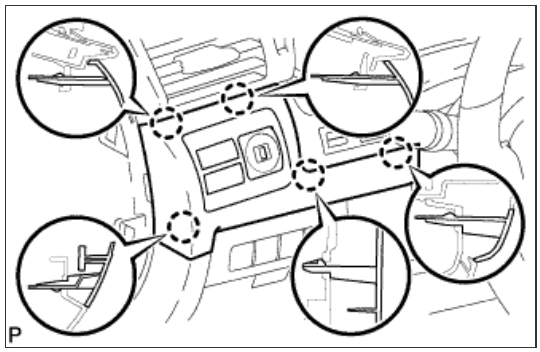
   iii. Remove the side panel and disconnect the connector.



6. REMOVE NO. 1 SWITCH HOLE BASE

a. Detach the 5 claws.

b. Disconnect the connectors and remove the switch hole base.

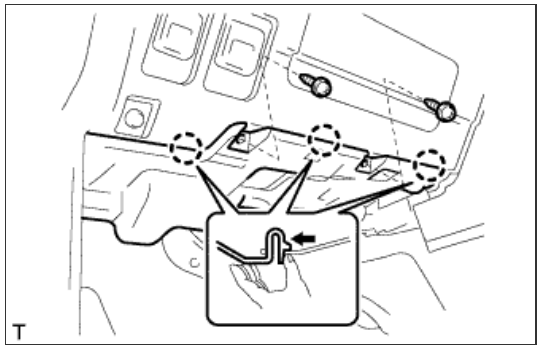


7. REMOVE NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

a. Remove the 2 screws.

b. Detach the 3 claws.

c. Remove the under cover and disconnect the connectors.

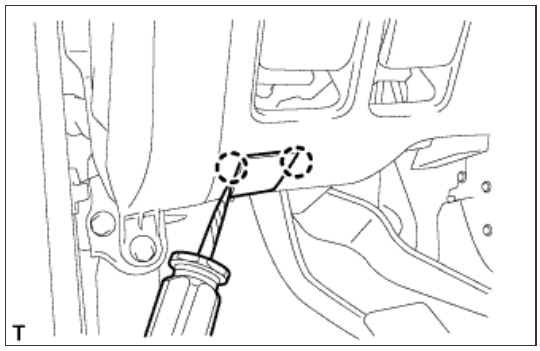


8. REMOVE LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

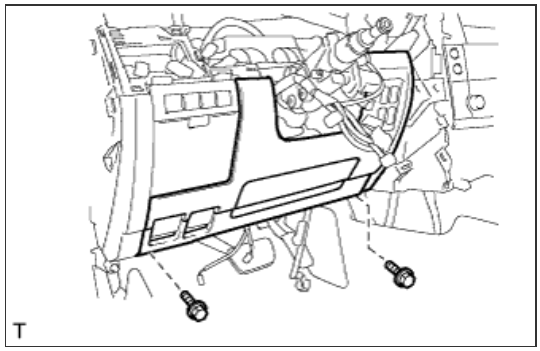
a. Using a screwdriver, detach the 2 claws and open the hole cover.

HINT:

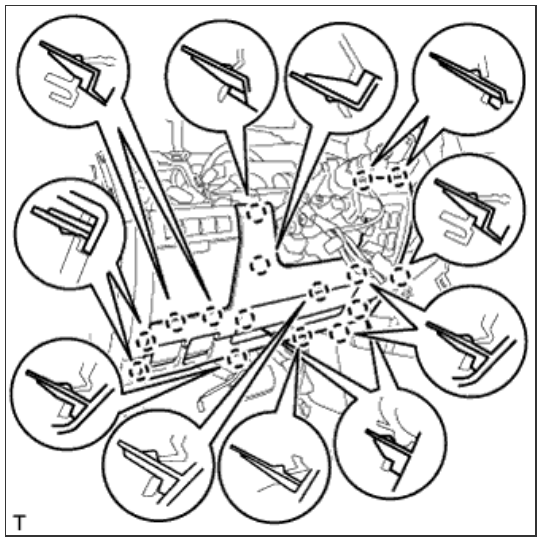
Tape the screwdriver tip before use.



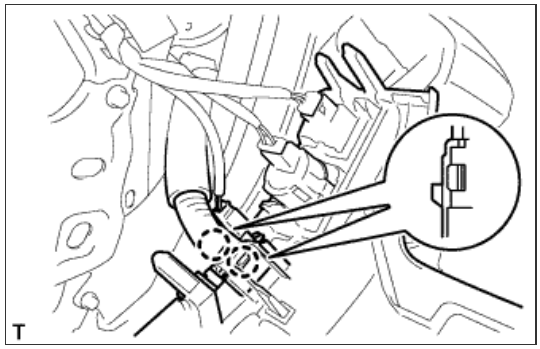
b. Remove the 2 bolts.



c. Detach the 16 claws.

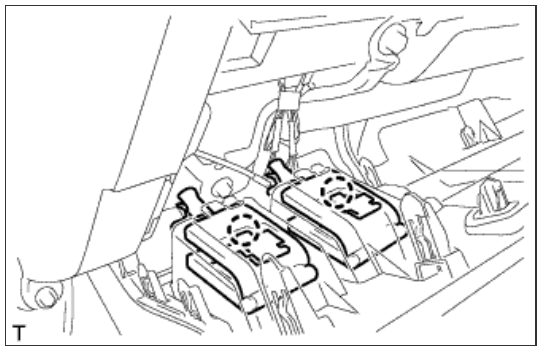


d. Detach the 2 claws and remove the sensor.



e. Detach the 2 claws and disconnect the 2 control cables.

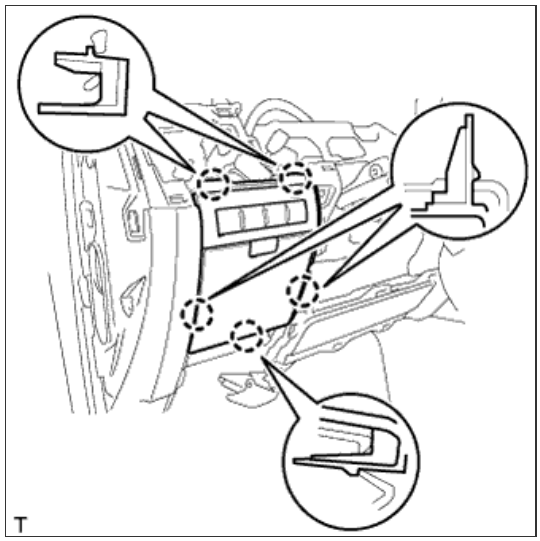
f. Remove the finish panel and then disconnect the connectors.



9. REMOVE INSTRUMENT PANEL BOX ASSEMBLY

a. Detach the 5 claws.

b. Remove the box and then disconnect the connectors.



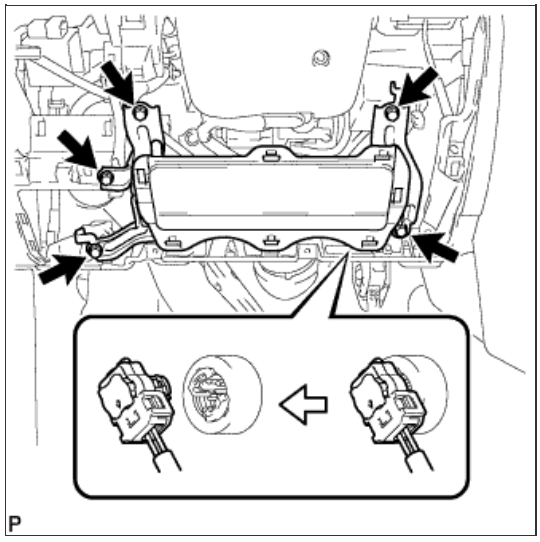
10. REMOVE DRIVER SIDE KNEE AIRBAG ASSEMBLY

a. Remove the 5 bolts and driver side knee airbag.

b. Disconnect the connector.

NOTICE:

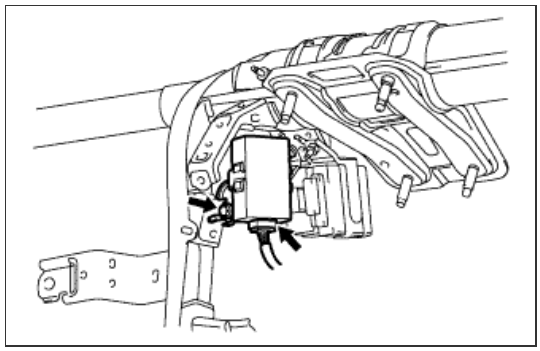
When handling the airbag connector, take care not to damage the airbag wire harness.



11. REMOVE NETWORK GATEWAY ECU

a. Disconnect the connector.

b. Remove the bolt and ECU.

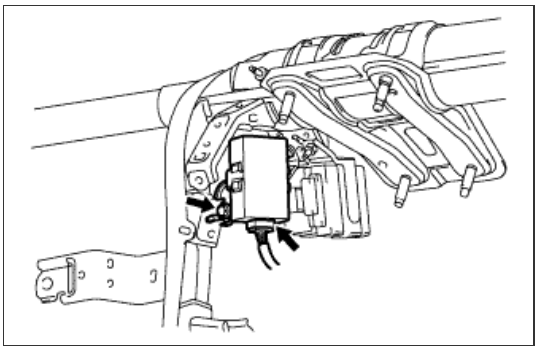


for Preparation Click here

1. INSTALL NETWORK GATEWAY ECU

a. Install the ECU with the bolt.

b. Connect the connector.



2. INSTALL DRIVER SIDE KNEE AIRBAG ASSEMBLY

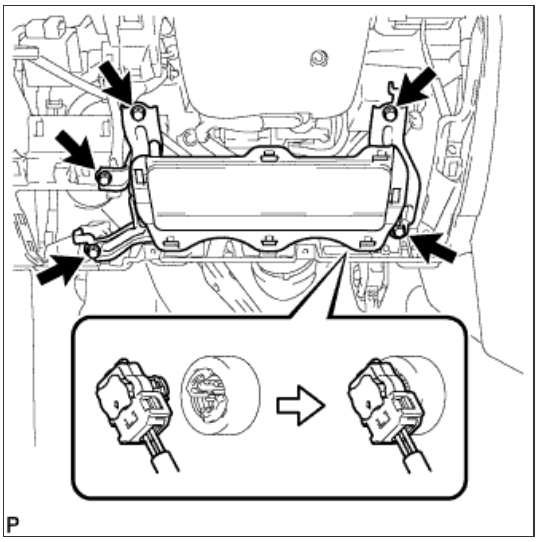
a. Connect the connector.

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.

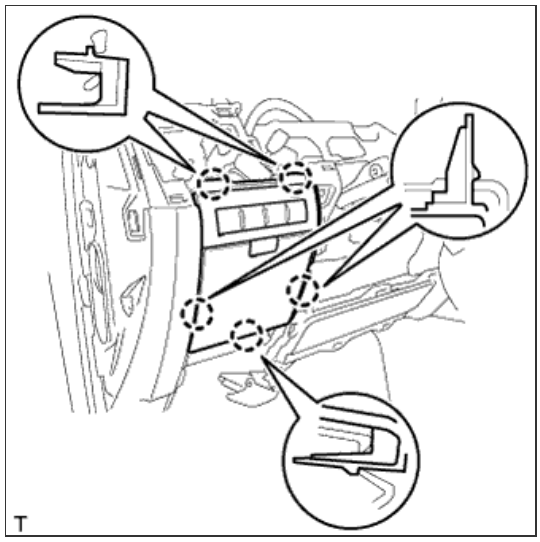
Torque:
10 N*m{ 102 kgf*cm , 7 ft.*lbf }



3. INSTALL INSTRUMENT PANEL BOX ASSEMBLY

a. Connect the connectors.

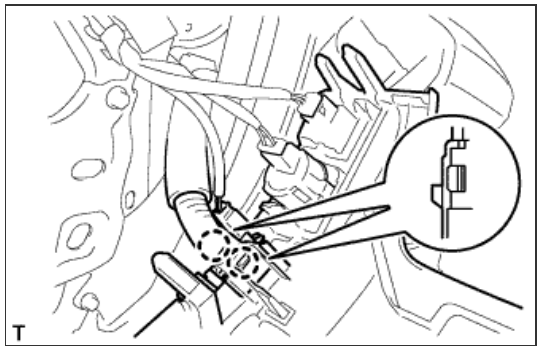
b. Attach the 5 claws to install the box.



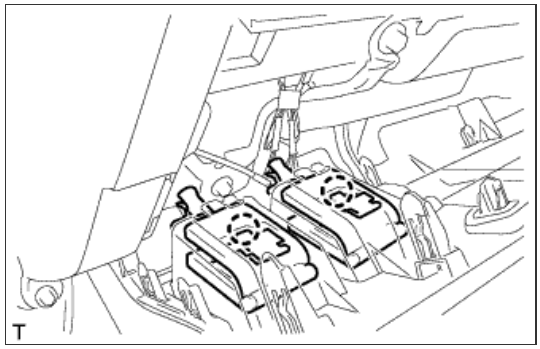
4. INSTALL LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

a. Connect the connectors.

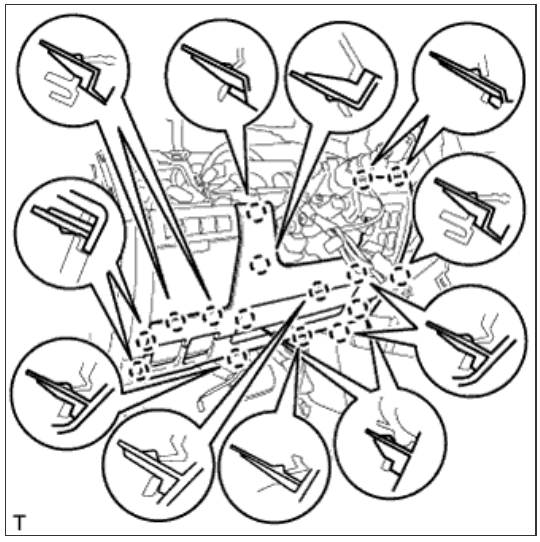
b. Attach the 2 claws to install the sensor.



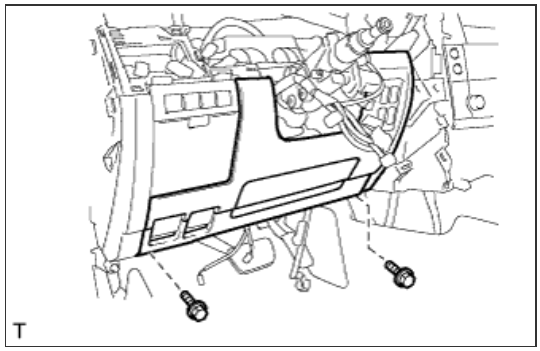
c. Attach the 2 claws to connect the 2 control cables.



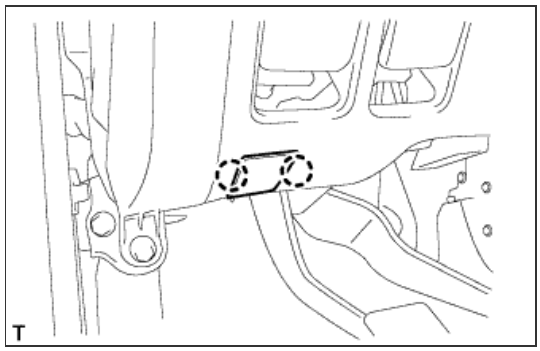
d. Attach the 16 claws to install the finish panel.



e. Install the 2 bolts.



f. Attach the 2 claws to close the hole cover.

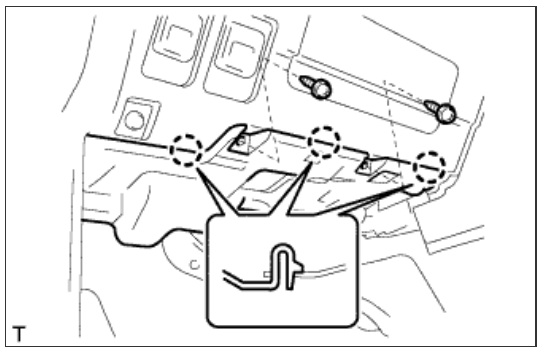


5. INSTALL NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

a. Connect the connectors.

b. Attach the 3 claws to install the under cover.

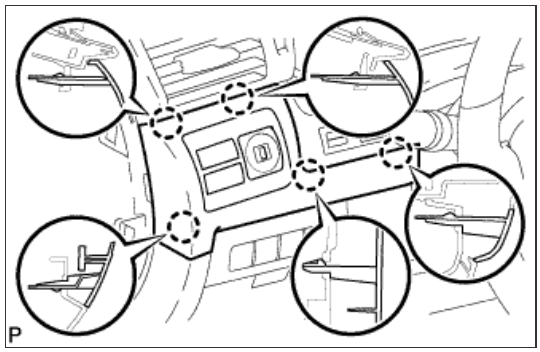
c. Install the 2 screws.



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

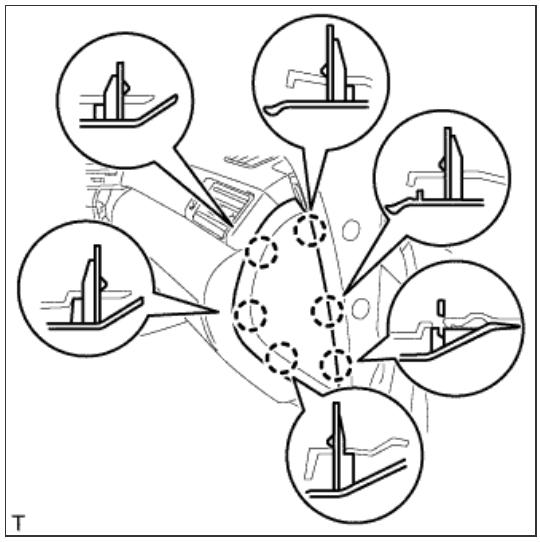
a. w/o Airbag Cut Off Switch:

i. Attach the 6 claws to install the side panel.

b. w/ Airbag Cut Off Switch:

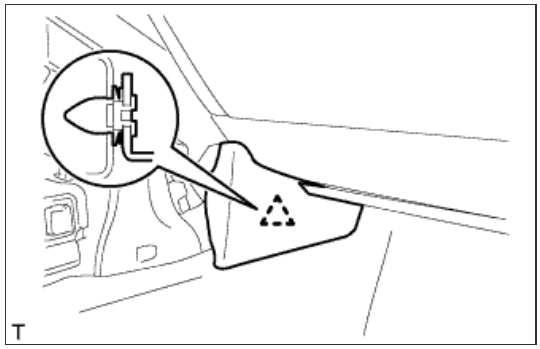
i. Connect the connector.

ii. Attach the 6 claws to install the side panel.



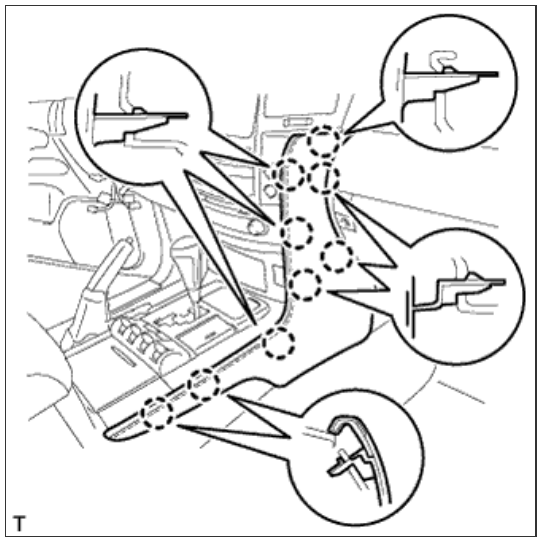
8. INSTALL INNER NO. 1 INSTRUMENT PANEL BRACKET COVER RH

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 LH with the 7 clips.

12. CHECK SRS WARNING LIGHT

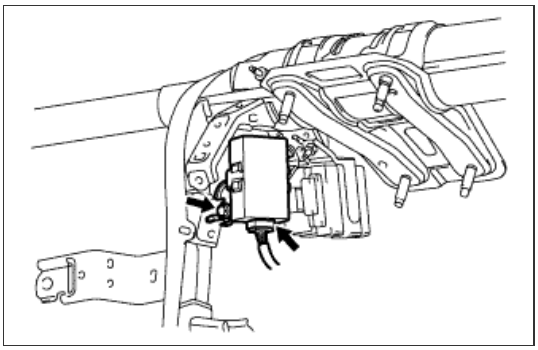
(Click here)

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

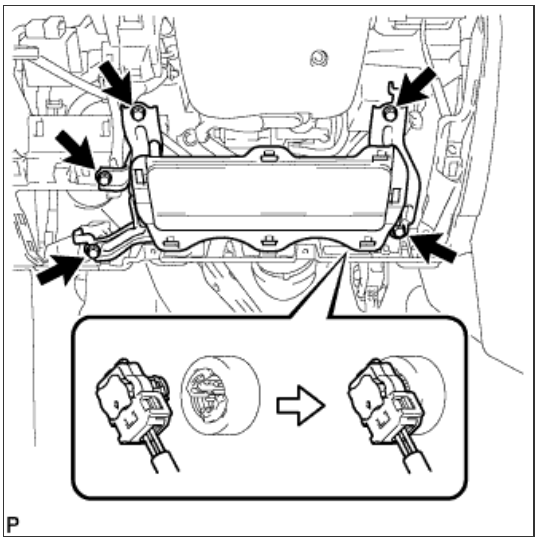
a. Connect the connector.

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.

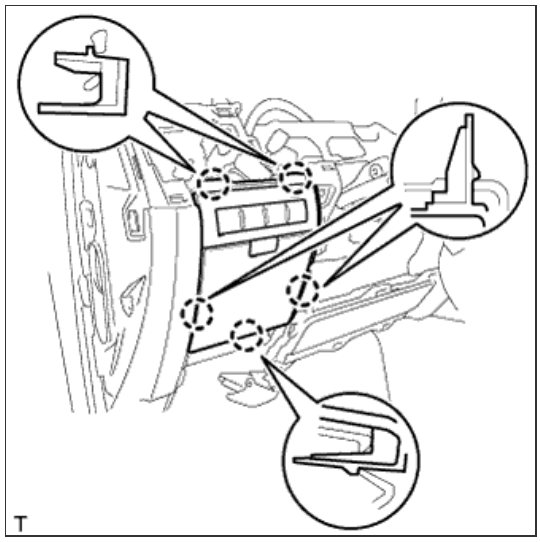
Torque:
10 N*m{ 102 kgf*cm , 7 ft.*lbf }



3. INSTALL INSTRUMENT PANEL BOX ASSEMBLY

a. Connect the connectors.

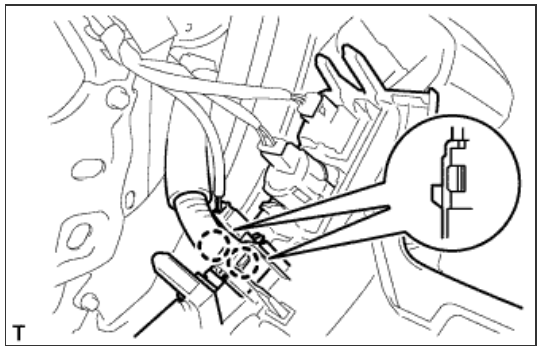
b. Attach the 5 claws to install the box.



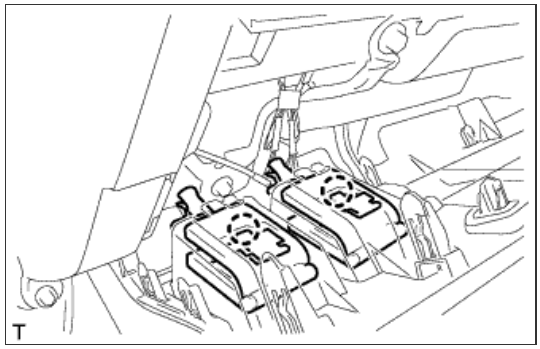
4. INSTALL LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

a. Connect the connectors.

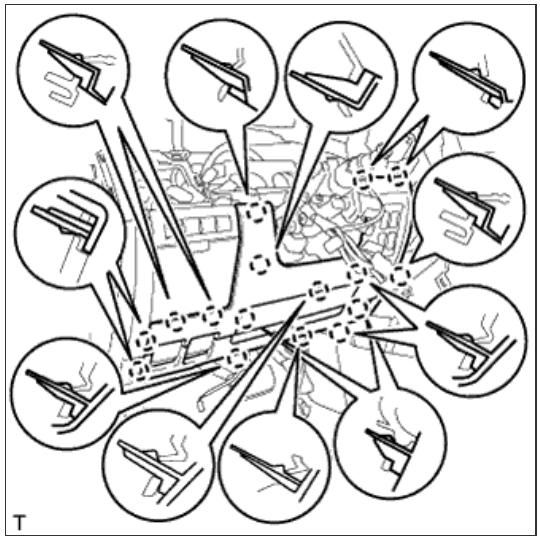
b. Attach the 2 claws to install the sensor.



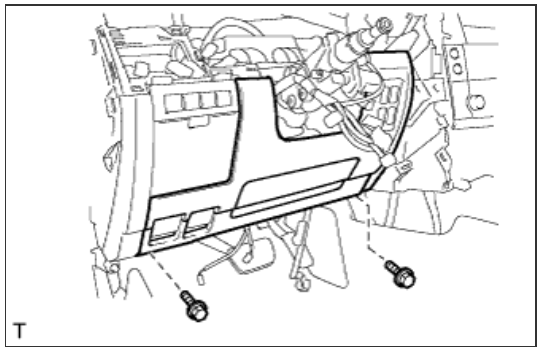
c. Attach the 2 claws to connect the 2 control cables.



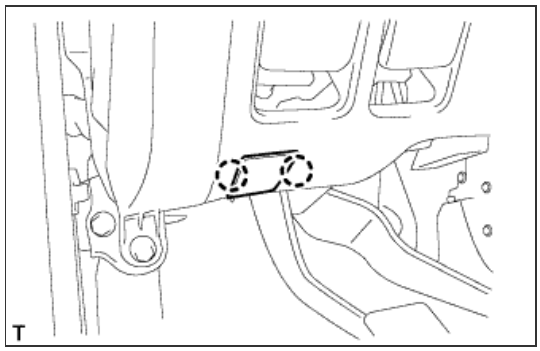
d. Attach the 16 claws to install the finish panel.



e. Install the 2 bolts.



f. Attach the 2 claws to close the hole cover.

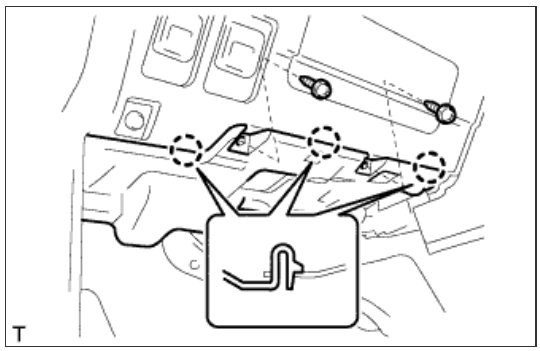


5. INSTALL NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

a. Connect the connectors.

b. Attach the 3 claws to install the under cover.

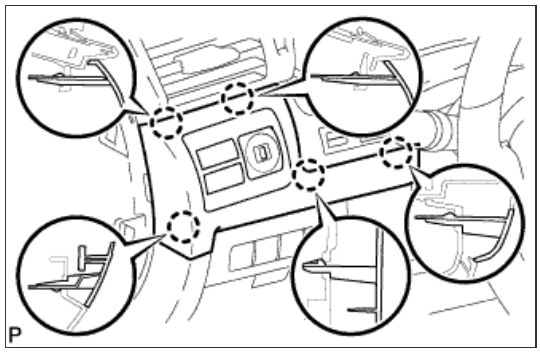
c. Install the 2 screws.



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

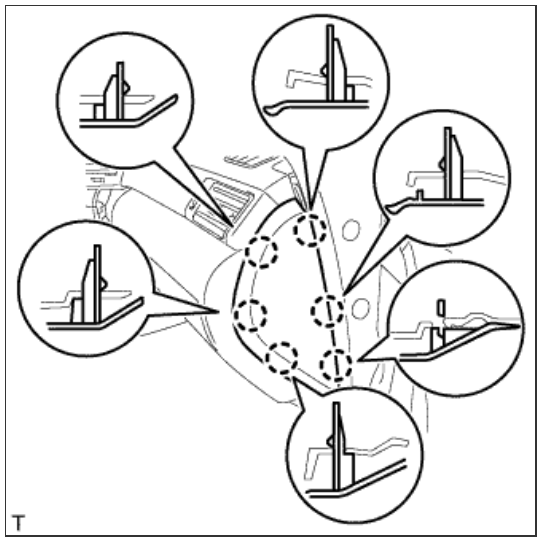
a. w/o Airbag Cut Off Switch:

i. Attach the 6 claws to install the side panel.

b. w/ Airbag Cut Off Switch:

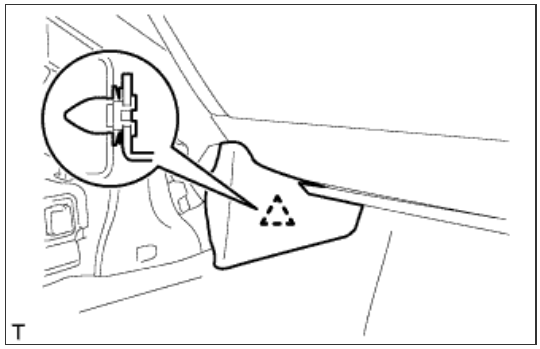
i. Connect the connector.

ii. Attach the 6 claws to install the side panel.



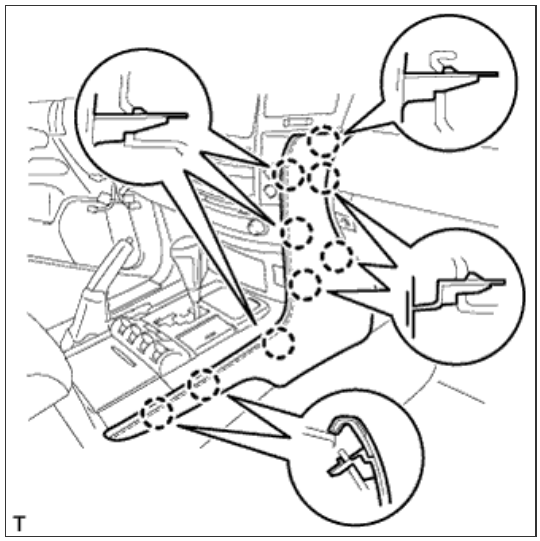
8. INSTALL INNER NO. 1 INSTRUMENT PANEL BRACKET COVER RH

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

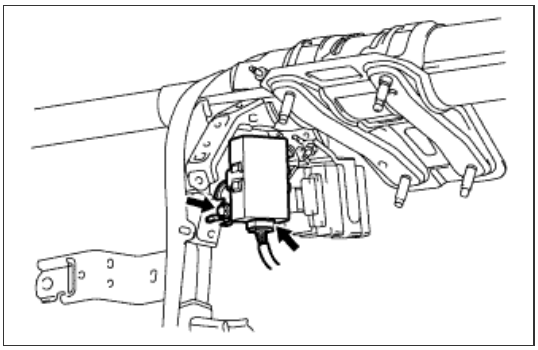
(Click here)

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

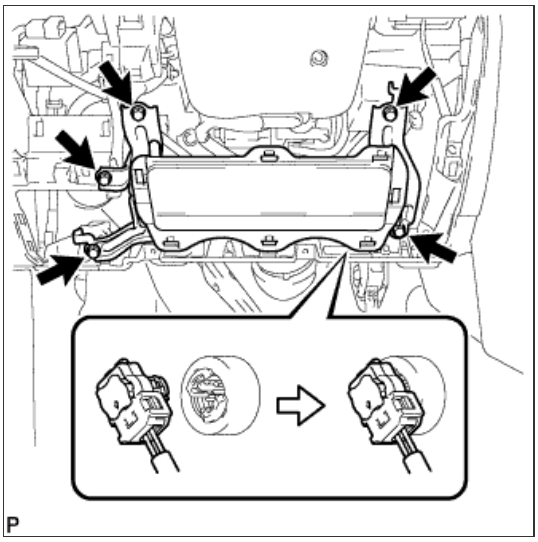
a. Connect the connector.

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.

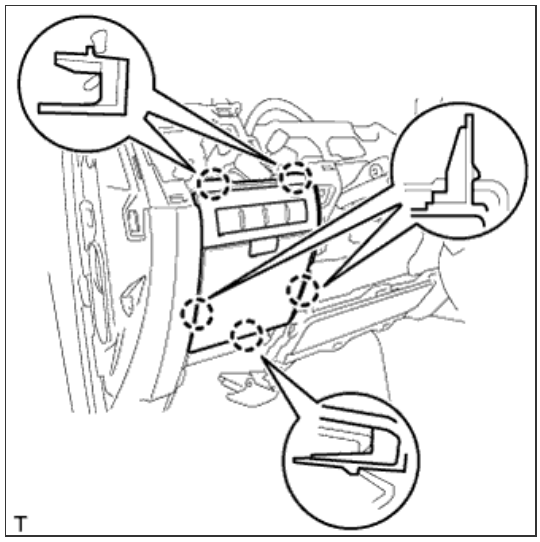
Torque:
10 N*m{ 102 kgf*cm , 7 ft.*lbf }



3. INSTALL INSTRUMENT PANEL BOX ASSEMBLY

a. Connect the connectors.

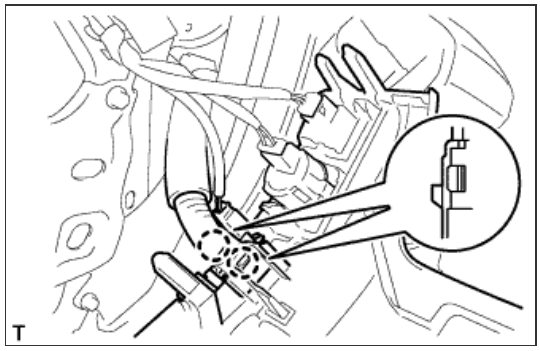
b. Attach the 5 claws to install the box.



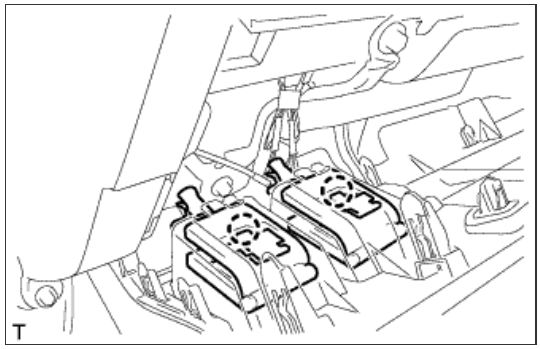
4. INSTALL LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

a. Connect the connectors.

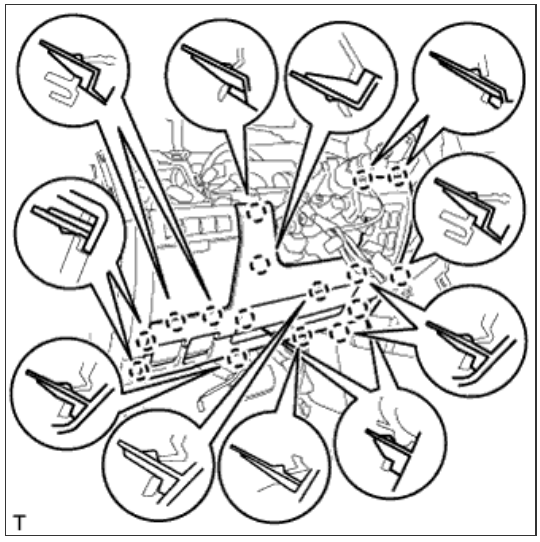
b. Attach the 2 claws to install the sensor.



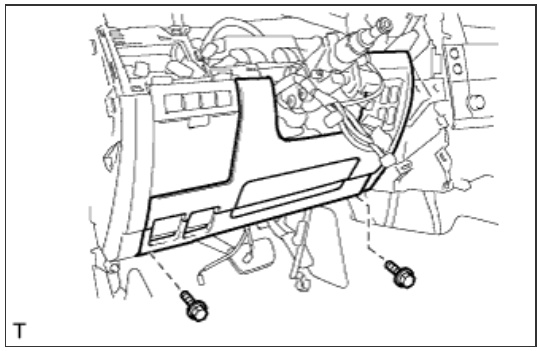
c. Attach the 2 claws to connect the 2 control cables.



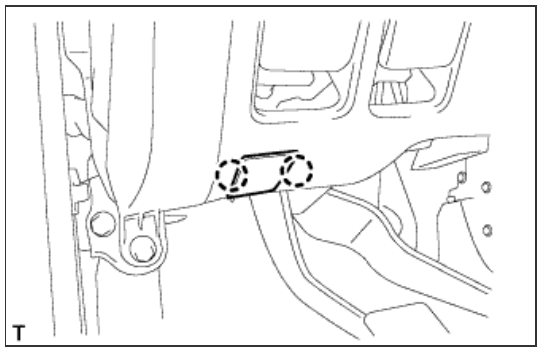
d. Attach the 16 claws to install the finish panel.



e. Install the 2 bolts.



f. Attach the 2 claws to close the hole cover.

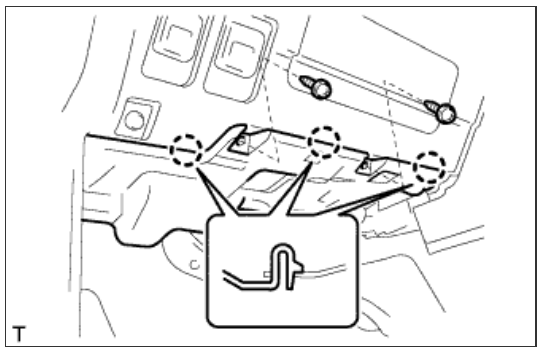


5. INSTALL NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

a. Connect the connectors.

b. Attach the 3 claws to install the under cover.

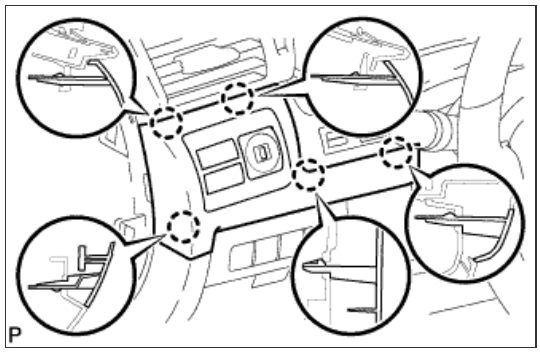
c. Install the 2 screws.



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

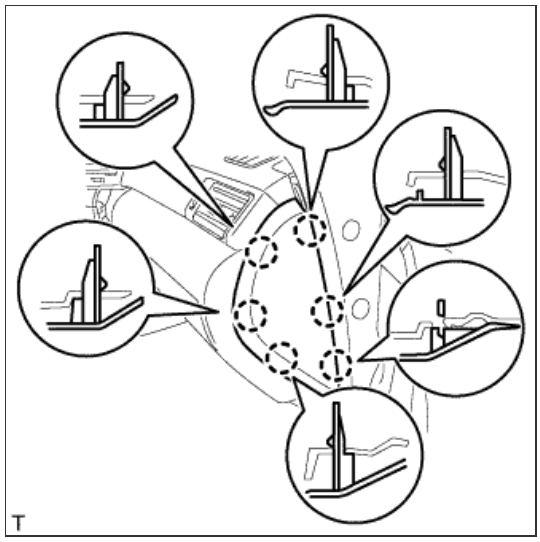
a. w/o Airbag Cut Off Switch:

i. Attach the 6 claws to install the side panel.

b. w/ Airbag Cut Off Switch:

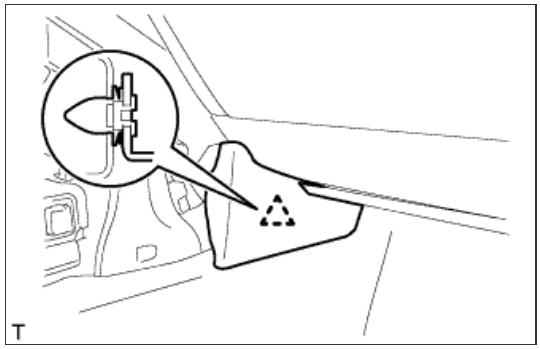
i. Connect the connector.

ii. Attach the 6 claws to install the side panel.



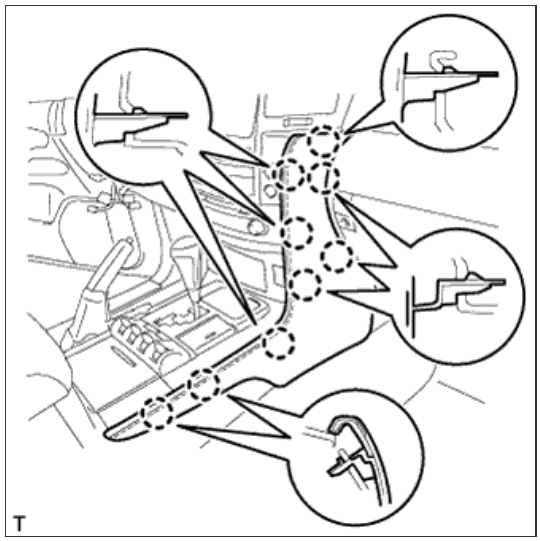
8. INSTALL INNER NO. 1 INSTRUMENT PANEL BRACKET COVER RH

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)