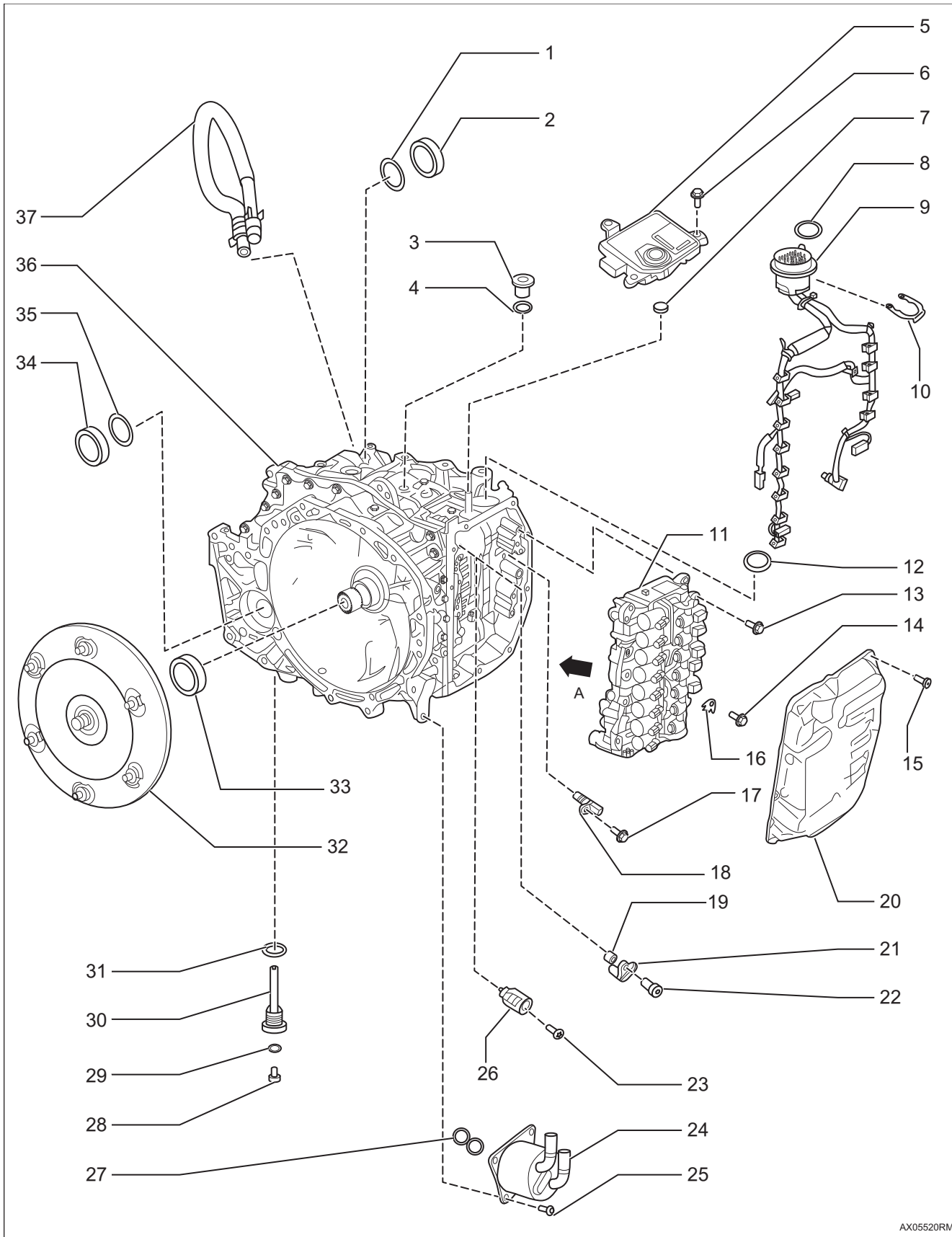


For example:

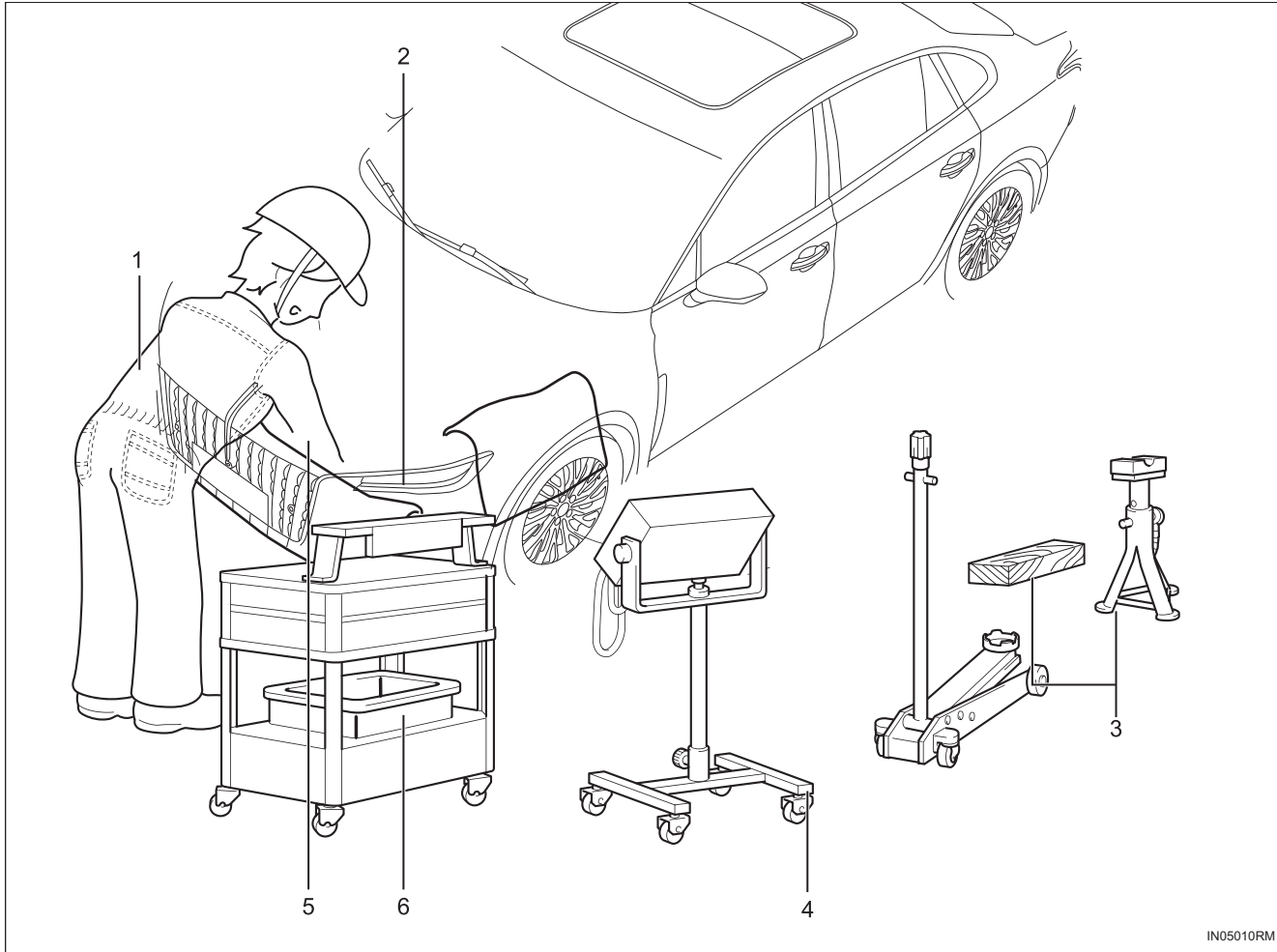
IN



- (6) If the insulation resistance is less than 500 MΩ, it does not meet the requirements (the detection value is generally greater than 2.5 MΩ, and the detection value of the electric drive system is generally greater than 1 MΩ), and it shall be returned to the maintenance area for treatment.

**9. Basic matters**

(a) Operating Instructions.



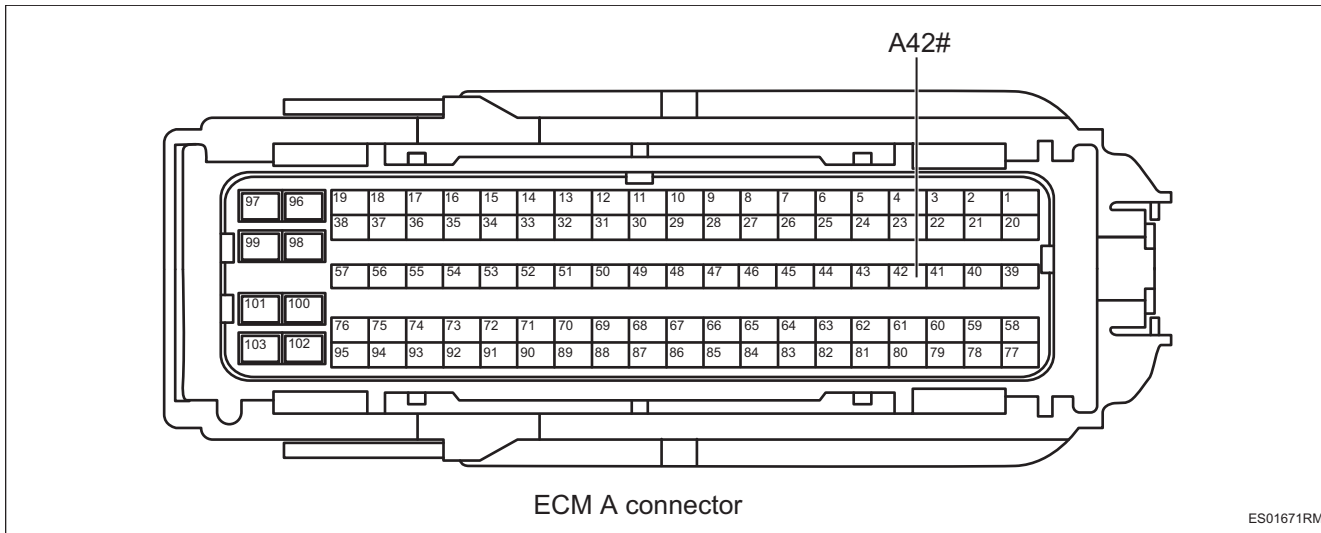
IN05010RM

1	Wear	<ul style="list-style-type: none"> <li>• Always wear clean overalls.</li> <li>• Be sure to wear safety helmet and safety shoes.</li> </ul>
2	Protection of vehicle	<ul style="list-style-type: none"> <li>• Place the radiator cover, fender cover, seat cover and floor mat properly before operation.</li> </ul>
3	Safe operation	<ul style="list-style-type: none"> <li>• Secure the vehicle with the wheel stop block.</li> <li>• When two or more people perform operations, they should ensure the safety of each other.</li> <li>• During operation, personal injury caused by high temperature, rotation, swing and vibration should be prevented.</li> <li>• After jacking up, the bracket should be placed in the prescribed position to support the vehicle.</li> <li>• Support with safety device after lifting the vehicle.</li> </ul>
4	Preparation of tools and measuring instruments	<ul style="list-style-type: none"> <li>• Before operation, the tool table, SST, measuring instrument, grease, cotton yarn and replacement parts shall be prepared.</li> </ul>

OK

**5** Check whether canister solenoid valve harness and connector circuit is shorted to power supply

ES



- (a) Connect the battery negative terminal.
- (b) Set the ignition switch to "ON".
- (c) Measure the voltage according to the values in the table below.

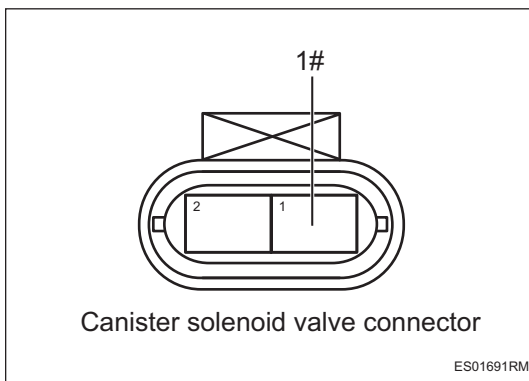
**Standard value**

Detector connection	Detection conditions	Specified state
ECM connector A42# - body GND	Set the ignition switch to "ON"	Less than 1 V

**NG** Repair or replace the harness and connector

OK

**6** Check canister solenoid valve power supply



- (a) Set the ignition switch to "OFF".
- (b) Disconnect the battery negative terminal.
- (c) Connect ECM connector.
- (d) Connect the battery negative terminal.
- (e) Set the ignition switch to "ON".
- (f) Measure the voltage according to the values in the table below.

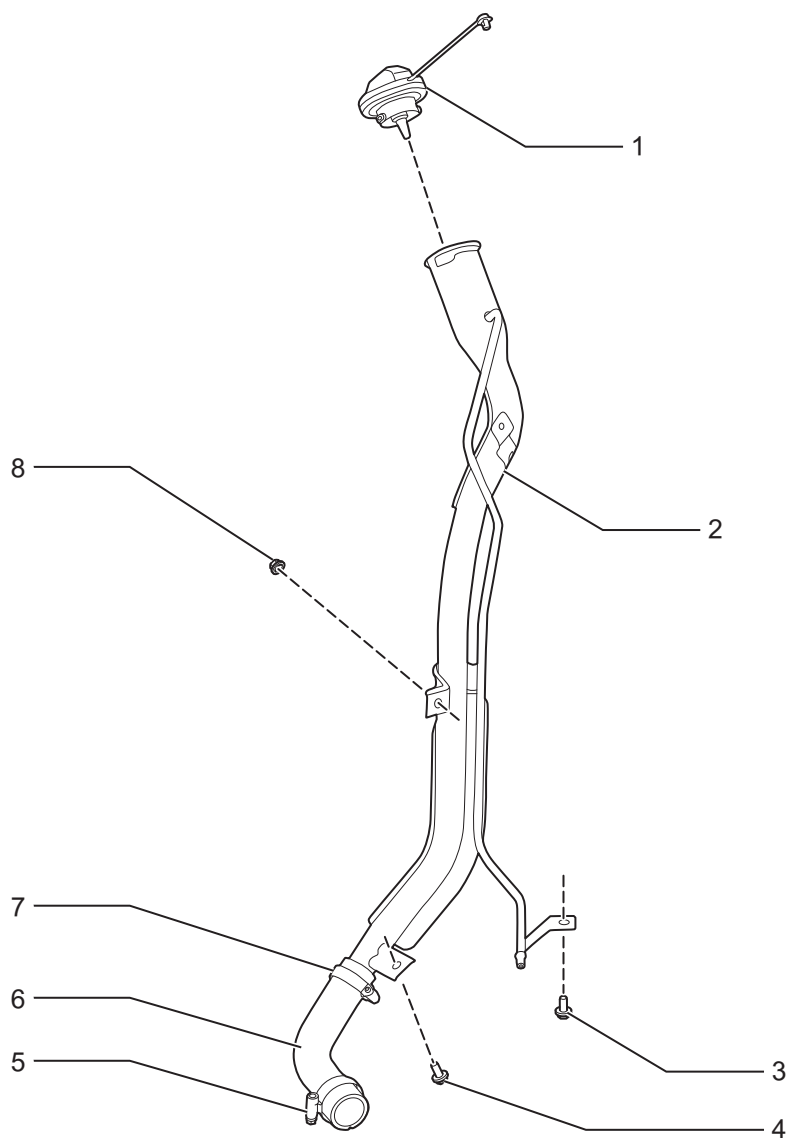
**Standard value**

---

P003200 .....	ES-31
P003600 .....	ES-31
P003700 .....	ES-32
P003800 .....	ES-32
P003A22 .....	ES-32
P003A21 .....	ES-32
P003A72 .....	ES-32
P003A73 .....	ES-32
P024477 .....	ES-32
P024437 .....	ES-32
P256400 .....	ES-32
P256500 .....	ES-32
P170300 .....	ES-32
P024300 .....	ES-32
P024600 .....	ES-32
P005300 .....	ES-32
P005400 .....	ES-32
P008700 .....	ES-32
P008800 .....	ES-32
P008985 .....	ES-32
P008984 .....	ES-33
P009000 .....	ES-33
P025100 .....	ES-33
P025400 .....	ES-33
P025900 .....	ES-33
P00C600 .....	ES-33
P01062A .....	ES-33
P010622 .....	ES-33
P010621 .....	ES-33
P120000 .....	ES-33
P120100 .....	ES-33
P00C721 .....	ES-33
P00C722 .....	ES-33
P010700 .....	ES-33
P010800 .....	ES-33
P011126 .....	ES-33
P011200 .....	ES-33
P011300 .....	ES-33
P011400 .....	ES-33
P00CE24 .....	ES-34
P00CE23 .....	ES-34
P012300 .....	ES-34
P012200 .....	ES-34

# Fuel filler pipe assembly

## Parts



FU

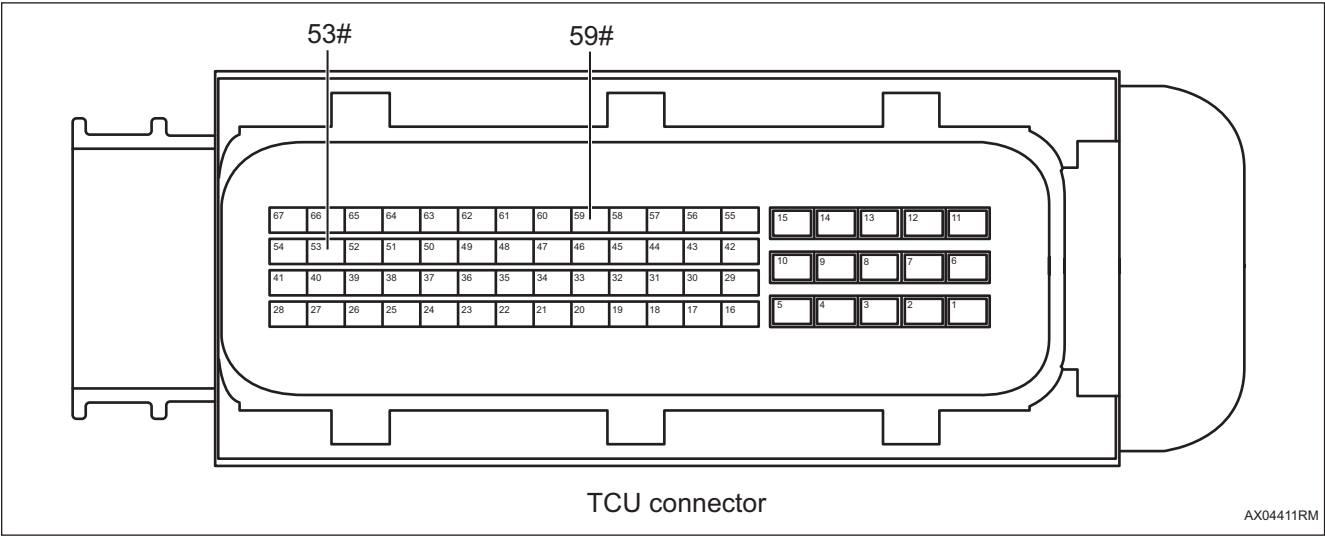
FU08010RM

1. Fuel tank cap assembly
2. Fuel filler pipe assembly
3. Hexagon flange bolt
  - Torque: 8~12 N · m
4. Hexagon flange bolt

**NG** **Repair or replace the harness and connector**

**OK**

**5** **Check harness and connector for circuit shorted to power supply (TCU-output shaft speed sensor)**



- (a) Connect the battery negative terminal.
- (b) Set the ignition switch to "ON".
- (c) Measure the resistance according to the values in the table below.

**Standard value**

Detector connection	Detection conditions	Specified state
TCU connector 59# -body GND	Set the ignition switch to "ON"	Less than 1 V
TCU connector 53# -body GND	Set the ignition switch to "ON"	Less than 1 V

**NG** **Repair or replace the harness and connector**

**OK**

**6** **Replace the output shaft speed sensor (See page AX-232)**

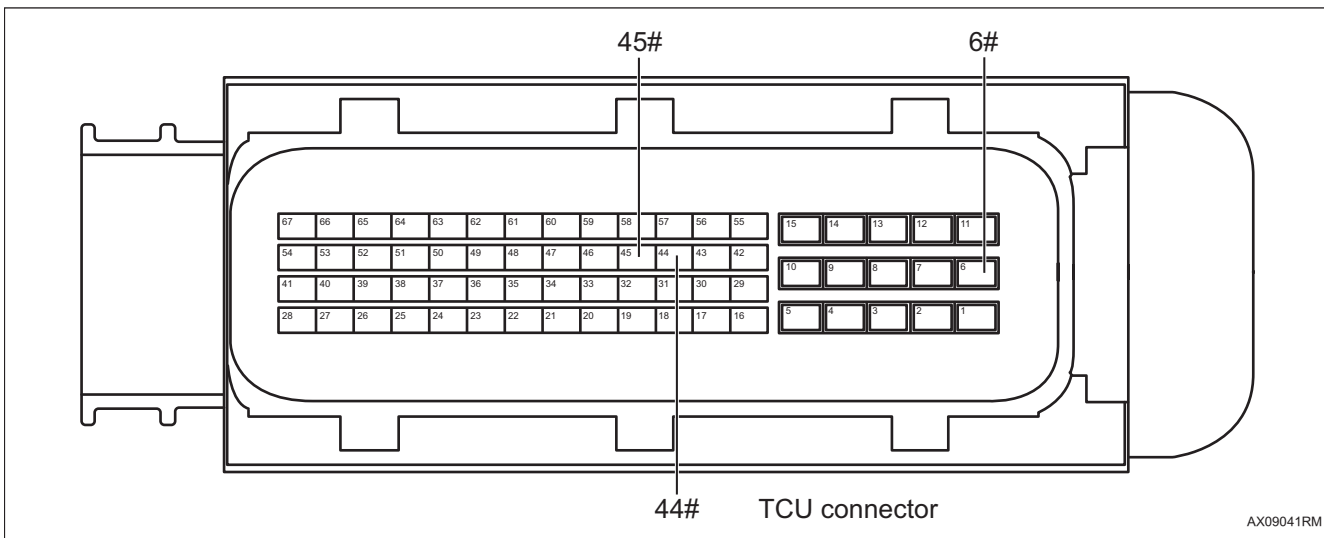
- (a) Replace the output shaft speed sensor.
- (b) Connect the HQ-VDS.
- (c) Clear the DTC.

Detector connection	Detection conditions	Specified state
TCU connector 45# - body GND	Always connected	Greater than or equal to 10 kΩ

**NG** → **Repair or replace the harness (TCU-4th transmission harness)**

**OK**

**4** Check harness and connector for circuit shorted to power supply (TCU-4th transmission harness)

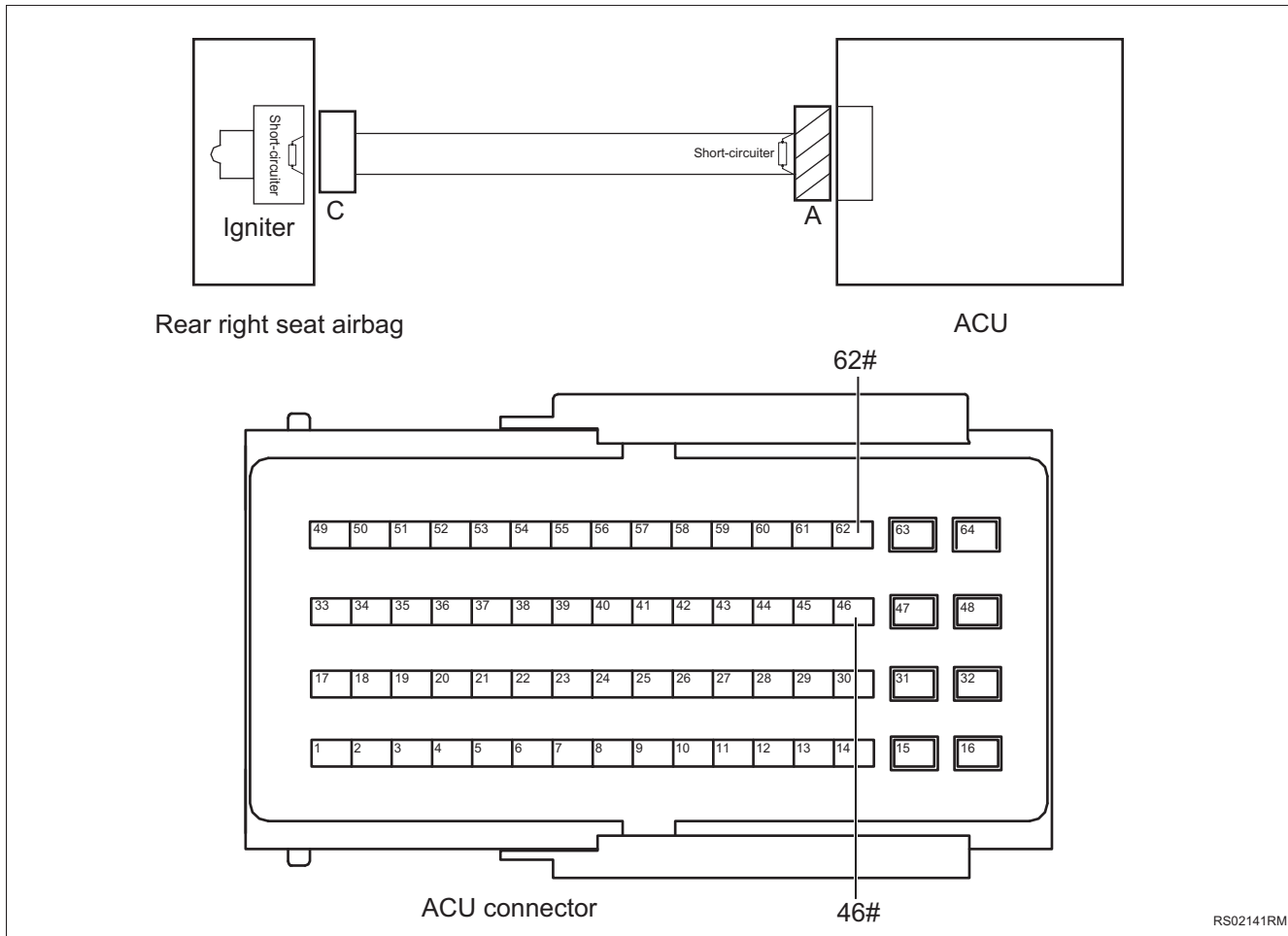


- (a) Connect the battery negative terminal.
- (b) Set the ignition switch to "ON".
- (c) Measure the voltage according to the values in the table below.

**Standard value**

Detector connection	Detection conditions	Specified state
TCU connector 6# - body GND	Set the ignition switch to "ON"	Less than 1 V
TCU connector 44# - body GND	Set the ignition switch to "ON"	Less than 1 V
TCU connector 45# - body GND	Set the ignition switch to "ON"	Less than 1 V

**NG** → **Repair or replace harness (TCU-4th transmission harness)**



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

**Standard value**

Detector connection	Detection conditions	Specified state
ACU connector 46# - body GND	Always connected	10 KΩ or greater
ACU connector 62# - body GND	Always connected	10 KΩ or greater

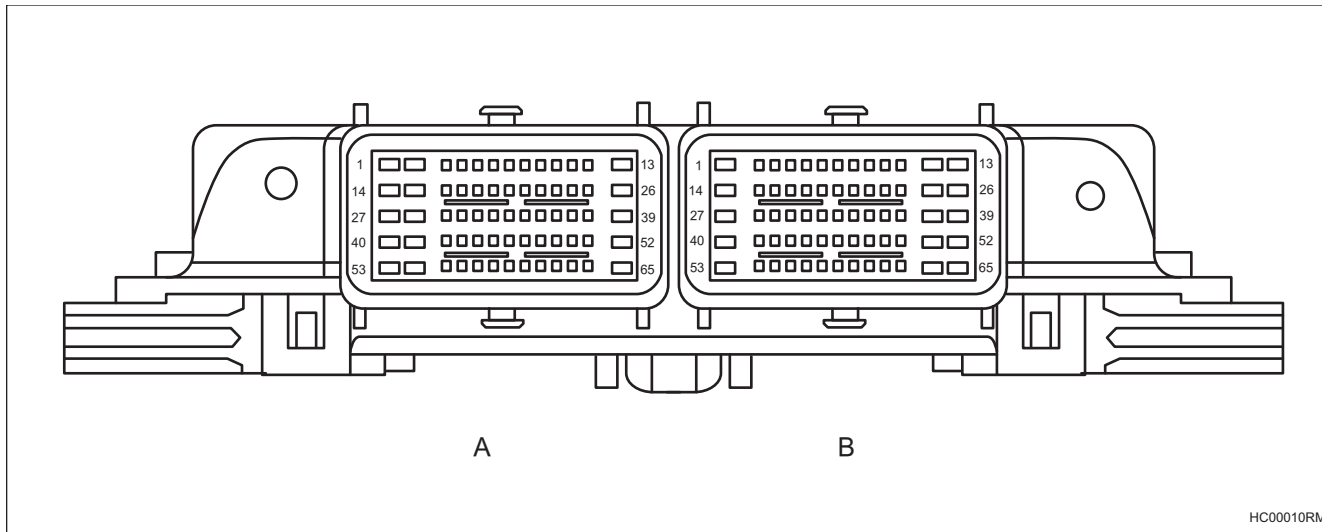
**NG** → **Repair or replace the harness and connector**

**OK**

**4** Check rear right seat airbag harness and connector for circuit shorted to power supply



# ECU terminal



**HC**

HC00010RM

HCU A			
Pin No.	DEFINITIONS	Pin No.	DEFINITIONS
1	Ground	34	—
2	Ground	35	—
3	—	36	—
4	CAN1_H (hybrid CAN)	37	—
5	CAN1_L (hybrid CAN)	38	—
6	—	39	Main relay rear power supply
7	CAN2_L (powertrain CAN)	40	—
8	CAN2_H (powertrain CAN)	41	—
9	—	42	—
10	—	43	Motor coolant temperature sensor ground
11	—	44	—
12	B+	45	—
13	B+	46	INTERLOCK_OUT
14	—	47	—
15	—	48	—
16	—	49	—
17	—	50	Ignition lock ON
18	—	51	Low-voltage power supply management relay control
19	—	52	Main relay rear power supply
20	—	53	—
21	—	54	Ground
22	CAN3-L (calibration CAN)	55	—
23	CAN3-H (calibration CAN)	56	—

<b>DTC</b>	<b>P1D9804</b>	<b>AFE diagnosis timeout</b>
------------	----------------	------------------------------

### Description

When the BMU detects an AFE diagnosis timeout, the BMU records the DTC.

DTC	DTC detection conditions	Faulty location
P1D9804	(a) AFE diagnostic timeout.	• Traction battery internal: BMS

### Inspection procedure

**Note:** after reading the DTC successfully, save all DTCs and corresponding fault snapshots (freeze frame).

<b>1</b>	<b>Clear DTC</b>
----------	------------------

- (a) Clear the DTC.
- (b) Power off and wait for 5min.
- (c) Re-read the DTC after power on.

### Results

Results	Go to
DTC reappears	Abnormal
DTC does not reappear	Normal

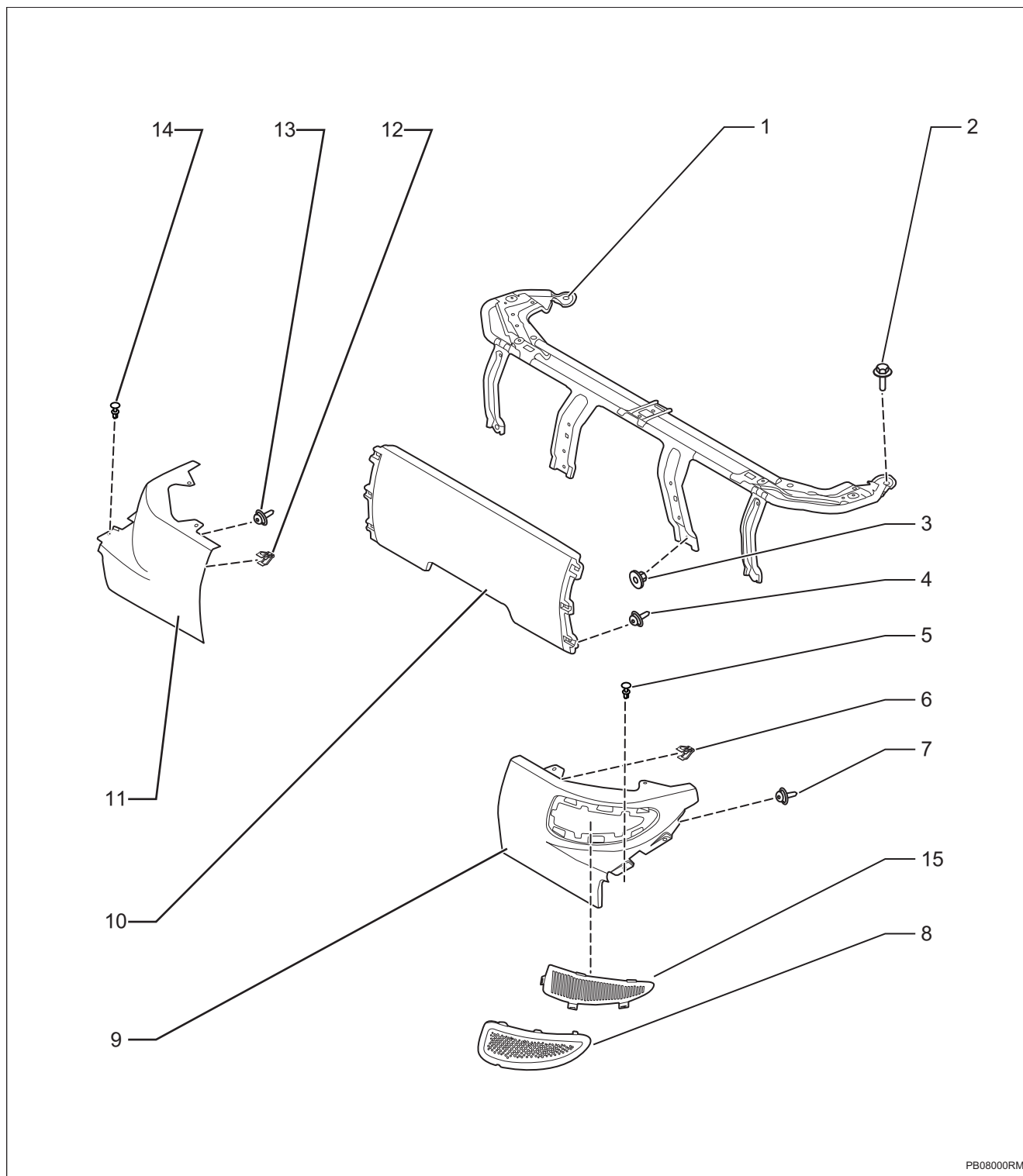
<b>NG</b>	<b>Replace BMS (See page HB-14)</b>
-----------	-------------------------------------

**OK**

<b>2</b>	<b>End</b>
----------	------------

# Traction battery assembly

## Parts



PB08000RM

**1. Rear seat cushion bracket assembly****2. Hexagon flange bolt**

• X4

• Torque: 16.2 ~ 25 N · m

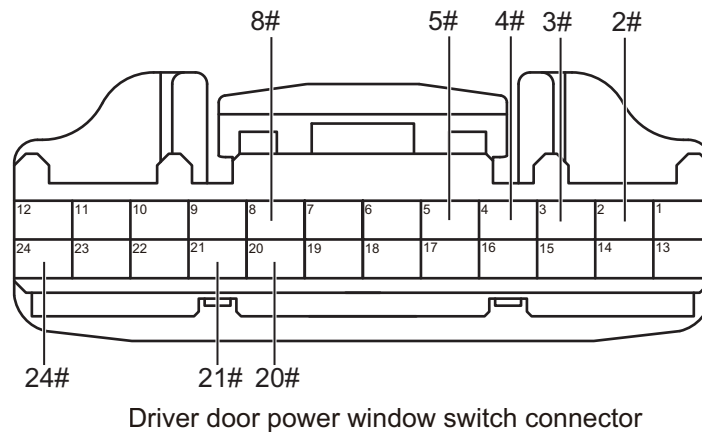
**3. Hexagon flange nut**

Detector connection	Detection conditions	Specified state
DDCU connector B23# - driver door power window switch connector 24#	Always connected	Less than 1Ω
DDCU connector B21# - driver door power window switch connector 8#	Always connected	Less than 1Ω
DDCU connector B14# - driver door power window switch connector 5#	Always connected	Less than 1Ω
DDCU connector B25# - driver door power window switch connector 4#	Always connected	Less than 1Ω
DDCU connector B22# - driver door power window switch connector 2#	Always connected	Less than 1Ω
DDCU connector B22# - driver door power window switch connector 3#	Always connected	Less than 1Ω
DDCU connector A5# - driver door power window switch connector 21#	Always connected	Less than 1Ω
DDCU connector A20# - driver door power window switch connector 20#	Always connected	Less than 1Ω

**NG** Repair or replace the harness and connector

**OK**

**3** Check driver door power window switch harness and connector for circuit shorted to ground



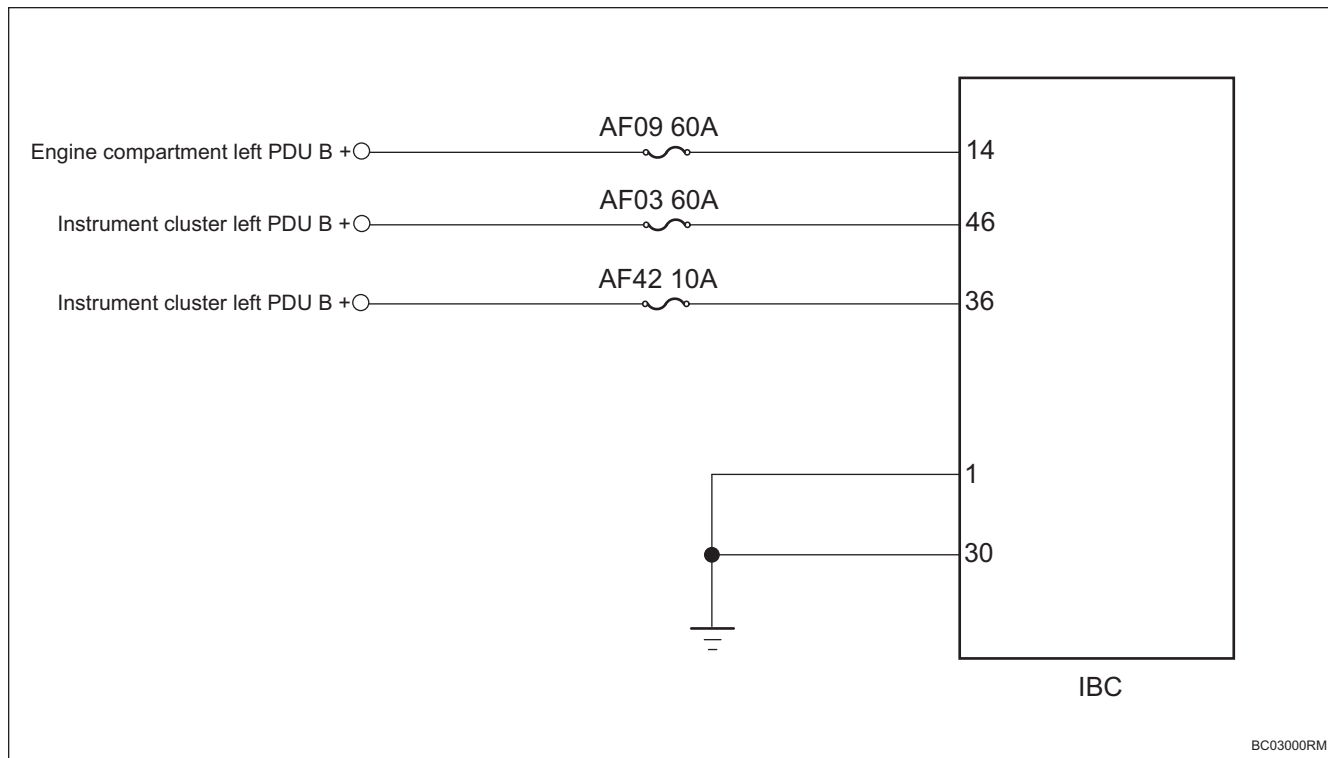
ED00921RM

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

**Standard value**

Detector connection	Detection conditions	Specified state
Driver door power window switch connector 21# - body GND	Always connected	10 KΩ or greater

## Circuit diagram



## Inspection procedure

### 1 Perform preliminary inspection

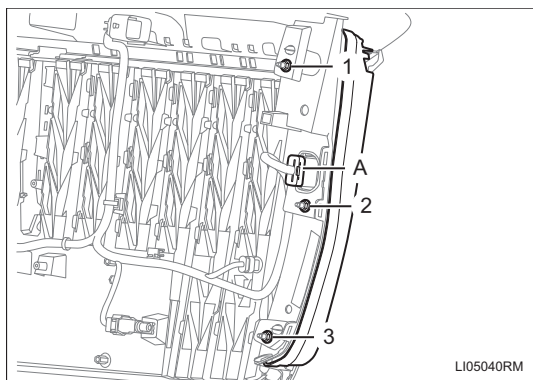
- (a) Confirm whether the fault warning lamp is on when the fault occurs.
- (b) Confirm the frequency of failure and whether it is random failure, etc.
- (c) Confirm the working condition, vehicle speed, accelerator/brake pedal status, etc. when the fault occurs.
- (d) Check whether the vehicle has been in an accident or repaired.
- (e) Check whether the vehicle power supply system is normal (such as whether the battery terminal is normal and whether the IBC fuse is damaged).
- (f) Check the IBC for bump or impact marks.
- (g) Check whether the IBC is installed correctly, check the brake fluid reservoir hose for leakage and check its grounding status.
- (h) Check the IBC connector connection status and check the connector for rust, false connection, water ingress, etc.
- (i) Check and repair according to the problems checked out.
- (j) Connect the HQ-VDS.
- (k) Set the ignition switch to "ON".

## Removal

Hint:

The removal sequence on the right side is the same as that on the left side.

1. **Disconnect the battery negative terminal (See page CH-20)**
2. **Remove the radiator grille (See page ET-29)**
3. **Remove front combination lamp III assembly**
  - (a) Disconnect the front combination lamp III assembly harness connector-A.



- (b) Remove the nut -1-3- and remove the front combination lamp III assembly.

## Installation

1. **The installation procedure is the reverse of removal procedure.**

<b>DTC</b>	<b>U004688</b>	<b>Information CAN bus off</b>
<b>DTC</b>	<b>U014687</b>	<b>GW node lost</b>
<b>DTC</b>	<b>U024587</b>	<b>EnHost node lost</b>
<b>DTC</b>	<b>U015887</b>	<b>HUD node lost</b>
<b>DTC</b>	<b>U024887</b>	<b>WCM node lost</b>
<b>DTC</b>	<b>U114087</b>	<b>BCM node lost</b>
<b>DTC</b>	<b>U119987</b>	<b>Driver door node lost</b>
<b>DTC</b>	<b>U120087</b>	<b>Passenger door node lost</b>
<b>DTC</b>	<b>U120187</b>	<b>Rear left door node lost</b>
<b>DTC</b>	<b>U120287</b>	<b>Rear right door node lost</b>
<b>DTC</b>	<b>U113887</b>	<b>DMS node lost</b>
<b>DTC</b>	<b>U129387</b>	<b>HCU node lost</b>
<b>DTC</b>	<b>U129A87</b>	<b>BMS node lost</b>
<b>DTC</b>	<b>U129887</b>	<b>Battery charging system node lost</b>
<b>DTC</b>	<b>U123587</b>	<b>IFC node lost</b>
<b>DTC</b>	<b>U123287</b>	<b>LCDA node lost</b>
<b>DTC</b>	<b>U114687</b>	<b>GW node lost</b>
<b>DTC</b>	<b>U110087</b>	<b>ECM message lost</b>
<b>DTC</b>	<b>U110187</b>	<b>TCU message lost</b>
<b>DTC</b>	<b>U115187</b>	<b>ACU message lost</b>
<b>DTC</b>	<b>U112187</b>	<b>ESC and EPB message lost</b>
<b>DTC</b>	<b>U113187</b>	<b>EPS ECU message lost</b>
<b>DTC</b>	<b>U116487</b>	<b>A/C control unit message lost</b>
<b>DTC</b>	<b>U12D587</b>	<b>ETC system message lost</b>
<b>DTC</b>	<b>U12E187</b>	<b>IHC message lost</b>

**ME**