

BODY ELECTRICAL SYSTEM

PRECAUTION

BE011-03

HINT:

Take care to observe the following precautions when performing inspections or removal and replacement of body electrical related parts.

1. HEADLIGHT SYSTEM

- Halogen bulbs have pressurized gas inside and require special handling. They can burst if scratched or dropped. Hold a bulb only by its plastic or metal case. Don't touch the glass part of a bulb with bare hands.
- When high voltage socket of discharge headlight is touched with the light control switch HEAD, high voltage of 20,000 V is momentarily generated. This might lead to a serious accident.
- Never connect the tester to the high voltage socket of discharge headlight for measurement, as this leads to a serious accident because of high voltage.
- When performing operation related to the discharge headlight, make sure to do it in the place with no water or rain to prevent electric shock, with light control switch OFF, battery terminal removed, connector of light control ECU disconnected.
- When performing operation related to the discharge headlight, make sure to do it after assembling has been completely over and never light up without a bulb installed.
- Do not light up the discharge headlight using another power source except vehicle's.
- When there is a defect on the discharge headlight or any shock has been applied to it, replace the light with a new one.

Even if the light operates normally, there is a possibility that the fail-safe function works.

2. SRS (SUPPLEMENTAL RESTRAINT SYSTEM)

The LEXUS GS300 is equipped with an SRS (Supplemental Restraint System) such as the driver airbag and front passenger airbag. Failure to carry out service operation in the correct sequence could cause the SRS to unexpectedly deploy during servicing, possibly leading to a serious accident. Before servicing (including removal or installation of parts, inspection or replacement), be sure to read the precautionary notices in the RS section.

3. COMBINATION METER SYSTEM

The cold cathode tube connectors (Connector "K" and "L") in the combination meter are charged with high voltage AC current when power is supplied, so do not touch them when they are charged.



4. MICRO COMPUTER PRESET DRIVING POSITION SYSTEM**Power Seat Control System****Power Mirror Control System****Power Tilt and Telescopic Steering System**

If the battery negative (–) terminal is disconnected, the preset driving positions stored in memory are erased, so be sure to note the positions and reset them after the battery terminal is reconnected.

5. AUDIO SYSTEM

- If the negative (–) terminal cable is disconnected from the battery, the preset AM, FM 1 and FM 2 stations stored in memory are erased, so be sure to note the stations and reset them after the negative (–) terminal cable is reconnected to the battery.
- If the negative (–) terminal cable is disconnected from the battery, the "ANTI-THEFT SYSTEM" will operate when the cable is reconnected, but the radio, tape player and CD player will not operate. Be sure to input the correct ID number so that the radio, tape player and CD player can be operated again.

6. MOBILE COMMUNICATION SYSTEM

If the vehicle is equipped with a mobile communication system, refer to precautions in the IN section.

PROBLEM SYMPTOMS TABLE

1. IGNITION SWITCH AND KEY UNLOCK WARNING SWITCH

This system uses the multiplex communication system, so check diagnosis system of the multiplex communication system before you proceed with troubleshooting.

Ignition Switch:

Symptom	Suspect Area	See page
Ignition switch is not set to each position.	1. Ignition switch 2. Power source circuit	BE-31 -

Key Unlock Warning Switch:

Symptom	Suspect Area	See page
Key unlock warning system does not operate. (The buzzer does not sound when the driver's door is opened with the ignition OFF and key inserted)	1. Key Unlock Warning Switch 2. Door Courtesy Switch 3. Wire Harness	BE-31 BE-66 -
Key unlock warning system does not operate. (The buzzer sounds when the ignition key is ACC or ON)	1. Ignition Switch 2. Wire Harness	BE-31 -

2. HEADLIGHT AND TAILLIGHT SYSTEM:

This system uses the multiplex communication system, so check diagnosis system of the multiplex communication system before you proceed with troubleshooting.

HINT:

To inspect the bulb and light control ECU, replace them with the ones working normally and judge whether they work normally or not.

Symptom	Suspect Area	See page
"Automatic light control system" does not operate.	1. Automatic Light Control Sensor 2. Light Control Switch 3. Door Courtesy Switch 4. Wire Harness 5. Body No.2 ECU	BE-38 BE-38 BE-66 - DI-656
Auto turn-off system does not operate when the driver's door is opened.	1. Drivers Door Courtesy Switch	BE-66 -
Auto turn-off system: Headlight and taillight do not come on.	1. Body ECU No.2 2. Wire Harness	DI-656 -
Auto turn-off system: Headlight and taillight stay on.	1. Body ECU No.2 2. Wire Harness	DI-656 -

w/o Daytime Running Light System:

*: HID Type

Symptom	Suspect Area	See page
Only one headlight comes on.	1. Bulb 2. Light Control ECU 3. Wire Harness	- - -
"LO-Beam" does not light (All).	1. Headlight Control Relay 2. *Light Control ECU 3. Wire Harness	BE-38 - -
"LO-Beam" does not light (One side).	1. Bulb 2. H-LP L-LWR Fuse 3. H-LP R-LWR Fuse 4. *Light Control ECU 5. Wire Harness	- BE-21 BE-21 - -
"HI-Beam" does not light (All).	1. Headlight Dimmer Switch 2. Wire Harness	BE-38 -

"HI-Beam" does not light (One side).	1. Bulb 2. H-LP L-UPR Fuse 3. H-LP R-UPR Fuse 4. Wire Harness	- BE-21 BE-21 -
"Flash" does not light.	1. H-LP L-UPR Fuse 2. H-LP R-UPR Fuse 3. Headlight Dimmer Switch 4. *Light Control ECU 5. Wire Harness	BE-21 BE-21 BE-38 - -
"Flash" does not light.	1. Bulb 2. *Light Control ECU 3. Wire Harness	- - -
Headlight does not come on.	1. Headlight Control Relay 2. Light Control Switch 3. *Light Control ECU 4. Wire Harness	BE-38 BE-38 - -
Headlight does not come on.	1. Bulb 2. *Light Control ECU 3. Wire Harness	- - -
Headlight flickers.	1. Bulb 2. *Light Control ECU 3. Wire Harness	- - -
Headlight is dark.	1. Bulb 2. *Light Control ECU 3. Wire Harness	- - -
Only one taillight comes on.	1. Bulb 2. Wire Harness	- -
Taillight does not come on. (Headlight is normal)	1. TAIL Fuse 2. GAUGE Fuse 3. Taillight Control Relay 4. Light Failure Relay 5. Light Control Switch 6. Wire Harness	BE-21 BE-21 BE-38 BE-105 BE-38 -
Taillight does not come on. (Headlight does not light)	1. Light Control Switch 2. Wire Harness	BE-38 -
Rear combination light does not come on.	1. Light Failure Relay 2. Wire Harness 3. Bulb	BE-105 - -

w/ Daytime Running Light System:

*: HID Type

Symptom	Suspect Area	See page
Only one headlight comes on.	1. Daytime Running Light No.2, 3, 4 Relay 2. Daytime Running Light Main Relay 3. Bulb 4. *Light Control ECU 5. Wire Harness	BE-38 BE-38 - - -
"LO-Beam" does not light (All).	1. Headlight Control Relay 2. *Light Control ECU 3. Wire Harness	BE-38 - -
"LO-Beam" does not light (One side).	1. Bulb 2. H-LP L-LWR Fuse 3. H-LP R-LWR Fuse 4. *Light Control ECU 5. Wire Harness	- BE-21 BE-21 - -

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"HI-Beam" does not light (All).	1. Headlight Dimmer Switch 2. Daytime Running Light Main Relay 3. Wire Harness	BE-38 BE-38 -
"HI-Beam" does not light (One side).	1. Bulb 2. H-LP L-UPR Fuse 3. H-LP R-UPR Fuse 4. Daytime Running Light No.3 Relay 5. Wire Harness	- BE-21 BE-21 BE-38 -
"Flash" does not light.	1. Headlight Dimmer Switch 2. Daytime Running Light Main Relay 3. Wire Harness	BE-38 BE-38 -
Headlight does not come on.	1. Headlight Control Relay 2. Daytime Running Light Main Relay 3. Daytime Running Light No.2, 3, 4 Relay 4. Headlight Dimmer Switch 5. Light Control Switch 6. Wire Harness 7. *Light Control ECU 8. Bulb	BE-38 BE-38 BE-38 BE-38 BE-38 - - -
Headlight does not come on with light control switch in HEAD.	1. Light Control Switch 2. *Light Control ECU 3. Wire Harness	BE-38 - -
Headlight does not go out with light control switch in OFF.	1. Headlight Control Relay 2. *Light Control ECU 3. Wire Harness	BE-38 - -
Headlight flickers.	1. Bulb 2. *Light Control ECU 3. Wire Harness	- BE-38 -
Headlight is dark.	1. Bulb 2. *Light control ECU 3. Wire Harness	- - -
Taillight does not come on with light control switch in TAIL.	1. Taillight Control Relay (Instrument Panel J/B) 2. Light Control Switch 3. Wire Harness	BE-38 - -
Taillight does not go out with light control switch in OFF.	1. Taillight Control Relay 2. Light Control Switch 3. Wire Harness	BE-38 BE-38 -
Headlight does not come on with engine running and light control switch in OFF.	1. ECU-B Fuse 2. GAUGE Fuse 3. Daytime Running Light Main Relay 4. Daytime Running Light No.2, 3, 4 Relay 5. Alternator L Terminal 6. Parking Brake Switch 7. Wire Harness	BE-21 BE-21 BE-38 BE-38 DI-697 BE-105 -

3. HEADLIGHT BEAM LEVEL CONTROL SYSTEM

HID Type Headlight:

Symptom	Suspect Area	See page
Beam axis is not controlled. (It is not initialized.) Headlight Beam Level Control System does not operate.	1. ECU-IG Fuse 2. Headlight Beam Level Control Actuator 3. Headlight Beam Level Control ECU 4. Wire Harness Side	BE-21 BE-50 BE-50 -
Beam axis is not controlled. (It is initialized.) Headlight Beam Level Control System does not operate.	1. Height Control Sensor 2. Headlight Beam Level Control ECU 3. Wire Harness Side	BE-50 BE-50 -
Controlled angle of head light is unusual. (The angle is controlled.)	1. Height Control Sensor 2. Headlight Beam Level Control ECU 3. Headlights 4. Wire Harness Side	- BE-50 BE-3 -
Beam axis position is not stable during driving.	1. ABS System 2. Headlights 3. Wire Harness	DI-208 BE-3 -

Europe Halogen Type Headlight:

Symptom	Suspect Area	See page
Headlight Beam Level Control System does not operate.	1. ECU-IG Fuse 2. Headlight Beam Level Control Switch 3. Headlight Beam Level Control Actuator 4. Wire Harness Side	BE-21 BE-50 BE-50 -

4. FOG LIGHT SYSTEM

This system uses the multiplex communication system, so check diagnosis system of the multiplex communication system before you proceed with troubleshooting.

Symptom	Suspect Area	See page
Front fog light does not light up with light control SW HEAD (Headlight is normal.)	1. FOG Fuse 2. Front Fog Light Relay 3. Front Fog Light Switch 4. Wire Harness 5. Body No.2 ECU	BE-21 BE-54 BE-54 -
Front fog light does not light up with light control SW HEAD (Headlight does not light).	1. *1 Other Parts 2. Wire Harness	- -
Only one front fog light does not light up.	1. Bulb 2. Wire Harness	- -
Rear fog light does not light up. (Headlight is normal.)	1. RR FOG Fuse 2. Rear Fog Light Relay 3. Rear Fog Light Switch 4. Wire Harness 5. Body No.2 ECU	BE-21 BE-54 BE-54 - -
Rear fog light does not light up. (Headlight does not light).	1. *1 Other Parts 2. Wire Harness	- -
Only one rear fog light does not light up.	1. Bulb 2. Wire Harness	- -

*1: Inspect Headlight System

5. TURN SIGNAL AND HAZARD WARNING SYSTEM

This system uses the multiplex communication system, so check diagnosis system of the multiplex communication system before you proceed with troubleshooting.

Symptom	Suspect Area	See page
"Hazard" and "Turn" do not light up.	1. GAUGE Fuse 2. TURN HAZ Fuse 3. Ignition Switch 4. Turn Signal Flasher Relay 5. Wire Harness	BE-21 BE-21 BE-31 BE-61 -
Hazard warning light does not light up. (Turn is normal)	1. Hazard Warning Switch 2. Wire Harness	BE-61 -
Turn signal does not light up. (Hazard is normal)	1. Turn Signal Switch 2. Wire Harness	BE-61 -
Turn signal does not light up in one direction.	1. Turn Signal Switch 2. Wire Harness	BE-61 -
Only one bulb does not light up.	1. Bulb 2. Wire Harness	- -

6. INTERIOR LIGHT SYSTEM

This system uses the multiplex communication system, so check diagnosis system of the multiplex communication system before you proceed with troubleshooting.

Symptom	Suspect Area	See page
All the lights do not come ON.	1. DOME Fuse 2. Body ECU NO.2	BE-21 -
The light does not come ON when the driver's door is opened.	1. Driver's Door Courtesy Switch 2. Wire Harness	BE-66 -
The light does not come ON when the passenger's door is opened.	1. Passenger's Door Courtesy Switch 2. Wire Harness	BE-66 -
The light does not come on when the rear-right door is opened.	1. Rear-Right Door Courtesy Switch 2. Wire Harness	BE-66 -
The light does not come on when the rear-left door is opened.	1. Rear-Left Door Courtesy Switch 2. Wire Harness	BE-66 -
Only one of the bulbs comes ON.	1. Bulb	-
The illumination does not fade out when all the doors are closed.	1. Courtesy Switch 2. Wire Harness	BE-66 -
The illumination does not fade out immediately when the ignition switch is turned to ACC or ON within 15 seconds after all the doors are closed.	1. Ignition Switch 2. RADIO NO.2 Fuse 3. GAUGE Fuse 4. Wire Harness	BE-31 BE-21 BE-21 -
The illumination does not fade out immediately when all the doors are locked within 15 seconds after they are closed.	1. Door Unlock Detection Switch 2. Wire Harness	BE-148 -
Interior light does not light up. (in front personal light)	1. Bulb 2. Front Personal Light 3. Wire Harness	- BE-66 -
Front personal light does not light up.	1. Bulb 2. Front Personal Light 3. Wire Harness	- BE-66 -
Rear personal light does not light up.	1. Bulb 2. Rear Personal Light 3. Wire Harness	- BE-66 -

Vanity light does not light up.	1. Bulb 2. Vanity Light 3. Wire Harness	- BE-66 -
Luggage compartment light does not light up.	1. Bulb 2. Luggage Compartment Door Courtesy Switch 3. Wire Harness	- BE-66 -
Courtesy light does not light up.	1. Bulb 2. Door Courtesy Switch 3. Wire Harness	- BE-66 -

7. BACK-UP LIGHT SYSTEM

Symptom	Suspect Area	See page
Back-Up Light does not light up.	1. GAUGE Fuse 2. Ignition Switch 3. Wire Harness 4. Bulb	BE-21 BE-31 - -
Back-Up Light remains always on.	1. Neutral Start Switch 2. Wire Harness	DI-192 -
Only one light does not light up.	1. Bulb 2. Wire Harness	- -

8. STOP LIGHT SYSTEM

Symptom	Suspect Area	See page
Stop light does not light up.	1. STOP Fuse 2. Stop Light Switch 3. Light Failure Relay 4. Wire Harness	BE-21 BE-76 BE-105 -
Stop light always lights up.	1. Stop Light Switch 2. Wire Harness	BE-76 -
Only one light always lights up.	1. Wire Harness	-
Only one light does not light up.	1. Bulb 2. Wire Harness	- -

9. HEADLIGHT CLEANER SYSTEM

Symptom	Suspect Area	See page
"Headlight Cleaner System" does not operate (All)	1. H-LP CLN Fuse 2. WASHER Fuse 3. Ignition Switch 4. Headlight Cleaner Switch 5. Headlight Cleaner Relay 6. Headlight Cleaner Motor 7. Headlight Cleaner Nozzle and Hose 8. Wire Harness	BE-21 BE-21 BE-31 BE-80 BE-80 - - -
Washer fluid does not spray.	1. Headlight Cleaner Nozzle and Hose	-

10. WIPER AND WASHER SYSTEM

Symptom	Suspect Area	See page
Wipers and washer do not operate.	1. WIP Fuse 2. Wiper Switch 3. Wiper Motor 4. Wire Harness	BE-21 BE-84 BE-84 –
Wipers do not operate in LO, HI or MIST.	1. Wiper Switch 2. Wiper Motor 3. Wire Harness	BE-84 BE-84 –
Wipers do not operate in INT.	1. Wiper Switch 2. Wiper Motor 3. Wire Harness	BE-84 BE-84 –
Washer motor does not operate.	1. WASHER Fuse 2. Washer Switch 3. Washer Motor 4. Wire Harness	BE-21 BE-84 BE-84 –
Wipers do not operate when washer switch ON.	1. WASHER Fuse 2. Washer Switch 3. Wiper Motor 4. Wire Harness	BE-21 BE-84 BE-84 –
Washer fluid does not operate.	1. Washer Hose and Nozzle	–
- When wiper switch is in HI position, the wiper blade is in contact with the body. - When the wiper switch is OFF, the wiper blade does not retract or the retract position is wrong.	1. Wiper Motor *1 2. Wire harness *1	BE-84 –

*1: Inspect wiper arm and blade set positions.

11. COMBINATION METER

- This system uses the multiplex communication system, so check diagnosis system of the multiplex communication system before you proceed with troubleshooting.
- Refer to DI section for warning light or indicator light not described in the table below.

Symptom	Suspect Area	See page
Driver seat belt warning light does not light up.	1. Bulb 2. Driver Buckle Switch Circuit 3. Meter Circuit Plate 4. Wire Harness 5. Body No.2 ECU	– BE-105 BE-105 – DI-656
Passenger seat belt warning light does not light up.	1. Clock System 2. Passenger Buckle Switch Circuit 3. Occupant Detection Sensor 4. Meter Circuit Plate 5. Wire Harness 6. Body No.1 ECU	BE-240 BE-105 BE-105 BE-105 – DI-612
SRS warning light does not light up.	1. MPX-B Fuse 2. SRS-B Fuse 3. Bulb 4. Meter Circuit Plate 5. Wire Harness 6. Airbag Sensor Assembly	BE-21 BE-21 – BE-105 – DI-384
Hi-beam indicator light does not light up.	1. Bulb 2. Meter Circuit Plate 3. Wire Harness 4. Headlight System	– BE-105 – BE-3

Turn Indicator Light does not light up.	1. Bulb 2. Meter Circuit Plate 3. Wire Harness 4. Turn Signal and Hazard Warning System	- BE-105 - BE-3
ABS warning light does not light up.	1. GAUGE Fuse 2. Bulb 3. Meter Circuit Plate 4. Wire Harness 5. ABS, TRC and VSC ECU	BE-21 - BE-105 - DI-208
TRC warning light does not light up.	1. GAUGE Fuse 2. Bulb 3. Meter Circuit Plate 4. Wire Harness 5. ABS, TRC and VSC ECU	BE-21 - BE-105 - DI-208
Check engine warning light does not light up.	1. Bulb 2. Meter Circuit Plate 3. Wire Harness 4. Engine and ECT ECU	- BE-105 - DI-1
Fuel level warning light does not light up.	1. Bulb 2. Fuel level warning sensor 3. Meter Circuit Plate 4. Wire Harness	- - BE-105 -

12. ELECTRIC TENSION REDUCER SYSTEM

Symptom	Suspect Area	See page
Tension Reducer does not operate. (Driver's and Passenger's)	1. ECU-IG Fuse 2. Wire Harness	BE-21 -
Tension Reducer does not operate. (Only one side)	1. Buckle Switch 2. Tension Reducer Solenoid 3. Wire Harness	BE-105 BE-105 -

13. DEFOGGER SYSTEM

This system uses the multiplex communication system, so check diagnosis system of the multiplex communication system before you proceed with troubleshooting.

Symptom	Suspect Area	See page
Rear window defogger does not operate.	1. HTR Fuse 2. DEF H-Fuse 3. Defogger Relay Circuit 4. Defogger Switch (in A/C Panel Switch) 5. Defogger Wire 6. Wire Harness 7. Body No.1 ECU	BE-21 BE-21 DI-648 BE-125 BE-125 - DI-612
Mirror defogger does not operate.	1. MIR-HTR Fuse (Passenger Side J/B) 2. Mirror Heater Relay 3. Mirror Heater 4. Wire Harness	BE-21 BE-125 BE-125 -

14. POWER WINDOW CONTROL SYSTEM

This system uses the multiplex communication system, so check diagnosis system of the multiplex communication system before you proceed with troubleshooting.

Symptom	Suspect Area	See page
All the power windows do not operate. (Power Door Lock System is normal.)	1. PWS Terminal Circuit 2. Power Window Master Switch 3. Wire Harness 4. Driver Door ECU 5. Body No.1 ECU	DI-654 BE-134 - DI-700 DI-612
Only the driver's window does not operate.	1. Power Window Master Switch 2. Power Window Switch 3. Power Window Motor 4. Wire Harness	BE-134 BE-134 BE-134 -
"Window Lock Function" does not operate.	1. Power Window Master Switch	BE-134
Window does not operate with power window master switch. (Manual or Automatic operation can be performed.)	TROUBLESHOOTING NO.1	BE-128
Remote control of all windows (except driver's) does not function with master switch. (Windows operate normally with each of master switch.)	TROUBLESHOOTING NO.2	BE-128
The key related power window operations does not operate with driver's side door key cylinder. (Master switch operation is normal.)	TROUBLESHOOTING NO.3	BE-128
Power window does not operate with multi-function transmitter. (Windows operate normally with master switch.)	TROUBLESHOOTING NO.4	BE-128
Window moves down without being ordered during the up operation.	TROUBLESHOOTING NO.5	BE-128

15. POWER DOOR LOCK CONTROL SYSTEM

This system uses the multiplex communication system, so check diagnosis system of the multiplex communication system before you proceed with troubleshooting.

Symptom	Suspect Area	See page
All the doors cannot be locked or unlocked. (Power Window Control System is normal.)	1. Door Lock Control Switch 2. Wire Harness 3. Body No.1 ECU	BE-148 - DI-612
Only one side door lock control does not operate.	1. Door Lock Motor 2. Wire Harness 3. Each Door ECU	BE-148 - -
Door key related function does not operate.	1. Door Key Lock and Unlock Switch 2. Wire Harness 3. Each Door ECU 4. Body No.1 ECU	BE-148 - - DI-612
Key confinement prevention function does not operate.	1. Key Unlock Warning Switch 2. Door Courtesy Switch 3. Wire Harness 4. Each Door ECU	BE-31 BE-66 - -
Luggage compartment door opener function does not operate.	1. Luggage Compartment Door Opener Switch 2. Luggage Compartment Door Opener Motor 3. Wire Harness 4. Body No.1 ECU	BE-148 BE-148 - DI-612

16. THEFT DETERRENT SYSTEM

This system uses the multiplex communication system, so check diagnosis system of the multiplex communication system before you proceed with troubleshooting.

Symptom	Suspect Area	See page
The system cannot be set.	1. Indicator Light 2. Key Unlock Warning Switch 3. Door Unlock Detection Switch 4. Engine Hood Courtesy Switch 5. Luggage Compartment Door Courtesy Switch 6. Wire Harness 7. Each Door ECU 8. Body No.1 ECU	BE-164 BE-31 BE-148 BE-164 BE-66 - - DI-612
The system cannot be canceled when the ignition switch is turned to ON with key.	1. Key Unlock Warning Switch 2. Ignition Switch 3. RAD NO.2 Fuse 4. Wire Harness 5. Body No.1 ECU	BE-31 BE-31 BE-21 - DI-612
The system cannot be canceled when the luggage compartment door is unlocked with key.	1. Luggage Compartment Door Courtesy Switch 2. Wire Harness 3. Body No.1 ECU	BE-66 - DI-612
The system does not operate when the engine hood is opened.	1. Engine Hood Courtesy Switch 2. Wire Harness 3. Body No.1 ECU	BE-164 - DI-612
The system does not operate when the ignition switch is turned to ACC without using a key or transmitter.	1. Ignition Switch 2. Key Unlock Warning Switch 3. Transmitter 4. Wire Harness 5. Body No.1 ECU	BE-31 BE-31 BE-171 - DI-612
Some of the system does not operate. (Headlight does not light up.)	1. Headlight System 2. Wire Harness 3. Body No.2 ECU 4. Body No.1 ECU	BE-3 - DI-656 DI-612
Some of the system does not operate. (Taillight does not light up.)	1. Taillight System 2. Wire Harness 3. Body No.2 ECU 4. Body No.1 ECU	BE-3 - DI-656 DI-612
Some of the system does not operate. (Theft Deterrent Horn or Horn does not sound.)	1. HORN Fuse 2. Theft Deterrent Horn 3. Horn 4. Horn Relay 5. Wire Harness 6. Body No.1 ECU	BE-21 BE-164 BE-255 BE-255 - DI-612
While the warning is given, the system cannot be canceled by unlocking the door with key or transmitter.	1. Door Key Lock and Unlock Switch 2. Wire Harness 3. Body No.1 ECU	BE-148 - DI-612
While the warning is given, the system cannot be canceled by turning the ignition switch to ACC or ON with key.	1. Ignition Switch 2. Key Unlock Warning Switch 3. RAD NO.2 Fuse 4. ECU-IG Fuse 5. Wire Harness 6. Body No.2 ECU 7. Body No.1 ECU	BE-31 BE-31 BE-21 BE-21 - DI-656 DI-612
The system operates for more than 60 seconds.	1. Body No.1 ECU	DI-612

17. WIRELESS DOOR LOCK CONTROL SYSTEM

This system uses the multiplex communication system, so check diagnosis system of the multiplex communication system before you proceed with troubleshooting.

HINT:

- Troubleshooting of the wireless door lock control system is based on the premise that the door lock control system is operating normally. Accordingly, before troubleshooting the wireless door lock control system, first make certain that the door lock control system is operating normally.
- If the trouble still reappears even though there are no abnormalities in any of the other circuits, then check and replace the Wireless Door Lock Control Receiver as the last step.

Symptom	Suspect Area	See page
All functions of wireless door lock control system do not operate.	1. Transmitter 2. Wireless Door Lock Control Receiver 3. Wire Harness 4. Body No.1 ECU	BE-171 BE-171 - DI-612
Wireless door lock operates, but the buzzer does not sound. (The buzzer does not sound when the customize function prohibits.)	1. Wireless Door Lock Buzzer 2. Wireless Door Lock Control Receiver 3. Wire Harness	BE-171 BE-171 -

18. POWER SEAT CONTROL SYSTEM

Symptom	Suspect Area	See page
Both Driver and Passenger Power seats do not operate. (Door lock does not operate.)	1. ALT M-Fuse 2. Wire Harness	BE-21 -
Driver's seat does not operate.	1. P/SEAT (D) Fuse 2. Power Seat Switch (D) 3. Wire Harness	BE-21 BE-181 -
Passenger's seat does not operate.	1. P/SEAT (P) Fuse 2. Power Seat Switch (P) 3. Wire Harness	BE-21 BE-181 -
"Slide operation" does not operate.	1. Power Seat Switch (D, P) 2. Wire Harness 3. Slide Motor (D, P)	BE-181 - BE-181
"Front Vertical Operation" does not operate.	1. Power Seat Switch (D, P) 2. Wire Harness 3. Front Vertical Motor (D, P)	BE-181 - BE-181
"Lifter Operation" does not operate.	1. Power Seat Switch (D, P) 2. Wire Harness 3. Lifter Motor (D, P)	BE-181 - BE-181
"Reclining Operation" does not operate.	1. Power Seat Switch (D, P) 2. Wire Harness 3. Reclining Motor (D, P)	BE-181 - BE-181
"Lumbar Support Operation" does not operate.	1. Power Seat Switch (D, P) 2. Wire Harness 3. Lumbar Support Motor (D, P)	BE-181 - BE-181

(D): Driver's Seat

(P): Passenger's Seat

19. POWER MIRROR CONTROL SYSTEM

This system uses the multiplex communication system, so check diagnosis system of the multiplex communication system before you proceed with troubleshooting.

w/Driving Position Memory System:

Symptom	Suspect Area	See page
Both right and left mirrors do not operate.	1. Mirror Switch 2. Wire Harness 3. Body No.2 ECU	BE-192 - DI-656
Only one side of mirror does not operate.	1. Mirror Motor 2. Wire Harness 3. Driver and Passenger Door ECU	BE-192 - DI-700 DI-733
The mirror does not return to the memorized position.	1. Mirror Position Sensor (Position is not set) 2. Wire Harness 3. Power Seat Control ECU	- BE-192 - DI-517
The memorized position is moved.	1. Mirror Position Sensor (Position is not set) 2. Wire Harness	- BE-192 -

w/o Driving Position Memory System:

Symptom	Suspect Area	See page
Mirror does not operate.	1. Mirror Switch 2. Wire Harness 3. Body No.2 ECU 4. Driver and Passenger Door ECU	BE-192 - DI-656 DI-700 DI-733
Mirror operates abnormally.	1. Mirror Switch 2. Mirror Motor 3. Wire Harness 4. Body No.2 ECU 5. Driver and Passenger Door ECU	BE-192 BE-192 - DI-656 DI-700 DI-733

20. ELECTRO CHROMIC MIRROR SYSTEM

Symptom	Suspect Area	See page
Electro Chromic Inner Mirror does not operate.	1. ECU-IG Fuse 2. Electro Chromic Inner Mirror 3. Wire Harness	BE-21 BE-196 -
Electro Chromic Outer Mirror does not operate.	1. ECU-IG Fuse 2. Electro Chromic Outer Mirror 3. Electro Chromic Inner Mirror 4. Wire Harness	BE-21 BE-196 BE-196 -

21. SEAT HEATER SYSTEM

Symptom	Suspect Area	See page
Seat heaters do not operate. (Driver's and Passenger's)	1. SEAT HTR Fuse 2. Seat Heater Switch (D) 3. Wire Harness 4. Seat Heater	BE-21 BE-199 - BE-199
Driver's seat heater does not operate.	1. Seat Heater Switch (P) 2. Wire Harness	BE-199 -
Passenger's seat heater does not operate.	1. Seat Heater Switch (D, P) 2. Wire Harness	BE-199 -
Seat heater temperature is too hot.	1. Seat Heater	BE-199

22. FUEL LID OPENER SYSTEM

Symptom	Suspect Area	See page
Fuel lid opener system does not operate.	1. FUEL OPN Fuse 2. Fuel Lid Opener Switch 3. Fuel Lid Opener Motor 4. Wire Harness	BE-21 BE-202 BE-202 -

23. AUDIO SYSTEM

Symptom	Suspect Area	See page
Audio system abnormal operation.	TROUBLESHOOTINGS	BE-208

24. CLOCK SYSTEM

Symptom	Suspect Area	See page
Passenger seat belt warning system does not light up.	TROUBLESHOOTING NO.1	BE-240
Clock will not operate.	TROUBLESHOOTING NO.1	BE-240
Clock loses or gains time.	TROUBLESHOOTING NO.2	BE-240

25. ENGINE IMMOBILIZER SYSTEM

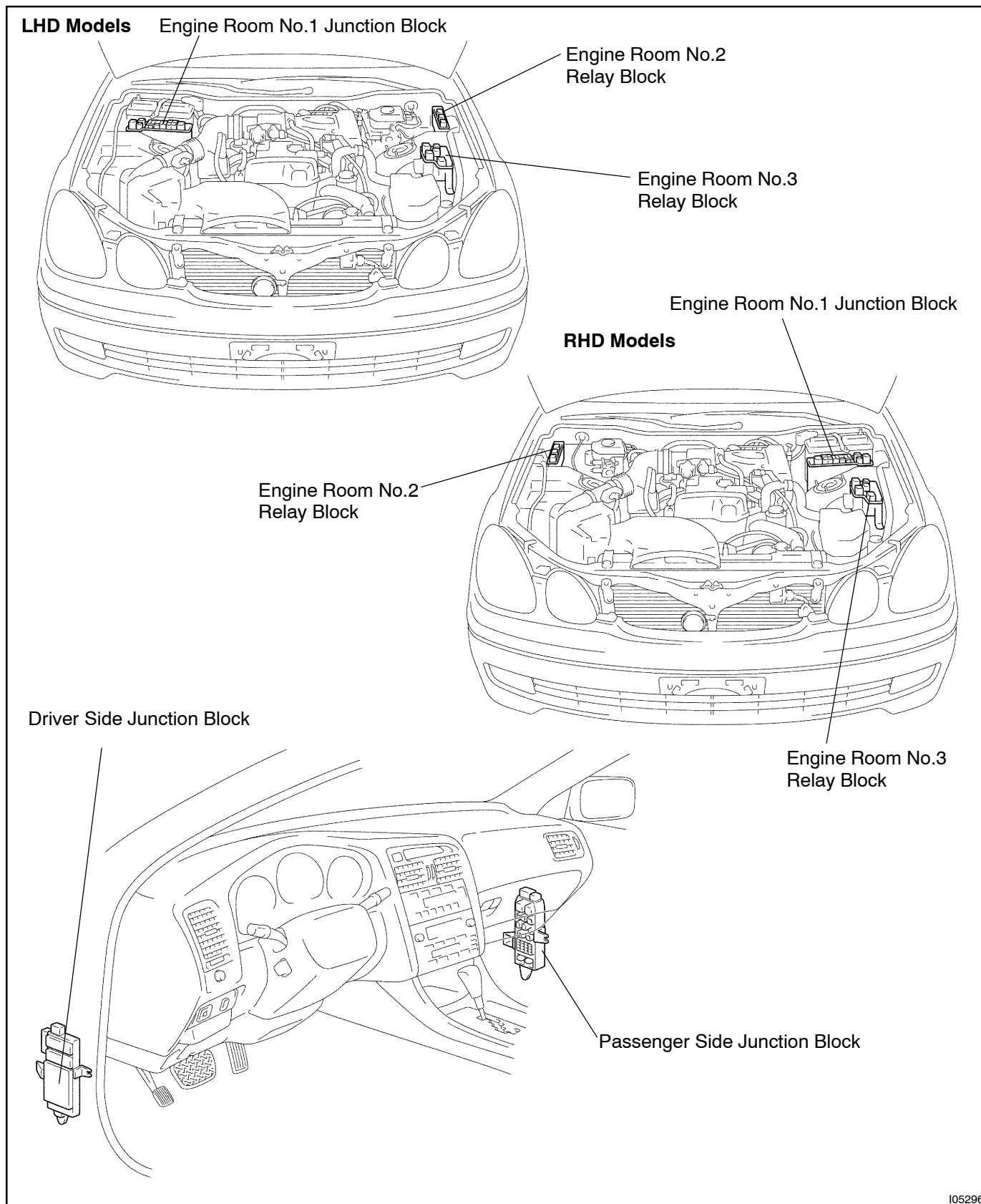
Symptom	Suspect Area	See page
Engine immobilizer system does not operate.	See DIAGNOSIS SYSTEM	DI-558

26. HORN SYSTEM

Symptom	Suspect Area	See page
Horn system does not operate.	1. HORN Fuse 2. Horn Relay 3. Horn Switch 4. Horn 5. Wire Harness	BE-21 BE-255 BE-255 BE-255 -
Horns blow all the time.	1. Horn Relay 2. Horn Switch 3. Wire Harness	BE-255 BE-255 -
One horn operates but the other horn does not operate.	1. Horn 2. Wire Harness	BE-255 -
Horns operate abnormally.	1. Horn Relay 2. Horn 3. Wire Harness	BE-255 BE-255 -

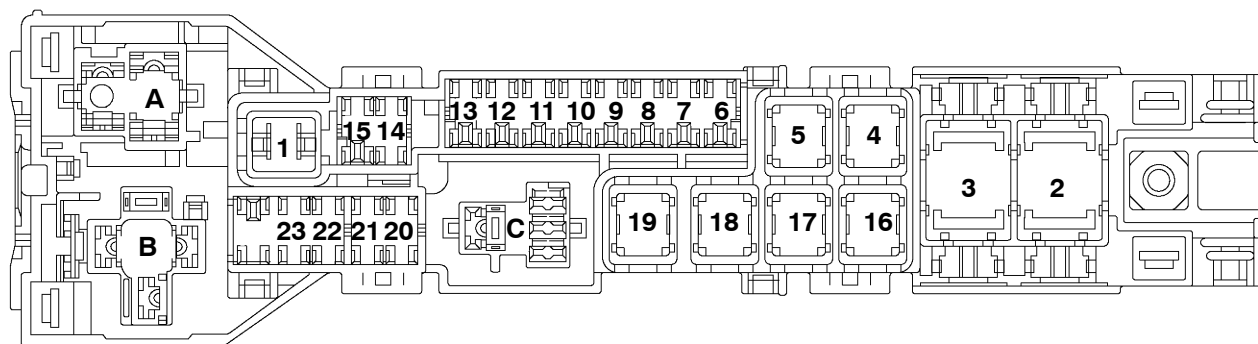
POWER SOURCE LOCATION

BE0H5-02



I05296

● Engine Room No.1 Junction Block



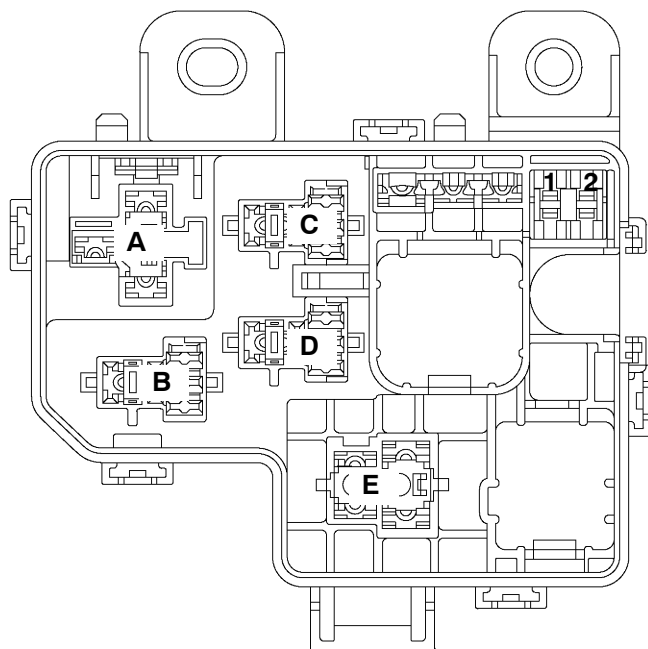
Fuses

1. MAIN H-Fuse
2. FL ABS NO.1 H-Fuse
3. ALT H-Fuse
4. ABS NO.2 H-Fuse
5. H-LP CLN H-Fuse
6. RAD NO.1 Fuse
7. ALT-S Fuse
8. EFI Fuse
9. TURN HAZ Fuse
10. TEL Fuse
11. AM2 Fuse
12. ETCS Fuse
13. HORN Fuse
14. MPX-B Fuse
15. ECU-B1 Fuse
16. HTR Fuse
17. FAN MAIN H-Fuse
18. CDS FAN H-Fuse
19. RAD FAN H-Fuse
20. H-LP R LWR Fuse
21. H-LP L LWR Fuse
22. H-LP R UPR Fuse
23. H-LP L UPR Fuse

Relays

- A. Headlight Control Relay
- B. Starter Relay
- C. EFI Relay

● Engine Room No.3 Relay Block



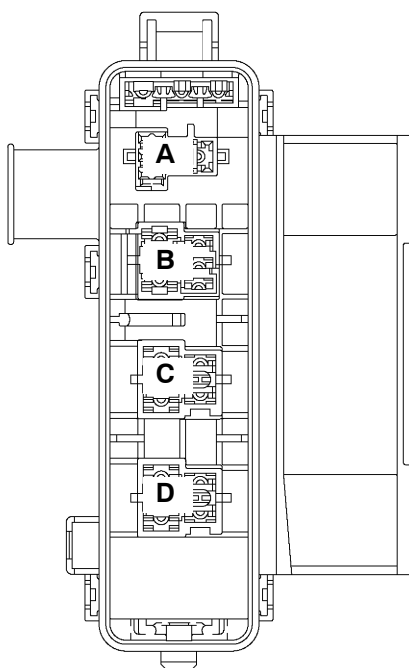
Relays

- A. FAN NO.1 Relay
- B. FAN NO.2 Relay
- C. A/C COMP Relay
- D. FAN NO.3 Relay
- E. Headlight Dimmer
(Daytime Running Light No.2) Relay

Fuses

- 1. H-LP R UPR Fuse
(w/ Daytime Running Light System)
- 2 H-LP L UPR Fuse
(w/ Daytime Running Light System)

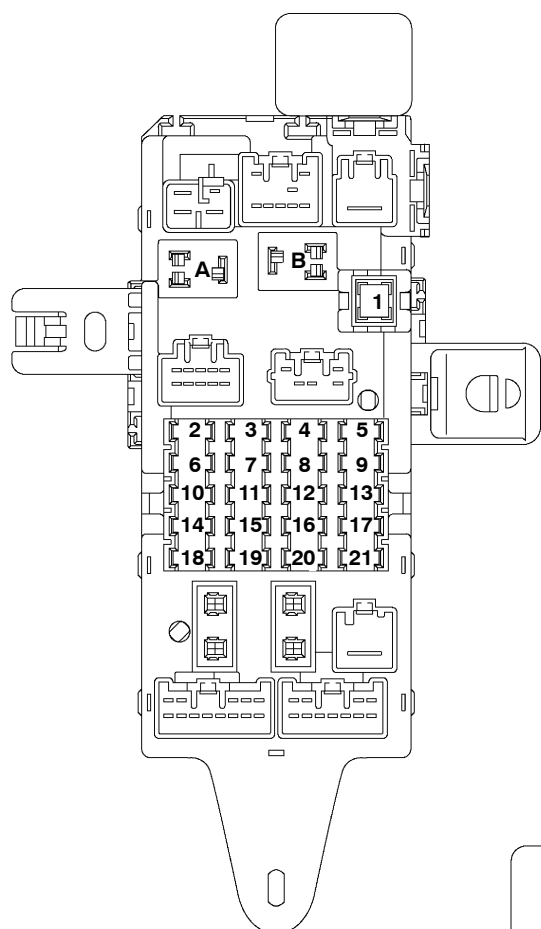
● Engine Room No.2 Relay Block



Relays

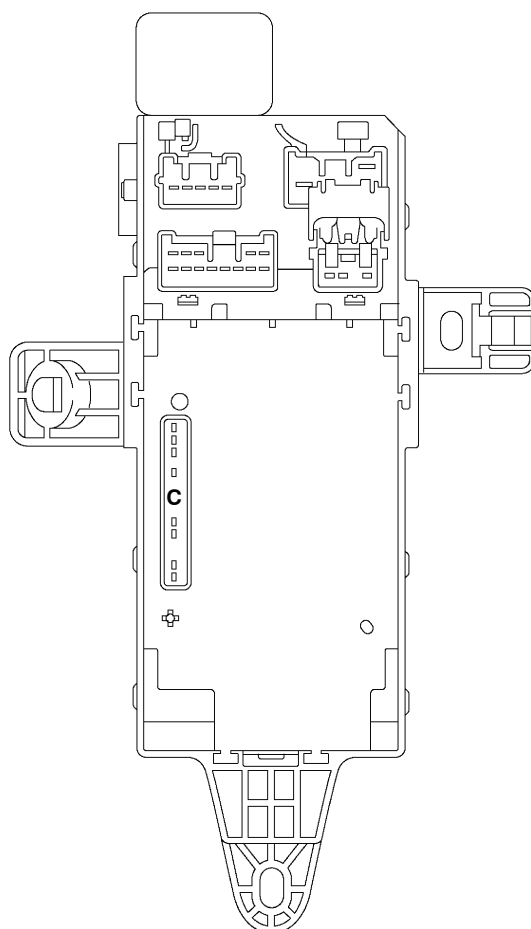
- A. Horn Relay
- B. ABS SOL Relay
- C. TRC MTR Relay
- D. ABS MTR Relay

• Driver Side Instrument Panel Junction Block



Fuses

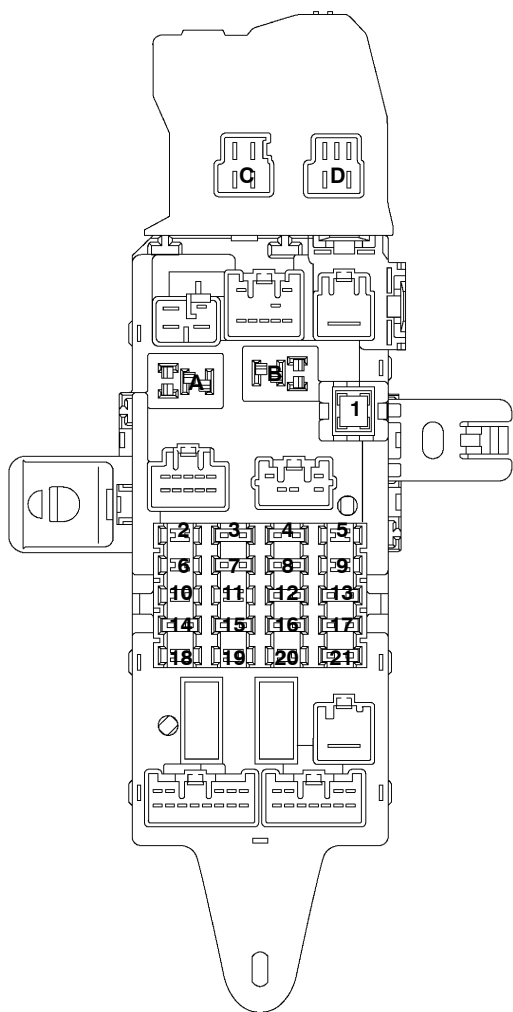
1. AM1 H-Fuse
2. WASHER Fuse
3. FOG Fuse
4. TAIL Fuse
5. SRS-ACC Fuse
6. GAUGE Fuse
7. FUEL OPN Fuse
8. D FR DOOR Fuse
9. PANEL Fuse
10. HTR Fuse
11. SRS-B Fuse
12. P/SEAT (D) Fuse
13. RAD NO.2 Fuse
14. WIP Fuse
15. OBD Fuse
16. STOP Fuse
17. CIG Fuse
18. ECU-IG Fuse
19. STARTER Fuse
20. IGN Fuse
21. D FR DOOR Fuse



Relays

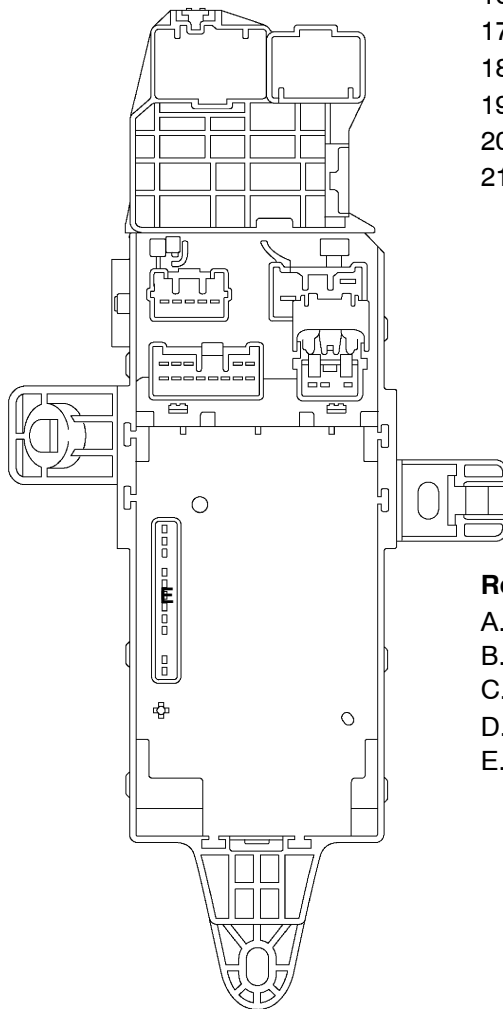
- A. Fog Light Relay
- B. Taillight Control Relay
- C. Body ECU No.2

● Passenger Side Instrument Panel Junction Block



Fuses

1. DEF H-Fuse
2. -
3. -
4. MIR HTR Fuse
5. -
6. -
7. S/ROOF Fuse
8. P FR DOOR Fuse
9. -
10. -
11. -
12. P/SEAT (P) Fuse
13. DOME Fuse
14. SEAT HTR Fuse
15. -
16. TV Fuse
17. ECU-B2 Fuse
18. -
19. -
20. -
21. P FR DOOR Fuse

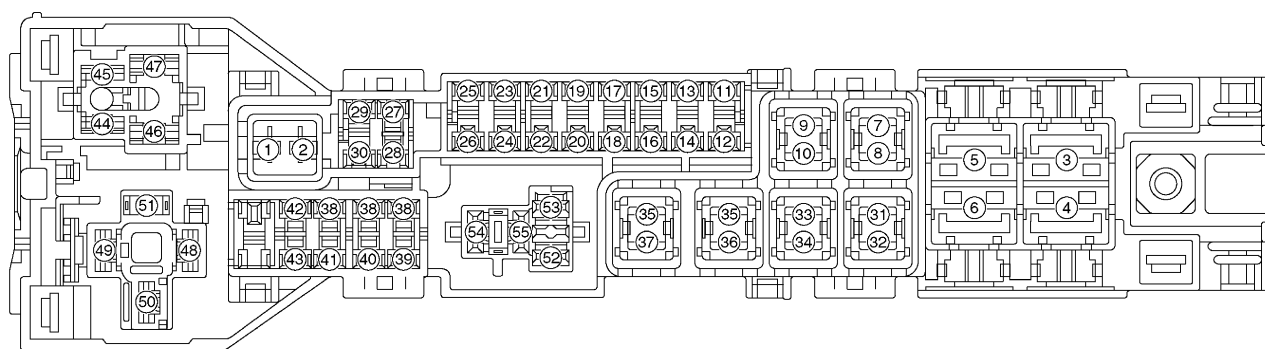


Relays

- A. Ignition Main Relay
- B. Mirror Heater Relay
- C. Defogger Relay
- D. Heater Relay
- E. Body ECU No.1

INSPECTION

1. INSPECT ENGINE ROOM NO.1 JUNCTION BLOCK CIRCUIT



I05031

- (a) Remove the fuse from the junction block and inspect the connector on junction block side.

Fuse	Tester connection	Condition	Specified condition
MAIN	2 – Ground	Constant	Battery voltage
ABS NO.1	4 – Ground	Constant	Battery voltage
ALT	6 – Ground	Constant	Battery voltage
ABS	8 – Ground	Constant	Battery voltage
H-LP CLN	10 – Ground	Constant	Battery voltage
RAD NO.1	12 – Ground	Constant	Battery voltage
ALT-S	14 – Ground	Constant	Battery voltage
EFI	16 – Ground	Constant	Battery voltage
TURN HAZ	18 – Ground	Constant	Battery voltage
TEL	20 – Ground	Constant	Battery voltage
AM2	22 – Ground	Constant	Battery voltage
ETCS	24 – Ground	Constant	Battery voltage
HORN	26 – Ground	Constant	Battery voltage
MPX-B	27 – Ground	Constant	Battery voltage

ECU-B1	30 - Ground	Constant	Battery voltage
HTR	31 - Ground	Constant	Battery voltage
FAN MAIN	33 - Ground	Constant	Battery voltage
CDS FAN	35 - Ground	Ignition switch ON	Battery voltage
RAD FAN	35 - Ground	Ignition switch ON	Battery voltage
H-LP R LWR	38 - Ground	Light control switch HEAD	Battery voltage
H-LP L LWR	38 - Ground	Light control switch HEAD	Battery voltage
H-LP R UPR	38 - Ground	Light control switch HEAD	Battery voltage
H-LP L UPR	42 - Ground	Light control switch HEAD	Battery voltage

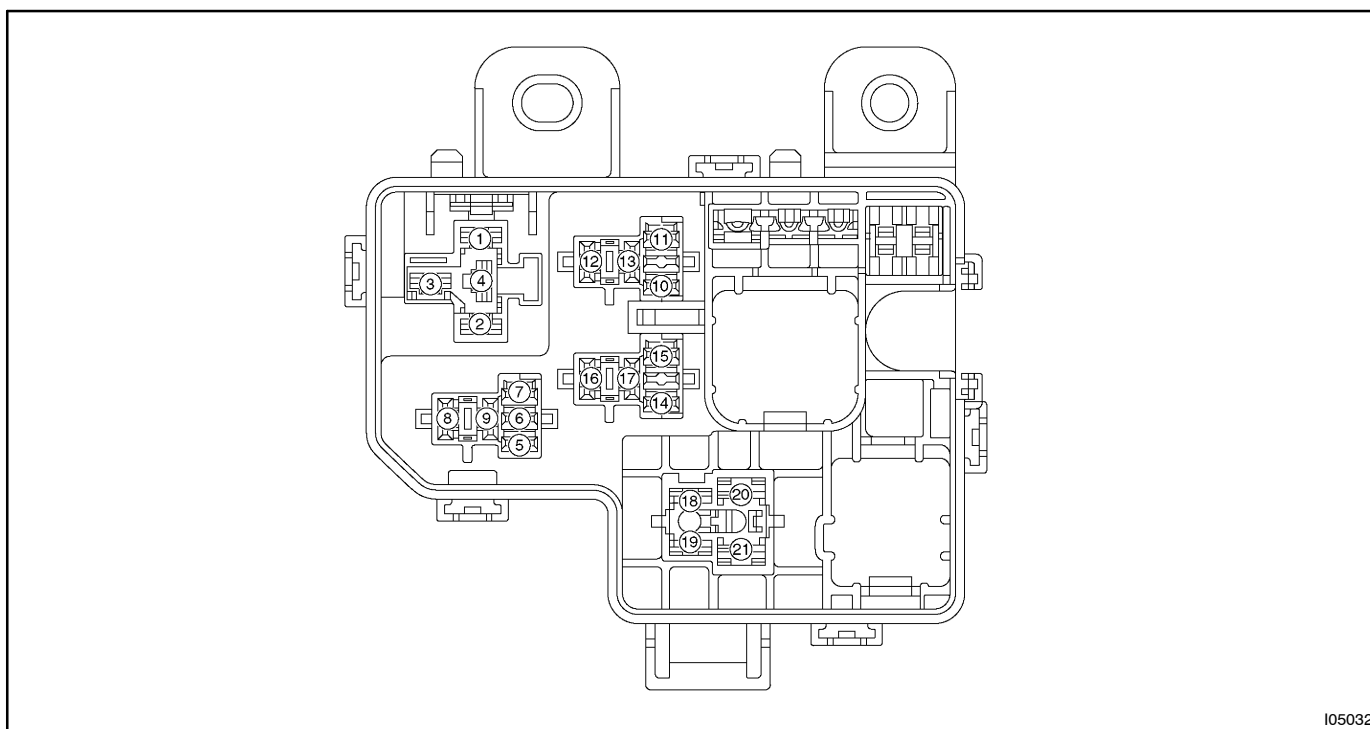
If the circuit is not as specified, inspect the circuits connected to other parts.

- (b) Remove the relay from the junction block and inspect the connector on junction block side.

Relay	Tester connection	Condition	Specified condition
H-LP	44 - Ground	Constant	Battery voltage
H-LP	46 - Ground	Constant	Battery voltage
ST	48 - Ground	Constant	Continuity
ST	51 - Ground	Constant	Battery voltage
EFI MAIN	53 - Ground	Constant	Continuity
EFI MAIN	55 - Ground	Constant	Battery voltage

If the circuit is not as specified, inspect the circuits connected to other parts.

2. INSPECT ENGINE ROOM No.3 RELAY BLOCK CIRCUIT



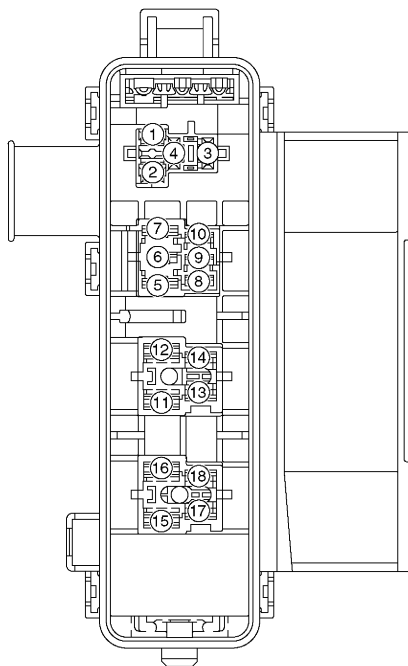
105032

Remove the relay from the relay block and inspect the connector on relay block side.

Fuse	Tester connection	Condition	Specified condition
FAN NO.1	3 – Ground	Ignition switch ON	Battery voltage
FAN NO.2	8 – Ground	Ignition switch ON	Battery voltage
A/C COMP	13 – Ground	Ignition switch ON	Battery voltage
FAN NO.3	17 – Ground	Ignition switch ON	Battery voltage
DIMMER	20 – Ground	Constant	Battery voltage

If the circuit is not as specified, inspect the circuits connected to other parts.

3. INSPECT ENGINE ROOM No.2 RELAY BLOCK CIRCUIT

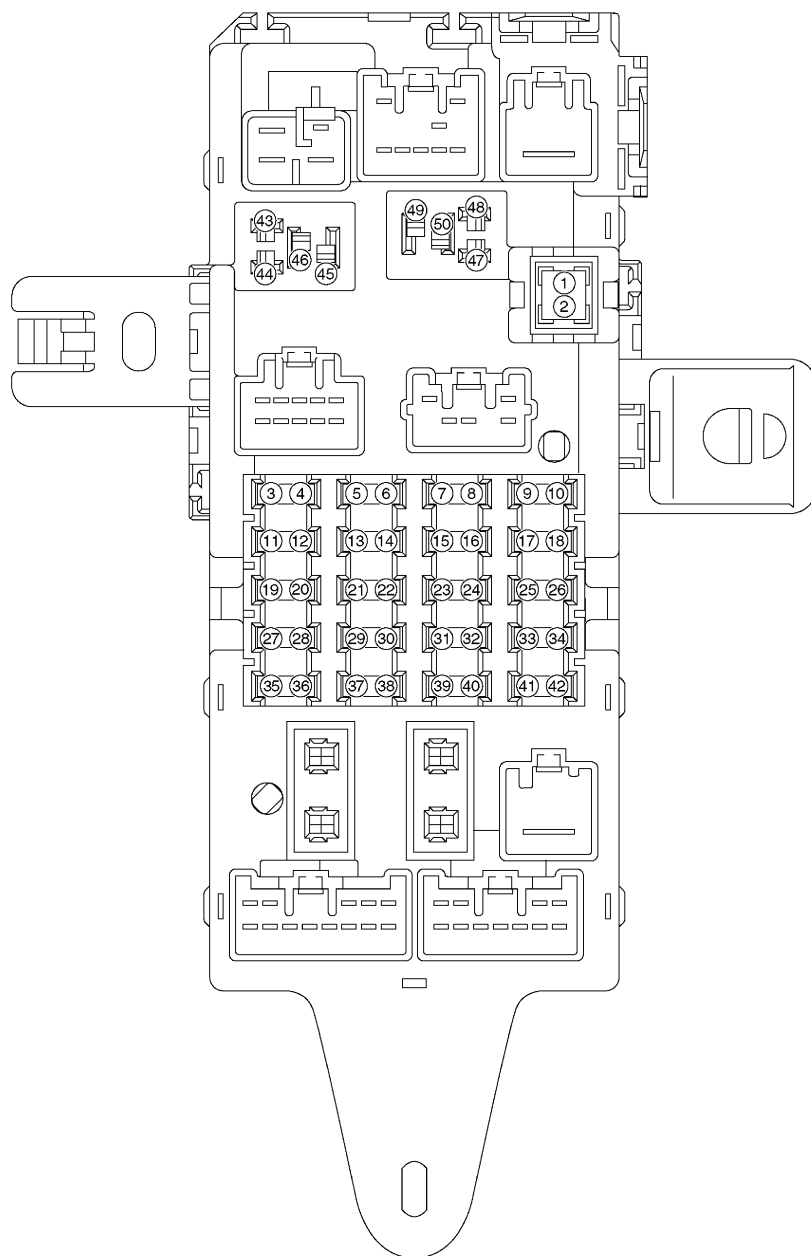


I05033

Remove the relay from the relay block and inspect the connector on relay block side.

Relay	Tester connection	Condition	Specified condition
HORN	1 – Ground	Constant	Battery voltage
HORN	2 – Ground	Horn switch ON	Continuity
HORN	4 – Ground	Constant	Battery voltage
ABS SOL	5 – Ground	Constant	Battery voltage
ABS SOL	6 – Ground	Constant	Continuity
TRC MTR	11 – Ground	Constant	Battery voltage
ABS MTR	15 – Ground	Constant	Battery voltage

If the circuit is not as specified, inspect the circuits connected to other parts.

4. INSPECT DRIVER SIDE JUNCTION BLOCK CIRCUIT

- (a) Remove the fuse from the junction block and inspect the connector on junction block side.

Fuse	Tester connection	Condition	Specified condition
AM1	1 – Ground	Constant	Battery voltage
WASHER	3 – Ground	Ignition switch ON	Battery voltage
FOG	5 – Ground	Constant	Battery voltage
TAIL	7 – Ground	Light control switch TAIL or HEAD	Battery voltage
SRS-ACC	9 – Ground	Ignition switch ACC or ON	Battery voltage
GAUGE	11 – Ground	Ignition switch ON	Battery voltage
FUEL OPN	13 – Ground	Constant	Battery voltage
D FR DOOR	15 – Ground	Constant	Battery voltage
PANEL	17 – Ground	Light control switch TAIL or HEAD	Battery voltage
HTR	19 – Ground	Ignition switch ON	Battery voltage
SRS-B	21 – Ground	Constant	Battery voltage
P/SEAT (D)	23 – Ground	Constant	Battery voltage
RAD NO.2	25 – Ground	Ignition switch ACC or ON	Battery voltage
WIP	27 – Ground	Ignition switch ON	Battery voltage
OBD	29 – Ground	Constant	Battery voltage
STOP	31 – Ground	Constant	Battery voltage
CIG	33 – Ground	Ignition switch ACC or ON	Battery voltage
ECU-IG	35 – Ground	Ignition switch ON	Battery voltage
ST	37 – Ground	Ignition switch ON	Battery voltage
IGN	39 – Ground	Ignition switch ON	Battery voltage
D RR DOOR	41 – Ground	Constant	Battery voltage

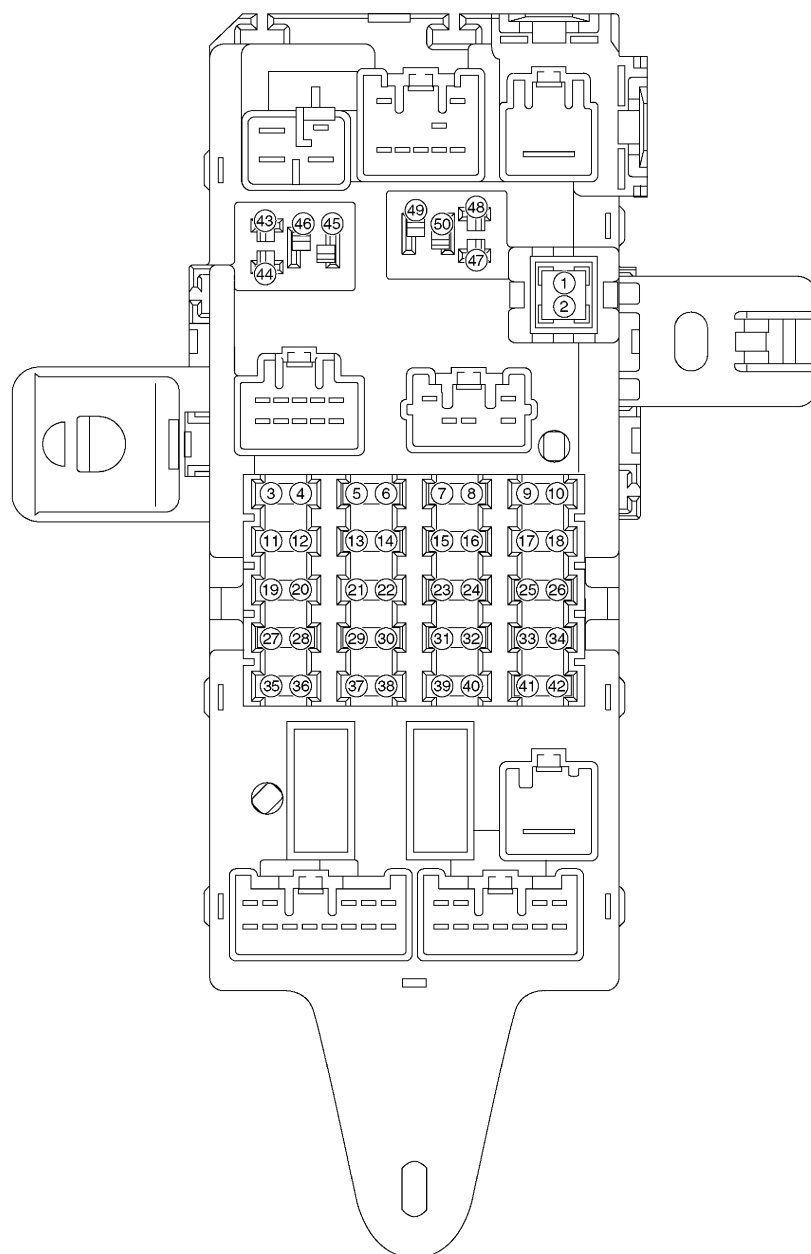
If the circuit is not as specified, inspect the circuits connected to other parts.

- (b) Remove the relay from the junction block and inspect the connector on junction block side.

Relay	Tester connection	Condition	Specified condition
Fog light	43 – Ground	Constant	Battery voltage
Fog light	44 – Ground	Constant	Continuity
Fog light	46 – Ground	Light control switch HEAD	Battery voltage
Taillight	47 – Ground	Constant	Battery voltage
Taillight	48 – Ground	Constant	Continuity
Taillight	50 – Ground	Constant	Continuity

If the circuit is not as specified, inspect the circuits connected to other parts.

5. INSPECT PASSENGER SIDE JUNCTION BLOCK CIRCUIT



- (a) Remove the fuse from the junction block and inspect the connector on junction block side.

Fuse	Tester connection	Condition	Specified condition
DEF	1 – Ground	Constant	Battery voltage
MIR HTR	7 – Ground	Ignition switch ON	Battery voltage
S/ROOF	13 – Ground	Constant	Battery voltage
P FR DOOR	15 – Ground	Constant	Battery voltage
P/SEAT (P)	23 – Ground	Constant	Battery voltage
DOME	25 – Ground	Constant	Battery voltage
S-HTR	27 – Ground	Ignition switch ON	Battery voltage
TV	31 – Ground	Constant	Battery voltage
ECU-B2	33 – Ground	Constant	Battery voltage
P FR DOOR	41 – Ground	Constant	Battery voltage

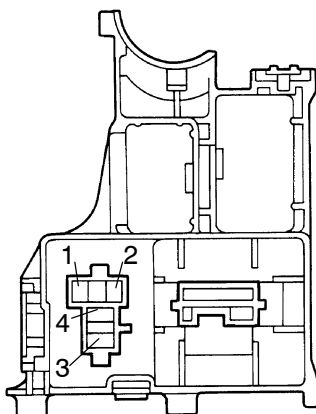
If the circuit is not as specified, inspect the circuits connected to other parts.

- (b) Remove the relay from the junction block and inspect the connector on junction block side.

Relay	Tester connection	Condition	Specified condition
Ignition Main	43 – Ground	Ignition switch ON	Battery voltage
Mirror Heater	47 – Ground	Ignition switch ON	Battery voltage
Mirror Heater	50 – Ground	Constant	Battery voltage

If the circuit is not as specified, inspect the circuits connected to other parts.

6. INSPECT DRIVER COWL SIDE RELAY BLOCK CIRCUIT



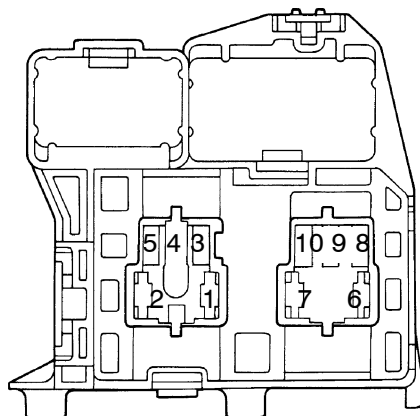
105605

Remove the relay from the relay block and inspect the connector on relay block side.

Relay	Tester connection	Condition	Specified condition
Rear Fog	4 – Ground	Constant	Battery voltage

If the circuit is not as specified, inspect the circuits connected to other parts.

7. INSPECT PASSENGER COWL SIDE RELAY BLOCK CIRCUIT



105606

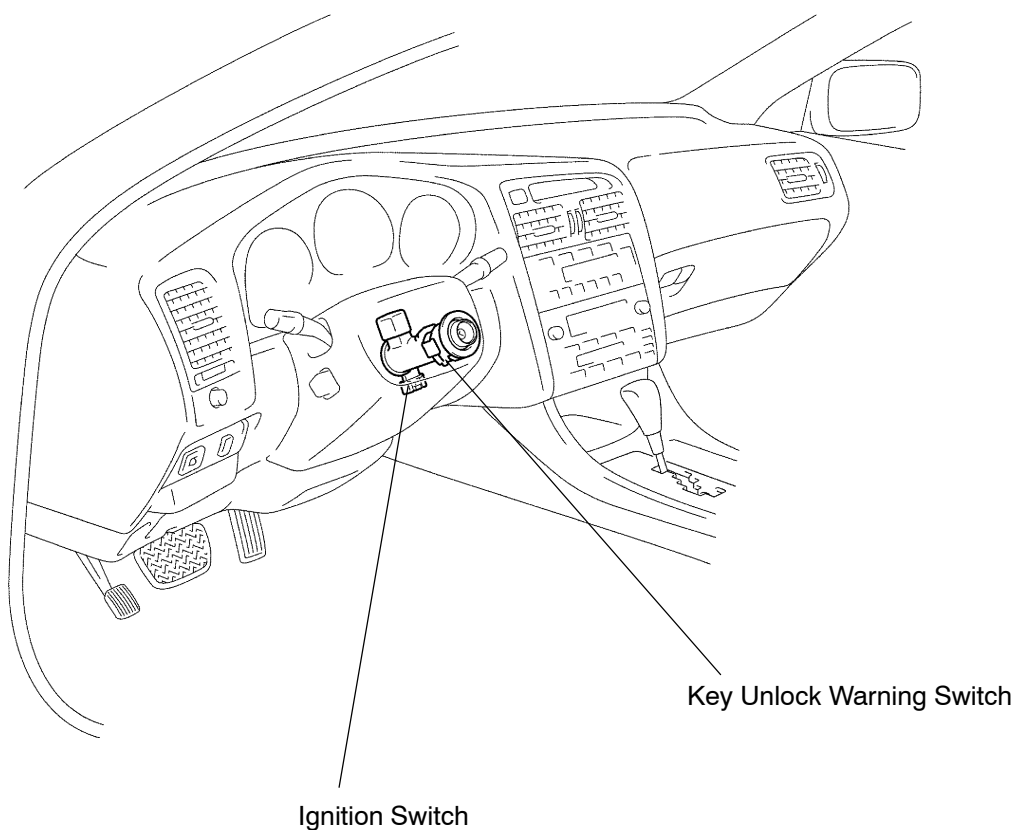
Remove the relay from the relay block and inspect the connector on relay block side.

Relay	Tester connection	Condition	Specified condition
DEF	1 - Ground	Constant	Battery voltage
HEATER	6 - Ground	Constant	Battery voltage

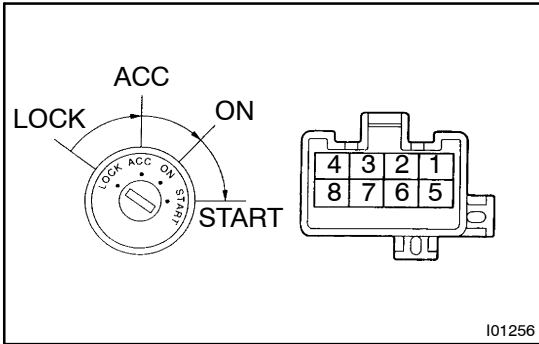
If the circuit is not as specified, inspect the circuits connected to other parts.

IGNITION SWITCH AND KEY UNLOCK WARNING SWITCH LOCATION

BE01L-03



I05297

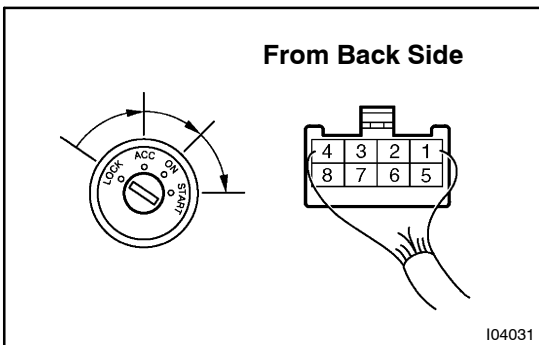


INSPECTION

1. INSPECT IGNITION SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
LOCK	–	No continuity
ACC	2 – 3	Continuity
ON	2 – 3 – 4 6 – 7	Continuity
START	1 – 2 – 4 6 – 7 – 8	Continuity

If continuity is not as specified, replace the switch.

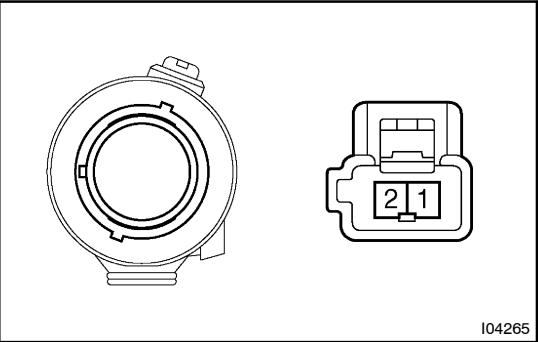


2. INSPECT IGNITION SWITCH CIRCUIT

Connect the switch connector and inspect the connector on wire harness side from the back side, as shown.

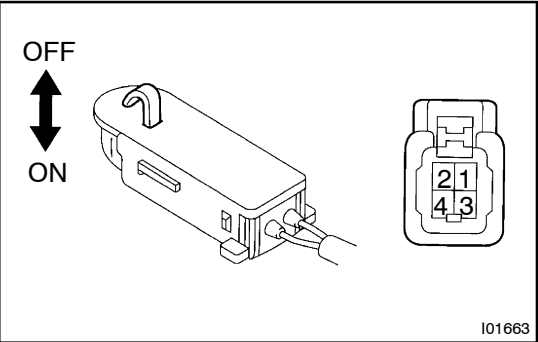
Tester connection	Condition	Specified condition
2 – Ground	Constant	Battery voltage
3 – Ground	Ignition switch ACC or ON	Battery voltage
4 – Ground	Ignition switch ON	Battery voltage
6 – Ground	Ignition switch ON or START	Battery voltage
7 – Ground	Constant	Battery voltage
8 – Ground	Ignition switch START	Battery voltage

If circuit is not as specified, inspect the circuits connected to other parts.



3. INSPECT IGNITION KEY ILLUMINATION OPERATION
Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, and check that the indicator light lights up.
If operation is not as specified, replace the switch.

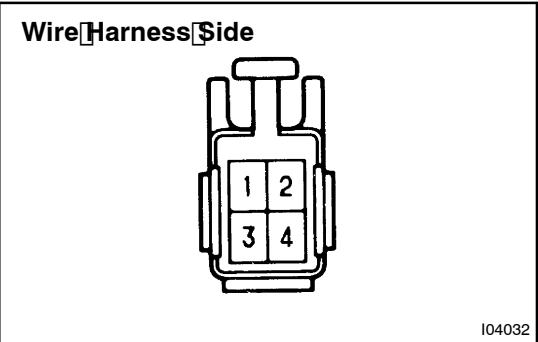
4. INSPECT IGNITION KEY ILLUMINATION CIRCUIT
(See page DI-679)



5. INSPECT KEY UNLOCK WARNING SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
OFF (Key removed)	-	No continuity
ON (Key set)	1 - 2	Continuity

If continuity is not as specified, replace the switch.



6. INSPECT KEY UNLOCK WARNING SWITCH CIRCUIT
(See page DI-664)

Connect the switch connector and inspect the connector on wire harness side from the back side, as shown.

Tester connection	Condition	Specified condition
1 - Ground	Constant	Continuity

If circuit is not as specified, inspect the circuits connected to other parts.

HEADLIGHT AND TAILLIGHT SYSTEM LOCATION

BE0MR-01

D.R.L.: Daytime Running Light

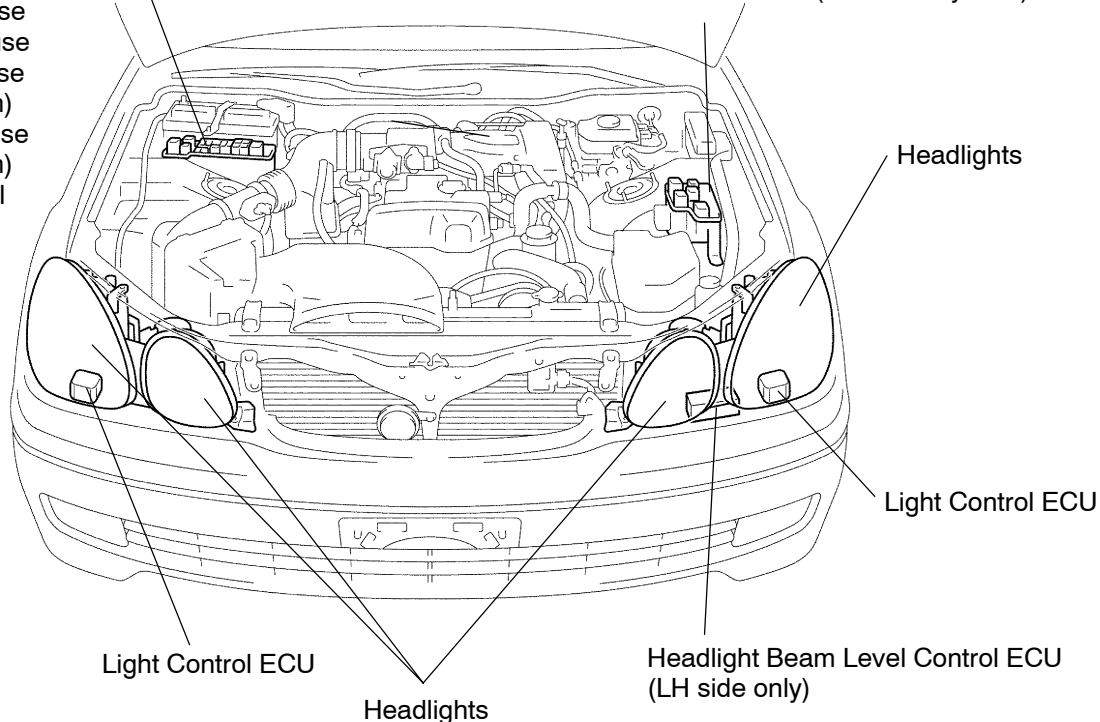
LHD Models

Engine Room No.1 Junction Block

- H-LP L LWR Fuse
- H-LP R LWR Fuse
- H-LP L UPR Fuse (w/o D.R.L System)
- H-LP R UPR Fuse (w/o D.R.L System)
- Headlight Control Relay

Engine Room No.2 Junction Block

- Headlight Dimmer (D.R.L. No.2) Relay
- H-LP R UPR Fuse (w/ D.R.L System)
- H-LP L UPR Fuse (w/ D.R.L System)



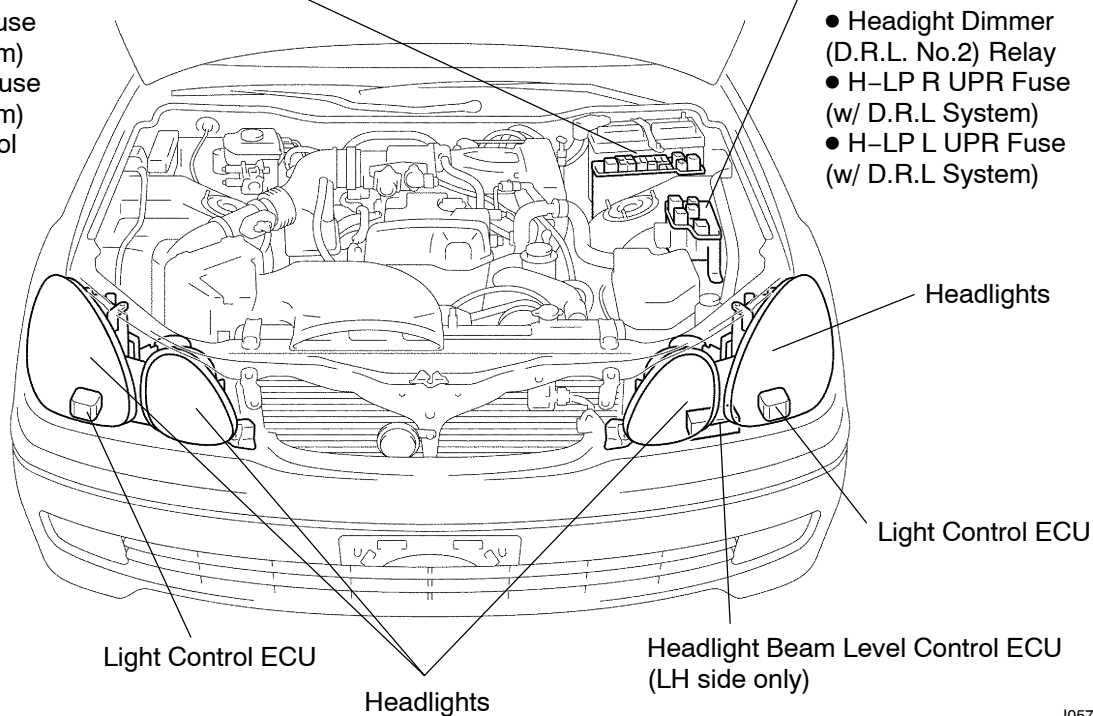
Engine Room No.1 Junction Block

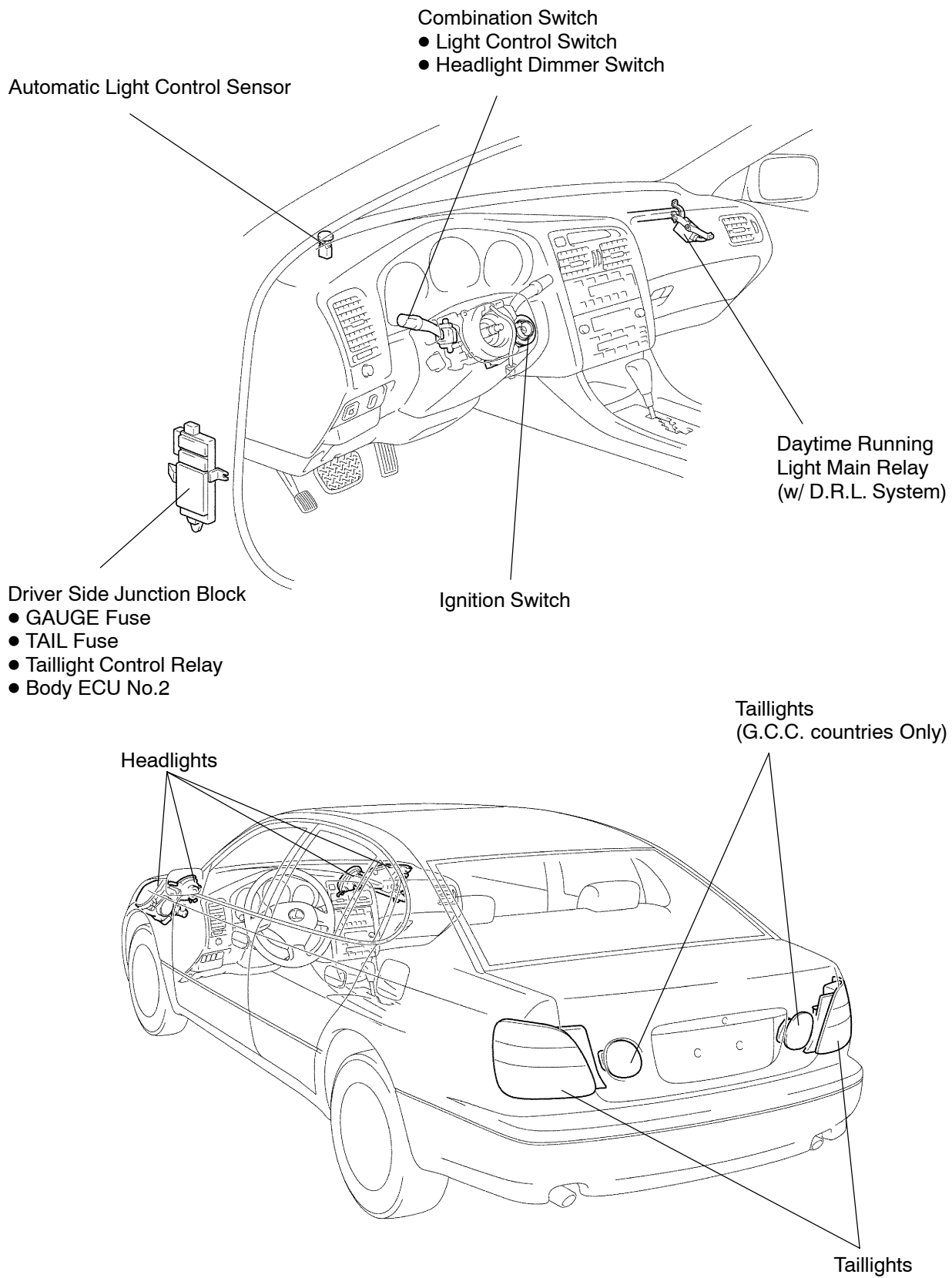
- H-LP L LWR Fuse
- H-LP R LWR Fuse
- H-LP L UPR Fuse (w/o D.R.L System)
- H-LP R UPR Fuse (w/o D.R.L System)
- Headlight Control Relay

RHD Models

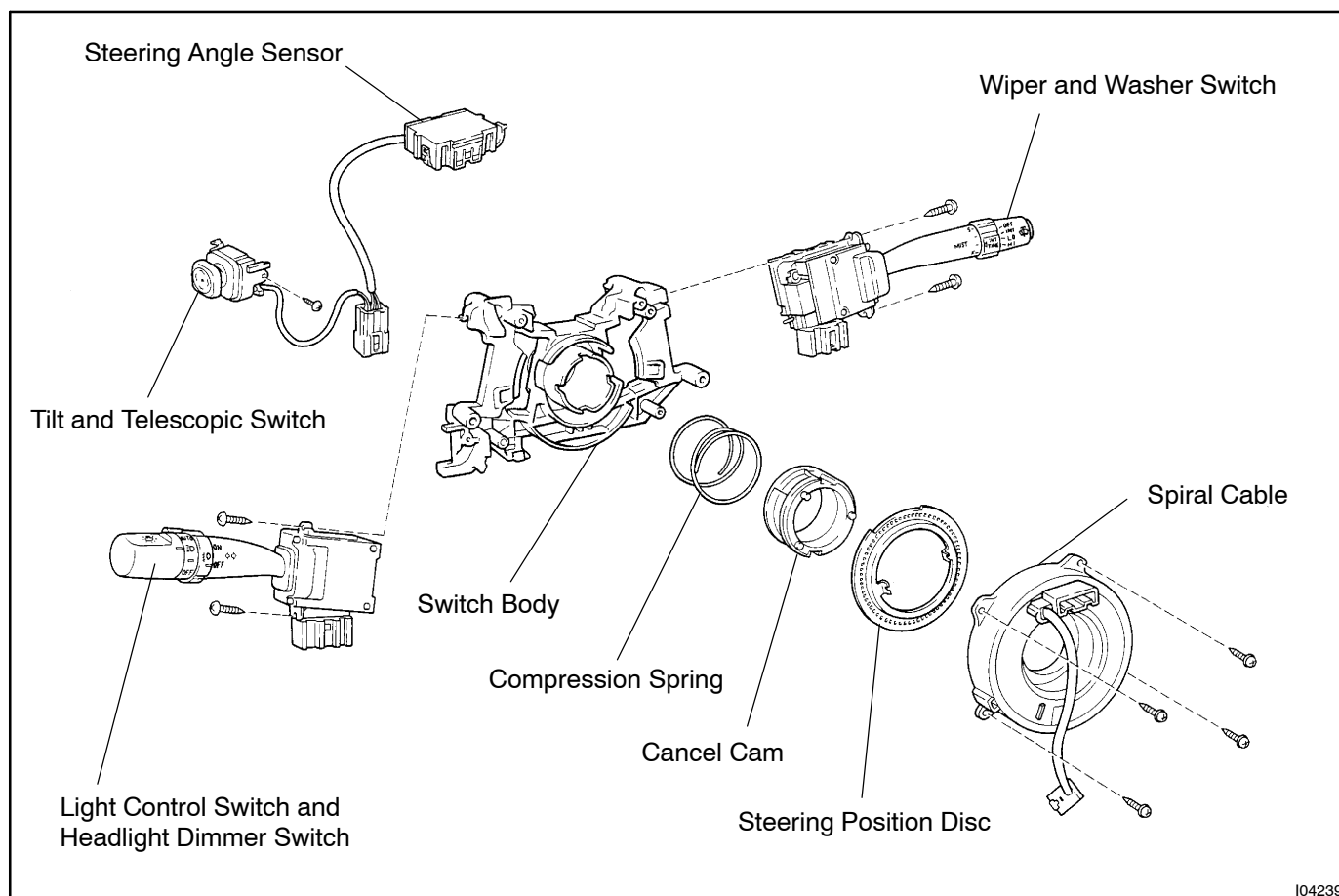
Engine Room No.2 Junction Block

- Headlight Dimmer (D.R.L. No.2) Relay
- H-LP R UPR Fuse (w/ D.R.L System)
- H-LP L UPR Fuse (w/ D.R.L System)

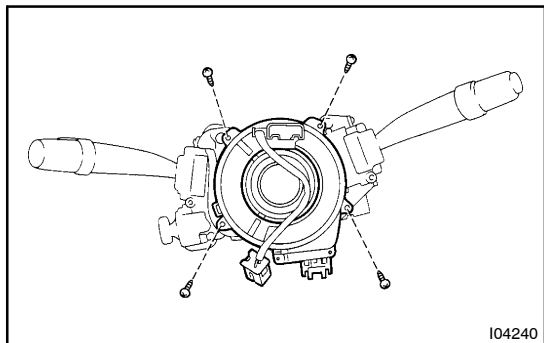




COMPONENTS



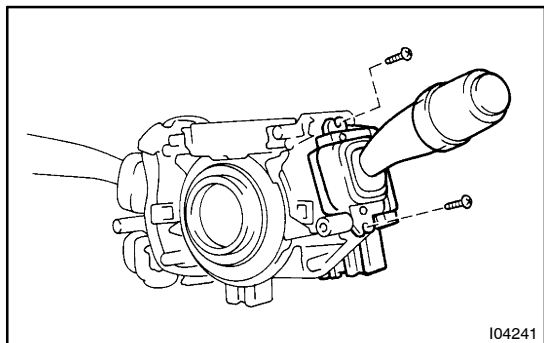
104239



REMOVAL

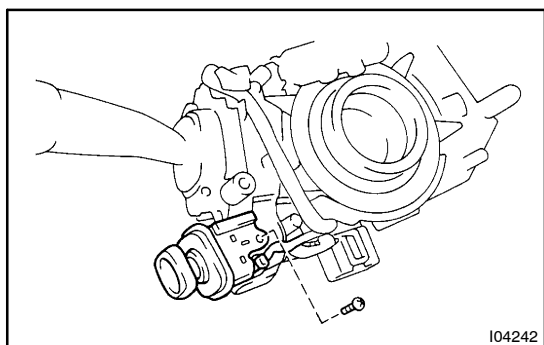
1. REMOVE SPIRAL CABLE

Remove the 4 screws and the spiral cable.



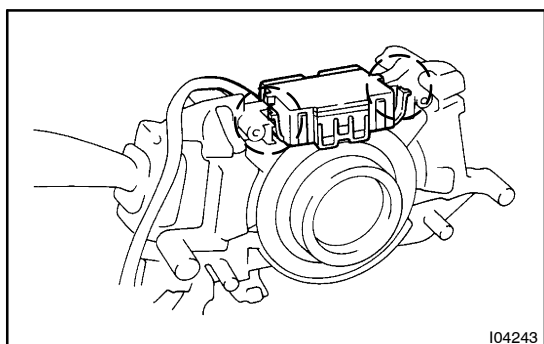
2. REMOVE WIPER AND WASHER SWITCH

Remove the 2 screws and the wiper and washer switch.



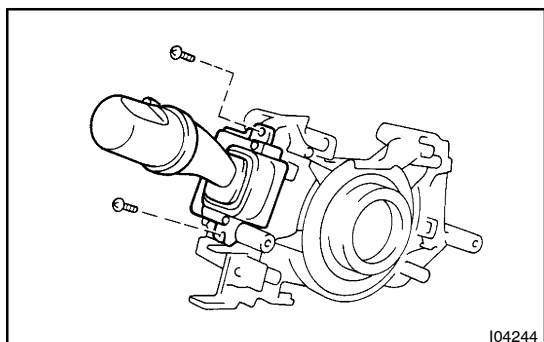
3. REMOVE TILT AND TELESCOPIC SWITCH

Remove a screw and the tilt and telescopic switch.



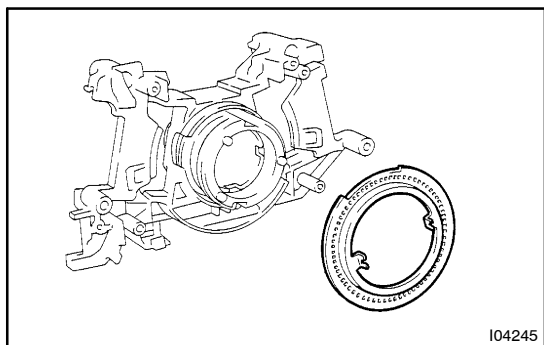
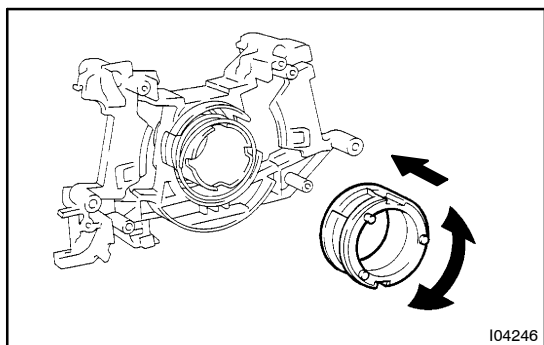
4. REMOVE STEERING ANGLE SENSOR

Disengage the 2 claws and the steering angle sensor.

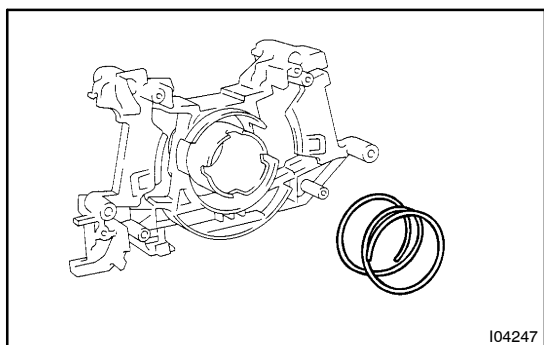


5. REMOVE LIGHT CONTROL SWITCH

Remove the 2 screws and the light control switch.

**6. REMOVE STEERING POSITION DISC****7. REMOVE CANCEL CAM**

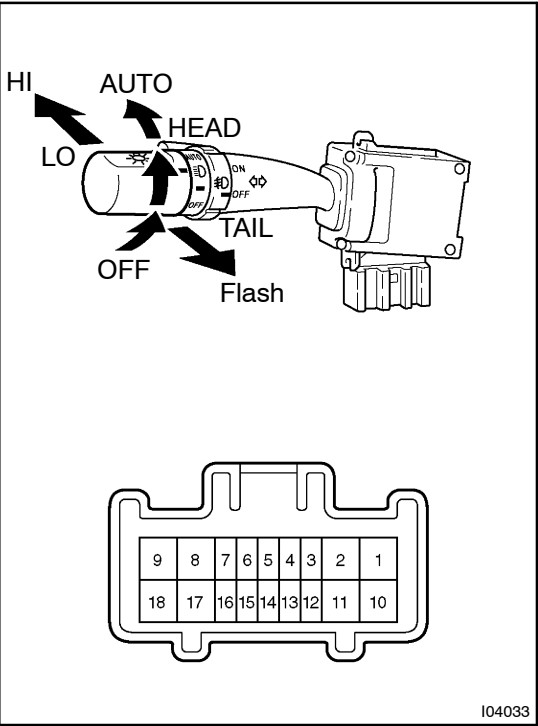
Turn the cancel cam with pressing it and pull it out.

**8. REMOVE COMPRESSION SPRING**

INSPECTION

1. FAIL-SAFE FUNCTION
(Light Control ECU)

When input error is inspected.	When input voltage is not within the range of operation voltage (9 to 16 V), lighting of the headlight stops. As soon as the voltage comes within the range, it lights up again. However if the input voltage becomes low after lighting up, sufficient voltage is maintained until light of bulb completely goes off.
When output error is inspected (Open or short). When light flushing is inspected.	When an error occurs in the output voltage (open or short) or flushing symptom occurs on the bulb, lighting of the headlight stops, the condition is maintained until power is turned ON again (headlight dimmer switch OFF → ON). In this case, it can not be judged whether lighting malfunction is caused by an output error or other reasons (fuse blown out, etc.). Check that there is no error in fuse and wiring (including power source) and replace the bulb in the first place, when the error still appears, replace the light control ECU.



2. Ex. Australia Models:
INSPECT LIGHT CONTROL SWITCH CONTINUITY

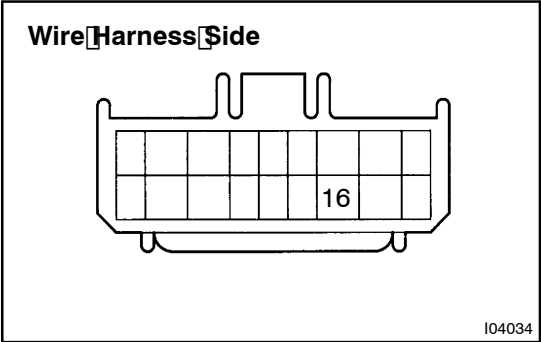
Switch position	Tester connection	Specified condition
OFF	-	No continuity
TAIL	15 - 16	Continuity
HEAD	14 - 15 - 16	Continuity
AUTO	13 - 16	Continuity

If continuity is not as specified, replace the switch.

3. Ex. Australia Models:
INSPECT HEADLIGHT DIMMER SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
Low beam	17 - 18	Continuity
High beam	8 - 17	Continuity
Flash	8 - 9 - 17	Continuity

If continuity is not as specified, replace the switch.

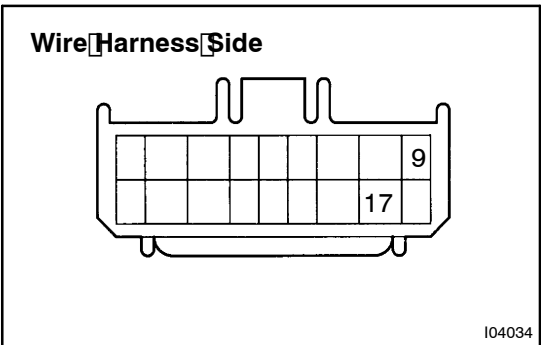


4. Ex. Australia Models:
INSPECT LIGHT CONTROL SWITCH CIRCUIT
Connector disconnected:
(See page DI-668)

Disconnect the connector from the switch and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
16 - Ground	Constant	Continuity

If circuit is not as specified, inspect the wire harness.

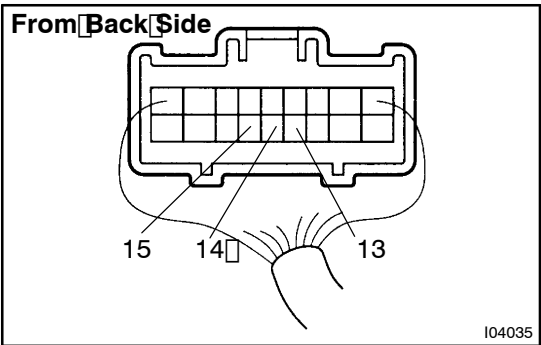


5. Ex. Australia Models:
INSPECT HEADLIGHT DIMMER SWITCH CIRCUIT
Connector disconnected:
(See page DI-668)

Disconnect the connector from the switch and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
17 - Ground	Constant	Continuity
9 - Ground	Light control switch HEAD	Battery positive voltage

If circuit is not as specified, inspect the wire harness.

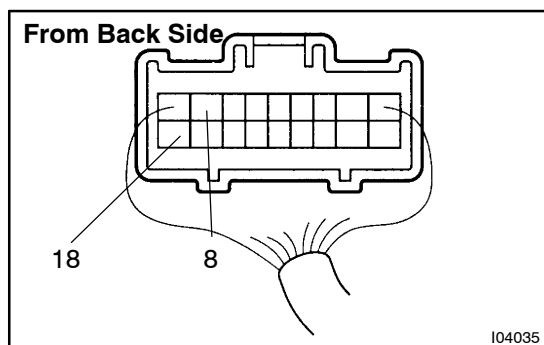


6. Ex. Australia Models:
INSPECT LIGHT CONTROL SWITCH CIRCUIT
Connector connected:

Connect the wire harness side connector to the light control and dimmer switch and inspect the connector from the back side, as shown.

Tester connection	Condition	Specified condition
13 – Ground	Light control switch OFF, TAIL or HEAD	No voltage
13 – Ground	Light control switch AUTO	Battery positive voltage
14 – Ground	Light control switch OFF or TAIL	No voltage
14 – Ground	Light control switch HEAD	Battery positive voltage
15 – Ground	Light control switch OFF	No voltage
15 – Ground	Light control switch TAIL or HEAD	Battery positive voltage

If circuit is not as specified, inspect the wire harness.



7. Ex. Australia Models:

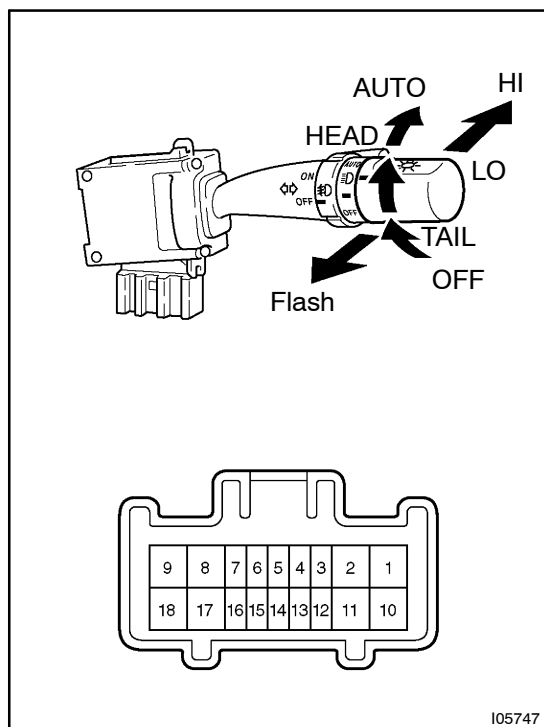
INSPECT HEADLIGHT DIMMER SWITCH CIRCUIT

Connector connected:

Connect the wire harness side connector to the light control and dimmer switch and inspect the connector from the back side, as shown.

Tester connection	Condition	Specified condition
8 – Ground	Headlight dimmer switch FLASH Light control switch HEAD and dimmer switch HIGH	No voltage
8 – Ground	Light control switch HEAD and dimmer switch LOW	Battery voltage
18 – Ground	Light control switch HEAD and dimmer switch LOW and fog light switch ON	No voltage
18 – Ground	Light control switch HEAD and dimmer switch HIGH or FLASH and fog light switch ON	Battery voltage

If circuit is not as specified, inspect the wire harness.

**8. Australia Models:****INSPECT LIGHT CONTROL SWITCH CONTINUITY**

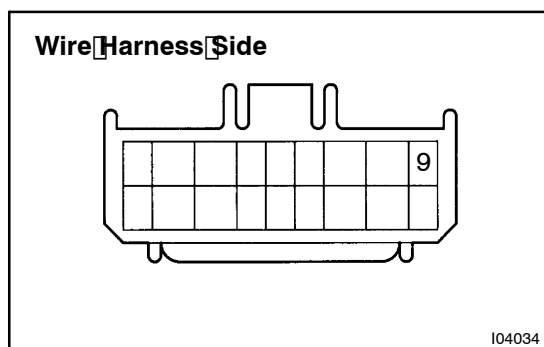
Switch position	Tester connection	Specified condition
OFF	–	No continuity
TAIL	9 – 15	Continuity
HEAD	9 – 14 – 15	Continuity
AUTO	9 – 13	Continuity

If continuity is not as specified, replace the switch.

9. Australia Models:**INSPECT HEADLIGHT DIMMER SWITCH CONTINUITY**

Switch position	Tester connection	Specified condition
Low beam	9 – 10	Continuity
High beam	2 – 9	Continuity
Flash	1 – 2 – 9	Continuity

If continuity is not as specified, replace the switch.

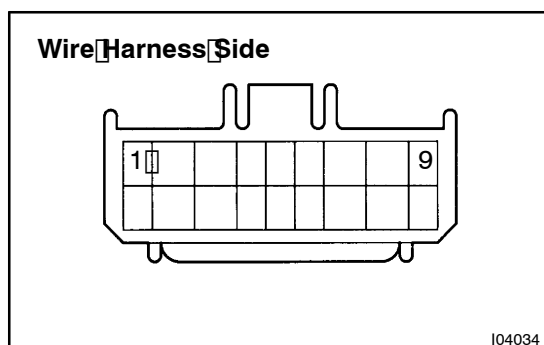
**10. Australia Models:****INSPECT LIGHT CONTROL SWITCH CIRCUIT****Connector disconnected:**

(See page DI-668)

Disconnect the connector from the switch and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
9 – Ground	Constant	Continuity

If circuit is not as specified, inspect the wire harness.

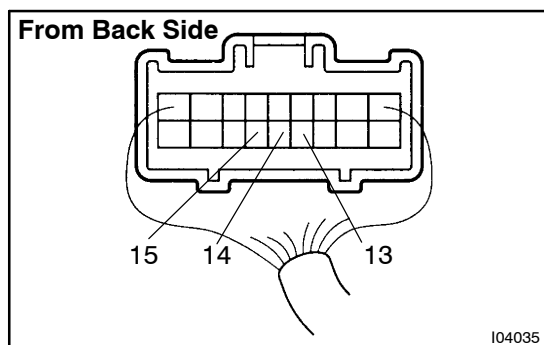
**11. Australia Models:****INSPECT HEADLIGHT DIMMER SWITCH CIRCUIT****Connector disconnected:**

(See page DI-668)

Disconnect the connector from the switch and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
9 – Ground	Constant	Continuity
1 – Ground	Light control switch HEAD	Battery voltage

If circuit is not as specified, inspect the wire harness.



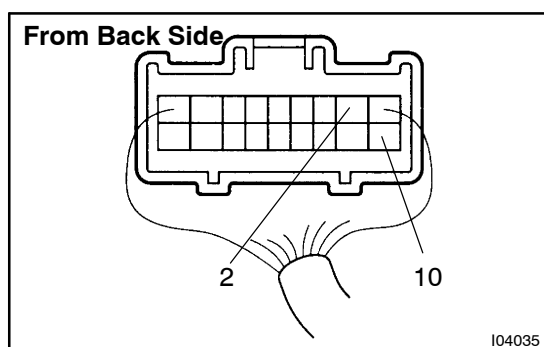
12. Australia Models: INSPECT LIGHT CONTROL SWITCH CIRCUIT

Connector connected:

Connect the wire harness side connector to the light control and dimmer switch and inspect the connector from the back side, as shown.

Tester connection	Condition	Specified condition
13 – Ground	Light control switch OFF, TAIL or HEAD	No voltage
13 – Ground	Light control switch AUTO	Battery voltage
14 – Ground	Light control switch OFF or TAIL	No voltage
14 – Ground	Light control switch HEAD	Battery voltage
15 – Ground	Light control switch OFF	No voltage
15 – Ground	Light control switch TAIL or HEAD	Battery voltage

If circuit is not as specified, inspect the wire harness.



13. Australia Models: INSPECT HEADLIGHT DIMMER SWITCH CIRCUIT

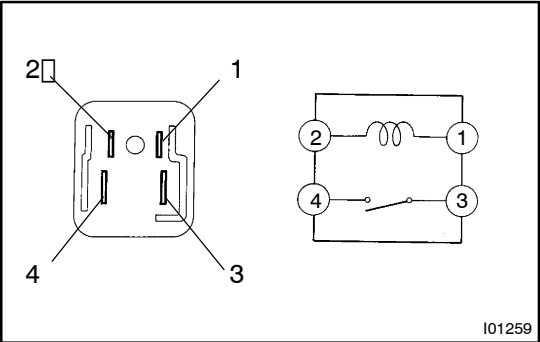
Connector connected:

Connect the wire harness side connector to the light control and dimmer switch and inspect the connector from the back side, as shown.

Tester connection	Condition	Specified condition
2 – Ground	Headlight dimmer switch FLASH Light control switch HEAD and dimmer switch HIGH	No voltage
2 – Ground	Light control switch HEAD and dimmer switch LOW	Battery positive voltage

10 - Ground	Light control switch HEAD and dimmer switch LOW and fog light switch ON	No voltage
10 - Ground	Light control switch HEAD and dimmer switch HIGH or FLASH and fog light switch ON	Battery positive voltage

If circuit is not as specified, inspect the wire harness.

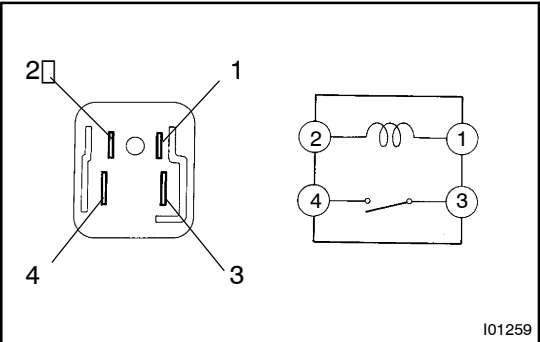


14. INSPECT HEADLIGHT CONTROL RELAY CONTINUITY

Condition	Tester connection	Specified condition
Constant	1 - 2	Continuity
Apply B+ between terminals 1 and 2.	3 - 4	Continuity

If continuity is not as specified, replace the relay.

15. INSPECT HEADLIGHT CONTROL RELAY CIRCUIT (See page DI-683 and BE-21)

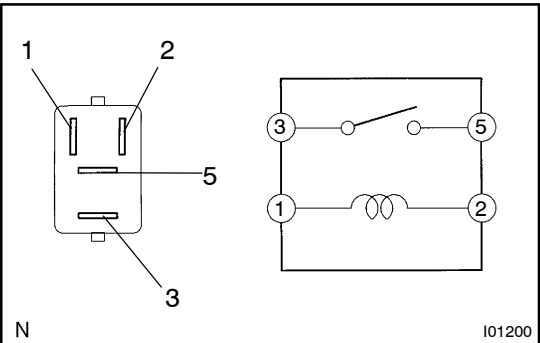


16. INSPECT HEADLIGHT DIMMER RELAY CONTINUITY

Condition	Tester connection	Specified condition
Constant	1 - 4 2 - 3	Continuity
Apply B+ between terminals 2 and 4.	1 - 3 - 3	Continuity

If continuity is not as specified, replace the relay.

17. INSPECT HEADLIGHT DIMMER RELAY CIRCUIT (See page BE-21)

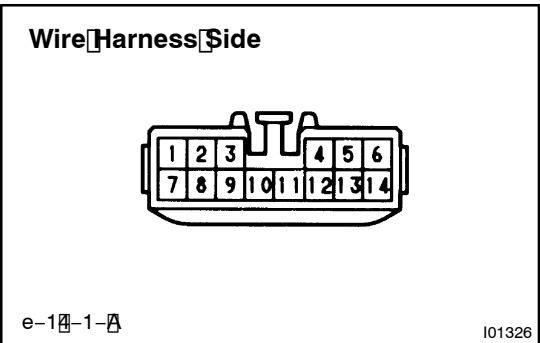


18. INSPECT TAILLIGHT CONTROL RELAY CONTINUITY

Condition	Tester connection	Specified condition
Constant	1 - 2	Continuity
Apply B+ between terminals 1 and 2.	3 - 5	Continuity

If continuity is not as specified, replace the relay.

19. INSPECT TAILLIGHT CONTROL RELAY CIRCUIT (See page DI-681 and BE-21)

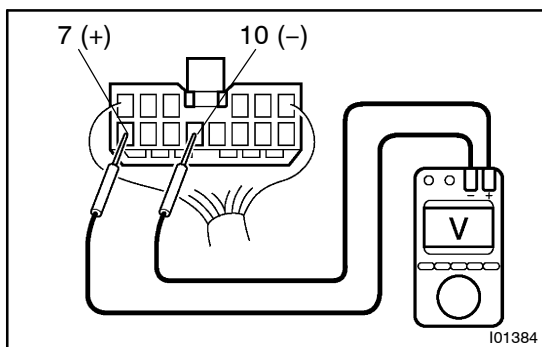


20. w/Daytime Running Light System:
INSPECT DAYTIME RUNNING LIGHT MAIN RELAY CIRCUIT

Disconnect the connector from the relay and inspect the connector on the wire harness side.

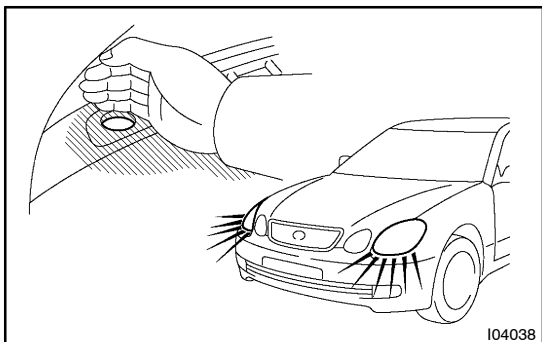
Tester connection	Condition	Specified condition
2 – Ground	Light control switch OFF	No continuity
2 – Ground	Light control switch TAIL or HEAD	Continuity
4 – Ground	Light control switch OFF or TAIL	No continuity
4 – Ground	Light control switch HEAD	Continuity
6 – Ground	Headlight dimmer switch LOW beam or HIGH beam	No continuity
6 – Ground	Headlight dimmer switch FLASH	Continuity
7 – Ground	Constant	Continuity
10 – Ground	Constant	Continuity
13 – Ground	Headlight dimmer switch LOW beam	No continuity
13 – Ground	Headlight dimmer switch HIGH beam or FLASH	Continuity
1 – Ground	Ignition switch LOCK or ACC	No voltage
1 – Ground	Ignition switch ON or START	Battery voltage
3 – Ground	Constant	Battery voltage
5 – Ground	Constant	Battery voltage
8 – Ground	Engine Stop	No voltage
8 – Ground	Engine Running	Battery voltage
9 – Ground	Constant	No voltage
9 – Ground	Ground terminal 3	Battery voltage
12 – Ground	Constant	Battery voltage
14 – Ground	Constant	No voltage
14 – Ground	Ground terminal 5	Battery voltage

If circuit is specified, try replacing the relay with a new one.
If circuit is not as specified, inspect the circuits connected to other parts.



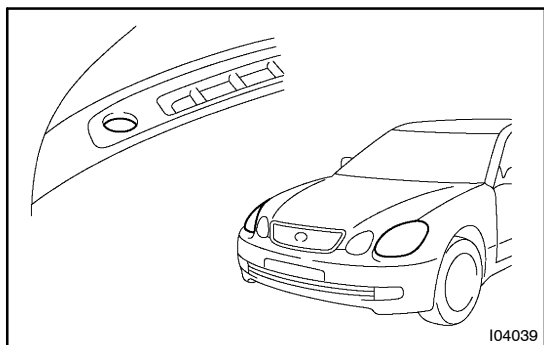
**21. w/ Daytime Running Light System:
INSPECT DAYTIME RUNNING LIGHT MAIN RELAY
OPERATION**

- Connect the positive (+) lead from the voltmeter to terminal 7 and the negative (–) lead to terminal 10.
- Check that there is battery voltage with the light control switch turned to ON.



**22. INSPECT AUTOMATIC LIGHT CONTROL
AUTO ON:**

- Turn the ignition switch ON.
- Turn the light control switch to AUTO.
- Gradually cover the top of the sensor.
- Check the accessory lights and the headlights should turn ON.



I04039

23. INSPECT AUTOMATIC LIGHT CONTROL AUTO OFF:

- (a) Gradually expose the sensor.
- (b) Check the headlights and the accessory lights should turn OFF.

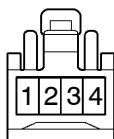
24. INSPECT LIGHT-OFF CONDITION

- (a) Turn the ignition switch ON.
- (b) Gradually cover the top of the sensor.
Lights auto ON:
- (c) Check that the lights go off under the following conditions.
 - (1) Light control switch is OFF.
 - (2) The area surrounding the sensor gets bright.
 - (3) The driver's door is opened with the ignition switch OFF.

25. INSPECT LIGHTS-ON CONDITION

- (a) Open the driver's door while the ignition switch is OFF.
- (b) Turn the light control switch to AUTO leaving the door open and cover the top of the sensor, and verify that the lights go on when the ignition switch is turned ON.

Wire Harness Side



I01254

26. INSPECT AUTOMATIC LIGHT CONTROL SENSOR CIRCUIT

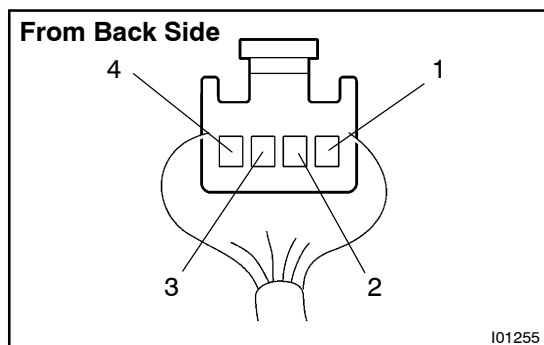
Connector disconnected:

Disconnect the connector from the sensor and inspect the connector on the wire harness side, as shown in the table.

Tester connection	Condition	Specified condition
3 – Ground	Constant	Continuity
1 – Ground	Ignition switch LOCK or ACC	No voltage
1 – Ground	Ignition switch ON	Battery voltage
4 – Ground	Ignition switch LOCK or ACC	No voltage
4 – Ground	Ignition switch ON	5.2 – 9.0 V

If circuit is as specified, perform the inspection on the following page.

If the circuit is not as specified, inspect the circuit connected to other parts.



27. INSPECT AUTOMATIC LIGHT CONTROL SENSOR CIRCUIT

Connector connected

Connect the wire harness side connector to the sensor and inspect wire harness side connector from the back side, as shown.

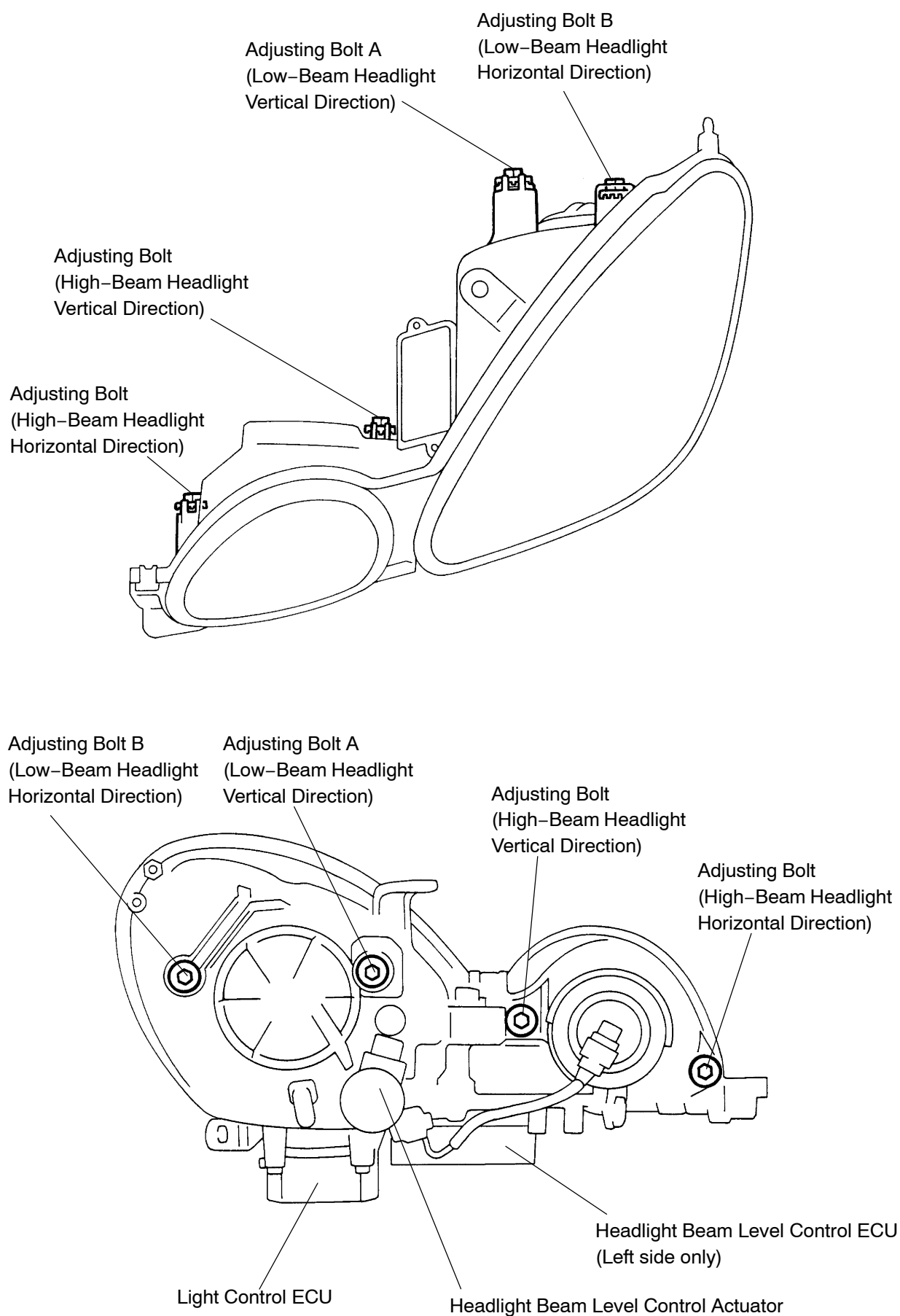
HINT:

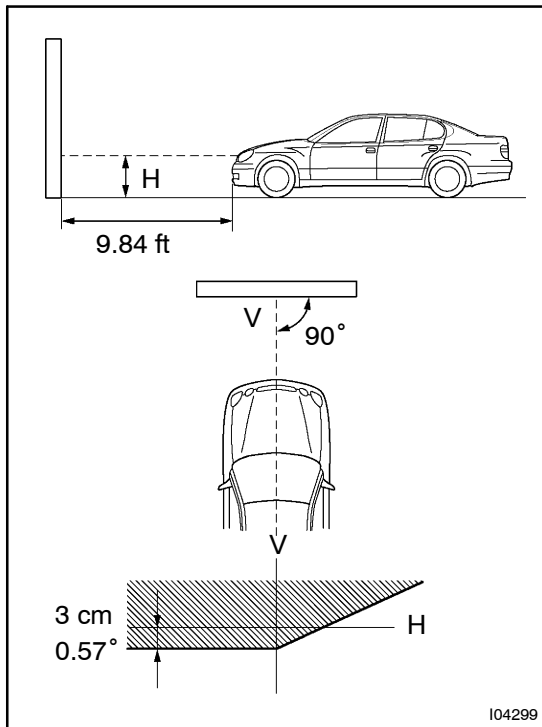
- Ignition switch ON.
- Light control switch AUTO.
- Vehicle's surroundings are bright.

Tester connection	Condition	Specified condition
3 - Ground	Constant	Continuity
1 - Ground	Ignition switch LOCK or ACC	No voltage
1 - Ground	Ignition switch ON	9.5 V or more
Vehicle is under the direct sun light. (Sensor is not covered)		Taillight and Headlight are ON.

If circuit is as specified, try replacing the sensor with a new one.
If the circuit is not as specified, inspect the circuit connected to other parts.

ADJUSTMENT





1. CHECK HEADLIGHT AIMING

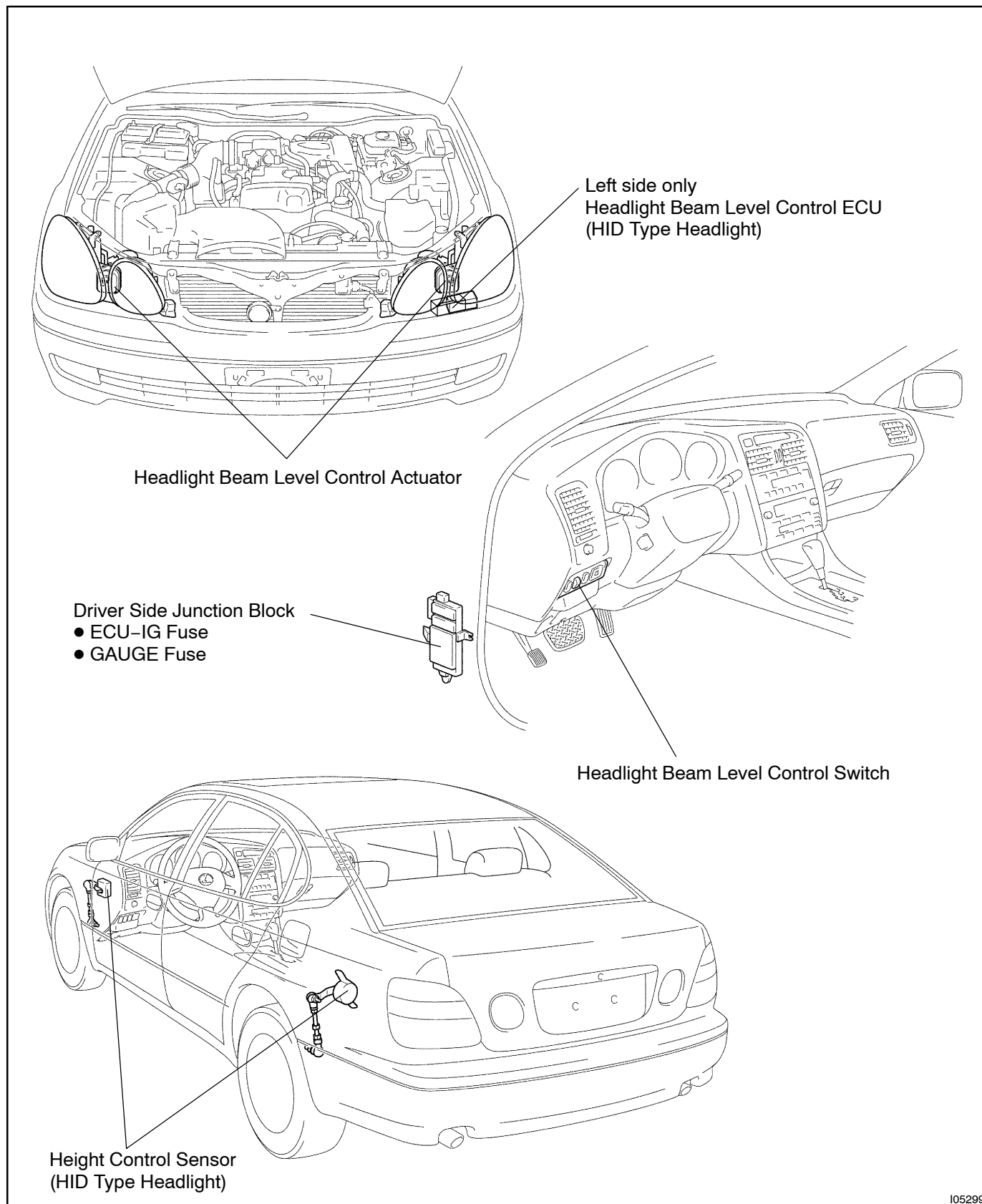
- Prepare the thick white colored paper.
- Stand the paper perpendicularly and ensure the distance from it to the head lights is 9.84 ft.
- Ensure that the center line of vehicle and the paper are at a 90 degree angle as shown in the illustration.
- Engine running.
- Draw a horizontal line on the paper where the head lights of the vehicle are to be.
- Draw a vertical line on the paper where the center line of the vehicle is to be. (V line)
- Turn the head lights ON.
- Check that the head lights light up the paper as shown in the illustration.
- When the paper is not lighted up properly, adjust the lights in the vertical or horizontal direction.

HINT:

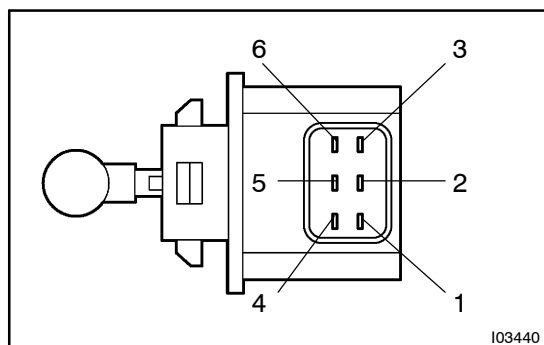
As shown in the illustration, adjust aiming of the LH and RH lights along each vertical line respectively.

HEADLIGHT BEAM LEVEL CONTROL SYSTEM LOCATION

BE01R-03



I05299



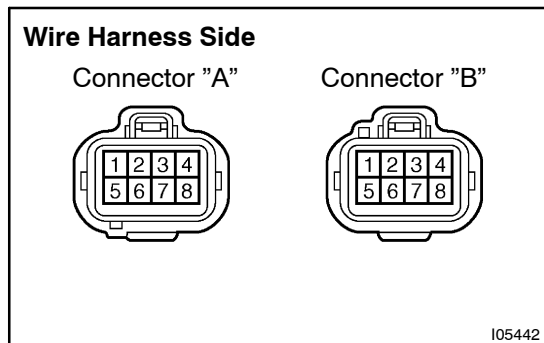
INSPECTION

1. HID Type Headlight: INSPECT HEADLIGHT BEAM LEVEL CONTROL ACTUATOR RESISTANCE

- Check that continuity exists between terminals 2 and 5.
- Check that resistance exists between terminals, as shown in the chart.

Terminal	Resistance (Ω)
2 – 1	26 – 30
2 – 3	26 – 30
2 – 4	26 – 30
2 – 6	26 – 30
5 – 1	26 – 30
5 – 3	26 – 30
5 – 4	26 – 30
5 – 6	26 – 30

If resistance value is not as specified, replace the actuator.



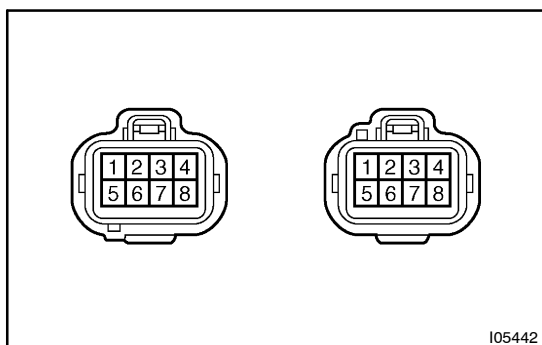
2. HID Type Headlight: INSPECT HEADLIGHT BEAM LEVEL CONTROL ECU CIRCUIT

Connector disconnected:

Disconnect the connector from the ECU and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
A1 – A5	Ignition switch OFF	26 – 30 Ω
A1 – A6	Ignition switch OFF	26 – 30 Ω
A1 – A7	Ignition switch OFF	26 – 30 Ω
A1 – A8	Ignition switch OFF	26 – 30 Ω
A4 – B4	Ignition switch ON and light control switch HEAD	Below 1.5 V
B1 – B3	Ignition switch OFF	3.5 – 6.5 k Ω
B5 – B7	Ignition switch OFF	3.5 – 6.5 k Ω
A4 – Ground	Ignition switch OFF	Continuity

If circuit is not as specified, perform the inspection on the following pages.



3. HID Type Headlight: INSPECT HEADLIGHT BEAM LEVEL CONTROL ECU CIRCUIT

Connector connected:

Connect the connector from the ECU and inspect the connector, as shown in the table.

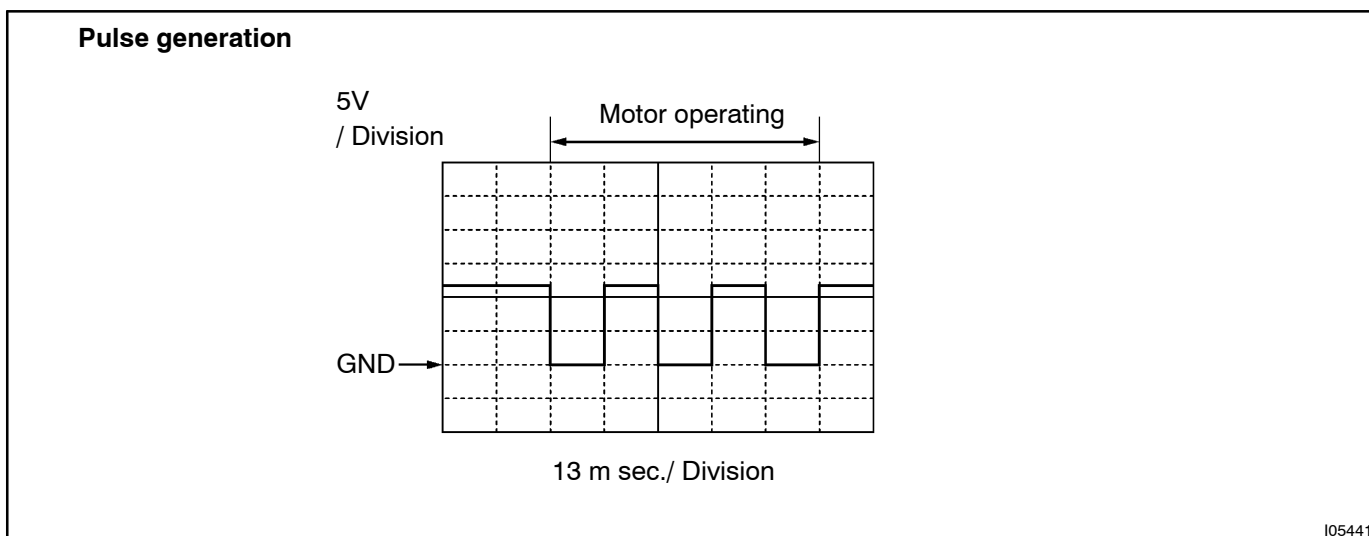
Tester connection	Condition	Specified condition
A1 – A4	Ignition switch ON	Battery positive voltage
A1 – A5	Ignition switch ON, when stopping and bouncing the vehicle.	Pulse generation
A1 – A6	Ignition switch ON, when stopping and bouncing the vehicle.	Pulse generation
A1 – A7	Ignition switch ON, when stopping and bouncing the vehicle.	Pulse generation
A1 – A8	Ignition switch ON, when stopping and bouncing the vehicle.	Pulse generation
B2 – B3	Ignition switch ON	Approx. 2.5 V
B6 – B7	Ignition switch ON	Approx. 2.5 V
B1 – B3 B5 – B7	Ignition switch ON	5 V

If the circuit is not as specified, replace the ECU.

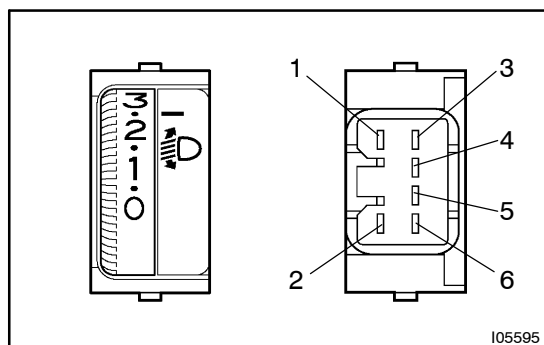
Reference INSPECTION USING OSCILLOSCOPE

HINT:

The correct waveform is as shown in the illustration.



I05441

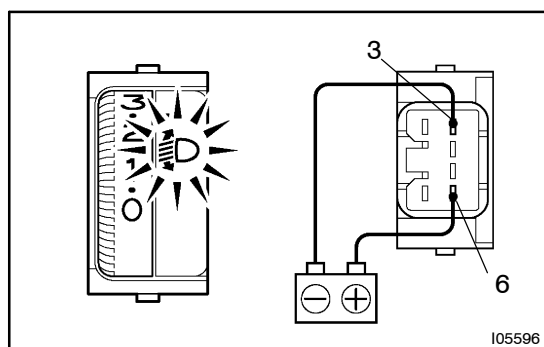


4. Europe Halogen Type Headlight: INSPECT HEADLIGHT BEAM LEVEL CONTROL SWITCH RESISTANCE

Measure the resistance between terminals 1 and 2.

Switch position	Resistance (k Ω)
0	1.4 – 1.6
1	1.6 – 1.8
2	1.8 – 2.0
3	2.0 – 2.3
4	2.4 – 2.7
5	2.8 – 3.2

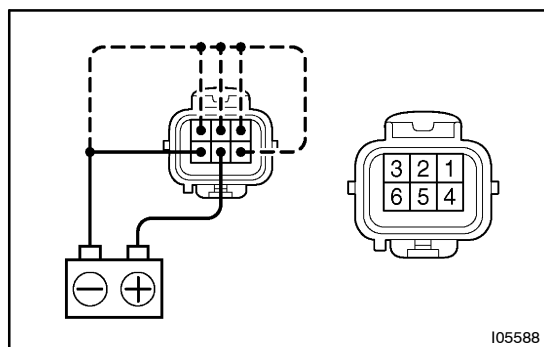
If resistance value is not as specified, replace the switch.



5. Europe Halogen Type Headlight: INSPECT HEADLIGHT BEAM LEVEL CONTROL SWITCH ILLUMINATION

Connect the positive (+) lead from the battery to terminal 6 and negative (–) lead to terminal 3 and check that the illumination light lights up.

If operation is not as specified, replace the switch.



6. Europe Halogen Type Headlight: INSPECT HEADLIGHT BEAM LEVEL CONTROL AC- TUATOR CIRCUIT

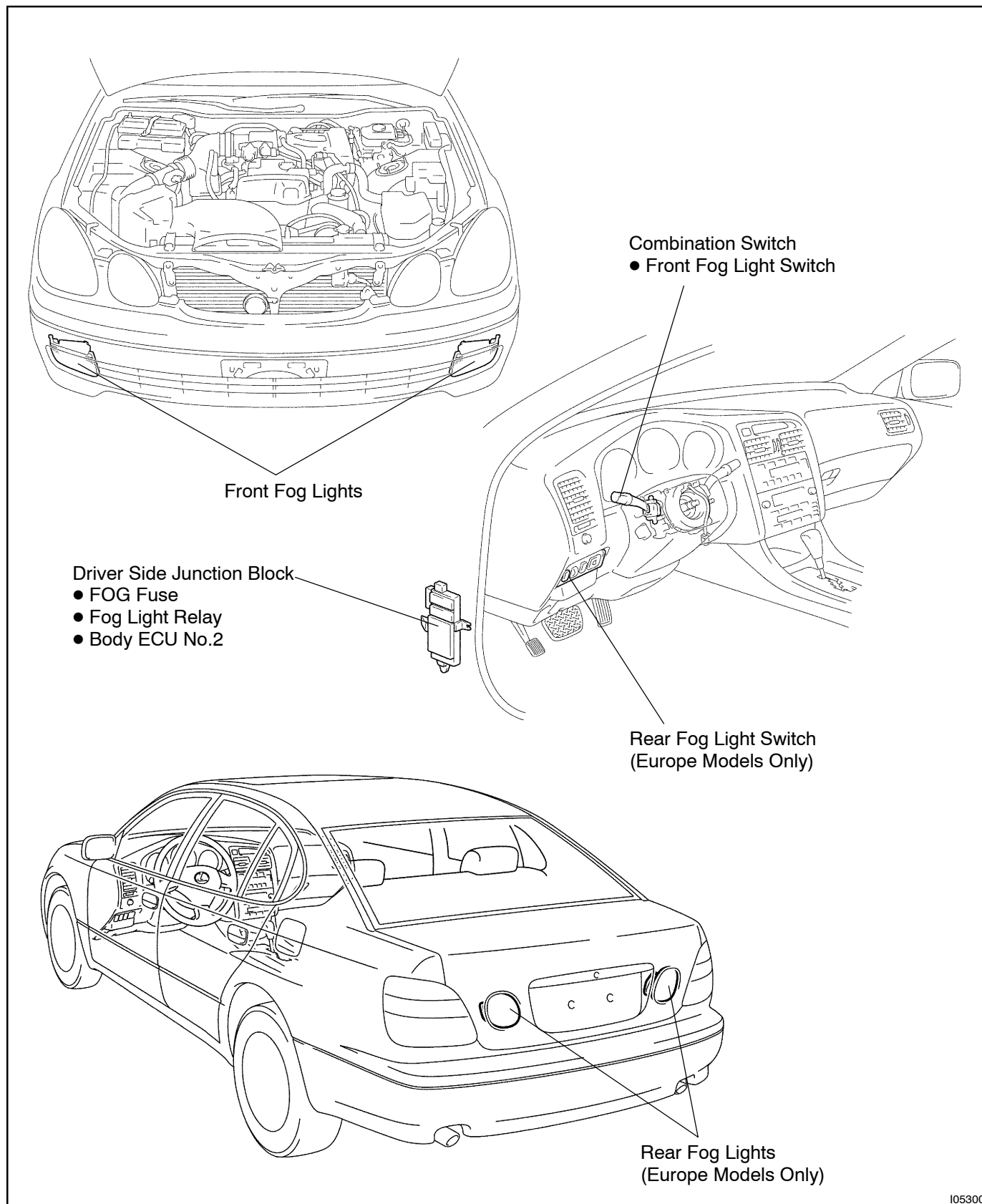
- Connect the positive (+) lead from the battery to terminal 5 and the negative (–) lead to terminal 6.
- Ground each terminal and check that each mode operates, as shown in the chart and illustration.

Terminal	Resistance (Ω)
1 – Ground	"0"
2 – Ground	"1"
3 – Ground	"2"
4 – Ground	"3"

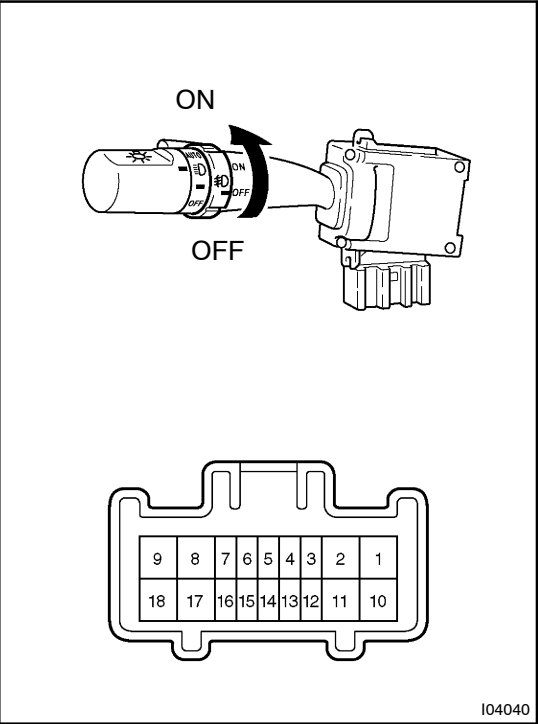
If operation is not as specified, replace the actuator.

FOG LIGHT SYSTEM LOCATION

BE0H2-02



I05300

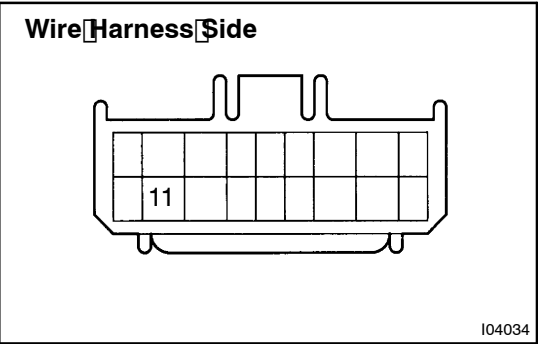


INSPECTION

1. Ex. Australia Models:
INSPECT FRONT FOG LIGHT SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
OFF	-	No continuity
ON	11 - 12	Continuity

If continuity is not as specified, replace the switch.

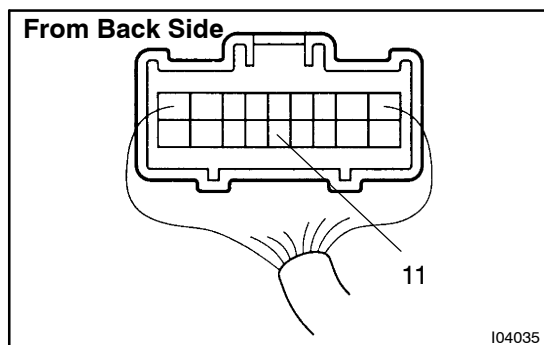


2. Ex. Australia Models:
INSPECT FRONT FOG LIGHT SWITCH CIRCUIT
Connector disconnected:
(See page DI-668)

Disconnect the connector from the switch and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
11 - Ground	Light control switch TAIL or HEAD and dimmer switch LOW or HI	Continuity

If circuit is not as specified, inspect the wire harness.

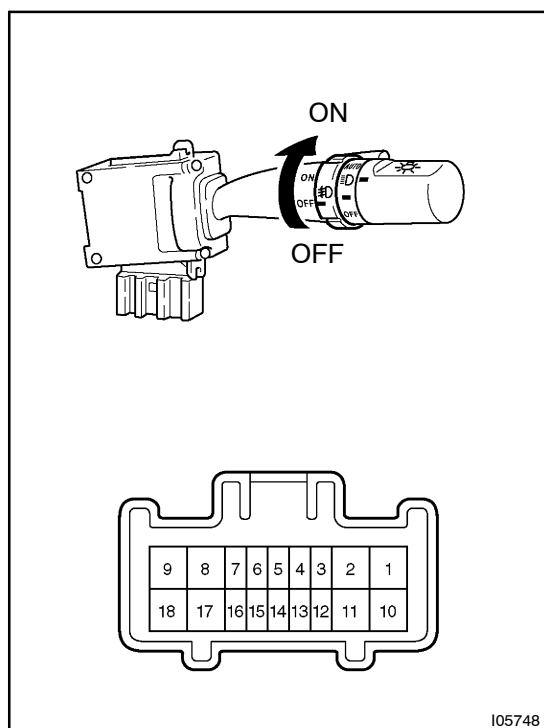


3. Ex. Australia Models:
INSPECT FRONT FOG LIGHT SWITCH CIRCUIT
Connector connected:

Connect the wire harness side connector to the light control and dimmer switch and inspect the connector from the back side, as shown.

Tester connection	Condition	Specified condition
11 – Ground	Light control switch HEAD and headlight dimmer switch LO and fog light switch ON	No voltage
11 – Ground	Light control switch HEAD and headlight dimmer switch HI or FLASH and fog light switch ON	Battery positive voltage

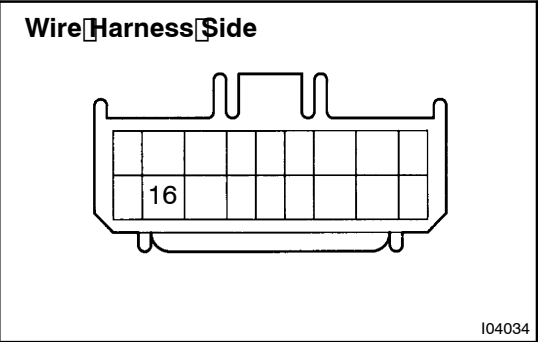
If circuit is not as specified, inspect the wire harness.



4. Australia Models:
INSPECT FRONT FOG LIGHT SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
OFF	–	No continuity
ON	12 – 16	Continuity

If continuity is not as specified, replace the switch.

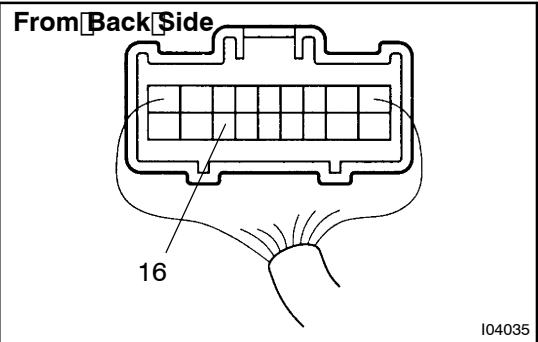


5. Australia Models:
INSPECT FRONT FOG LIGHT SWITCH CIRCUIT
Connector disconnected:
(See page DI-668)

Disconnect the connector from the switch and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
16 – Ground	Light control switch TAIL or HEAD and dimmer switch LOW or HI	Continuity

If circuit is not as specified, inspect the wire harness.

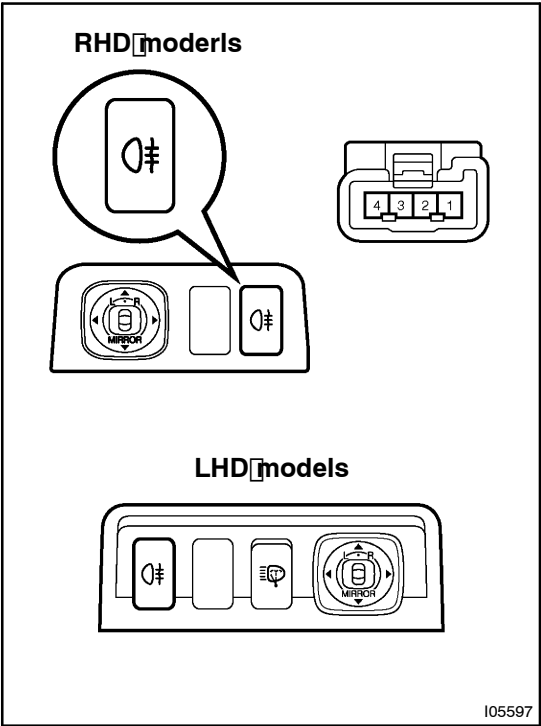


6. Australia Models:
INSPECT FRONT FOG LIGHT SWITCH CIRCUIT
Connector connected:

Connect the wire harness side connector to the light control and dimmer switch and inspect the connector from the back side, as shown.

Tester connection	Condition	Specified condition
16 – Ground	Light control switch HEAD and headlight dimmer switch LO and fog light switch ON	No voltage
16 – Ground	Light control switch HEAD and headlight dimmer switch HI or FLASH and fog light switch ON	Battery voltage

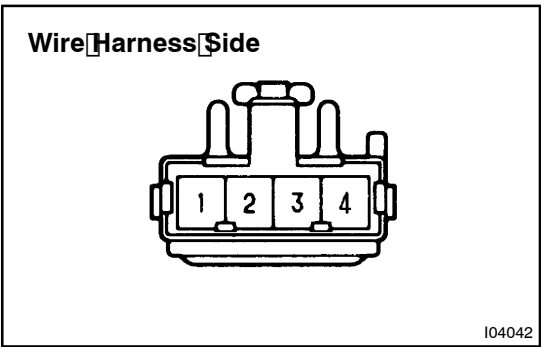
If circuit is not as specified, inspect the wire harness.



7. Europe Models:
INSPECT REAR FOG LIGHT SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
OFF	–	No continuity
ON	3 – 4	Continuity
Illumination circuit	1 – 2	Continuity

If continuity is not as specified, replace the switch.

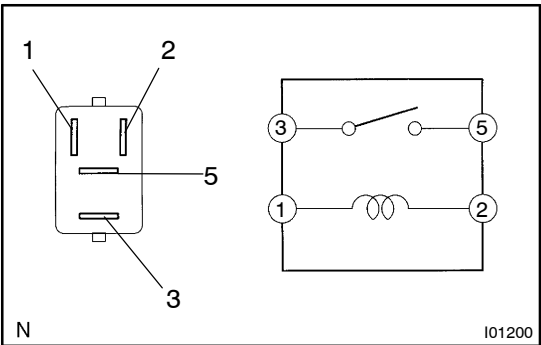


8. Europe Models:
INSPECT REAR FOG LIGHT SWITCH CIRCUIT

Disconnect the switch connector and inspect the connection on the wire harness side, as shown.

Tester connection	Condition	Specified condition
*1 – Ground 4 – Ground	Light control switch OFF	Continuity
*1 – Ground 4 – Ground	Light control switch TAIL or HEAD	Continuity

If circuit is not as specified, inspect the circuits connected to other parts.

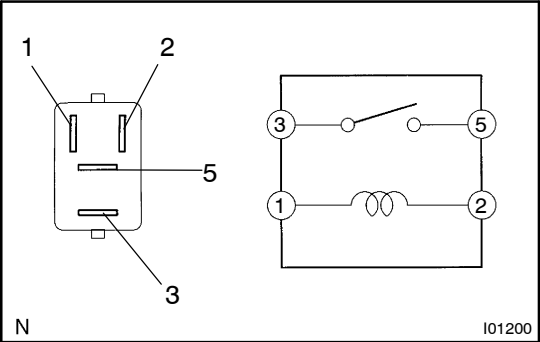


9. INSPECT FRONT FOG LIGHT RELAY CONTINUITY

Condition	Tester connection	Specified condition
Constant	1 – 2	Continuity
Apply B+ between terminals 1 and 2.	3 – 5	Continuity

If continuity is not as specified, replace the relay.

10. INSPECT FRONT FOG LIGHT RELAY CIRCUIT
(See page BE-21)



11. Europe Models:
INSPECT REAR FOG LIGHT RELAY CONTINUITY

Condition	Tester Connection	Specified Condition
Constant	1 - 2	Continuity
Apply B+ between terminals 1 and 2.	3 - 5	Continuity

If continuity is not as specified, replace the relay.

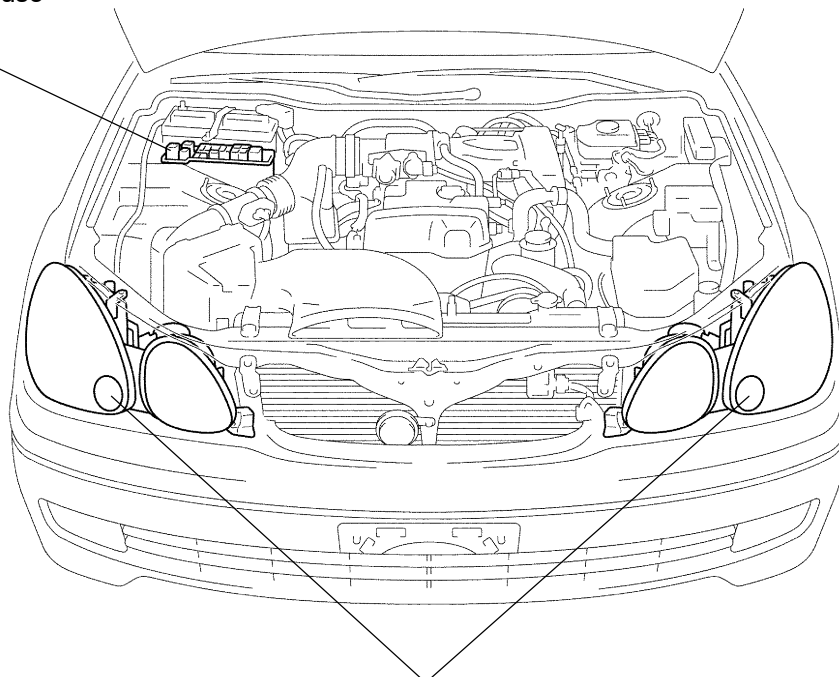
12. Europe Models:
INSPECT REAR FOG LIGHT RELAY CIRCUIT
(See page BE-21)

TURN SIGNAL AND HAZARD WARNING SYSTEM LOCATION

BEOMX-01

LHD Models

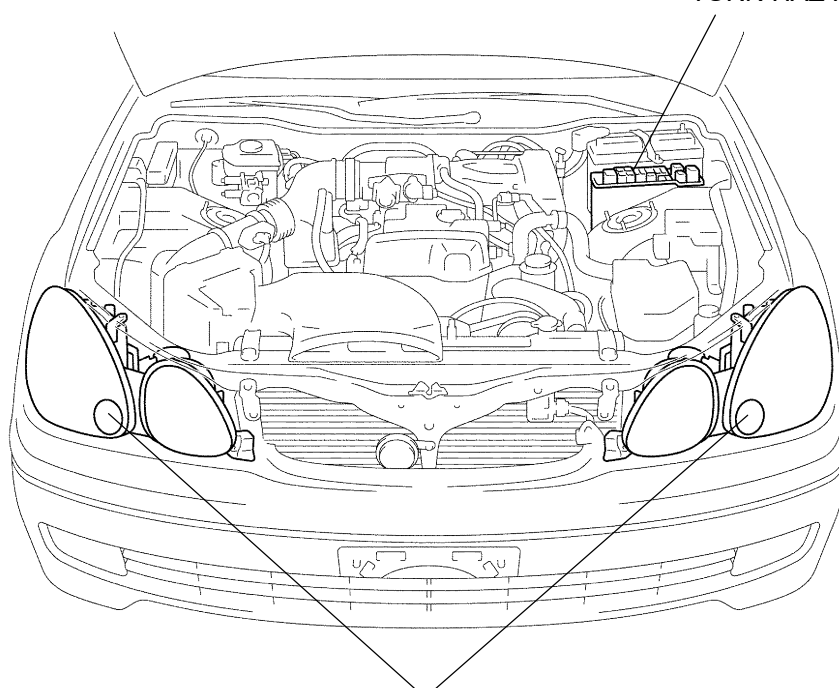
Engine Room No.1 Junction Block
● TURN HAZ Fuse



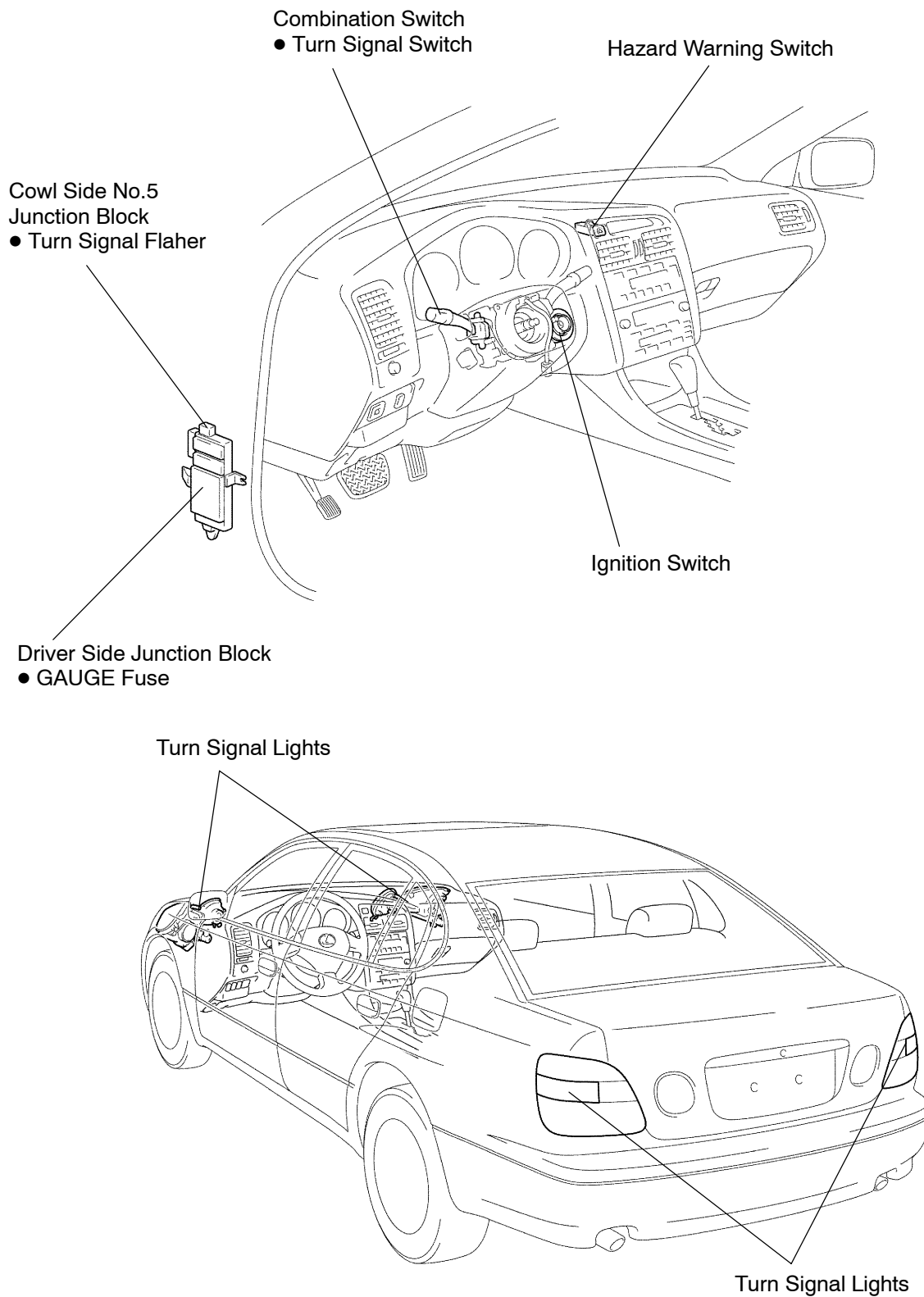
Turn Signal Lights

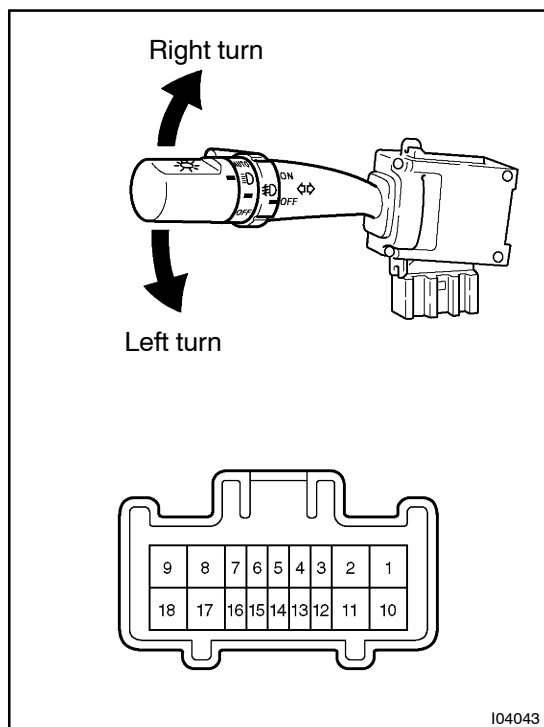
RHD Models

Engine Room No.1 Junction Block
● TURN HAZ Fuse



Turn Signal Lights





I04043

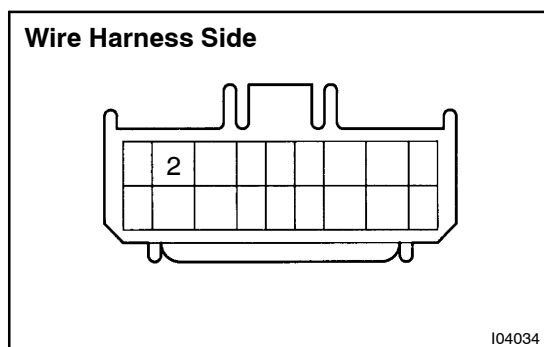
INSPECTION

1. Ex. Australia Models:

INSPECT TURN SIGNAL SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
Left turn	1 – 2	Continuity
Neutral	–	No continuity
Right turn	2 – 3	Continuity

If continuity is not as specified, replace the switch.



I04034

2. Ex. Australia Models:

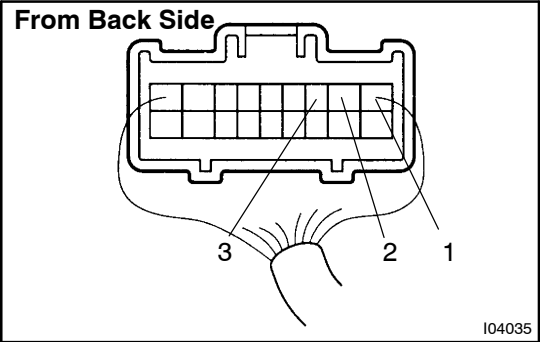
INSPECT TURN SIGNAL SWITCH CIRCUIT

Connector disconnected:

Disconnect the connector from the combination switch and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
2 – Ground	Constant	Continuity

If circuit is not as specified, inspect the wire harness.

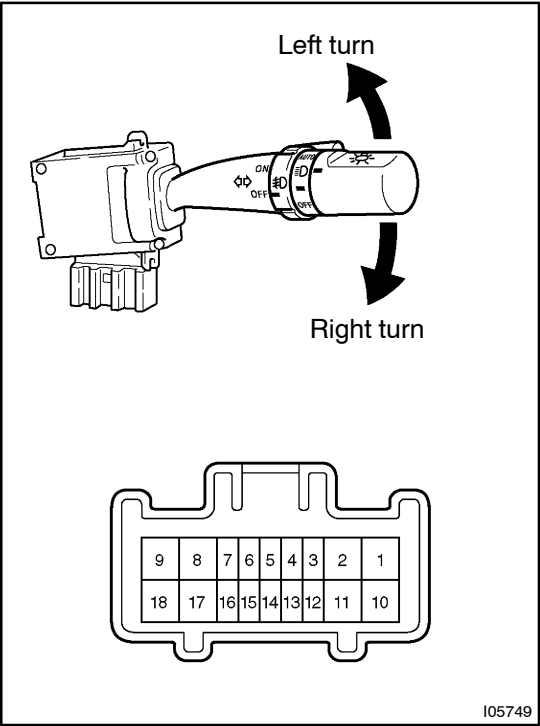


3. Ex. Australia Models:
INSPECT TURN SIGNAL SWITCH CIRCUIT
Connector connected:

Connect the wire harness side connector to the combination switch and inspect the connector form the back side, as shown.

Tester connection	Condition	Specified condition
2 – Ground	Ignition switch ON and turn signal switch Neutral	No voltage
1 – Ground	Ignition switch ON and turn signal switch Left	Battery positive voltage ↔ 0 V
3 – Ground	Ignition switch ON and turn signal switch Right	Battery positive voltage ↔ 0 V

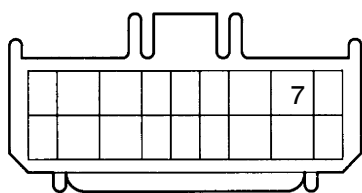
If circuit is not as specified, inspect the circuits connected to other parts.



4. Australia Models:
INSPECT TURN SIGNAL SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
Left turn	6 – 7	Continuity
Neutral	–	No continuity
Right turn	7 – 8	Continuity

If continuity is not as specified, replace the switch.

Wire Harness Side

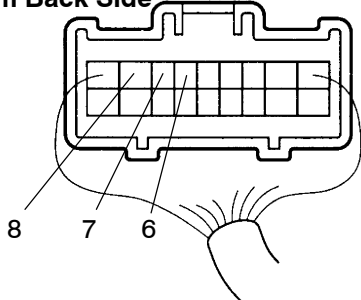
I04034

5. Australia Models:
INSPECT TURN SIGNAL SWITCH CIRCUIT
Connector disconnected:

Disconnect the connector from the combination switch and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
7 – Ground	Constant	Continuity

If circuit is not as specified, inspect the wire harness.

From Back Side

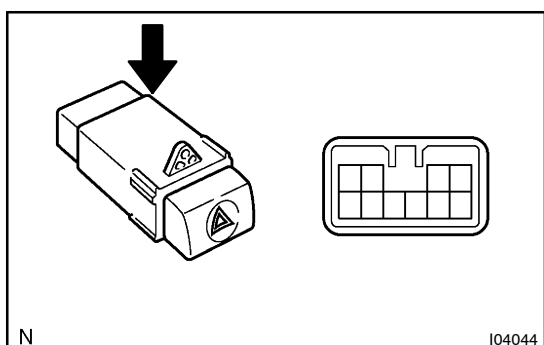
I04035

6. Australia Models:
INSPECT TURN SIGNAL SWITCH CIRCUIT
Connector connected:

Connect the wire harness side connector to the combination switch and inspect the connector from the back side, as shown.

Tester connection	Condition	Specified condition
7 – Ground	Ignition switch ON and turn signal switch Neutral	No voltage
6 – Ground	Ignition switch ON and turn signal switch Left	Battery voltage $\leftrightarrow$ 0 V
8 – Ground	Ignition switch ON and turn signal switch Right	Battery voltage $\leftrightarrow$ 0 V

If circuit is not as specified, inspect the circuits connected to other parts.



N

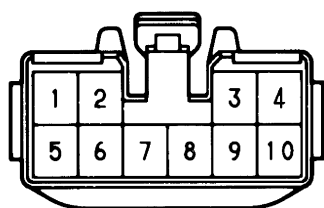
I04044

7. INSPECT HAZARD WARNING SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
Switch OFF	7 – 10	Continuity
Switch ON	7 – 8	Continuity
Illumination circuit	2 – 3	Continuity

If continuity is not as specified, replace the switch.

Wire Harness Side



I04045

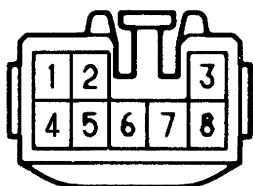
8. INSPECT HAZARD WARNING SWITCH CIRCUIT (See page DI-650)

Disconnect the switch connector and inspect the connection on the wire harness side, as shown.

Tester connection	Condition	Specified condition
8 – Ground	Constant	Continuity

If circuit is not as specified, inspect the circuits connected to other parts.

Wire Harness Side



I04046

9. INSPECT TURN SIGNAL FLASHER CIRCUIT

Disconnect the connector from the combination switch and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
2 – Ground	Constant	Continuity
3 – Ground	Constant	Continuity
5 – Ground	Turn signal switch RIGHT or OFF	No continuity
5 – Ground	Turn signal switch LEFT	Continuity
6 – Ground	Turn signal switch LEFT or OFF	No continuity
6 – Ground	Turn signal switch RIGHT	Continuity
7 – Ground	Constant	Continuity
8 – Ground	Hazard warning switch OFF	No continuity
8 – Ground	Hazard warning switch ON	Continuity
1 – Ground	Ignition switch LOCK or ACC	No voltage
1 – Ground	Ignition switch ON	Battery voltage
4 – Ground	Constant	Battery voltage

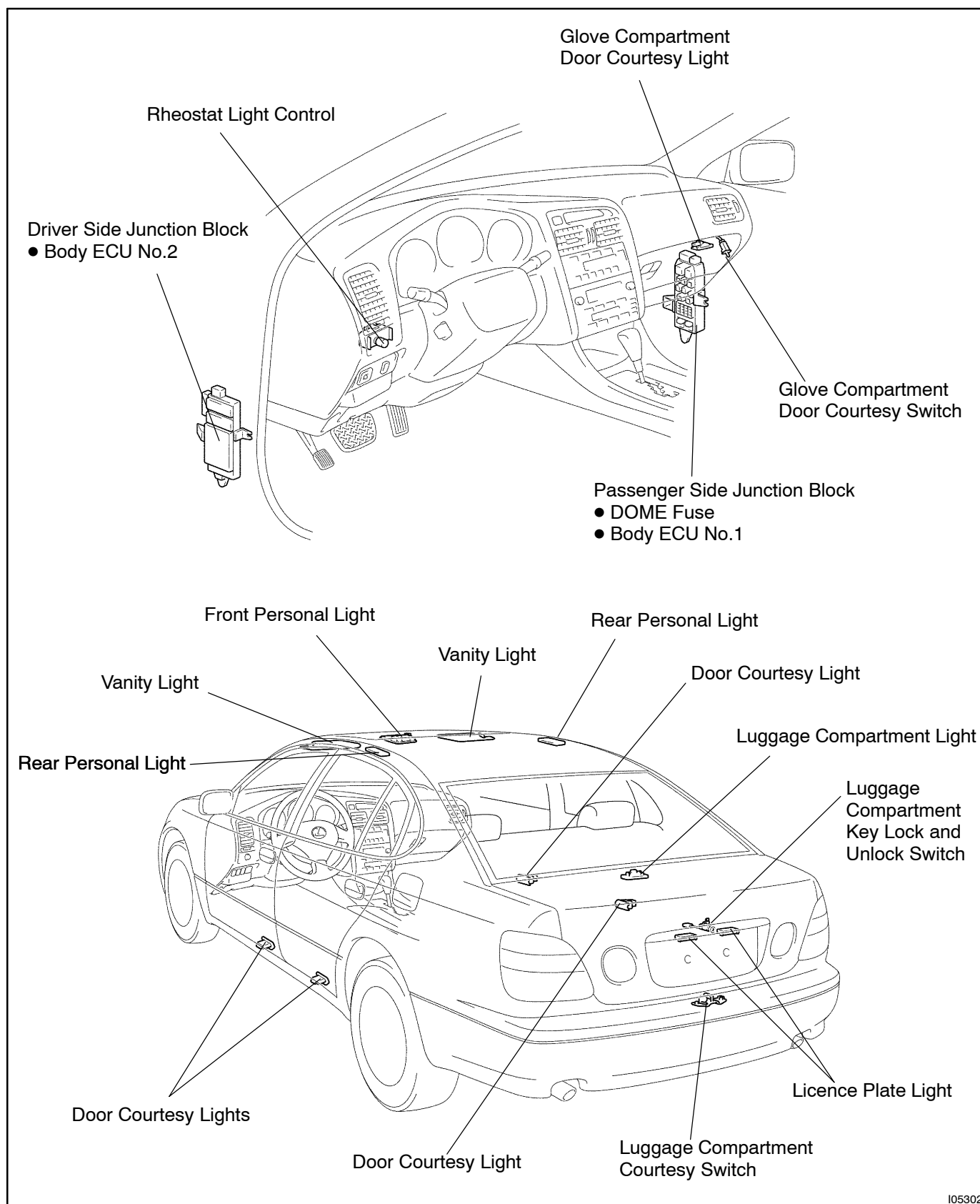
If circuit is as specified, replace the relay.

If circuit is not as specified, inspect the circuits connected to other parts.

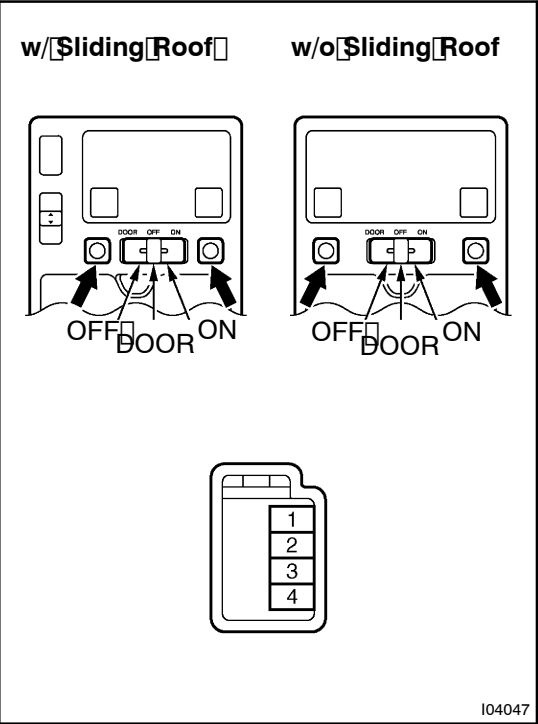
INTERIOR LIGHT SYSTEM

LOCATION

BEOGY-02



I05302

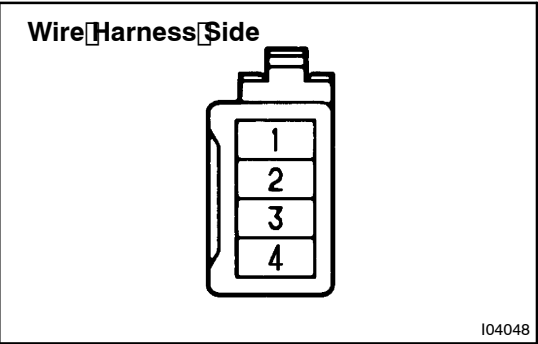


INSPECTION

1. INSPECT FRONT PERSONAL LIGHT SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
Interior light switch OFF (Lever switch)	-	No continuity
Interior light switch DOOR (Lever switch)	1 - 3	Continuity
Interior light switch ON (Lever switch)	1 - 2	Continuity
*Personal light OFF (Push switch)	-	No continuity
*Personal light ON (Push switch)	1 - 2	Continuity

*: Set the interior light switch to OFF or DOOR. If continuity is not as specified, replace the light assembly or bulb.



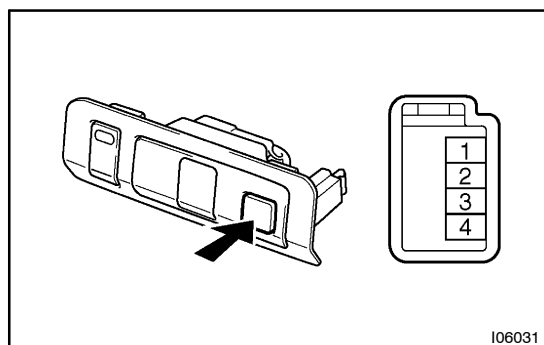
2. INSPECT FRONT PERSONAL LIGHT SWITCH CIRCUIT

(See page DI-679)

Disconnect the connector from the switch and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
2 - Ground	Constant	Continuity
1 - Ground	Constant	Battery voltage

If circuit is not as specified, inspect power source or wire harness.

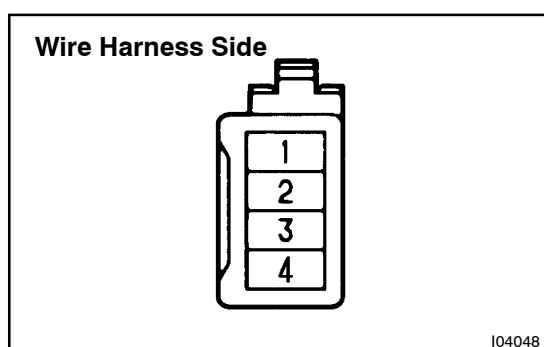


I06031

3. INSPECT REAR PERSONAL LIGHT SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
Room light switch OFF and door closed	–	No continuity
Room light switch ON and door closed	1 – 2	Continuity
Room light switch OFF or ON and door opened	1 – 3	Continuity

If continuity is not as specified, replace the light assembly or bulb.



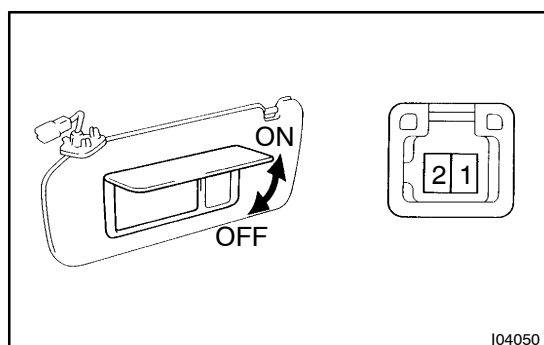
I04048

4. INSPECT REAR PERSONAL LIGHT SWITCH CIRCUIT

Disconnect the connector from the switch and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
2 – Ground	Constant	Continuity
1 – Ground	Constant	Battery voltage

If circuit is not as specified, inspect power source or wire harness.

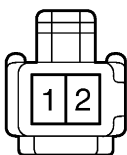


I04050

5. INSPECT VANITY LIGHT CONTINUITY

Switch position	Tester connection	Specified condition
OFF (closed)	–	No continuity
ON (opened)	1 – 2	Continuity

If continuity is not as specified, replace the vanity light assembly or bulb.

Wire Harness Side

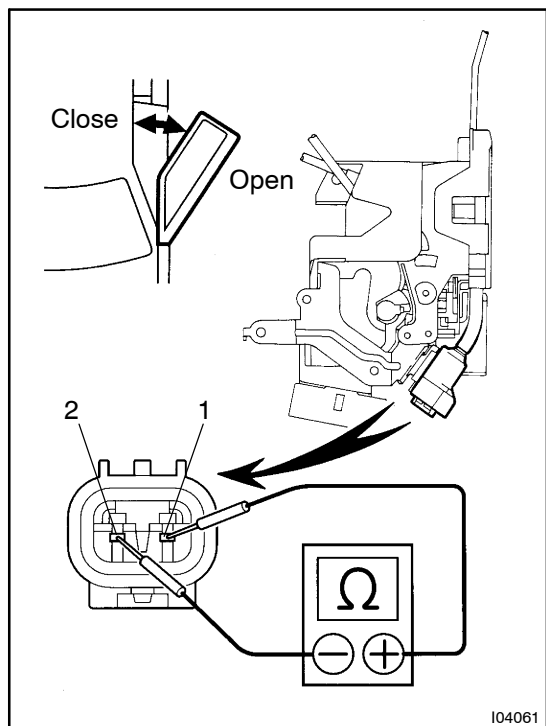
I04051

6. INSPECT VANITY LIGHT CIRCUIT

Disconnect the connector from the light and inspect the connector on the wire harness side, as shown.

Tester Connection	Condition	Specified Condition
2 - Ground	Constant	Continuity
1 - Ground	Constant	Battery voltage

If circuit is not as specified, inspect power source or wire harness.



I04061

7. Front door:**INSPECT DOOR COURTESY SWITCH CONTINUITY**

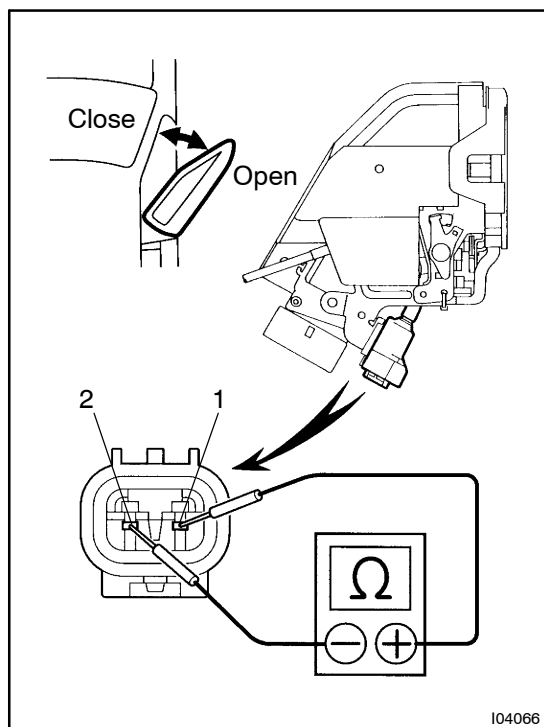
- Connect the connector to the front door ECU.
- Check that continuity exists between terminals 1 and 2 when door is opened.
- Check that no continuity exists between terminals 1 and 2 when door is closed.

If continuity is not as specified, replace the switch.

8. Front door:**INSPECT DOOR COURTESY SWITCH CIRCUIT**

Driver side: (See page DI-712)

Passenger side: (See page DI-744)

**9. Rear door:****INSPECT DOOR COURTESY SWITCH CONTINUITY**

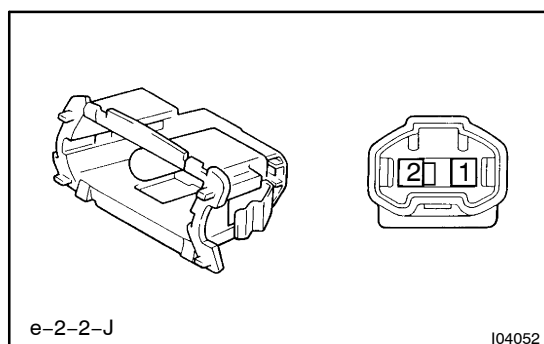
- Connect the connector to the rear door ECU.
- Check that continuity exists between terminals 1 and 2 when door is opened.
- Check that no continuity exists between terminals 1 and 2 when door is closed.

If continuity is not as specified, replace the switch.

10. Rear door:**INSPECT DOOR COURTESY SWITCH CIRCUIT**

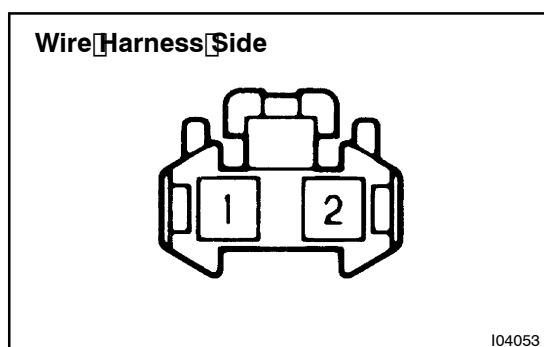
Rear LH side: (See page DI-775)

Rear RH side: (See page DI-793)

**11. INSPECT DOOR COURTESY LIGHT CONTINUITY**

Using an ohmmeter, check that continuity exists between terminals.

If continuity is not as specified, replace the light assembly or bulb.

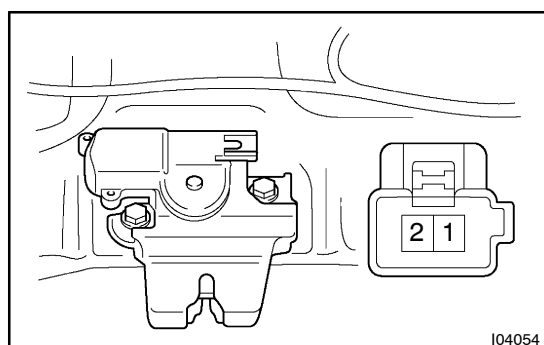
**12. INSPECT DOOR COURTESY LIGHT CIRCUIT**

Driver side: (See page DI-718)

Passenger side: (See page DI-750)

Rear LH side: (See page DI-779)

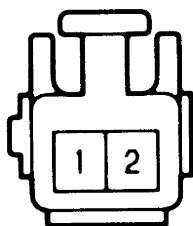
Rear RH side: (See page DI-797)

**13. INSPECT LUGGAGE COMPARTMENT DOOR COURTESY SWITCH CONTINUITY**

Switch position	Tester connection	Specified condition
OFF (closed)	-	No continuity
ON (opened)	2 - Switch body	Continuity

If continuity is not as specified, replace the switch.

Wire Harness Side



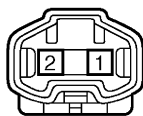
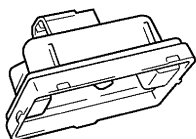
I04185

14. INSPECT LUGGAGE COMPARTMENT DOOR COURTESY SWITCH CIRCUIT**(See page DI-628)**

Disconnect the connector from the switch and inspect the connector on the wire harness side, as shown.

Tester Connection	Condition	Specified Condition
2 – Body ground	Luggage compartment door courtesy switch ON (door opened)	Continuity

If circuit is not as specified, inspect power source or wire harness.



e-2-2-J

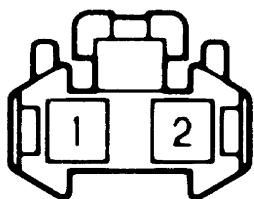
I04056

15. INSPECT LUGGAGE COMPARTMENT LIGHT CONTINUITY

Using an ohmmeter, check that continuity exists between terminals.

If continuity is not as specified, replace the light assembly or bulb.

Wire Harness Side



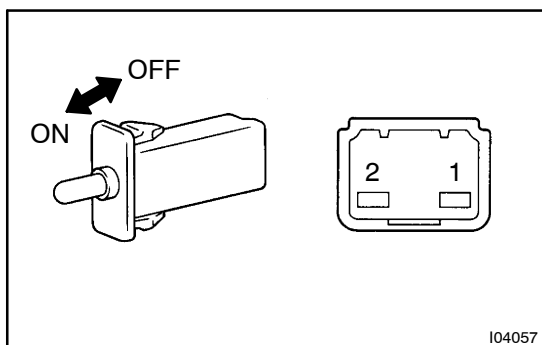
I04053

16. INSPECT LUGGAGE COMPARTMENT LIGHT CIRCUIT

Disconnect the connector from the light and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
1 – Body ground	Constant	Continuity

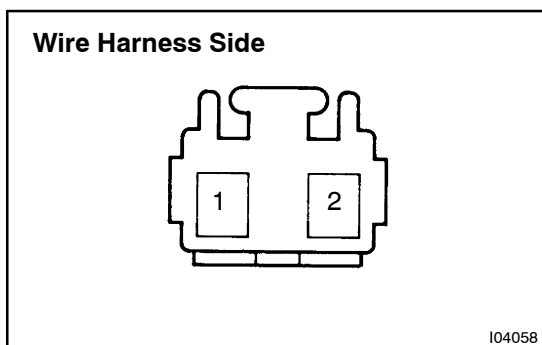
If circuit is not as specified, inspect power source or wire harness.



17. INSPECT GLOVE COMPARTMENT DOOR COURTESY SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
OFF (closed)	–	No continuity
ON (opened)	1 – 2	Continuity

If continuity is not as specified, replace the switch.

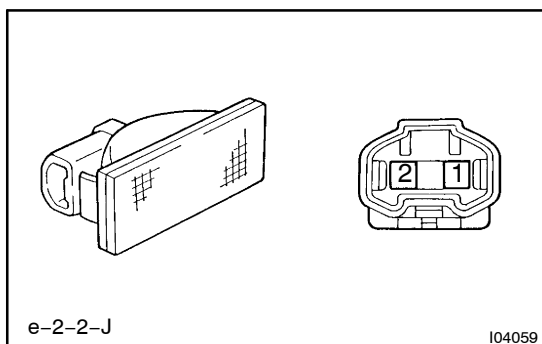


18. INSPECT GLOVE COMPARTMENT DOOR COURTESY SWITCH CIRCUIT

Disconnect the connector from the switch and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
2 – Ground	Constant	Continuity
1 – Ground	Light control switch OFF	No voltage
1 – Ground	Light control switch TAIL or HEAD	Battery voltage

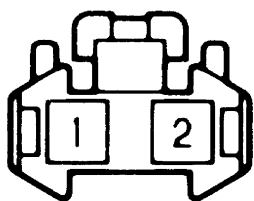
If circuit is not as specified, inspect power source or wire harness.



19. INSPECT GLOVE COMPARTMENT LIGHT CONTINUITY

Using an ohmmeter, check that continuity exists between terminals.

If continuity is not as specified, replace the light assembly or bulb.

Wire Harness Side

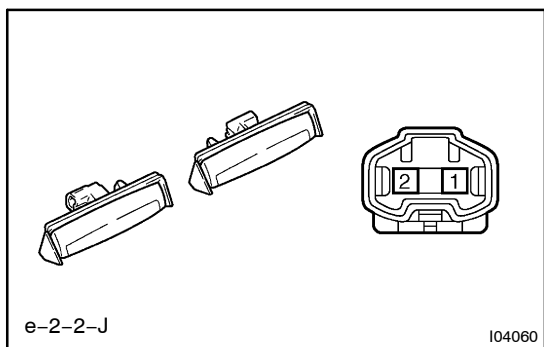
I04053

20. INSPECT GLOVE COMPARTMENT LIGHT CIRCUIT

Disconnect the connector from the light and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
2 – Ground	Glove compartment door courtesy switch ON	Continuity
1 – Ground	Light control switch in TAIL or HEAD	Battery voltage

If circuit is not as specified, inspect power source or wire harness.



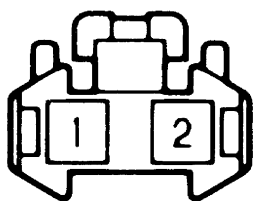
e-2-2-J

I04060

21. INSPECT LICENCE PLATE LIGHT CONTINUITY

Using an ohmmeter, check that continuity exists between terminals.

If continuity is not as specified, replace the light assembly or bulb.

Wire Harness Side

I04053

22. INSPECT LICENCE PLATE LIGHT CIRCUIT

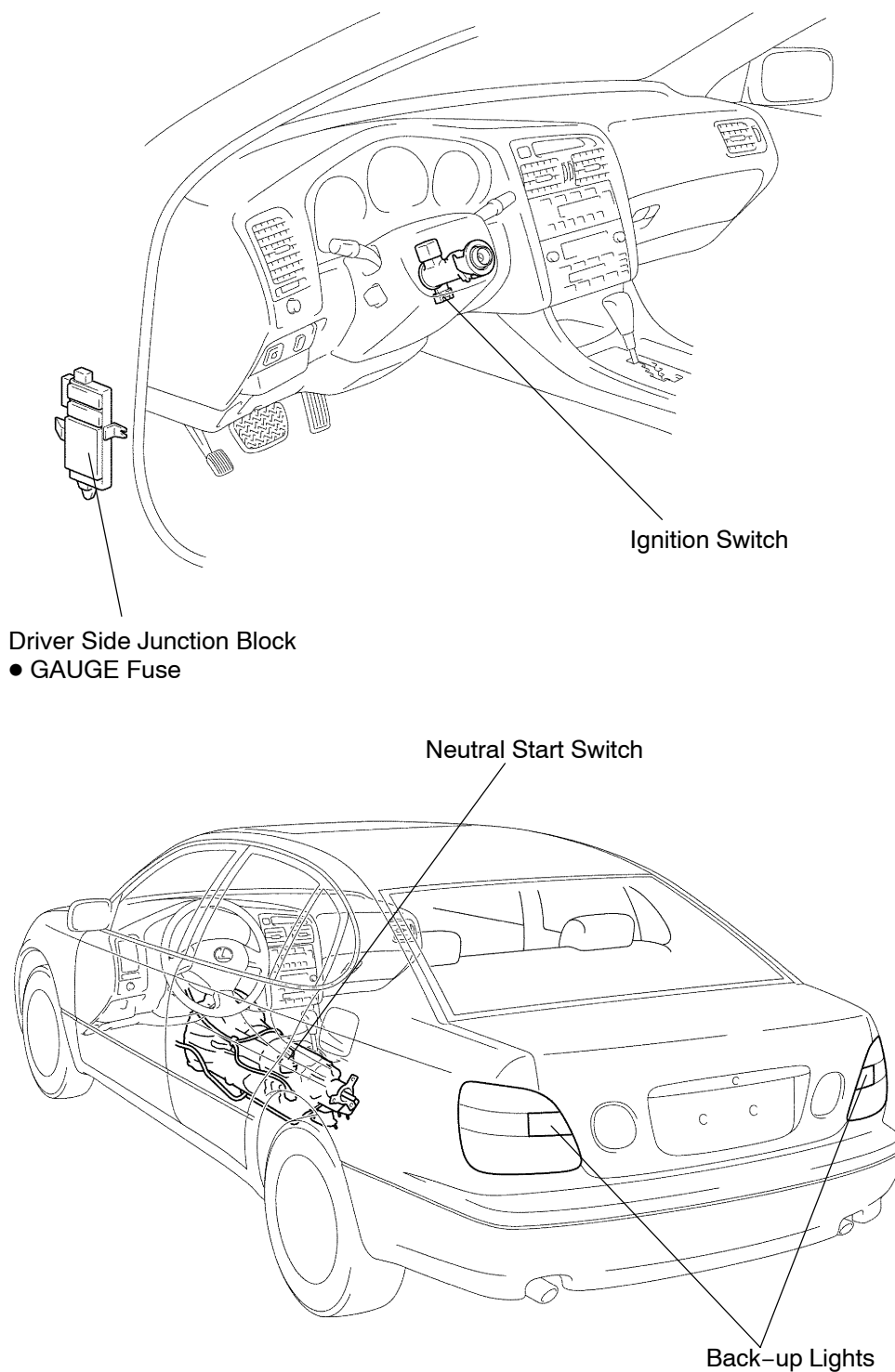
Disconnect the connector from the light and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
1 – Ground	Constant	Continuity
2 – Ground	Light control switch TAIL or HEAD	Battery voltage

If circuit is not as specified, inspect power source or wire harness.

BACK-UP LIGHT SYSTEM LOCATION

BEOGW-02



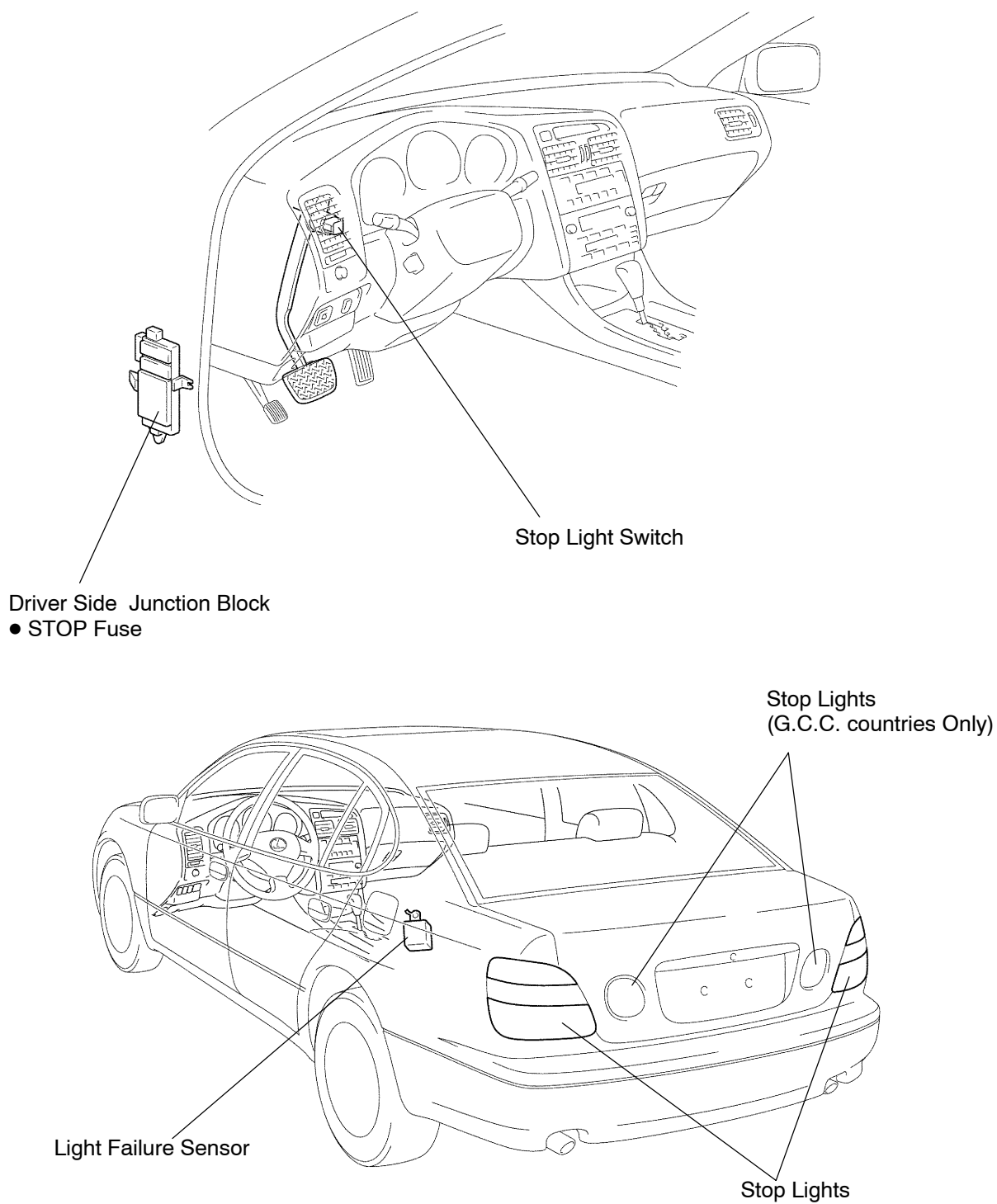
I05303

INSPECTION

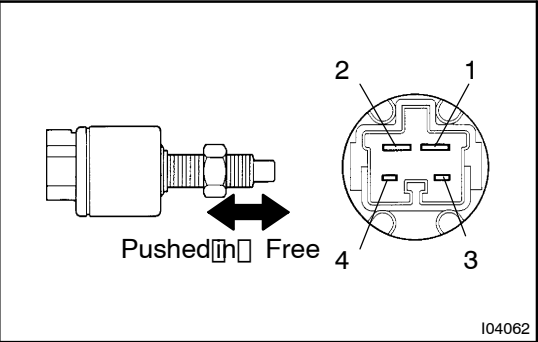
INSPECT NEUTRAL START SWITCH CONTINUITY
(See page DI-192)

STOP LIGHT SYSTEM LOCATION

BE0H6-02



I05304

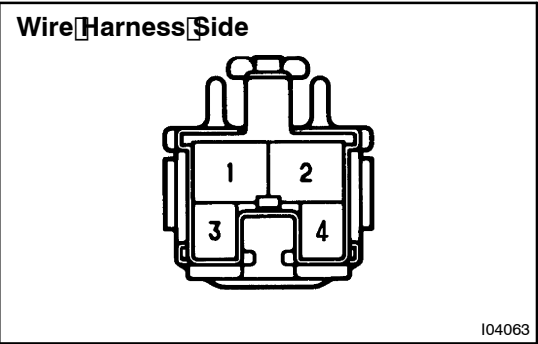


INSPECTION

1. INSPECT STOP LIGHT SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
Switch pin free (Pedal depressed)	-	No continuity
Switch pin pushed in (Pedal released)	1 - 2	Continuity
Switch pin free (Pedal depressed)	-	No continuity
Switch pin pushed in (Pedal released)	3 - 4	Continuity

If continuity is not as specified, replace the switch.

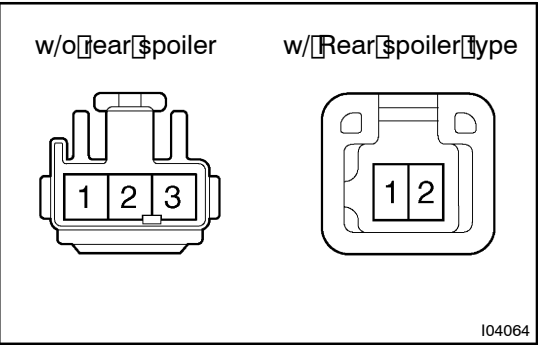


2. INSPECT STOP LIGHT SWITCH CIRCUIT
(See page DI-675)

Disconnect the connector from the switch and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
2 - Ground	Constant	Battery voltage

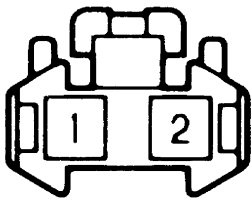
If circuit is not as specified, inspect the power source or wire harness.



3. INSPECT HI-MOUNTED STOP LIGHT CONTINUITY

Using an ohmmeter, check that continuity exists between terminals.
If continuity is not as specified, replace the light assembly or bulb.

WireHarnessSide



I04053

4. INSPECT HI-MOUNTED STOP LIGHT CIRCUIT

Disconnect the connector from the light and inspect the connector on the wire harness side, as shown.

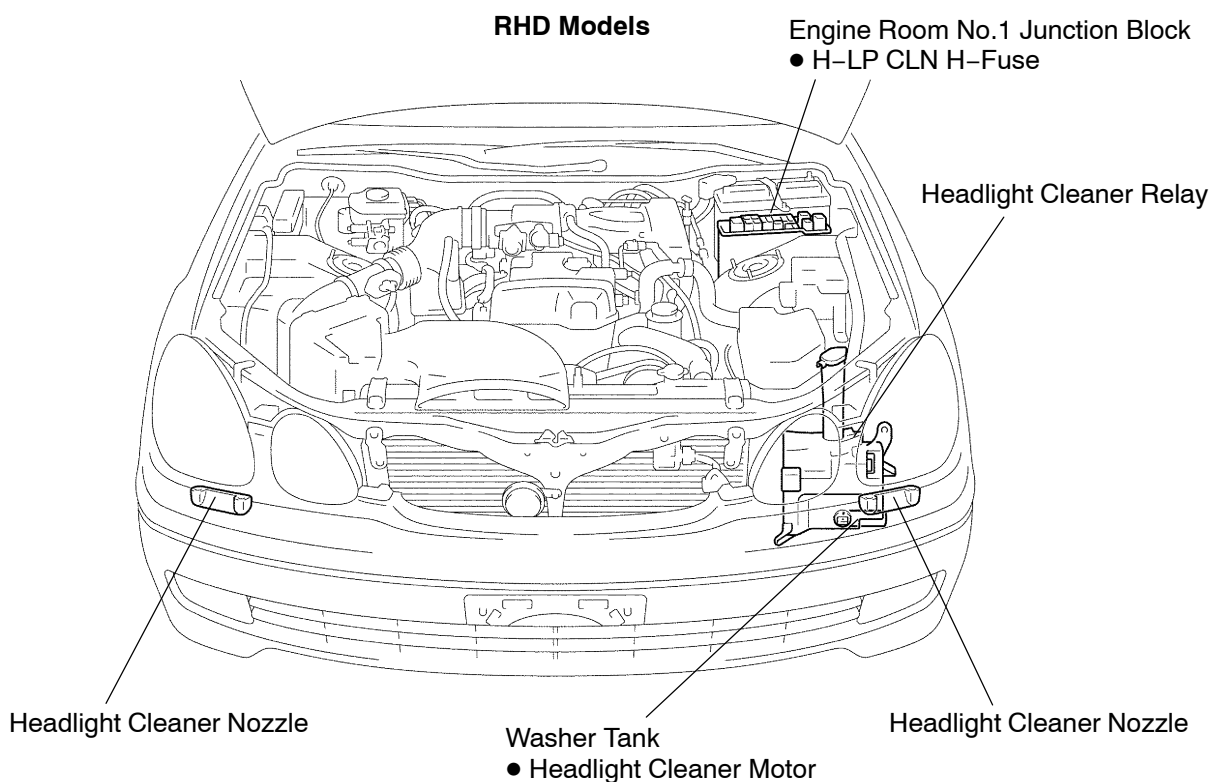
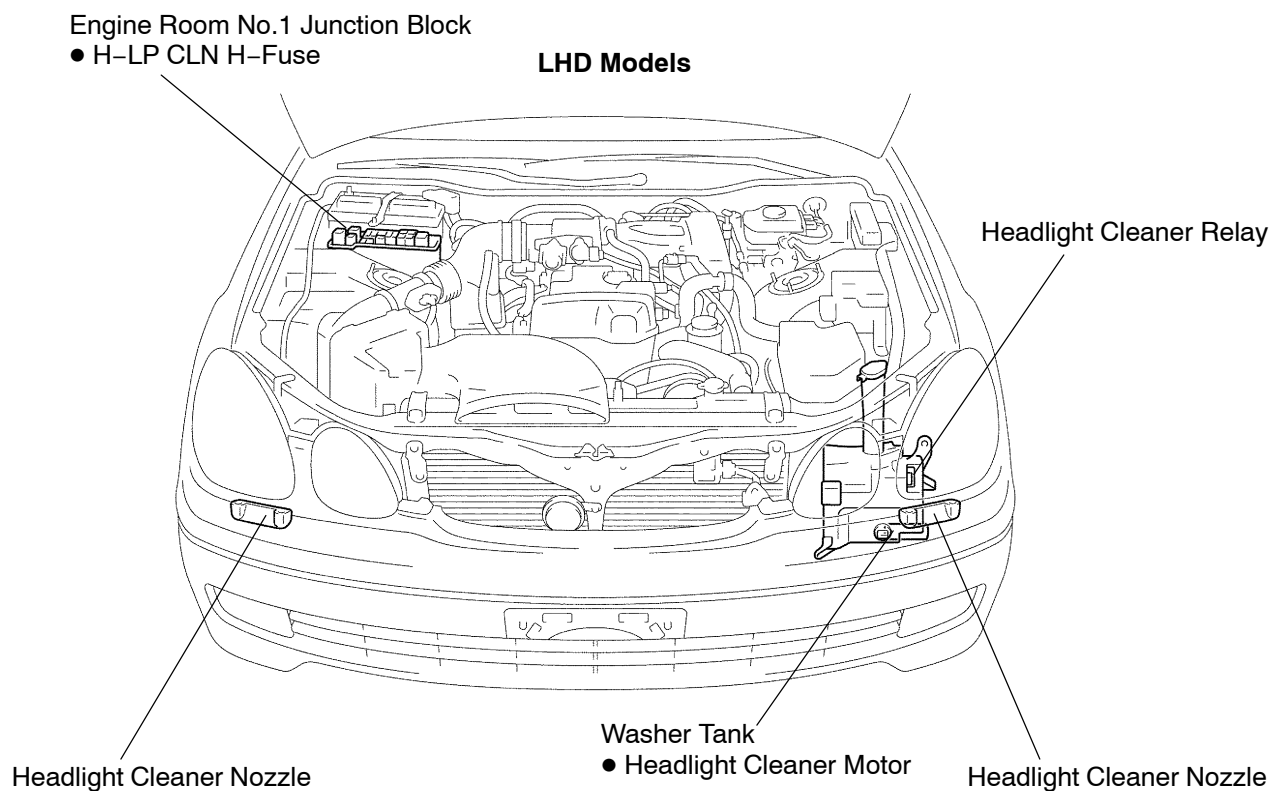
TesterConnection	Condition	SpecifiedCondition
2 - Ground	Constant	Continuity

If circuit is not as specified, inspect the power source or wire harness.

5. INSPECT LIGHT FAILURE SENSOR
(See page DI-677 and BE-105)

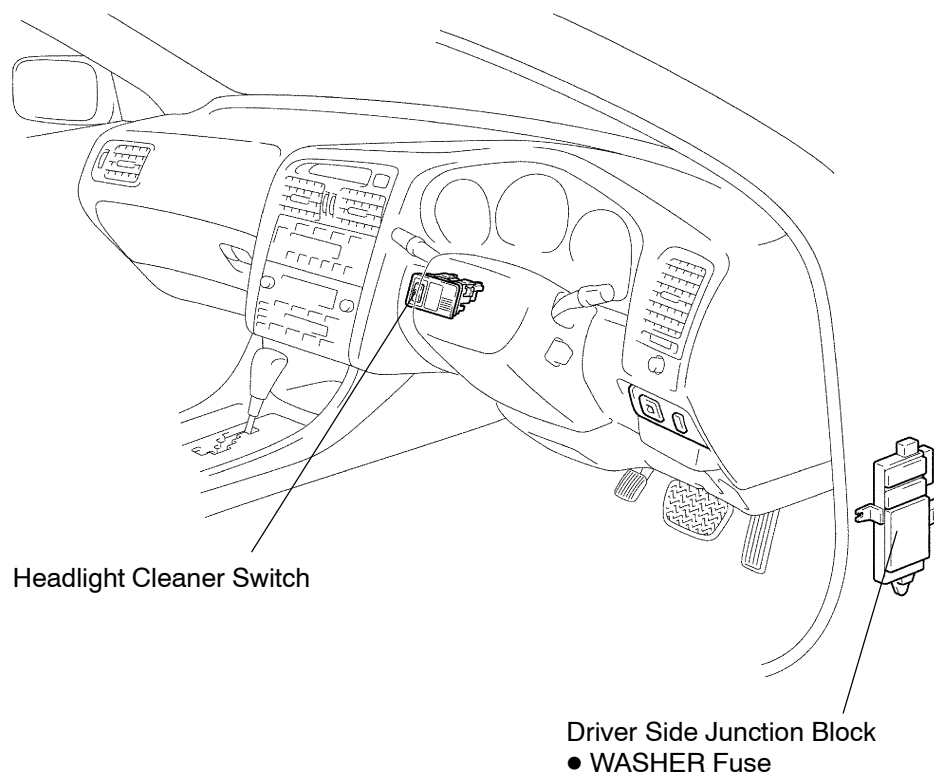
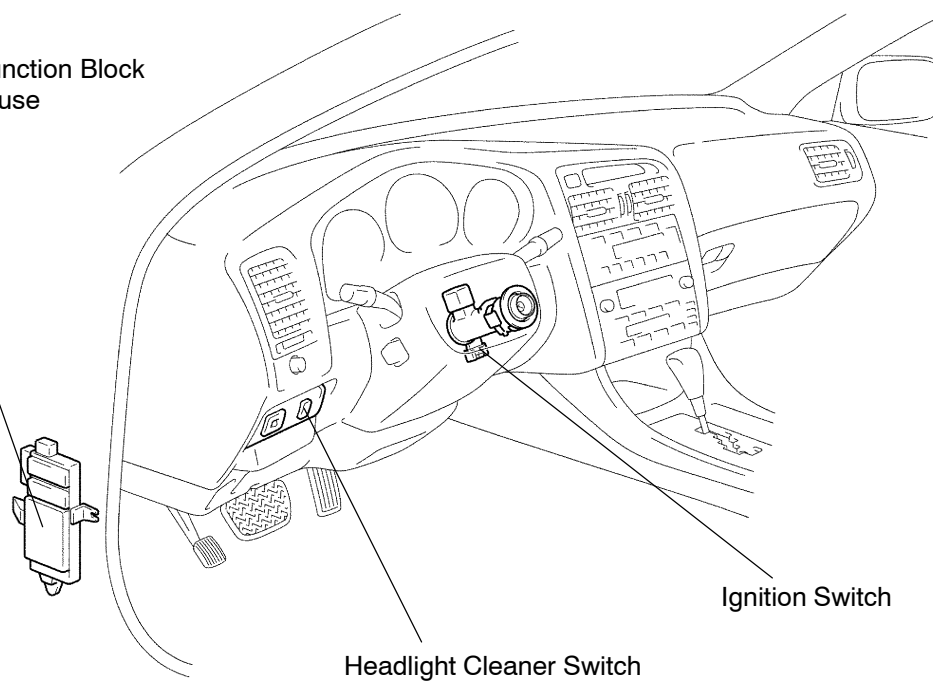
HEADLIGHT CLEANER SYSTEM LOCATION

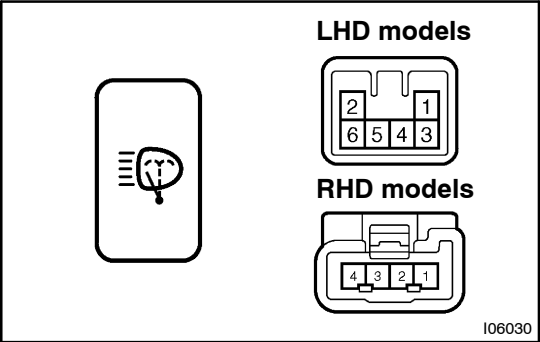
BE023-03



I05305

Driver Side Junction Block
● WASHER Fuse





INSPECTION

**1. LHD Models:
INSPECT HEADLIGHT CLEANER SWITCH CONTINUITY**

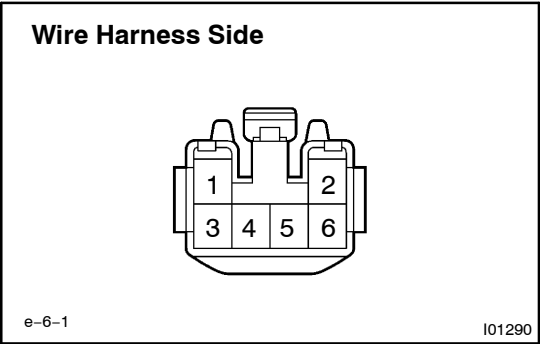
Switch position	Tester connection	Specified condition
OFF	-	No continuity
ON	2 - 4	Continuity
Illumination circuit	5 - 6	Continuity

If continuity is not as specified, replace the switch.

**2. RHD Models:
INSPECT HEADLIGHT CLEANER SWITCH CONTINUITY**

Switch position	Tester connection	Specified condition
OFF	-	No continuity
ON	1 - 4	Continuity
Illumination circuit	2 - 3	Continuity

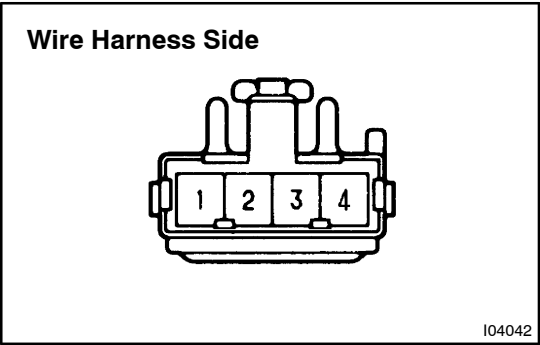
If continuity is not as specified, replace the switch.



**3. LHD Models:
INSPECT HEADLIGHT CLEANER SWITCH CIRCUIT**
Disconnect the switch connector and inspect the connector on wire harness side, as shown.

Tester connection	Condition	Specified condition
2 - Ground	Headlight ON	Continuity
2 - Ground	Headlight OFF	No continuity

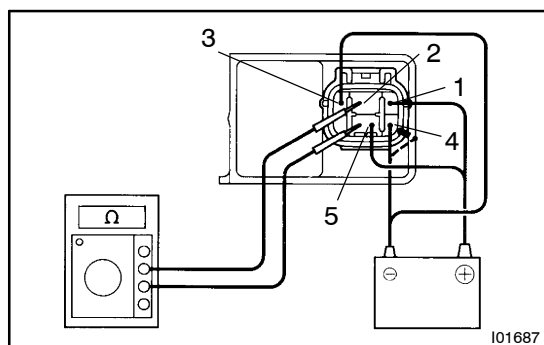
If circuit is not as specified, inspect the circuits connected to other parts.



**4. RHD Models:
INSPECT HEADLIGHT CLEANER SWITCH CIRCUIT**
Disconnect the switch connector and inspect the connector on wire harness side, as shown.

Tester connection	Condition	Specified condition
1 - Ground	Headlight ON	Continuity
1 - Ground	Headlight OFF	No continuity

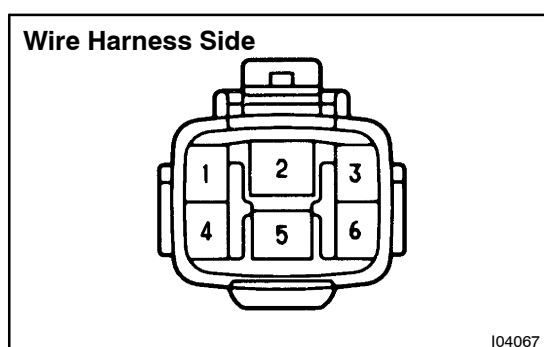
If circuit is not as specified, inspect the circuits connected to other parts.



5. INSPECT HEADLIGHT CLEANER RELAY OPERATION

- Check that no continuity exists between terminals 2 and 5.
- Connect the positive (+) lead from the battery to terminals 1 and 5, and the negative (-) lead to terminal 3.
- Connect the negative (-) lead from the battery to terminal 4, and check that continuity exists between terminals 2 and 5 for 0.9 - 1.1 seconds, then no continuity exists.

If operation is not as specified, replace the motor.

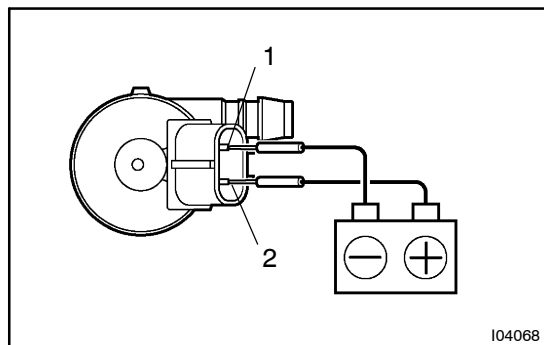


6. INSPECT HEADLIGHT CLEANER RELAY CIRCUIT

Disconnect the connector from the relay and inspect the connector on wire harness side, as shown.

Tester connection	Condition	Specified condition
2 - Ground 3 - Ground	Constant	Continuity
4 - Ground	Ignition switch ON, light control switch in HEAD and cleaner switch OFF	No continuity
4 - Ground	Ignition switch ON, light control switch in HEAD and cleaner switch ON or daytime running light system operating	Continuity
1 - Ground	Ignition switch OFF or ACC	No voltage
1 - Ground	Ignition switch ON	Battery voltage
5 - Ground	Constant	Battery voltage

If circuit is not as specified, inspect the circuits connected to other parts.



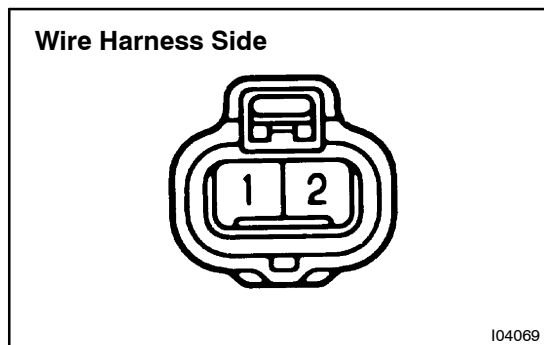
7. INSPECT HEADLIGHT CLEANER MOTOR OPERATION

Connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1, check that the motor operates.

NOTICE:

These tests must be performed quickly (within 20 seconds) to prevent the coil from burning out.

If operation is not as specified, replace the motor.



8. INSPECT HEADLIGHT CLEANER MOTOR CIRCUIT

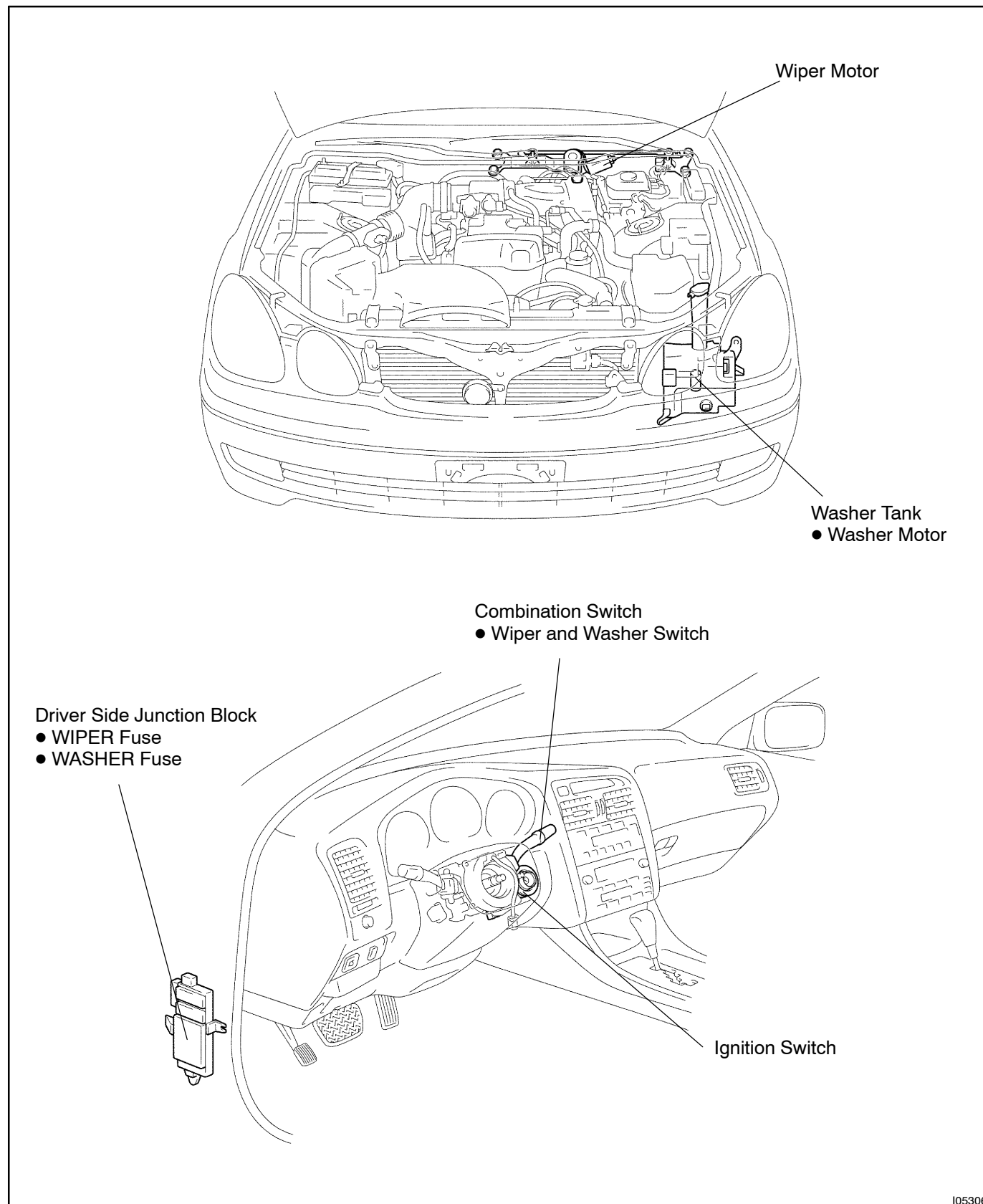
Disconnect the connector from the cleaner motor and inspect the connector on wire harness side, as shown.

Tester connection	Condition	Specified condition
2 - Ground	Constant	Continuity

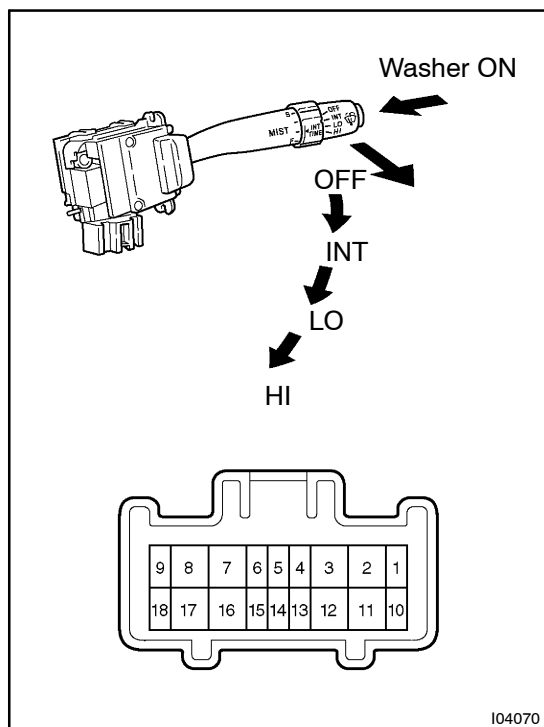
If circuit is not as specified, inspect the circuits connected to other parts.

WIPER AND WASHER SYSTEM LOCATION

BE0HN-02



I05306

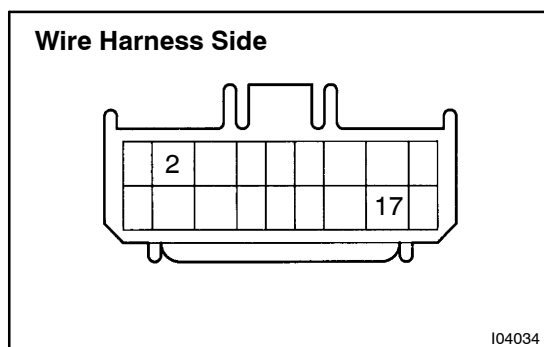


INSPECTION

1. Ex. Australia Models: INSPECT WIPER AND WASHER SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
OFF	7 – 16	Continuity
INT	7 – 16	Continuity
LO	7 – 17	Continuity
HI	8 – 17	Continuity
Washer OFF	–	No continuity
Washer ON	2 – 11	Continuity

If continuity is not as specified, replace the switch.

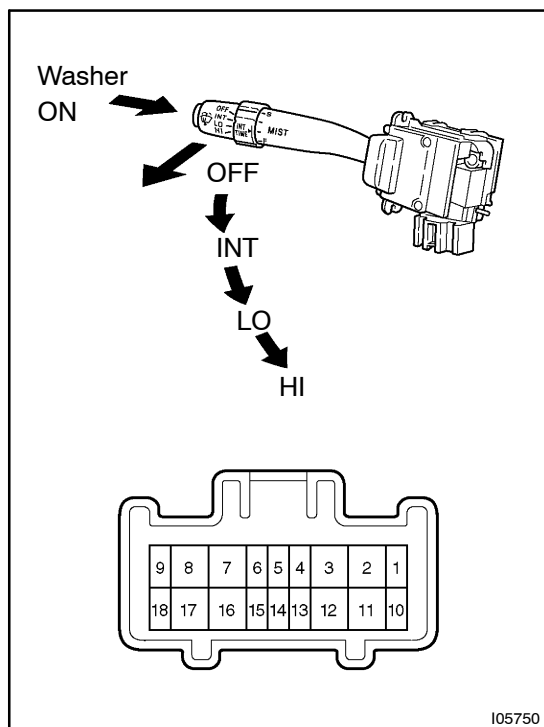


2. Ex. Australia Models: INSPECT WIPER AND WASHER SWITCH CIRCUIT Connector disconnected:

Disconnect the connector from the motor and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
2 – Ground	Constant	Continuity
17 – Ground	Ignition switch LOCK or ACC	No voltage
17 – Ground	Ignition switch ON	Battery voltage

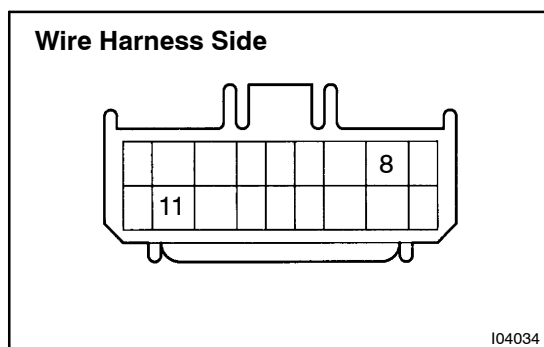
If circuit is not as specified, inspect the circuits connected to other parts.



3. Australia Models: INSPECT WIPER AND WASHER SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
OFF	3 – 12	Continuity
INT	3 – 12	Continuity
LO	3 – 11	Continuity
HI	2 – 11	Continuity
Washer OFF	–	No continuity
Washer ON	8 – 17	Continuity

If continuity is not as specified, replace the switch.

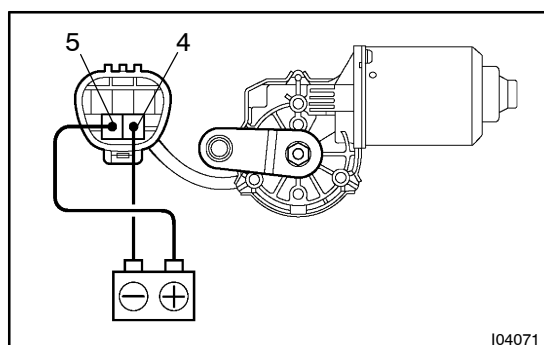


4. Australia Models: INSPECT WIPER AND WASHER SWITCH CIRCUIT Connector disconnected:

Disconnect the connector from the motor and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
8 – Ground	Constant	Continuity
11 – Ground	Ignition switch LOCK or ACC	No voltage
11 – Ground	Ignition switch ON	Battery voltage

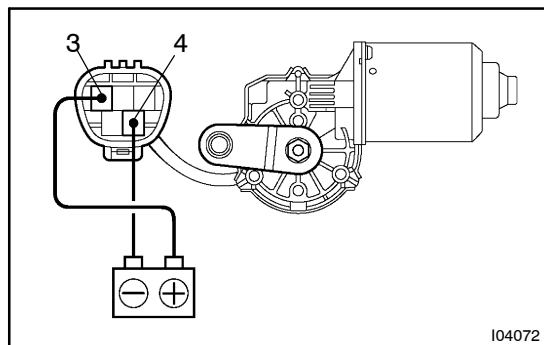
If circuit is not as specified, inspect the circuits connected to other parts.



5. LHD Models: INSPECT WIPER MOTOR OPERATION Low Speed:

Connect the positive (+) lead from the battery to terminal 5 and the negative (–) lead to terminal 4, check that the motor operates at low speed.

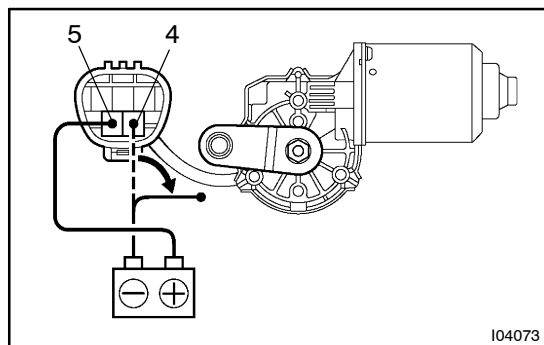
If operation is not as specified, replace the motor.



6. LHD Models:
INSPECT WIPER MOTOR OPERATION
High Speed:

Connect the positive (+) lead from the battery to terminal 3 and the negative (–) lead to terminal 4, check that the motor operates at high speed.

If operation is not as specified, replace the motor.



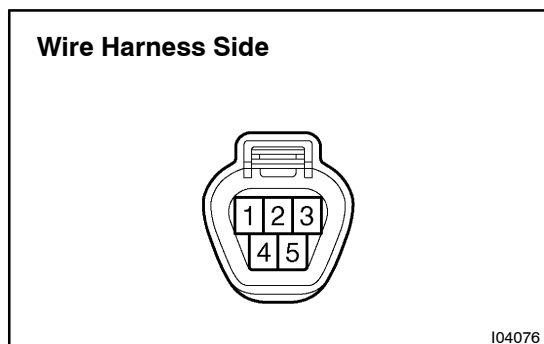
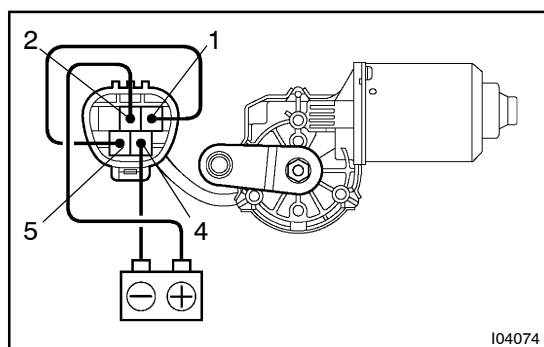
7. LHD Models:
INSPECT WIPER MOTOR OPERATION
Stopping at Stop Position:

(a) Operate the motor at low speed and stop the motor operation anywhere except at the stop position by disconnecting positive (+) lead from terminal 5.

(b) Connect terminals 1 and 5.

(c) Connect the positive (+) lead from the battery to terminal 2 and negative (–) lead to terminal 4, check that the motor stops running at the stop position after the motor operates again.

If operation is not as specified, replace the motor.

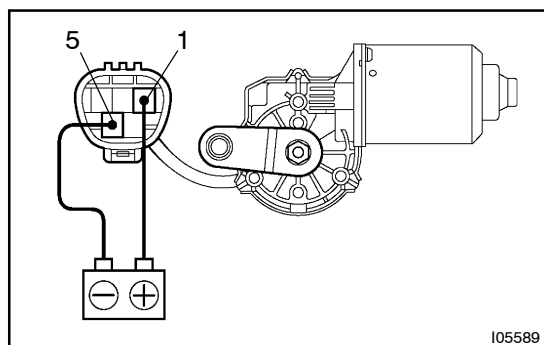


8. LHD Models:
INSPECT WIPER MOTOR CIRCUIT
Connector disconnected:

Disconnect the connector from the motor and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
4 – Ground	Constant	Continuity
2 – Ground	Ignition switch LOCK or ACC	No voltage
2 – Ground	Ignition switch ON	Battery voltage

If circuit is not as specified, inspect the circuits connected to other parts.

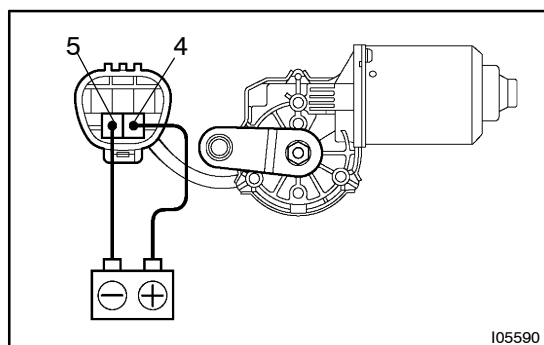


9. RHD Models:
INSPECT WIPER MOTOR OPERATION

Low Speed:

Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 5, check that the motor operates at low speed.

If operation is not as specified, replace the motor.

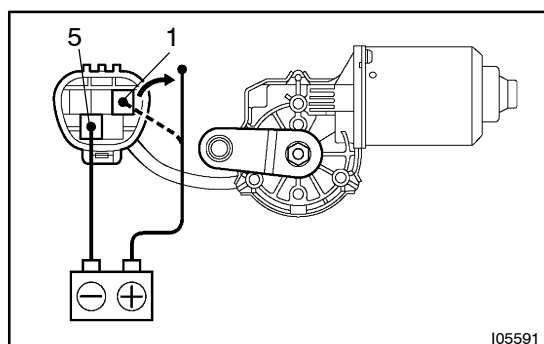


10. RHD Models:
INSPECT WIPER MOTOR OPERATION

High Speed:

Connect the positive (+) lead from the battery to terminal 4 and the negative (-) lead to terminal 5, check that the motor operates at high speed.

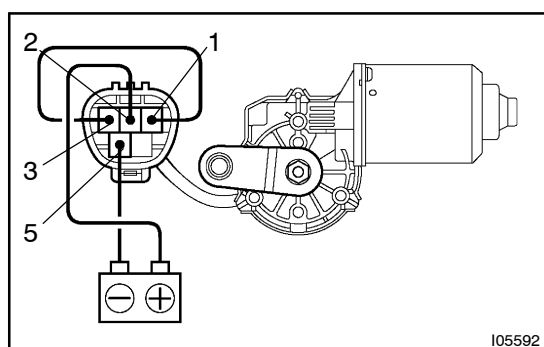
If operation is not as specified, replace the motor.



11. RHD Models:
INSPECT WIPER MOTOR OPERATION

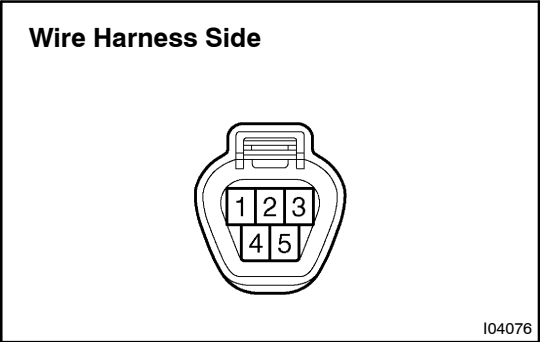
Stopping at Stop Position:

- (a) Operate the motor at low speed and stop the motor operation anywhere except at the stop position by disconnecting positive (+) lead from terminal 1.



- (b) Connect terminals 1 and 3.
(c) Connect the positive (+) lead from the battery to terminal 2 and negative (-) lead to terminal 5, check that the motor stops running at the stop position after the motor operates again.

If operation is not as specified, replace the motor.

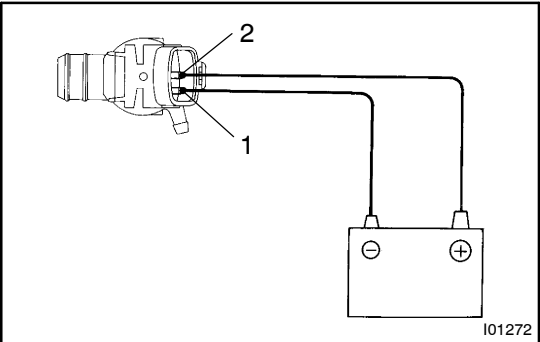


12. RHD Models:
INSPECT WIPER MOTOR CIRCUIT
Connector disconnected:

Disconnect the connector from the motor and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
5 – Ground	Constant	Continuity
2 – Ground	Ignition switch LOCK or ACC	No voltage
2 – Ground	Ignition switch ON	Battery voltage

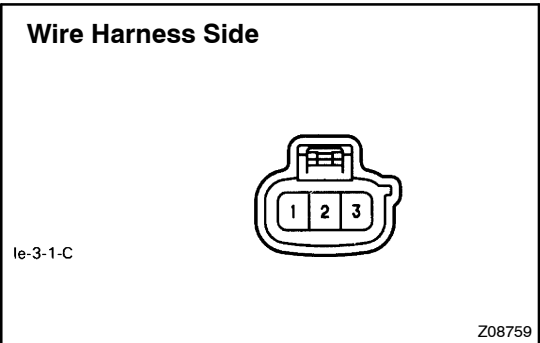
If circuit is not as specified, inspect the circuits connected to other parts.



13. INSPECT WASHER MOTOR OPERATION

Connect the positive (+) lead from the battery to terminal 2 and the negative (–) lead to terminal 1, check that the motor operates.

NOTICE:
These tests must be performed quickly (within 20 seconds) to prevent the coil from burning out.
If operation is not as specified, replace the motor.



14. INSPECT WASHER MOTOR CIRCUIT
Connector disconnected:

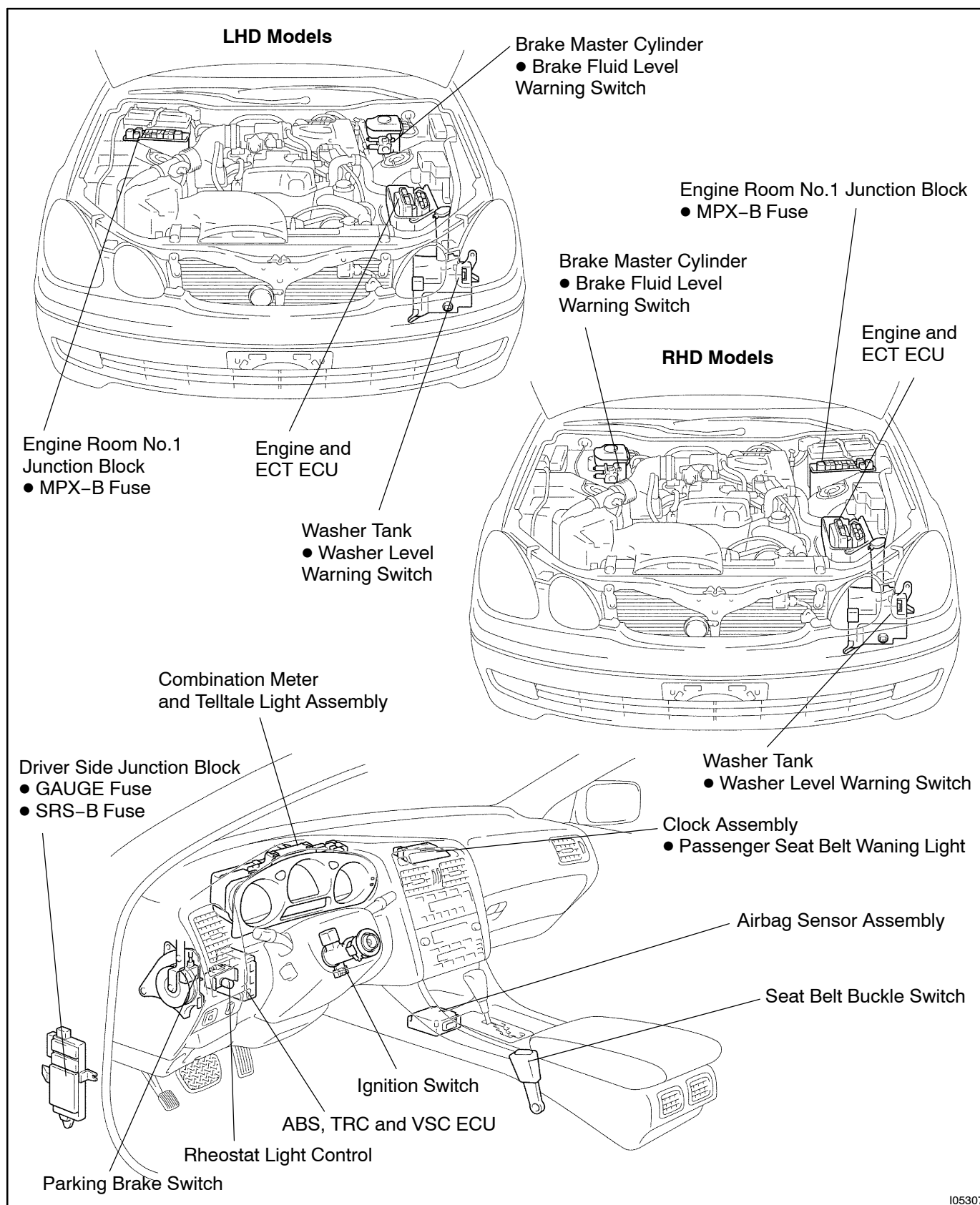
Disconnect the connector from the motor and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
2 – Ground	Ignition switch ON	Battery voltage

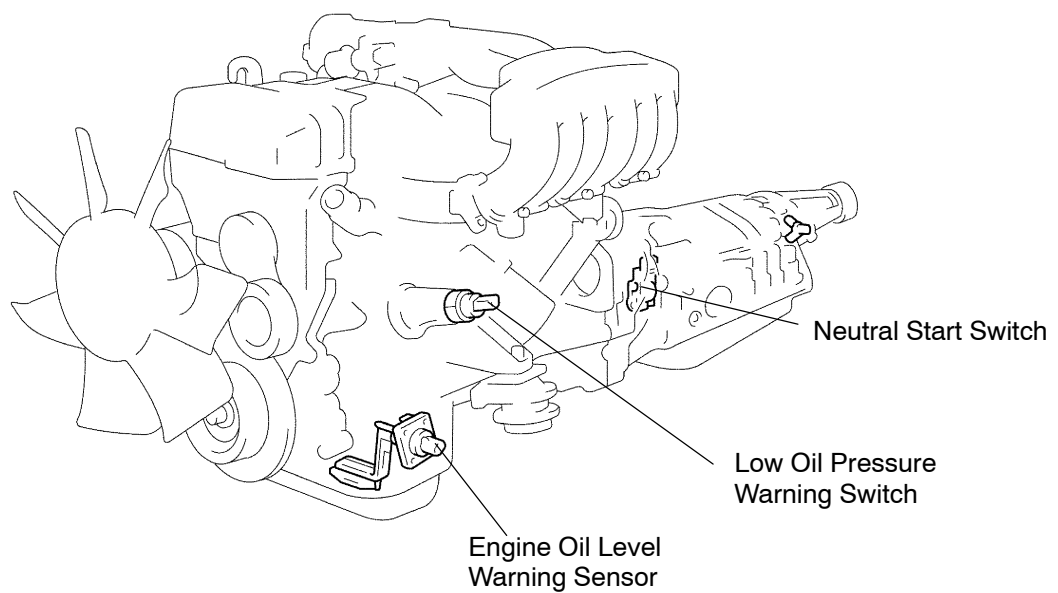
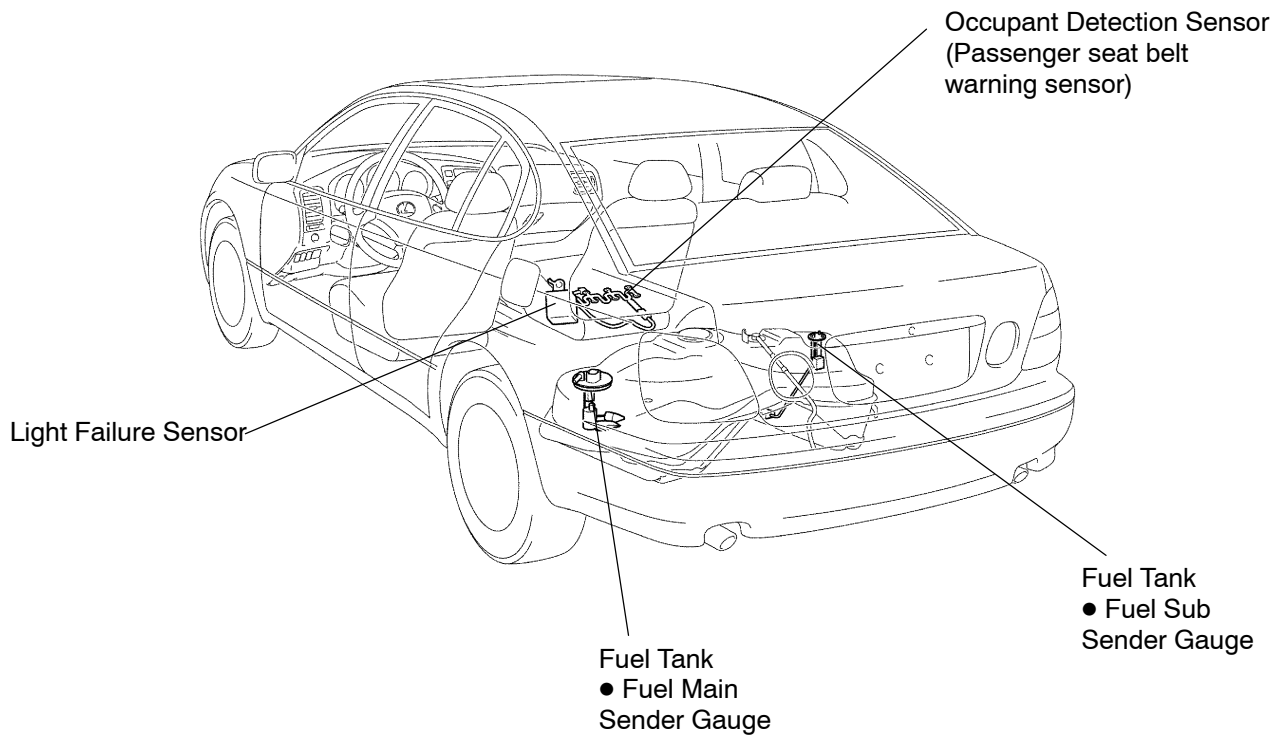
If circuit is not as specified, inspect the power source, wire harness and wiper switch.

COMBINATION METER LOCATION

BE0HH-03

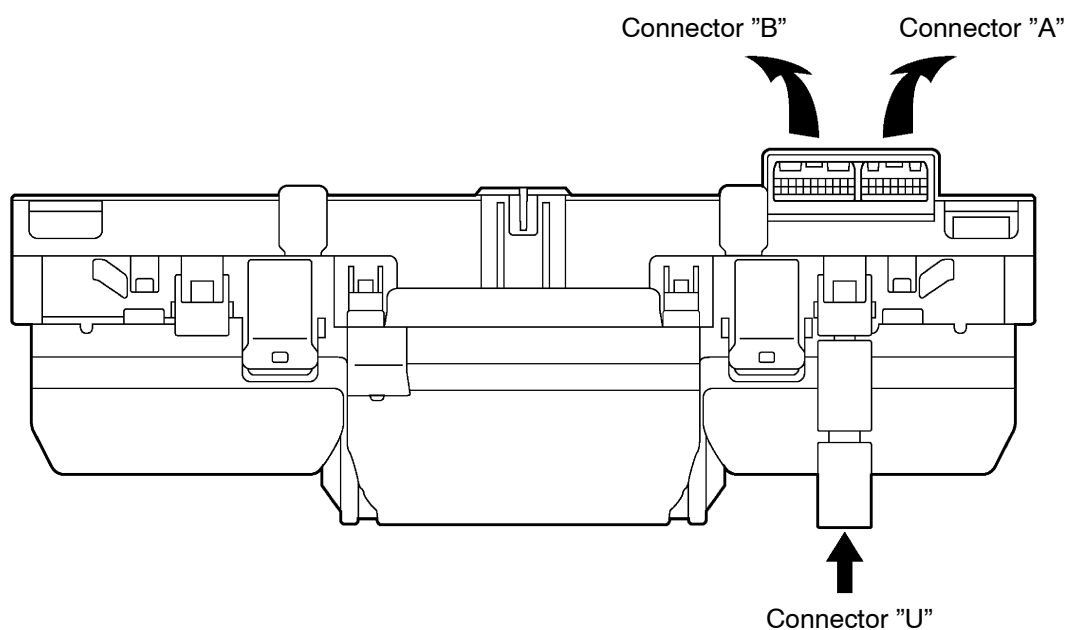
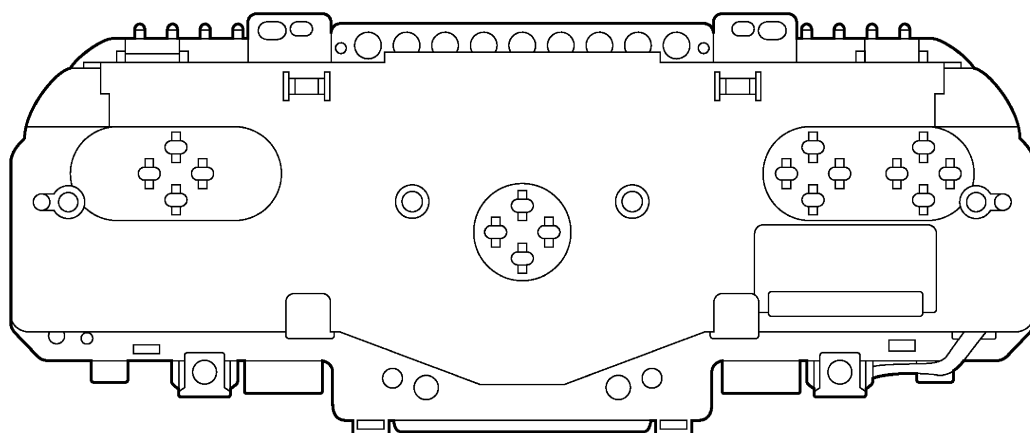


I05307

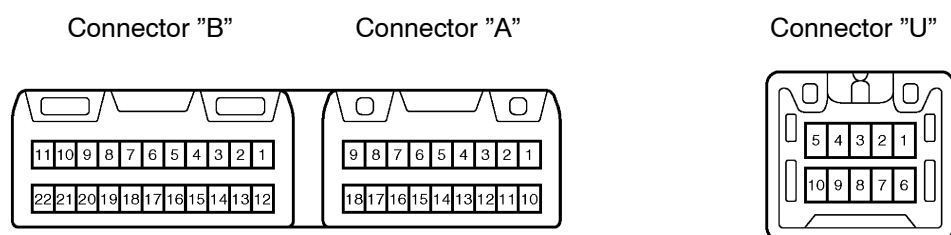


CIRCUIT

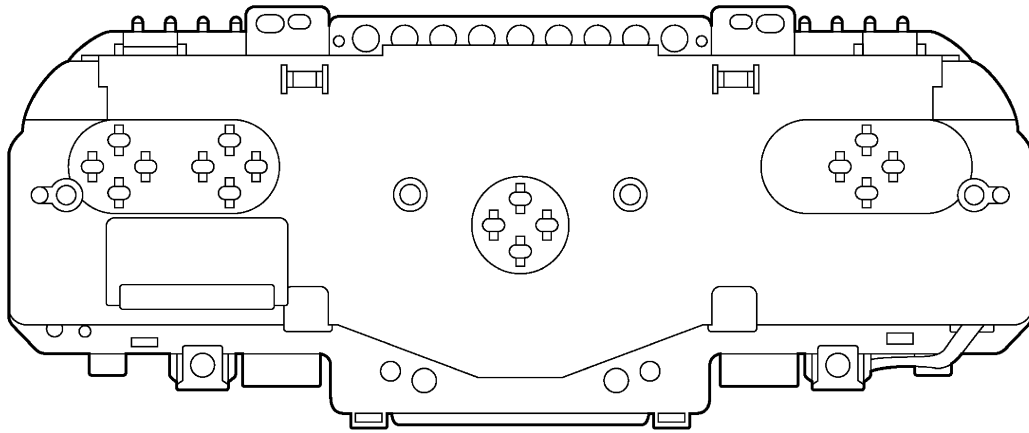
LHD Models



Combination Meter Wiring Circuit Connectors

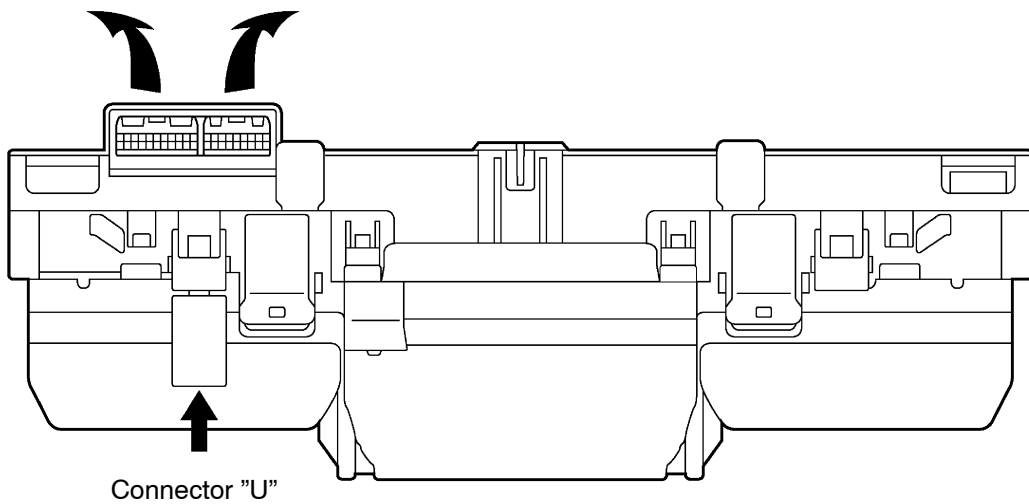


RHD Models



Connector "A"

Connector "B"

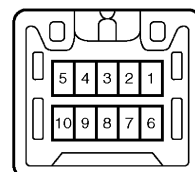
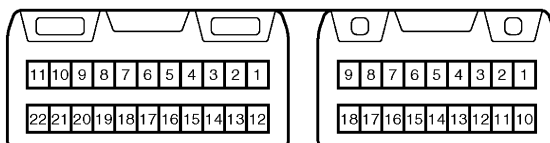


Combination Meter Wiring Circuit Connectors

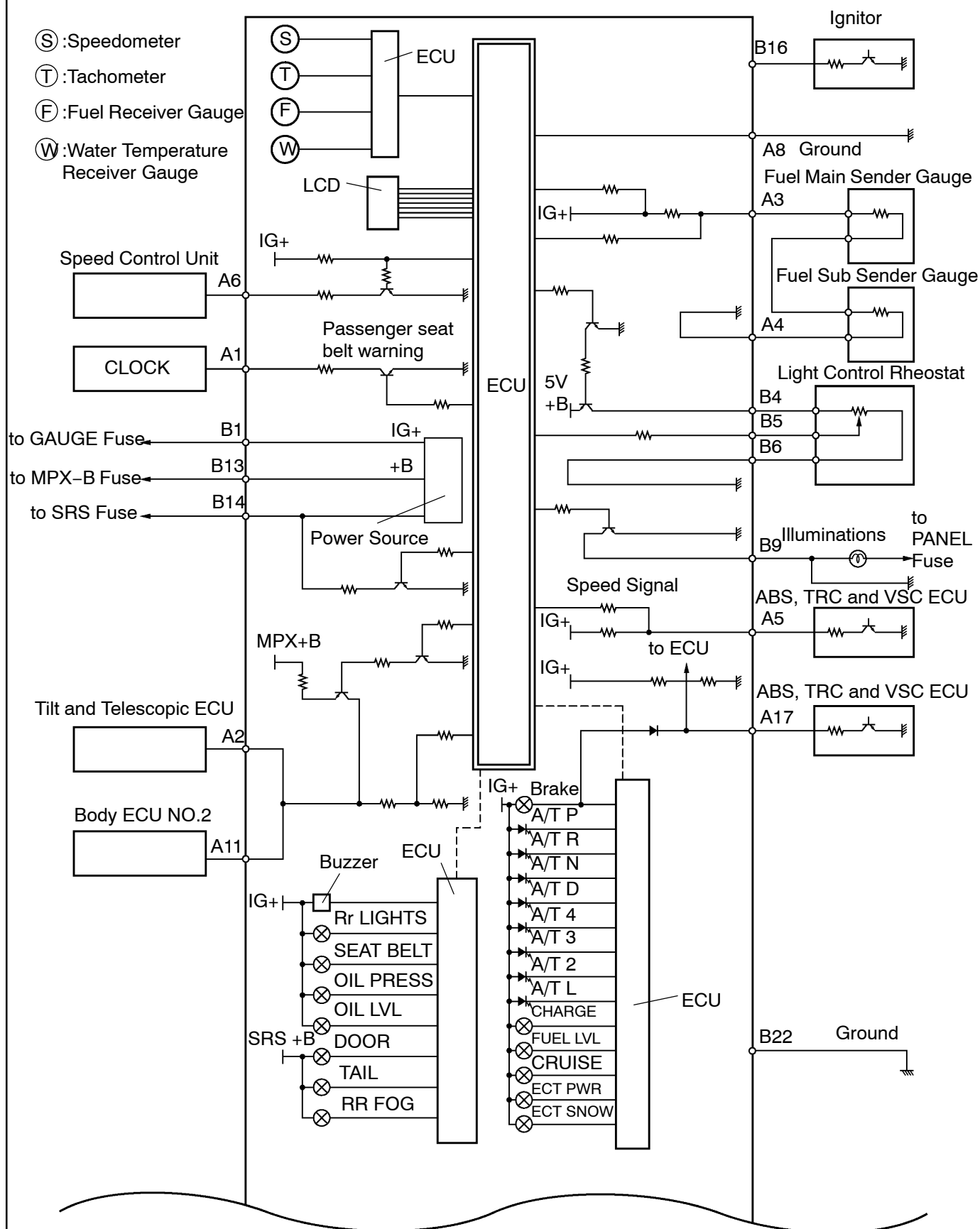
Connector "B"

Connector "A"

Connector "U"

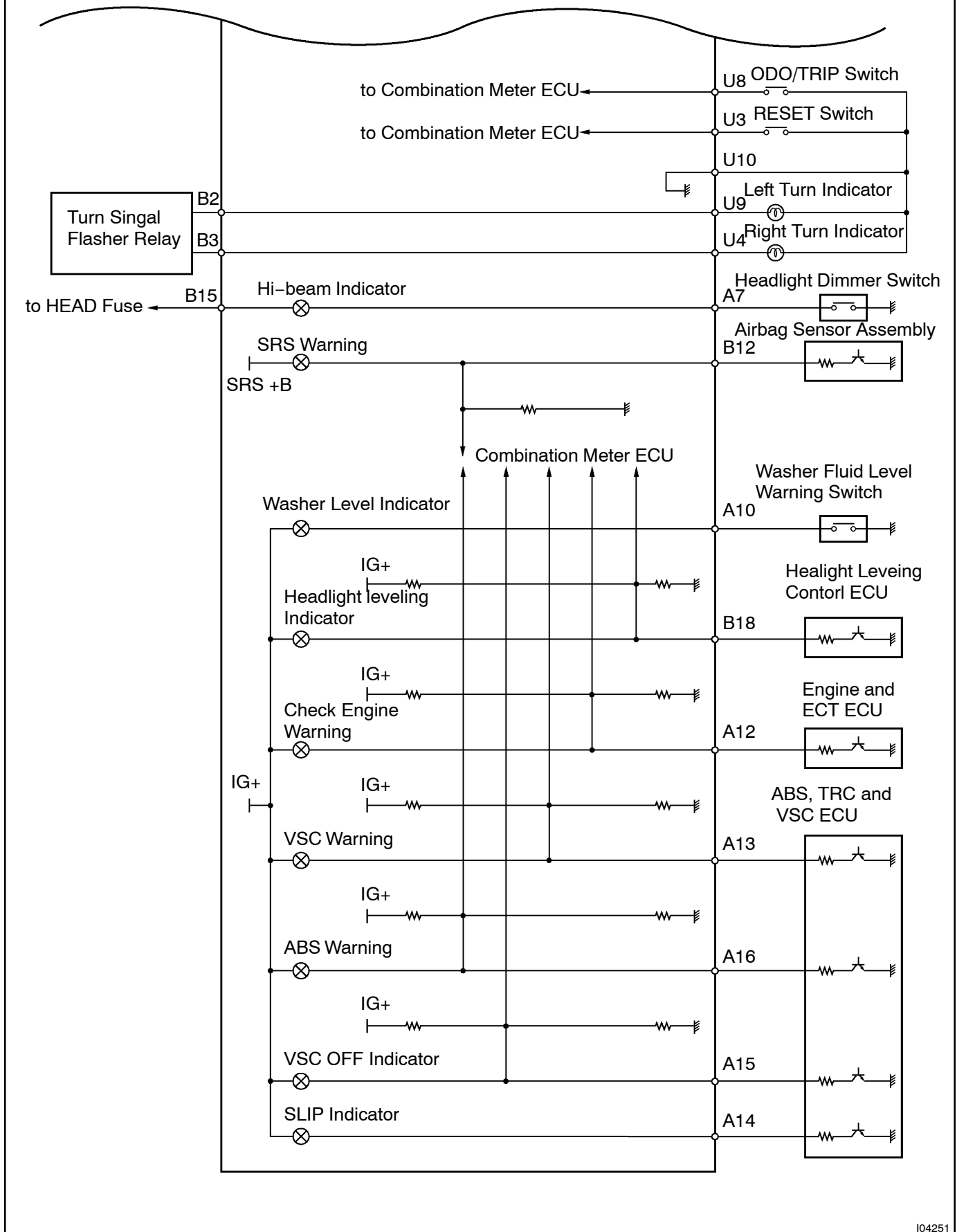


• Combination Meter Wiring Circuit - 1

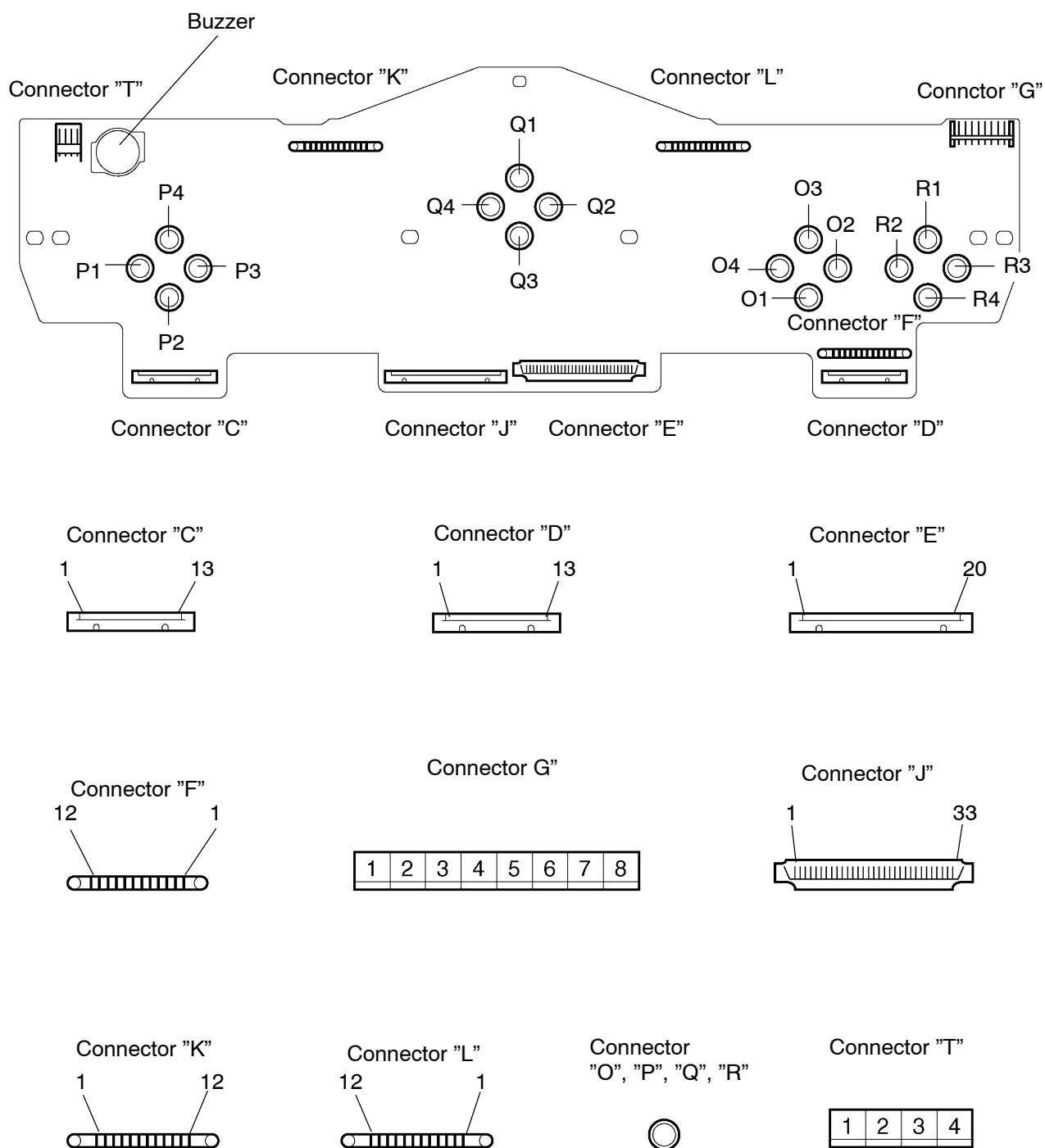


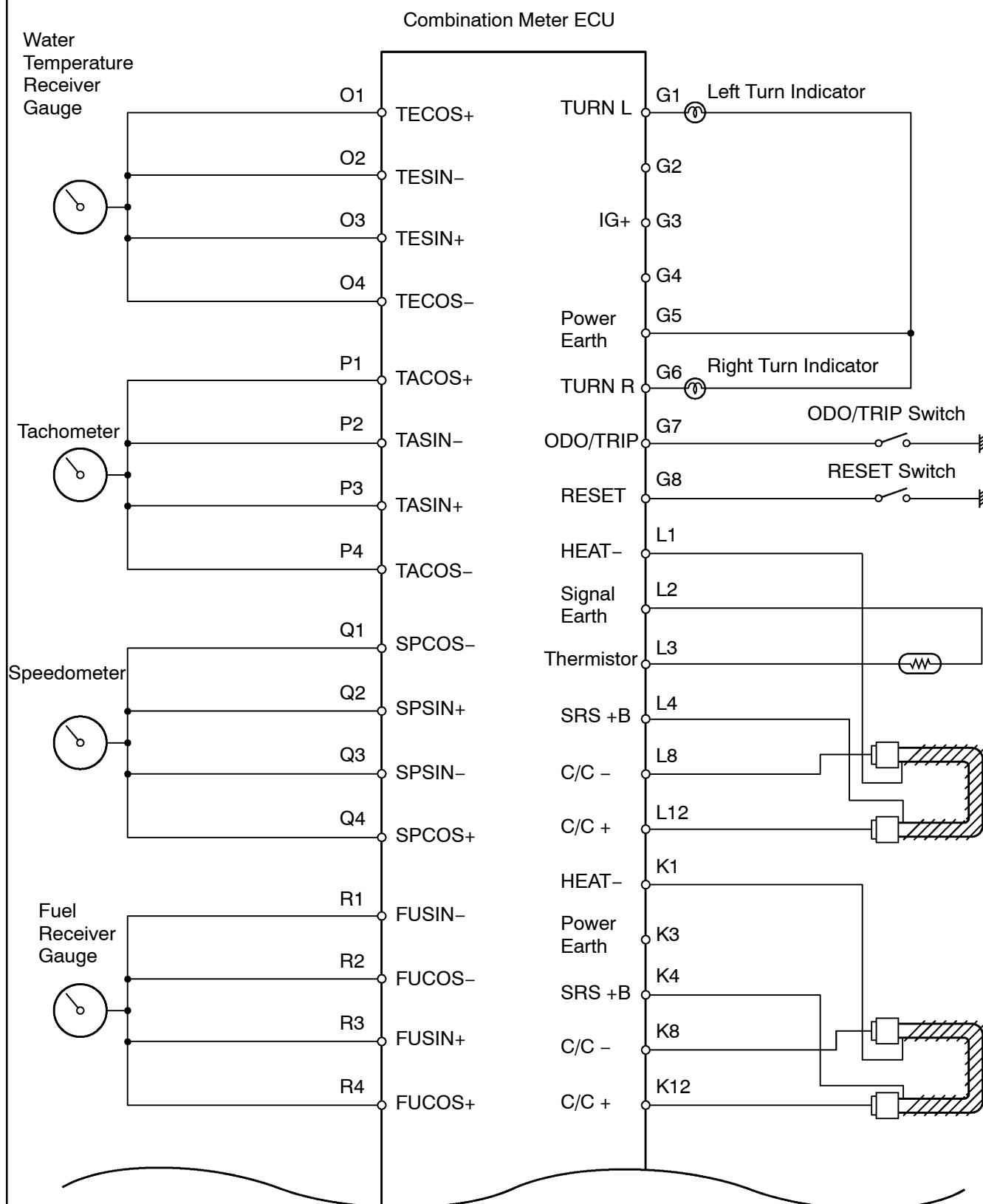
I05584

• Combination Meter Wiring Circuit - 2



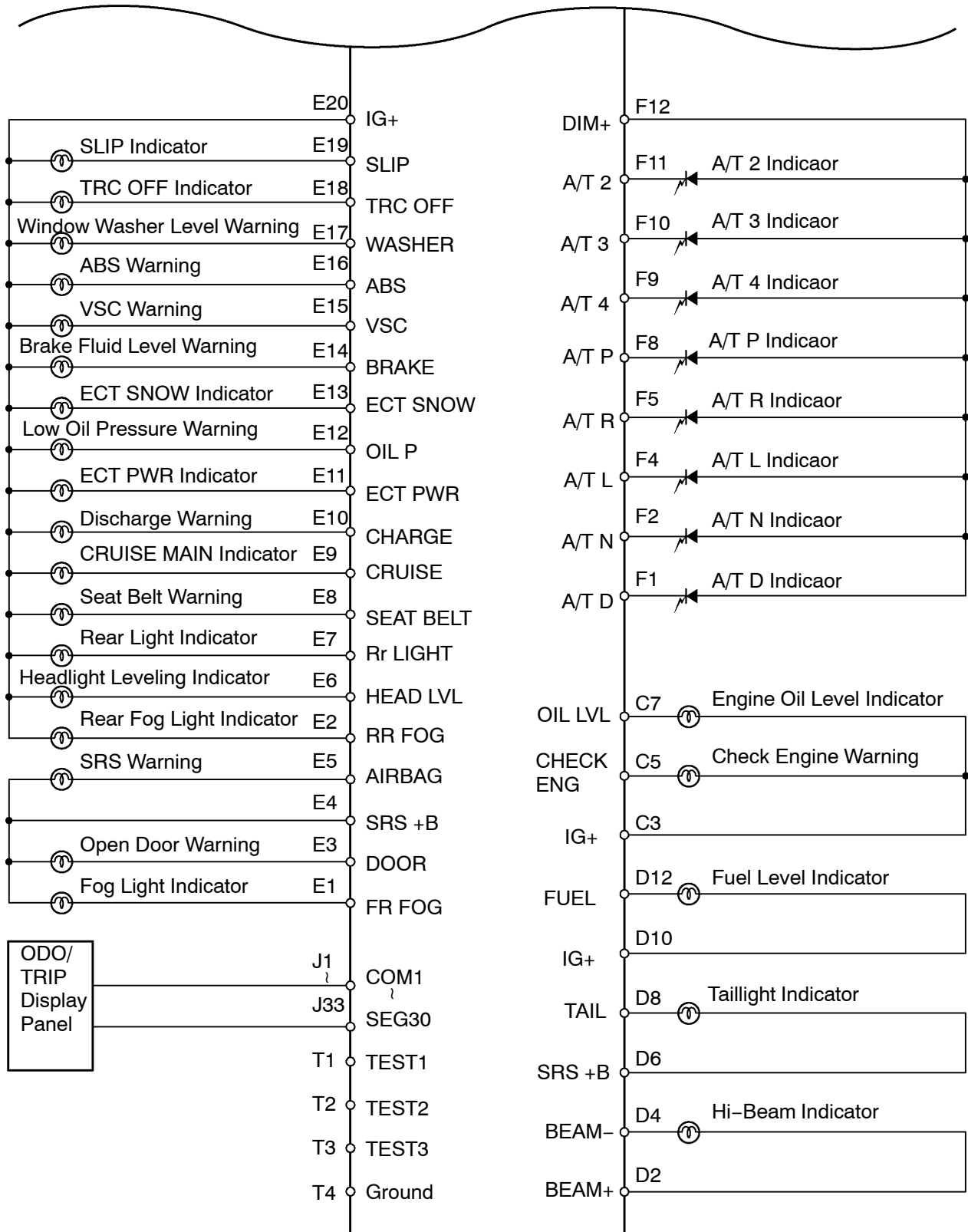
No.		Wiring connector side
A	1	Clock (Passenger seat belt warning light)
	2	Tilt and telescopic ECU
	3	Fuel main sender gauge
	4	Fuel sub sender gauge
	5	ABS, TRC and VSC ECU (Speed signal)
	6	Speed control unit
	7	Headlight dimmer switch
	8	Ground
	10	Window washer level warning switch
	11	Body control No.2 ECU
	12	Engine and ECT ECU
	13	ABS, TRC and VSC ECU (VSC warning light)
	14	ABS, TRC and VSC ECU (SLIP warning light)
	15	ABS, TRC and VSC ECU (VSC OFF warning light)
	16	ABS, TRC and VSC ECU (ABS warning light)
	17	ABS, TRC and VSC ECU (Brake warning light)
B	1	GAUGE fuse
	2	Turn signal flasher (Left turn side)
	3	Turn signal flasher (Right turn side)
	4	Light control rheostat (+B)
	5	Light control rheostat (Signal)
	6	Light control rheostat (Ground)
	9	Illuminations
	12	Airbag sensor assembly
	13	MPX+B fuse
	14	DOVE+B fuse
	15	HEAD-RH fuse
	16	Igniter
	18	Headlight beam leveling control ECU
	22	Ground
U	1	Telltale light assembly (IG+)
	3	Telltale light assembly (ODO/TRIP switch)
	4	Telltale light assembly (Right turn signal)
	8	Telltale light assembly (RESET switch)
	9	Telltale light assembly (Left turn signal)
	10	Ground

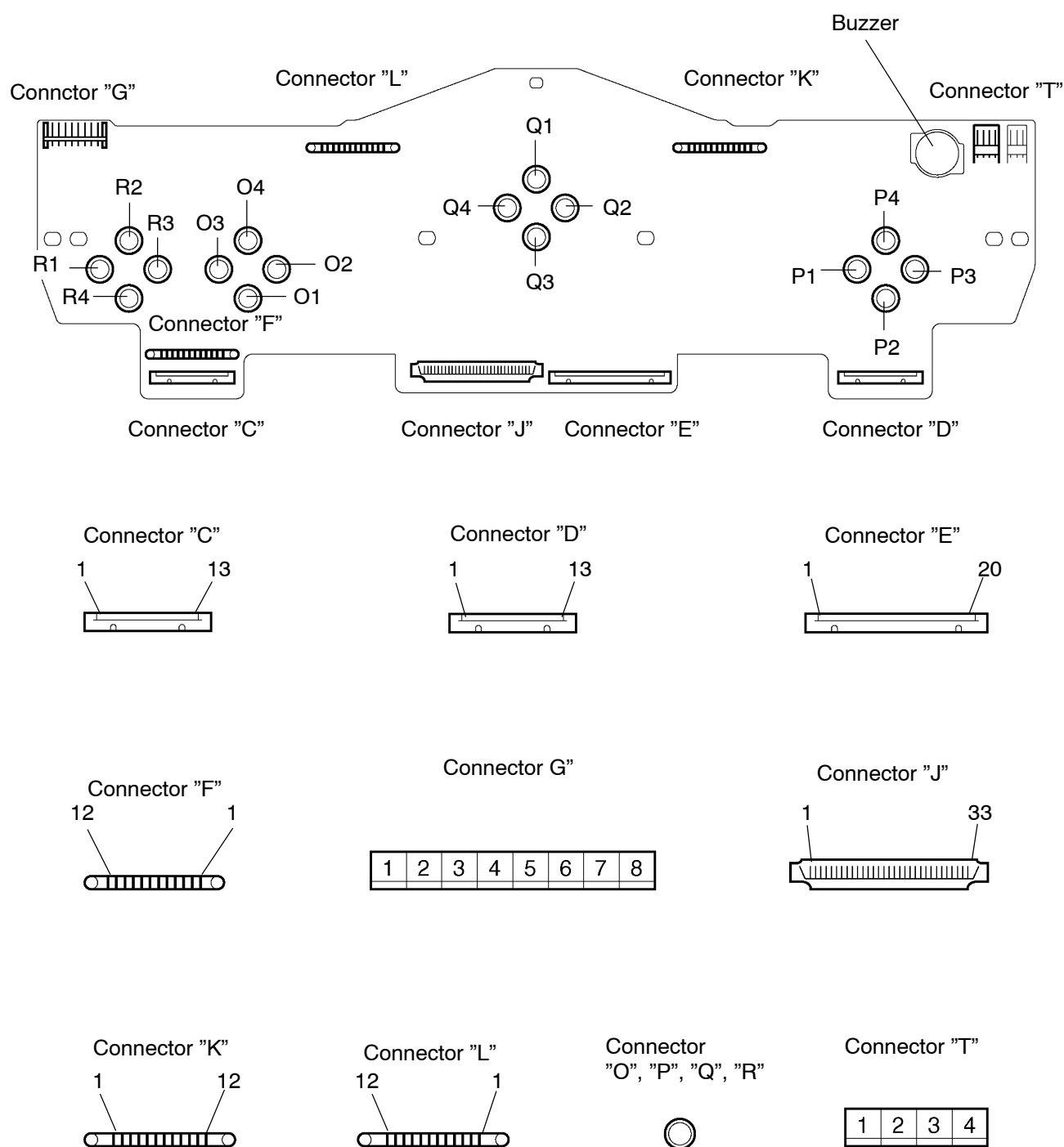
LHD Models:**• Combination Meter ECU Plate**

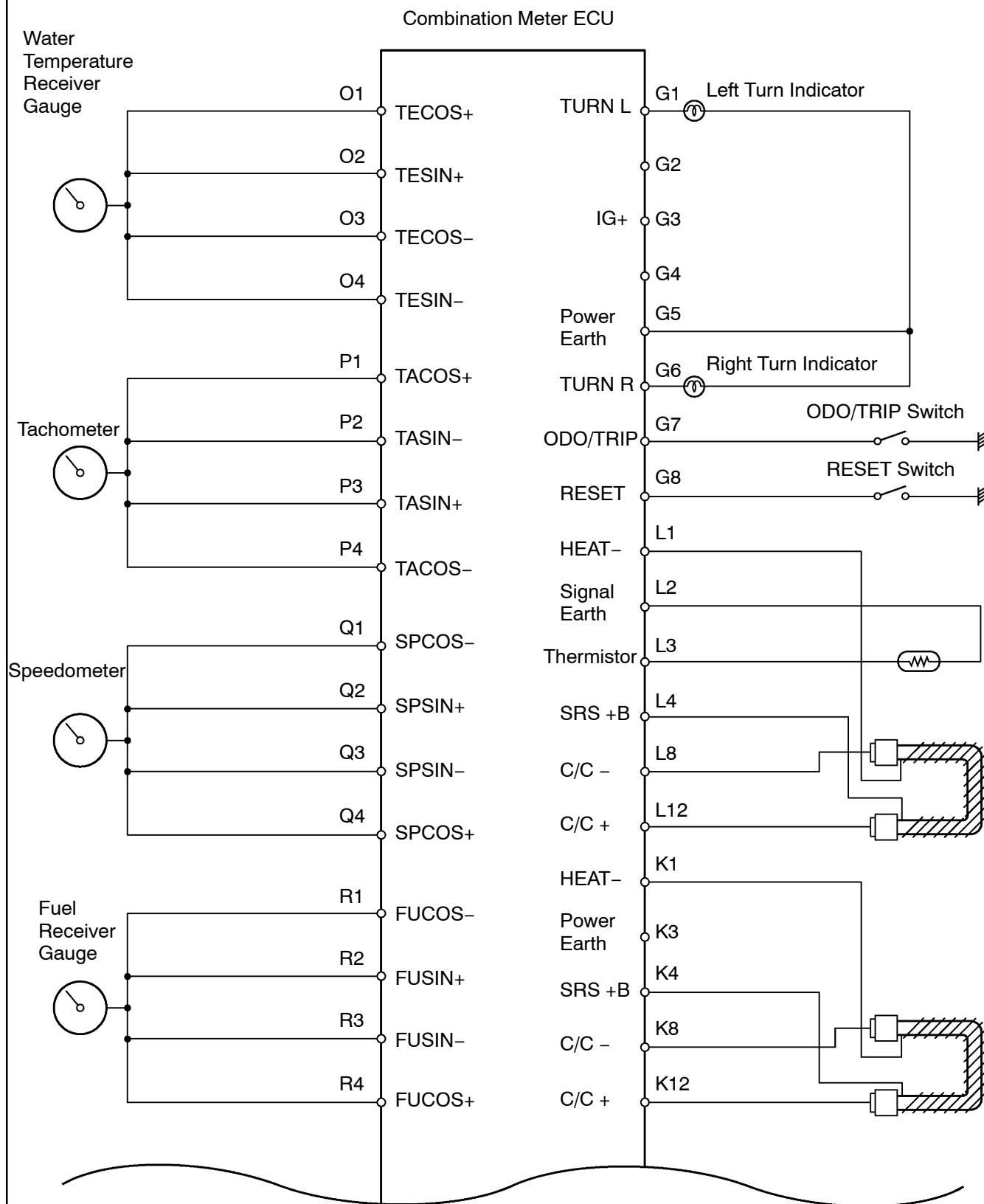
LHD Models:**• Meter Circuit Plate - 1**

LHD Models:**• Meter Circuit Plate - 2**

Combination Meter ECU

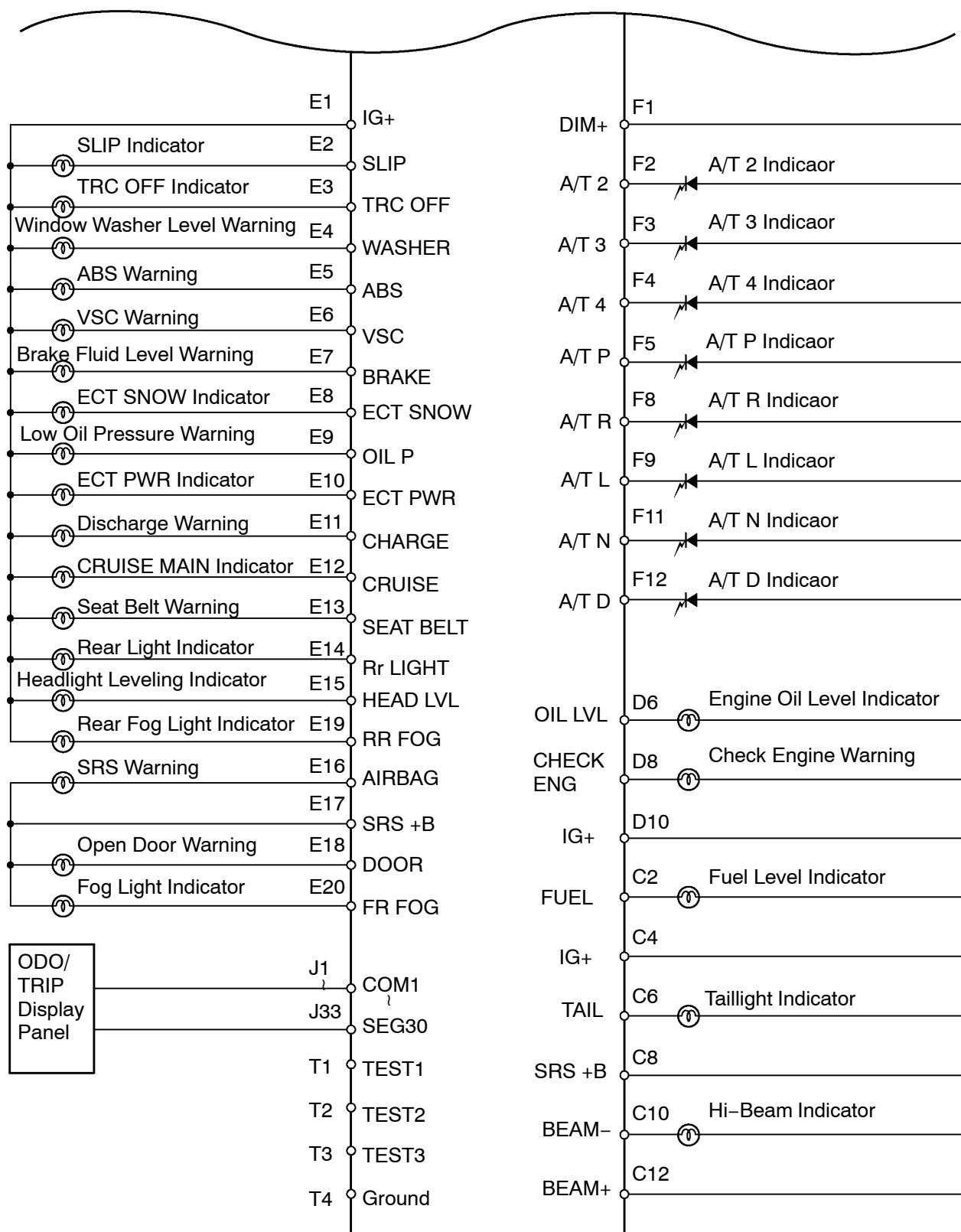


RHD Models:**• Combination Meter ECU Plate**

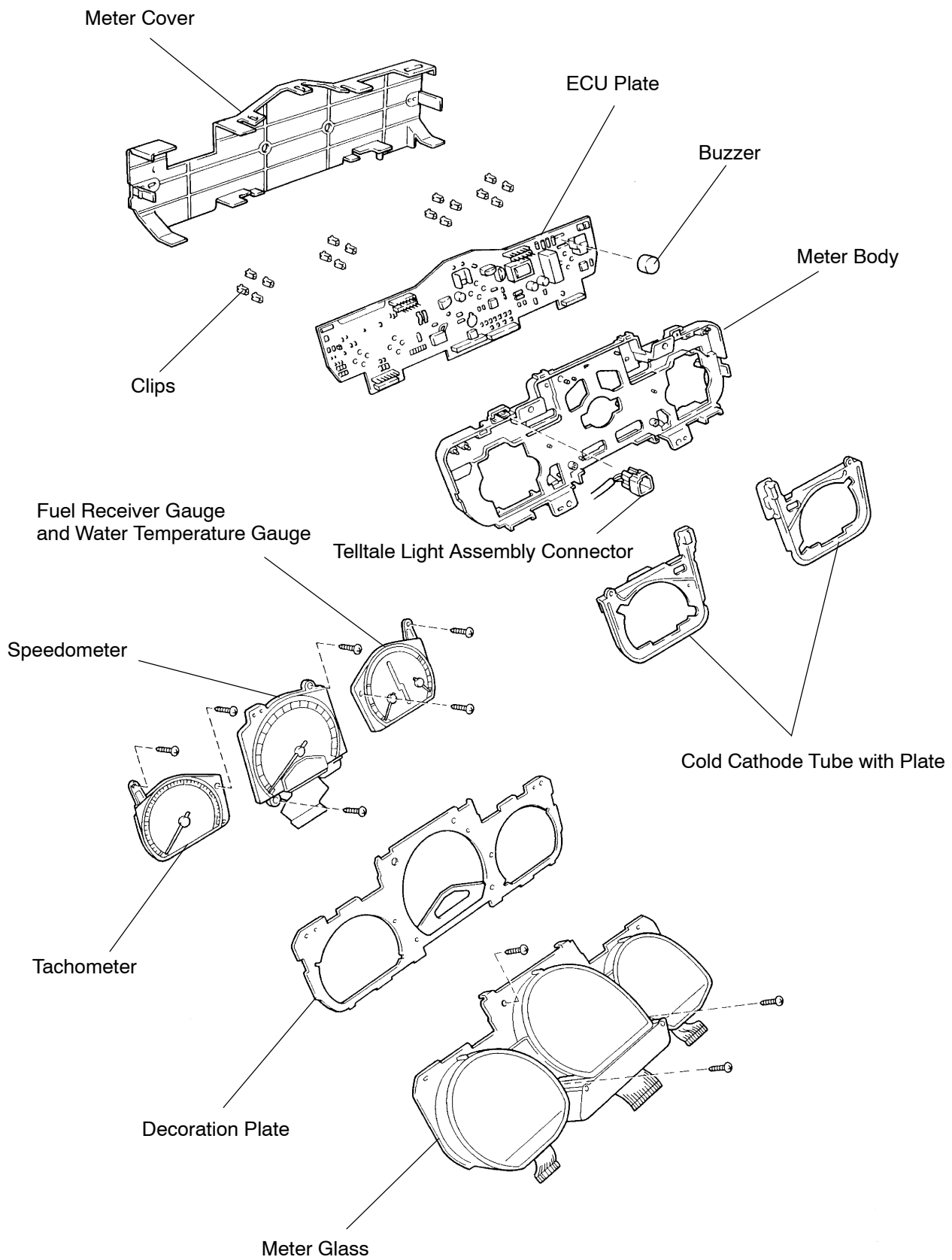
RHD Models:**• Meter Circuit Plate - 1**

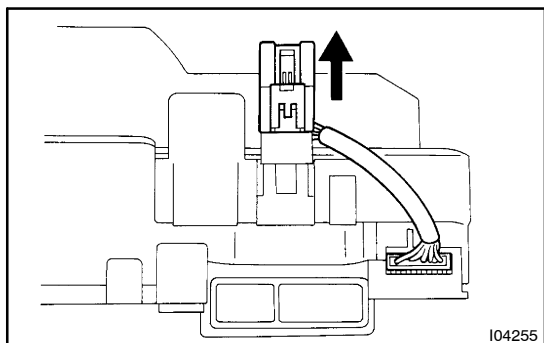
RHD Models:**• Meter Circuit Plate – 2**

Combination Meter ECU



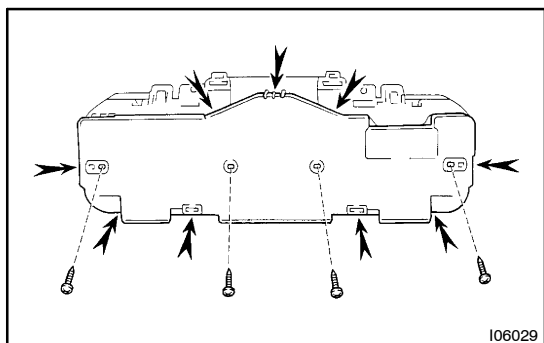
COMPONENTS





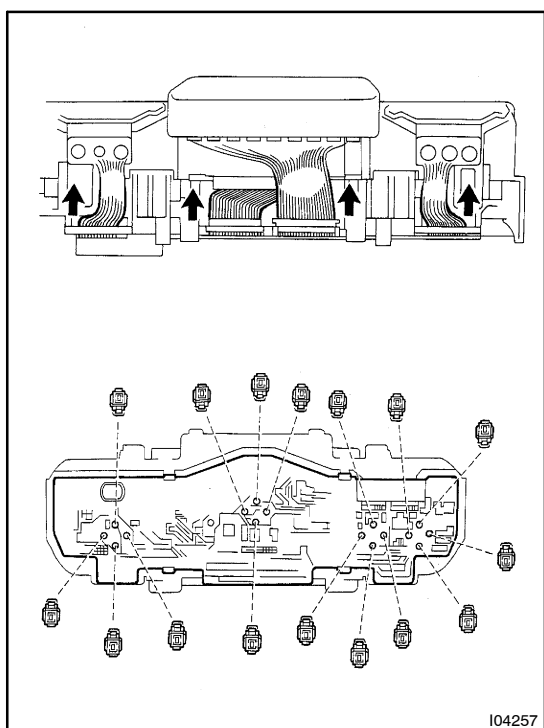
DISASSEMBLY

1. DISCONNECT TELLTALE LIGHT ASSEMBLY CONNECTOR



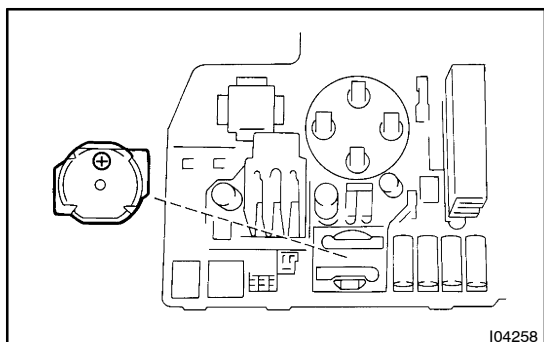
2. REMOVE METER COVER

- (a) Disengage a 9 claws.
- (b) Remove the 4 screws and the meter cover.

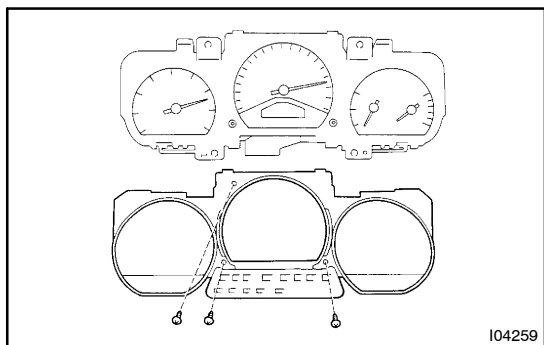


3. REMOVE ECU PLATE

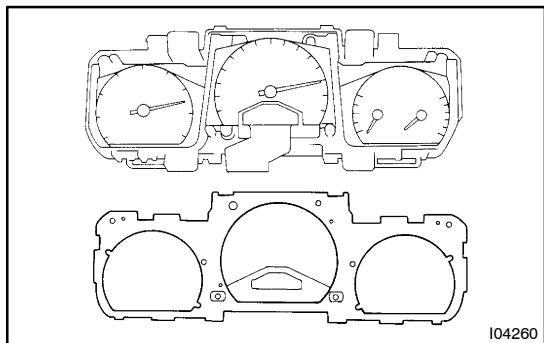
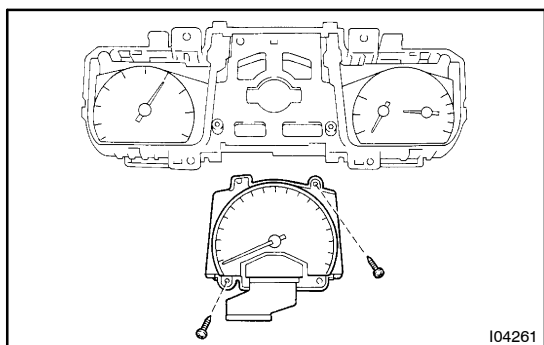
- (a) Disconnect the 4 flat circuit plates.
- (b) Remove the 16 clips and the ECU plate.



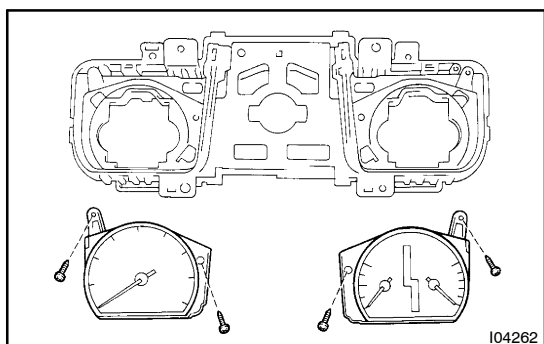
4. REMOVE BUZZER

**5. REMOVE METER GLASS**

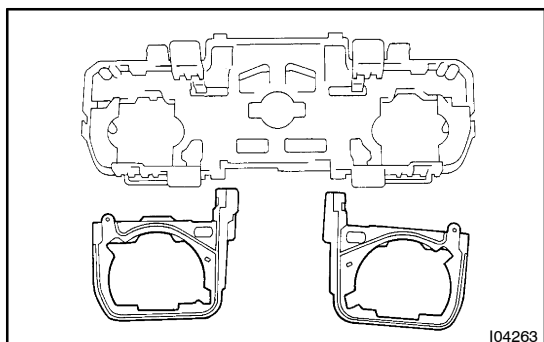
Remove the 3 screws and the meter glass.

**6. REMOVE DECORATION PLATE****7. REMOVE SPEEDOMETER**

Remove the 2 screws.

**8. REMOVE TACHOMETER, FUEL RECEIVER GAUGE AND WATER TEMPERATURE RECEIVER GAUGE**

Remove the 4 screws.

**9. REMOVE COLD CATHODE TUBE WITH PLATE**

INSPECTION

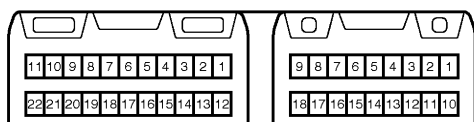
1. INSPECT COMBINATION METER CIRCUIT

Connector disconnected:

Disconnect connector "A" and "B" from the combination meter and inspect the connectors on the wire harness side as shown in the table.

Connector "B"

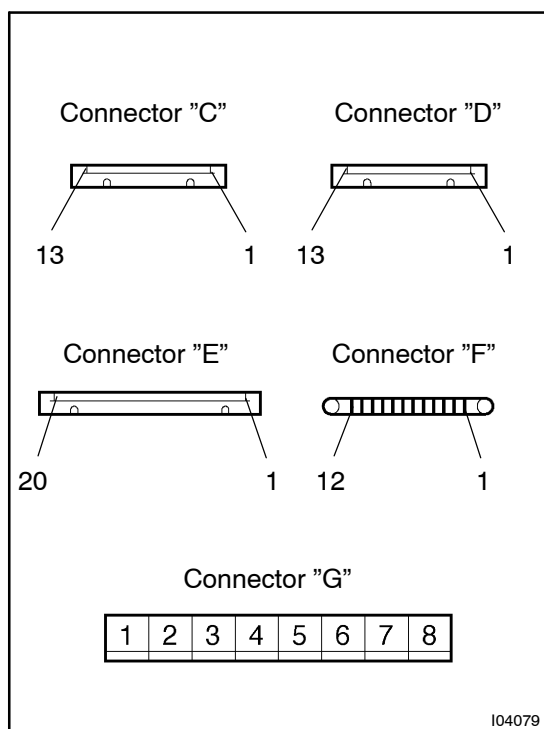
Connector "A"



I04078

Tester connection	Condition	Specified condition
A1 – Ground	Ignition switch ON	Battery voltage
A3 – A4	Constant	Continuity
A7 – Ground	Light control switch HEAD and headlight dimmer switch HI	Continuity
A8 – Ground B22 – Ground	Constant	Continuity
A10 – Ground	Window washer level warning switch Float down	Continuity
B1 – Ground	Ignition switch ON	Battery voltage
B4 – B6	Constant	Approx. 10 kΩ
B13 – Ground	Constant	Battery voltage
B14 – Ground	Constant	Battery voltage
B9 – Ground	Light control switch in HEAD	Battery voltage
B15 – Ground	Light control switch in HEAD	Battery voltage

If circuit is not as specified, wiring diagram and inspect the circuits connected to other parts.

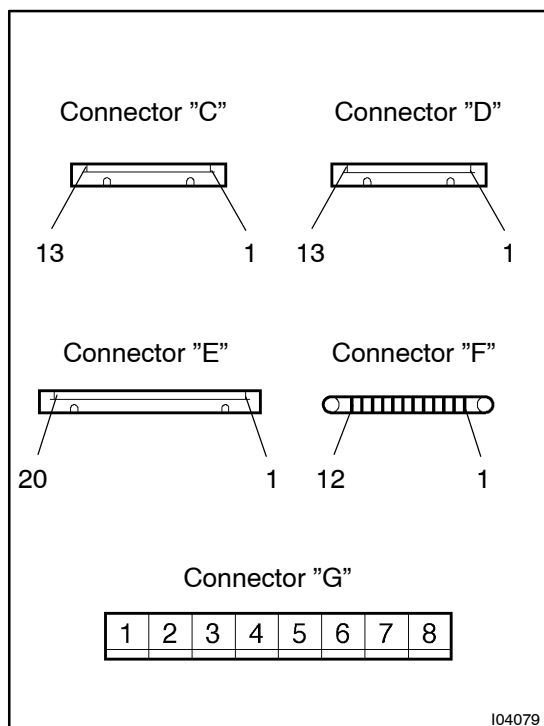
**2. LHD Models:****INSPECT COMBINATION METER CIRCUIT PLATE****Warning light circuit plate:**

- Remove meter cover.
- Disconnect connectors "C", "D", "E", "F" and "G" from the meter circuit plate and inspect the connectors on the wire harness side as shown in the table.

Tester connection	Check indicator light	Specified condition
D2 (+) – D4 (–)	Hi-beam indicator light	Continuity
C3 (+) – C5 (–)	Check engine warning light	Continuity
C3 (+) – C7 (–)	Engine oil level warning light	Continuity
D6 (+) – D8 (–)	Taillight indicator light	Continuity
D10 (+) – D12 (–)	Fuel level warning light	Continuity
E2 (–) – E20 (+)	Rear fog light indicator light	Continuity
E3 (–) – E4 (+)	Open door warning light	Continuity
E4 (+) – E5 (–)	SRS warning light	Continuity
E6 (–) – E20 (+)	Headlight leveling indicator	Continuity
E7 (–) – E20 (+)	Rear Lights warning light	Continuity
E8 (–) – E20 (+)	Seat belt warning light	Continuity
E9 (–) – E20 (+)	CRUISE MAIN indicator light	Continuity
E10 (–) – E20 (+)	Discharge warning light	Continuity
E11 (–) – E20 (+)	ECT PWR indicator light	Continuity
E12 (–) – E20 (+)	Low oil pressure warning light	Continuity
E13 (–) – E20 (+)	ECT SNOW indicator light	Continuity
E14 (–) – E20 (+)	Brake warning light	Continuity
E15 (–) – E20 (+)	VSC OFF indicator light	Continuity
E16 (–) – E20 (+)	ABS warning light	Continuity
E17 (–) – E20 (+)	Window washer level warning light	Continuity
E18 (–) – E20 (+)	TRAC OFF indicator light	Continuity
E19 (–) – E20 (+)	Slip warning light	Continuity
F1 (–) – F12 (+)	A/T shift indicator light (D)	Continuity
F2 (–) – F12 (+)	A/T shift indicator light (N)	Continuity
F4 (–) – F12 (+)	A/T shift indicator light (L)	Continuity
F5 (–) – F12 (+)	A/T shift indicator light (R)	Continuity

F8 (-) – F12 (+)	A/T shift indicator light (P)	Continuity
F10 (-) – F12 (+)	A/T shift indicator light (3)	Continuity
F11 (-) – F12 (+)	A/T shift indicator light (2)	Continuity
G1 (+) – G5 (-)	Left turn signal indicator light	Continuity
G6 (+) – G5 (-)	Right turn signal indicator light	Continuity

If circuit is not as specified, replace the bulb or circuit plate.



3. RHD Models:

INSPECT COMBINATION METER CIRCUIT PLATE

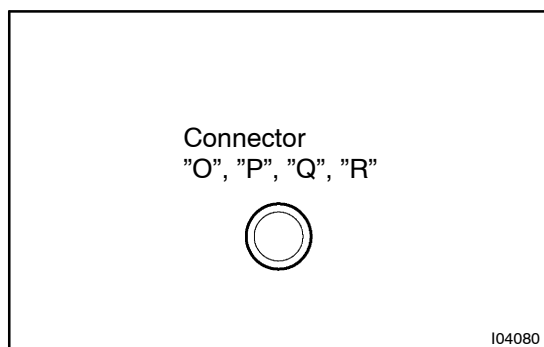
Warning light circuit plate:

- Remove meter cover.
- Disconnect connectors "C", "D", "E", "F" and "G" from the meter circuit plate and inspect the connectors on the wire harness side as shown in the table.

Tester connection	Check indicator light	Specified condition
C2 (-) – C4 (+)	Fuel level warning light	Continuity
C6 (-) – C8 (+)	Taillight indicator light	Continuity
C10 (-) – C12 (+)	Hi-beam indicator light	Continuity
D6 (-) – D10 (-)	Engine oil level warning light	Continuity
D8 (-) – D10 (+)	Check engine warning light	Continuity
E1 (+) – E2 (-)	Slip warning light	Continuity
E3 (-) – E1 (+)	TRAC OFF indicator light	Continuity
E4 (-) – E1 (+)	Window washer level warning light	Continuity
E5 (-) – E1 (+)	ABS warning light	Continuity
E6 (-) – E1 (+)	VSC OFF indicator light	Continuity
E7 (-) – E1 (+)	Brake warning light	Continuity
E8 (-) – E1 (+)	ECT SNOW indicator light	Continuity
E9 (-) – E1 (+)	Low oil pressure warning light	Continuity
E10 (-) – E1 (+)	ECT PWR indicator light	Continuity
E11 (-) – E1 (+)	Discharge warning light	Continuity
E12 (-) – E1 (+)	CRUISE MAIN indicator light	Continuity
E13 (-) – E1 (+)	Seat belt warning light	Continuity

E15 (-) – E1 (+)	Headlight leveling indicator	Continuity
E16 (-) – E17 (+)	SRS warning light	Continuity
E18 (-) – E17 (+)	Open door warning light	Continuity
E19 (-) – E1 (+)	Rear fog light indicator light	Continuity
E20 (-) – E17 (+)	Front fog light indicator light	Continuity
F1 (+) – F2 (-)	A/T shift indicator light (L)	Continuity
F3 (-) – F1 (+)	A/T shift indicator light (2)	Continuity
F4 (-) – F1 (+)	A/T shift indicator light (3)	Continuity
F5 (-) – F1 (+)	A/T shift indicator light (P)	Continuity
F8 (-) – F1 (+)	A/T shift indicator light (R)	Continuity
F11 (-) – F1 (+)	A/T shift indicator light (N)	Continuity
F12 (-) – F1 (+)	A/T shift indicator light (D)	Continuity
G1 (+) – G5 (-)	Left turn signal indicator light	Continuity
G6 (+) – G5 (-)	Right turn signal indicator light	Continuity

If circuit is not as specified, replace the bulb or circuit plate.

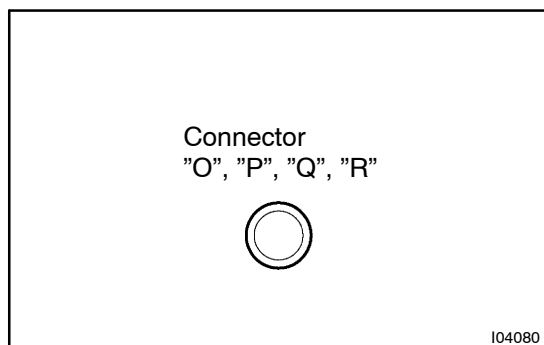


4. LHD Models:
INSPECT COMBINATION METER CIRCUIT PLATE
From combination meter ECU to gauges:

Terminal	Resistance (Ω)
O1 – O4 (Water temperature receiver gauge)	Approx. 164.2
O2 – O3 (Water temperature receiver gauge)	Approx. 151.8
P1 – P4 (Tachometer)	Approx. 164.2
P2 – P3 (Tachometer)	Approx. 151.8
Q1 – Q4 (Speedometer)	Approx. 164.2
R1 – R3 (Fuel receiver gauge)	Approx. 151.8
R2 – R4 (Fuel receiver gauge)	Approx. 164.2

If circuit is not as specified, inspect the gauge or meter.
 Then recheck system.

If circuit is not as specified, replace the circuit plate.



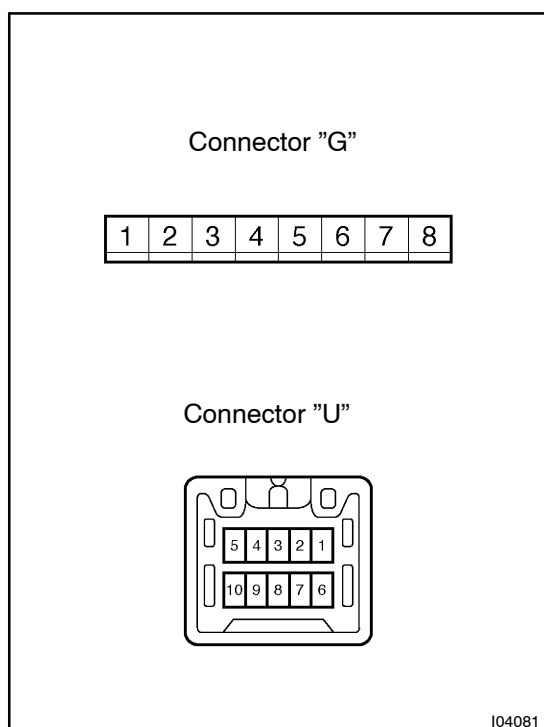
5. RHD Models:
INSPECT COMBINATION METER CIRCUIT PLATE
From combination meter ECU to gauges:

Terminal	Resistance (Ω)
O1 – O3 (Water temperature receiver gauge)	Approx. 164.2
O2 – O4 (Water temperature receiver gauge)	Approx. 151.8
P1 – P4 (Tachometer)	Approx. 164.2
P2 – P3 (Tachometer)	Approx. 151.8
Q1 – Q4 (Speedometer)	Approx. 164.2
Q2 – Q3 (Speedometer)	Approx. 151.8
R1 – R4 (Fuel receiver gauge)	Approx. 164.2
R2 – R3 (Fuel receiver gauge)	Approx. 151.8

If circuit is not as specified, inspect the gauge or meter.

Then recheck system.

If circuit is not as specified, replace the circuit plate.

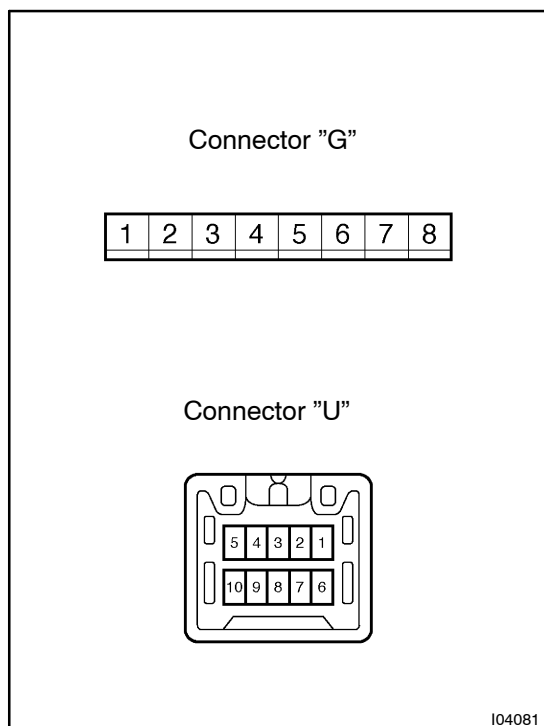


6. LHD Models:
INSPECT COMBINATION METER CIRCUIT PLATE
From combination meter ECU to telltale light assembly:

Disconnect connector "G" and "U" from the meter circuit plate and inspect the connectors on the wire harness side as follows.

Tester connection	Specified condition
G1 – U9	Continuity
G3 – U1	Continuity
G5 – U10	Continuity
G6 – U4	Continuity
G7 – U3	Continuity
G8 – U8	Continuity

If circuit is not as specified, replace the circuit plate.



7. RHD Models:

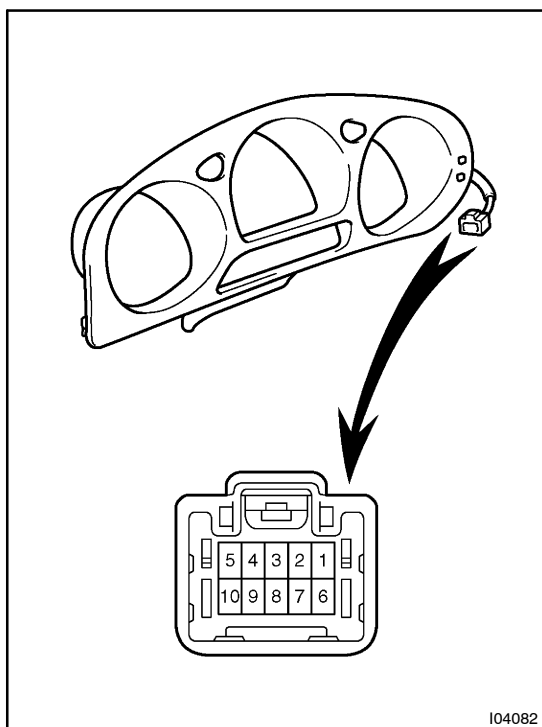
INSPECT COMBINATION METER CIRCUIT PLATE

From combination meter ECU to telltale light assembly:

Disconnect connector "G" and "U" from the meter circuit plate and inspect the connectors on the wire harness side as follows.

Tester connection	Specified condition
G1 – U9	Continuity
G3 – U1	Continuity
G5 – U10	Continuity
G6 – U4	Continuity
G7 – U3	Continuity
G8 – U8	Continuity

If circuit is not as specified, replace the circuit plate.



I04082

8. INSPECT TELLTALE LIGHT ASSEMBLY CONTINUITY

Switch position	Tester connection	Condition
ODO/ TRIP switch Free	3 – 10	No continuity
ODO/ TRIP switch Pushed in	3 – 10	Continuity
RESET switch Free	8 – 10	No continuity
RESET switch Pushed in	8 – 10	Continuity
Turn signal switch RIGHT	4 – 10	Continuity
Turn signal switch LEFT	9 – 10	Continuity

If continuity is not as specified, replace the telltale light assembly.

9. INSPECT SPEEDOMETER ON-VEHICLE

Using a speedometer tester, inspect the speedometer for allowable indication error and check the operation of the odometer.

HINT:

Tire wear and tire over or under inflation will increase the indication error.

Europe Models and G.C.C countries

(mph)		(km/h)	
Standard indication	Allowable range	Standard indication	Allowable range
20	20 – 24.5	20	20 – 26
40	40 – 46.5	40	40 – 48
60	60 – 68.5	60	60 – 70
80	80 – 90.5	80	80 – 92
100	100 – 112.5	100	100 – 114
–	–	120	120 – 136
–	–	140	140 – 158
–	–	160	160 – 180

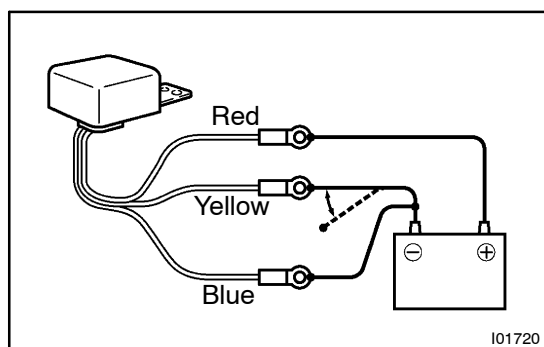
Australia

(mph)		(km/h)	
Standard indication	Allowable range	Standard indication	Allowable range
–	–	40	36 – 44
–	–	60	54 – 66
–	–	80	72 – 88
–	–	100	90 – 110
–	–	120	108 – 132
–	–	140	126 – 154
–	–	160	144 – 176

General Countries

(mph)		(km/h)	
Standard indication	Allowable range	Standard indication	Allowable range
20	21 – 23.5	20	21 – 25
40	41.5 – 44	40	41.5 – 46
60	62.5 – 66	60	62.5 – 67
80	83 – 87	80	83 – 88
100	104 – 108.5	100	104 – 109
–	–	120	125 – 130.5
–	–	140	145.5 – 151.5
–	–	160	166 – 173

If error is excessive, replace the speedometer.

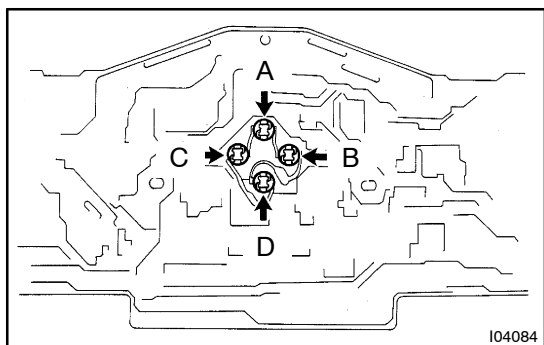
**10. INSPECT SPEED WARNING BUZZER**

- Connect the positive (+) lead from the battery to terminal Red and the negative (-) lead to terminal Blue.
- Connect the intermittently negative (-) lead to terminal Yellow, check that the chime sound.

HINT:

The sound will be distorted if the chime is tilted.

If operation is not as specified, replace the buzzer.

**11. INSPECT SPEEDOMETER RESISTANCE**

Measure the resistance between terminals with fixing pointer to the stopper.

Tester connection	Resistance (Ω)
A – B	140 – 185
C – D	130 – 175

If resistance value is not as the specified, replace the meter.

12. INSPECT TACHOMETER/On-vehicle

(a) Connect a tune-up test tachometer, and start the engine.

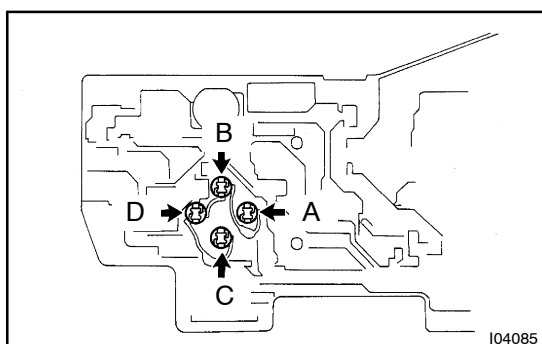
NOTICE:

- Reversing the connection of the tachometer will damage the transistors and diodes inside.
- When removing or installing the tachometer, be careful not to drop or subject it to heavy shocks.

(b) Compare the tester and tachometer indications.

DC 13.5 V/25°C at (77°F)

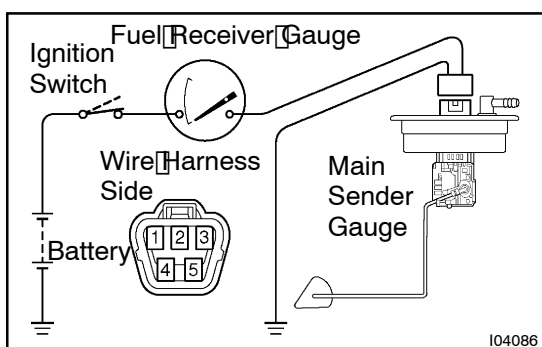
Standard Indication	Allowable Range
700	630 - 770
1,000	900 - 1,100
2,000	1,850 - 2,150
3,000	2,800 - 3,200
4,000	3,800 - 4,200
5,000	4,800 - 5,200
6,000	5,750 - 6,250
7,000	6,700 - 7,300

**13. INSPECT TACHOMETER RESISTANCE**

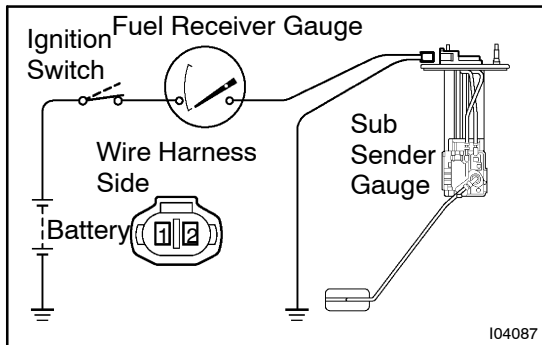
Measure the resistance between terminals with fixing pointer to the stopper.

Tester Connection	Resistance (Ω)
A - B	140 - 185
C - D	130 - 175

If resistance value is not as specified, replace the meter.

**14. INSPECT FUEL RECEIVER GAUGE OPERATION (See page DI-588)**

- Disconnect the connector from the main sender gauge.
- Disconnect the battery terminal once then after 30 seconds, reconnect the terminal.
- Turn the ignition switch ON, check that the receiver gauge needle indicates EMPTY.

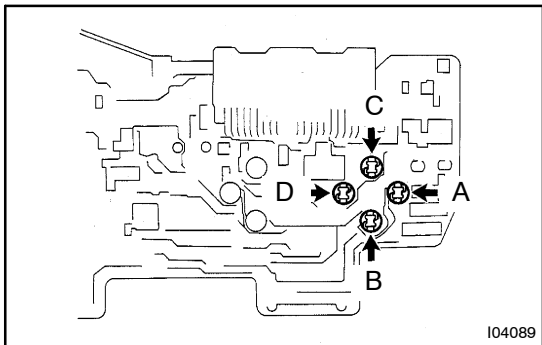


- (d) Connect the main sender gauge.
- (e) Disconnect the connector from the sub sender gauge.
- (f) Disconnect the battery terminal once then after 30 seconds, reconnect the terminal.
- (g) Turn the ignition switch ON, check that the receiver gauge needle indicates EMPTY.

HINT:

Because of the silicon oil in the gauge, it will take a short time for needle to stabilize.

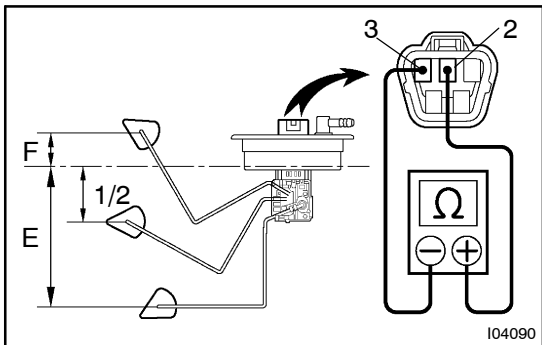
If operation is not as specified, inspect the receiver gauge resistance.

**15. INSPECT FUEL RECEIVER GAUGE RESISTANCE**

Measure the resistance between terminals with fixing pointer to the stopper.

Tester connection	Resistance (Ω)
A - B	140 - 185
C - D	130 - 175

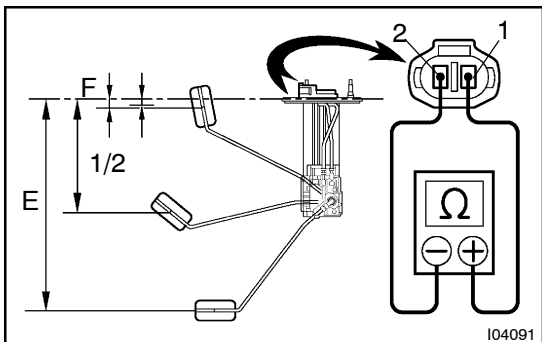
If resistance value is not as specified, replace the receiver gauge.

**16. INSPECT FUEL MAIN SENDER GAUGE RESISTANCE**

Measure the resistance between terminals 1 and 2 for each float position.

Float position mm (in.)	Resistance (Ω)
F: Approx. 34.6 (1.36) $\pm$ 3 (0.12)	Approx. 2.0 $\pm$ 1.0
1/2: Approx. 52.4 (2.06) $\pm$ 3 (0.12)	Approx. 26.1 $\pm$ 3.0
E: Approx. 134.9 (5.31) $\pm$ 3 (0.12)	Approx. 48.7 $\pm$ 1.0

If resistance value is not as specified, replace the main sender gauge.

**17. INSPECT FUEL SUB SENDER GAUGE RESISTANCE**

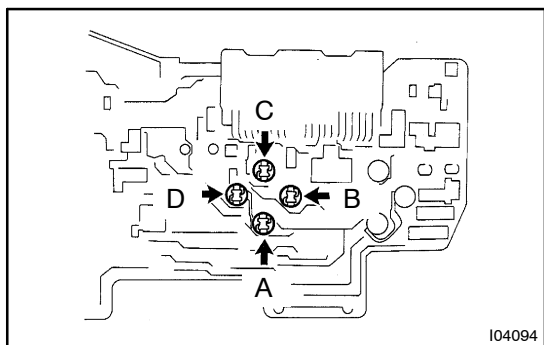
Measure the resistance between terminals 1 and 2 for each float position.

Float position mm (in.)	Resistance (Ω)
F: Approx. 9.5 (0.37) $\pm$ 3 (0.12)	Approx. 2.0 $\pm$ 1.0
1/2: Approx. 110.5 (4.35) $\pm$ 3 (0.12)	Approx. 33.0 $\pm$ 3.0
E: Approx. 206.5 (8.13) $\pm$ 3 (0.12)	Approx. 61.3 $\pm$ 1.0

If resistance value is not as specified, replace the sub sender gauge.

18. INSPECT WATER TEMPERATURE RECEIVER GAUGE OPERATION

(See page DI-590)



19. INSPECT WATER TEMPERATURE RECEIVER GAUGE RESISTANCE

Measure the resistance between terminals with fixing pointer to the stopper.

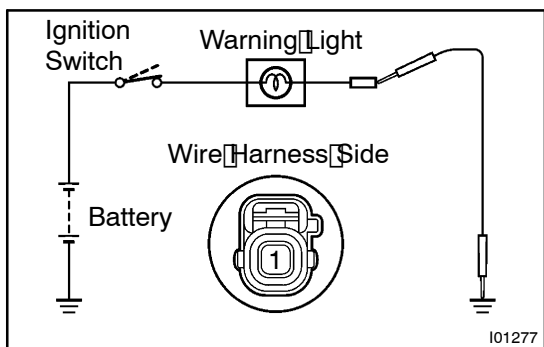
Tester connection	Resistance (Ω)
A - B	140 - 185
C - D	130 - 175

If resistance value is not as specified, replace the receiver gauge.

HINT:

This circuit includes the diode.

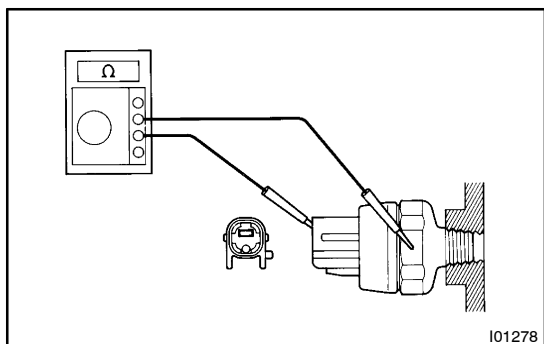
If resistance value is not as specified, replace the receiver gauge.



20. INSPECT LOW OIL PRESSURE WARNING LIGHT

- Disconnect the connector from the warning switch and ground terminal on the wire harness side connector.
- Turn the ignition switch ON and check that the warning light lights up.

If the warning light does not light up, test the bulb.



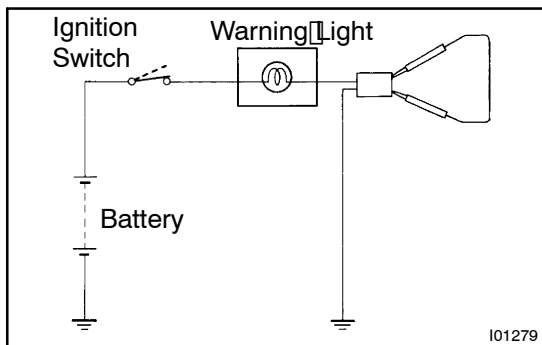
21. INSPECT LOW OIL PRESSURE SWITCH CONTINUITY

- Disconnect the connector from the switch.
- Check that continuity exists between terminal and ground with the engine stopped.
- Check that no continuity exists between terminal and ground with the engine running.

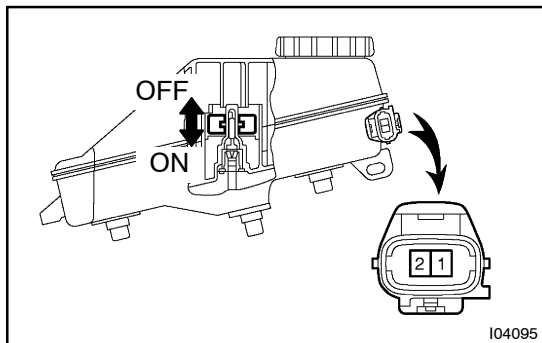
HINT:

Oil pressure should be over 24.5 kPa (0.25 kgf/cm², 3.55 psi).

If operation is not as specified, replace the switch.

**22. INSPECT BRAKE WARNING LIGHT**

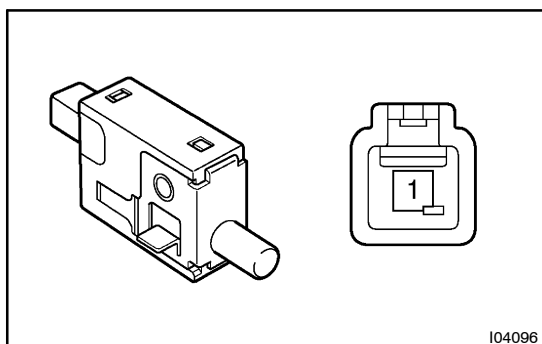
- Disconnect the connector from the brake fluid warning switch.
- Release the parking brake pedal.
- Connect the terminals on the wire harness side of the level warning switch connector.
- Start the engine, check that the warning light lights up. If the warning light does not light up, test the bulb or wire harness.

**23. INSPECT BRAKE FLUID LEVEL WARNING SWITCH CONTINUITY**

- Remove the reservoir tank cap and strainer.
 - Disconnect the connector.
 - Check that no continuity exists between the terminals with the switch OFF (float up).
 - Use siphon, etc. to take fluid out of the reservoir tank.
 - Check that continuity exists between the terminals with the switch ON (float down).
 - Pour the fluid back in the reservoir tank.
- If operation is not as specified, replace the switch.

24. INSPECT BRAKE FLUID LEVEL WARNING SWITCH CIRCUIT

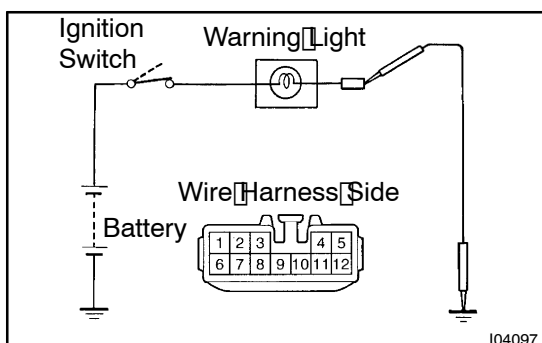
(See page DI-671)

**25. INSPECT PARKING BRAKE SWITCH CONTINUITY**

- Check that continuity exists between the terminal and switch body with the switch ON (switch pin released).
 - Check that no continuity exists between the terminal and switch body with the switch OFF (switch pin pushed in).
- If operation is not as specified, replace the switch or inspect ground point.

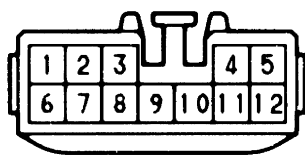
26. INSPECT PARKING BRAKE SWITCH CIRCUIT

(See page DI-632)

**27. INSPECT REAR LIGHTS WARNING LIGHT**

(See page DI-677)

- Disconnect the connector from the light failure sensor and ground terminal 3 on the wire harness side connector.
- Start the engine, check that the warning light lights up. If the warning light does not light up, inspect the bulb or wire harness.

Wire Harness Side

I04098

28. INSPECT LIGHT FAILURE SENSOR CIRCUIT

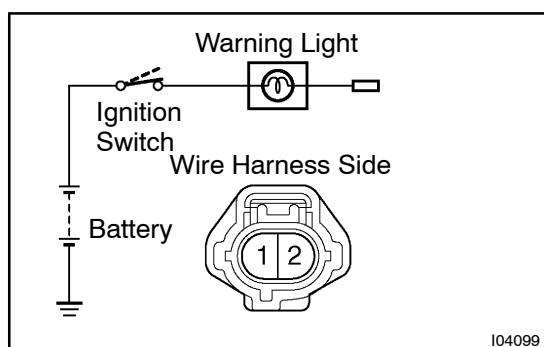
Disconnect connector from the light failure sensor and inspect the connectors on the wire harness side as follows.

Tester connection	Condition	Specified condition
1 – Ground	Constant	Continuity *
2 – Ground	Constant	Continuity *
6 – Ground	Constant	Continuity *
7 – Ground	Constant	Continuity *
11 – Ground	Constant	Continuity
12 – Ground	Constant	Continuity *
5 – Ground	Light control switch OFF	No voltage
5 – Ground	Light control switch in TAIL or HEAD	Battery voltage
8 – Ground	Ignition switch in LOCK or ACC	No voltage
8 – Ground	Ignition switch ON	Battery voltage
9, 10 – Ground	Stop light switch OFF	No voltage
9, 10 – Ground	Stop light switch ON	Battery voltage

*: There is resistance because this circuit is grounded through the bulb.

If circuit is as specified, replace the relay.

If circuit is not as specified, wiring diagram and inspect the circuits connected to other parts.

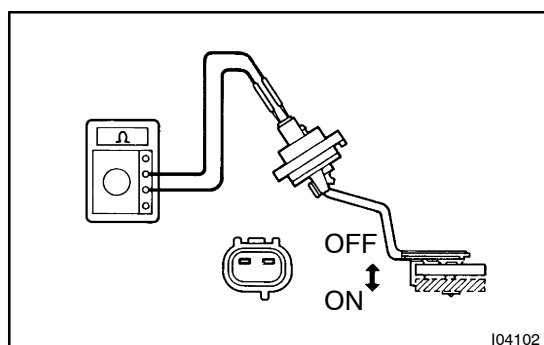


I04099

29. INSPECT ENGINE OIL LEVEL WARNING LIGHT

- Disconnect the connector from the switch.
- Run the engine.
- Turn the ignition switch ON, check that the warning light lights up approximately 40 seconds later.

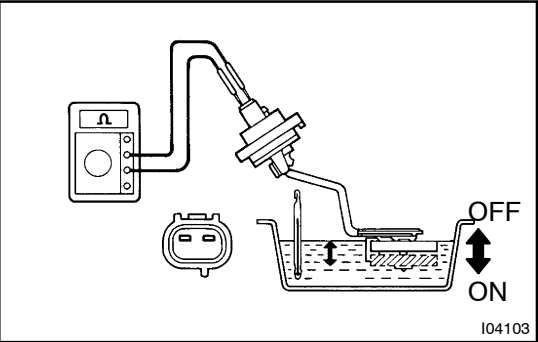
If the warning light does not light up, inspect bulb or wire harness.



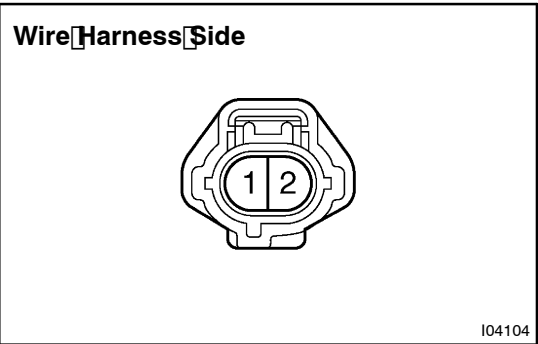
I04102

30. INSPECT ENGINE OIL LEVEL WARNING SENSOR

- Check that continuity exists between terminals with the switch to below 40 °C (104 °F). (Warning switch ON)
- Heat the switch to above 60 °C (140 °F) in an oil bath.



- (c) Check that there is continuity between terminals with the switch ON (float up).
 - (d) Check that there is no continuity between terminals with the switch OFF (float down).
- If operation is not as specified, replace the switch.

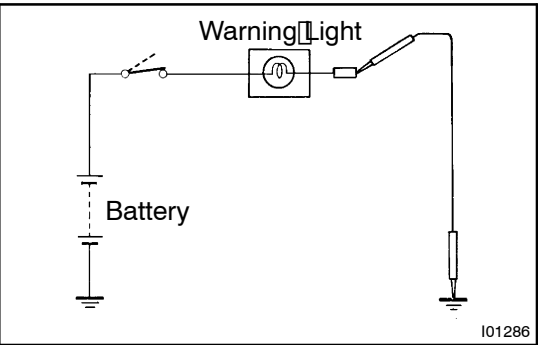


31. INSPECT ENGINE OIL LEVEL WARNING SENSOR CIRCUIT

Disconnect the switch connector and inspect the connector on wire harness side, as shown.

Tester Connection	Condition	Specified Condition
2 - Ground	Constant	Continuity

If continuity is not as specified, inspect the wire harness or ground point.



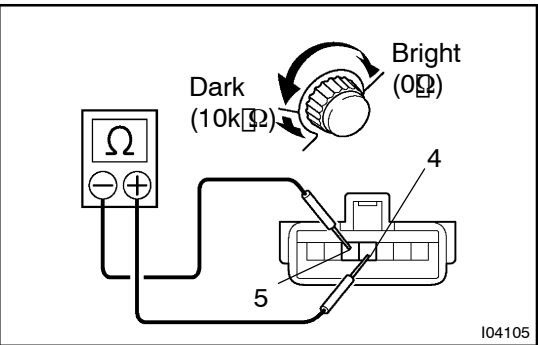
32. INSPECT OPEN DOOR WARNING LIGHT

Disconnect the connector from the door courtesy switch and ground terminal 1 on the wire harness side, and check that the warning light lights up.

If the warning light does not light up, inspect the bulb or wire harness.

33. INSPECT DOOR COURTESY SWITCH CONTINUITY AND CIRCUIT

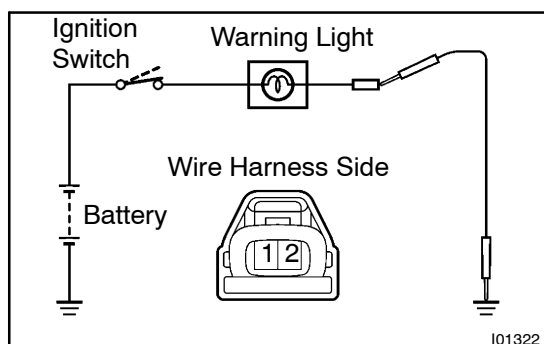
[See page BE-66](#)



34. INSPECT LIGHT CONTROL RHEOSTAT OPERATION

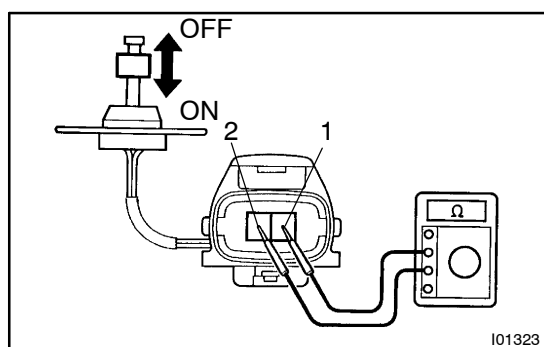
Gradually, turn the rheostat knob from the bright side to dark side and check that the resistance decreases from 10 kΩ to 0 Ω between terminal 4 and 5. (Rheostat knob turned to clockwise)

If operation is not as specified, replace the rheostat light control.



35. INSPECT WINDOW WASHER LEVEL WARNING LIGHT

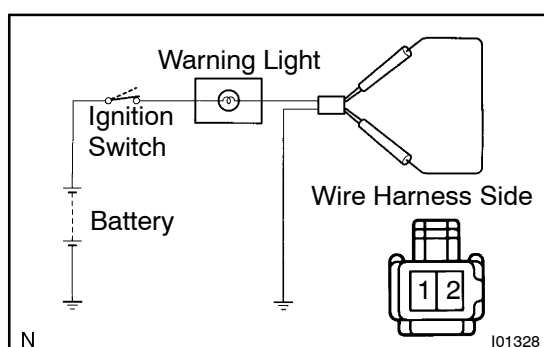
- Disconnect the connector from the warning switch and ground terminal on the wire harness side connector.
- Engine running and check that the warning light lights up. If the warning light does not light up, inspect the bulb or wire harness.



36. INSPECT WINDOW WASHER LEVEL WARNING SWITCH CONTINUITY

- Check that no continuity exists between the terminals with the switch OFF (float up).
- Check that continuity exists between the terminals with the switch ON (float down).

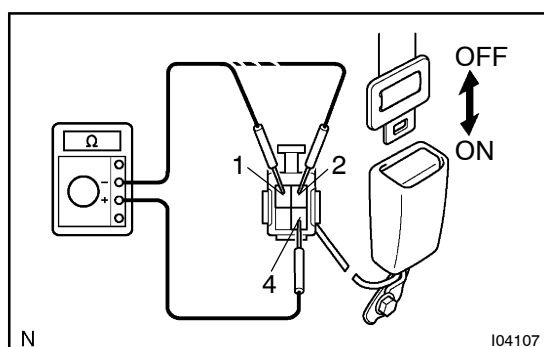
If operation is not as specified, replace the switch or inspect ground point.



37. INSPECT SEAT BELT WARNING LIGHT

- Disconnect the connector from the retractor switch and ground terminal on the wire harness side connector.
- Turn the ignition switch ON and check that the warning light lights up.

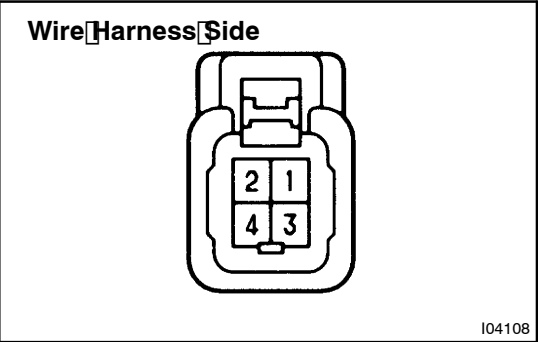
If the warning light does not light up, inspect the bulb or wire harness.



38. INSPECT SEAT BELT BUCKLE SWITCH CONTINUITY

- Check that continuity exists between the terminals 2 and 4 on the switch side connector with the switch ON (belt fastened).
- Check that continuity exists between the terminals 1 and 4 on the switch side connector with the switch OFF (belt unfastened).

If operation is not as specified, replace the switch.

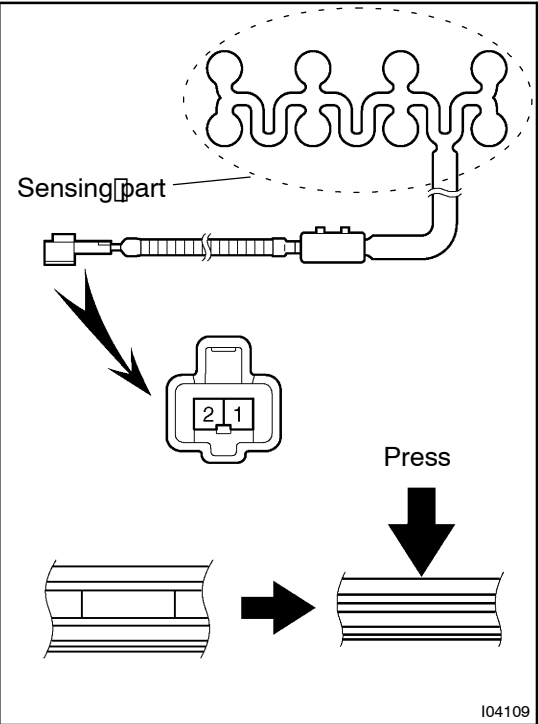


39. INSPECT SEAT BELT BUCKLE SWITCH CIRCUIT
Driver side: (See page DI-666)
Passenger side: (See page DI-621)

Disconnect the switch connector and inspect the connector on wire harness side, as shown.

Tester Connection	Condition	Specified Condition
4 - Ground	Constant	Continuity

If continuity is not as specified, inspect the circuits connected to other parts.



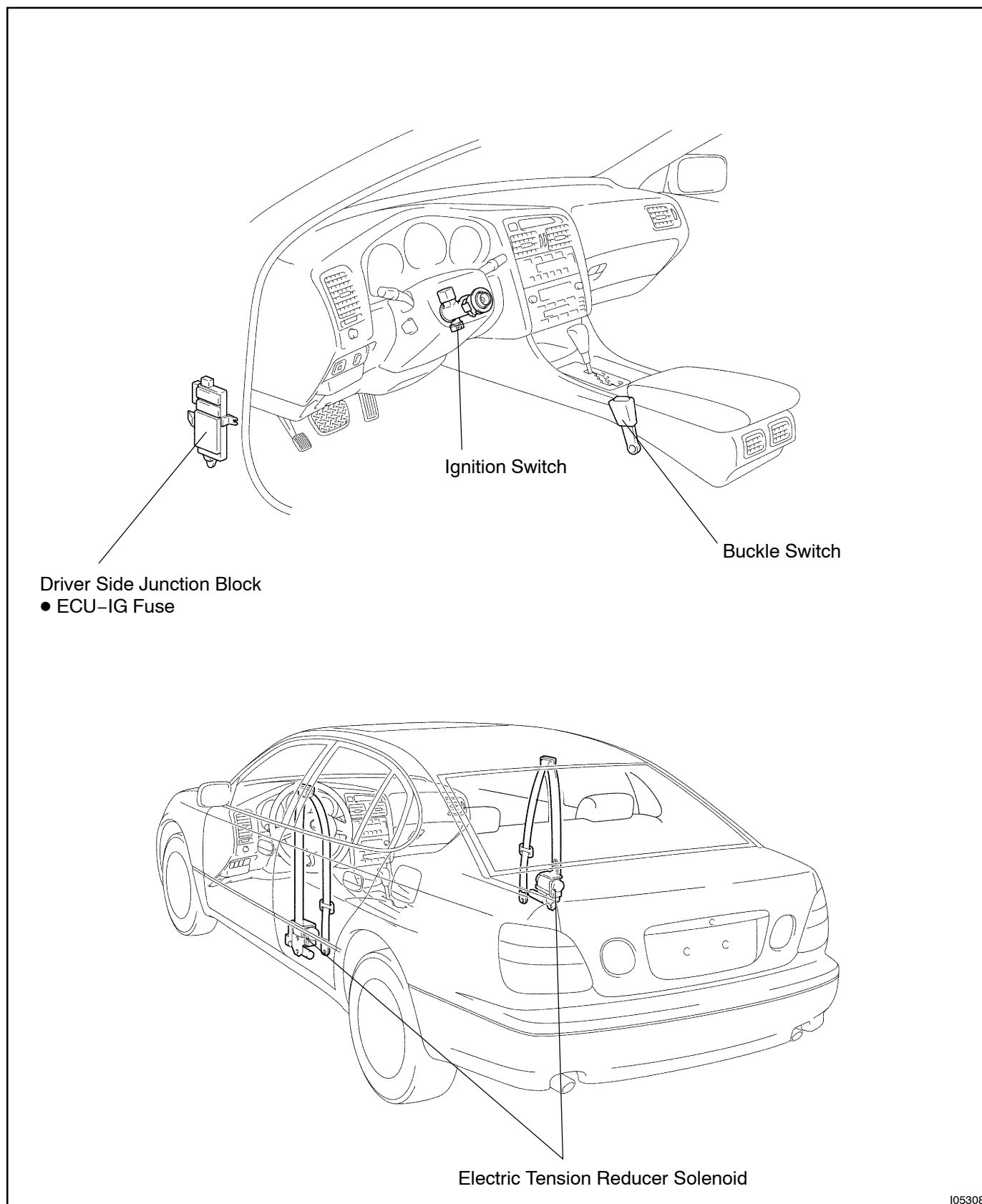
40. Passenger seat only:
INSPECT SEAT BELT WARNING OCCUPANT DETECTION SENSOR CONTINUITY

Check that continuity exists between the terminals 1 and 2 when pressing the sensing part.
If operation is not as specified, replace the sensor.

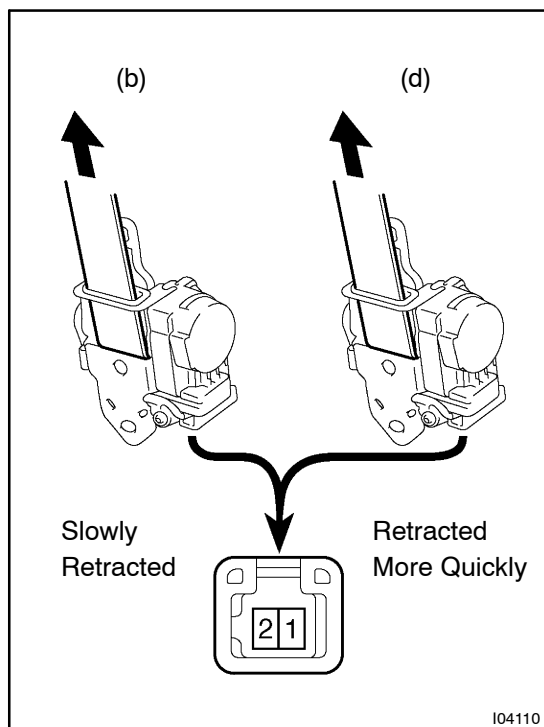
41. Passenger seat only:
INSPECT SEAT BELT WARNING OCCUPANT DETECTION SENSOR CIRCUIT
(See page DI-621)

ELECTRIC TENSION REDUCER SYSTEM LOCATION

BEOGU-02



105308



INSPECTION

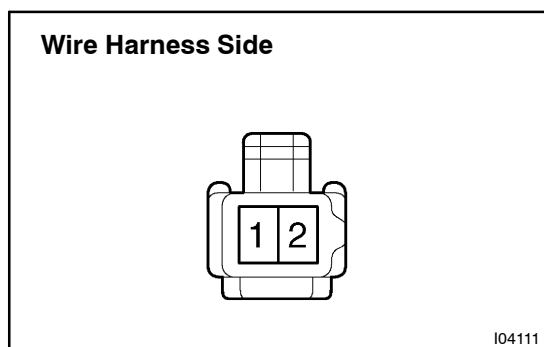
1. INSPECT TENSION REDUCER SOLENOID OPERATION

- Connect the positive (+) lead from the battery to terminal 1, and negative (-) lead to terminal 2.
- Pull the belt upward and check that the belt is slowly retracted when released.
- Disconnect the lead from the battery.
- Pull the belt upward and check that the belt is retracted more quickly when released than in (b).

HINT:

Do not tilt the retractor.

If the operation is not as specified, replace the front seat outer belt assembly.



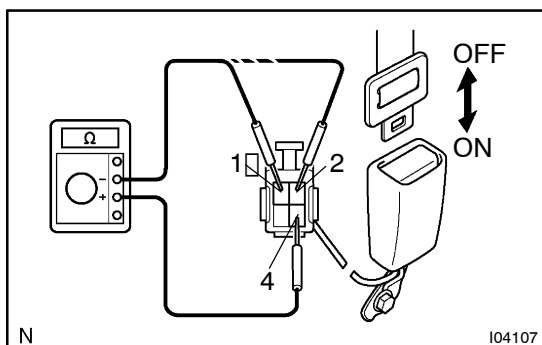
2. INSPECT TENSION REDUCER SOLENOID CIRCUIT

Disconnect the tension reducer solenoid connector and inspect the connector on wire harness side, as shown.

Tester connection	Condition	Specified condition
2 - Ground	Buckle switch position OFF (belt unfastened)	No continuity
2 - Ground	Buckle switch position ON (belt fastened)	Continuity
1 - Ground	Ignition switch ACC or LOCK	No voltage
1 - Ground	Ignition switch ON	Battery voltage

If the circuit is specified, replace the front seat outer belt assembly.

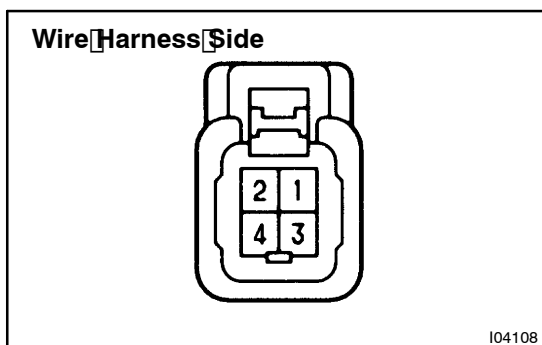
If the circuit is not as specified, inspect the circuits connected to other parts.



3. INSPECT SEAT BELT BUCKLE SWITCH CONTINUITY

- Check that continuity exists between the terminals 2 and 4 on the switch side connector with the switch ON (belt fastened).
- Check that continuity exists between the terminals 1 and 4 on the switch side connector with the switch OFF (belt unfastened).

If operation is not as specified, replace the switch.



4. INSPECT SEAT BELT BUCKLE SWITCH CIRCUIT

Driver side: (See page DI-666)

Passenger side: (See page DI-621)

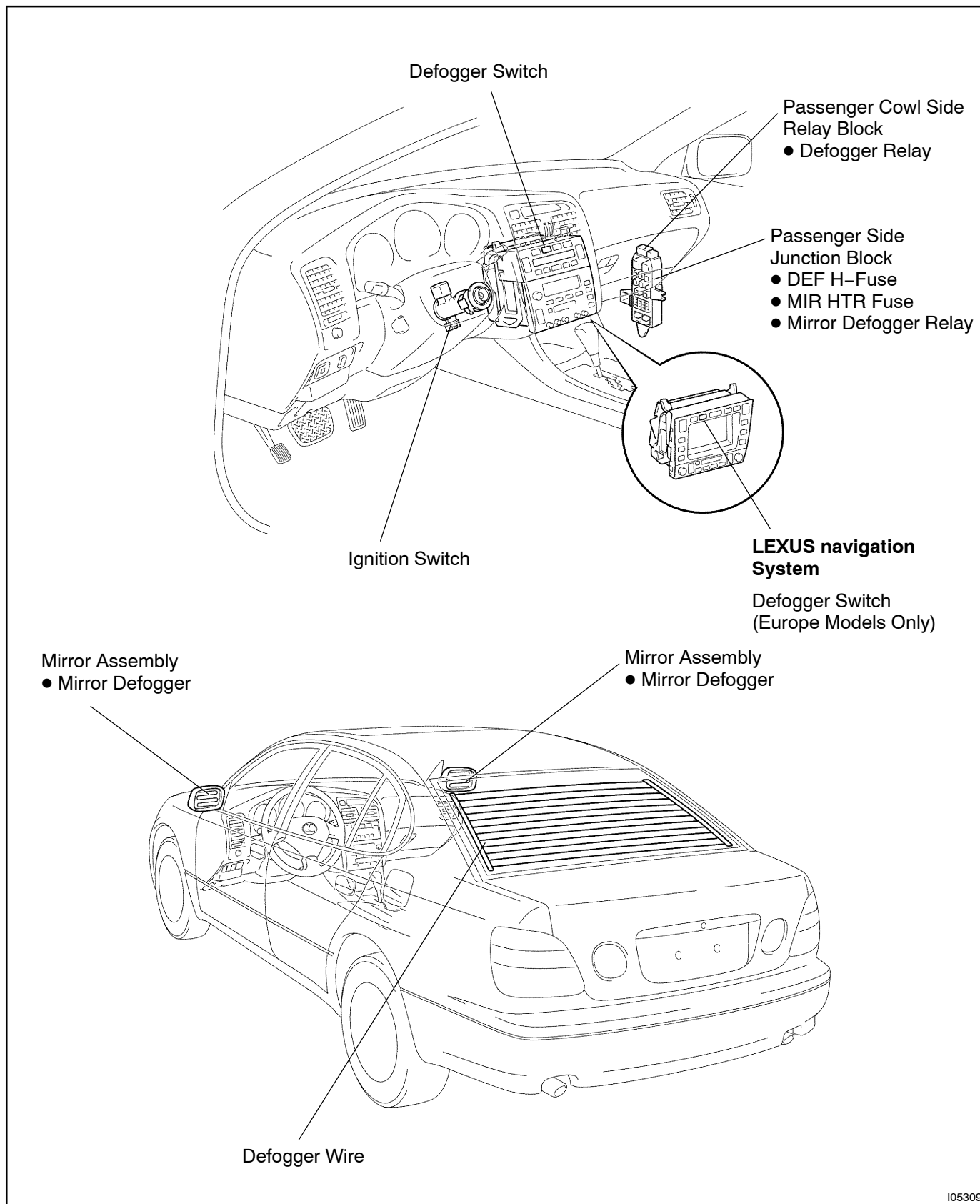
Disconnect the switch connector and inspect the connector on wire harness side, as shown.

Tester connection	Condition	Specified condition
4 – Ground	Constant	Continuity

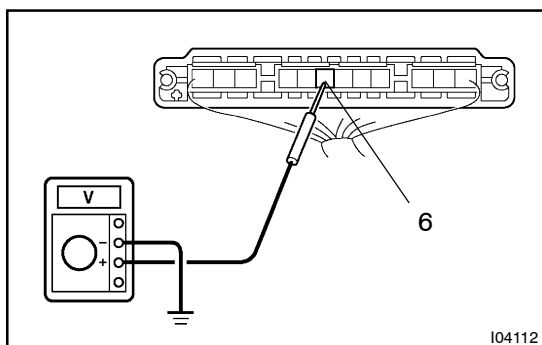
If continuity is not as specified, inspect the circuits connected to other parts.

DEFOGGER SYSTEM LOCATION

BE0GS-02



I05309

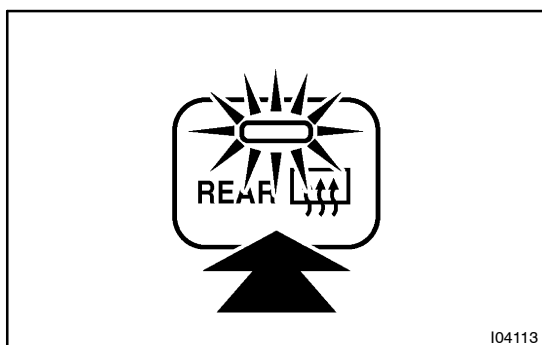


I04112

INSPECTION

1. INSPECT DEFOGGER TIMER OPERATION

- Connect the positive (+) lead from the voltmeter to terminal 6 of body ECU No. 1 connector and negative (-) lead to body ground.
 - When the switch is OFF, the voltage should be approx. 12V.
 - Turn the defogger switch ON and check that the indicator lights up and that the voltage is less than 1 V.
 - After 15 minutes, check that the switch is OFF and the voltage is approx. 12 V.
- If operation is not as specified, replace the switch.

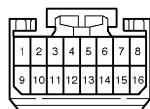
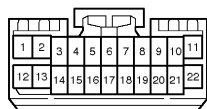


I04113

Wire Harness Side

Connector "A"

Connector "B"



I04114

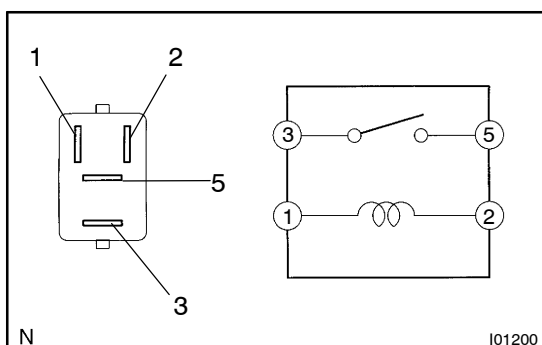
2. INSPECT DEFOGGER SWITCH (in PANEL SWITCH) CIRCUIT

Connector disconnected:

Disconnect the connector from the panel switch and inspect the connector on wire harness side, as shown in the chart.

Tester Connection	Condition	Specified Condition
B10 - Ground	Constant	Continuity
A1 - Ground	Constant	Battery Voltage
A2 - Ground	Ignition Switch LOCK	No Voltage
A2 - Ground	Ignition Switch ACC or ON	Battery Voltage

If the circuit is not as specified, replace the switch.



I01200

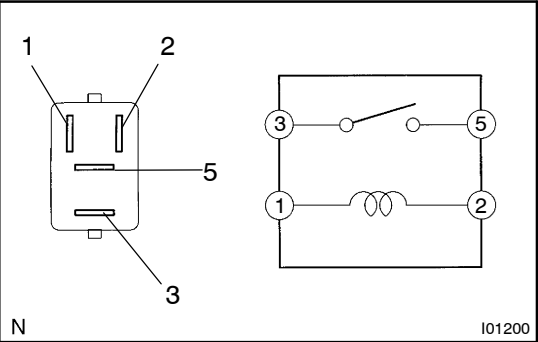
3. INSPECT DEFOGGER RELAY CONTINUITY

Condition	Tester Connection	Specified Condition
Constant	1 - 2	Continuity
Apply B+ between terminals 1 and 2.	3 - 5	Continuity

If continuity is not as specified, replace the relay.

4. INSPECT DEFOGGER RELAY CIRCUIT

(See page DI-648 and BE-21)

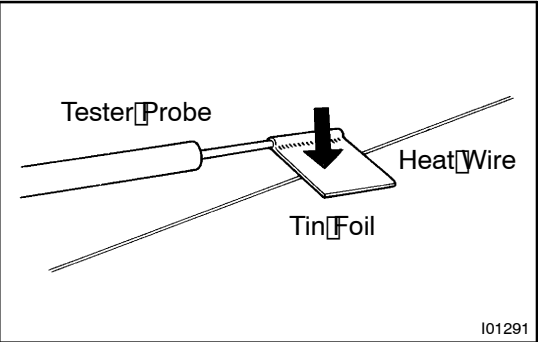


5. INSPECT MIRROR DEFOGGER RELAY CONTINUITY

Condition	Tester connection	Specified condition
Constant	1 - 2	Continuity
Apply B+ between terminals 3 and 5.	3 - 5	Continuity

If continuity is not as specified, replace the relay.

6. INSPECT MIRROR DEFOGGER RELAY CIRCUIT
(See page BE-21)

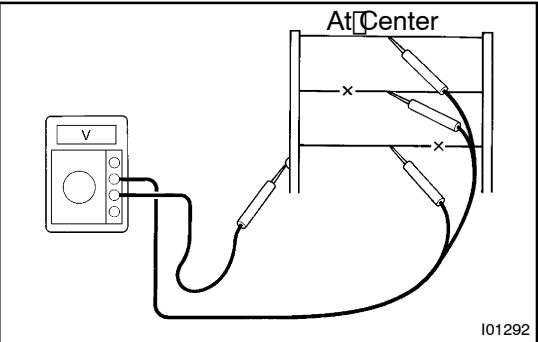


7. INSPECT DEFOGGER WIRE

NOTICE:

- When cleaning the glass, use a soft, dry cloth, and wipe the glass in the direction of the wire. Take care not to damage the wires.
- Do not use detergents or glass cleaners with abrasive ingredients.
- When measuring voltage, wrap a piece of tin foil around the tip of the negative probe and press the foil against the wire with your finger, as shown.

- (a) Turn the ignition switch ON.
- (b) Turn the defogger switch ON.
- (c) Inspect the voltage at the center of each heat wire, as shown.



Voltage	Criteria
Approx. 5V	Okay (No break in wire)
Approx. 10V or 0V	Broken wire

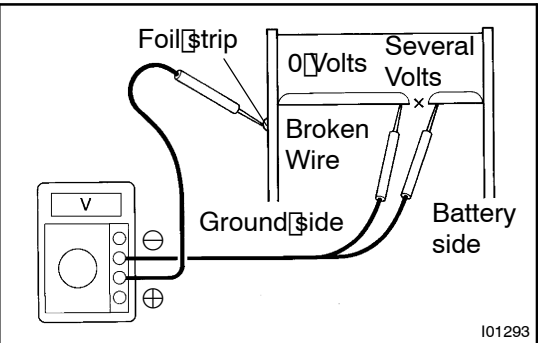
HINT:

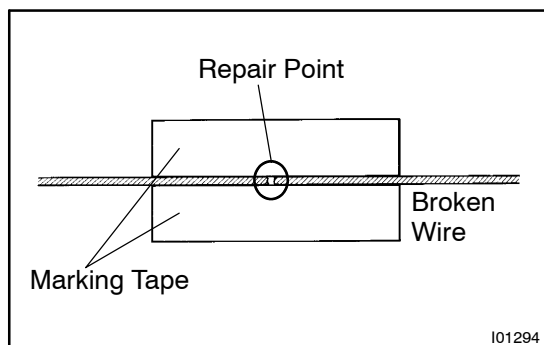
If there is approximately 10 V, the wire is broken between the center of the wire and the positive (+) end. If there is no voltage, the wire is broken between the center of the wire and ground.

- (d) Place the voltmeter positive (+) lead against the defogger wire on the battery side.
- (e) Place the voltmeter negative (-) lead with the foil strip against the wire on the ground side.
- (f) Slide the positive (+) lead from battery to ground side.
- (g) The point where the voltmeter deflects from several V to zero V is the place where the defogger wire is broken.

HINT:

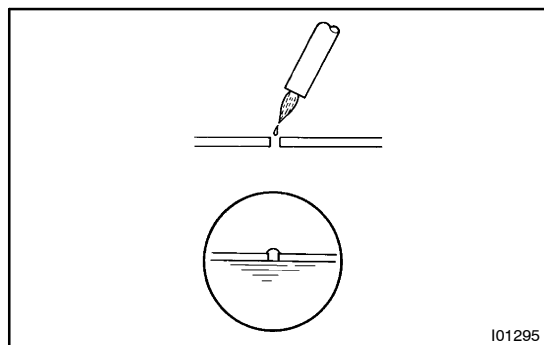
If the heat wire is not broken, the voltmeter indicates 0 V at the positive (+) end of the heat wire but gradually increases to about 12 V as the meter probe moves to the other end.



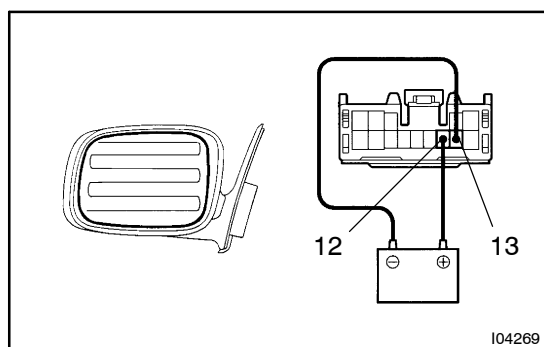


8. IF NECESSARY, REPAIR DEFOGGER WIRE

- Clean the broken wire tips with grease, wax and silicone remover.
- Place the masking tape along both sides of the wire for repair.
- Thoroughly mix the repair agent (Dupont paste No. 4817).



- Using a fine tip brush, apply a small amount of the agent to the wire.
- After a few minutes, remove the masking tape.
- Do not repair the defogger wire for at least 24 hours.



9. INSPECT MIRROR DEFOGGER OPERATION

- Connect the positive (+) lead from the battery to terminal 12 and the negative (-) lead to terminal 13.
- Check that the mirror becomes warm.

HINT:

It will take a short time for the mirror to become warm.

POWER WINDOW CONTROL SYSTEM

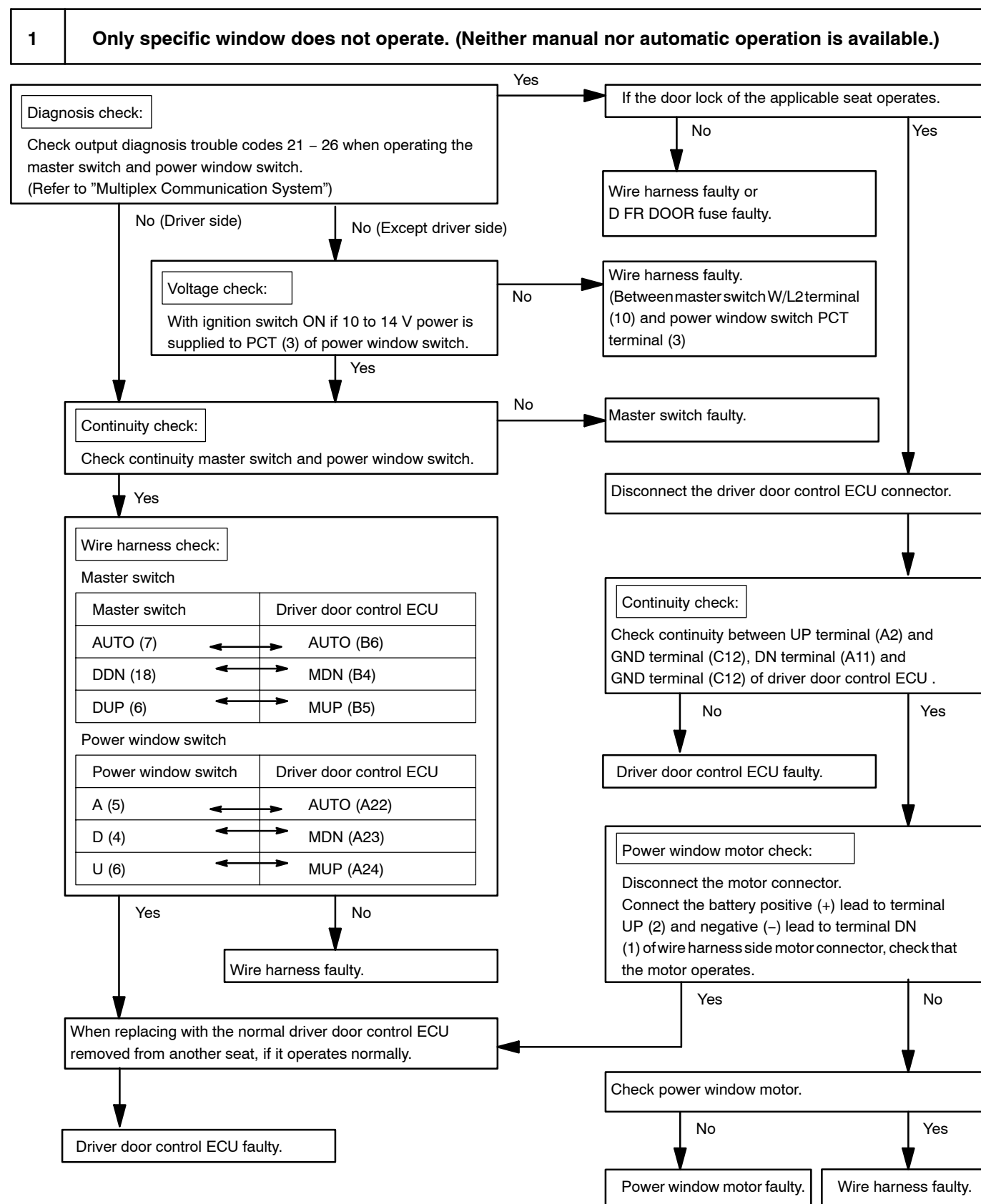
BE02C-04

TROUBLESHOOTING

1. WINDOW DOES NOT OPERATE WITH POWER WINDOW MASTER SWITCH. (MANUAL OR AUTOMATIC OPERATION CAN NOT BE PERFORMED.)

Trouble	Suspect Area (terminal No.)	Parts name
All windows do not operate with master switch of each window.	PWS terminal of body ECU does not output signal. ● Body ECU PWS terminal (B8) output ● Master Switch PW terminal (15) output ● Check wire harness between PWS terminal and PW terminal (15)	● Body ECU ● Master switch
Windows except driver's do not operate with master switch of each window.	Master switch (window lock circuit) faulty ● Check continuity between master switch PW terminal (15) and W/L2 terminal (10) ● Check wire harness between W/L2 terminal of master switch (10) and PCT terminals of each power window switch.	● Master switch
Only specific window does not operate. (Manual and automatic operation can not be performed.)	FLOW CHART <A>	–
Only specific window does not operate. (Automatic operation can not be performed.)	When "Jam Protection" sensor is defective, automatic function as a fail-safe function might be unable.	● Master switch ● Power window switch ● Door control ECU

FLOW CHART <A>



2. REMOTE CONTROL OF ALL WINDOWS (EXCEPT DRIVER'S) DOES NOT FUNCTION WITH MASTER SWITCH. (WINDOWS OPERATE NORMALLY WITH EACH OF MASTER SWITCHES.)

Trouble	Suspect Area (terminal No.)	Parts name
All windows (except driver's) do not operate by remote control.	Fail-safe mode caused by leaving the master switch ON or short circuit occurred in remote control switch of master switch. ● Check continuity of master switch.	● Master switch
Only passenger's door does not operate. (UP, DOWN and AUTO DOWN do not operate.)	Driver door control ECU DT1 terminal does not output. ● Driver door control ECU DT1 terminal (B3) ● Master switch DT1 terminal (3) ● Check wire harness between terminal DT1 (B3) and DT1 (3)	● Driver door control ECU ● Master switch
Only passenger's door does not operate. (Each operation does not operate.)	Master switch faulty ● Check continuity of master switch.	
Only rear right side door does not operate. (UP, DOWN and AUTO DOWN do not operate.)	Driver door control ECU DT2 terminal does not output. ● Driver door control ECU DT2 terminal (B2) ● Master switch DT2 terminal (11) ● Check wire harness between terminal DT2 (B2) and DT2 (11)	● Driver door control ECU ● Master switch
Only rear right side door does not operate. (Either UP, DOWN or AUTO DOWN does not operate.)	Master switch faulty ● Check continuity of master switch.	
Only rear left side door does not operate. (UP, DOWN and AUTO DOWN do not operate.)	Driver door control ECU DT3 terminal does not output. ● Driver door control ECU DT3 terminal (B1) ● Master switch DT3 terminal (14) ● Check wire harness between terminal DT3 (B1) and DT3 (14)	● Driver door control ECU ● Master switch
Only rear left side door does not operate. (Either UP, DOWN or AUTO DOWN does not operate.)	Master switch faulty ● Check continuity of master switch.	
Only UP operation does not operate. (All window (Except driver side) doors.)	Master switch ON SC2 terminal does not output. Driver door control ECU SC2 terminal does not input. ● Master switch SC2 terminal (12) ● Driver door control ECU SC2 terminal (B10) ● Check wire harness between terminal SC2 (12) and SC2 (B10)	● Driver door control ECU ● Master switch
Only UP operation does not operate. (Only specific window does not operate.)	Master switch faulty ● Check continuity of master switch.	
Only DOWN operation does not operate. (All window (Except driver side) doors.)	Master switch ON SC1 terminal does not output. Driver door control ECU SC1 terminal does not input. ● Master switch SC1 terminal (4) ● Driver door control ECU SC1 terminal (B9) ● Check wire harness between terminal SC1 (4) and SC1 (B9)	● Driver door control ECU ● Master switch
Only DOWN operation does not operate. (Only specific window does not operate.)	Master switch faulty ● Check continuity of master switch.	

Only AUTO DOWN operation does not operate. (All window (Except driver side) doors.)	Master switch ON SC3 terminal does not output. Driver door control ECU SC3 terminal does not input. • Master switch SC3 terminal (13) • Driver door control ECU SC3 terminal (B11) • Check wire harness between terminal SC3 (13) and SC3 (B11)	• Driver door control ECU • Master switch
Only AUTO DOWN operation does not operate. (Only specific window does not operate.)	Master switch faulty • Check continuity of master switch.	

3. THE KEY RELATED POWER WINDOW OPERATION DOES NOT OPERATE WITH DRIVER SIDE DOOR KEY CYLINDER. (MASTER SWITCH OPERATION IS NORMAL.)

Trouble	Suspect Area (terminal No.)	Parts name
Door lock system does not operate with door key.	Refer to "POWER DOOR LOCK CONTROL SYSTEM".	–
Door lock system does not operate with door key.	Fail-safe mode caused by error on jam protection sensor of power window. (Operation of power window with multi-function transmitter is prohibited.) HINT: DTC 31 – 38 output	Refer to "Multiplex Communication System".

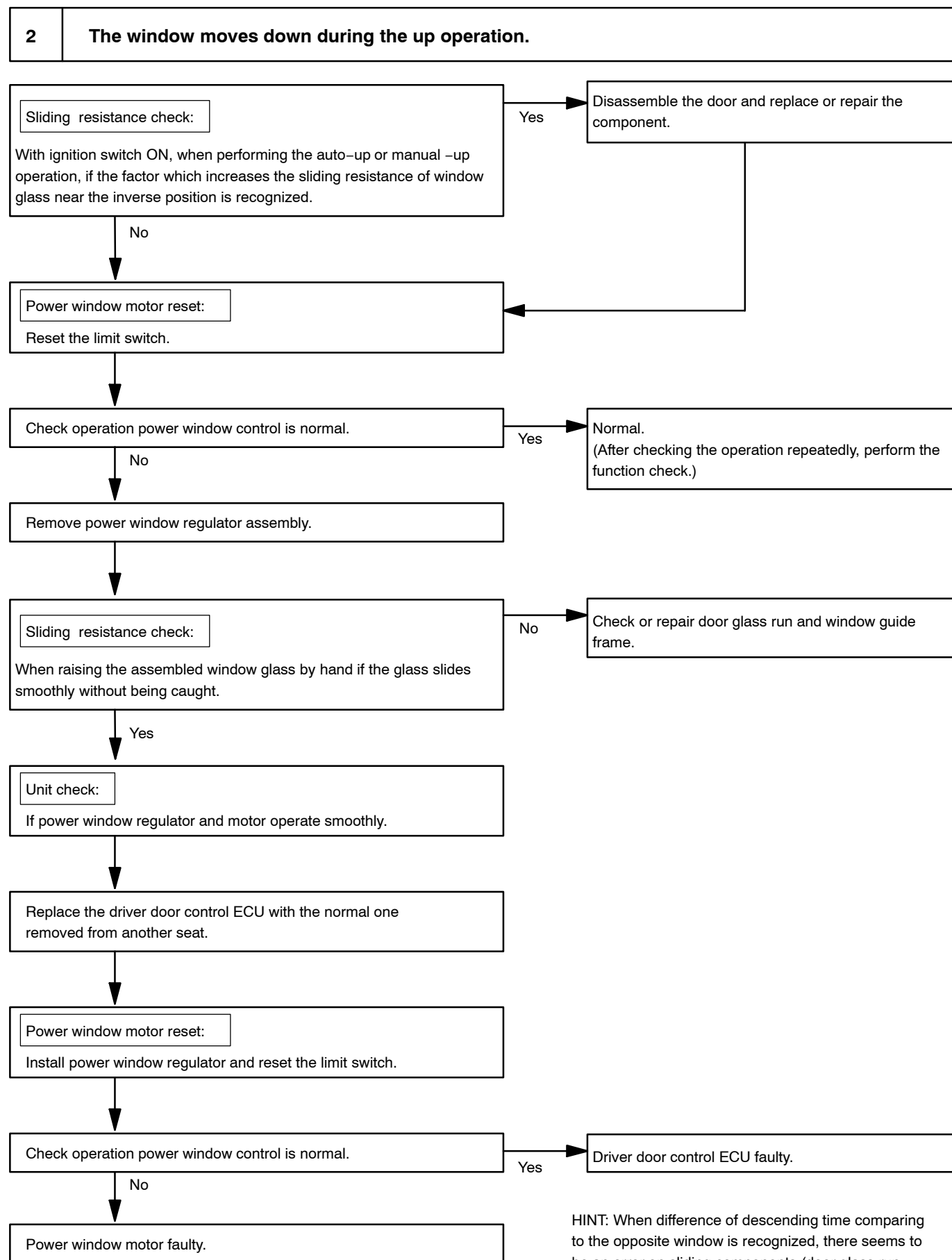
4. POWER WINDOW DOES NOT OPERATE WITH MULTI-FUNCTION TRANSMITTER. (WINDOWS OPERATE NORMALLY WITH MASTER SWITCH.)

Trouble	Suspect Area (terminal No.)	Parts name
Door lock and luggage compartment opener do not operate with multi-function transmitter.	Refer to "WIRELESS DOOR LOCK CONTROL SYSTEM".	–
Only luggage compartment opener operates with multi-function transmitter.	Wireless door lock transmitter faulty.	Check wireless door lock transmitter.
Door lock and luggage compartment opener operate with multi-function transmitter.	Fail-safe mode caused by error on jam protection sensor of power window. (Operation of power window with multi-function transmitter is prohibited.) HINT: DTC 31 – 38 output	Refer to "Multiplex Communication System".

5. WINDOW MOVES DOWN WITHOUT BEING ORDERED DURING THE UP OPERATION

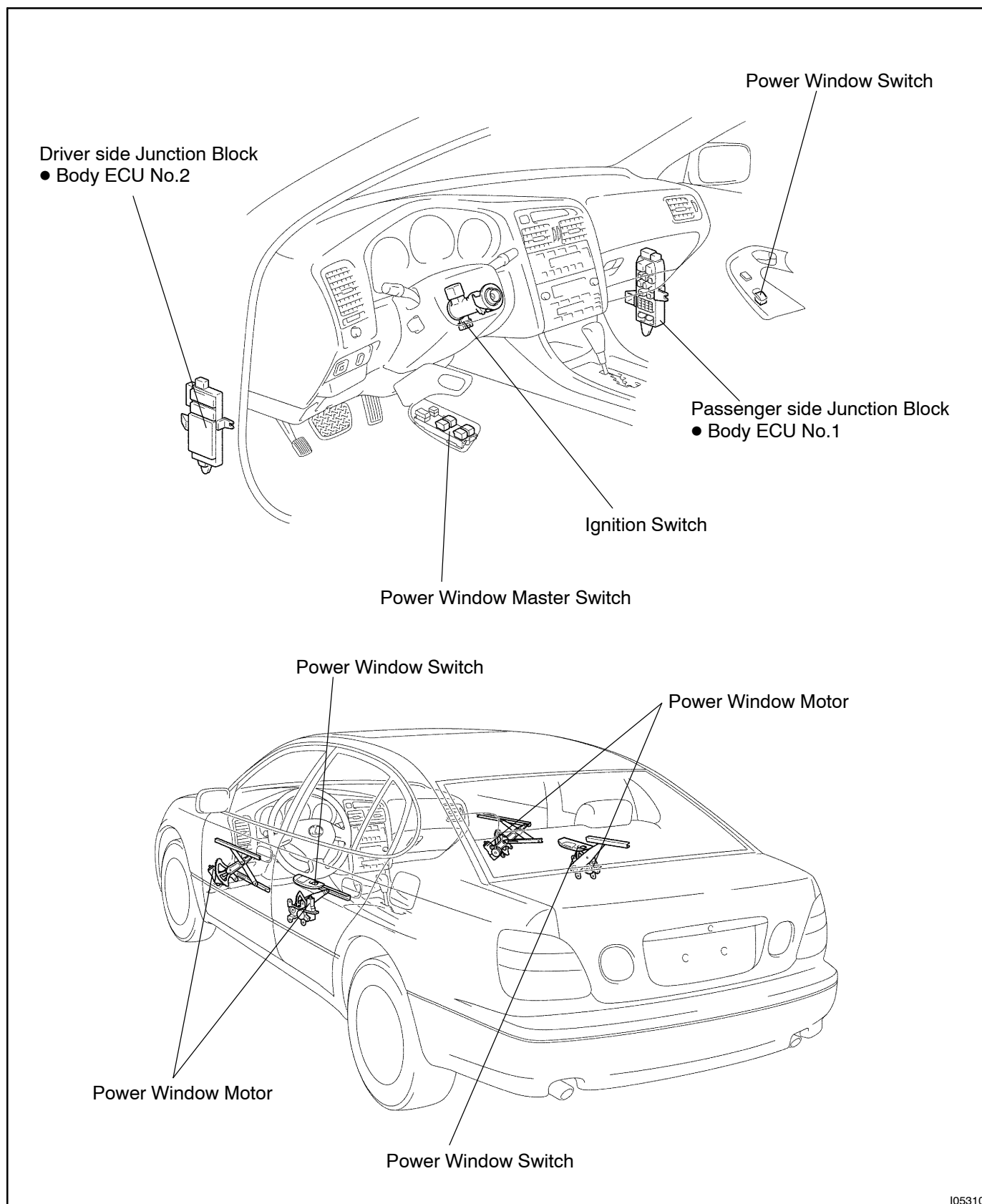
Trouble	Suspect Area (terminal No.)	Parts name
After the window is fully closed, it starts to move down.	Power window motor limit switch wire harness faulty. • Power window motor reset switch is reset. • Driver door control ECU LMT terminal (B12)	• Driver door control ECU
The window moves down during the up operation.	FLOW CHART 	–

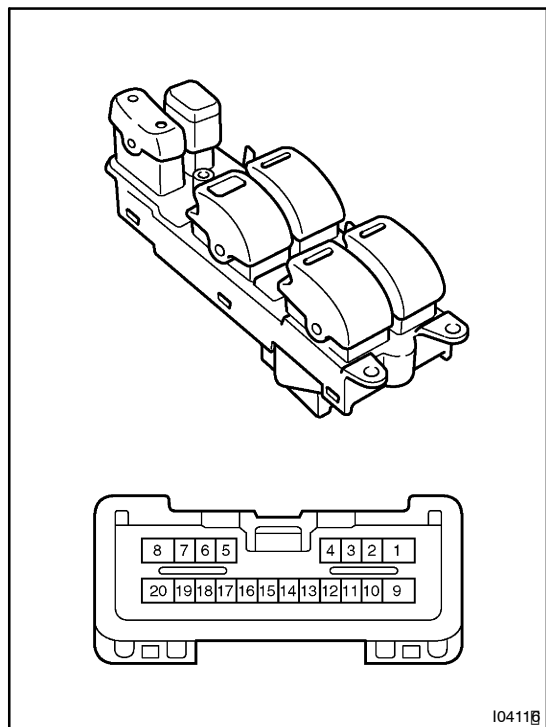
FLOW CHART



HINT: When difference of descending time comparing to the opposite window is recognized, there seems to be an error on sliding components (door glass run and window regulator.)

LOCATION





104118

INSPECTION

1. INSPECT POWER WINDOW MASTER SWITCH CONTINUITY

Front Driver's Switch:

Switch position	Tester connection	Specified condition
AUTO	7 - 16	Continuity
UP	6 - 16	Continuity
OFF	-	No continuity
DOWN	16 - 18	Continuity

Front Passenger's Switch:

Switch position	Tester connection	Specified condition
AUTO	3 - 13	Continuity
UP	3 - 12	Continuity
OFF	-	No continuity
DOWN	3 - 4	Continuity

Rear Left Switch:

Switch position	Tester connection	Specified condition
AUTO	13 - 14	Continuity
UP	12 - 14	Continuity
OFF	-	No continuity
DOWN	4 - 14	Continuity

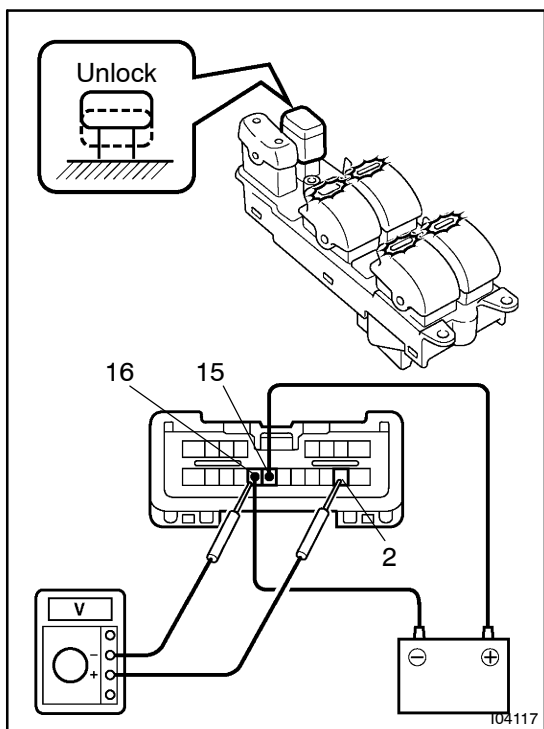
Rear Right Switch:

Switch position	Tester connection	Specified condition
UP/AUTO	11 - 13	Continuity
UP	11 - 12	Continuity
OFF	-	No continuity
DOWN	4 - 11	Continuity

If continuity is not as specified, replace the master switch.

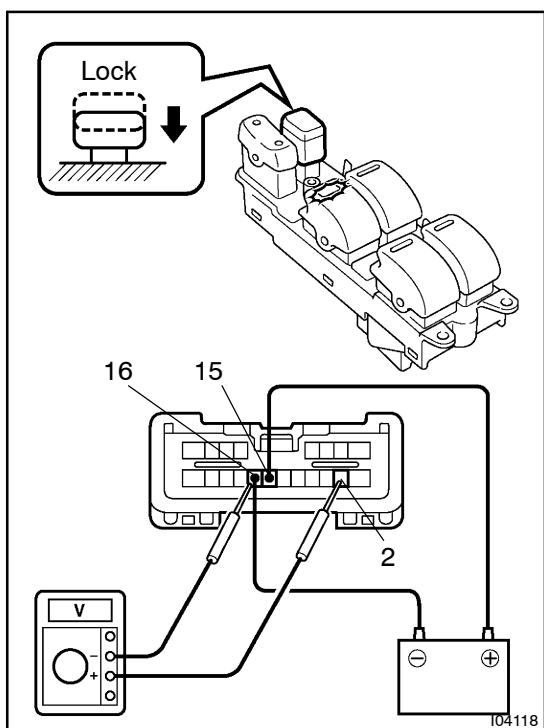
2. INSPECT POWER WINDOW MASTER SWITCH CIRCUIT

(See page DI-710)



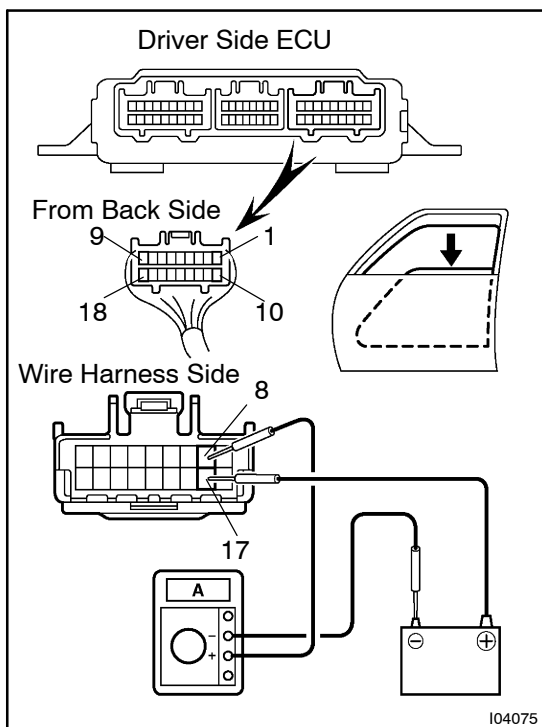
3. INSPECT POWER WINDOW MASTER SWITCH ILLUMINATION

- (a) Set the window lock switch to the unlock position.
- (b) Connect the positive (+) lead from the battery to terminal 15 and the negative (-) lead to terminal 16, and check that all the illuminations light up.
- (c) Connect the positive (+) lead from the voltmeter to terminal 15 and negative (-) lead to terminal 2, and check that the voltage meter needle indicates battery positive voltage.



- (d) Set the window lock switch to the lock position, check that all the passenger's power window switch illuminations go out.
- (e) Then, check that the voltage meter needle indicates no voltage.

If operation is not as specified, replace the master switch.



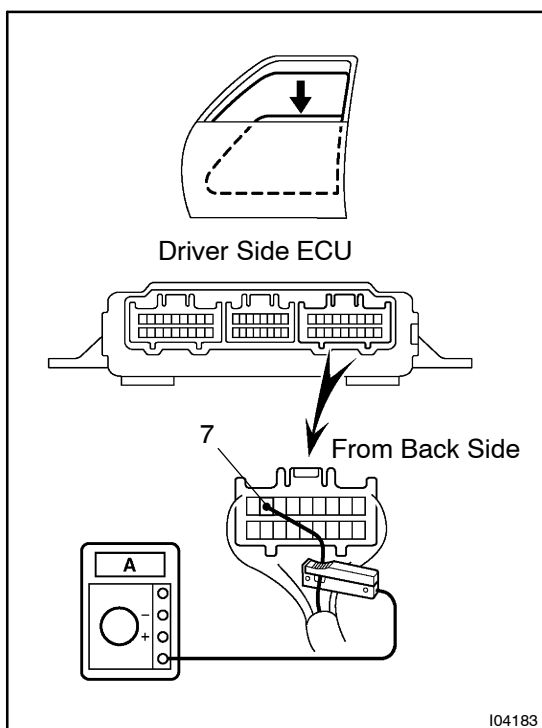
4. INSPECT ONE TOUCH POWER WINDOW SYSTEM/ CURRENT OF CIRCUIT (Using an ammeter)

- Disconnect the connector from the driver door ECU.
- Connect the positive (+) lead from the ammeter to terminal 8 on the wire harness side connector and the negative (-) lead to negative (-) terminal of the battery.
- Connect the positive (+) lead from the battery to terminal 17 on the wire harness side connector.
- As the window goes down, check that the current flow is approximately 7 A.
- Check that the current increases up to approximately 14.5 A or more when the window stops going down.

HINT:

The PTC opens some 4 – 90 seconds after the window stops going down, so that check must be made before the PTC operates.

If the operation is as specified, replace the driver door ECU.



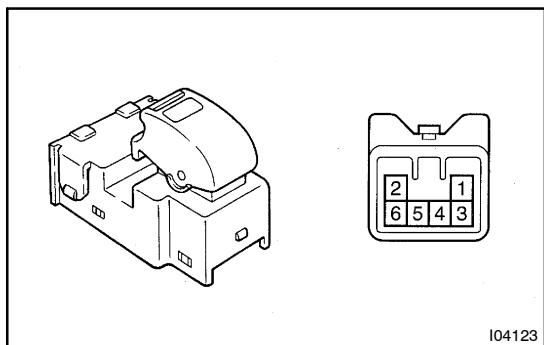
5. INSPECT ONE TOUCH POWER WINDOW SYSTEM/ CURRENT OF CIRCUIT (Using an ammeter with a current-measuring probe)

- Remove the driver door ECU with connectors connected.
- Attach a current-measuring probe to terminal 7 of the wire harness.
- Turn the ignition switch ON and set the power window switch in the down position.
- As the window goes down, check that the current flow is approximately 7 A.
- Check that the current increases up to approximately 14.5 A or more when the window stops going down.

HINT:

The PTC opens some 4 – 90 seconds after the window stops going down, so that check must be made before the PTC operates.

If operation is as specified, replace the driver door ECU.



I04123

6. INSPECT POWER WINDOW SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
AUTO	3 - 5	Continuity
UP	3 - 6	Continuity
OFF	-	No continuity
DOWN	3 - 4	Continuity

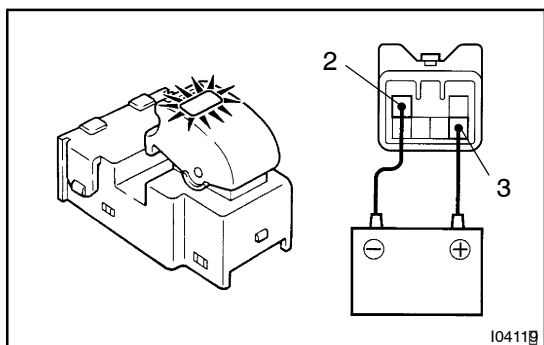
If continuity is not as specified, replace the switch.

7. INSPECT POWER WINDOW SWITCH CIRCUIT

Passenger side: (See page DI-752)

Rear Left side: (See page DI-781)

Rear Right side: (See page DI-799)

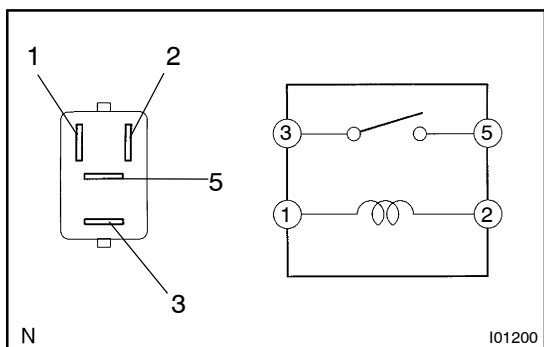


I04119

8. INSPECT POWER WINDOW SWITCH ILLUMINATION

Connect the positive (+) lead from the battery to terminal 3 and the negative (-) lead to terminal 2, and check that the indicator light lights up.

If operation is not as specified, replace the switch.



N

I01200

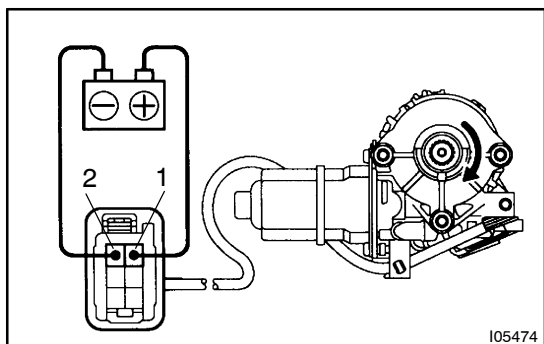
9. INSPECT POWER MAIN RELAY CONTINUITY

Condition	Tester connection	Specified condition
Constant	1 - 2	Continuity
Apply B+ between terminals 1 and 2.	3 - 5	Continuity

If continuity is not as specified, replace the relay.

10. INSPECT POWER MAIN RELAY CIRCUIT

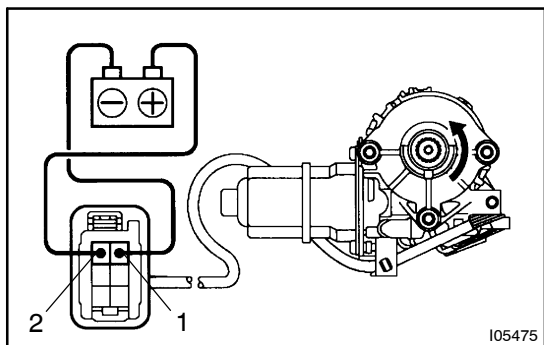
(See page BE-21)



I05474

11. Front Left Side Door:**INSPECT POWER WINDOW MOTOR OPERATION**

- (a) Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, and check that the motor turns clockwise.



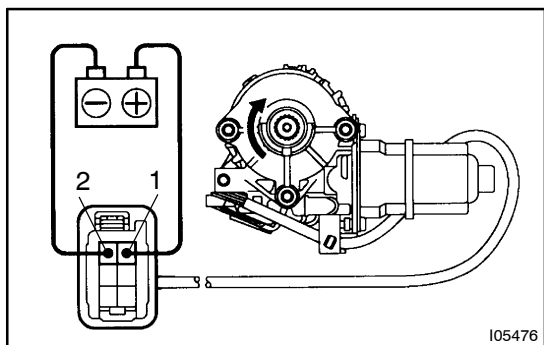
- (b) Reverse the polarity, check that the motor turns counter-clockwise.

If operation is not as specified, replace the motor.

12. Front Left Side Door:

INSPECT POWER WINDOW MOTOR CIRCUIT

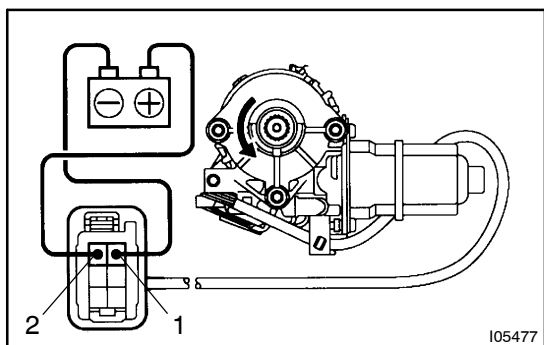
(See page DI-720)



13. Front Right Side Door:

INSPECT POWER WINDOW MOTOR OPERATION

- (a) Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, and check that the motor turns clockwise.



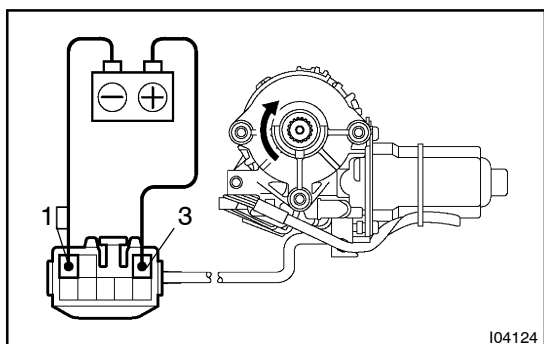
- (b) Reverse the polarity, check that the motor turns counter-clockwise.

If operation is not as specified, replace the motor.

14. Front Right Side Door:

INSPECT POWER WINDOW MOTOR CIRCUIT

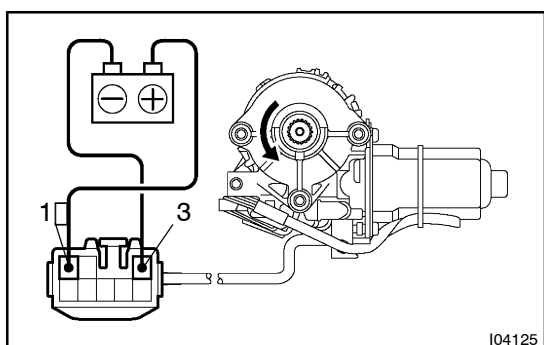
(See page DI-754)



15. Rear Left Side Door:

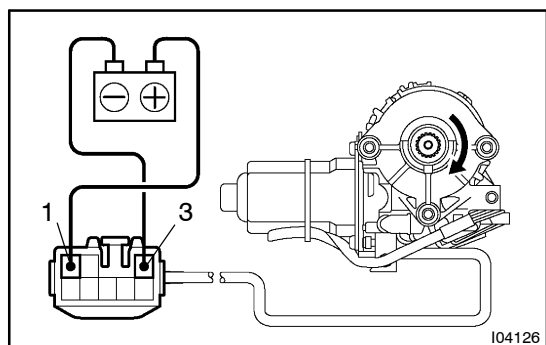
INSPECT POWER WINDOW MOTOR OPERATION

- (a) Connect the positive (+) lead from the battery to terminal 3 and the negative (-) lead to terminal 1, and check that the motor turns clockwise.

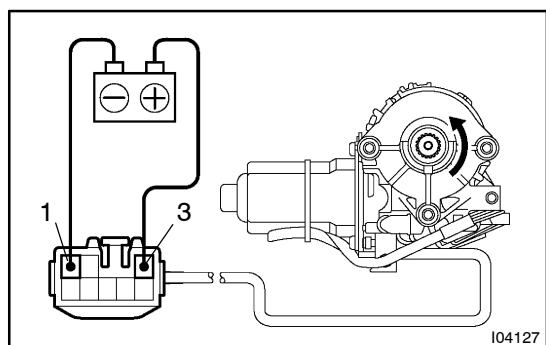


- (b) Reverse the polarity, check that the motor turns counter-clockwise.

If operation is not as specified, replace the motor.

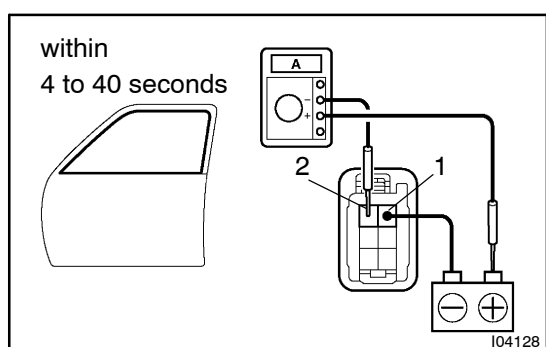
**16. Rear Right Side Door:****INSPECT POWER WINDOW MOTOR OPERATION**

- (a) Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 3, and check that the motor turns clockwise.



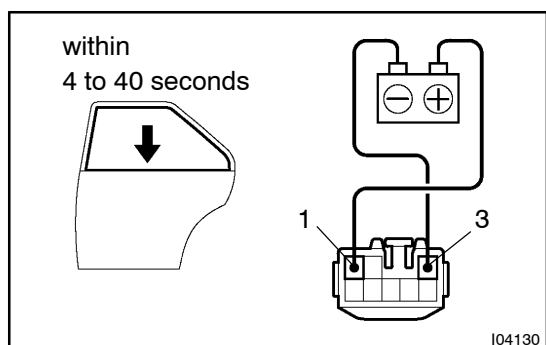
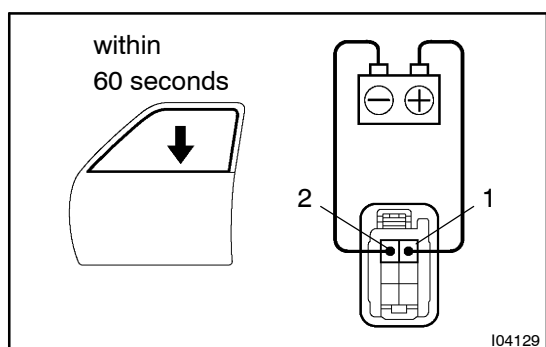
- (b) Reverse the polarity, check that the motor turns counter-clockwise.

If operation is not as specified, replace the motor.

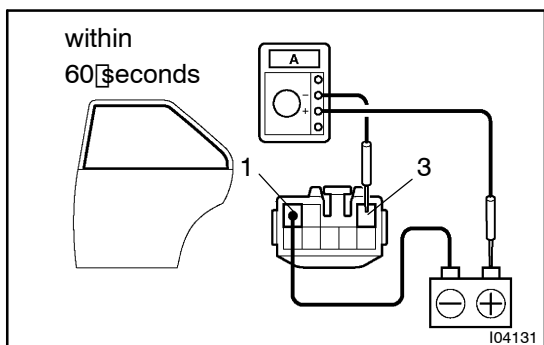
**17. Front Door:****INSPECT POWER WINDOW MOTOR PTC OPERATION**

- (a) Disconnect the connector from the master switch.
 (b) Connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1 on the wire harness side connector and raise the window to full closed position.
 (c) Continue to apply voltage, check that there is a PTC operation noise within approximately 4 to 90 seconds.
 (d) Reverse the polarity, check that the window begins to descend within approximately 60 seconds.

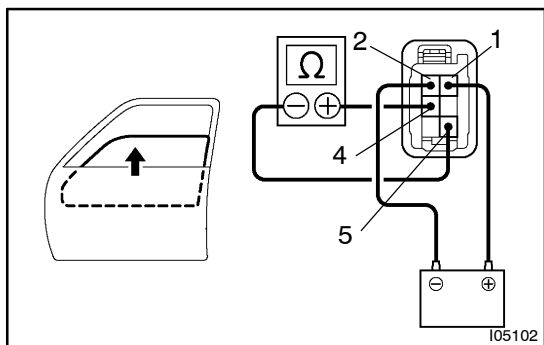
If operation is not as specified, replace the motor.

**18. Rear Door:****INSPECT POWER WINDOW MOTOR PTC OPERATION**

- (a) Disconnect the connector from the rear door ECU.
 (b) Connect the positive (+) lead from the battery to terminal 3 and the negative (-) lead to terminal 1 on the wire harness side connector, and raise the window to full closed position.
 (c) Continue to apply voltage, check that there is a PTC operation noise within approximately 4 to 90 seconds.

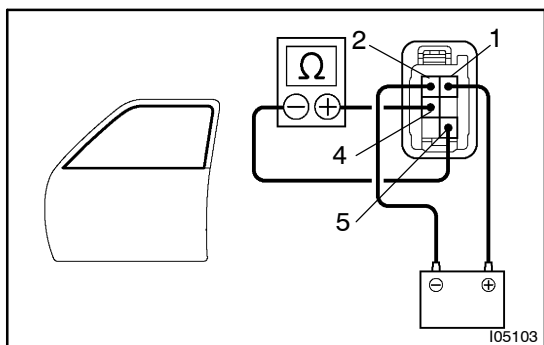


- (d) Reverse the polarity, check that the window begins to descend within approximately 60 seconds. If operation is not as specified, replace the motor.



19. Front Left Side Door (Window Up): INSPECT JAM PROTECTION LIMIT SWITCH OPERATION

- (a) Connect the positive (+) lead from the ohmmeter to terminal 4 and the negative (-) lead to terminal 5.
(b) Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2.
(c) Check that the continuity exists when the window goes up.

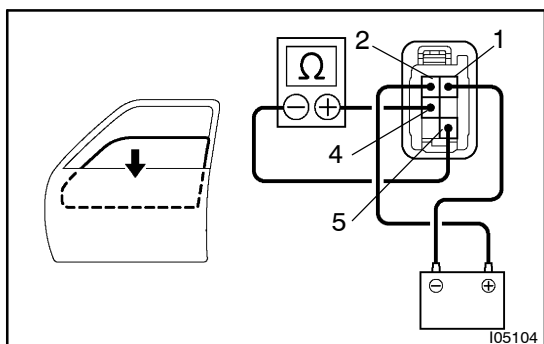


- (d) Check that the no continuity exists when the window is in the fully closed position.

If operation is not as specified, replace the motor.

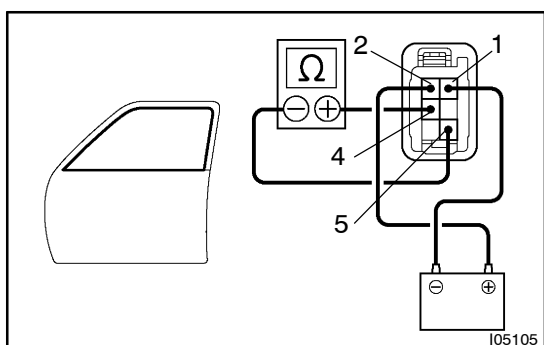
NOTICE:

If connecting the wire harness wrongly, the sensor might be damaged so caution is necessary.



20. Front Left Side Door (Window Down): INSPECT JAM PROTECTION LIMIT SWITCH OPERATION

- (a) Connect the positive (+) lead from the ohmmeter to terminal 4 and the negative (-) lead to terminal 5.
(b) Connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1.
(c) Check that the continuity exists when the window goes down.



- (d) Check that the no continuity exists when the window is in the fully opened position.

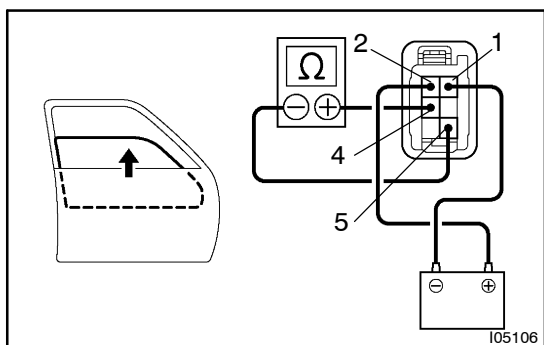
If operation is not as specified, replace the motor.

NOTICE:

If connecting the wire harness wrongly, the sensor might be damaged so caution is necessary.

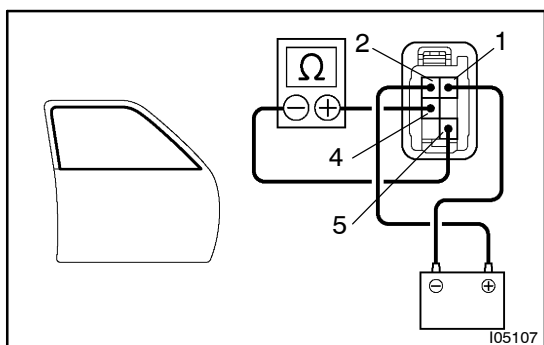
21. Front Left Side Door:

INSPECT JAM PROTECTION LIMIT SWITCH CIRCUIT
(See page DI-722)



22. Front Right Side Door (Window Up): INSPECT JAM PROTECTION LIMIT SWITCH OPERATION

- Connect the positive (+) lead from the ohmmeter to terminal 4 and the negative (-) lead to terminal 5.
- Connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1.
- Check that the continuity exists when the window goes up.

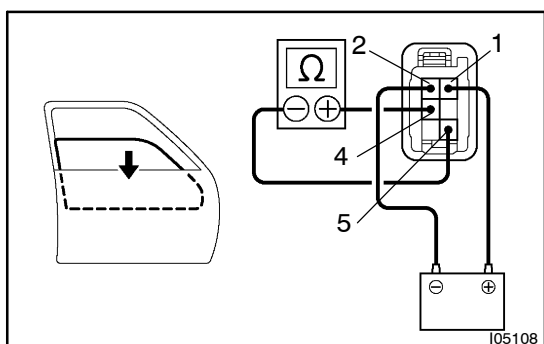


- Check that the no continuity exists when the window is in the fully closed position.

If operation is not as specified, replace the motor.

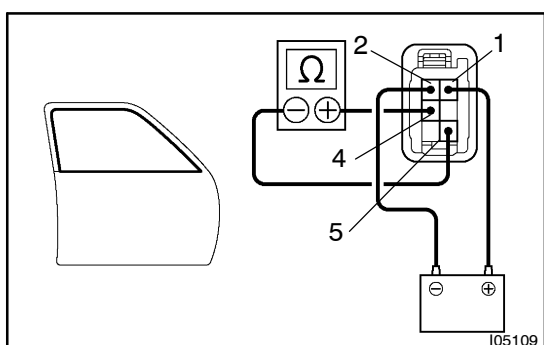
NOTICE:

If connecting the wire harness wrongly, the sensor might be damaged so caution is necessary.



23. Front Right Side Door (Window Down): INSPECT JAM PROTECTION LIMIT SWITCH OPERATION

- Connect the positive (+) lead from the ohmmeter to terminal 4 and the negative (-) lead to terminal 5.
- Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2.
- Check that the continuity exists when the window goes down.



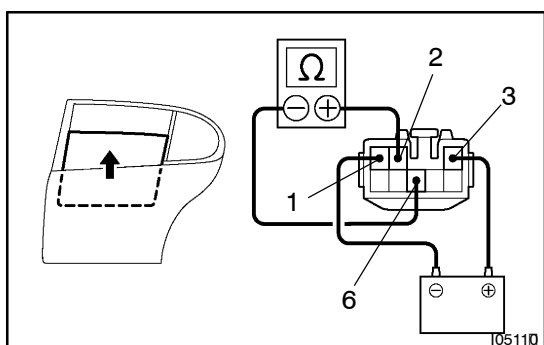
- Check that the no continuity exists when the window is in the fully opened position.

If operation is not as specified, replace the motor.

NOTICE:

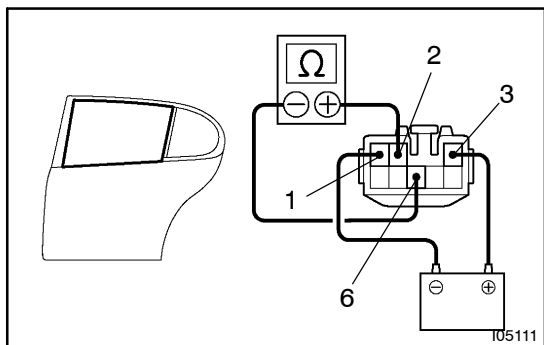
If connecting the wire harness wrongly, the sensor might be damaged so caution is necessary.

24. Front Right Side Door: INSPECT JAM PROTECTION LIMIT SWITCH CIRCUIT (See page DI-756)



25. Rear Left Side Door (Window Up): INSPECT JAM PROTECTION LIMIT SWITCH OPERATION

- Connect the positive (+) lead from the ohmmeter to terminal 2 and the negative (-) lead to terminal 6.
- Connect the positive (+) lead from the battery to terminal 3 and the negative (-) lead to terminal 1.
- Check that the continuity exists when the window goes up.

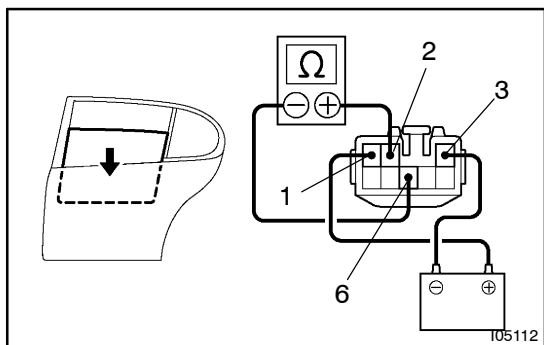


- (d) Check that the no continuity exists when the window is in the fully closed position.

If operation is not as specified, replace the motor.

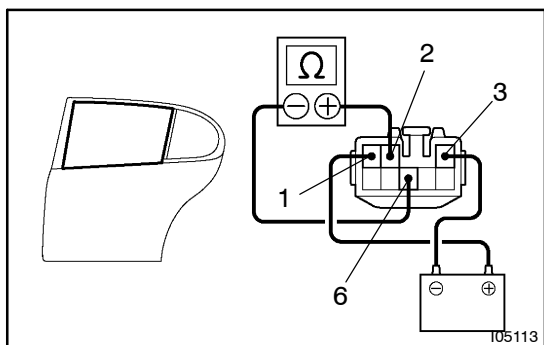
NOTICE:

If connecting the wire harness wrongly, the sensor might be damaged so caution is necessary.



**26. Rear Left Side Door (Window Down):
INSPECT JAM PROTECTION LIMIT SWITCH OPERATION**

- Connect the positive (+) lead from the ohmmeter to terminal 2 and the negative (-) lead to terminal 6.
- Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 3.
- Check that the continuity exists when the window goes down.

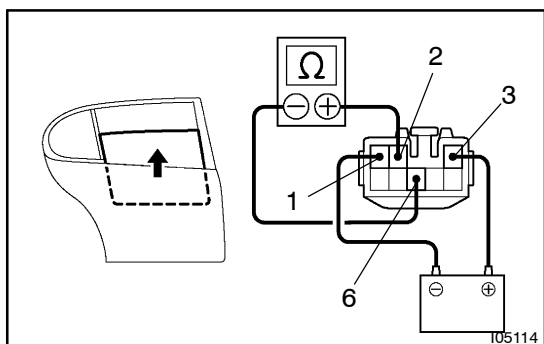


- (d) Check that the no continuity exists when the window is in the fully opened position.

If operation is not as specified, replace the motor.

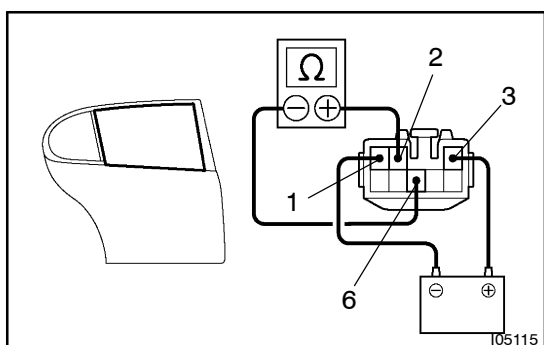
NOTICE:

If connecting the wire harness wrongly, the sensor might be damaged so caution is necessary.



**27. Rear Right Side Door (Window Up):
INSPECT JAM PROTECTION LIMIT SWITCH OPERATION**

- Connect the positive (+) lead from the ohmmeter to terminal 2 and the negative (-) lead to terminal 6.
- Connect the positive (+) lead from the battery to terminal 3 and the negative (-) lead to terminal 1.
- Check that the continuity exists when the window goes up.

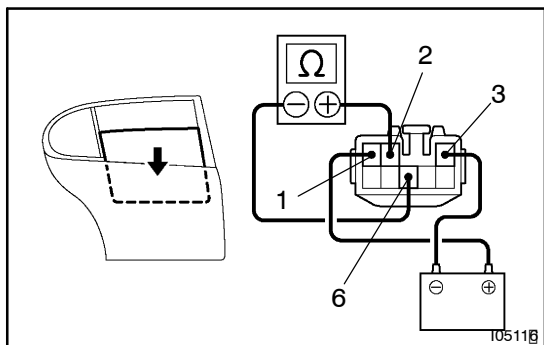


- (d) Check that the no continuity exists when the window is in the fully closed position.

If operation is not as specified, replace the motor.

NOTICE:

If connecting the wire harness wrongly, the sensor might be damaged so caution is necessary.



28. Rear Right Side Door (Window Down): INSPECT JAM PROTECTION LIMIT SWITCH OPERATION

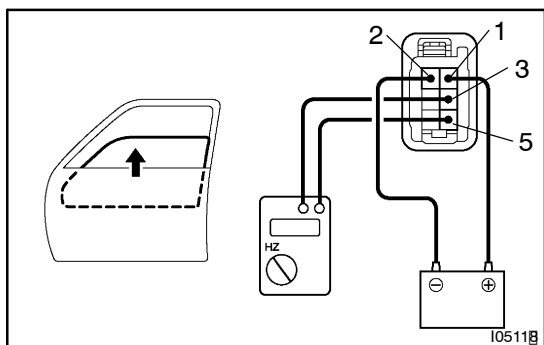
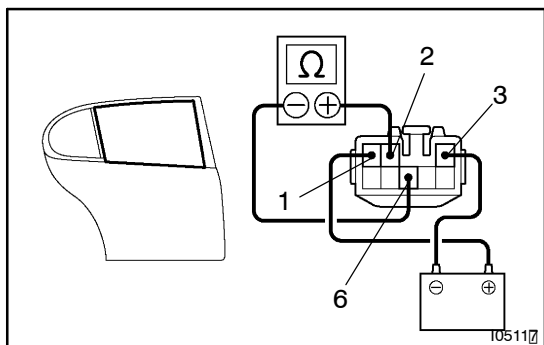
- Connect the positive (+) lead from the ohmmeter to terminal 2 and the negative (-) lead to terminal 6.
- Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 3.
- Check that the continuity exists when the window goes down.

- Check that the no continuity exists when the window is in the fully opened position.

If operation is not as specified, replace the motor.

NOTICE:

If connecting the wire harness wrongly, the sensor might be damaged so caution is necessary.



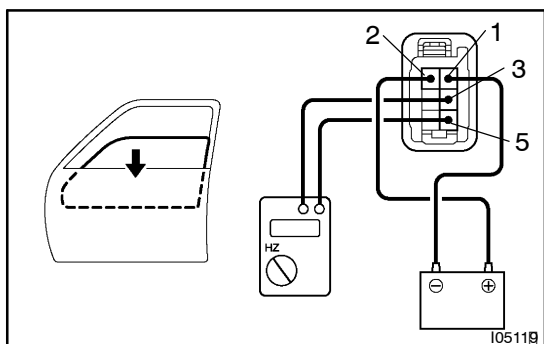
29. Front Left Side Door: INSPECT JAM PROTECTION PULSE SWITCH OPERATION

- Connect the positive (+) lead from the TOYOTA electrical tester to terminal 3 and the negative (-) lead to terminal 5.
- Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2.
- Check that pulse is generated during the motor running.

- Reverse the polarity and check that pulse is generated.
- If operation is not as specified, replace the motor.

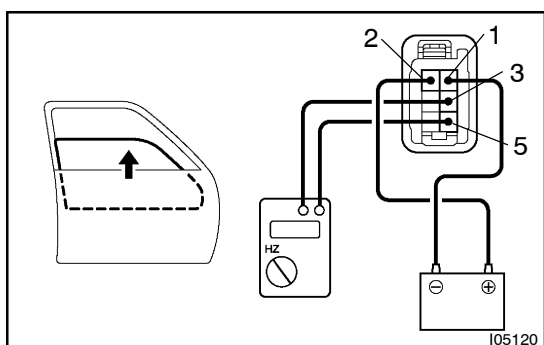
NOTICE:

If connecting the wire harness wrongly, the sensor might be damaged so caution is necessary.



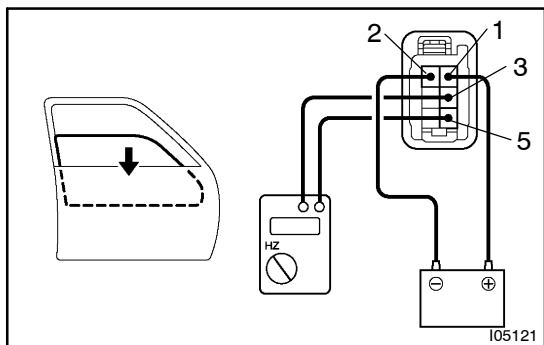
30. Front Left Side Door: INSPECT JAM PROTECTION PULSE SWITCH CIRCUIT

(See page DI-724)



31. Front Right Side Door: INSPECT JAM PROTECTION PULSE SWITCH OPERATION

- Connect the positive (+) lead from the TOYOTA electrical tester to terminal 3 and the negative (-) lead to terminal 5.
- Connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1.
- Check that pulse is generated during the motor running.



(d) Reverse the polarity and check that pulse is generated. If operation is not as specified, replace the motor.

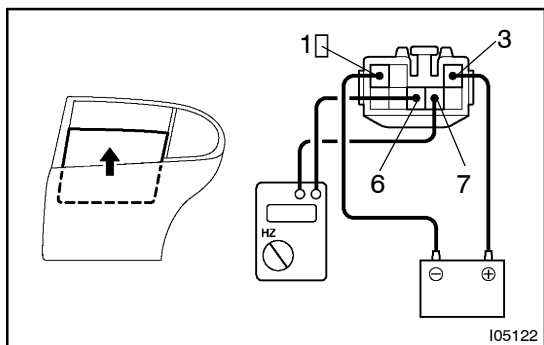
NOTICE:

If connecting the wire harness wrongly, the sensor might be damaged so caution is necessary.

32. Front Right Side Door:

INSPECT JAM PROTECTION PULSE SWITCH CIRCUIT

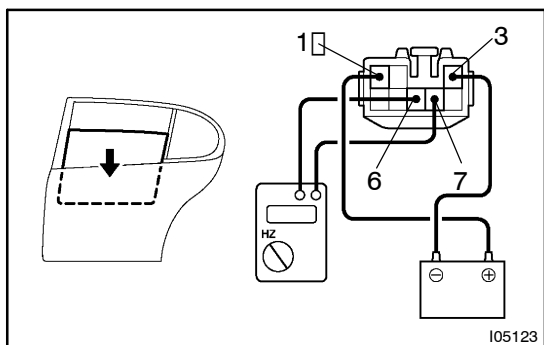
(See page DI-758)



33. Rear Left Side Door:

INSPECT JAM PROTECTION PULSE SWITCH

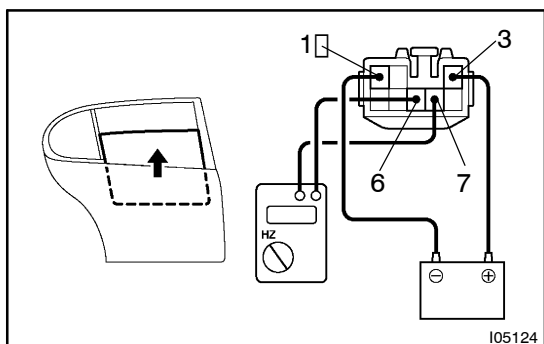
- Connect the positive (+) lead from the TOYOTA electrical tester to terminal 3 and the negative (-) lead to terminal 5.
- Connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1.
- Check that pulse is generated during the motor running.



(d) Reverse the polarity and check that pulse is generated. If operation is not as specified, replace the motor.

NOTICE:

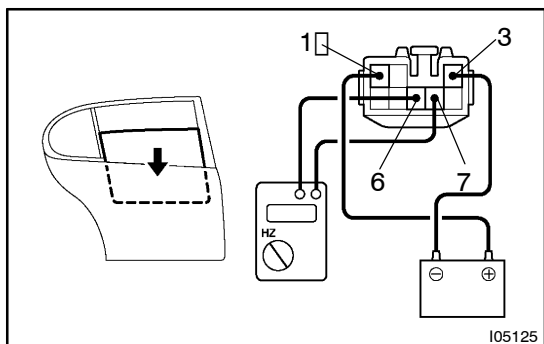
If connecting the wire harness wrongly, the sensor might be damaged so caution is necessary.



34. Rear Right Side Door:

INSPECT JAM PROTECTION PULSE SWITCH

- Connect the positive (+) lead from the TOYOTA electrical tester to terminal 3 and the negative (-) lead to terminal 5.
- Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2.
- Check that pulse is generated during the motor running.



(d) Reverse the polarity and check that pulse is generated. If operation is not as specified, replace the motor.

NOTICE:

If connecting the wire harness wrongly, the sensor might be damaged so caution is necessary.

35. CHECKING OF THE JAM PROTECTION FUNCTION**NOTICE:**

Never, ever be caught any part of your body when checking.

HINT:

In case of performing resetting of the limit switch, do checking after repeating up and down of the glass with automatic operation.

- (a) Confirmation of AUTO up operation:
Confirm that the window will be fully close with AUTO up operation.
- (b) Checking of the operation of the jam protection function:
 - (1) Move up the window with AUTO up operation and check that the window will go down when it touches the handle of the hammer setted.
 - (2) Confirm that the window will then stop going down about 200 mm.

HINT:

In case of removing the glass, glass guide, regulator and etc. be sure to perform checking of the jam protection function.

ADJUSTMENT

Resetting method of the motor for jam protection.

- When replacing the motor from the regulator or running the motor, make sure to reset the motor.
- This operation sets the limit switch OFF.
 - Connect the motor connector to the vehicle side harness.
 - Rotate the motor from 6 turns to 10 turns or for 4 – 5 secs moving it to the glass ascending direction.

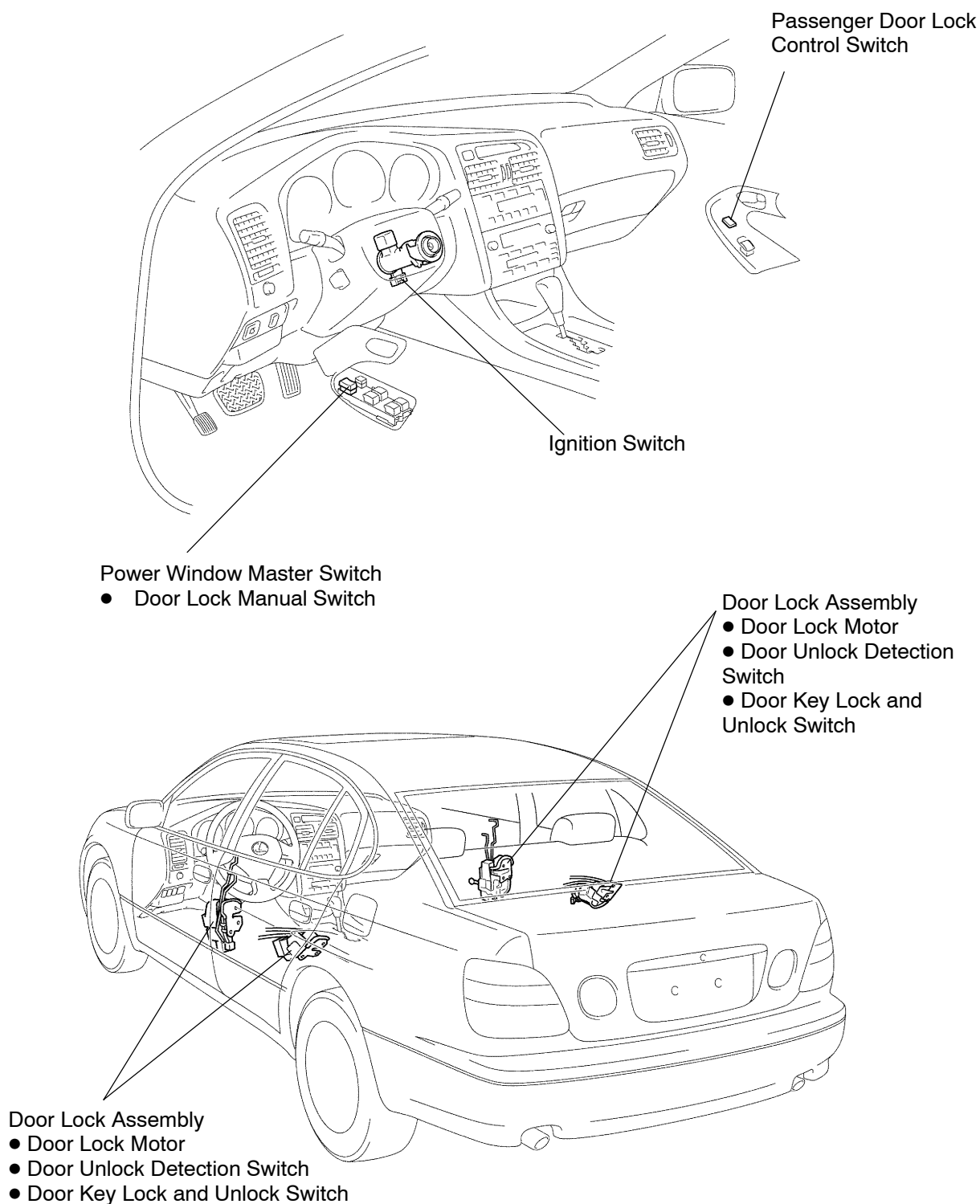
HINT:

Rotating the motor from 6 turns to 10 turns or for 4 – 5 secs. sets the limit switch to "OFF". (Top dead center of the door glass.)

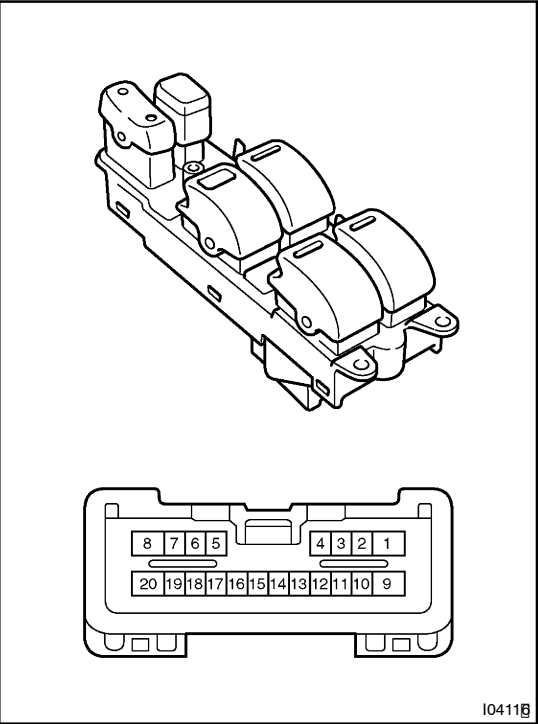
POWER DOOR LOCK CONTROL SYSTEM

LOCATION

BE0HQ-02



I05311



I04118

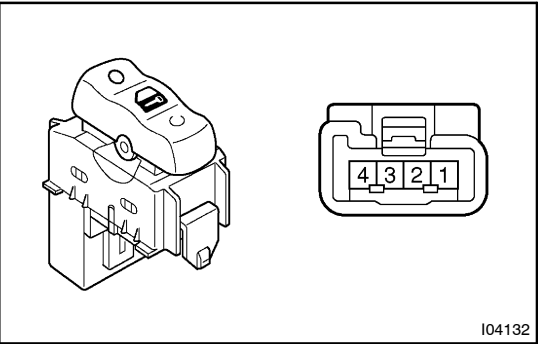
INSPECTION

1. Master Switch:
INSPECT DRIVER'S DOOR LOCK CONTROL SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
LOCK	5 - 16	Continuity
OFF	-	No continuity
UNLOCK	16 - 17	Continuity

If continuity is not as specified, replace the switch.

2. Master Switch:
INSPECT DRIVER'S DOOR LOCK CONTROL SWITCH CIRCUIT
(See page DI-710)



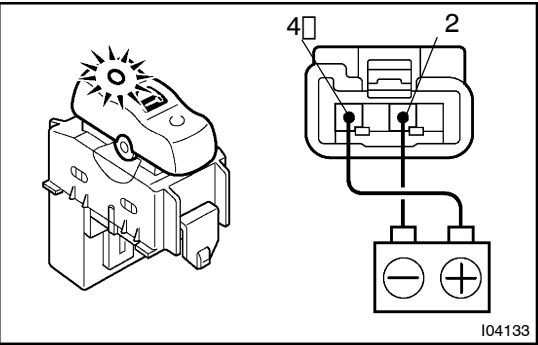
I04132

3. INSPECT PASSENGER'S DOOR LOCK CONTROL SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
LOCK	2 - 3	Continuity
OFF	-	No continuity
UNLOCK	1 - 2	Continuity

If continuity is not as specified, replace the switch.

4. INSPECT PASSENGER'S DOOR LOCK CONTROL SWITCH CIRCUIT
(See page DI-742)

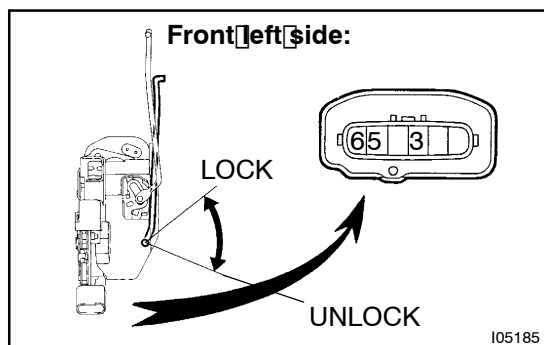


I04133

5. INSPECT PASSENGER'S DOOR LOCK CONTROL SWITCH ILLUMINATION

Connect the positive (+) lead from the battery to terminal 4 and the negative (-) lead to terminal 2, and check that the indicator light lights up.

If operation is not as specified, replace the switch.

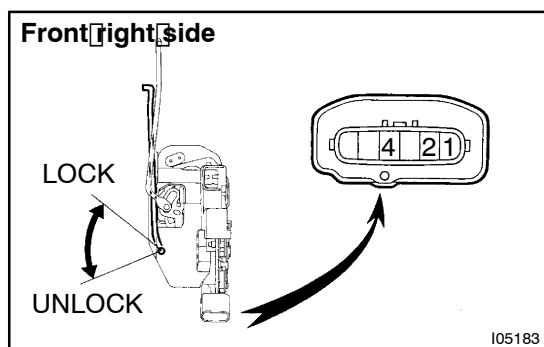


**6. Front Left Side Door:
INSPECT DOOR KEY LOCK AND UNLOCK SWITCH
CONTINUITY**

Switch position	Tester connection	Specified condition
LOCK	3 - 5	Continuity
OFF	-	No continuity
UNLOCK	3 - 6	Continuity

If continuity is not as specified, replace the switch.

**7. Front Left Side Door:
INSPECT DOOR KEY LOCK AND UNLOCK SWITCH
CIRCUIT**
(See page DI-716)

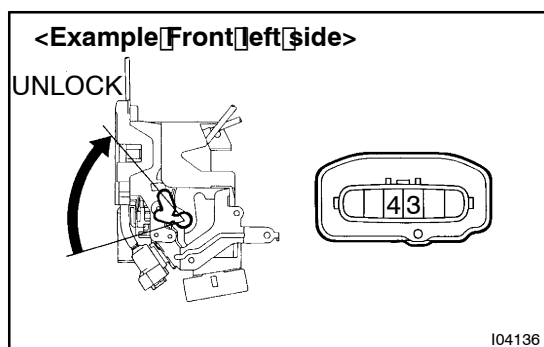


**8. Front Right Side Door:
INSPECT DOOR KEY LOCK AND UNLOCK SWITCH
CONTINUITY**

Switch position	Tester connection	Specified condition
LOCK	2 - 4	Continuity
OFF	-	No continuity
UNLOCK	1 - 4	Continuity

If continuity is not as specified, replace the switch.

**9. Front Right Side Door:
INSPECT DOOR KEY LOCK AND UNLOCK SWITCH
CIRCUIT**
(See page DI-748)



**10. Front Door:
INSPECT DOOR UNLOCK DETECTION SWITCH CON-
TINUITY**

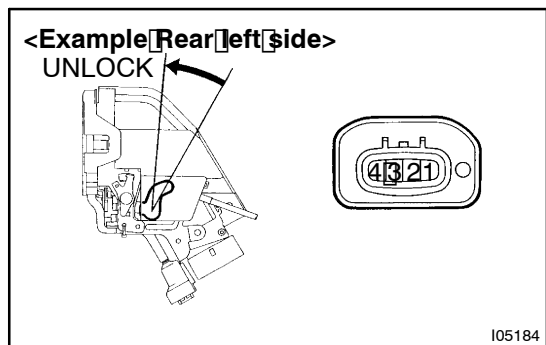
Switch position	Tester connection	Specified condition
OFF (Door Lock set to LOCK)	-	No continuity
ON (Door Lock set to UNLOCK)	3 - 4	Continuity

If continuity is not as specified, replace the switch.

11. Front Door: INSPECT DOOR UNLOCK DETECTION SWITCH CIRCUIT

Driver's side: (See page DI-714)

Passenger's side: (See page DI-746)



12. Rear Door: INSPECT DOOR UNLOCK DETECTION SWITCH CONTINUITY

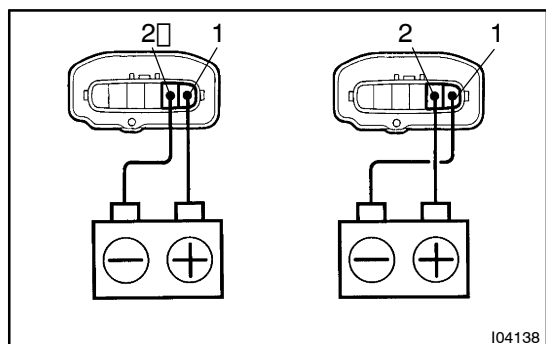
Switch position	Tester connection	Specified condition
OFF (Door Lock set to LOCK)	-	No continuity
ON (Door Lock set to UNLOCK)	3 - 4 (Left side) 1 - 2 (right side)	Continuity

If continuity is not as specified, replace the switch.

13. Rear Door: INSPECT DOOR UNLOCK DETECTION SWITCH CIRCUIT

Rear Left side: (See page DI-777)

Rear Right side: (See page DI-795)

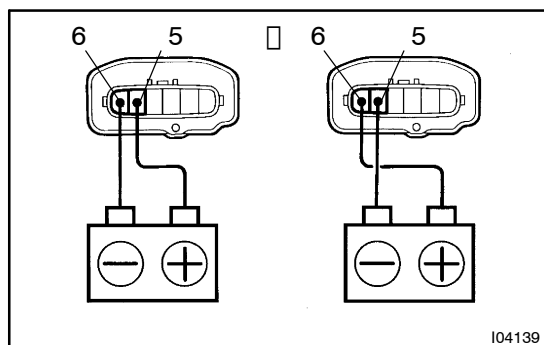


14. Front Left Side Door: INSPECT DOOR LOCK MOTOR OPERATION

- Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, and check that the door lock link moves to UNLOCK position.
- Reverse the polarity and check that the door lock link moves to LOCK position.

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

15. Front Left Side Door: INSPECT DOOR LOCK MOTOR CIRCUIT (See page DI-712)

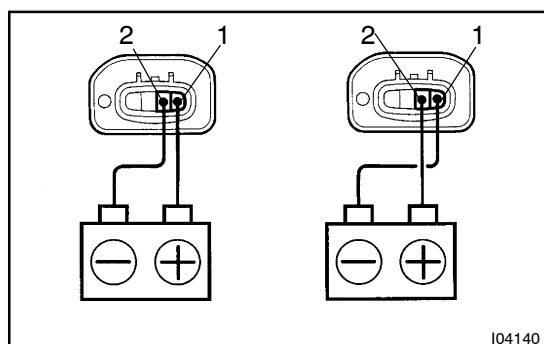
**16. Front Right Side Door:****INSPECT DOOR LOCK MOTOR OPERATION**

- (a) Connect the positive (+) lead from the battery to terminal 5 and the negative (-) lead to terminal 6, and check that the door lock link moves to UNLOCK position.
- (b) Reverse the polarity and check that the door lock link moves to LOCK position.

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

17. Front Right Side Door:**INSPECT DOOR LOCK MOTOR CIRCUIT**

(See page DI-744)

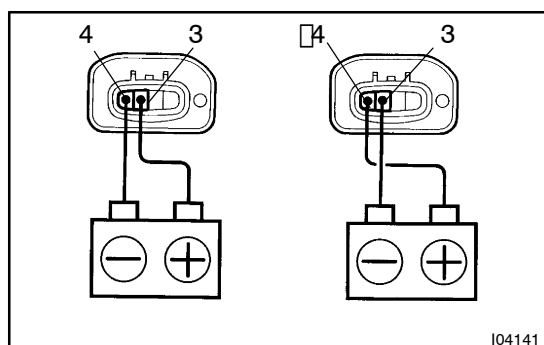
**18. Rear Left Side Door:****INSPECT DOOR LOCK MOTOR OPERATION**

- (a) Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, and check that the door lock link moves to UNLOCK position.
- (b) Reverse the polarity and check that the door lock link moves to LOCK position.

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

19. Rear Left Side Door:**INSPECT DOOR LOCK MOTOR CIRCUIT**

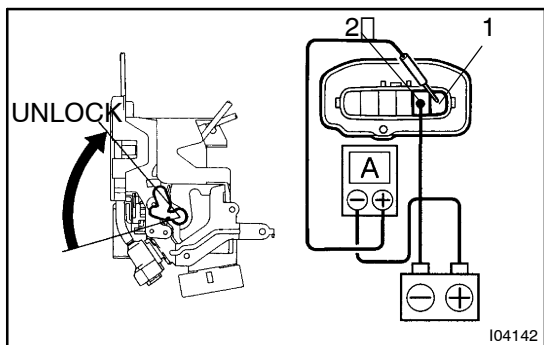
(See page DI-775)

**20. Rear Right Side Door:****INSPECT DOOR LOCK MOTOR OPERATION**

- (a) Connect the positive (+) lead from the battery to terminal 3 and the negative (-) lead to terminal 4, and check that the door lock link moves to UNLOCK position.
- (b) Reverse the polarity and check that the door lock link moves to LOCK position.

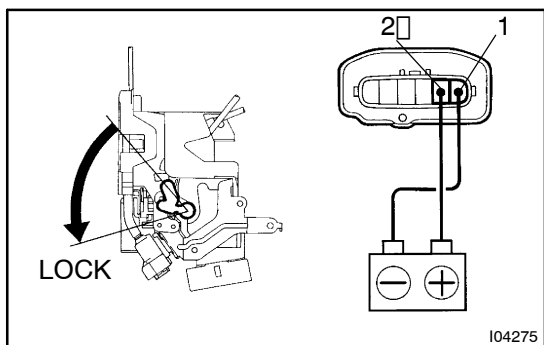
If operation is not as specified, replace the door lock assembly.

21. Rear Right Side Door: INSPECT DOOR LOCK MOTOR CIRCUIT (See page DI-793)



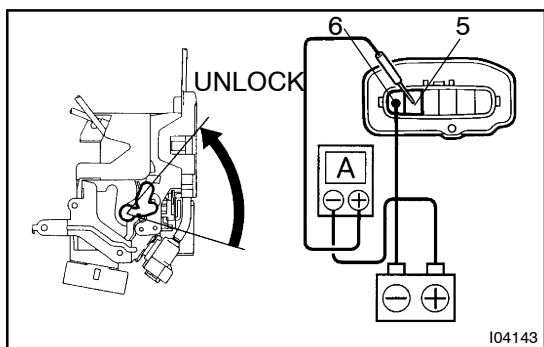
22. Front Left Side Door: INSPECT PTC THERMISTOR OPERATION (Using an ammeter)

- Connect the negative (-) lead from the battery to terminal 2.
- Connect the positive (+) lead from the ammeter to terminal 1 and the negative (-) lead to battery negative (-) terminal, and check that the current changes from approximately 3.2 A to less than 0.5 A within 20 to 70 seconds.



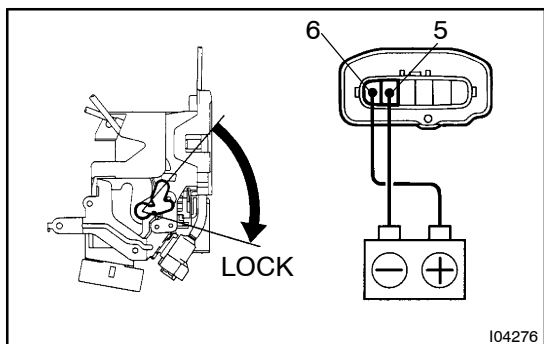
- Disconnect the leads from terminals.
- Approximately 60 seconds later, connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1, and check that the door lock moves to the LOCK position.

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



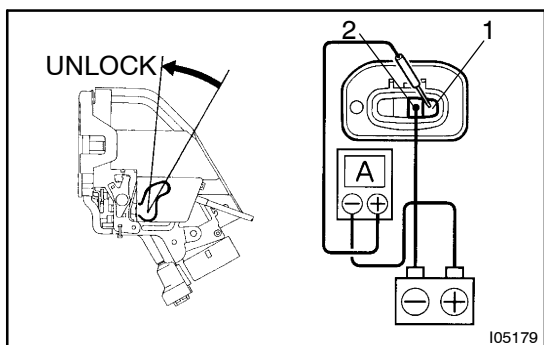
23. Front Right Side Door: INSPECT PTC THERMISTOR OPERATION (Using an ammeter)

- Connect the negative (-) lead from the battery to terminal 6.
- Connect the positive (+) lead from the ammeter to terminal 5 and the negative (-) lead to battery negative (-) terminal, and check that the current changes from approximately 3.2 A to less than 0.5 A within 20 to 70 seconds.



- Disconnect the leads from terminals.
- Approximately 60 seconds later, connect the positive (+) lead from the battery to terminal 6 and the negative (-) lead to terminal 5, and check that the door lock moves to the LOCK position.

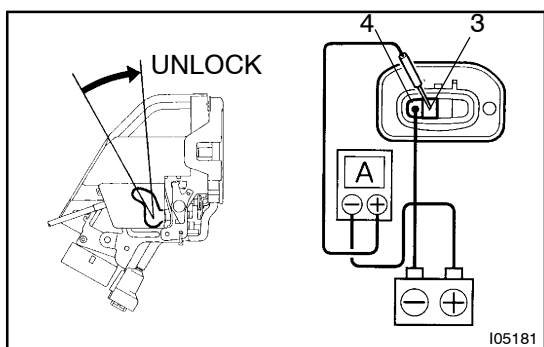
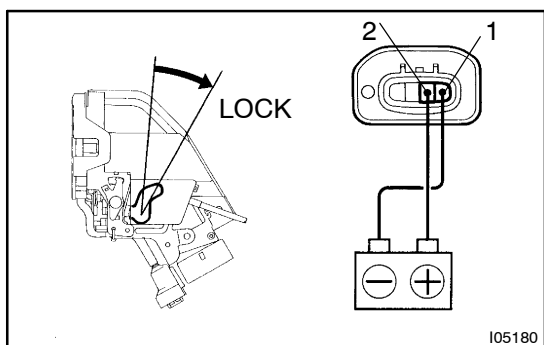
If operation is not as specified, replace the door lock assembly.



24. Rear Left Side Door:
INSPECT PTC THERMISTOR OPERATION (Using an ammeter)

- Connect the negative (–) lead from the battery to terminal 2.
- Connect the positive (+) lead from the ammeter to terminal 1 and the negative (–) lead to battery negative (–) terminal, and check that the current changes from approximately 3.2 A to less than 0.5 A within 20 to 70 seconds.
- Disconnect the leads from terminals.
- Approximately 60 seconds later, connect the positive (+) lead from the battery to terminal 2 and the negative (–) lead to terminal 1, and check that the door lock moves to the LOCK position.

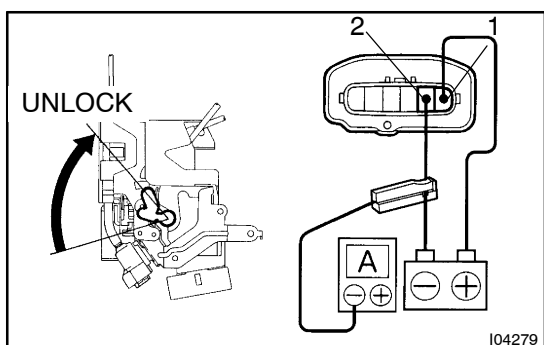
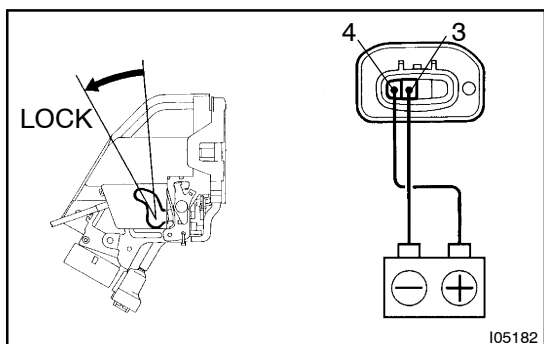
If operation is not as specified, replace the door lock assembly.



25. Rear Right Side Door:
INSPECT PTC THERMISTOR OPERATION (Using an ammeter)

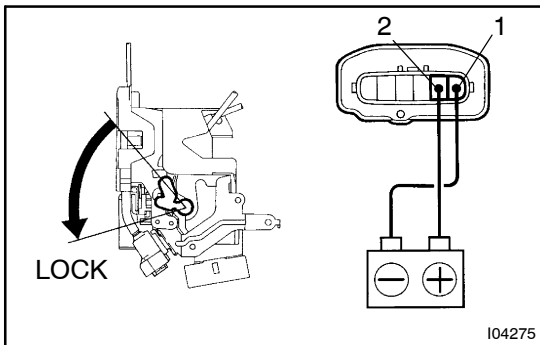
- Connect the negative (–) lead from the battery to terminal 4.
- Connect the positive (+) lead from the ammeter to terminal 3 and the negative (–) lead to battery negative (–) terminal, and check that the current changes from approximately 3.2 A to less than 0.5 A within 20 to 70 seconds.
- Disconnect the leads from terminals.
- Approximately 60 seconds later, connect the positive (+) lead from the battery to terminal 4 and the negative (–) lead to terminal 3, and check that the door lock moves to the LOCK position.

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

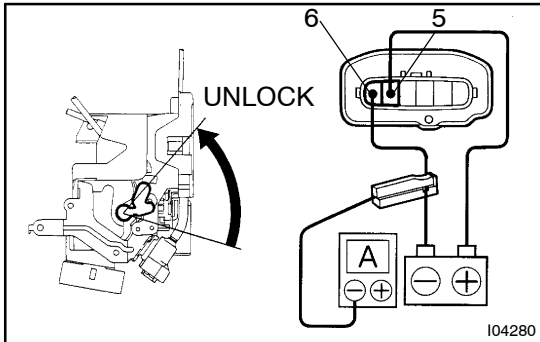


26. Front Left Side Door:
INSPECT PTC THERMISTOR OPERATION (Using an ammeter with a current-measuring probe)

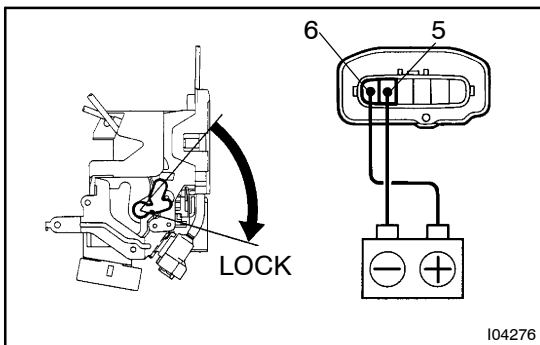
- Connect the positive (+) lead from the battery to terminal 1 and the negative (–) lead to terminal 2.
- Attach a current-measuring probe to either the positive (+) lead or the negative (–) lead, and check that the current changes from approximately 3.2 A to less than 0.5 A within 20 to 70 seconds.



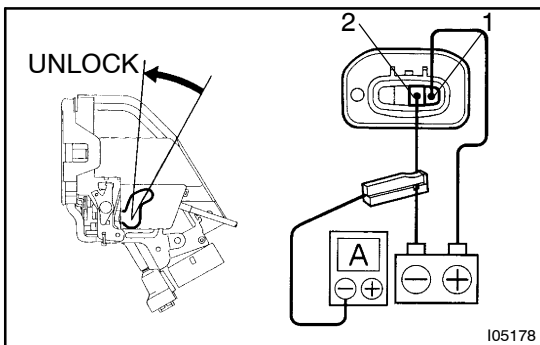
- (c) Disconnect the leads from terminals.
 - (d) Approximately 60 seconds later, reverse the polarity, and check that the door lock moves to the LOCK position.
- If operation is not as specified, replace the door lock assembly.



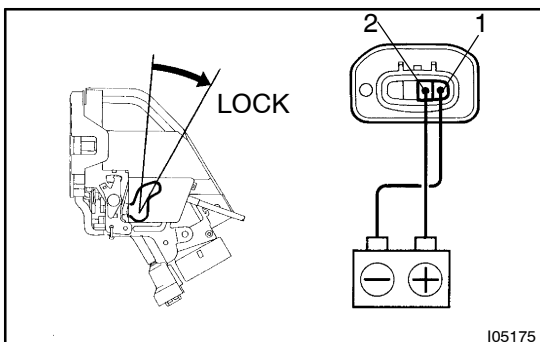
- 27. Front Right Side Door:**
INSPECT PTC THERMISTOR OPERATION (Using an ammeter with a current-measuring probe)
- (a) Connect the positive (+) lead from the battery to terminal 5 and the negative (-) lead to terminal 6.
 - (b) Attach a current-measuring probe to either the positive (+) lead or the negative (-) lead, and check that the current changes from approximately 3.2 A to less than 0.5 A within 20 to 70 seconds.



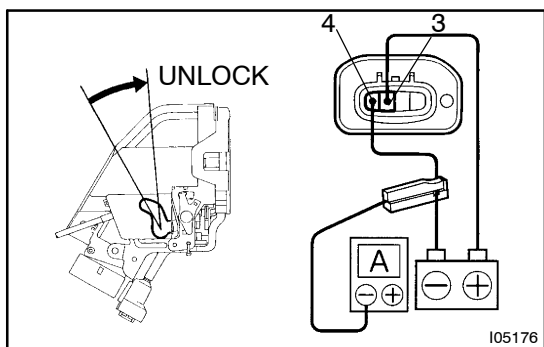
- (c) Disconnect the leads from terminals.
 - (d) Approximately 60 seconds later, reverse the polarity, and check that the door lock moves to the LOCK position.
- If operation is not as specified, replace the door lock assembly.



- 28. Rear Left Side Door:**
INSPECT PTC THERMISTOR OPERATION (Using an ammeter with a current-measuring probe)
- (a) Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2.
 - (b) Attach a current-measuring probe to either the positive (+) lead or the negative (-) lead, and check that the current changes from approximately 3.2 A to less than 0.5 A within 20 to 70 seconds.



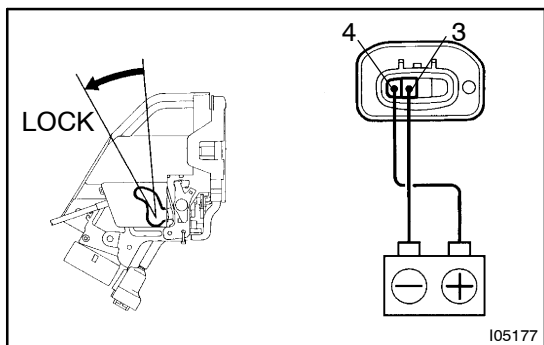
- (c) Disconnect the leads from terminals.
 - (d) Approximately 60 seconds later, reverse the polarity, and check that the door lock moves to the LOCK position.
- If operation is not as specified, replace the door lock assembly.



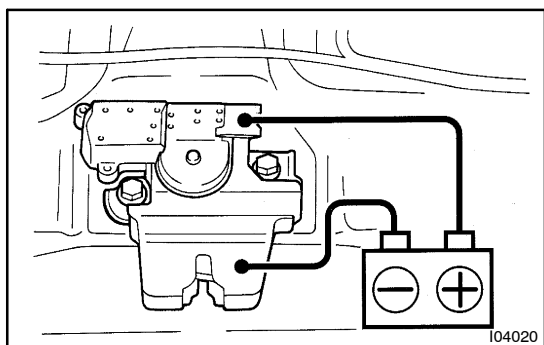
29. Rear Right Side Door:

INSPECT PTC THERMISTOR OPERATION (Using an ammeter with a current-measuring probe)

- Connect the positive (+) lead from the battery to terminal 3 and the negative (-) lead to terminal 4.
- Attach a current-measuring probe to either the positive (+) lead or the negative (-) lead, and check that the current changes from approximately 3.2 A to less than 0.5 A within 20 to 70 seconds.



- Disconnect the leads from terminals.
- Approximately 60 seconds later, reverse the polarity, and check that the door lock moves to the LOCK position. If operation is not as specified, replace the door lock assembly.

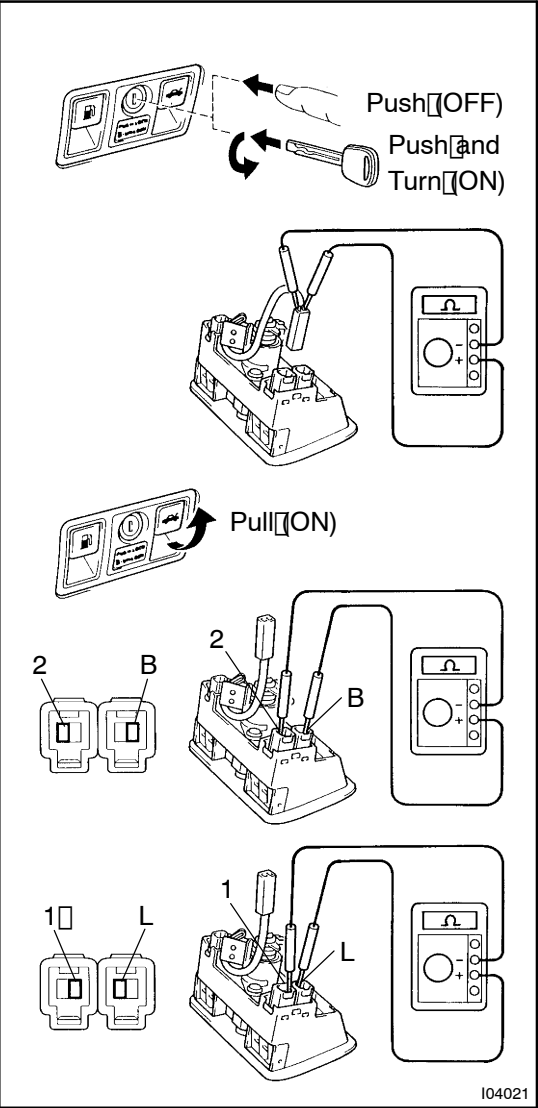


30. INSPECT LUGGAGE COMPARTMENT DOOR OPENER MOTOR OPERATION

Connect positive (+) lead to the terminal 1 and negative (-) lead to the opener motor body, and check that the motor operates.

31. INSPECT LUGGAGE COMPARTMENT DOOR OPENER MOTOR CIRCUIT

(See page DI-638)



32. INSPECT LUGGAGE COMPARTMENT DOOR OPENER MAIN SWITCH CONTINUITY

Switch Operation	Tester Connection	Specified Condition
OFF (Push)	-	No continuity
ON (Push and Turn)	1 - 2	Continuity

If continuity is not as specified, replace the switch.

33. INSPECT LUGGAGE COMPARTMENT DOOR OPENER SWITCH CONTINUITY

Switch Operation	Tester Connection	Specified Condition
OFF	2 - B	Continuity
ON (Pull)	1 - L 2 - B	Continuity

If continuity is not as specified, replace the switch.

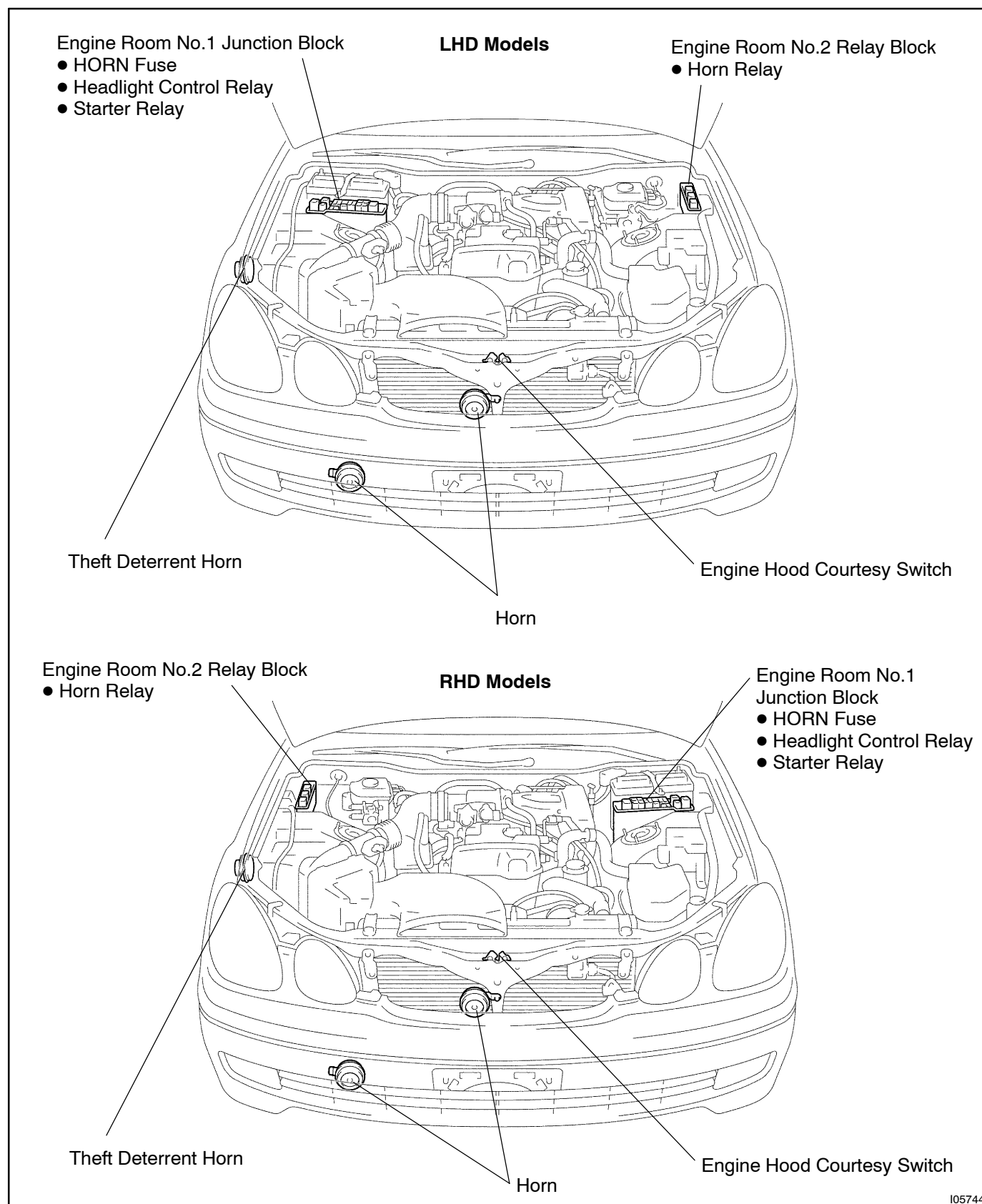
34. INSPECT LUGGAGE COMPARTMENT DOOR OPENER SWITCH AND MAIN SWITCH CIRCUIT

(See page DI-652)

THEFT DETERRENT SYSTEM

LOCATION

BE0N2-01



I05744

Luggage Compartment
Opener Switch

Ignition Switch

Driver Side Junction Block

- ST Fuse
- Taillight Control Relay

Door Lock Assembly

- Door Lock Motor
- Door Unlock Detection Switch
- Door Key Lock and Unlock Switch

Door Lock Assembly

- Door Lock Motor
- Door Unlock Detection Switch
- Door Key Lock and Unlock Switch

Luggage Compartment
Courtesy SwitchLuggage Compartment
Key Unlock Switch

PRE-CHECK

1. ACTIVE ARMING MODE:

SETTING THE THEFT DETERRENT MODE

The system will be automatically set to the theft deterrent mode about 30 seconds after the setting processes listed below are performed.

Setting Processes: (do processes (1) ~ (4) in the order)

- (1) Remove the ignition key from the key cylinder.
- (2) Close all entry points (door, hood and luggage compartment door).
- (3) Use any one of the following methods to lock all the doors depending on a given condition.
 - Use the key to lock the driver or passenger side door. (as a result, all the doors(including the engine hood and luggage compartment door) will be closed and locked), or
 - Use the remote control to lock any door (as a result, all the doors(including the engine hood and luggage compartment door) will be closed and locked), or
 - If the front right or left door is unlocked when both the rear doors are already locked, lock and close the remaining unlocked door by hand (as a result, all the doors(including the engine hood and luggage compartment door) will be closed and locked).
 - Close all doors and lock with the engine hood or luggage compartment door opened, and close the engine hood or all the doors(including the engine hood and luggage compartment door).
- (4) About 30 seconds after the above process (3), the theft deterrent mode will automatically start.

HINT:

The closing/locking of all the entry points (doors, hood and luggage) must remain unchanged for about 30 seconds, the system will start the theft deterrent mode.

2. PASSIVE ARMING MODE:

SETTING THE THEFT DETERRENT MODE

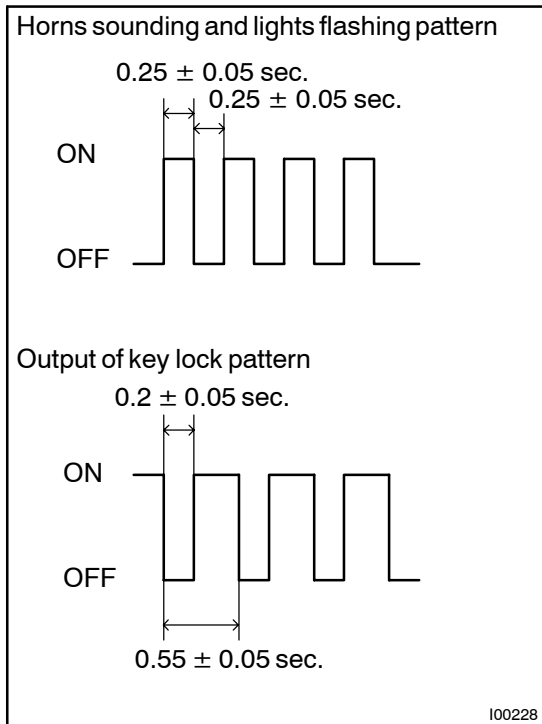
The system will be automatically set to the theft deterrent mode about 30 seconds after the setting processes listed below are performed.

Setting Processes:

- (1) Remove the ignition key from the key cylinder.
- (2) Open and close any entry points (door, hood and luggage compartment door).
Now, all the entry points are closed.
- (3) About 30 seconds after the above process-(2), the theft deterrent mode will automatically start.

HINT:

If, while following above steps, you use the key or the remote control to lock the door, the system will be set to ACTIVE ARMING MODE.

**3. THEFT DETERRENT OPERATION**

When the system is set to the theft deterrent mode and any of the following conditions is met, the system sounds the horns and flashes the headlights and the taillights for approx. 1 minute. At the same time the system locks all doors (If all doors are not locked at once, the system repeats door locking operation every 0.55 seconds during the one-minute alarm time).

Condition**HINT:**

When alarm is activated by panic mode, force lock signal is not output.

- (1) Any of the doors (Including the engine hood and luggage compartment door) is unlocked or opened without the key. *1
- (2) The battery terminal is disconnected and reconnected. *2
- (3) The system receives panic signal from remote keyless entry transmitter. *3

*1: Only active arming mode.

*2: When the ignition key is not inserted in the key cylinder.

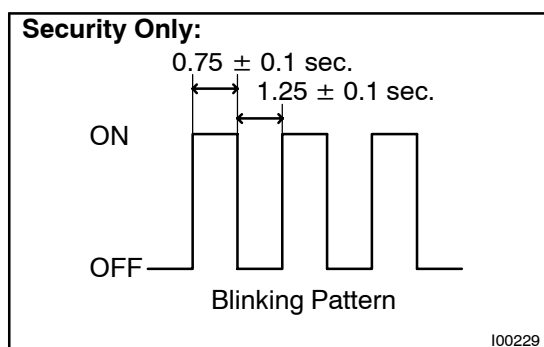
4. CANCELLATION OF THEFT DETERRENT OPERATION OR MODE

The theft deterrent operation or mode can be cancelled when any of the following conditions is met.

No.	Condition	Cancel of Operation	Cancel of Mode
1	Unlock front door with the key	Effective	Effective
2	Unlock doors with remote keyless entry	Effective	Effective
3	Insert key into ignition key cylinder and turn it to ON position	Effective	Effective
4	About 1 minute passes after theft deterrent operation begins	Automatic stop *1	–
5	Unlock the luggage compartment door with the key or keyless entry.	Uneffective	Effective
6	Unlock the luggage compartment door with the keyless entry.	Uneffective	Effective
7	If the system receives panic signal again or unlock signal when the system is activated by panic signal	Effective *2	Uneffective
6	If the system receives unlock signal when the system is activated by panic signal	Effective	Effective

*1: The system is set to the theft deterrent mode again in approx. 2 seconds after the operation stops, if all doors are closed.

*2: The alarm by the panic signal becomes the previous condition.



5. INDICATOR LIGHT (LED)

The indicator light functions as shown below according to the condition in the theft deterrent mode. It remains OFF in the initial state.

Condition	Indicator Light
When the system is temporarily cancelled*	OFF
During set preparation time	ON
When the arming mode is set*	OFF
When alarm is activated	ON

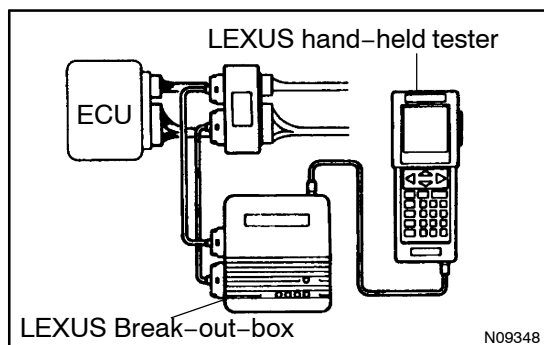
*: In the arming mode, the indicator always flashes according to the signal out put from the immobilizer.

6. KEEPING POWER SUPPLY FUNCTION WHEN DOME FUSE IS BLOWN

Even if the dome fuse blows open in the theft deterrent mode, the system will keep working in the theft deterrent mode.

7. CHANGING METHOD OF PASSIVE MODE (ON or OFF)

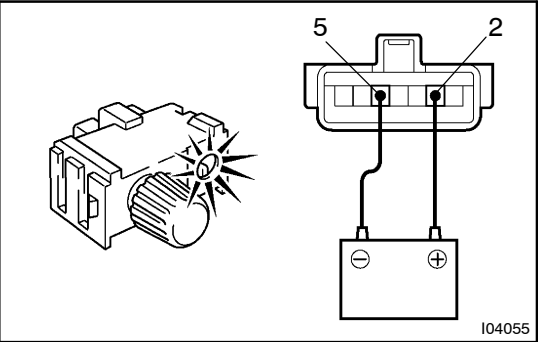
Using a hand-held tester, the mode can be changed to the passive mode.



8. ECU TERMINAL VALUES MEASUREMENT BY USING LEXUS BREAK-OUT-BOX AND LEXUS HAND-HELD TESTER

- (a) Hook up the LEXUS break-out-box and LEXUS hand-held tester to the vehicle.
- (b) Read the ECU input/ output values by following the prompts on the tester screen.
- (c) Please refer to the LEXUS hand-held tester has a "Snapshot" function. This records the measured data and is effective in the diagnosis of intermittent problems.

MEMO



INSPECTION

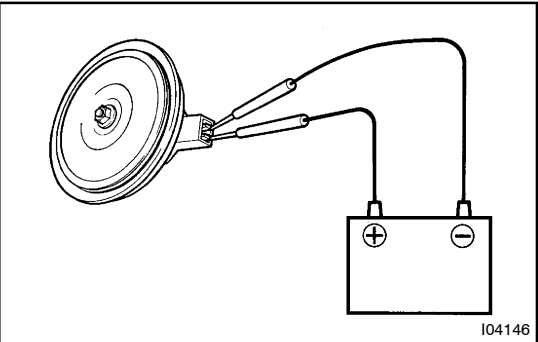
1. INSPECT THEFT/DETERRENT INDICATOR LIGHT OPERATION

Connect the positive (+) lead from the battery terminal 2 and negative (-) lead to terminal 5, and check that the warning light lights up.

If operation is not as specified, replace the light control rheostat.

2. INSPECT THEFT/DETERRENT INDICATOR LIGHT CIRCUIT

(See page DI-644)



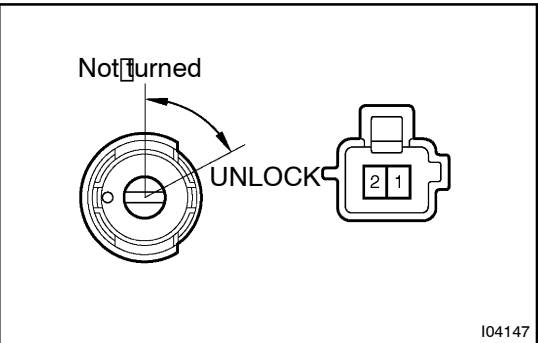
3. INSPECT THEFT/DETERRENT HORN OPERATION

Connect the positive (+) lead from the battery to the terminal 1 and negative (-) lead to the theft deterrent horn body, and check that the theft deterrent horn blows.

If operation is not as specified, replace the horn.

4. INSPECT THEFT/DETERRENT HORN CIRCUIT

(See page DI-640)



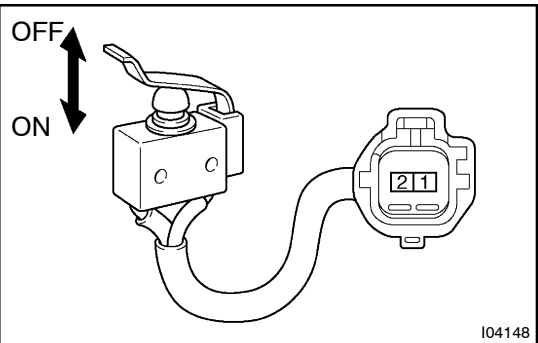
5. INSPECT LUGGAGE COMPARTMENT DOOR KEY UNLOCK SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
Not turned	-	No continuity
UNLOCK	1 - 2	Continuity

If continuity is not as specified, replace the switch.

6. INSPECT LUGGAGE COMPARTMENT DOOR KEY UNLOCK SWITCH CIRCUIT

(See page DI-630)



7. INSPECT ENGINE HOOD COURTESY SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
LOCK	-	No continuity
UNLOCK	1 - 2	Continuity

If continuity is not as specified, replace the switch.

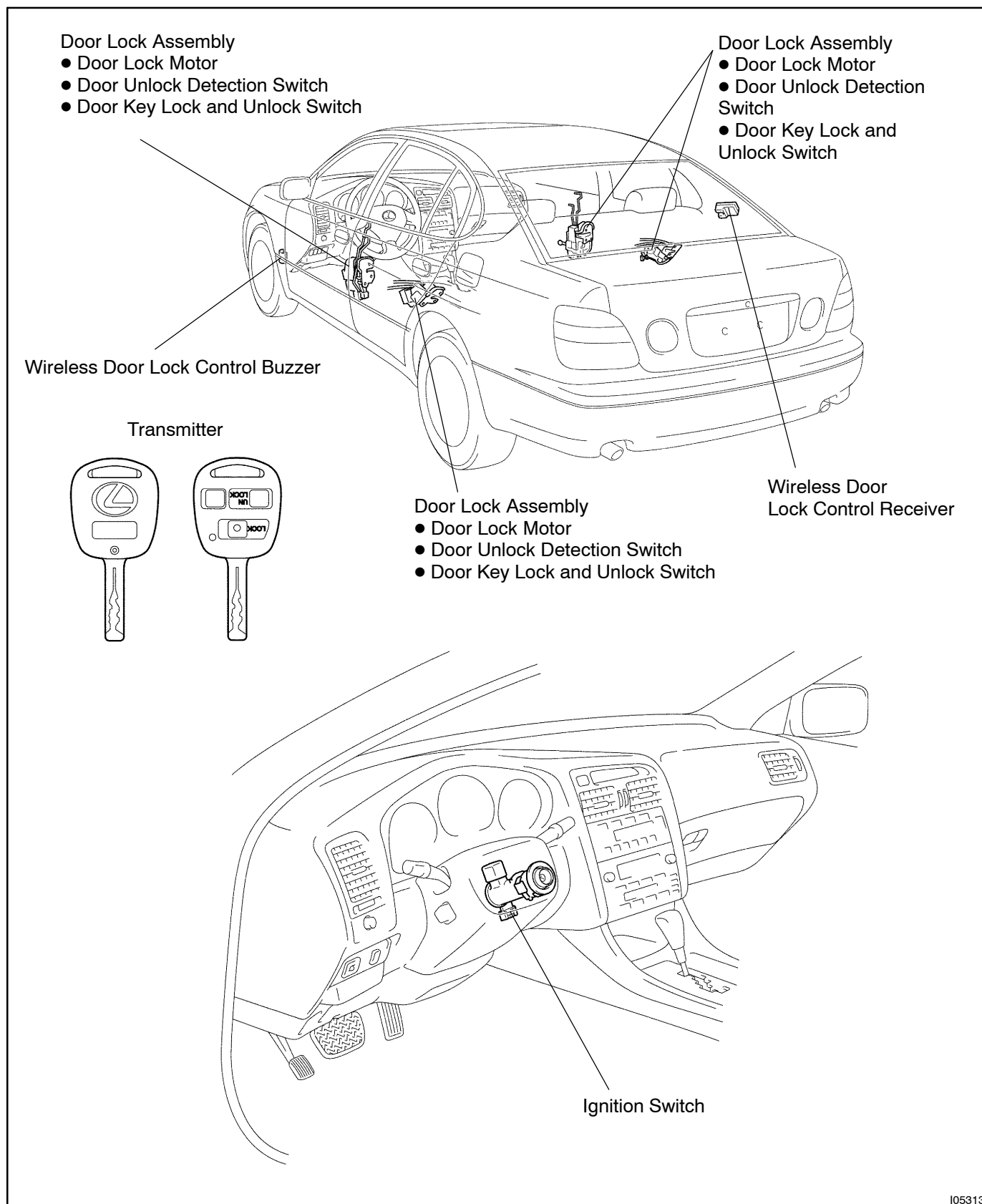
8. INSPECT ENGINE HOOD COURTESY SWITCH CIRCUIT

(See page DI-626)

WIRELESS DOOR LOCK CONTROL SYSTEM

LOCATION

BEOGM-02



I05313

PRE-CHECK

Only wireless function (Remote control) will not operate.

(If a new transmitter or a transmitter of the same type that works properly with the vehicle is not available.)

Make the vehicle in the initialized condition:

The initialized condition is the condition when the following conditions are satisfied.

- (1) Key plate has not been inserted in the ignition key cylinder.
- (2) All the doors are closed. (Door warning light is OFF.)
- (3) All the doors are locked.
- (4) Wireless door lock control switch (Buzzer switch) is ON.

Basic function check:

Under the standard operation, when repeating UNLOCK and LOCK switch 3 times or more alternately, check the UNLOCK-LOCK operation from 3rd time onward.

- Following procedures are standard operation.

(1) Keep about 1 M away to the right direction from the outside handle of a driver's seat.

(2) Face the transmitter toward the vehicle and press one of transmitter switches for about 1 sec.

<Reference>

- As of the security function, even the wireless function is normal, there may be the case that only UNLOCK operation will not work.

- As of the body customize function, if "operation twice" has been set using LEXUS hand-held tester, only driver's seat is unlocked by unlock operation performed once.

No

Yes

Transmitter LED inspection:

Check when pressing UNLOCK switch and LOCK switch under standard operation, that the transmitter LED lights up once more.

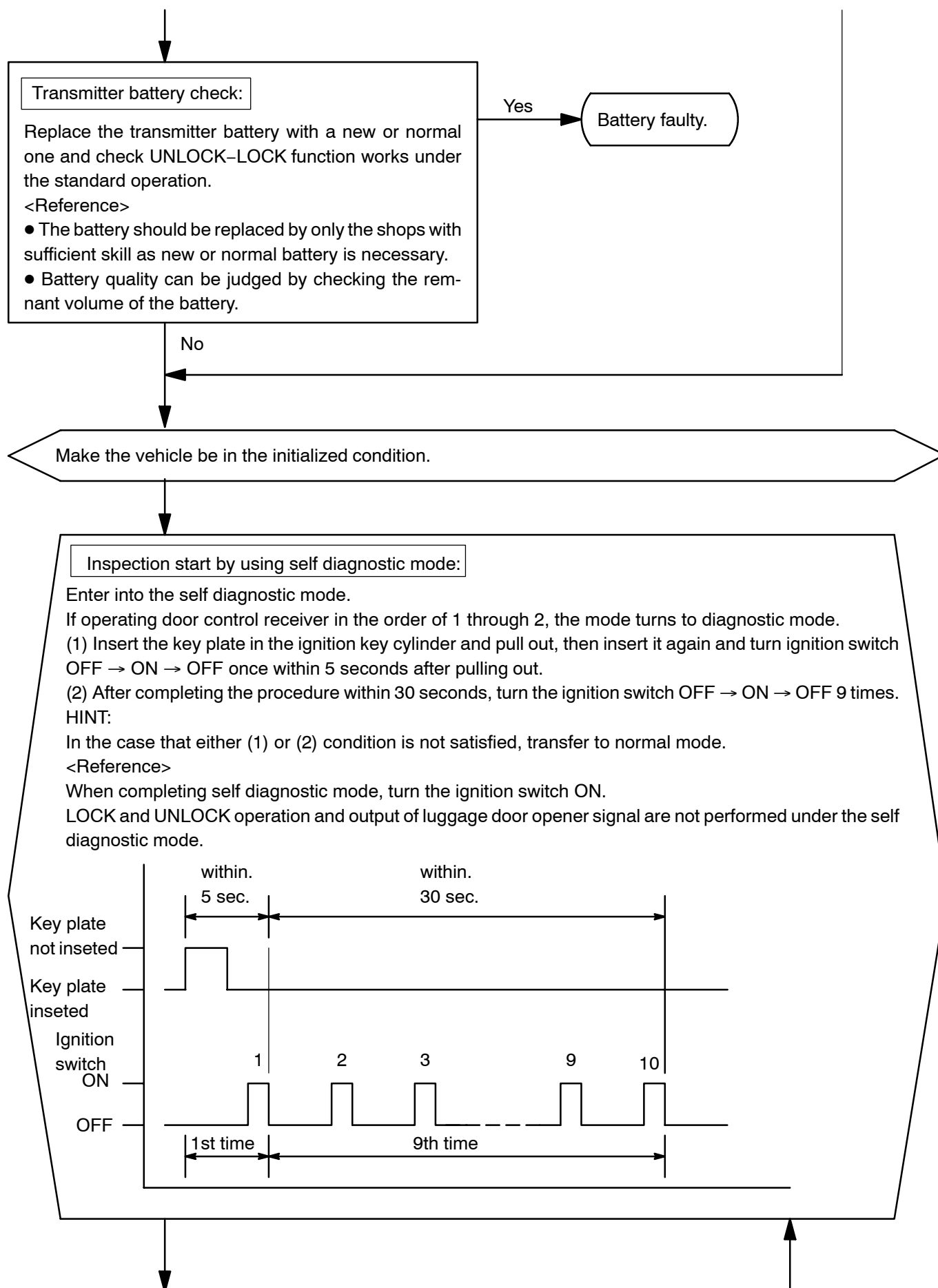
No

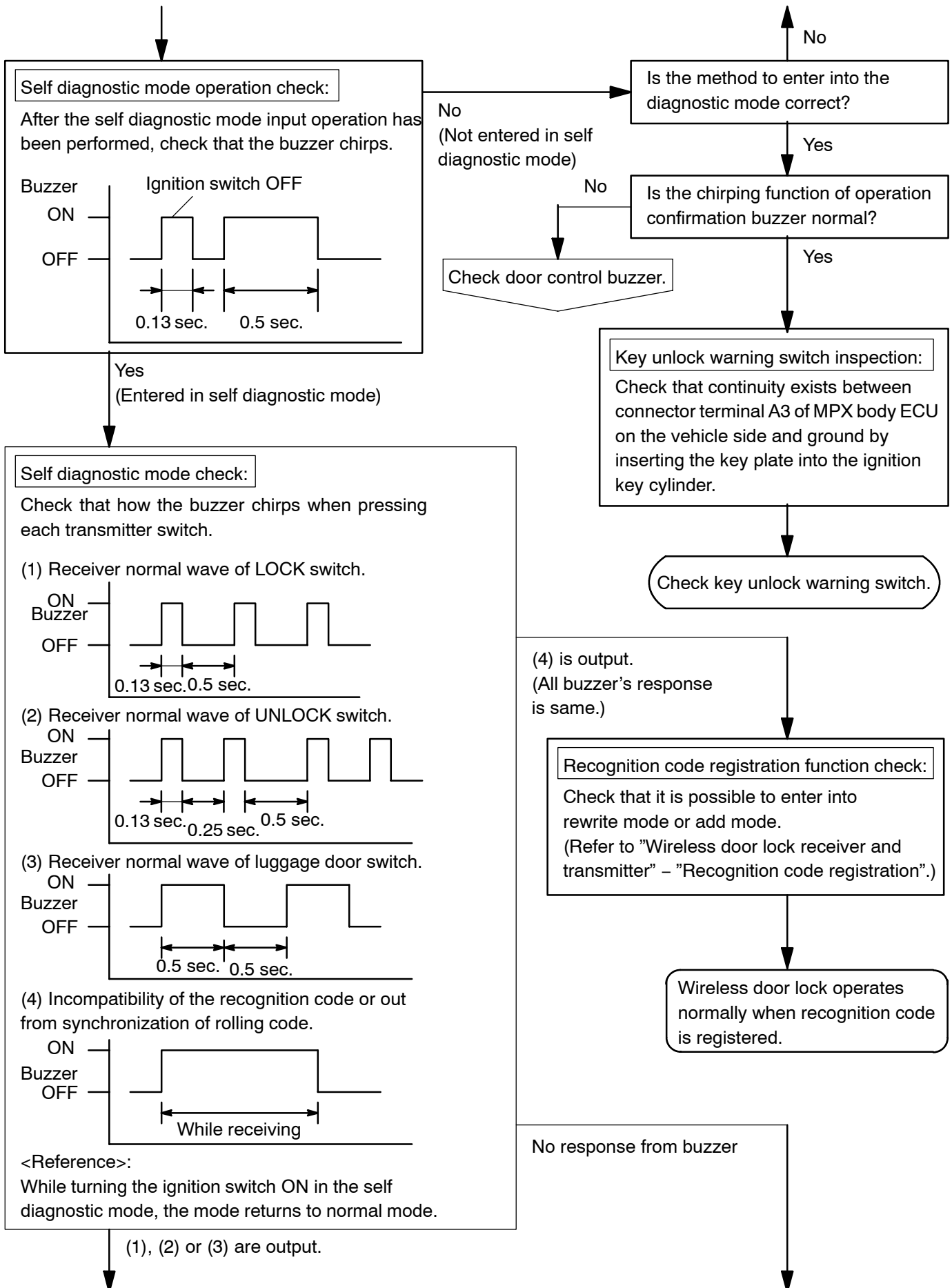
Yes

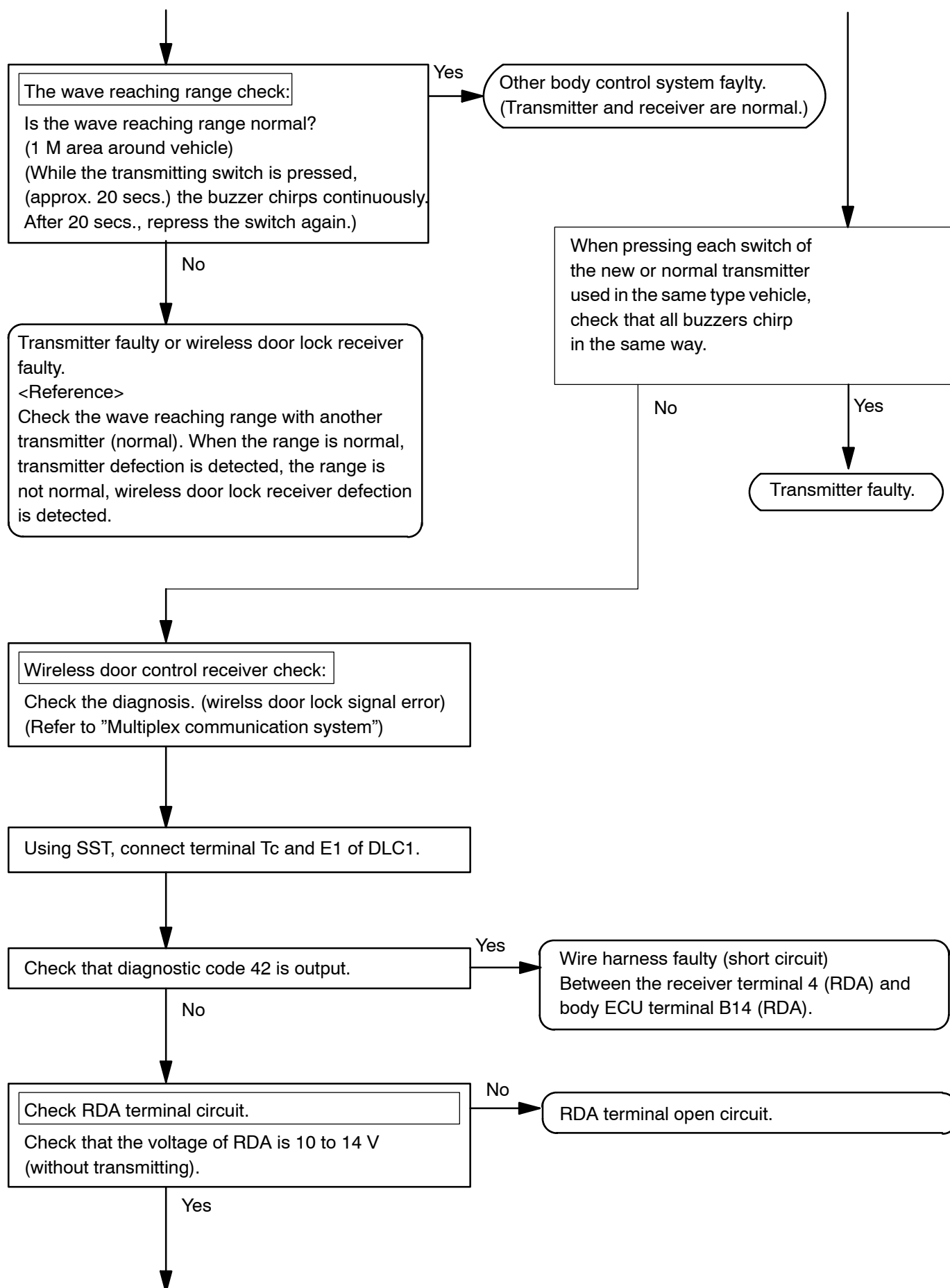
Normal

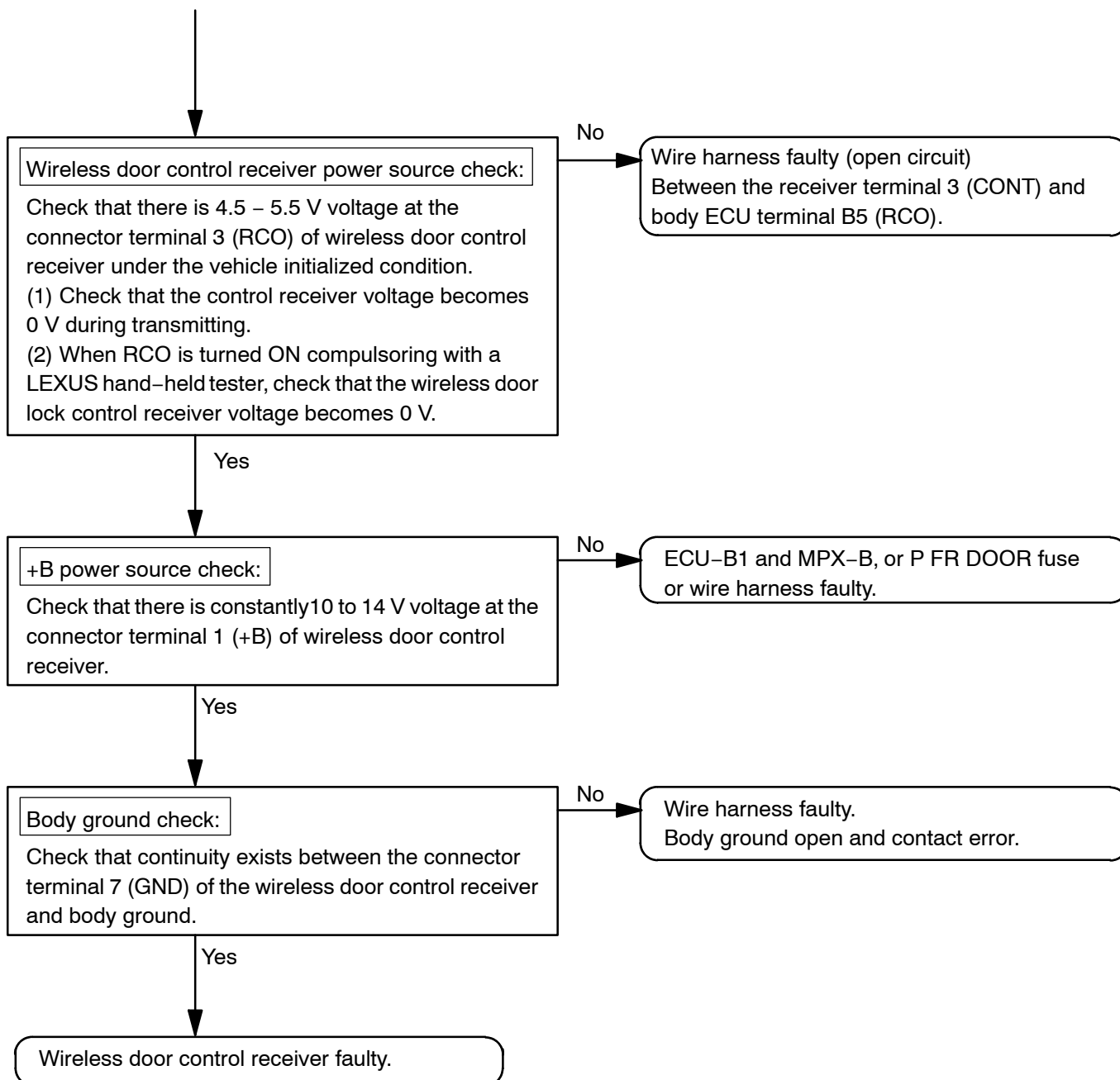
<Reference>

- Operative distance may differ according to an operator, the way of holding the transmitter or position.
- Because weak electric wave is used, when there is strong wave or noise in the used frequency, operation distance might be shortened.









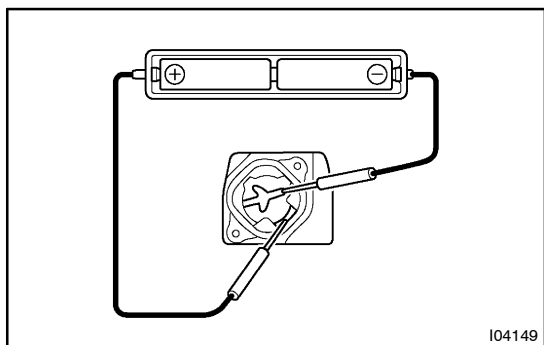
INSPECTION

1. INSPECT WIRELESS DOOR LOCK TRANSMITTER OPERATION

HINT:

Refer to "Wireless door lock control transmitter battery replacement" on [page BE-175](#).

- (a) Using a screwdriver, remove the screw and cover.
- (b) Remove the battery (lithium battery).



- (c) Install a new or normal battery (lithium battery).

HINT:

When a new or normal battery can not be obtained, connect 2 new 1.5 V batteries in series, connect the battery (+) to the battery receptacle side terminal and battery (-) to the bottom terminal, then apply 3 V voltage to the transmitter.

- (d) In the location where is approx. 1 M away from driver's outside handle in the right direction, face the key plate of the transmitter to the vehicle, and check the transmitter operation when pressing transmission switch on the side of the transmitter body.

Standard:

- **Remote control of vehicle door lock can be operated.**
- **LED lights up more than once.**

HINT:

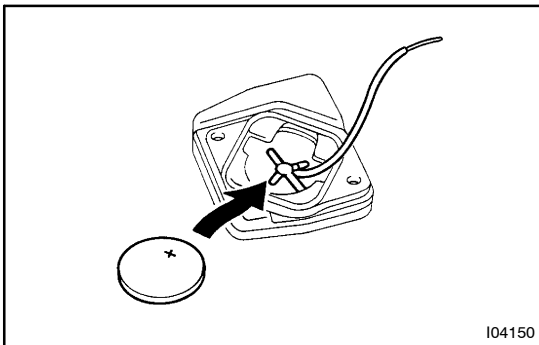
- The minimum operation distance differs according to operator, the way of holding the transmitter, and location.
- As weak wave is used, operation distance might be shortened when noise is detected in strong wave or used frequency.

- (e) Install the battery (lithium battery).
- (f) Install a cover so that O-ring is not distorted or slipped off.
- (g) Using a screwdriver, tighten the screw.

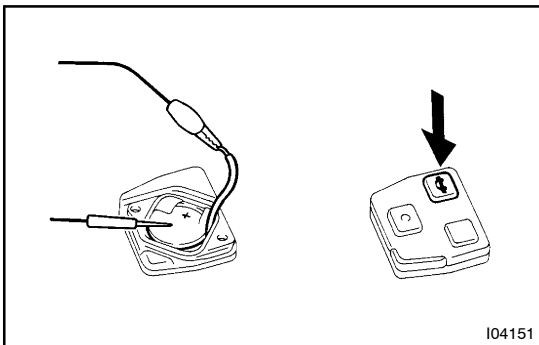
2. CHECK BATTERY CAPACITY

HINT:

- Make sure to use the TOYOTA electrical tester.
- With the battery unloaded, judge can not be made whether the battery is available or not on the test.
- When the transmitter is faulty, the energy amount left in the battery might not be checked correctly.
- On the lithium battery used for the transmitter, the voltage more than 2.5 V with the battery unloaded is shown on the tester until the energy is completely consumed. Accordingly when inspecting the energy amount left in the battery, it is necessary to measure the voltage when the battery is loaded. (1.2 k Ω).



- (a) Remove the screws and cover using a (-) driver.
- (b) Remove the battery (lithium battery) from the transmitter.
- (c) Connect the lead to the (-) terminal of the transmitter and install the battery.

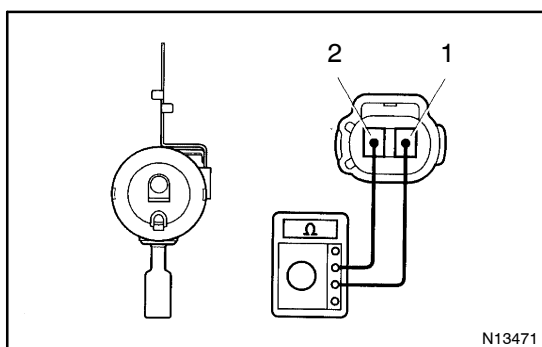


- (d) Connect the (+) tester to the (+) battery (lithium battery), and (-) tester to the lead respectively.
- (e) Press one of the transmitting switches on the transmitter for approx. 1 second.
- (f) Press the transmitting switch on the transmitter again to check the voltage.

Standard: 2.1 V or more

HINT:

- When the temperature of the battery is low, the judge can not be made correctly.
When the outcome of the test is less than 2.1 V, conduct the test again after leaving the battery in the place at 18 °C for more than 30 minutes.
 - By auto power off function, the voltage becomes no load voltage (more than 2.5 V) condition 0.8 seconds after the switch was pressed.
Make sure to read the voltage before of it.
 - High voltage might be shown 1 to 2 times after leaving the battery, judge should be made with the voltage shown at the 3rd time or later.
- (g) Disconnect the lead.
- (h) Set the battery (lithium battery) in the transmitter.
- (i) Install the cover, so that the O-ring is not distorted or slipped off.
- (j) Using a screwdriver, tighten the screws.

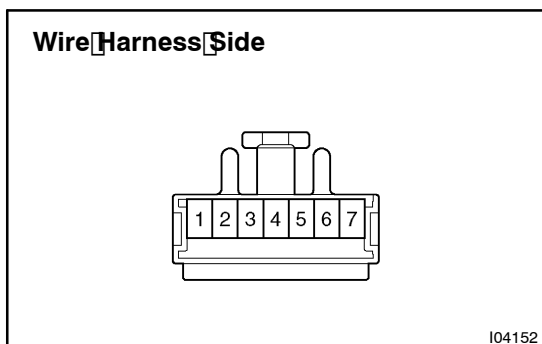


3. INSPECT WIRELESS DOOR LOCK BUZZER OPERATION

Connect the positive (+) lead from the ohmmeter to terminal 1 and the negative (-) lead to terminal 2, and measure resistance of approx. 1 kΩ.

If resistance is not as specified, replace the buzzer.

4. INSPECT WIRELESS DOOR LOCK BUZZER CIRCUIT (See page DI-636)



5. INSPECT WIRELESS DOOR LOCK CONTROL RECEIVER CIRCUIT (See page DI-624)

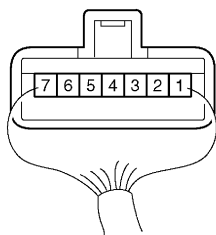
Connector disconnected:

Disconnect the connector from the receiver and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
1 - Ground	Constant	Continuity
7 - Ground	Constant	Battery voltage

If the circuit is not as specified, inspect the circuits connected to other parts.

From Back Side



I04153

6. INSPECT WIRELESS DOOR LOCK CONTROL RECEIVER CIRCUIT

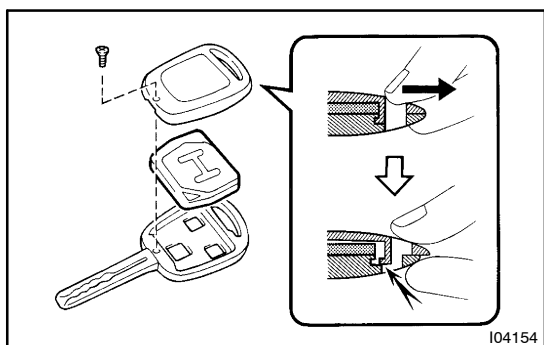
Connector connected:

Connect the wire harness side connector to the receiver and inspect the wire harness side connector from the back side, as shown.

Tester connection	Condition	Specified condition
3 – Ground	Ignition switch position OFF Key removed Transmitter OFF → ON	4.5 – 5.5 V → below 1 V
3 – Ground	Ignition switch position OFF Key removed Transmitter OFF → ON	4.5 – 5.5 V → below 1 V
4 – Ground	Ignition switch position OFF Key removed Transmitter ON	10 – 14 V

If circuit is as specified, replace the receiver.

If the circuit is not as specified, inspect the circuits connected to other parts.



REPLACEMENT

1. REPLACE TRANSMITTER (LITHIUM) BATTERY

NOTICE:

Special caution should be taken for handling each component as they are precision electronic components.

(a) Using a screwdriver, remove the screw and cover.

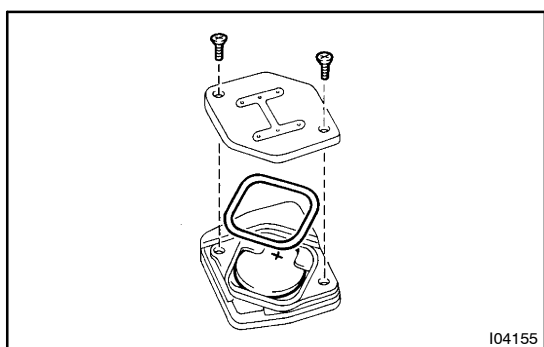
NOTICE:

Do not pry out the cover forcibly.

HINT:

Push the cover with a finger as shown in the illustration, so that there becomes clearance, then pry out the cover from that clearance.

(b) Remove the transmitter.

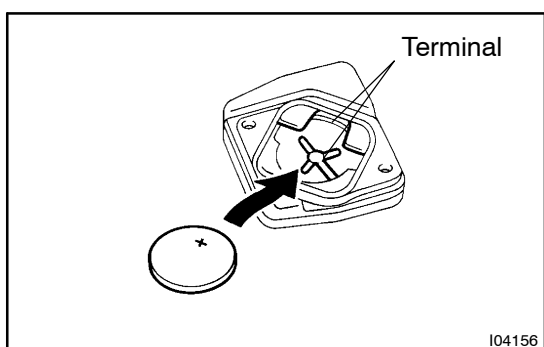


(c) Using a screwdriver, remove the 2 screws and cover.

(d) Remove the battery (lithium battery).

NOTICE:

- **Do not push the terminals with a finger.**
- **If prying up the battery (lithium battery) forcibly to remove, the terminals are deformed.**



(e) Install a battery (lithium battery) as shown in the illustration.

NOTICE:

Face the battery upward. Take care not to deform the terminals.

(f) Check that O-ring is not distorted or slipped off, and install the cover.

(g) Using a screwdriver, tighten the 2 screws.

NOTICE:

When the shrews are tightened loosely, it might cause faulty contact of battery (lithium battery) and terminals.

(h) Assemble the transmitter to the key plate and the cover.

(i) Using a screwdriver, tighten the screw.

2. REPLACE DOOR CONTROL RECEIVER AND TRANSMITTER

NOTICE:

When replacing the door control receiver and transmitter, registration of recognition code is necessary because they are provided as single components.

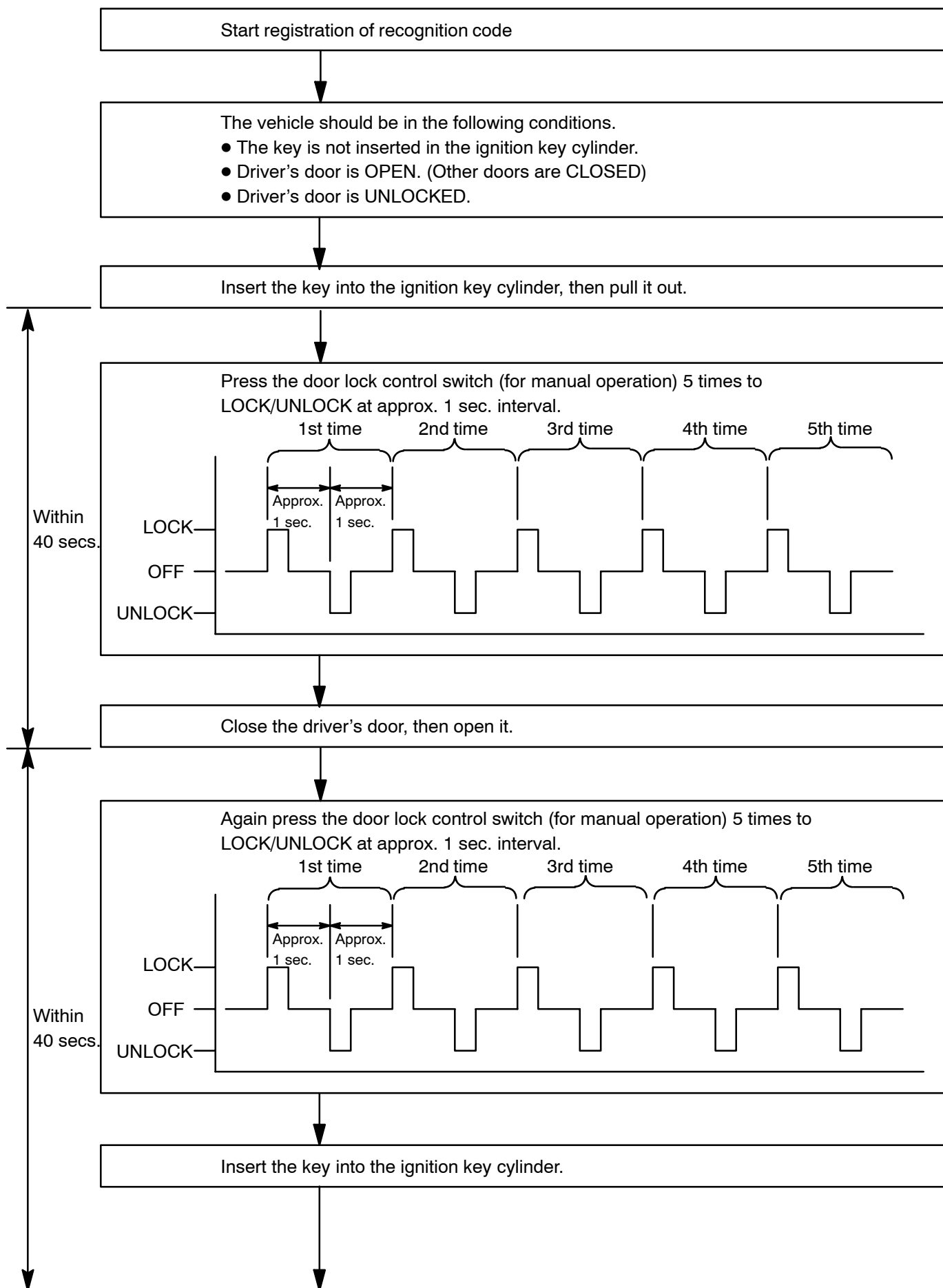
- (a) Select which operation mode should be performed from the following modes.
- Add mode
 - Rewrite mode
 - Prohibition mode
 - Confirmation mode

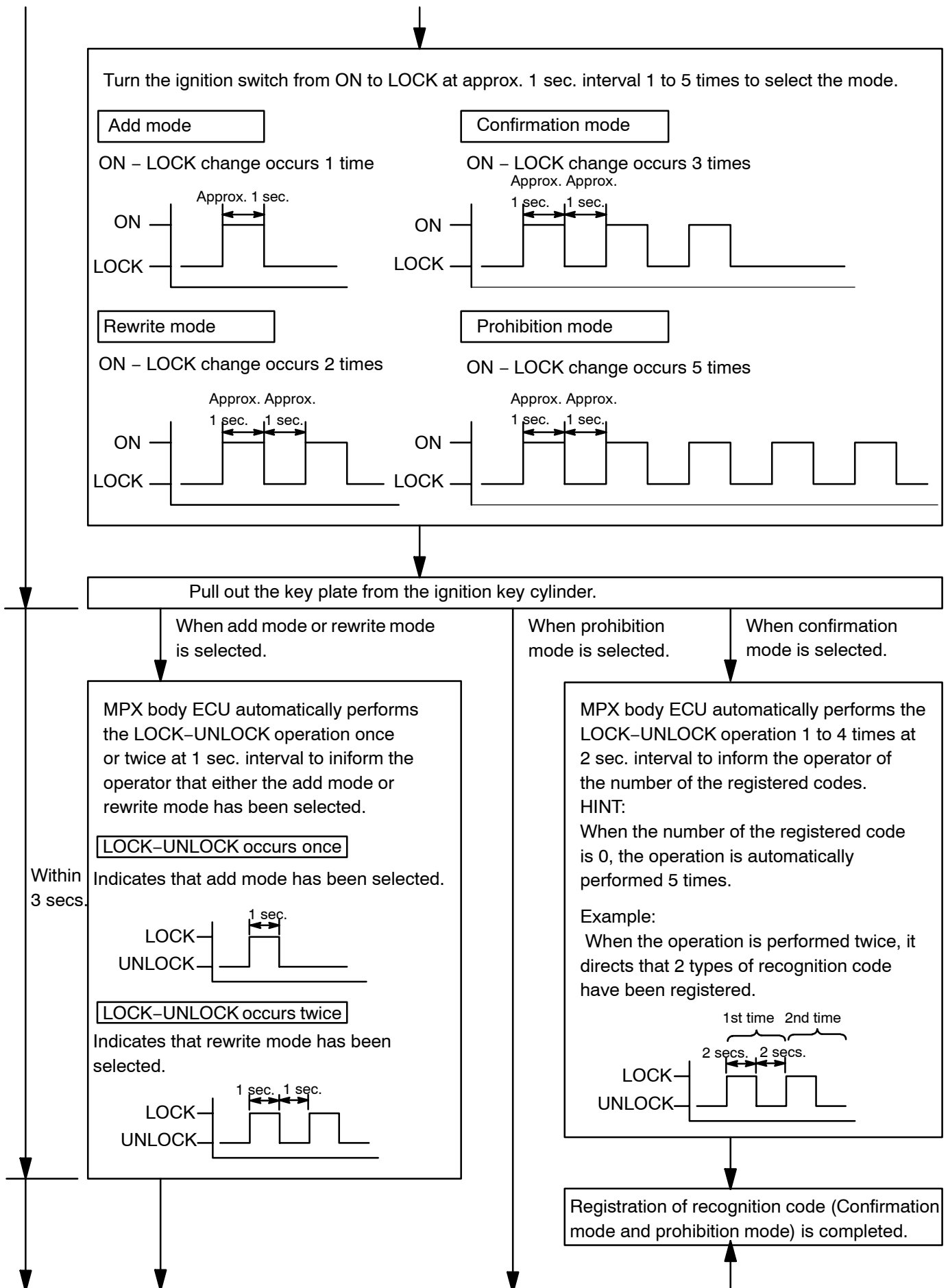
HINT:

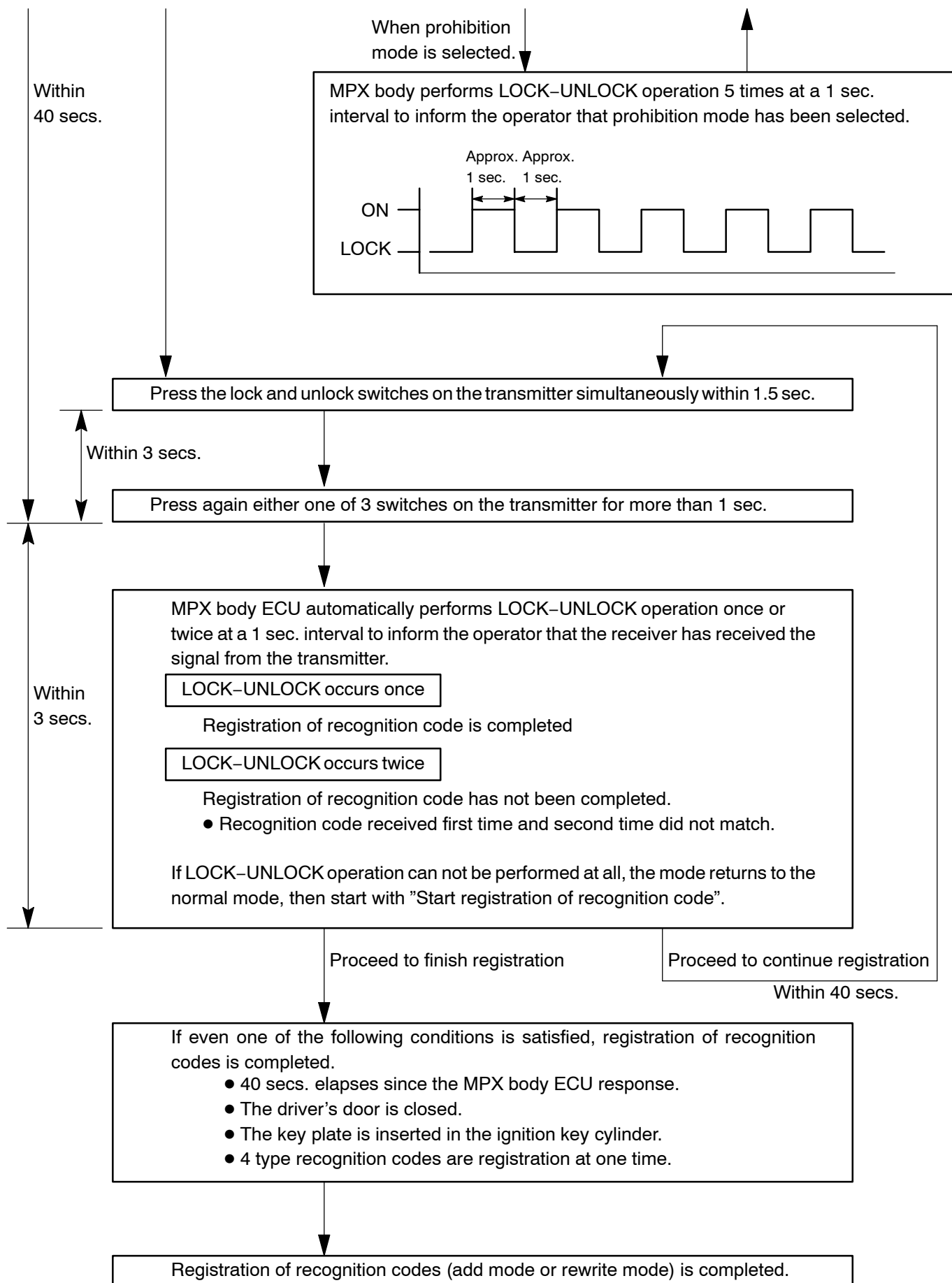
- The add mode is used to retain codes already registered while you register new recognition codes. This mode is used when adding a transmitter. However, if the number of registered codes exceeds 4 codes, previously registered codes are correspondingly erased in order, starting from the first registered code.
 - The rewrite mode is used to erase all previously registered codes and register only new recognition codes. This mode is used before replacing new transmitter or wireless door lock ECU.
 - The prohibition mode is used to erase all registered codes and cancels the wireless door lock function. Use this mode when the transmitter is lost.
 - The confirmation mode is for confirming how many recognition codes are already registered before you register additional recognition codes.
- (b) Follow the chart on the following pages to register the transmitter recognition code at the wireless door lock control receiver.

HINT:

- When procedure is out of the specified, the operation returns to normal operation.
- Maximum 4 recognition codes can be registered.

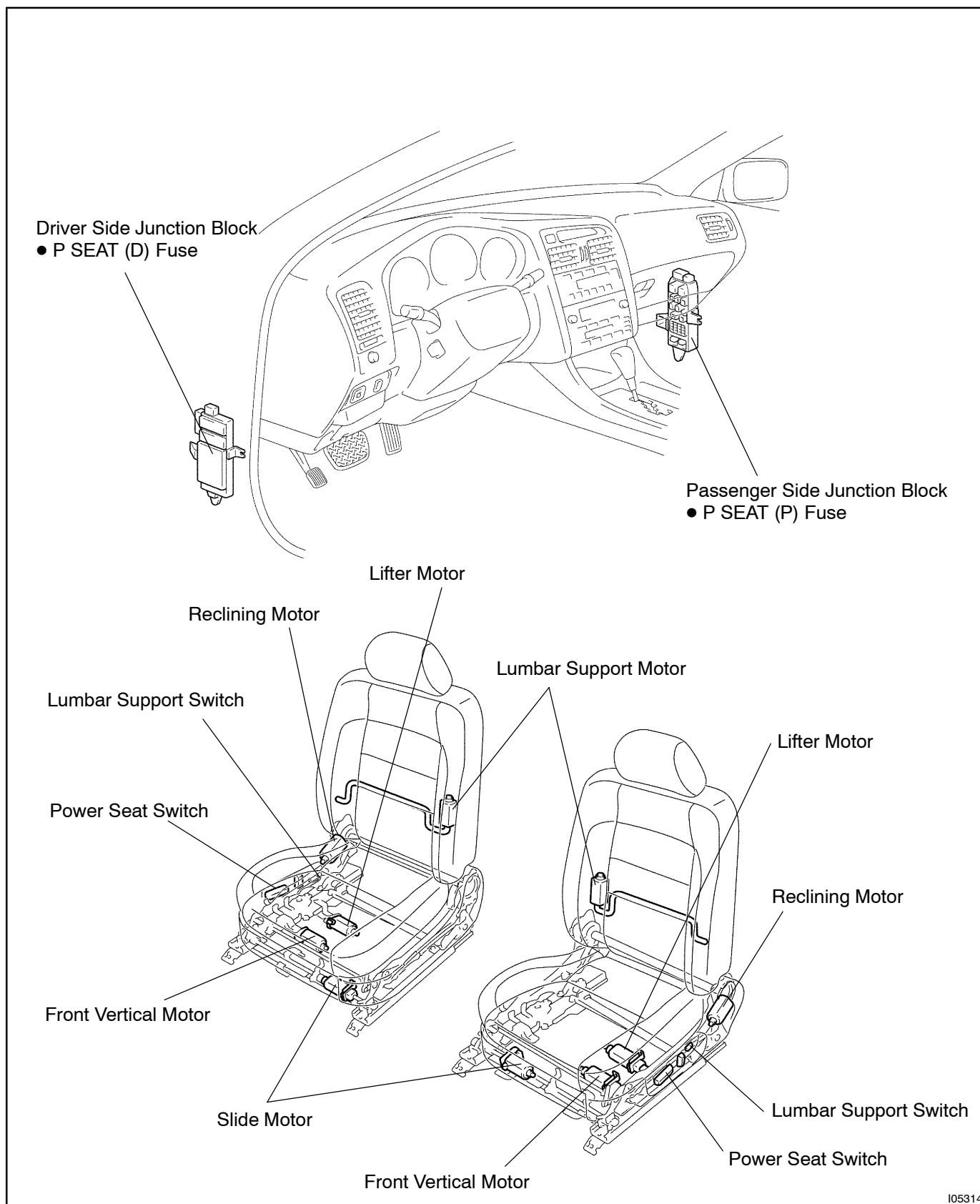




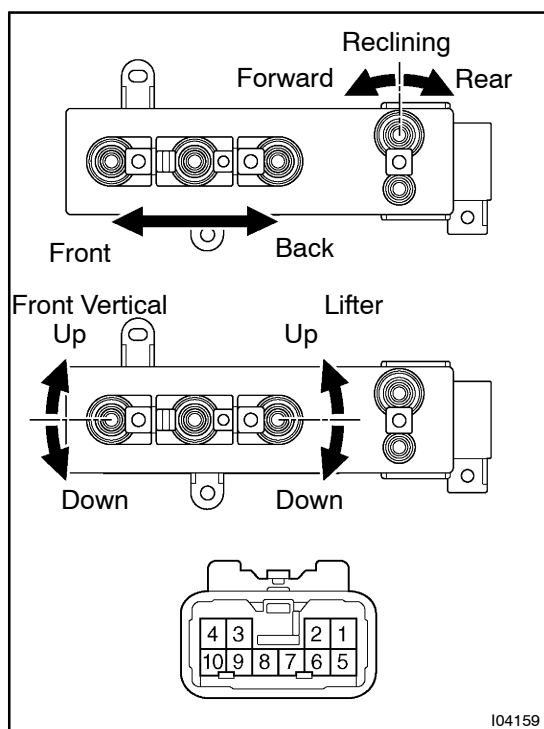


POWER SEAT CONTROL SYSTEM LOCATION

BEOGK-02



I05314



I04159

INSPECTION

1. Left side seat:

INSPECT POWER SEAT SWITCH CONTINUITY

Slide Switch:

Switch position	Tester connection	Specified condition
FRONT	1 - 9 4 - 6	Continuity
OFF	4 - 6 4 - 9	Continuity
BACK	1 - 6 4 - 9	Continuity

Front vertical switch:

Switch position	Tester connection	Specified condition
UP	1 - 10 4 - 5	Continuity
OFF	4 - 5 4 - 10	Continuity
DOWN	1 - 5 4 - 10	Continuity

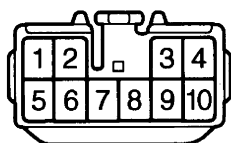
Lifter switch:

Switch position	Tester connection	Specified condition
UP	1 - 7 4 - 8	Continuity
OFF	4 - 7 4 - 8	Continuity
DOWN	1 - 8 4 - 7	Continuity

Reclining switch:

Switch position	Tester connection	Specified condition
FORWARD	1 - 3 2 - 4	Continuity
OFF	2 - 4 3 - 4	Continuity
REAR	1 - 2 3 - 4	Continuity

If continuity is not as specified, replace the switch.

Wire Harness Side

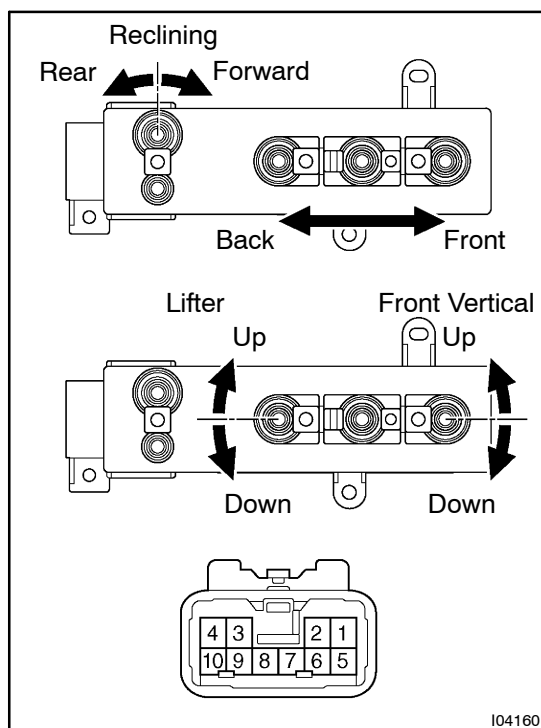
I05472

2. Left side seat:**INSPECT POWER SEAT SWITCH CIRCUIT**

- (a) Disconnect the switch connector and connect the seat wire harness to the floor wire harness.
- (b) Inspect the connector on the wire harness side.

Tester connection	Condition	Specified condition
4 – Ground	Constant	Continuity
1 – Ground	Constant	Battery voltage

If circuit is not as specified, inspect the circuits connected to other parts.



I04160

3. Right side seat:**INSPECT POWER SEAT SWITCH CONTINUITY****Slide switch:**

Switch position	Tester connection	Specified condition
FRONT	1 – 9 4 – 6	Continuity
OFF	4 – 6 4 – 9	Continuity
BACK	1 – 6 4 – 9	Continuity

Front vertical switch:

Switch position	Tester connection	Specified condition
UP	1 – 5 4 – 10	Continuity
OFF	4 – 5 4 – 10	Continuity
DOWN	1 – 10 4 – 5	Continuity

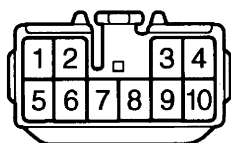
Lifter switch:

Switch position	Tester connection	Specified condition
UP	1 – 8 4 – 7	Continuity
OFF	4 – 7 4 – 8	Continuity
DOWN	1 – 7 4 – 8	Continuity

Reclining switch:

Switch position	Tester connection	Specified condition
FORWARD	1 – 3	Continuity
	2 – 4	
OFF	2 – 4	Continuity
	3 – 4	
REAR	1 – 2	Continuity
	3 – 4	

If continuity is not as specified, replace the switch.

Wire Harness Side

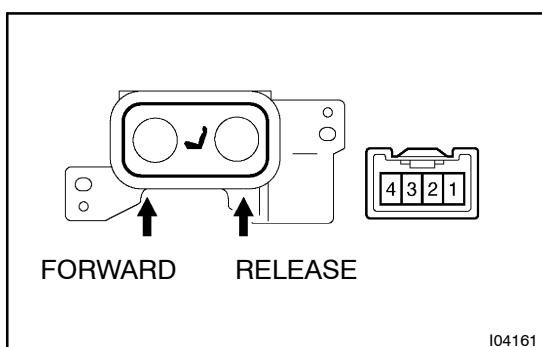
I05472

4. Right side seat:**INSPECT POWER SEAT SWITCH CIRCUIT**

- (a) Disconnect the switch connector and connect the seat wire harness to the floor wire harness.
- (b) Inspect the connector on the wire harness side.

Tester connection	Condition	Specified condition
4 – Ground	Constant	Continuity
1 – Ground	Constant	Battery voltage

If circuit is not as specified, inspect the circuits connected to other parts.

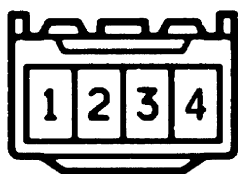


I04161

5. Left side seat:**INSPECT LUMBAR SUPPORT SWITCH CONTINUITY**

Switch position	Tester connection	Specified condition
FORWARD	1 – 4	Continuity
	2 – 3	
OFF	2 – 3	Continuity
	2 – 4	
RELEASE	1 – 3	Continuity
	2 – 4	

If continuity is not as specified, replace the switch.

Wire Harness Side

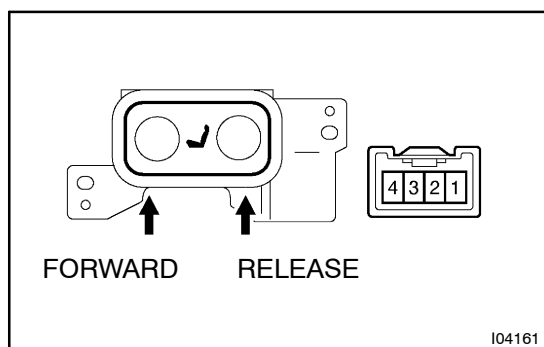
I04162

6. Left side seat:**INSPECT LUMBAR SUPPORT SWITCH CIRCUIT**

- (a) Disconnect the switch connector and connect the seat wire harness to the floor wire harness.
- (b) Inspect the connector on the wire harness side.

Tester connection	Condition	Specified condition
3 – Ground	Constant	Continuity
4 – Ground	Constant	Battery voltage

If circuit is not as specified, inspect the circuits connected to other parts.

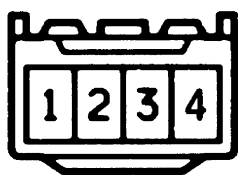


I04161

7. Right side seat:**INSPECT LUMBAR SUPPORT SWITCH CONTINUITY**

Switch position	Tester connection	Specified condition
FORWARD	1 – 4 2 – 3	Continuity
OFF	1 – 3 2 – 3	Continuity
RELEASE	1 – 3 2 – 4	Continuity

If continuity is not as specified, replace the switch.

Wire Harness Side

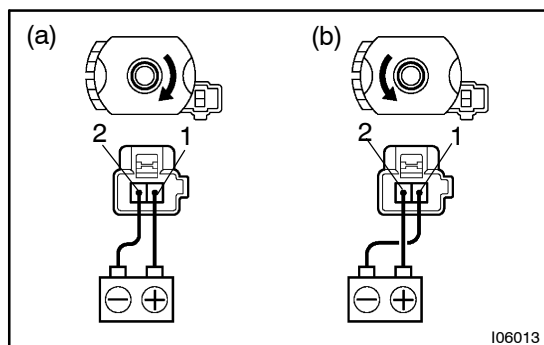
I04162

8. Right side seat:**INSPECT LUMBAR SUPPORT SWITCH CIRCUIT**

- (a) Disconnect the switch connector and connect the seat wire harness to the floor wire harness.
- (b) Inspect the connector on the wire harness side.

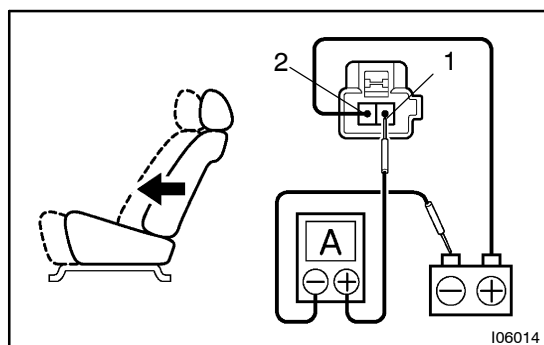
Tester connection	Condition	Specified condition
2 – Ground	Constant	Continuity
1 – Ground	Constant	Battery voltage

If circuit is not as specified, inspect the circuits connected to other parts.

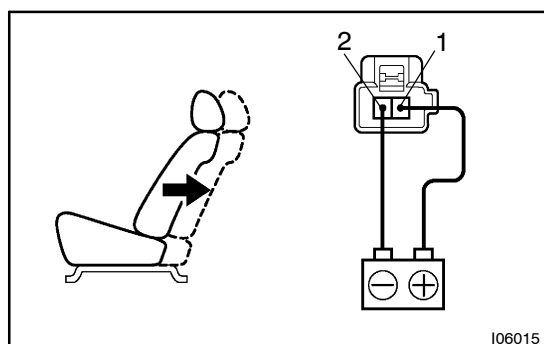
**9. INSPECT SLIDE MOTOR OPERATION**

- Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, check that the motor turns clockwise.
- Reverse the polarity, check that the motor turns counter-clockwise.

If operation is not as specified, replace the seat adjuster.

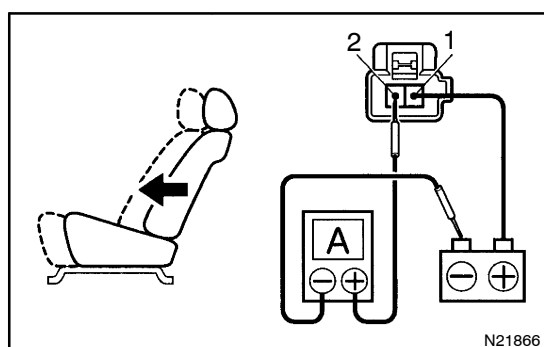
**10. Left side seat:****INSPECT SLIDE MOTOR PTC THERMISTOR OPERATION**

- Connect the positive (+) lead from the battery to terminal 2, the positive (+) lead from the ammeter to terminal 1 and the negative (-) lead to the battery negative (-) terminal, then move the seat cushion to the front position.
- Continue to apply voltage, check that current changes to less than 1 ampere within 4 to 90 seconds.

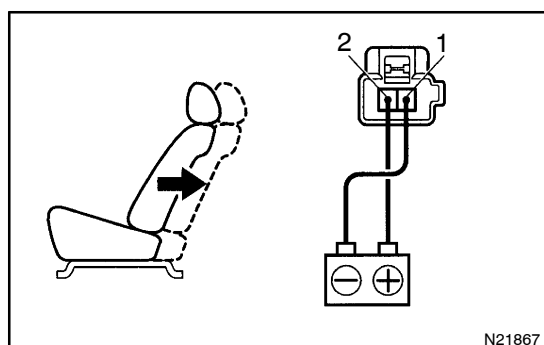


- Disconnect the leads from terminals.
- Approximately 60 seconds later, connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, check that the seat cushion begins to move backwards.

If operation is not as specified, replace the seat adjuster.

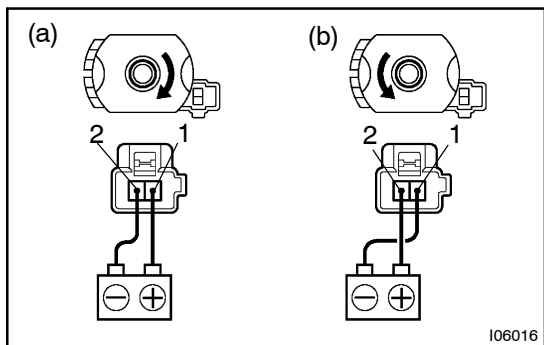
**11. Right side seat:****INSPECT SLIDE MOTOR PTC THERMISTOR OPERATION**

- Connect the positive (+) lead from the battery to terminal 1, the positive (+) lead from the ammeter to terminal 2 and the negative (-) lead to the battery negative (-) terminal, then move the seat cushion to the front position.
- Continue to apply voltage, check that current changes to less than 1 ampere within 4 to 90 seconds.



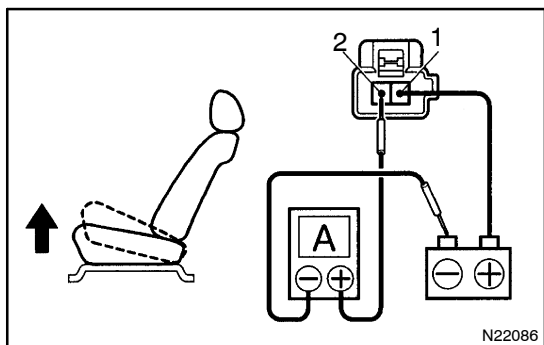
- Disconnect the leads from terminals.
- Approximately 60 seconds later, connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1, check that the seat cushion begins to move backwards.

If operation is not as specified, replace the seat adjuster.

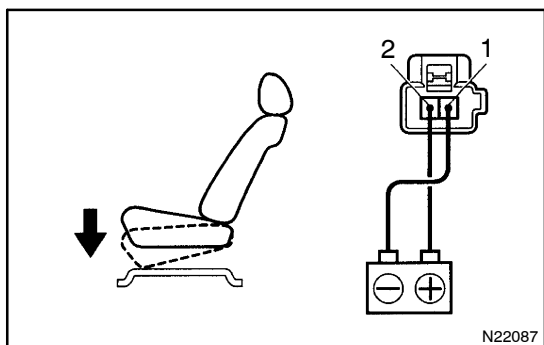
**12. INSPECT FRONT VERTICAL MOTOR OPERATION**

- (a) Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, check that the motor turns clockwise.
- (b) Reverse the polarity, check that the motor turns counter-clockwise.

If operation is not as specified, replace the seat adjuster.

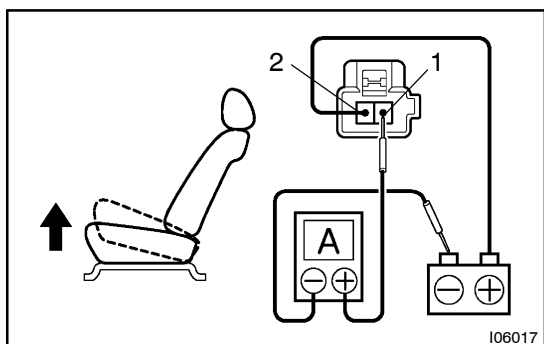
**13. Left side seat:****INSPECT FRONT VERTICAL MOTOR PTC THERMISTOR OPERATION**

- (a) Connect the positive (+) lead from the battery to terminal 1, the positive (+) lead from the ammeter to terminal 2 and the negative (-) lead to the battery negative (-) terminal, then move the seat cushion to the highest position.
- (b) Continue to apply voltage, check that the current changes to less than 1 ampere within 4 to 90 seconds.

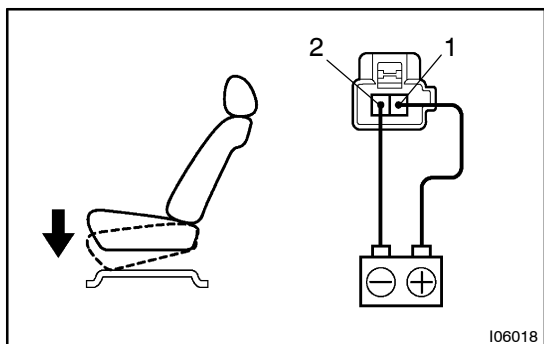


- (c) Disconnect the leads from the terminals.
- (d) Approximately 60 seconds later, connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1, check that the seat cushion begins to descend.

If operation is not as specified, replace the seat adjuster.

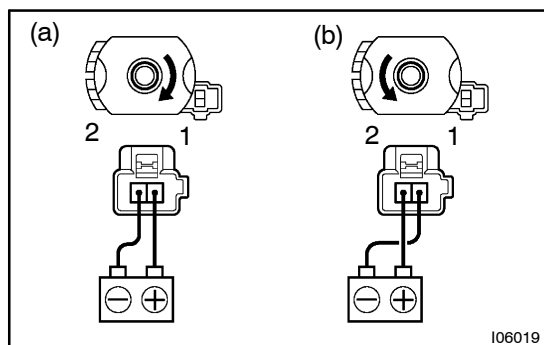
**14. Right side seat:****INSPECT FRONT VERTICAL MOTOR PTC THERMISTOR OPERATION**

- (a) Connect the positive (+) lead from the battery to terminal 2, the positive (+) lead from the ammeter to terminal 1 and the negative (-) lead to the battery negative (-) terminal, then move the seat cushion to the highest position.
- (b) Continue to apply voltage, check that the current changes to less than 1 ampere within 4 to 90 seconds.



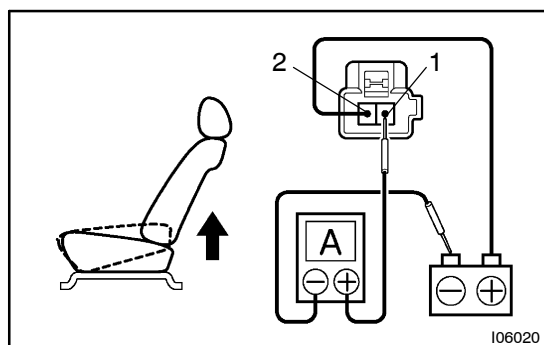
- (c) Disconnect the leads from the terminals.
- (d) Approximately 60 seconds later, connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, check that the seat cushion begins to descend.

If operation is not as specified, replace the seat adjuster.

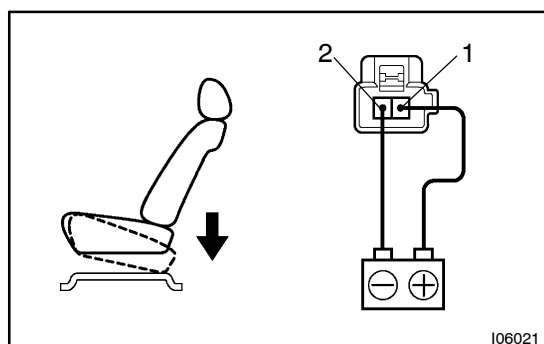
**15. INSPECT LIFTER MOTOR OPERATION**

- Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, check that the motor turns clockwise.
- Reverse the polarity, check that the motor turns counter-clockwise.

If operation is not as specified, replace the seat adjuster.

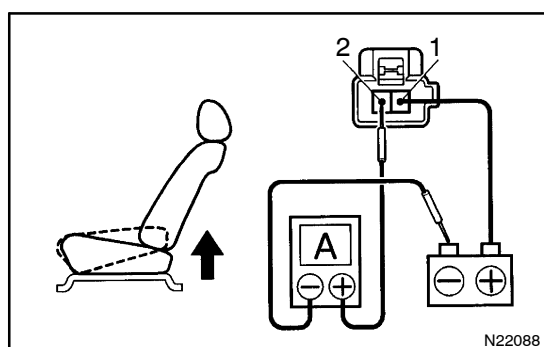
**16. Left side seat:****INSPECT LIFTER MOTOR PTC THERMISTOR OPERATION**

- Connect the positive (+) lead from the battery to terminal 2, the positive (+) lead from the ammeter to terminal 1 and the negative (-) lead to the battery negative (-) terminal, then move the seat cushion to the highest position.
- Continue to apply voltage, check that the current changes to less than 1 ampere within 4 to 90 seconds.

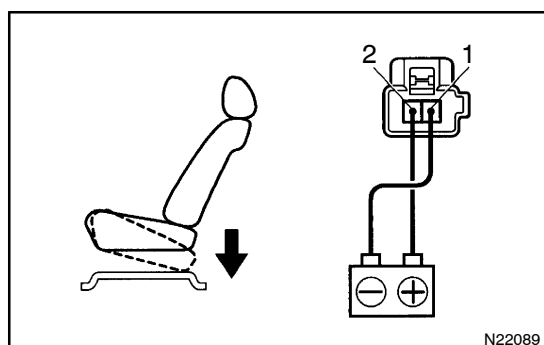


- Disconnect the leads from the terminals.
- Approximately 60 seconds later, connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, check that the seat cushion begins to descend.

If operation is not as specified, replace the seat adjuster.

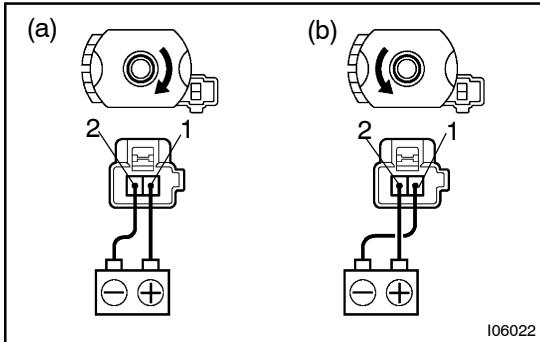
**17. Right side seat:****INSPECT LIFTER MOTOR PTC THERMISTOR OPERATION**

- Connect the positive (+) lead from the battery to terminal 1, the positive (+) lead from the ammeter to terminal 2 and the negative (-) lead to the battery negative (-) terminal, then move the seat cushion to the highest position.
- Continue to apply voltage, check that the current changes to less than 1 ampere within 4 to 90 seconds.



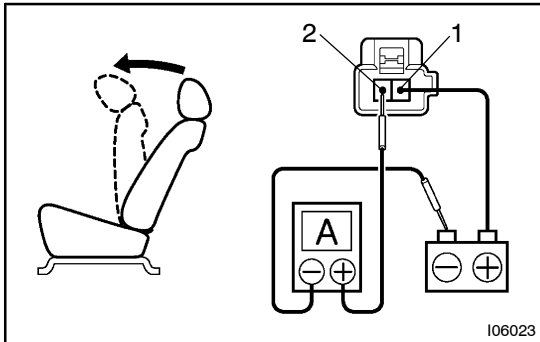
- Disconnect the leads from the terminals.
- Approximately 60 seconds later, connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1, check that the seat cushion begins to descend.

If operation is not as specified, replace the seat adjuster.

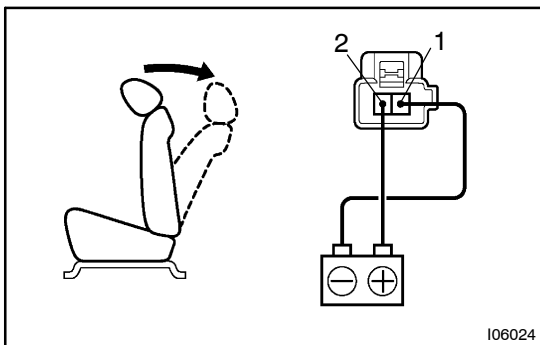
**18. INSPECT RECLINING MOTOR OPERATION**

- Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, check that the motor turns clockwise.
- Reverse the polarity, check that the motor turns counter-clockwise.

If operation is not as specified, replace the seat adjuster.

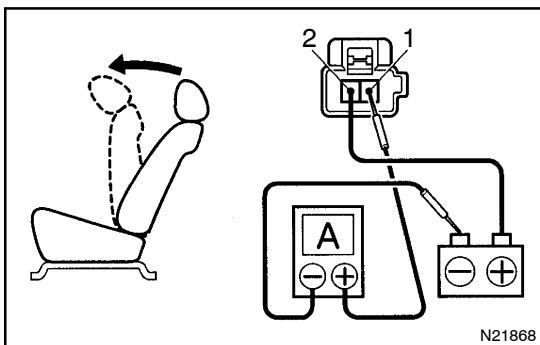
**19. Left side seat:****INSPECT RECLINING MOTOR PTC THERMISTOR OPERATION**

- Connect the positive (+) lead from the battery to terminal 1, the positive (+) lead from the ammeter to terminal 2 and the negative (-) lead to the battery negative (-) terminal, then recline the seat back to the most forward position.
- Continue to apply voltage, check that the current changes to less than 1 ampere within 4 to 90 seconds.

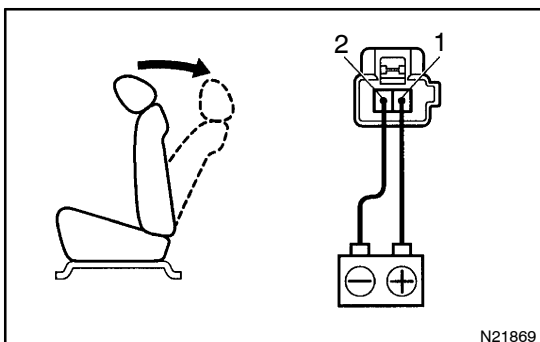


- Disconnect the leads from the terminals.
- Approximately 60 seconds later, connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1, check that the seat back begins to fall backward.

If operation is not as specified, replace the seat adjuster.

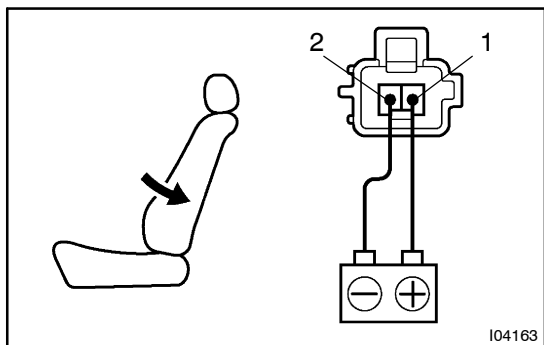
**20. Right side seat:****INSPECT RECLINING MOTOR PTC THERMISTOR OPERATION**

- Connect the positive (+) lead from the battery to terminal 2, the positive (+) lead from the ammeter to terminal 1 and the negative (-) lead to the battery negative (-) terminal, then recline the seat back to the most forward position.
- Continue to apply voltage, check that the current changes to less than 1 ampere within 4 to 90 seconds.

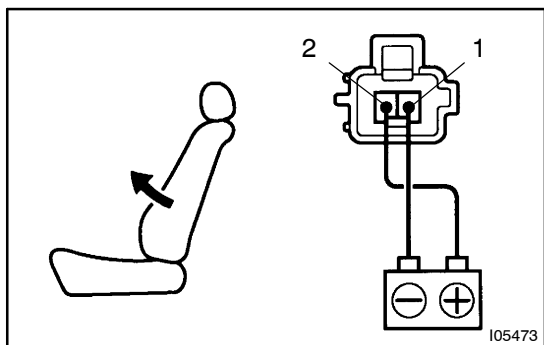


- Disconnect the leads from the terminals.
- Approximately 60 seconds later, connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, check that the seat back begins to fall backward.

If operation is not as specified, replace the seat adjuster.

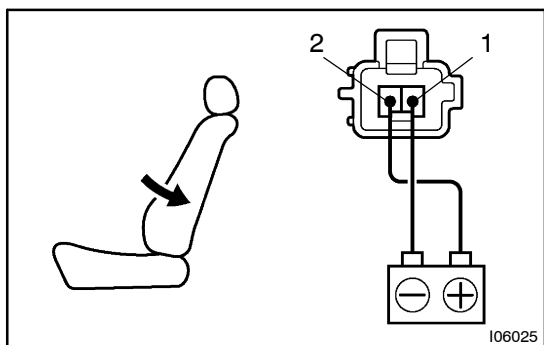
**21. Left side seat:****INSPECT LUMBAR SUPPORT MOTOR OPERATION**

- (a) Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, check that the lumbar support moves to release side.

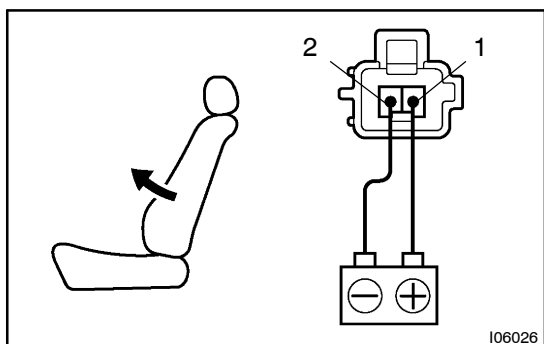


- (b) Reverse the polarity, check that the lumbar support moves forward.

If operation is not as specified, replace the seat adjuster.

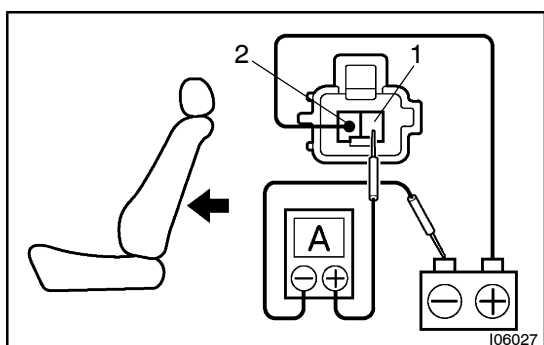
**22. Right side seat:****INSPECT LUMBAR SUPPORT MOTOR OPERATION**

- (a) Connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1, check that the lumbar support moves to release side.

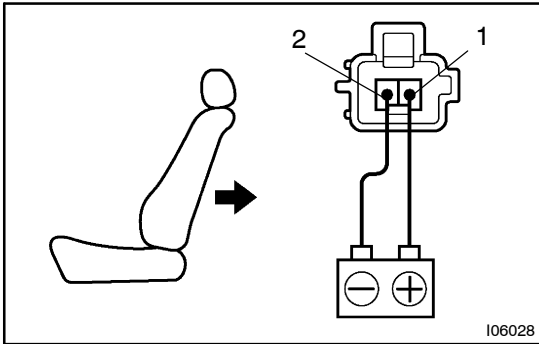


- (b) Reverse the polarity, check that the lumbar support moves forward.

If operation is not as specified, replace the seat adjuster.

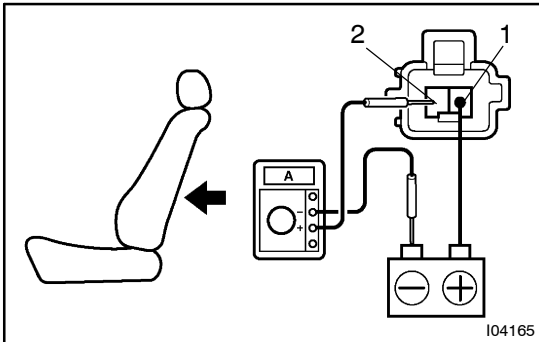
**23. Left side seat:****INSPECT LUMBAR SUPPORT MOTOR CIRCUIT BREAKER OPERATION**

- (a) Connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1 on the lumbar support motor connector and move the lumbar support to front end position.



- (b) Continue to apply voltage, check that a circuit breaker operation noise can be heard within 4 to 60 seconds.
- (c) Reverse the polarity, check that the lumbar support begins to move release side with in spproximately 60 seconds.

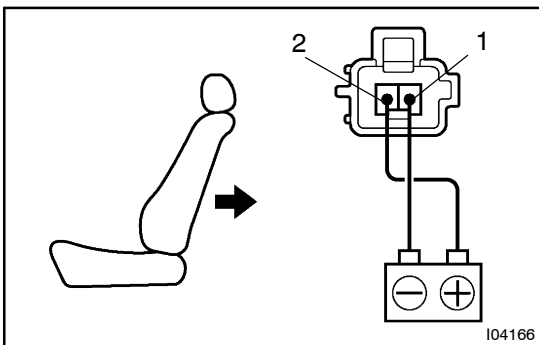
If operation is not as specified, replace the motor.



24. Right side seat:

INSPECT LUMBAR SUPPORT MOTOR CIRCUIT BREAKER OPERATION

- (a) Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2 on the lumbar support motor connector and move the lumbar support to front end position.

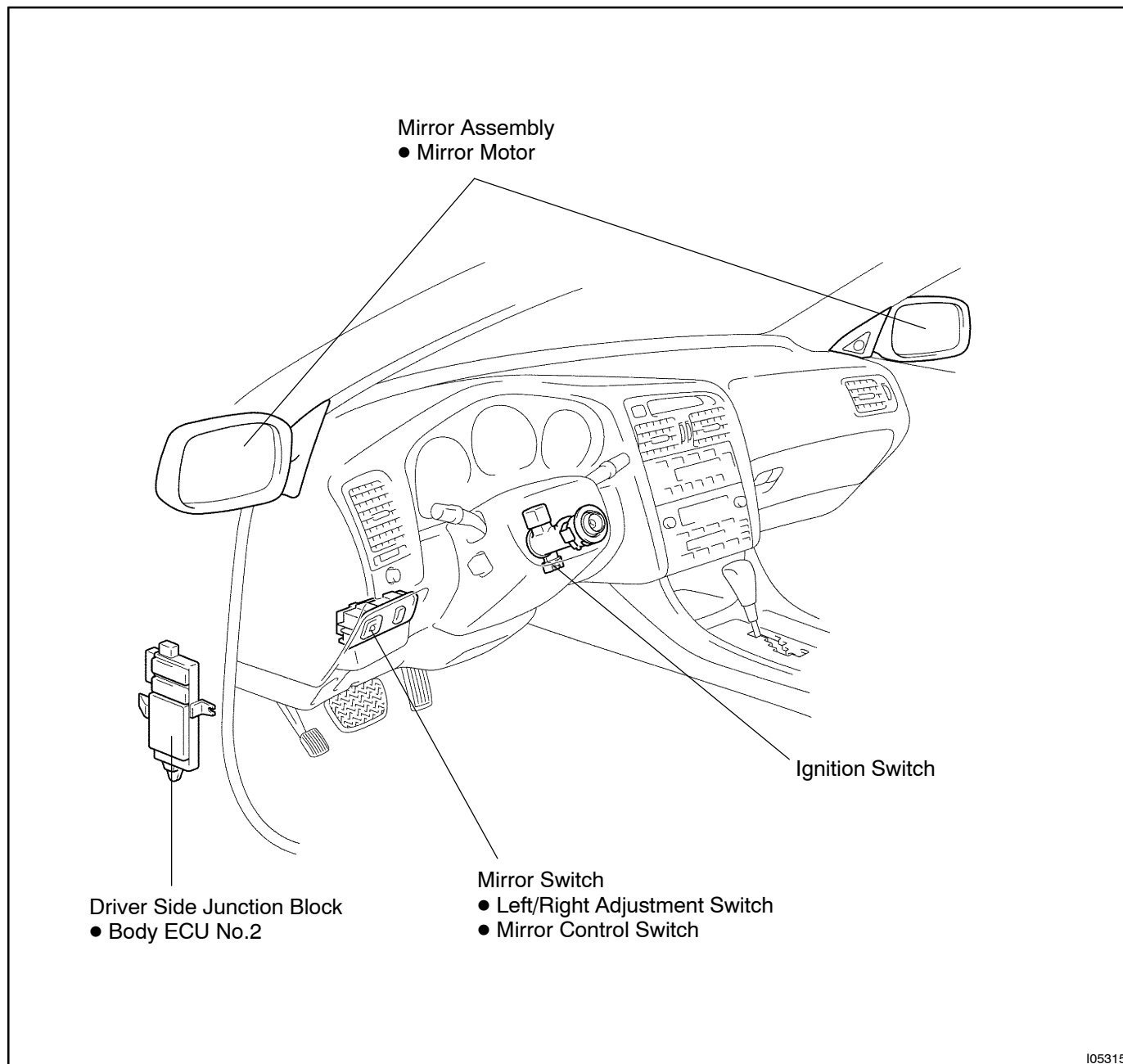


- (b) Continue to apply voltage, check that a circuit breaker operation noise can be heard within 4 to 60 seconds.
- (c) Reverse the polarity, check that the lumbar support begins to move release side with in spproximately 60 seconds.

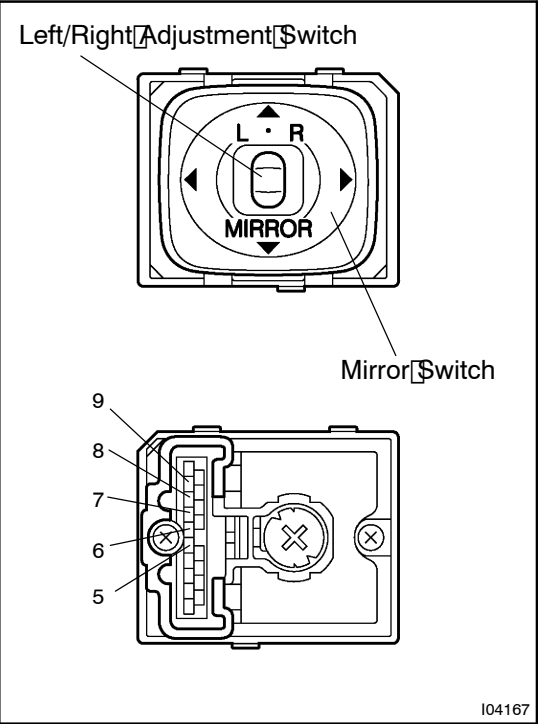
If operation is not as specified, replace the motor.

POWER MIRROR CONTROL SYSTEM LOCATION

BE02J-03



I05315



INSPECTION

1. INSPECT MIRROR SWITCH CONTINUITY

Switch position	Tester connection	Resistance (Ω)
LEFT	8 - 9	100
RIGHT	8 - 9	0
Illumination	5 - 6	Continuity

Measure resistance between terminals 7 and 9.

Switch position	Resistance (Ω)
UP	Approx. 100
RIGHT	250
DOWN	470
LEFT	800

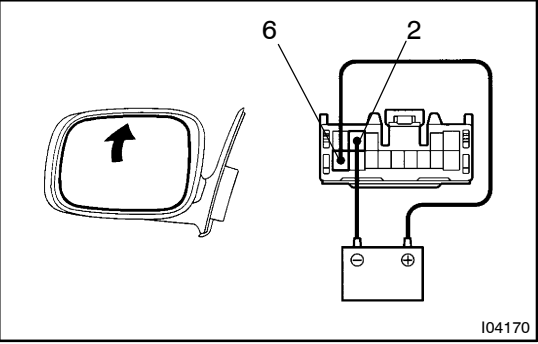
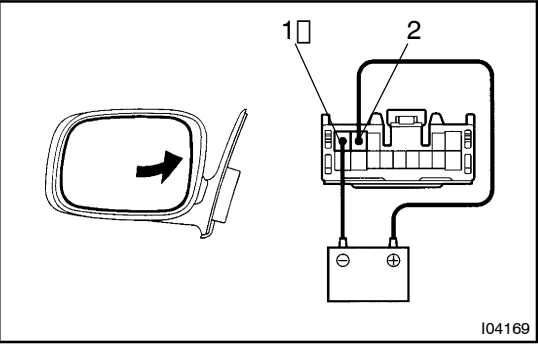
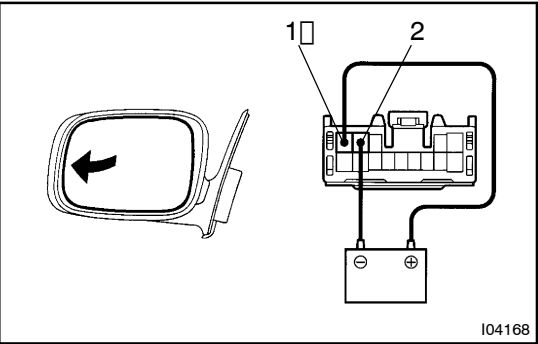
If continuity is not as specified, replace the switch.

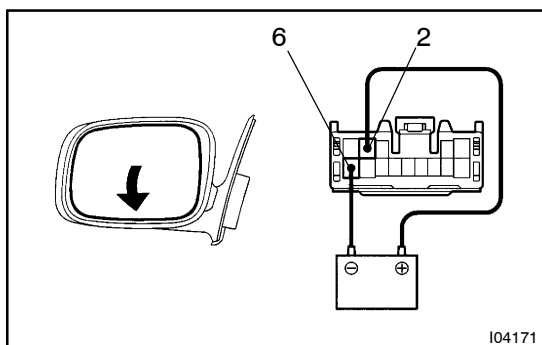
2. INSPECT MIRROR SWITCH CIRCUIT

(See page DI-673)

3. INSPECT MIRROR MOTOR OPERATION

- (a) Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, and check that the mirror turns to the left side.
- (b) Reverse the polarity, and check that the mirror turns to the right side.
- (c) Connect the positive (+) lead from the battery to terminal 6 and the negative (-) lead to terminal 2, and check that the mirror turns upward.





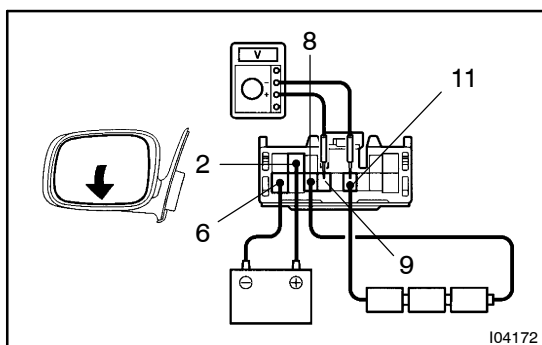
- (d) Reverse the polarity, and check that the mirror turns downward.

If operation is not as specified, replace the mirror assembly.

4. INSPECT MIRROR MOTOR CIRCUIT

Left side: (See page DI-726)

Right side: (See page DI-760)



5. w/Driving Position Memory only:

INSPECT MIRROR POSITION SENSORS OPERATION

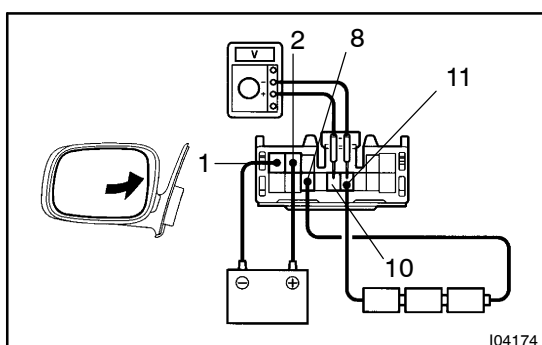
HINT:

Strip off the vinyl tape of the connector and remove terminals 1, 2, 6, 8, 9, 10 and 11 from the connector housing.

- Connect a series of three 1.5V dry cell batteries.
- Connect the positive (+) lead from the dry cell batteries to terminal 8 and the negative (-) lead to terminal 11.
- Connect the positive (+) lead from the voltmeter to terminal 9 and the negative (-) lead to terminal 11.
- Apply battery positive voltage to terminals 2 and 6, then check that the voltage gradually changes according to the table below while the mirror moves between the uppermost position and lowermost position.

Mirror position	Lowermost	Mirror position	Uppermost
Voltage	2.8 - 5.0	Changes gradually	0 - 1.8

If voltage value is not as specified, replace the motor assembly.



- Disconnect the 4 leads of the battery and voltmeter.
- Connect the positive (+) lead from the voltmeter to terminal 10 and negative (-) lead to terminal 11.
- Apply battery positive voltage to terminals 1 and 2, then inspect that the voltage gradually changes according to the table below while the mirror moves between the left-most position and right-most position.

Mirror position	Left-most	Mirror position	Right-most
Voltage LEFT	2.8 - 5.0	Changes gradually	0 - 1.8
Voltage RIGHT	0 - 1.8	Changes gradually	2.8 - 5.0

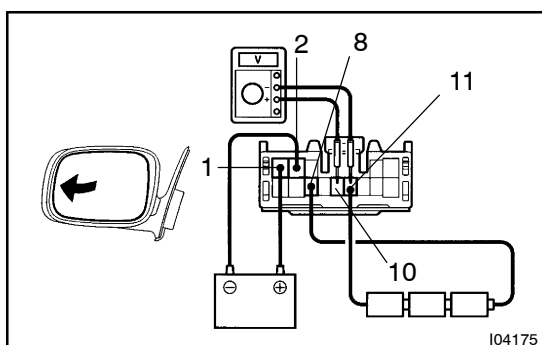
If voltage value is not as specified, replace the motor assembly.

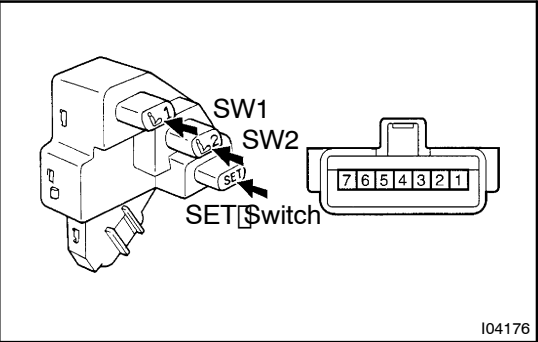
6. w/Driving Position Memory only:

INSPECT MIRROR POSITION SENSORS CIRCUIT

Left side: (See page DI-728)

Right side: (See page DI-762)

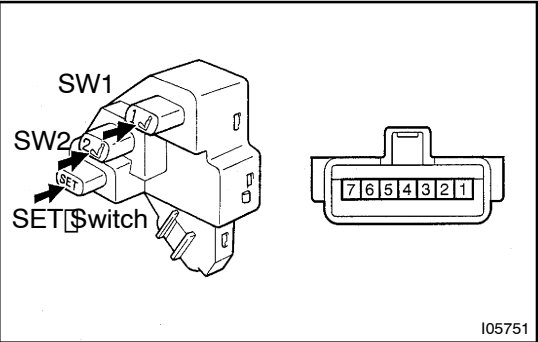




7. LHD Models:
INSPECT DRIVING POSITION MEMORY AND RETURN SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
SET switch ON	1 - 7	Continuity
Return SW1 ON	1 - 3	Continuity
Return SW2 ON	1 - 5	Continuity

If continuity is not as specified, replace the switch.



8. RHD Models:
INSPECT DRIVING POSITION MEMORY AND RETURN SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
SET switch ON	1 - 7	Continuity
Return SW1 ON	5 - 7	Continuity
Return SW2 ON	3 - 7	Continuity

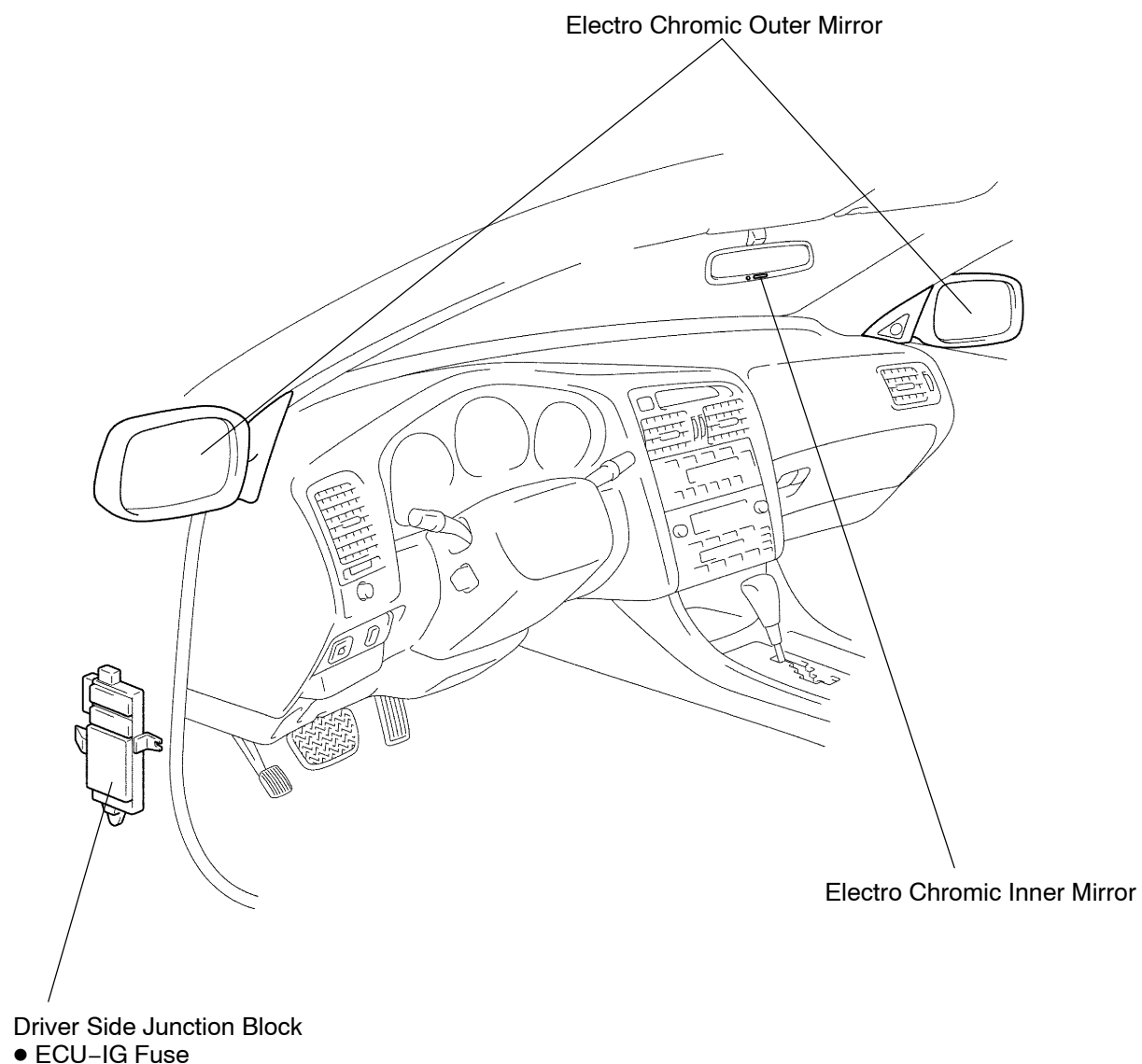
If continuity is not as specified, replace the switch.

9. INSPECT DRIVING POSITION MEMORY AND RETURN SWITCH CIRCUIT
(See page DI-731)

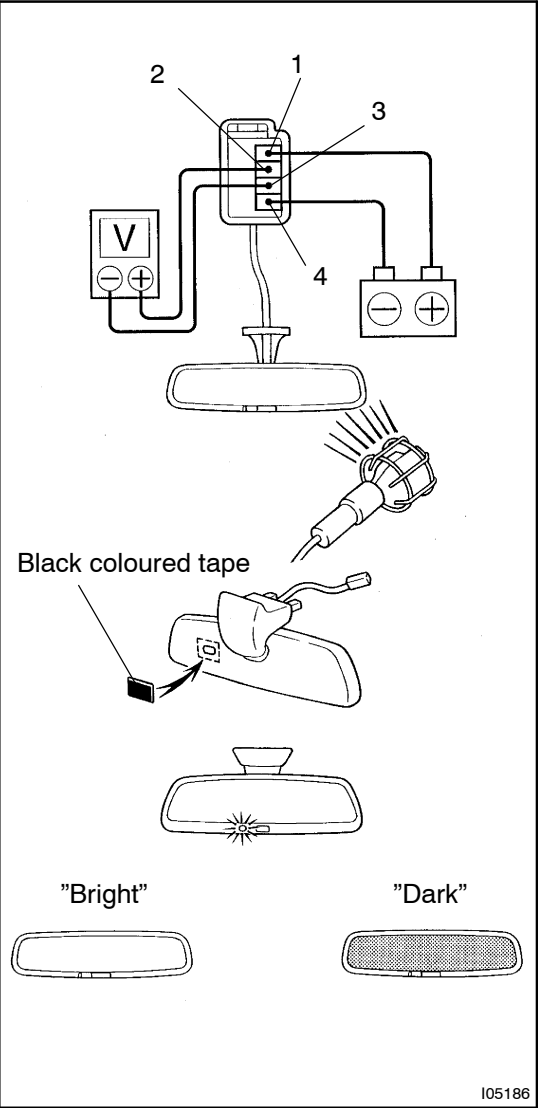
ELECTRO CHROMIC MIRROR SYSTEM

LOCATION

BE0HC-02



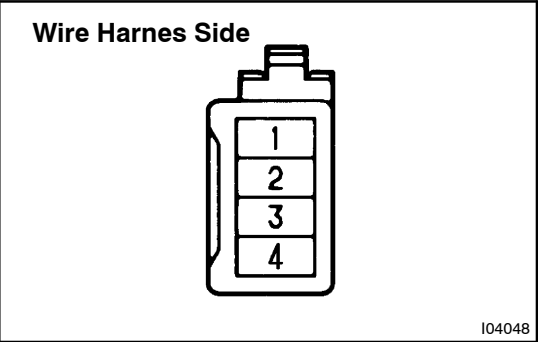
105316



INSPECTION

1. **INSPECT ELECTRO CHROMIC INNER MIRROR OPERATION**
 - (a) Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 4.
 - (b) Connect the positive (+) lead from the voltmeter to terminal 2 and the negative (-) lead to terminal 3.
 - (c) Attach a black coloured tape to forward sensor to prevent it from sensing.
 - (d) When the mode is turned to AUTO, check that indicator light lights up.
 - (e) Light up the mirror with an electric light, and check that there is battery positive voltage and mirror surface changes "bright" to "dark".

If operation is not as specified, replace the inner mirror.

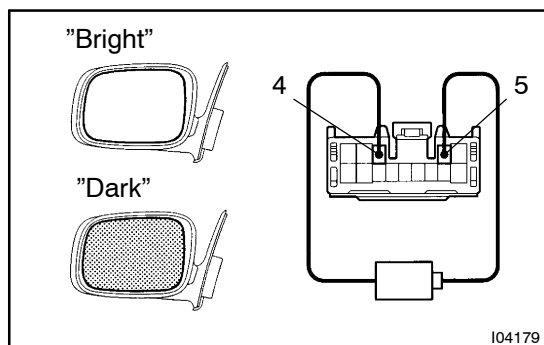


2. INSPECT ELECTRO CHROMIC INNER MIRROR CIRCUIT

Disconnect the connector from the mirror and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
4 - Ground	Constant	Continuity
1 - Ground	Ignition switch LOCK or ACC	No voltage
1 - Ground	Ignition switch ON	Battery voltage

If circuit is not as specified, inspect the circuits connected to other parts.



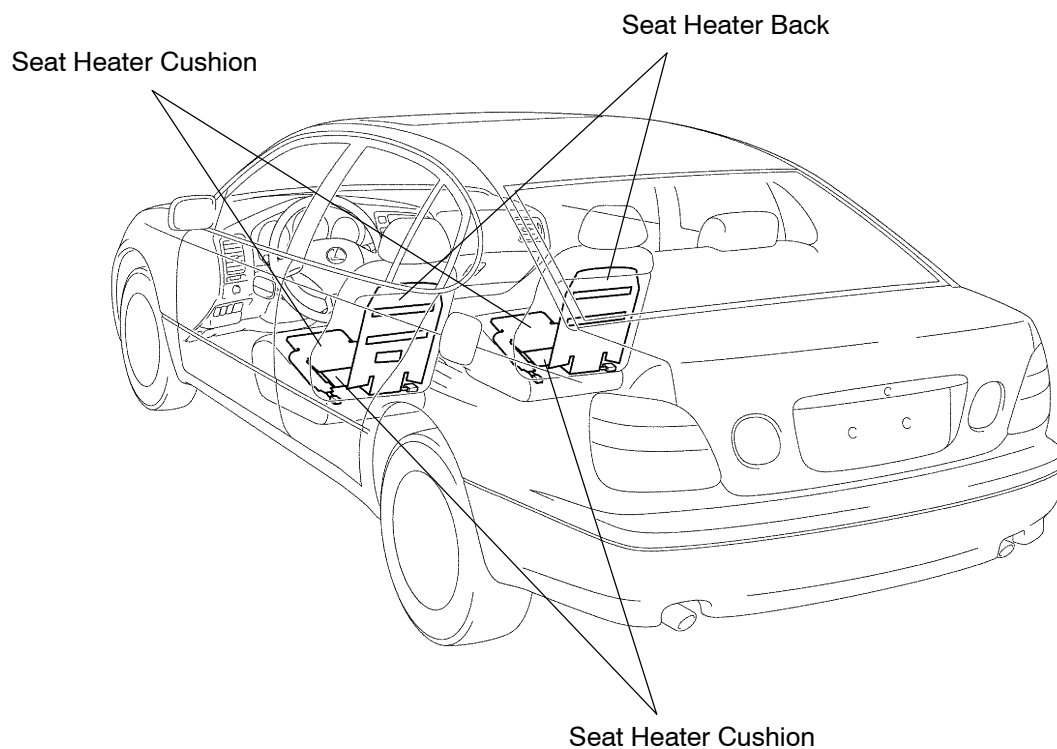
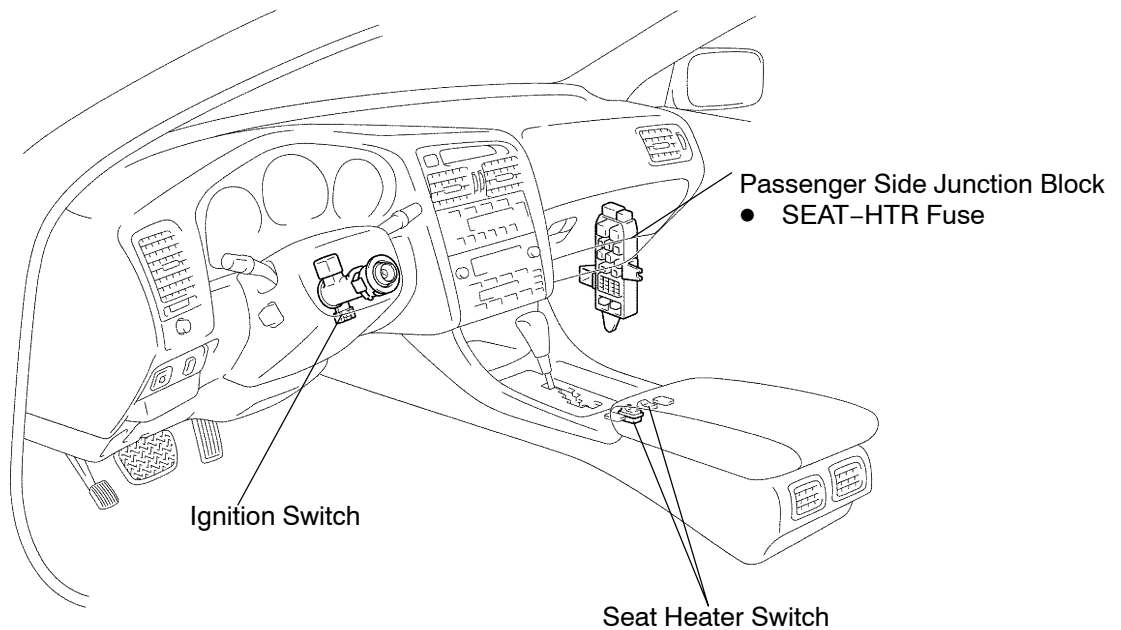
3. INSPECT ELECTRO CHROMIC OUTER MIRROR OPERATION

- (a) Disconnect the outer mirror connector.
- (b) Connect the positive (+) lead from the dry cell battery to terminal 5 and the negative (-) lead to terminal 4, then check that the mirror surface changes to "dark".
- (c) Check the mirror turns to "bright" after disconnecting the battery.

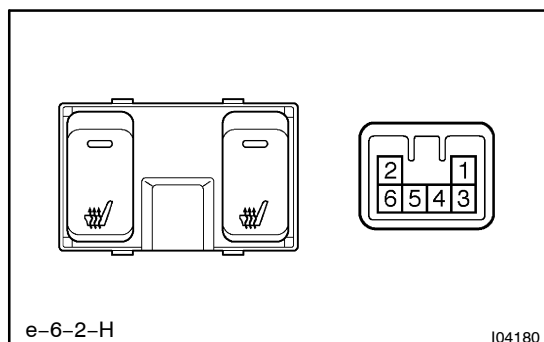
If operation is not as specified, replace the mirror assembly.

SEAT HEATER SYSTEM LOCATION

BE0GH-02



I05317

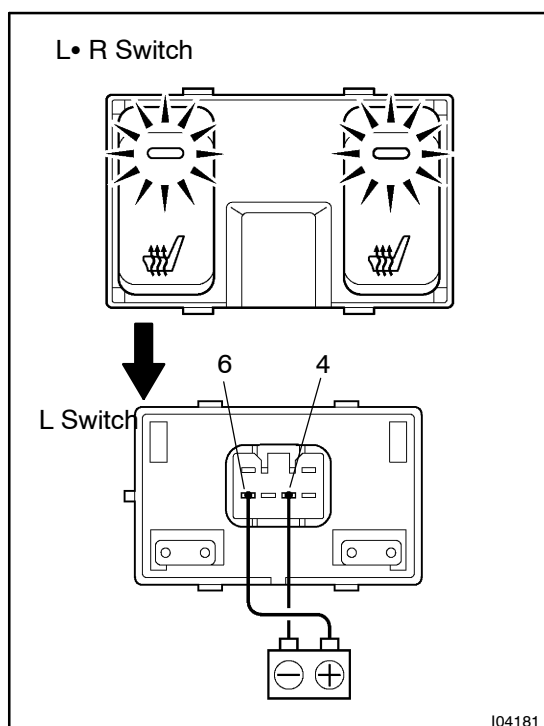


INSPECTION

1. INSPECT SEAT HEATER SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
Right side	3 – 4 – 6	Continuity
OFF	–	No continuity
Left side	2 – 4 – 6	Continuity
Illumination circuit	1 – 5	Continuity

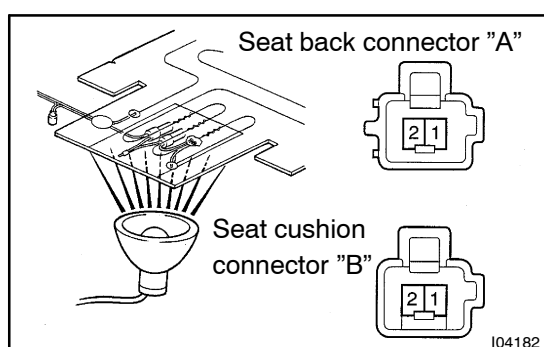
If continuity is not as specified, replace the switch.



2. INSPECT SEAT HEATER INDICATOR LIGHT OPERATION

- Connect the positive (+) lead from the battery to terminal 6 and the negative (–) lead to terminal 4.
- Push the seat heater switch Right or Left side and check that the indicator light lights up.

If operation is not as specified, replace the switch and inspect the circuits connected to other parts.

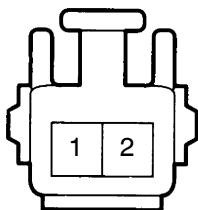


3. INSPECT SEAT HEATER CUSHION CONTINUITY

- Heat the thermostat with a light.
- Inspect the seat heater cushion continuity between terminals, as shown.

Tester connection	Condition	Specified condition
A2 – B1	Constant	No continuity
A1 – A2	Constant	Continuity
B1 – B2	Seat heater temperature above 37 °C (96 °F)	No continuity

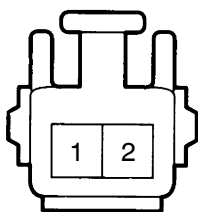
If continuity is not as specified, replace the seat cushion pad.

Wire Harness Side**4. INSPECT SEAT HEATER CUSHION CONTINUITY**

Inspect the seat heater inner cushion and front cushion continuity between terminals, as shown.

Tester connection	Condition	Specified condition
1 – Body ground	Seat heater switch ON	Battery volatage

If continuity is not as specified, replace the seat back pad.

Wire Harness Side**5. INSPECT SEAT BACK CONTINUITY**

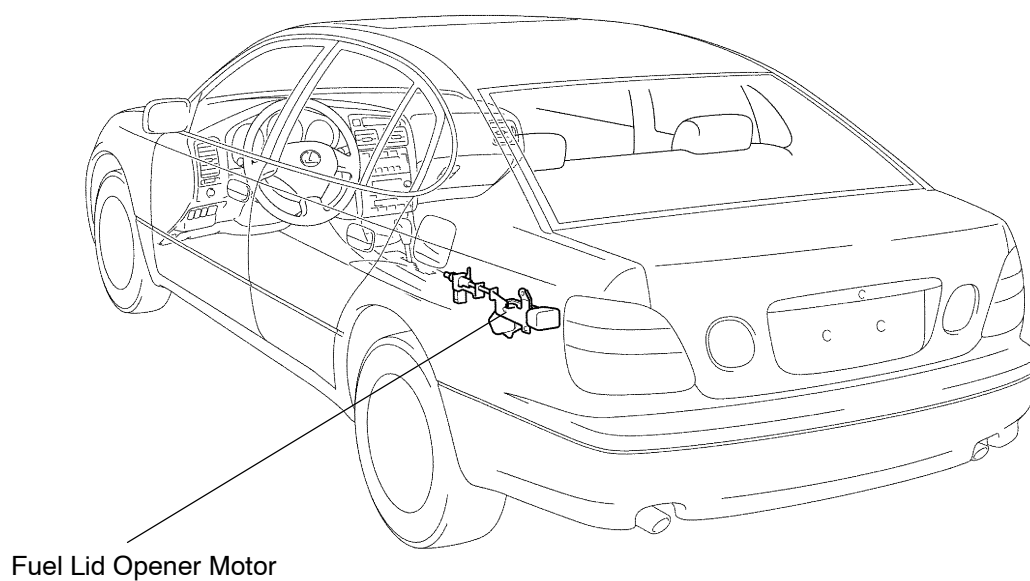
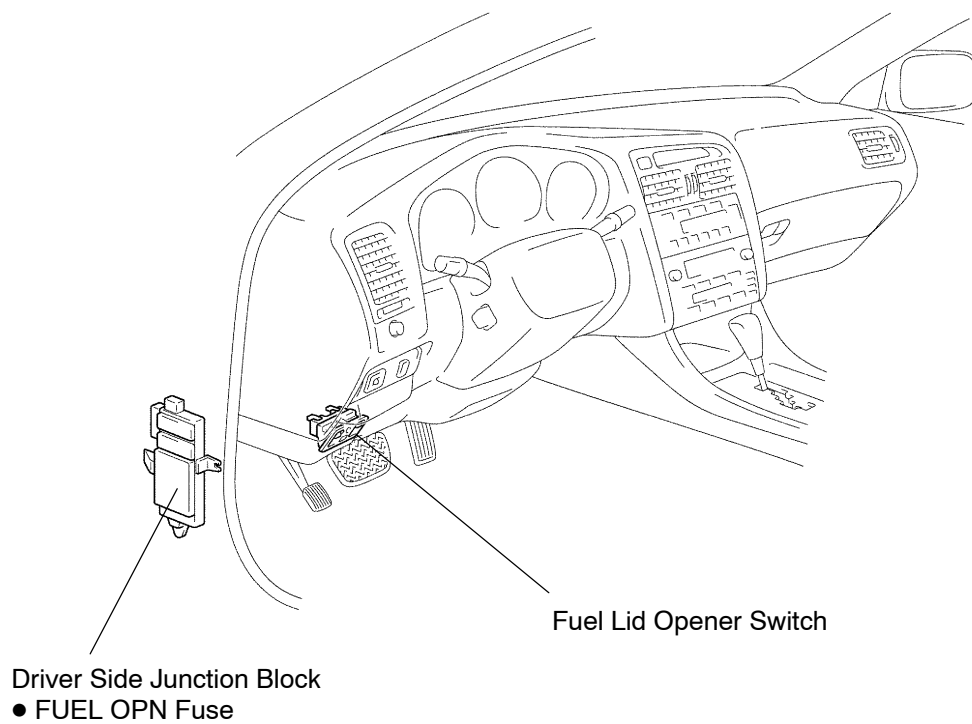
Inspect the seat back continuity between terminals, as shown.

Tester connection	Condition	Specified condition
2 – Body ground	Constant	Continuity

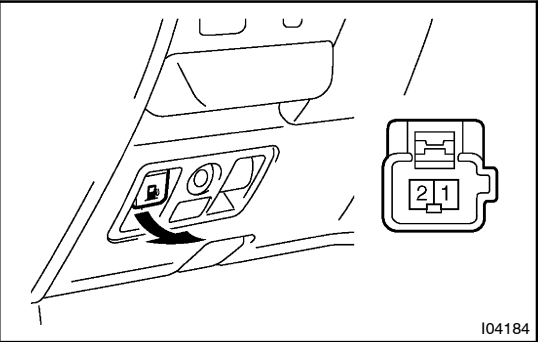
If continuity is not as specified, replace the seat back pad.

FUEL LID OPENER SYSTEM LOCATION

BE0GF-02



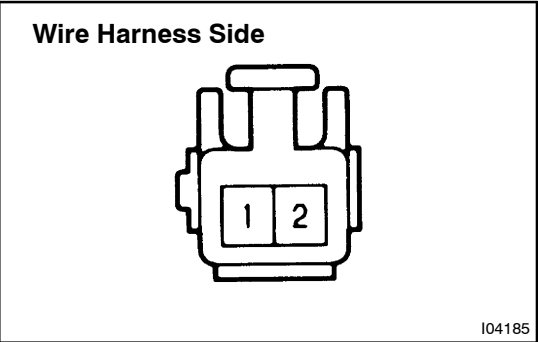
105318



INSPECTION

1. **INSPECT FUEL LID OPENER SWITCH CONTINUITY**
- (a) Check that continuity exists between terminals with the switch ON (Lever pulled).
 - (b) Check that no continuity exists between terminals with the switch OFF (Lever free).

If continuity is not as specified, replace the switch assembly.

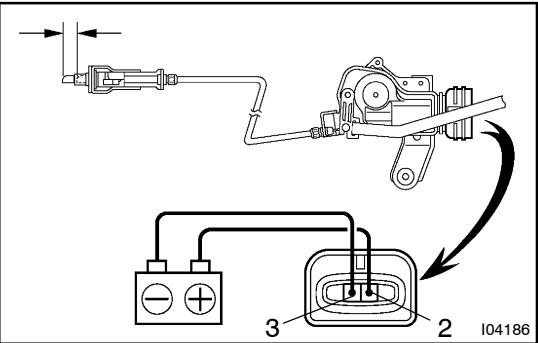


2. **INSPECT FUEL LID OPENER SWITCH CIRCUIT**

Disconnect the connector from the switch and inspect the connector on the wire harness side, as shown.

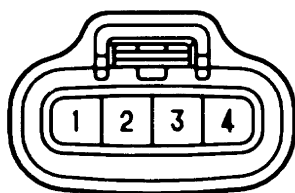
Tester connection	Condition	Specified condition
1 - Ground	Constant	Continuity
2 - Ground	Constant	Battery voltage

If circuit is not as specified, inspect the circuits connected to other parts.



3. **INSPECT FUEL LID OPENER SOLENOID OPERATION**

- (a) Connect the positive (+) lead from the battery to terminal 2 and negative (-) lead to terminal 3.
 - (b) Check that the solenoid operates in the fuel lid opening.
- If operation is not as specified, replace the solenoid.

Wire Harness Side

I04187

4. INSPECT FUEL LID OPENER MOTOR CIRCUIT

Disconnect the connector from the switch and inspect the connector on the wire harness side, as shown.

Tester connection	Condition	Specified condition
3 - Ground	Constant	Continuity
2 - Ground	Fuel lid opener switch ON (Lever pulled)	Battery voltage

If circuit is not as specified, inspect the circuits connected to other parts.

AUDIO SYSTEM DESCRIPTION

BEOGB-02

1. RADIO WAVE BAND

The radio wave bands used in radio broadcasting are as follows:

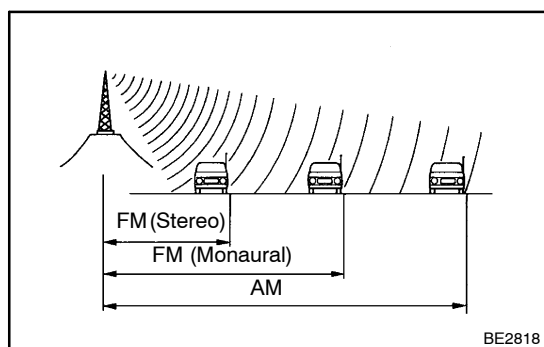
Frequency	30 kHz	300 kHz	3 MHz	30 MHz	300 MHz
Designation		LF	MF	HF	VHF
Radio wave		LW ↔	AM (MW) ↔	SW ↔	FM (UKW) ↔
Modulation		Amplitude modulation			Frequency modulation

LF: Low Frequency

MF: Medium Frequency

HF: High Frequency

VHF: Very High Frequency



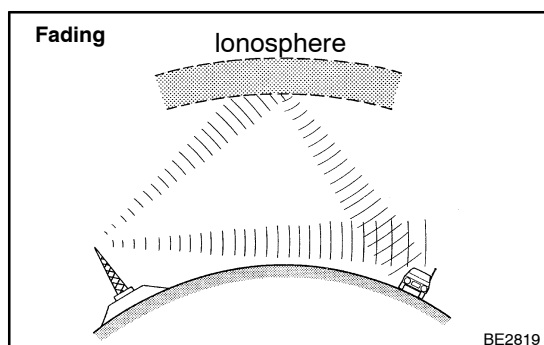
2. SERVICE AREA

There are great differences in the size of the service area for AM and FM monaural. Sometimes FM stereo broadcasts cannot be received even though AM can be received very clearly.

Not only does FM stereo have the smallest service area, but it also picks up static and other types of interference ("noise") easily.

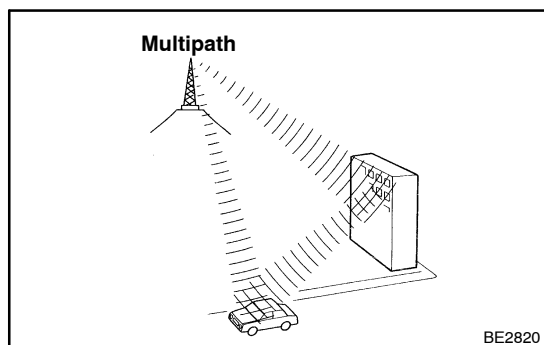
3. RECEPTION PROBLEMS

Besides the problem of static, there are also the problems called "fading", "multipath" and "fade out". These problems are caused not by electrical noise but by the nature of the radio waves themselves.



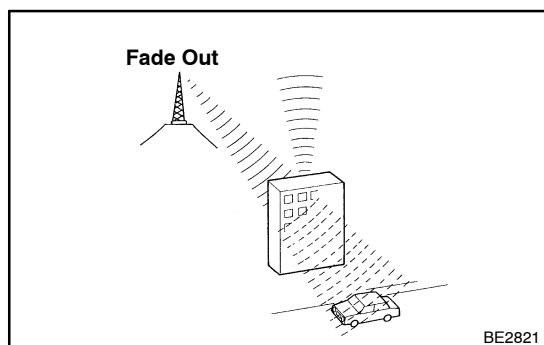
(a) Fading

Besides electrical interference, AM broadcasts are also susceptible to other types of interference, especially at night. This is because AM radio waves bounce off the ionosphere at night. These radio waves then interfere with the signals from the same transmitter that reach the vehicle's antenna directly. This type of interference is called "fading".



(b) Multipath

One type of interference caused by the bounce of radio waves off of obstructions is called "multipath". Multipath occurs when a signal from the broadcast transmitter antenna bounces off buildings and mountains and interferes with the signal that is received directly.



(c) Fade Out

Because FM radio waves are of higher frequencies than AM radio waves, they bounce off buildings, mountains, and other obstructions. For this reason, FM signals often seem to gradually disappear or fade away as the vehicle goes behind a building or other obstruction. This is called "fade out".

4. NOISE PROBLEMS

(a) Questionnaire for noise:

It is very important for noise troubleshooting to have good understanding of the claims from the customers, so make the best use of following questionnaire and diagnose the problem accurately.

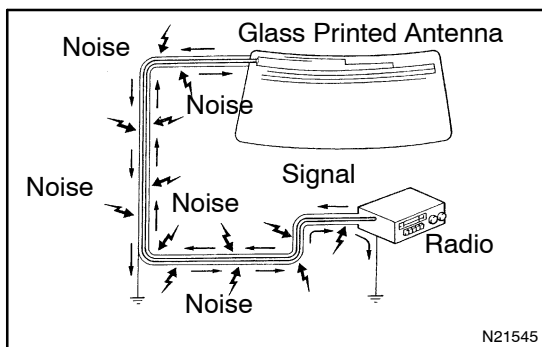
AM	Noise occurs at a specific place.	Strong possibility of foreign noise.
	Noise occurs when listening to faint broadcasting.	There is a case that the same program is broadcasted from each local station and that may be the case you are listening different station if the program is the same.
	Noise occurs only at night.	Strong possibility of the beat from a distant broadcasting.
FM	Noise occurs while driving and at a specific place.	Strong possibility of multipath noise and fading noise caused by the changes of FM waves.

HINT:

In the case that the noise occurrence condition does not meet any of the above questionnaire, check based on the "Reception problems".

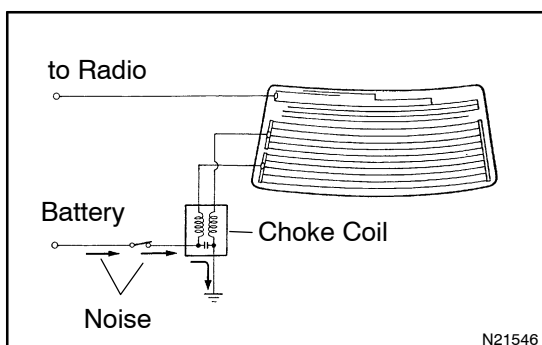
Refer to above descriptions for multipath and fading.

- (b) Matters that require attention when checking:
- Noise coming into the radio usually has no harm for practical use as the noise protection is taken and it is hardly thinkable for an extremely loud noise to come in. When extremely loud noise comes into the radio, check if the grounding is normal where the antenna is installed.
 - Check if all the regular noise prevention parts are properly installed and if there is any installation of non-authorized parts and non-authorized wiring.
 - If you leave the radio under out of tune (not tuning), it is easy to diagnose the phenomenon as noise occurs frequently.

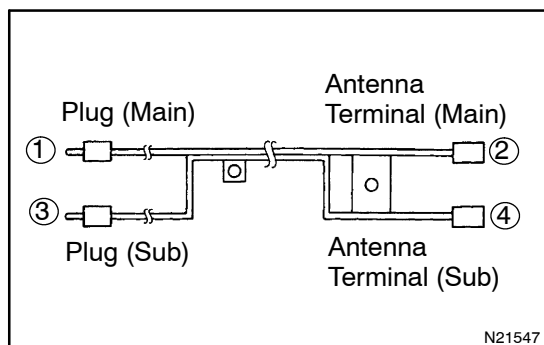


- (c) Antenna and noise:
Electronic signal received by the antenna will reach to the radio transmitting through the core wire of the coaxial cable. Any noise wave other than radio wave is mixed into this core wire, that naturally causes noise in the radio and poor sound quality. In order to prevent these noises from mixing into the radio, the core wire inside the coaxial cable is covered with a mesh wire called shield wire. This shield wire shelters the noise and transmits it to the ground, thus preventing noise from mixing in.

If this shield wire has grounding failure, that causes noise.



- (d) Choke coil and noise:
The choke coil is connected in the rear window defogger circuit. This is connected so to prevent noise from mixing into the radio by making the noise current included in the power source of the rear window defogger flow to the ground.



(e) Antenna code continuity check and grounding point:

HINT:

During troubleshooting, in case that the antenna code continuity check, grounding check and grounding check of the choke coil are needed.

Terminal connection	Normal condition
(1) ↔ (2)	Continuity
(3) ↔ (4)	No continuity

5. COMPACT DISC PLAYER

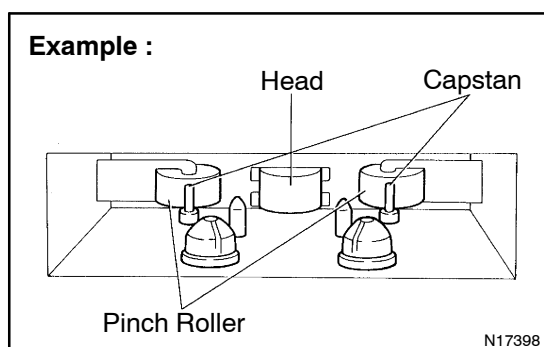
Compact Disc (hereafter called "CD") Players use a laser beam pick-up to read the digital signals recorded on the CD and reproduce analog signals of the music, etc. There are 4.7 in. (12 cm) and 3.2 in. (8 cm) discs in the CD player.

HINT:

Never attempt to disassemble or oil any part of the player unit. Do not insert any object other than a disc into the magazine.

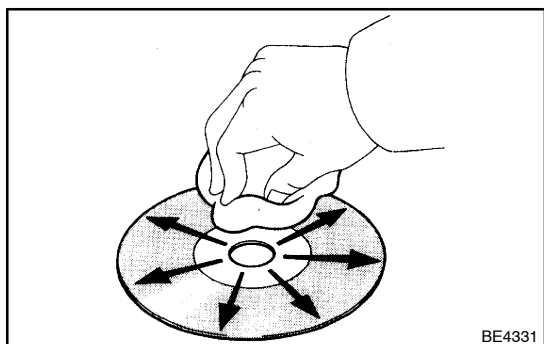
NOTICE:

CD players use an invisible laser beam which could cause hazardous radiation exposure. Be sure to operate the player correctly as instructed.



6. Tape Player/Head Cleaning: MAINTENANCE

- (a) Raise the cassette door with your finger. Next, using a pencil or similar object, push in the guide.
- (b) Using a cleaning pen or cotton applicator soaked in cleaner, clean the head surface, pinch rollers and capstans.



7. CD Player/Disc Cleaning: MAINTENANCE

If the disc gets dirty, clean the disc by wiping the surface from the center to outside in the radial directions with a soft cloth.

NOTICE:

Do not use a conventional record cleaner or anti-static preservative.

TROUBLESHOOTING

NOTICE:

When replacing the internal mechanism (computer part) of the audio system, be careful that no part of your body or clothing comes in contact with the terminals of the leads from the IC, etc. of the replacement part (spare part).

HINT:

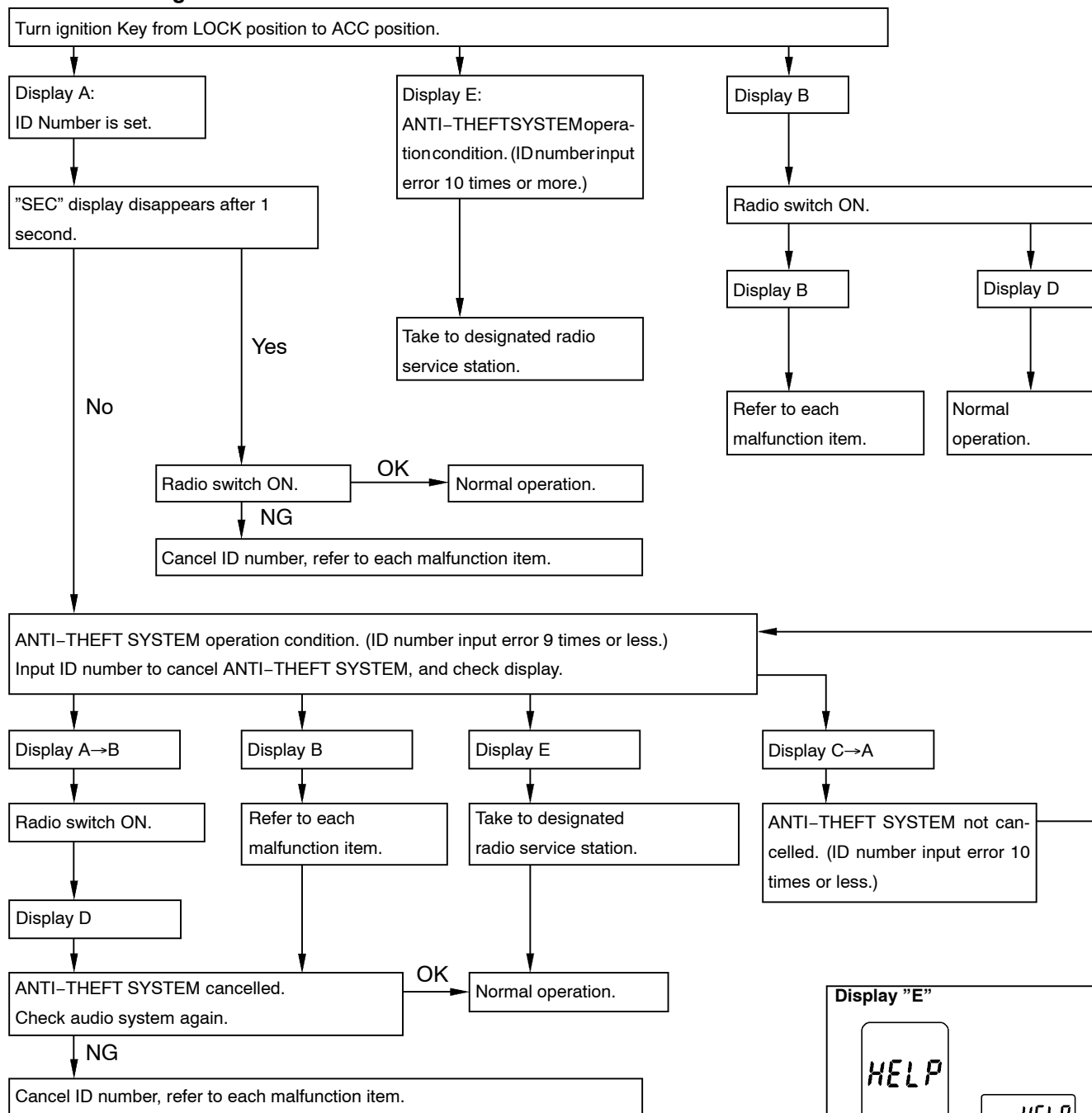
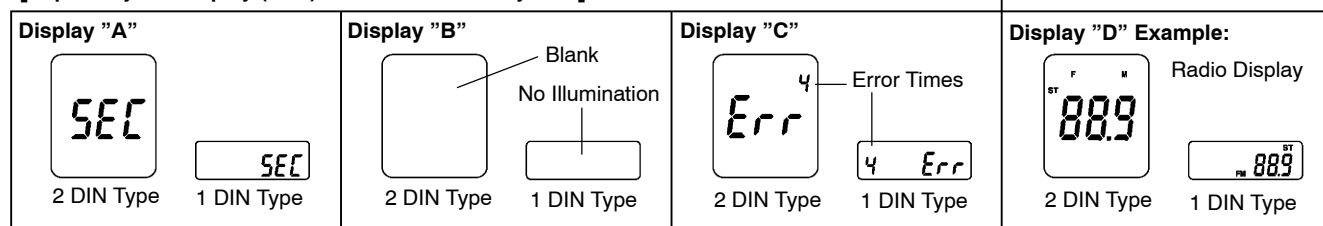
This inspection procedure is a simple troubleshooting which should be carried out on the vehicle during system operation and was prepared on the assumption of system component troubles (except for the wires and connectors, etc.).

Always inspect the trouble taking the following items into consideration.

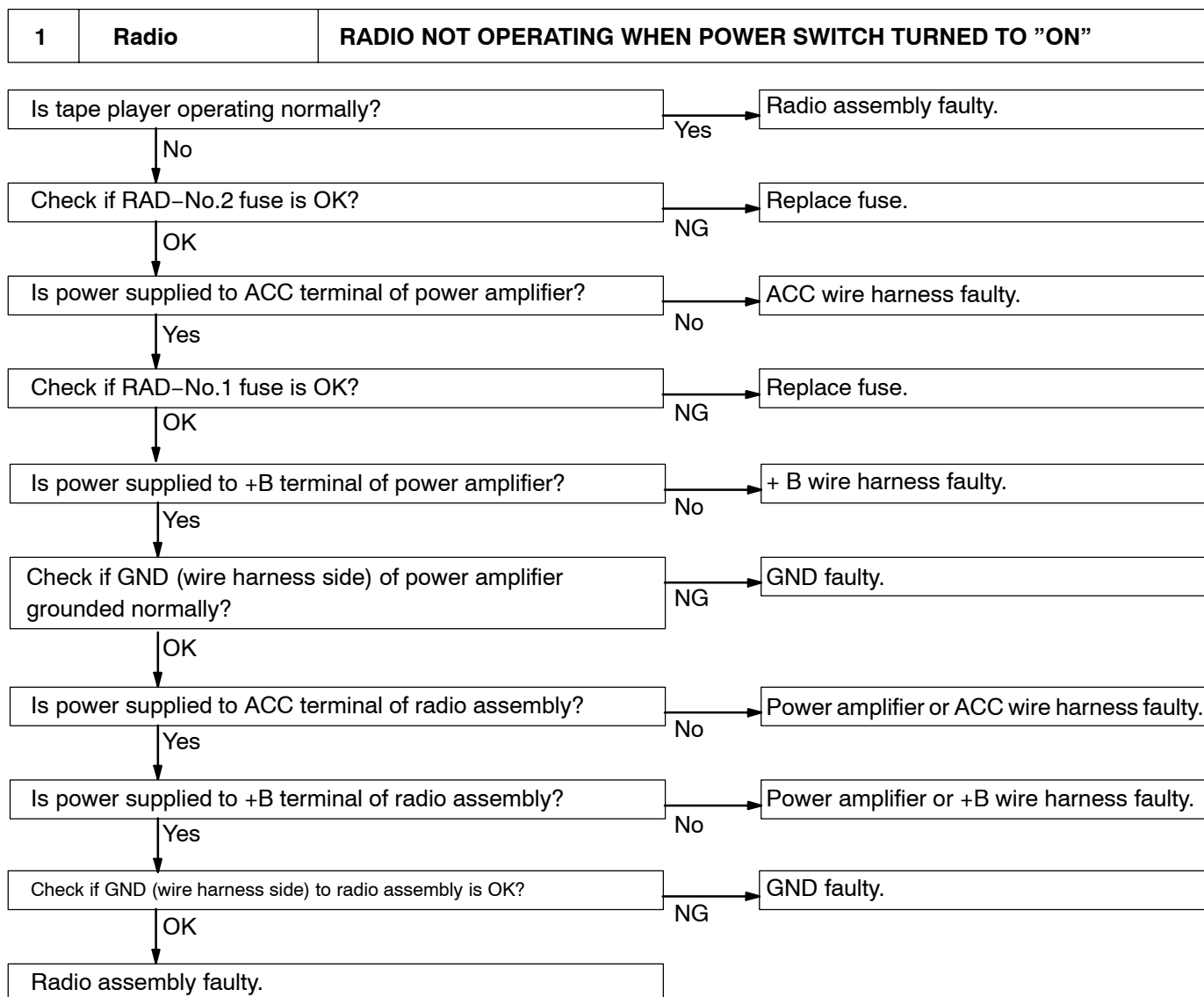
- Open or short circuit of the wire harness
- Connector or terminal connection fault
- For audio systems with anti-theft system, troubleshooting items marked (*) indicate that "Troubleshooting for ANTI-THEFT SYSTEM" should be carried out first.

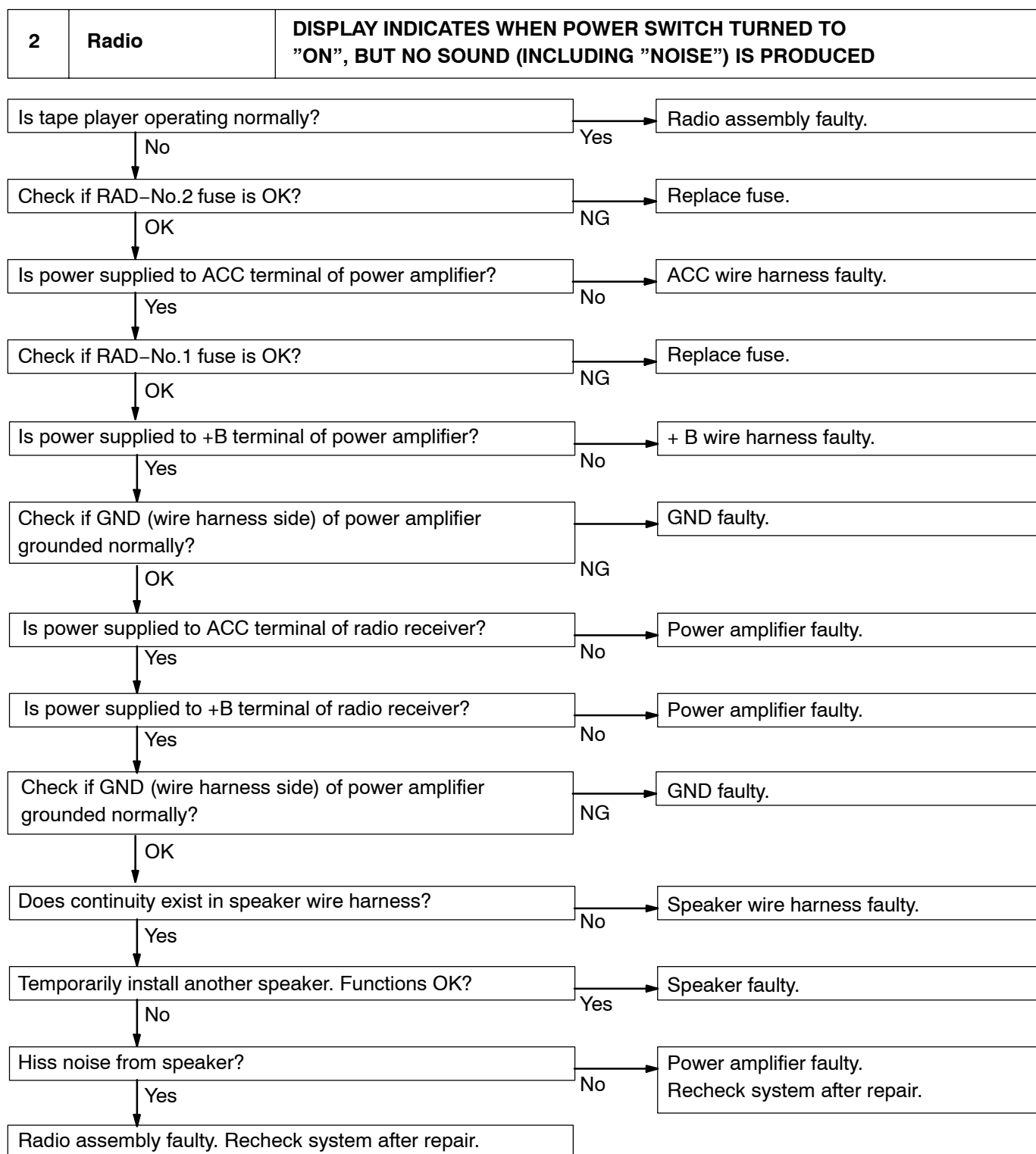
	Problem	No.
Radio	Radio not operating when power switch turned to 'ON'.	1
	Display indicates when power switch turned to 'ON', but no sound (including 'noise') is produced.	2
	Noise present, but AM – FM not operating.	3
	Any speaker does not work.	4
	Any AM or FM does not work.	5
	Few preset turning bands.	5
	Reception poor.	6
	Sound quality poor.	7
Tape Player	Preset memory disappears.	8
	Cassette tape cannot be inserted.	9
	Cassette tape inserted, but no power.	10
	Power coming in, but tape player not operating.	11
	Any speaker does not work.	12
	Sound quality poor.	13
	Tape jammed, malfunction with tape speed or auto-reverse.	14
	Cassette tape will not eject.	15
CD Player	CD cannot be inserted.	16
	CD inserted, but no power.	17
	Power coming in, but CD player not operating.	18
	Sound jumps.	19
	Sound quality poor (Volume faint).	20
	Any speaker does not work.	21
	CD will not be ejected.	22
Power Amplifier	No power coming in.	23
	Power coming in, but power amplifier not operating.	24
	Any speaker does not work.	25
Noise	Noise occurs	26
	Noise produced by vibration or shock while driving.	27
	Noise produced when engine starts.	28

The term "AM" includes LW,MW and SW, and the term "FW" includes UKW.

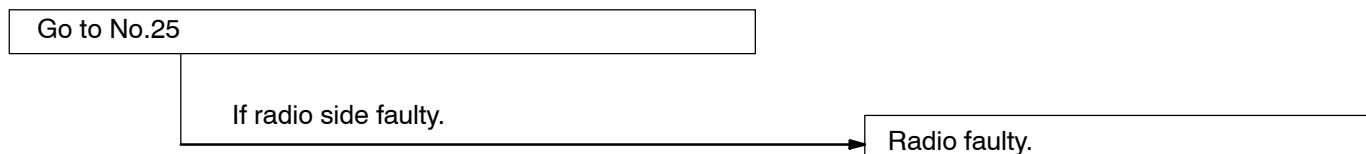
Troubleshooting for ANTI-THEFT SYSTEM**[Liquid Crystal Display (LCD) or VFD for Audio System]****HINT:**

- Refer to Owner's Manual for operation details of ANTI-THEFT SYSTEM.
- When the ID number has been cancelled, reset the same number after completing the operation, or inform the customer that it has been cancelled.

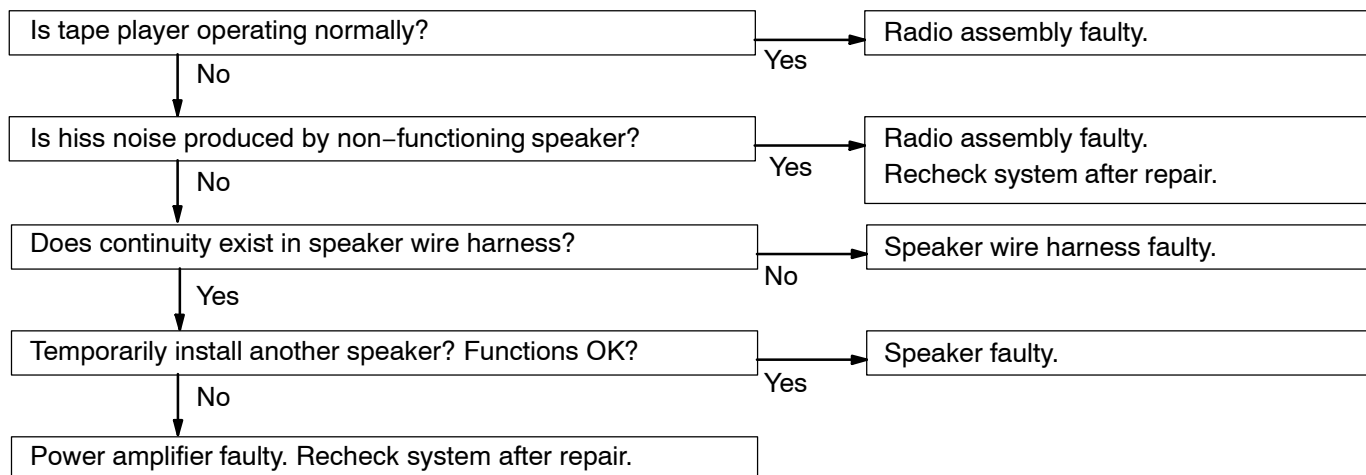


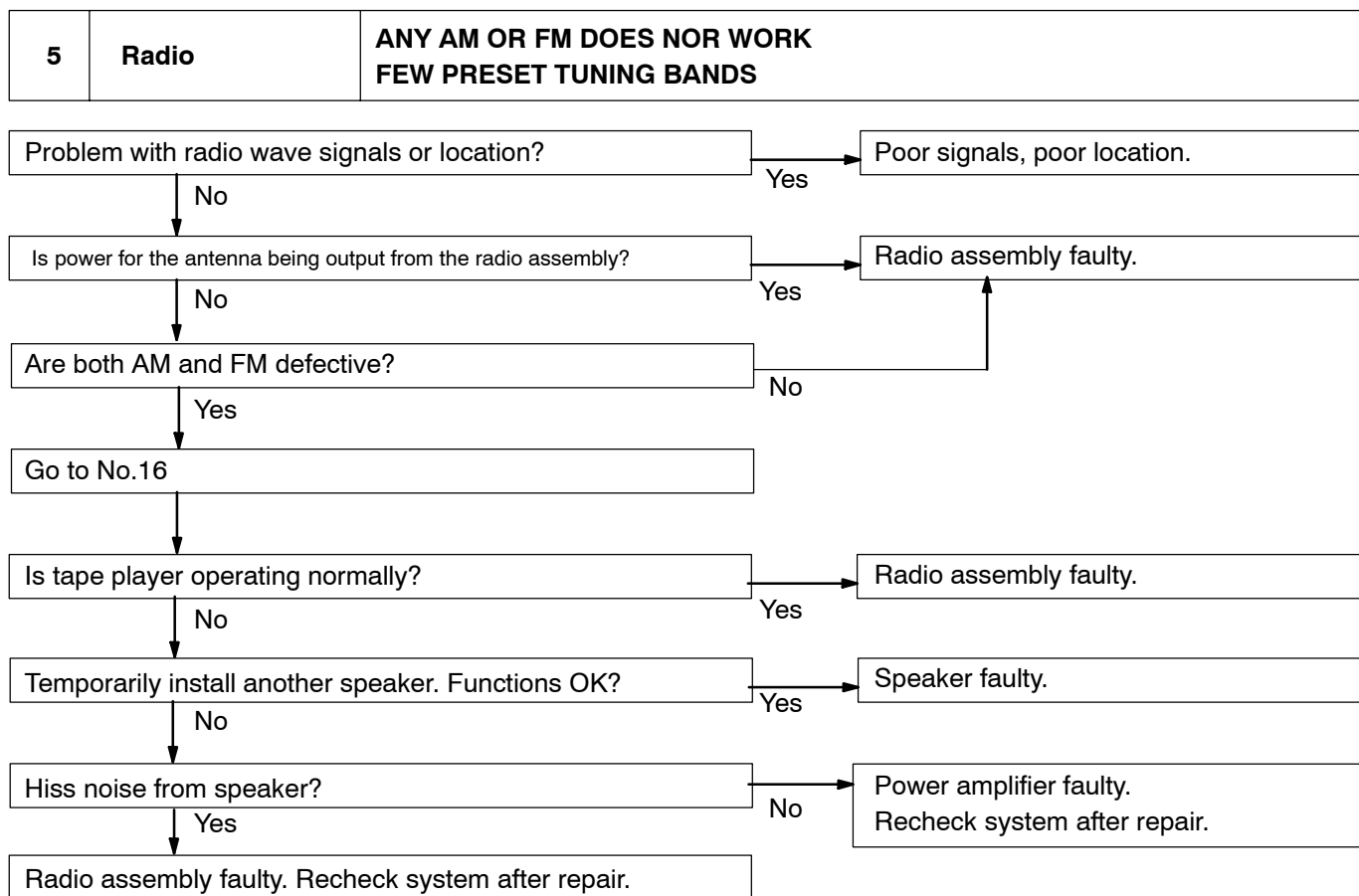


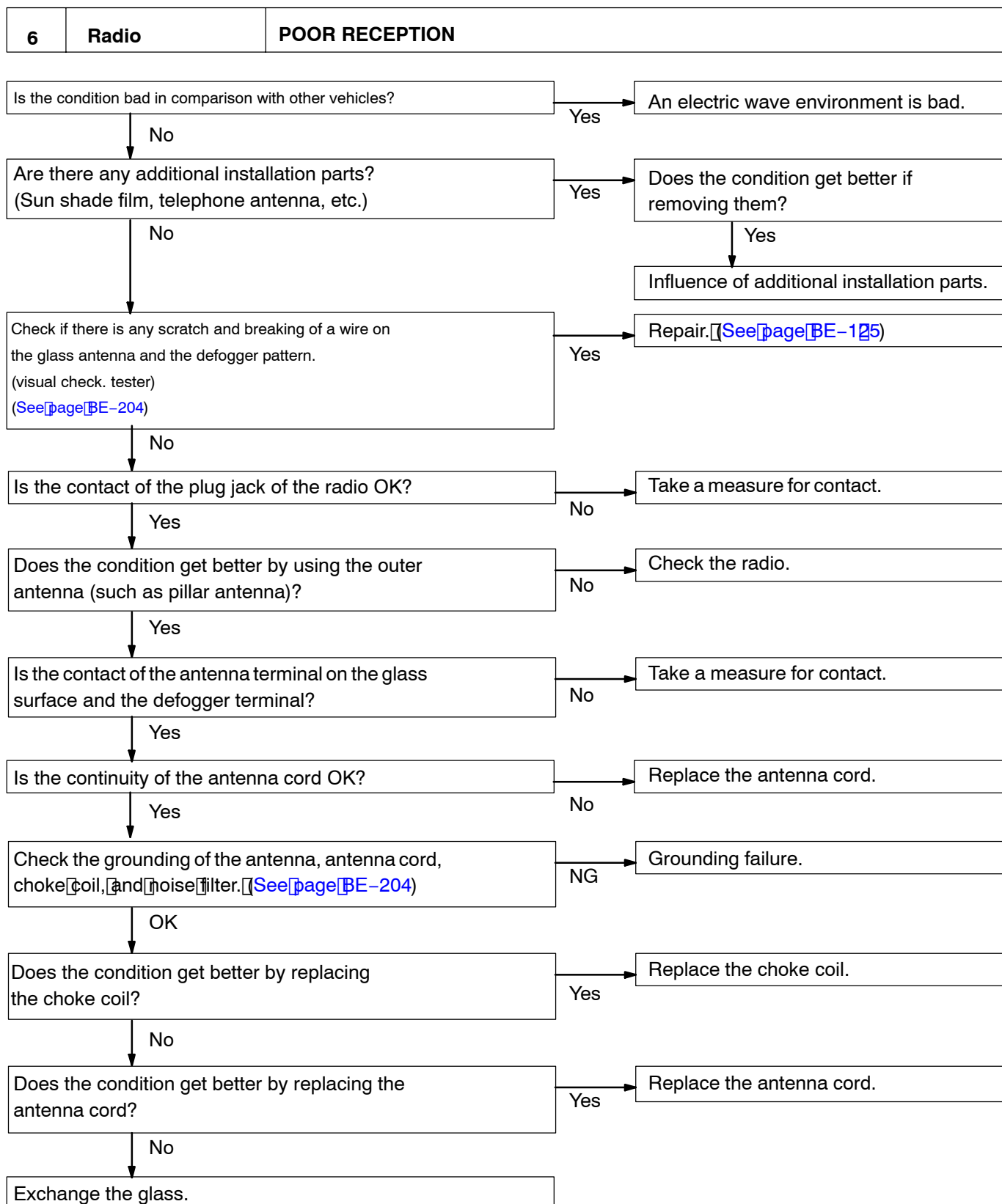
3	Radio	NOISE PRESENT, BUT AM-FM NOT OPERATING
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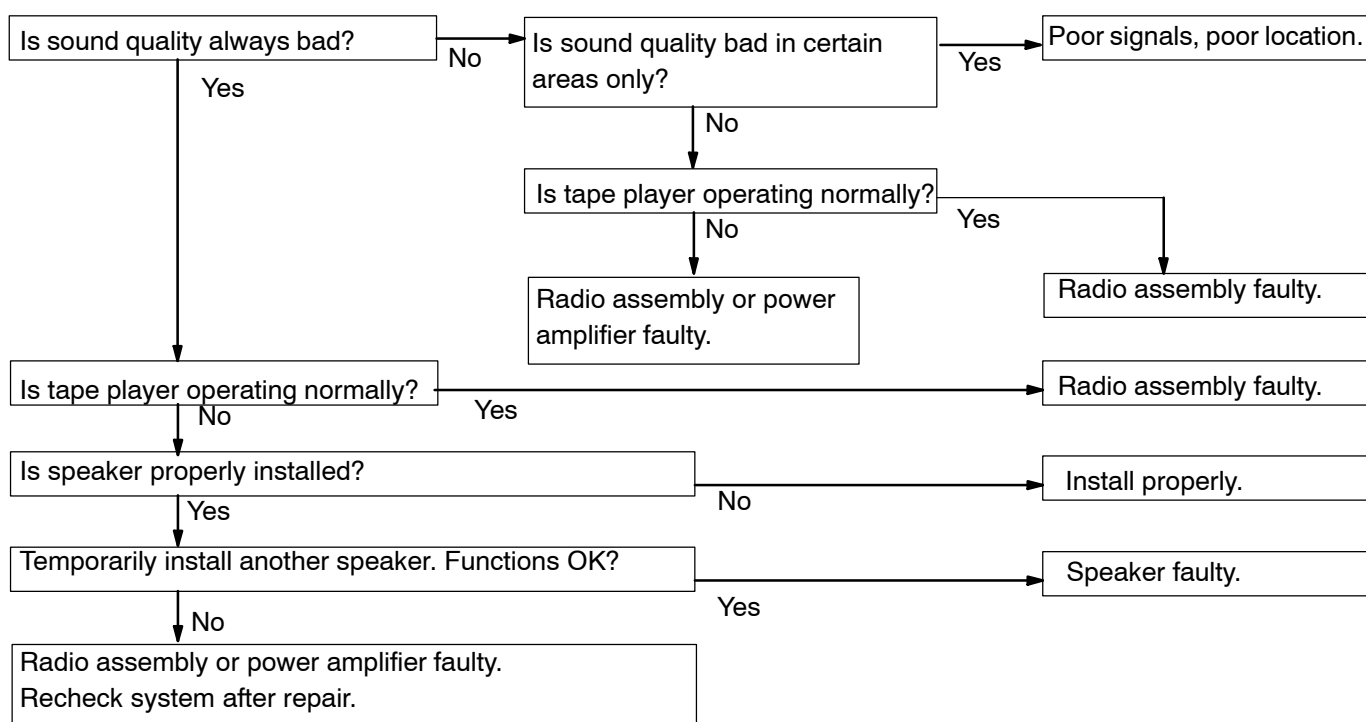
4	Radio	ANY SPEAKER DOSE NOT WORK
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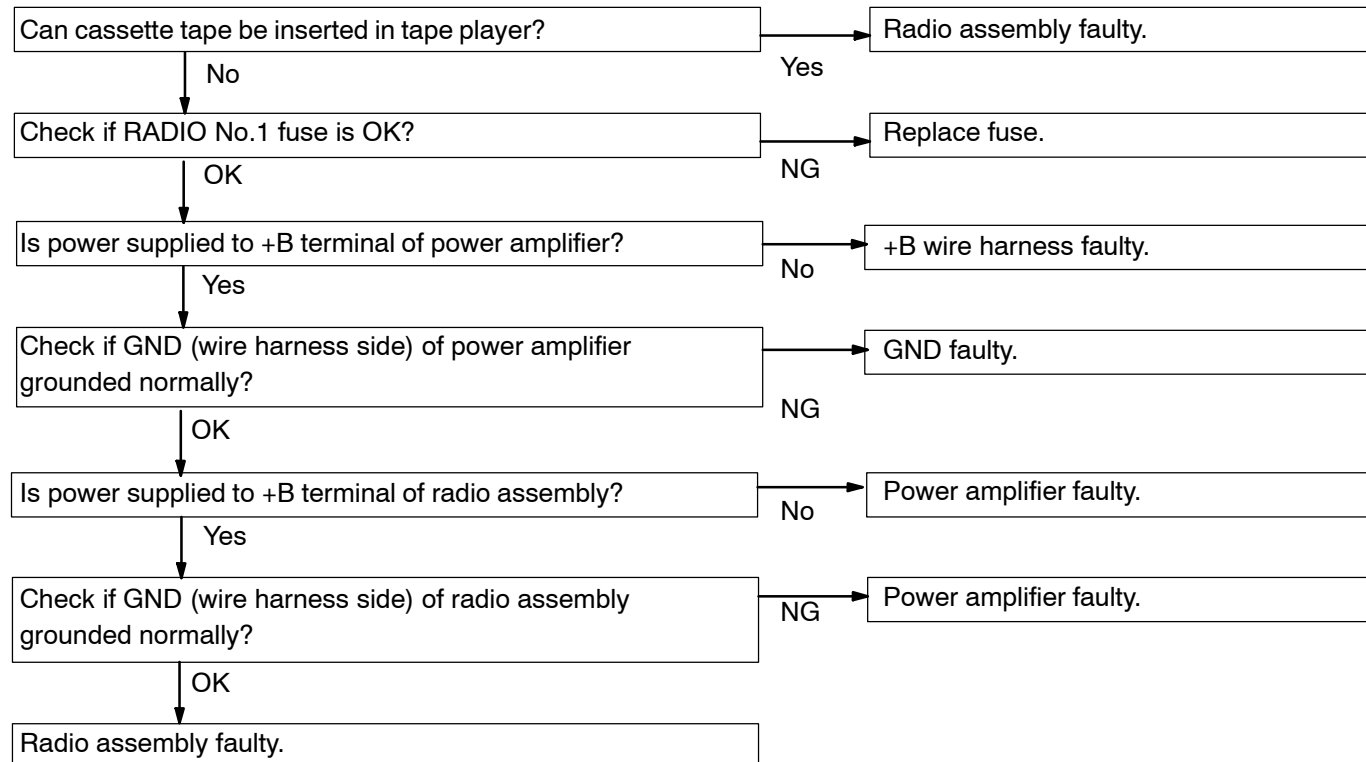




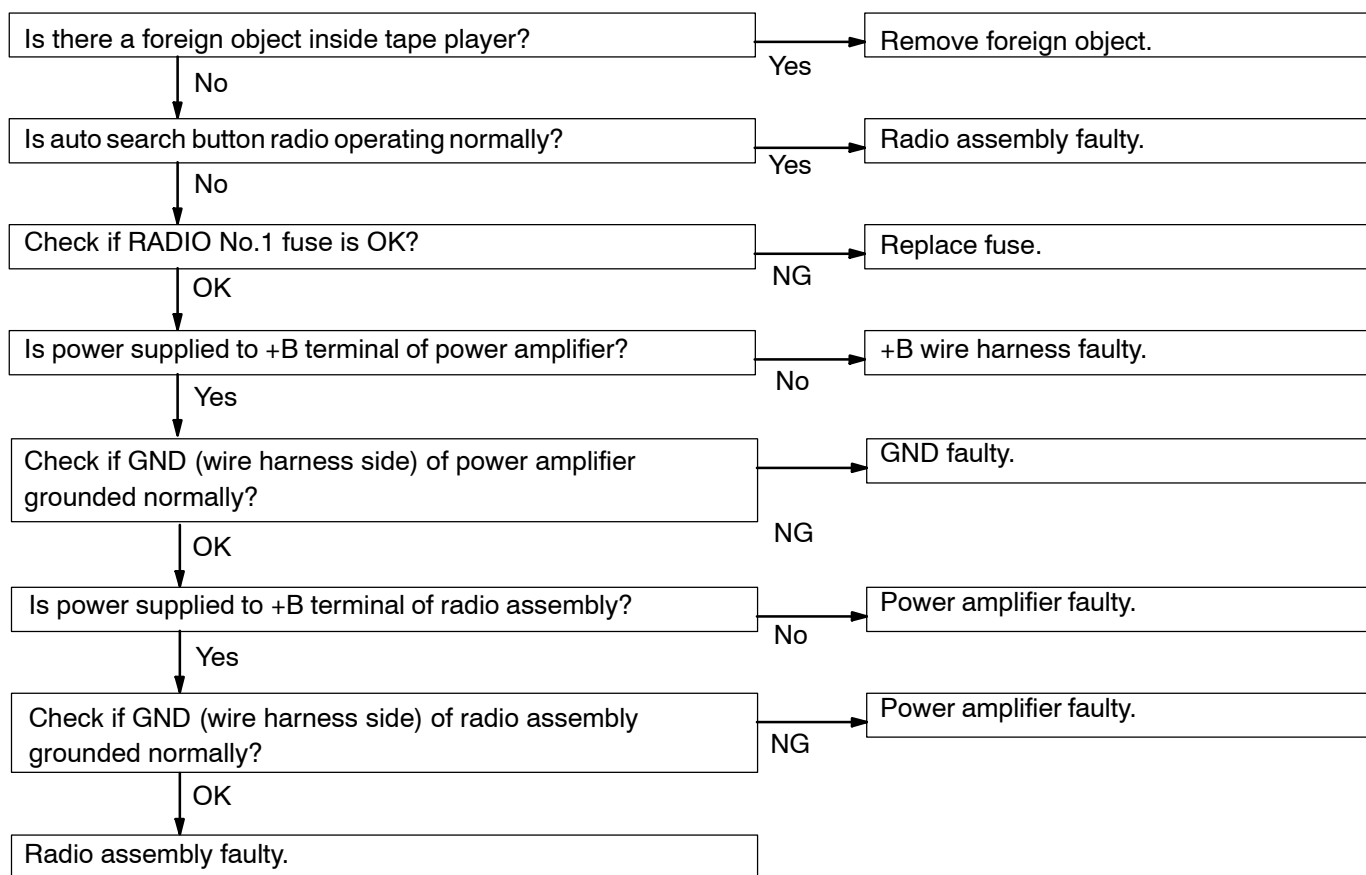
7	Radio	SOUND QUALITY POOR
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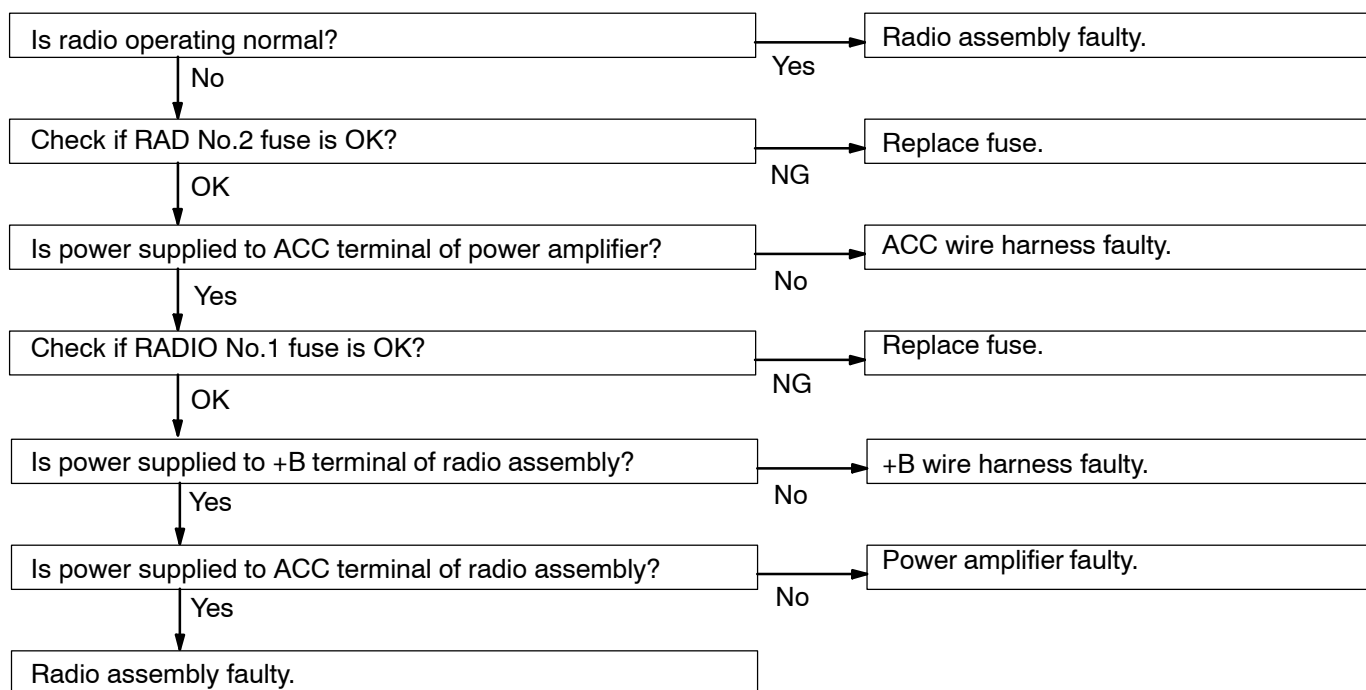
8	Radio	PRESET MEMORY DISAPPEARS
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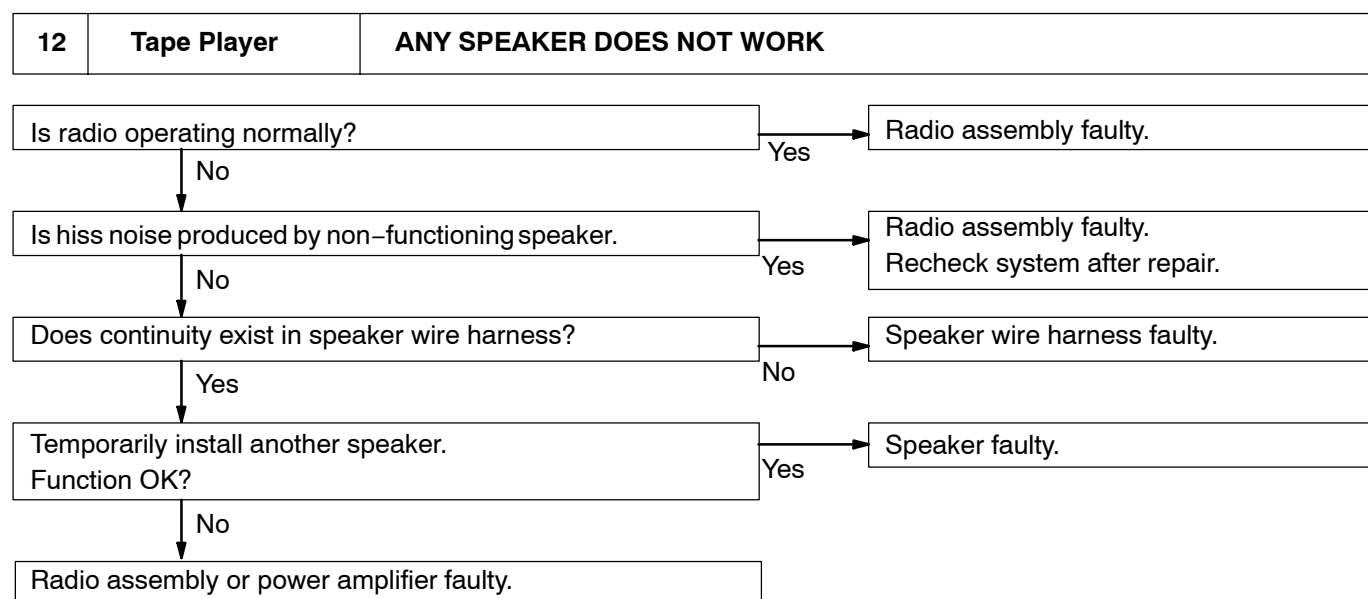
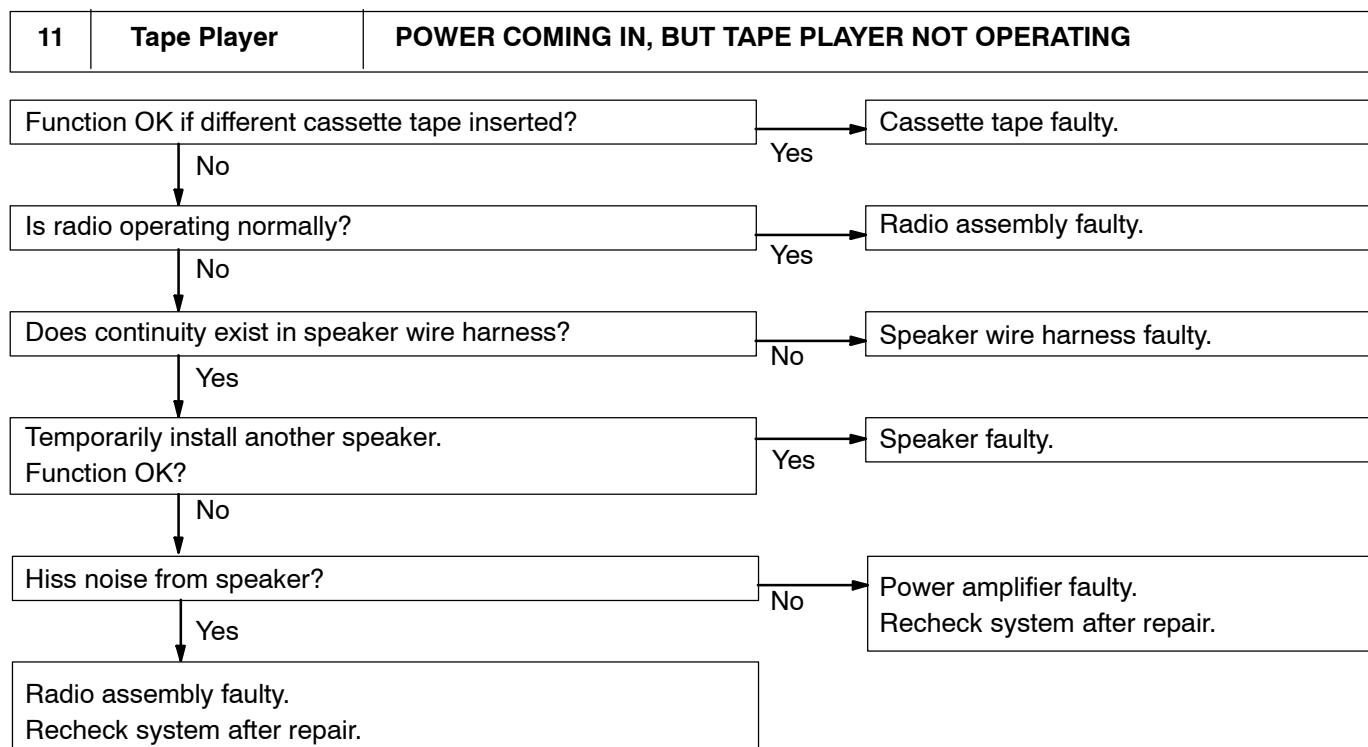


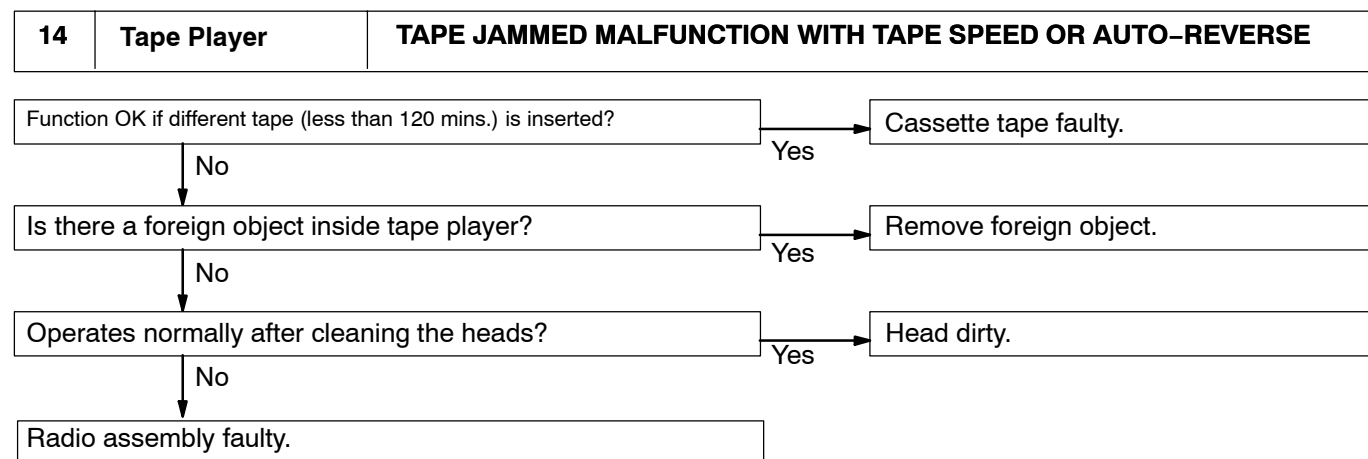
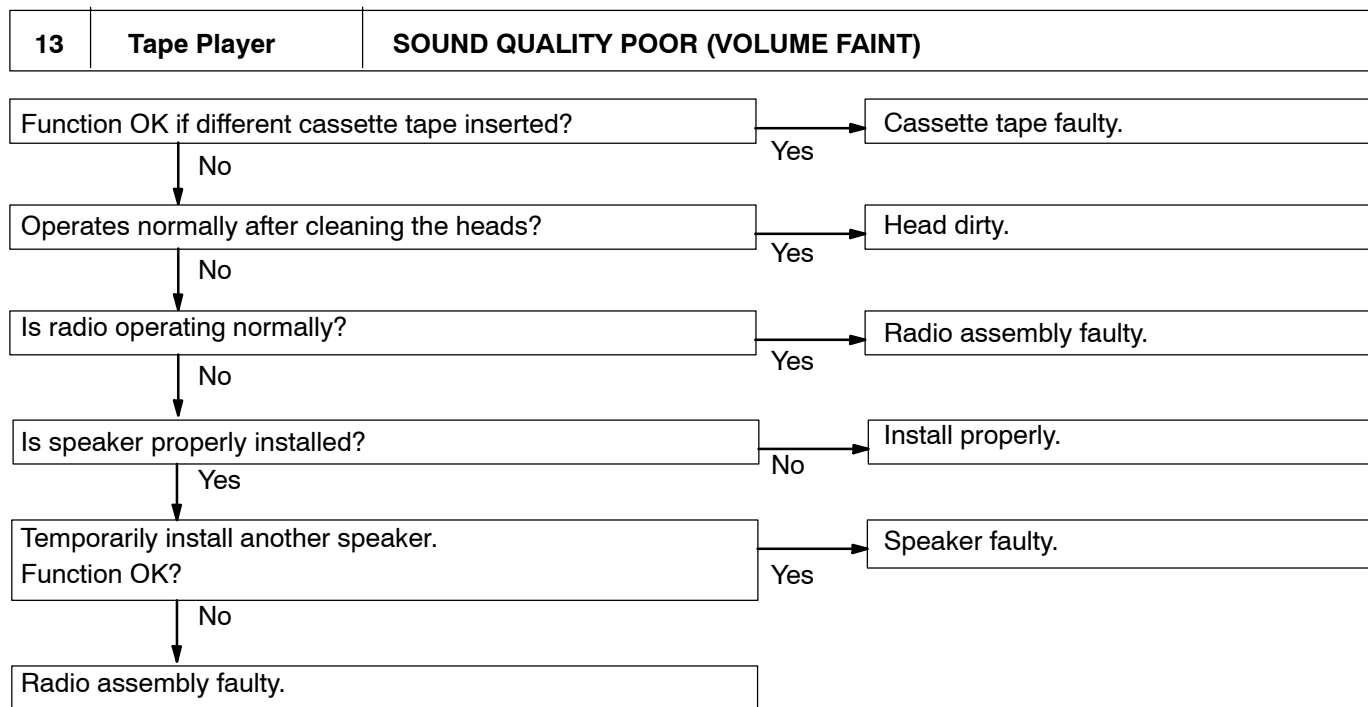
9	Tape Player	CASSETTE TAPE CANNOT BE INSERTED
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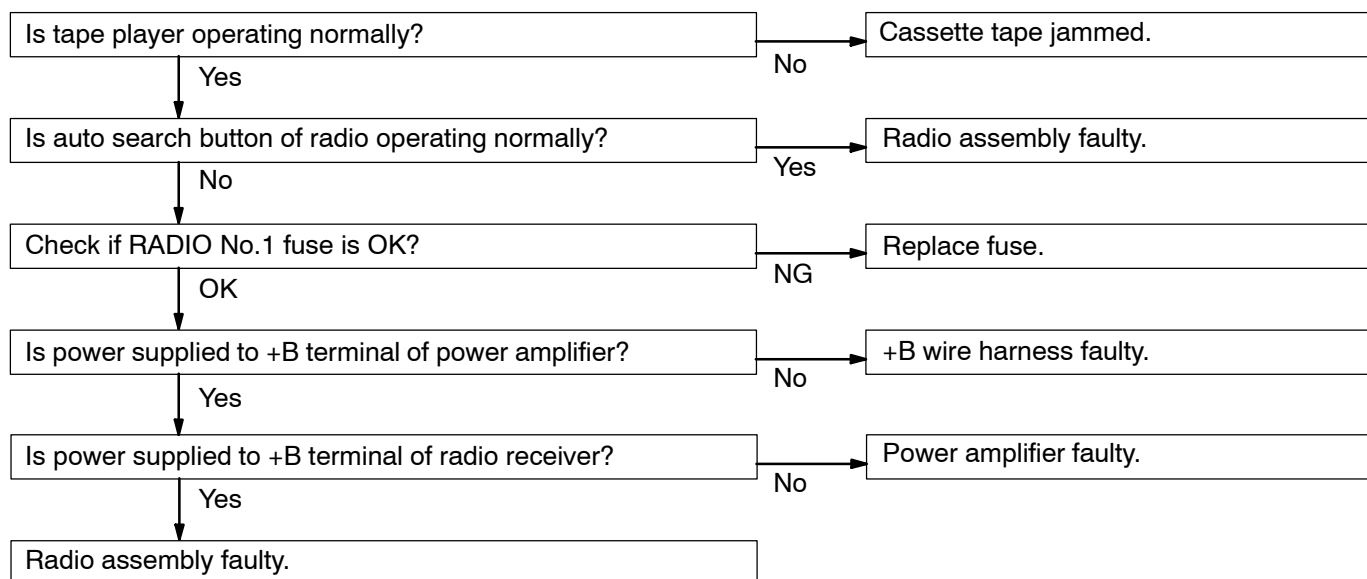
10	Tape Player	CASSETTE TAPE INSERTED, BUT NO POWER
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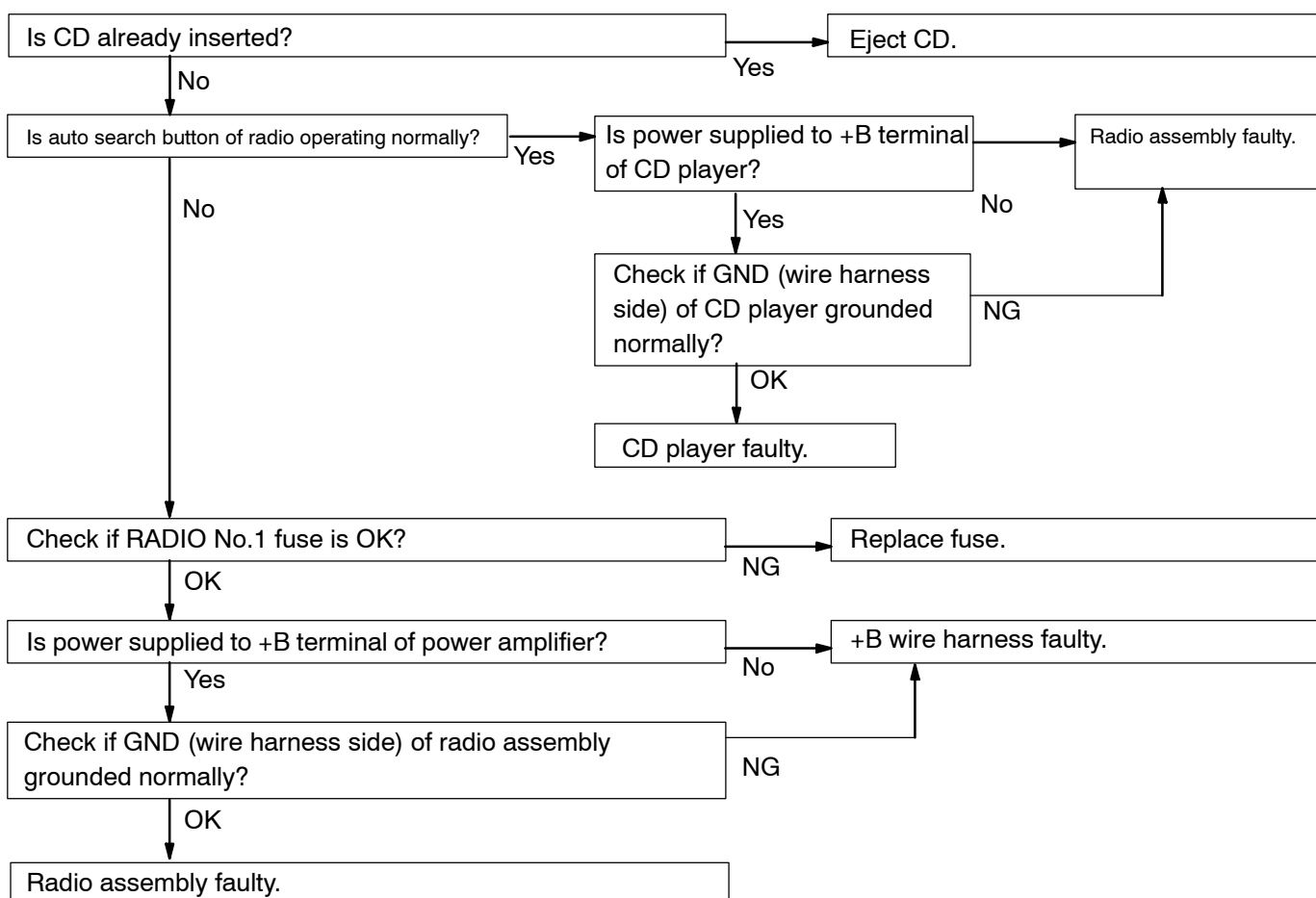




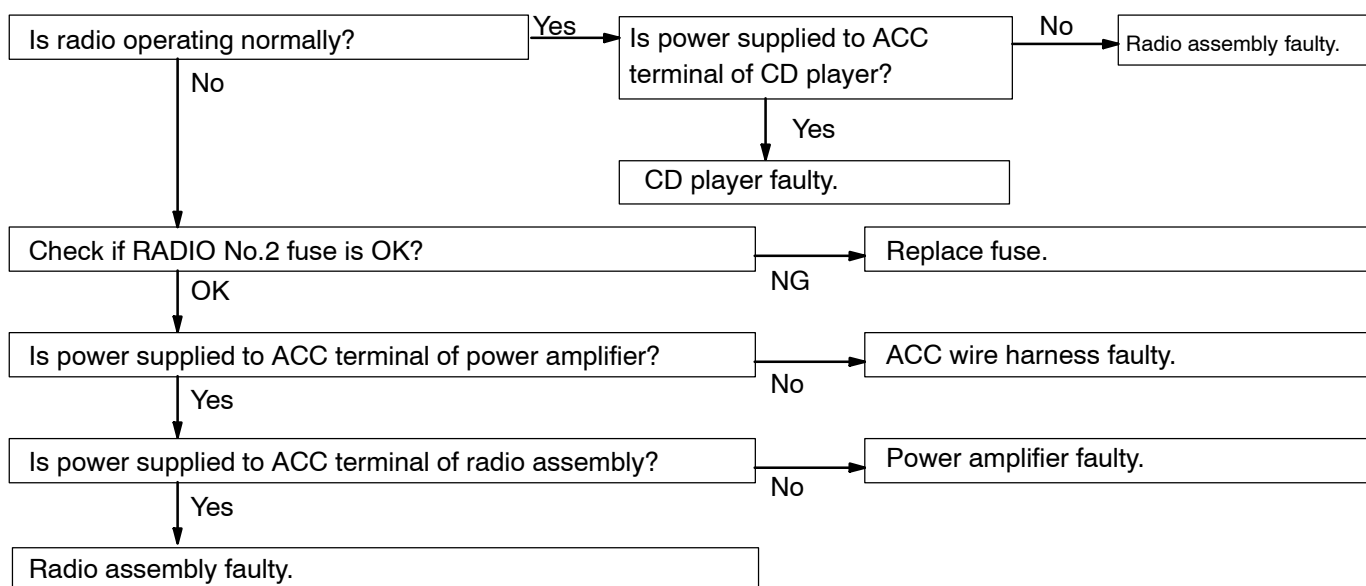
15	Tape Player	CASSETTE TAPE WILL NOT BE EJECTED
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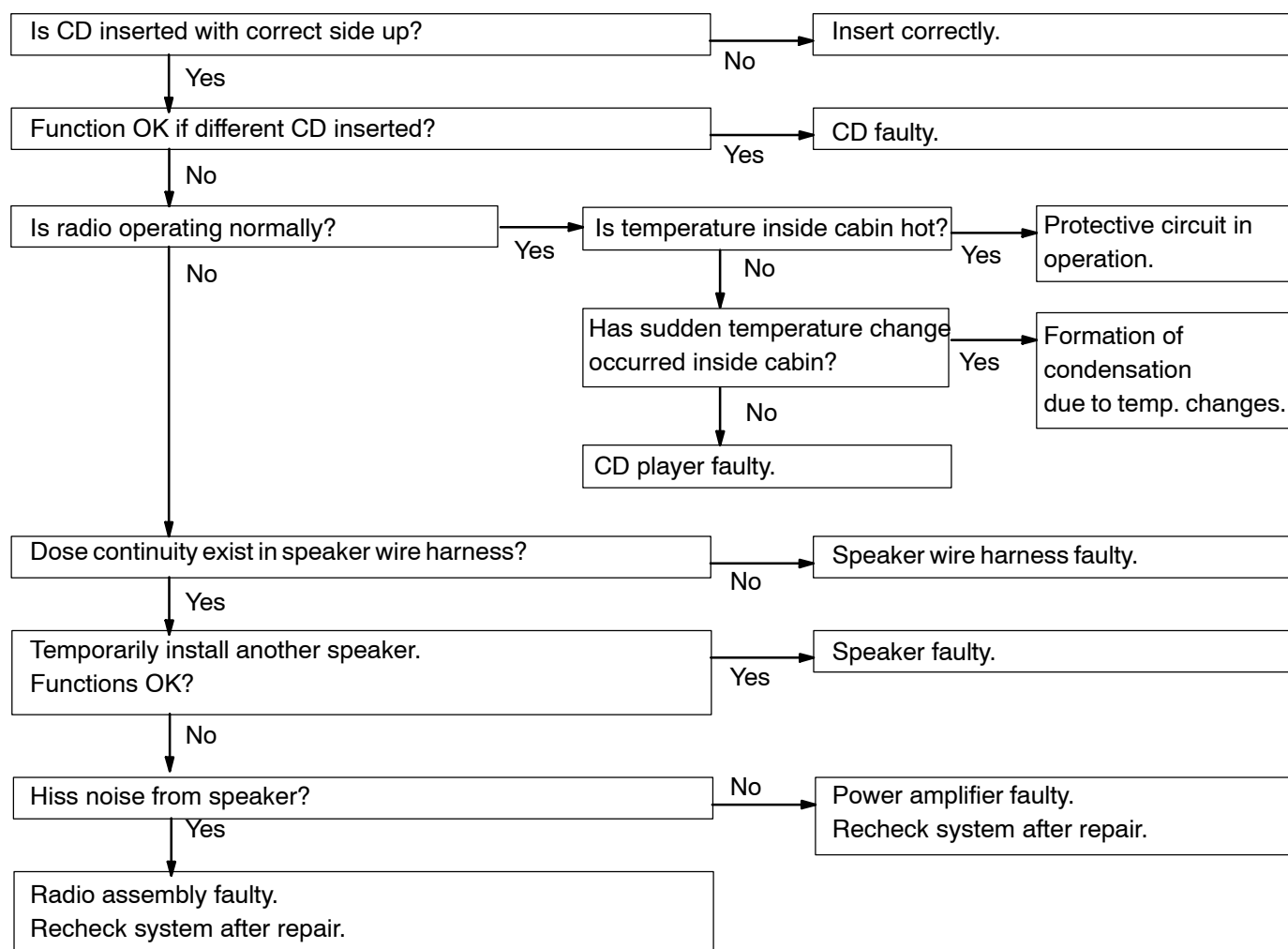
16	CD Player	CD CANNOT BE INSERTED
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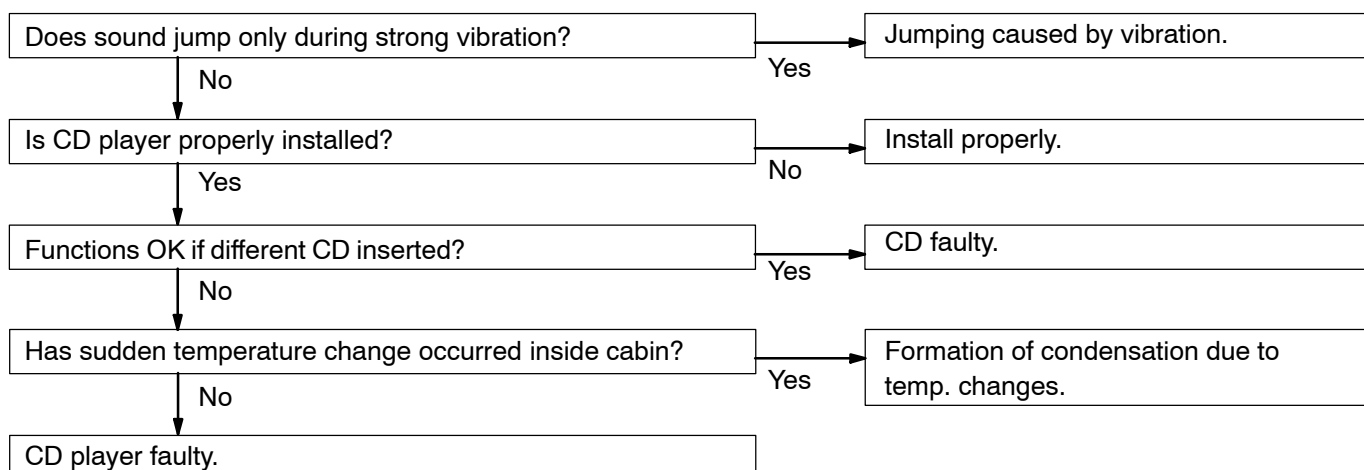
17	CD Player	CD INSERTED, BUT NO POWER
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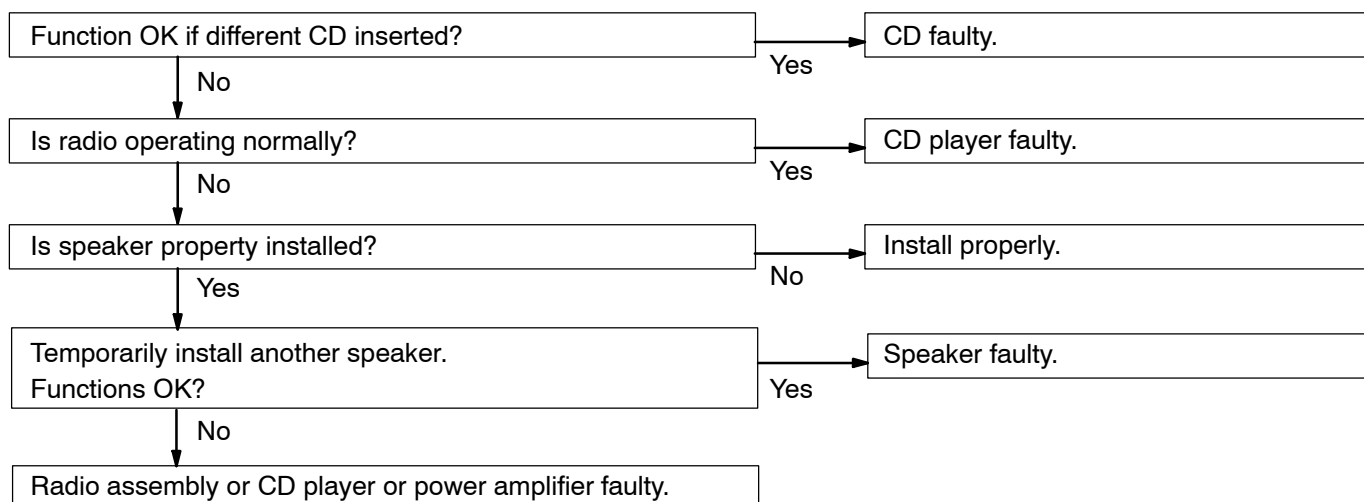
18	CD Player	POWER COMING IN, BUT CD PLAYER NOT OPERATING
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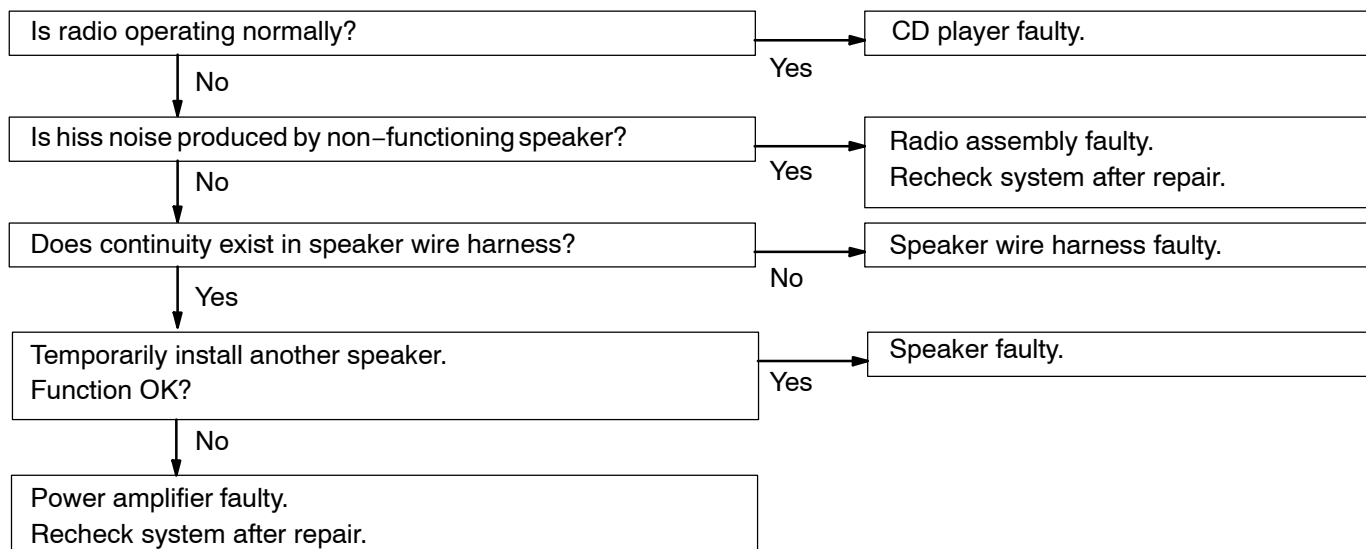
19	CD Player	SOUND JUMPS
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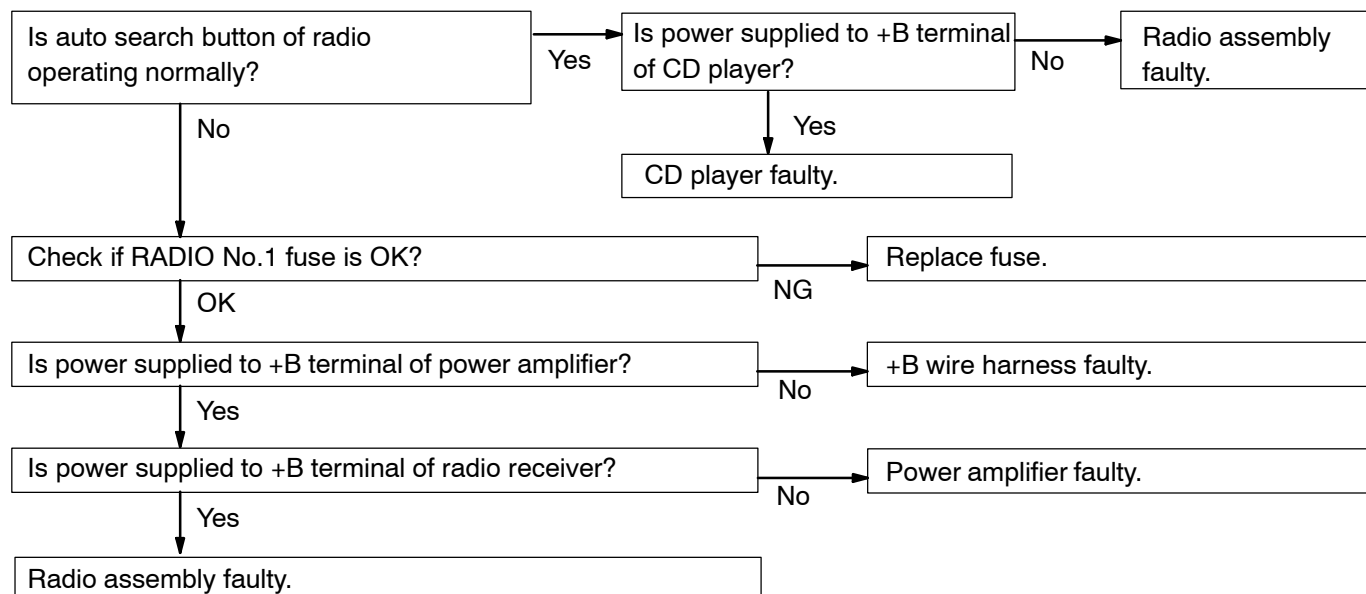
20	CD Player	SOUND QUALITY POOR (VOLUME FAINT)
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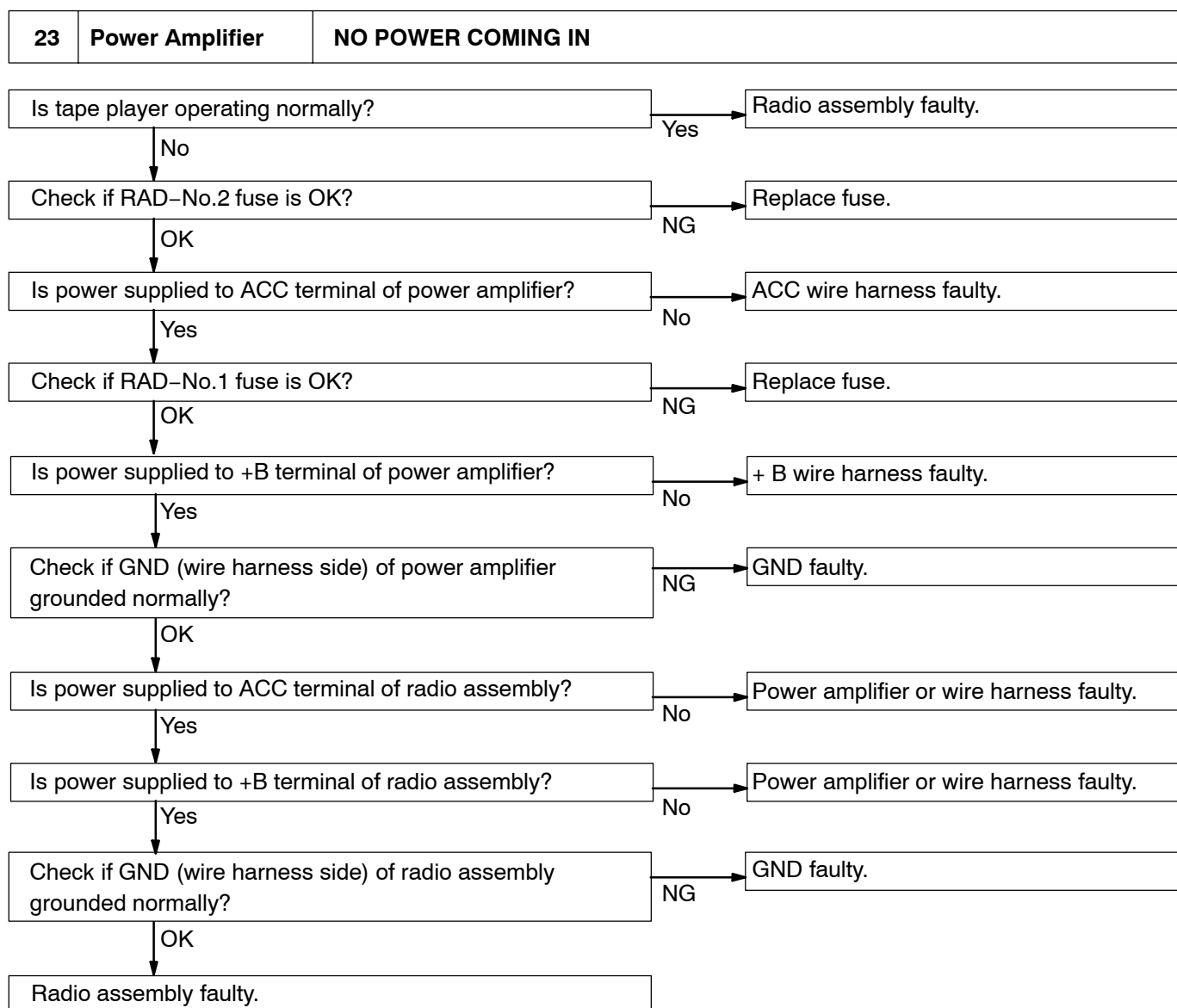


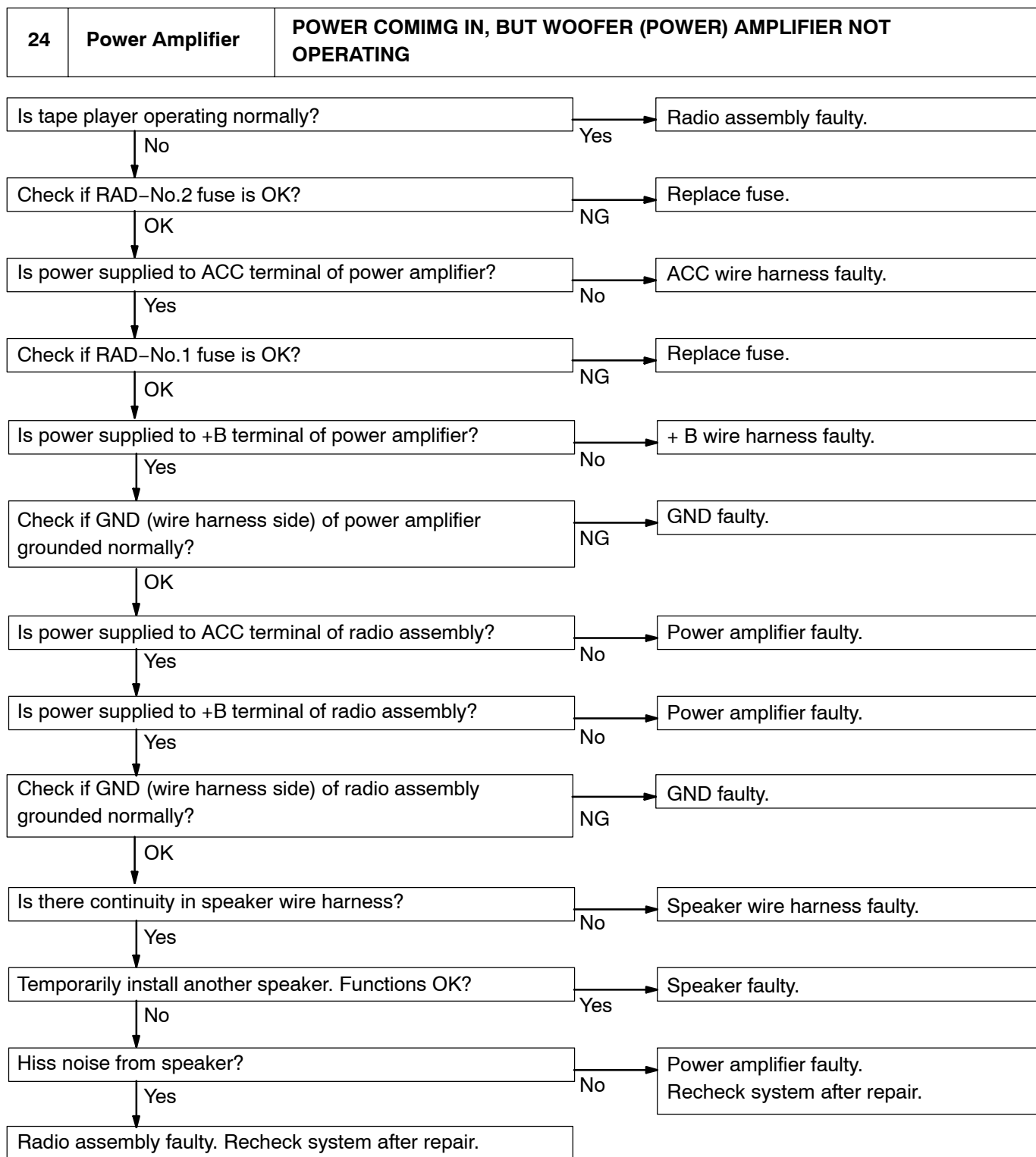
21	CD Player	ANY SPEAKER DOES NOT WORK
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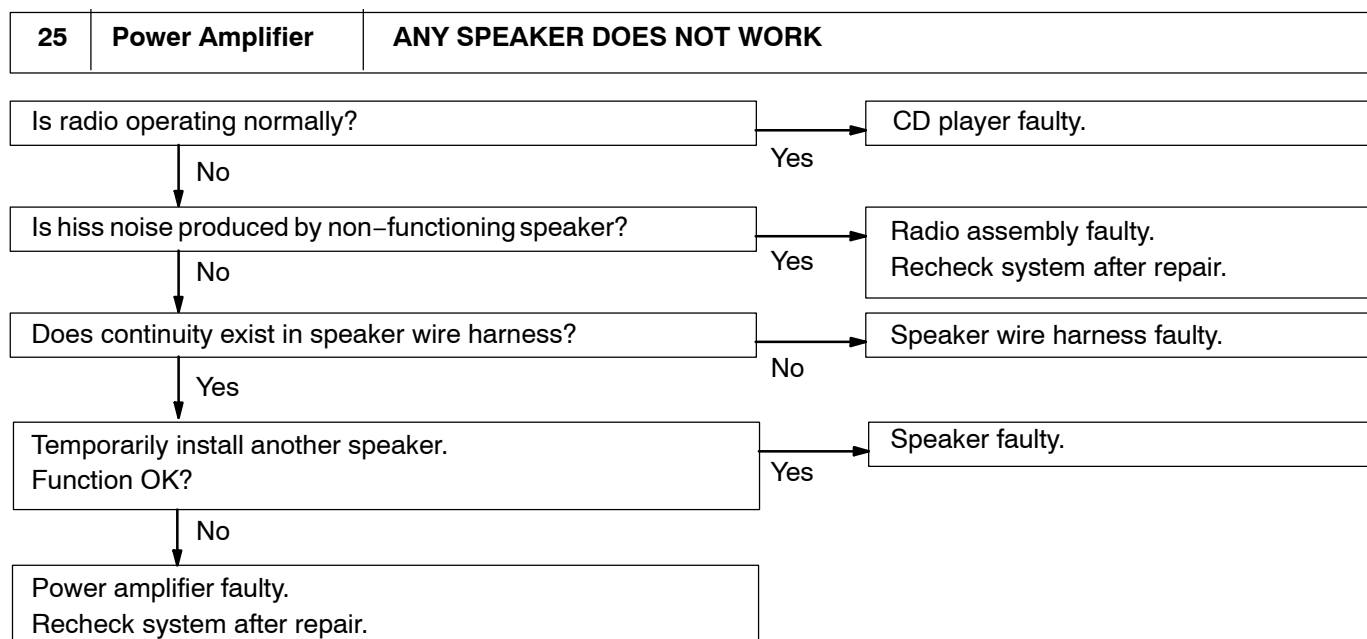


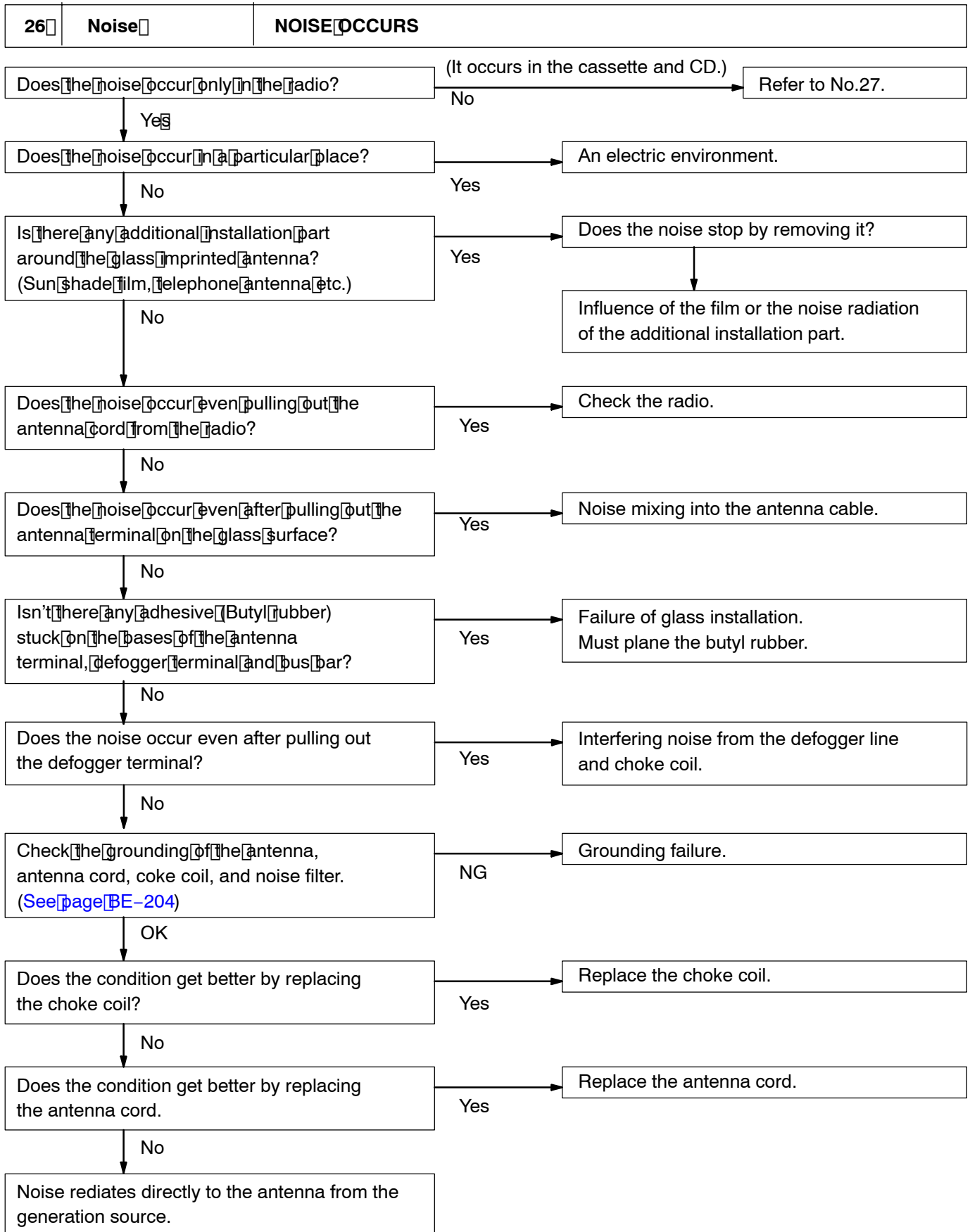
22	CD Player	CD WILL NOT BE EJECTED
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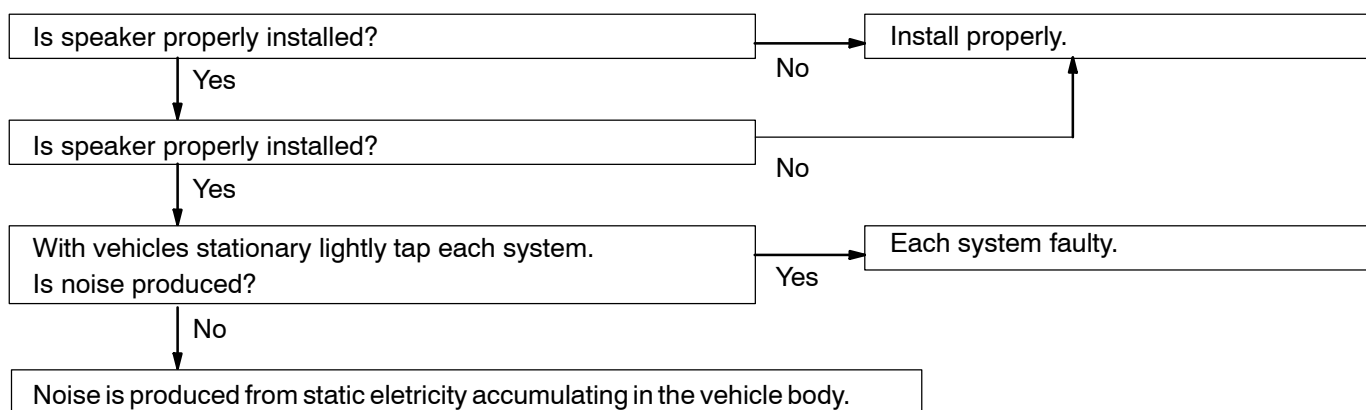




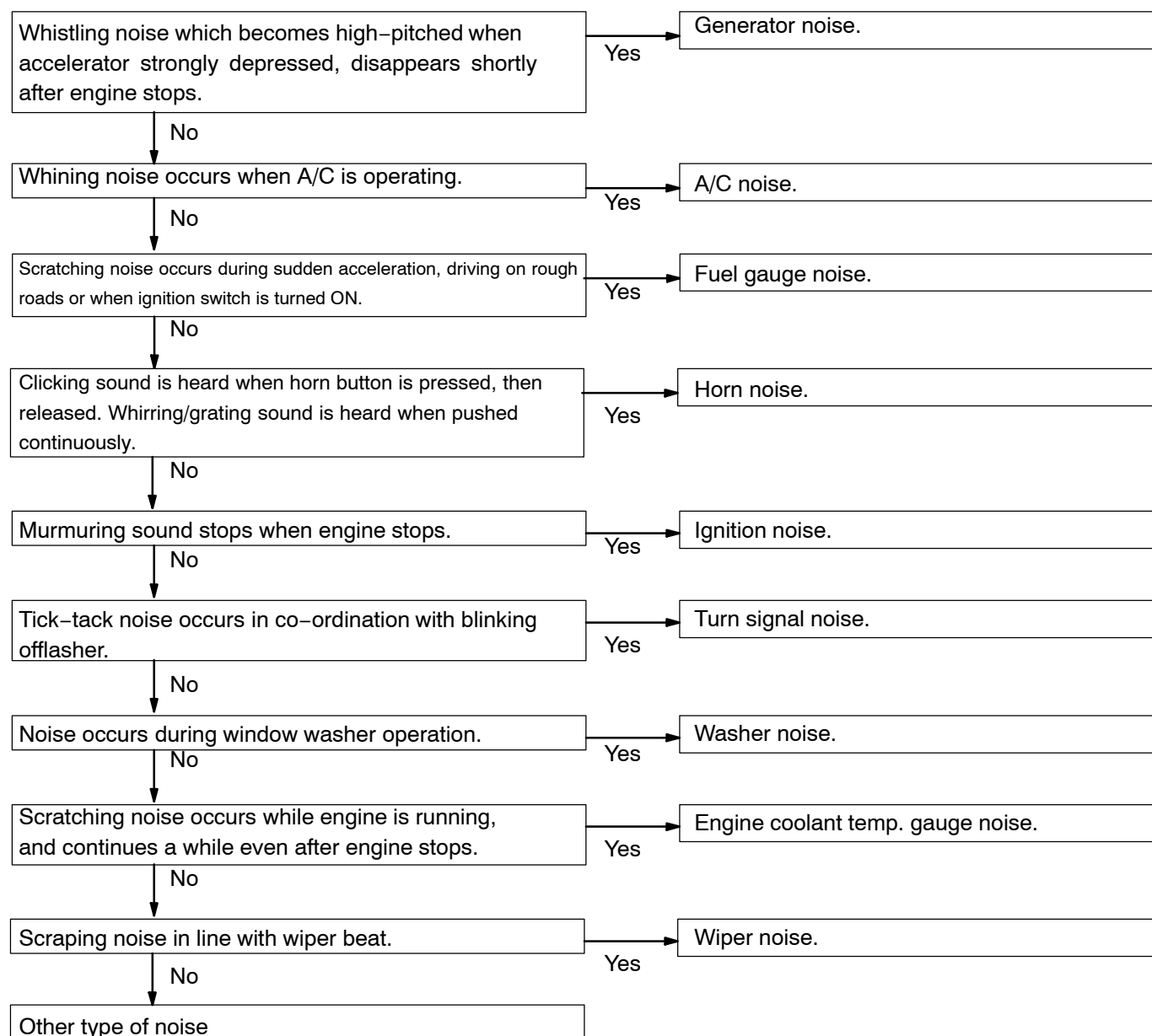




27	Noise	NOISE PRODUCED BY VIBRATION OR SHOCK WHILE DRIVING
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28	Noise	NOISE PRODUCED WHEN ENGINE STARTS
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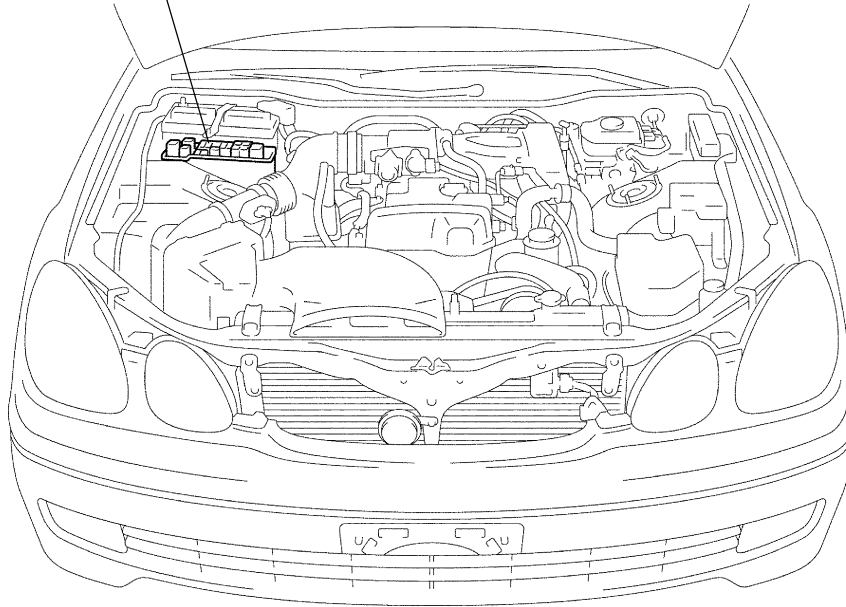


LOCATION

Engine Room No.1 Junction Block

- ECU-B1 Fuse
- RAD NO.1 Fuse

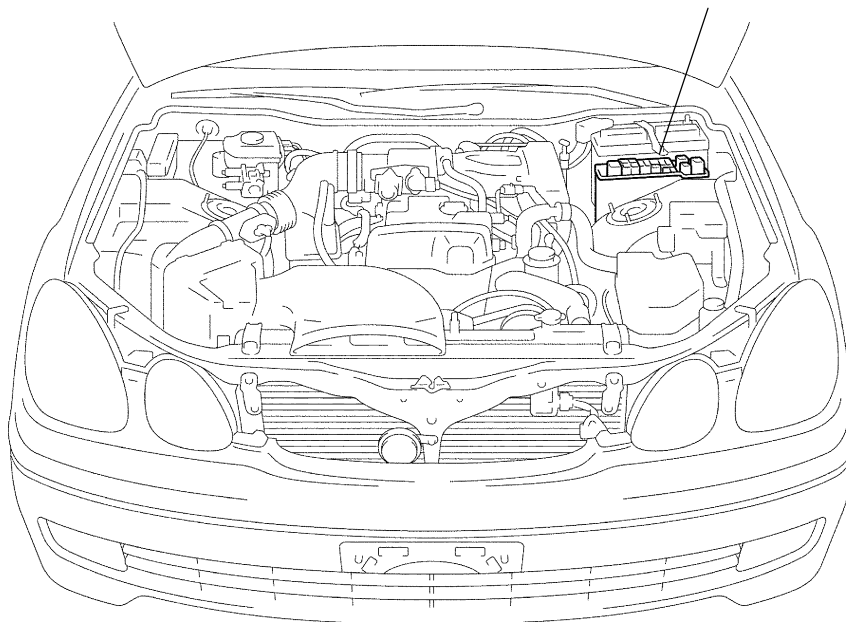
LHD Models

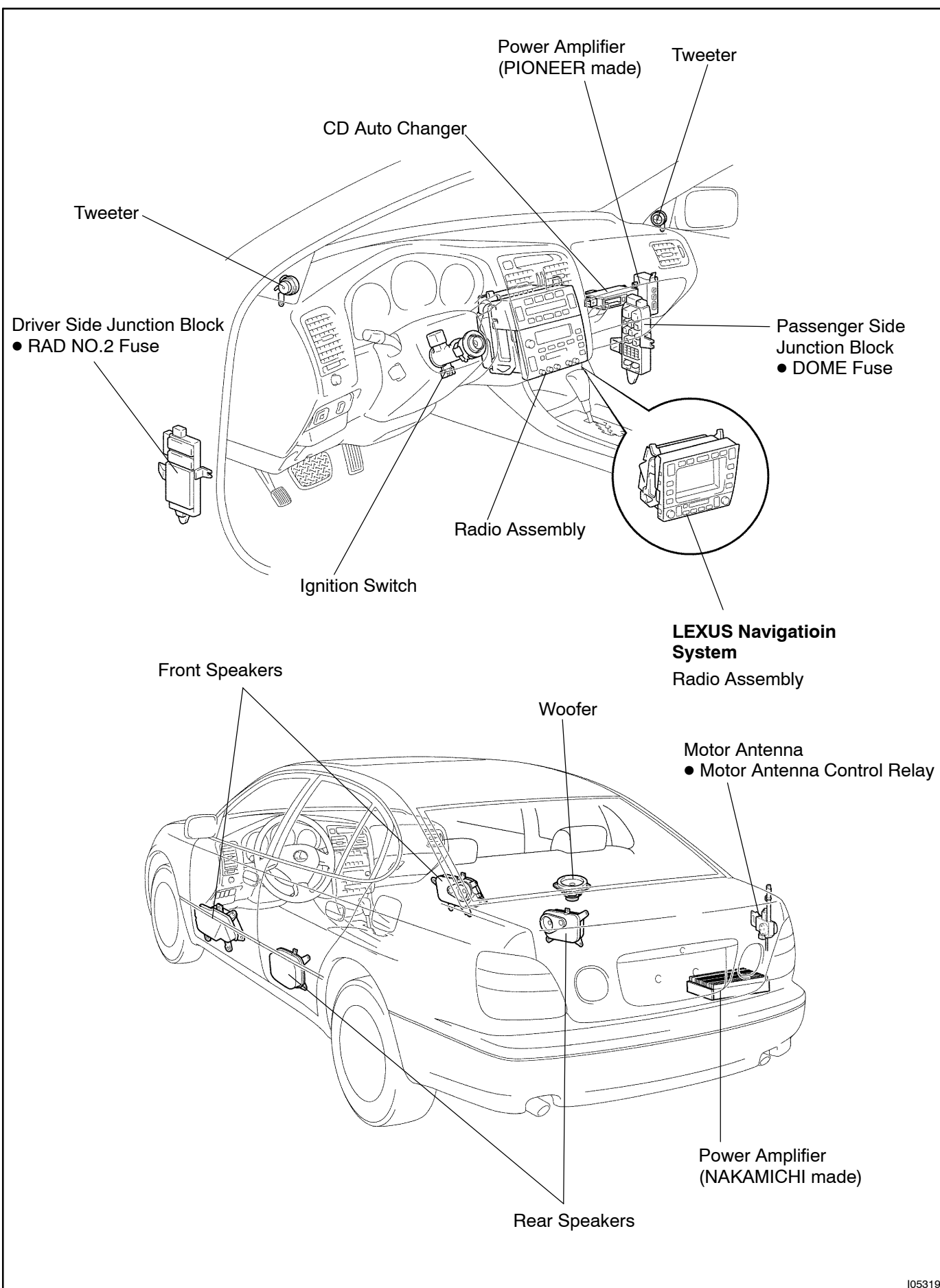


Engine Room No.1 Junction Block

- ECU-B1 Fuse
- RAD NO.1 Fuse

RHD Models





I05319

Wire Harness Side

I04310

INSPECTION
**1. Except NAKAMICHI made:
INSPECT CD AUTO CHANGER CIRCUIT**

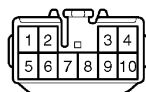
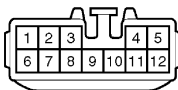
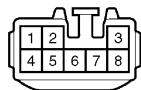
Disconnect connectors from CD auto changer and inspect the connector on the wire harness side.

Tester connection	Condition	Specified condition
8 - Ground	Constant	Continuity
5 - Ground	Constant	Battery voltage
10 - Ground	Ignition switch LOCK	No voltage
10 - Ground	Ignition switch ACC or ON	Battery voltage

If the circuit is not as specified, inspect the circuits connected to other parts.

HINT:

- Check the wire harness between the radio receiver assembly and the CD auto changer.
- Since the signals to and from the MUTE, R⁻, R⁺, L⁻, L⁺, TX⁻ and TX⁺ terminals are serial signals, they cannot ordinarily be measured with a tester.

Wire Harness Side**Connector "A"****Connector "B"****Connector "C"****Connector "D"**

I04189

**2. Except NAKAMICHI made:
INSPECT POWER AMPLIFIER CIRCUIT**

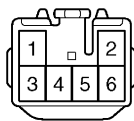
Disconnect the connector from power amplifier and inspect the connector on the wire harness side.

Tester connection	Condition	Specified condition
B7 - Ground	Constant	Continuity
C12 - Ground	Ignition switch LOCK and radio switch ON	No voltage
C12 - Ground	Ignition switch ACC or ON and radio switch ON	Battery voltage
B4 - Ground	Constant	Battery voltage

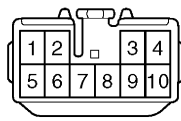
If the circuit is not as specified, inspect the circuits connected to other parts.

Wire Harness Side

Connector "A"



Connector "B"



I04190

3. Except NAKAMICHI made:**INSPECT RADIO RECEIVER ASSEMBLY CIRCUIT**

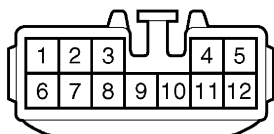
Disconnect the connectors from the radio receiver assembly, and inspect the connector on the wire harness side.

Tester connection	Condition	Specified condition
A2 – Ground	Constant	Continuity
A4 – Ground	Constant	Battery voltage
A1 – Ground	Ignition switch LOCK	No voltage
A1 – Ground	Ignition switch ACC or ON	Battery voltage

If the circuit is not as specified, inspect the circuits connected to other parts.

HINT:

Check the wire harness between radio receiver assembly and the CD auto changer, between radio receiver assembly and power amplifier.

Wire Harness Side

I04188

**4. NAKAMICHI made:
INSPECT CD AUTO CHANGER CIRCUIT**

Disconnect connectors from CD auto changer and inspect the connector on the wire harness side.

Tester connection	Condition	Specified condition
14 - Ground	Constant	Continuity
4 - Ground	Ignition switch LOCK	No voltage
4 - Ground	Ignition switch ACC or ON	Battery voltage
5 - Ground	Constant	Battery voltage

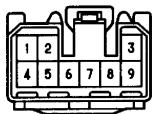
If the circuit is not as specified, inspect the circuits connected to other parts.

HINT:

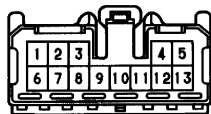
- Check the wire harness between the radio receiver assembly and the CD auto changer.
- Since the signals to and from the MUTE, R⁻, R⁺, L⁻, L⁺, TX⁻ and TX⁺ terminals are serial signals, they cannot ordinarily be measured with a tester.

Wire Harness Side

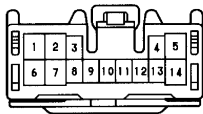
Connector "A"



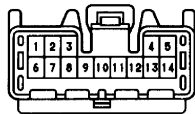
Connector "B"



Connector "C"



Connector "D"



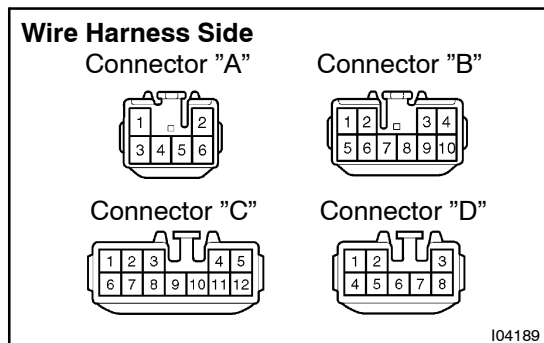
I04309

5. NAKAMICHI made:**INSPECT POWER AMPLIFIER CIRCUIT**

Disconnect the connector from power amplifier and inspect the connector on the wire harness side.

Tester connection	Condition	Specified condition
A1 – Ground A4 – Ground D1 – Ground	Constant	Continuity
A6 – Ground	Ignition switch LOCK and radio switch ON	No voltage
A6 – Ground	Ignition switch ACC or ON and radio switch ON	Battery voltage
A2 – Ground	Constant	Battery voltage
A5 – Ground	Constant	Battery voltage

If the circuit is not as specified, inspect the circuits connected to other parts.

**6. NAKAMICHI made:****INSPECT RADIO RECEIVER ASSEMBLY CIRCUIT**

Disconnect the connectors from the radio receiver assembly, and inspect the connector on the wire harness side.

Tester connection	Condition	Specified condition
D3 – Ground	Constant	Continuity
D4 – Ground	Constant	Battery voltage
D1 – Ground	Ignition switch LOCK	No voltage
D1 – Ground	Ignition switch ACC or ON	Battery voltage

*: w/ LEXUS navigation system

If the circuit is not as specified, inspect the circuits connected to other parts.

HINT:

Check the wire harness between radio receiver assembly and the CD auto changer, between radio receiver assembly and power amplifier.

7. INSPECT GLASS IMPRINTED ANTENNA

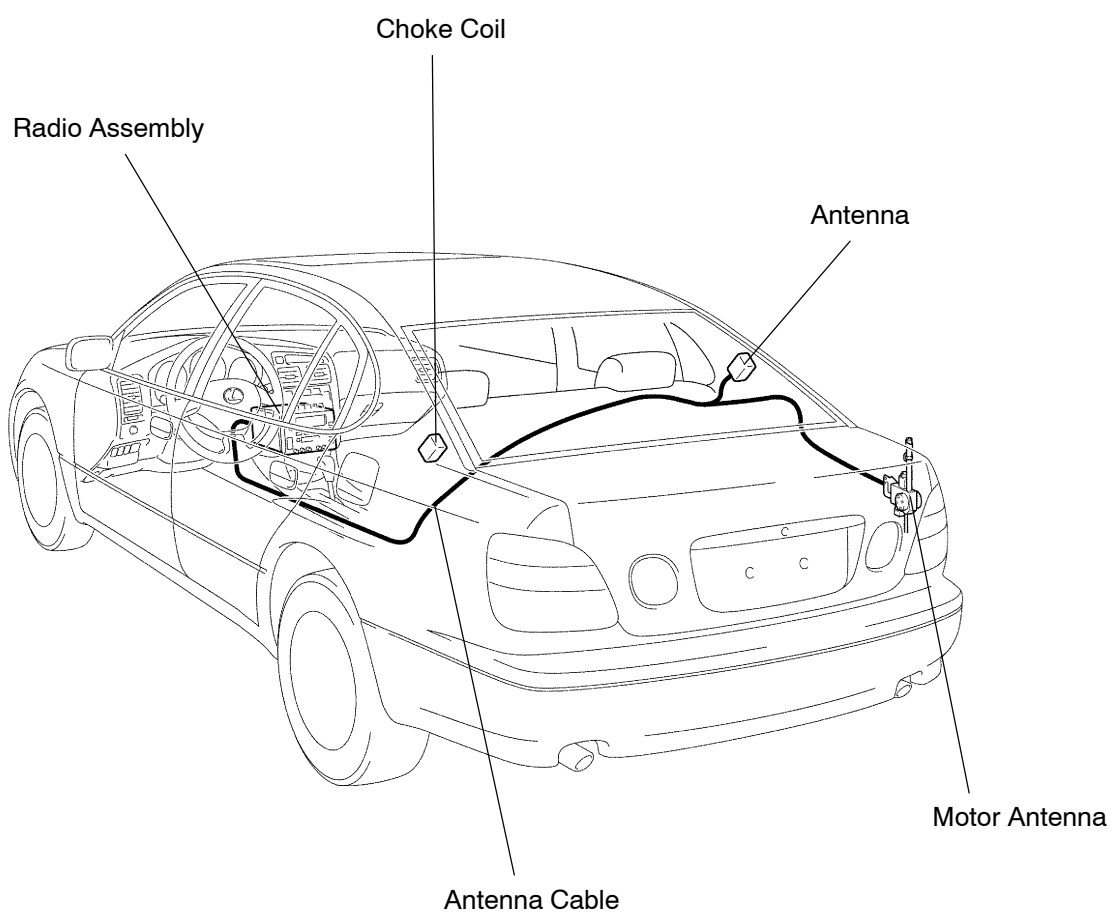
(Use same procedure as for "INSPECT DEFOGGER WIRES" on page .)

8. REPAIR GLASS IMPRINTED ANTENNA

(Use same procedure as for "REPAIR DEFOGGER WIRES" on page .)

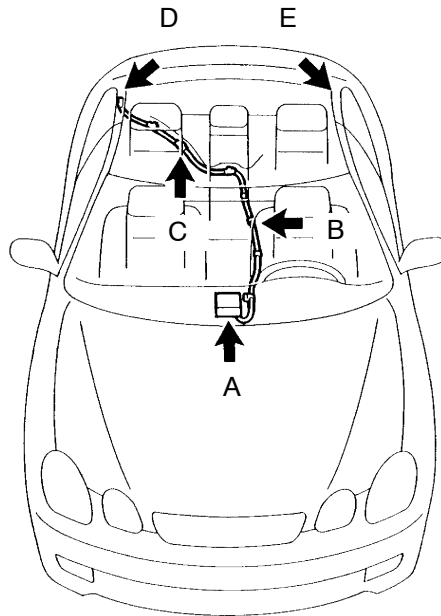
ANTENNA LOCATION

BE0G9-02



105320

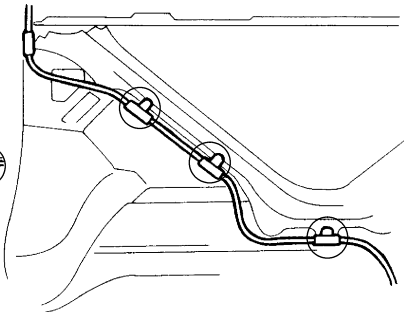
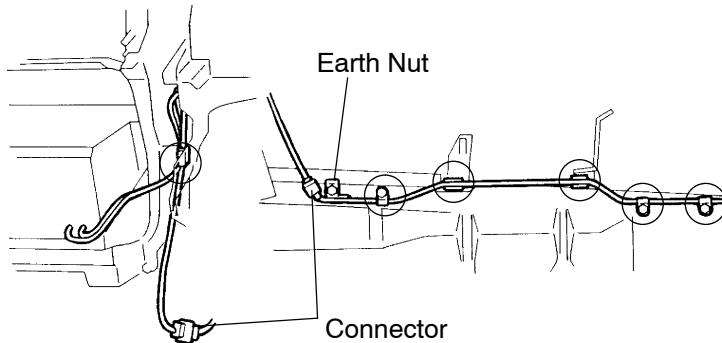
COMPONENTS



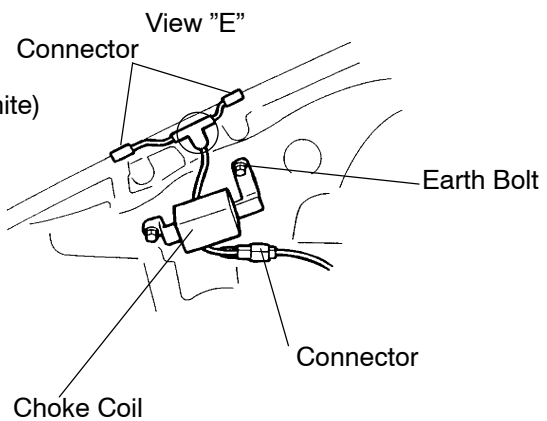
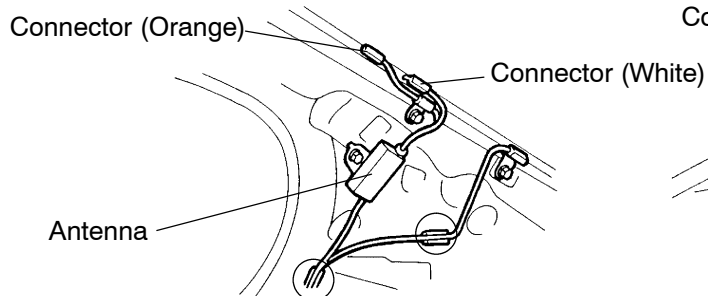
View "A"

View "B"

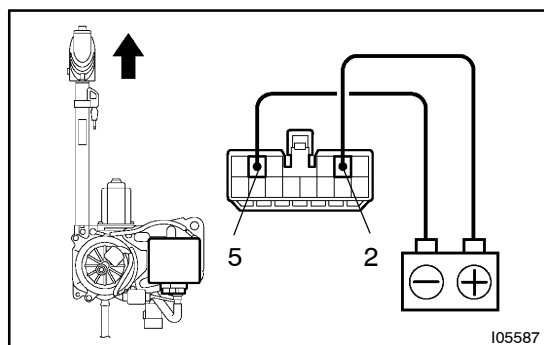
View "C"



View "D"



○ : Clamp



INSPECTION

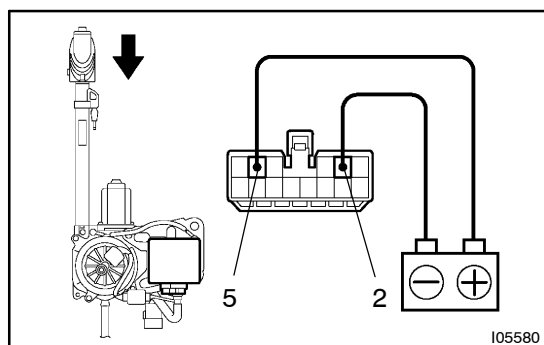
1. Auto Antenna Models:

INSPECT ANTENNA MOTOR

- Connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 5.
- Check that the motor turns (moves upward).

NOTICE:

These tests must be done quickly (within 3 – 5 seconds) to prevent the coil from burning out.

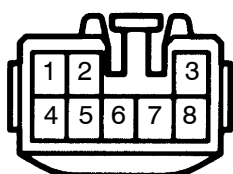


- Then, reverse the polarity, check that the motor turns the opposite way (moves downward).

NOTICE:

These tests must be done quickly (within 3 – 5 seconds) to prevent the coil from burning out.

Wire Harness Side



Z08688

2. Auto Antenna Models:

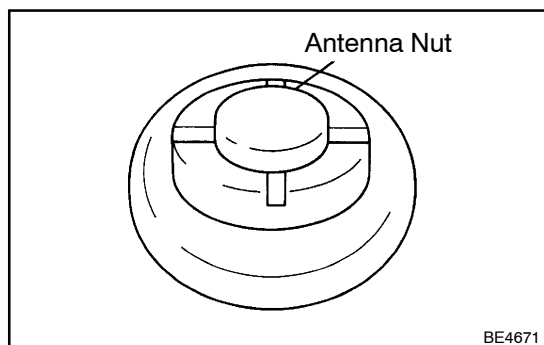
INSPECT ANTENNA MOTOR CONTROL RELAY CIRCUIT

Disconnect the connector from the relay and inspect the connector on wire harness side, as shown in the chart below.

Tester connection	Condition	Specified condition
7 – Ground	Constant	Continuity
1 – Ground	Ignition switch ACC or ON, and radio switch ON and Others	No voltage
1 – Ground	Ignition switch ACC or ON, and radio switch ON and AM	Battery voltage
2 – Ground	Ignition switch ACC or ON, and radio or tape or CD switch OFF	No voltage
2 – Ground	Ignition switch ACC or ON, and radio or tape or CD switch ON	Battery voltage
3 – Ground	Constant	Battery voltage
4 – Ground	Ignition switch ACC or ON, and radio switch ON and Others	No voltage
4 – Ground	Ignition switch ACC or ON, and radio switch ON and AM or FM (87.9 – 96.0 MHz)	Battery voltage
5 – Ground	Ignition switch ACC or ON, and radio switch OFF	No voltage
5 – Ground	Ignition switch ACC or ON, and radio switch ON	Battery voltage

6 - Ground	Ignition switch ACC or LOCK	No voltage
6 - Ground	Ignition switch ON	Battery voltage
8 - Ground	Ignition switch LOCK	No voltage
8 - Ground	Ignition switch ACC or ON	Battery voltage

If circuit is as specified, replace the relay.



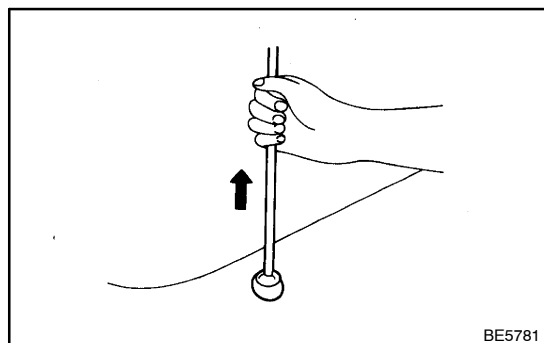
REPLACEMENT

1. Auto Antenna Models: REMOVE ANTENNA ROD

HINT:

Do this operation with the battery negative (-) cable connected to the battery terminal.

- (a) Turn the ignition switch to "LOCK" position.
- (b) Remove the antenna nut.



- (c) Press the "AM, FM" buttons on the radio receiver, and simultaneously turn the ignition switch to "ACC" position.

HINT:

- The rod will extend fully and be released from the motor antenna.
- After removing the antenna rod, leave the ignition switch as "ACC".

NOTICE:

To prevent body damage when the antenna rod is released, hold the rod while it comes out.

2. Auto Antenna Models: INSTALL ANTENNA ROD

- (a) Insert the cable of the rod until it reaches the bottom.

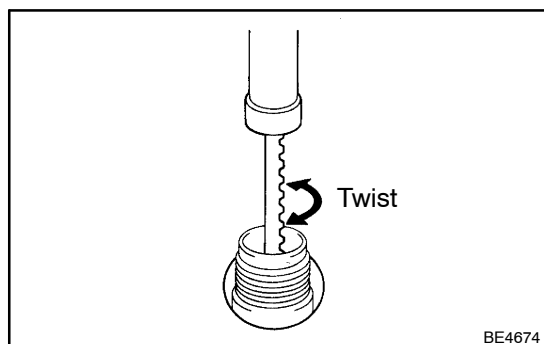
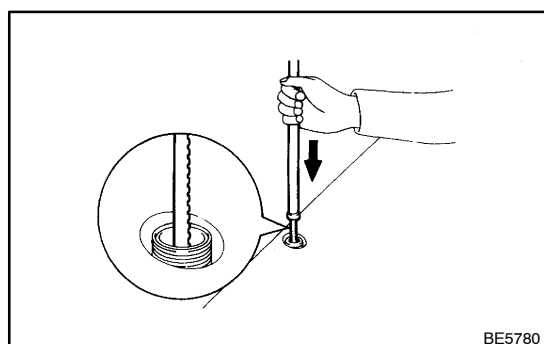
HINT:

- When inserting the cable, the teeth on the cable must face toward the rear of the vehicle.
- Insert the antenna approx. 300 mm (11.8 in.).

- (b) Wind the cable to retract the rod by turning the ignition switch to "LOCK" position.

HINT:

- If the ignition switch is already in "LOCK" position, do step 1 (c) first, then turn the ignition switch to "ACC" position.
- In case the cable is not wound, twist it, as shown in the illustration.
- Even if the rod has not retracted fully, install the antenna nut and inspect the antenna rod operation. It will finally retract fully.



- (c) Inspect the antenna rod operation by pushing the radio wave band select buttons.

CLOCK

TROUBLESHOOTING

HINT:
Troubleshoot the clock according to the table below.

Troubleshooting	No.
Passenger seat belt warning light does not light up.	1
Clock will not operate	1
Clock loses or gains time	2

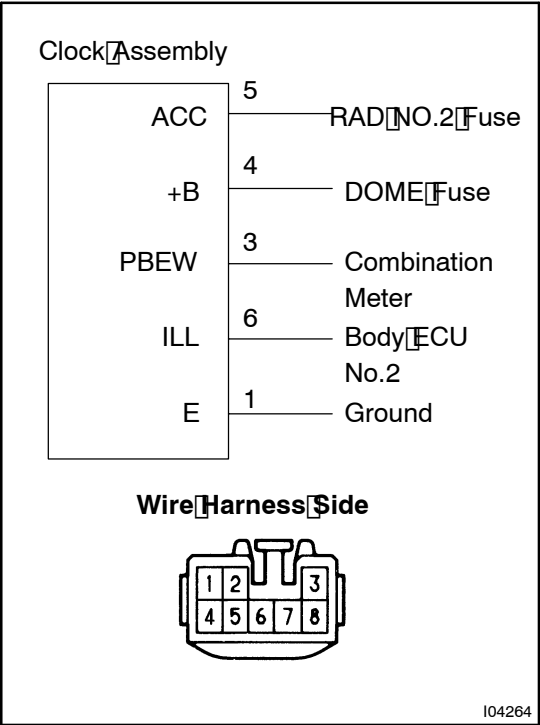
± 1.5 seconds/day

INSPECT CLOCK CIRCUIT

(See page DI-693)

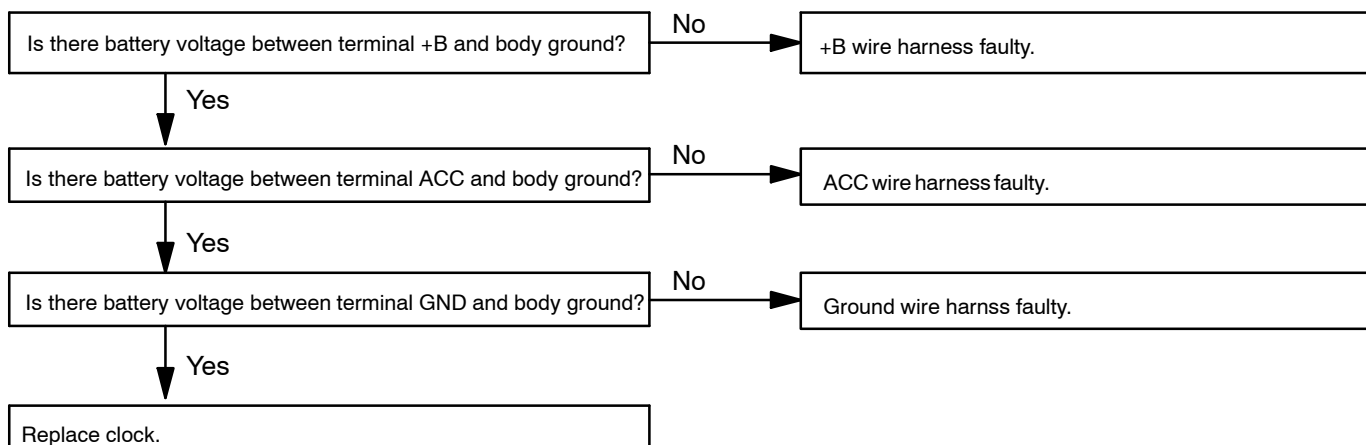
TROUBLESHOOTING NO.1

1	PASSENGER SEAT BELT WARNING LIGHT DOES NOT OPERATE
	CLOCK WILL NOT OPERATE



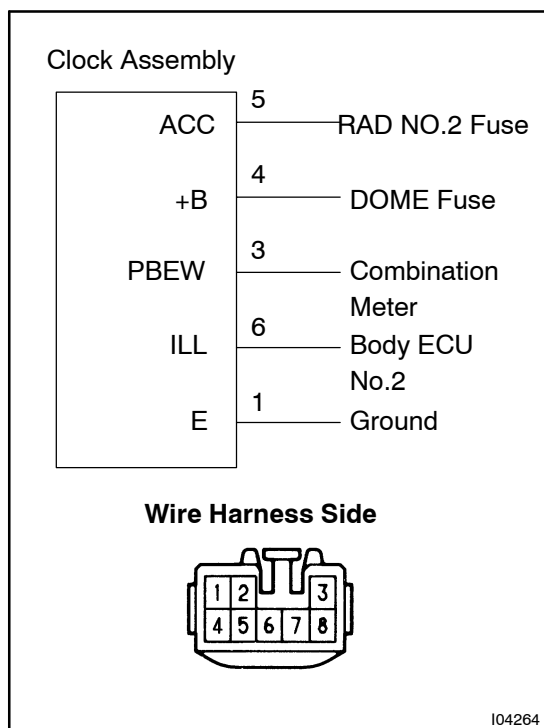
- (a) Check that the battery voltage is 10 – 16 V.
If voltage is not as specified, replace the battery.
- (b) Check that the DOME and RAD NO.2 fuses are not blown.
If the fuse is blown, replace the fuse and check for short.
- (c) Troubleshoot the clock as follows.
HINT:
Inspect the connector on the wire harness side.

BODY ELECTRICAL - CLOCK



TROUBLESHOOTING NO.2

2 CLOCK LOSES OR GAINS TIME



(a) Check that the battery positive voltage is 10 – 16 V.
If voltage is not as specified, replace the battery.

(b) Inspect the error of the clock.

Allowable error (per day): ± 1.5 seconds

If the error exceeds the allowable error, replace the clock.

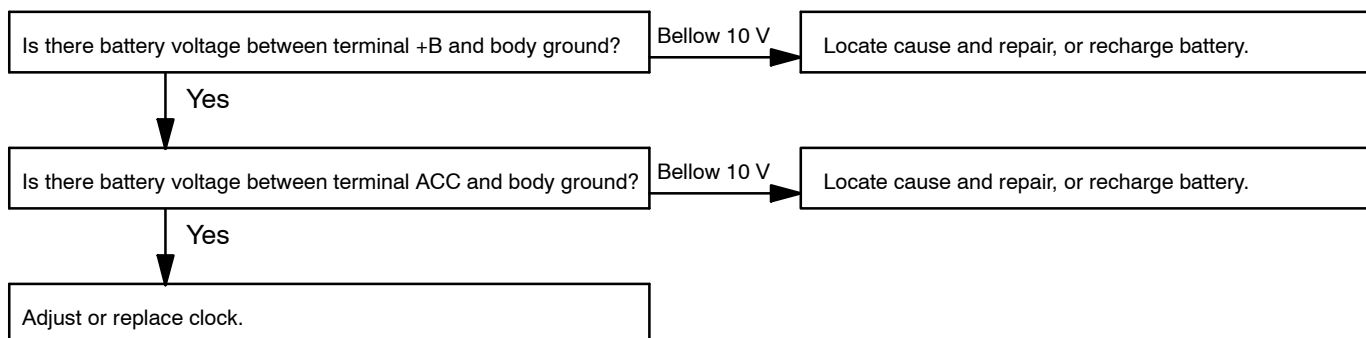
(c) Check that the clock adjusting button is sticking in position and has failed to return.

If the error exceeds the allowable error, replace the clock.

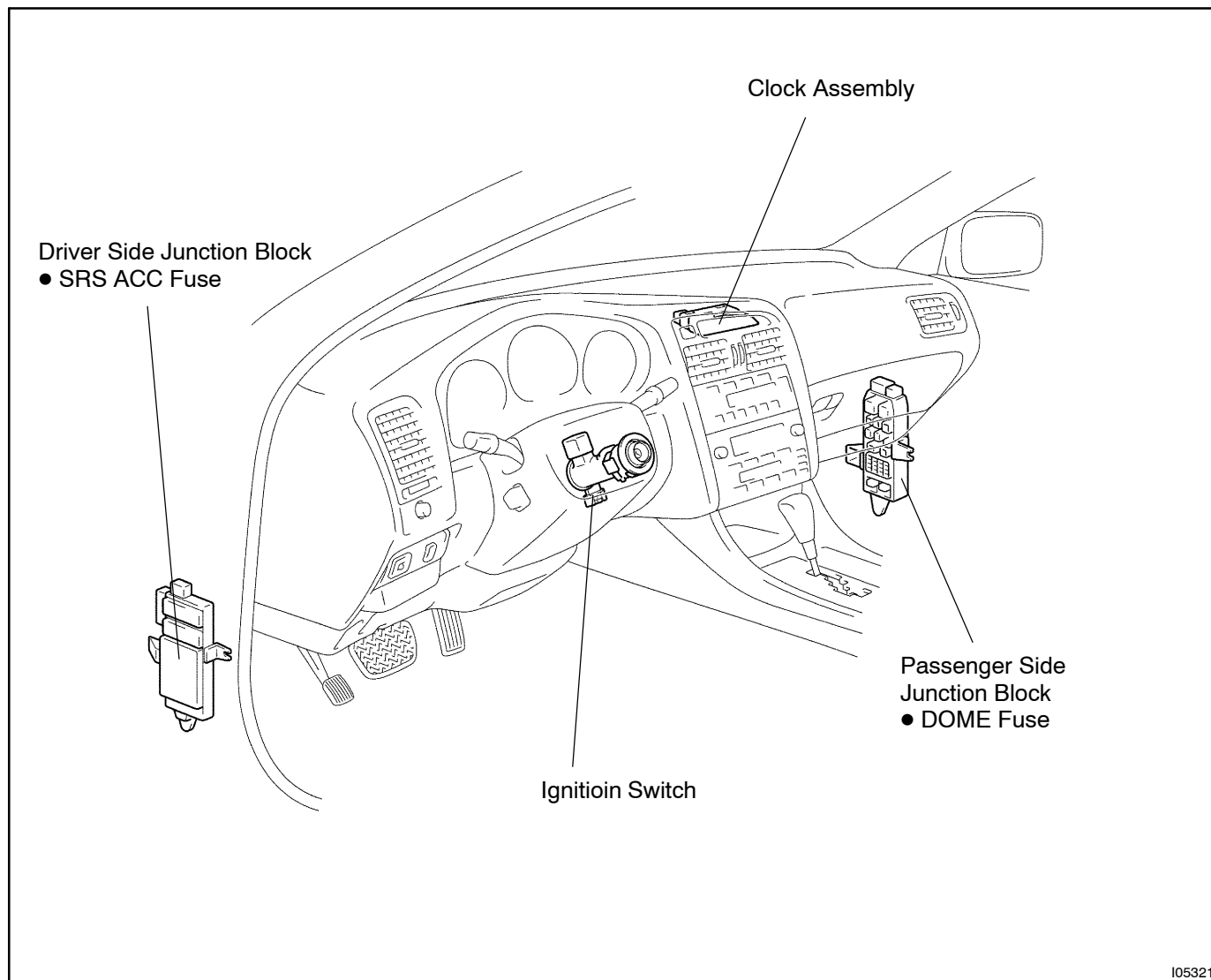
(d) Troubleshoot the clock as follows.

HINT:

Inspect the connector on the wire harness side.



LOCATION



I05321

ENGINE IMMOBILISER SYSTEM

REGISTRATION PROCEDURE

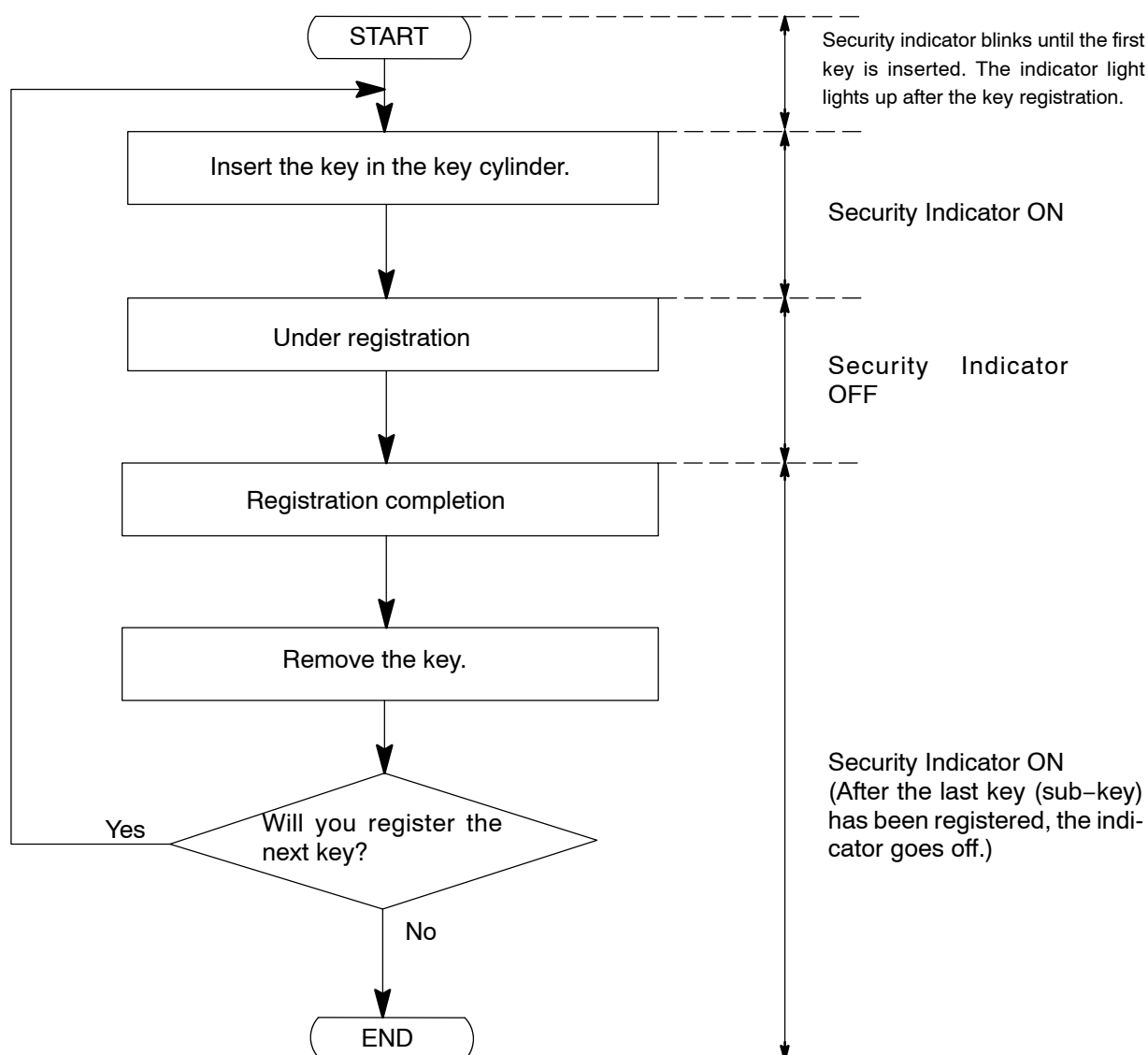
BEOG7-02

1. KEY REGISTRATION IN AUTOMATIC REGISTRATION MODE

(a) Registration of a new transponder key.

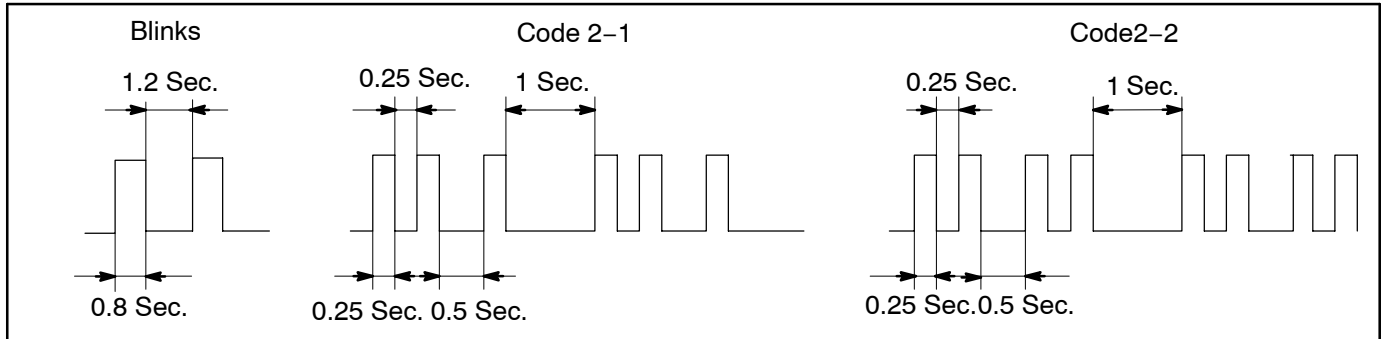
HINT:

- This must be done when you install a new Engine and ECT ECU.
- The new Engine and ECT ECU is in the automatic key code registration mode. The already fixed number of key codes for this Engine and ECT ECU can be registered.
On this type of vehicle, up to 4 key codes can be registered.
- In the automatic registration mode, the key registered last becomes the sub-key.



HINT:

- When a key is not inserted in the key cylinder in the automatic registration mode, the security indicator always lights on.
- When the immobiliser system operates normally and the key is pulled out, the security indicator blinks.
- When key code registration could not be performed in the automatic registration mode, code 2-1 is output from the security indicator and when inserting the already registered key, code 2-2 is output.



(b) Automatic registration mode completion

If completing the mode forcibly when more than 1 key code have been registered in the automatic registration mode, perform the following procedures.

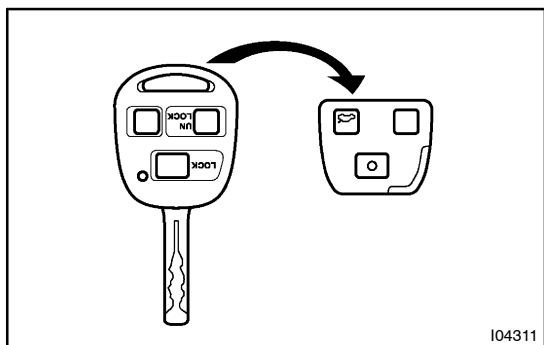
After 1 more key code have been registered with master key, perform step (1) or (2) without pulling the key out or inserting the already registered key.

- (1) Depress and release brake pedal 5 times or more within 15 sec.
- (2) With the LEXUS hand-held tester, require automatic registration mode completion.

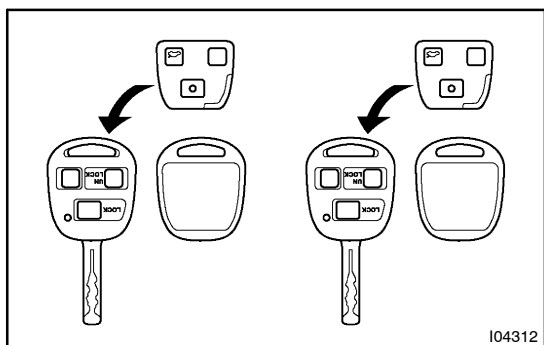
2. KEY REGISTRATION PROCEDURE WHEN KEY OR KEY CYLINDER HAS BEEN REPLACED.

HINT:

Key registration procedure of new master key and new sub-key on this vehicle when new ignition cylinder and key set, and new lock cylinder set including ignition key cylinder are installed is described below.



- (a) Removing wire-less and immobiliser module from original master key.



- (b) Making new master key.
After replacing and installing new ignition cylinder, install the removed original modules into new 2 key housings as supply parts.

- (c) Registration of supplied new sub-key and /or master key
Register supplied new sub-key and /or master key by using new master key.
(See page)

NOTICE:

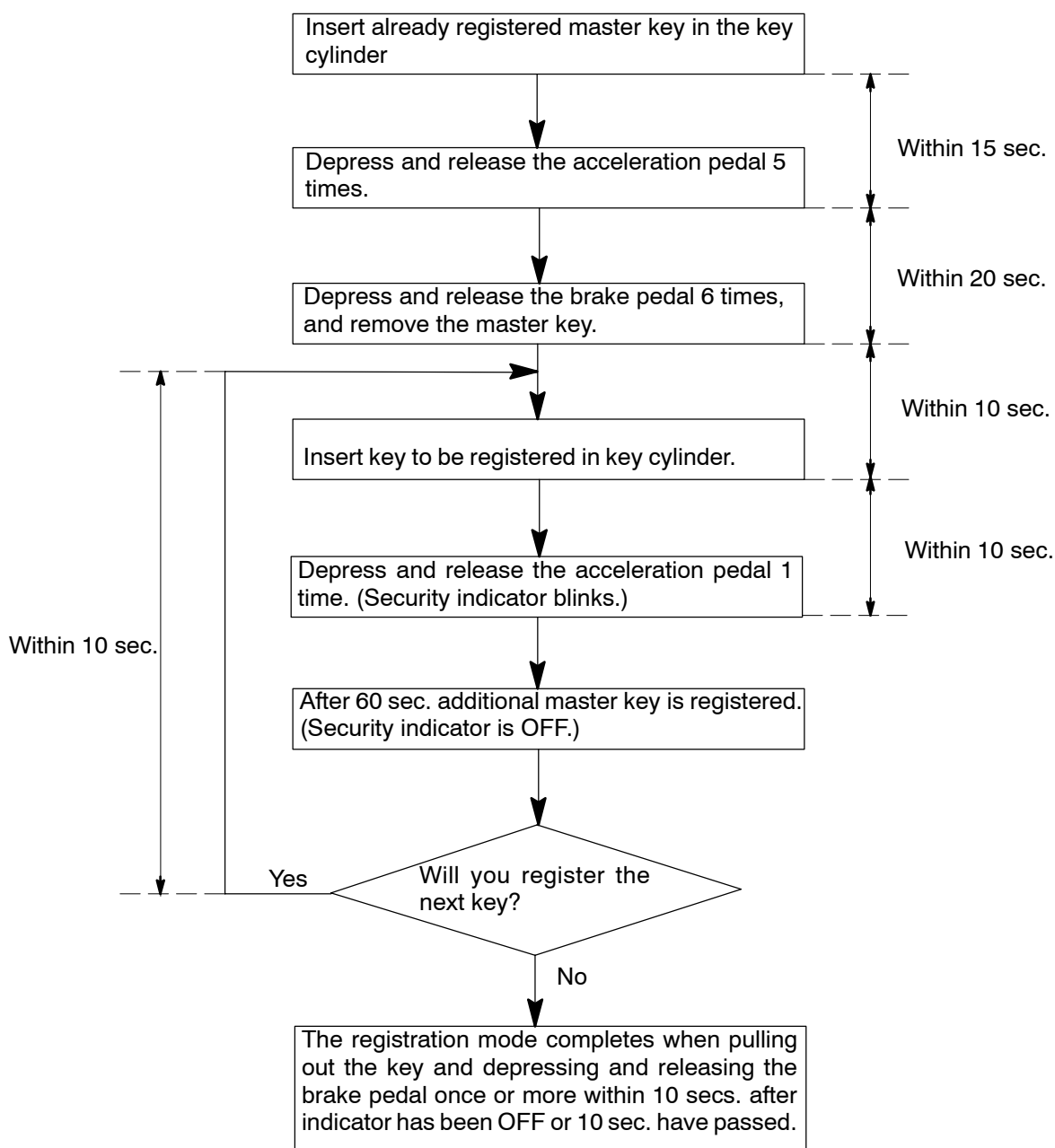
In case of replacing ignition cylinder and key set, door locks cannot be opened with new ignition keys. Therefore, to avoid any trouble caused by empty battery of transmitter of new ignition key, please bring the original key while driving.

- (d) There are 2 ways for registration of additional master key, one way is depressing brake pedal and acceleration pedal and the other way is using LEXUS hand-held tester.

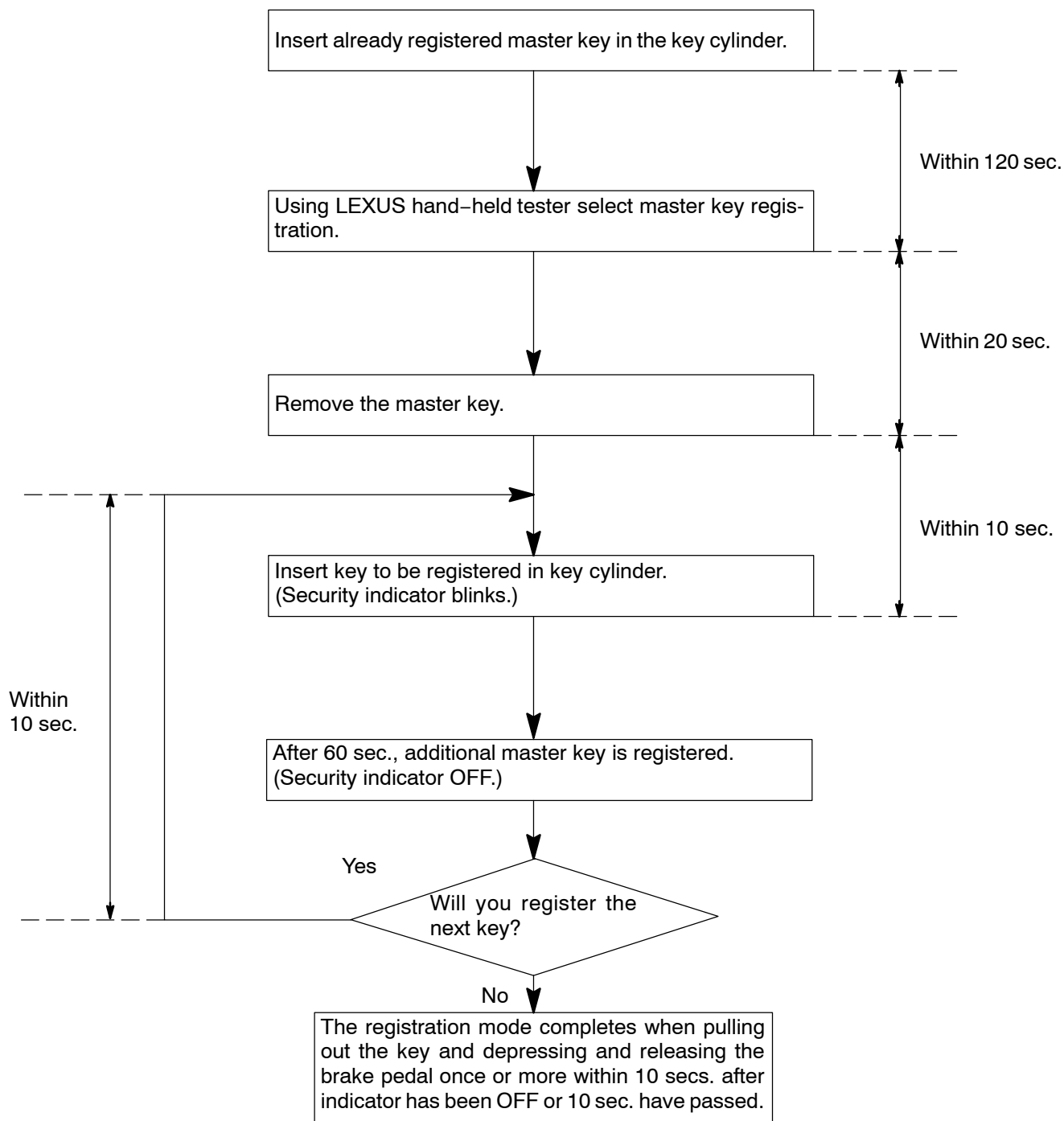
HINT:

- It is possible to register up to 7 master key codes including the already registered key code.
- When any operation time described below is over, registration mode completes.
- When the next procedure is performed while the timer is working, the timer completes counting time, then next timer starts.
- When replacing "Ignition Cylinder Key Set" or "Lock Cylinder Set" register according to the following procedure using the original master key. However, after the registration of the additional master key, as the original master key and the original sub-key are not necessary any more, erase registered of those key codes.

(1) Depressing brake pedal and acceleration pedal:



(2) Using LEXUS hand-held tester:



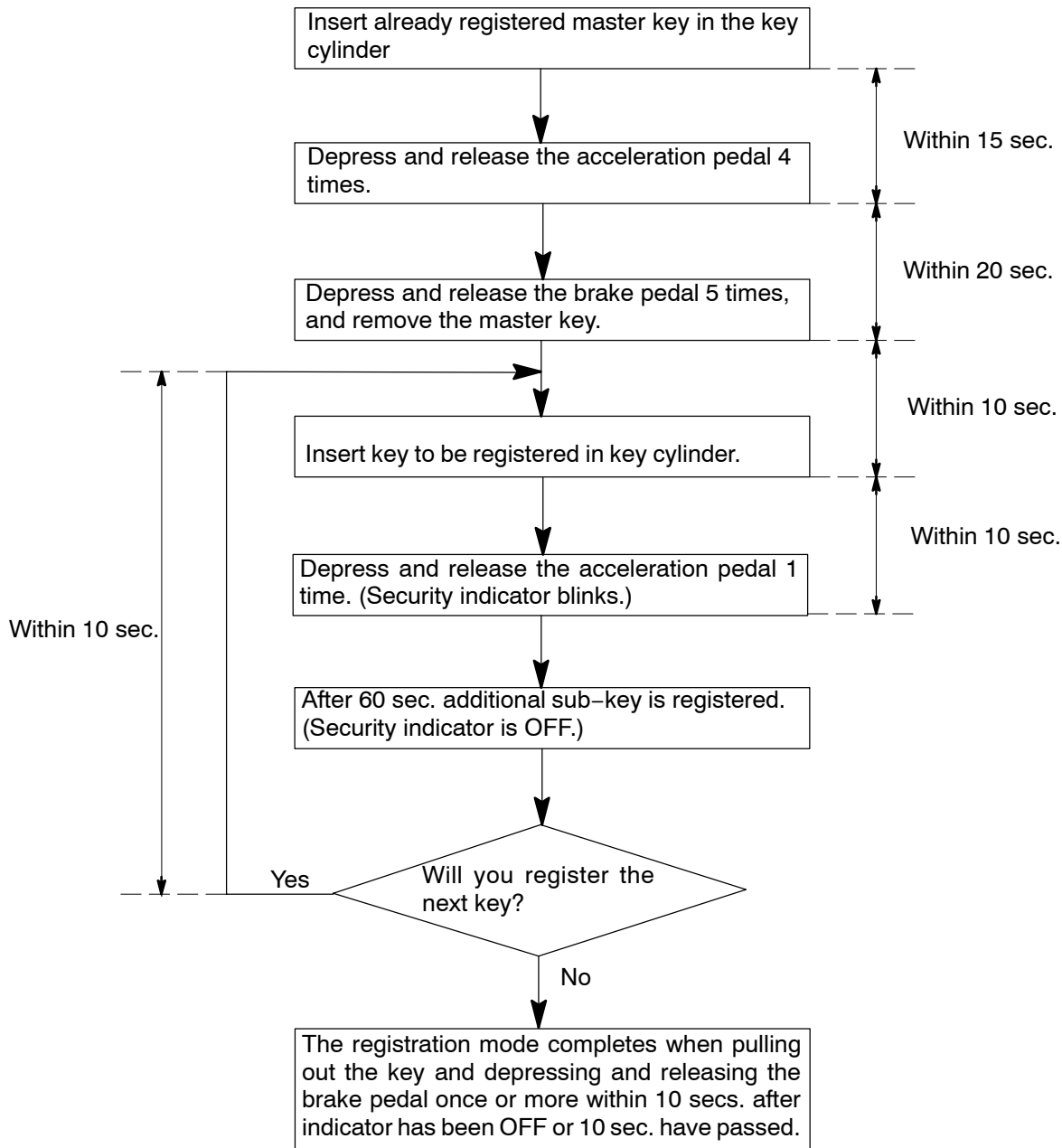
3. REGISTRATION OF ADDITIONAL SUB-KEY

There are 2 ways for registration of additional sub-key, one way is depressing brake pedal and acceleration pedal and the other way is using LEXUS hand-held tester.

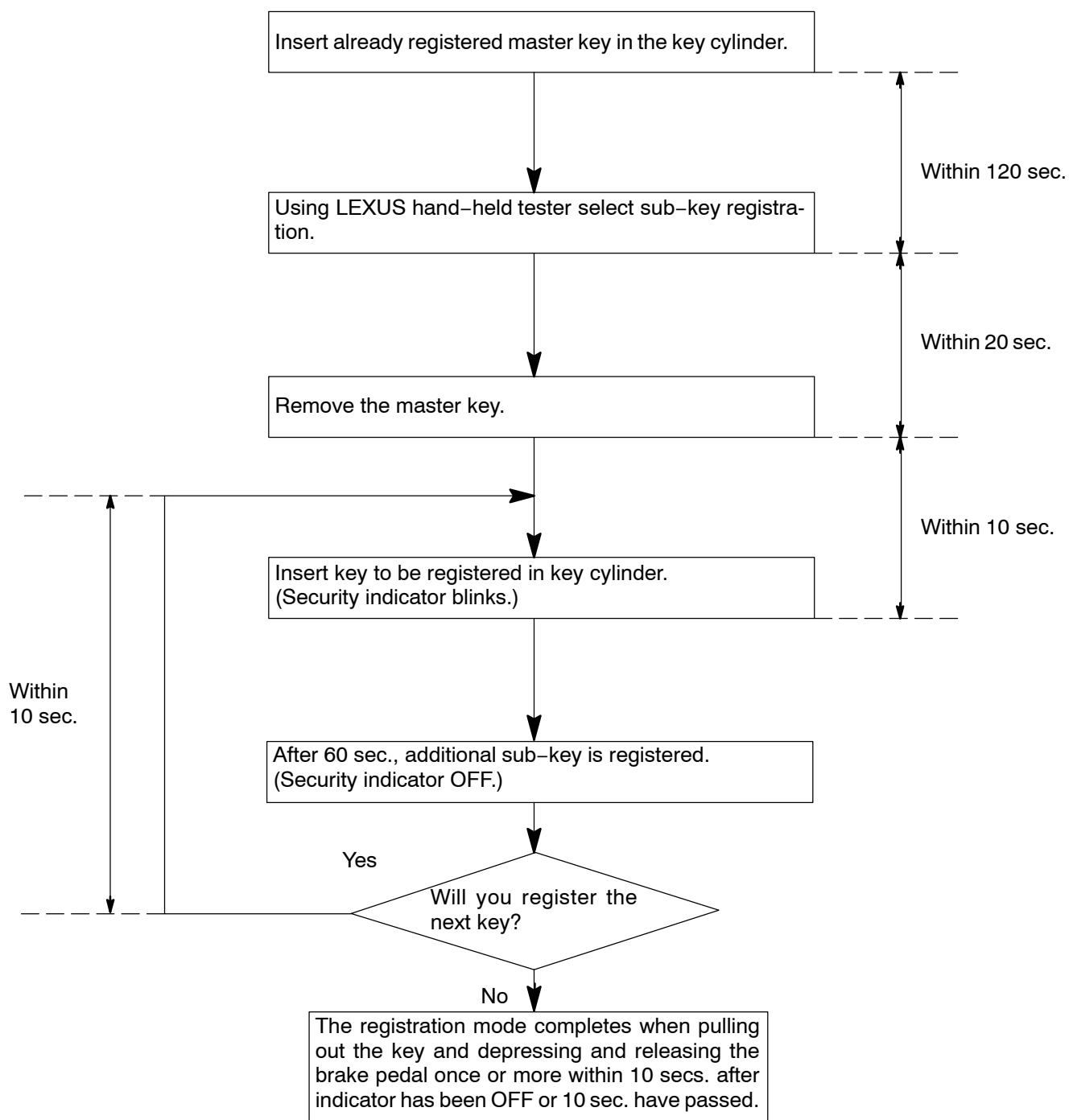
HINT:

- It is possible to register up to 3 sub-key codes including the already registered key code.
- When any operation time described below is over, registration mode completes.
- When the next procedure is performed while the timer is working, the timer completes counting time, then next timer starts.

(1) Depressing brake pedal and acceleration pedal:



(2) Using LEXUS hand-held tester:



4. ERASURE OF TRANSPONDER KEY CODE

There are 2 ways for erasure of transponder key code, one way is depressing brake pedal and acceleration pedal and the other way is using LEXUS hand-held tester.

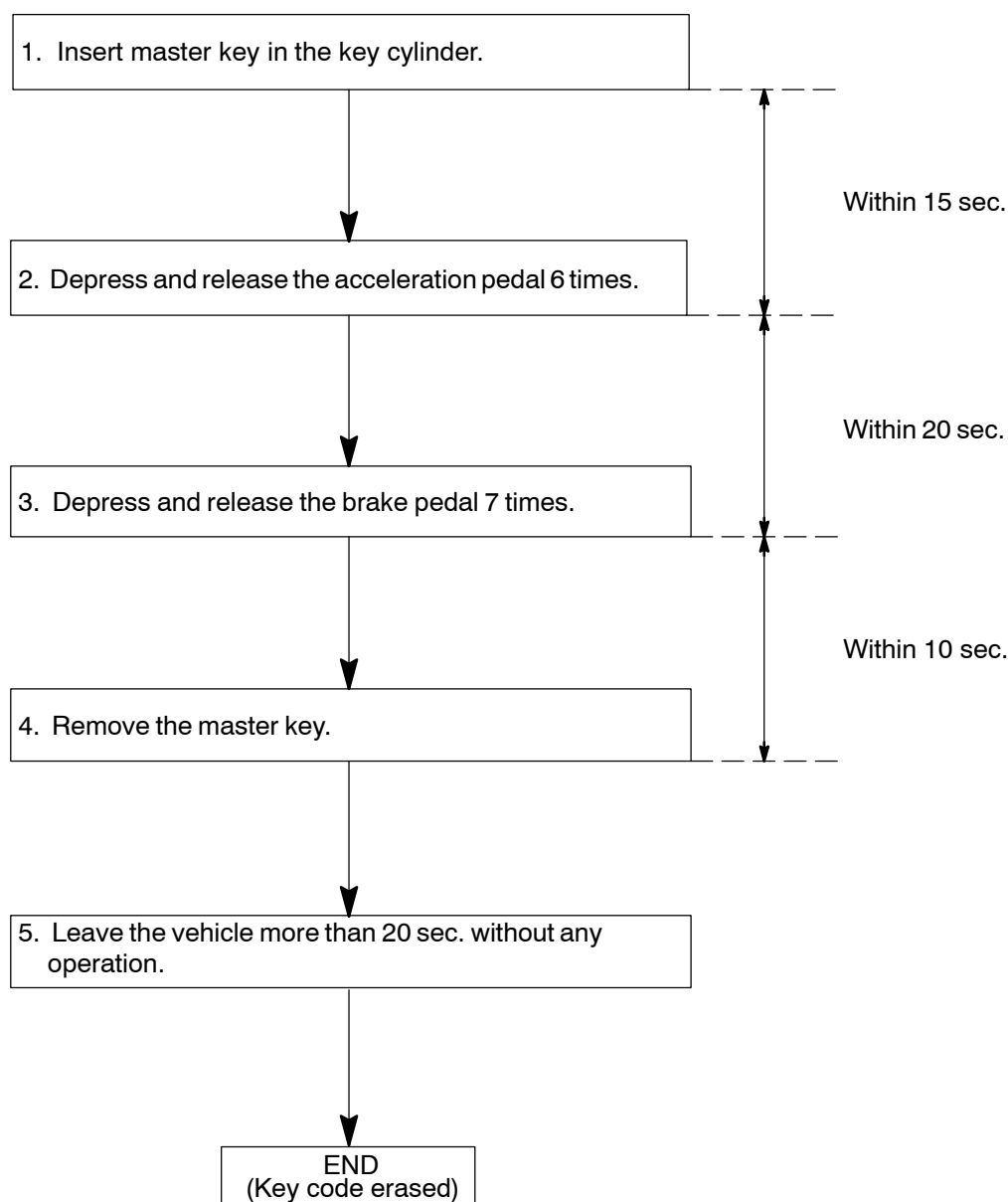
NOTICE:

Delete all other master and sub-key codes leaving the master key code to use the operation. When using the key which was used before deletion, it is necessary to register the code again.

HINT:

- When any operation time described below is over, registration mode completes.
- When the next procedure is performed while the timer is working, the timer completes counting time, then next timer starts.

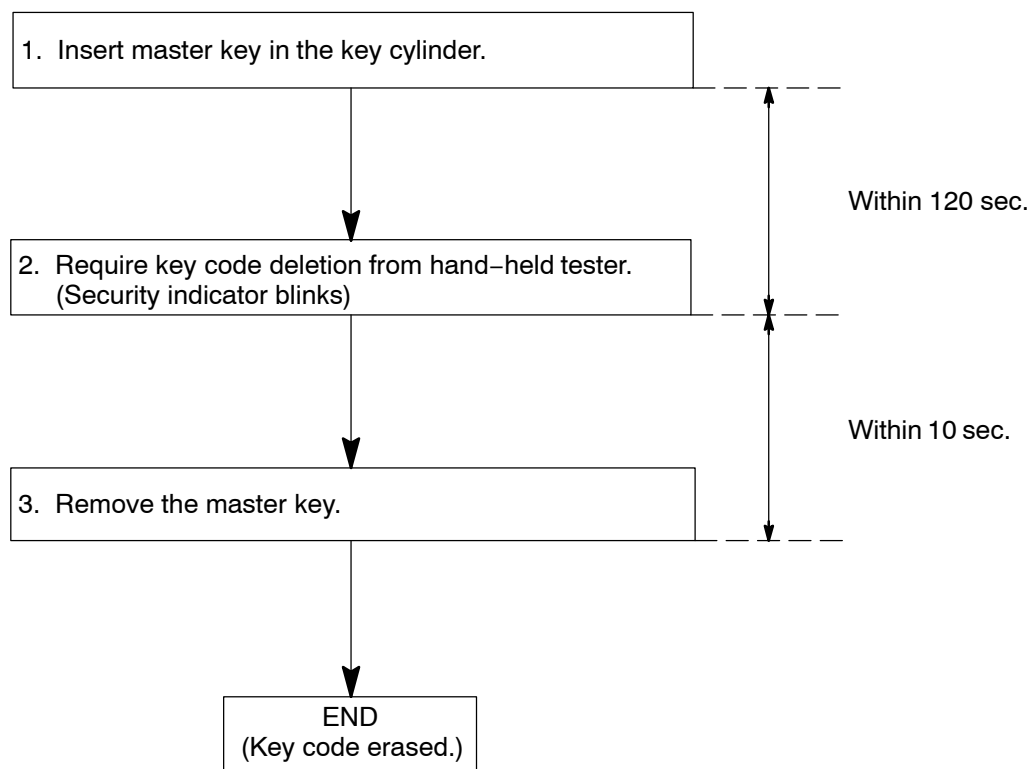
(1) Depressing brake pedal and acceleration pedal:



HINT:

If the key cannot be pulled out within 30 sec. from the first brake depression in the step 3, the key code deletion is canceled.

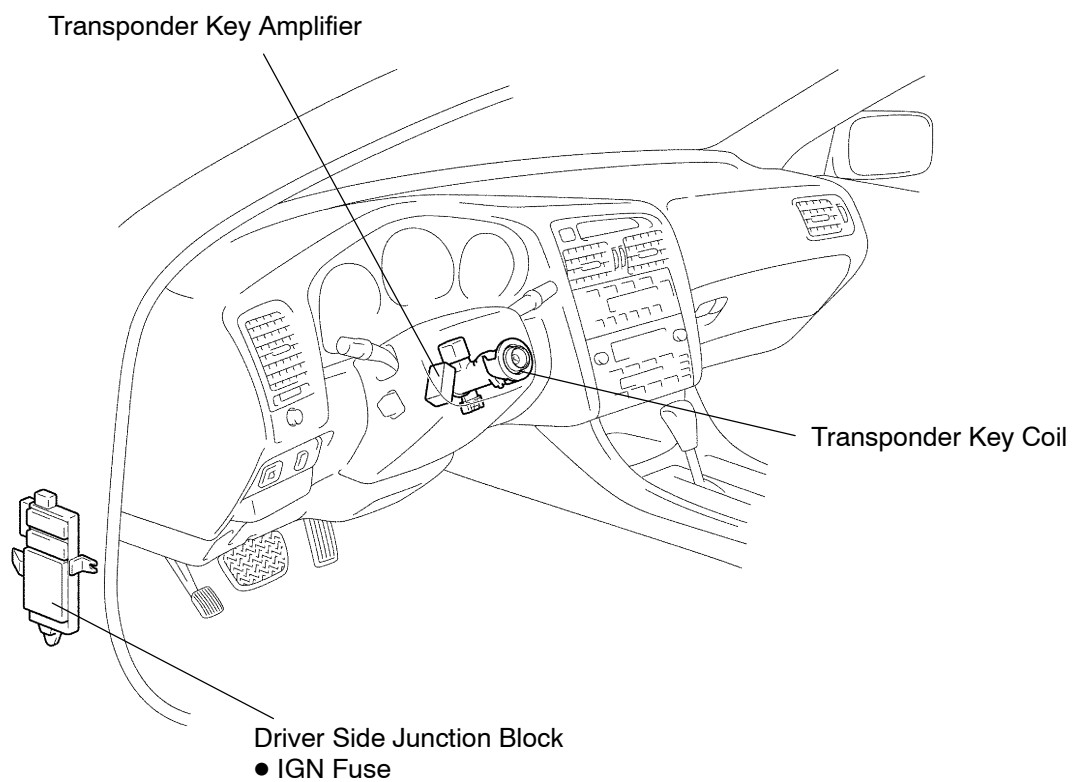
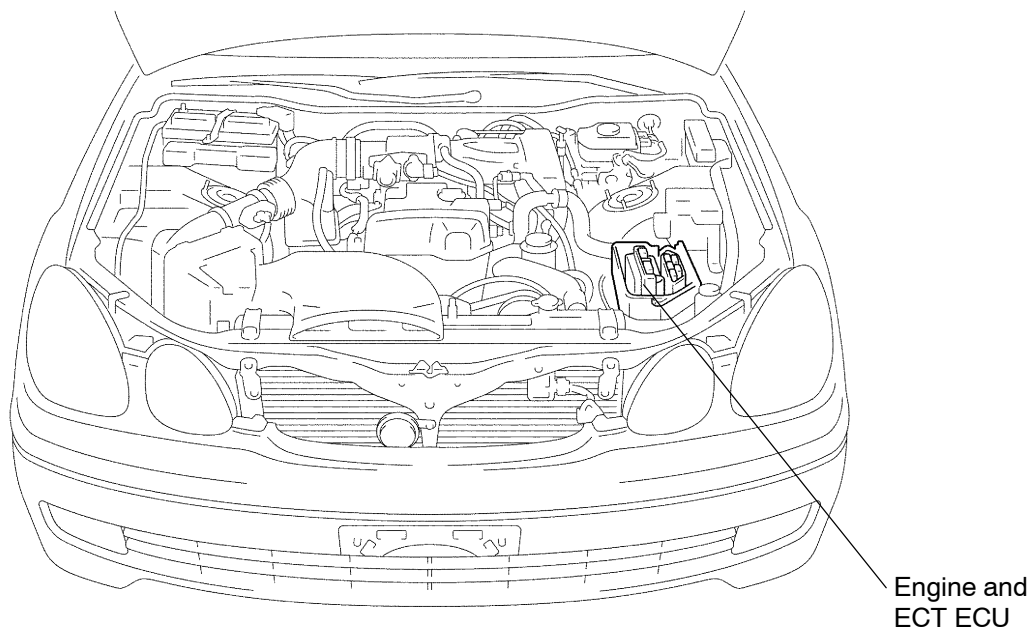
(2) Using LEXUS hand-held tester:

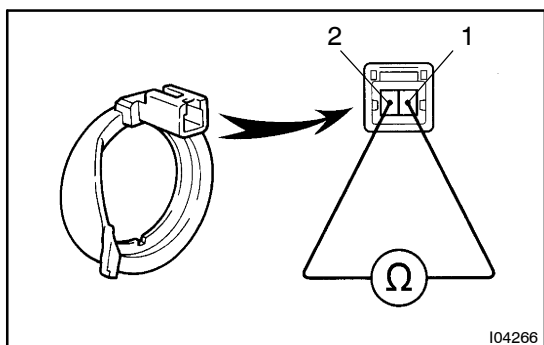


HINT:

When the key cannot be pulled out in the step 3, key code deletion is canceled.
(Security indicator is OFF.)

LOCATION





INSPECTION

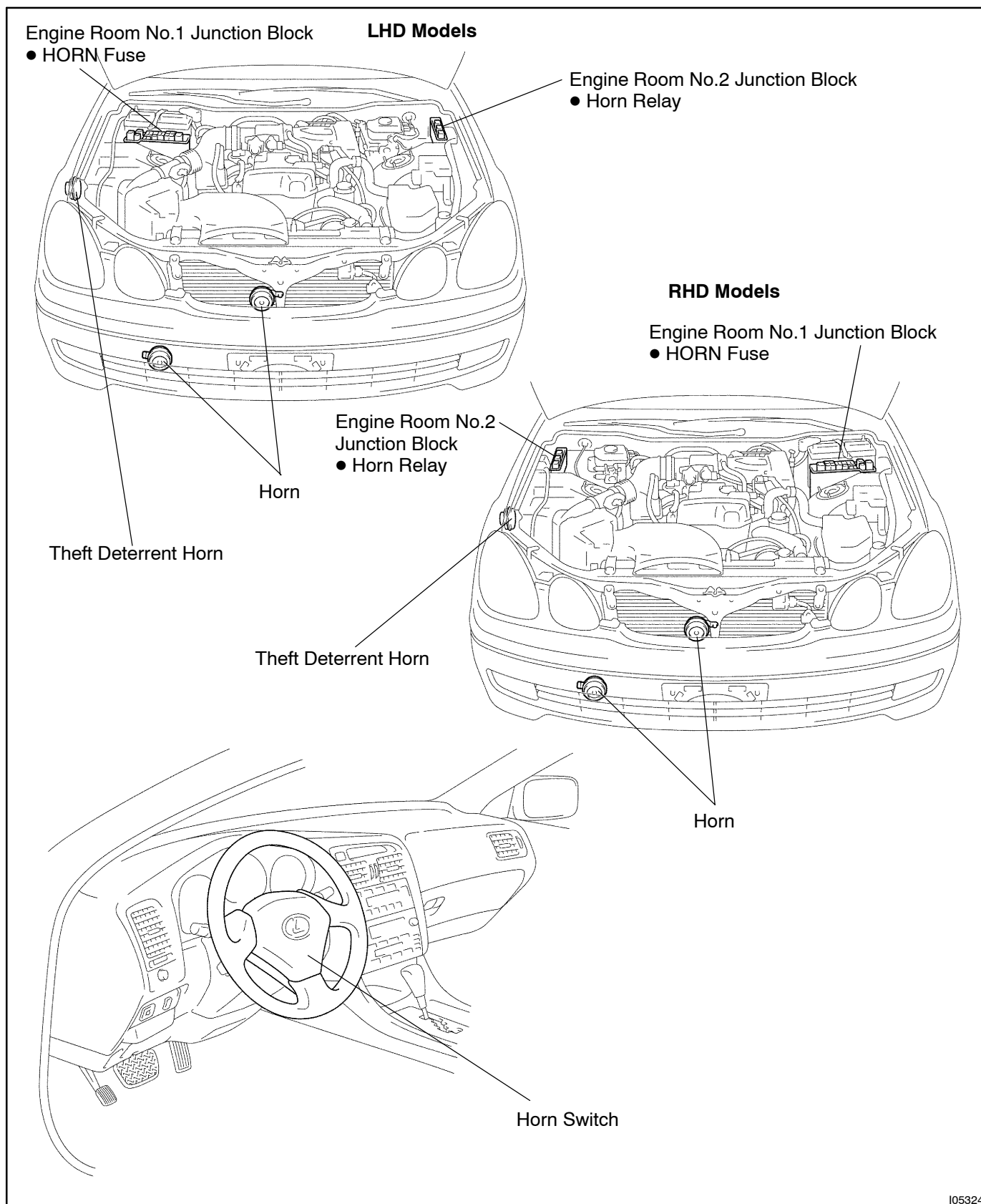
INSPECTION TRANSPONDER KEY COIL CONTINUITY

Check that continuity exists between terminals 1 and 2.

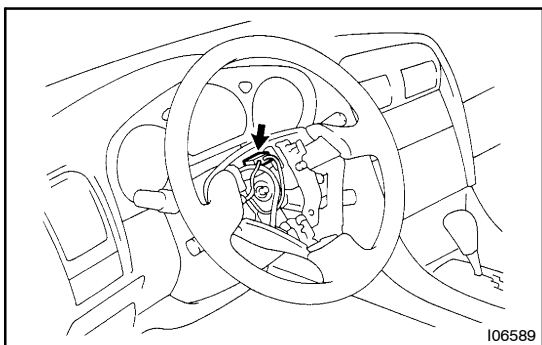
If continuity is not as specified, replace the coil.

HORN SYSTEM LOCATION

BE0FY-02



I05324



INSPECTION

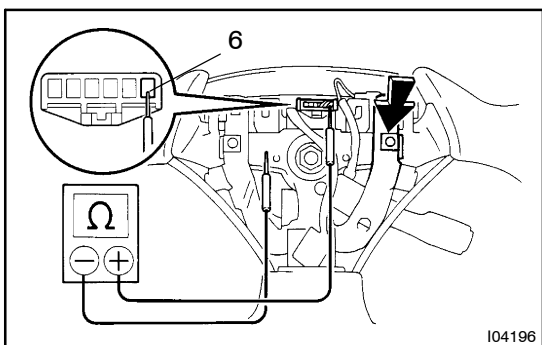
1. INSPECT HORN SWITCH

- Disconnect the negative (-) terminal from the battery.
- Remove the left and right covers from the steering wheel.
- Using a torx socket wrench, loosen the 2 bolts.
- Pull up the horn pad and place it on the steering column, as shown.

HINT:

Do not disconnect the connector from the horn pad.

- Disconnect the connector from the slip ring.



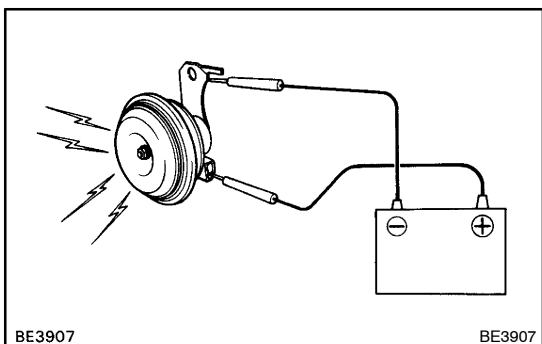
- Check that no continuity exists between terminal 6 of the connector and body ground.
- Check that continuity exists between terminal 6 of the connector and body ground when the horn contact plate is pressed against the steering spoke assembly.

If continuity is not as specified, repair or replace the steering wheel or wire harness as necessary.

- Install the horn pad in place and using a torx socket wrench, torque the 2 bolts.

Torque: 7.1 N·m (72 kgf·cm, 62 in·lbf)

- Install the left and right covers.
- Connect the negative (-) terminal to the battery.

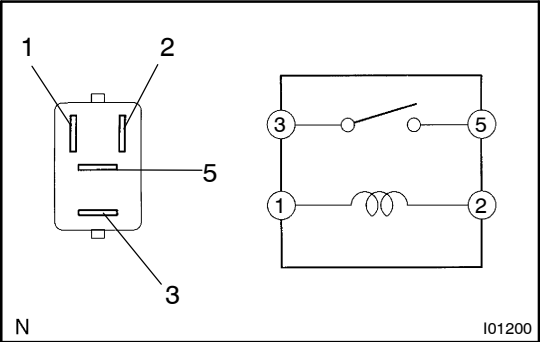


2. INSPECT HORN OPERATION

Connect the positive (+) lead from the battery to the terminal and negative (-) lead to the horn body and check that the horn blows.

If operation is not as specified, replace the horn.

3. INSPECT HORN SWITCH CIRCUIT (See page DI-642)



4. INSPECT HORN RELAY CONTINUITY

Condition	Tester connection	Specified condition
Constant	1 - 2	Continuity
Apply B+ between terminals 1 and 2.	3 - 5	Continuity

If continuity is not as specified, replace the relay.

5. INSPECT HORN RELAY CIRCUIT
(See page BE-21)