DTC	B1790	Center Airbag Sensor Assembly Communication Circuit Malfunction

DESCRIPTION

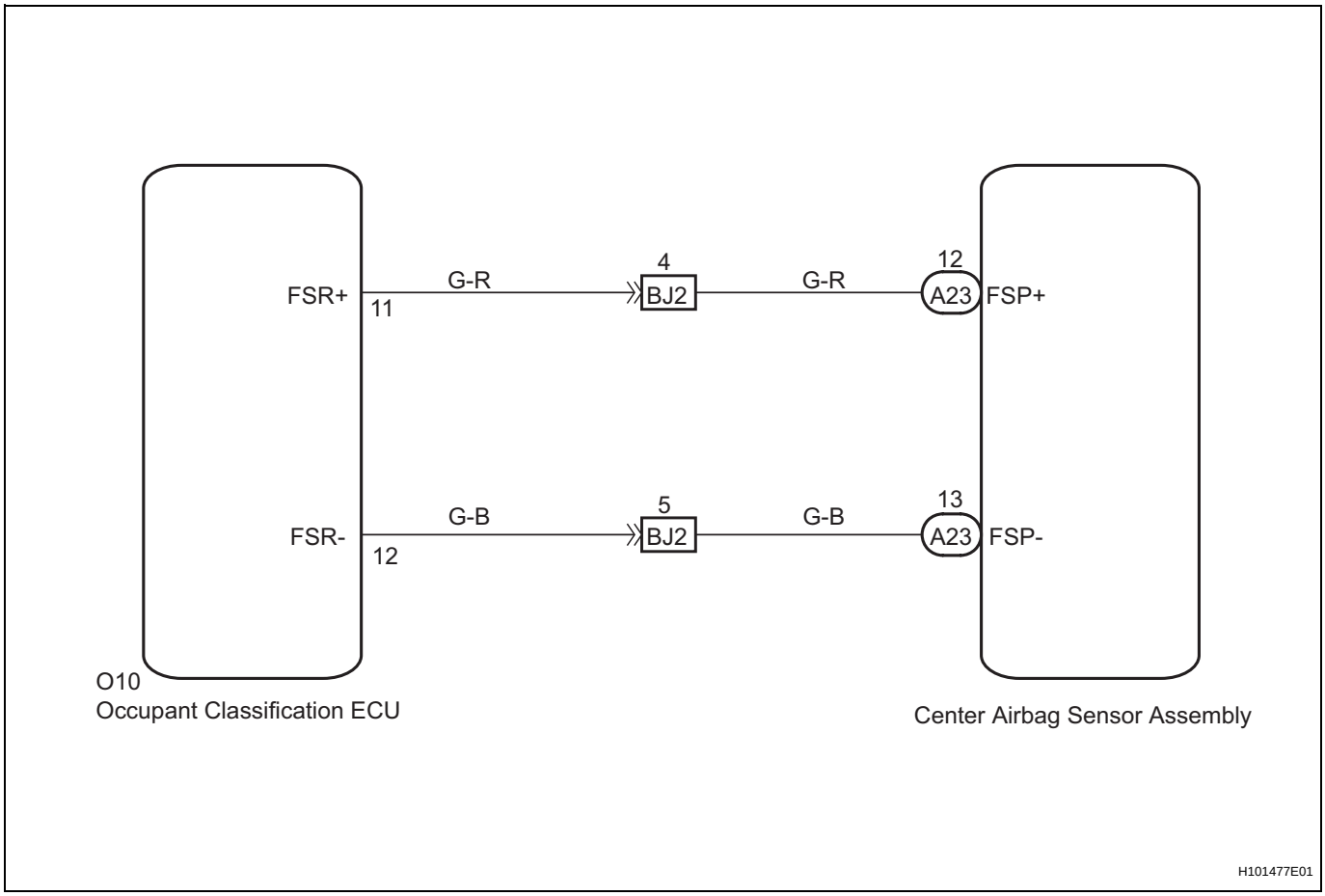
The center airbag sensor assembly communication circuit consists of the occupant classification ECU and the center airbag sensor assembly.
DTC B1790 is set when a malfunction is detected in the center airbag sensor assembly communication circuit.

DTC No.	DTC Detecting Conditions	Trouble Areas
B1790	• Occupant classification ECU receives line short circuit signal, open circuit signal, short circuit to ground signal or short circuit to B+ signal in center airbag sensor assembly communication circuit for 2 seconds • Center airbag sensor assembly malfunction • Occupant classification ECU malfunction	• No. 1 seat wire • Floor wire • Occupant classification ECU • Center airbag sensor assembly

HINT:

- When DTC B1650/32 is detected as a result of troubleshooting the supplemental restraint system, check the DTCs stored in the occupant classification ECU, and perform troubleshooting for those DTCs first.
- Use the intelligent tester to check for DTCs of the occupant classification ECU, otherwise the DTCs cannot be read.

WIRING DIAGRAM



RS

CAUTION:
In order to prevent unexpected airbag deployment, disconnect the following connectors before inspecting parts such as wire harnesses, if the application of tester probes to the center airbag sensor assembly connector is necessary.
(a) Turn the ignition switch to the LOCK position.
(b) Disconnect the negative (-) terminal cable from the battery, and wait for at least 90 seconds.
(c) Disconnect the connectors from the center airbag sensor assembly.
(d) Disconnect the connectors from the steering pad assembly.
(e) Disconnect the connector from the front passenger airbag assembly.
(f) Disconnect the connector from the front seat outer belt assembly LH.
(g) Disconnect the connector from the front seat outer belt assembly RH.
HINT:
Skip the following steps if side and curtain shield airbags are not fitted.
(h) Disconnect the connector from the front seat side airbag assembly LH.
(i) Disconnect the connector from the front seat side airbag assembly RH.
(j) Disconnect the connector from the curtain shield airbag assembly LH.
(k) Disconnect the connector from the curtain shield airbag assembly RH.
HINT:
- If troubleshooting (wire harness inspection) is difficult to perform, remove the front RH seat assembly installation bolts to see the under surface of the seat cushion.
- In the above case, hold the seat so that it does not tip over. Holding the seat up for a long period of time may cause problems, such as seat rail deformation. Hold the seat up only for as long as necessary.

1	CHECK DTC

(a) Turn the ignition switch to the ON position.
(b) Clear any DTCs stored in the memory (See page RS-487).
HINT:
First clear DTCs stored in the occupant classification ECU and then in the center airbag sensor assembly.
(c) Turn the ignition switch to the LOCK position.
(d) Turn the ignition switch to the ON position.
(e) Check the DTCs (See page RS-487).
OK:
DTC B1790 is not output.
HINT:
DTCs other than B1790 may be output at this time, but they are not related to this check.

RS

OK → **USE SIMULATION METHOD TO CHECK**

NG

2	CHECK CONNECTORS

(a) Turn the ignition switch to the LOCK position.
(b) Disconnect the negative (-) terminal cable from the battery, and wait for at least 90 seconds.
(c) Check that the connectors are properly connected to the occupant classification ECU and the center airbag sensor assembly.

OK:

The connectors are properly connected.

(d) Disconnect the connectors from the center airbag sensor assembly and occupant classification ECU.

(e) Check that the terminals of the connectors are not damaged.

OK:

The terminals are not deformed or damaged.

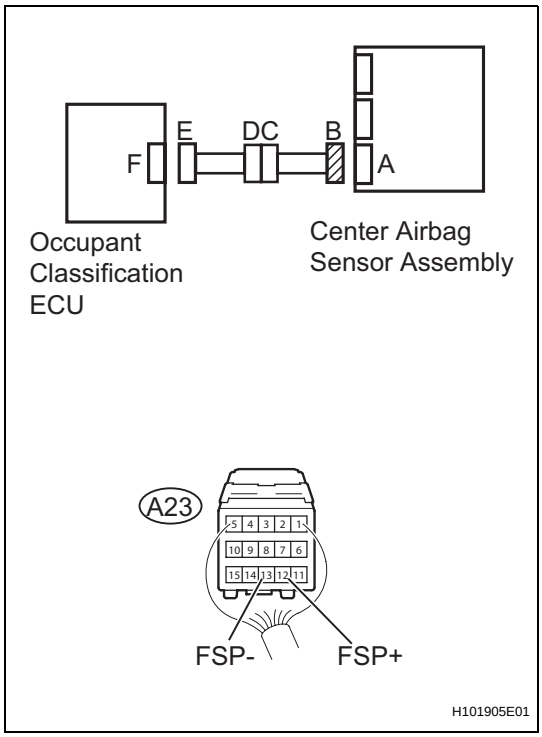
HINT:

If the connectors are not connected securely, reconnect the connectors and proceed to the next inspection.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

3 CHECK CENTER AIRBAG SENSOR ASSEMBLY COMMUNICATION CIRCUIT (TO B+)



(a) Disconnect the connectors from the occupant classification ECU and center airbag sensor assembly.

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

(c) Turn the ignition switch to the ON position.

(d) Measure the voltage.

Standard voltage

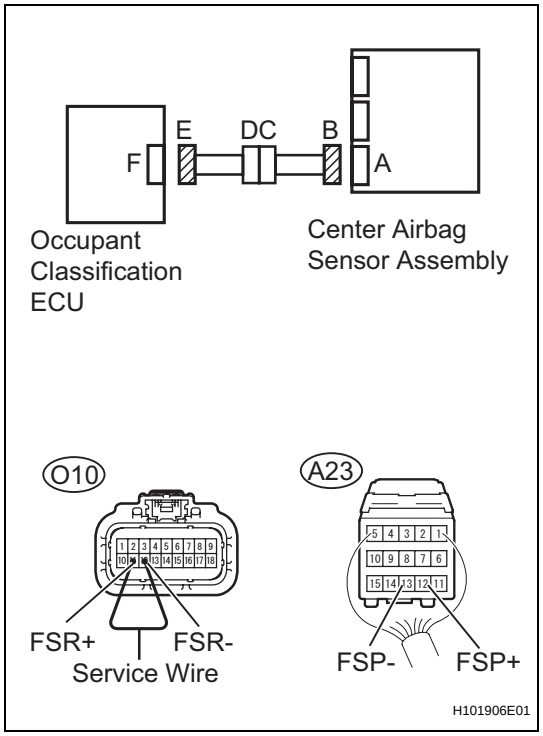
Tester Connection	Condition	Specified Condition
A23-12 (FSP+) - Body ground	Ignition switch ON	Below 1 V
A23-13 (FSP-) - Body ground	Ignition switch ON	Below 1 V

NG → **Go to step 12**

OK

RS

4 CHECK CENTER AIRBAG SENSOR ASSEMBLY COMMUNICATION CIRCUIT (FOR OPEN)



(a) Turn the ignition switch to the LOCK position.
(b) Disconnect the negative (-) terminal cable from the battery, and wait for at least 90 seconds.
(c) Using a service wire, connect O10-11 (FSR+) and O10-12 (FSR-) of connector E.

NOTICE:
Do not forcibly insert the service wire into the terminals of the connector when connecting.

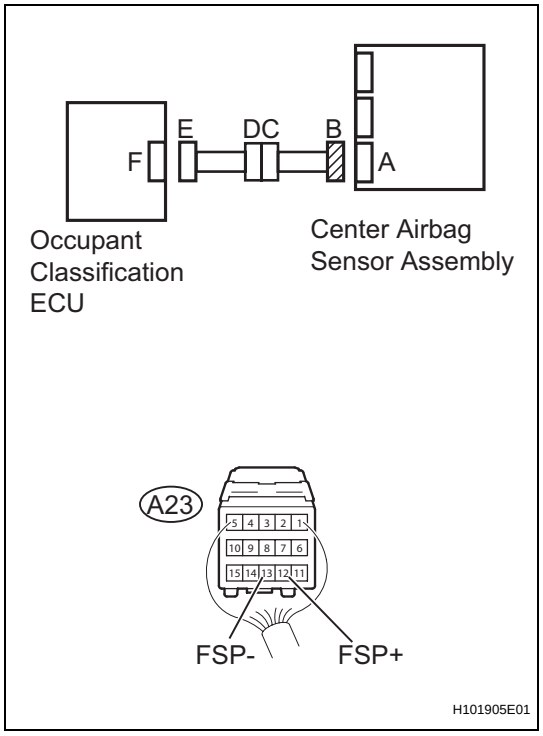
(d) Measure the resistance.
Standard resistance

Tester Connection	Condition	Specified Condition
A23-12 (FSP+) - A23-13 (FSP-)	Always	Below 1 Ω

NG → **Go to step 13**

OK

5 CHECK CENTER AIRBAG SENSOR ASSEMBLY COMMUNICATION CIRCUIT (TO GROUND)



(a) Disconnect the service wire from connector E.
(b) Measure the resistance.
Standard resistance

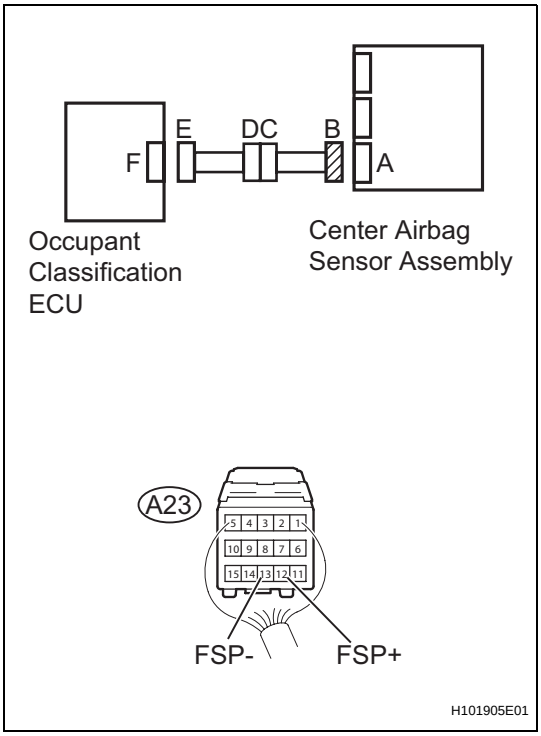
Tester Connection	Condition	Specified Condition
A23-12 (FSP+) - Body ground	Always	1 MΩ or higher
A23-13 (FSP-) - Body ground	Always	1 MΩ or higher

NG → **Go to step 14**

RS

OK

6	CHECK CENTER AIRBAG SENSOR ASSEMBLY COMMUNICATION CIRCUIT (FOR SHORT)



(a) Measure the resistance.
Standard resistance

Tester Connection	Condition	Specified Condition
A23-12 (FSP+) - A23-13 (FSP-)	Always	1 MΩ or higher

NG → **Go to step 15**

OK

7	RECHECK DTC

(a) Connect the connectors to the occupant classification ECU and the center airbag sensor assembly.
(b) Connect the negative (-) terminal cable to the battery.
(c) Turn the ignition switch to the ON position.
(d) Clear any DTCs stored in the memory (See page RS-487).

HINT:
First clear DTCs stored in the occupant classification ECU and then in the center airbag sensor assembly.

(e) Turn the ignition switch to the LOCK position.
(f) Turn the ignition switch to the ON position.
(g) Check the DTCs (See page RS-487).
OK:
DTC B1790 is not output.

HINT:
DTCs other than B1790 may be output at this time, but they are not related to this check.

NG → **USE SIMULATION METHOD TO CHECK**

NG

RS

8	REPLACE OCCUPANT CLASSIFICATION ECU

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch to the ON position.
(c) Store the occupant classification ECU data into the intelligent tester (See page RS-476).
HINT:
If the ECU data cannot be stored in the intelligent tester, replace the front seat cushion assembly (with occupant classification ECU and occupant classification sensor).
(d) Turn the ignition switch to the LOCK position.
(e) Disconnect the negative (-) terminal cable from the battery, and wait for at least 90 seconds.
(f) Replace the occupant classification ECU (See page RS-634).
(g) Connect the negative (-) terminal cable to the battery.
(h) Turn the ignition switch to the ON position.
(i) Load the data from the previous ECU stored in the tester, into the newly installed ECU (See page RS-476).
(j) Turn the ignition switch to the LOCK position.
(k) Turn the ignition switch to the ON position.
(l) Clear the DTCs stored in the memory (See page RS-487).
HINT:
If DTC is not cleared at this time, past DTC will remain.

NEXT

9	CHECK DTC

(a) Turn the ignition switch to the ON position.
(b) Clear the DTCs stored in the memory (See page RS-487).
HINT:
First clear DTCs stored in the occupant classification ECU and then in the center airbag sensor assembly.
(c) Turn the ignition switch to the LOCK position.
(d) Turn the ignition switch to the ON position.
(e) Check the DTCs (See page RS-487).
OK:
DTC B1790 is not output.
HINT:
DTCs other than B1771 may be output at this time, but they are not related to this check.

OK	Go to step 11

NG

10	REPLACE CENTER AIRBAG SENSOR ASSEMBLY

(a) Turn the ignition switch to the LOCK position.

RS

(b) Disconnect the negative (-) terminal cable from the battery, and wait for at least 90 seconds.
(c) Replace the center airbag sensor assembly (See page RS-602).

NEXT

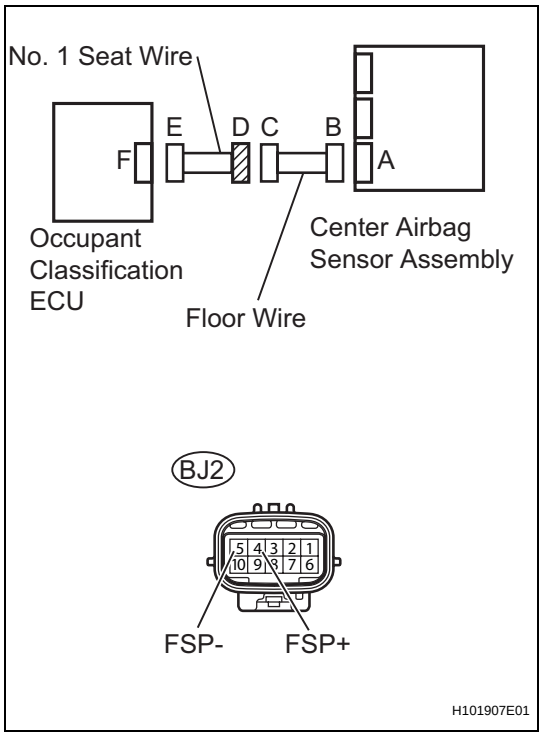
11	PERFORM SENSITIVITY CHECK

(a) Perform the sensitivity check (See page RS-480).

NEXT

END

12	CHECK NO. 1 SEAT WIRE (TO B+)



(a) Turn the ignition switch to the LOCK position.
(b) Disconnect the negative (-) terminal cable from the battery, and wait for at least 90 seconds.
(c) Disconnect the No. 1 seat wire connector from the floor wire.
(d) Connect the negative (-) terminal cable to the battery and wait for at least 2 seconds.
(e) Turn the ignition switch to the ON position.
(f) Measure the voltage.

Standard voltage

Tester Connection	Condition	Specified Condition
BJ2-4 (FSP+) - Body ground	Ignition switch ON	Below 1 V
BJ2-5 (FSP-) - Body ground	Ignition switch ON	Below 1 V

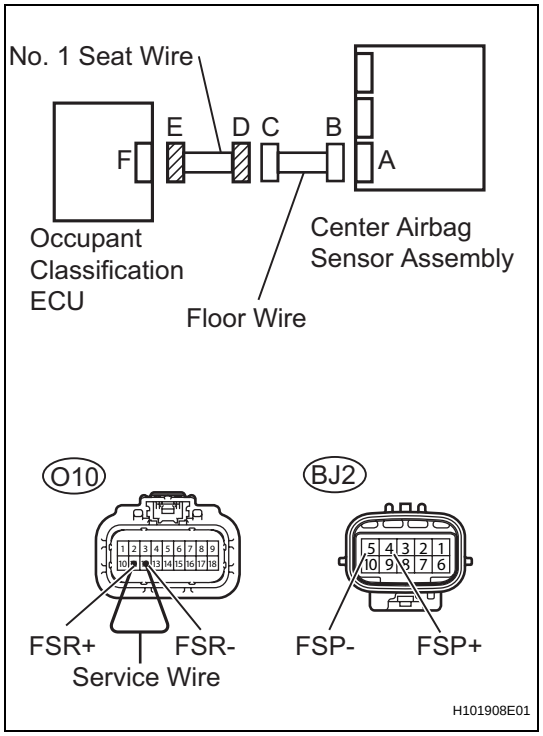
NG → REPAIR OR REPLACE NO. 1 SEAT WIRE

OK

REPAIR OR REPLACE FLOOR WIRE

RS

13	CHECK NO. 1 SEAT WIRE (FOR OPEN)



(a) Disconnect the No. 1 seat wire connector from the floor wire.

HINT:

The service wire has already been inserted into connector E.

(b) Measure the resistance.

Standard resistance

Tester Connection	Condition	Specified Condition
BJ2-4 (FSP+) - BJ2-5 (FSP-)	Always	Below 1 Ω

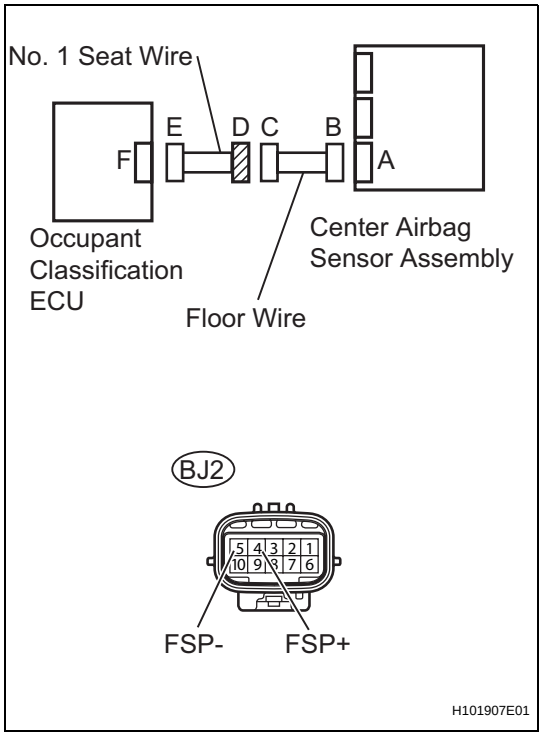
NG → **REPAIR OR REPLACE NO. 1 SEAT WIRE**

OK

REPAIR OR REPLACE FLOOR WIRE

RS

14	CHECK NO. 1 SEAT WIRE (TO GROUND)



(a) Disconnect the No. 1 seat wire connector from the floor wire.

(b) Measure the resistance.

Standard resistance

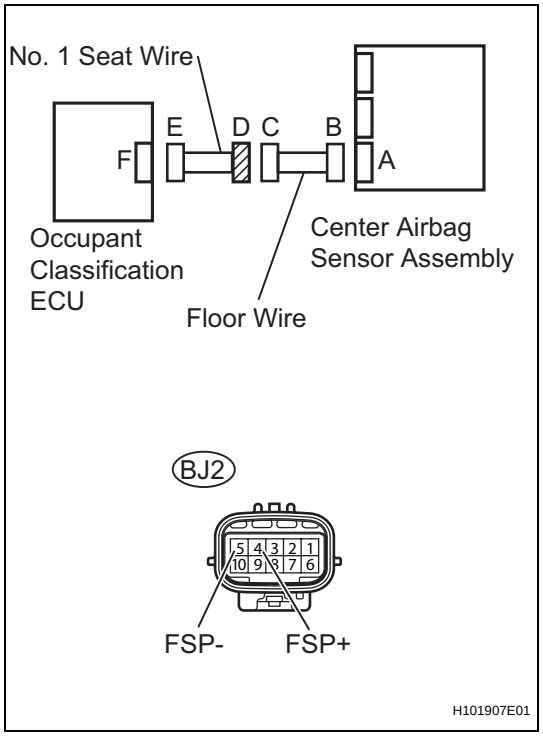
Tester Connection	Condition	Specified Condition
BJ2-4 (FSP+) - Body ground	Always	1 MΩ or higher
BJ2-5 (FSP-) - Body ground	Always	1 MΩ or higher

NG → **REPAIR OR REPLACE NO. 1 SEAT WIRE**

OK

REPAIR OR REPLACE FLOOR WIRE

15	CHECK NO. 1 SEAT WIRE (FOR SHORT)



(a) Disconnect the No. 1 seat wire connector from the floor wire.
(b) Measure the resistance.
Standard resistance

Tester Connection	Condition	Specified Condition
BJ2-4 (FSP+) - BJ2-5 (FSP-)	Always	1 MΩ or higher

NG → **REPAIR OR REPLACE NO. 1 SEAT WIRE**

OK

REPAIR OR REPLACE FLOOR WIRE

RS