DTC	B1781	Front Occupant Classification Sensor RH Circuit Malfunction

DESCRIPTION

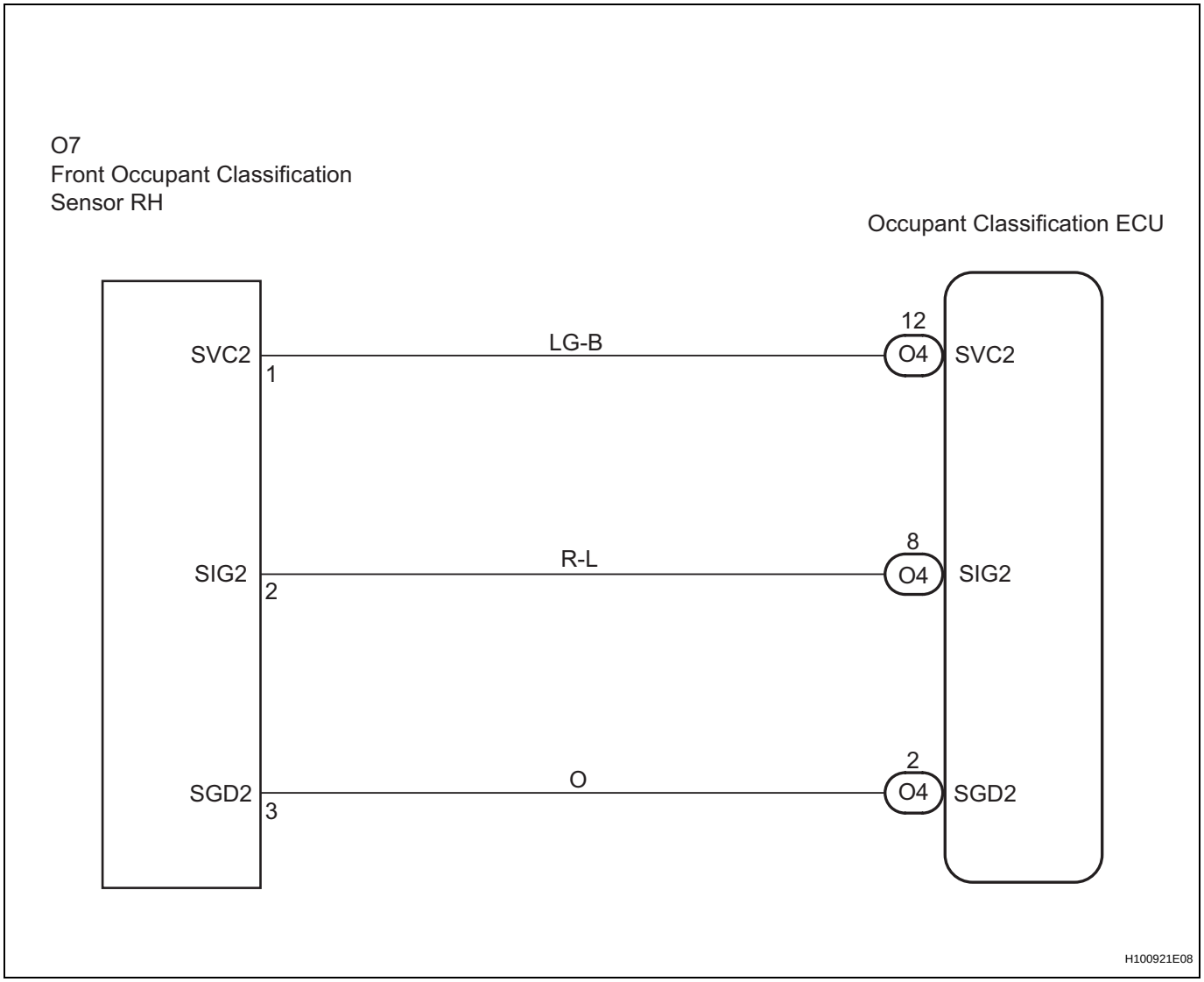
The front occupant classification sensor RH circuit consists of the occupant classification ECU and the front occupant classification sensor RH.
DTC B1781 is set when a malfunction is detected in the front occupant classification sensor RH circuit.

DTC No.	DTC Detecting Conditions	Trouble Areas
B1781	• The occupant classification ECU receives a line short circuit signal, an open circuit signal, a short circuit to ground signal or a short circuit to B+ signal in the front occupant classification sensor RH circuit for 2 seconds • Occupant classification sensor front RH malfunction • Occupant classification ECU malfunction	• Front seat with adjuster frame assembly RH (Front occupant classification sensor RH) • No. 1 seat wire • Occupant classification ECU

HINT:

- When DTC B1650/32 is detected as a result of troubleshooting the supplemental restraint system, perform troubleshooting for DTC B1781 of the occupant classification system.
- Use the intelligent tester to check for DTCs of the occupant classification ECU, otherwise the DTC cannot be read.

WIRING DIAGRAM



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 fall down. Holding the seat for a long period of time may cause problems, such as seat rail deformation. Hold the seat up only for as long as necessary.

RS

1	CHECK DTC

(a) Turn the ignition switch to the ON position.
(b) Clear any DTCs stored in the memory (See page RS-365).

HINT:

- First clear DTCs stored in the occupant classification ECU and then in the center airbag sensor assembly.
- Use the intelligent tester to clear the DTCs of the occupant classification ECU, otherwise the DTCs cannot be cleared.

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

(e) Using the intelligent tester, check for DTCs of the occupant classification ECU (See page RS-365).
OK:
DTC B1781 is not output.

HINT:
DTCs other than B1781 may be output at this time, but they are not related to this check.

OK	**USE SIMULATION METHOD TO CHECK**

NG

2	**CHECK CONNECTION OF 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 front occupant classification sensor RH.
OK:
The connectors are properly connected.

NG	**OTHERS CONNECTORS**

OK

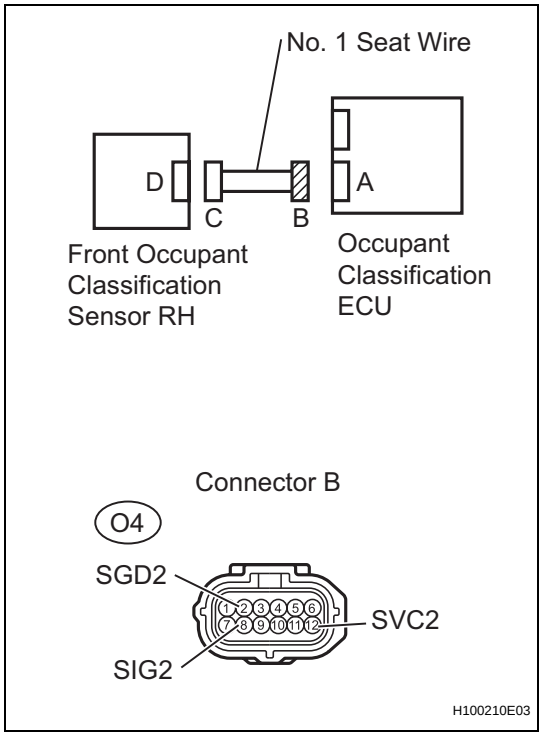
3	**CHECK CONNECTORS**

(a) Check that the connectors (on the occupant classification ECU side and front occupant classification sensor RH side) are not damaged (See page IN-34).
OK:
The connectors are not deformed or damaged.

NG	**REPAIR OR REPLACE WIRE HARNESS**

OK

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



(a) Disconnect the connectors from the occupant classification ECU and the front occupant classification sensor RH.
(b) Connect the negative (-) terminal cable to the battery.
(c) Turn the ignition switch to the ON position.
(d) Measure the voltage.

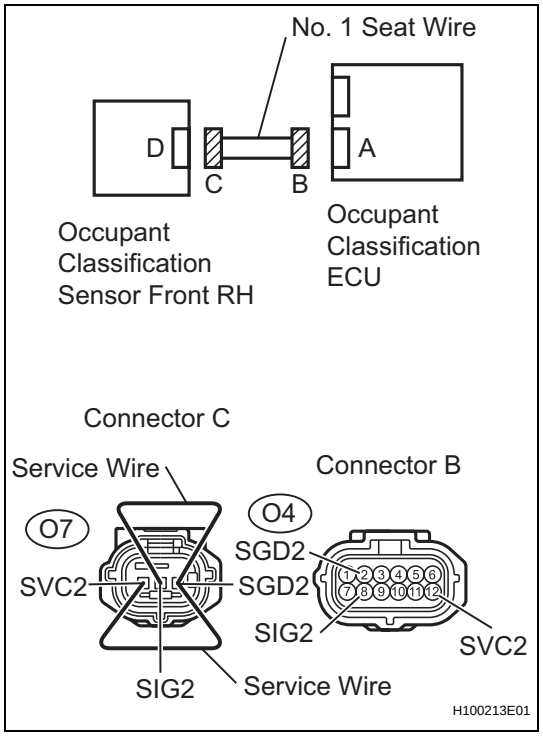
Standard voltage

Tester Connection	Condition	Specified Condition
O4-2 (SGD2) - Body ground	Ignition switch ON	Below 1 V
O4-8 (SIG2) - Body ground	Ignition switch ON	Below 1 V
O4-12 (SVC2) - Body ground	Ignition switch ON	Below 1 V

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

OK

5 CHECK NO. 1 SEAT WIRE (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 service wires, connect O7-1 (SVC2) and O7-3 (SGD2), and connect O7-2 (SIG2) and O7-3 (SGD2) of connector C.

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

(d) Measure the resistance.

Standard resistance

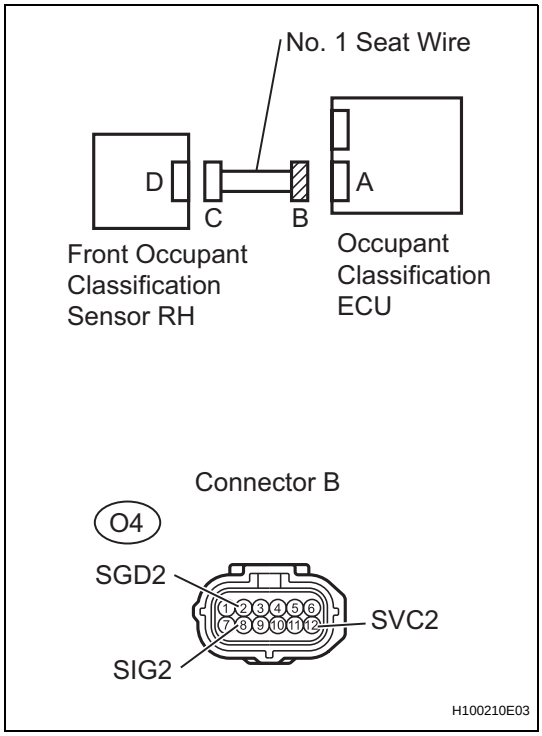
Tester Connection	Condition	Specified Condition
O4-8 (SIG2) - O4-2 (SGD2)	Always	Below 1 Ω
O4-12 (SVC2) - O4-2 (SGD2)	Always	Below 1 Ω

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

OK

RS

6 CHECK NO. 1 SEAT WIRE (FOR SHORT)



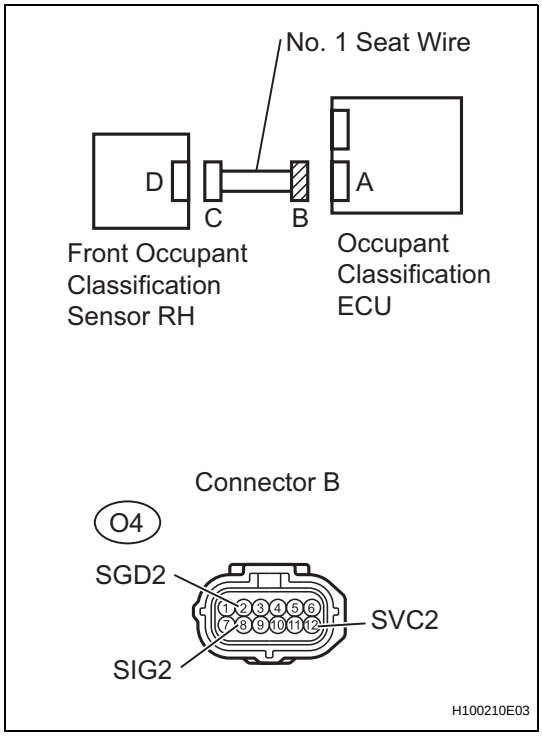
(a) Disconnect the service wires from connector C.
(b) Measure the resistance.
Standard resistance

Tester Connection	Condition	Specified Condition
O4-8 (SIG2) - O4-2 (SGD2)	Always	1 MΩ or higher
O4-12 (SVC2) - O4-2 (SGD2)	Always	1 MΩ or higher
O4-8 (SIG2) - O4-12 (SVC2)	Always	1 MΩ or higher

NG → REPAIR OR REPLACE NO. 1 SEAT WIRE

OK

7 CHECK NO. 1 SEAT WIRE (TO GROUND)



(a) Measure the resistance.
Standard resistance

Tester Connection	Condition	Specified Condition
O4-2 (SGD2) - Body ground	Always	1 MΩ or higher
O4-8 (SIG2) - Body ground	Always	1 MΩ or higher
O4-12 (SVC2) - Body ground	Always	1 MΩ or higher

NG → REPAIR OR REPLACE NO. 1 SEAT WIRE

OK

RS

8	CHECK DTC

(a) Connect the connectors to the occupant classification ECU and the front occupant classification sensor RH.
(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-365).

HINT:
- First clear DTCs stored in the occupant classification ECU and then in the center airbag sensor assembly.
- Use the intelligent tester to clear the DTCs of the occupant classification ECU, otherwise the DTCs cannot be cleared.

(e) Turn the ignition switch to the LOCK position.
(f) Turn the ignition switch to the ON position.
(g) Using the intelligent tester, check for DTCs of the occupant classification ECU (See page RS-365).
OK:
DTC B1781 is not output.

HINT:
DTCs other than B1781 may be output at this time, but they are not related to this check.

OK	USE SIMULATION METHOD TO CHECK

NG

9	REPLACE OCCUPANT CLASSIFICATION ECU

(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) Replace the occupant classification ECU (See page RS-631).

HINT:
Perform the inspection using parts from a normal vehicle when possible.

NEXT

10	PERFORM ZERO POINT CALIBRATION

(a) Connect the negative (-) terminal cable to the battery.
(b) Connect the intelligent tester to the DLC3.
(c) Turn the ignition switch to the ON position.
(d) Using the intelligent tester, perform the zero point calibration (See page RS-357).
OK:
COMPLETED is displayed on the tester.

NG	Go to step 13

OK

11	PERFORM SENSITIVITY CHECK

(a) Using the intelligent tester, perform the sensitivity check (See page RS-357).
Standard value:
27 to 33 kg (59.52 to 72.75 lb)

NG → **Go to step 13**

OK

12	CHECK DTC

(a) Connect the negative (-) terminal cable to the battery.
(b) Turn the ignition switch to the ON position.
(c) Clear any DTCs stored in the memory (See page RS-365).

HINT:
- First clear DTCs stored in the occupant classification ECU and then in the center airbag sensor assembly.
- Use the intelligent tester to clear the DTCs of the occupant classification ECU, otherwise the DTCs cannot be cleared.

(d) Turn the ignition switch to the LOCK position.
(e) Turn the ignition switch to the ON position.
(f) Using the intelligent tester, check for DTCs of the occupant classification ECU (See page RS-365).
OK:
DTC B1781 is not output.

HINT:
DTCs other than B1781 may be output at this time, but they are not related to this check.

OK → **USE SIMULATION METHOD TO CHECK**

NG

RS

13	REPLACE FRONT SEAT WITH ADJUSTER FRAME ASSEMBLY RH

(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) Replace the front seat with adjuster frame assembly RH (See page SE-38).

NEXT

14	PERFORM ZERO POINT CALIBRATION

(a) Connect the negative (-) terminal cable to the battery.
(b) Connect the intelligent tester to the DLC3.
(c) Turn the ignition switch to the ON position.

(d) Using the intelligent tester, perform the zero point calibration (See page RS-357).
OK:
COMPLETED is displayed on the tester.

NEXT

15	PERFORM SENSITIVITY CHECK

(a) Using the intelligent tester, perform the sensitivity check (See page RS-357).
Standard value:
27 to 33 kg (59.52 to 72.75 lb)

NEXT

USE SIMULATION METHOD TO CHECK