DTC	B1780	OCCUPANT CLASSIFICATION SENSOR FRONT LH CIRCUIT MALFUNCTION

CIRCUIT DESCRIPTION

The occupant classification sensor front LH circuit consists of the occupant classification ECU and the occupant classification sensor front LH.

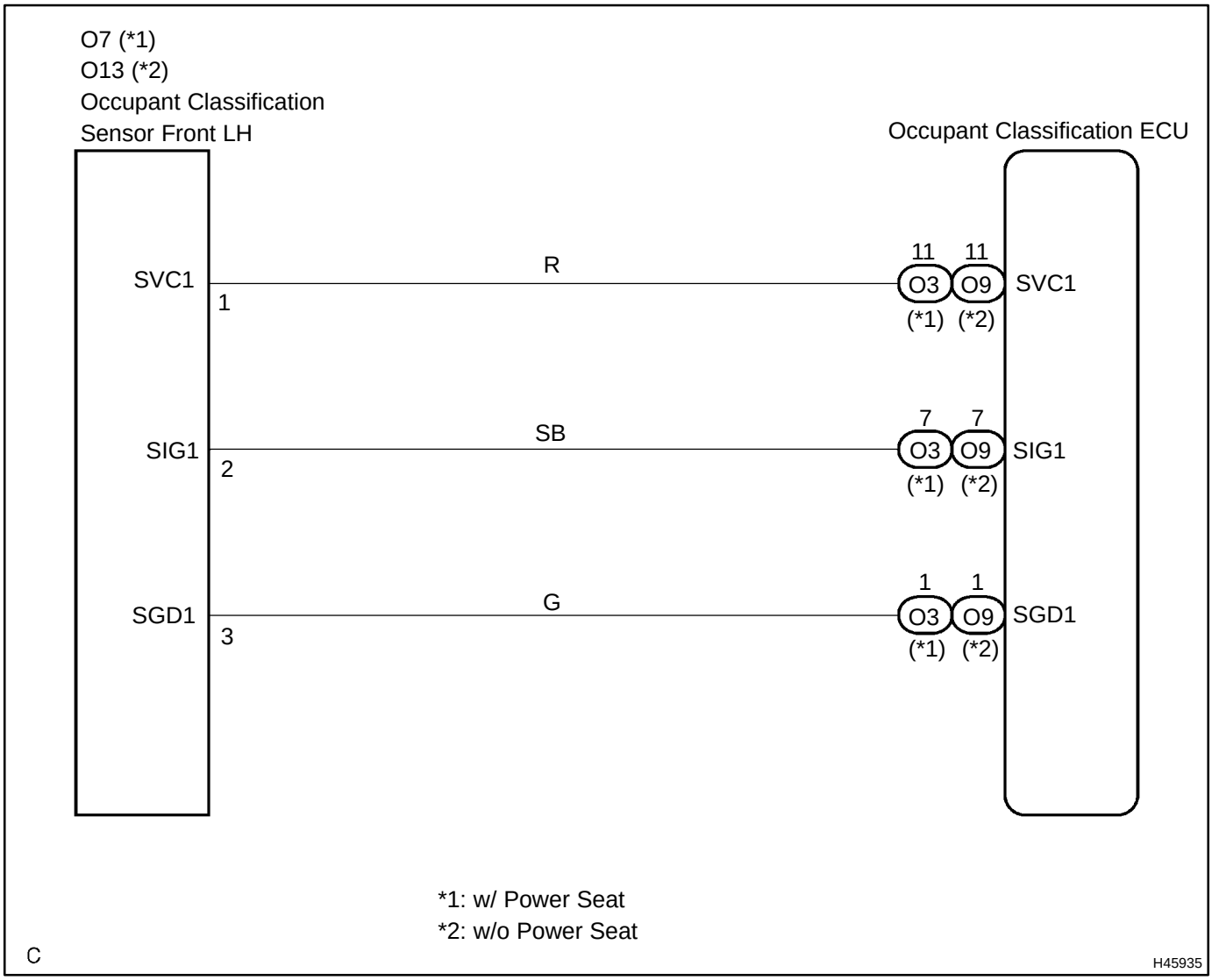
DTC B1780 is recorded when a malfunction is detected in the occupant classification sensor front LH circuit.

DTC No.	DTC Detecting Condition	Trouble Area
B1780	• 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 occupant classification sensor front LH circuit for 2 seconds. • Occupant classification sensor front LH malfunction • Occupant classification ECU malfunction	• Seat adjuster frame assy RH (Occupant classification sensor front LH) • Front seat wire RH • Occupant classification ECU

HINT:

- When DTC B1650/32 is detected as a result of troubleshooting for the supplemental restraint system, perform troubleshooting for DTC B1780 of the occupant classification system.
- Use the hand−held tester to check the DTC of the occupant classification ECU, otherwise the DTC cannot be read.

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:

- If troubleshooting (wire harness inspection) is difficult to perform, remove the front RH seat assy installation bolts to see the under surface of 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 a problem, such as seat rail deformation. Hold the seat only as necessary.

1	CHECK DTC

(a) Turn the ignition switch to the ON position.
(b) Clear the DTCs stored in memory (see page 05−1464).

HINT:

- First clear DTCs stored in the occupant classification ECU and then in the airbag sensor assy center.
- Use the hand−held tester to clear the DTC of the occupant classification ECU, otherwise the DTC cannot be cleared.

(c) Turn the ignition switch to the LOCK position.
(d) Turn the ignition switch to the ON position.
(e) Using the hand−held tester, check the DTCs (see page 05−1464).

OK:

DTC B1780 is not output.

HINT:

Codes other than code B1780 may be output at this time, but they are not related to this check.

NG → **Go to step 2**

OK

USE SIMULATION METHOD TO CHECK (SEE PAGE 05−1456)

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 occupant classification sensor front LH.

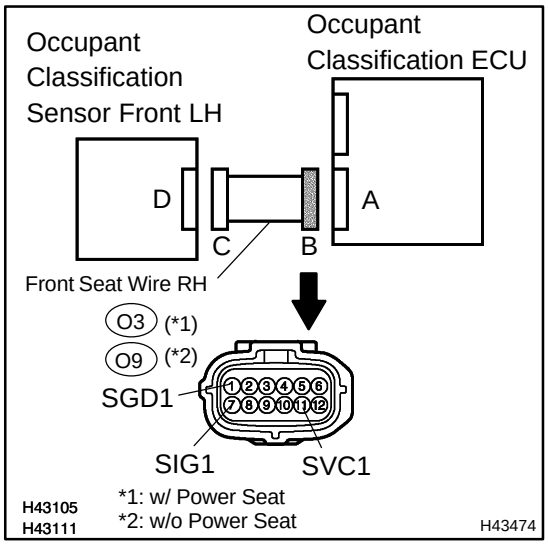
OK:

The connectors are connected.

NG → **CONNECT CONNECTORS, THEN GO TO STEP 1**

OK

3 CHECK FRONT SEAT WIRE RH (TO B+)



(a) Disconnect the connectors from the occupant classification ECU and the occupant classification sensor front LH.
(b) Connect the negative (−) terminal cable to the battery.
(c) Turn the ignition switch to the ON position.
(d) Measure the voltage according to the value(s) in the table below.

Standard:

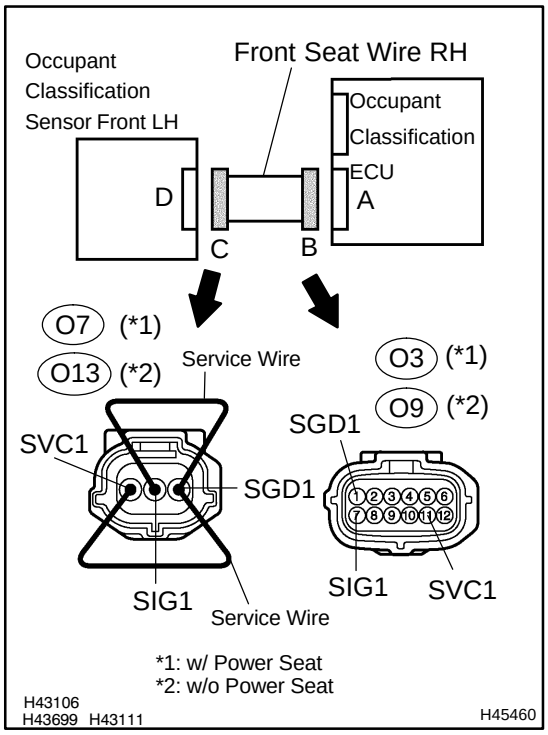
Tester connection	Condition	Specified condition
O3−1 (SGD1) − Body ground (*1)	Ignition switch ON	Below 1 V
O3−7 (SIG1) − Body ground (*1)	Ignition switch ON	Below 1 V
O3−11 (SVC1) − Body ground (*1)	Ignition switch ON	Below 1 V
O9−1 (SGD1) − Body ground (*2)	Ignition switch ON	Below 1 V
O9−7 (SIG1) − Body ground (*2)	Ignition switch ON	Below 1 V
O9−11 (SVC1) − Body ground (*2)	Ignition switch ON	Below 1 V

*1: w/ Power seat
*2: w/o Power seat

NG → **REPAIR OR REPLACE FRONT SEAT WIRE RH**

OK

4 CHECK FRONT SEAT WIRE RH (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) w/ Power seat:
Using a service wire, connect O7−1 (SVC1) and O7−3 (SGD1), and connect O7−2 (SIG1) and O7−3 (SGD1) of connector ”C”.
(d) w/o Power seat:
Using a service wire, connect O13−1 (SVC1) and O13−3 (SGD1), and connect O13−2 (SIG1) and O13−3 (SGD1) of connector ”C”.

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

(e) Measure the resistance according to the value(s) in the table below.
Standard:

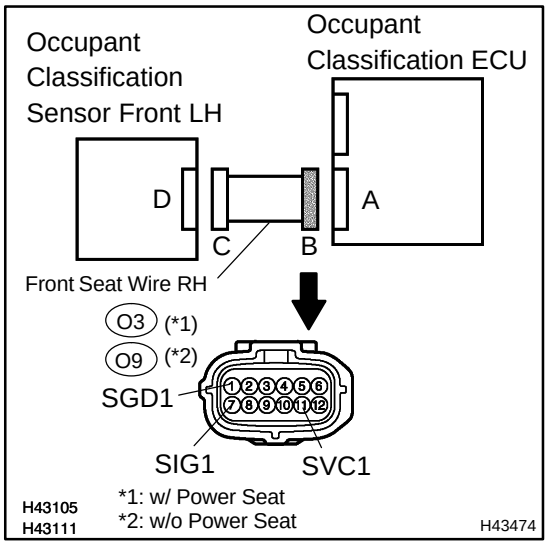
Tester connection	Condition	Specified condition
O3−7 (SIG1) − O3−1 (SGD1) (*1)	Always	Below 1 Ω
O3−11 (SVC1) − O3−1 (SGD1) (*1)	Always	Below 1 Ω
O9−7 (SIG1) − O9−1 (SGD1) (*2)	Always	Below 1 Ω
O9−11 (SVC1) − O9−1 (SGD1) (*2)	Always	Below 1 Ω

*1: w/ Power seat
*2: w/o Power seat

NG → **REPAIR OR REPLACE FRONT SEAT WIRE RH**

OK

5 CHECK FRONT SEAT WIRE RH (SHORT)



(a) Disconnect the service wire from connector ”C”.
(b) Measure the resistance according to the value(s) in the table below.

Standard:

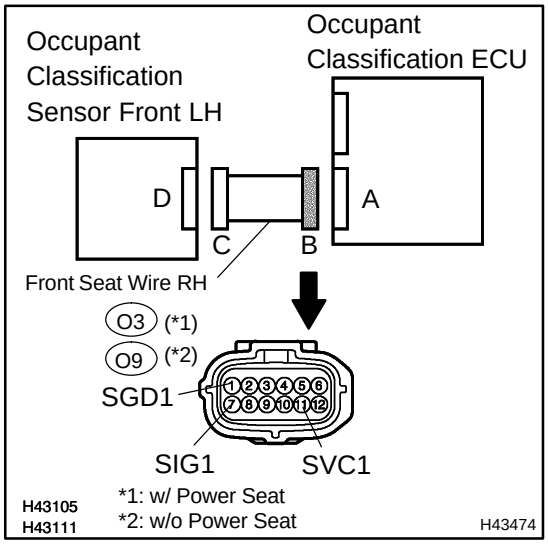
Tester connection	Condition	Specified condition
O3−7 (SIG1) − O3−1 (SGD1) (*1)	Always	1 MΩ or Higher
O3−11 (SVC1) − O3−1 (SGD1) (*1)	Always	1 MΩ or Higher
O3−7 (SIG1) − O3−11 (SVC1) (*1)	Always	1 MΩ or Higher
O9−7 (SIG1) − O9−1 (SGD1) (*2)	Always	1 MΩ or Higher
O9−11 (SVC1) − O9−1 (SGD1) (*2)	Always	1 MΩ or Higher
O9−7 (SIG1) − O9−11 (SVC1) (*2)	Always	1 MΩ or Higher

*1: w/ Power seat
*2: w/o Power seat

NG → **REPAIR OR REPLACE FRONT SEAT WIRE RH**

OK

6 CHECK FRONT SEAT WIRE RH (TO GROUND)



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

Standard:

Tester connection	Condition	Specified condition
O3−1 (SGD1) − Body ground (*1)	Always	1 MΩ or Higher
O3−7 (SIG1) − Body ground (*1)	Always	1 MΩ or Higher
O3−11 (SVC1) − Body ground (*1)	Always	1 MΩ or Higher
O9−1 (SGD1) − Body ground (*2)	Always	1 MΩ or Higher
O9−7 (SIG1) − Body ground (*2)	Always	1 MΩ or Higher
O9−11 (SVC1) − Body ground (*2)	Always	1 MΩ or Higher

*1: w/ Power seat
*2: w/o Power seat

NG → **REPAIR OR REPLACE FRONT SEAT WIRE RH**

OK

7	RECHECK DTC

(a) Connect the connectors to the occupant classification ECU and the occupant classification sensor front LH.
(b) Connect the negative (−) terminal cable to the battery.
(c) Turn the ignition switch to the ON position.
(d) Clear the DTCs stored in memory (see page 05−1464).

HINT:

- First clear DTCs stored in the occupant classification ECU and then in the airbag sensor assy center.
- Use the hand−held tester to clear the DTC of the occupant classification ECU, otherwise the DTC cannot be cleared.

(e) Turn the ignition switch to the LOCK position.
(f) Turn the ignition switch to the ON position.
(g) Using the hand−held tester, check the DTCs of the occupant classification ECU (see page 05−1464).
OK:
DTC B1780 is not output.

HINT:

Codes other than code B1780 may be output at this time, but they are not related to this check.

NG → **Go to step 8**

OK

USE SIMULATION METHOD TO CHECK (SEE PAGE 05−1456)

8	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 60−72).

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

NEXT

9	PERFORM ZERO POINT CALIBRATION

(a) Connect the negative (−) terminal cable to the battery.
(b) Connect the hand−held tester to the DLC3.
(c) Turn the ignition switch to the ON position.
(d) Using the hand−held tester, perform ”Zero point calibration” (see page 05−1452).
OK:
The ”COMPLETED” is displayed.

NG → **Go to step 12**

OK

10	PERFORM SENSITIVITY CHECK

(a) Using the hand−held tester, perform ”Sensitivity check” (see page 05−1452).
Standard value: 27 to 33 kg (59.52 to 72.75 lb)

NG → **Go to step 12**

OK

11	RECHECK DTC

(a) Turn the ignition switch to the ON position.
(b) Clear the DTCs stored in memory (see page 05−1464).

HINT:

- First clear DTCs stored in the occupant classification ECU and then in the airbag sensor assy center.
- Use the hand−held tester to clear the DTC of the occupant classification ECU, otherwise the DTC cannot be cleared.

(c) Turn the ignition switch to the LOCK position.
(d) Turn the ignition switch to the ON position.
(e) Using the hand−held tester, check the DTCs of the occupant classification ECU (see page 05−1464).
OK:
DTC B1780 is not output.

HINT:

Codes other than code B1780 may be output at this time, but they are not related to this check.

NG → **Go to step 12**

OK

END

12	REPLACE FRONT SEAT ADJUSTER SUB−ASSY

(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 seat adjuster frame assy (see page 72−23, 72−15).

NEXT

13	PERFORM ZERO POINT CALIBRATION

(a) Connect the negative (−) terminal cable to the battery.
(b) Connect the hand−held tester to the DLC3.
(c) Turn the ignition switch to the ON position.
(d) Using the hand−held tester, perform ”Zero point calibration” (see page 05−1452).
OK:
The ”COMPLETED” is displayed.

NEXT

14	PERFORM SENSITIVITY CHECK

(a) Using the hand−held tester, perform ”Sensitivity check” (see page 05−1452).
Standard value: 27 to 33 kg (59.52 to 72.75 lb)

NEXT

END