DTC	B1793	Occupant Classification Sensor Power Supply Circuit Malfunction

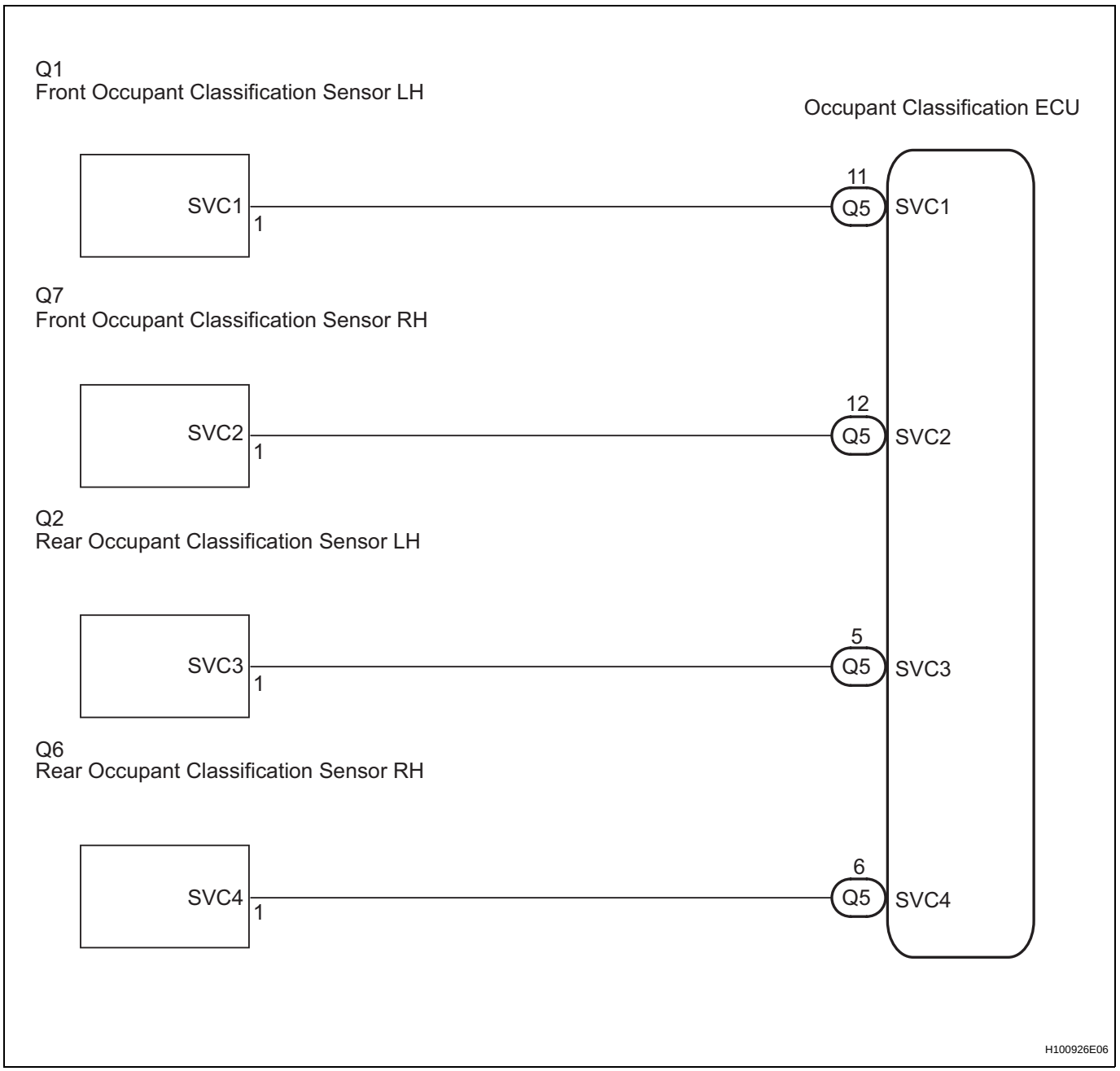
DESCRIPTION

The occupant classification sensor power supply circuit consists of the occupant classification ECU and the occupant classification sensors.

DTC B1793 is recorded when a malfunction is detected in the occupant classification sensor power supply circuit.

DTC No.	DTC Detecting Condition	Trouble Area
B1793	• Occupant classification ECU detects line short circuit signal, open circuit signal, short circuit to ground signal or short circuit to B+ signal in the occupant classification sensor power supply circuit for 2 seconds • Occupant classification ECU malfunction	• No. 1 seat wire • Front seat assembly RH (Occupant classification sensors) • Occupant classification ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:

- If troubleshooting (wire harness inspection) is difficult to perform, remove the front passenger seat 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 for a long period of time may cause a problem, 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 the DTCs stored in the memory (See page RS-254).

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-254).
OK:
DTC B1793 is not output.
HINT:
Codes other than DTC B1793 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

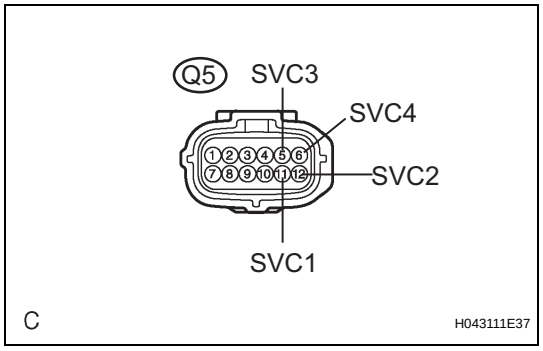
RS

(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 sensors.
OK:
The connectors are properly connected.

NG → **CONNECT CONNECTORS**

OK

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



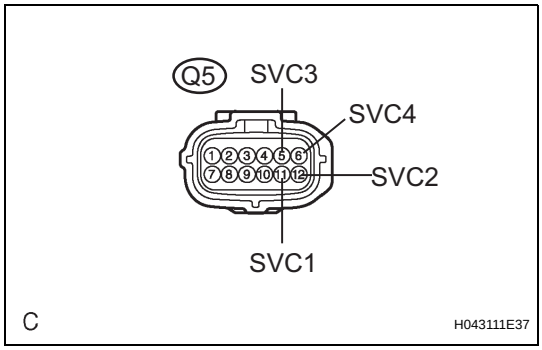
(a) Disconnect the connectors from the occupant classification ECU and the 4 occupant classification sensors.
(b) Connect the negative (-) terminal cable to the battery.
(c) Turn the ignition switch to the on position.
(d) Measure the voltage.
Standard voltage

Tester connection	Condition	Specified condition
Q5-11 (SVC1) - Body ground	Ignition switch on	Below 1 V
Q5-12 (SVC2) - Body ground	Ignition switch on	Below 1 V
Q5-5 (SVC3) - Body ground	Ignition switch on	Below 1 V
Q5-6 (SVC4) - Body ground	Ignition switch on	Below 1 V

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

OK

4	CHECK NO.1 SEAT WIRE (TO GROUND)



(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) Measure the resistance.

Standard resistance

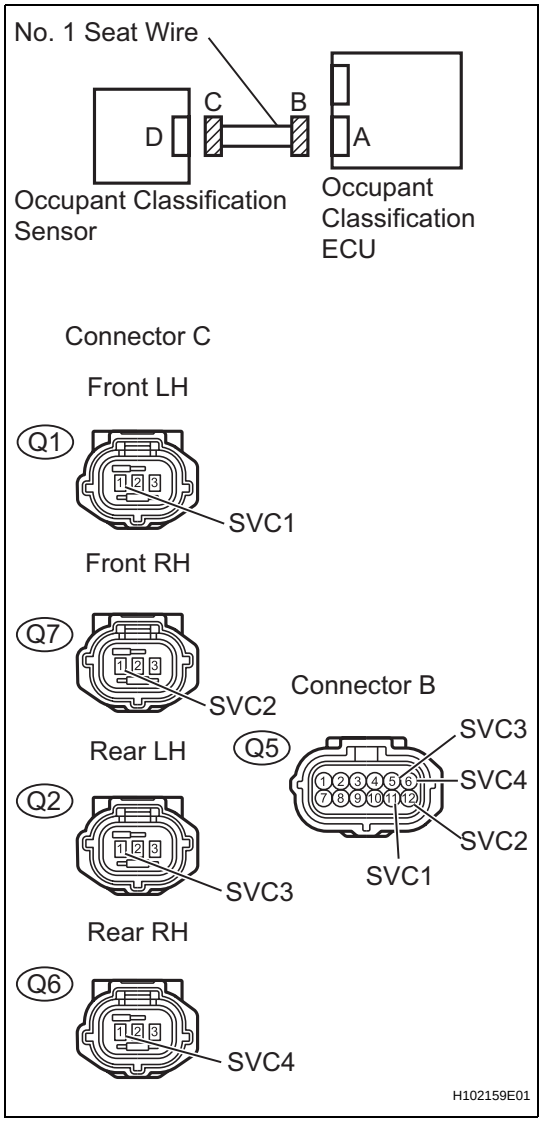
Tester connection	Condition	Specified condition
Q5-11 (SVC1) - Body ground	Always	1 MΩ or higher
Q5-12 (SVC2) - Body ground	Always	1 MΩ or higher
Q5-5 (SVC3) - Body ground	Always	1 MΩ or higher
Q5-6 (SVC4) - Body ground	Always	1 MΩ or higher

RS

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

OK

5 CHECK NO.1 SEAT WIRE (FOR OPEN)



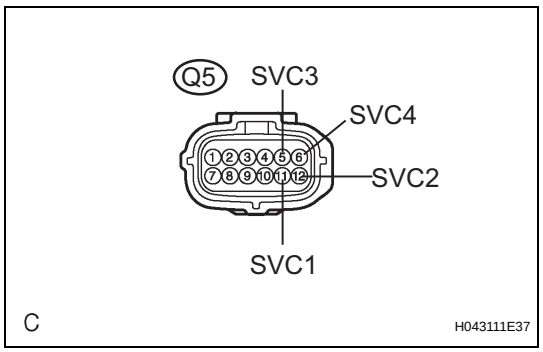
(a) Measure the resistance.
Standard resistance

Tester connection	Condition	Specified condition
Q5-11 (SVC1) - Q1-1 (SVC1)	Always	Below 1 Ω
Q5-12 (SVC2) - Q7-1 (SVC2)	Always	Below 1 Ω
Q5-5 (SVC3) - Q2-1 (SVC3)	Always	Below 1 Ω
Q5-6 (SVC4) - Q6- 1 (SVC4)	Always	Below 1 Ω

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

OK

6 CHECK NO.1 SEAT WIRE (FOR SHORT)



(a) Measure the resistance.
Standard resistance

Tester connection	Condition	Specified condition
Q5-5 (SVC3) - Q5-6 (SVC4)	Always	1 MΩ or higher
Q5-6 (SVC4) - Q5-11 (SVC1)	Always	1 MΩ or higher
Q5-11 (SVC1) - Q5-12 (SVC2)	Always	1 MΩ or higher
Q5-12 (SVC2) - Q5-5 (SVC3)	Always	1 MΩ or higher
Q5-12 (SVC2) - Q5-6 (SVC4)	Always	1 MΩ or higher

RS

Tester connection	Condition	Specified condition
Q5-11 (SVC1) - Q5-5 (SVC3)	Always	1 MΩ or higher

NG → REPAIR OR REPLACE NO.1 SEAT WIRE

OK

7 CHECK DTC

(a) Connect the connectors to the occupant classification ECU and the 4 occupant classification sensors.
(b) Connect the negative (-) terminal cable to the battery.
(c) Turn the ignition switch to the on position.
(d) Clear the DTCs stored in the memory (See page RS-254).
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-254).
OK:
DTC B1793 is not output.
HINT:
Codes other than DTC B1793 may be output at this time, but they are not related to this check.

OK → USE SIMULATION METHOD TO CHECK

NG

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 RS-412).
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 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-246).

OK:
COMPLETED is displayed.

NG → **Go to step 12**

OK

10	PERFORM SENSITIVITY CHECK

(a) Using the intelligent tester, perform the sensitivity check (See page RS-246).
(1) Confirm that nothing is placed on the passenger seat.
(2) Confirm that the beginning sensor reading is within the standard range.
Standard range:
-3.2 to 3.2 kg (-7 to 7 lb)
(3) Place a 30 kg (66.14 lb) weight (e.g. a lead mass) onto the front passenger seat.
(4) Confirm that the sensitivity is within the standard range.
Standard range:
27 to 33 kg (59.52 to 72.75 lb)
HINT:
When performing the sensitivity check, use a solid metal weight (the check result may not be accurate if a liquid weight is used).

NG → **Go to step 12**

OK

11	CHECK DTC

(a) Connect the negative (-) terminal cable to the battery.
(b) Turn the ignition switch to the on position.
(c) Clear the DTCs stored in the memory (See page RS-254).
HINT:
First clear DTCs stored in the occupant classification ECU and then in the center airbag sensor assembly.
(d) Turn the ignition switch to the lock position.
(e) Turn the ignition switch to the on position.
(f) Check the DTCs (See page RS-254).
OK:
DTC B1793 is not output.
HINT:
Codes other than DTC B1793 may be output at this time, but they are related to this check.

OK → **END**

NG

12	REPLACE FRONT SEAT 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 assembly RH (See page SE-5).

NEXT

13	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-246).
OK:
COMPLETED is displayed.

RS

NEXT

14	PERFORM SENSITIVITY CHECK

(a) Using the intelligent tester, perform the sensitivity check (See page RS-246).
(1) Confirm that nothing is placed on the passenger seat.
(2) Confirm that the beginning sensor reading is within the standard range.
Standard range:
-3.2 to 3.2 kg (-7 to 7 lb)
(3) Place a 30 kg (66.14 lb) weight (e.g. a lead mass) onto the front passenger seat.
(4) Confirm that the sensitivity is within the standard range.
Standard range:
27 to 33 kg (59.52 to 72.75 lb)
HINT:
When performing the sensitivity check, use a solid metal weight (the check result may not be accurate if a liquid weight is used).

NEXT

END