**DESCRIPTION**

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

<table>
<thead>
<tr>
<th>DTC No.</th>
<th>DTC Detecting Condition</th>
<th>Trouble Area</th>
</tr>
</thead>
</table>
| B1781   | • Occupant classification ECU detects line short circuit signal, open circuit signal, short circuit to ground signal or short circuit to B+ signal in the front occupant classification sensor RH circuit for 2 seconds  
• Front occupant classification sensor RH malfunction  
• Occupant classification ECU malfunction | • No. 1 seat wire  
• Front seat assembly RH (Front occupant classification sensor RH)  
• Occupant classification ECU |

**WIRING DIAGRAM**

Q7
Front Occupant Classification Sensor RH

![Wiring Diagram](H100921E25)
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 B1781 is not output.
   HINT:
   Codes other than DTC B1781 may be output at this time, but they are not related to this check.

NG

OK USE SIMULATION METHOD TO CHECK

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 CONNECT CONNECTORS

OK
3 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**

<table>
<thead>
<tr>
<th>Tester connection</th>
<th>Condition</th>
<th>Specified condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q5-2 (SGD2) -</td>
<td>Ignition switch on</td>
<td>Below 1 V</td>
</tr>
<tr>
<td>Body ground</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q5-8 (SIG2) -</td>
<td>Ignition switch on</td>
<td>Below 1 V</td>
</tr>
<tr>
<td>Body ground</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q5-12 (SVC2) -</td>
<td>Ignition switch on</td>
<td>Below 1 V</td>
</tr>
<tr>
<td>Body ground</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NG [REPAIR OR REPLACE NO.1 SEAT WIRE]

OK

4 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 a service wire, connect Q7-1 (SVC2) and Q7-3 (SGD2), and connect Q7-2 (SIG2) and Q7-3 (SGD2) of connector C.

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

(d) Measure the resistance.

**Standard resistance**

<table>
<thead>
<tr>
<th>Tester connection</th>
<th>Condition</th>
<th>Specified condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q5-8 (SIG2) -</td>
<td>Always</td>
<td>Below 1 Ω</td>
</tr>
<tr>
<td>Q5-2 (SGD2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q5-12 (SVC2) -</td>
<td>Always</td>
<td>Below 1 Ω</td>
</tr>
<tr>
<td>Q5-2 (SGD2)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NG [REPAIR OR REPLACE NO.1 SEAT WIRE]

OK
5 CHECK NO.1 SEAT WIRE (FOR SHORT)

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

**Standard resistance**

<table>
<thead>
<tr>
<th>Tester connection</th>
<th>Condition</th>
<th>Specified condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q5-8 (SIG2) - Q5-2 (SGD2)</td>
<td>Always</td>
<td>1 MΩ or higher</td>
</tr>
<tr>
<td>Q5-12 (SVC2) - Q5-2 (SGD2)</td>
<td>Always</td>
<td>1 MΩ or higher</td>
</tr>
<tr>
<td>Q5-8 (SIG2) - Q5-12 (SVC2)</td>
<td>Always</td>
<td>1 MΩ or higher</td>
</tr>
</tbody>
</table>

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

6 CHECK NO.1 SEAT WIRE (TO GROUND)

(a) Measure the resistance.

**Standard resistance**

<table>
<thead>
<tr>
<th>Tester connection</th>
<th>Condition</th>
<th>Specified condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q5-2 (SGD2) - Body ground</td>
<td>Always</td>
<td>1 MΩ or higher</td>
</tr>
<tr>
<td>Q5-8 (SIG2) - Body ground</td>
<td>Always</td>
<td>1 MΩ or higher</td>
</tr>
<tr>
<td>Q5-12 (SVC2) - Body ground</td>
<td>Always</td>
<td>1 MΩ or higher</td>
</tr>
</tbody>
</table>

**NG** → **REPAIR OR REPLACE NO.1 SEAT WIRE**
### 7 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 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 B1781 is not output.
   **HINT:**
   Codes other than DTC B1781 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
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).

OK

Go to step 12

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

END

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).
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.

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).