Trouble in Passenger Airbag ON / OFF Indicator

DESCRIPTION

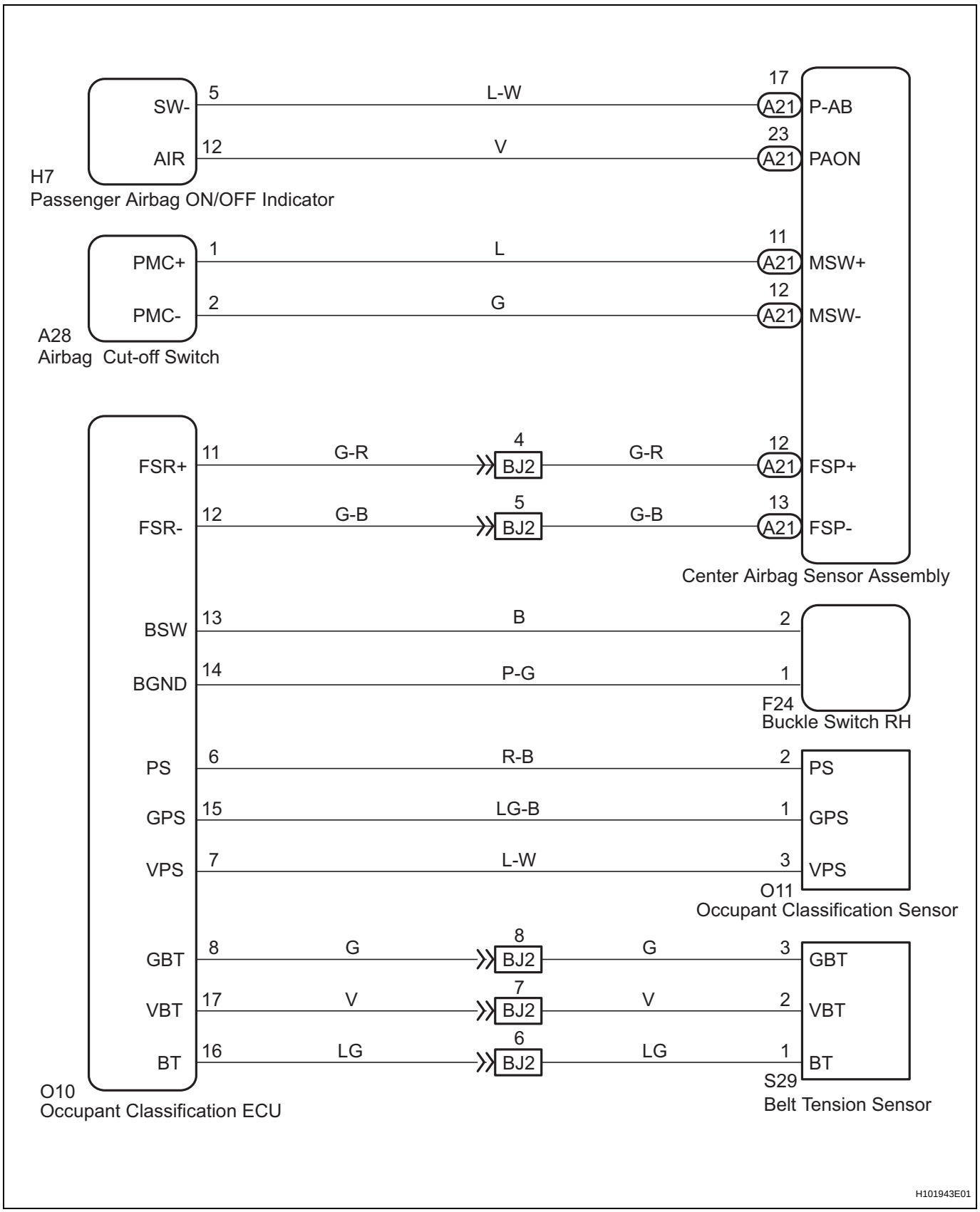
This circuit detects the airbag cut-off switch status and the passenger seat occupant classification status (detected by the occupant classification system). The passenger airbag ON/OFF indicator illuminates ON or OFF comes on to inform the passengers of the front passenger airbag assembly status (activated or deactivated).

HINT:

The table below shows the normal indication condition of the passenger airbag ON/OFF indicator and the front passenger seat condition.

Front passenger seat condition	ON Indicator	OFF Indicator
Adult is seated	ON	OFF
Child is seated	OFF	ON
Vacant	OFF	OFF
Occupant classification system failure	OFF	ON

WIRING DIAGRAM



RS

1	CHECK PASSENGER AIRBAG ON/OFF INDICATOR (PERFORM SENSITIVITY CHECK)

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

OK → Go to step 7

NG

2	PERFORM ZERO POINT CALIBRATION

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch to the ON position.
(c) Using the intelligent tester, perform the zero point calibration (See page RS-480).

NEXT

3	CHECK PASSENGER AIRBAG ON/OFF INDICATOR (PERFORM SENSITIVITY CHECK)

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

OK → END

NG

4	READ VALUE OF DATA LIST (PASSENGER SIDE BUCKLE SWITCH)

(a) Turn the ignition switch to the ON position.
(b) Using the intelligent tester, read the the DATA LIST.
  (1) Read the the display when the passenger side buckle switch is operated.

Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
P BUCKLE SW	Buckle switch (Passenger side)/ UNSET: The seat belt is not fastened SET: The seat belt is fastened NG: Data is not determined	UNSET/SET	-

OK:
The tester display changes correctly in accordance with the operation of the buckle switch.

NG → REPLACE FRONT SEAT INNER BELT ASSEMBLY RH

OK

5	READ VALUE OF DATA LIST (SEAT BELT TENSION SENSOR)

(a) Fasten the passenger side seat belt.
(b) Turn the ignition switch to the ON position.

RS

(c) Using the intelligent tester, read the value of the DATA LIST.

Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
FILTERED TENSION	Filtered belt tension output/ Min.: 0 N Max.: 255 N	39 to 64 (no load)	-

OK:

When there is no tension on the belt, 39 to 64 is displayed on the tester.

NG → **REPLACE FRONT SEAT OUTER BELT ASSEMBLY RH**

OK

6 CHECK PASSENGER AIRBAG ON/OFF INDICATOR (PERFORM SENSITIVITY CHECK)

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

OK → **END**

NG

7 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 following connectors are connected properly.
- Center airbag sensor assembly connector.
- Occupant classification ECU connector.
- Occupant classification sensor connector.
- Airbag cut-off switch connector.
- Belt tension sensor (front seat outer belt assembly RH) connector.
- Front seat inner belt assembly RH connector.
- Seat position sensor connector.

OK:

The connectors are properly connected.

(d) Disconnect the following connectors.
- Center airbag sensor assembly connector.
- Occupant classification ECU connector.
- Occupant classification sensor connector.
- Airbag cut-off switch connector.
- Belt tension sensor (front seat outer belt assembly RH) connector.
- Front seat inner belt assembly RH connector.
- Seat position sensor connector.

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

OK:

The terminals are not deformed or damaged.

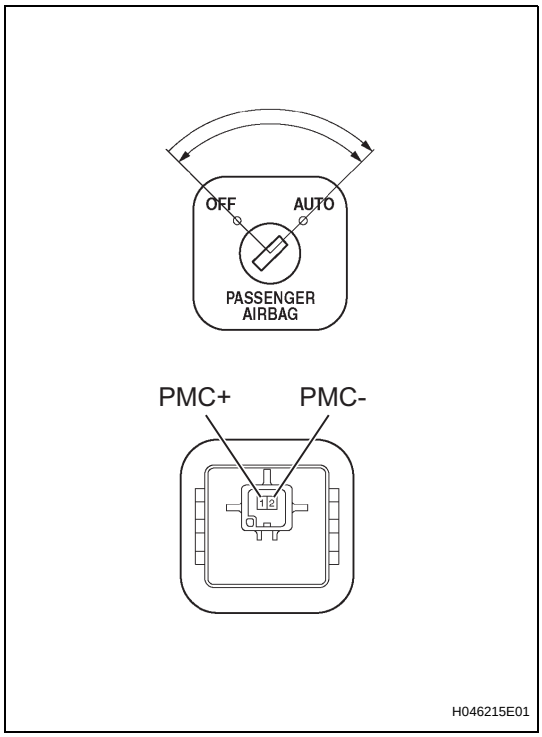
RS

NOTICE:
Perform the zero point calibration if wire harnesses or connectors are repaired or replaced (See page RS-480).
HINT:
If the connectors are not connected securely, reconnect the connectors and proceed to the next inspection.

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

OK

8 INSPECT AIRBAG CUT-OFF SWITCH



(a) Disconnect the A20 airbag cut-off switch connector.
(b) Measure the resistance.
Standard resistance

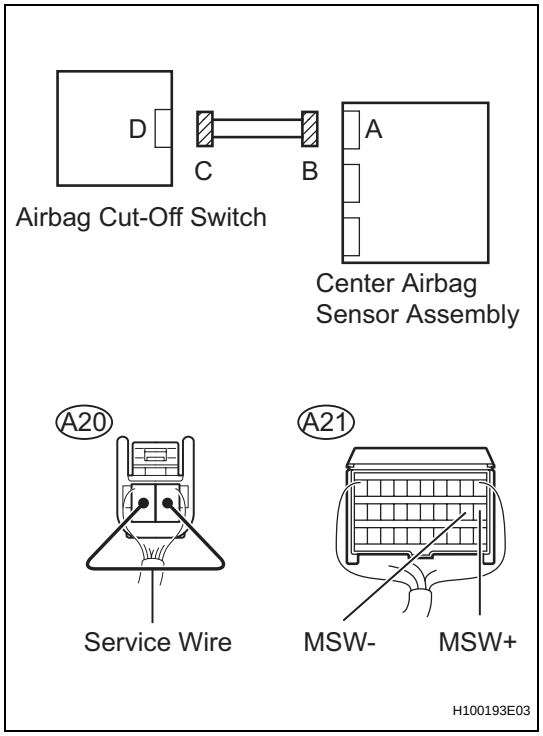
Switch Condition	Tester Condition	Specified Condition
OFF	1(PMC+) - 2(PMC-)	80 to 120 Ω
AUTO	1(PMC+) - 2(PMC-)	320 to 480 Ω

NG → **REPLACE AIRBAG CUT-OFF SWITCH**

OK

RS

9 CHECK INSTRUMENT PANEL WIRE (FOR OPEN)



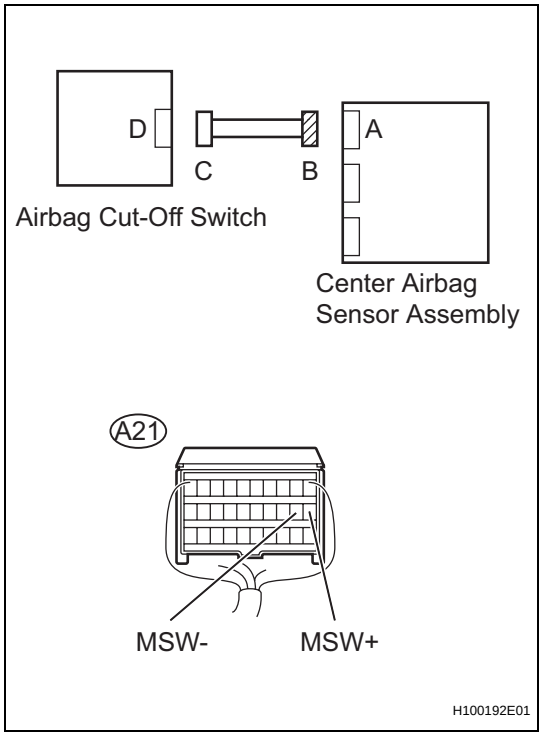
(a) Using a service wire, connect A20-1 (PMC+) and A20-2 (PMC-) of connector C.
NOTICE:
Do not forcibly insert the service wire into the terminals of the connector when connecting.
(b) Measure the resistance.
Standard resistance

Tester Connection	Condition	Specified Condition
A21-11 (MSW+) - A21-12 (MSW-)	Always	Below 1Ω

NG → **REPAIR OR REPLACE INSTRUMENT PANEL WIRE**

OK

10 CHECK INSTRUMENT PANEL WIRE (FOR SHORT)



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

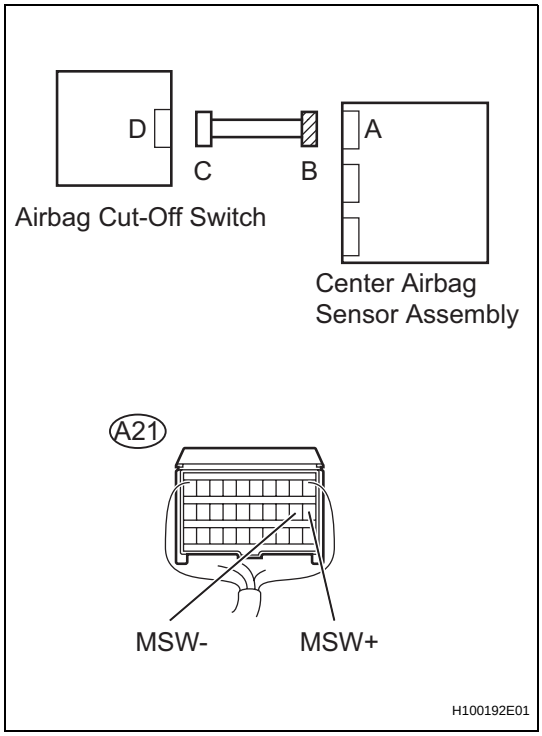
Tester Connection	Condition	Specified Condition
A21-11 (MSW+) - A21-12 (MSW-)	Always	1 MΩor Higher

NG → **REPAIR OR REPLACE INSTRUMENT PANEL WIRE**

OK

RS

11 CHECK INSTRUMENT PANEL WIRE (TO B+)



(a) Connect the negative (-) terminal cable to the battery, and wait for at least 2 seconds.
(b) Turn the ignition switch to the ON position.
(c) Measure the voltage.

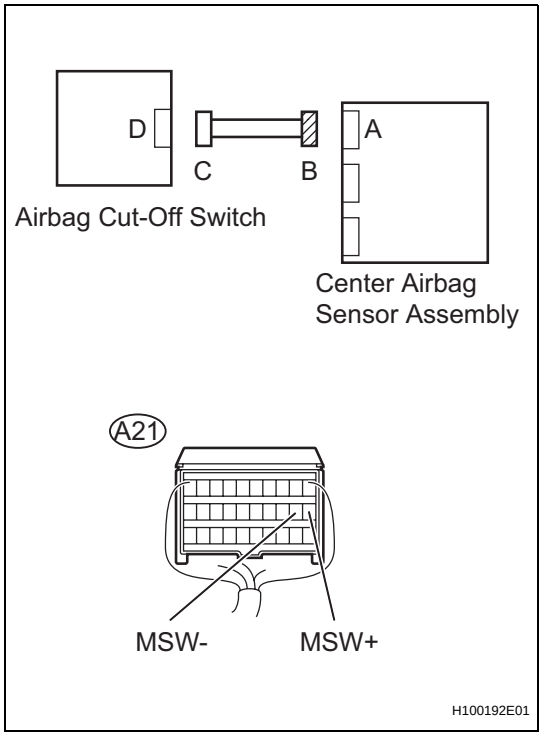
Standard voltage

Tester Connection	Condition	Specified Condition
A21-11 (MSW+) - Body ground	Ignition switch ON	Below 1 V
A21-12 (MSW-) - Body ground	Ignition switch ON	Below 1 V

NG → **REPAIR OR REPLACE INSTRUMENT PANEL WIRE**

OK

12 CHECK INSTRUMENT PANEL 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

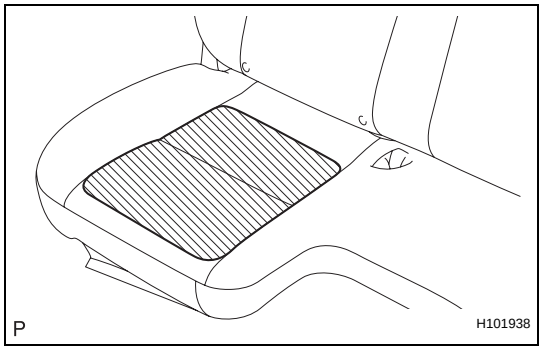
Tester Connection	Condition	Specified Condition
A21-11 (MSW+) - Body ground	Always	1 MΩor Higher
A21-12 (MSW-) - Body ground	Always	1 MΩor Higher

NG → **REPAIR OR REPLACE INSTRUMENT PANEL WIRE**

OK

RS

13 READ VALUE OF DATA LIST (PASSENGER CLASS)



(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch to the LOCK position.
(c) Place a weight of 20 kg (44.0 lb) on the front passenger seat.
NOTICE:
- **Do not let the weight come into contact with the seat back when placing it on the seat cushion.**
- **Place the weight in the area shown in the illustration.**

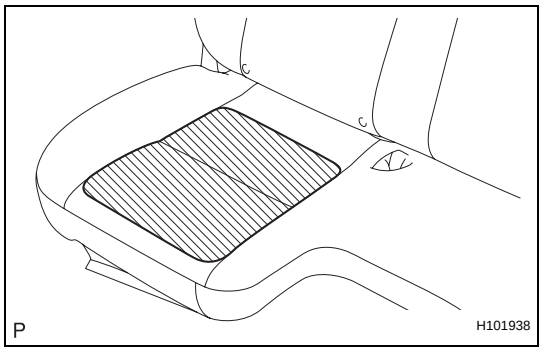
(d) Turn the ignition switch to the ON position.
(e) Using the intelligent tester, read the value of the DATA LIST (See page RS-487).

Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
PASSENGER CLASS	Passenger classification/ NG: Data is not determined AM50: Adult is seated and seat is rear position AF05: Adult is seated and seat is front position CHILD: Child is seated OFF: Vacant	AF05/AM50/CHILD/OFF	-

OK:
The tester displays CHILD.

(f) Turn the ignition switch to the LOCK position.
(g) Add 30 kg (66.1 lb) weight on the front passenger seat.
NOTICE:
- **Do not let the weight come into contact with the seat back when placing it on the seat cushion.**
- **Place the weight in the area shown in the illustration.**

(h) Turn the ignition switch to the ON position.
(i) Using the intelligent tester, read the value of the DATA LIST (See page RS-487).
HINT:
AF05 appears on the tester screen display when the seat is in the front position, and AM50 appears when the seat is in the rear position.



Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
PASSENGER CLASS	Passenger classification/ NG: Data is not determined AM50: Adult is seated and seat is rear position AF05: Adult is seated and seat is front position CHILD: Child is seated OFF: Vacant	AF05/AM50/CHILD/OFF	-

OK:
The tester displays AM50 or AF50 according to the seat position.

NG	**Go to step 17**
OK	

RS

14	REPLACE CENTER AIRBAG SENSOR ASSEMBLY

(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 center airbag sensor assembly (See page RS-602).

NEXT

15	CHECK PASSENGER AIRBAG ON/OFF INDICATOR (PERFORM SENSITIVITY CHECK)

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

OK → END

NG

16	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).

RS

NEXT

END

17	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).

NEXT

18	CHECK PASSENGER AIRBAG ON/OFF INDICATOR (PERFORM SENSITIVITY CHECK)

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

OK → END

NG

19	REPLACE FRONT SEAT CUSHION ASSEMBLY (WITH OCCUPANT CLASSIFICATION ECU AND SENSOR)

(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 cushion assembly (with occupant classification ECU and occupant classification sensor) (See page RS-626).
(d) Connect the negative (-) terminal cable to the battery.
(e) Turn the ignition switch to the ON position.
(f) 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.
(g) Turn the ignition switch to the LOCK position.
(h) Turn the ignition switch to the ON position.
(i) Check the DTCs (See page RS-487).
OK:
DTC B1774 and B1775 are not output.
HINT:
DTCs other than B1774 and B1775 may be output at this time, but they are not related to this check.

RS

NEXT

20	PERFORM ZERO POINT CALIBRATION

(a) Connect the intelligent tester to the DLC3.

(b) Turn the ignition switch to the ON position.
(c) Using the intelligent tester, perform the zero point calibration (See page RS-480).

NEXT

END