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# SERVICE INFORMATION

## **PRECAUTIONS**

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

#### **WARNING:**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SRS section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

Precaution for SRS "AIR BAG" and "SEAT BELT PRE-TENSIONER" Service

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- Do not use electrical test equipment to check SRS circuits unless instructed to in this Service Manual.
- Before servicing the SRS, turn ignition switch OFF, disconnect both battery cables and wait at least 3 minutes.
  - For approximately 3 minutes after the cables are removed, it is still possible for the air bags and seat belt pre-tensioners to deploy. Therefore, do not work on any SRS connectors or wires until at least 3 minutes have passed.
- The air diagnosis sensor unit must always be installed with the arrow mark "

  " pointing toward the front of the vehicle for proper operation. Also check air bag diagnosis sensor unit for cracks, deformities or rust before installation and replace as required.
- The spiral cable must be aligned with the neutral position since its rotations are limited. Do not attempt to turn steering wheel or column after removal of steering gear.
- Handle air bag module carefully. Always place driver and front passenger air bag modules with the pad side facing upward and seat mounted front side air bag module standing with the stud bolt side facing down.
- Conduct self-diagnosis to check entire SRS for proper function after replacing any components.
- · After air bag inflates, the front instrument panel assembly should be replaced if damaged.

Occupant Classification System Precaution

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Replace control unit and passenger front seat cushion as an assembly.

# **PREPARATION**

# < SERVICE INFORMATION >

# PREPARATION

# Special Service Tool

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The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name		Description
— (J-42057) Air bag lock master key set		Removing and installing air bag lock
	LRS210	

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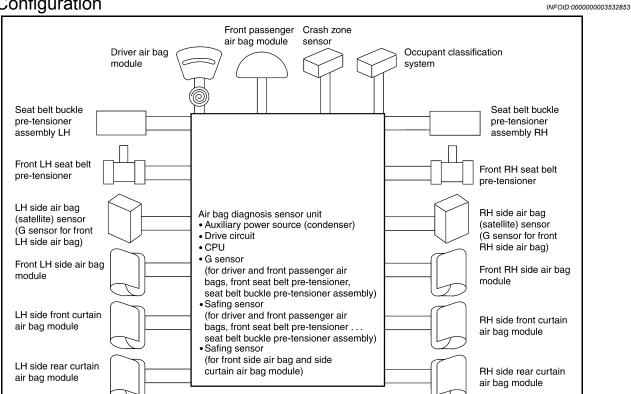
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## < SERVICE INFORMATION >

# SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

SRS Configuration



The air bag deploys if the air bag diagnosis sensor unit is activated while the ignition switch is in the ON or START position.

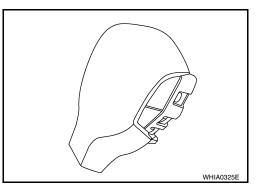
The collision modes for which supplemental restraint systems are activated are different among the SRS systems. For example, the driver air bag module, front passenger air bag module, front seat belt pre-tensioners and seat belt buckle pre-tensioner assemblies are activated in a frontal collision but not in a side collision. SRS configurations for some collision modes are as follows:

SRS configuration	Frontal collision	Left side collision	Right side colli- sion	Rollover
Driver air bag module	х	_	_	_
Front passenger air bag module	х	_	_	_
Front LH seat belt pre-tensioner	х	_	_	х
Front LH seat belt buckle pre-tensioner assembly	х	_	_	х
Front RH seat belt pre-tensioner	х	_	_	х
Front RH seat belt buckle pre-tensioner assembly	x	_	_	x
Front LH side air bag module	_	х	_	_
Front RH side air bag module	_	_	х	_
LH side curtain air bag module	_	х	_	х
RH side curtain air bag module	_	_	x	х

## < SERVICE INFORMATION >

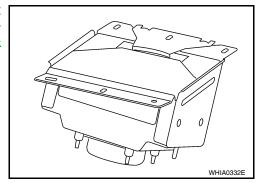
# Driver Air Bag Module

The driver air bag module is dual stage and located in the steering wheel assembly. It operates with the SRS system in a frontal collision exceeding a specified level.



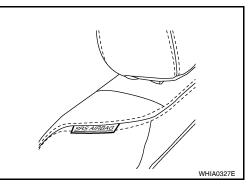
# Front Passenger Air Bag Module

The front passenger air bag module is located behind the instrument panel assembly. It operates with the SRS system in a frontal collision exceeding a specified level. Refer to SRS-6, "Occupant Classification System (OCS)" for more information.



# Front Side Air Bag

Front side air bag modules are built into the front seatback assemblies. Vehicles with side air bags are equipped with labels as shown.



# Side Curtain Air Bag

Side curtain air bag modules are located above the vehicle headlining. Vehicles with side curtain air bags are equipped with labels as shown.



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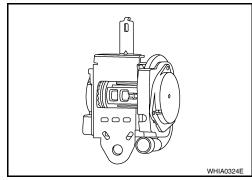
## Front Seat Belt Pre-tensioner with Load Limiter

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The seat belt pre-tensioner system with load limiter is installed for both the driver's seat and the front passenger's seat. It operates simultaneously with the SRS air bag system in the event of a frontal collision with an impact exceeding a specified level.

When the frontal collision with an impact exceeding a specified level occurs, seat belt slack resulting from clothing or other factors is immediately taken up by the pre-tensioner. Vehicle passengers are securely restrained.

When passengers in a vehicle are thrown forward in a collision and the restraining force of the seat belt exceeds a specified level, the load limiter permits the specified extension of the seat belt by the twisting of the ELR shaft, and a relaxation of the chest-area seat belt web tension while maintaining force.



# Occupant Classification System (OCS)

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The occupant classification system (OCS) identifies different size occupants, out of position occupants, and detects if child seat is present in the front passenger seat. The OCS receives inputs from the occupant classification sensor (located inside the passenger seat cushion assembly) and belt tension sensor (part of the passenger front seat belt assembly and located at the belt anchor location). Depending on classification of the passenger, the OCS sends a signal to the air bag diagnosis sensor unit. The air bag diagnosis sensor unit uses this signal and the seat belt buckle switch RH signal to determine deployment or non deployment of the passenger front air bag in the event of a collision. Depending on the signals received, the air bag diagnosis sensor unit can disable the passenger front air bag completely.

#### NOTE

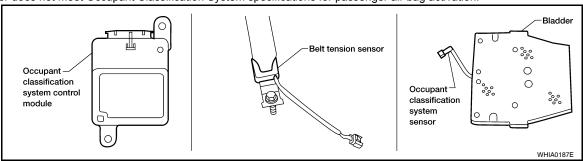
In case of customer concern, CONSULT-II can be used to confirm the passenger air bag status (readiness).

Passenger Air Bag Status Conditions

Front Passenger Seat (Condition)	PASS AIR BAG OFF Indicator (Status)	Passenger Air Bag Status (Readiness)	CONSULT-II Display
Seat occupied	OFF	Active (enabled)	ON
Seat occupied NOTE	ON	Deactivated (disabled)	OFF
Seat empty	OFF	Deactivated (disabled)	OFF

#### NOTE:

Passenger does not meet Occupant Classification System specifications for passenger air bag activation.



# **Direct-connect SRS Component Connectors**

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The following SRS components use direct-connect style harness connectors.

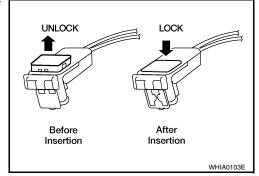
- · Driver air bag module
- · Front passenger air bag module
- · LH side front curtain air bag module
- · LH side rear curtain air bag module
- RH side front curtain air bag module
- RH side rear curtain air bag module
- Front LH seat belt pre-tensionerFront RH seat belt pre-tensioner
- · Seat belt buckle pre-tensioner assembly LH

# < SERVICE INFORMATION >

· Seat belt buckle pre-tensioner assembly RH

Always pull up to release black locking tab prior to removing connector from SRS component.

Always push down to lock black locking tab after installing connector to SRS component. When locked, the black locking tab is level with the connector housing.



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#### < SERVICE INFORMATION >

# TROUBLE DIAGNOSIS

# **Trouble Diagnosis Introduction**

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#### **CAUTION:**

- Do not use electrical test equipment on any circuit related to the SRS unless instructed to do so in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harness con-
- Do not attempt to repair, splice or modify SRS wiring harnesses. If a harness is damaged, replace it with a new one.
- · Keep ground connections clean.

#### DIAGNOSIS FUNCTION

The SRS self-diagnosis results can be read by using "AIR BAG" warning lamp and/or CONSULT-II.

The User mode is exclusively prepared for the customer (driver). This mode warns the driver of a system malfunction through the operation of the "AIR BAG" warning lamp.

The Diagnosis mode allows the technician to locate and inspect the malfunctioning part.

The mode applications for the "AIR BAG" warning lamp and CONSULT-II are as follows:

	User mode	Diagnosis mode	Display type
"AIR BAG" warning lamp	X	X	ON-OFF operation
CONSULT-II	_	X	Monitoring

#### HOW TO PERFORM TROUBLE DIAGNOSES FOR QUICK AND ACCURATE REPAIR

A good understanding of the malfunction conditions can make troubleshooting faster and more accurate. In general, each customer feels differently about a malfunction. It is important to fully understand the symptoms or conditions for a customer complaint.

Information From Customer WHAT - Vehicle model

WHEN - Date, Frequencies

WHERE - Road conditions

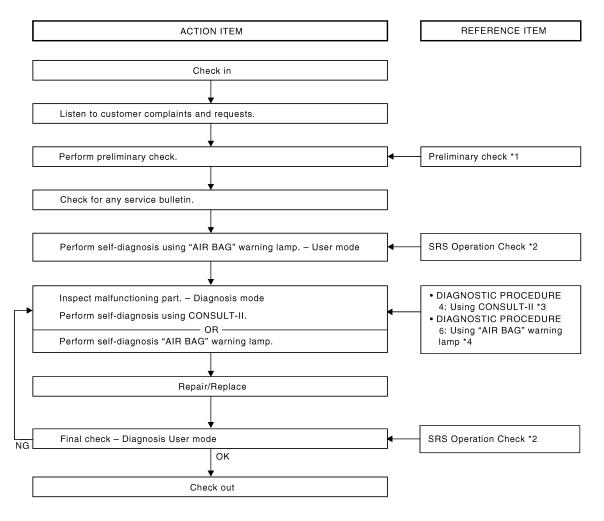
HOW - Operating conditions, Symptoms

#### **Preliminary Check**

Check that the following parts are in good order.

- Battery (Refer to <u>SC-4, "How to Handle Battery"</u>.)
   Fuse (Refer to <u>SRS-12, "Wiring Diagram SRS -"</u>.)
- System component-to-harness connections

#### **WORK FLOW**



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\*1: "Preliminary Check"

\*2: <u>SRS-20</u>

\*3: <u>SRS-21</u>

\*4: <u>SRS-28</u>

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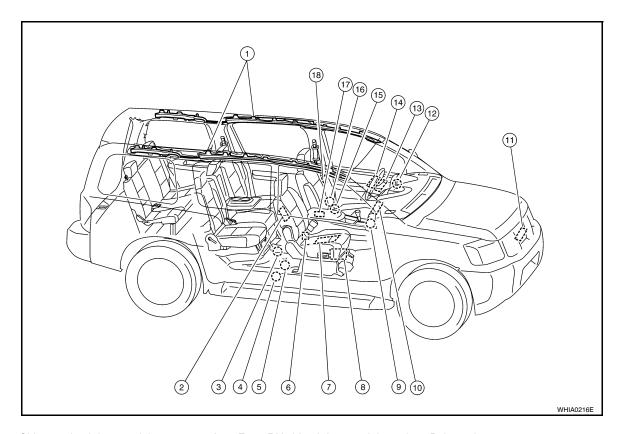
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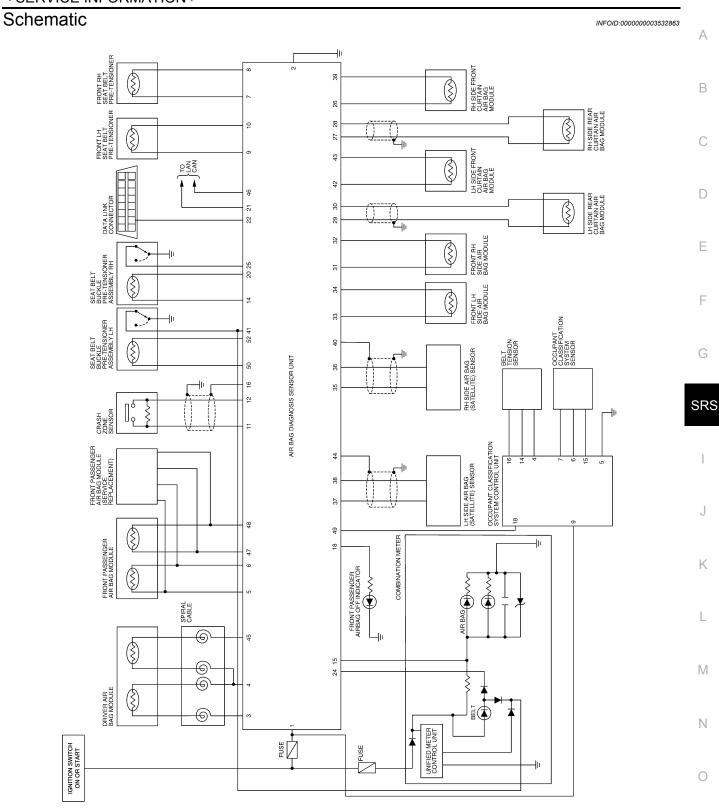
# SRS Component Parts Location

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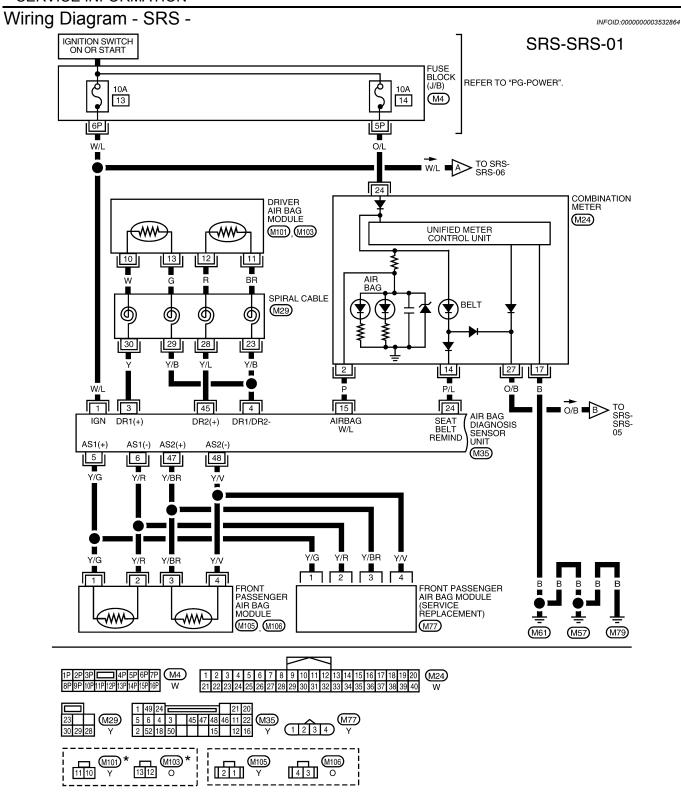


- 1. Side curtain air bag modules
- 4. RH side air bag (satellite) sensor
- 7. Occupant classification system sensor
- 10. Front passenger air bag module
- 13. Spiral cable
- 16. Front LH seat belt pre-tensioner

- 2. Front RH side air bag module
- 5. Front RH seat belt pre-tensioner
- 8. Occupant classification system 9. control unit
- 11. Crash zone sensor
- 14. Driver air bag module
- 17. Air bag diagnosis sensor unit
- 3. Belt tension sensor
- 6. Seat belt buckle pre-tensioner assembly RH
- 9. Front passenger air bag off indicator
- 12. Air bag warning lamp
- 15. LH side air bag (satellite) sensor
- 18. Front LH side air bag module

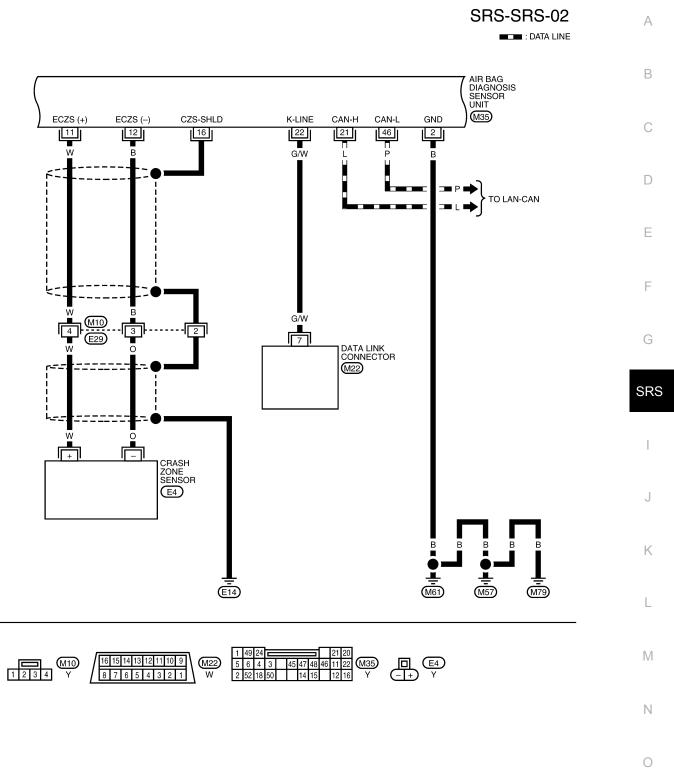


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\*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

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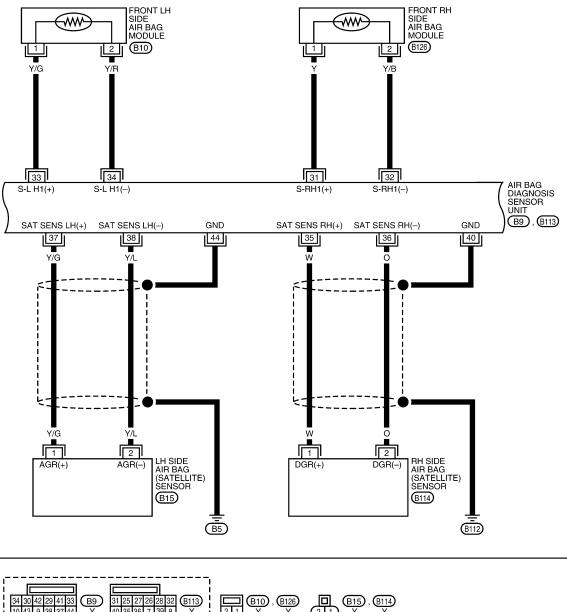


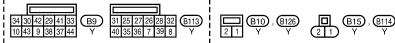
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**SRS-13** 

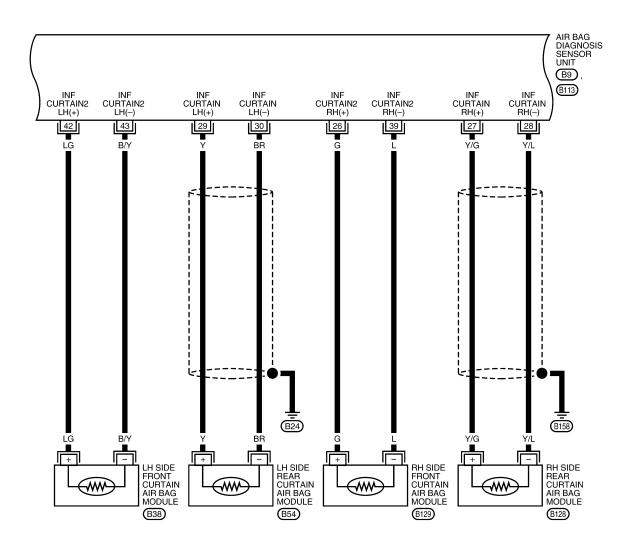
## SRS-SRS-03

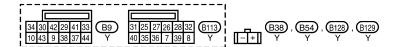




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## SRS-SRS-04





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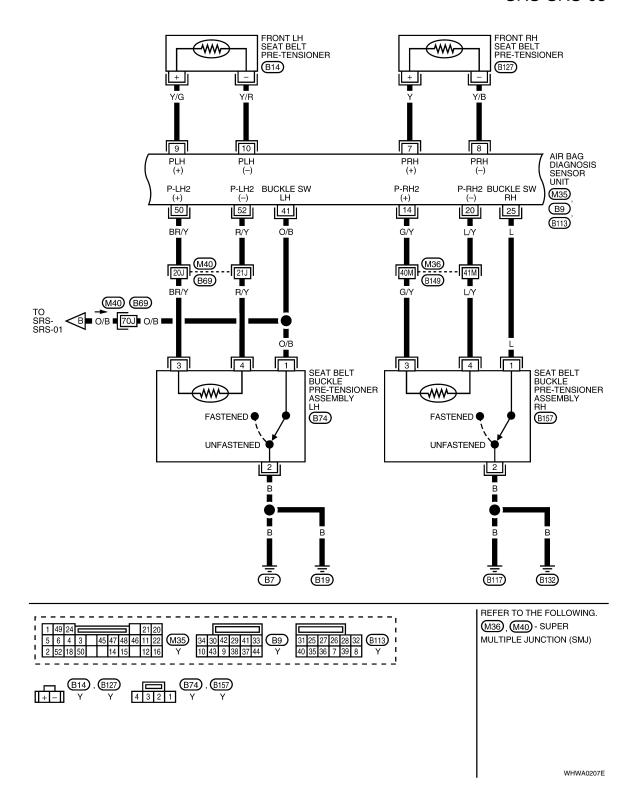
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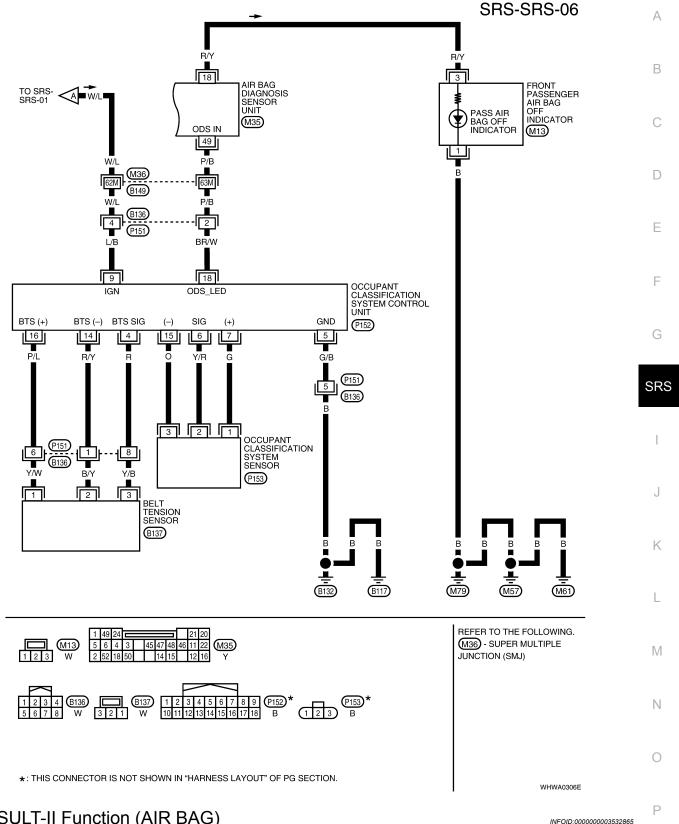
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## SRS-SRS-05





CONSULT-II Function (AIR BAG)

CONSULT-II can display each diagnostic item using the diagnostic test modes shown following.

## < SERVICE INFORMATION >

AIR BAG diagnostic mode	Description		
SELF-DIAG [CURRENT]	A current Self-diagnosis result (also indicated by the number of warning lamp flashes in the Diagnosis mode) is displayed on the CONSULT-II screen in real time. This refers to a malfunctioning part requiring repairs.		
SELF-DIAG [PAST]	Diagnosis results previously stored in the memory are displayed on the CONSULT-II screen. The stored results will remain until memory erasing is executed.		
TROUBLE DIAG RECORD	With TROUBLE DIAG RECORD, diagnosis results p played on the CONSULT-II screen.	previously erased by a reset operation can be dis-	
ECU DISCRIMINATED NO.	The air bag diagnosis sensor unit for each vehicle model is assigned with its own, individual classification number. This number will be displayed on the CONSULT-II screen, as shown. When replacing the air bag diagnosis sensor unit, refer to the part number for the compatibility. After installation, replacement with a correct unit can be checked by confirming this classification number on the CONSULT-II screen.  The air bag diagnosis sensor unit discriminated number assigned is F649.	ECU DISCRIMINATED NO.  ECU No.  XXXX  PRINT  BACK LIGHT COPY  ARS366	
PASSENGER AIR BAG	The STATUS (readiness) of the front passenger air bag module is displayed. The STATUS displayed (ON/OFF) depends on the signals supplied to the occupant classification system control module and air bag diagnosis sensor unit. Refer to SRS-6, "Occupant Classification System (OCS)" for more information.	PASSENGER AIRBAG STATUS OFF  MODE BACK LIGHT COPY WHIA0290E	

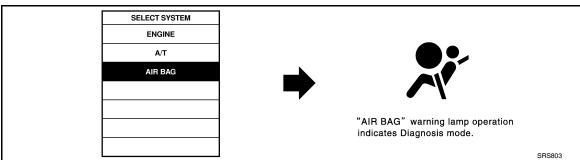
# **CONSULT-II Function**

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# (B) HOW TO CHANGE SELF-DIAGNOSIS MODE WITH CONSULT-II

From User Mode to Diagnosis Mode

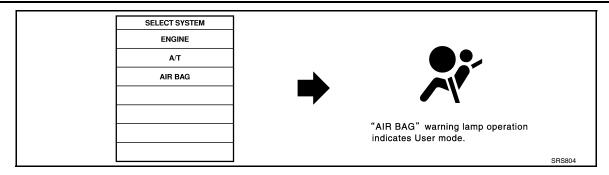
After selecting "AIR BAG" on the "SELECT SYSTEM" screen, User mode automatically changes to Diagnosis mode.



From Diagnosis Mode to User Mode

To return to User mode from Diagnosis mode, touch "BACK" key of CONSULT-II until "SELECT SYSTEM" appears, Diagnosis mode automatically changes to User mode.

#### < SERVICE INFORMATION >

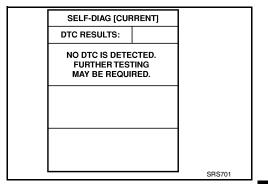


#### HOW TO ERASE SELF-DIAGNOSIS RESULTS

"SELF-DIAG [CURRENT]"

A current self-diagnosis result is displayed on the CONSULT-II screen in real time.

After the malfunction is repaired completely, no malfunction is detected on "SELF-DIAG [CURRENT]".

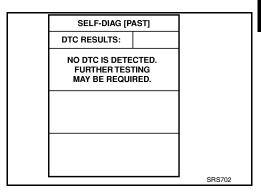


"SELF-DIAG [PAST]"

Return to the "SELF-DIAG [CURRENT]" CONSULT-II screen by touching "BACK" key of CONSULT-II and select "SELF-DIAG [PAST]" in SELECT DIAG MODE. Touch "ERASE" in "SELF-DIAG [PAST]" mode.

#### NOTE:

If the memory of the malfunction in "SELF-DIAG [PAST]" is not erased, the User mode will continue to show the system malfunction by the operation of the warning lamp even if the malfunction is repaired completely.



"TROUBLE DIAG RECORD"
 The memory of "TROUBLE DIAG RECORD" cannot be erased.

## Self-Diagnosis Function (Without CONSULT-II)

• The reading of these results is accomplished using one of two modes — "User mode" and "Diagnosis mode".

• After a malfunction is repaired, turn the ignition switch OFF for at least one second, then back ON. Diagnosis mode returns to the User mode. At that time, the self-diagnostic result is cleared.

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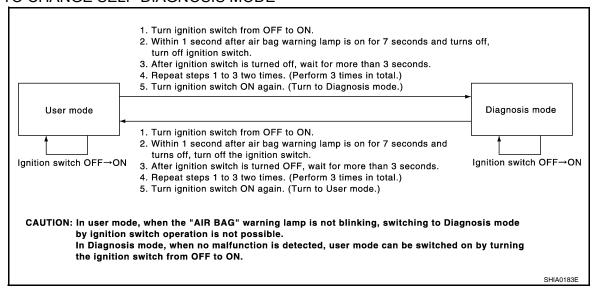
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#### < SERVICE INFORMATION >

## HOW TO CHANGE SELF-DIAGNOSIS MODE



#### HOW TO ERASE SELF-DIAGNOSIS RESULTS

After a malfunction is repaired, turn the ignition switch OFF for at least one second, then back ON. Diagnosis mode returns to the User mode. At that time, the self-diagnostic result is cleared.

# SRS Operation Check

INFOID:0000000003532868

## **DIAGNOSTIC PROCEDURE 1**

Checking SRS Operation Using "AIR BAG" Warning Lamp—User Mode

- Turn the ignition switch from OFF to ON, and check that the air bag warning lamp blinks.
- 2. Compare the SRS air bag warning lamp blinking pattern with the examples.



# < SERVICE INFORMATION >

AIR BAG" warning lamp operation-User mode-	SRS condition	Reference item
IGN ON OFF 7 sec.	<ul><li>No malfunction is detected.</li><li>No further action is necessary.</li></ul>	
OFF 7 sec. 0.5 sec. 0.5 sec. SHIA0012E	The system is malfunctioning and needs to be repaired as indicated.	Go to SRS-21, "Trouble Diagnosis with CONSULT-II" with CONSULT-II or SRS-28, "Trouble Diagnosis without CONSULT-II" without CONSULT-II.
IGN ON	<ul> <li>Air bag is deployed.</li> <li>Seat belt pre-tensioner is deployed.</li> <li>Seat belt buckle pre-tensioner assembly is deployed.</li> </ul>	Go to <u>SRS-49</u> .
ON OFF SHIA0013E	<ul> <li>Air bag diagnosis sensor unit is malfunctioning.</li> <li>Air bag power supply circuit is malfunctioning.</li> <li>SRS air bag warning lamp circuit is malfunctioning.</li> </ul>	Go to SRS-32, "Trouble Diagnosis: "AIR BAG" Warning Lamp Does Not Turn Off".
IGN ON ON OFF	<ul> <li>Air bag diagnosis sensor unit is malfunctioning.</li> <li>Air bag warning lamp circuit is malfunctioning.</li> </ul>	Go to SRS-33, "Trouble Diagnosis: "AIR BAG" Warning Lamp Does Not Turn On".
SHIA0014E		

Trouble Diagnosis with CONSULT-II

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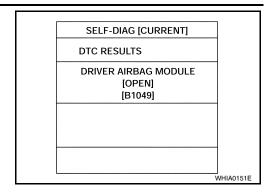
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**DIAGNOSTIC PROCEDURE 2** 

Refer to GI-36, "CONSULT-II Start Procedure".

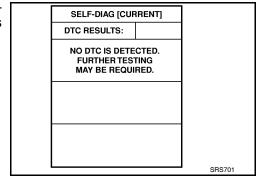
## < SERVICE INFORMATION >

Diagnostic code is displayed on "SELF-DIAG [CURRENT]".



If no malfunction is detected on "SELF-DIAG [CURRENT]", but malfunction is detected in "SRS Operation Check", the following cases may exist:

- "SELF-DIAG [PAST]" memory might not be erased.
  The SRS system malfunctions intermittently.
  Refer to "DIAGNOSTIC PROCEDURE 4".



## CONSULT-II Diagnostic Code Chart

Diagnostic item		Explanation	Repair order Recheck SRS at each replacement
	Malfunction is indicated by the "AIR BAG"	Low battery voltage (Less than 9V)	Go to SC-4     Go to "DIAGNOSTIC PROCEDURE 3"
NO DTC IS DETECTED	warning lamp in User mode.	"SELF-DIAG [PAST]" memory might not be erased.	Go to "DIAGNOSTIC PROCEDURE 4"
		Intermittent malfunction has been detected in the past.	Go to "DIAGNOSTIC PROCEDURE 5"
	No malfunction is deter	cted in User mode.	_
DRIVER AIRBAG MODULE [OPEN] [B1049] or [B1054]	Driver air bag module circuit is open (including the spiral cable).  Driver air bag module circuit is shorted to some power supply circuit (including the spiral cable).		Visually check the wiring harness connection.     Replace the harness if it has visi-
DRIVER AIRBAG MODULE [VB-SHORT] [B1050] or [B1055]			<ul><li>ble damage.</li><li>Replace driver air bag module.</li><li>Replace the spiral cable.</li><li>Replace the air bag diagnosis</li></ul>
DRIVER AIRBAG MODULE [GND-SHORT] [B1051] or [B1056]	Driver air bag module circuit is shorted to ground (including the spiral cable).		sensor unit. 6. Replace the related harness.
DRIVER AIRBAG MODULE [SHORT] [B1052] or [B1057]	Driver air bag module circuits are shorted to each other.		

# < SERVICE INFORMATION >

Diagnostic item	Explanation	Repair order Recheck SRS at each replacement
ASSIST A/B MODULE [OPEN] [B1065] or [B1070]	Front passenger air bag module circuit is open.	Visually check the wiring harness connection.     Replace the harness if it has visi-
ASSIST A/B MODULE [VB-SHORT] [B1066] or [B1071]	Front passenger air bag module circuit is shorted to some power supply circuit.	ble damage. 3. Replace front passenger air bag module. 4. Replace the air bag diagnosis
ASSIST A/B MODULE [GND-SHORT] [B1067] or [B1072]	Front passenger air bag module circuit is shorted to ground.	sensor unit. 5. Replace the related harness.
ASSIST A/B MODULE [SHORT] [B1068] or [B1073]	Front passenger air bag module circuits are shorted to each other.	
CRASH ZONE SEN [UNIT FAIL] [B1033] or [B1034] CRASH ZONE SEN [COMM FAIL] [B1035]	Crash zone sensor	<ol> <li>Visually check the wiring harness connection.</li> <li>Replace the harness if it has visible damage.</li> <li>Replace the crash zone sensor.</li> <li>Replace the air bag diagnosis sensor unit.</li> <li>Replace the related harness.</li> </ol>
SIDE MODULE LH [OPEN] [B1134]	Front LH side air bag module circuit is open.	<ol> <li>Visually check the wiring harness connection.</li> <li>Replace the harness if it has visi-</li> </ol>
SIDE MODULE LH [VB-SHORT] [B1135]	Front LH side air bag module circuit is shorted to some power supply circuit.	ble damage. 3. Replace front LH seat back assembly (front LH side air bag module).
SIDE MODULE LH [GND-SHORT] [B1136]	Front LH side air bag module circuit is shorted to ground.	<ul><li>4. Replace the air bag diagnosis sensor unit.</li><li>5. Replace the related harness.</li></ul>
SIDE MODULE LH [SHORT] [B1137]	Front LH side air bag module circuits are shorted to each other.	
SIDE MODULE RH [OPEN] [B1129]	Front RH side air bag module circuit is open.	<ol> <li>Visually check the wiring harness connection.</li> <li>Replace the harness if it has visi-</li> </ol>
SIDE MODULE RH [VB-SHORT] [B1130]	Front RH side air bag module circuit is shorted to some power supply circuit.	ble damage. 3. Replace front RH seat back assembly (front RH side air bag module).
SIDE MODULE RH [GND-SHORT] [B1131]	Front RH side air bag module circuit is shorted to ground.	Replace the air bag diagnosis sensor unit.     Replace the related harness.
SIDE MODULE RH [SHORT] [B1132]	Front RH side air bag module circuits are shorted to each other.	
SATELLITE SENS LH [UNIT FAIL] [B1118] or [B1119] SATELLITE SENS LH [COMM FAIL] [B1120]	LH side air bag (satellite) sensor	<ol> <li>Visually check the wiring harness connection.</li> <li>Replace the harness if it has visible damage.</li> <li>Replace the LH side air bag (satellite) sensor.</li> <li>Replace the air bag diagnosis sensor unit.</li> </ol>

**SRS-23** 

Diagnostic item	Explanation	Repair order Recheck SRS at each replacement
SATELLITE SENS RH [UNIT FAIL] [B1113] or [B1114] SATELLITE SENS RH [COMM FAIL] [B1115]	RH side air bag (satellite) sensor	<ol> <li>Visually check the wiring harness connection.</li> <li>Replace the harness if it has visible damage.</li> <li>Replace the RH side air bag (sat ellite) sensor.</li> <li>Replace the air bag diagnosis sensor unit.</li> <li>Replace the related harness.</li> </ol>
PRE-TEN FRONT LH [OPEN] [B1086]	The circuit for front LH seat belt pre-tensioner is open.	Visually check the wiring harness connections.     Replace the harness if it has vis
PRE-TEN FRONT LH [VB-SHORT] [B1087]	The circuit for front LH seat belt pre-tensioner is shorted to some power supply circuit.	<ul> <li>ble damage.</li> <li>Replace front LH seat belt pretensioner.</li> <li>Replace the air bag diagnosis</li> </ul>
PRE-TEN FRONT LH [GND-SHORT] [B1088]	The circuit for front LH seat belt pre-tensioner is shorted to ground.	sensor unit.  5. Replace the related harness.
PRE-TEN FRONT LH [SHORT] [B1089]	The circuits for the front LH seat belt pre-tensioner are shorted to each other.	
PRE-TEN FRONT RH [OPEN] [B1081]	The circuit for front RH seat belt pre-tensioner is open.	Visually check the wiring harnes connections.     Replace the harness if it has vis
PRE-TEN FRONT RH [VB-SHORT] [B1082]	The circuit for front RH seat belt pre-tensioner is shorted to some power supply circuit.	<ul><li>ble damage.</li><li>Replace front RH seat belt pretensioner.</li><li>Replace the air bag diagnosis</li></ul>
PRE-TEN FRONT RH [GND-SHORT] [B1083]	The circuit for front RH seat belt pre-tensioner is shorted to ground.	<ul><li>4. Replace the air bag diagnosis sensor unit.</li><li>5. Replace the related harness.</li></ul>
PRE-TEN FRONT RH [SHORT] [B1084]	The circuits for the front RH seat belt pre-tensioner are shorted to each other.	
PRE-TEN2 FRONT LH [OPEN] [B1182]	The circuit for front LH seat belt buckle pre-tensioner is open.	Visually check the wiring harnes connections.     Replace the harness if it has vis
PRE-TEN2 FRONT LH [VB-SHORT] [B1183]	The circuit for front LH seat belt buckle pre-tensioner is shorted to some power supply circuit.	ble damage.  Replace front LH seat belt buckl pre-tensioner.  Penlace the air bag diagnosis.
PRE-TEN2 FRONT LH [GND-SHORT] [B1184]	The circuit for front LH seat belt buckle pre-tensioner is shorted to ground.	<ol> <li>Replace the air bag diagnosis sensor unit.</li> <li>Replace the related harness.</li> </ol>
PRE-TEN2 FRONT LH [SHORT] [B1185]	The circuits for the front LH seat belt buckle pre-tensioner are shorted to each other.	
PRE-TEN2 FRONT RH [OPEN] [B1177]	The circuit for front RH seat belt buckle pre-tensioner is open.	Visually check the wiring harnes connections.     Replace the harness if it has vis
PRE-TEN2 FRONT RH [VB-SHORT] [B1178]	The circuit for front RH seat belt buckle pre-tensioner is shorted to some power supply circuit.	ble damage.     Replace front RH seat belt buckl pre-tensioner.     Replace the air bag diagnosis
PRE-TEN2 FRONT RH [GND-SHORT] [B1179]	The circuit for front RH seat belt buckle pre-tensioner is shorted to ground.	sensor unit.  5. Replace the related harness.
PRE-TEN2 FRONT RH [SHORT] [B1180]	The circuits for the front RH seat belt buckle pre-tensioner are shorted to each other.	

# < SERVICE INFORMATION >

Diagnostic item	Explanation	Repair order Recheck SRS at each replacement
FR CURTN MODULE LH [OPEN] [B1198]	The LH side front curtain air bag module circuit is open.	Visually check the wiring harness connection.     Replace the harness if it has visi-
FR CURTN MODULE LH [VB-SHORT] [B1199]	The LH side front curtain air bag module circuit is shorted to some power supply circuits.	ble damage.  Replace LH side curtain air bag module.  Replace the air bag diagnosis
FR CURTN MODULE LH [GND-SHORT] [B1200]	The LH side front curtain air bag module circuit is shorted to ground.	sensor unit.  5. Replace the related harness.
FR CURTN MODULE LH [SHORT] [B1201]	The circuits for the LH side front curtain air bag module are shorted to each other.	
FR CURTN MODULE RH [OPEN] [B1193]	The RH side front curtain air bag module circuit is open.	Visually check the wiring harness connection.     Replace the harness if it has visi-
FR CURTN MODULE RH [VB-SHORT] [B1194]	The RH side front curtain air bag module circuit is shorted to some power supply circuits.	ble damage.  Replace RH side curtain air bag module.  Replace the air bag diagnosis
FR CURTN MODULE RH [GND-SHORT] [B1195]	The RH side front curtain air bag module circuit is shorted to ground.	sensor unit.  5. Replace the related harness.
FR CURTN MODULE RH [SHORT] [B1196]	The circuits for the RH side front curtain air bag module are shorted to each other.	
CURTAIN MODULE LH [OPEN] [B1150]	The LH side rear curtain air bag module circuit is open.	Visually check the wiring harness connection.     Replace the harness if it has visi-
CURTAIN MODULE LH [VB-SHORT] [B1151]	The LH side rear curtain air bag module circuit is shorted to some power supply circuits.	ble damage.     Replace LH side curtain air bag module.     Replace the air bag diagnosis
CURTAIN MODULE LH [GND-SHORT] [B1152]	The LH side rear curtain air bag module circuit is shorted to ground.	sensor unit.  5. Replace the related harness.
CURTAIN MODULE LH [SHORT] [B1153]	The circuits for the LH side rear curtain air bag module are shorted to each other.	
CURTAIN MODULE RH [OPEN] [B1145]	The RH side rear curtain air bag module circuit is open.	Visually check the wiring harness connection.     Replace the harness if it has visi-
CURTAIN MODULE RH [VB-SHORT] [B1146]	The RH side rear curtain air bag module circuit is shorted to some power supply circuits.	ble damage.  3. Replace RH side curtain air bag module.
CURTAIN MODULE RH [GND-SHORT] [B1147]	The RH side rear curtain air bag module circuit is shorted to ground.	Replace the air bag diagnosis sensor unit.     Replace the related harness.
CURTAIN MODULE RH [SHORT] [B1148]	The circuits for the RH side rear curtain air bag module are shorted to each other.	
CONTROL UNIT [B1XXX]	Air bag diagnosis sensor unit is malfunctioning.	Visually check the wiring harness connection.     Replace the air bag diagnosis sensor unit.
OCCUPANT SENS C/U [UNIT FAIL] [B1017], [B1020] or [B1021]	Occupant classification system is malfunctioning.	Replace RH front seat cushion/ occupant classification system control unit assembly.

## < SERVICE INFORMATION >

Diagnostic item	Explanation	Repair order Recheck SRS at each replacement
OCCUPANT SENS C/U [COMM FAIL] [B1022]	Communication between the occupant classification system control unit and air bag diagnosis sensor unit is interrupted.	<ol> <li>Visually check the wiring harness connection.</li> <li>Replace the harness if it has visible damage.</li> <li>Replace RH front seat cushion/occupant classification system control unit assembly.</li> <li>Replace the air bag diagnosis sensor unit.</li> <li>Replace the related harness.</li> </ol>
OCCUPANT SENS [UNIT FAIL] [B1018]	Occupant classification sensor is malfunctioning.	Replace RH front seat cushion/ occupant classification system control unit assembly.
BELT TENSION SENS [UNIT FAIL] [B1019]	Belt tension sensor is malfunctioning.	<ol> <li>Visually check the wiring harness connection.</li> <li>Replace the harness if it has visible damage.</li> <li>Replace RH front seat belt assembly.</li> <li>Replace RH front seat cushion/occupant classification system control unit assembly.</li> <li>Replace the related harness.</li> </ol>
PASS A/B INDCTR CKT [B1023]	Front passenger air bag off indicator is malfunctioning.	<ol> <li>Visually check the wiring harness connection.</li> <li>Replace the harness if it has visible damage.</li> <li>Replace front passenger air bag off indicator.</li> <li>Replace the air bag diagnosis sensor unit.</li> <li>Replace the related harness.</li> </ol>
FRONTAL COLLISION DETECTION [B1209]	Driver and front passenger air bag modules are deployed.	1. Refer to <u>SRS-49</u> .
SIDE COLLISION DETECTION [B1210]	Side or curtain air bag modules are deployed (with side air bags only).	
ROLLOVER DETECTION [B1211]	Curtain air bag module and seat belt pre-tensioner are deployed.	

#### NOTE:

Follow the procedures in numerical order when repairing malfunctioning parts. Confirm whether malfunction is eliminated using air bag warning lamp or CONSULT-II each time repair is finished. If malfunction is still observed, proceed to the next step. When malfunction is eliminated, further repair work is not required.

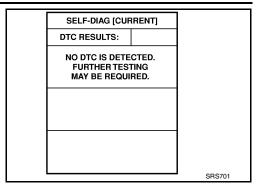
## **DIAGNOSTIC PROCEDURE 3**

Final Check of SRS Using CONSULT-II—Diagnosis Mode Refer to GI-36, "CONSULT-II Start Procedure".

#### < SERVICE INFORMATION >

1. If no DTC is detected on "SELF-DIAG [CURRENT]", repair of SRS is completed. Go to step 2.

If any DTC is detected on "SELF-DIAG [CURRENT]", the malfunctioning part has not been repaired completely or another malfunctioning part is being detected. Go to "DIAGNOSTIC PROCEDURE 2".



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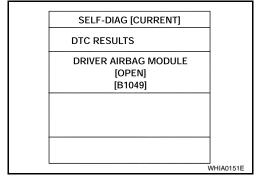
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2. Touch "ERASE".

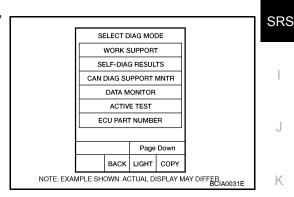
#### NOTE:

Touch "ERASE" to clear the memory of the malfunction ("SELF-DIAG [PAST]").

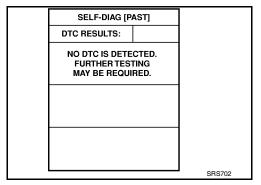
If the memory of the malfunction in "SELF-DIAG [PAST]" is not erased, the User mode shows the system malfunction by the operation of the warning lamp even if the malfunction is repaired completely.



Touch "BACK" key of CONSULT-II to "SELECT DIAG MODE" screen. Touch "SELF-DIAG [PAST]".



- Check that no malfunction is detected on "SELF-DIAG [PAST]".
- 5. Touch "BACK" key of CONSULT-II until "SELECT SYSTEM" appears in order to return to User mode from Diagnosis mode.
- Turn ignition switch OFF then turn off and disconnect CON-SULT-II.
- 7. Go to SRS-20, "SRS Operation Check".



#### **DIAGNOSTIC PROCEDURE 4**

Check SRS Repair History

1.consider possibility that self-diagnostic result was not erased after repair

Check repair history of the SRS.

#### Have any previous repairs been made to the SRS?

Yes >> Self-diagnostic result "SELF-DIAG [PAST]" (previously stored in the memory) might not be erased after repair. Go to "DIAGNOSTIC PROCEDURE 3".

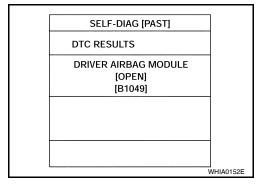
No >> Go to "DIAGNOSTIC PROCEDURE 2".

#### DIAGNOSTIC PROCEDURE 5

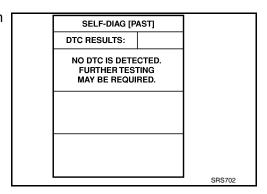
#### < SERVICE INFORMATION >

Check SRS Intermittent Malfunction Using CONSULT-II—Diagnosis Mode Refer to GI-36, "CONSULT-II Start Procedure".

If diagnostic codes are displayed on "SELF-DIAG [PAST]", go to step 4.



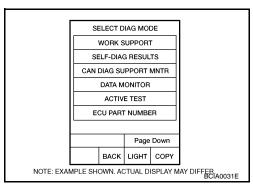
If no malfunction is detected on "SELF-DIAG [PAST]", touch "BACK" and go back to "SELECT DIAG MODE".



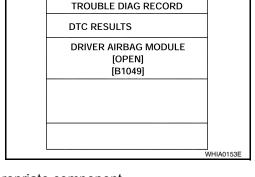
Touch "TROUBLE DIAG RECORD".

NOTE:

With "TROUBLE DIAG RECORD", diagnosis results previously erased by a reset operation can be displayed.



- 3. Diagnostic code is displayed on "TROUBLE DIAG RECORD".
- Touch "PRINT".
- 5. Compare diagnostic codes to "CONSULT-II Diagnostic Code Chart".
- Touch "BACK" key of CONSULT-II until "SELECT SYSTEM" appears.
- 7. Turn ignition switch OFF, then turn off and disconnect CON-SULT-II, and both battery cables.
- Repair the system as outlined by the "Repair order" in "Intermittent Malfunction Diagnostic Code Chart", that corresponds to the self-diagnostic result. For replacement procedure of component parts, refer to the Removal and Installation procedure for the appropriate component.
- 9. Go to "DIAGNOSTIC PROCEDURE 3", for final checking.



Trouble Diagnosis without CONSULT-II

INFOID:0000000003532870

#### **DIAGNOSTIC PROCEDURE 6**

Inspect SRS Malfunction Using "AIR BAG" Warning Lamp—Diagnosis Mode NOTE:

## < SERVICE INFORMATION >

SRS will not enter Diagnosis mode if no malfunction is detected in User mode.

- 1. Turn ignition switch ON.
- 2. After "AIR BAG" warning lamp lights for 7 seconds, turn ignition switch OFF within 1 second.
- 3. Wait more than 3 seconds.
- 4. Repeat steps 1 to 3 two more times (3 times total).
- 5. Turn ignition switch ON.

SRS is now in Diagnosis mode.

"AIR BAG" warning lamp operates in Diagnosis mode as follows:

#### WARNING LAMP FLASH CODE CHART

<Diagnosis results (previously stored in the memory) might not be erased after repair or intermittent malfunctions have been detected in the past.>

Flash pattern	Repair order
a through b are repeated.	1. Go to DIAGNOSTIC PROCEDURES 2 and 3.
ON OFF 7 sec. 2 sec. 2 sec.	
	SHIA0026E

Flash pattern	Repair order
a through d are repeated. d:Two flashes indicate malfunctioning driver air bag module circuits.  2 flashes ON OFF 7 sec. 2 sec. 2 sec. 2 sec. 2 sec.	1. Visually check the wiring harness connection. 2. Replace the harness if it has visible damage. 3. Replace the spiral cable. 4. Replace driver air bag module. 5. Replace the air bag diagnosis sensor unit. 6. Replace the related harness.

<air bag="" diagnosis="" sensor="" unit=""></air>	
Flash pattern	Repair order
a through d are repeated. d: Seven flashes indicate malfunctioning diagnosis sensor unit circuit.  7 flashes  ON  7 sec. 2 sec. 2 sec. 0.5 sec.	Visually check the wiring harness connections.     Replace the harness if it has visible damage.     Replace the air bag diagnosis sensor unit.     Replace the related harness.

<front air="" bag="" module="" passenger=""></front>	
Flash pattern	Repair order
a through d are repeated. d: Eight flashes indicate malfunctioning front passenger air bag module circuit.  ON  7 sec. 2 sec. 2 sec. 0.5 sec. 2 sec.	Visually check the wiring harness connection.     Replace the harness if it has visible damage.     Replace front passenger air bag module.     Replace the air bag diagnosis sensor unit.     Replace the related harness.

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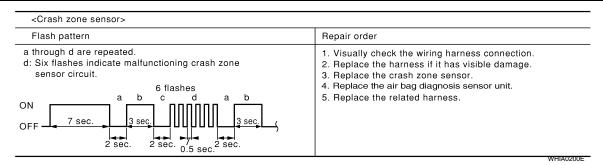
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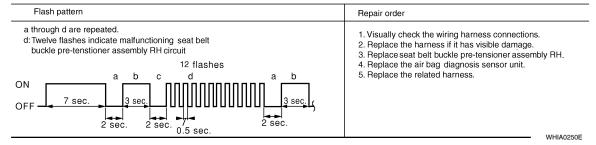
WHIA0261E

WHIA0260E



<front belt="" pre-tensioner="" rh="" seat=""></front>	
Flash pattern	Repair order
a through d are repeated. d: One flash indicates malfunctioning front RH seat belt pre-tensioner circuit.  ON OFF  7 sec. 2 sec. 2 sec. 2 sec. 2 sec. 2 sec.	Visually check the wiring harness connections.     Replace the harness if it has visible damage.     Replace front RH seat belt pre-tensioner.     Replace the air bag diagnosis sensor unit.     Replace the related harness.

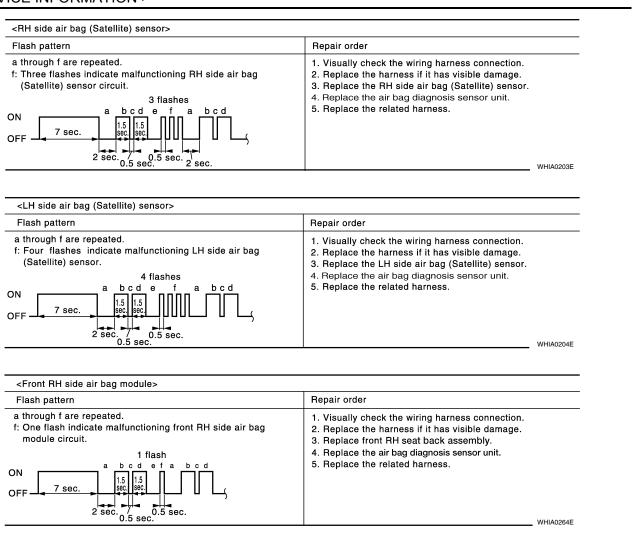
< Seat belt buckle pre-tensioner assembly RH>



Flash pattern	Repair order
a through d are repeated. d: Three flashes indicate malfunctioning front LH seat belt pre-tensioner circuit.  ON  OFF  7 sec.  3 flashes a b c d a b  2 sec. 2 sec. 2 sec. 2 sec. 2 sec.	1. Visually check the wiring harness connections. 2. Replace the harness if it has visible damage. 3. Replace front LH seat belt pre-tensioner. 4. Replace the air bag diagnosis sensor unit. 5. Replace the related harness.

<Seat belt buckle pre-tensioner assembly LH>

a through d are repeated. d:Thirteen flashes indicate malfunctioning seat belt buckle pre-tenstioner assembly LH circuit.  13 flashes  a b c d a b  ON  1. Visually check the wiring harness connections. 2. Replace the harness if it has visible damage. 3. Replace the seat belt buckle pre-tensioner asser 4. Replace the air bag diagnosis sensor unit. 5. Replace the related harness.	
OFF 1 7 sec. 13 sec. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	NHIA0251E



Flash pattern	Repair order
a through f are repeated. f: Two flashes indicate malfunctioning front LH side air bag module circuit.  2 flashes  7 sec. 7 sec. 1.5   1.5	Visually check the wiring harness connection.     Replace the harness if it has visible damage.     Replace front LH seat back assembly.     Replace the air bag diagnosis sensor unit.     Replace the related harness.

<rh (rear)="" air="" bag="" curtain="" module="" side=""></rh>	
Flash pattern	Repair order
a through f are repeated. f: Five flashes indicate malfunctioning RH side curtain air bag module (rear) circuit.  5 flashes  ON 7 sec. 2 sec. 7 0.5 sec. 2 sec. 2 sec.	Visually check the wiring harness connection.     Replace the harness if it has visible damage.     Replace RH side curtain air bag module.     Replace the air bag diagnosis sensor unit.     Replace the related harness.

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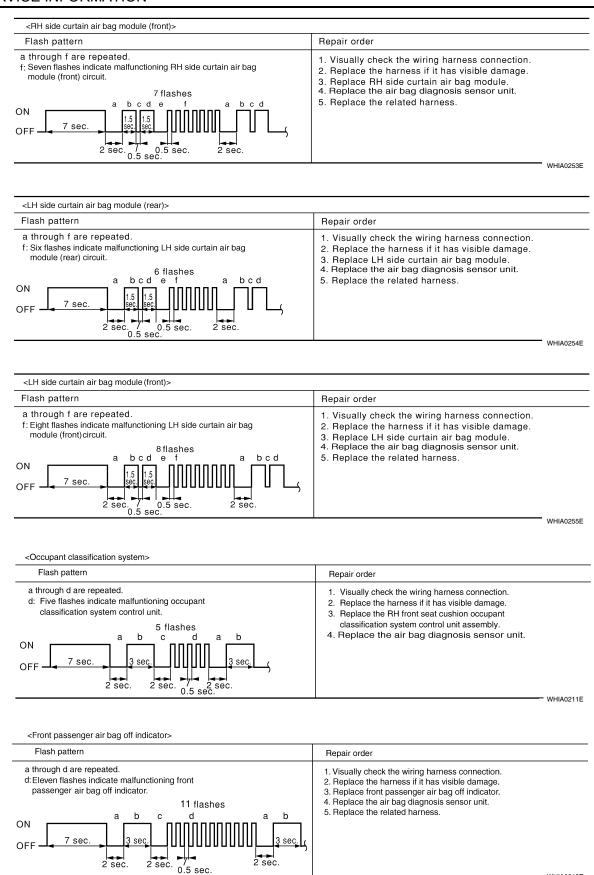
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Trouble Diagnosis: "AIR BAG" Warning Lamp Does Not Turn Off

INFOID:0000000003532871

#### < SERVICE INFORMATION >

# 1. CHECK CONDITION OF AIR BAG MODULE

Inspect for any deployed air bag modules or seat belt pre-tensioners.

Are any air bag modules or seat belt pre-tensioners deployed?

Yes >> Refer to SRS-49.

>> GO TO 2. No

# 2.CHECK THE AIR BAG FUSE

Check 10A fuse [No. 13, located in the fuse block (J/B)].

Refer to PG-3.

#### OK or NG

OK >> GO TO 4.

NG >> GO TO 3.

# 3.CHECK AIR BAG FUSE AGAIN

Replace 10A fuse [No. 13, located in the fuse block (J/B)] and turn ignition switch ON.

#### Does the fuse blow again?

Yes >> Repair harness.

No >> Inspection End.

# f 4 . CHECK AIR BAG DIAGNOSIS SENSOR UNIT

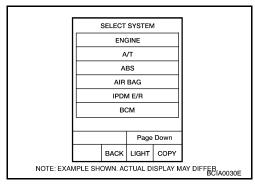
Connect CONSULT-II and touch "START".

#### Is "AIR BAG" displayed on CONSULT-II?

>> GO TO 5. Yes

No

>> Visually inspect the air bag diagnosis sensor unit harness connections. If the connections are OK, replace the air bag diagnosis sensor unit. Refer to SRS-47. "Removal and Installation"



# CHECK HARNESS CONNECTION

Check for loose connections between the combination meter and the air bag diagnosis sensor unit.

## OK or NG

OK >> Replace air bag diagnosis sensor unit. Refer to SRS-47, "Removal and Installation".

NG >> Properly connect the combination meter and air bag diagnosis sensor unit harness connectors. If "AIR BAG" warning lamp still does not turn off, replace the wiring harness.

# Trouble Diagnosis: "AIR BAG" Warning Lamp Does Not Turn On

INFOID:0000000003532872

#### DIAGNOSTIC PROCEDURE 8

# 1. CHECK METER FUSE

Check the 10A fuse [No. 14, located in the fuse block (J/B)] .

Refer to PG-3.

## OK or NG

OK >> GO TO 3.

NG >> GO TO 2.

# 2.REPLACE METER FUSE AND CHECK AGAIN

Replace 10A fuse [No. 14, located in the fuse block (J/B)] and turn ignition switch ON.

#### Does the fuse blow again?

Yes >> Replace harness.

>> Inspection End. No

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## < SERVICE INFORMATION >

# 3. CHECK HARNESS CONNECTIONS BETWEEN AIR BAG DIAGNOSIS SENSOR UNIT AND COMBINATION METER

Inspect the harness and connectors between the air bag diagnosis sensor unit and the combination meter. Do the harness or connectors have any visible damage?

Yes >> Replace harness.

No >> GO TO 4.

# 4. CHECK COMBINATION METER

Disconnect the air bag diagnosis sensor unit harness connectors and turn ignition switch ON. Does "AIR BAG" warning lamp turn on?

Yes >> Replace the air bag diagnosis sensor unit. Refer to <u>SRS-47</u>, "Removal and Installation".

No >> Replace the combination meter. Refer to <u>IP-10</u>, "Removal and Installation".

## DRIVER AIR BAG MODULE

## Removal and Installation

SEC. 484 10.5 (1.1, 8.0) 10.5 (1.1, 8.0) (5) 6 (4) : N·m (kg-m, ft-lb) : Always replace after every disassembly. WHIA0159E

- Horn harness
- Side lids RH/LH

- 2. Steering wheel hook
- 5. Driver air bag module
- Inflator harness 3.
- 6. Steering wheel

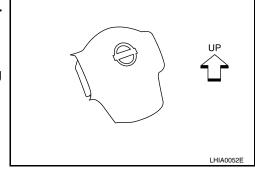
#### REMOVAL

#### **CAUTION:**

- Do not attempt to repair or replace damaged direct-connect SRS component connectors. If a driver air bag direct-connect harness connector is damaged, the spiral cable must be replaced.
- Before servicing the SRS, turn ignition switch OFF, disconnect both battery cables and wait at least 3 minutes.
- When servicing the SRS, do not work from directly in front of air bag module.
- Disconnect the negative and positive battery cables, then wait at least 3 minutes.
- 2. Remove the left and right side lids and bolts.
- 3. Lift the driver air bag module from the steering wheel.
- Disconnect the horn connector and air bag harness, then remove the driver air bag module.
  - For removal/installation of the direct-connect SRS connectors, refer to SRS-6, "Direct-connect SRS Component Connectors".

#### **CAUTION:**

- When servicing the SRS, do not work from directly in front of air bag module.
- Always place air bag module with pad side facing upward.
- · Do not insert any foreign objects (screwdriver, etc.) into air bag module or harness connectors.
- · Do not disassemble air bag module.
- Do not use old bolts after removal; replace with new bolts.
- Do not expose the air bag module to temperatures exceeding 90°C (194°F).



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## **DRIVER AIR BAG MODULE**

## < SERVICE INFORMATION >

- Replace the air bag module if it has been dropped or sustained an impact.
- Do not allow oil, grease or water to come in contact with the air bag module.



#### **INSTALLATION**

Installation is in the reverse order of removal.

- If driver air bag module is being replaced due to deployment, spiral cable must also be replaced. Refer to SRS-37.
- For removal/installation of the direct-connect SRS connectors, refer to <u>SRS-6</u>. "<u>Direct-connect SRS Component Connectors</u>".
- After the work is completed, perform self-diagnosis to check that no malfunction is detected. Refer to <u>SRS-20</u>, "SRS Operation Check".

# SPIRAL CABLE

## Removal and Installation

INFOID:0000000003532874 SEC. 240 • 253 • 484 • 487 Refer to PS section : N·m (kg-m, ft-lb)

- Steering wheel
- Spiral cable
- Column assembly 7.
- 10. Screw

- Lighting and turn signal switch
- Driver air bag module connector
- Column cover lower
- Wiper and washer switch
- 6. Column cover upper
- Screw (Do not remove)

# SRS

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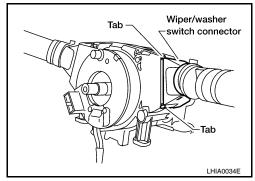
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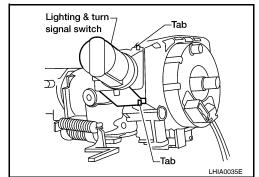
### REMOVAL

## **CAUTION:**

- · Before servicing the SRS, turn ignition switch OFF, disconnect both battery cables and wait at least
- When servicing the SRS, do not work from directly in front of air bag module.
- 1. Remove the steering wheel. Refer to PS-7.
- 2. Remove the column cover upper and lower.
- 3. Remove wiper and washer switch connector, then pinch the tabs at wiper and washer switch base and slide away from steering column to remove.



While pressing tabs, pull lighting and turn signal switch toward driver door and disconnect from base.



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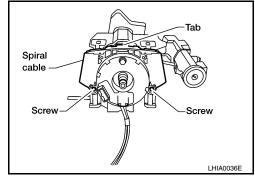
## SPIRAL CABLE

#### < SERVICE INFORMATION >

Remove the screws, release the clip, and remove the spiral cable.

### **CAUTION:**

- Do not disassemble spiral cable.
- Do not apply lubricant to the spiral cable.



6. Remove the spiral cable connectors.

### **CAUTION:**

With the steering linkage disconnected, the spiral cable may snap by turning the steering wheel beyond the limited number of turns. The spiral cable can be turned counterclockwise about 2.5 turns from the neutral position.

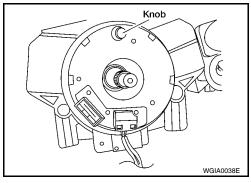
### INSTALLATION

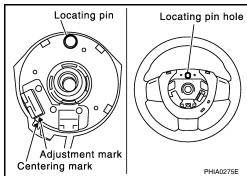
Installation is in the reverse order of removal.

- Align spiral cable correctly when installing steering wheel. Make sure that the spiral cable is in the neutral position. The neutral position is detected by turning left 2.5 revolutions from the right end position and ending with the knob at the top.
- If equipped with VDC, refer to <u>BRC-54</u>, "<u>Adjustment of Steering Angle Sensor Neutral Position</u>" for steering angle sensor adjustment.
- After the work is completed, perform self-diagnosis to make sure no malfunction is detected. Refer to <u>SRS-20</u>, <u>"SRS Operation Check"</u>.

### **CAUTION:**

- The spiral cable may snap due to steering operation if the cable is not installed in the correct position.
- With the steering linkage disconnected, the cable may snap by turning the steering wheel beyond the limited number of turns. The spiral cable can be turned counterclockwise about 2.5 turns from the right end position.





## FRONT PASSENGER AIR BAG MODULE

#### < SERVICE INFORMATION >

## FRONT PASSENGER AIR BAG MODULE

## Removal and Installation

The passenger air bag module originally installed in the vehicle uses direct-connect style harness connectors. Service replacement passenger air bag modules use tab-locking style harness connectors. If the passenger air bag module is replaced or if the direct-connect harness connectors are damaged, the vehicle wiring harness must be modified to allow connection of the service replacement passenger air bag module. Refer to "WIRING HARNESS MODIFICATION" for wiring harness modification procedure.

#### REMOVAL

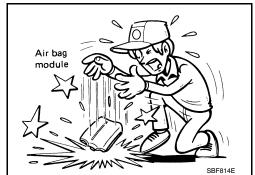
#### **CAUTION:**

- Do not attempt to repair or replace damaged direct-connect front passenger air bag module connectors. If a direct-connect harness connector is damaged, the front passenger air bag must be replaced and the wiring harness modified.
- Before servicing SRS, turn the ignition switch off, disconnect both battery cables and wait at least 3 minutes.
- Always work from the side of or under front passenger air bag module.
- 1. Remove the glove box. Refer to IP-10.
- 2. Remove 2 nuts (through glove box opening) retaining front passenger air bag module to instrument panel crossmember.
- 3. Disconnect the air bag module electrical connectors.
  - For removal/installation of the direct-connect SRS connectors, refer to <u>SRS-6</u>, "<u>Direct-connect SRS Component Connectors</u>"
- Remove the instrument panel assembly from the vehicle. Refer to <u>IP-10</u>.
- Remove front passenger air bag module nuts and remove air bag module from the instrument panel assembly.

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#### **CAUTION:**

- When servicing the SRS, do not work from directly in front of air bag module.
- Always place front passenger air bag module with caution label side facing upward.
- Do not insert any foreign objects (screwdriver, etc.) into air bag module or harness connectors.
- · Do not disassemble air bag module.
- Do not use old nuts after removal; replace with new nuts.
- Do not expose the front passenger air bag module to temperatures exceeding 90°C (194°F).
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- Replace the air bag module if it has been dropped or sustained an impact.
- Do not allow oil, grease or water to come in contact with the air bag module.
- For removal/installation of the direct-connect SRS connectors, refer to SRS-6, "Direct-connect SRS Component Connectors".



INSTALLATION

Original Passenger Air Bag Module

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## FRONT PASSENGER AIR BAG MODULE

#### < SERVICE INFORMATION >

Installation is in the reverse order of removal.

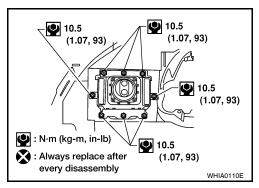
• For removal/installation of the direct-connect SRS connectors, refer to <u>SRS-6</u>, "<u>Direct-connect SRS Component Connectors</u>".

### **CAUTION:**

- Always work from the side of or under front passenger air bag module.
- After the work is completed, perform self-diagnosis to check that no malfunction is detected. Refer to <u>SRS-20</u>, "<u>SRS Operation Check"</u>.

Service Replacement Passenger Air Bag Module

1. Install the front passenger air bag module to the instrument panel pad assembly.



- 2. Install the instrument panel assembly. Refer to IP-10.
- 3. Connect the front passenger air bag module harness connector to yellow 4-pin service replacement air bag connector and fasten connector to mounting bracket.

#### **CAUTION:**

- Always work from the side of or under front passenger air bag module.
- After the work is completed, perform self-diagnosis to check that no malfunction is detected. Refer to <u>SRS-20</u>, "<u>SRS Operation Check"</u>.

#### WIRING HARNESS MODIFICATION

The passenger air bag module originally installed in the vehicle uses direct-connect style harness connectors. Service replacement passenger air bag modules use tab-locking style harness connectors. If the passenger air bag module is replaced or if the direct-connect harness connectors are damaged, the vehicle wiring harness must be modified to allow connection of the service replacement passenger air bag module.

# NOTE:

The wiring harness modification is to be performed only if the vehicle is equipped with the original passenger air bag which uses direct-connect harness connectors. If the passenger air bag is to be replaced in a vehicle that has already had the service replacement passenger air bag installed, the wiring harness modification is not required.

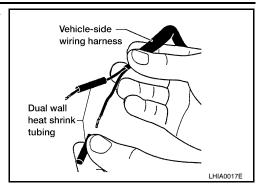
#### **CAUTION:**

- Do not attempt to repair or replace damaged direct-connect front passenger air bag module connectors. If a direct-connect harness connector is damaged, the front passenger air bag must be replaced and the wiring harness modified.
- Before servicing SRS, turn the ignition switch off, disconnect both battery cables and wait at least 3
  minutes.
- Always work from the side of or under front passenger air bag module.
- After the work is completed, perform self-diagnosis to check that no malfunction is detected. Refer to <u>SRS-20</u>, "<u>SRS Operation Check"</u>.
- 1. Locate the yellow and orange direct-connect passenger air bag module harness connectors.
- 2. Use wire cutters to cut back both previously used direct-connect passenger air bag module harness connectors from the vehicle wiring harness approximately 50 mm (1.9 in) from the connectors.
- 3. Remove approximately 150 mm (5.9 in) of the vehicle harness covering from the cut end.

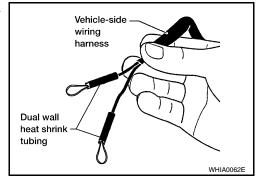
## FRONT PASSENGER AIR BAG MODULE

### < SERVICE INFORMATION >

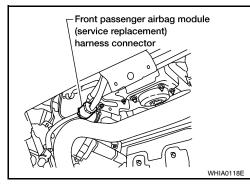
 Slide a piece of dual-wall heat shrink tubing (provided in the passenger air bag service kit) onto each wire of the previously used vehicle wiring harness.



Fold each wire back and insert into the end of the heat shrink tubing so that the end of the wire is approximately centered in the heat shrink tubing.



- 6. Use a heat gun to shrink the heat shrink tubing and seal the wire.
- 7. Use electrical tape to secure the modified circuits to the outside of the wiring harness.
- Locate the front passenger air bag service replacement connector that is taped back to the main harness. Unwrap the tape to access the yellow service replacement connector and remove the dust cover from the connector.



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## SIDE CURTAIN AIR BAG MODULE

## Removal and Installation

- Rear side curtain air bag module connector
- 2. Front side curtain air bag module connector

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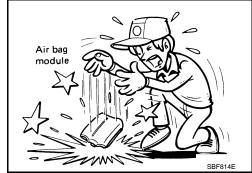
## **REMOVAL**

## **CAUTION:**

- Do not attempt to repair or replace damaged direct-connect SRS component connectors. If a direct-connect harness connector is damaged, the harness must be replaced.
- Before servicing the SRS, turn the ignition switch off, disconnect both battery cables and wait at least 3 minutes.
- · When servicing the SRS, do not work from directly in front of air bag module.
- 1. Remove headlining. Refer to El-37.
- Disconnect front and rear side curtain air bag module connectors.
  - For removal/installation of the direct-connect SRS connectors, refer to <u>SRS-6</u>, "<u>Direct-connect SRS Component Connectors</u>".
- 3. Remove the bolts in order starting at the front or rear, and remove the side curtain air bag module.

#### **CAUTION:**

- When servicing the SRS, do not work from directly in front of air bag module.
- Do not insert any foreign objects (screwdriver, etc.) into air bag module or harness connectors.
- Do not disassemble air bag module.
- Do not expose the air bag module to temperatures exceeding 90°C (194°F).
- Replace side curtain air bag module if it has been dropped or sustained an impact.
- Do not allow oil, grease or water to come in contact with the air bag module.



### INSTALLATION

Installation is in the reverse order of removal.

# SIDE CURTAIN AIR BAG MODULE

# < SERVICE INFORMATION >

- For removal/installation of the direct-connect SRS connectors, refer to <u>SRS-6. "Direct-connect SRS Component Connectors"</u> .
- After replacement of side curtain air bag module, perform self-diagnosis to check that no malfunction is detected. Refer to SRS-20, "SRS Operation Check".

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## **CRASH ZONE SENSOR**

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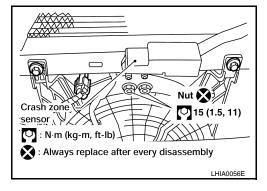
# **CRASH ZONE SENSOR**

## Removal and Installation

# REMOVAL

#### **CAUTION:**

- Before servicing the SRS, turn the ignition switch off, disconnect both battery cables and wait at least 3 minutes.
- 1. Disconnect the negative and positive battery cables, then wait at least 3 minutes.
- 2. Remove front grille. Refer to El-16.
- 3. Disconnect the crash zone sensor harness connector.
- 4. Remove crash zone sensor nuts.



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### **CAUTION:**

- Replace crash zone sensor if it has been dropped or sustained an impact.
- Do not disassemble crash zone sensor.

### INSTALLATION

Installation is in the reverse order of removal.

After the work is complete, perform self-diagnosis to check that no malfunction is detected. Refer to <u>SRS-20.</u>
 "SRS Operation Check".

# SIDE AIR BAG (SATELLITE) SENSOR

### < SERVICE INFORMATION >

# SIDE AIR BAG (SATELLITE) SENSOR

## Removal and Installation

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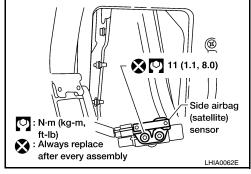
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## **REMOVAL**

#### **CAUTION:**

- Before servicing the SRS, turn the ignition switch off, disconnect both battery cables and wait at least 3 minutes.
- 1. Disconnect the negative and positive battery cables, then wait at least 3 minutes.
- 2. Remove seat belt pre-tensioner. Refer to <u>SB-3, "Removal and Installation of Front Seat Belt"</u>.
- 3. Remove side air bag (satellite) sensor nuts.
- 4. Disconnect the side air bag (satellite) sensor harness connector.



#### **CAUTION:**

- Do not use old nuts after removal; replace with new nuts.
- Check side air bag (satellite) sensor to make sure it is free of deformities, dents, cracks or rust. If it shows any visible signs of damage, replace it with new one.
- Do not disassemble side air bag (satellite) sensor.
- Replace side air bag (satellite) sensor if it has been dropped or sustained an impact.

### INSTALLATION

Installation is in the reverse order of removal.

• After the work is completed, perform self-diagnosis to check that no malfunction is detected. Refer to <u>SRS-20, "SRS Operation Check"</u>.

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# FRONT SEAT BELT PRE-TENSIONER

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# FRONT SEAT BELT PRE-TENSIONER

# Removal and Installation

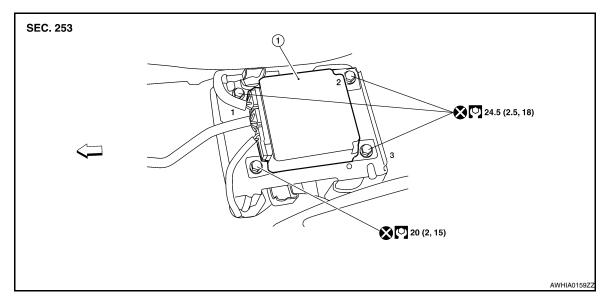
For removal and installation procedures for seat belt and seat belt buckle pre-tensioners, refer to  $\underline{SB-3}$ .  $\underline{"Removal and Installation of Front Seat Belt"}$ .

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# **DIAGNOSIS SENSOR UNIT**

# Removal and Installation

REMOVAL



Diagnostic sensor unit

#### **CAUTION:**

- Before servicing the SRS, turn the ignition switch off, disconnect both battery cables and wait at least 3 minutes.
- Disconnect the negative and positive battery cables, then wait at least 3 minutes.
- 2. Disconnect the harness connectors for each air bag module and seat belt pre-tensioner.
- Remove center console. Refer to IP-10.
- 4. Disconnect diagnosis sensor unit harness connectors.
- Remove bolts from the diagnosis sensor unit.

#### **CAUTION:**

- · Do not use old bolts; replace with new bolts.
- Check diagnosis sensor unit bracket to ensure it is free of deformities, dents, cracks or rust. If it shows any visible signs of damage, replace with new one.
- Replace diagnosis sensor unit if it has been dropped or sustained an impact.

### INSTALLATION

Installation is in the reverse order of removal.

• After the work is completed, perform self-diagnosis to check that no malfunction is detected. Refer to <u>SRS-20, "SRS Operation Check"</u>.

### **CAUTION:**

### ECU DISCRIMINATED NO.

After replacing the diagnosis sensor unit, confirm that the diagnosis sensor unit identification is correct for the vehicle as equipped. Refer to SRS-17. "CONSULT-II Function (AIR BAG)".

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**SRS-47** 

## OCCUPANT CLASSIFICATION SYSTEM CONTROL UNIT

< SERVICE INFORMATION >

# OCCUPANT CLASSIFICATION SYSTEM CONTROL UNIT

## Removal and Installation

The occupant classification control unit, occupant classification (pressure) sensor, and bladder are an integral part of the front passenger seat cushion and are replaced as an assembly. Refer to <u>SE-83</u>, "<u>Removal and Installation</u>" to remove the seat, and <u>SE-85</u>, "<u>Disassembly and Assembly</u>" to replace the seat cushion.

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# **COLLISION DIAGNOSIS**

# For Frontal Collision

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Check the SRS components using the following table.

After the work is completed, perform self-diagnosis to check that no malfunction is detected. Refer to <u>SRS-20</u>, "SRS Operation Check".

# SRS INSPECTION (FOR FRONTAL COLLISION)

Part	SRS is activated	SRS is NOT activated
Driver air bag module	If the driver air bag has deployed: REPLACE Install with new fas- teners.	If the driver air bag has NOT been activated:  Remove driver air bag module. Check harness cover and connectors for damage, terminals for deformities, and harness for binding.  Install driver air bag module into the steering wheel to check fit and alignment with the wheel.  If no damage is found, reinstall with new fasteners.  If damaged—REPLACE. Install driver air bag modules with new fasteners.
Front passenger air bag module	If the front passenger air bag has deployed: REPLACE Install with new fas- teners.	<ol> <li>If the front passenger air bag has NOT been activated:</li> <li>Remove front passenger air bag module. Check harness cover and connectors for damage, terminals for deformities, and harness for binding.</li> <li>Install front passenger air bag module into the instrument panel to check fit with the instrument panel.</li> <li>If no damage is found, reinstall with new fasteners.</li> <li>If damaged—REPLACE. Install front passenger air bag modules with new fasteners.</li> </ol>
Crash zone sensor	If any of the front air bags or seat belt pretensioners* have been activated: REPLACE the crash zone sensor and bracket with new fasteners.  *: Confirm seat belt pre-tensioner activation using CONSULT-II only.	<ol> <li>If the front air bags or seat belt pre-tensioners have NOT been activated:</li> <li>Remove the crash zone sensor. Check harness connectors for damage, terminals for deformities, and harness for binding.</li> <li>Check for visible signs of damage (dents, cracks, deformation) of the crash zone sensor and bracket.</li> <li>Install the crash zone sensor to check fit.</li> <li>If no damage is found, reinstall with new fasteners.</li> <li>If damaged—REPLACE the crash zone sensor and bracket with new fasteners.</li> </ol>
Seat belt pre-tension- er assemblies (All applicable loca- tions: buckle, reel, lap outer)	If either the driver or passenger seat belt pre-tensioner* has been activated: REPLACE all seat belt pre-tensioner assemblies with new fasteners.  *: Confirm seat belt pre-tensioner activation using CONSULT-II only.	<ol> <li>If the pre-tensioners have NOT been activated:</li> <li>Remove seat belt pre-tensioners.         Check harness cover and connectors for damage, terminals for deformities, and harness for binding.</li> <li>Check belts for damage and anchors for loose mounting.</li> <li>Check retractor for smooth operation.</li> <li>Check seat belt adjuster for damage.</li> <li>Check for deformities of the center pillar inner.</li> <li>If the center pillar inner has no damage, REPLACE the seat belt pre-tensioner assembly.</li> <li>If no damage is found, reinstall seat belt pre-tensioners with new fasteners.</li> </ol>
Diagnosis sensor unit	If any of the SRS components have been activated: REPLACE the diagnosis sensor unit. Install with new fasteners.	If none of the SRS components have been activated:  1. Check case for dents, cracks or deformities.  2. Check connectors for damage, and terminals for deformities.  3. If no damage is found, reinstall with new fasteners.  4. If damaged—REPLACE. Install diagnosis sensor unit with new fasteners.

**SRS-49** 

## **COLLISION DIAGNOSIS**

### < SERVICE INFORMATION >

Part	SRS is activated	SRS is NOT activated	
Steering wheel	<ol> <li>Visually check steering wheel for deformities.</li> <li>Check harness (built into steering wheel) and connectors for damage, and terminals for deformities.</li> <li>Install driver air bag module into the steering wheel to check fit and alignment with the wheel.</li> <li>Check steering wheel for excessive free play.</li> <li>If no damage is found, reinstall.</li> <li>If damaged—REPLACE.</li> </ol>		
Spiral cable	If the driver front air bag has deployed: REPLACE the spiral cable.	If the driver front air bag has not deployed:  1. Visually check spiral cable and combination switch for damage.  2. Check connectors and protective tape for damage.  3. Check steering wheel for noise, binding or heavy operation.  4. If no damage is found, reinstall.  5. If damaged—REPLACE.	
Occupant classification system (Passenger seat)	<ol> <li>Remove passenger seat.</li> <li>Check control unit case for dents, cracks of deformities.</li> <li>Check connectors and pressure sensor tube for damage, and terminals for deformities.</li> <li>Check seat frame and cushion pan for dents or deformities.</li> <li>If no damage is found, reinstall seat with new fasteners.</li> <li>If damaged — REPLACE seat cushion assembly with new fasteners.</li> </ol>		
Harness and connectors	<ol> <li>Check connectors for poor connection, damage, and terminals for deformities.</li> <li>Check harness for binding, chafing, cuts, or deformities.</li> <li>If no damage is found, reinstall the harness and connectors.</li> <li>If damaged—REPLACE the damaged harness. Do not attempt to repair, splice or modify any SRS harness.</li> </ol>		
Instrument panel	If the passenger front air bag has deployed: REPLACE the instru- ment panel assembly.	If the passenger front air bag has NOT deployed:  1. Visually check instrument panel for damage.  2. If no damage is found, reinstall the instrument panel.  3. If damaged—REPLACE the instrument panel.	

## For Side and Rollover Collision

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Check the SRS components using the following table.

 After the work is completed, perform self-diagnosis to check that no malfunction is detected. Refer to <u>SRS-</u> 20, "SRS Operation Check".

#### WHEN SRS IS ACTIVATED IN THE SIDE OR ROLLOVER COLLISION

- 1. Replace the following components:
- Front seat back assembly (on the side on which side air bag is activated)
- Diagnosis sensor unit
- (LH or RH) side air bag (satellite) sensor (on the side on which side air bag is activated)
- 2. Check the SRS components and the related parts using the following table.
- Replace any SRS components and the related parts showing visible signs of damage (dents, cracks, deformation).
- 3. Conduct self-diagnosis using CONSULT-II and "AIR BAG" warning lamp. Refer to <u>SRS-20, "SRS Operation Check"</u> for details. Ensure entire SRS operates properly.

## WHEN SRS IS NOT ACTIVATED IN THE SIDE OR ROLLOVER COLLISION

- 1. Check the SRS components and the related parts using the following table.
- If the front seat back assembly is damaged, the front seat back assembly must be replaced.
- Conduct self-diagnosis using CONSULT-II and "AIR BAG" warning lamp. Refer to <u>SRS-20, "SRS Operation Check"</u> for details. Ensure entire SRS operates properly.

## SRS INSPECTION (FOR SIDE AND ROLLOVER COLLISION)

Part	SRS is activated	SRS is NOT activated
LH side curtain air bag module	If the LH side curtain air bag has deployed: REPLACE the LH side curtain air bag module. (Repair the center pillar inner, etc. before installing new one if damaged.)	<ol> <li>If the LH side curtain air bag has NOT deployed:</li> <li>Check for visible signs of damage (dents, tears, deformation) of the center pillar on the collision side.</li> <li>If damaged—Remove the LH side curtain air bag module.</li> <li>Check for visible signs of damaged (tears etc.) of the LH side curtain air bag module.</li> <li>Check harness and connectors for damage, and terminals for deformities.</li> <li>If no damage is found, reinstall the LH side curtain air bag module with new fasteners.</li> <li>If damaged—REPLACE the LH side curtain air bag module with new fasteners.</li> </ol>
RH side curtain air bag module	If the RH side curtain air bag has deployed: REPLACE the RH side curtain air bag module. (Repair the center pillar inner, etc. before installing new one if damaged.)	<ol> <li>If the RH side curtain air bag has NOT deployed:</li> <li>Check for visible signs of damage (dents, tears, deformation) of the center pillar on the collision side.</li> <li>If damaged—Remove the RH side curtain air bag module.</li> <li>Check for visible signs of damaged (tears etc.) of the RH side curtain air bag module.</li> <li>Check harness and connectors for damage, and terminals for deformities.</li> <li>If no damage is found, reinstall the RH side curtain air bag module with new fasteners.</li> <li>If damaged—REPLACE the RH side curtain air bag module with new fasteners.</li> </ol>
Front LH side air bag module	If the front LH side air bag has deployed: REPLACE front LH seatback assembly.	<ol> <li>If the front LH side air bag has NOT deployed:</li> <li>Check for visible signs of damage (dents, tears, deformation) of the seat back on the collision side.</li> <li>Check harness and connectors for damage, and terminals for deformities.</li> <li>If damaged—REPLACE the front LH seatback assembly.</li> </ol>
Front RH side air bag module	If the front RH side air bag has deployed: REPLACE front RH seatback assembly.	If the front RH side air bag has NOT deployed:  Check for visible signs of damage (dents, tears, deformation) of the seat back on the collision side.  Check harness and connectors for damage, and terminals for deformities.  If damaged—REPLACE the front RH seatback assembly.
(LH or RH) side air bag (satellite) sensor	If any of the SRS components have deployed: REPLACE the side air bag (satellite) sensor on the collision side with new fasteners. (Repair the center pillar inner, etc. before installing new one if damaged.)	<ol> <li>If none of the SRS components have been activated:</li> <li>Remove the side air bag (satellite) sensor on the collision side. Check harness connectors for damage, terminals for deformities, and harness for binding.</li> <li>Check for visible signs of damage (dents, cracks, deformation) of the side air bag (satellite) sensor.</li> <li>Install the side air bag (satellite) sensor to check fit.</li> <li>If no damage is found, reinstall the side sir bag (satellite) sensor with new fasteners.</li> <li>If damaged—REPLACE the side air bag (satellite) sensor with new fasteners.</li> </ol>
Diagnosis sensor unit	If any of the SRS components have deployed: REPLACE the diagnosis sensor unit with new fasteners.	If none of the SRS components have been activated:  1. Check case and bracket for dents, cracks or deformities.  2. Check connectors for damage, and terminals for deformities.  3. If no damage is found, reinstall the diagnosis sensor unit with new fasteners.  4. If damaged—REPLACE the diagnosis sensor unit with new fasteners.
Seat belt pre-tension- er assemblies (All applicable loca- tions: buckle, reel, lap outer)	If either the driver or passenger seat belt pre-tensioner* has been activated: REPLACE all seat belt pre-tensioner assemblies with new fasteners.  *: Confirm seat belt pre-tensioner activation using CONSULT-II only.	<ol> <li>If the pre-tensioners have NOT been activated:</li> <li>Remove seat belt pre-tensioners.         Check harness cover and connectors for damage, terminals for deformities, and harness for binding.</li> <li>Check belts for damage and anchors for loose mounting.</li> <li>Check retractor for smooth operation.</li> <li>Check seat belt adjuster for damage.</li> <li>Check for deformities of the center pillar inner.</li> <li>If the center pillar inner has no damage, REPLACE the seat belt pre-tensioner assembly.</li> <li>If no damage is found, reinstall seat belt pre-tensioners with new fasteners.</li> </ol>

# **COLLISION DIAGNOSIS**

# < SERVICE INFORMATION >

Part	SRS is activated	SRS is NOT activated	
Seat (with front side air bag)	If either the front LH or front RH side air bag modules has been de- ployed: REPLACE front seat- back assembly on the deployed side.	If the front LH or front RH side air bag modules have NOT deployed:  1. Visually check the seat on the collision side.  2. Remove the seat on the collision side and check the following for damage and deformities.  - Harness, connectors and terminals  - Frame and recliner (for front and rear seat), and also adjuster and slides (for front seat)  3. If no damage is found, reinstall the seat.  4. If damaged—REPLACE the damaged seat parts using new fasteners. If the front seat back is damaged, the front seat back assembly must be replaced.	
Center inner pillar	<ol> <li>Check the center inner pillar on the collision side for damage (dents, cracks, deformation).</li> <li>If damaged—REPAIR the center inner pillar.</li> </ol>		
Trim/headlining	<ol> <li>Check for visible signs of damage (dents, cracks, deformation) of the interior trim on the collision side.</li> <li>If damaged—REPLACE the damaged trim parts.</li> </ol>		