# SUPPLEMENTAL RESTRAINT SYSTEM (SRS) C

## CONTENTS

PRECAUTIONS
Precautions for Supplemental Restraint System
(SRS) "AIR BAG" and "SEAT BELT PRE-TEN-
SIONER" 3
Precautions for SRS "AIR BAG" and "SEAT BELT
PRE-TENSIONER" Service 3
Precautions for Battery Service 3
Precautions for Trouble Diagnosis
PREPARATION 4
Special Service Tools 4
Commercial Service Tools 4
SUPPLEMENTAL RESTRAINT SYSTEM (SRS) 5
SRS Configuration 5
Front Seat Belt Pre-tensioner with Load Limiter 6
Front Side Air Bag 6
TROUBLE DIAGNOSIS7
Trouble Diagnosis Introduction7
DIAGNOSIS FUNCTION7
HOW TO PERFORM TROUBLE DIAGNOSES
FOR QUICK AND ACCURATE REPAIR
WORK FLOW
Component Parts Location
Schematic
Wiring Diagram — SRS —11
CONSULT-II Function
DIAGNOSIS MODE FOR CONSULT-II
HOW TO CHANGE SELF-DIAGNOSIS MODE
WITH CONSULT-II
HOW TO ERASE SELF-DIAGNOSTIC
RESULTS
Self-Diagnosis Function (Without CONSULT-II) 16
HOW TO CHANGE SELF-DIAGNOSTIC MODE
WITHOUT CONSULT-II
RESULTS
SRS Operation Check
DIAGNOSTIC PROCEDURE 1
Trouble Diagnosis With CONSULT-II
DIAGNOSTIC PROCEDURE 2 19

DIAGNOSTIC PROCEDURE 3	23	F
DIAGNOSTIC PROCEDURE 4 (CONTINUED FROM DIAGNOSTIC PROCEDURE 2)	25	
DIAGNOSTIC PROCEDURE 5	20	
		G
Trouble Diagnosis Without CONSULT-II		
DIAGNOSTIC PROCEDURE 6		
WARNING LAMP FLASH CODE CHART	30	SR
Trouble Diagnosis: "AIR BAG" Warning Lamp Does	~~	
DIAGNOSTIC PROCEDURE 7	33	I
Trouble Diagnosis: "AIR BAG" Warning Lamp Does	~ 4	1
Not Turn On		
DIAGNOSTIC PROCEDURE 8		
DRIVER AIR BAG MODULE		J
Removal and Installation		
REMOVAL		
INSTALLATION		K
SPIRAL CABLE		
Removal and Installation		
REMOVAL		L
INSTALLATION		
FRONT PASSENGER AIR BAG MODULE		
Removal and Installation		
REMOVAL		M
INSTALLATION		
FRONT SIDE AIR BAG MODULE		
Removal and Installation		
ROMOVAL		
INSTALLATION		
CRASH ZONE SENSOR		
Removal and Installation		
REMOVAL		
INSTALLATION		
SIDE AIR BAG (SATELLITE) SENSOR	43	
Removal and Installation		
REMOVAL		
INSTALLATION		
FRONT SEAT BELT PRE-TENSIONER		
Removal and Installation	44	

D

F

DIAGNOSIS SENSOR UNIT	45
Removal and Installation	45
REMOVAL	45
INSTALLATION	45
ECU DISCRIMINATED NO	45
DISPOSALOFAIRBAGMODULEANDSEATBELT	
PRE-TENSIONER	46
Caution for Air Bag Module and Seat Belt Pre-ten-	
sioner	46
CHECKING DEPLOYMENT TOOL	46
DEPLOYMENT PROCEDURES FOR AIR BAG	
MODULE (OUTSIDE OF VEHICLE)	47
DEPLOYMENT PROCEDURES FOR SEAT	
BELT PRE-TENSIONER (OUTSIDE OF VEHI-	
CLE)	50
DEPLOYMENT OF AIR BAG MODULE AND	

SEAT BELT PRE-TENSIONER WHILE	
MOUNTED IN VEHICLE	.51
DISPOSING OF AIR BAG MODULE AND SEAT	
BELT PRE-TENSIONER	.51
COLLISION DIAGNOSIS	.52
For Frontal Collision	.52
SRS INSPECTION (FOR FRONTAL COLLI-	
SION)	.52
For Side Collision	.53
WHEN THE SIDE AIR BAG IS ACTIVATED IN	
THE SIDE COLLISION:	.53
WHEN SRS IS NOT ACTIVATED IN THE SIDE	
COLLISION:	.53
SRS INSPECTION (FOR SIDE COLLISION)	<b>F</b> 4

## PRECAUTIONS

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# Precautions 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.

## Precautions 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 bag and seat belt pre-tensioner to deploy. Therefore, do not work on any SRS connectors or wires until at least 3 minutes have passed.

- Diagnosis sensor unit must always be installed with their arrow marks "⇐" pointing towards the front of the vehicle for proper operation. Also check 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 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.
- Perform 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.
- Always replace instrument panel pad following front passenger air bag deployment.

## **Precautions for Battery Service**

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

## **Precautions for Trouble Diagnosis**

When you read wiring diagrams, refer to the following:

- GI-15, "How to Read Wiring Diagrams" in GI section
- PG-4, "POWER SUPPLY ROUTING CIRCUIT" in PG section

When you perform trouble diagnosis, refer to the following:

- GI-11, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES" in GI section
- <u>GI-27, "How to Perform Efficient Diagnosis for an Electrical Incident"</u> in GI section

Check for any service bulletins before servicing the vehicle.



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## PREPARATION

# PREPARATION

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## **Special Service Tools**

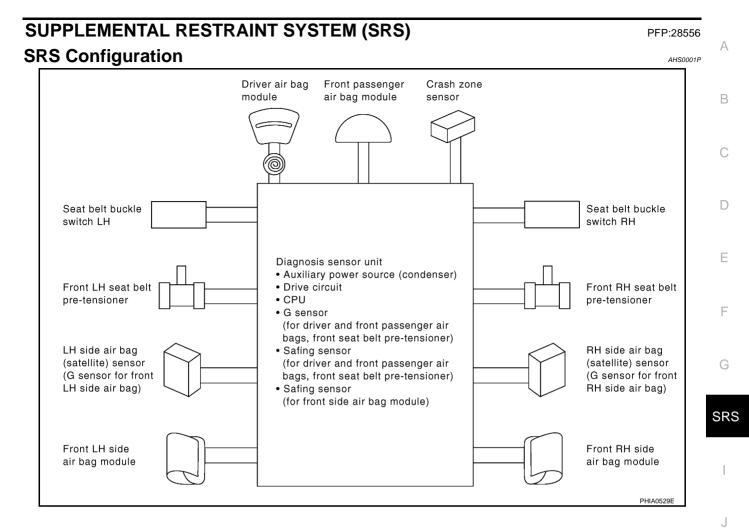
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The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name		Description
KV99105300 (J41246) Air bag module bracket	S-NT354	Anchoring air bag module
KV99106400 (J38381) Deployment tool	S-NT357	Disposing of air bag module and front seat belt pre-tensioner
(J38381-65) Deployment tool adapter for front passenger air bag module	SHIA0173E	Connecting between the deployment tool and front passenger air bag module
<ul> <li>(J38381-80)</li> <li>Deployment tool adapter for driver air bag module (Yellow and orange connectors)</li> <li>Deployment tool adapter for front seat belt pre-tensioner (Yellow connector)</li> </ul>	Yellow connector Orange connector PHIA0184E	<ul> <li>Connecting between the deployment tool and driver air bag module</li> <li>Connecting between the deployment tool and front seat belt pre-tensioner</li> </ul>
KV99108300 (J38381-35) Deployment tool adapter for front side air bag module	ZZA1166D	Connecting between the deployment tool and front side air bag module
mmercial Service Tools		AHS
Tool name		Description

Tamper resistant TORX bit Size: T30

## SUPPLEMENTAL RESTRAINT SYSTEM (SRS)



The air bag deploys if the diagnosis sensor unit activates 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 and front passenger air bag module are activated in a frontal collision but not in a side collision.

SRS configurations which are activated for some collision modes are as follows;

SRS configuration	Frontal collision	Left side collision	Right side collision
Driver air bag module	×	—	—
Front passenger air bag module	×	_	—
Front LH seat belt pre-tensioner	×	_	—
Front RH seat belt pre-tensioner	×	_	—
Front LH side air bag module	_	×	—
Front RH side air bag module	_	_	×

#### Front Seat Belt Pre-tensioner with Load Limiter

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

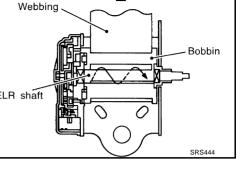
When the frontal collision with an impact exceeding a specified level occurs, seat belt slack resulting from clothing or other factors is immediately taken up by the pre-tensioner. Vehicle passengers are securely restrained.

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.

## Front Side Air Bag

Front side air bag is built-in type.

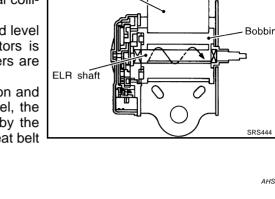
The front seatbacks with built-in type side air bag have the labels as shown.



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## **TROUBLE DIAGNOSIS**

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#### **Trouble Diagnosis Introduction**

#### **CAUTION:**

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

#### **DIAGNOSIS FUNCTION**

The SRS self-diagnostic 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	F
"AIR BAG" warning lamp	Х	Х	ON-OFF operation	-
CONSULT-II	—	Х	Monitoring	-

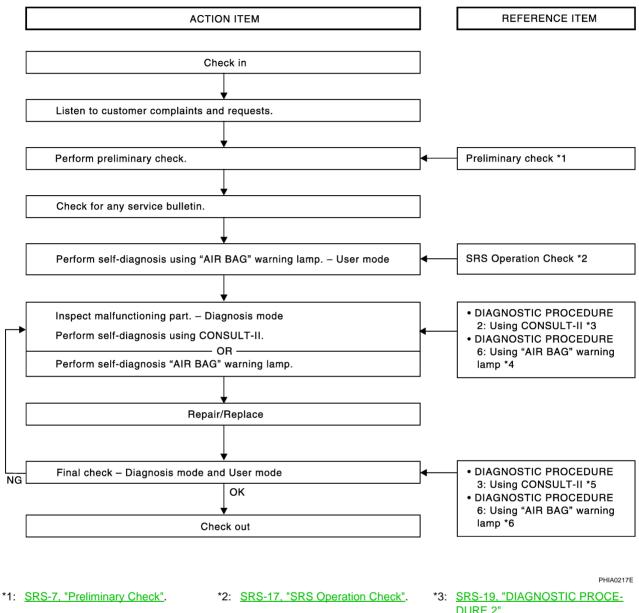
#### HOW TO PERFORM TROUBLE DIAGNOSES FOR QUICK AND ACCURATE REPAIR

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	J
<ul> <li>Make sure that the following parts are in good order.</li> <li>Battery (Refer to <u>SC-4, "How to Handle Battery"</u>.)</li> <li>Fuse (Refer to <u>SRS-11, "Wiring Diagram — SRS —</u>".)</li> </ul>	K
System component-to-harness connections	L

#### **WORK FLOW**



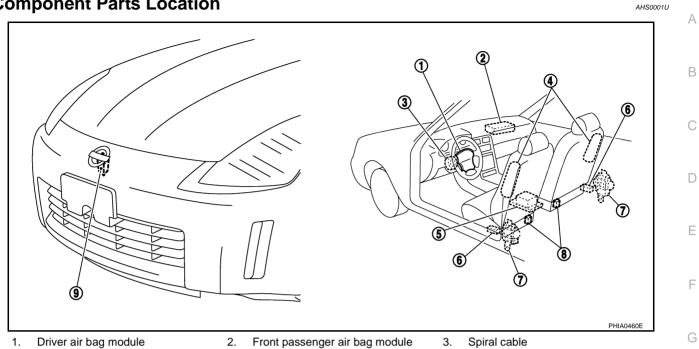
\*4: SRS-29, "DIAGNOSTIC PROCE-DURE 6".

\*5: SRS-23, "DIAGNOSTIC PROCE-DURE 3".

DURE 2".

\*6: SRS-29, "DIAGNOSTIC PROCE-<u>DURE 6"</u>.

## **Component Parts Location**



- 4. Front side air bag module
- 7. Seat belt pre-tensioner
- Front passenger air bag module
- 5. Diagnosis sensor unit
- 8. Seat belt buckle switch
- 6. Side air bag (Satellite) sensor
- 9. Crash zone sensor

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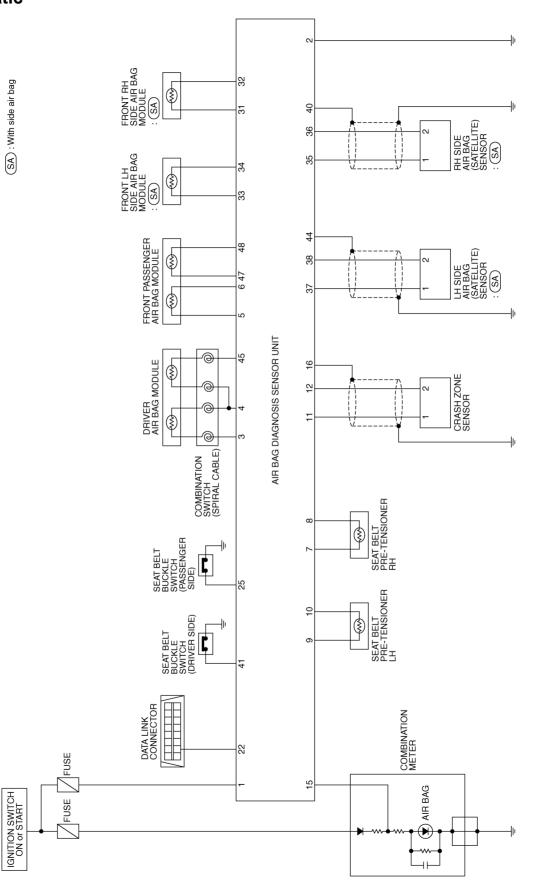
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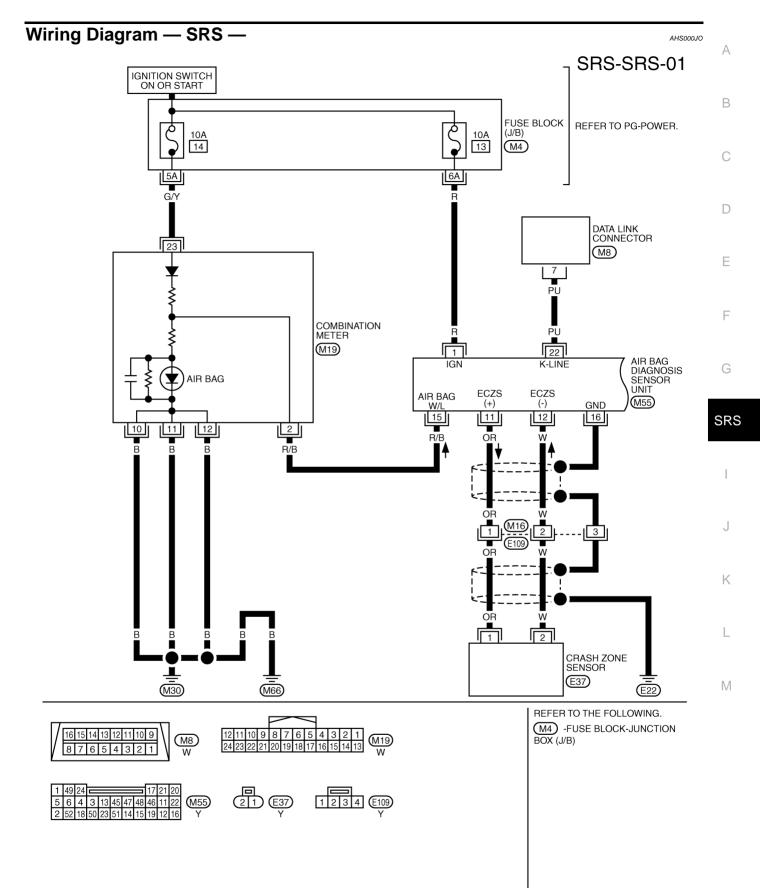
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## Schematic

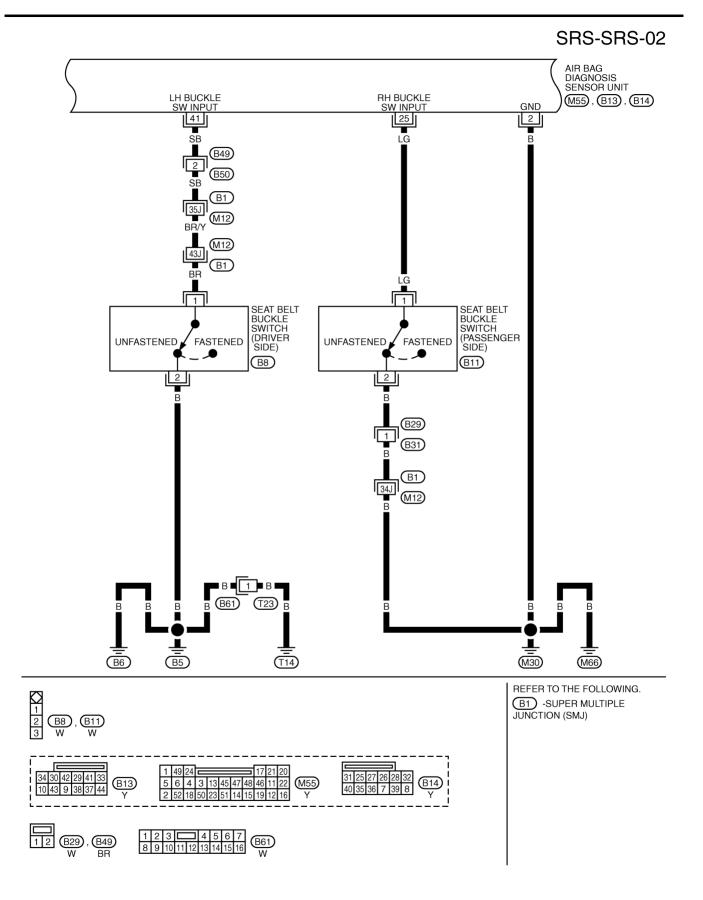
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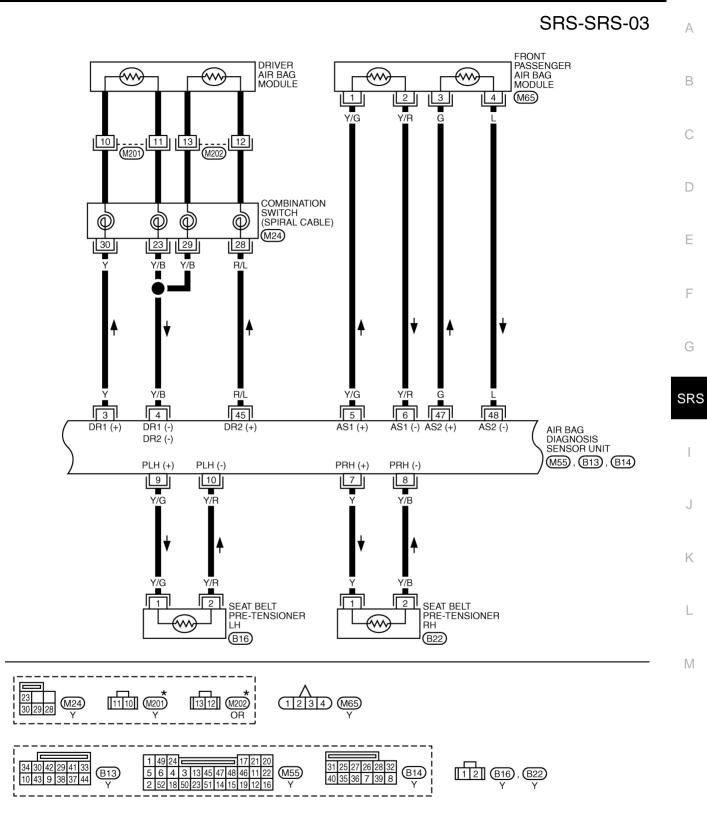
THWT0056E



THWT0024E



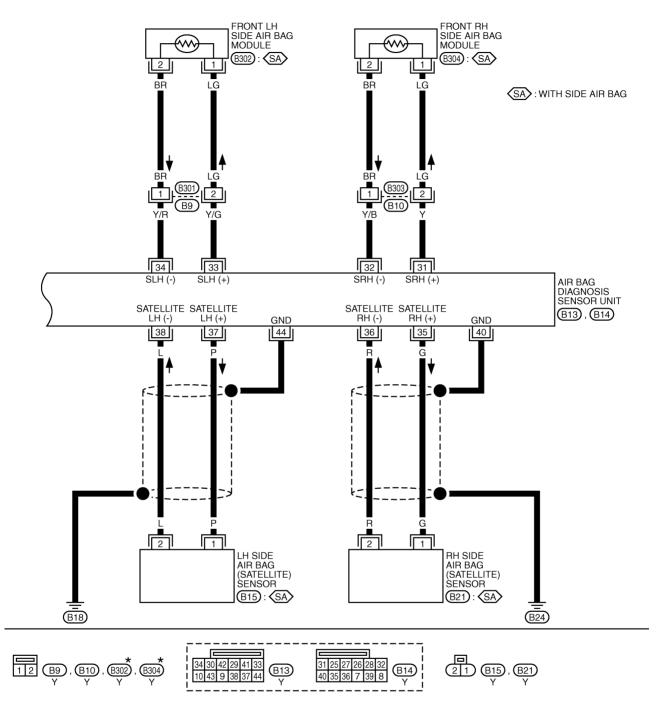
THWT0057E



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

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## SRS-SRS-04



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

THWT0059E

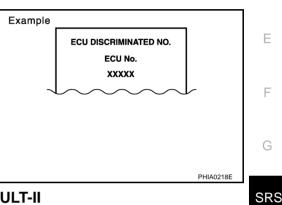
#### CONSULT-II Function DIAGNOSIS MODE FOR CONSULT-II

"SELF-DIAG [CURRENT]"
 A current self-diagnostic 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]" Self-diagnostic results previously stored in the memory are displayed on the CONSULT-II screen. The stored results are not erased until memory erasing is performed.
- "TROUBLE DIAG RECORD"
   With TROUBLE DIAG RECORD, diagnostic results previously erased by a reset operation can be displayed on the CONSULT-II screen.
- "ECU DISCRIMINATED NO."

The 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 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.

After repair, make sure the discriminated number of diagnosis sensor unit installed to vehicle are same. Refer to <u>SRS-45.</u> <u>"ECU DISCRIMINATED NO."</u>.



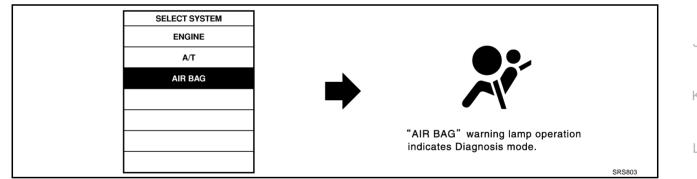
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## HOW TO CHANGE SELF-DIAGNOSIS MODE WITH CONSULT-II

#### 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, then diagnosis mode automatically changes to User mode.



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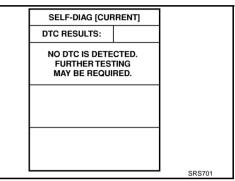
#### HOW TO ERASE SELF-DIAGNOSTIC RESULTS

- "SELF-DIAG [CURRENT]"
   A current self-diagnostic 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 [CURRENT]" in SELECT DIAG MODE. Touch "ERASE" in "SELF-DIAG [CURRENT]" mode.

#### NOTE:

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.

 "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 "User mode" and "Diagnosis mode".
- After a malfunction is repaired, turn the ignition switch ON. Diagnosis mode returns to the User mode. At that time, the self-diagnostic result is cleared.

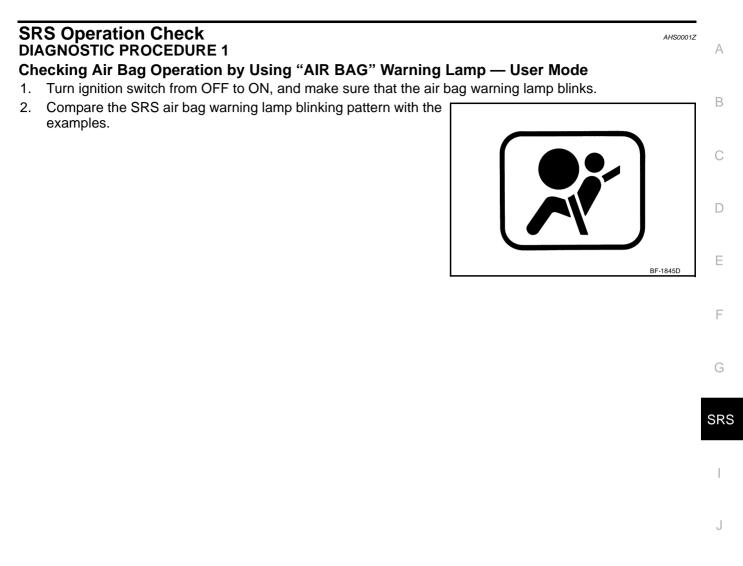
#### HOW TO CHANGE SELF-DIAGNOSTIC MODE WITHOUT CONSULT-II

	<ol> <li>Turn ignition switch from OFF to ON.</li> <li>Air bag warning lamp is on for 7 seconds and turns off, then turn ignition switch OFF within 1 second after the lamp turns off.</li> <li>After ignition switch is turned OFF, wait for more than 3 seconds.</li> <li>Repeat steps 1 to 3 twice. (Perform 3 times in total.)</li> <li>Turn ignition switch ON. (Self-diagnostic mode turns to Diagnosis mode.) [</li> </ol>	
User mode		Diagnosis mode
Ignition switch OFF→ON	<ol> <li>Turn ignition switch from OFF to ON.</li> <li>Air bag warning lamp is on for 7 seconds and turns off, then turn ignition switch OFF within 1 second after the lamp turns off.</li> <li>After ignition switch is turned OFF, wait for more than 3 seconds.</li> <li>Repeat steps 1 to 3 twice. (Perform 3 times in total.)</li> <li>Turn ignition switch ON. (Self-diagnostic mode turns to User mode.)</li> </ol>	Ignition switch OFF→ON
by igniti In Diagn	node, when the "AIR BAG" warning lamp is not blinking, switching to Diagno on switch operation is not possible. osis mode, when no malfunction is detected, user mode can be switched on ion switch from OFF to ON.	
		PHIA0709E

#### HOW TO ERASE SELF-DIAGNOSTIC 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 results are cleared.

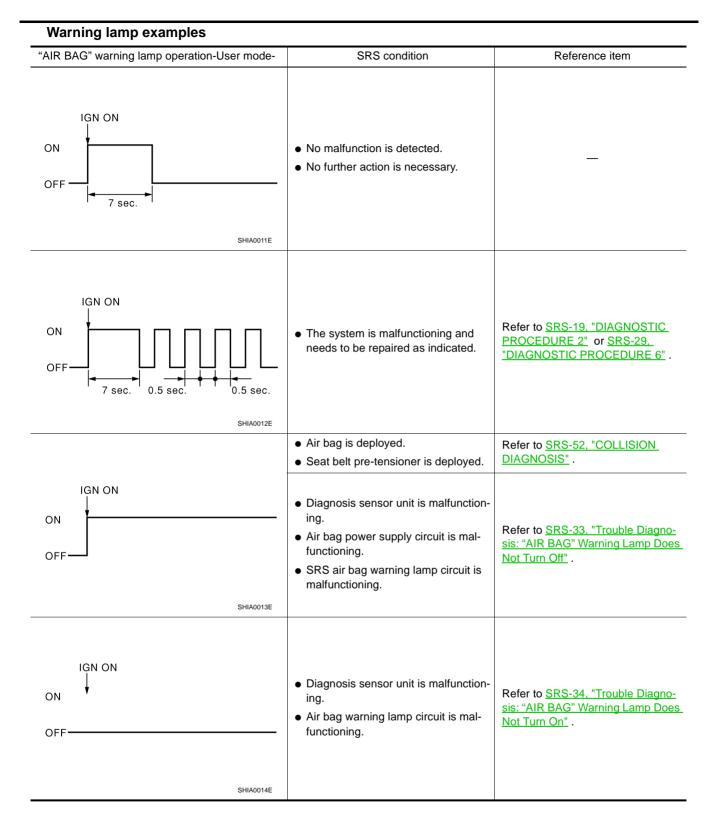
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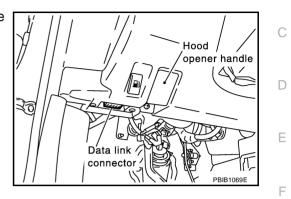


## Trouble Diagnosis With CONSULT-II DIAGNOSTIC PROCEDURE 2

#### **CAUTION:**

If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carry out CAN communication.

- 1. Turn ignition switch OFF.
- 2. Connect CONSULT-II and CONSULT-II CONVERTER to the data link connector.



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- 3. Turn ignition switch ON.
- 4. Touch "START (NISSAN BASED VHCL)".

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CONSULT-II		SRS
ENGINE		
START (NISSAN BASED VHCL)		
START (RENAULT BASED VHCL)		1
SUB MODE	PHIA0157E	
	FHIAUTOTE	J
SELECT SYSTEM		

ENGINE

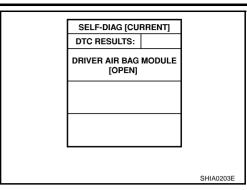
A/T AIR BAG

5. Touch "AIR BAG". If "AIR BAG" is not indicated, go to <u>GI-39, "CONSULT-II Data</u> <u>Link Connector (DLC) Circuit"</u>.

6. Touch "SELF-DIAG [CURRENT]".

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SELECT DIAG MODE	
SELF-DIAG [CURRENT]	
SELF-DIAG [PAST]	
TROUBLE DIAG RECORD	
ECU DISCRIMINATED NO.	
	SRS697

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



If no malfunction is detected on "SELF-DIAG [CURRENT]" even though malfunction is detected in "SRS Operation Check", check the battery voltage. If the battery voltage is less than 9V, charge or replace the battery. <u>SRS-23</u>, "<u>DIAGNOSTIC PROCEDURE 3</u>". If the battery voltage is OK, go to <u>SRS-25</u>, "<u>DIAGNOSTIC PROCEDURE 3</u>". If the battery voltage is OK, go to <u>SRS-25</u>, "<u>DIAGNOSTIC PROCEDURE 3</u>". If the battery voltage is OK, go to <u>SRS-25</u>, "<u>DIAGNOSTIC PROCEDURE 3</u>". If the battery voltage is OK, go to <u>SRS-25</u>, "<u>DIAGNOSTIC PROCEDURE 3</u>". If the battery voltage is OK, go to <u>SRS-25</u>, "<u>DIAGNOSTIC PROCEDURE 3</u>". If the battery voltage is OK, go to <u>SRS-25</u>, "<u>DIAGNOSTIC PROCEDURE 3</u>". If the battery voltage is OK, go to <u>SRS-25</u>, "<u>DIAGNOSTIC PROCEDURE 3</u>". If the battery voltage is OK, go to <u>SRS-25</u>, "<u>DIAGNOSTIC PROCEDURE 3</u>". If the battery voltage is OK, go to <u>SRS-25</u>, "<u>DIAGNOSTIC PROCEDURE 3</u>".

- Self-diagnostic result "SELF-DIAG [PAST]" (previously stored in the memory) might not be erased after repair.
- The SRS system malfunctions intermittently.

## CONSULT-II Diagnostic Code Chart ("SELF-DIAG [CURRENT]")

Diagnostic item	Explanation		Repair order "Recheck SRS at each replacement"
NO DTC IS DETECTED.	When malfunction is indicated by the "AIR BAG" warning lamp in	• Low battery voltage (Less than 9V)	Refer to <u>SRS-23, "DIAGNOSTIC</u> <u>PROCEDURE 3"</u> after charging the battery.
	User mode.	<ul> <li>Self-diagnostic results "SELF-DIAG [PAST]" (previously stored in the memory) might not be erased after repair.</li> <li>Intermittent malfunction has been detected in the past.</li> </ul>	<ul> <li>Refer to <u>SRS-25, "DIAGNOSTIC</u> <u>PROCEDURE 4 (CONTINUED</u> <u>FROM DIAGNOSTIC PROCEDURE</u> <u>2)"</u>.</li> <li>Refer to <u>SRS-25, "DIAGNOSTIC</u> <u>PROCEDURE 5"</u>.</li> </ul>
	<ul> <li>No malfunction is determined</li> </ul>	ected.	—
DRIVER AIRBAG MOD- ULE	• Driver air bag module circuit is open (including the spiral cable).		1. Visually check the wiring harness connection.
[OPEN]	<ul> <li>Driver air bag module circuit is shorted to a power supply circuit (including the spiral cable).</li> </ul>		2. Replace the harness if it has visible
DRIVER AIRBAG MOD- ULE [VB-SHORT]			damage. 3. Replace driver air bag module. (Before disposal, it must be
DRIVER AIRBAG MOD- ULE	• Driver air bag module circuit is shorted to ground (including the spiral cable).		deployed.) 4. Replace the spiral cable.
[GND-SHORT]			5. Replace the diagnosis sensor unit.
DRIVER AIRBAG MOD- ULE [SHORT]	• Driver air bag module circuit is shorted between lines.		6. Replace the related harness.
ASSIST A/B MODULE [VB-SHORT]	<ul> <li>Front passenger air bag module circuit is shorted to a power supply circuit.</li> </ul>		1. Visually check the wiring harness connection.
ASSIST A/B MODULE [OPEN]	• Front passenger air bag module circuit is open.		2. Replace the harness if it has visible damage.
ASSIST A/B MODULE [GND-SHORT]	• Front passenger air bag module circuit is shorted to ground.		3. Replace front passenger air bag module. (Before disposal, it must be
ASSIST A/B MODULE [SHORT]	<ul> <li>Front passenger air bag module circuit is shorted between lines.</li> </ul>		deployed.) 4. Replace the diagnosis sensor unit.
			5. Replace the related harness.

SELF-DIAG [CURRENT] DTC RESULTS: NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED.

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Diagnostic item	Explanation	Repair order "Recheck SRS at each replacement"	A
CRASH ZONE SEN [UNIT FAIL]	Crash zone sensor	1. Visually check the wiring harness connection.	
CRASH ZONE SEN [COMM FAIL] CRASH ZONE SEN		2. Replace the harness if it has visible damage.	В
[UNMATCH]		3. Replace the crash zone sensor.	
		4. Replace the diagnosis sensor unit.	С
		5. Replace the related harness.	
SIDE MODULE LH [OPEN]	• Front LH side air bag module circuit is open.	1. Visually check the wiring harness connection.	D
SIDE MODULE LH [VB-SHORT]	• Front LH side air bag module circuit is shorted to a power supply circuit.	2. Replace the harness if it has visible damage.	
SIDE MODULE LH [GND-SHORT]	• Front LH side air bag module circuit is shorted to ground.	3. Replace front LH setback assembly (front LH side air bag module).	E
SIDE MODULE LH [SHORT]	• Front LH side air bag module circuit is shorted between lines.	(Before disposal, it must be deployed.)	F
		4. Replace the diagnosis sensor unit.	
		5. Replace the related harness.	
SIDE MODULE RH [OPEN]	• Front RH side air bag module circuit is open.	1. Visually check the wiring harness connection.	G
SIDE MODULE RH [VB-SHORT]	• Front RH side air bag module circuit is shorted to some power supply circuit.	2. Replace the harness if it has visible damage.	SR
SIDE MODULE RH [GND-SHORT]	• Front RH side air bag module circuit is shorted to ground.	3. Replace front RH setback assembly (front RH side air bag module). (Before disposal, it must be	
SIDE MODULE RH [SHORT]	• Front RH side air bag module circuit is shorted between lines.	deployed.)	I
		4. Replace the diagnosis sensor unit.	
		5. Replace the related harness.	J
SATELLITE SENS LH [UNIT FAIL] SATELLITE SENS LH	LH side air bag (Satellite) sensor	1. Visually check the wiring harness connection.	
[COMM FAIL] SATELLITE SENS LH		2. Replace the harness if it has visible damage.	Κ
[UNMATCH]		3. Replace the LH side air bag (Satel- lite) sensor.	
		4. Replace the diagnosis sensor unit.	L
		5. Replace the related harness.	
SATELLITE SENS RH [UNIT FAIL]	<ul> <li>RH side air bag (Satellite) sensor</li> </ul>	1. Visually check the wiring harness connection.	M
SATELLITE SENS RH [COMM FAIL] SATELLITE SENS RH		2. Replace the harness if it has visible damage.	
[UNMATCH]		3. Replace the RH side air bag (Satel- lite) sensor.	
		4. Replace the diagnosis sensor unit.	
		5. Replace the related harness.	
PRE-TEN FRONT LH [OPEN]	<ul> <li>Front LH pre-tensioner circuit is open.</li> </ul>	1. Visually check the wiring harness connections.	
PRE-TEN FRONT LH [VB-SHORT]	• Front LH pre-tensioner circuit is shorted to a power supply circuit.	2. Replace the harness if it has visible damage.	
PRE-TEN FRONT LH	• Front LH pre-tensioner circuit is shorted to ground.	3. Replace front LH seat belt. (Before disposal, it must be acti-	
[GND-SHORT]			
[GND-SHORT] PRE-TEN FRONT LH [SHORT]	• Front LH pre-tensioner circuit is shorted between lines.	vated.) 4. Replace the diagnosis sensor unit.	

Diagnostic item	Explanation	Repair order "Recheck SRS at each replacement"
PRE-TEN FRONT RH [OPEN]	• Front RH pre-tensioner circuit is shorted to a power supply circuit.	1. Visually check the wiring harness connections.
PRE-TEN FRONT RH [VB-SHORT]	• Front RH pre-tensioner is shorted to a power supply circuit.	2. Replace the harness if it has visible damage.
PRE-TEN FRONT RH [GND-SHORT]	• Front RH pre-tensioner circuit is shorted to ground.	<ol> <li>Replace front RH seat belt. (Before disposal, it must be activated.)</li> <li>Replace the diagnosis sensor unit</li> <li>Replace the related harness.</li> </ol>
PRE-TEN FRONT RH [SHORT]	• Front RH pre-tensioner circuit is shorted between lines.	
CONTROL UNIT	Diagnosis sensor unit is malfunctioning.	1. Visually check the wiring harness connection.
		2. Replace the diagnosis sensor unit.

#### 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.

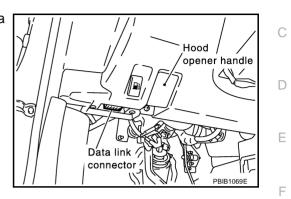
#### **DIAGNOSTIC PROCEDURE 3**

Final checking after repairing SRS by using CONSULT-II — Diagnosis mode

#### **CAUTION:**

If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carry out CAN communication.

- 1. After repairing SRS, connect both battery cables.
- 2. Connect CONSULT-II and CONSULT-II CONVERTER to data link connector.



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- 3. Turn ignition switch ON.
- 4. Touch "START (NISSAN BASED VHCL)".

NISSAN		G
CONSULT-II		SRS
ENGINE		
START (NISSAN BASED VHCL)		
START (RENAULT BASED VHCL)		-
SUB MODE	PHIA0157E	
		J
SELECT SYSTEM		

ENGINE

A/T AIR BAG

5.	Touch "AIR BAG".
	If "AIR BAG" is not indicated, go to GI-39, "CONSULT-II Data
	Link Connector (DLC) Circuit"

6. Touch "SELF-DIAG [CURRENT]".

	SRS771
SELECT DIAG MODE	
SELF-DIAG [CURRENT]	
SELF-DIAG [PAST]	
TROUBLE DIAG RECORD	
ECU DISCRIMINATED NO.	
	SRS697

7. If no malfunction is detected on "SELF-DIAG [CURRENT]", SELF-DIAG [CURRENT] repair of SRS is completed. Go to step 8. DTC RESULTS: If any malfunction is detected on "SELF-DIAG [CURRENT]", the malfunctioning part is not repaired completely or another mal-NO DTC IS DETECTED. FURTHER TESTING functioning part is detected. Refer to SRS-19, "DIAGNOSTIC MAY BE REQUIRED. PROCEDURE 2", and repair malfunctioning part completely. SRS701 8. Touch "ERASE". SELF-DIAG [CURRENT] NOTE: DTC RESULTS: • Touch "ERASE" to clear the memory of the malfunction AIR BAG MODULE ("SELF-DIAG [PAST]"). [OPEN] • 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. ERASE SRS773 9. Touch "BACK" key of CONSULT-II to "SELECT DIAG MODE" SELECT DIAG MODE screen. Touch "SELF-DIAG [PAST]". SELF-DIAG [CURRENT] SELF-DIAG (PAST) TROUBLE DIAG RECORD ECU DISCRIMINATED NO. SRS697 10. Make sure that no malfunction is detected on "SELF-DIAG SELF-DIAG [PAST] [PAST]". DTC RESULTS: 11. Touch "BACK" key of CONSULT-II until "SELECT SYSTEM" NO DTC IS DETECTED. appears in order to return to User mode from Diagnosis mode. FURTHER TESTING MAY BE REQUIRED. 12. Turn ignition switch OFF then turn off and disconnect CON-SULT-II. 13. Go to SRS-17, "Checking Air Bag Operation by Using "AIR BAG" Warning Lamp — User Mode". SRS702

#### DIAGNOSTIC PROCEDURE 4 (CONTINUED FROM DIAGNOSTIC PROCEDURE 2) Inspecting SRS malfunctioning record

## 1. CONSIDER POSSIBILITY OF NOT ERASING SELF-DIAGNOSTIC RESULT AFTER REPAIRING

Is it the first time for maintenance of SRS?

YES or NO

YES >> Refer to <u>SRS-19, "DIAGNOSTIC PROCEDURE 2"</u>.

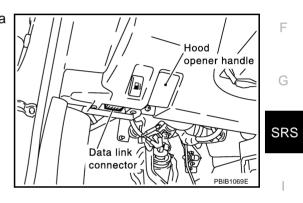
NO >> Self-diagnostic result "SELF-DIAG [PAST]" (previously stored in the memory) might not be erased C after repair. Refer to <u>SRS-23, "DIAGNOSTIC PROCEDURE 3"</u>.

#### DIAGNOSTIC PROCEDURE 5

Inspecting SRS intermittent malfunction by using CONSULT-II — Diagnosis mode CAUTION:

If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carry out CAN communication.

- 1. Turn ignition switch OFF.
- 2. Connect CONSULT-II and CONSULT-II CONVERTER to data link connector.



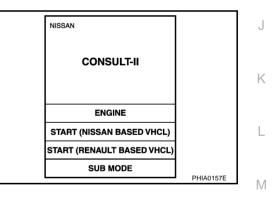
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- 3. Turn ignition switch ON.
- 4. Touch "START (NISSAN BASED VHCL)".



5.	Touch "AIR BAG".
	If "AIR BAG" is not indicated, go to GI-39, "CONSULT-II Data
	Link Connector (DLC) Circuit"

SELECT SYSTEM	
ENGINE	
A/T	
AIR BAG	
	SRS771

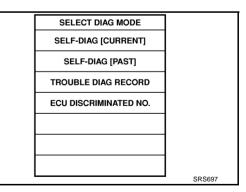
6. Touch "SELF-DIAG [PAST]".

step 10.

SELECT DIAG MODE	
SELF-DIAG [CURRENT]	
SELF-DIAG [PAST]	
TROUBLE DIAG RECORD	
ECU DISCRIMINATED NO.	
	SRS697

SELF-DIAG [PAST]
DTC RESULTS:
AIR BAG MODULE
[OPEN]
SRS700

SELF-DIAG [PAST]
DTC RESULTS:
NO DTC IS DETECTED.
FURTHER TESTING
MAY BE REQUIRED.
SRS702



9. Diagnostic code is displayed on "TROUBLE DIAG RECORD".

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

If no malfunction is detected on "SELF-DIAG [PAST]", touch

With "TROUBLE DIAG RECORD", diagnosis results previously

"BACK" and go back to "SELECT DIAG MODE".

erased by a reast operation can be displayed.

8. Touch "TROUBLE DIAG RECORD".

10. Touch "PRINT".

NOTE:

- 11. Compare diagnostic codes to <u>SRS-27</u>, "CONSULT-II Diagnostic <u>Code Chart ("SELF-DIAG [PAST]</u>" or "TROUBLE DIAG <u>RECORD")</u>".
- 12. Touch "BACK" key of CONSULT-II until "SELECT SYSTEM" appears.
- 13. Turn ignition switch OFF, then turn off and disconnect CON-SULT-II, and both battery cables.

-			
	TROUBLE DIAG RECORD		
	DTC RESULTS:		
	DRIVER AIR BAG MODULE [OPEN]		
			SHIA0182E

- 14. 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.
- 15. Go to <u>SRS-23, "DIAGNOSTIC PROCEDURE 3"</u>, for final checking.

#### CONSULT-II Diagnostic Code Chart ("SELF-DIAG [PAST]" or "TROUBLE DIAG RECORD")

Diagnostic item		Explanation	Repair order "Recheck SRS at each replacement"	
NO DTC IS DETECTED.	When malfunction is indicated by the "AIR BAG" warning lamp in User mode.	• Low battery voltage (Less than 9V)	Refer to <u>SRS-23</u> , " <u>DIAGNOSTIC</u> <u>PROCEDURE 3</u> ".	C
	No malfunction is det	ected.	Refer to <u>SRS-23, "DIAGNOSTIC</u> <u>PROCEDURE 3"</u> .	
DRIVER AIRBAG MOD- ULE	<ul> <li>Driver air bag module cable).</li> </ul>	circuit is open (including the spiral	1. Visually check the wiring harness connection.	E
[OPEN] DRIVER AIRBAG MOD- ULE [VB-SHORT]	<ul> <li>Driver air bag module cuit (including the spi</li> </ul>	e circuit is shorted to a power supply cir- ral cable).	<ol> <li>2. Replace the harness if it has visible damage.</li> <li>3. If the harness check result is OK, replace driver air has module.</li> </ol>	F
DRIVER AIRBAG MOD- ULE [GND-SHORT]	<ul> <li>Driver air bag module spiral cable).</li> </ul>	circuit is shorted to ground (including the	replace driver air bag module (Before disposal, it must be deployed.), diagnosis sensor unit and spiral cable.	
DRIVER AIRBAG MOD- ULE [SHORT]	Driver air bag module	circuit is shorted between lines.		SR
ASSIST A/B MODULE [OPEN]	<ul> <li>Front passenger air b</li> </ul>	ag module circuit is open.	1. Visually check the wiring harness connection.	I
ASSIST A/B MODULE [VB-SHORT]	<ul> <li>Front passenger air b supply circuit.</li> </ul>	ag module circuit is shorted to a power	2. Replace the harness if it has visible damage.	
ASSIST A/B MODULE [GND-SHORT]	<ul> <li>Front passenger air b</li> </ul>	ag module circuit is shorted to ground.	3. If the harness check result is OK, replace the diagnosis sensor unit	J
ASSIST A/B MODULE [SHORT]	<ul> <li>Front passenger air b lines.</li> </ul>	ag module circuit is shorted between	and front passenger air bag module (Before disposal, it must be deployed.).	
CRASH ZONE SEN [UNIT FAIL]	Crash zone sensor		1. Visually check the wiring harness connection.	
CRASH ZONE SEN [COMM FAIL] CRASH ZONE SEN			2. Replace the harness if it has visible damage.	L
[UNMATCH]			<ol> <li>If the harness check result is OK, replace crash zone sensor and diag- nosis sensor unit.</li> </ol>	M
SIDE MODULE LH [OPEN]	<ul> <li>Front LH side air bag</li> </ul>	module circuit is open.	1. Visually check the wiring harness connection.	
SIDE MODULE LH [VB-SHORT]	<ul> <li>Front LH side air bag ply circuit.</li> </ul>	module circuit is shorted to a power sup-	2. Replace the harness if it has visible damage.	
SIDE MODULE LH [GND-SHORT]	• Front LH side air bag	module circuit is shorted to ground.	3. If the harness check result is OK, replace the diagnosis sensor unit	
SIDE MODULE LH [SHORT]	• Front LH side air bag	module circuit is shorted between lines.	and LH side air bag module. (Before disposal, it must be deployed.).	

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Diagnostic item	Explanation	Repair order "Recheck SRS at each replacement"
SIDE MODULE RH [OPEN]	• Front RH side air bag module circuit is open.	1. Visually check the wiring harness connection.
SIDE MODULE RH [VB-SHORT]	• Front RH side air bag module circuit is shorted to a power supply circuit.	2. Replace the harness if it has visible damage.
SIDE MODULE RH [GND-SHORT]	• Front RH side air bag module circuit is shorted to ground.	3. If the harness check result is OK, replace the diagnosis sensor unit
SIDE MODULE RH [SHORT]	• Front RH side air bag module circuit is shorted between lines.	and RH side air bag module (Before disposal, it must be deployed.)
SATELLITE SENS LH [UNIT FAIL]	LH side air bag (Satellite) sensor	1. Visually check the wiring harness connection.
SATELLITE SENS LH [COMM FAIL] SATELLITE SENS LH		2. Replace the harness if it has visible damage.
[UNMATCH]		3. If the harness check result is OK, replace the diagnosis sensor unit and LH side air bag (Satellite) sen- sor.
SATELLITE SENS RH [UNIT FAIL]	RH side air bag (Satellite) sensor	1. Visually check the wiring harness connection.
SATELLITE SENS RH [COMM FAIL]		2. Replace the harness if it has visible damage.
SATELLITE SENS RH [UNMATCH]		<ol> <li>If the harness check result is OK, replace the diagnosis sensor unit and RH side air bag (Satellite) sen- sor.</li> </ol>
PRE-TEN FRONT LH [OPEN]	Front LH pre-tensioner circuit is open.	1. Visually check the wiring harness connections.
PRE-TEN FRONT LH [VB-SHORT]	• Front LH pre-tensioner circuit is shorted to a power supply circuit.	2. Replace the harness if it has visible damage.
PRE-TEN FRONT LH [GND-SHORT]	• Front LH pre-tensioner circuit is shorted to ground.	3. If the harness check result is OK, replace the diagnosis sensor unit
PRE-TEN FRONT LH [SHORT]	• Front LH pre-tensioner circuit is shorted between lines.	and front LH seat belt (Before disposal, it must be acti- vated.)
PRE-TEN FRONT RH [OPEN]	Front RH pre-tensioner circuit is open.	1. Visually check the wiring harness connections.
PRE-TEN FRONT RH [VB-SHORT]	• Front RH pre-tensioner is shorted to a power supply circuit.	2. Replace the harness if it has visible damage.
PRE-TEN FRONT RH [GND-SHORT]	• Front RH pre-tensioner is shorted to ground.	3. If the harness check result is OK, replace the diagnosis sensor unit
PRE-TEN FRONT RH [SHORT]	• Front RH pre-tensioner circuit is shorted between lines.	and front RH seat belt (Before disposal, it must be acti- vated.)
CONTROL UNIT	Diagnosis sensor unit is malfunctioning.	1. Visually check the wiring harness connection.
		2. Replace the diagnosis sensor unit.

Trouble Diagnosis Without CONSULT-II DIAGNOSTIC PROCEDURE 6	АНS0009В A
Inspecting SRS Malfunctioning Parts by Using "AIR BAG" Warning Lamp — Diagnos	sis Mode
NOTE:	_
SRS will not enter Diagnosis mode if no malfunction is detected in User mode.	В
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.	С
4. Repeat the steps 1 to 3 two times.	
5. Turn ignition switch ON.	D
SRS is now in Diagnosis mode.	_
"AIR BAG" warning lamp operates in Diagnosis mode as follows:	
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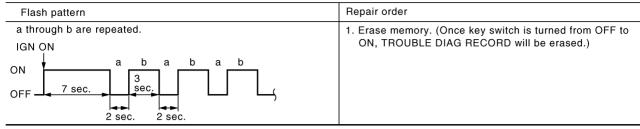
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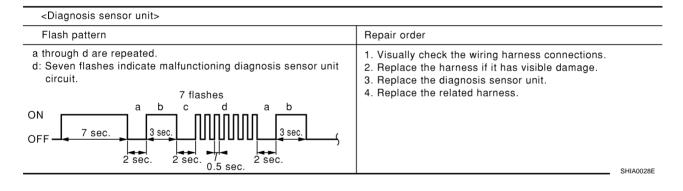
#### WARNING LAMP FLASH CODE CHART

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

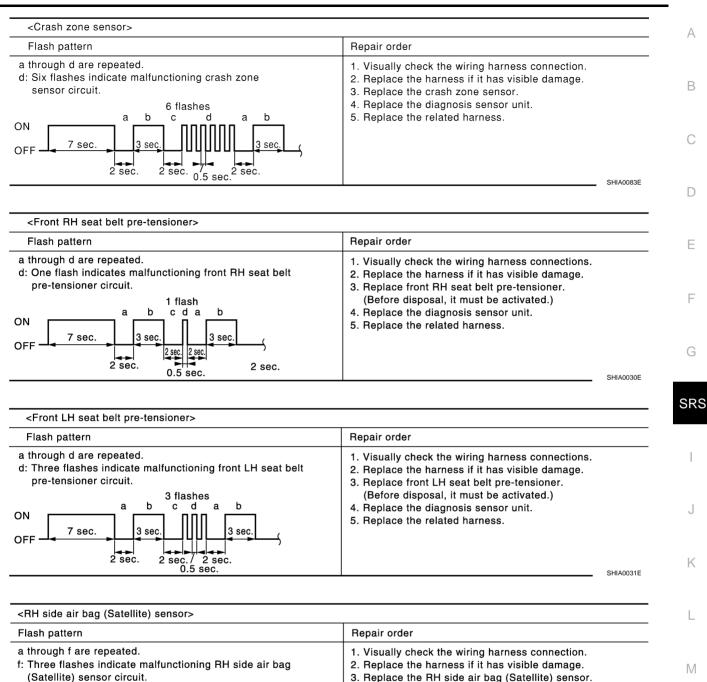


PHIA0532E

Flash pattern	Repair order
a through d are repeated. d: Two flashes indicates malfunctioning driver air bag module circuit. 2 flashes ON OFF 7 sec. 2 sec. 2 sec. 2 sec. 2 sec. 2 sec. 2 sec. 2 sec. 2 sec. 2 sec.	<ol> <li>Visually check the wiring harness connection.</li> <li>Replace the harness if it has visible damage.</li> <li>Replace the spiral cable.</li> <li>Replace driver air bag module. (Before disposal, it must be deployed.)</li> <li>Replace the diagnosis sensor unit.</li> <li>Replace the related harness.</li> </ol>



<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. 8 flashes ON OFF 7 sec. 2 sec. 2 sec. 0.5 sec. 2 sec.	<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 module. (Before disposal, it must be deployed.)</li> <li>Replace the diagnosis sensor unit.</li> <li>Replace the related harness.</li> </ol>	



4. Replace the diagnosis sensor unit.

5. Replace the related harness.

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ON

OFF

3 flashes

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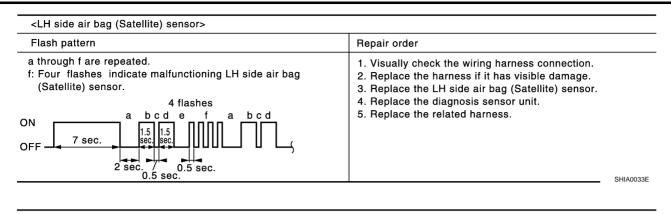
2 sec. 0.5 sec. 2 sec.

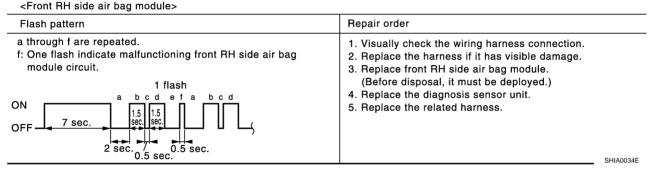
bcd

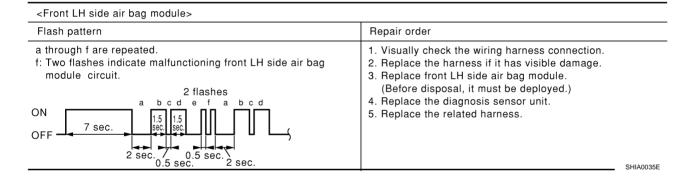
bcd

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7 sec.







Trouble Diagnosis: "AIR BAG" Warning Lamp Doe	 Not Turn Off	
DIAGNOSTIC PROCEDURE 7		AHS0009C
1. SEE THE DEPLOYMENT OF AIR BAG MODULE		
Is air bag module deployed?		В
YES or NO		
YES >> Refer to <u>SRS-52, "COLLISION DIAGNOSIS"</u> . NO >> GO TO 2.		С
2. CHECK THE AIR BAG FUSE		_
Check 10A fuse [No.13, located in fuse block (J/B)]. Refer to PG-4, "POWER SUPPLY ROUTING CIRCUIT" .		D
OK or NG		E
OK >> GO TO 4. NG >> GO TO 3.		
3. CHECK AIR BAG FUSE AGAIN		F
Replace "AIR BAG" fuse and turn ignition switch ON.		
Does the "AIR BAG" fuse blow again?		G
YES >> Repair main harness. NO >> <b>INSPECTION END</b> .		_
4. CHECK DIAGNOSIS SENSOR UNIT		SR
With CONSULT-II     Connect CONSULT-II and touch "START".		I
<ul> <li>Is "AIR BAG" displayed on CONSULT-II?</li> </ul>		
YES or NO	SELECT SYSTEM ENGINE	
YES >> GO TO 5.	A/T	J
NO >> Visually check the wiring harness connection of diagno-	AIR BAG	
sis sensor unit. If the harness connection check result is OK, replace diagnosis sensor unit.		K

## 5. CHECK HARNESS CONNECTION

Is harness connection between warning lamp and diagnosis sensor unit OK?

OK or NG

OK >> Replace diagnosis sensor unit.

NG >> Connect "AIR BAG" warning lamp and diagnosis sensor unit connector properly. If "AIR BAG" warning lamp still does not go off, replace harness.

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# Trouble Diagnosis: "AIR BAG" Warning Lamp Does Not Turn On DIAGNOSTIC PROCEDURE 8

#### **1.** CHECK "METER" FUSE

Check 10A fuse [No.14, located in fuse block (J/B)]. Refer to <u>PG-4, "POWER SUPPLY ROUTING CIRCUIT"</u>.

OK or NG

OK >> GO TO 3. NG >> GO TO 2.

#### 2. CHECK "METER" FUSE AGAIN

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

Does the meter fuse blow again?

YES >> Repair the related harness.

NO >> INSPECTION END

# $\mathbf{3.}\ check$ harness connection between diagnosis sensor unit and combination meter

Disconnect diagnosis sensor unit connector and turn ignition switch ON.

• Does "AIR BAG" warning lamp turn on?

YES or NO

- YES >> Replace diagnosis sensor unit.
- NO >> Check the ground circuit of "AIR BAG" warning lamp.

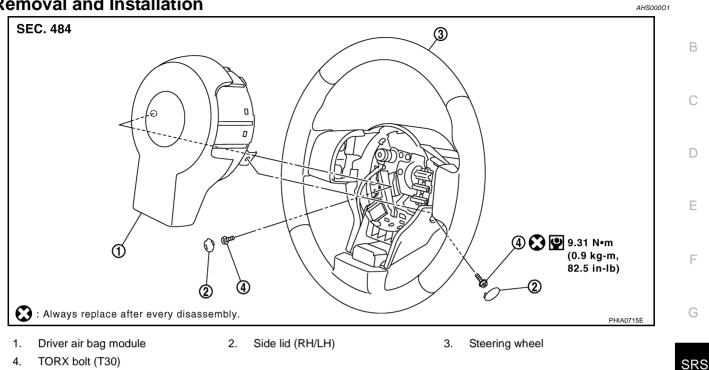
## **DRIVER AIR BAG MODULE**

## **DRIVER AIR BAG MODULE**

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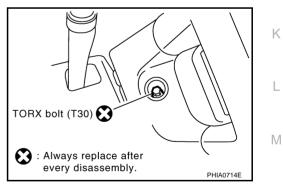
#### **Removal and Installation**



#### REMOVAL

#### **CAUTION:**

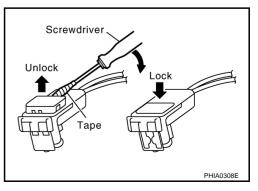
- Before servicing SRS, turn the ignition switch off, disconnect both battery cables and wait at least 3 minutes.
- Always work from the side of driver air bag module.
- 1. Remove the side lids (RH/LH).
- 2. Using Tamper resistant TORX bit (T30), remove the TORX bolts (T30) at right and left.



- 3. Disconnect the steering wheel switch sub-harness connector.
- 4. Disconnect the air bag harness connector, and remove the driver air bag module.

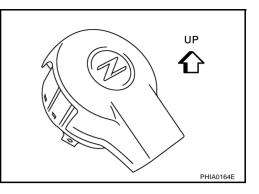
**CAUTION:** 

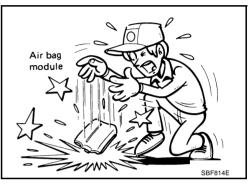
- For installing / removing driver air bag module connector, insert thin screwdriver wrapped in tape into notch, lift lock and remove connector.
- Install connector with lock raised, and push lock into connector.



#### **CAUTION:**

- Always work from the side of driver air bag module.
- Always place driver air bag module with pad side facing upward.
- Do not insert any foreign objects (screwdriver, etc.) into driver air bag module.
- Do not disassemble driver air bag module.
- Do not use old bolts after removal; replace with new bolts.
- Do not expose the driver air bag module to temperatures exceeding 90°C (194°F).
- Replace driver 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 front passenger air bag module.





#### INSTALLATION

Install in the reverse order of removal.

#### **CAUTION:**

- For installing the air bag module, tighten the TORX bolts (T30).
- After the work is completed, perform self-diagnosis to make sure that no malfunction is detected. Refer to <u>SRS-17, "SRS Operation Check"</u>.

### SPIRAL CABLE

## SPIRAL CABLE

#### PFP:25554

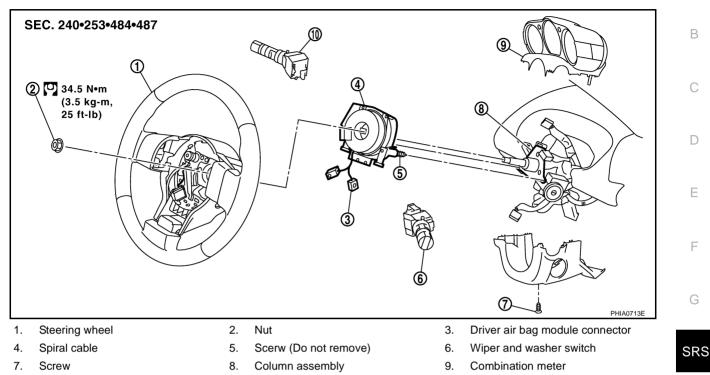
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### **Removal and Installation**



10. Lighting and turn signal switch

### REMOVAL

### **CAUTION:**

Before servicing SRS, turn the ignition switch off, disconnect both battery cables and wait at least 3 minutes.

- 1. Remove driver air bag module. Refer to <u>SRS-35, "Removal and Installation"</u>.
- 2. Set the steering wheel in the neutral position.
- 3. Remove steering wheel.
- 4. Remove the column cover and combination meter assembly.
- 5. Disconnect the spiral cable connector.

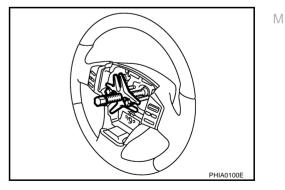
### **CAUTION:**

### Do not tap or bump the steering wheel.

6. Remove steering wheel with steering wheel puller.

### **CAUTION:**

Be careful not to over-tighten puller on steering wheel.

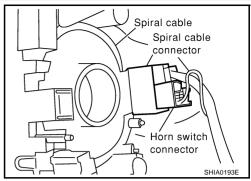


- 7. Loosen the spiral cable fixing screws, remove the spiral cable. **CAUTION:** 
  - Do not disassemble spiral cable.
  - Do not apply lubricant to the spiral cable.

8. Remove the horn switch connector and then spiral cable connector.

### CAUTION:

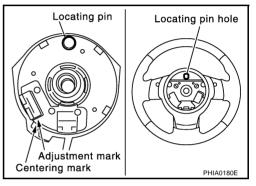
Also, with the steering linkage disconnected the cable may snap by turning the steering wheel beyond the limited number of turns.



### INSTALLATION

Install in the reverse order of removal.

- The spiral cable may snap due to steering operation if the cable is installed in an improper position.
- Also, 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.
- After the work is completed, perform self-diagnosis to make sure that no malfunction is detected. Refer to <u>SRS-17, "SRS</u> <u>Operation Check"</u>.



### FRONT PASSENGER AIR BAG MODULE

### FRONT PASSENGER AIR BAG MODULE

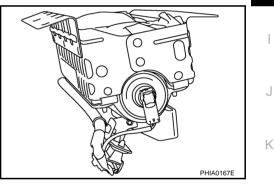
### **Removal and Installation** REMOVAL

#### **CAUTION:**

- 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.
- Remove instrument passenger panel lower. Refer to IP-13, "INSTRUMENT PASSENGER PANEL 1 LOWER".
- 2. Remove cluster lid C. Refer to IP-14, "CLUSTER LID C".
- 3. Disconnect passenger air bag connector.
- 4. Remove special bolt, then remove front passenger 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 front passenger air bag module.
- Do not disassemble front passenger air bag module.
- Do not use old bolts after removal; replace with new bolts.



💽: Always replace after

every disassembly

Replace front passenger air bag module if it has been Do not expose the front passenger air bag module to tem-Air bag Μ module Do not allow oil, grease or water to come in contact with the After front passenger air bag module inflates, the instru-SBF814F

# INSTALLATION

Install in the reverse order of removal.

dropped or sustained an impact.

peratures exceeding 90°C (194°F).

front passenger air bag module.

ment panel assembly should be replaced.

### **CAUTION:**

- Always work from the side of or under front passenger air bag module.
- After the work is completed, perform self-diagnosis to make sure that no malfunction is detected. Refer to SRS-17, "SRS Operation Check" .



🗘 19.6 - 29.4 N•m (2.0 - 2.9 kg-m,

15 - 21 ft-lb)

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### FRONT SIDE AIR BAG MODULE

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### **Removal and Installation**

### **CAUTION:**

Removal of front side air bag module should only be done to allow deployment of front side air bag module prior to disposal of seatback assembly.

Only complete seatback assemblies can be replaced. Refer to <u>SE-64, "REMOVAL OF SEATBACK</u> <u>ASSEMBLY"</u>.

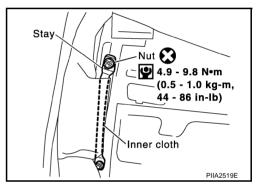
### **CAUTION:**

- Before servicing SRS, turn the ignition switch off, disconnect both battery cables and wait at least 3 minutes.
- Always work from the rear of the front side air bag module.
- Do not use old nuts. Replace with new nuts.

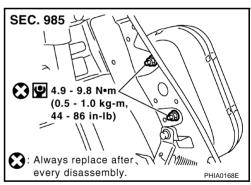
### ROMOVAL

### For Power seat

- 1. Remove the driver and/or passenger seat. Refer to <u>SE-60, "POWER SEAT"</u>.
- 2. Remove the seatback trim and pad. Refer to SE-64, "SEATBACK TRIM AND PAD" .
- 3. Remove air bag module harness clips.
- 4. Remove the stay securing the inner cloth.

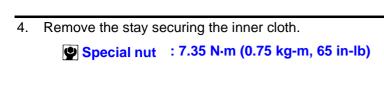


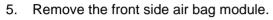
5. Remove the front side air bag module.



### For Net seat

- 1. Remove the driver and/or passenger seat. Refer to <u>SE-62, "NET SEAT"</u>.
- 2. Remove the seatback upper. Refer to SE-65, "SEATBACK TRIM AND PAD" .
- 3. Pull the seatback upper trim off.





Special nut : 7.35 N·m (0.75 kg-m, 65 in-lb)

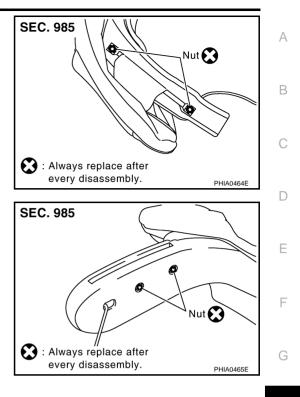


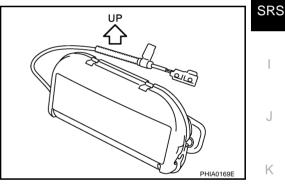
- Always place the front side air bag module standing with the stud bolt side facing down.
- Do not insert any foreign objects (screwdrivers) into front side air bag module.
- Do not disassemble front side air bag module.
- Replace front seatback assembly (side air bag module) if it has been dropped or sustained an impact.
- Do not expose front seatback assembly (side air bag module) to temperatures exceeding 90°C (194°F).
- Do not allow oil, grease or water to come in contact with the front side air bag module.
- After front side air bag module inflates, front seatback assembly must be replaced.

### INSTALLATION

Install in the reverse order of removal.

- Always work from the side of or under front side air bag module.
- After the work is completed, perform self-diagnosis to make sure that no malfunction is detected. Refer to <u>SRS-17, "SRS Operation Check"</u>.







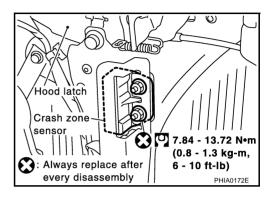
### **CRASH ZONE SENSOR**

# Removal and Installation REMOVAL

### **CAUTION:**

Before servicing SRS, turn the ignition switch off, disconnect both battery cables and wait at least 3 minutes.

- 1. Remove crash zone sensor connector.
- 2. Remove crash zone sensor fixing nuts.



### **CAUTION:**

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

### INSTALLATION

Install in the reverse order of removal.

### CAUTION:

- Check crash zone sensor for proper installation.
- After the work is complete, perform self-diagnosis to make sure that no malfunction is detected. Refer to <u>SRS-17, "SRS Operation Check"</u>.

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### SIDE AIR BAG (SATELLITE) SENSOR

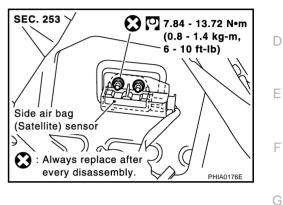
### SIDE AIR BAG (SATELLITE) SENSOR

### Removal and Installation REMOVAL

#### **CAUTION:**

Before servicing SRS, turn the ignition switch off, disconnect both battery cables and wait at least 3 minutes.

- Remove seat belt pre-tensioner. Refer to <u>EI-29</u>, "BODY SIDE TRIM" and <u>SB-4</u>, "Removal and Installation of Seat Belt".
- 2. Remove side air bag (Satellite) sensor fixing nuts.
- 3. Remove the side air bag (Satellite) sensor connector.



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#### **CAUTION:**

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

### INSTALLATION

Install in the reverse order of removal.

- Check side air bag (Satellite) sensor for proper installation.
- After replacement of side air bag (Satellite) sensor, perform self-diagnosis to make sure that no malfunction is detected. Refer to <u>SRS-17, "SRS Operation Check"</u>.

### FRONT SEAT BELT PRE-TENSIONER

## FRONT SEAT BELT PRE-TENSIONER

### **Removal and Installation**

For removal and installation procedures, refer to <u>SB-4, "Removal and Installation of Seat Belt"</u>.

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### **DIAGNOSIS SENSOR UNIT**

### **DIAGNOSIS SENSOR UNIT**

### Removal and Installation REMOVAL

#### **CAUTION:**

Before servicing SRS, turn the ignition switch off, disconnect both battery cables and wait at least 3 minutes.

- 1. Disconnect each harness connector for the air bag module and seat belt pre-tensioner.
- 2. Remove center console. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
- 3. Disconnect diagnosis sensor unit connector.
- 4. Remove fixing bolts from the diagnosis sensor unit.
  - ☑ Hexagon head bolt : 24.5 N·m (2.5 kg-m, 18 ft-lb)
     ☑ Special bolt : 19.6 N·m (2.0 kg-m, 14 ft-lb)
     ☑ Ground bolt : 6.9 N·m (0.7 kg-m, 61 in-lb)

#### **CAUTION:**

- Do not use old bolts. Replace with new ones.
- 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

Install in the reverse order of removal.

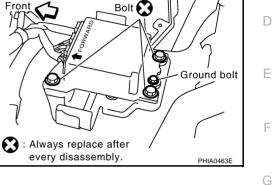
#### **CAUTION:**

- Check the diagnosis sensor unit for proper installation.
- After replacement of diagnosis sensor unit, perform self-diagnosis to make sure that no malfunction is detected. Refer to <u>SRS-17, "SRS Operation Check"</u>.

### ECU DISCRIMINATED NO.

After replacing the diagnosis sensor unit, make sure that the diagnosis sensor unit identification is correct for the vehicle as equipped.

Specification	ECU DISCRIMINATED No.	K
Models with driver and passenger air bags and seat belt pre-tensioner	FA86	
Models with driver and passenger air bags, seat belt pre-tensioner and side air bags	FA52	1



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### Caution for Air Bag Module and Seat Belt Pre-tensioner

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- Before disposing of air bag module and seat belt pre-tensioner, or vehicles equipped with such systems, deploy the systems. If such systems have already been deployed due to an accident, dispose of them as indicated in <u>SRS-51</u>, "DISPOSING OF AIR BAG MODULE AND SEAT BELT PRE-TENSIONER".
- When deploying the air bag module and seat belt pre-tensioner, always use the Special Service Tool; Deployment tool [KV99106400 (J38381)].
- When deploying the air bag module and seat belt pre-tensioner, stand at least 5 m (16 ft) away from the deployment component.
- When deploying air bag module and seat belt pre-tensioner, a fairly loud noise is made, followed by smoke being released. The smoke is not poisonous, however, be careful not to inhale smoke since it irritates the throat and can cause choking.
- Always activate one air bag module at a time.
- Due to heat, leave air bag module unattended for more than 30 minutes after deployment. Also leave seat belt pre-tensioner unattended for more than 10 minutes after deployment.
- Be sure to wear gloves when handling a deployed air bag module and seat belt pre-tensioner.
- Do not apply water to the deployed air bag module and seat belt pre-tensioner.
- Wash your hands clean after finishing work.
- Place the vehicle outdoors with an open space of at least 6 m (20 ft) on all sides when deploying air bag module and seat belt pre-tensioner while mounted in vehicle.
- Use a voltmeter to make sure the vehicle battery is fully charged.
- Do not dispose of the air bag module and seat belt pre-tensioner undeployed.

### CHECKING DEPLOYMENT TOOL

### Connecting to Battery

### CAUTION:

### The battery must show voltage of 9.6V or more.

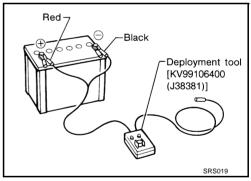
Remove the battery from the vehicle and place it on dry wood blocks approximately 5 m (16 ft) away from the vehicle.

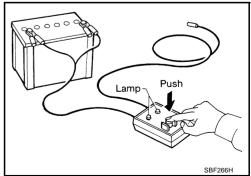
- Wait 3 minutes after the vehicle battery is disconnected before proceeding.
- Connect red clip of deployment tool to battery positive terminal and black clip to negative terminal.

Make sure the polarity is correct. The right side lamp in the tool, marked "deployment tool power", should glow with a green light. If the right side lamp glows red, reverse the connections to the battery.

### **Deployment Tool Check**

Press the deployment tool switch to the ON position. The left side lamp in the tool, marked "air bag connector voltage" should illuminate. If it does not illuminate, replace the tool.





### Air Bag Deployment Tool Lamp Illumination Chart (Battery Connected)

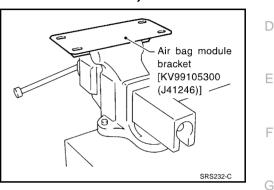
Switch operation	Left side lamp, green* "AIR BAG CONNECTOR VOLTAGE"	Right side lamp, green* "DEPLOYMENT TOOL POWER"
OFF	OFF	ON
ON	ON	ON

\*: If this lamp glows red, the tool is connected to the battery incorrectly. Reverse the connections and make sure the lamp glows green.

### DEPLOYMENT PROCEDURES FOR AIR BAG MODULE (OUTSIDE OF VEHICLE)

Unless the vehicle is being scrapped, deploying the air bag in the vehicle is not recommended. This may cause damage to the vehicle interior.

Anchor air bag module bracket [SST: KV99105300 (J41246)] in a vise secured to a firm foundation during deployment.



Air bag module bracket

[KV99105300 (J41246)]

Air bag module bracket [KV99105300 (J41246)]

> Deployment tool adapter [J38381-80]

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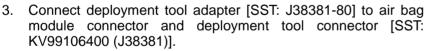
### Deployment of Driver Air Bag Module (Outside of Vehicle)

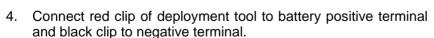
1. Using wire, secure air bag module to air bag module bracket [SST: KV99105300 (J41246)] at two places.

#### **CAUTION:** Use wire of at least 1 mm (0.04 in) diameter.

2. Firmly secure air bag module bracket [SST: KV99105300 (J41246)] with air bag module attached, in a vise.



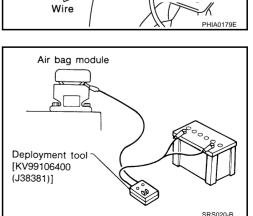




- The lamp on the right side of the tool, marked "deployment tool 5. power", should glow green, not red.
- 6. Press the button on the deployment tool. The left side lamp on the tool, marked "air bag connector voltage", will illuminate and the air bag module will deploy.

#### **CAUTION:**

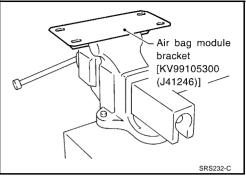
When deploying the driver air bag module, stand at least 5 m (16 ft) away from the air bag module.



Wire

### Deployment of Front Passenger Air Bag Module (Outside of Vehicle)

1. Firmly secure air bag module bracket [SST: KV99105300 (J41246)] in a vise.

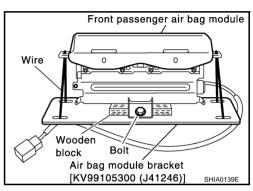


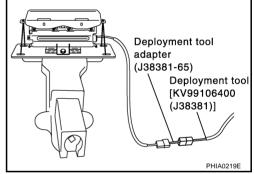
2. Match the hole in air bag module bracket (held in vise) and front passenger air bag module and fix them with one bolt [M8  $\times$  25 - 30 mm (0.98 - 1.18 in)].

### CAUTION:

If a gap exists between front passenger air bag module and air bag module bracket, use a piece of wooden block inserted in the gap to stabilize the air bag module.

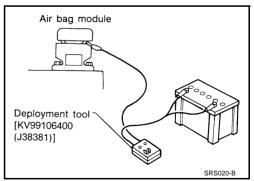
- 3. Connect deployment tool [SST: KV99106400 (J38381)] and deployment tool adapter (SST: J38381-65) to front passenger air bag module connector.
- 4. Connect red clip of deployment tool to battery positive terminal and black clip to negative terminal.
- 5. The lamp on the right side of the tool, marked "deployment tool power", should glow green, not red.





6. Press the button on the deployment tool. The left side lamp on the tool, marked "air bag connector voltage", will illuminate and the air bag module will deploy.

- When deploying the front passenger air bag module, do not stand on the deploying side.
- Stand at least 5 m (16 ft) away from the air bag module.



### Deployment of Front Side Air Bag Module (Outside of Vehicle)

1. Make 6.5 mm (0.256 in) diameter holes in air bag module bracket [SST: KV99105300 (J41246)] at the position shown in figure.

- 2. Firmly secure air bag module bracket [SST: KV99105300 (J41246)] in a vise.
- 3. Insert the stud bolts of side air bag module into the two holes in air bag module bracket (held in vise) and fix them with two M6 nuts.

#### **CAUTION:**

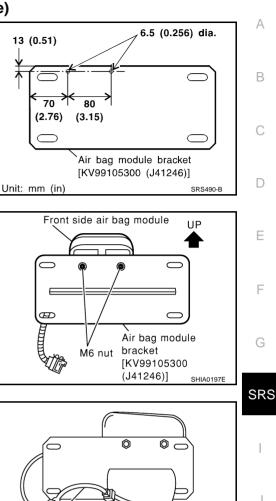
Side air bag module should be secured to air bag module bracket [SST: KV99105300 (J41246)] in a vise with stud bolt side facing down.

4. Connect deployment tool adapter [SST: KV99108300(J38381-35)] and deployment tool [SST: KV99106400 (J38381)] on side air bag module.

- 5. Connect red clip of deployment tool to battery positive terminal and black clip to negative terminal.
- 6. The lamp on the right side of the tool, marked "deployment tool power", should glow green, not red.
- 7. Press the button on the deployment tool. The left side lamp on the tool, marked "air bag connector voltage", will illuminate and the air bag module will deploy.

#### **CAUTION:**

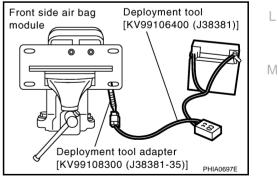
When deploying the front side air bag module, stand at least 5 m (16 ft) away from the air bag module.



 Deployment tool
 Deployment tool

 adapter [KV99108300
 [KV99106400 (J38381)]

 (J38381-35)]
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### **DEPLOYMENT PROCEDURES FOR SEAT BELT PRE-TENSIONER (OUTSIDE OF VEHICLE)**

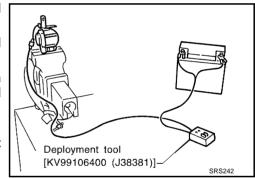
1. Firmly grip pre-tensioner in a vise and cut off the webbing.

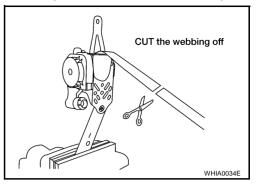
 Connect deployment tool [SST: KV99106400 (J38381)] and deployment tool adapter [SST: J38381-80] yellow connector to front seat belt pre-tensioner.

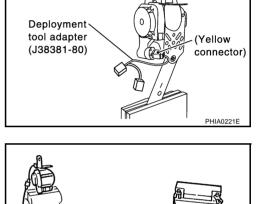
- 3. Connect red clip of deployment tool to battery positive terminal and black clip to negative terminal.
- 4. The lamp on the right side of the tool, marked "deployment tool power", should glow green, not red.
- 5. Press the button on the deployment tool. The left side lamp on the tool, marked "seat belt pre-tensioner connector voltage", will illuminate and the seat belt pre-tensioner will deploy.

### **CAUTION:**

When deploying the front seat belt pre-tensioner, stand at least 5 m (16 ft) away from the seat belt pre-tensioner.







# DEPLOYMENT OF AIR BAG MODULE AND SEAT BELT PRE-TENSIONER WHILE MOUNTED IN VEHICLE

When disposing of a vehicle, deploy air bag module and seat belt pre-tensioners while they are mounted in vehicle.

### CAUTION:

### When deploying air bag module or seat belt pre-tensioner, ensure vehicle is empty.

- 1. Disconnect both the vehicle battery cables and wait 3 minutes.
- 2. Disconnect air bag module and seat belt pre-tensioner connector.
- 3. Connect deployment tool [SST: KV99106400 (J38381)] to air bag module. For front passenger air bag module, attach deployment tool adapter [SST: J38381-65] to the tool connector. For side air bag module, attach deployment tool adapter [SST: KV99108300 (J38381-35)]. For seat □ belt pre-tensioner, attach deployment tool adapter [SST: J38381-80].
- 4. Connect red clip of deployment tool to battery positive terminal and black clip to negative terminal.
- 5. The lamp on the right side of the tool, marked "deployment tool power", should glow green, not red.
- 6. Press the button on the deployment tool. The left side lamp on the tool, marked "air bag connector voltage", will illuminate and the air bag module or seat belt pre-tensioner will deploy.

#### **CAUTION:**

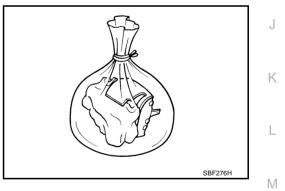
Activate only one air bag module or seat belt pre-tensioner at a time.

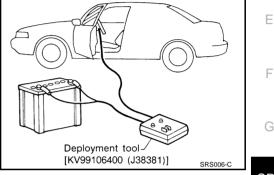


Deployed air bag module and seat belt pre-tensioner are very hot. Before disposing of air bag module and seat belt pre-tensioner, wait at least 30 minutes, and 10 minutes, respectively. Seal them in a plastic bag before disposal.

#### CAUTION:

- Do not apply water to a deployed air bag module or seat belt pre-tensioner.
- Be sure to wear gloves when handling a deployed air bag module or seat belt pre-tensioner.
- No poisonous gas is produced upon air bag module deployment. However, be careful not to inhale gas since it irritates the throat and can cause choking.
- Do not disassemble air bag module or seat belt pre-tensioner.
- Air bag module and seat belt pre-tensioner cannot be reused.
- Wash hands clean after finishing work.





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### **COLLISION DIAGNOSIS**

### **COLLISION DIAGNOSIS**

### For Frontal Collision

To repair the SRS, perform the following steps.

### When SRS (except the front side air bag modules) is activated in a collision:

- 1. Replace the diagnosis sensor unit.
- 2. Remove the air bag modules (except the front side air bag modules and side curtain air bag modules), crash zone sensor assembly, bracket and seat belt pre-tensioner assemblies.
- 3. Check the SRS components using the table below:
- Replace any SRS components showing visible signs of damage (dents, cracks and deformation).
- 4. Install new air bag modules (except the front side air bag modules and side curtain air bag modules) crash zone sensor assembly, bracket and seat belt pre-tensioner assemblies.
- 5. Perform self-diagnosis using CONSULT-II or "AIR BAG" warning lamp. Refer to <u>SRS-17, "SRS Operation</u> <u>Check"</u> for details. Ensure entire SRS operates properly.

### When SRS is not activated in a collision:

- 1. Check the SRS components using the table below:
- Replace any SRS components showing visible signs of damage (dents, cracks and deformation).
- 2. Perform self-diagnosis using CONSULT-II or "AIR BAG" warning lamp. Refer to <u>SRS-17, "SRS Operation</u> <u>Check"</u> for details. Ensure entire SRS operates properly.

### When only one front air bag module is activated in a collision:

- 1. Replace the following components:
- Diagnosis sensor unit
- Crash zone sensor
- Activated front air bag and seat belt pre-tensioner.
- 2. Check the other SRS components using the table below. (Refer to "SRS is NOT activated".)
- Replace any SRS components showing visible signs of damage (dents, cracks and deformation).
- 3. Perform self-diagnosis using CONSULT-II or "AIR BAG" warning lamp. Refer to <u>SRS-17, "SRS Operation</u> <u>Check"</u> for details. Ensure entire SRS operates properly.

Only one front air bag may inflate a crash, depending on the crash severity and whether the front occupants are belted or unbelted. This does not indicate improper performance of the system. Perform self-diagnosis to make sure the entire SRS operates properly.

### SRS INSPECTION (FOR FRONTAL COLLISION)

Part	SRS is activated	SRS is NOT activated
	REPLACE Install with new bolts.	<ol> <li>Remove air bag module. Check harness cover and connectors for damage, termi- nals for deformities, and harness for binding.</li> <li>Install driver air bag module into the steering wheel to check fit and alignment with the wheel.</li> </ol>
		<ul> <li>Install passenger air bag module into the instrument panel to check fit with the instrument panel.</li> </ul>
		3. No damage found, reinstall with new bolts.
		<ol> <li>If damaged—REPLACE air bag modules with new special bolts.</li> <li>Air bag must be deployed before disposal.</li> </ol>
Crash zone sensor	Crash zone sensor REPLACE the crash zone sensor and bracket with new nuts.	1. Remove the crash zone sensor. Check harness connectors for damage, terminals for deformities, and harness for binding.
		2. Check for visible signs of damage (dents, cracks, deformation) of the crash zone sensor and bracket.
		3. Install the crash zone sensor to check fit.
		4. No damage found, reinstall with new bolts.
		5. If damaged—REPLACE the crash zone sensor and bracket with new nuts.

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### **COLLISION DIAGNOSIS**

Part	SRS is activated	SRS is NOT activated	
Seat belt pre-ten- sioner assemblies REPLACE Install seat belt pre- tensioner with new bolts.	1. Remove seat belt pre-tensioners. Check harness cover and connectors for damage, terminals for deformities, and harness for binding.		
	bolts.	2. Check belts for damage and anchors for loose mounting.	
		3. Check retractor for smooth operation.	
		4. Check seat belt adjuster for damage.	
		5. If no damage is found, reinstall seat belt pre-tensioner assembly with new bolts.	
		<ol><li>If damaged—REPLACE seat belt pre-tensioners with new bolts. Seat belt pre-tensioners must be deployed before disposal.</li></ol>	
Diagnosis sensor unit	REPLACE	1. Check case for dents, cracks or deformities.	
	Install with new bolts.	2. Check connectors for damage, and terminals for deformities.	
		3. If no damage is found, reinstall with new bolts and ground bolt.	
		4. If damaged—REPLACE diagnosis sensor unit with new bolts and ground bolt.	
Steering wheel	1. Visually check steeri	ng wheel for deformities.	
-	2. Check harness (built into steering wheel) and connectors for damage, and terminals for deformities.		
	3. Install air bag module to check fit or alignment with steering wheel.		
	4. Check steering wheel for excessive free play.		
	5. If no damage is found, reinstall with nut.		
	6. If damaged—REPLACE.		
Spiral cable	1. Visually check spiral cable and combination switch for damage.		
	2. Check connectors and protective tape for damage.		
	3. Check steering whee	el for noise, binding or heavy operation.	
	4. If no damage is found, reinstall with screws.		
	5. If damaged—REPLACE.		
Harness and connectors	1. Check connectors for poor connection, damage, and terminals for deformities.		
	2. Check harness for binding, chafing, cuts, or deformities.		
	3. If no damage is found, reinstall the harness and connectors.		
	4. If damaged—REPLACE damaged section of harness. Do not repair, splice or modify any SRS harness.		
Instrument panel	1. Visually check instru	ment panel for damage.	
	2. If no damage is found, reinstall the instrument panel.		
	3. If damaged—REPLA	ACE the instrument panel with bolts.	

### For Side Collision WHEN THE SIDE AIR BAG IS ACTIVATED IN THE SIDE COLLISION:

- 1. Replace the following components:
- All parts of front seatback (including front seatback frame) with front side air bag module (on the side on which front side air bag is activated)
- Diagnosis sensor unit
- Satellite sensor (on the side on which side air bag and side curtain 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. Perform self-diagnosis using CONSULT-II or "AIR BAG" warning lamp. Refer to <u>SRS-17, "SRS Operation</u> <u>Check"</u>. Ensure entire SRS operates properly.

### WHEN SRS IS NOT ACTIVATED IN THE SIDE COLLISION:

- 1. 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).
- 2. Perform self-diagnosis using CONSULT-II or "AIR BAG" warning lamp. Refer to <u>SRS-17, "SRS Operation</u> <u>Check"</u>. Ensure entire SRS operates properly.

### **SRS-53**

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### **COLLISION DIAGNOSIS**

### SRS INSPECTION (FOR SIDE COLLISION)

Part	Front side air bag and side curtain air bag is activated	Front side air bag and side curtain air bag is NOT activated	
air bag module	REPLACE all parts of seatback with deployed front side air bag module.	1. Check for visible signs of damage (dents, tears, deformation) of the seat back on the collision side.	
		2. Check harness and connectors for damage, and terminals for deformities.	
		<ol> <li>If damaged—REPLACE the front seatback assembly. Air bag must be deployed before disposal.</li> </ol>	
(LH or RH) side air bag (Satellite) sensor	REPLACE the side air bag (Satellite) sen- sor on the collision side with new nuts. (Repair the center pil- lar inner, etc. before installing new one if	<ol> <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> </ol>	
		2. Check for visible signs of damage (dents, cracks, deformation) of the side air bag (Satellite) sensor.	
		3. Install the side air bag (Satellite) sensor to check fit.	
		4. If no damage is found, reinstall the side sir bag (Satellite) sensor with new nuts.	
	damaged.)	5. If damaged—REPLACE the side air bag (Satellite) sensor with new nuts.	
Diagnosis sensor unit	REPLACE the diag-	1. Check case and bracket for dents, cracks or deformities.	
	nosis sensor unit with	2. Check connectors for damage, and terminals for deformities.	
	the new bolts.	3. If no damage is found, reinstall the diagnosis sensor unit with new bolts and ground bolt.	
		4. If damaged—REPLACE the diagnosis sensor unit with new bolts and ground bolt.	
Seat belt pre-ten- sioner assembly		t can be extended smoothly. bt be extended smoothly,	
	<ul> <li>Check for deformities of the center pillar inner.</li> </ul>		
	- If the center pillar inner has no damage, REPLACE the seat belt pre-tensioner assembly.		
	2. Remove the seat belt pre-tensioner assembly on the collision side. Check harness cover and connectors for damage, terminals for deformities, and harness for binding.		
	3. Check for visible signs of damage (dents, cracks, deformation) of the seat belt pre-tensioner assembly.		
	4. Check seat belt adjuster for damage.		
	-	d, reinstall the seat belt pre-tensioner assembly.	
	_	ACE the seat belt pre-tensioner assembly with new bolts. Isioner assembly must be deployed before disposal.	
Seat with front side	REPLACE all parts of front seatback (including front seat- back frame)	1. Visually check the seat on the collision side.	
air bag		<ol><li>Remove the seat on the collision side and check the following for damage and deformities.</li></ol>	
		<ul> <li>Harness, connectors and terminals</li> </ul>	
		<ul> <li>Frame and recliner (for front and rear seat), and also adjuster and slides (for front seat)</li> </ul>	
		3. If no damage is found, reinstall the seat.	
		4. If damaged—REPLACE the damaged seat parts using new bolts.	
Center inner pillar	1. Check the center inner pillar on the collision side for damage (dents, cracks, deformation).		
	2. If damaged—REPAIR the center inner pillar.		