# **RESTRAINT SYSTEM**

# SECTION RS

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When you read wiring diagrams:

• Read GI section, "HOW TO READ WIRING DIAGRAMS".

• See EL section, "POWER SUPPLY ROUTING" for power distribution circuit. When you perform trouble diagnoses, read GI section, "HOW TO FOLLOW FLOW CHART IN TROUBLE DIAGNOSES" and "HOW TO PERFORM EFFICIENT DIAGNOSIS FOR AN ELECTRICAL INCIDENT".

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#### **PRECAUTION**



# Supplemental Restraint System (SRS) "AIR BAG"

The Supplemental Restraint System "Air Bag", used along with a seat belt, helps to reduce the risk or severity of injury to the driver and front passenger in a frontal collision. The Supplemental Restraint System consists of air bag modules (located in the center of the steering wheel and on the instrument panel on the passenger side), a diagnosis sensor unit, warning lamp, wiring harness and spiral cable.

#### **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 dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses are covered with yellow insulation either just before the harness connectors or for the complete harness, for easy identification.

#### **SEAT BELTS**

#### **CAUTION:**

- Do not disassemble buckle or seat belt assembly.
- Replace anchor bolts if they are deformed or worn out.
- Never oil tongue and buckle.
- If any component of seat belt assembly is questionable, do not repair. Replace the seat belt assembly.
- If webbing is cut, frayed, or damaged, replace seat belt assembly.
- When replacing seat belt assembly, use a genuine NISSAN seat belt assembly.
- After any collision, inspect all seat belt assemblies, including retractors and other attached hardware.

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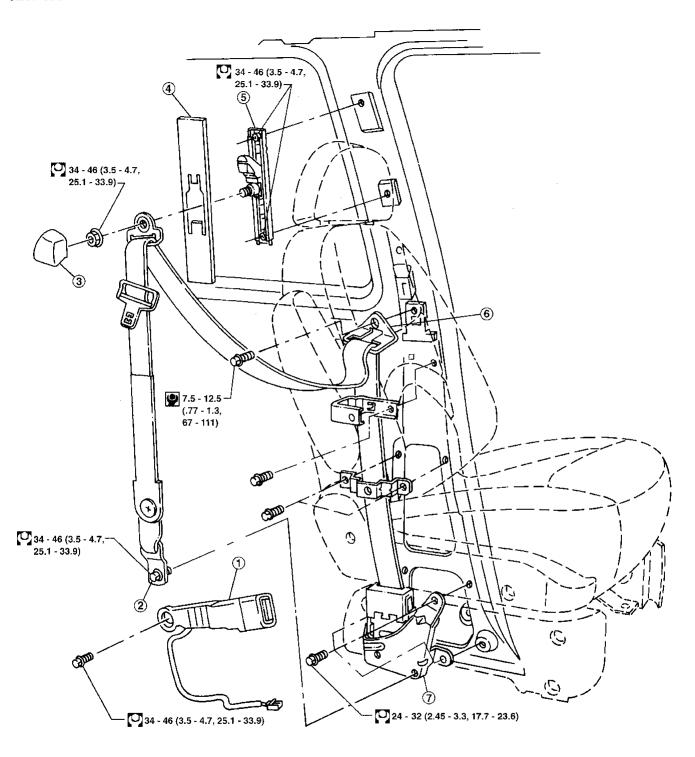
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## **Front Seat Belt**

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: N-m (kg-m, in-lb)

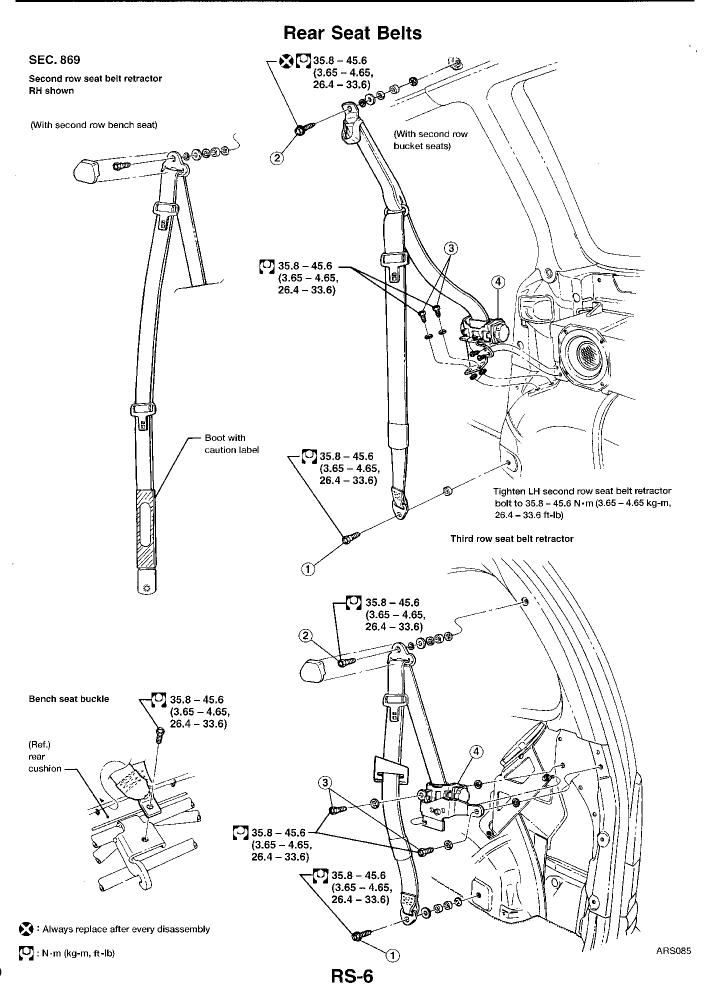


: N·m (kg-m, ft-lb)

# SEAT BELTS Front Seat Belt (Cont'd)

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2	Remove buckle from seat. For driver's side, disconnect harness connector.  Remove lower seat belt anchor bolt.  Remove side trim from lower B-pillar. Refer to BT section ("Side and Floor Trim", "INTERIOR TRIM").	G]
	Remove D-ring cover and shoulder nut.  Remove B-pillar upper trim.  Remove adjuster slide plate cover	MA
(5) (6)	Remove adjuster slide plate cover. Remove two adjuster bolts and adjuster assembly. Remove mid-guide. Remove three retractor bolts.	EM
	Remove retractor.	l¢
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# **SEAT BELTS**

# Rear Seat Belts (Cont'd)

## **REMOVAL**

- 1 Remove lower seat belt anchor bolts. Remove interior side trim. Refer to BT section ("Side and Floor Trim", "INTERIOR TRIM").
- 2 Remove D-ring cover and D-ring anchor bolt.
- 3 Remove retractor bolts.
- (4) Remove retractor.

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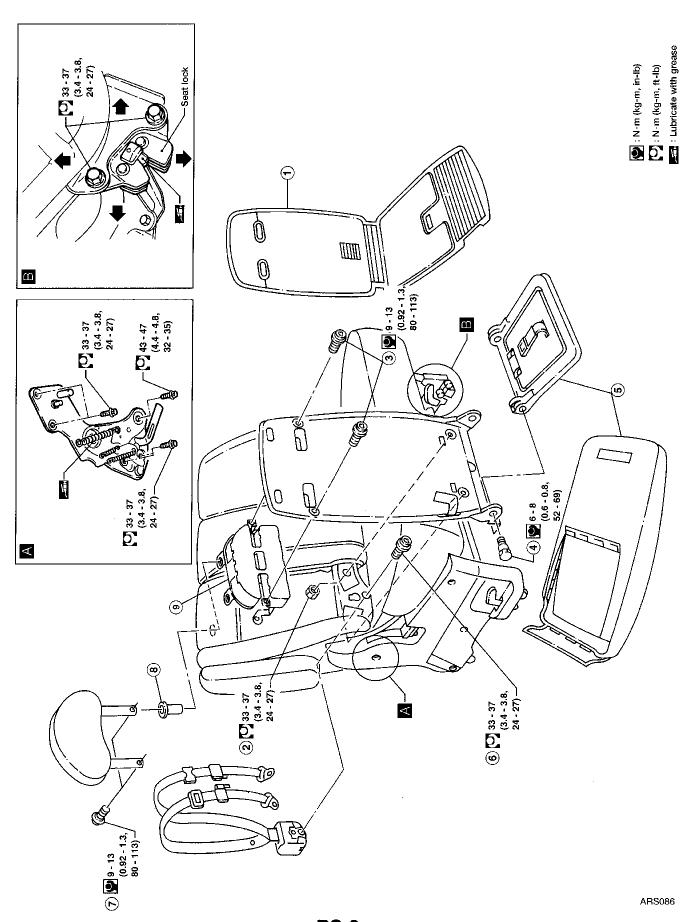
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# **Built-In Child Seat**



#### **SEAT BELTS**

# **Built-In Child Seat (Cont'd)**

#### **SEAT BELT REMOVAL**

Remove seat back rear cover. 1 Remove child seat pad. (2) Remove two nuts from rear of child seat back panel. (3) Remove two screws from child seat back panel. Pull out seat back panel and cushion assembly. (4) Remove two seat belt anchor bolts from sides of child seat. (5) Remove child seat frame and cushion. To service frame and buckle or cushion, separate cushion from frame. 6 Remove retractor bolt. To remove retractor, pull seat belts through seat back panel, energy absorber and seat frame. **HEADREST AND ENERGY ABSORBER REMOVAL** LC Perform the steps listed above. (7) Remove two headrest screws. Use a file to deburr screwholes and remove headrest. (8) Remove headrest bushings. FE AT. RA 13月

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## Precautions for SRS "Air Bag" Service

- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses are covered with yellow insulation either just before the harness connectors or for the complete harness, for easy identification.
- Before servicing the SRS, turn ignition switch "OFF", disconnect both battery cables and wait at least 10 minutes.
  - For approximately 10 minutes after the cables are removed, it is still possible for the air bag to deploy. Therefore, do not work on any air bag system connectors or wires until at least ten minutes have passed.
- Diagnosis sensor unit must always be installed with arrow mark "⟨" 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 attempt to turn steering wheel or column after removal of steering gear.
- Handle air bag modules carefully. Always place them with the pad side facing upward.
- Do not use old bolts after removing any SRS parts; replace with new bolts. Conduct self-diagnosis to check entire SRS for proper function.
- After air bag inflates, the front instrument panel assembly should be replaced.

## **Special Service Tools**

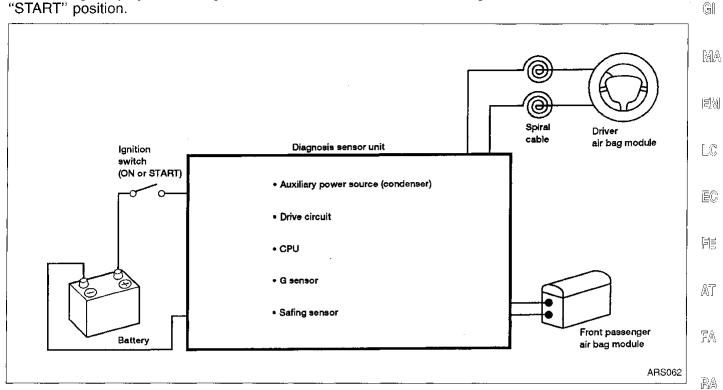
The actual shapes of Kent-Moore tools may differ from those of special serivce tools illustrated here.

Tool number (Kent-Moore No.) Tool name	Description	
KV991072S0 (J38381-KIT) Air bag deployment kit KV99106400 (J38381) Deployment tool	NT357	Disposing of air bag module
KV991065S0 (J38381-30) Deployment tool adapters	For seat belt pre-tensioner  For passenger air bag module  NT353	
KV99105300 (J41246) Passenger air bag bracket	NT354	Anchor the passenger air bag module
HT61961000 and HT62152000 com- bined (J38219) *Special torx bit	NT361	Use for special bolts [TAMPER RESISTANT TORX (Size T50)]  a: 3.5 (0.138) dia. b: 8.5 - 8.6 (0.335 - 0.339) dia. c: approx. 10 (0.39) sq.  Unit: mm (in)

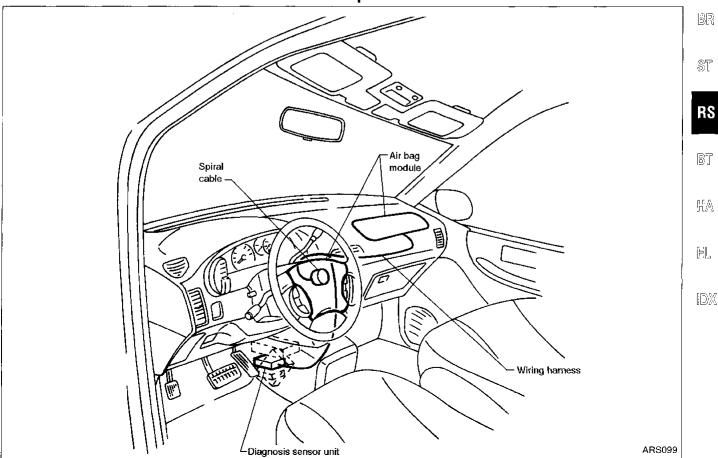
<sup>\*:</sup> Special tool or commercial equivalent

## **Description**

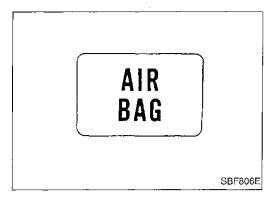
The air bags deploy if the diagnosis sensor unit activates while the ignition switch is in the "ON" or "START" position.



# **SRS Component Parts Location**



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#### **Maintenance Items**

- Check "AIR BAG" warning lamp operation
   After turning ignition key to "ON" position, "AIR BAG" warning lamp illuminates. The "AIR BAG" warning lamp will turn
   off after about 7 seconds if no malfunction is detected.
   If any of the following air bag warning lamp conditions occur,
   immediately check the air bag system. Refer to RS-27 for
   details.
- The warning lamp does not illuminate when the ignition switch is turned "ON".
- The warning lamp does not turn off about 7 seconds after the ignition switch is turned "ON".
- The warning lamp turns off about 7 seconds after the ignition switch is turned "ON", but it turns on again or blinks.
- 2. Visually check SRS components
- (a) Diagnosis sensor unit
- Check diagnosis sensor unit and bracket for dents, cracks or deformities.
- Check connectors for damage, and terminals for deformities.
- (b) Air bag module and steering wheel
- Remove air bag module from steering wheel or instrument panel. Check harness cover and connectors for damage, terminals for deformities, and harness for binding.
- Install driver side air bag module to steering wheel to check fit or alignment with the wheel.
- Check steering wheel for excessive free play.
- Install passenger side air bag module to instrument panel to check fit or alignment with the instrument panel.
- (c) Spiral cable
- Check spiral cable and combination switch for damage.
- Check connectors and protective tape for damage.
- Check steering wheel for noise, binding or heavy operation.
- (d) Main harness and air bag harness
- Check connectors for poor connections, damage, and terminals for deformities.
- Check harnesses for binding, chafing or cuts.

#### **CAUTION:**

Replace previously used special bolts with new ones.

# Removal and Installation — Diagnosis Sensor Unit

#### **CAUTION:**

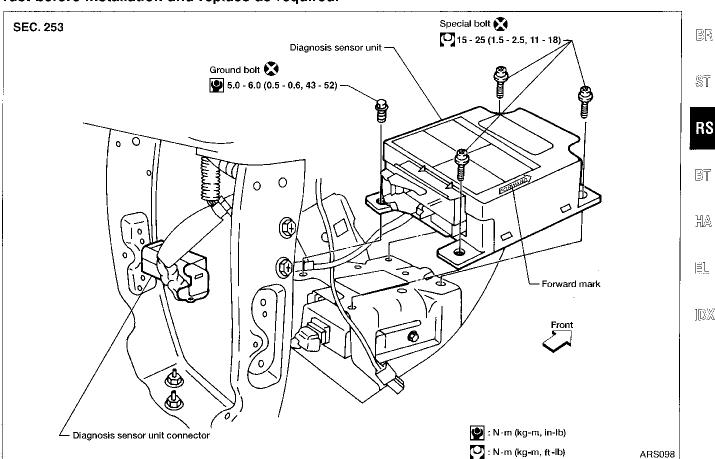
- Before servicing SRS, turn the ignition switch off, disconnect both battery cables and wait at least 10 minutes.
- The special bolts are coated with bonding agent while the other bolt is for ground. Do not use
  old bolts after removal; replace with new coated bolts.
- Check diagnosis sensor unit for proper installation.
- Check diagnosis sensor unit to ensure no deformities, dents, cracks or rust. If there are any visible signs of damage, replace with new one.
- Check diagnosis sensor unit brackets to ensure they are free of deformities or rust.
- Replace diagnosis sensor unit if it has been dropped or sustained an impact.
- 1. Disconnect driver and passenger air bag module connectors.
- 2. Remove console box or CD magazine. Refer to BT section ("INSTRUMENT PANEL").
- Disconnect and remove ABS control unit. Refer to BR section ("Removal and Installation", "ANTI-LOCK BRAKE SYSTEM").
- 4. Disconnect diagnosis sensor unit connector.
- 5. Remove bolts from diagnosis sensor unit. Use TAMPER RESISTANT TORX (Size T50) to remove special bolts.
- 6. Remove the diagnosis sensor unit.

#### NOTE:

To install, reverse the removal procedure sequence.

#### **CAUTION:**

Diagnosis sensor unit must always be installed with arrow marks " $\langle "$ " 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.



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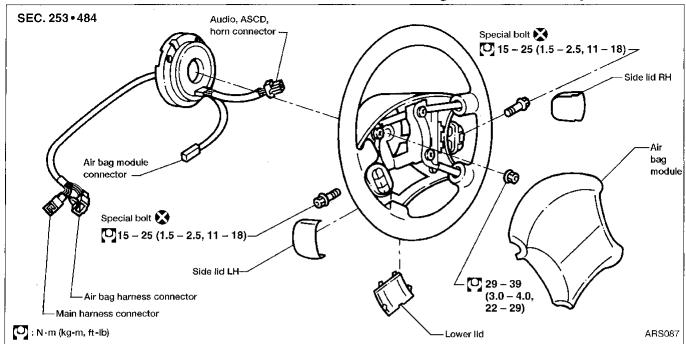
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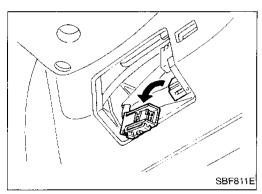
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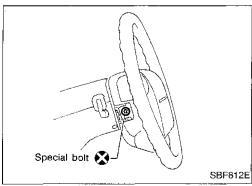
## Removal — Air Bag Module and Spiral Cable



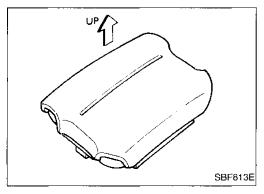


#### **CAUTION:**

- Before servicing SRS, turn the ignition switch off, disconnect both battery cables and wait at least 10 minutes.
- Always work from the side of air bag module.
- Remove lower lid from steering wheel, and disconnect air bag module connector.



2. Remove side lid. Using the TAMPER RESISTANT TORX (Size T50), remove left and right special bolts. Air bag module can then be removed.



#### **CAUTION:**

- Always place air bag module with pad side facing upward.
- Do not attempt to disassemble air bag module.
- The special bolts are coated with bonding agent. Do not use old bolts after removal; replace with new coated bolts.



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# Removal — Air Bag Module and Spiral Cable (Cont'd) Do not drop or impact air bag module. Replace air bag

module if it has been dropped or sustained an impact.

Do not expose the air bag module to temperatures exceeding 90°C (194°F).

Do not allow oil, grease or water to come in contact with the air bag module.



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Set steering wheel in the neutral position.

Disconnect horn connector and remove steering wheel nut.

Using steering wheel puller, remove steering wheel. Be careful not to over-tighten puller bolt on steering wheel.

Remove steering column cover.

Disconnect air bag harness and main harness connectors.

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Remove the three screws. The spiral cable can then be removed.

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#### **CAUTION:**

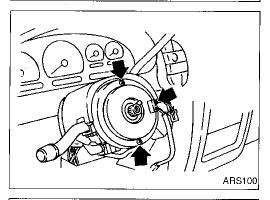
Do not attempt to disassemble spiral cable.

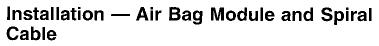
Do not apply lubricant to the spiral cable.

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Rotate the spiral cable fully counterclockwise until tight and put matching marks on the inner and outer portions.

Rotate the spiral cable 3 turns clockwise and align the

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matching marks. Then install the spiral cable.

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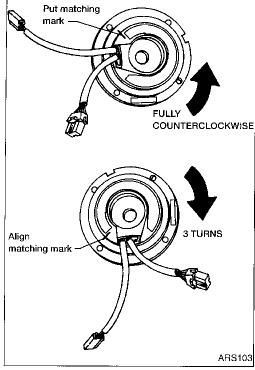
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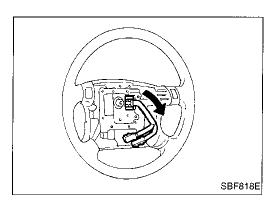
Use tape to hold the spiral cable in this position while installing.

CAUTION:

The spiral cable may snap during steering wheel operation if the spiral cable is installed improperly. Also, with the steering linkage disconnected, the cable may snap by turning the steering wheel.

4. Connect spiral cable air bag harness and main harness connectors and tighten screws. Install steering column cover.

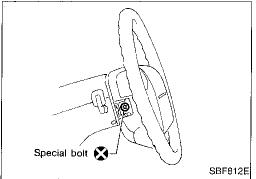




# Installation — Air Bag Module and Spiral Cable (Cont'd)

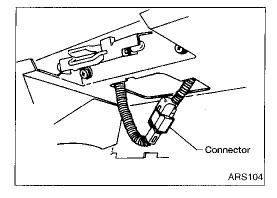
- 5. Install steering wheel and pull spiral cable harness through.
- 6. Connect horn connector.
- 7. Tighten steering wheel nut.

(3.0 - 4.0 kg-m, 22 - 29 ft-lb)



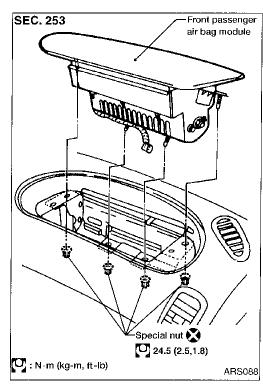
- 8. Position air bag module and tighten with new special bolts.
- 9. Connect air bag module connector.
- 10. Install all lids.
- 11. Connect both battery cables.
- 12. Conduct Self-diagnosis to ensure entire SRS operates properly. (Use CONSULT or warning lamp check.)

  Turn steering wheel to the left end and then to the right end fully to make sure that spiral cable is set in the neutral position.
- 13. If air bag warning lamp blinks (at the user mode), it shows the spiral cable may be snapped due to its improper position. Perform self-diagnosis again (Use CONSULT or warning lamp check). If a malfunction is detected, replace the spiral cable with a new one.



# Removal — Front Passenger Air Bag Module CAUTION:

- Before servicing SRS, turn the ignition switch off, disconnect both battery cables and wait at least 10 minutes.
- Always work from the side of or under air bag module.
- 1. Remove access panel behind glove box and disconnect passenger air bag module connector.
- 2. Remove glove box assembly.



# Removal — Front Passenger Air Bag Module (Cont'd)

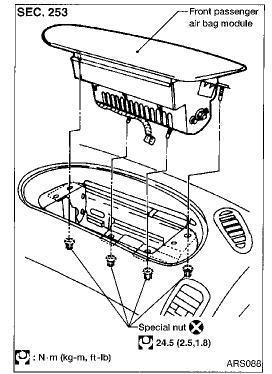
- 3. Remove four special nuts.
- 4. Remove front passenger air bag module.
- Air bag module is heavy and should be supported using both hands during removal.

#### **CAUTION:**

- Always place air bag module with pad side facing upward.
- Do not attempt to disassemble air bag module.
- The special bolts are coated with bonding agent. Do not use old bolts after removal; replace with new coated bolts.
- Do not insert any foreign objects (screwdriver, etc.) into air bag module connector.



- Do not drop or impact air bag module. Replace air bag module if it has been dropped or sustained an impact.
- Do not expose the air bag module to temperatures exceeding 90°C (194°F).
- Do not allow oil, grease or water to come in contact with the air bag module.



## Installation — Front Passenger Air Bag Module

- Install front passenger air bag module in instrument panel.
- Ensure harness is not caught between air bag module and support bracket.
- Install four new special nuts and tighten to specification.
- 2. Connect inflator connector to air bag harness.
- 3. Install glove box assembly and access panel.

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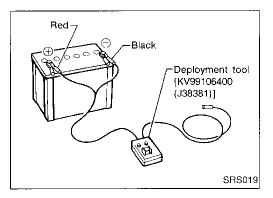
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## **Disposal of Air Bag Module**

- Make sure to deactivate air bag modules before disposing them. Also, before disposing a vehicle equipped with an air bag system, deactivate air bag modules. If such a system has already been deployed due to an accident, dispose of as indicated in the section "DISPOSING OF AIR BAG MOD-ULE".
- Do not dispose of the air bag module undeployed.
- When deploying the air bag module, always use the Special Service Tool; Deployment tool (Kent-Moore No. J38381).
- When deploying the air bag module, stand at least 5 m (16 ft) away from the air bag module.
- Due to heat, do not touch air bag module for at least 30 minutes after deployment.
- Be sure to wear gloves when handling a deployed air bag module.
- Never apply water to a deployed air bag module.
- Wash your hands clean after finishing work.



#### CHECKING DEPLOYMENT TOOL

#### Connecting to battery

- Place vehicle outdoors with at least 6 m (20 ft) of open space on all sides.
- Use a voltmeter to make sure the vehicle battery is fully charged.

#### 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 10 to 12 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.

#### **CAUTION:**

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.

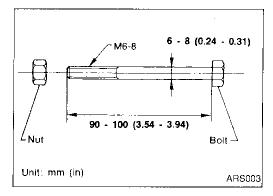
#### Deployment tool check

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 CONNEC- TOR VOLTAGE"	Right side lamp, green* "DEPLOYMENT TOOL POWER"
OFF	OFF	ON
ON	ON	ON

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



# Disposal of Air Bag Module (Cont'd) **DEPLOYMENT PROCEDURES FOR AIR BAG** MODULE (Outside of vehicle)

Deploying air bag module while it is mounted in vehicle may damage vehicle. Deploy air bag module as a unit except when disposing of vehicle.

Anchor air bag module in a vise secured to a firm foundation during deployment.

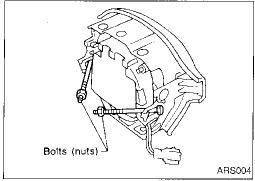


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#### Deployment of driver's air bag module (outside of vehicle)

Prepare two sets of nuts and bolts (see figure at left). These bolts are required to secure driver's air bag module to the

Install one set of nuts and bolts to each side of air bag

module.

#### **CAUTION:**

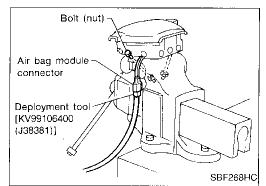
Make sure to install a bolt and nut on each side.

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Firmly place two nuts (secured to air bag module) in the vise.

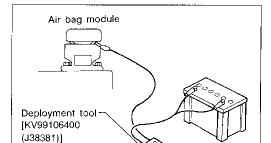
#### **CAUTION:**

Ensure these two nuts are equally placed in the vise. Never finish the installation with just one nut.

Connect deployment tool (SST: J38381) to air bag module connector.

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5. Connect red clip of deployment tool to battery positive terminal and black clip to negative terminal.

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.

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#### CAUTION:

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

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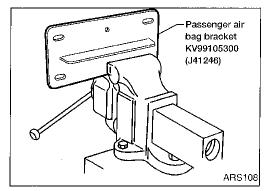
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# 15 (0.59)— 15 (0.59)— 114 (4.5) Passenger air bag bracket KV99105300 (J41246) ARS107

# Disposal of Air Bag Module (Cont'd)

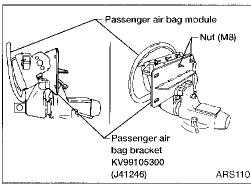
Deployment of passenger air bag module (outside of vehicle)

1. Make an 8.5 mm (0.335 in) diameter hole in passenger air bag bracket (SST: J41246) at the position shown in figure at left.



2. Firmly secure passenger air bag bracket (SST: J41246) in a vise as shown so that the bottom edge of bracket is even with bottom of vise jaws.

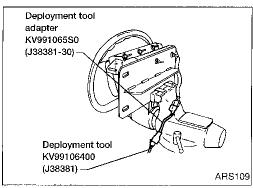
Make sure vise is firmly secured and will not pivot.



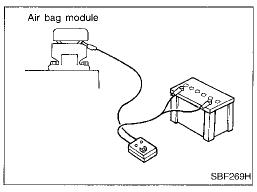
3. Match the two lower studs of passenger air bag module to holes in passenger air bag bracket (held in vise) and fix both with nuts (M8). Tighten nuts securely.

#### **CAUTION:**

When mounting the air bag module, face pad side of module to open area. Provide at least 2 m (7 ft) of clearance between pad side of module and any object.



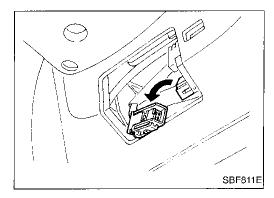
4. Connect deployment tool adapter (SST: J38381-30) to deployment tool (SST: J38381). Connect other end of deployment tool adapter to air bag module connector.

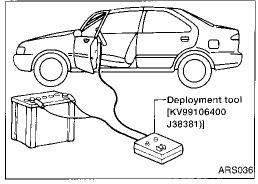


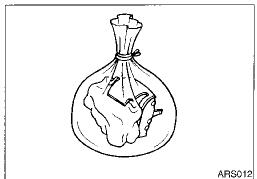
- 5. Connect red clip of deployment tool to battery positive terminal and black clip to negative terminal.
- 6. The lamp on the right side of the tool, marked "deployment tool power", should glow green, not red.
- 7. Press the button on the deployment tool. The left side lamp on the tool, marked "air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

#### CALITION

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







# Disposal of Air Bag Module (Cont'd) DEPLOYMENT OF AIR BAG MODULE WHILE MOUNTED IN VEHICLE

When disposing of vehicles, deploy air bag module while it is mounted in vehicle.

#### **CAUTION:**

When deploying air bag module, ensure vehicle is empty.

- 1. Turn ignition switch "OFF", disconnect both battery cables and wait at least 10 minutes.
- 2. Disconnect air bag module connector.
- 3. Connect deployment tool (SST: J38381) connector to air bag module.
  - For front passenger air bag module, use adapters (SST: J38381-30) to attach module to deployment tool 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.
- Press the button on the deployment tool. The left side lamp on the tool, marked "air bag connector voltage", will illuminate. Then the air bag module will deploy.

#### DISPOSING OF AIR BAG MODULE

Deployed air bag module is very hot. Before disposing of air bag modules, wait at least 30 minutes. Seal them in a plastic bag before disposal.

#### **CAUTION:**

- Never apply water to a deployed air bag module.
- Be sure to wear gloves when handling a deployed air bag module.
- No poisonous gas is produced upon air bag module deployment. However, be careful not to inhale gas since it irritates throat and can cause choking.
- Do not attempt to disassemble air bag module.
- Air bag module cannot be reused.
- Wash your hands clean after finishing work.

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# 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 problem. 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 EL section ("BATTERY").]
- Fuse [Refer to EL section ("Fuse", "POWER SUPPLY ROUTING").]
- System component-to-harness connections

#### **DIAGNOSIS FUNCTION**

The SRS self-diagnosis results can be read by using "AIR BAG" warning lamp and/or CONSULT. The reading of these results is accomplished using one of two modes — "User mode" or "Diagnosis mode". 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 are as follows:

	User mode	Diagnosis mode	Display type
"AIR BAG" warning lamp	X	Х	ON-OFF operation
CONSULT	<del>_</del>	· X	Monitoring

#### DIAGNOSIS MODE FOR CONSULT

SELF-DIAG [CURRENT]

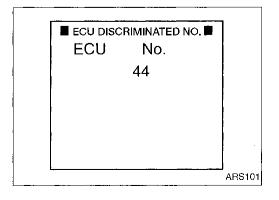
A current Self-diagnosis result (also indicated by the number of warning lamp flashes in the Diagnosis mode) is displayed on the CONSULT screen in real time. This refers to a malfunctioning part requiring repairs.

SELF-DIAG [PAST]

Diagnosis results previously stored in the memory (also indicated by the warning lamp flashes in the User mode) are displayed on the CONSULT screen. The stored results are not erased until memory erasing is executed.

TROUBLE DIAG RECORD

With TROUBLE DIAG RECORD, diagnosis results previously erased by a reset operation can be displayed on the CONSULT 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 screen, as shown at left. When replacing the diagnosis sensor unit, refer to the part number for compatibility. After installation, replacement with a correct unit can be checked by confirming this classification number on the CONSULT screen.

For model V40, the diagnosis sensor unit classification number assigned is No. 44.

# How to Perform Trouble Diagnoses for Quick and Accurate Repair (Cont'd)

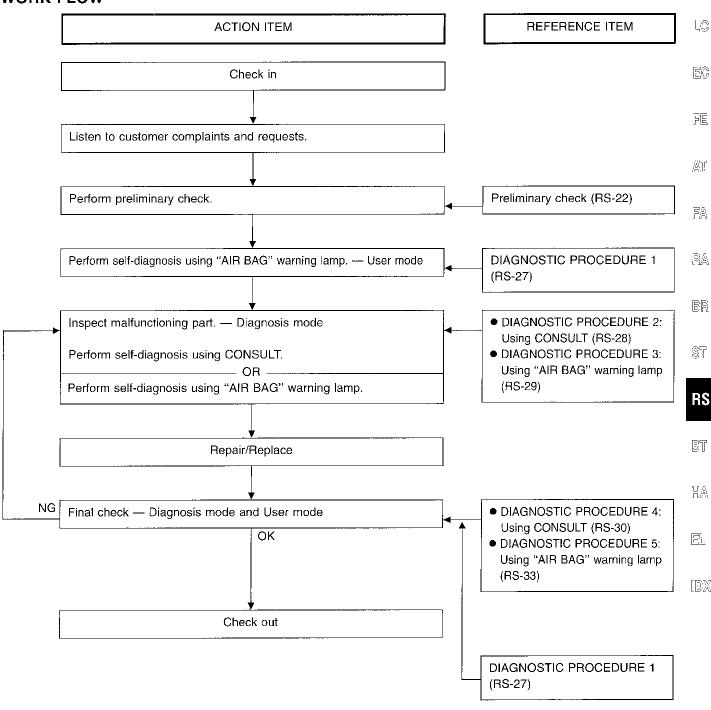
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#### **CAUTION:**

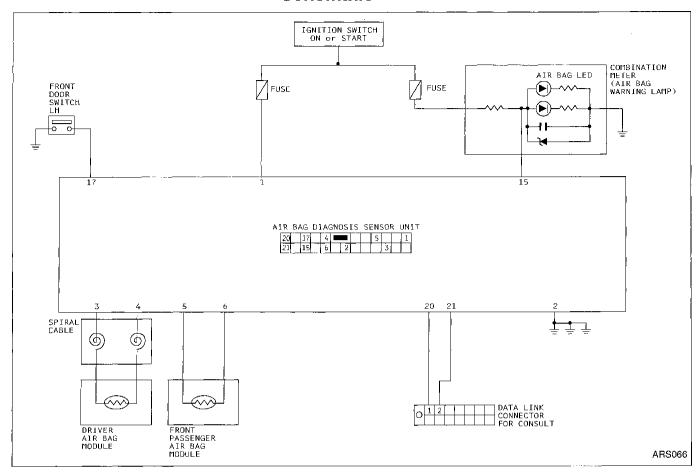
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses are covered with yellow insulation either just before the harness connectors or for the complete harness, for easy identification.
- Do not attempt to repair, splice or modify the SRS wiring harness. If the harness is damaged, replace it with a new one.
- Keep ground portion clean.

#### **WORK FLOW**

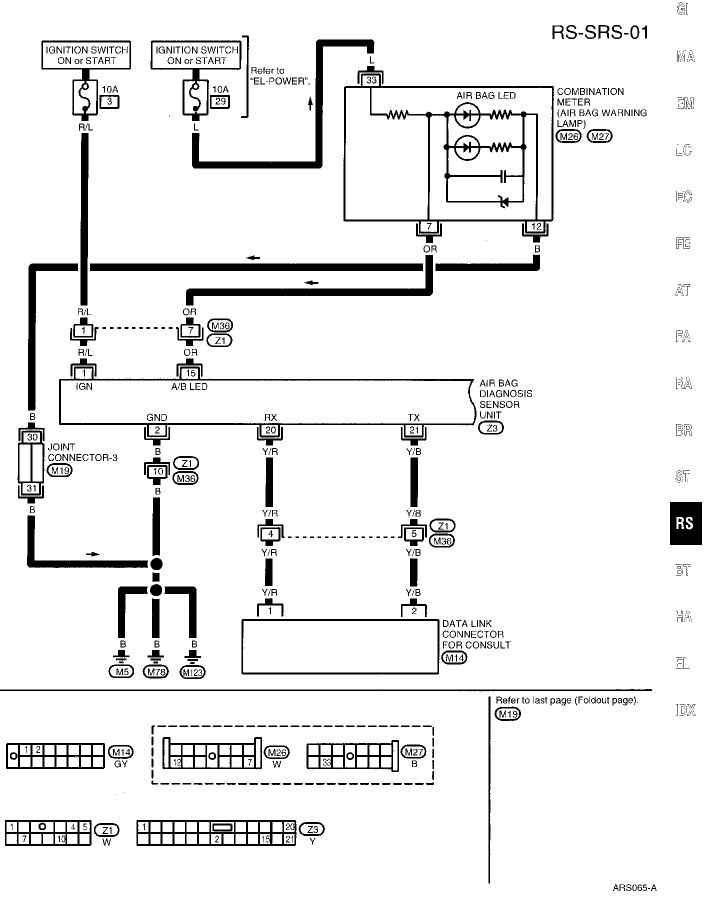


**RS-23** 

# **Schematic**

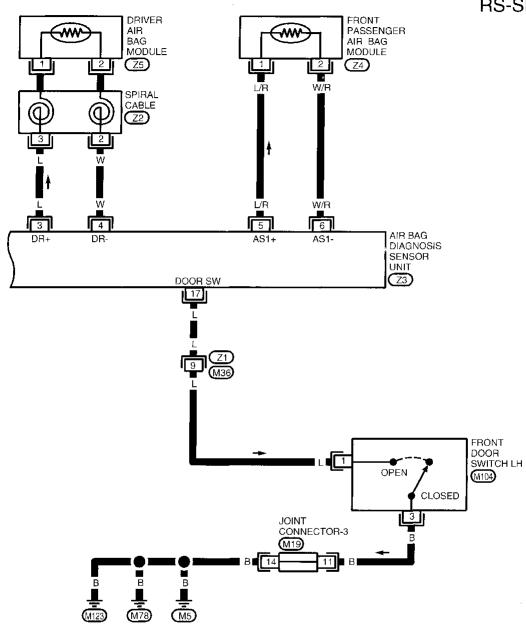


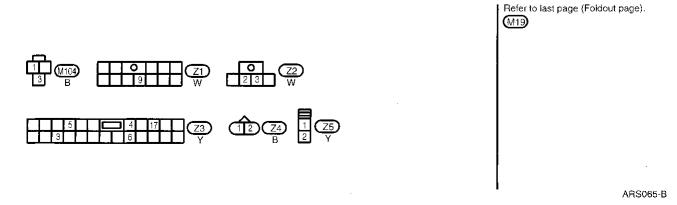
# Wiring Diagram -SRS-

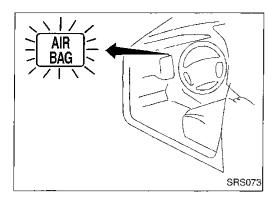


# TROUBLE DIAGNOSES — Supplemental Restraint System (SRS) Wiring Diagram –SRS– (Cont'd)

RS-SRS-02







## **Self-diagnosis**

# DIAGNOSTIC PROCEDURE 1 ( without CONSULT)

Checking SRS operation by using "AIR BAG" warning lamp — User mode

- 1. After turning ignition switch from "OFF" to "ON", "AIR BAG" warning lamp operates.
- 2. Compare "AIR BAG" warning lamp operation to the chart below.

"AIR BAG" warning lamp operation — User mode —	SRS condition	Reference item
IGN ON ON OFF 7 sec.	No malfunction is detected. No further action is necessary.	_
MRS09	5A	
IGN ON	The system has problem and needs to be repaired as indicated.	Go to DIAGNOSTIC PROCEDURE 2, or 3 (RS-28 or 29).
OFF 0.5 sec. 0.5 sec.		
MRS096	SA	
IGN ON	Air bag is deployed.	Go to COLLISION DIAGNOSIS (RS-43).
OFF	Fuse for diagnosis sensor unit or circuit is malfunctioning and needs to be repaired.	Go to DIAGNOSTIC PROCEDURE 8 (RS-41).
MRS097		
IGN ON	Diagnosis sensor unit or "AIR BAG" warning lamp circuit is shorted or open and needs to be repaired.	Go to DIAGNOSTIC PROCEDURE 9 (RS-41).
OFF -		
MRS098	A	

#### NOTE:

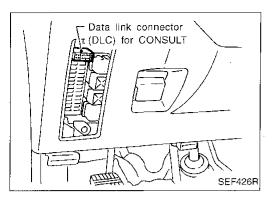
If "AIR BAG" warning lamp operates differently from the operations shown above, refer to "AIR BAG" warning lamp operation — Diagnosis mode —, DIAGNOSTIC PROCEDURE 5, RS-33. Then repair as necessary.

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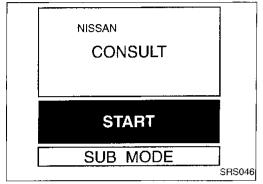
LC



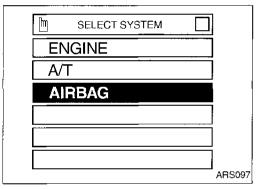
# Self-diagnosis (Cont'd)

DIAGNOSTIC PROCEDURE 2 ( with CONSULT)
Inspecting SRS malfunctioning parts by using CONSULT —
Diagnosis mode

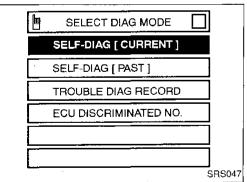
- 1. Turn ignition switch "OFF".
- 2. Connect "CONSULT" to Data link connector.



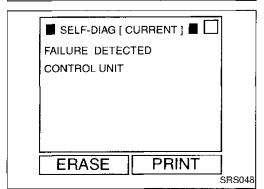
- Turn ignition switch "ON".
- 4. Touch "START".



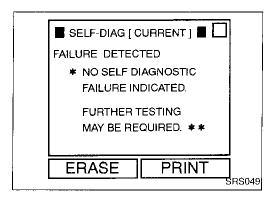
5. Touch "AIRBAG".



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



Diagnostic codes are displayed on "SELF-DIAG [CUR-RENT]".



# Self-diagnosis (Cont'd)

If no self-diagnostic failure is detected on "SELF-DIAG [CURRENT]" but malfunction is indicated by the "AIR BAG" warning lamp, go to DIAGNOSTIC PROCEDURE 🧝 6, page RS-35.

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- Touch "PRINT".
- Compare diagnostic codes to the CONSULT DIAGNOSTIC CODE CHART, page RS-38.
- 10. Touch "BACK" key of CONSULT until SELECT SYSTEM appears, then turn off CONSULT.
- 11. Turn ignition switch "OFF", then disconnect CONSULT and both battery cables.
- 12. Repair the system as outlined by the "Repair order" in CONSULT DIAGNOSTIC CODE CHART, that corresponds to the problem code. For replacement procedure of component parts, refer to RS-13.
- 13. After repairing the system, go to DIAGNOSTIC PROCE-DURE 4, page RS-30.

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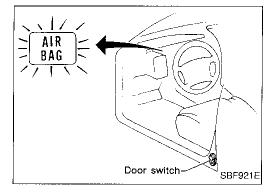
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#### DIAGNOSTIC PROCEDURE 3 ( 😭 without CONSULT)

Inspecting SRS malfunctioning parts by using "AIR BAG" warning lamp — Diagnosis mode

NOTE:

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

Open driver's door.

Turn ignition switch from "OFF" to "ON".

- Press driver's door switch at least 5 times within 7 seconds after turning ignition switch "ON". SRS is now in Diagnosis mode.
- "AIR BAG" warning lamp operates in diagnosis mode as follows:

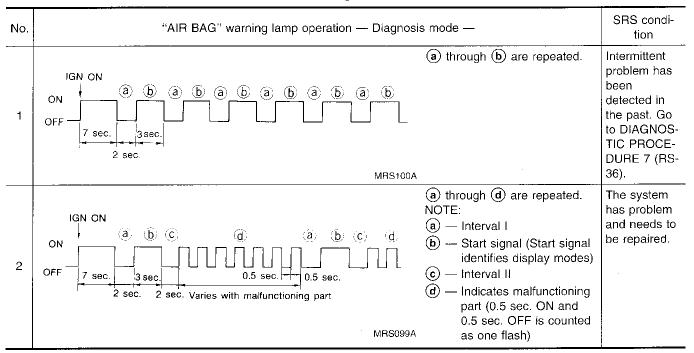
#### NOTE:

If SRS does not enter diagnostic mode even though malfunction is detected in User mode, go to DIAGNOSTIC PRO-CEDURE 10, page RS-42.

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**RS-29** 

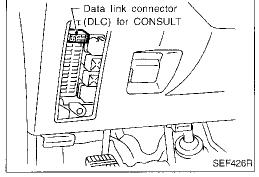
# Self-diagnosis (Cont'd)



- 5. Malfunctioning part is indicated by the number of flashes (part ⓐ). Compare the number of flashes to WARNING LAMP FLASH CODE CHART, page RS-39, and locate malfunctioning part.
- 6. Turn ignition switch "OFF", and disconnect both battery cables.
- 7. Repair the system as outlined by the "Repair order" in WARNING LAMP FLASH CODE CHART that corresponds to the flash code. For replacement procedure of component parts, refer to RS-13.
- 8. After repairing the system, go to DIAGNOSTIC PROCE-DURE 5, page RS-33.

# DIAGNOSTIC PROCEDURE 4 ( with CONSULT) Final checking after repairing SRS by using CONSULT — Diagnosis mode

- 1. After repairing SRS, connect both battery cables.
- Connect CONSULT to Data link connector.
- 3. Turn ignition switch from "OFF" to "ON".



NISSAN
CONSULT

START
SUB MODE
SRS046

4. Touch "START".

# Self-diagnosis (Cont'd)

SELECT SYSTEM

ENGINE

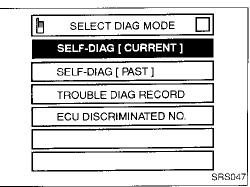
A/T

AIRBAG

ARS097

5. Touch "AIRBAG".





■ SELF-DIAG [ CURRENT ] ■ L

★ NO SELF DIAGNOSTIC

FAILURE INDICATED.

**FURTHER TESTING** 

MAY BE REQUIRED. \*\*

PRINT

SRS049

SRS050

FAILURE DETECTED

**ERASE** 

7. If no malfunction is detected on "SELF-DIAG [CURRENT]", repair of SRS is completed. Touch "ERASE".

#### NOTE:

Touch "ERASE" to erase problem (Trouble code) retained in memory. Otherwise, CONSULT will still sense problem in memory when step 13 (Air bag warning lamp operation check) is performed. As a result, the "AIR BAG" warning lamp will still indicate a malfunction in the system.

■ SELF-DIAG [ CURRENT ] ■ □

FAILURE DETECTED

CONTROL UNIT

ERASE PRINT

SRS048

If any problem code was displayed on "SELF-DIAG [CURRENT]", the malfunctioning part is not repaired completely or another malfunctioning part is detected. Go to DIAGNOSTIC PROCEDURE 2, page RS-28, and repair malfunctioning part completely.

Touch "BACK" key of CONSULT.

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

SELF-DIAG [ CURRENT ]

SELF-DIAG [ PAST ]

TROUBLE DIAG RECORD

ECU DISCRIMINATED NO.

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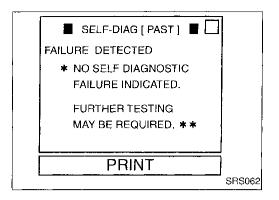
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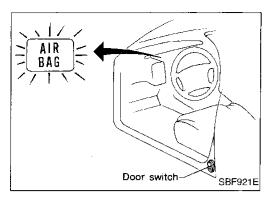
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# Self-diagnosis (Cont'd)



10. Check that no self-diagnostic failure is detected on "SELF-DIAG [PAST]".

- 11. Touch "BACK" key of CONSULT until SELECT SYSTEM appears, turn off CONSULT, then disconnect CONSULT.
- 12. Turn ignition switch "OFF".
- 13. Go to DIAGNOSTIC PROCEDURE 1, page RS-27 to check SRS operation by using "AIR BAG" warning lamp with User mode.



# Self-diagnosis (Cont'd)

# DIAGNOSTIC PROCEDURE 5 ( without CONSULT)

Final checking after repairing SRS by using "AIR BAG" warning lamp — Diagnosis mode and User mode

- 1. After repairing SRS, connect both battery cables.
- 2. Open driver's door.
- 3. Turn ignition switch from "OFF" to "ON".
- "AIR BAG" warning lamp operates in diagnostic mode as follows:

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No.	"AIR BAG" warning lamp operation — Diagnosis mode —			EC
1	OFF 7 sec. 3 sec. 2 sec.	(a) through (b) are repeated.	No malfunction is detected or repair is completed. No further action is nec-	FE AT
	MRS100A		essary.	FA
		a) through (d) are repeated.  NOTE:  a) — Interval I	The system has problem and needs to be repaired.	ira Ra
		<ul><li>(b) — Start signal (Start signal identifies display modes)</li></ul>	bo ropanca.	
2	OFF 7 sec. 3 sec. 0.5 sec. 0.5 sec.	c — Interval II     d) — Indicates malfunctioning		BR
	2 sec. 2 sec. Varies with malfunctioning part	part (0.5 sec. ON and		
	MRS099A	0.5 sec. OFF is counted as one flash)		ST

5. If "AIR BAG" warning lamp operates as shown in No. 1 in the chart above, turn ignition switch "OFF" to reset from Diagnosis mode to User mode.

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If "AIR BAG" warning lamp operates as in No. 2 in chart above, the malfunctioning part is not repaired completely, or another malfunctioning part is detected. Go to DIAGNOS-TIC PROCEDURE 3, page RS-29, and repair malfunctioning part completely.

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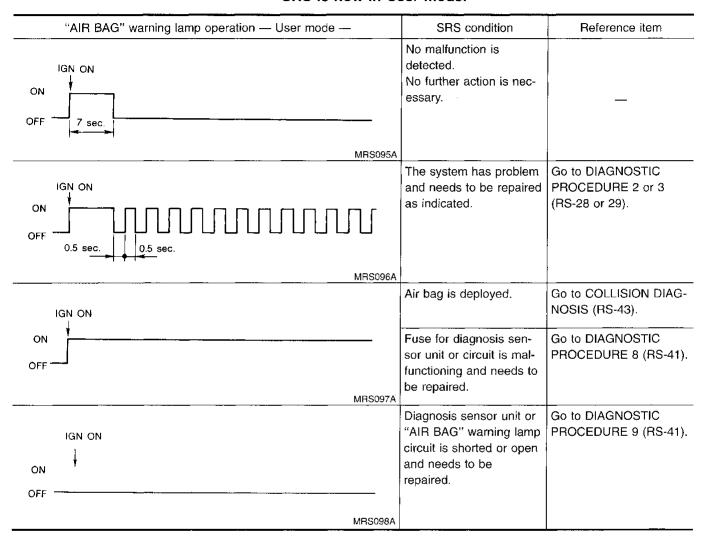
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# Self-diagnosis (Cont'd)

6. Turn ignition switch "ON". "AIR BAG" warning lamp operates in User mode. Compare "AIR BAG" warning lamp operation to the chart below.

#### NOTE:

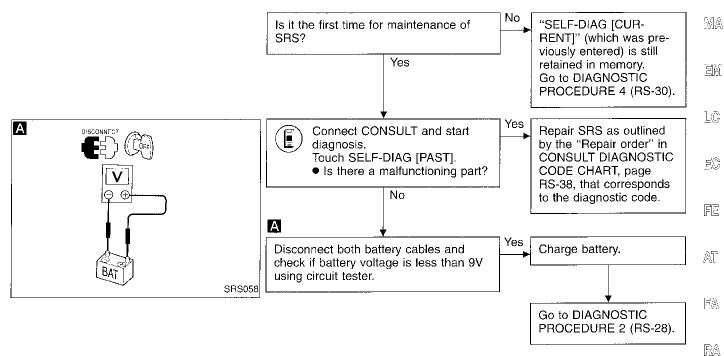
If switching Diagnosis mode to User mode is required while malfunction is being detected, turn ignition switch from "OFF" to "ON". Then press driver's door switch at least 5 times within 7 seconds after turning ignition switch "ON". SRS is now in User mode.



# Self-diagnosis (Cont'd)

# **DIAGNOSTIC PROCEDURE 6 (Continued from DIAGNOSTIC PROCEDURE 2)**

Inspecting SRS malfunctioning record and checking battery voltage



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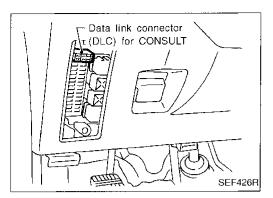
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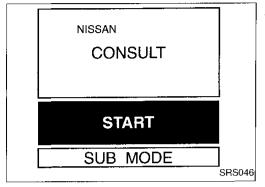
IDX



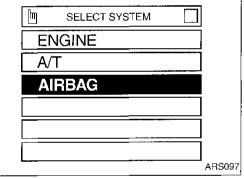
# Self-diagnosis (Cont'd)

DIAGNOSTIC PROCEDURE 7 ( ) with CONSULT)
Inspecting SRS intermittent problem by using CONSULT —
Diagnosis mode

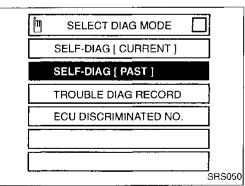
- 1. Turn ignition switch "OFF".
- 2. Connect "CONSULT" to Data link connector.



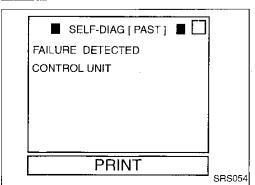
- 3. Turn ignition switch "ON".
- 4. Touch "START".



5. Touch "AIRBAG".



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



7. If diagnostic codes are displayed on "SELF-DIAG [PAST]", go to step 10.

# ■ SELF-DIAG [PAST] ■ FAILURE DETECTED \* NO SELF DIAGNOSTIC FAILURE INDICATED. **FURTHER TESTING** MAY BE REQUIRED. ★★ PRINT SRS062 SELECT DIAG MODE SELF-DIAG [ CURRENT ] SELF-DIAG [ PAST ] TROUBLE DIAG RECORD

ECU DISCRIMINATED NO.

TROUBLE DIAG RECORD

PRINT

FAILURE DETECTED

ASSIST A/B MODULE

[OPEN]

SRS055

SRS056

Self-diagnosis (Cont'd)

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

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Touch "TROUBLE DIAG RECORD".

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"TROUBLE DIAG Diagnostic code is displayed on

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10. Touch "PRINT".

RECORD".

- 11. Compare diagnostic codes to the INTERMITTENT PROB-LEM DIAGNOSTIC CODE CHART, page RS-40.
- 12. Touch "BACK" key of CONSULT until SELECT SYSTEM appears, then turn off CONSULT.
- 13. Turn ignition switch "OFF", then disconnect CONSULT and both battery cables.
- 14. Repair the system as outlined by the "Repair order" in INTERMITTENT PROBLEM DIAGNOSTIC CODE CHART, that corresponds to the problem code. For replacement procedure of component parts, refer to RS-13.
- 15. Go to DIAGNOSTIC PROCEDURE 1, RS-27 to check IDX operation by using "AIR BAG" warning lamp with User mode.

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# Self-diagnosis (Cont'd)

## **CONSULT DIAGNOSTIC CODE CHART**

Diagnostic item	Explanation/Possible causes	Repair order *Recheck SRS using CONSULT at each replacement
NO SELF DIAGNOSTIC FAILURE INDICATED	No malfunction is detected.	<del>-</del>
AIRBAG MODULE [OPEN]	<ul> <li>Driver air bag module circuit is open (including the spiral cable).</li> </ul>	Visually check the wiring harness connections.
AIRBAG MODULE [VB-SHORT]	<ul> <li>Driver air bag module circuit is shorted to some power supply circuit (including the spiral cable).</li> </ul>	Replace spiral cable.     Replace driver's air bag module.     (Before disposing of it, it must be
AIRBAG MODULE [GND-SHORT]	<ul> <li>Driver air bag module circuit is shorted to ground (including the spiral cable).</li> </ul>	deployed.)  4. Replace diagnosis sensor unit.  5. Replace air bag harness.
AIRBAG MODULE [SHORT]	<ul> <li>Driver air bag module circuits are shorted to each other.</li> </ul>	
ASSIST A/B MODULE [OPEN]	The circuit for front passenger air bag module is open.	<ol> <li>Visually check wiring harness connections.</li> <li>Replace front passenger air bag module.</li> </ol>
ASSIST A/B MODULE [VB-SHORT]	<ul> <li>Front passenger air bag module circuit is shorted to some power supply circuit.</li> </ul>	(Before disposing of it, it must be deployed.)
ASSIST A/B MODULE 1 [GND-SHORT]	<ul> <li>Front passenger air bag module circuit is shorted to ground.</li> </ul>	3. Replace diagnosis sensor unit.     4. Replace air bag harness.
ASSIST A/B MODULE 1 [SHORT]	<ul> <li>Front passenger air bag module circuits are shorted to each other.</li> </ul>	
CONTROL UNIT	Diagnosis sensor unit is out of order.	<ol> <li>Visually check wiring harness connections.</li> <li>Replace diagnosis sensor unit.</li> <li>Replace air bag harness.</li> <li>Replace main harness.</li> </ol>
INDEFINITE FAILURES [AIR BAG]	Low battery voltage.	Go to Diagnostic Procedure 4, page RS-30, after charging battery.

<sup>\*</sup>Follow the procedures in numerical order when repairing malfunctioning parts. Confirm whether malfunction is eliminated using the air bag warning lamp (in user mode) or CONSULT 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.

# Self-diagnosis (Cont'd)

#### WARNING LAMP FLASH CODE CHART

Warning lamp	Flash code <b>d</b> (# of flashes)	Explanation	Repair order *Recheck SRS at each replacement	G[
"AIR BAG" warning lamp	2	The driver air bag module circuit is out of order.	<ol> <li>Visually check the wiring harness connections.</li> <li>Replace the spiral cable.</li> <li>Replace the driver air bag module.         <ul> <li>(Before disposing of it, it must be deployed.)</li> </ul> </li> <li>Replace the diagnosis sensor unit.</li> <li>Replace the air bag harness.</li> </ol>	MA EM
	7	The diagnosis sensor unit is out of order.	<ol> <li>Visually check the wiring harness connections.</li> <li>Replace the diagnosis sensor unit.</li> <li>Replace the air bag harness.</li> <li>Replace the main harness.</li> </ol>	LC LC
	8	The front passenger air bag mod- ule circuit is out of order.	<ol> <li>Visually check the wiring harness connections.</li> <li>Replace the front passenger air bag module.         (Before disposing of it, it must be deployed.)     </li> <li>Replace the diagnosis sensor unit.</li> <li>Replace the air bag harness.</li> </ol>	巨色
	9	Low battery voltage.	Go to Diagnostic Procedure 5, page RS-33, after charging battery.	AT

<sup>\*</sup>Follow the procedures in numerical order when repairing malfunctioning parts. Confirm whether malfunction is eliminated using the air bag warning lamp (in user mode) or CONSULT 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.

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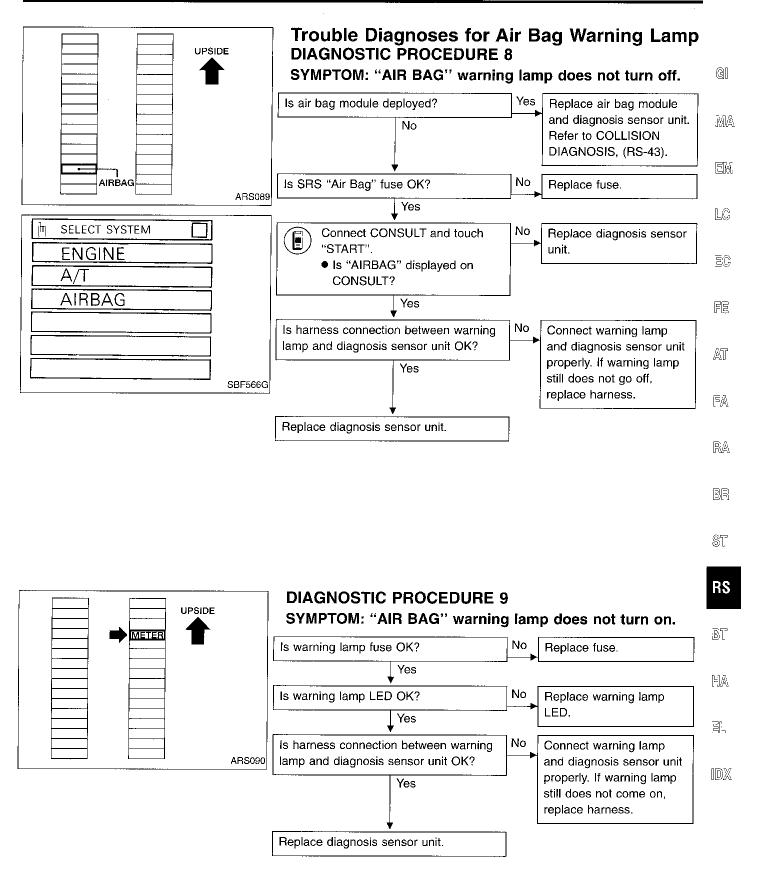
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# Self-diagnosis (Cont'd)

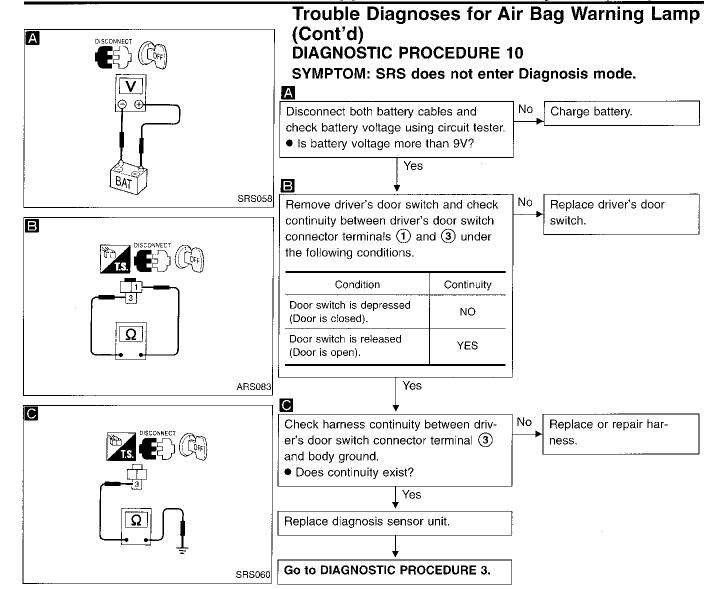
# INTERMITTENT PROBLEM DIAGNOSTIC CODE CHART

Diagnostic item	Explanation	Repair order *Recheck SRS at each replacement.
NO SELF DIAGNOSTIC FAILURE INDICATED.	No malfunction is detected.	_
AIRBAG MODULE [VB-SHORT]	<ul> <li>Driver's air bag module circuit is shorted to some power supply circuit (including the spiral cable).</li> </ul>	<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> </ol>
AIRBAG MODULE [OPEN]	Driver's air bag module circuit is open (including the spiral cable).	Visually check the wiring harness connection.
AIRBAG MODULE [GND-SHORT]	<ul> <li>Driver's air bag module circuit is shorted to ground (including the spiral cable).</li> </ul>	<ol> <li>Replace the harness if it has visible damage.</li> <li>Replace the spiral cable.</li> <li>Replace driver's air bag module.</li> <li>(Before disposal of it, it must be deployed.)</li> </ol>
AIRBAG MODULE [SHORT]	<ul> <li>Driver's air bag module circuits are shorted to each other.</li> </ul>	
ASSIST A/B MODULE [VB-SHORT]	Front passenger air bag module circuit is shorted to some power supply circuit.	<ol> <li>Visually check the wiring harness connection.</li> <li>Replace the harness if it has visible damage.</li> <li>Replace the air bag harness.</li> </ol>
ASSIST A/B MODULE [OPEN]	<ul> <li>Front passenger air bag module circuit is open.</li> </ul>	Visually check the wiring harness connection.
ASSIST A/B MODULE [GND-SHORT]	<ul> <li>Front passenger air bag module circuit is shorted to ground.</li> </ul>	2. Replace the harness if it has visible damage.
ASSIST A/B MODULE [SHORT]	Front passenger air bag module circuits are shorted to each other.	Replace front passenger air bag module.     (Before disposal of it, it must be deployed.)
CONTROL UNIT	Diagnosis sensor unit is out of order.	Replace the diagnosis sensor unit.

<sup>\*</sup>Follow the procedures in numerical order when repairing malfunctioning parts. Confirm whether malfunction is eliminated using the air bag warning lamp (in user mode) or CONSULT 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.



**RS-41** 795



## **COLLISION DIAGNOSIS**

To repair the SRS, perform the following steps.

#### When SRS is activated in a collision:

- 1 Replace the diagnosis sensor unit.
- 2 Remove the air bag modules.
- 3 Check the SRS components using the table shown below:
  - Replace any SRS components showing visible signs of damage (dents, cracks, deformation).
- 4 Conduct self-diagnosis. Refer to "Self-diagnosis" for details (RS-27). Ensure the remainder of the SRS is operating properly.
- 5 Install new air bag modules.
- (6) Conduct self-diagnosis again.

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

- (1) Check the SRS components using the table shown below:
  - Replace any SRS components showing visible signs of damage (dents, cracks, deformation).
- (2) Conduct self-diagnosis using CONSULT and "AIR BAG" warning lamp. Refer to "Self-diagnosis" for details (RS-27). Ensure entire SRS operates properly.

## **SRS** inspection

Part	SRS is activated	SRS is NOT activated
Air bag module (driver and passen- ger side)	REPLACE Install with new bolts.	<ol> <li>Remove air bag module. Check harness cover and connectors for damage, terminals 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> <li>Install passenger air bag module into the instrument panel to check fit with the instrument panel.</li> <li>No damage found, reinstall with new bolts.</li> <li>If damaged—REPLACE. Air bag must be deployed before discarding.</li> </ol>
Instrument panel	REPLACE Install with new bolts.	Check instrument panel for bending, deformities, or cracks.     If no damage is found, reinstall with new bolts.     If damaged—REPLACE.
Diagnosis sensor unit	REPLACE Install with new bolts.	<ol> <li>Check case and bracket for dents, cracks or deformities.</li> <li>Check connectors for damage, and terminals for deformities.</li> <li>If no damage is found, reinstall with new bolts.</li> <li>If damaged—REPLACE.</li> </ol>
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 air bag module to check fit or alignment with steering wheel.</li> <li>Check steering wheel for excessive free play.</li> <li>If no damage is found, reinstal! with new bolts.</li> <li>If damaged—REPLACE.</li> </ol>	
Spiral cable	<ol> <li>Visually check spiral cable and combination switch for damage.</li> <li>Check connectors, flat cable and protective tape for damage.</li> <li>Check steering wheel for noise, binding or heavy operation.</li> <li>If no damage is found, reinstall with new bolts.</li> <li>If damaged—REPLACE.</li> </ol>	
Harness and Con- nectors	<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.</li> <li>Damaged—REPLACE damaged section of harness. Do not attempt to repair, splice or modify any SRS harness.</li> </ol>	

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