

RESTRAINT SYSTEM

SECTION **RS**

CONTENTS

PRECAUTION	2	Removal — Front Passenger Air Bag Module.....	11
Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER".....	2	Installation — Air Bag Module and Spiral Cable	12
SEAT BELTS	3	Installation — Front Passenger Air Bag Module.....	13
Front Seat Belt.....	3	Disposal of Air Bag Module and Seat Belt Pre-tensioner.....	14
Rear Seat Belt.....	4	TROUBLE DIAGNOSES — Supplemental Restraint System (SRS)	19
SUPPLEMENTAL RESTRAINT SYSTEM (SRS)	5	Schematic.....	19
Precautions for SRS "Air Bag" and "Seat Belt Pre-tensioner" Service.....	5	Wiring Diagram — SRS —	20
Special Service Tools.....	5	Self-diagnosis.....	24
Description	6	Diagnostic Procedure 1	30
SRS Component Parts Location	7	Diagnostic Procedure 2	30
Maintenance Items.....	8	Diagnostic Procedure 3	31
Removal and Installation — Diagnosis Unit, Sensors and Seat Belt Pre-tensioner	9	Collision Diagnosis	31
Removal — Air Bag Module and Spiral Cable	10		

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 DIAGNOSIS" and "HOW TO PERFORM EFFICIENT DIAGNOSIS FOR AN ELECTRICAL INCIDENT".

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PRECAUTION

Supplemental Restraint System (SRS) “AIR BAG” and “SEAT BELT PRE-TENSIONER”

The Supplemental Restraint System “Air Bag” and “Seat Belt Pre-tensioner” help 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 bags (located in the center of the steering wheel and on the instrument panel on the passenger side), seat belt pre-tensioners, sensors, a diagnosis unit, warning lamp, wiring harness and spiral cable.

WARNING:

- **To avoid rendering the SRS inoperative, which could lead to personal injury or death in the event of a severe frontal collision, all maintenance must be performed by an authorized INFINITI 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

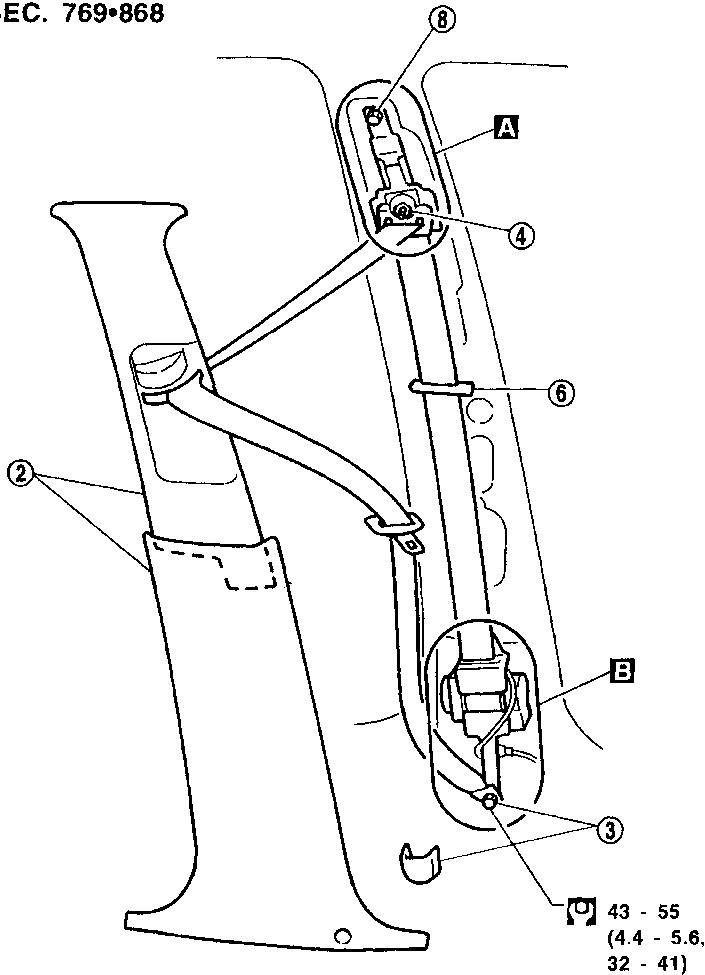
CAUTION:

- Before removing the seat belt assembly, turn the ignition switch off, disconnect both battery cables and wait for at least 10 minutes.
- 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 whole seat belt assembly.
- If webbing is cut, frayed, or damaged, replace seat belt assembly.
- When replacing seat belt assembly, use a genuine seat belt assembly.
- After any collision, inspect all seat belt assemblies, including retractors and other attached hardwares (i.e., guide rail set).

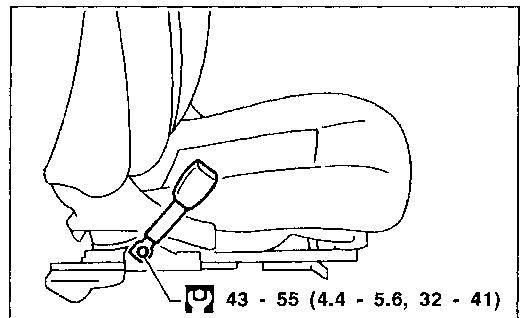
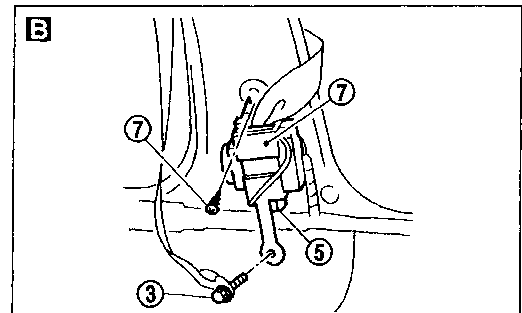
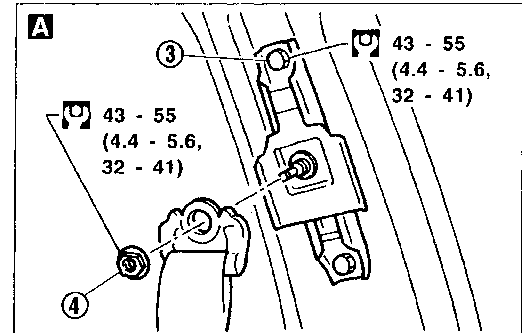
Front Seat Belt

- ① Remove front seat. Refer to "SEAT" in BT section for details.
- ② Remove center pillar lower and upper garnishes. Refer to "INTERIOR TRIM" in BT section for details.
- ③ Remove floor anchor bolt cover, then remove floor anchor bolt.
- ④ Remove shoulder anchor nut.
- ⑤ Disconnect seat belt pre-tensioner connector.
- ⑥ Remove second sash guide.
- ⑦ Remove the screw securing seat belt pre-tensioner retractor, then remove seat belt and seat belt pre-tensioner retractor.
- ⑧ Remove bolts securing seat belt adjuster, then remove seat belt adjuster.

SEC. 769•868



: N•m (kg-m, ft-lb)



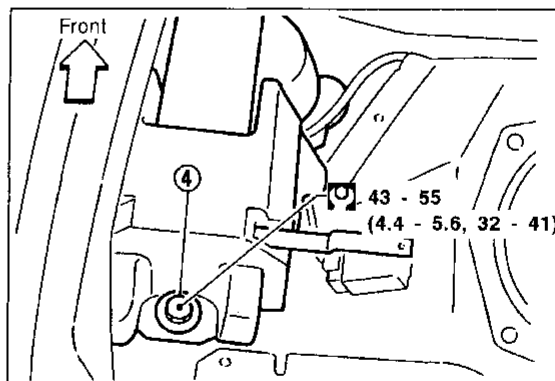
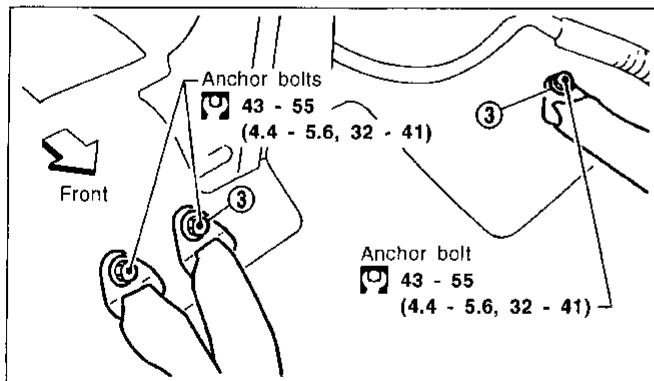
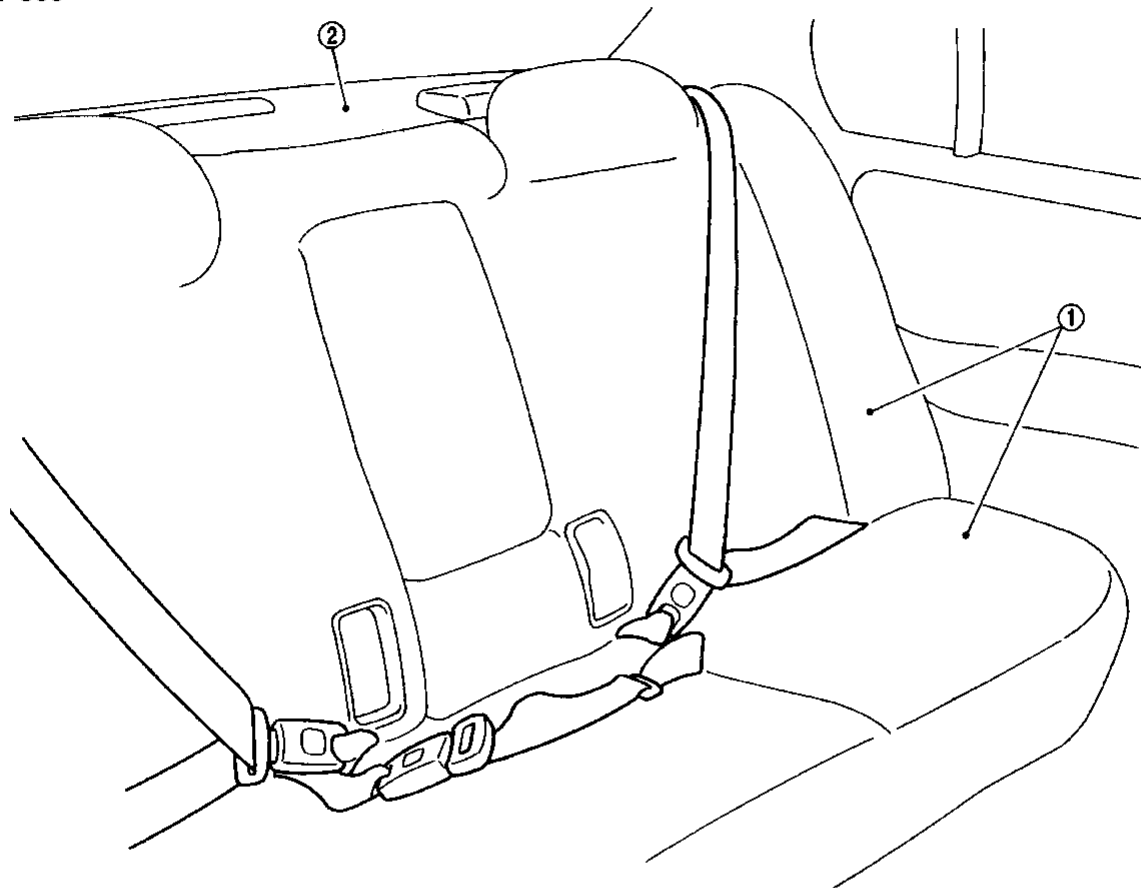
SRS099


SEAT BELTS

Rear Seat Belt

- ① Remove rear seat. Refer to "SEAT" in BT section for details.
- ② Remove rear parcel shelf finisher. Refer to "INTERIOR TRIM" in BT section for details.
- ③ Remove each anchor bolt.
- ④ Remove the bolt securing rear seat belt retractor, then remove seat belt retractor.

SEC. 869



 : N·m (kg-m, ft-lb)

SRS100

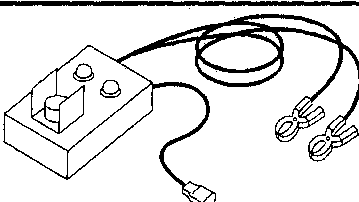
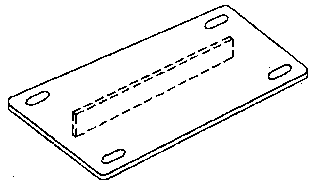
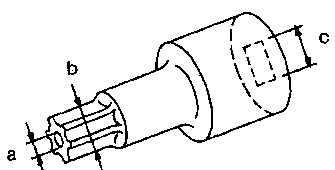
SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Precautions for SRS "Air Bag" and "Seat Belt Pre-tensioner" Service

- Do not use a circuit tester to check SRS circuits.
- 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 inflate. Therefore, do not work on any air bag system connectors or wires until at least 10 minutes have passed.
- SRS sensors must always be installed with their arrow marks " ← " facing the front of the vehicle for proper operation. Also check sensors for cracks, deformities or rust before installation and replace as required.
- The spiral cable must be aligned with the neutral position since its rotations are limited. Do not attempt to turn steering wheel or column after removal of steering gear.
- Handle air bag module carefully. Always place it with the pad side facing upward.
- Do not use old bolts after removing any SRS parts; replace with new ones. Conduct self-diagnosis to check entire SRS for proper function.
- If front of vehicle is damaged in a collision, always check the crash zone sensor and the wiring harness.
- After air bag inflates, the front instrument panel assembly should be replaced.
- When laying aside a single pre-tensioner (belt assembly), make sure cylinder tip does not point towards a person. Always place pre-tensioner in a box if possible. (If pre-tensioner should go off accidentally, rubber cap will jump out of cylinder tip, blowing out high temperature gas.)

Special Service Tools

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
KV991072S0 (J38381-KIT) Air bag deployment kit KV99106400 (J38381) Deployment tool	Disposing of air bag module  NT357
KV991065S0 (J38381-30) Deployment tool adapters	For seat belt pre-tensioner For passenger air bag module Black White NT353
KV99105300 (J41246) Passenger air bag bracket	Anchor the passenger air bag module  NT354
HT61961000 and HT62152000 combined (J38219) *Special torx bit	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)
NT361	 NT361

*: Special tool or commercial equivalent

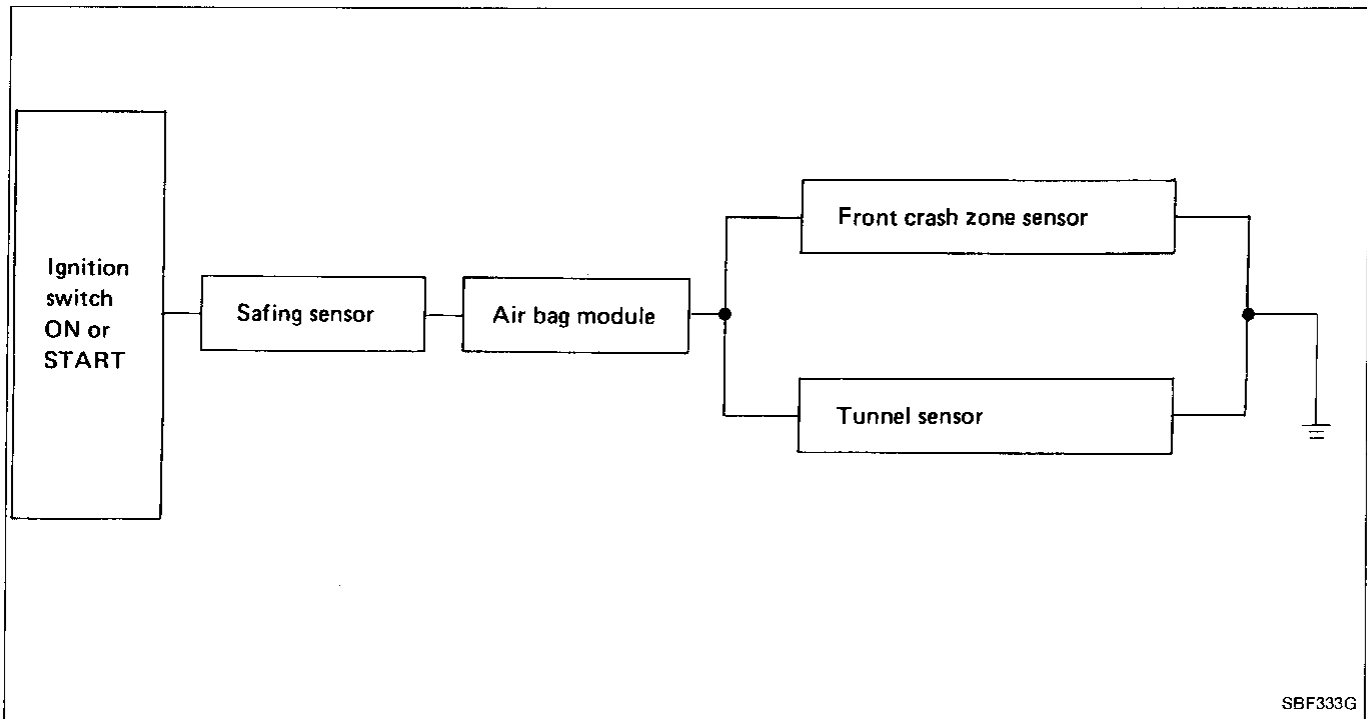
SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Description

Air bag inflation can only take place under the following conditions:

- Ignition switch is in "ON" or "START" position, and
- Safing sensor and any other SRS sensors (tunnel or front crash zone) are activated at the same time.

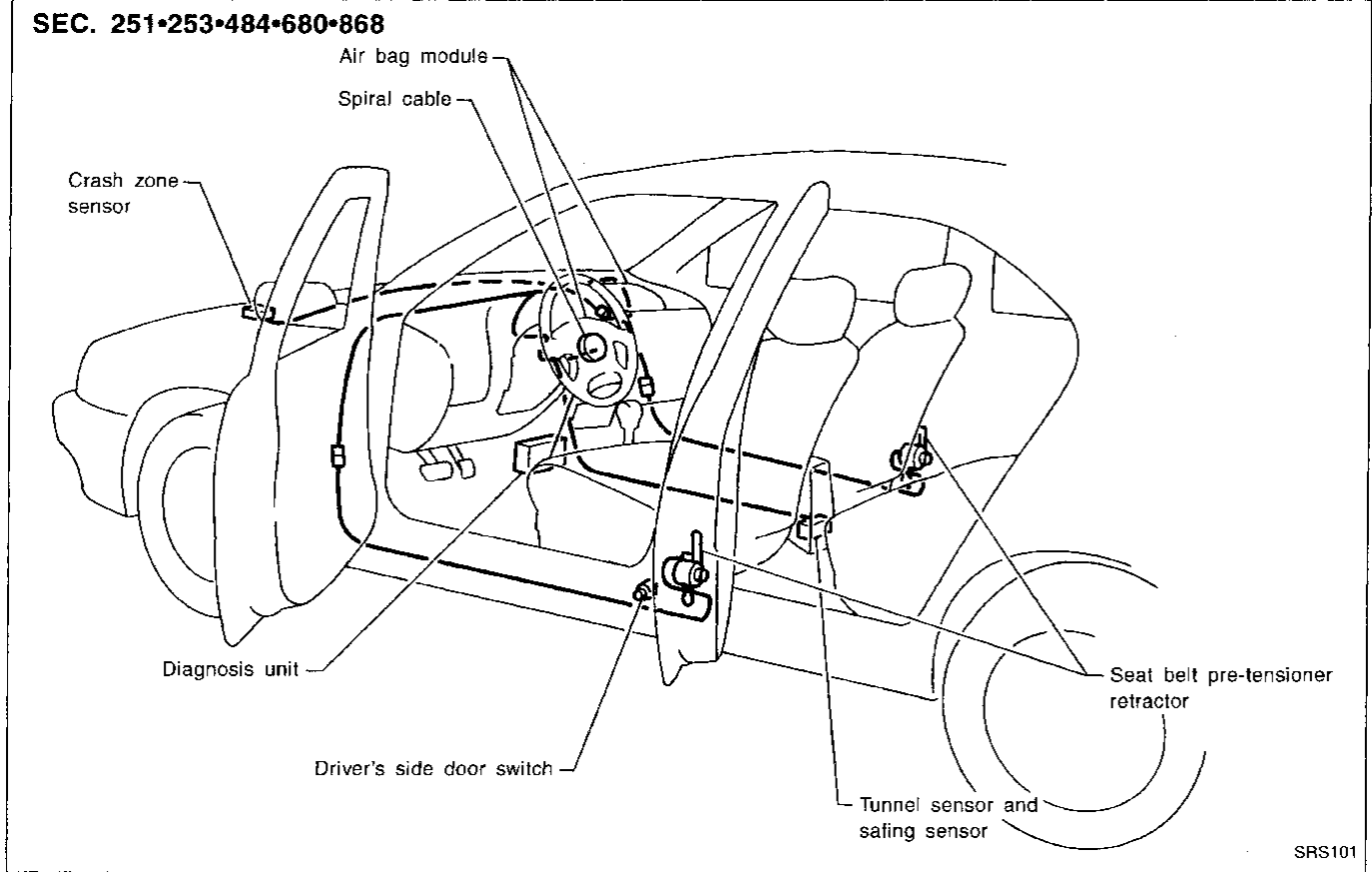
Ignition	Front crash zone sensor	Tunnel sensor	Safing sensor	Air bag signal
ON	ON		ON	ON
ON		ON	ON	ON



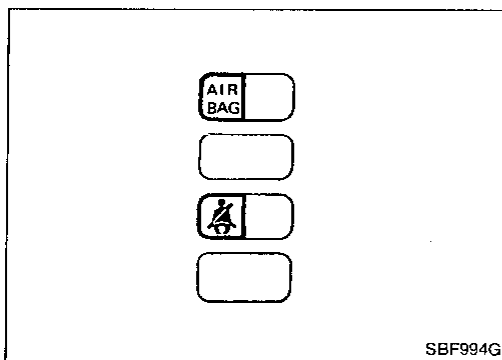
Self-diagnosis

The diagnosis unit diagnoses the SRS circuit. When the ignition key is in "ON" or "START" positions, the "AIR BAG" warning lamp will illuminate. The lamp will turn off in about 7 seconds. This means that the system is operational.

SRS Component Parts Location



GI
MA
EM
LC
EC
FE
CL
MT
AT
FA
RA
BR
ST
RS
BT
HA
EL
IDX



Maintenance Items

1. Check "AIR BAG" warning lamp
After turning ignition key to "ON" or "START" position, "AIR BAG" warning lamp illuminates. The "AIR BAG" warning lamp will go out after about 7 seconds, if no malfunction is detected.
When a warning lamp flashes, check and correct cause of the problem.
If "AIR BAG" warning lamp does not illuminate, refer to RS-27 and 30 for details.

2. Visually check SRS components

- (1) Sensors

- Check sensors to ensure the arrow marks face the front of the vehicle.
- Check body and sensor brackets for deformities or rust.
- Check sensor case for dents, cracks, deformities or rust.
- Check sensor harness for binds, connector for damage, and terminals for deformities.

- (2) Diagnosis unit — Airbag

- Check case and bracket for dents, cracks or deformities.
- Check connectors for damage, and terminals for deformities.

- (3) 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.

- (4) Spiral cable

- Check spiral cable for dents, cracks, or deformities.
- Check connectors and protective tape for damage.
- Check steering wheel for noise, binding or heavy operation.

- (5) Main harness and air bag harness

- Check connectors for poor connections, damage, and terminals for deformities.
- Check harnesses for binding, chafing or cut.

CAUTION:

Replace previously used screws with new ones.

- (6) Seat belt pre-tensioner

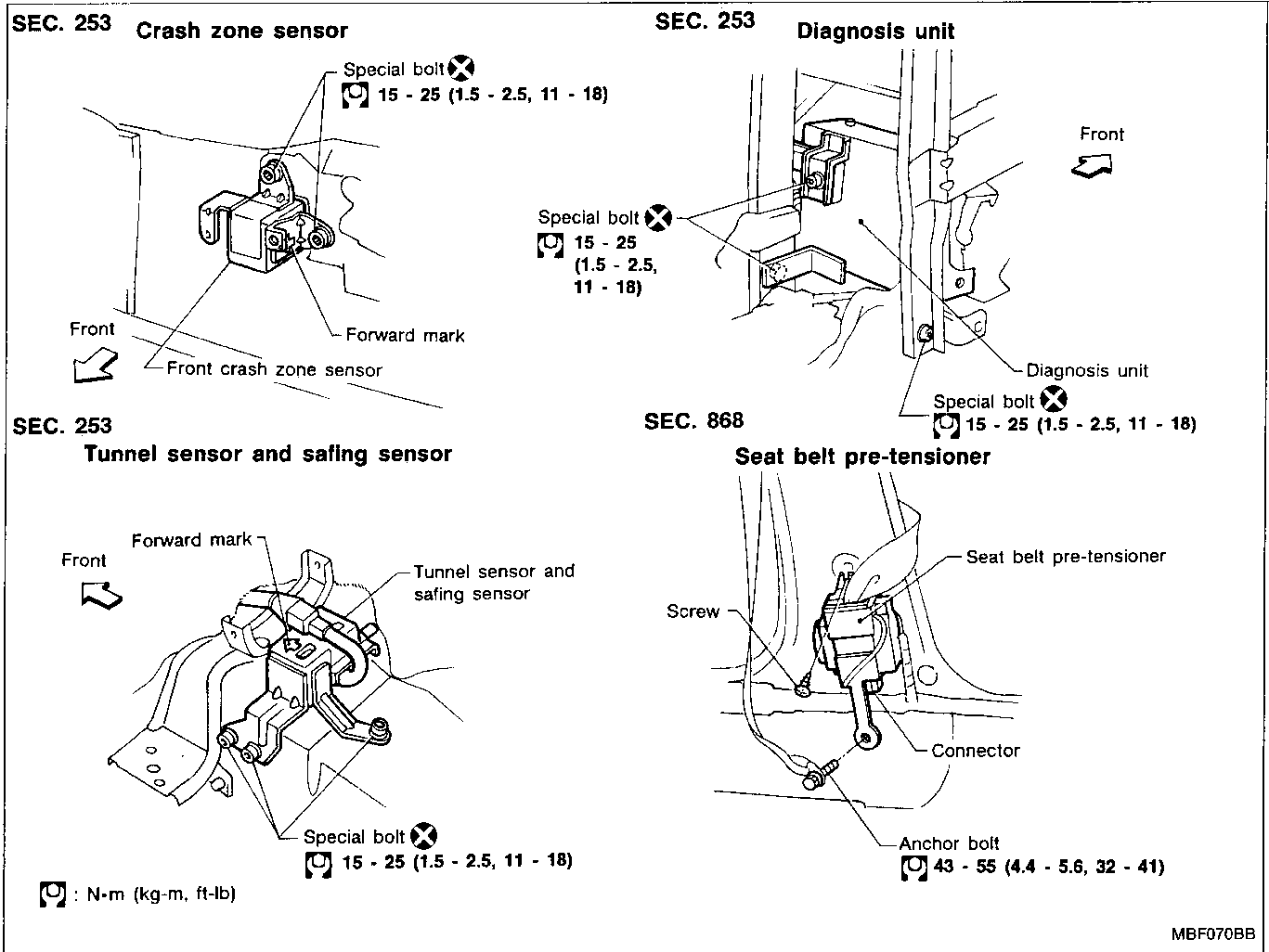
- Check harness cover and connectors for damage, terminals for deformities, and harness for binding.
- Check belts for damage and anchors for loose mounting.
- Check retractor for smooth operation.
- Perform self-diagnosis for seat belt pre-tensioner using seat belt warning lamp or CONSULT. Refer to "Self-diagnosis" for details. (RS-24)

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Removal and Installation — Diagnosis Unit, Sensors and Seat Belt Pre-tensioner

CAUTION:


- Before servicing SRS, turn the ignition switch off, disconnect both battery cables and wait at least 10 minutes.
- Replace diagnosis unit if it has been dropped or sustained an impact.
- Do not attempt to disassemble seat belt pre-tensioner.
- Do not drop or impact seat belt pre-tensioner. If any portion is damaged, replace the seat belt pre-tensioner.
- Do not expose seat belt pre-tensioner to temperatures exceeding 80°C (176°F).
- Whenever seat belts (equipped with pre-tensioner) are moved, ensure that cylinder faces down. Do not hold cylinder.
- The special bolts are coated with bonding agent. Do not use old bolts after removal; replace with new ones.
- Check all sensors for proper installation.
- Check all sensors to ensure they are free of deformities, dents, cracks or rust. If they show any visible signs of damage, replace them with new ones.
- Check sensor brackets to ensure they are free of deformities or rust.



SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Removal — Air Bag Module and Spiral Cable

SEC. 253-484

Special bolt 
15 - 25 (1.5 - 2.5, 11 - 18)


Side lid RH

Spiral cable


Air bag module

29 - 39 (3.0 - 4.0, 22 - 29)

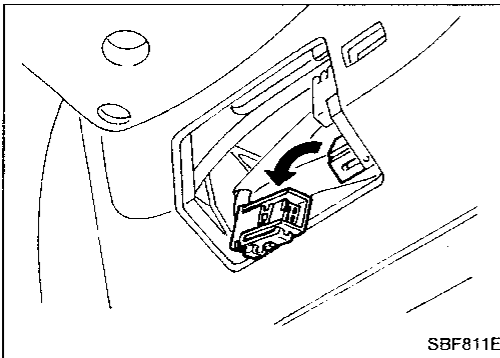
Side lid LH

Special bolt 
15 - 25
(1.5 - 2.5, 11 - 18)

Lower lid

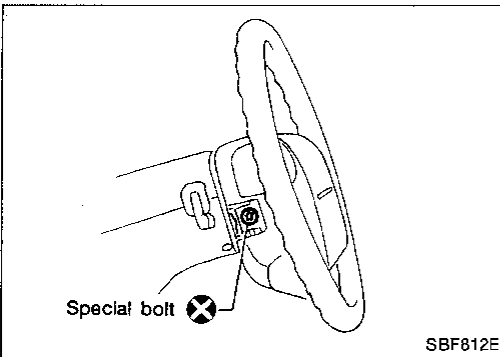
 : N·m (kg·m, ft·lb)

SRS116

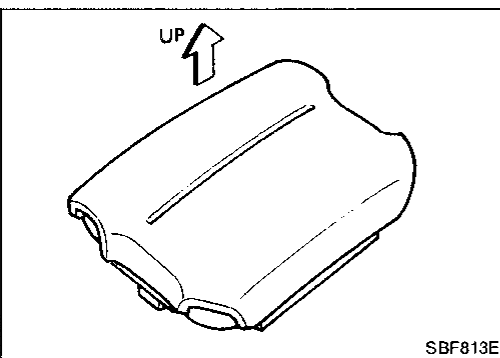


CAUTION:

- Before servicing SRS, turn the ignition switch off, disconnect both battery cables and wait at least 10 minutes.
 - Always service the air bag module from the side.
1. 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.

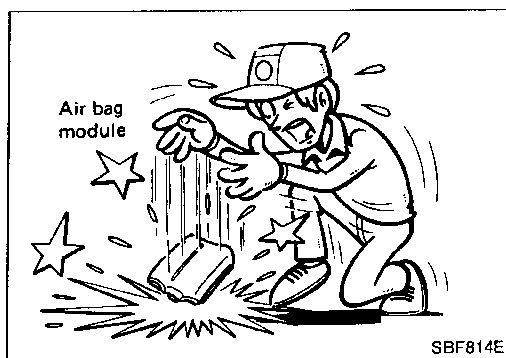


CAUTION:

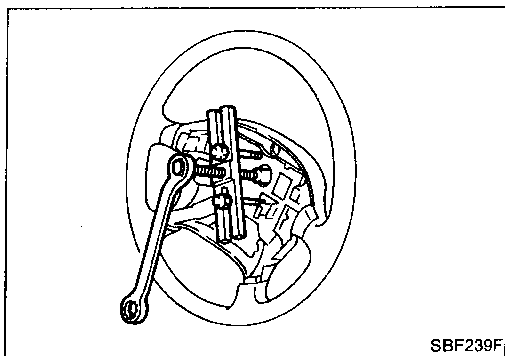
- Always place air bag module with pad side facing upward.
- Do not attempt to disassemble air bag module.
- The special bolts are coated with bonding agent. Do not use old bolts after removal; replace with new ones.
- Do not insert any foreign objects (screwdriver, etc.) into the air bag module connector.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

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



- Do not drop or impact air bag module. If any portion is deformed or cracked, replace the module.
- 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.



3. Set steering wheel in the neutral position.
4. Disconnect horn connector and remove nuts.
5. Using steering wheel puller, remove steering wheel. Be careful not to over-tighten puller bolt on steering wheel.

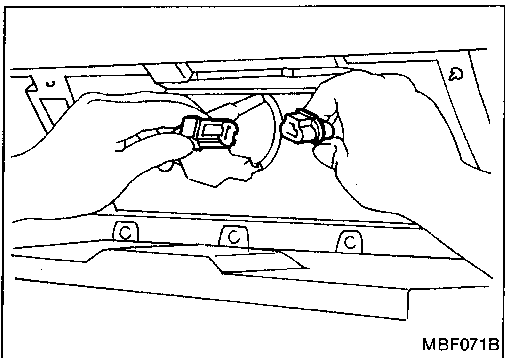
CAUTION:

- Do not tap or bump the steering wheel.
6. Remove steering column cover.
 7. Disconnect connectors and remove the four screws. The spiral cable can then be removed.

CAUTION:

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

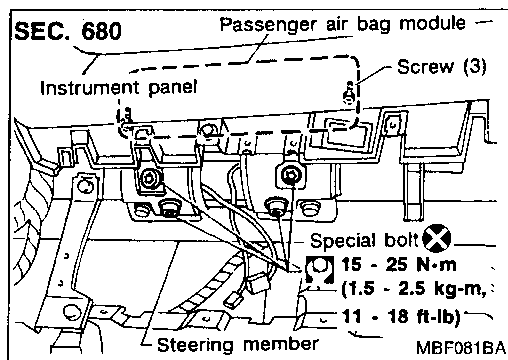
Removal — Front Passenger Air Bag Module



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.

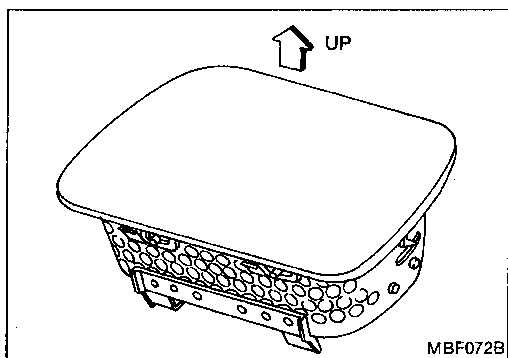
1. Remove lid glove box (connector lid).
2. Remove connector bracket from lid glove box (connector lid) and inflator connector from air bag harness on body side.



3. Remove cluster lid C.
4. Remove audio system parts.
5. Remove lower side of instrument panel (including glove box and lid).
6. Remove two special bolts (one on each side of front passenger air bag module). Then, remove four screws securing air bag module to instrument panel. Last of all remove air bag module.

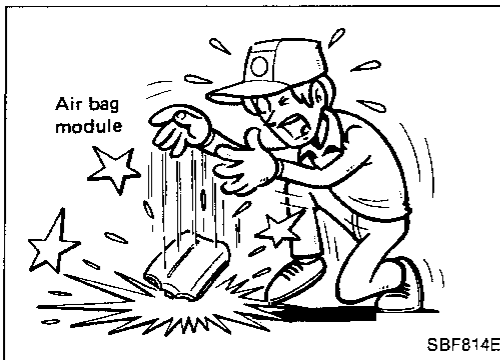
CAUTION:

- 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 ones.



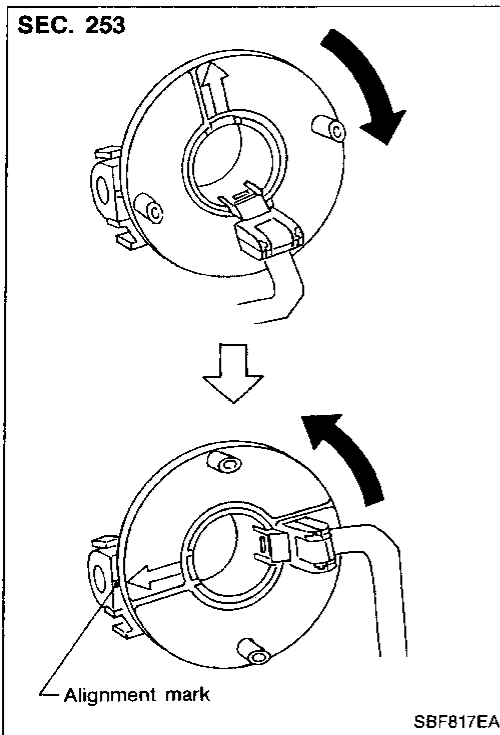
SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

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



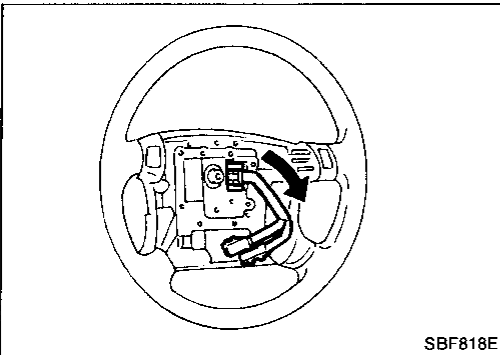
- Do not drop or impact air bag module. If any portion is deformed or cracked, replace the module.
- Do not expose the air bag module to temperatures exceeding 90°C (194°F).
- Do not allow oil, grease or water to come in contact with the air bag module.

SEC. 253




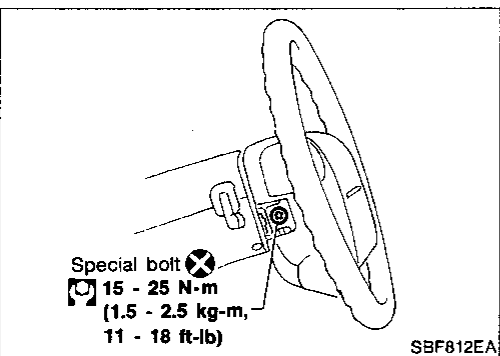
Installation — Air Bag Module and Spiral Cable

- Always work from the side of air bag module.
1. Set the front wheels in the straight-ahead position.
 2. Turn spiral cable clockwise until it catches stopper. Then, back spiral cable off approximately two turns until yellow alignment mark appears on left gear. Align arrow mark "↔" of spiral cable with this yellow mark.
 3. Connect spiral cable connector and tighten with screws. Install steering column cover.



4. Install steering wheel setting spiral cable pin guides, and pull spiral cable through.
5. Connect horn connector and engage spiral cable with pawls in steering wheel. Move air bag module connector away from steering wheel lower lid opening.
6. Tighten nut.

: 29 - 39 N·m (3.0 - 4.0 kg-m, 22 - 29 ft-lb)

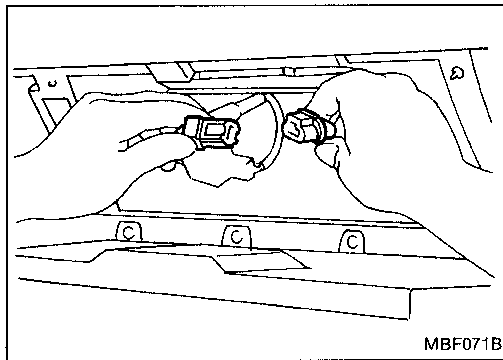
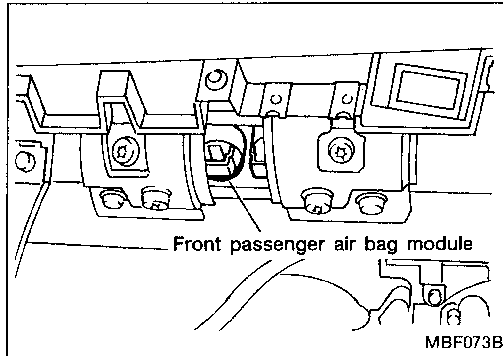


7. Position air bag module and tighten with new special bolts.
8. Connect air bag module connector.
9. Install all lids.
10. Conduct self-diagnosis to ensure entire SRS operates properly. (Use CONSULT or warning lamp check.) Before performing self-diagnosis, connect both battery cables.
11. Turn steering wheel to the left end and then to the right end fully to make sure that spiral cable is set in the neutral position.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

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

If air bag warning lamp blinks or stays ON (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). If a malfunction is detected, replace the spiral cable with a new one.



Installation — Front Passenger Air Bag Module

- Always work from the side of or under air bag module.

1. Install air bag module to steering member and instrument panel.

CAUTION:

Make sure harness is not caught between rear of air bag module and steering member.

2. Install lower side of instrument panel (including glove box and lid).
3. Install connector to connector bracket.
4. Secure connector bracket to lid glove box (connector lid), then glove box lid to glove box.

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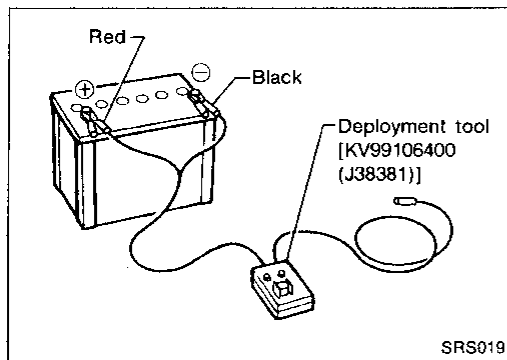
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IDX

Disposal of Air Bag Module and Seat Belt Pre-tensioner

- 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 as indicated in "DISPOSING OF AIR BAG MODULE AND SEAT BELT PRE-TENSIONER" (RS-18).
- When deploying the air bag module and seat belt pre-tensioner, always use the Special Service Tool; Deployment tool KV99106400 (Kent-Moore No. J38381).
- When deploying the air bag module and seat belt pre-tensioner, stand at least 5 m (16 ft) away from the deployment component.
- 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.
- Never apply water to a deployed air bag module and seat belt pre-tensioner.
- Wash your hands clean after finishing work.
- Do not dispose of the air bag module un-deployed.



CHECKING DEPLOYMENT TOOL

Connecting to battery

- Place the vehicle outdoors with an open space of at least 6 m (20 ft) 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.

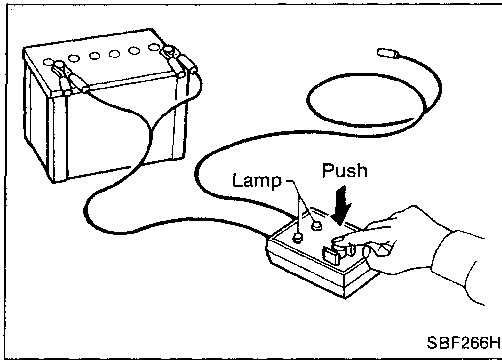
Remove the battery from the vehicle and place it on dry wood blocks approximately 5 m (16 ft) away from the vehicle.

- 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.

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.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Disposal of Air Bag Module and Seat Belt Pre-tensioner (Cont'd)



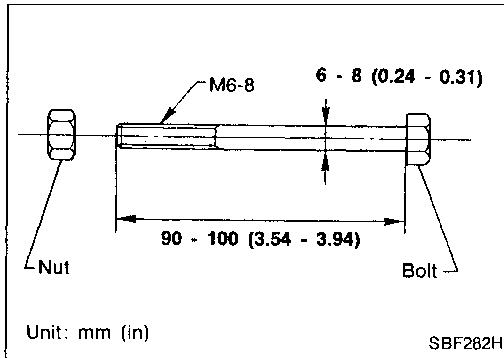
Deployment tool check

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 AND SEAT BELT PRE-TENSIONER (OUTSIDE OF VEHICLE)

Deploying air bag module and seat belt pre-tensioner while mounted in vehicle may damage the vehicle. Deploy air bag module and seat belt pre-tensioner as a unit except when disposing of vehicle.

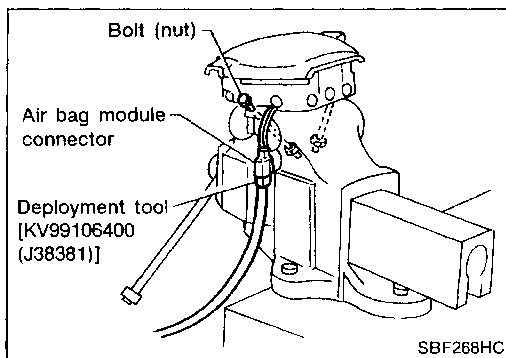
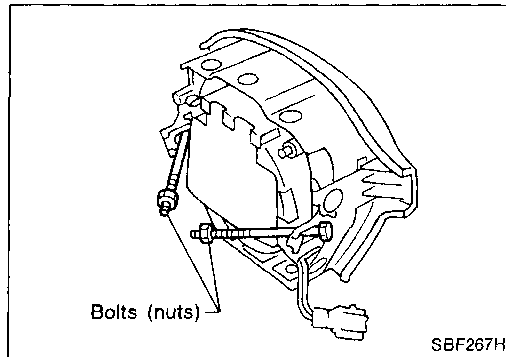
Anchor air bag module and seat belt pre-tensioner in a vise secured to a firm foundation during deployment.

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

1. Prepare two sets of nuts and bolts (see figure at left). These bolts are required to secure driver's air bag module to the vise.
2. Install one set of nuts and bolts to each side of the air bag module.

CAUTION:

Make sure to install two bolts and nuts on each side.



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

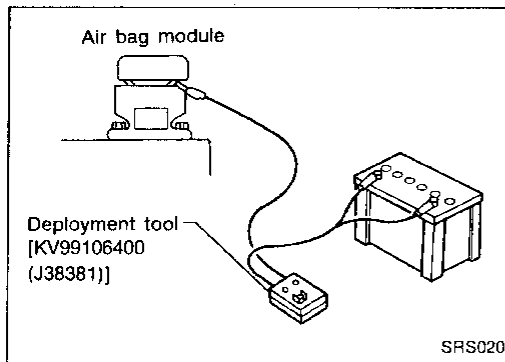
CAUTION:

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

4. Connect deployment tool [SST: KV99106400 (J38381)] to air bag module connector.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

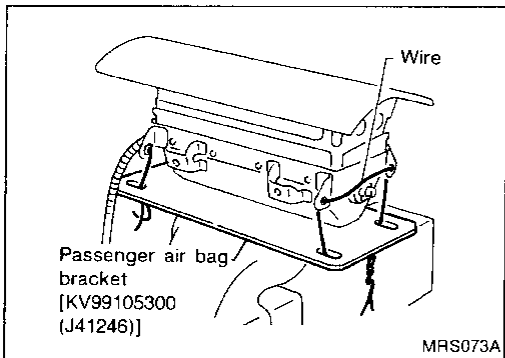
Disposal of Air Bag Module and Seat Belt Pre-tensioner (Cont'd)



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

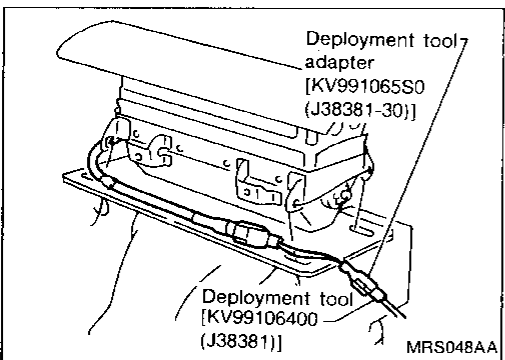


Deployment of passenger air bag module (outside of vehicle)

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

CAUTION:

Use wire of at least 1 mm (0.04 in) in diameter.



2. Firmly anchor passenger air bag bracket in a vise.
3. Connect deployment tool adapter [SST:KV991065S0 (J38381-30)] to deployment tool [SST: KV99106400 (J38381)] connector and connector on either side of air bag module.
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.

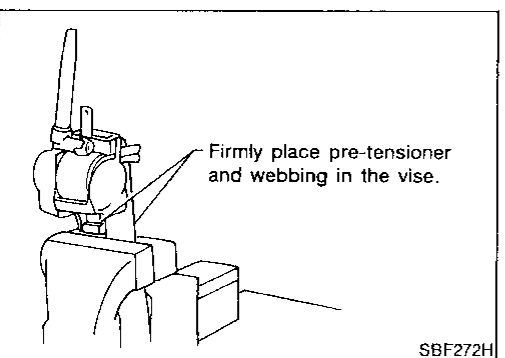
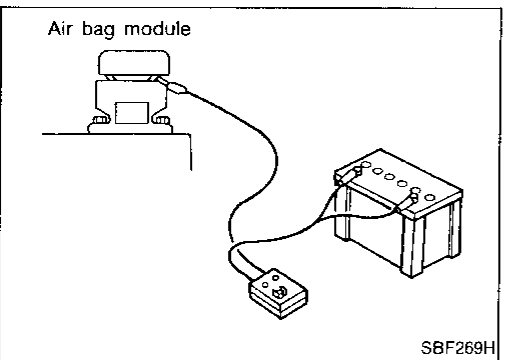
CAUTION:

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

7. Activate the other inflator.

CAUTION:

Always activate one inflator at a time.



Deployment of seat belt pre-tensioner (outside of vehicle)

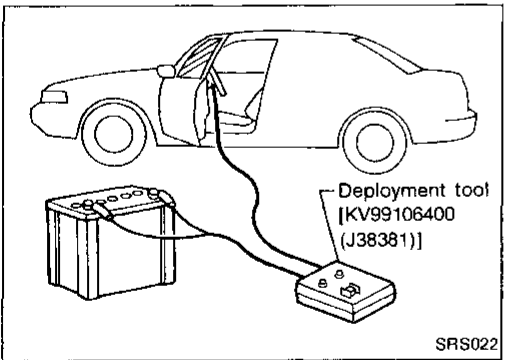
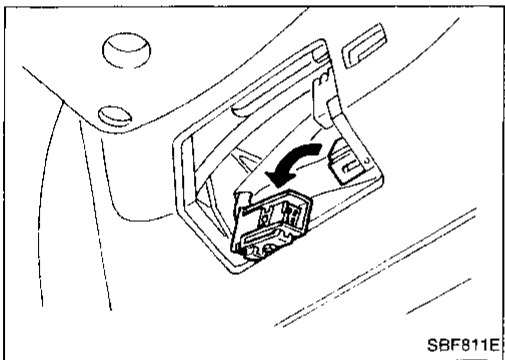
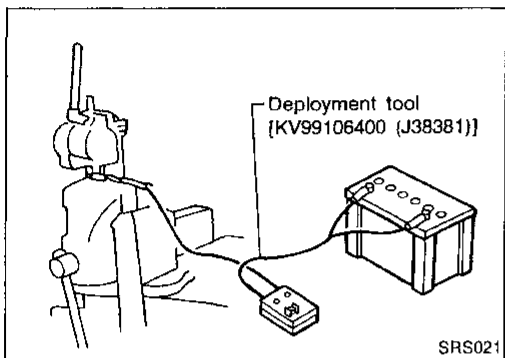
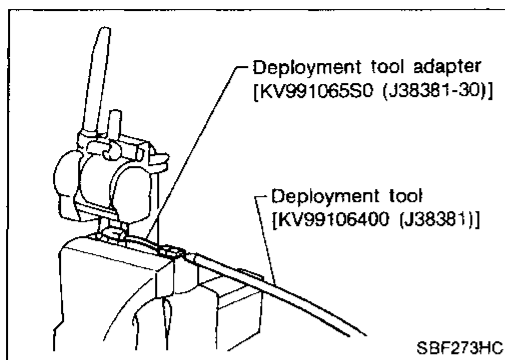
1. Firmly anchor seat belt pre-tensioner in a vise.

CAUTION:

Ensure bracket and webbing are placed in the vise.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Disposal of Air Bag Module and Seat Belt Pre-tensioner (Cont'd)



2. Connect deployment tool adapter [SST:KV991065S0 (J38381-30)] to deployment tool [SST: KV99106400 (J38381)] connector and seat belt pre-tensioner connector.

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 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 modules 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 battery cables and wait 10 minutes.
2. Disconnect air bag modules and seat belt pre-tensioners connector.
3. Connect deployment tool [SST: KV99106400 (J38381)] to air bag module or seat belt pre-tensioner. For front passenger air bag module and seat belt pre-tensioner, attach deployment tool adapters [SST: KV991065S0 (J38381-30)] to the 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.
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 passenger air bag module inflator at a time.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

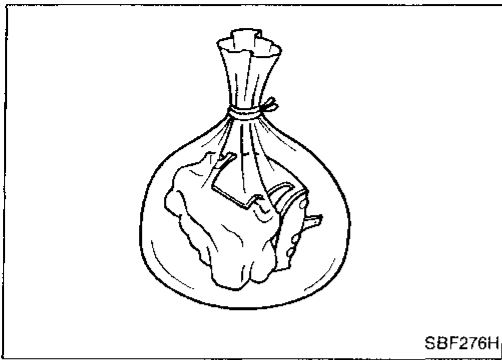
Disposal of Air Bag Module and Seat Belt Pre-tensioner (Cont'd)

DISPOSING OF AIR BAG MODULE AND SEAT BELT PRE-TENSIONER

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

CAUTION:

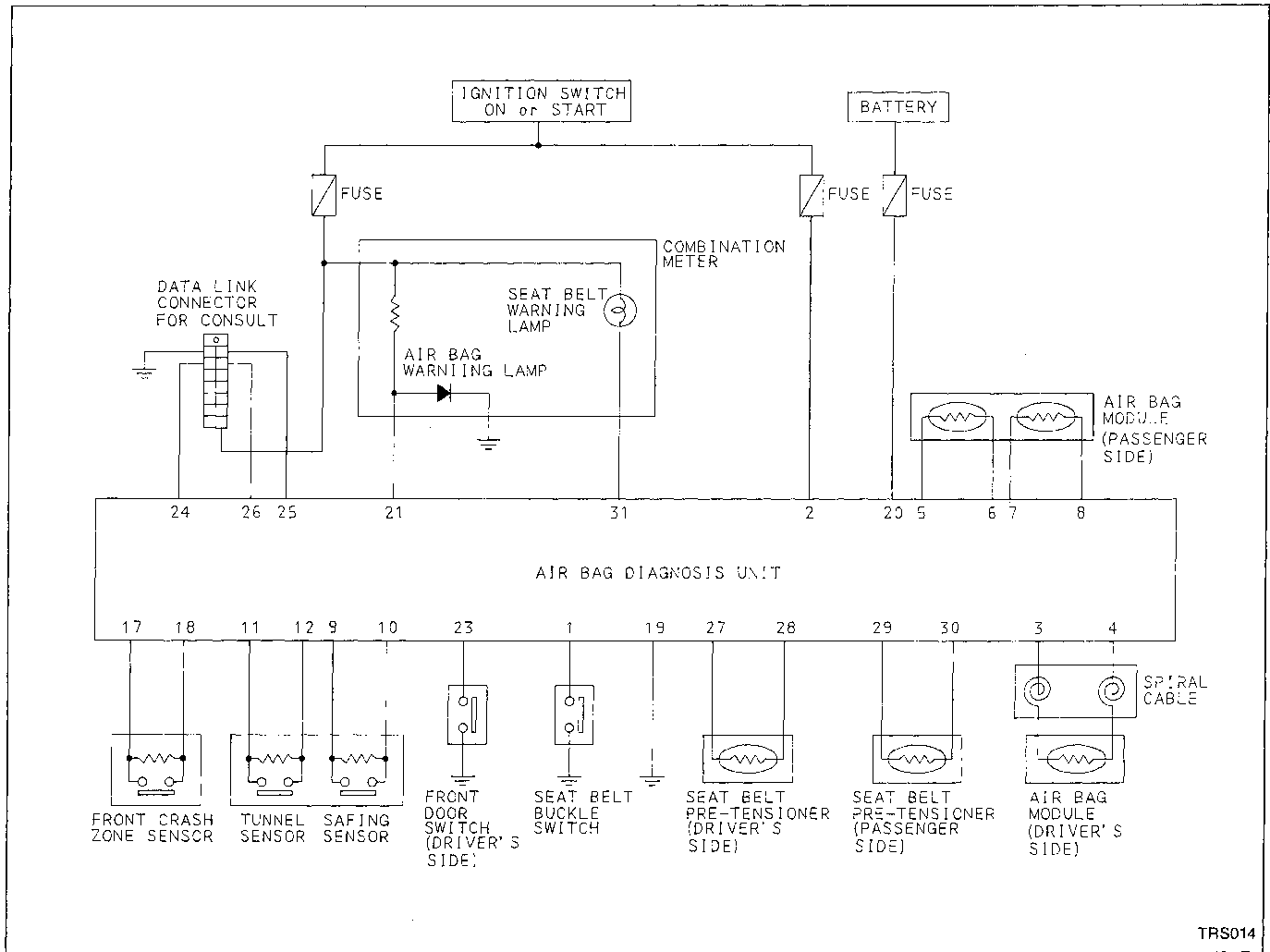
- Never apply water to a deployed air bag module and seat belt pre-tensioner.
- Be sure to wear gloves when handling a deployed air bag module and seat belt pre-tensioner.
- No poisonous gas is produced upon air bag module deployment. However, be careful not to inhale gas since it irritates throat and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



Schematic

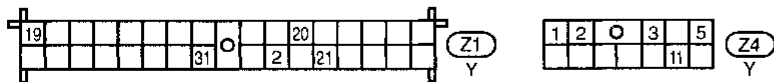
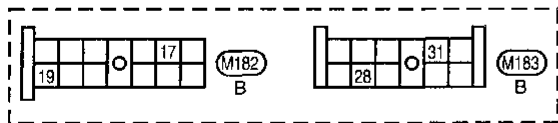
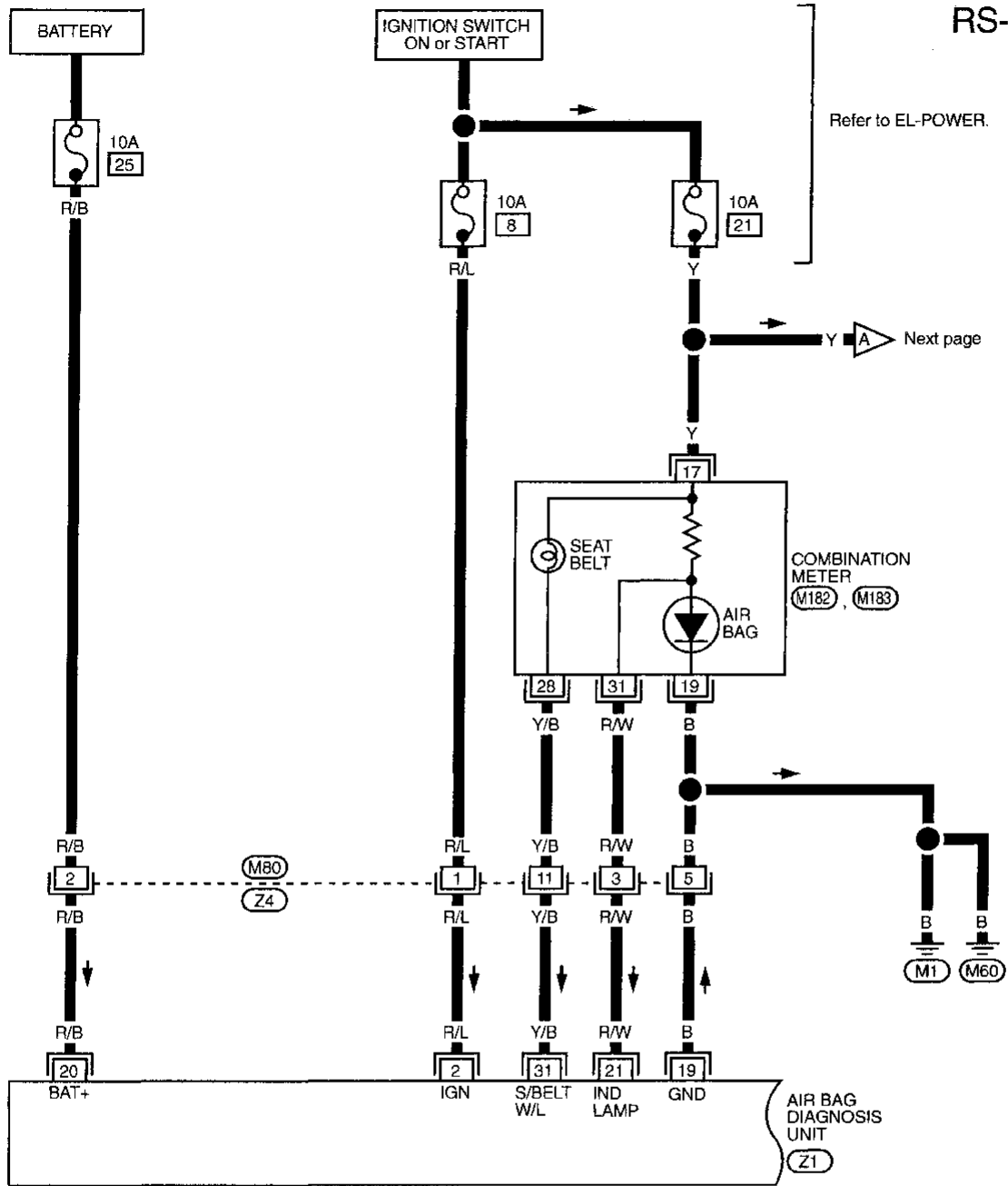
CAUTION:

- 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 "Air Bag" wiring harness. If the harness is damaged, replace it with a new one.
- Keep ground portion clean.



Wiring Diagram — SRS —

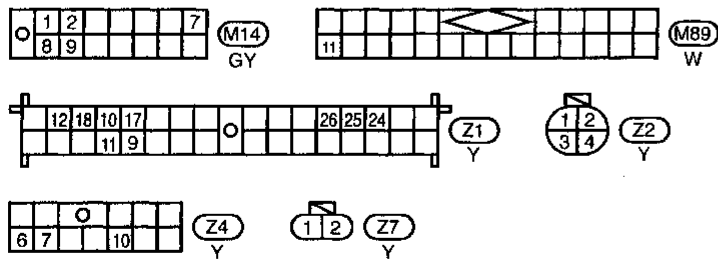
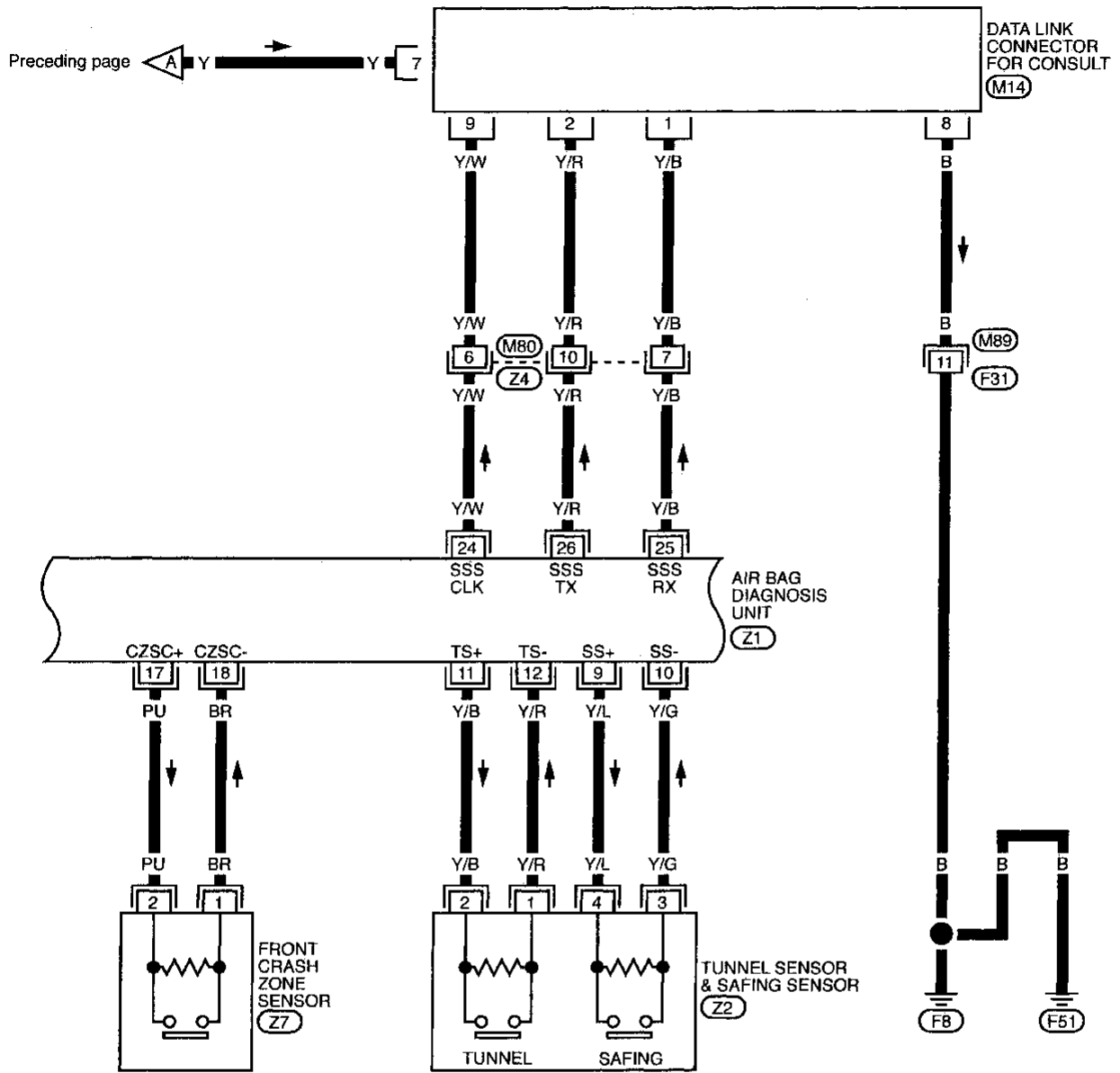
RS-SRS-01



TROUBLE DIAGNOSES — Supplemental Restraint System (SRS)

Wiring Diagram — SRS — (Cont'd)

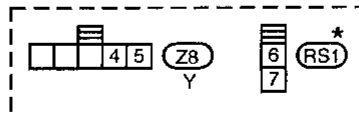
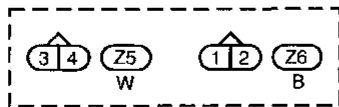
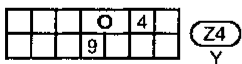
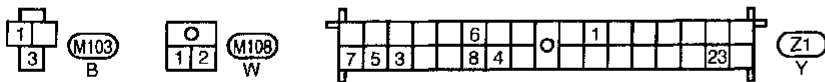
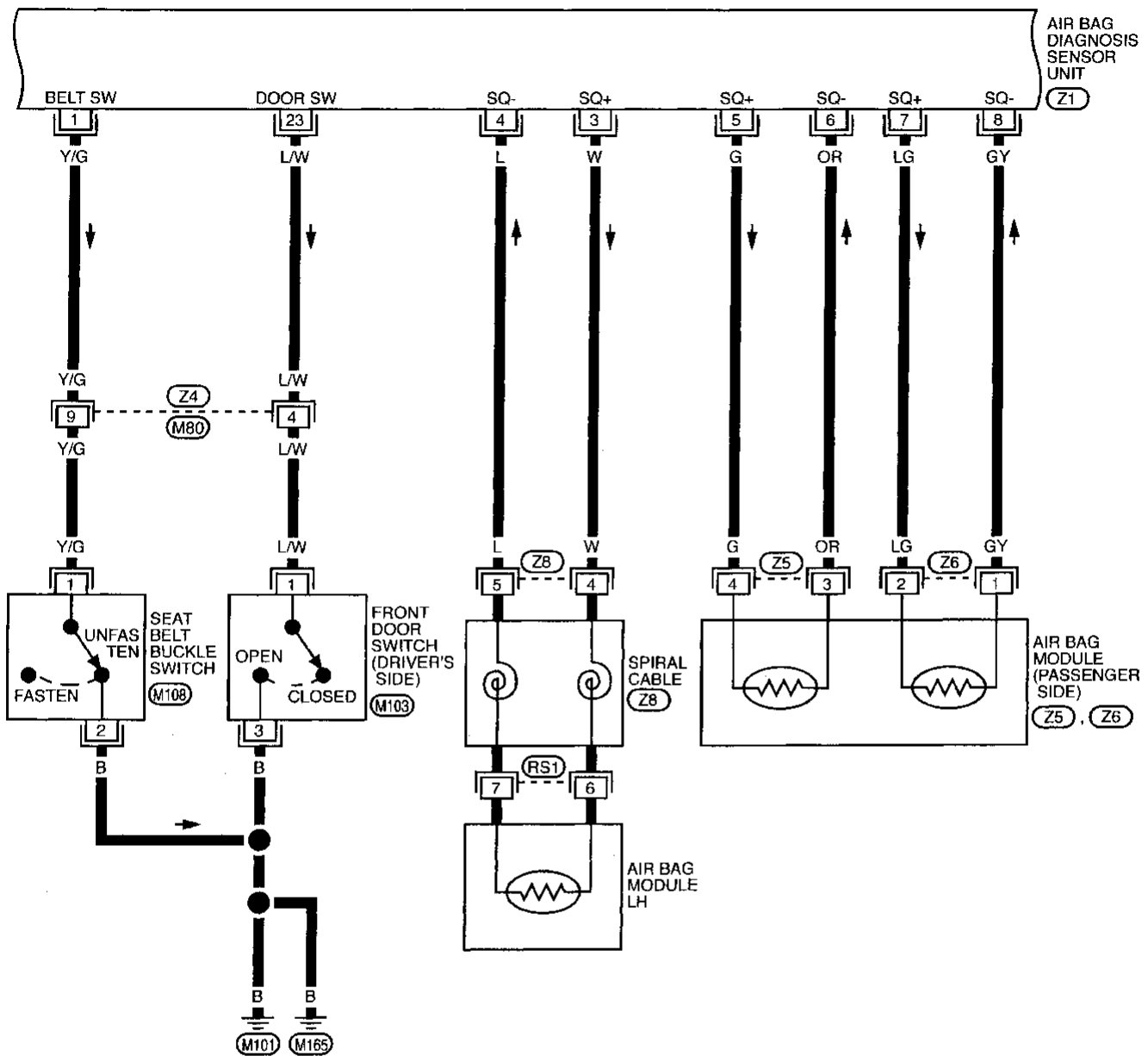
RS-SRS-02



TROUBLE DIAGNOSES — Supplemental Restraint System (SRS)

Wiring Diagram — SRS — (Cont'd)

RS-SRS-03

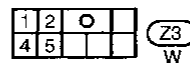
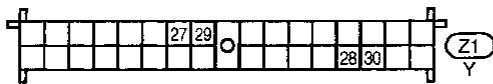
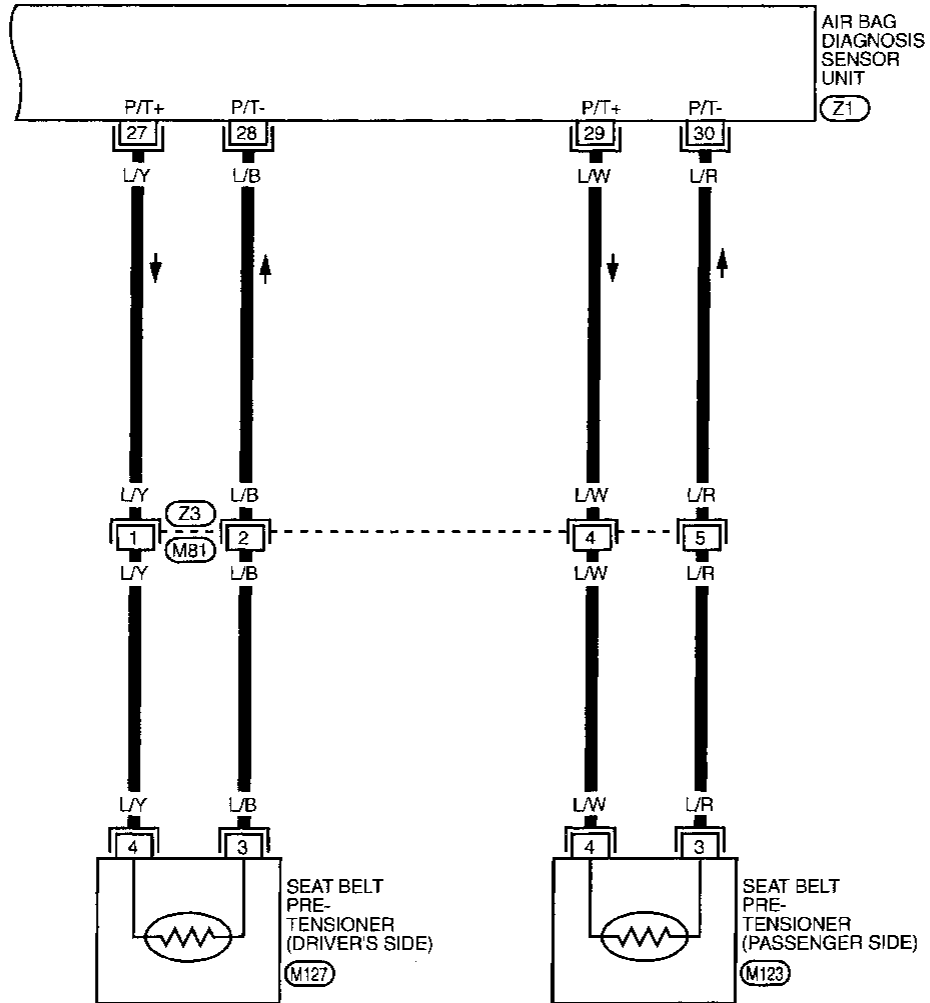


*: This connector is not shown "HARNESS LAYOUT" in EL section.

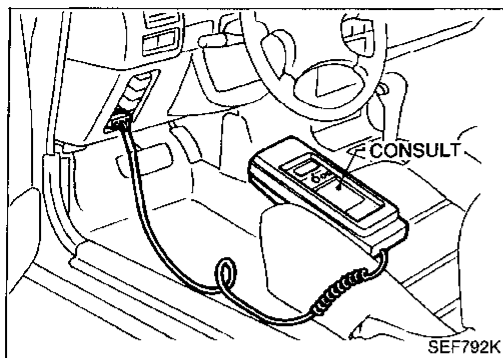
TROUBLE DIAGNOSES — Supplemental Restraint System (SRS)

Wiring Diagram — SRS — (Cont'd)

RS-SRS-04



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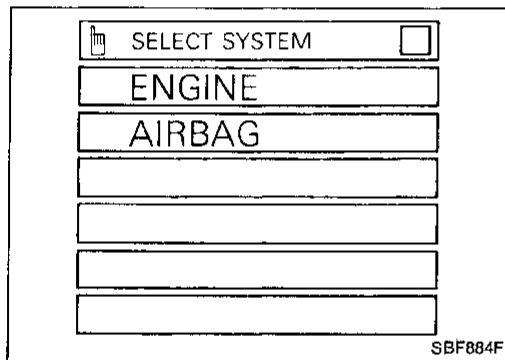


Self-diagnosis

USING CONSULT

The self-diagnosis results can be read by CONSULT, as follows:

1. Connect "CONSULT" to data link connector for CONSULT. (Data link connector for CONSULT is located in the fuse box.)
2. Turn ignition switch to "ON". (When CONSULT is connected, the "AIR BAG" warning lamp will be turned to present diagnosis mode.)
3. Touch "START" to operate "CONSULT".
4. Touch "AIRBAG" to choose air bag system.
5. Touch "SELF-DIAG RESULTS" to read self-diagnosis results.
6. Problem codes are displayed on "SELF-DIAG RESULTS".
7. When "PRINT" is pressed, information displayed on "SELF-DIAG RESULTS" is printed out.
8. After repairing malfunctioning parts, press "ERASE" to clear self-diagnosis results.
- **If malfunctioning parts are not completely repaired, "AIR BAG" warning lamp will blink every 0.5 seconds.**
9. Push Back Key of CONSULT until SELECT SYSTEM mode appears to make "SELF-DIAGNOSIS" user mode.
10. Push the power off switch.
11. Turn off ignition switch, disconnect CONSULT.
12. Turn ignition switch to "ON".
- **"AIR BAG" warning lamp should come on for about 7 seconds and then go off.**



TROUBLE DIAGNOSES — Supplemental Restraint System (SRS)

Self-diagnosis (Cont'd)

Self-diagnosis results

Diagnostic item	Explanation	Repair order * Recheck SRS at each replacement.	CI
NO SELF DIAGNOSTIC FAILURE INDICATED.	Normal. The SRS system is in good order.	—	MA
SAFING SENSOR [OPEN/UPR-VB-SHORT]	<ul style="list-style-type: none"> ● The circuit for the safing sensor is open, or ● The wire from the diagnosis unit (terminal No. 9) to the safing sensor is shorted to some power supply circuit. 	<ol style="list-style-type: none"> 1. Visually check the wiring harness connections. 2. Replace the safing sensor. (safing sensor and tunnel sensor unit) 3. Replace the diagnosis unit. 4. Replace the main harness. 	EM
SAFING SENSOR [SHORT/UPR-GND-SHORT]	<ul style="list-style-type: none"> ● Both the wires for the safing sensor are shorted, or ● The wire from the diagnosis unit (terminal No. 9) to the safing sensor is shorted to the ground. 		LC
AIRBAG MODULE [OPEN]	The circuit for driver's air bag module is open. (including the spiral cable)	<ol style="list-style-type: none"> 1. Visually check the wiring harness connections. 2. Replace the spiral cable. 3. Replace driver's air bag module. (Before disposing of it, it must be deployed.) 4. Replace the diagnosis unit. 5. Replace the main harness. 	FE
AIRBAG MODULE [VB-SHORT]	The circuit for driver's air bag module is shorted to some power supply circuit. (including the spiral cable)		CL
AIRBAG MODULE [GND-SHORT]	The circuit for driver's air bag module is shorted to ground. (including the spiral cable)		MT
AIRBAG MODULE [SHORT]	The circuits for driver's air bag module are shorted to each other.		AT
ASSIST A/B MODULE 1 [OPEN]	The circuit for front passenger air bag module 1 is open.	<ol style="list-style-type: none"> 1. Visually check the wiring harness connections. 2. Replace front passenger air bag module. (Before disposing of it, it must be deployed.) 3. Replace the diagnosis unit. 4. Replace the main harness. 	FA
ASSIST A/B MODULE 1 [VB-SHORT]	The circuit for front passenger air bag module 1 is shorted to some power supply circuit.		RA
ASSIST A/B MODULE 1 [GND-SHORT]	The circuit for front passenger air bag module 1 is shorted to ground.		BR
ASSIST A/B MODULE 1 [SHORT]	The circuits for front passenger air bag module 1 are shorted to each other.		ST
ASSIST A/B MODULE 2 [OPEN]	The circuit for front passenger air bag module 2 is open.	<ol style="list-style-type: none"> 1. Visually check the wiring harness connections. 2. Replace front passenger air bag module. (Before disposing of it, it must be deployed.) 3. Replace the diagnosis unit. 4. Replace the main harness. 	RS
ASSIST A/B MODULE 2 [VB-SHORT]	The circuit for front passenger air bag module 2 is shorted to some power supply circuit.		BT
ASSIST A/B MODULE 2 [GND-SHORT]	The circuit for front passenger air bag module 2 is shorted to ground.		HA
ASSIST A/B MODULE 2 [SHORT]	The circuits for front passenger air bag module 2 are shorted to each other.		EL

IDX

TROUBLE DIAGNOSES — Supplemental Restraint System (SRS)

Self-diagnosis (Cont'd)

Diagnostic item	Explanation	Repair order * Recheck SRS at each replacement.
TUNNEL SENSOR [OPEN/UPR-VB-SHORT]	<ul style="list-style-type: none"> ● The circuit for the tunnel sensor is open, or ● The wire from the diagnosis unit (terminal No. 11) to the tunnel sensor is shorted to some power supply circuit. 	<ol style="list-style-type: none"> 1. Visually check the wiring harness connections. 2. Replace the tunnel sensor. (safing sensor and tunnel sensor unit) 3. Replace the diagnosis unit. 4. Replace the main harness.
TUNNEL SENSOR [SHORT/UPR-GND-SHORT]	<ul style="list-style-type: none"> ● Both the wires for the tunnel sensor are shorted, or ● The wire from the diagnosis unit (terminal No. 11) to the tunnel sensor is shorted to ground. 	
CRASH ZONE SEN-CTR [OPEN/UPR-VB-SHORT]	<ul style="list-style-type: none"> ● The circuit for the crash zone sensor is open, or ● The wire from the diagnosis unit (terminal No. 17) to the crash zone sensor is shorted to some power supply circuit. 	<ol style="list-style-type: none"> 1. Visually check the wiring harness connections. 2. Replace the crash zone sensor. 3. Replace the diagnosis unit. 4. Replace the main harness.
CRASH ZONE SEN-CTR [SHORT/UPR-GND-SHORT]	<ul style="list-style-type: none"> ● Both the wires for the crash zone sensor are shorted, or ● The wire from the diagnosis unit (terminal No. 17) to the crash zone sensor is shorted to ground. 	
DRIVE PRE-TENSION [OPEN/VB-SHORT]	The circuit for the driver's pre-tensioner is open or shorted to some power supply circuit.	<ol style="list-style-type: none"> 1. Visually check the wiring harness connections. 2. Replace the driver's seat belt. (Before disposing, it must be deactivated.) 3. Replace the diagnosis unit. 4. Replace the main harness.
DRIVE PRE-TENSION [GND-SHORT]	The circuit for the driver's pre-tensioner is shorted to ground.	
ASSIST PRE-TENSION [OPEN/VB-SHORT]	The circuit for the front passenger pre-tensioner is open or shorted to some power supply circuit.	<ol style="list-style-type: none"> 1. Visually check the wiring harness connections. 2. Replace the front passenger seat belt. (Before disposing, it must be deactivated.) 3. Replace the diagnosis unit. 4. Replace the main harness.
ASSIST PRE-TENSION [GND-SHORT]	The circuit for the front passenger pre-tensioner is shorted to ground.	
CONTROL UNIT	The diagnosis unit is out of order.	<ol style="list-style-type: none"> 1. Visually check the wiring harness connections. 2. Replace the diagnosis unit. 3. Replace the main harness.
INDEFINITE FAILURES [AIR BAG]	A problem which cannot be specified is occurring. This is because more than two parts except seat belt pre-tensioners are out of order.	<ol style="list-style-type: none"> 1. See the SELF-DIAGNOSIS RESULT 2 diagnostic item [Initial], then repair as necessary. 2. Visually check the wiring harness connections. 3. Replace the diagnosis unit. 4. Replace all sensors, spiral cable and air bag modules and seat belts. 5. Replace the main harness.
INDEFINITE FAILURES [PRE-TENSIONER]	Driver's and front passenger seat belt pre-tensioners are out of order.	<ol style="list-style-type: none"> 1. Visually check the wiring harness connections. 2. Replace the driver's and front passenger seat belts. (Before disposing, they must be deactivated.) 3. Replace the diagnosis unit. 4. Replace the main harness.

Self-diagnosis (Cont'd)

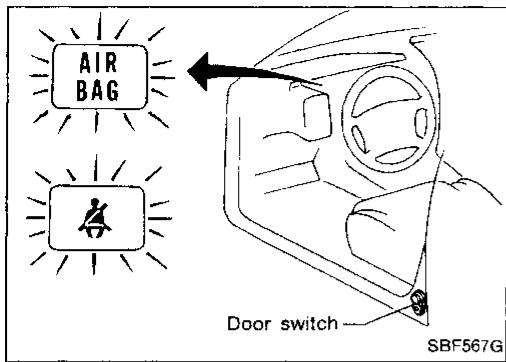
USING THE WARNING LAMP

SRS self-diagnosis results, excluding seat belt pre-tensioner, can also be read by using the "AIR BAG" warning lamp. When "seat belt" warning lamp flashes, check seat belt pre-tensioner system.

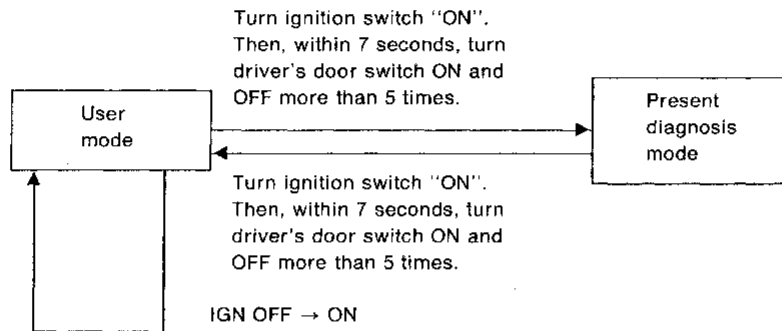
The "Air bag" warning lamp operates as shown below:

WARNING:

When the "AIR BAG" warning lamp is flashing, compare the flash time to the chart below.



How to alternate self-diagnosis



Problem codes are displayed in present diagnosis mode (self-diagnosis results).

After the malfunctioning parts have been repaired, return the system to the user mode. This will clear the present diagnosis mode information displayed as self-diagnosis results.

- After repairing malfunctioning part, attempt to clear self-diagnosis results from memory.
- If a malfunctioning part is not completely repaired, information stored in memory will not be cleared.

User mode	
<p>① Normal (OFF)</p> <p>IGN ON ON OFF 7 sec.</p> <p style="text-align: right;">SBF298H</p>	No problem
<p>② Malfunction (flashing)</p> <p>ON OFF 0.5 sec. 0.5 sec.</p> <p style="text-align: right;">SBF299H</p>	The system has a problem. Perform self-diagnosis.
<p>③ Air bag is deployed or diagnosis (control) unit is malfunctioning and continuously sends an "ON" signal.</p> <p>ON OFF</p> <p style="text-align: right;">SBF284H</p>	The system has a problem.

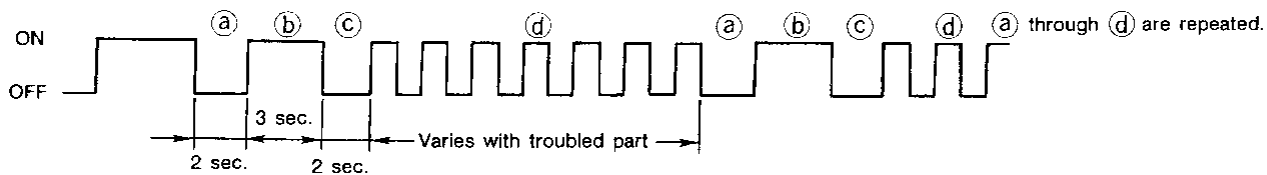
TROUBLE DIAGNOSES — Supplemental Restraint System (SRS)

Self-diagnosis (Cont'd)

Present diagnosis mode (Self-diagnosis results)

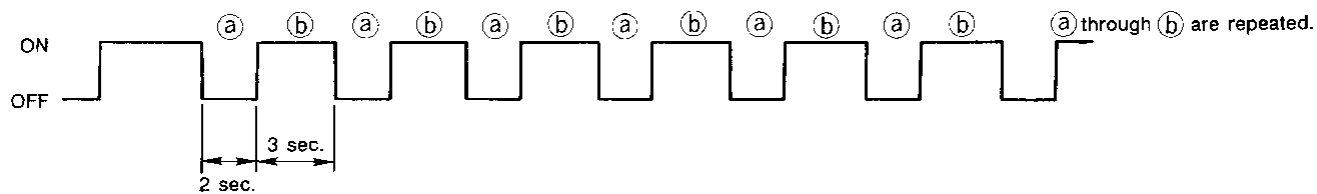
● Malfunction

ⓑ Start signal: Start signal identifies display modes.



SBF310H

● No malfunctioning (or intermittent trouble/repair completion)



WARNING: After the malfunctioning parts have been repaired, return the system to the user mode.

SBF285H

Self-diagnosis results in Present diagnosis mode can be identified by number of flashes ⓐ. Refer to Table on next page for troubled parts.

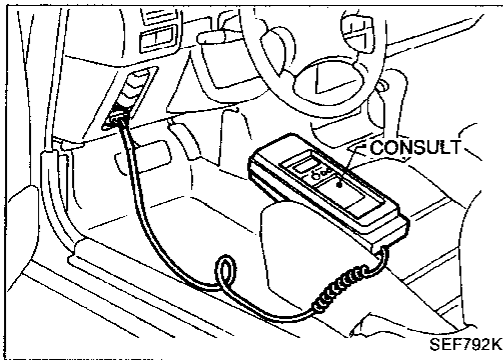
TROUBLE DIAGNOSES — Supplemental Restraint System (SRS)

Self-diagnosis (Cont'd)

Warning lamp flashing times and repair

Warning lamp	Flash code ① (# of flashes)	Explanation	Repair order * Recheck SRS at each replacement.
"AIR BAG" warning lamp	0	Normal. The SRS "Air Bag" is in good order.	—
	1	The circuit for the safing sensor is out of order.	1. Visually check the wiring harness connections. 2. Replace the safing sensor. (safing sensor and tunnel sensor unit) 3. Replace the diagnosis unit. 4. Replace the main harness.
	2	The circuit for the driver's air bag module is out of order.	1. Visually check the wiring harness connections. 2. Replace the spiral cable. 3. Replace the driver's air bag module. (Before disposing of it, it must be deployed.) 4. Replace the diagnosis unit. 5. Replace the main harness.
	3	The circuit for the tunnel sensor is out of order.	1. Visually check the wiring harness connections. 2. Replace the tunnel sensor. (safing sensor and tunnel sensor unit) 3. Replace the diagnosis unit. 4. Replace the main harness.
	6	The circuit for the center crash zone sensor is out of order.	1. Visually check the wiring harness connections. 2. Replace the center crash zone sensor. 3. Replace the diagnosis unit. 4. Replace the main harness.
	7	The diagnosis unit is out of order.	1. Visually check the wiring harness connections. 2. Replace the diagnosis unit. 3. Replace the main harness.
	8	The circuit for the front passenger air bag module is out of order.	1. Visually check the wiring harness connections. 2. Replace the front passenger air bag module. (Before disposing of it, it must be deployed.) 3. Replace the diagnosis unit. 4. Replace the main harness.
	9	More than two parts groups are out of order.	1. Visually check the wiring harness connections. 2. Replace the diagnosis unit. 3. Replace all sensors, spiral cable and air bag module. 4. Replace the main harness.

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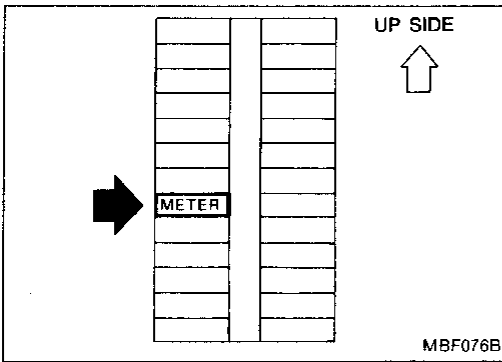
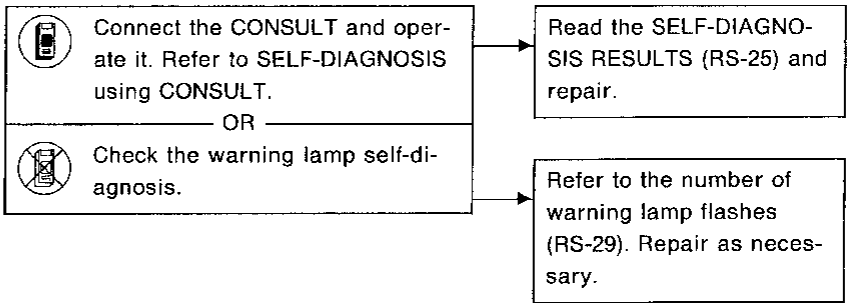
Diagnostic Procedure 1

SYMPTOM: Warning lamp flashes.

WARNING:

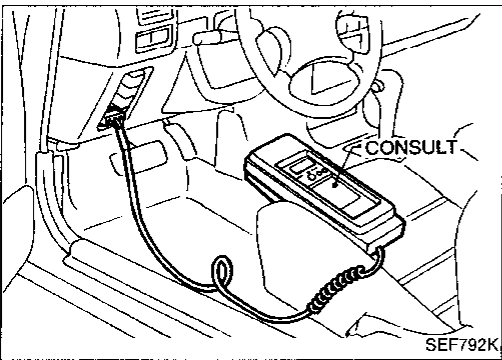
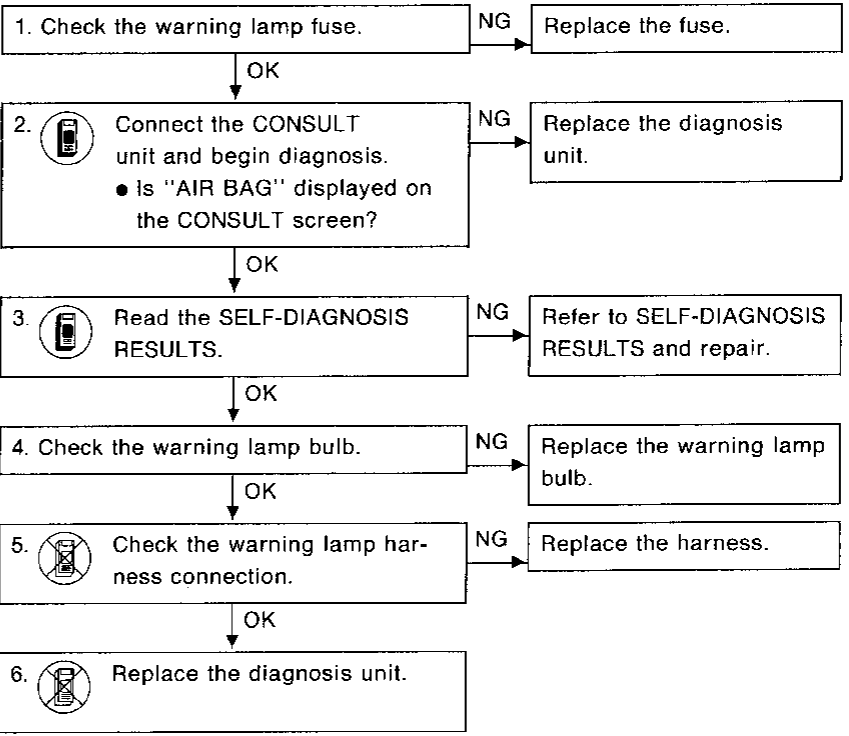
Determine if the flash rate is every 0.5 seconds, or 3 seconds "ON" and 2 seconds "OFF".

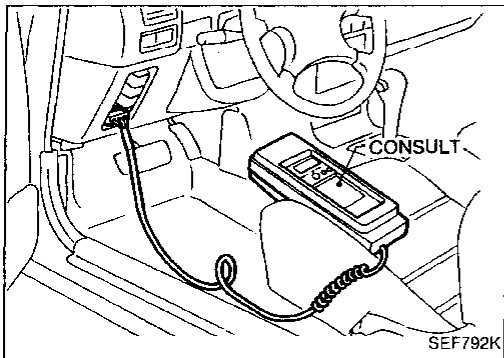
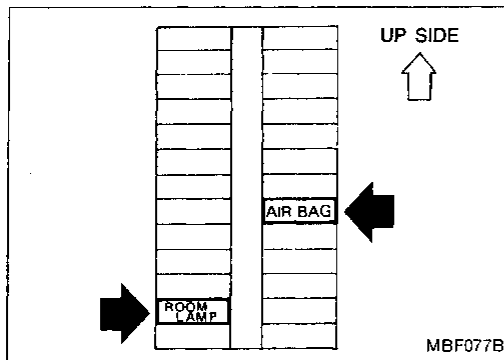
If every 0.5 seconds, perform self-diagnosis. If 3 seconds "ON" and 2 seconds "OFF", the system is in Present diagnosis mode, refer to page RS-24 or RS-27 for instructions.



Diagnostic Procedure 2

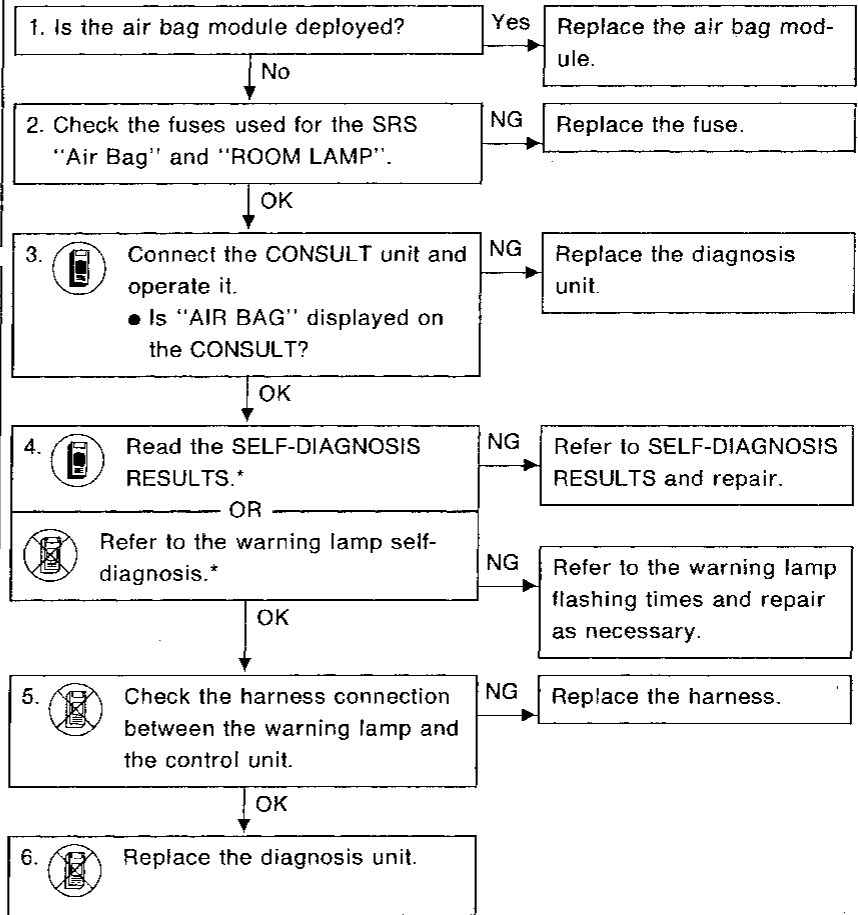
SYMPTOM: Warning lamp does not come on.





Diagnostic Procedure 3

SYMPTOM: Warning lamp does not go off.



* Recheck SRS after each replacement.

Collision Diagnosis

To repair the SRS "AIR BAG", perform the following steps.

When air bag deploys in a collision:

- ① Replace the diagnosis unit.
- ② Remove the air bag module.
- ③ Check the SRS components using the table shown below:
 - If any damage is visible (such as dents, cracks or deformation), replace the damaged component.
- ④ Conduct self-diagnosis using CONSULT or "AIR BAG" warning lamp. Ensure the entire SRS operates properly except open circuits of air bag module and seat belt pre-tensioners.
- ⑤ Install new air bag module and seat belt pre-tensioners.
- ⑥ Conduct self-diagnosis again.

When air bag does not deploy in a collision:

- ① Check the SRS components using the table shown below:
 - If any damage is visible (such as dents, cracks or deformation), replace the damaged component.
- ② Conduct self-diagnosis using CONSULT or "AIR BAG" warning lamp to ensure entire SRS operates properly.

GI
MA
EM
LC
EC
FE
CL
MT
AT
FA
RA
BR
ST
RS
BT
HA
EL
DX

TROUBLE DIAGNOSES — Supplemental Restraint System (SRS)

Collision Diagnosis (Cont'd)

SRS inspection

Part	Air bag deployed	Air bag did NOT deploy
Air bag module (driver and passenger side)	REPLACE Install with new bolts.	<ol style="list-style-type: none"> 1. Remove air bag module. Check harness cover and connectors for damage, terminals for deformities, and harness for binding. 2. Install air bag module into the steering wheel to check fit and alignment with the wheel. 3. No damage found, reinstall with new bolts. 4. If damaged—REPLACE. Air bag must be deployed before discarding.
Instrument panel	REPLACE Install with new bolts.	<ol style="list-style-type: none"> 1. Check instrument panel for bending, deformities, or cracks. 2. If no damage is found, reinstall with new bolts. 3. If damaged—REPLACE.
Seat belt pre-tensioner assembly	REPLACE Install with new bolts.	<ol style="list-style-type: none"> 1. Remove seat belt pre-tensioners. Check harness cover and connectors for damage, terminals for deformities, and harness for binding. 2. Check belts for damage and anchors for loose mounting. 3. Check retractor for smooth operation. 4. If no damage is found, reinstall with new bolts. 5. If damaged—REPLACE.
Diagnosis unit	REPLACE Install with new bolts.	<ol style="list-style-type: none"> 1. Check case and bracket for dents, cracks or deformities. 2. Check connectors for damage, and terminals for deformities. 3. If no damage is found, reinstall with new bolts. 4. If damaged—REPLACE.
Sensors		<ol style="list-style-type: none"> 1. Check body and sensor brackets for deformities or rust. 2. Check sensor case for dents, cracks, scratches, deformities or rust. 3. Check sensor harness, connector, and terminals for binding, damage, or deformities. 4. If no damage is found, reinstall with new bolts. 5. If damaged—REPLACE.
Steering wheel		<ol style="list-style-type: none"> 1. Check harness (built into steering wheel) and connectors for damage, and terminals for deformities. 2. Install air bag module to check fit or alignment with steering wheel. 3. Check steering wheel for excessive free play. 4. If no damage is found, reinstall with new bolts. 5. If damaged—REPLACE.
Spiral cable		<ol style="list-style-type: none"> 1. Visually check lock (engagement) pins and combination switch for damage. 2. Check connectors, flat cable and protective tape for damage. 3. Check steering wheel for noise, binding or heavy operation. 4. If no damage is found, reinstall with new bolts. 5. If damaged—REPLACE.
Harness and Connectors		<ol style="list-style-type: none"> 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. Damaged—REPLACE damaged section of harness. Do not attempt to repair, splice or modify any SRS harness.