

RESTRAINT SYSTEM

SECTION RS

MA

EM

LC

EG

FE

GL

MT

AT

 $\mathbb{A}\mathbb{X}$

SU

BR

ST

RS

BT

HA

SC

EL

CONTENTS

SEAT BELTS	3
Precautions	3
SUPPLEMENTAL RESTRAINT SYSTEM (SRS)	
"AIR BAG" AND "SEAT BELT PRE-TENSIONER"	3
PRECAUTION FOR SEAT BELT SERVICE	3
Front Seat Belt	5
REMOVAL AND INSTALLATION	5
Rear Seat Belt	7
REMOVAL AND INSTALLATION	7
Seat Belt Inspection	9
AFTER A COLLISION	9
PRELIMINARY CHECKS	
SEAT BELT RETRACTOR ON-VEHICLE CHECK	
SEAT BELT RETRACTOR OFF-VEHICLE CHECK	
Tether Anchor Plate	
REMOVAL AND INSTALLATION	
SUPPLEMENTAL RESTRAINT SYSTEM (SRS)	
Precautions	13
SUPPLEMENTAL RESTRAINT SYSTEM (SRS)	
"AIR BAG" AND "SEAT BELT PRE-TENSIONER"	13
PRECAUTIONS FOR SRS "AIR BAG" AND "SEAT	
BELT PRE-TENSIONER" SERVICE	
WIRING DIAGRAMS AND TROUBLE DIAGNOSIS	
Preparation	
SPECIAL SERVICE TOOLS	
COMMERCIAL SERVICE TOOL	
SRS Configuration	
Seat Belt Pre-tensioner with Load Limiter	
Built-in Type Side Air Bag	
SRS Component Parts Location	
Maintenance Items	17
Diagnosis Sensor Unit	
REMOVAL AND INSTALLATION	18
Seat Belt Pre-tensioner	19
REMOVAL AND INSTALLATION	
Satellite Sensor	19
REMOVAL AND INSTALLATION	
Driver Air Bag Module and Spiral Cable	
REMOVAL AND INSTALLATION	20
REMOVAL	20

INSTALLATION	.22
Front Passenger Air Bag Module	.22
REMOVAL	.22
INSTALLATION	.23
Side Air Bag Module	.24
REMOVAL	.24
INSTALLATION	.25
Disposal of Air Bag Module and Seat Belt Pre-	
tensioner	.25
CHECKING DEPLOYMENT TOOL	.26
DEPLOYMENT PROCEDURES FOR AIR BAG	
MODULE (OUTSIDE OF VEHICLE)	.27
DEPLOYMENT PROCEDURES FOR SEAT BELT	
PRE-TENSIONER (OUTSIDE OF VEHICLE)	.29
DEPLOYMENT OF AIR BAG MODULE AND SEAT	
BELT PRE-TENSIONER WHILE MOUNTED IN	
VEHICLE	.30
DISPOSING OF AIR BAG MODULE AND SEAT	
BELT PRE-TENSIONER	
Trouble Diagnoses Introduction	
DIAGNOSIS FUNCTION	
DIAGNOSIS MODE FOR CONSULT-II	.32
HOW TO CHANGE SELF-DIAGNOSIS MODE	
WITH CONSULT-II	.33
R HOW TO CHANGE SELF-DIAGNOSIS MODE	
WITHOUT CONSULT-II	
HOW TO ERASE SELF-DIAGNOSIS RESULTS	.33
How to Perform Trouble Diagnoses for Quick	
and Accurate Repair	
INFORMATION FROM CUSTOMER	
PRELIMINARY CHECK	
WORK FLOW	
Schematic	
Wiring Diagram - SRS	
SRS Operation Check	
DIAGNOSTIC PROCEDURE 1	
Trouble Diagnoses with CONSULT-II	
DIAGNOSTIC PROCEDURE 2	
DIAGNOSTIC PROCEDURE 3	.47
DIAGNOSTIC PROCEDURE 4 (CONTINUED	
FROM DIAGNOSTIC PROCEDURE 2)	.49



CONTENTS (Cont'd)

DIAGNOSTIC PROCEDURE 5	49
R Trouble Diagnoses without CONSULT-II	53
DIAGNOSTIC PROCEDURE 6	
DIAGNOSTIC PROCEDURE 7	56
DIAGNOSTIC PROCEDURE 8 (CONTINUED	
FROM DIAGNOSTIC PROCEDURE 6)	58
Trouble Diagnoses: "AIR BAG" Warning Lamp	
Does Not Turn Off	59
DIAGNOSTIC PROCEDURE 9	59
Trouble Diagnoses: "AIR BAG" Warning Lamp	
Does Not Turn On	6
DIAGNOSTIC PROCEDURE 10	6
Trouble Diagnoses: SRS Does Not Enter	
Diagnosis Mode Using Door Switch	62

DIAGNOSTIC PROCEDURE 11	62
Trouble Diagnoses: "SEAT BELT" Warning Lamp	
Does Not Turn Off	64
DIAGNOSTIC PROCEDURE 12	64
Trouble Diagnoses: "SEAT BELT" Warning Lamp	
Does Not Turn On	66
DIAGNOSTIC PROCEDURE 13	66
Collision Diagnosis	68
FOR FRONTAL COLLISION	68
FOR SIDE COLLISION	70



Precautions

SUPPLEMENTAL RESTRAINT SYSTEM (SRS) "AIR BAG" AND "SEAT BELT PRE-TENSIONER"

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER" used along with a seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. The SRS composition which is available to NISSAN MODEL A33 is as follows (The composition varies according to the destination and optional equipment.):

MA

For a frontal collision

The Supplemental Restraint System consists of driver air bag module (located in the center of the steering wheel), front passenger air bag module (located on the instrument panel on passenger side), seat belt pre-tensioners, a diagnosis sensor unit, warning lamp, wiring harness and spiral cable.

LC

For a side collision

The Supplemental Restraint System consists of front side air bag module (located in the outer side of front seat), satellite sensor, diagnosis sensor unit (one of components of air bags for a frontal collision), wiring harness, warning lamp (one of components of air bags for a frontal collision).

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 should be performed by an authorized NISSAN dealer.

GL

Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system.

MT

Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. Spiral cable and wiring harnesses covered with yellow insulation or tape either just before the harness connectors or for the complete harness are related to the SRS.

AT

PRECAUTION FOR SEAT BELT SERVICE

CAUTION:

NFRS0002

Before removing the seat belt pre-tensioner assembly, turn the ignition switch off, disconnect both battery cables and wait at least 3 minutes.

Do not use electrical test equipment for seat belt pre-tensioner connector.

After replacing or reinstalling seat belt pre-tensioner assembly, or reconnecting seat belt pre-tensioner connector, check the system function. Refer to "Checking Seat Belt Pre-tensioner Operation by Using "SEAT BELT" Warning Lamp — User Mode", "SRS Operation Check" (RS-43) for details.

Do not use disassemble buckle or seat belt assembly.

Replace anchor bolts if they are deformed or worn out.

ST

Never oil tongue and buckle.

RS

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 A Collision

NFRS0002S01

WARNING:

Inspect all seat belt assemblies including retractors and attaching hardware after any collision. NISSAN recommends that all seat belt assemblies in use during a collision be replaced unless the collision was minor and the belts show no damage and continue to operate properly. Failure to do so could result in serious personal injury in an accident. Seat belt assemblies not in use during a collision should also be replaced if either damage or improper operation is noted. Seat belt pre-tensioner should be replaced even if the seat belts are not in use during a frontal collision in which the air bags are deployed.

HA

Replace any seat belt assembly if:

- The seat belt was in use at the time of a collision (except for minor collisions and the belts, retractors and buckles show no damage and continue to operate properly).
- The seat belt was damaged in an accident. (i.e. torn webbing, bent retractor or guide, etc.)
- The seat belt attaching point was damaged in an accident. Inspect the seat belt attaching area for damage or distortion and repair as necessary before installing a new seat belt assembly.

SEAT BELTS



Precautions (Cont'd)

- Anchor bolts are deformed or worn out.
- The seat belt pre-tensioner should be replaced even if the seat belts are not in use during the collision in which the air bags are deployed.

=NFRS0003



MA

EM

LC

EC

FE

GL

MT

AT

AX

SU

ST

RS

BT

HA

SC

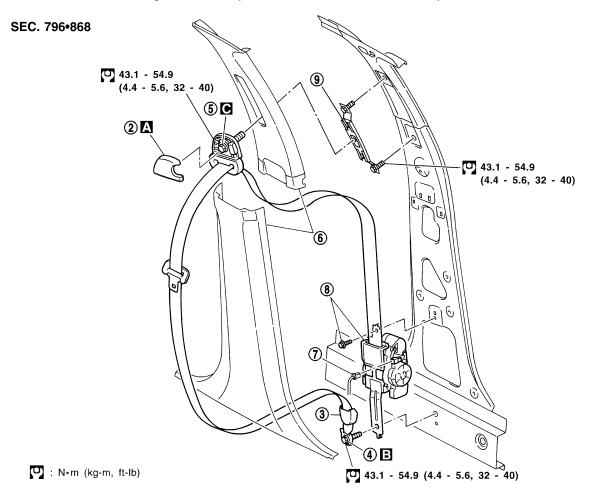
EL

SRS714-A

Front Seat Belt

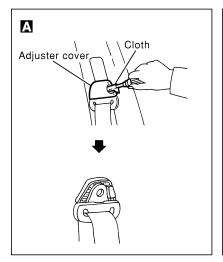
REMOVAL AND INSTALLATION

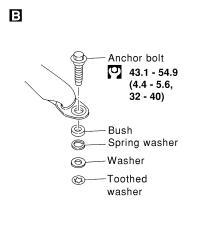
- 1. Slide the seat all the way forward and tilt the seatback toward the front.
- 2. Remove adjuster cover.
- 3. Slide floor anchor cover.
- 4. Remove floor anchor bolt.
- 5. Remove shoulder anchor bolt.
- 6. Remove front and rear kicking plate, then remove center pillar upper and lower garnish. Refer to BT-32, "SIDE AND FLOOR TRIM" for details.
- 7. Disconnect seat belt pre-tensioner connector.
- 8. Remove the screw securing seat belt pre-tensioner retractor, then remove seat belt and seat belt pre-tensioner retractor.
- 9. Remove bolts securing seat belt adjuster, then remove seat belt adjuster.

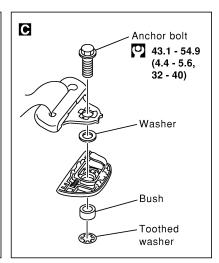


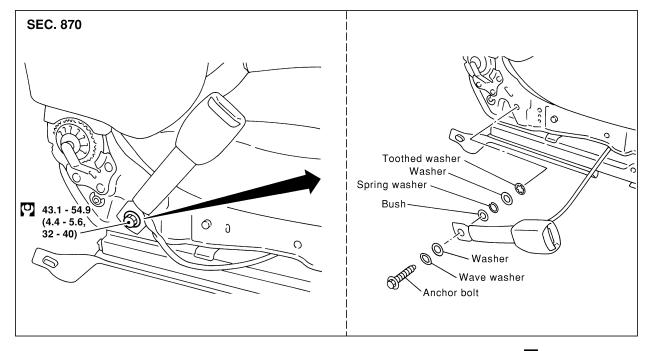
IDX











: N•m (kg-m, ft-lb)

SRS789

=NFRS0004

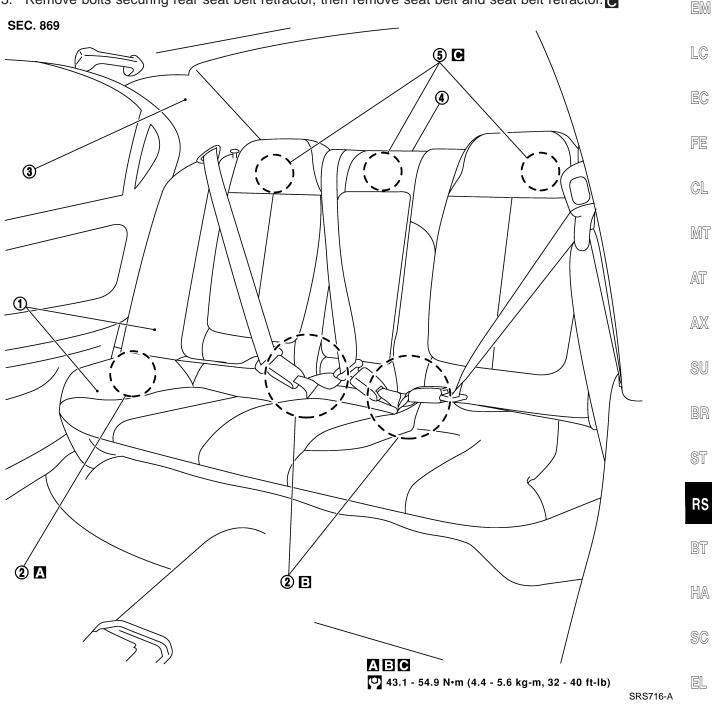


MA

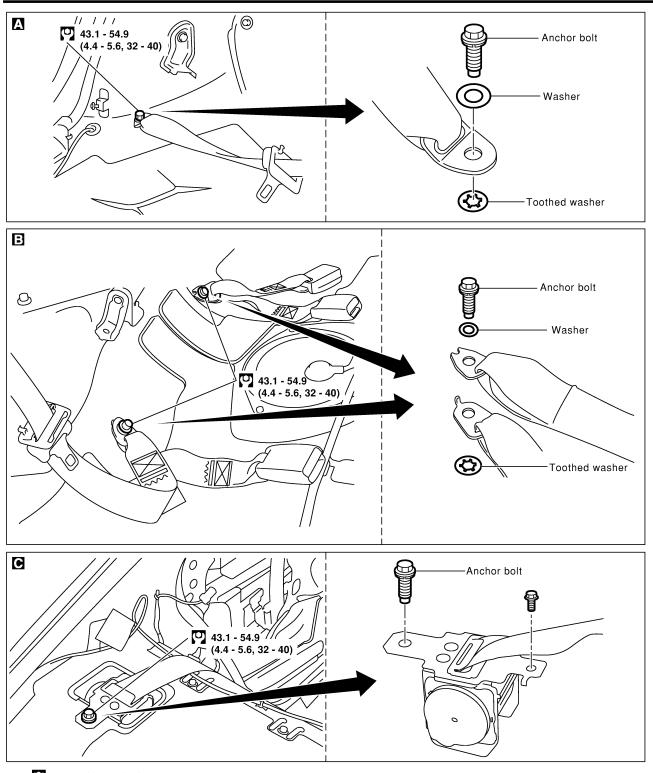
Rear Seat Belt

REMOVAL AND INSTALLATION

- 1. Remove rear seat. Refer to BT-50, "REAR SEAT" for details.
- 2. Remove outer and floor anchor bolt. A B
- 3. Remove rear side garnish. Refer to BT-32, "SIDE AND FLOOR TRIM" for details.
- 4. Remove rear parcel shelf finisher. Refer to BT-32, "SIDE AND FLOOR TRIM" for details.
- 5. Remove bolts securing rear seat belt retractor, then remove seat belt and seat belt retractor.







: N•m (kg-m, ft-lb)



Seat Belt Inspection

AFTER A COLLISION

=NFRS0005

NFRS0005S01

WARNING:

are deployed.

Inspect all seat belt assemblies including retractors and attaching hardware after any collision. NISSAN recommends that all seat belt assemblies in use during a collision be replaced unless the collision was minor and the belts show no damage and continue to operate properly. Failure to do so could result in serious personal injury in an accident. Seat belt assemblies not in use during a collision should also be replaced if either damage or improper operation is noted. Seat belt pre-tensioner should be replaced even if the seat belts are not in use during a frontal collision in which the air bags

MA

EM

Replace any seat belt assembly if:

LG

 The seat belt was in use at the time of a collision (except for minor collisions and the belts, retractors and buckles show no damage and continue to operate properly).

EG

• The seat belt was damaged in an accident. (i.e. torn webbing, bent retractor or guide, etc.)

The seat belt attaching point was damaged in an accident. Inspect the seat belt attaching area for damage or distortion and repair as necessary before installing a new seat belt assembly.

FE

Anchor bolts are deformed or worn out.

GL

 The seat belt pre-tensioner should be replaced even if the seat belts are not in use during the collision in which the air bags are deployed.

G

PRELIMINARY CHECKS

NFRS0005S02

1. Check the seat belt warning lamp/chime for proper operation as follows:

MT

sound for about seven seconds.

b. Fasten driver's seat belt. The seat belt warning lamp should go out and the chime (if sounding) should

Switch ignition ON. The seat belt warning lamp should illuminate. Also, the seat belt warning chime should

Stop.

ÄVA

c. If the seat belt warning lamp is blinking, conduct self-diagnosis using CONSULT-II, and seat belt warning lamp. Refer to "Checking Seat Belt Pre-tensioner Operation by Using "SEAT BELT" Warning Lamp — User Mode", "SRS Operation Check", RS-43.

SU

2. Check that the seat belt retractor, seat belt anchor and buckle bolts are securely attached.

Check the shoulder seat belt guide and shoulder belt height adjuster for front seats. Ensure guide swivels freely and that belt lays flat and does not bind in guide. Ensure height adjuster operates properly and holds securely.

4. Check retractor operation:

ST

a. Fully extend the seat belt webbing and check for twists, tears or other damage.b. Allow the seat belt to retract. Ensure that belt returns smoothly and completely into the retractor. If the seat

RS

b. Allow the seat belt to retract. Ensure that belt returns smoothly and completely into the retractor. If the seat belt does not returns smoothly, wipe the inside of the loops with a clean paper cloth etc. because dirt built up in the loops of the upper anchors can cause the seat belts to retractor slowly.

BT

c. Fasten the seat belt. Pull firmly on belt and buckle to ensure belt remains latched. Unfasten seat belt. Ensure belt releases freely and buckle button returns to original position.

SC

HA

SRS718

EL

5. Repeat steps above as necessary to check the other seat belts.



SEAT BELT RETRACTOR ON-VEHICLE CHECK

Emergency Locking Retractors (ELR) and Automatic Locking Retractors (ALR) NOTE:

NFRS0005S03

NFRS0005S0301

All seat belt retractors are of the Emergency Locking Retractors (ELR) type. In an emergency (sudden stop) the retractor will lock and prevent the belt from extending any further. All 3-point type seat belt retractors except the driver's seat belt also have an Automatic Locking Retractors (ALR) mode. The ALR mode (also called child restraint mode) is used when installing child seats. The ALR mode is activated when the seat belt is fully extended. When the belt is then retracted partially, the ALR mode automatically locks the seat belt in a specific position so the belt cannot be extended any further. To cancel the ALR mode, allow the seat belt to fully wind back into the retractor.

Check the seat belt retractors using the following test(s) to determine if a retractor assembly is operating properly.

ELR Function Stationary Check

NFRS0005S0302

Grasp the shoulder belt and pull forward quickly. The retractor should lock and prevent the belt from extending further.

ALR Function Stationary Check

NFRS0005S0303

- Pull out entire length of seat belt from retractor until a click is heard.
- 2. Retract the belt partially. A clicking noise should be heard as the belt retracts indicating that the retractor is in the Automatic Locking Retractors (ALR) mode.
- Grasp the seat belt and try to pull out the retractor. The belt must lock and not extend any further. If NG, replace the retractor assembly.
- 4. Allow the entire length of the belt to retract to cancel the automatic locking mode.

ELR Function Moving Check

WARNING:

NFRS0005S0304

Perform the following test in a safe, open area clear of other vehicles and obstructions (for example, a large, empty parking lot). Road surface must be paved and dry. DO NOT perform the following test on wet or gravel roads or on public streets and highways. This could result in an accident and serious personal injury. The driver and passenger must be prepared to brace themselves in the event the retractor does not lock.

- 1. Fasten driver's seat belt. Buckle a passenger into the seat for the belt that is to be tested.
- 2. Proceed to the designated safe area.
- 3. Drive the vehicle at approximately 16 km/h (10 MPH). Notify any passengers of a pending sudden stop and the driver and passenger must be prepared to brace themselves in the event the retractor does not lock, apply brakes firmly and make a very hard stop.

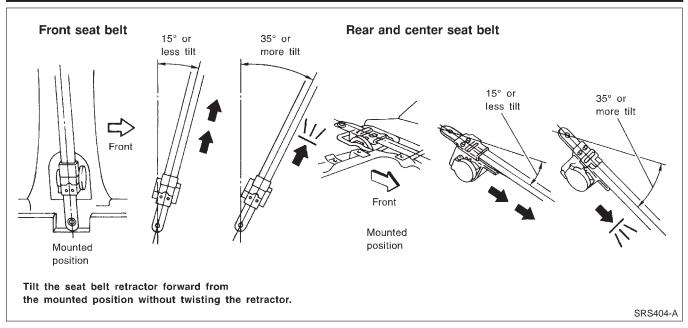
During stop, seat belts should lock and not be extended. If the seat belt retractor assembly does not lock, perform the retractor off-vehicle check.

SEAT BELT RETRACTOR OFF-VEHICLE CHECK

NFRS0005S04

- 1. Remove the seat belt retractor assembly.
- 2. Slowly pull out belt while tilting the retractor assembly forward from the mounted position without twisting the retractor assembly as shown in the illustration.
 - 15 degrees or less tilt: Belt can be pulled out.
 - 35 degrees or more tilt: Belt locks and cannot be pulled out.





If NG, replace the retractor assembly.

G[

MA

LC

EG

FE

GL

MT

AT

 $\mathbb{A}\mathbb{X}$

SU

BR

ST

RS

BT

HA

SC

EL

SEAT BELTS



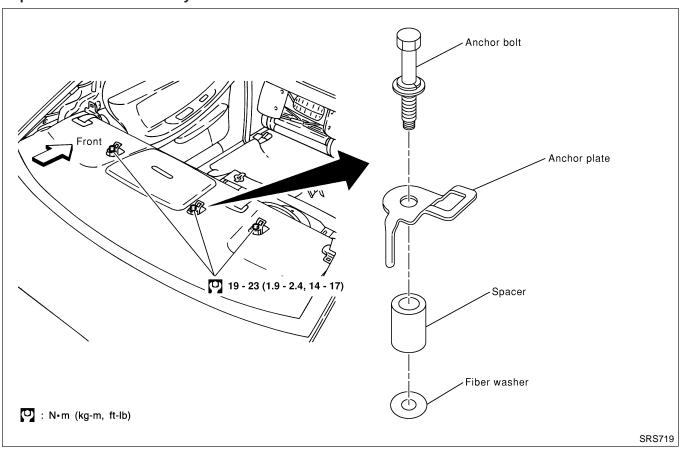
=NFRS0039

Tether Anchor Plate

REMOVAL AND INSTALLATION

CAUTION:

Replace anchor bolts if they are deformed or worn out.



- 1. Remove tether anchor plate cover. Refer to BT-32, "SIDE AND FLOOR TRIM" for details.
- 2. Remove tether anchor plate.

NOTE:

• To install, reverse the removal procedure sequence.





SUPPLEMENTAL RESTRAINT SYSTEM (SRS) "AIR BAG" AND "SEAT BELT PRE-TENSIONER"

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER" used along with a seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. The SRS composition which is available to NISSAN MODEL A33 is as follows (The composition varies according to optional equipment.):

MA

For a frontal collision

The Supplemental Restraint System consists of driver air bag module (located in the center of the steering wheel), front passenger air bag module (located on the instrument panel on passenger side), seat belt pre-tensioners, a diagnosis sensor unit, warning lamp, wiring harness and spiral cable.

LC

For a side collision

The Supplemental Restraint System consists of front side air bag module (located in the outer side of front seat), satellite sensor, diagnosis sensor unit (one of components of air bags for a frontal collision), wiring harness, warning lamp (one of components of air bags for a frontal collision).

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 should be performed by an authorized NISSAN dealer.

GL

Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system.

MT

Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. Spiral cable and wiring harnesses covered with yellow insulation or tape either just before the harness connectors or for the complete harness are related to the SRS.

AT

PRECAUTIONS FOR SRS "AIR BAG" AND "SEAT BELT PRE-TENSIONER" SERVICE

NFRS0007

Do not use electrical test equipment to check SRS circuits unless instructed to in this Service Manual. Before servicing the SRS, turn ignition switch "OFF", disconnect both battery cables and wait at least 3

For approximately 3 minutes after the cables are removed, it is still possible for the air bag and seat belt

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

Diagnosis sensor unit must always be installed with their arrow marks "

" pointing towards the front of the vehicle for proper operation. Also check diagnosis sensor unit for cracks, deformities or rust before installation and replace as required.

The spiral cable must be aligned with the neutral position since its rotations are limited. Do not attempt to turn steering wheel or column after removal of steering gear.

Handle air bag module carefully. Always place driver and passenger air bag modules with the pad side facing upward and place side air bag module (built-in type) standing with stud bolt side setting bottom.

RS

Conduct self-diagnosis to check entire SRS for proper function after replacing any components.

After air bag inflates, the front instrument panel assembly should be replaced if damaged.

NFRS0008

WIRING DIAGRAMS AND TROUBLE DIAGNOSIS

When you read wiring diagrams, refer to the following: GI-11, "HOW TO READ WIRING DIAGRAMS"

HA

EL-9, "POWER SUPPLY ROUTING" for power distribution circuit

SC

When you perform trouble diagnosis, refer to the following:

GI-36, "HOW TO FOLLOW TEST GROUP IN TROUBLE DIAGNOSIS" GI-25, "HOW TO PERFORM EFFICIENT DIAGNOSIS FOR AN ELECTRICAL INCIDENT"



Preparation

SPECIAL SERVICE TOOLS

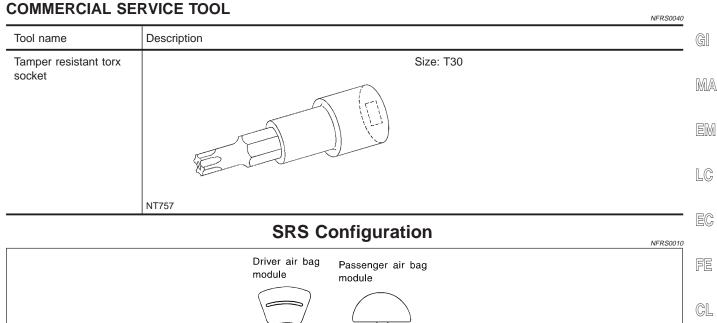
The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

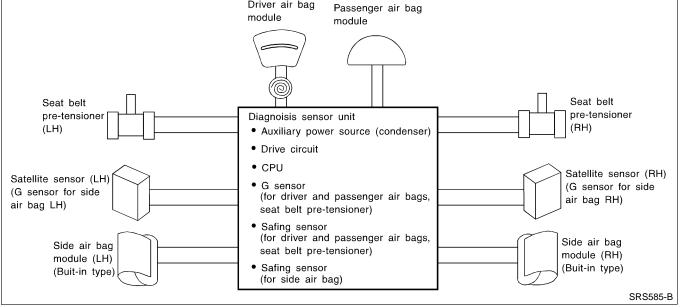
=NFRS0009

Tool number (Kent-Moore No.) Tool name	Description	
KV99106400 (J38381) Deployment tool		Disposing of air bag module
KV99105300 (J41246) Air bag module bracket	NT357	Anchoring air bag module
HT61961000 and HT62152000 combined (J38219) *Special torx bit	NT354	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)
KV99108300 (J38381-35) Deployment tool adapter for passenger air bag	NT361 For passenger air bag module	
KV99108200 (J38381-50) Deployment tool adapter for seat belt pre-tensioner	For seat belt pre-tensioner	
KV99109000 (J44230) Deployment tool adapters for built-in type side air bag	NT721 For built-in type side air bag modules NT767	

^{*:} Special tool or commercial equivalent







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

The collision modes for which supplemental restraint systems are activated are different among the SRS systems. For example, the driver air bag module and passenger air bag module are activated in a frontal collision but not in a side collision.

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

SRS configuration	Frontal collision	Left side collision	Right side collision
Driver air bag module	0	_	_
Passenger air bag module	0	_	_
Seat belt pre-tensioner (LH)	0	_	_
Seat belt pre-tensioner (RH)	0	_	_
Side air bag module (LH)	_	0	_
Side air bag module (RH)	_	_	0

RS

BT

HA

SC

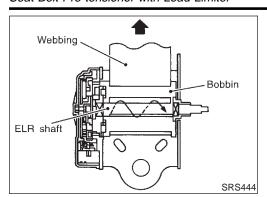
MT

AT

AX

SU

Seat Belt Pre-tensioner with Load Limiter

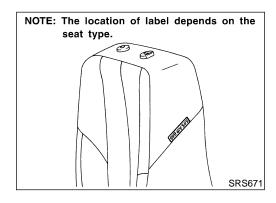


Seat Belt Pre-tensioner with Load Limiter

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

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

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



Built-in Type Side Air Bag

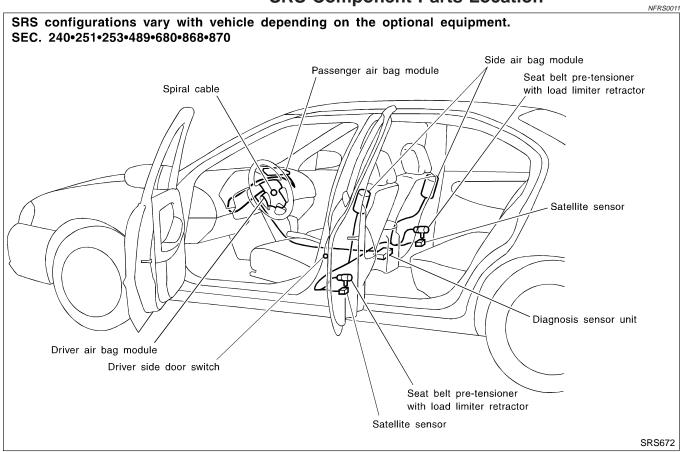
NFRS0035

Front side air bag is built-in type.

The front seat backs with built-in type side air bag have the labels shown in figure at left.

SRS Component Parts Location

SRS Component Parts Location





Maintenance Items

CAUTION:

Do not use electrical test equipment to check SRS circuit.

1. Check operation of "AIR BAG" and "SEAT BELT" warning lamps.

After turning ignition key to "ON" position, both warning lamps illuminate. The "AIR BAG" warning lamp will go off after about 7 seconds if no malfunction is detected. The "SEAT BELT" warning lamp will also go off after about 7 seconds after seat belt has been fastened and no malfunction is detected. (When seat belt has not been fastened, the warning lamp continues to illuminate until seat belt is fastened.) If any of the following warning lamp conditions occur, immediately check the air bag or seat belt pre-tensioner system. Refer to RS-42 or RS-43 for details.

- The "AIR BAG" or "SEAT BELT" warning lamp does not illuminate when the ignition switch is turned "ON".
- The "AIR BAG" or "SEAT BELT" (with seat belt fastened) warning lamp does not go off about 7 seconds after the ignition switch is turned "ON".
- The "AIR BAG" or "SEAT BELT" (with seat belt fastened) warning lamp blinks after about 7 seconds after the ignition switch is turned "ON".

MA

LC

EC

GL

MT

AT

AX

RS

...

NFRS0012

BT

00

SG



- 2. Visually check SRS components.
- Diagnosis sensor unit
- Check diagnosis sensor unit and bracket for dents, cracks and deformities.
- Check connectors for damage, and terminals for deformities.
- 2) Air bag module and steering wheel
- Remove air bag module from steering wheel, instrument panel or seatback. Check harness cover and connectors for damage, terminals for deformities, and harness for binding.
- Install driver air bag module to steering wheel to check fit or alignment with the wheel.
- Check steering wheel for excessive free play.
- Install passenger air bag module to instrument panel to check fit or alignment with the instrument panel.
- Install side air bag module to seatback to check fit and alignment with the seat.
- 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.
- 4) Main harness, body harness, side air bag module sub-harness
- Check connectors for poor connections, damage, and terminals for deformities.
- Check harnesses for binding, chafing or cut.
- 5) 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-II. Refer to "SRS Operation Check" for details. (RS-43)
- 6) Satellite sensor
- Check satellite sensor (including bracket portion) for dents, cracks or deformities.
- Check connectors for damage, and terminals for deformities.

CAUTION:

Replace previously used special bolts and ground bolt with new ones.

Diagnosis Sensor Unit REMOVAL AND INSTALLATION

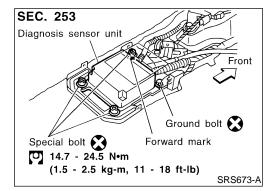
CAUTION:

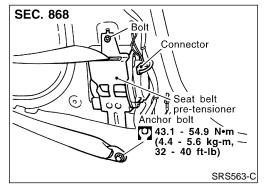
- Before servicing SRS, turn the ignition switch off, disconnect both battery cables and wait at least 3 minutes.
- The special bolts are coated with bonding agent while the other bolt is for ground. Do not use old bolts after removal; replace with new ones.
- Check diagnosis sensor unit for proper installation.
- Check diagnosis sensor unit to ensure it is free of deformities, dents, cracks or rust. If they show any visible

Diagnosis Sensor Unit (Cont'd)

signs of damage, replace them with new ones.

- 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.
- After replacement of diagnosis sensor unit, perform selfdiagnosis for SRS. Refer to "SRS Operation Check" for details (RS-42).





- Disconnect driver, passenger and side air bag module connectors. Also, disconnect seat belt pre-tensioner connector.
- Remove console box. Refer to BT-28, "INSTRUMENT PANEL ASSEMBLY".
- Disconnect diagnosis sensor unit connector.
- Remove ground bolt and also remove special bolts using the TAMPER RESISTANT TORX (Size T50), from diagnosis sensor unit.

Then remove the diagnosis sensor unit.

To install, reverse the removal procedure sequence.

Seat Belt Pre-tensioner REMOVAL AND INSTALLATION

CAUTION:

- Before servicing SRS, turn the ignition switch off, disconnect both battery cables and wait at least 3 minutes.
- Check seat belt pre-tensioner with load limiter for proper installation.
- After replacement of seat belt pre-tensioner, check SRS function and perform self-diagnosis for SRS. Refer to "Checking Seat Belt Pre-tensioner Operation by Using "Seat Belt" Waring Lamp — User Mode", "SRS Operation Check" for details. (RS-43)
- Do not attempt to disassemble seat belt pre-tensioner with load limiter.
- Replace seat belt pre-tensioner if it has been dropped or sustained an impact.
- Do not expose seat belt pre-tensioner to temperatures exceeding 80°C (176°F).

For removal of seat belt pre-tensioner, refer to "Front Seat Belt" for details. (RS-5)

NOTE:

To install, reverse the removal procedure sequence.

Satellite Sensor

REMOVAL AND INSTALLATION

CAUTION:

- Before servicing SRS, turn the ignition switch off, disconnect both battery cables and wait at least 3 minutes.
- Do not use old bolts coated with bonding agent after removal; replace with new ones.
- Check satellite sensor for proper installation.
- Check satellite sensor to ensure they are free of deformities, dents, cracks or rust. If it shows any visible signs of damage, replace it with new one.

RS-19



MA

LC

GL

MT

AT

NFRS0036

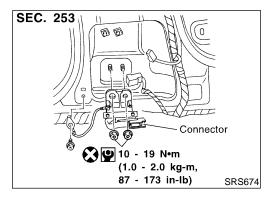
RS

HA

SC



- After replacement of satellite sensor, check SRS function and perform self-diagnosis for SRS. Refer to "SRS Operation Check" for details. (RS-42)
- Do not attempt to disassemble satellite sensor.
- Replace satellite sensor if it has been dropped or sustained an impact.



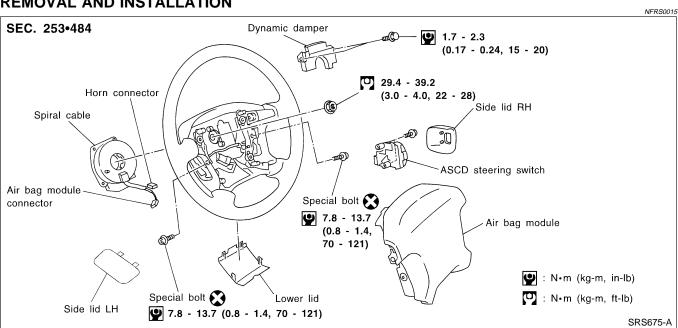
- Remove seat belt pre-tensioner. Refer to "Front Seat Belt" for details. (RS-5)
- 2. Disconnect satellite sensor connector.
- Remove bolt and nuts from satellite sensor unit. Then remove the satellite sensor.

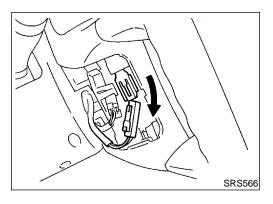
NOTE:

To install, reverse the removal procedure sequence.

Driver Air Bag Module and Spiral Cable

REMOVAL AND INSTALLATION



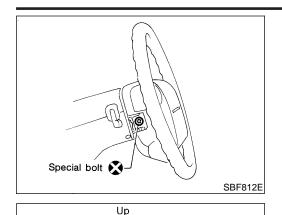


REMOVAL

CAUTION:

- Before servicing SRS, turn the ignition switch off, disconnect both battery cables and wait at least 3 minutes.
- Always work from the side of air bag module.
- Remove lower lid from steering wheel, and disconnect air bag module connector.

Driver Air Bag Module and Spiral Cable (Cont'd)



分

Remove side lids and remove ASCD switch. Using the TAMPER RESISTANT TORX (Size T30), remove left and right special bolts. Air bag module can then be removed.

MA

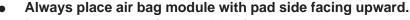
LC

EC

GL

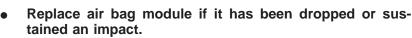
MT

CAUTION:





- 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 air bag module connector.



- 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.
 - Set steering wheel in the neutral position.
- Disconnect horn connector and remove nuts.
- Remove dynamic damper. Then 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.
- Remove steering column cover.

Remove four spiral cable securing screws, and extract spiral cable forward. Unlock spiral cable connector, then remove spiral cable.

CAUTION:

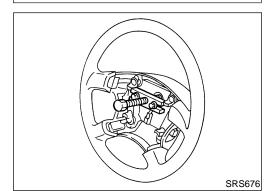
- Do not attempt to disassemble spiral cable.
- Do not apply lubricant to the spiral cable.

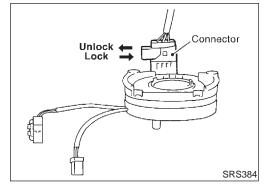




SBF814E

SRS443





AT

RS

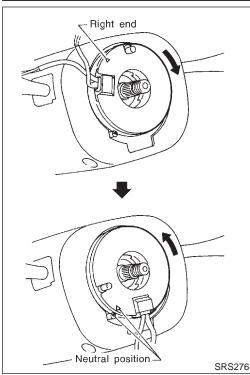
HA

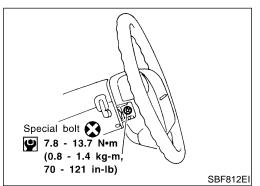
SC

EL

Driver Air Bag Module and Spiral Cable (Cont'd)







INSTALLATION

NFRS0017

- 1. Set the front wheels in the straight-ahead position.
- Make sure that the spiral cable is in the neutral position.
 The neutral position is detected by turning left about 2.5 revolutions from the right end position. Align the two marks (X).

CAUTION:

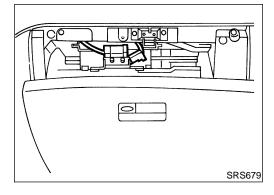
- The spiral cable may snap due to steering operation if the cable is installed in an improper position.
- Also, with the steering linkage disconnected, the cable may snap by turning the steering wheel beyond the limited number of turns. The spiral cable can be turned to the left about 2.5 turns from the right end position.
- Connect spiral cable connector and tighten with screws. Install steering column cover.
- 4. Install steering wheel, aligning with spiral cable pin guides, and pull spiral cable through.
- Connect horn connector and engage spiral cable with pawls in steering wheel. Move air bag module connector away from steering wheel lower lid opening.
- Tighten nut.

2: 29.4 - 39.2 N·m (3.0 - 4.0 kg-m, 22 - 28 ft-lb)

- 7. Install dynamic damper.
- 8. Position air bag module and tighten with new special bolts.
- 9. Connect air bag module connector.
- 10. Install steering switch and lids.
- Conduct self-diagnosis to ensure entire SRS operates properly. (Use CONSULT-II or warning lamp check.)
 Before performing self-diagnosis, connect both battery cables.
- 12. 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.

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-II or warning lamp). If a malfunction is detected, replace the spiral cable with a new one.

 Perform self-diagnosis again to check that no malfunction is detected.

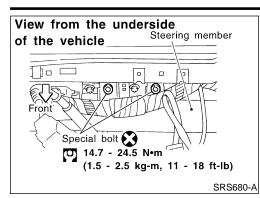


Front Passenger Air Bag Module REMOVAL

CAUTION:

- Before servicing SRS, turn the ignition switch off, disconnect both battery cables and wait for at least 3 minutes.
- Always work from the side of or under air bag module.
- 1. Open the glove box lid.
- 2. Open the connector cover.
- Disconnect front passenger air bag module connector from air bag harness connector.

Front Passenger Air Bag Module (Cont'd)



4. Remove glove box assembly. Refer to BT-32, "INSTRUMENT PANEL ASSEMBLY" for details.

Remove the special bolts using the TAMPER RESISTANT TORX (Size T50) from front passenger air bag module. Take out the air bag module from the instrument panel.

The air bag module is heavy and should be supported using both hands during removal.



EM

LC

EC

CAUTION:

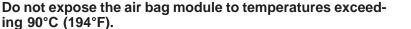
- Always place air bag module with pad side facing upward.
- Do not attempt to disassemble air bag module.
- The special bolts are coated with bonding agent. Do not use old bolts after removal; replace with new coated bolts.
- Do not insert any foreign objects (screwdriver, etc.) into air bag module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



FE

MT

Replace air bag module if it has been dropped or sus-AT



Do not allow oil, grease or water to come in contact with

After air bag inflates, the front instrument panel assembly should be replaced if damaged.



ST

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

Install front passenger air bag module on steering member.

Ensure harness is not caught between rear of air bag module

and steering member.

Install glove box assembly. (Glove box lid is open.)

HA

RS

BT

Connect air bag module connector to air bag harness connec-3.

SC

4. Close the connector cover.

5. Close the glove box lid.

tained an impact.

ing 90°C (194°F).

INSTALLATION

CAUTION:

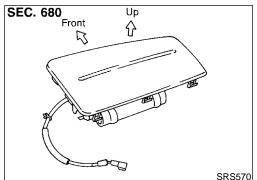
the air bag module.

EL

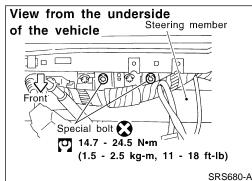
6. Connect both battery cable.

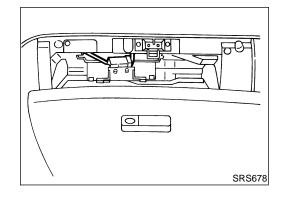
Conduct self-diagnosis to ensure entire SRS operates prop-7. erly. (Use CONSULT-II or warning lamp check.)





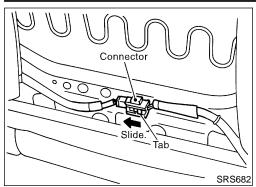






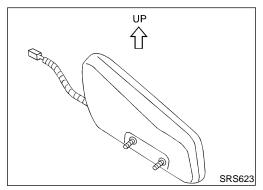


NFRS0020



Inner cloth 6.1 - 7.7 N•m (0.62 - 0.79 kg-m, 53.8 - 68.6 in-lb) SRS683

SEC. 870 Side air bag module 6.1 - 7.7 N•m (0.62 - 0.79 kg-m, 53.8 - 68.6 in-lb) SRS684





Side Air Bag Module REMOVAL

CAUTION:

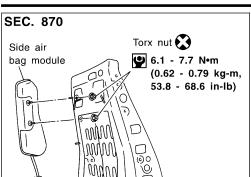
- Before servicing SRS, turn the ignition switch OFF, disconnect both battery cables and wait at least 3 minutes.
- Always work from the rear of the air bag module.
- Remove seat back board.
- When using a clip removal tool to remove the seat back board, take care not to damage the air bag harness.
- 2. Disconnect side air bag module connector by sliding tab.
- 3. Pull up the seat back trim.
- 4. Remove the nuts securing the inner cloth with seat back frame. Then pull up the inner cloth.
- Remove the seat back trim. Refer to BT-46, "Front Seat" for detail.

- 6. Remove the torx nuts coated with bonding agent from the side air bag module.
- 7. Remove side air bag connector. Side air bag module can then be removed.

CAUTION:

- Always place the air bag module standing with the stud bolt side setting bottom.
- Do not attempt to disassemble air bag module.
- The torx nuts are coated with bonding agent. Do not use old nuts after removal; replace with new coated nuts.
- Do not insert any foreign objects (screwdriver, etc.) into air bag module connector.
- 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.
- After air bag inflates, all parts of front seat back (including front seat back frame) should be replaced.

Side Air Bag Module (Cont'd,



INSTALLATION

with nuts.

6.

SRS725

Install side air bag module on seat back frame with new torx nuts coated with bonding agent.

GI

Install side air bag connector.

MA

EM

LC

Install the seat back trim. Refer to BT-46, "Front Seat".

Secure the inner cloth which covers the side air bag module EC

FE

GL

MT

Connect side air bag module connector. Install seat back board with new clips.

SULT-II or air bag warning lamp.)

AT

7. Connect both battery cables.

Go to "SRS Operation Check", RS-42 and perform self-diag-

nosis to ensure entire SRS operates properly. (Use CON-

Disposal of Air Bag Module and Seat Belt Pretensioner

Before disposing of air bag module and seat belt pre-tensioner, or vehicles equipped with such systems, deploy the systems. If such systems have already been deployed due to an accident, dispose of them as indicated in "DISPOSING OF AIR BAG MODULE AND SEAT BELT PRE-TENSIONER" (RS-30).

When deploying the air bag module and seat belt pretensioner, always use the Special Service Tool; Deployment tool KV99106400 (Kent-Moore No. J38381).

When deploying the air bag module and seat belt pretensioner, stand at least 5 m (16 ft) away from the deployment component.

SC

When deploying air bag module and seat belt pre-tensioner, a fairly loud noise is made, followed by smoke being released. The smoke is not poisonous, however, be careful not to inhale smoke since it irritates the throat and can cause choking.

EL

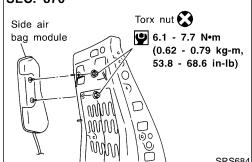
Always activate one air bag module at a time.

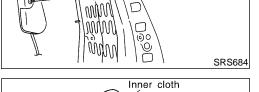
Due to heat, leave air bag module unattended for more than 30 minutes after deployment. Also leave seat belt pre-tensioner unattended for move than 10 minutes after deployment.

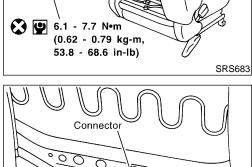
Be sure to wear gloves when handling a deployed air bag

RS-25











module and seat belt pre-tensioner.

- Never apply water to the deployed air bag module and seat belt pre-tensioner.
- Wash your hands clean after finishing work.
- Place the vehicle outdoors with an open space of at least 6 m (20 ft) on all sides when deploying air bag module and seat belt pre-tensioner while mounted in vehicle.
- Use a voltmeter to make sure the vehicle battery is fully charged.
- Do not dispose of the air bag module and seat belt pre-tensioner un-deployed.

CHECKING DEPLOYMENT TOOL Connecting to Battery

NFRS0022S01

NFRS0022S0101

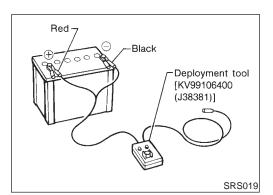
CAUTION:

The battery must show voltage of 9.6V or more.

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

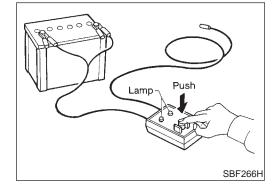
- Wait 3 minutes after the vehicle battery is disconnected before proceeding.
- Connect red clip of deployment tool to battery positive terminal and black clip to negative terminal.

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



Deployment Tool Check

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



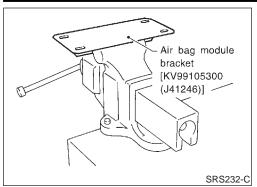
Air Bag Deployment Tool Lamp Illumination Chart (Battery connected)

NFRS0022S0103

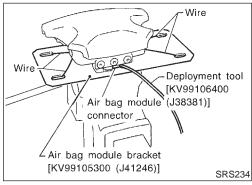
Switch operation	Left side lamp, green* "AIR BAG CONNECTOR VOLTAGE"	Right side lamp, green* "DEPLOYMENT TOOL POWER"
OFF	OFF	ON
ON	ON	ON

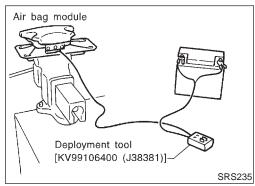
^{*:} If this lamp glows red, the tool is connected to the battery incorrectly. Reverse the connections and make sure the lamp glows green.

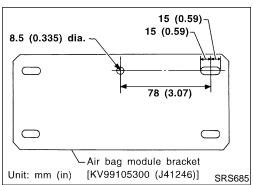
Disposal of Air Bag Module and Seat Belt Pre-tensioner (Cont'd











DEPLOYMENT PROCEDURES FOR AIR BAG MODULE (OUTSIDE OF VEHICLE)

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

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

Deployment of Driver's Air Bag Module (Outside of vehicle)

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

CAUTION:

SRS233

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

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

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

- 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.
- 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)

Make an 8.5 mm (0.335 in) diameter hole in air bag module bracket [SST: KV99105300 (J41246)] at the position shown in figure at left.





FE

GL

MT

AX

AT

SU

ST

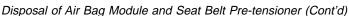
RS

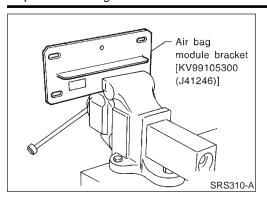
BT

HA

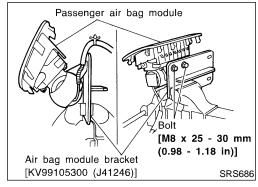


EL





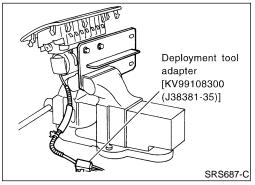
2. Firmly secure air bag module bracket [SST: KV99105300 (J41246)] in a vise.



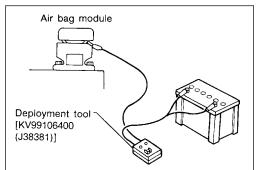
Match the two holes in air bag module bracket (held in vise) and passenger air bag module and fix them with two bolts IM8 × 25 - 30 mm (0.98 - 1.18 in)].

CAUTION:

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



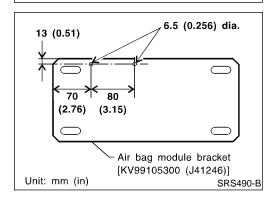
- Connect deployment tool adapter [SST: KV99108300 (J38381-35)] to deployment tool [SST: KV99106400 (J38381)] connector and air bag module connector.
- 5. Connect red clip of deployment tool to battery positive terminal and black clip to negative terminal.
- The lamp on the right side of the tool, marked "deployment tool power", should glow green, not red.
- 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:

SRS020-B

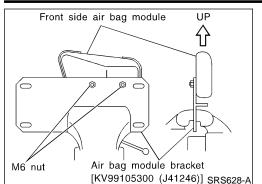
- When deploying the air bag module, do not stand on the deploying side.
- Stand at least 5 m (16 ft) away from the air bag module.

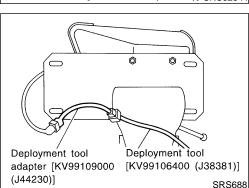


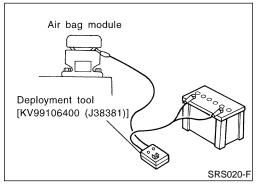
Deployment of Side Air Bag Module (Buit-in type) (Outside of vehicle)

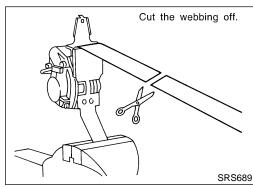
Make 6.5 mm (0.256 in) diameter holes in air bag module bracket [SST: KV99105300 (J41246)] at the position shown in figure at left.

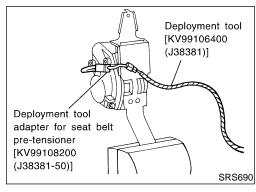
Disposal of Air Bag Module and Seat Belt Pre-tensioner (Cont'd)











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

Insert the stud bolts of side air bag module into the two holes in air bag module bracket (held in vise) and fix them with two M6 nuts.

CAUTION:

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

 Connect deployment tool adapter [SST: KV99109000 (J44230)] to deployment tool [SST: KV99106400 (J38381)] connector and connector on air bag module.

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 PROCEDURES FOR SEAT BELT PRETENSIONER (OUTSIDE OF VEHICLE)

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

 Connect deployment tool adapter [SST: KV99108200 (J38381-50)] to deployment tool [SST: KV99106400 (J38381)] connector and seat belt pre-tensioner connector.

MA EM

LC

EC

FE

GL

MT

AT

SU

51

RS

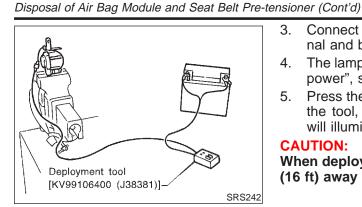
BT

HA

SC.

EL





- 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.
- 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.

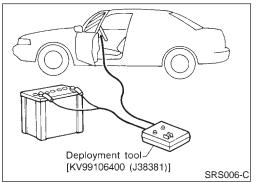
When deploying the seat belt pre-tensioner, stand at least 5 m (16 ft) away from the seat belt pre-tensioner.

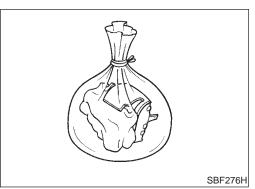
DEPLOYMENT OF AIR BAG MODULE AND SEAT BELT PRE-TENSIONER WHILE MOUNTED IN VEHICLE

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

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

- 1. Disconnect both the vehicle battery cables and wait 3 minutes.
- Disconnect air bag module and seat belt pre-tensioner connec-
- Connect deployment tool [SST: KV99106400 (J38381)] to air bag module or seat belt pre-tensioner. For front passenger air bag module, attach deployment tool adapter [SST: KV99108300 (J38381-35)] to the tool connector. For side air bag module (built-in type), attach deployment tool adapter [SST: KV99109000 (J44230)]. For seat belt pretensioner, attach deployment tool adapter [SST: KV99108200 (J38381-50)] to the tool connector.





- 4. 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.
- 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.

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

DISPOSING OF AIR BAG MODULE AND SEAT BELT PRE-TENSIONER

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

- 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.



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

- 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 reused.
- Wash your hands clean after finishing work.

GIII

MA

LC

EC

FE

GL

MT

AT

AX

SU

BR

ST

RS

BT

HA

SC

EL



Trouble Diagnoses Introduction

CAUTION:

- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. Spiral cable and wiring harnesses covered with yellow insulation tape either just before the harness connectors or for the complete harness are related to the SRS.
- 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.

DIAGNOSIS FUNCTION

IED SAA23SA1

=NFRS0023

The SRS self-diagnosis results can be read by using "AIR BAG" warning lamp, "SEAT BELT" warning lamp and/or CONSULT-II. The reading of these results is accomplished using one of two modes — "User mode" and "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 and/or "SEAT BELT" warning lamp.

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

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

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

DIAGNOSIS MODE FOR CONSULT-II

NFRS0023S02

"SELF-DIAG [CURRENT]"

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

"SELF-DIAG [PAST]"

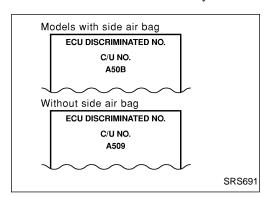
Diagnosis results previously stored in the memory are displayed on the CONSULT-II screen. The stored results are not erased until memory erasing is executed.

"TROUBLE DIAG RECORD"

With TROUBLE DIAG RECORD, diagnosis results previously erased by a reset operation can be displayed on the CONSULT-II screen.

"ECU DISCRIMINATED NO."

The diagnosis sensor unit for each vehicle model is assigned with its own, individual classification number. This number will be displayed on the CONSULT-II screen, as shown below. When replacing the diagnosis sensor unit, refer to the part number for the compatibility. After installation, replacement with a correct unit can be checked by confirming this classification number on the CONSULT-II screen.



For NISSAN MODEL A33, the diagnosis sensor unit classification numbers assigned are A50B (Models with side air bag) and A509 (without side air bag).

Trouble Diagnoses Introduction (Cont'd

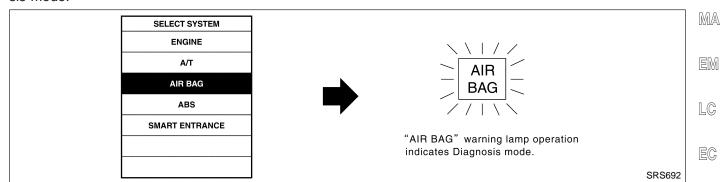
(E) HOW TO CHANGE SELF-DIAGNOSIS MODE WITH CONSULT-II

From User Mode to Diagnosis Mode

=NFRS0023S03

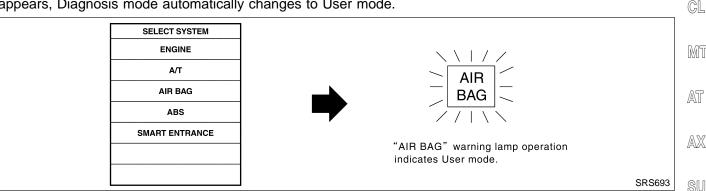
After selecting "AIR BAG" on the "SELECT SYSTEM" screen, User mode automatically changes to Diagnosis mode.

NFRS0023S0301 G



From Diagnosis Mode to User Mode

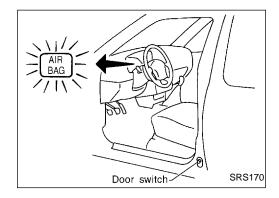
To return to User mode from Diagnosis mode, touch "BACK" key of CONSULT-II until "SELECT SYSTEM" appears, Diagnosis mode automatically changes to User mode.



NOTE: NOTE:

From User Mode to Diagnosis Mode

Diagnosis mode activates only when a malfunction is detected, by pressing the driver's door switch at least 5 times within 7 seconds after turning the ignition "ON". SRS will not enter Diagnosis mode, if no malfunction is detected.



From Diagnosis Mode to User Mode

After a malfunction is repaired, switch the ignition "OFF" for at least one second, then back "ON". Diagnosis mode is returned to User mode. If switching Diagnosis mode to User mode is required while malfunction is being detected, switch the ignition "OFF", then back "ON" and press the driver's door switch at least 5 times within 7 seconds.

HOW TO ERASE SELF-DIAGNOSIS RESULTS

With CONSULT-II

"SELF-DIAG [CURRENT]"

NFRS0023S05

NFRS0023S0501

0023S0401 least

NFRS0023S04

on §

RS

าง

HA

SC

EL



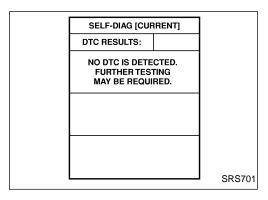
Trouble Diagnoses Introduction (Cont'd)

A current Self-diagnosis result is displayed on the CONSULT-II screen in real time. After the malfunction is repaired completely, no malfunction is detected on "SELF-DIAG [CURRENT]".

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

NOTE:

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



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

⋈ Without CONSULT-II

NFRS0023S05

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



How to Perform Trouble Diagnoses for Quick and Accurate Repair

How to Perform Trouble Diagnoses for Quick and Accurate Repair

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

mn-

MA

INFORMATION FROM CUSTOMER

WHAT Vehicle model
WHEN Date, Frequencies
WHERE Road conditions
HOW Operating conditions, Symptoms

EM

LC

PRELIMINARY CHECK

Check that the following parts are in good order.

- Battery [Refer to SC-3, "BATTERY".]
- Fuse [Refer to EL-17, "Fuse", "POWER SUPPLY ROUTING".]
- System component-to-harness connections

NFRS0024S02

NFRS0024S01

EC

CL

MT

AT AX

SU

BR

ST

RS

B

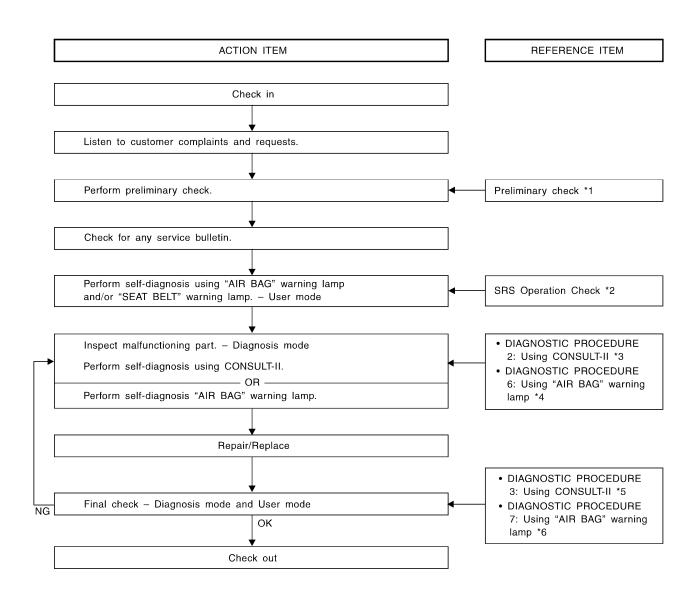
HA

SC



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

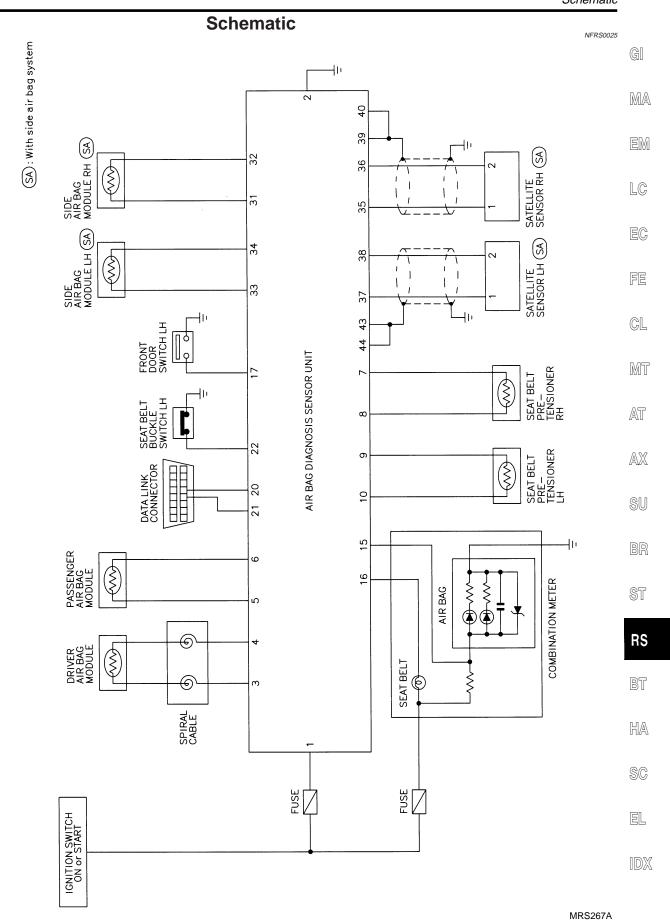
WORK FLOW



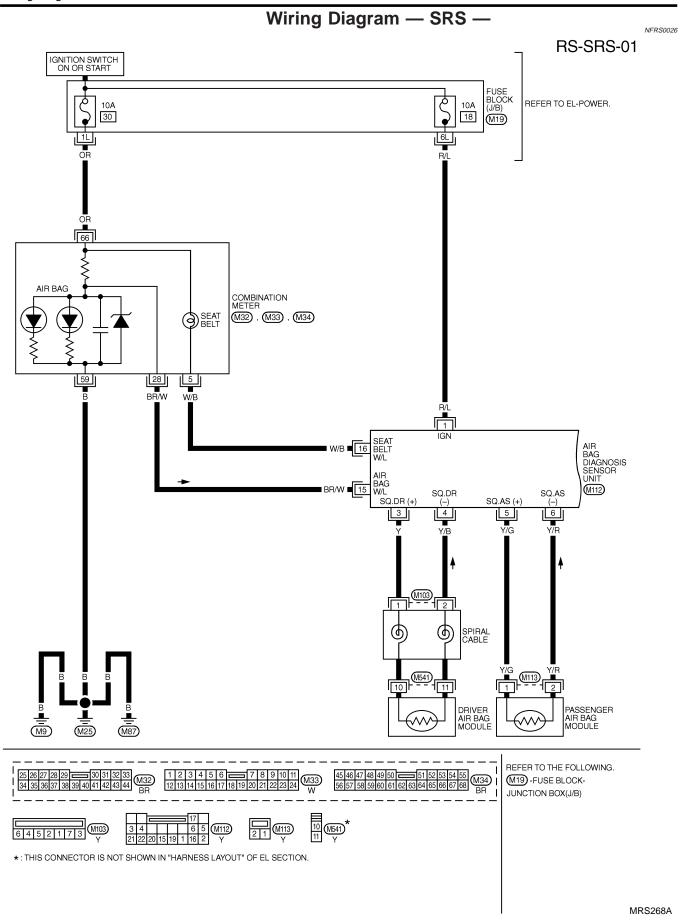
SRS724

*1: RS-35 *2: RS-42 *3: RS-44 *4: RS-53 *5: RS-47 *6: RS-56

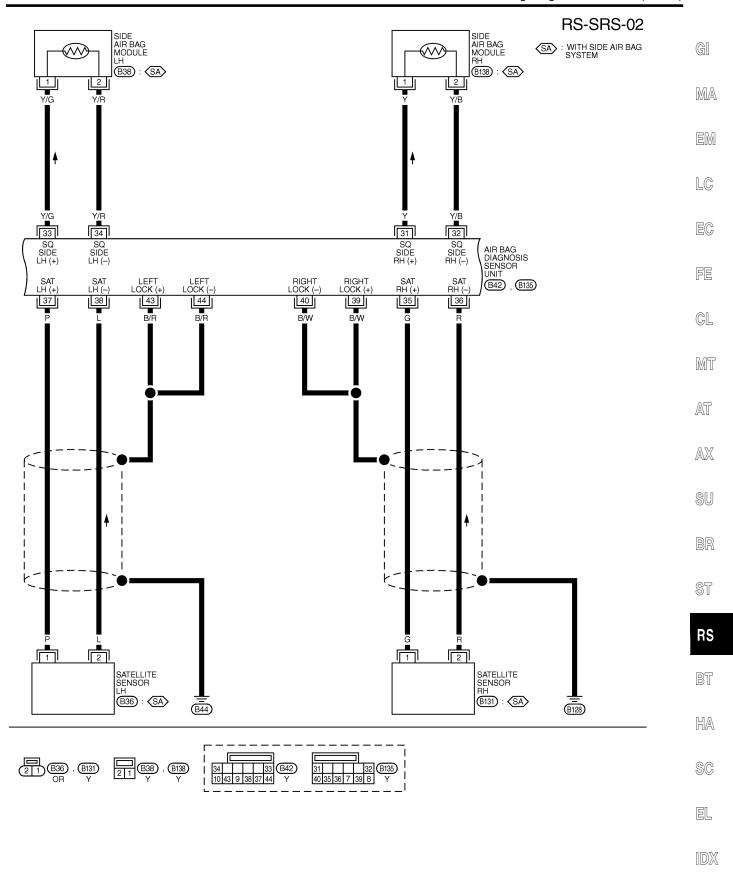








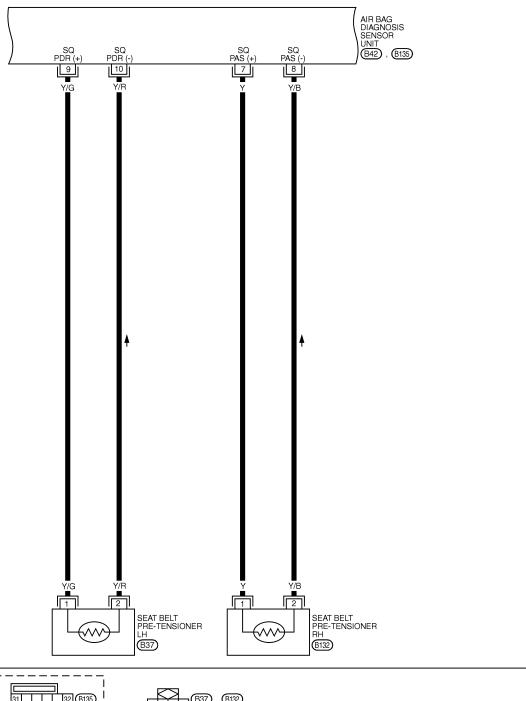
Wiring Diagram — SRS — (Cont'd)

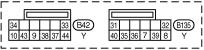


MRS269A



RS-SRS-03

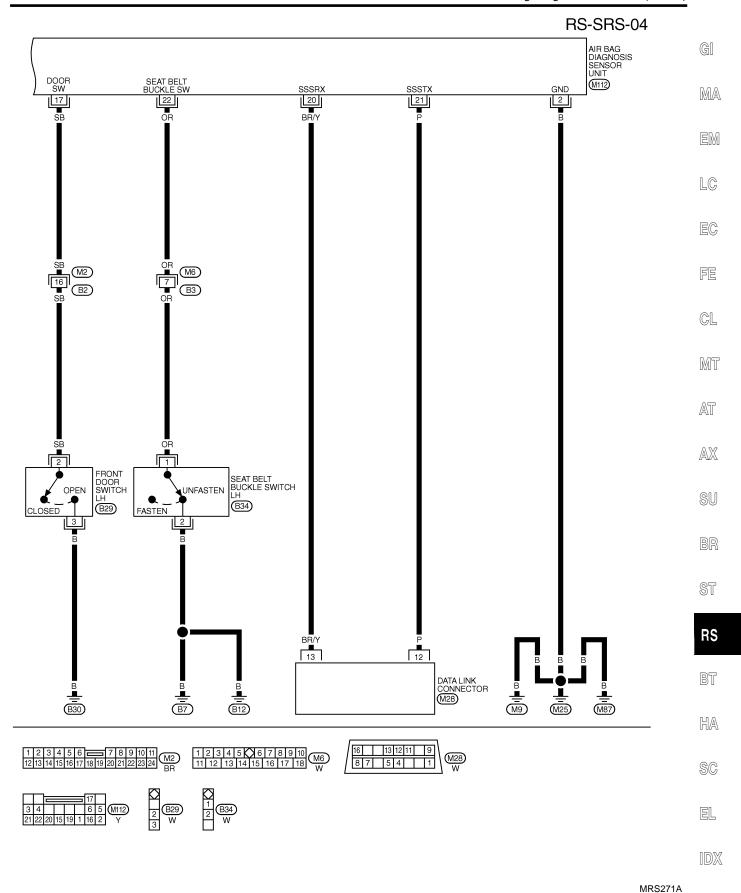






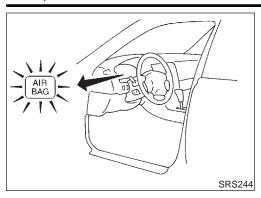
MRS270A

Wiring Diagram — SRS — (Cont'd)



SRS Operation Check





SRS Operation Check DIAGNOSTIC PROCEDURE 1

NEDCOOS

Checking Air Bag Operation by Using "AIR BAG"
Warning Lamp — User Mode

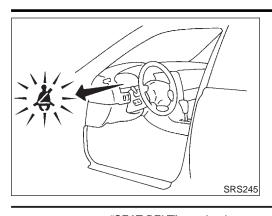
- 1. After turning ignition switch from "OFF" to "ON", "AIR BAG" warning lamp operates.
- 2. Compare "AIR BAG" warning lamp operation to the chart below

"AIR BAG" warning lamp operation — User mode —	SRS condition	Reference item
IGN ON ON OFF 7 sec. MRS095A	No malfunction is detected. No further action is necessary.	_
OFF 0.5 sec. 0.5 sec. MRS096A	The system is malfunctioning and needs to be repaired as indicated.	Go to DIAGNOSTIC PRO- CEDURE 2 or 6 (RS-44 or RS-53).
IGN ON	Air bag is deployed.	Go to COLLISION DIAG- NOSIS (RS-68).
ON OFF MRS097A	Air bag fuse, diagnosis sensor unit or harness is malfunctioning and needs to be repaired.	Go to DIAGNOSTIC PRO- CEDURE 9 (RS-59).
IGN ON ON OFF MRS098A	One of the following has occurred and needs to be repaired. • Meter fuse is blown. • "AIR BAG" warning lamp circuit has open or short. • Diagnosis sensor unit is malfunctioning.	Go to DIAGNOSTIC PRO- CEDURE 10 (RS-61).

NOTE:

If "AIR BAG" warning lamp operates differently from the operations shown above, refer to "AIR BAG" warning lamp operation — Diagnosis mode —, DIAGNOSTIC PROCEDURE 6 (step 4), RS-53.

SRS Operation Check (Cont'd)



Checking Seat Belt Pre-tensioner Operation by Using "Seat Belt" Warning Lamp — User Mode

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

,,	U	





LC	

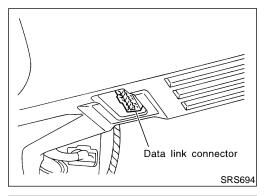
"SEAT BELT" warning lamp operation	SRS condition	Reference item	
After driver's seat belt has been fastened. IGN ON	No malfunction is detected. No further action is neces-		- EG
ON V	sary.		FE
OFF 7 sec. MRS095A	_	_	CL
When driver's seat belt has not been fastened. IGN ON Seat belt is fastened.			MT
ON OFF			AT
SRS086			
After driver's seat belt has been fastened. IGN ON ON ON ON ON ON ON ON ON ON	 Seat belt pre-tensioner circuit is opened, or Seat belt pre-tensioner power supply or ground 	If CONSULT-II is available, go to DIAG-NOSTIC PROCEDURE 2 (RS-44).	SU
OFF 0.5 sec. 0.5 sec. MRS096A	circuit is shorted.	If CONSULT-II is not available, repair the system as follows.* 1. Visually check the wir-	BR
When driver's seat belt has not been fastened.	-	ing harness connections.	ST
IGN ON Seat belt is fastened.		Replace driver's and front passenger seat belt assemblies. (Pafers dispersion than a sea of the sea of t	RS
OFF 0.5 sec. 7 sec. 7 sec. 0.5 sec. SRS344		(Before disposing, they must be deactivated.) 3. Replace diagnosis sensor unit. 4. Replace body harness.	BT
When driver's seat belt is fastened. IGN ON	Seat belt pre-tensioner (and air bag) is deployed.	Go to COLLISION DIAG- NOSIS (RS-68).	- HA
ON ON	Seat belt buckle switch, harness, combination meter assembly, diagnosis	Go to DIAGNOSTIC PRO- CEDURE 12 (RS-64).	SC
OFF —J MRS097A	sensor unit are malfunctioning and need to be repaired.		EL
	ļ.		- IDX



SRS Operation Check (Cont'd)

"SEAT BELT" warning lamp operation	SRS condition	Reference item
IGN ON ON	Meter fuse, diagnosis sensor unit or "SEAT BELT" warning lamp circuit is shorted or open and needs to be repaired.	Go to DIAGNOSTIC PRO- CEDURE 13 (RS-66).
OFF MRS098A		

^{*} Follow the procedures in numerical order when repairing malfunctioning parts. Confirm whether malfunction is eliminated using the seat belt warning lamp 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.



Trouble Diagnoses with CONSULT-II DIAGNOSTIC PROCEDURE 2

NFRS0028

Inspecting SRS malfunctioning parts by using CONSULT-II — Diagnosis mode

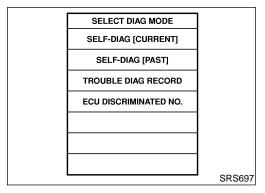
- 1. Turn ignition switch "OFF".
- Connect "CONSULT-II" to data link connector.
- CONSULT-II

 START
 SUB MODE

 SRS695
- 3. Turn ignition switch "ON".
- 4. Touch "START".

SELECT SYSTEM
ENGINE
A/T
AIR BAG
ABS
SMART ENTRANCE
SRS696

5. Touch "AIR BAG".



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

(P) Trouble Diagnoses with CONSULT-II (Cont'd)

SELF-DIAG [CUF	RRENT]	
DTC RESULTS:		
PRE-TEN FROM		
		SRS741

7. Diagnostic codes are displayed on "SELF-DIAG [CURRENT]".

GI

MA

LC

SELF-DIAG [CURRENT]

DTC RESULTS:

NO DTC IS DETECTED.
FURTHER TESTING
MAY BE REQUIRED.

SRS701

If no malfunction is detected on "SELF-DIAG [CURRENT]" even though malfunction is detected in "SRS Operation Check", check the battery voltage.

EC

If the battery voltage is less than 9V, charge the battery. Then go to DIAGNOSTIC PROCEDURE 3, page RS-47.

4. FE

If the battery voltage is OK, go to DIAGNOSTIC PROCEDURE 4, page RS-49, to diagnose the following cases:

• Self-diagnostic result "SELF-DIAG [PAST]" (previously stored)

GL

The SRS system malfunctions intermittently.

in the memory) might not be erased after repair.

MT

- Touch "PRINT".
- 9. Compare diagnostic codes to "CONSULT-II Diagnostic Code Chart", page RS-45.

10. Touch "BACK" key of CONSULT-II until "SELECT SYSTEM" appears in order to return to User mode from Diagnosis mode.

0.0

11. Turn ignition switch "OFF", then turn off and disconnect CONSULT-II, and disconnect both battery cables.

 Repair the system as outlined by the "Repair order" in "CON-SULT-II Diagnostic Code Chart", that corresponds to the selfdiagnostic result. For replacement procedure of component parts, refer to RS-18.

13. After repairing the system, go to DIAGNOSTIC PROCEDURE 3, page RS-47 for final checking.

ST

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

NFRS0028S0101

	T		141 NC002000101	
Diagnostic item	Explanation		Repair order "Recheck SRS at each replace- ment."	BT
NO DTC IS DETECTED.	When malfunction is indicated by the "AIR	Low battery voltage (Less than 9V)	Go to DIAGNOSTIC PROCEDURE 3 (RS-47) after charging battery.	HA
	BAG" warning lamp in User mode	Self-diagnostic result "SELF-DIAG [PAST]" (previously stored in the memory) might not be erased after repair. Intermittent malfunction has been detected in the past.	Go to DIAGNOSTIC PROCEDURE 4 (RS-49).	SC EL
	No malfunction is de-	tected.	Go to DIAGNOSTIC PROCEDURE 3 (RS-47).	[DX



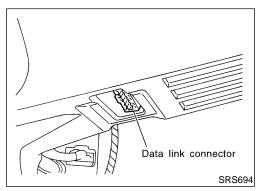
(E) Trouble Diagnoses with CONSULT-II (Cont'd)

Diagnostic item	Explanation	Repair order "Recheck SRS at each replace- ment."
AIRBAG MODULE [OPEN]	Driver's air bag module circuit is open. (including the spiral cable)	 Visually check the wiring harness connection. Replace the harness if it has visible damage. Replace driver's air bag module. (Before disposal of it, it must be deployed.) Replace the spiral cable. Replace the diagnosis sensor unit. Replace the related harness.
AIRBAG MODULE [VB-SHORT]	Driver's air bag module circuit is shorted to some power supply circuit. (including the spiral cable)	Visually check the wiring harness connection. Replace the harness if it has visible
AIRBAG MODULE [GND-SHORT]	Driver's air bag module circuit is shorted to ground. (including the spiral cable)	damage. 3. Replace the spiral cable. 4. Replace driver's air bag module. (Before disposal of it, it must be
AIRBAG MODULE [SHORT]	Driver's air bag module circuits are shorted to each other.	deployed.) 5. Replace the diagnosis sensor unit. 6. Replace the related harness.
ASSIST A/B MODULE [VB-SHORT]	Front passenger air bag module circuit is shorted to some power supply circuit.	Visually check the wiring harness connection.
ASSIST A/B MODULE [OPEN]	Front passenger air bag module circuit is open.	Replace the harness if it has visible damage.Replace front passenger air bag
ASSIST A/B MODULE [GND-SHORT]	Front passenger air bag module circuit is shorted to ground.	module. (Before disposal of it, it must be deployed.) 4. Replace the diagnosis sensor unit.
ASSIST A/B MODULE [SHORT]	Front passenger air bag module circuits are shorted to each other.	5. Replace the related harness.
SIDE MODULE LH [OPEN]	Side air bag module (LH) circuit is open.	Visually check the wiring harness connection.
SIDE MODULE LH [VB-SHORT]	Side air bag module (LH) circuit is shorted to some power supply circuits.	2. Replace the harness if it has visible damage.3. Replace side air bag module (LH).
SIDE MODULE LH [GND-SHORT]	Side air bag module (LH) circuit is shorted to ground.	(Before disposal, it must be deployed.) 4. Replace the diagnosis sensor unit.
SIDE MODULE LH [SHORT]	Side air bag module (LH) circuits are shorted to each other.	5. Replace the related harness.
SIDE MODULE RH [OPEN]	Side air bag module (RH) circuit is open.	Visually check the wiring harness connection.
SIDE MODULE RH [VB-SHORT]	Side air bag module (RH) circuit is shorted to some power supply circuits.	2. Replace the harness if it has visible damage.3. Replace side air bag module (RH).
SIDE MODULE RH [GND-SHORT]	Side air bag module (RH) circuit is shorted to ground.	(Before disposal, it must be deployed.) 4. Replace the diagnosis sensor unit.
SIDE MODULE RH [SHORT]	Side air bag module (RH) circuits are shorted to each other.	Replace the related harness.
SATELLITE SENS LH [UNIT FAIL] SATELLITE SENS LH [COMM FAIL]	Satellite sensor (LH)	 Visually check the wiring harness connection. Replace the harness if it has visible damage. Replace the satellite sensor (LH). Replace the diagnosis sensor unit. Replace the related harness.

(P) Trouble Diagnoses with CONSULT-II (Cont'd)

Diagnostic item	Explanation	Repair order "Recheck SRS at each replace- ment."
SATELLITE SENS RH [UNIT FAIL] SATELLITE SENS RH [COMM FAIL]	Satellite sensor (RH)	 Visually check the wiring harness connection. Replace the harness if it has visible damage. Replace the satellite sensor (RH). Replace the diagnosis sensor unit. Replace the related harness.
PRE-TEN FRONT LH [OPEN/VB-SHORT]	The circuit for front LH pre-tensioner is open or shorted to some power supply circuit.	 Visually check the wiring harness connections. Replace the harness if it has visible damage. Replace front LH seat belt.
PRE-TEN FRONT LH [GND-SHORT]	The circuit for front LH pre-tensioner is shorted to ground.	 (Before disposing, it must be deactivated.) 4. Replace the diagnosis sensor unit. 5. Replace the related harness.
PRE-TEN FRONT RH [OPEN/VB-SHORT]	The circuit for front RH pre-tensioner is open or shorted to some power supply circuit.	Visually check the wiring harness connections. Replace the harness if it has visible damage.
PRE-TEN FRONT RH [GND-SHORT]	The circuit for front RH pre-tensioner is shorted to ground.	 3. Replace front RH seat belt. (Before disposing, it must be deactivated.) 4. Replace the diagnosis sensor unit. 5. Replace the related harness.
CONTROL UNIT	Diagnosis sensor unit is malfunctioning.	Visually check the wiring harness connection. Replace the diagnosis sensor unit.

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



CONSULT-II START SUB MODE SRS695

DIAGNOSTIC PROCEDURE 3

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

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

4. Touch "START".



BR

RS

BT

HA

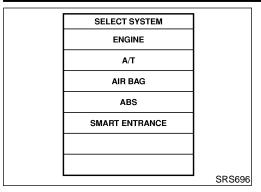
SC

EL

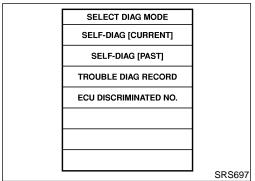
 $\mathbb{D}\mathbb{X}$



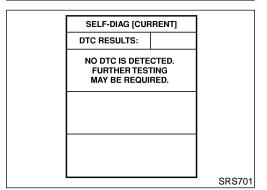
(P) Trouble Diagnoses with CONSULT-II (Cont'd)



5. Touch "AIR BAG".

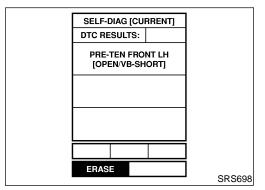


Touch "SELF-DIAG [CURRENT]".



7. If no malfunction is detected on "SELF-DIAG [CURRENT]", repair of SRS is completed. Go to step 8. (When the malfunction is only in the seat belt pre-tensioner system, go to step 11.) If any malfunction is displayed on "SELF-DIAG [CURRENT]", the malfunctioning part is not repaired completely or another.

the malfunction is 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-44, and repair malfunctioning part completely.

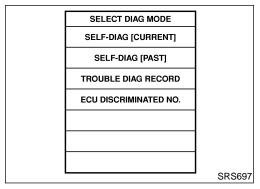


8. Touch "ERASE".

NOTE:

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

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



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

(P) Trouble Diagnoses with CONSULT-II (Cont'd)

SELF-DIAG [P	AST]	
DTC RESULTS:		
NO DTC IS DETE FURTHER TES' MAY BE REQUI	TING	
		000700
		SRS702

10. Check that no malfunction is detected on "SELF-DIAG [PAST]".

NOTE:

Past malfunction for seat belt pre-tensioner system will not be displayed on "SELF-DIAG [PAST]".

MA

EM

LC

GL

MT

AT

AX

SU

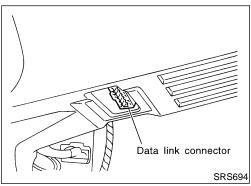
- 11. Touch "BACK" key of CONSULT-II until "SELECT SYSTEM" appears in order to return to User mode from Diagnosis mode.
- 12. Turn ignition switch "OFF", then turn off and disconnect CON-SULT-II.
- 13. Go to "SRS Operation Check", page RS-42 to check SRS operation by using "AIR BAG" warning lamp with User mode.

DIAGNOSTIC PROCEDURE 4 (CONTINUED FROM DIAGNOSTIC PROCEDURE 2)

Inspecting SRS malfunctioning record

NFRS0028S03

1	CONSIDER POSSIBILIT	TY OF NOT ERASING SELF-DIAGNOSTIC RESULT AFTER REPAIRING
Is it the	e first time for maintenance	e of SRS?
		Yes or No
Yes	>	Go to DIAGNOSTIC PROCEDURE 5 (RS-49).
No	>	Self-diagnostic result "SELF-DIAG [PAST]" (previously stored in the memory) might not be erased after repair. Go to DIAGNOSTIC PROCEDURE 3, step 8 (RS-47).



CONSULT-II START SUB MODE SRS695

DIAGNOSTIC PROCEDURE 5

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

Turn ignition switch "OFF".

2. Connect "CONSULT-II" to Data link connector.

Turn ignition switch "ON".

4. Touch "START".

ST

RS

נו עב

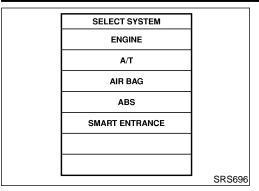
HA

SC

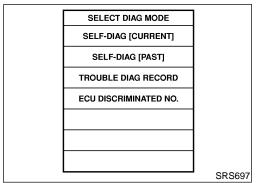
EL



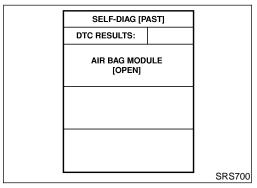
(P) Trouble Diagnoses with CONSULT-II (Cont'd)



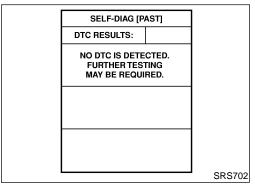
5. Touch "AIR BAG".



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



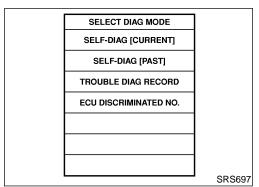
If diagnostic codes are displayed on "SELF-DIAG [PAST]", go to step 10.



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

NOTE:

Past malfunction for seat belt pre-tensioner system will not be displayed on "SELF-DIAG [PAST]".



8. Touch "TROUBLE DIAG RECORD".

NOTE:

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

Trouble Diagnoses with CONSULT-II (Cont'd)

04

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

G[

MA

LC

- 10. Touch "PRINT".
- 11. Compare diagnostic codes to "Intermittent Malfunction Diagnostic Code Chart", page RS-51.

EC

12. Touch "BACK" key of CONSULT-II until "SELECT SYSTEM" appears.

FE

13. Turn ignition switch "OFF", then turn off and disconnect CONSULT-II, and disconnect both battery cables.

⊌L

14. Repair the system as outlined by the "Repair order" in "Intermittent Malfunction Diagnostic Code Chart", that corresponds to the self-diagnostic result. For replacement procedure of component parts, refer to RS-18.

MT

15. Go to DIAGNOSTIC PROCEDURE 3, page RS-47, for final checking.

AT

Intermittent Malfunction Diagnostic Code Chart ("SELF-DIAG [PAST]" or "TROUBLE DIAG RECORD")

		DIAG [PAST]" or "TROUBLE	DIAG RECORD")
Diagnostic item		Explanation	Repair order
NO DTC IS DETECTED.	When malfunction is indicated by the "AIR BAG" warning lamp in User mode	Low battery voltage (Less than 9V)	Go to DIAGNOSTIC PROCE- DURE 3 (RS-47) after charging battery.
	No malfunction is determined.	ected.	Go to DIAGNOSTIC PROCE- DURE 3 (RS-47).
AIRBAG MODULE [OPEN]	 cable) Driver's air bag module circuit is shorted to some power supply circuit. (including the spiral cable) Driver's air bag module circuit is shorted to ground. (including the spiral cable) connection. Replace air bag harned visible damage. If the harness check is replace driver's air bag (Before disposal of it, 		
AIRBAG MODULE [VB-SHORT]			, ,
AIRBAG MODULE [GND-SHORT]			replace driver's air bag module (Before disposal of it, it must be deployed.), diagnosis sensor unit
AIRBAG MODULE [SHORT]	Driver's air bag modul	e circuits are shorted to each other.	and spiral cable.
ASSIST A/B MODULE [VB-SHORT]	Front passenger air ba power supply circuit.	ag module circuit is shorted to some	Visually check the wiring harness connection.
ASSIST A/B MODULE [OPEN]	Front passenger air ba	ag module circuit is open.	2. Replace air bag harness if it has visible damage.3. If the harness check result is OK,
ASSIST A/B MODULE [GND-SHORT]	Front passenger air ba	ag module circuit is shorted to ground.	replace front air bag module (Before disposal of it, it must be deployed.), and diagnosis sensor
ASSIST A/B MODULE [SHORT]	Front passenger air ba other.	ag module circuits are shorted to each	unit.

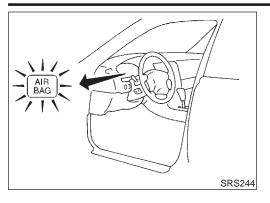


Trouble Diagnoses with CONSULT-II (Cont'd)

Diagnostic item	Explanation	Repair order
SIDE MODULE LH [OPEN]	Side air bag module (LH) circuit is open.	Visually check the wiring harness connection.
SIDE MODULE LH [VB-SHORT]	Side air bag module (LH) circuit is shorted to some power supply circuits.	2. Replace the harness if it has visible damage.3. If the harness check is OK,
SIDE MODULE LH [GND-SHORT]	Side air bag module (LH) circuit is shorted to ground.	replace the diagnosis sensor unit and side air bag module (LH). (Before disposing the side air bag
SIDE MODULE LH [SHORT]	Side air bag module (LH) circuits are shorted to each other.	module (LH), it must be deployed.)
SIDE MODULE RH [OPEN]	Side air bag module (RH) circuit is open.	Visually check the wiring harness connection.
SIDE MODULE RH [VB-SHORT]	Side air bag module (RH) circuit is shorted to some power supply circuits.	2. Replace the harness if it has visible damage.3. If the harness check is OK,
SIDE MODULE RH [GND-SHORT]	Side air bag module (RH) circuit is shorted to ground.	replace the diagnosis sensor unit and side air bag module (RH). (Before disposing the side air bag
SIDE MODULE RH [SHORT]	Side air bag module (RH) circuits are shorted to each other.	module (RH), it must be deployed.)
SATELLITE SENS LH [UNIT FAIL] SATELLITE SENS LH [COMM FAIL]	Satellite sensor (LH)	 Visually check the wiring harness connection. Replace the harness if it has visible damage. If the harness check is OK, replace the diagnosis sensor unit and satellite sensor (LH).
SATELLITE SENS RH [UNIT FAIL] SATELLITE SENS RH [COMM FAIL]	Satellite sensor (RH)	 Visually check the wiring harness connection. Replace the harness if it has visible damage. If the harness check is OK, replace the diagnosis sensor unit and satellite sensor (RH).
CONTROL UNIT	Diagnosis sensor unit is malfunctioning.	 Visually check the wiring harness connection. Replace the harness if it has visible damage. If the harness check is OK, replace the diagnosis sensor unit.

^{*} Follow the procedures in numerical order when repairing malfunctioning parts, then make the final system check.

Trouble Diagnoses without CONSULT-II



7 sec

2 sec.

1.5 sec.

\1.5 sec.

0.5 sec

⊗ Trouble Diagnoses without CONSULT-II DIAGNOSTIC PROCEDURE 6

=NFRS0029

Inspecting SRS malfunctioning parts by using "AIR $^{\it NFRS0029801}$ warning lamp — Diagnosis mode

9501 G

NOTE:

MA

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

1. Open driver's door.

الالالاك

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

LC

after turning ignition switch "ON". SRS is now in Diagnosis mode.

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

Press driver's door switch at least 5 times within 7 seconds

fol-

NOTE:

If SRS does not enter Diagnosis mode even though malfunction is detected in User mode, go to DIAGNOSTIC PROCEDURE 11, page RS-62.

GL "AIR BAG" warning lamp flash pattern — Diagnosis mode — SRS condition No. a through b are repeated. Diagnosis MT results (previously stored in the AT memory) might not be IGN ON erased after a b a b a b a b a b a b AX repair. ON 1 Intermittent malfunction OFF has been 7 sec sec detected in **SRS333** the past. Go to DIAG-NOSTIC PRO-**CEDURE 8** (RS-58). a through d are repeated. The system is **b** — Driver and passenger air malfunctioning IGN ON bag marker (For identifying and needs to RS (a) **(b)** (c) **(d**) (a) (b) driver and/or passenger air be repaired. ON bag malfunctioning) 2 d — Indicates malfunctioning OFF part. The number of flash var-7 sec 3 sec ies with malfunctioning part SRS341 (0.5 sec. ON and 0.5 sec. OFF 2 sec. 2 sec. HA is counted as one flash.) a through f are repeated. IGN ON **b**, **c**, **d** — Side air bag marker SC (a) (b)(c)(d) (e) **(f)** (a) (b)(c)(d) (For identifying side air bag ON malfunctioning) 3 f — Indicates malfunctioning OFF EL part. The number of flash var-

> Malfunctioning part is indicated by the number of flashes (part d or f). Compare the number of flashes to "Air Bag Warning Lamp Flash Code Chart", page RS-54, and locate malfunctioning part.

ies with malfunctioning part

is counted as one flash.)

(0.5 sec. ON and 0.5 sec. OFF

SRS342-A



Trouble Diagnoses without CONSULT-II (Cont'd)

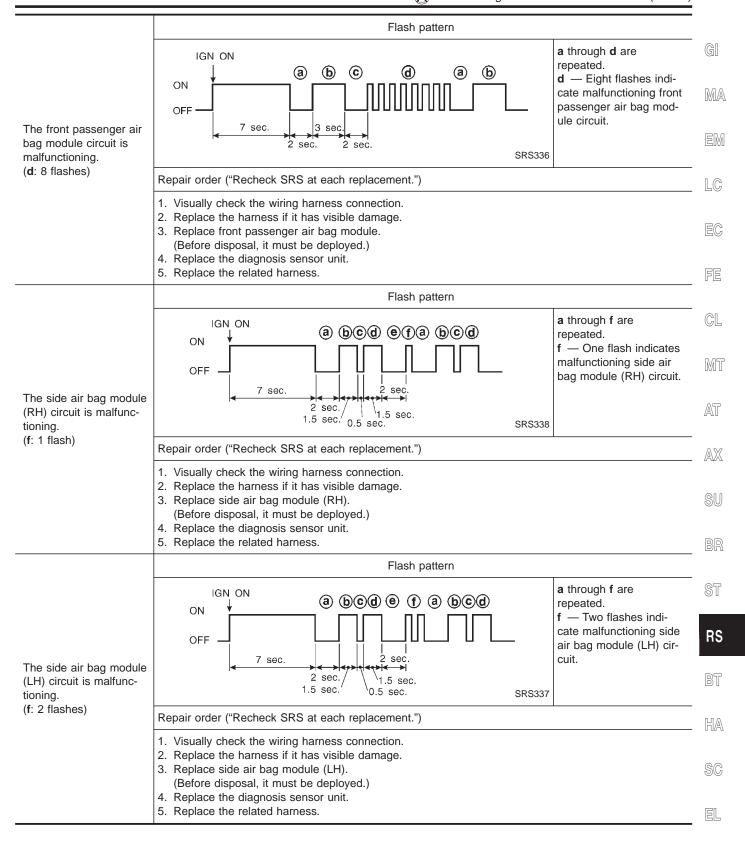
- 6. Turn ignition switch "OFF", and disconnect both battery cables.
- Repair the system as outlined by the "Repair order" in "Warning Lamp Flash Code Chart" that corresponds to the flash code. For replacement procedure of component parts, refer to RS-18.
- 8. After repairing the system, go to DIAGNOSTIC PROCEDURE 7, page RS-56.

Air Bag Warning Lamp Flash Code Chart (Diagnosis mode)

NFRS0029S0101 Flash pattern a through b are IGN ON repeated. Diagnosis results (previously stored in (b) (a) (b) a b a b a b the memory) might not be erased after OFF repair. 7 sec. 3 sec • Intermittent malfunc-2 sec. tion has been **SRS333** detected in the past. Repair order Go to DIAGNOSTIC PROCEDURE 8 (RS-58). Flash pattern a through d are IGN ON repeated. (a) **(b)** (c) (d) (a) d - Two flashes indi-ON cate malfunctioning driver's air bag module cir-OFF cuit. 7 sec. sec The driver's air bag 2 sec. 2 sec. module circuit is mal-**SRS334** functioning. (d: 2 flashes) Repair order ("Recheck SRS at each replacement.") 1. Visually check the wiring harness connection. 2. Replace the harness if it has visible damage. 3. Replace the spiral cable. 4. Replace driver's air bag module. (Before disposal, it must be deployed.) 5. Replace the diagnosis sensor unit. 6. Replace the related harness. Flash pattern a through d are IGN ON repeated. **(b) (c)** (a) **(b)** d - Seven flashes indi-ΩN cate malfunctioning diagnosis sensor unit. OFF The diagnosis sensor 7 sec 3 sec unit is malfunctioning. 2 sec. 2 sec (d: 7 flashes) **SRS335** Repair order ("Recheck SRS at each replacement.") 1. Visually check the wiring harness connections. 2. Replace the harness if it has visible damage. 3. Replace the diagnosis sensor unit.

4. Replace the related harness.

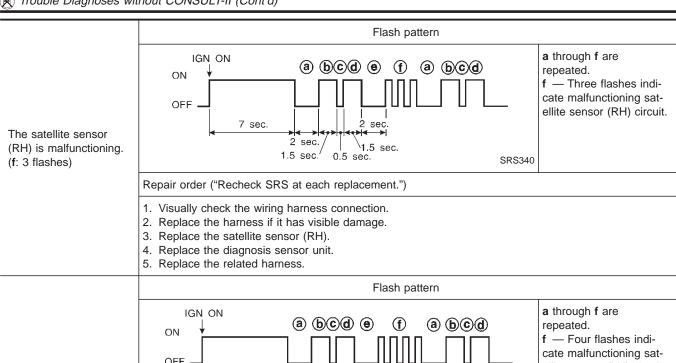
Trouble Diagnoses without CONSULT-II (Cont'd)



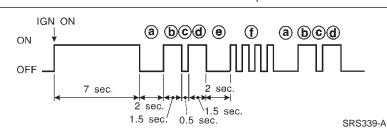
 \mathbb{Z}



🕅 Trouble Diagnoses without CONSULT-II (Cont'd)



The satellite sensor (LH) is malfunctioning. (f: 4 flashes)

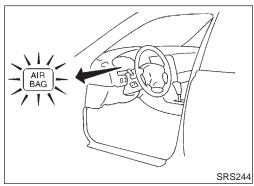


ellite sensor (LH) circuit.

Repair order ("Recheck SRS at each replacement.")

- Visually check the wiring harness connection.
- 2. Replace the harness if it has visible damage.
- 3. Replace the satellite sensor (LH).
- 4. Replace the diagnosis sensor unit.
- 5. Replace the related harness.

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



DIAGNOSTIC PROCEDURE 7

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.
- Turn ignition switch from "OFF" to "ON".
- "AIR BAG" warning lamp operates in Diagnosis mode as follows:

SU

ST

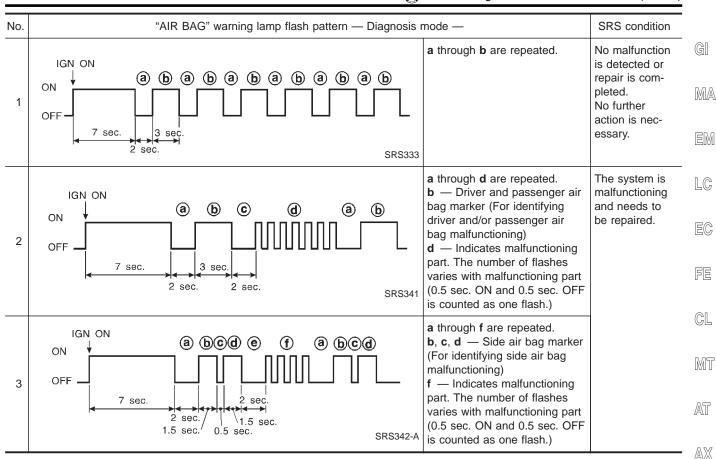
RS

HA

SC

EL

Trouble Diagnoses without CONSULT-II (Cont'd)



NOTE:

When diagnosis sensor unit is replaced with new one, "AIR BAG" warning lamp will operate in User mode. Checking "AIR BAG" warning lamp operation in Diagnosis mode is not required. Go to step 6.

If "AIR BAG" warning lamp operates as shown in No. 1 in chart above, turn ignition switch "OFF" to reset from Diagnosis mode to User mode and to erase the memory of the malfunction. Then go to step 6.

If "AIR BAG" warning lamp operates as shown in No. 2 or No. 3 in chart above, the malfunctioning part is not repaired completely, or another malfunctioning part is detected. Go to DIAGNOSTIC PROCEDURE 6, page RS-53, and repair malfunctioning part completely.

 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.

"AIR BAG" warning lamp operation — User mode —	SRS condition	Reference item
IGN ON ON 7 sec.	No malfunction is detected. No further action is necessary.	_
OFF 7 sec. MRS095A		



Trouble Diagnoses without CONSULT-II (Cont'd)

"AIR BAG" warning lamp operation — User mode —	SRS condition	Reference item
OFF 0.5 sec. 0.5 sec. MRS096A	The system is malfunctioning and needs to be repaired as indicated.	Go to DIAGNOSTIC PRO- CEDURE 6 (RS-53).
IGN ON	Air bag is deployed.	Go to COLLISION DIAGNOSIS (RS-68).
ON OFF MRS097A	Air bag fuse, diagnosis sensor unit or harness is malfunctioning and needs to be repaired.	Go to DIAGNOSTIC PRO- CEDURE 9 (RS-59).
IGN ON ON OFF MRS098A	One of the following has occurred and needs to be repaired. • Meter fuse is blown. • "AIR BAG" warning lamp circuit has open or short. • Diagnosis sensor unit is malfunctioning.	Go to DIAGNOSTIC PRO- CEDURE 10 (RS-61).

DIAGNOSTIC PROCEDURE 8 (CONTINUED FROM DIAGNOSTIC PROCEDURE 6)

Inspecting SRS malfunctioning record

NFRS0029S03

1	CONSIDER POSSIBILITY OF NOT ERASING SELF-DIAGNOSTIC RESULT AFTER REPAIRING				
Is it the first time for maintenance of SRS?					
		Yes or No			
Yes	•	Go to DIAGNOSTIC PROCEDURE 5 (RS-49).			
No	>	Diagnosis results (previously stored in the memory) might not be erased after repair. Go to DIAGNOSTIC PROCEDURE 7, step 5 (RS-56). (Further inspection cannot be performed without CONSULT-II.)			



GI

MA

LC

EG

FE

CL

MT

AT

AX

SU

ST

RS

BT

HA

SC

[DX

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

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

DIAGNOSTIC PROCEDURE 9

=NFRS0030

1	CHECK THE DEBI OVE	NFRS0030S01	
<u> </u>	CHECK THE DEPLOYMENT OF AIR BAG MODULE		
is air i	bag module deployed?		
		Yes or No	
Yes	•	Refer to COLLISION DIAGNOSIS (RS-68).	
No	•	GO TO 2.	

2	CHECK AIR BAG FUSE	:							
ls SF	RS "Air Bag" fuse OK?								
	\wedge								
	4 >						AIR		
	□ UP					7	BAG		
	SIDE								
									SRS707
				ок	or NG				
OK	>	GO TO	4.						
NG	•	GO TO	3.						

3	CHECK AIR BAG FUSE AGAIN				
Replac	Replace "AIR BAG" fuse and turn ignition switch ON.				
	Is "Air Bag" fuse blown again?				
Yes	>	Repair main harness.			
No	>	INSPECTION END			

4 CHECK DIAGNOSIS SENSOR UNIT Connect CONSULT-II and touch "START". "AIR BAG" should be displayed. SELECT SYSTEM ENGINE A/T AIR BAG ABS SMART ENTRANCE OK or NG OK ▶ GO TO 5. NG ▶ Visually check the wiring harness connection of diagnosis sensor unit. If harness connection check is OK, replace diagnosis sensor unit.





Trouble Diagnoses: "AIR BAG" Warning Lamp Does Not Turn Off (Cont'd)

5	CHECK HARNESS CONNECTION				
Is harness connection between warning lamp and diagnosis sensor unit OK?					
	OK or NG				
OK	•	Replace diagnosis sensor unit.			
NG		Connect "AIR BAG" warning lamp and diagnosis sensor unit connector properly. If "AIR BAG" warning lamp still does not go off, replace the related harness.			



FE

GL

MT

AT

AX

SU

BR

ST

RS

BT

HA

SC

EL

SRS774

Trouble Diagnoses: "AIR BAG" Warning Lamp Does Not Turn On

Trouble Diagnoses: "AIR BAG" Warning Lamp Does Not Turn On

DIAGNOSTIC PROCEDURE 10

Is meter fuse OK?

OK NG

=NFRS0031 NFRS0031S01 **CHECK "AIR BAG" WARNING LAMP FUSE** MA EM LC EC SIDE METER

2	CHECK "AIR BAG" WARNING LAMP FUSE AGAIN				
Repl	Replace meter fuse and turn ignition switch ON.				
		Is meter fuse blown again?			
Yes	>	Repair main harness.			
No		INSPECTION END			

OK or NG

GO TO 3.

GO TO 2.

3	CHECK "AIR BAG" WARNING LAMP LED			
Is "AIF	Is "AIR BAG" warning lamp LED OK?			
l	OK or NG			
OK		GO TO 4.		
NG	•	Replace "AIR BAG" warning lamp LED.		

4	CHECK HARNESS COI	HECK HARNESS CONNECTION				
	nnect diagnosis sensor unit R BAG" warning lamp shou	t connector and turn ignition switch ON. Ild be turned on.				
		OK or NG				
OK	>	Replace diagnosis sensor unit.				
NG	•	Check the ground circuit of "AIR BAG" warning lamp.				





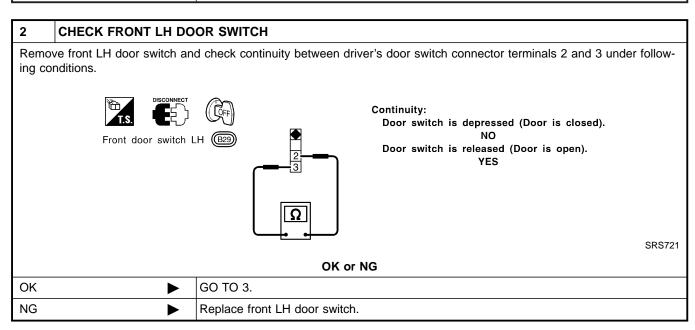
Trouble Diagnoses: SRS Does Not Enter Diagnosis Mode Using Door Switch

Trouble Diagnoses: SRS Does Not Enter Diagnosis Mode Using Door Switch

DIAGNOSTIC PROCEDURE 11

=NFRS0032 NFRS0032S01

1	CHECK BATTERY VOL	TAGE	
Disco	nnect both battery cables a	nd check battery voltage using circuit tester.	
		Battery voltage: More than 9V	
			SRS720
		OK or NG	
ОК	•	GO TO 2.	
NG	•	Charge battery.	





GL

MT

AT

 $\mathbb{A}\mathbb{X}$

SU

BR

ST

RS

BT

HA

SC

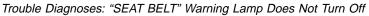
EL

Trouble Diagnoses: SRS Does Not Enter Diagnosis Mode Using Door Switch (Cont'd)

3	CHECK GROUND CIRCUIT FOR FRONT LH DOOR SWITCH	
Che	ck harness continuity between front LH door switch connector terminal 3 and body ground.	GI
	DISCONNECT COFF	M
	Front door switch LH (B29) Continuity should exist.	
		L
	OK or NG	722 E
OK	Replace diagnosis sensor unit. Go to "SRS Operation Check" (RS-42).	
NG	Replace or repair harness.	

RS-63







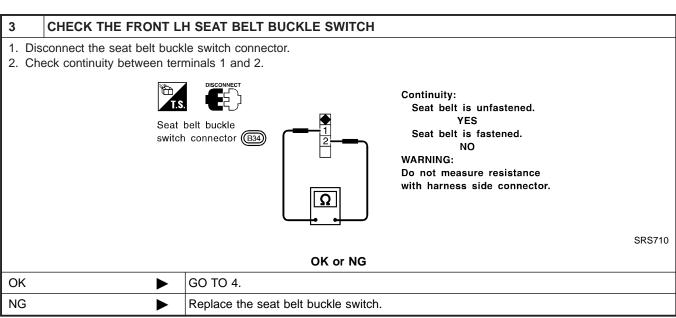
Trouble Diagnoses: "SEAT BELT" Warning Lamp Does Not Turn Off

DIAGNOSTIC PROCEDURE 12

=NFRS0037

1	CHECK THE DEPLOYN	IENT OF SEAT BELT PRE-TENSIONER
Is sea	t belt pre-tensioner (and dr	iver's and passenger's air bags) deployed?
		Yes or No
Yes	•	Refer to COLLISION DIAGNOSIS (RS-68).
No	•	GO TO 2.

2	CHECK THE STATUS C	OF SEAT BELT
Is fron	t LH seat belt fastened?	
		OK or NG
OK	>	GO TO 3.
NG	•	Check "SEAT BELT" warning lamp operation after the seat belt is fastened.



4	REPLACE THE DIAGNO	OSIS SENSOR UNIT
 Re Fas Tur 	ually check the wiring harn place the diagnosis sensor sten the seat belt. rn ignition switch to ON poses the "SEAT BELT" warnir	unit.
		Yes or No
Yes	>	INSPECTION END
No	>	GO TO 5.



Trouble Diagnoses: "SEAT BELT" Warning Lamp Does Not Turn Off (Cont'd)

5 REPLA	CE METER ASS	SEMBLY	
•	mbination meter a	ssembly.	G[
 Fasten the Turn ignition 	seat belt. n switch to ON po:	sition	
		ng lamp illuminate for about 7 seconds and then turn off?	M
		Yes or No	
Yes	>	INSPECTION END	EN
No	•	Replace the main harness.	

LC EC

FE

CL MT

AT

AX SU

BR

ST

RS

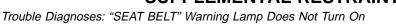
BT

HA

SC

EL







Trouble Diagnoses: "SEAT BELT" Warning Lamp Does Not Turn On

DIAGNOSTIC PROCEDURE 13

=NFRS0038

1	CHECK WARNING LAN	IP FUSE							NFR5003650
Is me	ter fuse OK?								
]	
	^								
	$\langle \rangle$								
	UP SIDE								
	SIDL					METER			
						ER			
				l	I		•	J	SRS774
			(OK or NG					
ОК	>	GO TO 3.							
NG		GO TO 2.							

2	CHECK WARNING LAN	IP FUSE AGAIN
Replace meter fuse and turn ignition switch ON. Is meter fuse blown again? Yes or No		
		100.00
Yes	>	Repair main harness.
No	>	INSPECTION END

3	CHECK WARNING LAN	IP BULB
Is war	rning lamp bulb OK?	
		OK or NG
OK	>	GO TO 4.
NG	>	Replace warning lamp bulb.



Trouble Diagnoses: "SEAT BELT" Warning Lamp Does Not Turn On (Cont'd)

5 REPLAC	CE METER ASS	SEMBLY	
•	bination meter a	ssembly.	G
 Fasten the set Turn ignition Does the "SE 	switch to ON po	sition. ng lamp illuminate for about 7 seconds and then turn off?	M
		Yes or No	
Yes	•	INSPECTION END	E
No	•	Replace the main harness.	
			 L(

MT
AT
AX

EC

FE

CL

RS

BR

ST

HA

BT

SC

EL



Collision Diagnosis

FOR FRONTAL COLLISION

=NFRS0042

NFRS0042S01

To repair the SRS, perform the following steps.

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

- 1) Replace the diagnosis sensor unit.
- 2) Remove the air bag modules (except the side air bag module) and seat belt pre-tensioner assemblies.
- 3) Check the SRS components using the table shown below:
- Replace any SRS components showing visible signs of damage (dents, cracks and deformation).
- 4) Install new air bag modules (except the side air bag module) and seat belt pre-tensioner assemblies.
- 5) Conduct self-diagnosis using CONSULT-II or "AIR BAG" and "SEAT BELT" warning lamp. Refer to "SRS Operation Check" for details (RS-42). Ensure entire SRS operates properly.

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 and deformation).
- 2) Conduct self-diagnosis using CONSULT-II or "AIR BAG" and "SEAT BELT" warning lamp. Refer to "SRS Operation Check" for details (RS-42). Ensure entire SRS operates properly.

SRS Inspection (For frontal collision)

	I	NFRS0042S010
Part	SRS is activated	SRS is NOT activated
Air bag module (driver and passenger side)	REPLACE Install with new special bolts coated with bonding agent.	 Remove air bag module. Check harness cover and connectors for damage, terminals for deformities, and harness for binding. a. Install driver air bag module into the steering wheel to check fit and alignment with the wheel. b. Install passenger air bag module into the instrument panel to check fit with the instrument panel. No damage found, reinstall with new bolts coated with bonding agent. If damaged—REPLACE. Install air bag modules with new special bolts coated with bonding agent. Air bag must be deployed before discarding.
Seat belt pre-tensioner assembly	REPLACE Install seat belt pre- tensioner with new bolts.	 Remove seat belt pre-tensioners. 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. If no damage is found, reinstall seat belt pre-tensioner assembly. If damaged—REPLACE. Install the seat belt pre-tensioners with new bolts coated with bonding agent. Seat belt pre-tensioners must be deployed before discarding.
Diagnosis sensor unit	REPLACE Install with new bolts coated with bonding agent.	 Check case for dents, cracks or deformities. Check connectors for damage, and terminals for deformities. If no damage is found, reinstall with new special bolts and ground bolt coated with bonding agent. If damaged—REPLACE. Install diagnosis sensor unit with new special bolts and ground bolt coated with bonding agent.
Steering wheel	 Check harness (buil Install air bag modu 	
Spiral cable	2. Check connectors a	



HA

SC

EL

Collision Diagnosis (Cont'd)

	SRS is NOT activated	SRS is activated	Part
modify any SRS	r poor connection, damage, and terminals for deformities. nding, chafing, cuts, or deformities. d, reinstall the harness and connectors. E damaged section of harness. Do not attempt to repair, splice	2. Check harness for b3. If no damage is four	Harness and Connecors
cracks.	bag inflates, check the following points for bending, deformitie assenger air bag	When passenger air Opening portion for passenger.	nstrument panel
SRS794	codule brackets	 Passenger air bag m 	
	Back face of instrumental panel	o i decenger an dag in	
SRS795	the instrument panel	The portions securing	
	William partor	C me persone eccum,	
SRS796	d, reinstall the instrument panel. CE the instrument panel with bolts.		

RS-69

Collision Diagnosis (Cont'd)



FOR SIDE COLLISION

To repair the SRS for a side collision, perform the following steps.

When the side air bag is activated in the side collision:

- 1) Replace the following component:
- All parts of seat back (including seat back frame) with side air bag module (on the side on which side air bag is activated)
- Diagnosis sensor unit
- Satellite sensor (on the side on which side air bag is activated)
- 2) Check the SRS components and the related parts using the table shown below.
- Replace any SRS components and the related parts showing visible signs of damage (dents, cracks, deformation).
- 3) Conduct self-diagnosis using CONSULT-II, and "AIR BAG" and "SEAT BELT" warning lamp. Refer to "SRS Operation Check" for details (RS-42). Ensure entire SRS operates properly.

When SRS is not activated in the side collision:

- 1) Check the SRS components and the related parts using the table shown below.
- Replace any SRS components and the related parts showing visible signs of damage (dents, cracks, deformation).
- 2) Conduct self-diagnosis using CONSULT-II, and "AIR BAG" and "SEAT BELT" warning lamp. Refer to "SRS Operation Check" for details (RS-42). Ensure entire SRS operates properly.

SRS Inspection (For side collision)

Part	Side air bag is activated	SRS is NOT activated
Built-in type side air bags module (LH or RH)	REPLACE all parts of seat back with deployed side air bag module.	 Check for visible signs of damage (dents, tears, deformation) of the seat back on the collision side. If damaged—REPLACE the damaged seat parts with new bolts and remove the side air bag module. Check for visible signs of damaged (tesrs etc.) of the side air bag module. Check harness and connectors for damage, and terminals for deformities. If no damaged is found, reinstall the side air bag module with new torx nuts coated with bonding agent. If damaged—REPLACE the side air bag module with new torx nuts coated with bonding agent. Air bag must be deployed before disposing of it.
Satellite sensor (LH or RH)	REPLACE the satellite sensor on the collision side with new nuts coated with bonding agent. (Repair the center pillar inner, etc. before installing new one if damaged.)	 Remove the satellite sensor on the collision side. Check harness connectors for damage, terminals for deformities, and harness for binding. Check for visible signs of damage (dents, cracks, deformation) of the satellite sensor. Install the satellite sensor to check fit. If no damage is found, reinstall the satellite sensor with new nuts coated with bonding agent. If damaged—REPLACE the satellite sensor with new nuts coated with bonding agent.
Diagnosis sensor unit	REPLACE the diagnosis sensor unit with the new bolts.	 Check case and bracket for dents, cracks or deformities. Check connectors for damage, and terminals for deformities. If no damage is found, reinstall the diagnosis sensor unit with new special bolts and ground bolt. If damaged—REPLACE. Install the diagnosis sensor unit with new special bolts and ground bolt.
Seat belt pre-ten- sioner assembly	 Check if the seat belt can be extended smoothly. If the seat belt cannot be extended smoothly. Check for deformities of the center pillar inner. If the center pillar inner has no damage, REPLACE the seat belt pre-tensioner assembly. Remove the seat belt pre-tensioner assembly on the collision side. Check harness cover and connectors for damage, terminals for deformities, and harness for binding. Check for visible signs of damage (dents, cracks, deformation) of the seat belt pre-tensioner assembly. If no damage is found, reinstall the seat belt pre-tensioner assembly with new bolts coated with bonding agent. The seat belt pre-tensioner assembly must be deployed before disposing of it. 	



Collision Diagnosis (Cont'd)

Part	Side air bag is activated	SRS is NOT activated
Seat	REPLACE all parts of seat back (including seat back frame)	 Visually check the seat on the collision side. Remove the seat on the collision side and check the following for damage and deformities. Harness, connectors and terminals Frame and recliner (for front and rear seat), and also adjuster and slides (for front seat) If no damage is found, reinstall the seat. If damaged—REPLACE the damaged seat parts with new bolts.
Center pillar inner	Check the center pillar inner on the collision side for damage (dents, cracks, deformation). If damaged—REPAIR the center pillar inner.	
Trim	 Check for visible signs of damage (dents, cracks, deformation) of the interior trim on the collision side. If damaged—REPLACE the damaged trim parts. 	

MT

AT

FE

CL

 $\mathbb{A}\mathbb{X}$

SU

BR

ST

RS

BT

HA

SC

EL



NOTES