

# **CONTENTS**

PRECAUTIONS	
(SRS) "AIR BAG" and "SEAT BELT PRE-TEN-SIONER"	
Precautions for Work2	
PREPARATION 3	
Special Service Tool 3	
Commercial Service Tool 3	
SQUEAK AND RATTLE TROUBLE DIAGNOSES 4	
Work Flow4	
CUSTOMER INTERVIEW 4	
DUPLICATE THE NOISE AND TEST DRIVE 5	
CHECK RELATED SERVICE BULLETINS 5	
LOCATE THE NOISE AND IDENTIFY THE	
ROOT CAUSE5	
REPAIR THE CAUSE5	
CONFIRM THE REPAIR6	
Generic Squeak and Rattle Troubleshooting 6	
INSTRUMENT PANEL 6	
CENTER CONSOLE6	
DOORS 6	
TRUNK 7	
SUNROOF/HEADLINING 7	

SEATS	7
UNDERHOOD	7
Diagnostic Worksheet	8
POWER SEAT	10
Wiring Diagram-SEAT	10
HEATED SEAT	
Description	12
Wiring Diagram-HSEAT	13
FRONT SEAT	14
Removal and Installation	14
REMOVAL	15
INSTALLATION	
Disassembly and Assembly	15
SEATBACK TRIM AND PAD	15
REMOVAL OF SEATBACK ASSEMBLY	
INSTALLATION OF SEATBACK ASSEMBLY	16
SEAT CUSHION TRIM AND PAD	16
REAR SEAT	
Dissasembly and Assembly	18
Removal and Installation	
REMOVAL	
INSTALLATION	19

 $\mathsf{D}$ 

Е

F

Н

SE

# **PRECAUTIONS**

PRECAUTIONS PFP:00001

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

EIS000UV

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

### **WARNING:**

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

# **Precautions for Work**

EIS000UN

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and keep them.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After re-installation is completed, be sure to check that each part works normally.
- Follow the steps below to clean components.
- Water soluble foul: Dip a soft cloth into lukewarm water, and wring the water out of the cloth to wipe the fouled area.
  - Then rub with a soft and dry cloth.
- Oily foul: Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%), and wipe the fouled area.
  - Then dip a cloth into fresh water, and wring the water out of the cloth to wipe the detergent off. Then rub with a soft and dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol, or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

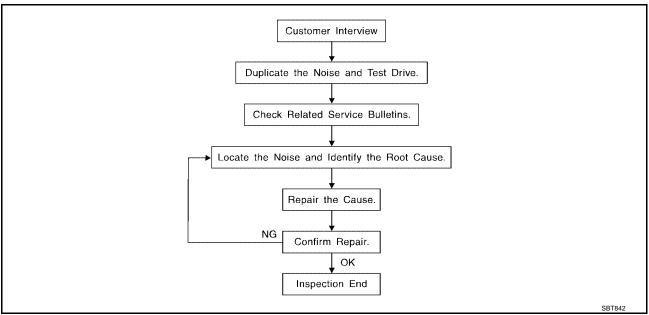
# **PREPARATION**

# **PREPARATION** PFP:00002 Α **Special Service Tool** EIS000UX The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here. В Tool number (Kent-Moore No.) Description Tool name C $\mathsf{D}$ (J-39570) Locating the noise Chassis ear SIIA0993E Е (J-43980) NISSAN Squeak and Rattle Repairing the cause of noise Н SIIA0994E SE **Commercial Service Tool** EIS000UY Tool name Description (J-39565) Locating the noise Engine ear SIIA0995E

# SQUEAK AND RATTLE TROUBLE DIAGNOSES

PFP:00000

Work Flow



# **CUSTOMER INTERVIEW**

Interview the customer if possible, to determine the conditions that exist when the noise occurs. Use the Diagnostic Worksheet during the interview to document the facts and conditions when the noise occurs and any customer's comments; refer to <a href="SE-8">SE-8</a>, "Diagnostic Worksheet"</a>. This information is necessary to duplicate the conditions that exist when the noise occurs.

- The customer may not be able to provide a detailed description or the location of the noise. Attempt to obtain all the facts and conditions that exist when the noise occurs (or does not occur).
- If there is more than one noise in the vehicle, be sure to diagnose and repair the noise that the customer is concerned about. This can be accomplished by test driving the vehicle with the customer.
- After identifying the type of noise, isolate the noise in terms of its characteristics. The noise characteristics
  are provided so the customer, service adviser and technician are all speaking the same language when
  defining the noise.
- Squeak —(Like tennis shoes on a clean floor)
   Squeak characteristics include the light contact/fast movement/brought on by road conditions/hard surfaces=higher pitch noise/softer surfaces=lower pitch noises/edge to surface=chirping
- Creak—(Like walking on an old wooden floor)
   Creak characteristics include firm contact/slow movement/twisting with a rotational movement/pitch dependent on materials/often brought on by activity.
- Rattle—(Like shaking a baby rattle)
   Rattle characteristics include the fast repeated contact/vibration or similar movement/loose parts/missing clip or fastener/incorrect clearance.
- Knock —(Like a knock on a door)
   Knock characteristics include hollow sounding/sometimes repeating/often brought on by driver action.
- Tick—(Like a clock second hand)
   Tick characteristics include gentle contacting of light materials/loose components/can be caused by driver action or road conditions.
- Thump—(Heavy, muffled knock noise)
   Thump characteristics include softer knock/dead sound often brought on by activity.
- Buzz—(Like a bumble bee)
   Buzz characteristics include high frequency rattle/firm contact.
- Often the degree of acceptable noise level will vary depending upon the person. A noise that you may judge as acceptable may be very irritating to the customer.
- Weather conditions, especially humidity and temperature, may have a great affect on noise level.

# **DUPLICATE THE NOISE AND TEST DRIVE**

If possible, drive the vehicle with the customer until the noise is duplicated. Note any additional information on the Diagnostic Worksheet regarding the conditions or location of the noise. This information can be used to duplicate the same conditions when you confirm the repair.

If the noise can be duplicated easily during the test drive, to help identify the source of the noise, try to duplicate the noise with the vehicle stopped by doing one or all of the following:

- 1) Close a door.
- 2) Tap or push/pull around the area where the noise appears to be coming from.
- 3) Rev the engine.
- 4) Use a floor jack to recreate vehicle "twist".
- 5) At idle, apply engine load (electrical load, half-clutch on M/T model, drive position on A/T model).
- 6) Raise the vehicle on a hoist and hit a tire with a rubber hammer.
- Drive the vehicle and attempt to duplicate the conditions the customer states exist when the noise occurs.
- If it is difficult to duplicate the noise, drive the vehicle slowly on an undulating or rough road to stress the vehicle body.

# **CHECK RELATED SERVICE BULLETINS**

After verifying the customer concern or symptom, check ASIST for Technical Service Bulletins (TSBs) related to that concern or symptom.

If a TSB relates to the symptom, follow the procedure to repair the noise.

# LOCATE THE NOISE AND IDENTIFY THE ROOT CAUSE

- 1. Narrow down the noise to a general area. To help pinpoint the source of the noise, use a listening tool (Chassis Ear: J-39570, Engine Ear: J-39565 and mechanic's stethoscope).
- 2. Narrow down the noise to a more specific area and identify the cause of the noise by:
- removing the components in the area that you suspect the noise is coming from. Do not use too much force when removing clips and fasteners, otherwise clips and fasteners can be broken or lost during the repair, resulting in the creation of new noise.
- tapping or pushing/pulling the component that you suspect is causing the noise. Do not tap or push/pull the component with excessive force, otherwise the noise will be eliminated only temporarily.
- feeling for a vibration with your hand by touching the component(s) that you suspect is (are) causing the noise.
- placing a piece of paper between components that you suspect are causing the noise.
- looking for loose components and contact marks. Refer to SE-6, "Generic Squeak and Rattle Troubleshooting".

# REPAIR THE CAUSE

- If the cause is a loose component, tighten the component securely.
- If the cause is insufficient clearance between components:
- separate components by repositioning or loosening and retightening the component, if possible.
- insulate components with a suitable insulator such as urethane pads, foam blocks, felt cloth tape or urethane tape. A NISSAN Squeak and Rattle Kit (J-43980) is available through your authorized Nissan Parts Department.

### **CAUTION:**

Do not use excessive force as many components are constructed of plastic and may be damaged. Always check with the Parts Department for the latest parts information.

The following materials are contained in the NISSAN Squeak and Rattle Kit (J-43980). Each item can be ordered separately as needed.

URETHANE PADS [1.5 mm (0.059 in) thick]

Insulates connectors, harness, etc.

76268-9E005: 100×135 mm (3.94×5.31 in)/76884-71L01: 60×85 mm (2.36×3.35 in)/76884-71L02:  $15\times25$ mm $(0.59\times0.98$  in)

INSULATOR (Foam blocks)

Insulates components from contact. Can be used to fill space behind a panel.

73982-9E000: 45 mm (1.77 in) thick, 50×50 mm (1.97×1.97 in)/73982-50Y00: 10 mm (0.39 in) thick, 50×50 mm (1.97×1.97 in)

INSULATOR (Light foam block)

SE

Н

D

Е

80845-71L00: 30 mm (1.18 in) thick, 30×50 mm (1.18×1.97 in)

**FELT CLOTHTAPE** 

Used to insulate where movement does not occur. Ideal for instrument panel applications.

68370-4B000: 15×25 mm (0.59×0.98 in) pad/68239-13E00: 5 mm (0.20 in) wide tape roll. The following materials, not found in the kit can also be used to repair squeaks and rattles.

**UHMW (TEFLON) TAPE** 

Insulates where slight movement is present. Ideal for instrument panel applications.

SILICONE GREASE

Used in place of UHMW tape that will be visible or not fit.

Note: Will only last a few months.

SILICONE SPRAY

Use when grease cannot be applied.

**DUCT TAPE** 

Use to eliminate movement.

### **CONFIRM THE REPAIR**

Confirm that the cause of a noise is repaired by test driving the vehicle. Operate the vehicle under the same conditions as when the noise originally occurred. Refer to the notes on the Diagnostic Worksheet.

# **Generic Squeak and Rattle Troubleshooting**

EIS000V

Refer to Table of Contents for specific component removal and installation information.

# **INSTRUMENT PANEL**

Most incidents are caused by contact and movement between:

- 1. The cluster lid A and instrument panel
- 2. Acrylic lens and combination meter housing
- 3. Instrument panel to front pillar garnish
- 4. Instrument panel to windshield
- Instrument panel mounting pins
- Wiring harnesses behind the combination meter
- 7. A/C defroster duct and duct joint

These incidents can usually be located by tapping or moving the components to duplicate the noise or by pressing on the components while driving to stop the noise. Most of these incidents can be repaired by applying felt cloth tape or silicone spray (in hard to reach areas). Urethane pads can be used to insulate wiring harness.

# **CAUTION:**

Do not use silicone spray to isolate a squeak or rattle. If you saturate the area with silicone, you will not be able to recheck the repair.

# **CENTER CONSOLE**

Components to pay attention to include:

- Shifter assembly cover to finisher
- A/C control unit and cluster lid C
- 3. Wiring harnesses behind audio and A/C control unit

The instrument panel repair and isolation procedures also apply to the center console.

### **DOORS**

Pay attention to the:

- Finisher and inner panel making a slapping noise
- 2. Inside handle escutcheon to door finisher
- Wiring harnesses tapping
- 4. Door striker out of alignment causing a popping noise on starts and stops

Tapping or moving the components or pressing on them while driving to duplicate the conditions can isolate many of these incidents. You can usually insulate the areas with felt cloth tape or insulator foam blocks from the NISSAN Squeak and Rattle Kit (J-43980) to repair the noise.

# **TRUNK**

Trunk noises are often caused by a loose jack or loose items put into the trunk by the owner. In addition look for:

Ь

Α

- 1. Trunk lid bumpers out of adjustment
- 2. Trunk lid striker out of adjustment
- 3. The trunk lid torsion bars knocking together
- 4. A loose license plate or bracket

Most of these incidents can be repaired by adjusting, securing or insulating the item(s) or component(s) causing the noise.

С

D

Е

### SUNROOF/HEADLINING

Noises in the sunroof/headlining area can often be traced to one of the following:

- 1. Sunroof lid, rail, linkage or seals making a rattle or light knocking noise
- 2. Sunvisor shaft shaking in the holder
- 3. Front or rear windshield touching headlining and squeaking

Again, pressing on the components to stop the noise while duplicating the conditions can isolate most of these incidents. Repairs usually consist of insulating with felt cloth tape.

F

### SFATS

When isolating seat noise it is important to note the position the seat is in and the load placed on the seat when the noise is present. These conditions should be duplicated when verifying and isolating the cause of the noise.

Н

Cause of seat noise include:

- Headrest rods and holder
- 2. A squeak between the seat pad cushion and frame
- The rear seatback lock and bracket

These noises can be isolated by moving or pressing on the suspected components while duplicating the conditions under which the noise occurs. Most of these incidents can be repaired by repositioning the component or applying urethane tape to the contact area.

# **UNDERHOOD**

Some interior noise may be caused by components under the hood or on the engine wall. The noise is then transmitted into the passenger compartment.

Causes of transmitted underhood noise include:

- Any component mounted to the engine wall
- Components that pass through the engine wall
- 3. Engine wall mounts and connectors
- 4. Loose radiator mounting pins
- 5. Hood bumpers out of adjustment
- Hood striker out of adjustment

These noise can be difficult to isolate since they cannot be reached from the interior of the vehicle. The best method is to secure, move or insulate one component at a time and test drive the vehicle. Also, engine RPM or load can be changed to isolate the noise. Repairs can usually be made by moving, adjusting securing, or insulating the component causing the noise.

SE

J

M

Revision: May 2004 SE-7 2002 Altima

# **Diagnostic Worksheet**

ISOOOV



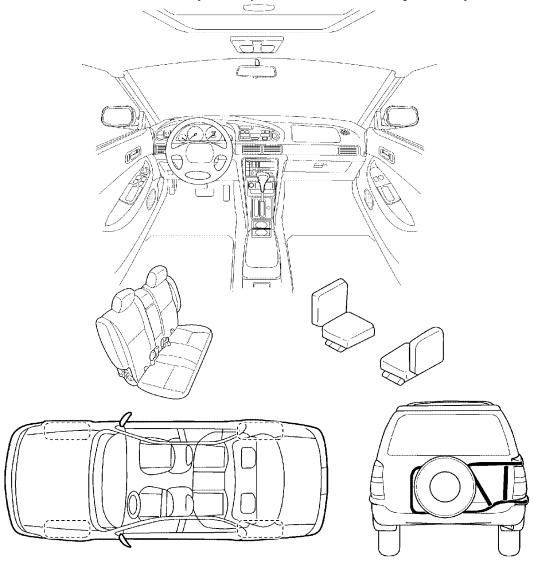
# **SQUEAK & RATTLE DIAGNOSTIC WORKSHEET**

Dear Nissan Customer:

We are concerned about your satisfaction with your Nissan vehicle. Repairing a squeak or rattle sometimes can be very difficult. To help us fix your Nissan right the first time, please take a moment to note the area of the vehicle where the squeak or rattle occurs and under what conditions. You may be asked to take a test drive with a service advisor or technician to ensure we confirm the noise you are hearing.

# I. WHERE DOES THE NOISE COME FROM? (circle the area of the vehicle)

The illustrations are for reference only, and may not reflect the actual configuration of your vehicle.



Continue to the back of the worksheet and briefly describe the location of the noise or rattle. In addition, please indicate the conditions which are present when the noise occurs.

BT843

Briefly describe the location where	e the noise occurs:
II. WHEN DOES IT OCCUR? (c	heck the boxes that apply)
⊒ anytime	☐ after sitting out in the sun
☐ 1 <sup>st</sup> time in the morning	☐ when it is raining or wet
☐ only when it is cold outside	☐ dry or dusty conditions
only when it is hot outside	u other:
III. WHEN DRIVING:	IV. WHATTYPE OF NOISE?
☐ through driveways	☐ squeak (like tennis shoes on a clean floor)
⊒ over rough roads	creak (like walking on an old wooden floor)
☐ over speed bumps	☐ rattle (like shaking a baby rattle)
⊐ only at about mph	☐ knock (like a knock on a door)
on acceleration	☐ tick (like a clock second hand)
☐ coming to a stop	thump (heavy, muffled knock noise)
🗅 on turns : left, right or either (circle)	□ buzz (like a bumble bee)
	,
☐ with passengers or cargo	
☐ other: miles or m	inutes
☐ with passengers or cargo ☐ other: miles or m ☐ after driving miles or m ☐ TO BE COMPLETED BY DEALER ☐ Test Drive Notes:	SHIP PERSONNEL  Initials of person YES NO performing
after driving miles or m  TO BE COMPLETED BY DEALER  Test Drive Notes:  Vehicle test driven with customer	SHIP PERSONNEL  Initials of person
□ other: miles or m  TO BE COMPLETED BY DEALER  Test Drive Notes:  Vehicle test driven with customer  - Noise verified on test drive	SHIP PERSONNEL  Initials of person YES NO performing
□ other: □ after driving □ miles or □ m  TO BE COMPLETED BY DEALER  Test Drive Notes:  Vehicle test driven with customer - Noise verified on test drive - Noise source located and repaired	Initials of person  YES NO performing  O O O O O O O O O O O O O O O O O O O
□ other: □ after driving □ miles or □ m  TO BE COMPLETED BY DEALER  Test Drive Notes:  Vehicle test driven with customer - Noise verified on test drive - Noise source located and repaired - Follow up test drive performed to c	Initials of person  YES NO performing  O O O O O O O O O O O O O O O O O O O

Revision: May 2004 SE-9 2002 Altima

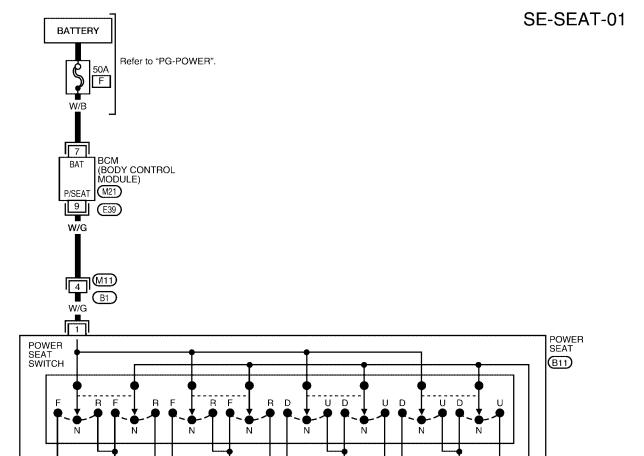
# POWER SEAT PFP:87016

# Wiring Diagram-SEAT-

(M)

SLIDE MOTOR

EIS000V2



(M)

FRONT LIFTER MOTOR

(M)

REAR LIFTER MOTOR

(B7)

(B19)



(M)

RECLINING MOTOR

# **POWER SEAT**

TERMINALS AND REFERENCE VALUE MEASURED BETWEEN EACH TERMINAL AND GROUND								
TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)				
7	W/B	BATTERY POWER	_	12V				
0	9 W/G	POWER SEAT SWITCH	OFF	12V				
9		FOWER SEAT SWITCH	ON	12V				

А

С

В

D

Е

F

G

Н

SE

Κ

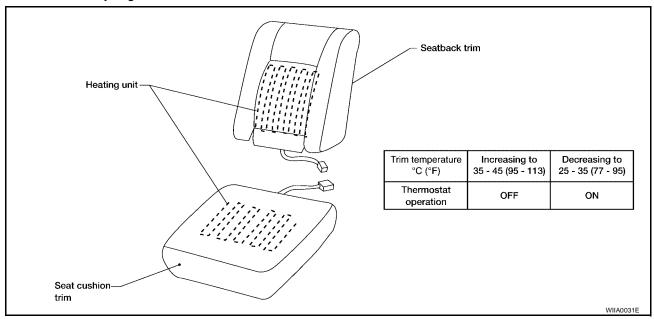
L

# **HEATED SEAT**

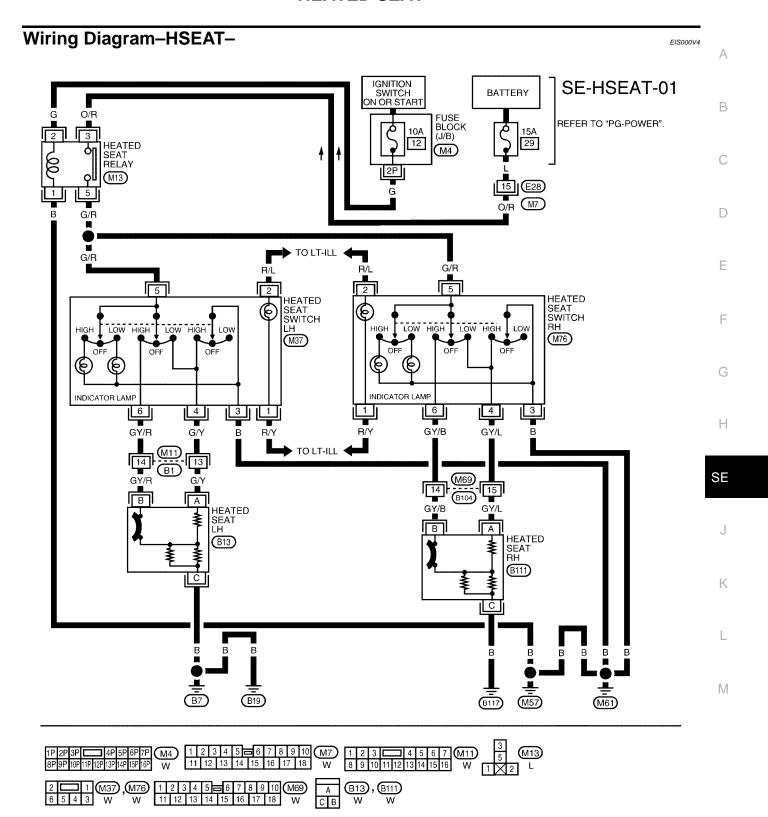
HEATED SEAT PFP:87335

**Description** 

- When handling seat, be extremely careful not to scratch heating unit.
- To replace heating unit, seat trim and pad should be separated.
- Do not use any organic solvent, such as thinner, benzene, alcohol, etc. to clean trim.



# **HEATED SEAT**

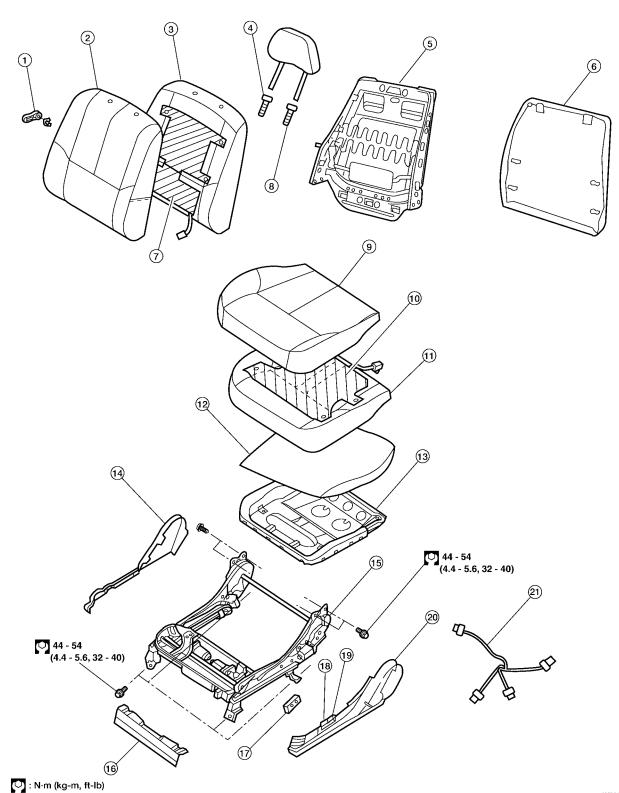


LIWA0004E

FRONT SEAT PFP:87000

# **Removal and Installation**

EIS000V5



Seat lumbar unit lever

4. Headrest holder (free)

Seatback heater unit

10 Seat cushion heater unit

2. Seatback trim

5. Seatback frame

8. Headrest holder (locked)

11 Seat cushion pad

3. Seatback pad

Seatback board

9. Seat cushion trim

12 Silk film bag

WIIA0032E

# FRONT SEAT

13	Seat cushion frame	14	Seat cushion inner finisher	15	Driver seat frame assembly	Λ
16	Seat cushion front finisher	17	Power seat switch	18	Slide-lifter switch knob	А
19	Reclining switch knob	20	Seat cushion outer finisher	21	Driver power seat harness	В
	-				·	

# **REMOVAL**

When removing or installing the seat trim, handle it carefully to keep dirt out and avoid damage.

### **CAUTION:**

- Before removing the front seat, turn the ignition switch off, disconnect both battery cables and wait and least 3 minutes.
- When checking the power seat circuit for continuity using a circuit tester, do not confuse its connector with the side air bag module connector. Such an error may cause the air bag to deploy.
- Do not drop, tilt, or bump the side air bag module while installing the seat. Always handle it with care.
- After front side air bag module inflates, front seatback assembly must be replaced.
- 1. Slide the seat until the four body mounting bolts are visible and a tool can be inserted.

### NOTE:

- When disassembling the driver seat after removal, set the front/rear cushion lifter to the top position.
- 2. Disconnect both battery cables and wait at least 3 minutes.
- 3. Remove the harness connector for the side air bag module.
- 4. Remove the four body mounting bolts and the seat belt anchor bolt.

  To remove the seat belt anchor bolt, refer to SB-3, "Removal and Installation of Front Seat Belt".
- 5. Remove the power seat harness connector and vehicle harness fixing clip from the vehicle.

### NOTE:

When removing and installing, use shop cloths to protect the parts from damage where they may interfere with other parts.

# **INSTALLATION**

Install in the reverse order of removal.

### NOTE:

Be sure to insert the rear end tab of the rear leg cover under the rail.

# Disassembly and Assembly SEATBACK TRIM AND PAD

# **WARNING:**

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

# NOTE:

Only complete seatback assemblies can be replaced on vehicles equipped with side air bags.

# NOTE:

Be sure to set the front/rear cushion lifter to the top position.

1. Remove the seatback board from the back of the seatback.

Seatback frame
Hook
Seatback
finisher
Seatback
frame

SE

Н

 $\Box$ 

Е

F

EIS000V6

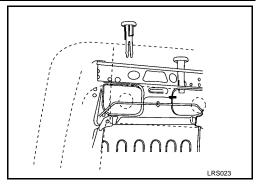
ı

# **FRONT SEAT**

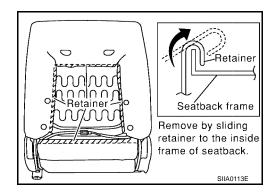
From the back of the seatback, press the headrest holder tabs at the base of the stay pipe to disengage. Then pull the headrest holder up to remove.

### NOTE:

Before installing the headrest holder, check its orientation (front/rear and right/left).



3. Remove the retainer.



4. Remove the seat heater harness connector. After removing the seatback trim and pad, remove the hog ring to separate the trim from the pad and the seatback heater unit.

# REMOVAL OF SEATBACK ASSEMBLY

- 1. After completing the steps 1 and 2 of "Seatback Trim and Pad", remove the harness connectors for the reclining motor and lumbar support motor (driver seat only).
- 2. Pull out the harness connector for the side air bag from the seat cushion.
- 3. Remove the reclining device mounting bolts (2 for each side) on the seatback frame, and remove the seatback assembly.

# NOTE:

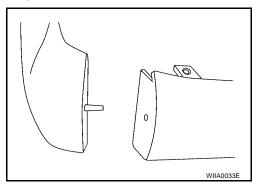
When assembling the seatback frame, make sure that the reclining device is locked on both sides, and be sure to temporarily tighten the bolts, then finish tightening them.

# INSTALLATION OF SEATBACK ASSEMBLY

Install in the reverse order of removal.

# **SEAT CUSHION TRIM AND PAD**

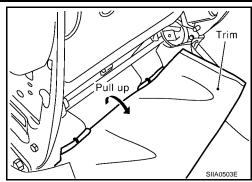
- 1. Remove the power seat switch knob (or recline knob on manual seat).
- 2. Remove the front seat cushion finisher (inner).



Remove the three power seat switch assembly screws (or lift knobs on manual seats).

# **FRONT SEAT**

 Remove four bolts retaining the seat cushion assembly, remove seat cushion assembly.



- 5. Remove the retainer on the seat cushion frame, then remove the harness connector for the seat heater.
- 6. After removing the seat cushion trim and pad, remove the hog rings to separate the trim from the pad and seat cushion heater unit.

Н

Α

В

C

D

Е

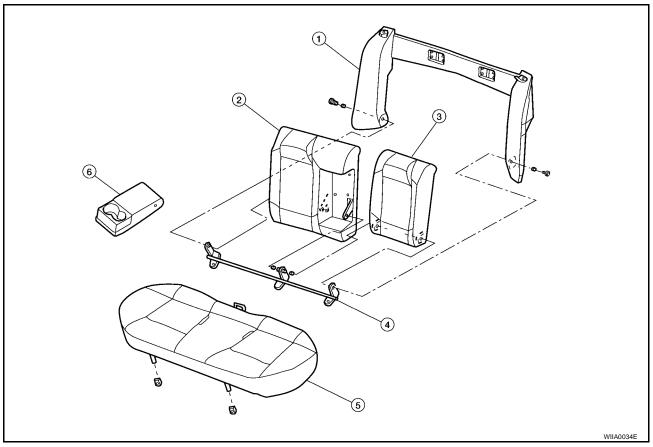
F

SE

# REAR SEAT PFP:88300

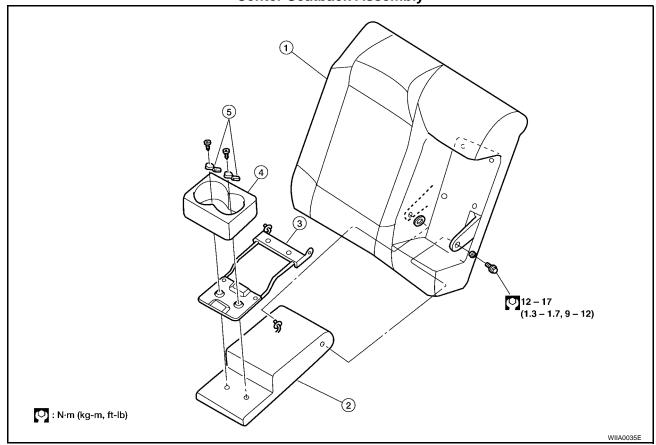
# **Dissasembly and Assembly**

EIS000V7



- 1. Rear seat side bolster assembly
- I. Rear seatback hinge assembly
- 2. Passenger seatback trim and pad
- 5. Rear seat cushion trim and pad
- 3. Driver seatback trim and pad
- Rear seat armrest

# Center Seatback Assembly



- 1. Passenger seatback trim and pad
- 4. Cup holder

- 2. Rear seat armrest
- 5. Cup holder retaining screws/covers
- . Cup holder bracket

# Removal and Installation REMOVAL

- 1. Pull the lock at the front bottom of the seat cushion forward (1 for each side), and pull the seat cushion upward to release the wire from the plastic hook, then pull the seat cushion forward to remove.
- 2. Remove the RH and LH screws on the seatback.
- 3. Slide the seatback upward to pull off the wire from the wire from the vehicle-side hook, and remove the seatback.
- 4. After removing, remove the hog ring to separate the trim and pad.

# Plastic hook Last edge position (Locked)

# **INSTALLATION**

Install in the reverse order of removal.

SE

Н

В

D

Е

EIS000V8

K

# **REAR SEAT**