

SECTION **RF**  
ROOF

A  
B  
C  
D  
E  
F  
G  
H  
J  
K  
L  
M

CONTENTS

<b>PRECAUTIONS</b> .....	<b>2</b>	<b>SQUEAK AND RATTLE TROUBLE DIAGNOSIS</b> .....	<b>4</b>	
Precautions for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" .....	2	Squeak and Rattle Trouble Diagnoses .....	4	
Service Notice .....	2	WORK FLOW .....	4	
<b>PREPARATION</b> .....	<b>3</b>	GENERIC SQUEAK AND RATTLE TROUBLE-SHOOTING .....	6	
Special Service Tools .....	3	DIAGNOSTIC WORKSHEET .....	8	
Commercial Service Tool .....	3	<b>SUNROOF</b> .....	<b>10</b>	
		Removal and Installation .....	10	

**RF**

# PRECAUTIONS

## PRECAUTIONS

PF0:00001

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

EIS002D9

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system may include seat belt switch inputs and dual stage front air bag modules. If equipped with dual stage front air bag modules, the SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

The vehicle may be equipped with a passenger air bag deactivation switch. Because no rear seat exists where a rear-facing child restraint can be placed, the switch is designed to turn off the passenger air bag so that a rear-facing child restraint can be used in the front passenger seat. The switch is located in the center of the instrument panel, near the ashtray. When the switch is turned to the ON position, the passenger air bag is enabled and could inflate for certain types of collision. When the switch is turned to the OFF position, the passenger air bag is disabled and will not inflate. A passenger air bag OFF indicator on the instrument panel lights up when the passenger air bag is switched OFF. The driver air bag always remains enabled and is not affected by the passenger air bag deactivation switch.

#### **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.**
- **The vehicle may be equipped with a passenger air bag deactivation switch which can be operated by the customer. When the passenger air bag is switched OFF, the passenger air bag is disabled and will not inflate. When the passenger air bag is switched ON, the passenger air bag is enabled and could inflate for certain types of collision. After SRS maintenance or repair, make sure the passenger air bag deactivation switch is in the same position (ON or OFF) as when the vehicle arrived for service.**

#### **Service Notice**

EIS002DA

- When removing or installing various parts, place a cloth or padding on the vehicle body to prevent scratches.
- Handle trim, molding, instruments, grille, etc. carefully during removing or installing. Be careful not to soil or damage them.
- Apply sealing compound where necessary when installing parts.
- When applying sealing compound, be careful that the sealing compound does not protrude from parts.
- When replacing any metal parts (for example body outer panel, members, etc.), be sure to take rust prevention measures.

# PREPARATION

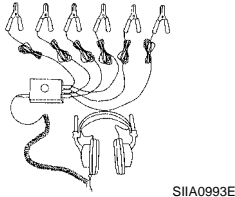

## PREPARATION

PF0:00002

### Special Service Tools

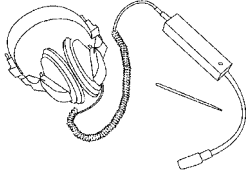
EIS002DB

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

Tool number (Kent-Moore No.) Tool name	Description
— (J-39570) Chassis ear	 <p style="text-align: right;">SIIA0993E</p> Locating noise
— (J-43980) NISSAN Squeak and Rattle Kit	 <p style="text-align: right;">SIIA0994E</p> Repairing the cause of noise

### Commercial Service Tool

EIS002DC

Tool name (Kent-Moore No.)	Description
Engine ear (J-39565)	 <p style="text-align: right;">SIIA0995E</p> Locating noise

A  
B  
C  
D  
E  
F  
G  
H  
RF  
J  
K  
L  
M

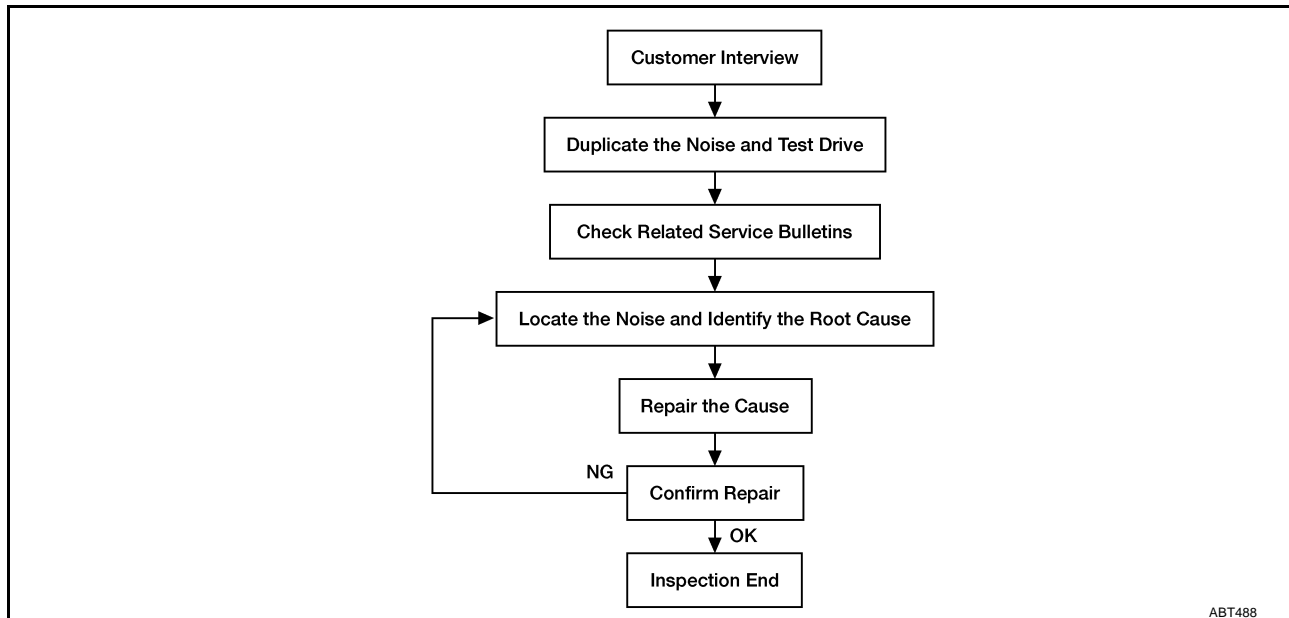
# SQUEAK AND RATTLE TROUBLE DIAGNOSIS

## SQUEAK AND RATTLE TROUBLE DIAGNOSIS

PF0:0000

### Squeak and Rattle Trouble Diagnoses WORK FLOW

EIS002DD



#### 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 comments; refer to [RF-8, "DIAGNOSTIC WORKSHEET"](#). This information is necessary to duplicate the conditions that exist when the noise occurs

- The customer may not be able to provide a detail description or 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 sound / something repeating / often brought on by driver action.
  - Tick-(Like a clock second hand)
  - Tick characteristics include light contact of light material / loose components / can be caused by driver action on 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.

# SQUEAK AND RATTLE TROUBLE DIAGNOSIS

- Weather conditions, especially humidity and temperature, may have a great effect 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 locations 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 (electric 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 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 ASSIST 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 mechanics 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 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 material are contained in the Nissan Squeak and Rattle Kit (J-43980) Each item can be ordered separately as needed.
- URETHANE PADS (1.5 mm thick)
  - insulates connectors, harness, etc.
- 76268–9E005: 100 x 135 mm / 76884–71L01: 60 x 85 mm / 76884–71L02: 15 x 25 mm
- INSULATOR (foam blocks)

A  
B  
C  
D  
E  
F  
G  
H  
RF  
J  
K  
L  
M

# SQUEAK AND RATTLE TROUBLE DIAGNOSIS

---

- Insulates components from contact. Can be used to fill space behind a panel.
- 73982–9E000: 45 mm thick, 50 x 50 mm / 73982–50Y00: 10 mm thick, 50 x 50 mm
- INSULATOR (Light foam block)
- 80845–71L00: 30 mm thick, 30 x 50 mm
- FELT CLOTH TAPE
- Used to insulate where movement does not occur. Ideal for instrument panel applications.
- 68370–4B000: 15 x 25 mm pad / 68239–13E00: 5 mm 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

### Instrument Panel

Most incidents are caused by contact and movement between:

1. The lid A and instrument panel
2. Acrylic lens and combination meter housing
3. Instrument panel to front pillar garnish
4. Instrument panel to windshield
5. Instrument panel mounting pins
6. Wiring harness 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 silicon 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:

1. Shifter assembly cover to finisher
2. A/C control unit and cluster lid C
3. Wiring harness behind audio and A/C control unit

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

### Doors

Pay attention to the:

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

# SQUEAK AND RATTLE TROUBLE DIAGNOSIS

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 or insulator foam blocks from the Nissan Squeak and Rattle Kit (J-43980) to repair the noise.

A

## Sunroof and Headliner

Noises in the sunroof and headliner area can often be traced to one of the following:

B

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 headliner and squeaking

C

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.

D

## Seats

When isolating seat noises it's important to note the position the seat in and the load placed on the seat when the noise is present.

E

These conditions should be duplicated when verifying and isolating the cause of the noise.

Causes of seat noise include:

1. Headrest rods and holders
2. A squeak between the seat pad cushion and frame
3. The rear seat back lock and bracket

F

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.

G

## Underhood

H

Some interior noises 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 noises include:

RF

1. Any components mounted to the engine wall
2. Components that pass thru the engine wall
3. Engine wall mounts and connectors
4. Loose radiator mounting pins
5. Hood bumpers out of adjustment
6. Hood striker out of adjustment

J

These noises can be difficult to isolate since they can not 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.

K

L

Repair can usually be made by moving, adjusting, securing, or insulating the component causing the noise.

M

# SQUEAK AND RATTLE TROUBLE DIAGNOSIS

## DIAGNOSTIC WORKSHEET



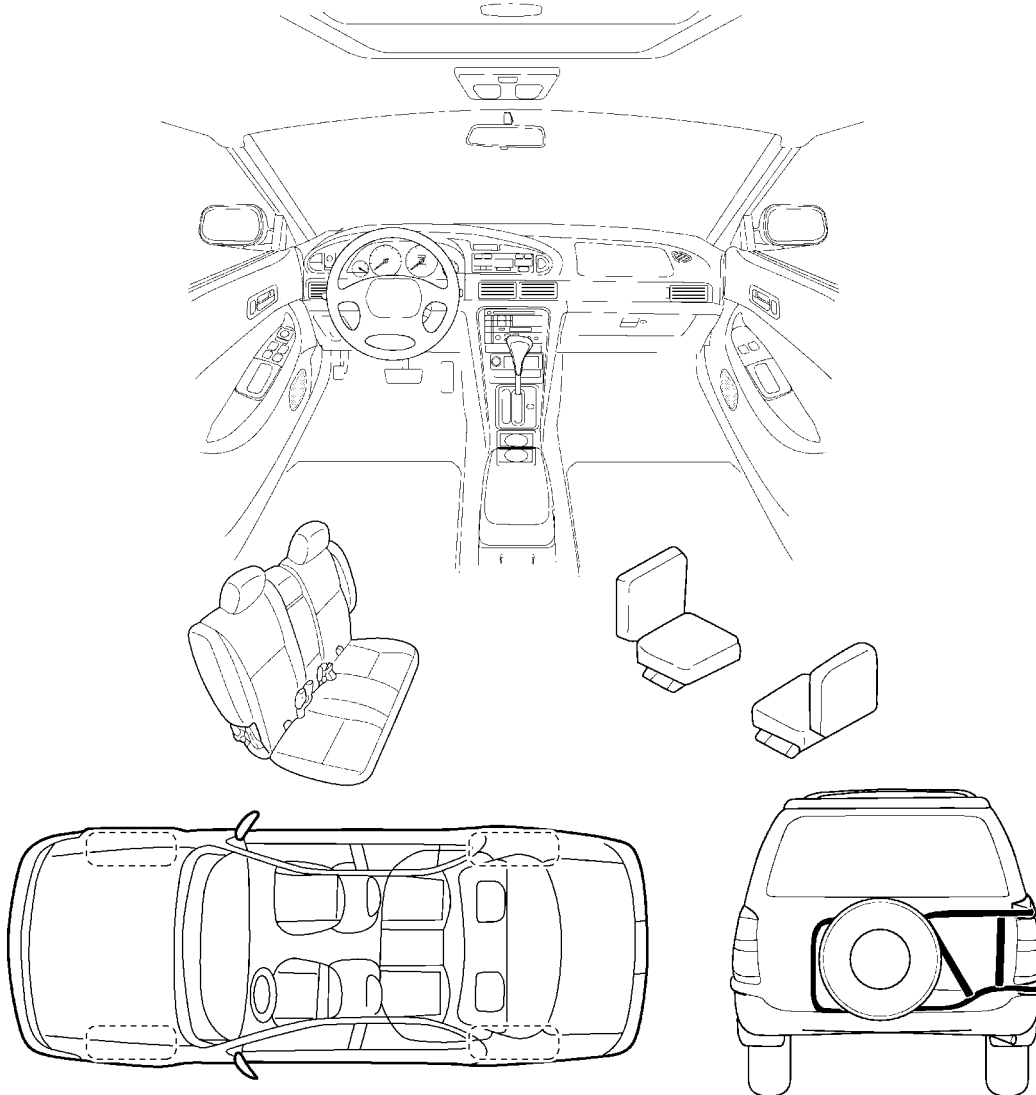
### SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

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.

LIWA0276E



# SQUEAK AND RATTLE TROUBLE DIAGNOSIS

## SQUEAK & RATTLE DIAGNOSTIC WORKSHEET- page 2

Briefly describe the location where the noise occurs:

---

---

---

### II. WHEN DOES IT OCCUR? (check the boxes that apply)

- |  |   |
|--|---|
| <input type="checkbox"/> anytime                             | <input type="checkbox"/> after sitting out in the sun |
| <input type="checkbox"/> 1 <sup>st</sup> time in the morning | <input type="checkbox"/> when it is raining or wet    |
| <input type="checkbox"/> only when it is cold outside        | <input type="checkbox"/> dry or dusty conditions      |
| <input type="checkbox"/> only when it is hot outside         | <input type="checkbox"/> other: _____                 |

### III. WHEN DRIVING:

- through driveways
- over rough roads
- over speed bumps
- only at about \_\_\_\_ mph
- on acceleration
- coming to a stop
- on turns : left, right or either (circle)
- with passengers or cargo
- other: \_\_\_\_\_
- after driving \_\_\_\_ miles or \_\_\_\_ minutes

### IV. WHAT TYPE OF NOISE?

- squeak (like tennis shoes on a clean floor)
- creak (like walking on an old wooden floor)
- rattle (like shaking a baby rattle)
- knock (like a knock on a door)
- tick (like a clock second hand)
- thump (heavy, muffled knock noise)
- buzz (like a bumble bee)

### TO BE COMPLETED BY DEALERSHIP PERSONNEL

Test Drive Notes:

---

---

	YES	NO	Initials of person performing
Vehicle test driven with customer	<input type="checkbox"/>	<input type="checkbox"/>	_____
- Noise verified on test drive	<input type="checkbox"/>	<input type="checkbox"/>	_____
- Noise source located and repaired	<input type="checkbox"/>	<input type="checkbox"/>	_____
- Follow up test drive performed to confirm repair	<input type="checkbox"/>	<input type="checkbox"/>	_____

VIN: \_\_\_\_\_ Customer Name: \_\_\_\_\_

W.O. #: \_\_\_\_\_ Date: \_\_\_\_\_

This form must be attached to Work Order

A  
B  
C  
D  
E  
F  
G  
H  
RF  
J  
K  
L  
M

# SUNROOF

PFP:91210

EIS002DE

## SUNROOF

### Removal and Installation

Roof rack must be removed before sunroof removal.

SEC. 736

