

Squeaks and Rattles

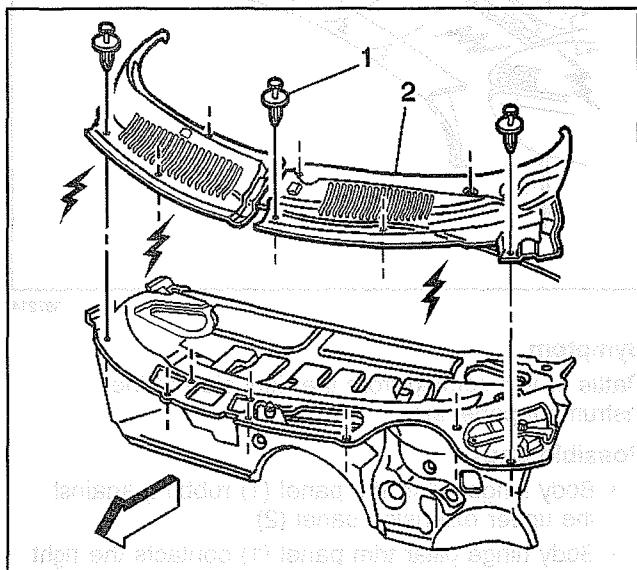
Diagnostic Information and Procedures

Squeaks and Rattles

Unwanted noises are usually caused by improperly controlled relative motion between components. There are four means to prevent noises after component replacement or repair.

- Attach the components securely so there is no relative motion during operation.
- Separate the components so there is no contact under normal operating conditions.
- Insulate the components so no sound occurs with relative motion between the surfaces.
- Provide a low friction surface to eliminate a stick slip motion.

Noise Diagnosis - Front of Vehicle (Air Inlet Screen To Windshield Itch)



397255

Symptom

Itching sound from the bottom of the windshield.

Possible Cause

The air inlet screen (2) is rubbing against the bottom edge of the windshield.

Diagnosis

Remove the air inlet screen (2). Look for witness marks from the windshield on the air inlet screen (2).

Corrective Action

1. Apply isolation (vinyl nitril foam or equivalent) to the inlet screen and windshield interface.
2. Add foam tape to the right and/or left side of the air inlet screen(s) (2).

3. Foam strips are to be installed 1.0 mm to 3.0 mm (.04 in to .08 in) inboard from the glass interface edge of the inlet screen

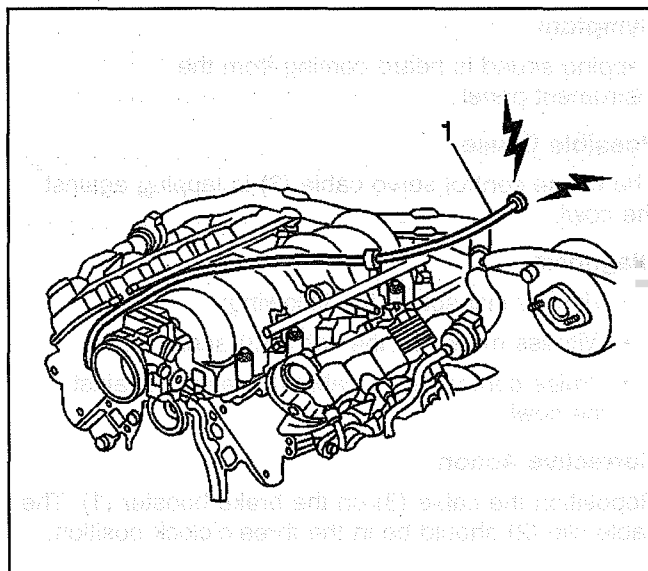
- A single (10 in x 1 in) foam strip added to the interference, may be sufficient.

- Or, two strips may be required:

Foam strips are to be butted together at the center where the left and right inlet screens interlock.

- Right side foam strip length is 955 mm (37.60 in).
- Left side foam strip length is 1055 mm (41.54 in).

Noise Diagnosis - Front of Vehicle (Accelerator Control Cable Tap)



397229

Symptom

Tapping sound is heard coming from the instrument panel area.

Possible Cause

The accelerator control cable (1) is tapping against the cowl.

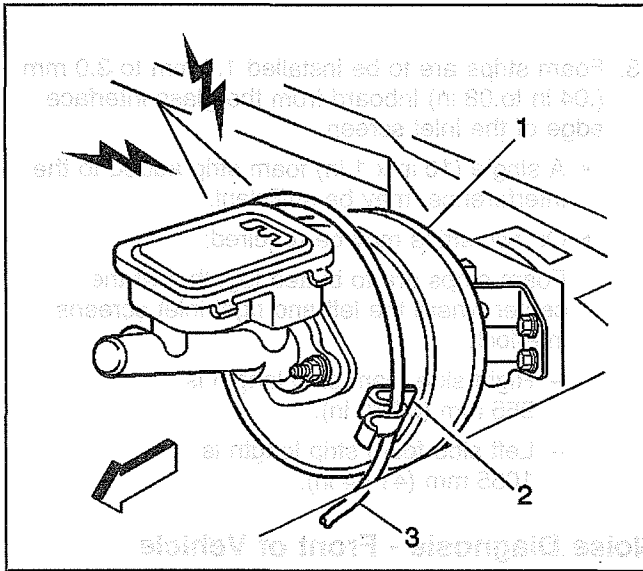
Diagnosis

- Visually inspect for the following:
- Witness marks on the cable and/or cowl
- Control cable (1) resting against the cowl

Corrective Action

Re-route the cable. The rerouted cable (1) must provide a minimum of 3.0 mm (0.118 in) clearance to the cowl.

Noise Diagnosis - Front of Vehicle (Cruise Control Servo Cable Tap)



397232

Symptom

Tapping sound is heard coming from the instrument panel.

Possible Cause

The cruise control servo cable (3) is tapping against the cowl.

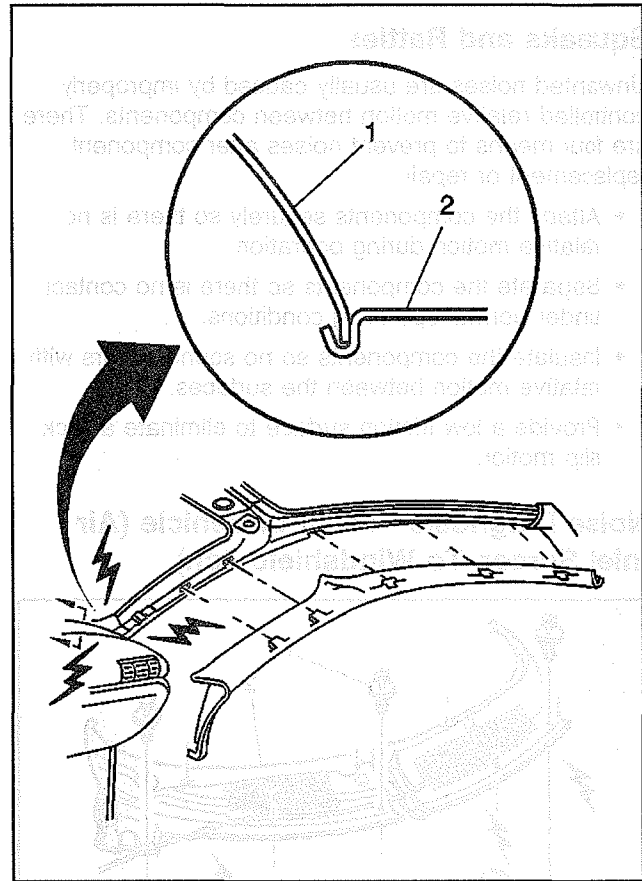
Diagnosis

- Visually inspect for the following:
- Witness marks on the cable (3) and/or cowl
- Cruise control servo cable (3) resting against the cowl

Corrective Action

Reposition the cable (3) on the brake booster (1). The cable clip (2) should be in the three o'clock position.

Noise Diagnosis - Instrument Panel and Header (IP Hinge Pillar Trim Panel Rattle Or)



397214

Symptom

Rattle or itch coming from the right side of the instrument panel area.

Possible Cause

- Body hinge pillar trim panel (1) rubbing against the upper extension panel (2).
- Body hinge pillar trim panel (1) contacts the right side wall of the instrument panel.

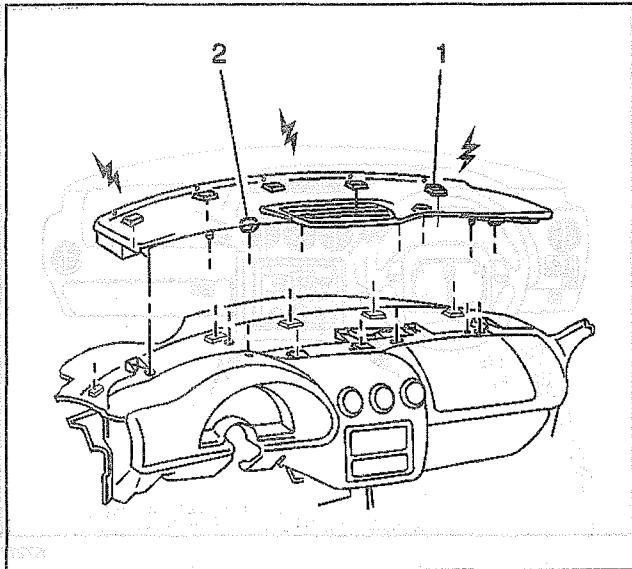
Diagnosis

- Look for witness marks on the following:
- Hinge pillar trim panel (1)
- Upper extension panel (2)
- Side wall of the instrument panel
- Push down on the corner of the upper extension panel (2) to see if it is able to spring back and touch the hinge pillar trim panel (1).
- Push against the instrument panel wall to see if it is able to spring back and touch the hinge pillar trim panel (1).

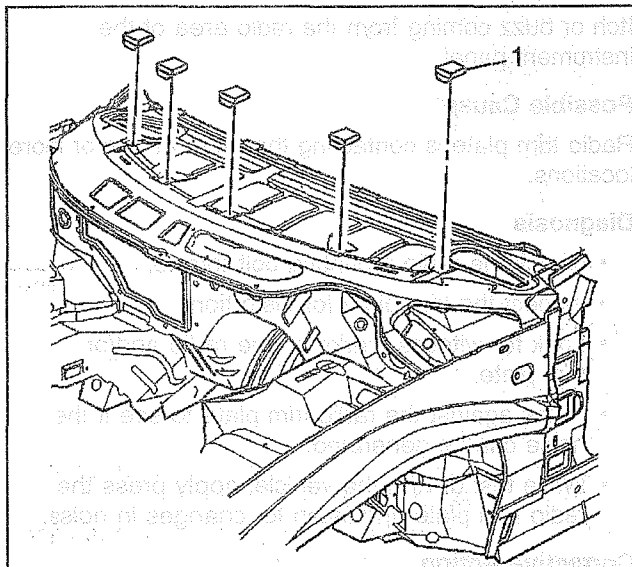
Corrective Action

- Apply felt tape to the upper extension panel (2) at the point of contact.
- Apply felt tape to the instrument panel wall at the point of contact.

Noise Diagnosis - Instrument Panel and Header (Instrument Panel Upper Trim Rattle)



397216



397218

Symptom

Rattle from the top of the instrument panel.

Possible Cause

- Check the retaining clips (2) and dual lock fasteners (1) for the following:
 - Missing
 - Damaged
 - Not fully engaged
- The adhesive attaching the dual lock fasteners (1) fails.

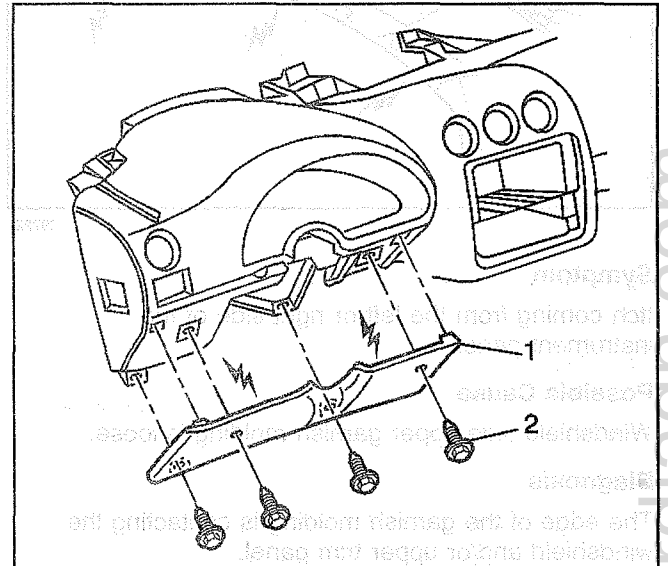
Diagnosis

While test driving the vehicle, apply pressure to the upper trim panel and listen for changes in noise.

Corrective Action

- If the adhesive has failed, replace the dual lock fastener.
- Fully engage all clips and dual locks
- Replace any damaged or missing clips (2) or dual lock fasteners (1).

Noise Diagnosis - Instrument Panel and Header (Instrument Panel Knee Bolster Itch)



397220

Symptom

Itching sound from below the steering column.

Possible Cause

Knee bolster rubbing against the cluster bezel.

Diagnosis

While test driving apply hard upward pressure and listen for the itch to change.

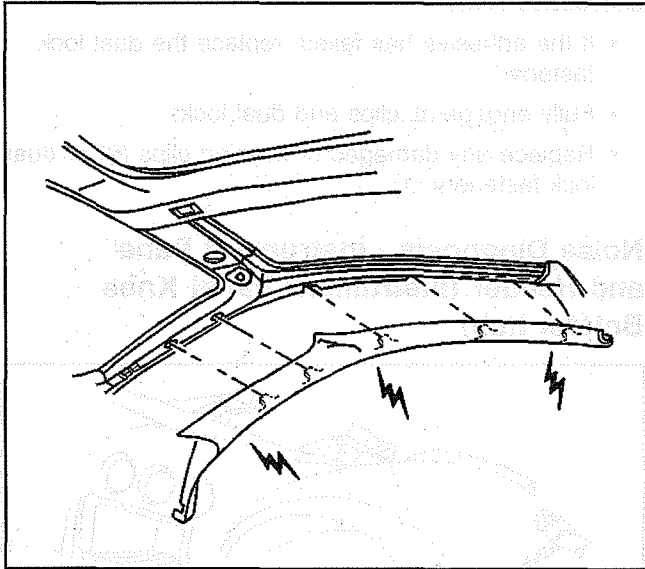
Corrective Action

- Loosen knee bolster bolts.
- Reposition knee bolster downward and forward to create clearance to the bezel.

Notice: Refer to *Fastener Notice* in Cautions and Notices.

- Retighten the bolts to 1.9 N·m (17 lb in). Refer to *Radio Replacement (Chevrolet)* and *Radio Replacement (Pontiac)* in Entertainment.

Noise Diagnosis - Instrument Panel and Header (Windshield Side Upper Garnish Molding)



397222

Symptom

Itch coming from the left or right side of the instrument panel.

Possible Cause

Windshield side upper garnish molding is loose.

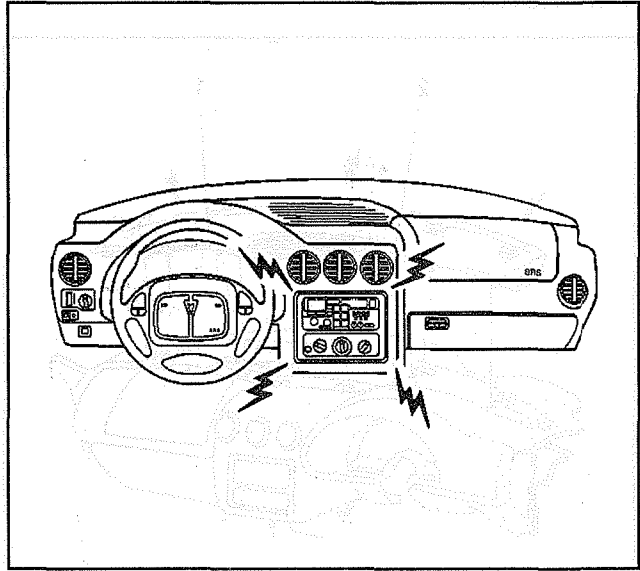
Diagnosis

The edge of the garnish molding is contacting the windshield and/or upper trim panel.

Corrective Action

- Replace the damaged clips on the garnish molding.
- Replace the garnish molding if the clip area is broken.

Noise Diagnosis - Instrument Panel and Header (Radio Trim Plate Itch Or Buzz)



397277

Symptom

Itch or buzz coming from the radio area of the instrument panel.

Possible Cause

Radio trim plate is contacting the radio at one or more locations.

Diagnosis

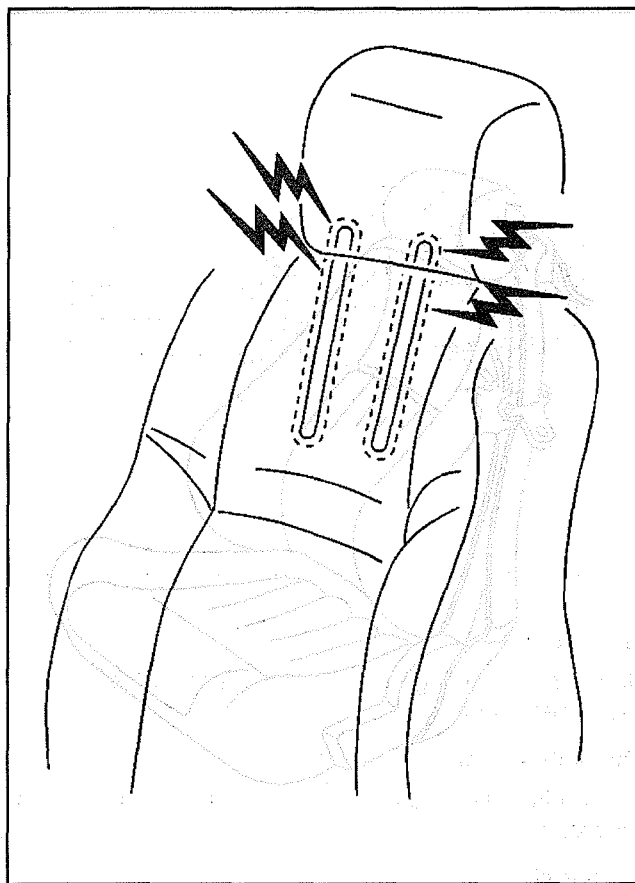
- Check the radio mounting bolt torque.
- Inspect the trim plate for distortion.
- Look for witness marks on the radio and/or trim plate.
- Press against the radio trim plate to see if the noise can be generated.
- While test driving the vehicle, apply pressure to the radio trim plate and listen for changes in noise.

Corrective Action

Notice: Refer to *Fastener Notice* in Cautions and Notices.

- Tighten the radio mounting bolts to 8 N·m (7 lb in). Refer to *Radio Replacement (Chevrolet)* and *Radio Replacement (Pontiac)* in Entertainment.
- Replace the radio trim plate.
- Apply felt tape to the radio and/or edge of the radio trim plate at the point(s) of contact.

Noise Diagnosis - Seat (Head Restraint Rattle)



RE557P

397223

Symptom

Rattle coming from the head restraint area.

Possible Cause

Head restraint posts rattling in the receiver holes.

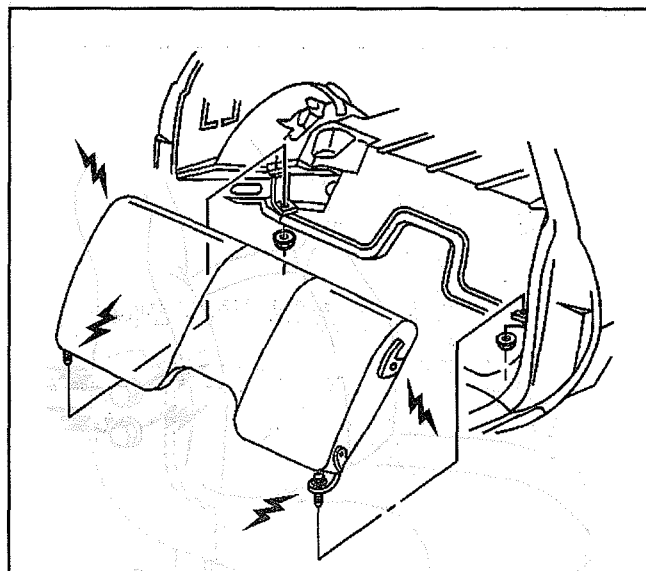
Diagnosis

Test drive the vehicle, and apply pressure to the head restraint.

Corrective Action

- Remove the head restraint.
- Bend the posts approximately 25.4 mm (1.0 in) outward. This pre-loads the posts in the receiver holes.

Noise Diagnosis - Seat (Rear Seatback Cushion Rattle)



397226

Symptom

Rattle from the rear seatback rest area.

Possible Cause

- Check for the seat belt buckle hitting the seat trim.
- Rear seatback is not in tension against to the striker bolt. This allows the latch to rattle on the striker bolt.

Diagnosis

Test drive the vehicle, apply pressure to the rear seatback, listen for the rattle.

Corrective Action

- Insure that the rear seat is in the proper location (rearward as far as possible).
- Loosen the lower hinge bolt.
- Push the bottom of the seat rearward and apply pressure rearward.

Notice: Refer to *Fastener Notice* in Cautions and Notices.

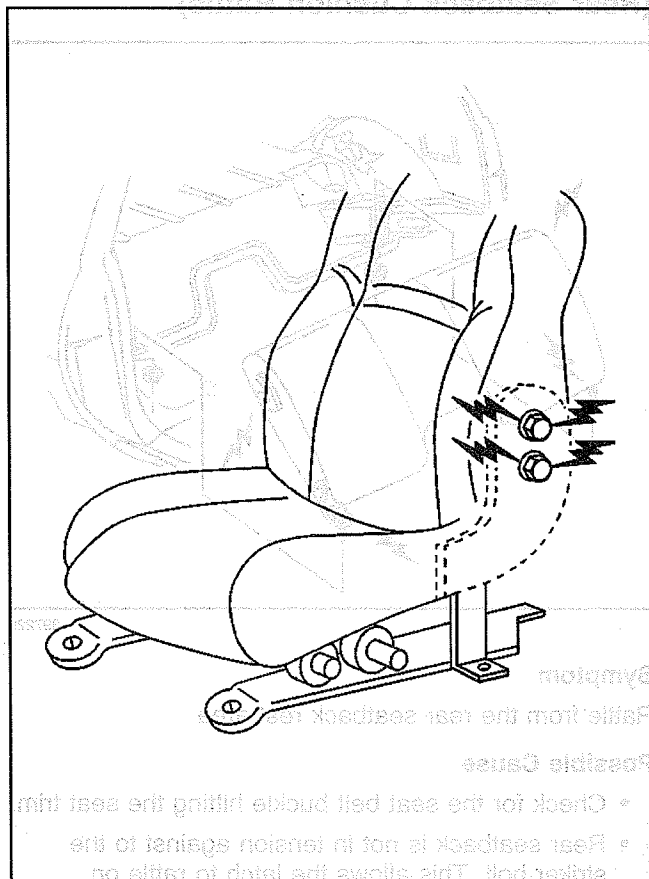
- Retighten the nuts.

Tighten

Tighten the pivot support nut to 24 N·m (18 lb ft).

- Reevaluate. If condition persists, loosen striker and reposition rearward as far as possible. Bend striker with mallet to create and interference fit.

Noise Diagnosis - Seat (Front Seat Creak)



397227

Symptom

Creak heard in seat back when occupants weight shifts.

Possible Cause

Seatback hinge recliner bolts not tightened to specifications.

Diagnosis

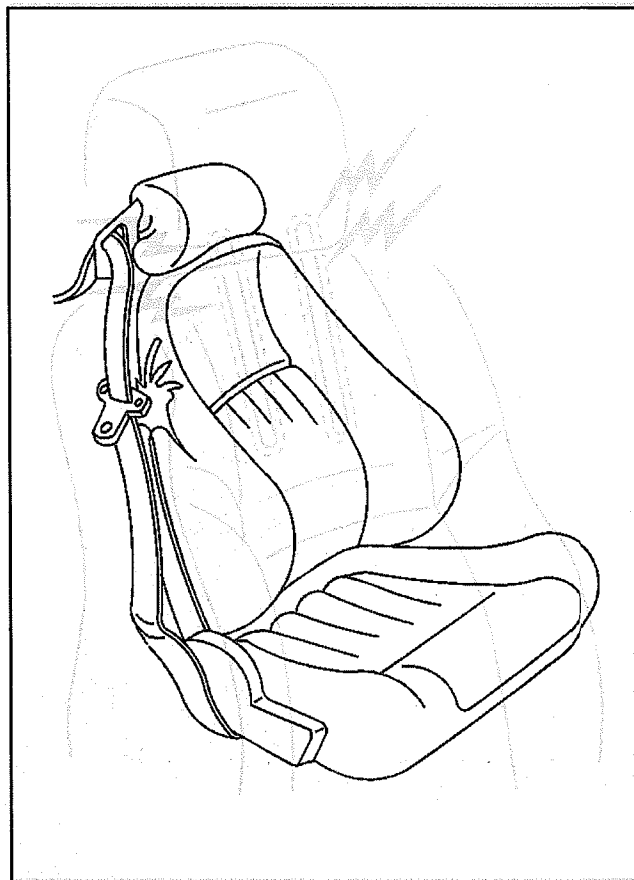
Notice: Refer to *Fastener Notice* in Cautions and Notices.

Check and tighten the bolts.

Tighten

Tighten the seatback hinge recliner bolts to 24 N-m (18 lb ft).

Noise Diagnosis - Seat (Front Seat Belt Rattle)



397228

Symptom

Rattle from the side of the front seat.

Possible Cause

The seat belt latch rattles against the plastic trim of the seat.

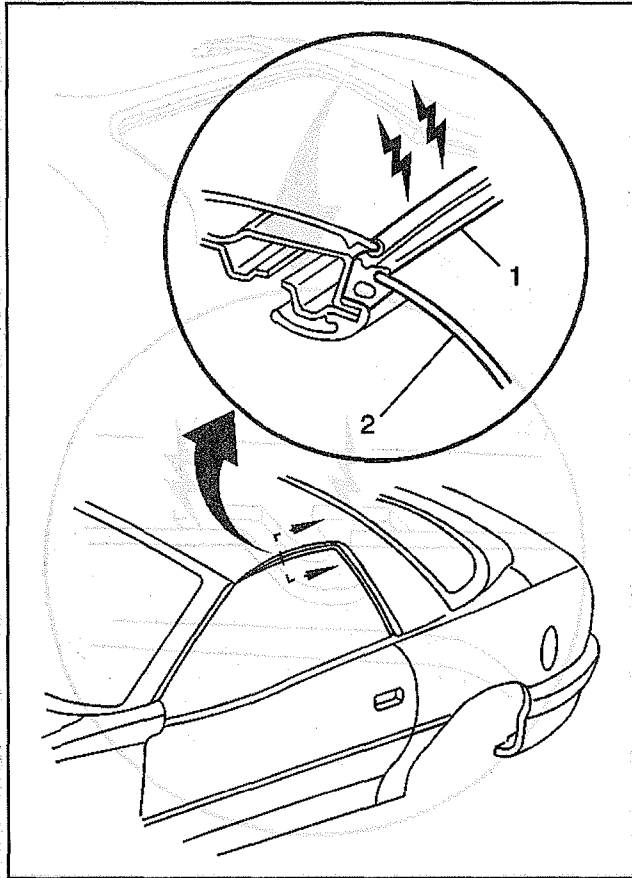
Diagnosis

Visually inspect the seat belt latch and seat for contact.

Corrective Action

Add felt tape to the plastic part of the seat belt latch.

Noise Diagnosis - Door (Front Side Door Weatherstrip Itch)



397252

Symptom

Itching noise heard at the door window (1) to weatherstrip (1) interface.

Possible Cause

Door glass (2) rubbing against the weatherstrip (1).

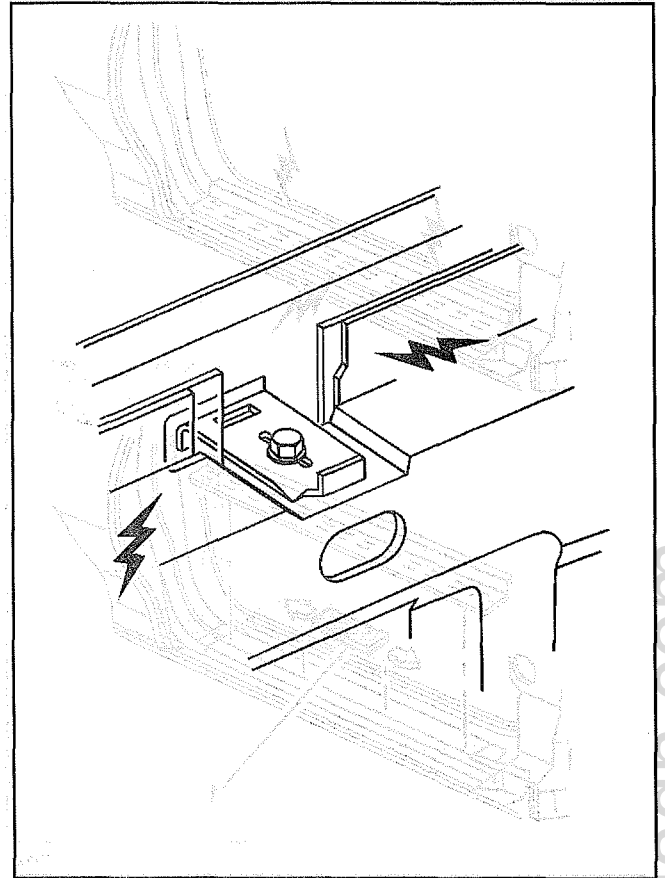
Diagnosis

Test drive the vehicle, roll the window (2) down so it is just off the weather-strip (1).

Corrective Action

Apply Krytox weatherstrip lubricant (GM P/N 9985767) to weatherstrip/glass interface. Use Krytox oil only, after application, let stand 30 minutes. Wipe off excess.

Noise Diagnosis - Door (Front Side Door Glass Rattle)



397256

Symptom

Rattle coming from the bottom of the door to door glass area when the window is completely up.

Possible Cause

The window guide stabilizer is not adjusted properly.

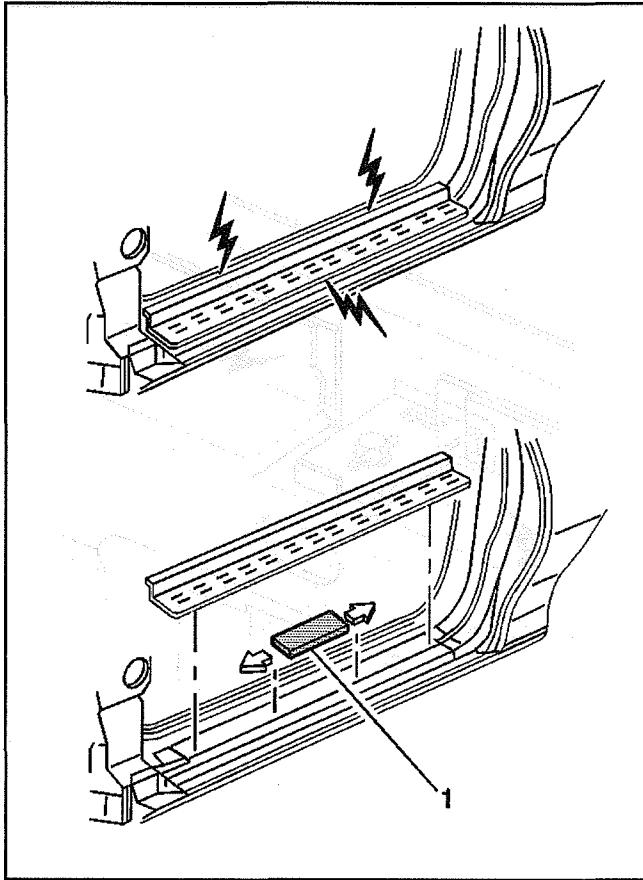
Diagnosis

Close door completely. Push on the bottom of the door glass to check for movement.

Corrective Action

- Adjust the window guide stabilizer.
- The stabilizers should be adjusted to 18.5 mm (0.73 in) from the inner edge of the door to the back of the stabilizer.
- If symptom continues, replace the window guide stabilizer.

Noise Diagnosis - Door (Side Door Sill Plate Buzz)



397258

397258

Symptom

Buzzing sound coming from the lower door area.

Possible Cause

- The side door sill plate is loose and emits a buzzing sound.
- The clips on the sill plate are broken.

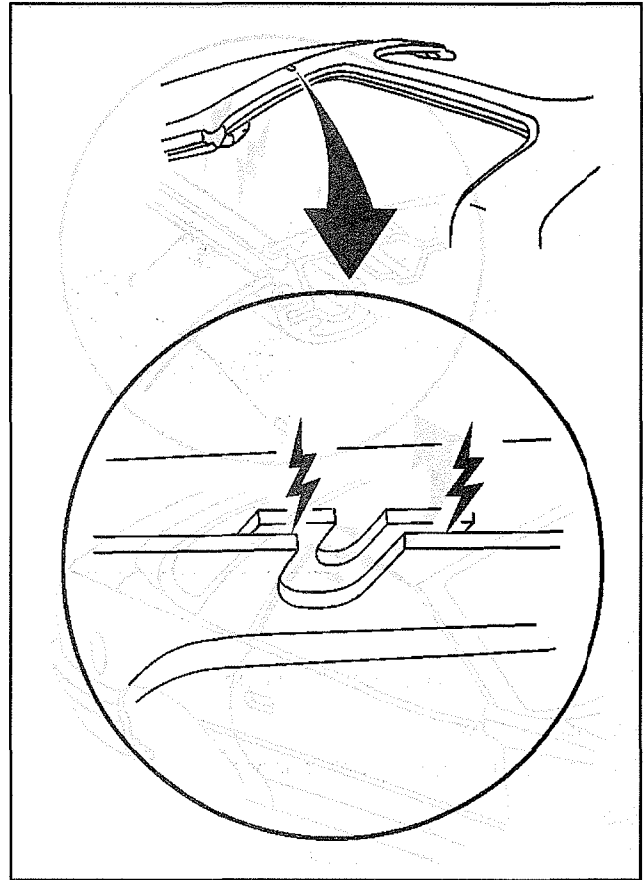
Diagnosis

Open door, push sill plate back and forth to check for movement.

Corrective Action

- Place foam tape underneath the plate in sensitive areas.
- Replace the sill plate.

Noise Diagnosis - Roof (Header Sheet Metal Tap)



397234

397234

Symptom

A tapping sound is heard along the windshield header.

Possible Cause

Sheet metal is tapping.

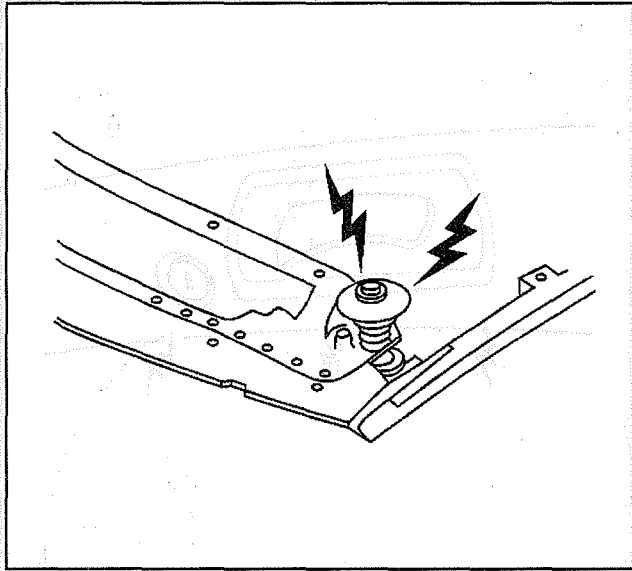
Diagnosis

Test drive the vehicle and pry on location shown.

Corrective Action

Pry apart the two layers of metal.

Noise Diagnosis - Roof (Folding Top Creak)



397236

Symptom

Creak sound coming from the #1 bow.

Possible Cause

The #1 bow to side rail bolt is loose.

Diagnosis

Check torque on the side rail bolt.

Corrective Action

- Apply blue LOCTITE® to the side rail bolt.

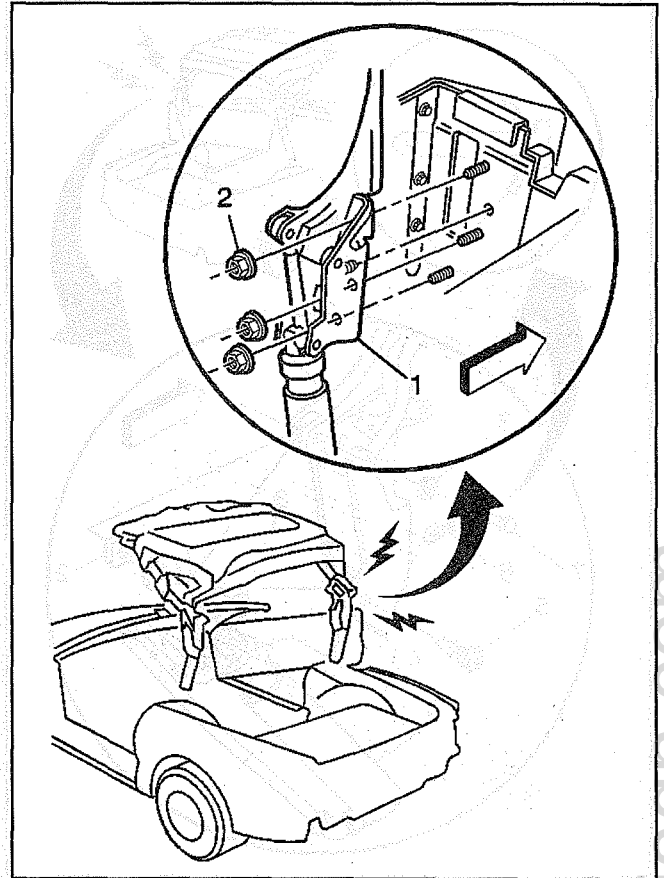
Notice: Refer to *Fastener Notice* in Cautions and Notices.

- Tighten the side rail bolt to specification.

Tighten

Tighten the side rail bolt to 17 N·m (13 lb ft).

Noise Diagnosis - Roof (Creak Or Rattle In B-Pillar Area)



397239

Symptom

- Rattle in the B-pillar area.
- Creak in the B-pillar area.

Possible Cause

Folding top pivot bracket bolts (2) may be loose.

Diagnosis

Check pivot bracket bolt for looseness.

Corrective Action

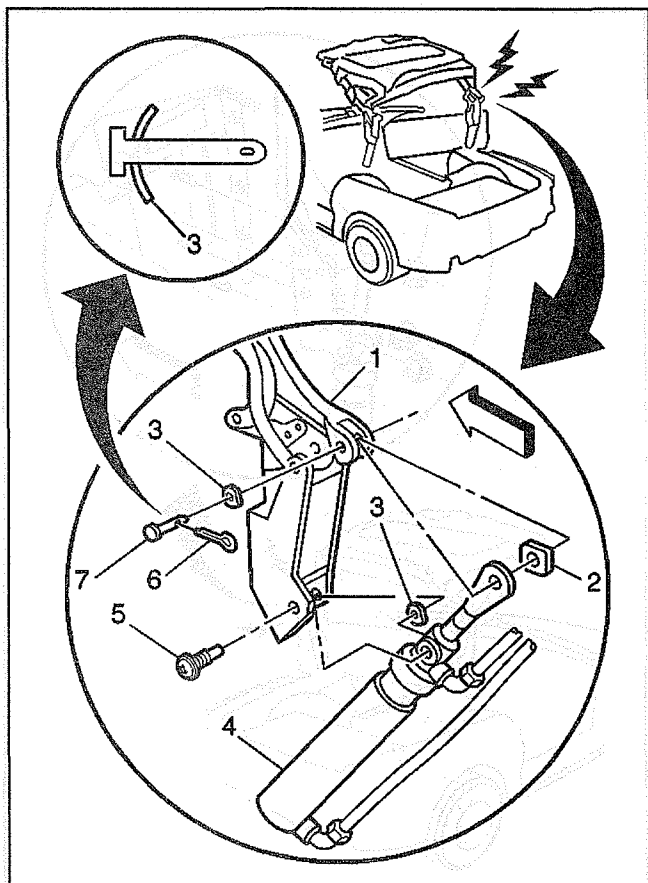
Notice: Refer to *Fastener Notice* in Cautions and Notices.

Tighten the pivot bracket bolt.

Tighten

Tighten the pivot bracket bolt to 27 N·m (20 lb ft).

Noise Diagnosis - Roof (Creak Or Rattle In B-Pillar Area)



397246

Symptom

- Rattle in the B-pillar area.
- Creak in the B-pillar area.

Possible Cause

- Folding top cylinder pivot pin (7) is dry.
- Spring washer (3) may not be installed properly.
- Folding top cylinder bolt (5) is loose.

Diagnosis

- Check cylinder bolt (5) for looseness.
- Check spring washer (3) for correct orientation.

Corrective Action

- Lubricate the cylinder pivot pin (7).

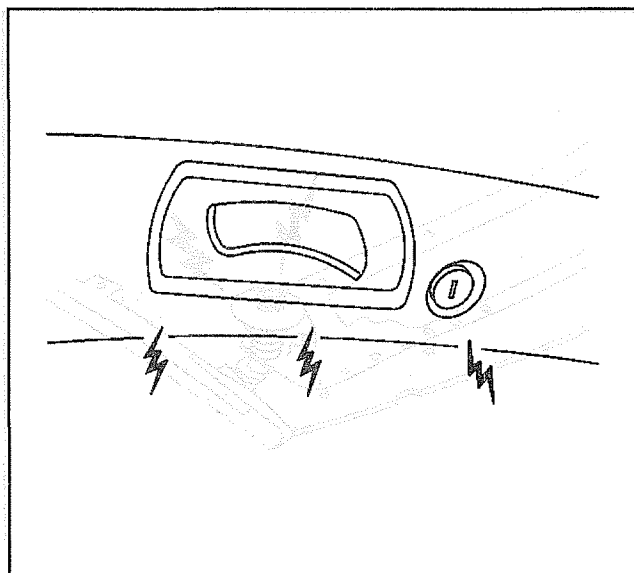
Notice: Refer to *Fastener Notice* in Cautions and Notices.

- Tighten the cylinder bolt (5) to specification.

Tighten

Tighten the cylinder bolt (5) to 50 N-m (37 lb ft).

Noise Diagnosis - Roof (T-Top Handle/Lock Mechanism Rattle)



397274

Symptom

Over moderate to rough road surfaces, a tapping sound or rattle is heard in the T-top handle location.

Possible Cause

- Looseness in riveted joints between the crank plate and rods (front and rear).
- Flat spring and/or lock bracket is contacting the lock rod(s).

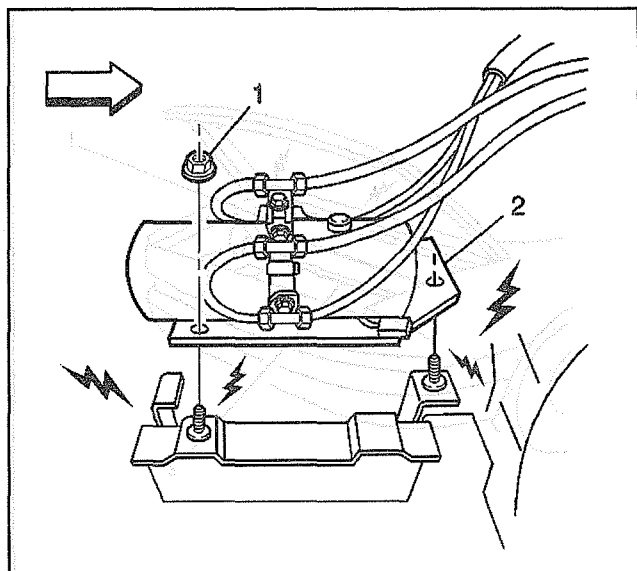
Diagnosis

- Inspect for looseness in the riveted joints (front and rear).
- Look for witness marks and lock rod contact to the flat spring and/or lock bracket.

Corrective Action

- Vehicles that have looseness in the riveted joints, order and install new T-tops.
- Flock interfaces between the flat spring and lock bracket and rod(s) so rod(s) do not contact.

Noise Diagnosis - Rear of Vehicle (Folding Top Pump Rattle)



397250

Symptom

Rattle coming from the rear of the vehicle.

Possible Cause

- Folding top pump mounting nuts (1) loose or missing.
- Mounting stud(s) missing or broken.

Diagnosis

Visually inspect for mounting studs and nuts (1).

Corrective Action

- Replace missing or broken studs with bolts.

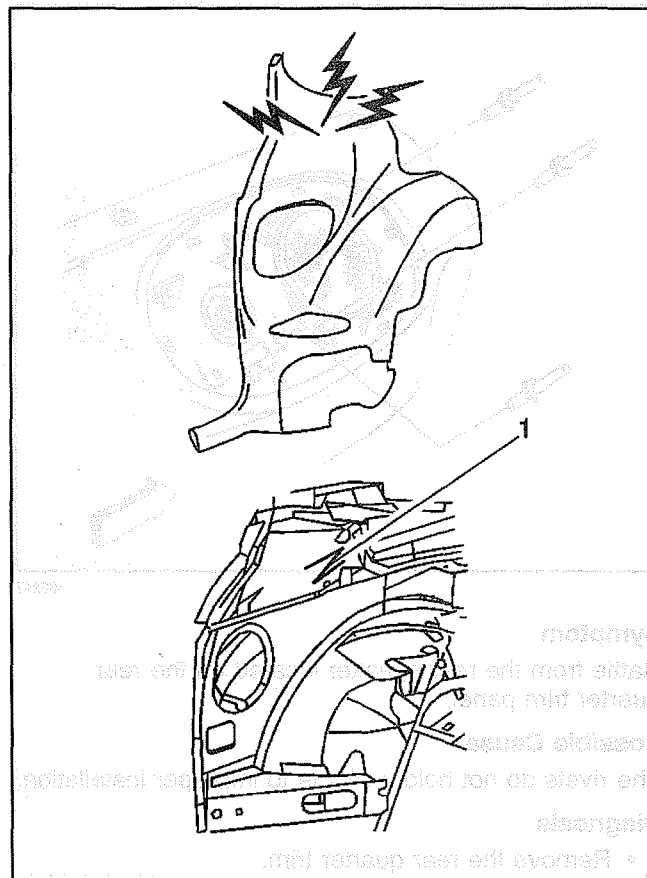
Notice: Refer to *Fastener Notice* in Cautions and Notices.

- Tighten the mounting nuts.

Tighten

Tighten the pump mounting nuts (1) to 6 N·m (53 lb in).

Noise Diagnosis - Rear of Vehicle (Passenger Side B-Pillar Creak)



397260

Symptom

Creak coming from the upper B-pillar/roof area on the passenger side. Usually only happens over 16°C (60°F) ambient temperature.

Possible Cause

Sheet metal interference in the middle to the upper area of the B-pillar.

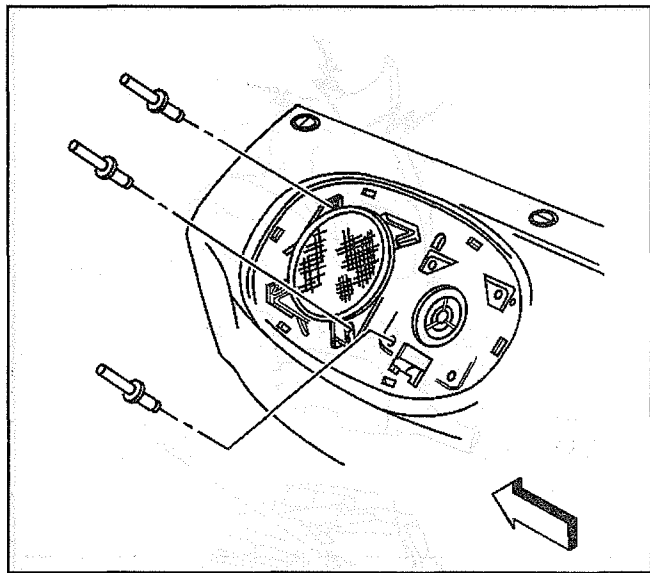
Diagnosis

Remove B-pillar quarter inner trim finishing panel. Test drive the vehicle, listen for noise over rough roads.

Corrective Action

Strike the B-pillar sheet metal, inside the vehicle, with a ball peened hammer to put a slight indentation in the inside body panel.

Noise Diagnosis - Rear of Vehicle (Radio Rear Speaker Rattle)



362247

Symptom

Rattle from the rear speaker located on the rear quarter trim panel.

Possible Cause

The rivets do not hold well due to improper installation.

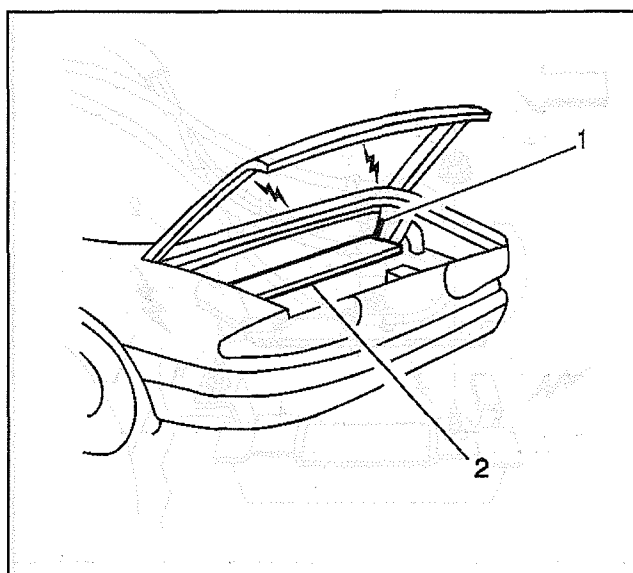
Diagnosis

- Remove the rear quarter trim.
- Check speaker attachment to the trim for looseness.

Corrective Action

Install new rivets or isolation material as necessary.

Noise Diagnosis - Rear of Vehicle (Rear Compartment Closeout Panel Rattle)



397264

Symptom

Rattle from the rear of the vehicle.

Possible Cause

Rear compartment closeout panel (2) rattles against the side trim.

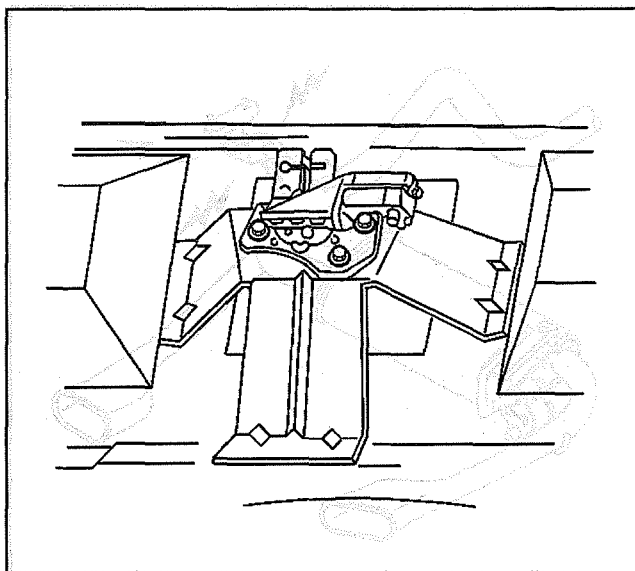
Diagnosis

Remove the closeout panel (2) and test drive the vehicle.

Corrective Action

Apply a 2 in x 5

Noise Diagnosis - Rear of Vehicle (Hatch Rattle)



397266

397266

Symptom

A rattle coming from the rear hatch area.

Possible Cause

- The hatch latch is not in the correct position, both cross-car and up/down.
- Overslam bumpers are not properly set.

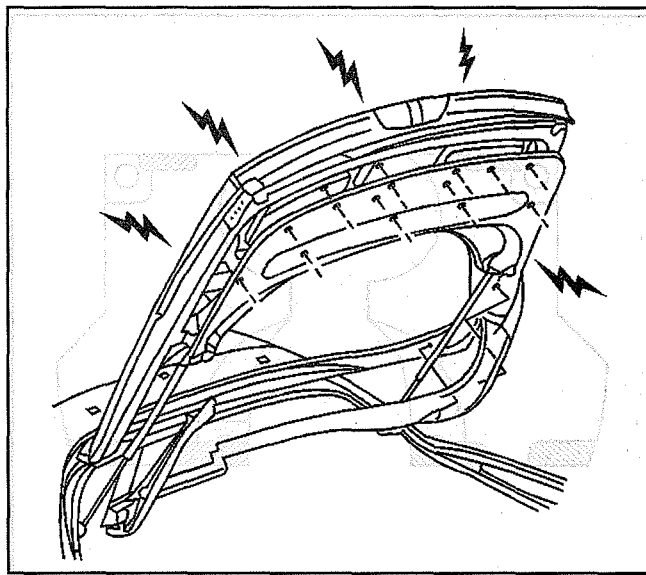
Diagnosis

Test drive the vehicle and, with the aid of a helper, push up on the rear compartment lift window panel to stop the noise.

Corrective Action

- Loosen the latch.
- Center with the striker and retighten. Be sure to provide equal clearance to the latch sides.
- Lower the lift window pane and run bumpers out to a point that a single piece of paper can barely be pulled out when the rear panel is fully closed.

Noise Diagnosis - Rear of Vehicle (Rear Compartment Lift Window Panel Co)



397267

397267

Symptom

Rattle from the rear compartment trim area.

Possible Cause

Trim is loose due to misinstalled or missing fasteners.

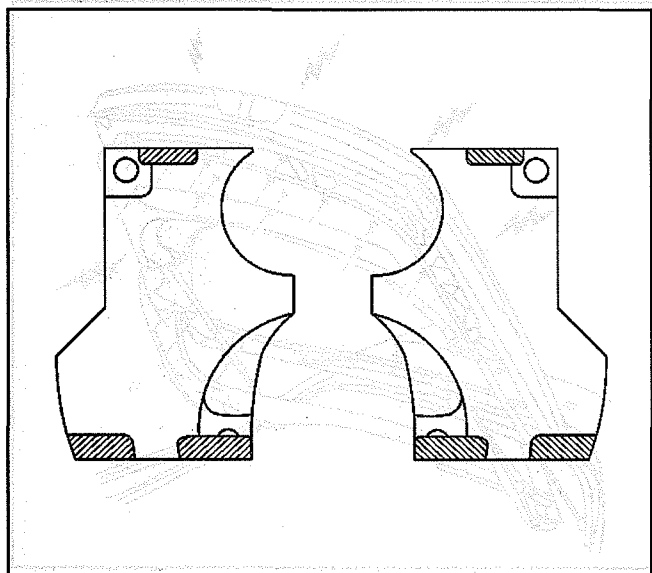
Diagnosis

Carefully pull the rear compartment trim down to view behind, look for misinstalled or missing fasteners.

Corrective Action

Install new fastener.

Noise Diagnosis - Rear of Vehicle (Rear Quarter Panel Styrofoam Itch)



397275

Symptom

High pitched itch coming from the rear (right, left or both) of the vehicle over moderate to rough roads. Sounds similar to sheet metal joint creaks.

Possible Cause

The styrofoam inserts located behind the quarter trim panel are contacting and rubbing against the quarter inner sheet metal surfaces.

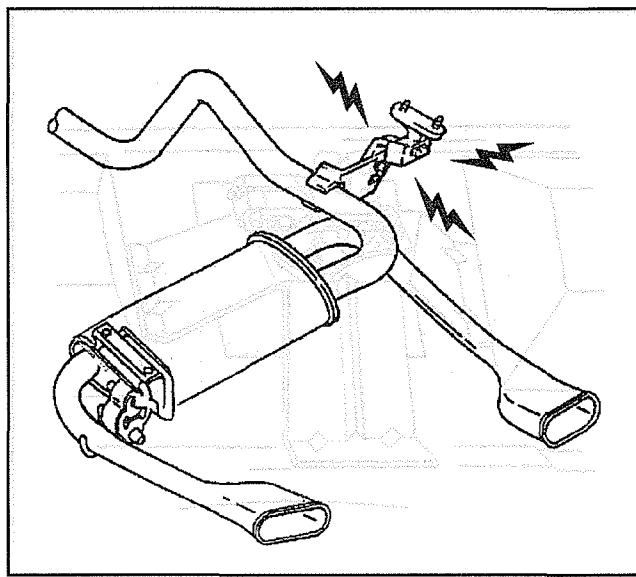
Diagnosis

Look for witness marks on the styrofoam insert of the quarter panel inner sheet metal surface.

Corrective Action

Apply 3 pieces of 30 x 80 mm GM 6068M closed cell foam (P/N 22638774) or similar isolation material at specified location. Wrap foam around edges approximately 1/4 inch.

Noise Diagnosis - Under Vehicle (Exhaust Hanger Rattle)



397269

Symptom

Rattle from the underside of the vehicle.

Possible Cause

The slots on the exhaust hangers increase in size over time.

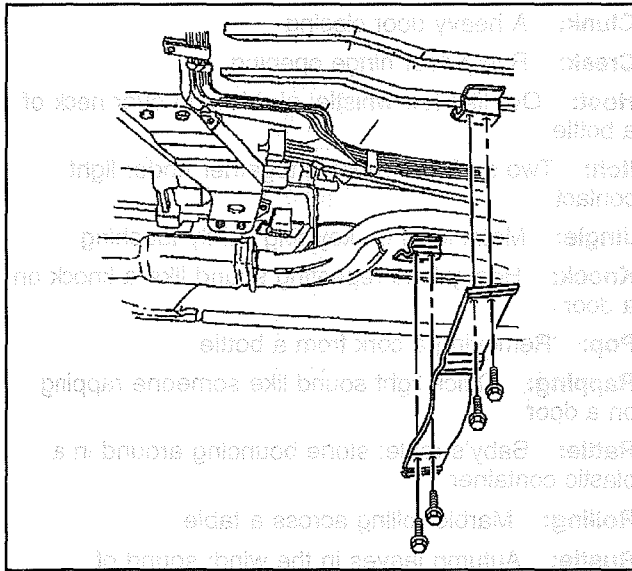
Diagnosis

Visual inspection for excessive gap in exhaust hanger where exhaust system blade is inserted.

Corrective Action

Replace hanger(s).

Noise Diagnosis - Under Vehicle (Exhaust Pipe Rattle)



368319

Symptom

Underbody rattle.

Possible Cause

The exhaust system intermediate pipe is hitting the cross brace.

Diagnosis

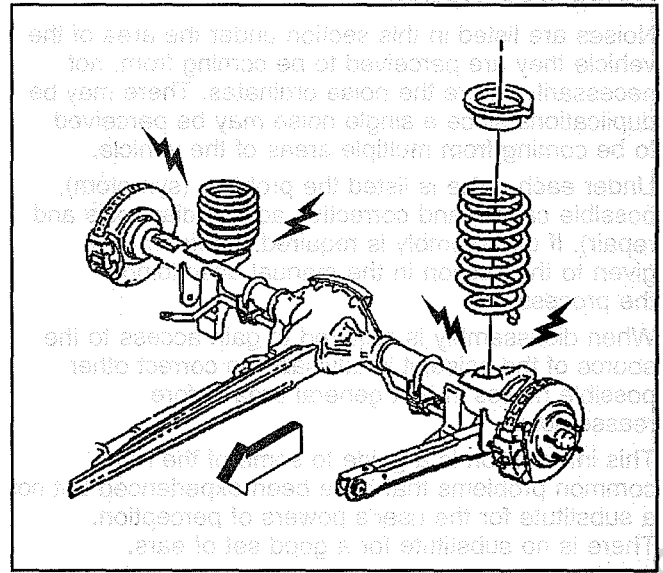
Look for witness marks on the pipe and cross brace. Minimum clearance between the pipe and the brace should be:

- For the 3800 V6 the specification is 19.0 mm (0.748 in)
- For the 5.7L V8 the specification is 14.0 mm (0.551 in)

Corrective Action

- Reposition exhaust system to provide minimum clearance using the above specifications.
- Loosen the slip joint, converter bracket hanger and take down pipe to manifold.
- Raise exhaust system with a single post jack.
- Retighten the system starting with the converter bracket, then tighten the take downs at the manifolds, lastly tighten the pipe clamp.

Noise Diagnosis - Under Vehicle (Rear Suspension Clunk)



397273

Symptom

A clunk is heard in the rear of the vehicle.

Possible Cause

- Spring isolator is mispositioned.
- A rear suspension component is not tightened to specification.

Diagnosis

- Visually inspect the isolator position on top of the spring. The spring tail end should be pointed forward.
- Check all rear suspension attachments for proper torque.

Description and Operation

Noise Description

Noises are listed in this section under the area of the vehicle they are perceived to be coming from, not necessarily where the noise originates. There may be duplications since a single noise may be perceived to be coming from multiple areas of the vehicle.

Under each noise is listed the problem (symptom), possible cause, and corrective action (diagnosis and repair). If disassembly is required, a reference is given to the section in the manual describing the process.

When disassembly is required to gain access to the source of the noise, it is advisable to correct other possible noises in that general area before reassembly.

This information is a guide to some of the more common problems that have been experienced but not a substitute for the user's powers of perception. There is no substitute for a good set of ears.

To communicate a noise, words must be used. Many different words can be used to describe a noise. The noise description table lists noises and their description as used in the book.

Bang: Wooden screen door slamming

Buzz: A flying bumblebee

Chatter: Windshield wiper on a dry windshield

Chirp: A bird, or a cricket

Clunk: A heavy door closing

Creak: Rusty door hinge opening

Hoot: Owl like low whistle; air blowing over neck of a bottle

Itch: Two surfaces rubbing together under light contact

Jingle: Metal keys on key ring lightly touching

Knock: Heavy loud repeating sound like a knock on a door

Pop: Removing a cork from a bottle

Rapping: Quick light sound like someone rapping on a door

Rattle: Baby's rattle; stone bouncing around in a plastic container

Rolling: Marble rolling across a table

Rustle: Autumn leaves in the wind; sound of rushing water

Slap: Quick sharp blow with an open hand

Squeak: Tennis shoes on a wooden floor

Thump: A deep muffled knock such as a wooden bat hitting a tire

Ticking: Clock; tapping pencil lead on a table