

SECTION 10A1

DOORS

CAUTION: This vehicle has a Supplemental Inflatable Restraint (SIR) System. Refer to the SIR Component and Wiring Location view in order to determine whether you are performing service on or near the SIR components or the SIR wiring. When you are performing service on or near the SIR components or the SIR wiring, refer to the SIR On-Vehicle Service information. Failure to follow the CAUTIONS could cause air bag deployment, personal injury, or unnecessary SIR system repairs.

CAUTION: When working with any type of glass, use approved safety glasses and gloves to reduce the chance of personal injury.

CAUTION: When applying sound deadeners or anti-corrosion materials, due care and preventative measures must be exercised to prevent any material from being sprayed into door and quarter panel mechanisms such as door locks, glass run channels, window quarters and seat belt retractors, as well as any moving or rotating mechanical or suspension parts on the underbody, particularly the parking brake cable. After material application, be sure all body drain holes are open. Improper application may limit the operation of moving parts or increase the chance of corrosion damage. Personal injury could result.

NOTICE: *Always use the correct fastener in the proper location. When you replace a fastener, use ONLY the exact part number for that application. General Motors will call out those fasteners that require a replacement after removal. General Motors will also call out the fasteners that require thread lockers or thread sealant. UNLESS OTHERWISE SPECIFIED, do not use supplemental coatings (paints, greases, or other corrosion inhibitors) on threaded fasteners or fastener joint interfaces. Generally, such coatings adversely affect the fastener torque and joint clamping force, and may damage the fastener. When you install fasteners, use the correct tightening sequence and specifications. Following these instructions can help you avoid damage to parts and systems.*

NOTICE: *Many aluminum components are used on present models. Aluminum in contact with steel may corrode rapidly if not protected by special finishes or isolators.*

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GENERAL DESCRIPTION

DOORS

Doors on C/K model trucks use hinges that are welded to the door and body. No adjustment of this type of hinge is recommended. Replacement hinges bolt to the door and body side pillar and are adjustable.

NOTICE: Refer to "Engine Controls, Transmission Diagnosis and Electrical Diagnosis Manual" for information pertaining to operation, and diagnosis of electrical components.

ON-VEHICLE SERVICE
FRONT DOORSWINDOW REGULATOR HANDLE
REPLACEMENT

Tool Required:
J 9886-01 Door Handle Remover

 Remove or Disconnect (Figure 1)

1. Window regulator handle from vehicle.
 - A. Insert J 9886-01 between the handle and bearing plate (Figure 1).
 - B. Align the tool and push to disengage the clip (Figure 1).
 - C. Pull the handle from door.
2. Bearing plate (Figure 1).

 Install or Connect (Figure 1)

1. Bearing plate to door (Figure 1).
2. Window regulator handle (Figure 1).
 - A. Raise window.
 - B. Install the clip onto the handle.
 - C. Insert handle onto window regulator shaft so the handle is pointing toward the front of the door.
 - D. Push on the handle until the clip engages window regulator shaft.

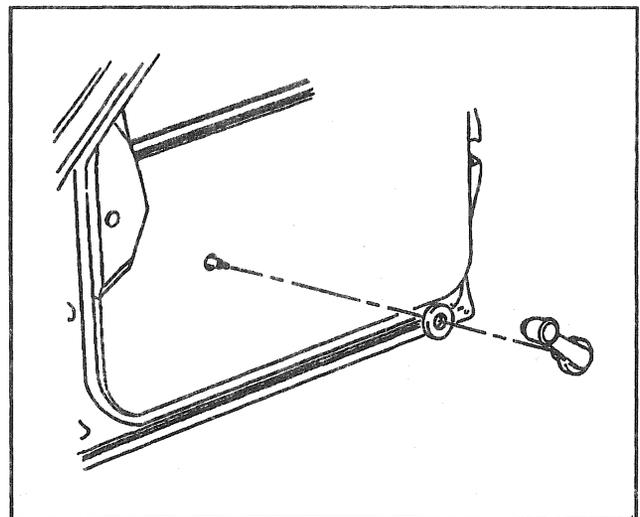


Figure 1—Window Regulator Handle and Bearing Plate

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POWER ACCESSORY SWITCH MOUNTING PANEL REPLACEMENT

↔ Remove or Disconnect (Figures 2 and 8)

1. Negative battery cable. Refer to Section 6D1.
2. Switch mounting panel (Figure 8).
 - Use a flat blade tool to carefully pry door accessory mounting panel from door trim panel.
3. Power accessory electrical connectors from switches and speaker (if applicable).
4. Switches from switch mounting panel (if applicable).
 - Use a flat blade tool to carefully pry switches from accessory mounting panel.
5. Speaker grill from switch mounting panel (if applicable).
 - Carefully spread speaker grill retainers.
6. Speaker from switch mounting panel (if applicable).
 - Rotate speaker counterclockwise.

↔ Install or Connect (Figures 2 and 8)

1. Speaker to switch mounting panel (if applicable).
 - Rotate speaker clockwise.
2. Speaker grill from switch mounting panel (if applicable).
 - Snap in place.
3. Switches to switch mounting panel.
 - Snap in place.
4. Power accessory electrical connectors to switches and speaker (if applicable).
5. Switch mounting panel (Figure 8).
 - Snap in place.
6. Negative battery cable.

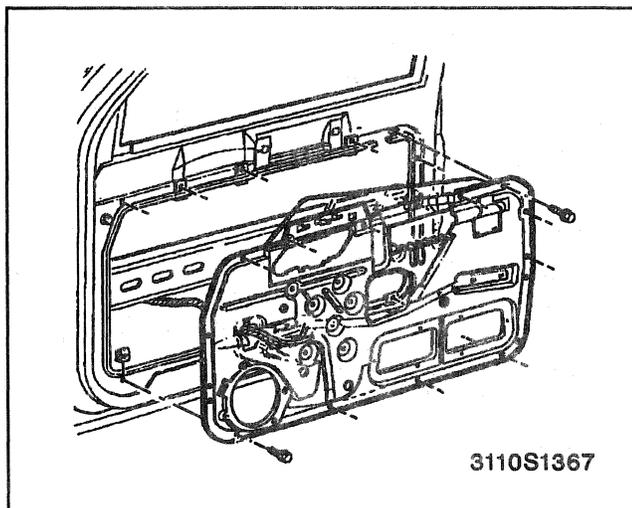


Figure 2—Front Door Power Accessory Switch Mounting Panel

INSIDE HANDLE BEZEL REPLACEMENT

↔ Remove or Disconnect (Figure 3)

1. Handle bezel from door trim panel.
 - A. Insert a flat blade tool between door inside bezel and handle assembly.
 - B. Carefully bend retaining clips outward while pulling out bezel. Refer to arrows shown in Figure 3.
 - C. Disconnect wiring connector (if equipped with power locks).

↔ Install or Connect (Figure 3)

1. Handle bezel to door trim panel.
 - A. Connect wiring connector (if equipped with power locks).
 - B. Snap bezel into place.

POWER DOOR LOCK SWITCH REPLACEMENT

↔ Remove or Disconnect (Figure 4)

1. Power Accessory Switch Plate. Refer to "Power Accessory Switch Mounting Panel Replacement" in this section.
2. Power door lock switch wiring connector.
3. Power door lock switch.
 - Carefully bend retaining tabs outward while pushing switch out of plate.

↔ Install or Connect (Figure 4)

1. Power door lock switch.
2. Power door lock switch wiring connector.
3. Power Accessory Switch Plate. Refer to "Power Accessory Switch Mounting Panel Replacement" in this section.

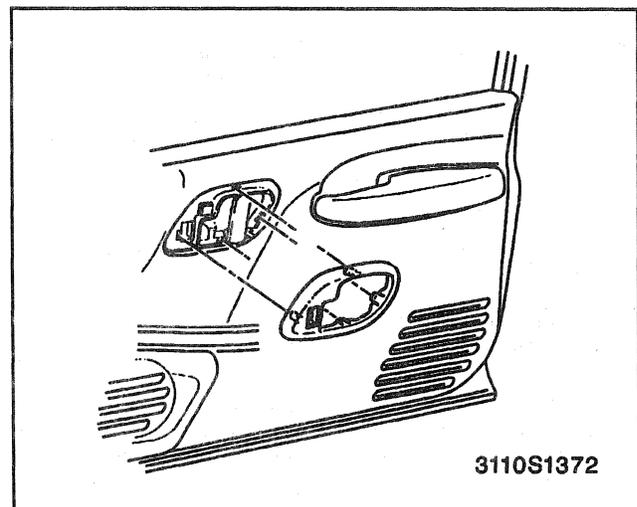


Figure 3—Front Door Inside Handle Bezel

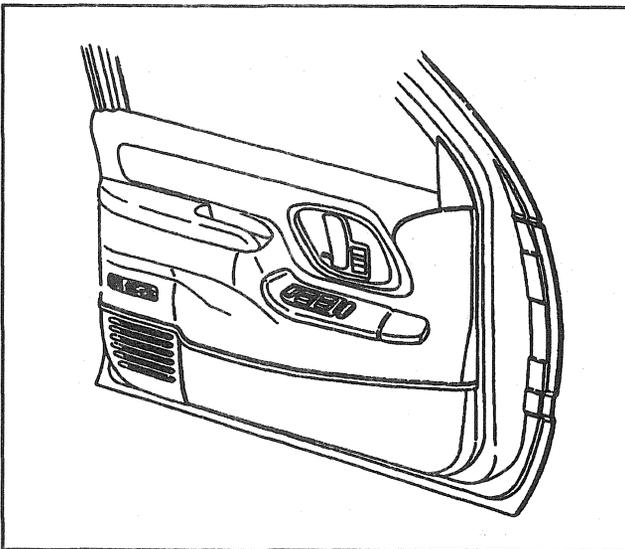


Figure 4—Power Door Lock Switch

TRIM PANEL UPPER EXTENSION REPLACEMENT

Tool Required:
J 38778 Trim Panel Remover

←→ Remove or Disconnect

1. Trim panel from the door.
 - A. Carefully pry the retainer from door using J 38778.
 - B. Pull upward to release extension from trim panel.
2. Retainer from extension.

→← Install or Connect

1. Retainer to extension.
2. Extension to door.
 - A. Insert extension on to trim panel.
 - B. Align retainer into hole in door. Push extension until retainer seats.

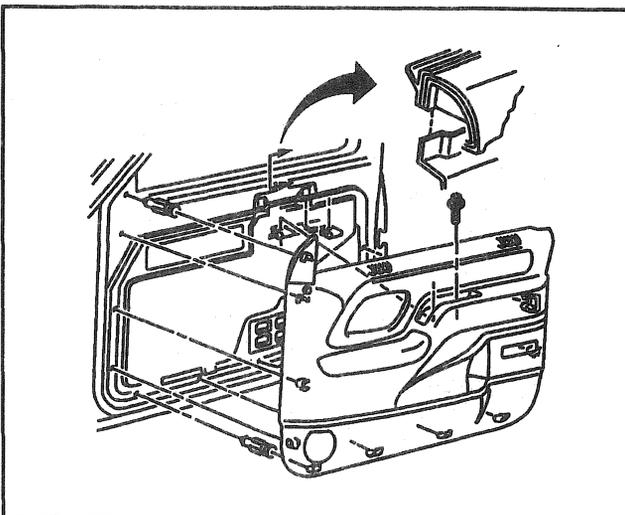


Figure 5—Front Door Trim Panel

TRIM PANEL REPLACEMENT

Tool Required:
J 38778 Trim Panel Remover

←→ Remove or Disconnect (Figures 5 and 6)

1. Door handle bezel. Refer to "Inside Handle Bezel Replacement" in this section.
2. Window regulator handle (if equipped). Refer to "Window Regulator Handle Replacement" in this section.
3. Power accessory switch mounting panel wiring connector (if equipped with power accessories). Refer to "Power Accessory Switch Mounting Panel Replacement" in this section.
4. Trim panel upper extension. Refer to "Trim Panel Upper Extension Replacement" in this section.
5. Trim panel armrest screws.
 - Carefully pry off trim panel armrest screw cover with a flat blade tool to access screw.
6. Trim panel from the door.
 - Carefully pry the retainers from their seats using J 38778.
 - Disconnect courtesy light connector (if equipped).
7. Courtesy lamp lens or reflector.
8. Retainers from trim panel (Figure 6).
 - Pull retainers from slot.

→← Install or Connect (Figures 5 and 6)

NOTICE: Refer to "Notice" on page 10A1-1.

1. Retainers to trim panel (Figure 6).
 - Push retainer from slot.
2. Courtesy lamp lens or reflector.
3. Trim panel to the door.
 - Align retainers with holes in door.
 - Carefully apply pressure to seat retainers.
4. Window regulator handle (if equipped). Refer to "Window Regulator Handle Replacement" in this section.

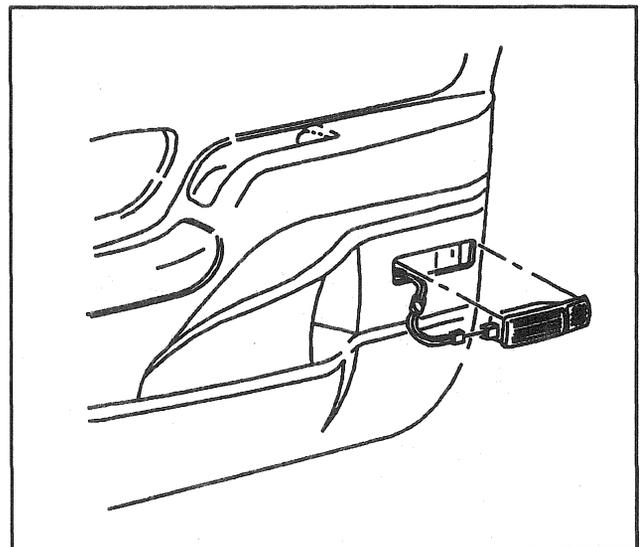


Figure 6—Front Door Trim Panel Courtesy Lamp

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5. Power accessory switch mounting panel (if equipped with power accessories).
6. Trim panel armrest screw.

Tighten

- Trim panel armrest screw to 2 N.m (18 lb in).
 - Insert screw cover.
7. Trim panel upper extension.
 8. Door handle bezel. Refer to "Inside Handle Bezel Replacement" in this section.

COURTESY LAMP REPLACEMENT

Refer to the "Driveability, Emissions and Electrical Manual" for electrical diagnosis.

Remove or Disconnect

1. Trim panel. Refer to "Trim Panel Replacement" in this section.

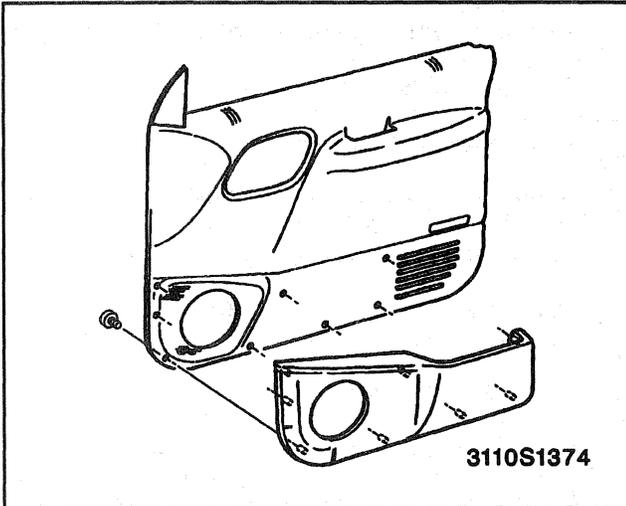


Figure 7—Front Door Map Pocket

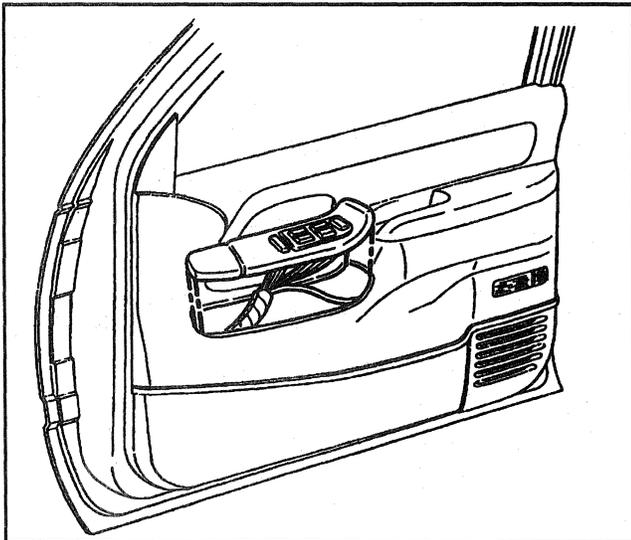


Figure 8—Accessory Switch Plate Mounting

2. Lamp from trim panel.
 - Disconnect wiring connector.
 - Carefully release lamp assembly retainers with a flat-blade tool.

Install or Connect

1. Lamp to trim panel.
 - Snap lamp assembly into trim panel.
 - Connect wiring connector.
2. Trim panel. Refer to "Trim Panel Replacement" in this section.

TRIM PANEL MAP POCKET REPLACEMENT

Tool Required:
J 38778 Trim Panel Remover

Remove or Disconnect (Figure 7)

1. Trim panel. Refer to "Trim Panel Replacement" in this section.
2. Map pocket from trim panel.
 - Pry the retainers from their seats using J 38778.

Install or Connect (Figure 7)

1. Map pocket to trim panel.
 - Snap retainers into seats.

WATER DEFLECTOR REPLACEMENT

Waterproof deflectors are used to seal the inner panel and prevent water from entering into the body. The deflector is secured by a strip of adhesive between the deflector and door.

Remove or Disconnect (Figure 9)

1. Trim panel. Refer to "Trim Panel Replacement" in this section.
2. Water deflector.

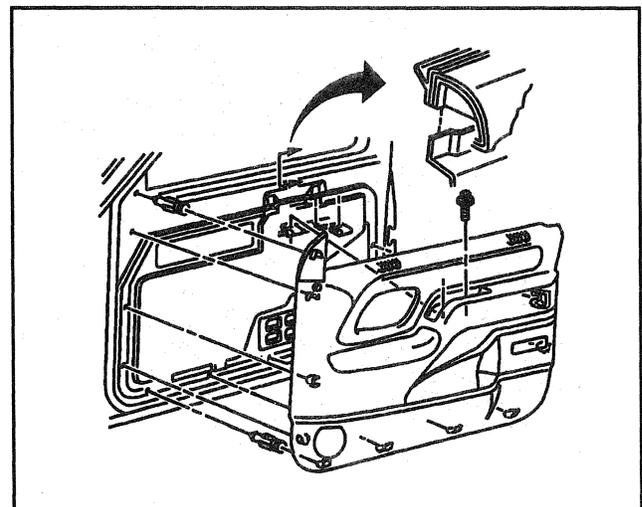


Figure 9—Front Door Inner Panel Water Deflectors

- A. Pull the waterproof sealing tape from the deflector.
- B. Break the bond between the sealer and the door with a flat-blade tool.

⇔ Install or Connect (Figure 9)

- 1. Water deflector to the door.
 - Use waterproof tape or 3M® 777 adhesive.
- 2. Trim panel to the door.

WIRING HARNESS REPLACEMENT

⇔ Remove or Disconnect (Figures 10 and 11)

- 1. Cowl kick panel. Refer to SECTION 8C.
- 2. Cross body wiring harness.
- 3. Conduit.
- 4. Trim panel. Refer to "Trim Panel Replacement" in this section.

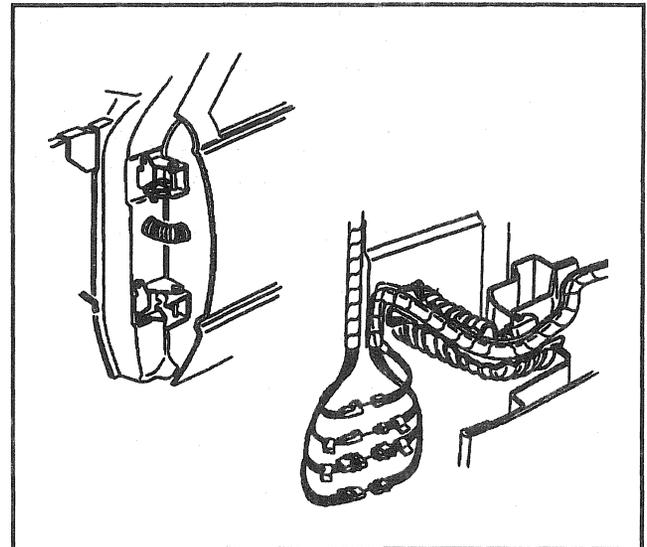
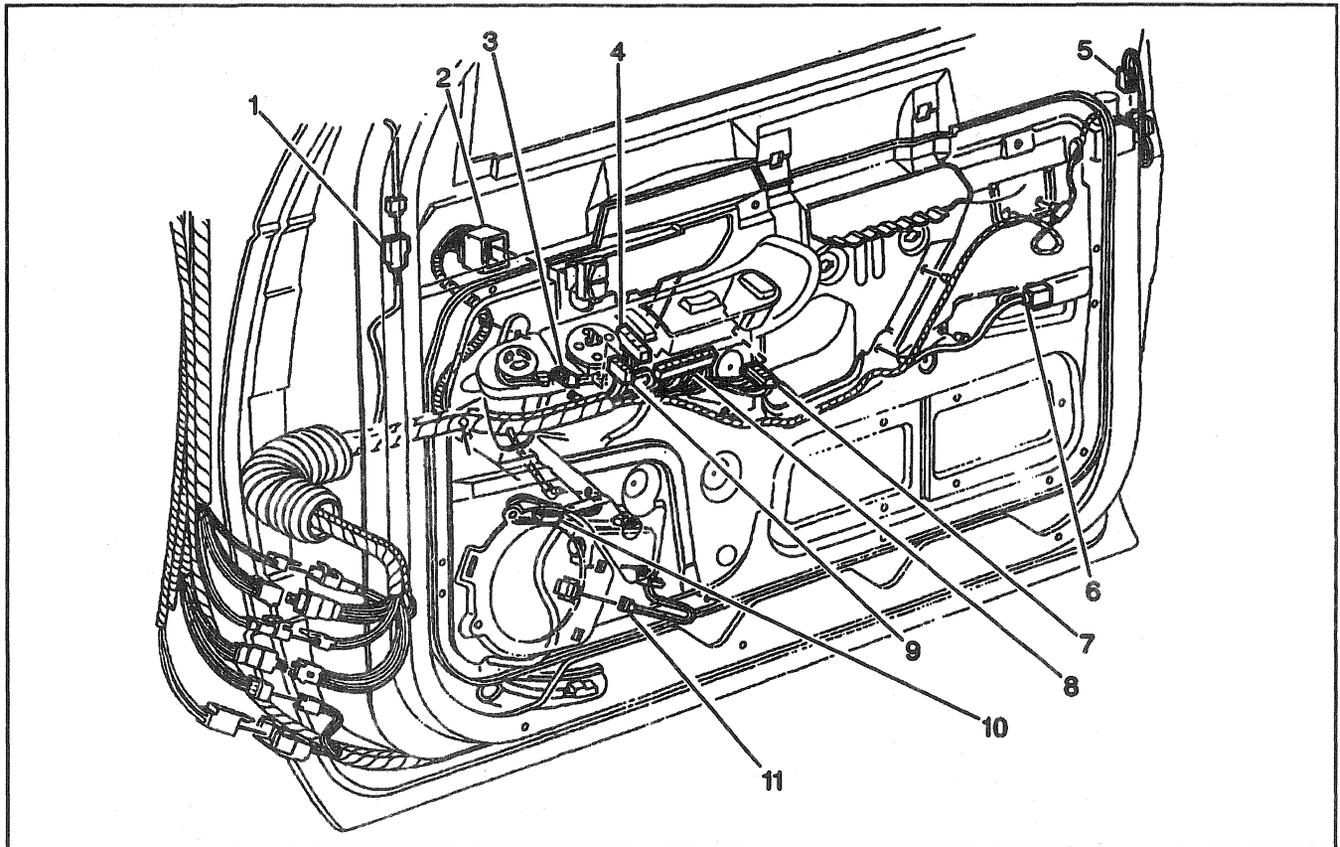


Figure 10—Front Door Cross Body Wiring Harness and Conduit



Legend

- | | |
|--|--------------------------------------|
| (1) Power Rearview Mirror Connector | (7) Power Door Lock Switch Connector |
| (2) Keyless Entry Wiring Connector | (8) Power Window Switch Connector |
| (3) Tweeter Connector | (9) Power Mirror Switch Connector |
| (4) Power Rear Window Lock Out Switch Wiring Connector | (10) Power Window Motor Connector |
| (5) Power Door Lock Wiring Connector | (11) Speaker Connector |
| (6) Courtesy Light Wiring Connector | |

Figure 11—Front Door Wiring Harness Connectors

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5. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
6. Power mirror connector if equipped.
7. Keyless entry connector if equipped.
8. Power door lock actuator connector if equipped.
9. Power window motor wiring connector if equipped.
10. Courtesy lamp harness retainers if equipped.
11. Speaker.
12. Speaker wiring harness connector if equipped.
13. Door wiring harness from door.

Install or Connect (Figures 10 and 11)

1. Door wiring harness to door.
2. Speaker wiring harness connector if equipped.
3. Speaker.
4. Courtesy lamp harness retainers if equipped.
5. Power window motor wiring connector if equipped.
6. Power Door lock actuator connector into latch if equipped.
7. Keyless entry connector if equipped.
8. Power mirror connector if equipped.
9. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
10. Trim panel. Refer to "Trim Panel Replacement" in this section.
11. Conduit.
12. Cross body wiring harness.
13. Cowl kick panel. Refer to SECTION 8C.

DOOR REPLACEMENT

Tools Required:

J 36604 Door Hinge Spring Compressor

Remove or Disconnect (Figures 12 through 14)

1. Negative battery cable. Refer to SECTION 6D1.
2. Cowl side vent cover.
3. Wire harness connectors under the instrument panel.
 - A. Receptacles from the wire harness.
 - B. Retainer from the wire harness grommet.
 - C. Rubber conduit from the door pillar by pushing it from the vent cover side.

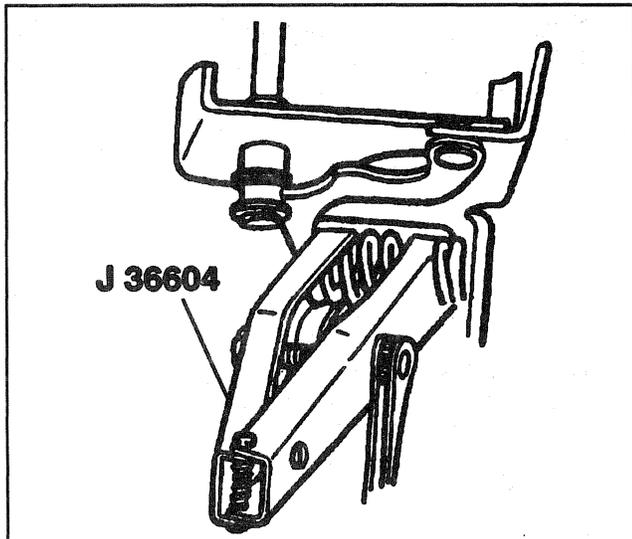


Figure 12—Hinge Spring Removal Tool

4. Door hinge spring using J 36604 (Figure 12).
 - Insert the blades of the tool between the spring coils and turn the barrel nut to compress and hold the spring during removal.
5. Lower hinge pin retainer (Figure 13).
6. Lower hinge pin using a soft-faced hammer and a pair of locking pliers to grasp the pin and drive it out (Figure 13).
 - Install a bolt through the lower hinges temporarily to hold the door in place while removing the upper hinge pin.
7. Upper hinge pin retainer (Figure 12).
8. Upper hinge pin (Figure 12).
9. Bolt in lower hinge pin hole.
10. Door from the vehicle.

Install or Connect (Figures 12 through 14)

1. Door to the vehicle.
2. Bolt temporarily through the lower hinge pin holes.
3. Upper hinge pin with the pointed end up (Figure 12).

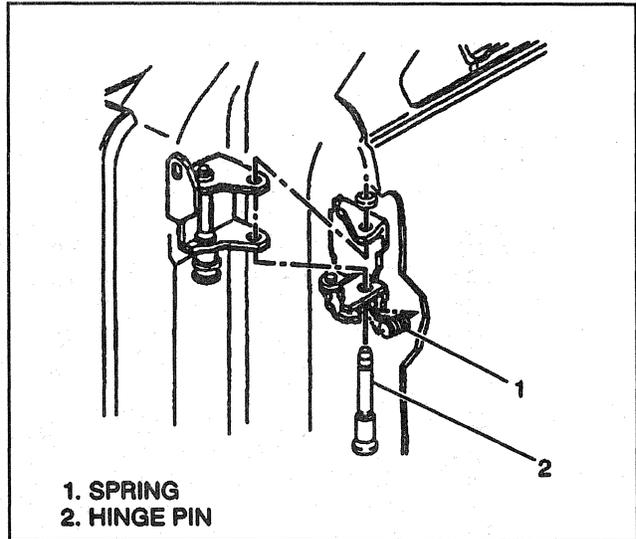


Figure 13—Upper Hinge Pin and Spring

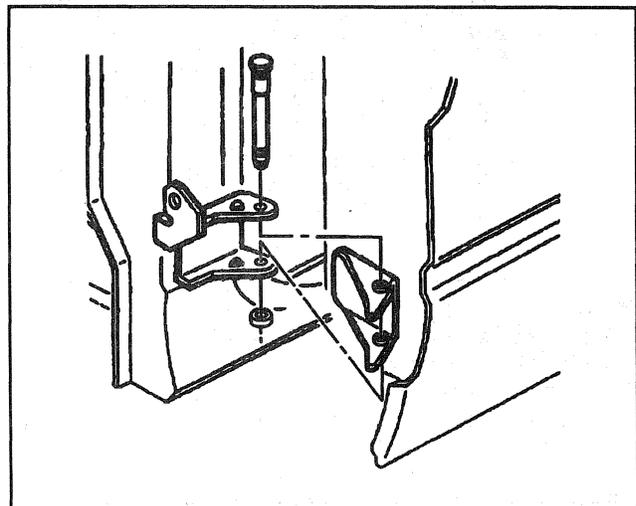


Figure 14—Lower Hinge Pin

4. New hinge pin retainer (Figure 12).
 - Remove temporary bolt from the lower hinge.
5. Lower hinge pin with the pointed edge down (Figure 13).
6. New hinge pin retainer (Figure 13).
7. Door hinge spring using J 36604 (Figure 12).
8. Harness connectors.
 - A. Rubber conduit through the body pillar.
 - B. Retainer around the wire harness grommet.
 - C. Receptacles to the harness under the instrument panel.
9. Cowl side vent cover.
10. Negative battery cable.
11. Lubricate bushing with engine oil.

DOOR HINGE REPLACEMENT

←→ Remove or Disconnect (Figures 15 through 17)

1. Door from body. Refer to "Door Replacement" in this section.
2. Excess sealer surrounding hinge.
3. Door hinges.
 - A. Scribe the location of the existing hinges on the body pillar and door.
 - B. Center punch each of the weld marks on the original hinge (Figure 15). It is critical to punch the center of the weld so that all of the weld is removed during drilling.
 - C. Drill a 3 mm (1/8 inch) pilot hole through the welds deep enough to penetrate the hinge base only (Figure 16).
 - D. Drill a 13 mm (1/2 inch) hole through the hinge base only using the smaller hole as a pilot (Figure 16).
 - E. Drive a chisel between the hinge and door pillar (Figure 17).

Left Hinge Replacement:

1. Sill plate. Refer to SECTION 10A4.
2. Kick pad by lifting from the retainers.
3. Parking brake assembly. Refer to SECTION 5F.
 - Carefully pry away the cowl side panel insulator over the lower access hole and set aside to reuse.

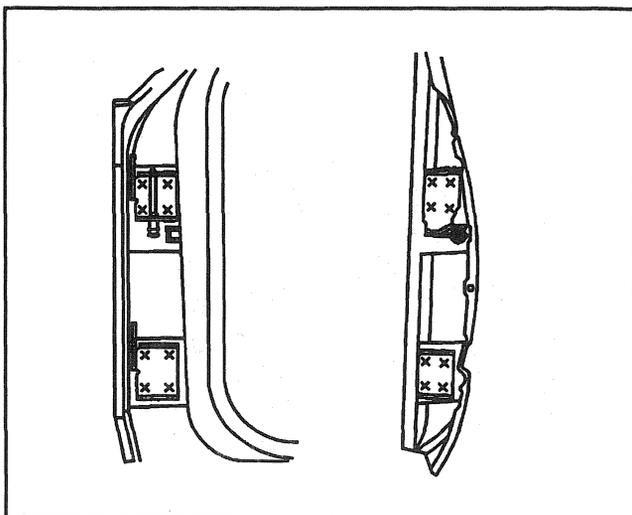


Figure 15—Spot Weld Locations

Right Hinge Replacement:

1. Sill plate. Refer to SECTION 10A4.
2. Kick pad by lifting from the retainers.
3. Glove compartment. Refer to SECTION 8C.
 - Carefully pry the cowl side panel insulator away from the lower access hole and set aside to reuse.

→+ Install or Connect (Figures 18 through 20)

NOTICE: Refer to "Notice" on page 10A1-1.

1. Hinges to pillar or door.
 - A. Position the bolt-on service replacement hinges within the scribe marks made on the body hinge pillar and the door at the time of removal.
 - B. Center punch each bolt hole location on the body hinge pillar and/or door.
 - C. Drill a 13 mm (1/2 inch) hinge attaching hole in three steps to ensure placing the hinge in the proper position.

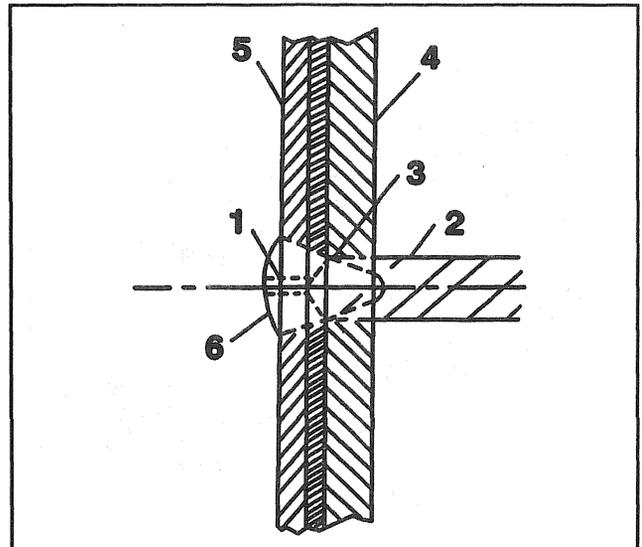


Figure 16—Drilling out Spot Welds

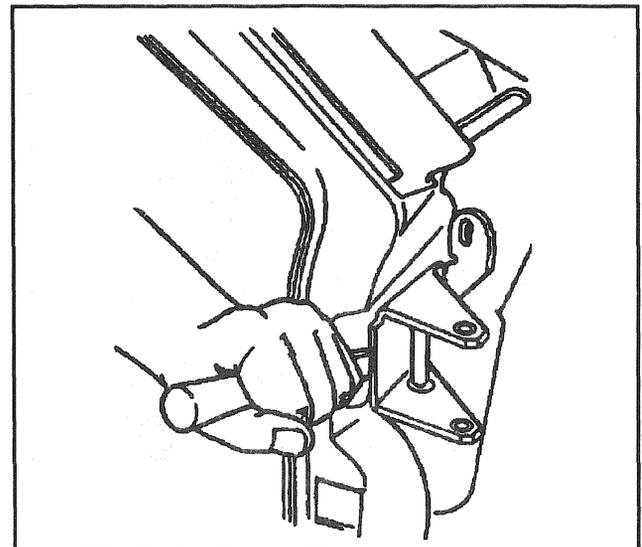


Figure 17—Chiseling Welded-On Hinge

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2. Prepare the surface for the replacement hinges using a file or equivalent.
 - Coat the mating surface of the hinges with a medium bodied sealer.
3. Hinges, backing plate, bolts, and nuts.
 - A. Align the hinge and backing plate with the holes in the hinge pillar and door.
 - B. Place the bolts through the hinge, pillar and/or door, and through the backing plate.
 - C. Apply sealer around hinges.



Tighten

- Nuts to 35 N-m (26 lb ft).

Left Side:

1. Cowl side panel insulator over the lower access hole.
2. Parking brake assembly. Refer to SECTION 5A.
3. Kick pad and sill plate.

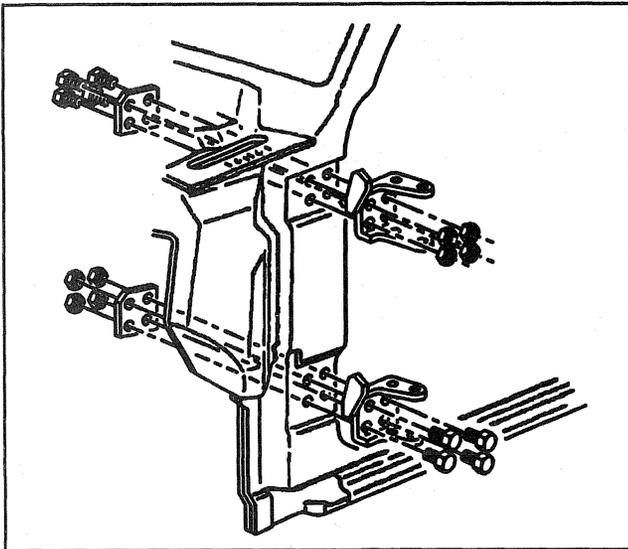


Figure 18—Replacement Hinges (Body Side)

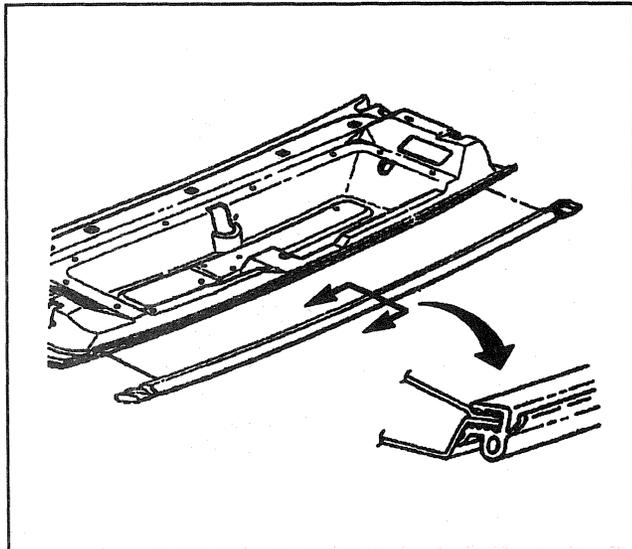


Figure 19—Replacement Hinges (Door Side)

Right Side:

1. Cowl side panel insulator over the lower access hole.
2. Glove compartment.
3. Kick pad and sill plate.
4. Door to the cab. Refer to "Door Replacement" in this section.
5. Door module panel. Refer to "Door Module Replacement" in this section.
6. Trim panel. Refer to "Trim Panel Replacement" in this section.



Adjust

- Refer to "Door Adjustment" in this section.

DOOR STRIKER BOLT REPLACEMENT

The door striker bolts are special bolts and a washer mounted on the door opening's rear pillar. The bolts pass through a hole into a threaded plate behind the pillar. The cab door is secured in position when the lock cam (arm) of the locking mechanism engages and snaps around the striker bolt.

The striker bolt position is not adjustable.

Tool Required:

J 29843-9 Torx Bit (Bit Size T47)



Remove or Disconnect (Figure 21)

1. Mark the position of the striker bolt spacer on the door pillar.
2. Striker bolts using J 29843-9 or equivalent.



Install or Connect (Figure 21)

NOTICE: Refer to "Notice" on page 10A1-1.

1. Striker bolts into the door pillar retaining plate.

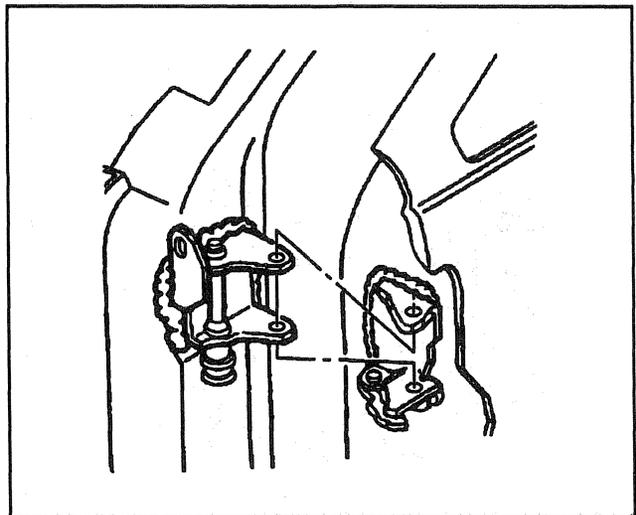


Figure 20—Sealer Application

- Align the striker bolt spacer with the previously made mark.

 **Tighten**

- Striker bolt while holding spacer in position to 63 N.m (46 lb ft) using J 29843-9 or equivalent.

DOOR ADJUSTMENT

This procedure can only be used when bolt-on service replacement hinges are installed.

Tool Required:
J 29843-9 Torx Bit (Bit Size T47) or equivalent

 **Remove or Disconnect**

- Door striker bolt using J 29843-9 or equivalent (Figure 21).
- Loosen the door hinge to the body side pillar bolts.

 **Adjust (Figures 21 and 22)**

- Door up or down, forward or rearward, and in or out at the door hinges.
- Gap between the rocker panel and the door to the specifications shown in Figure 22.
- Gap between the door and the roof panel.
- Gap between the rear of the door and the rear pillar.
- Gap between the door and the fender.
- Door surfaces flush with other panels within ± 1.0 mm (0.04 inch).

 **Tighten**

- Hinge bolts to 35 N.m (26 lb ft).

 **Install or Connect**

NOTICE: Refer to "Notice" on page 10A1-1.

- Door striker bolt.

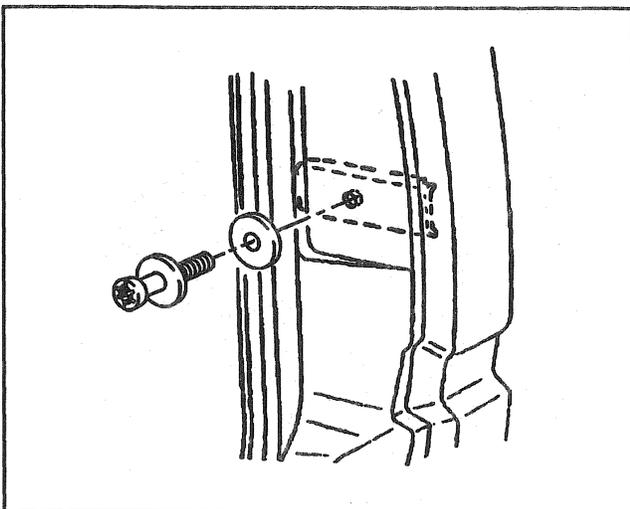


Figure 21—Door Striker

 **Adjust**

- Bolt to properly engage the door lock.

 **Tighten**

- Bolt to 63 N.m (46 lb ft).

DOOR HARDWARE LUBRICATION

The mechanical components of the door assembly are lubricated during assembly. If additional lubrication is required to any door hardware mechanism, use Lubriplate Spray-Lube "A" GM P/N 1052349, Lubriplate Auto-Lube "A" GM P/N 1052196, or equivalent. Lubricate door hinge pins and rollers at normal service intervals with 30 weight engine oil. Do not lubricate hinge roller to hold-open link contacting surfaces. This may prevent the roller from rolling properly.

INSIDE DOOR HANDLE ASSEMBLY REPLACEMENT

Tool Required:
J 34940 Rivet Gun

 **Remove or Disconnect (Figure 23)**

- Trim panel. Refer to "Trim Panel Replacement" in this section.
- Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
- Inside door handle assembly.
 - Drill out the rivet head using a 5-mm (3/16-inch) drill bit.
 - Slide door Handle forward.
- Control rods from the handle and lock lever.

 **Install or Connect (Figure 23)**

- Control rods to handle and lock lever.

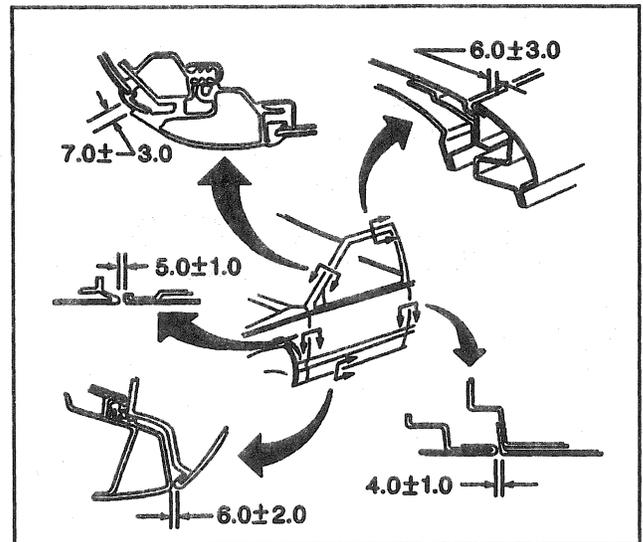


Figure 22—Door Adjustment Specifications

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2. Inside door handle.
 - Insert handle assembly into slot and slide assembly to the rear.
 - Handle rivet using J 34940.
3. Water deflector.
4. Trim Panel.

INNER MOUNTING PANEL ASSEMBLY

Remove or Disconnect (Figures 24 and 25)

- Lower Window
1. Trim panel. Refer to "Trim Panel Replacement" in this section.
 2. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
 3. Speaker (if equipped)
 - Carefully pry out retainer clips.
 4. Inner panel bolts (Figure 24).
 5. Lock rods from lock handle, lock lever, and lock rod guides (Figure 25).
 6. Wiring harness.
 7. Inner mounting panel from window sash (Figure 25).
 - Slide inner mounting panel rearward to release regulator roller from window sash.

Install or Connect (Figures 24 and 25)

1. Inner mounting panel to window sash (Figure 25).
 - Slide inner mounting panel forward to release regulator roller from window sash.
2. Wiring harness.
3. Lock rods to lock handle, lock lever, and lock rod guides (Figure 24).
4. Inner panel bolts (Figure 24).
5. Speaker (if equipped).
6. Trim panel. Refer to "Trim Panel Replacement" in this section.
 - Carefully pry out retainer clips.
7. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.

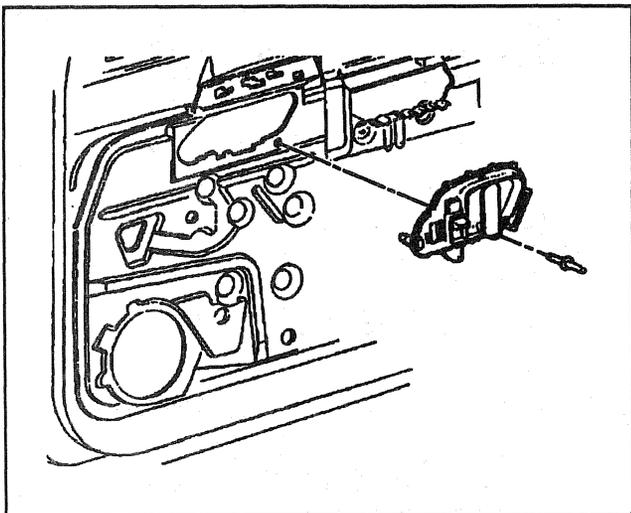


Figure 23—Front Door Inner Handle Assembly

LOCK ASSEMBLY

Remove or Disconnect (Figures 26 and 27)

1. Trim panel. Refer to "Trim Panel Replacement" in this section.
2. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
3. Inner mounting panel assembly. Refer to "Inner Mounting Panel Replacement" in this section.
4. Inside door handle and lock control rods (Figure 26).
5. Lock assembly bolts.
6. Outside door handle and lock control rods (Figure 27).
 - Replace plastic retainers following disassembly.

Install or Connect (Figures 26 and 27)

1. Pull outside handle out of door opening and slide latch outside door connector onto outside handle rod. Twist latch into door assembly and retain with three screws (Figure 27).

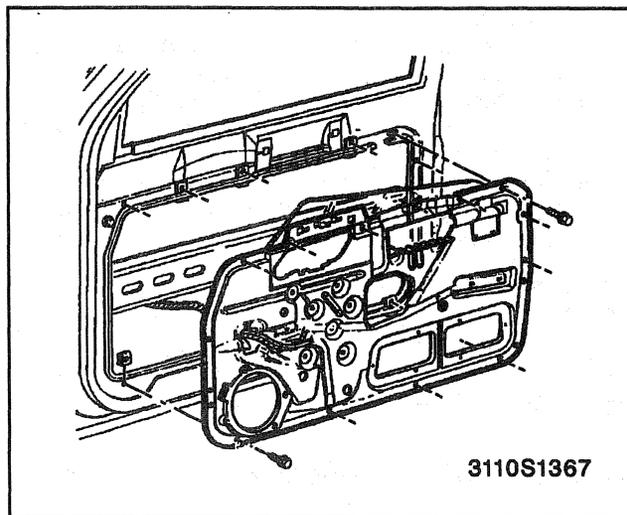


Figure 24—Front Door Inner Mounting Panel Assembly

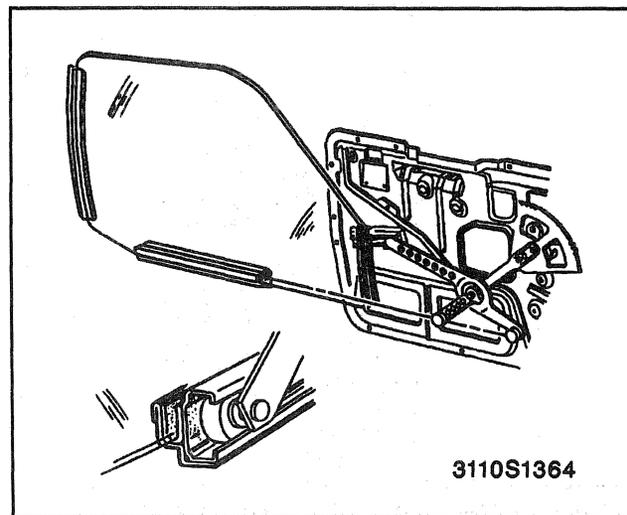


Figure 25—Inner Mounting Panel and Window Sash

2. Inside handle (top) rod and inside lock (bottom) rod to latch. (Figure 26)
3. Insert key in lock cylinder and adjust rod up and down by turning key through opening.
4. Lock rod to latch through opening in front side door below latch.
5. Inner mounting panel assembly. Refer to "Inner Mounting Panel Replacement" in this section.
6. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
7. Trim panel. Refer to "Trim Panel Replacement" in this section.

BINDING LOCK CYLINDERS

Binding or sticking door lock cylinders and keys that are hard to insert or remove may be corrected in many cases by applying the proper lubrication.

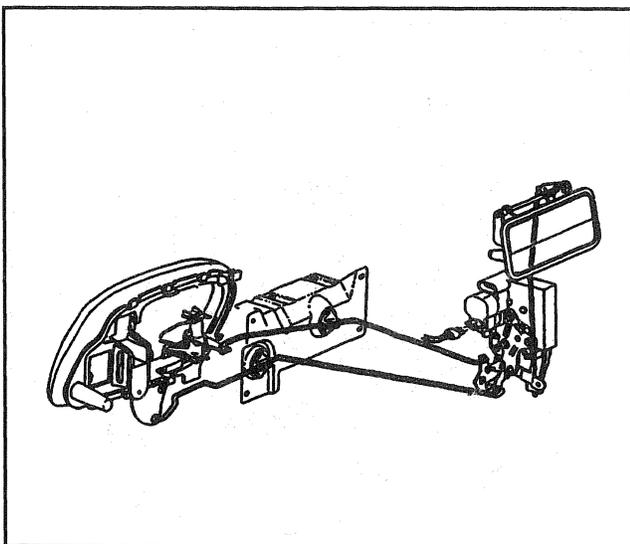


Figure 26—Inside Door Handle and Lock Control Rods

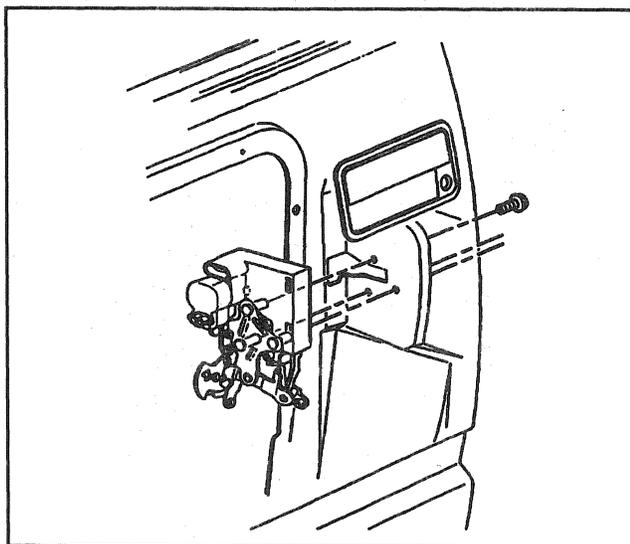


Figure 27—Outside Door Handle and Lock Assembly

The recommended materials for lubricating these components are (in order of preference):

- Lubricant GM P/N 12345120 (or equivalent).
- 5 W 30 motor oil.
- Silicone spray GM P/N 1052276 (or equivalent).

Penetrating lubricants (such as GM P/N 1052949 and WD-40®) are NOT recommended because they wash out the original lubrication and eventually evaporate, leaving little or no lubricating material. However, if these materials are used to unfreeze or loosen lock cylinder components, refer to Steps 2 through 4 below for proper methods of lubrication.

Frozen lock cylinders due to cold weather may be repaired using the following procedure:

1. Apply heat to cylinder with a heat gun while being careful not to damage the painted surfaces.
2. Hold the door shutter open with a paper clip (or similar item) and force air into cylinders using compressed air and a blow gun attachment.
3. While holding the shutter door open, inject a small amount of lubricant (refer to above recommendations) into cylinder.
4. Work the key into the cylinder several times and wipe any excess lubrication residue from key.

DOOR LOCK CYLINDER AND OUTSIDE HANDLE REPLACEMENT

New lock cylinders are available as replacement parts. If door lock cylinders require replacement for any reason, apply a coating of GM P/N 12345120 or equivalent lubricant inside of the lock case and cylinder key-way prior to assembling and installing the cylinder.

To repair a binding lock cylinder, refer to "Binding Lock Cylinders" in this section. To code a new lock cylinder, refer to "Lock Cylinder Coding" in SECTION 0A.



Remove or Disconnect (Figures 27 and 28)

1. Trim panel. Refer to "Trim Panel Replacement" in this section.
2. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
3. Inner mounting panel assembly. Refer to "Inner Mounting Panel Replacement" in this section.
4. Outside handle rod from the rod clip (Figures 27 and 28).
5. Lock cylinder rod from the rod clip (Figures 27 and 28).
6. Outside handle mounting screws (Figure 28).
7. Door lock cylinder from the outside handle housing (Figure 28).
8. Handle (Figure 28).



Install or Connect (Figures 27 and 28)

NOTICE: Refer to "Notice" on page 10A1-1.

1. Handle to the vehicle (Figure 28).
2. Door lock cylinder to the outside handle housing (Figure 28).

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3. Lock cylinder rod to the lock cylinder clip (Figures 27 and 28).
4. Handle rod to the handle assembly clip (Figures 27 and 28).
5. Outside handle mounting bolts.



Tighten

- Bolts to 4 N.m (35 lb in).
6. Inner mounting panel assembly. Refer to "Inner Mounting Panel Replacement" in this section.
 7. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
 8. Trim panel. Refer to "Trim Panel Replacement" in this section.

WINDOW REGULATOR REPLACEMENT AND MOTOR REPLACEMENT

The power window motor can not be serviced. It is replaced as a unit with the regulator.

Tool Required:

J 34940 Rivet Gun



Remove or Disconnect (Figure 29)

1. Trim panel. Refer to "Trim Panel Replacement" in this section.
2. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
3. Inner mounting panel assembly. Refer to "Inner Mounting Panel Replacement" in this section.
4. Rivets securing the regulator to the door inner panel.
 - Drill out front and rear rivets.
5. Regulator from inner panel.



Install or Connect (Figure 29)

1. Regulator to inner panel.
2. Rivets securing the regulator to the door inner panel using J 34940.

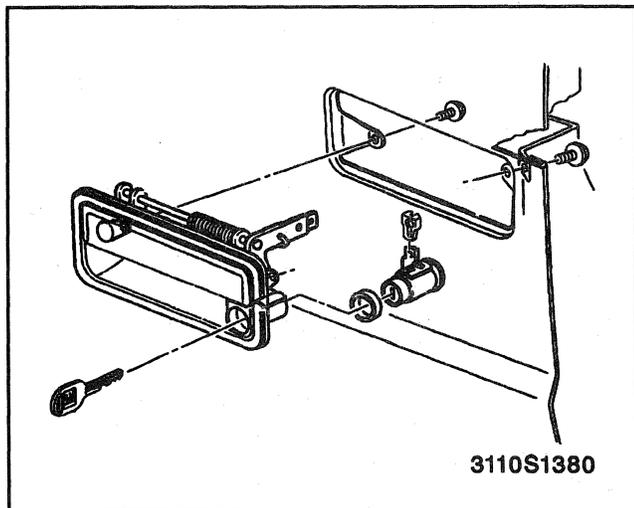


Figure 28—Outside Door Handle Assembly

3. Inner mounting panel assembly. Refer to "Inner Mounting Panel Replacement" in this section.
4. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
5. Trim panel. Refer to "Trim Panel Replacement" in this section.

WINDOW REPLACEMENT



Remove or Disconnect (Figures 24, 30 and 31)

- Lower window.
1. Trim panel. Refer to "Trim Panel Replacement" in this section.
 2. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
 3. Inner mounting panel assembly. Refer to "Inner Mounting Panel Replacement" in this section.
 4. Window front channel top screw.
 5. Slide window out of glass channels from the bottom of door.

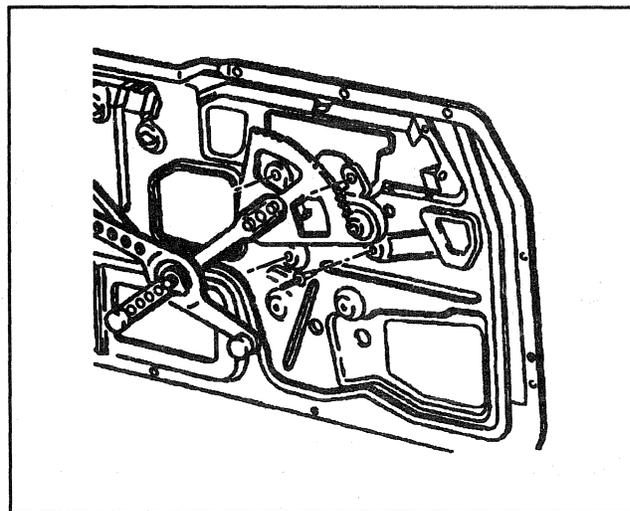


Figure 29—Front Door Window Regulator Assembly

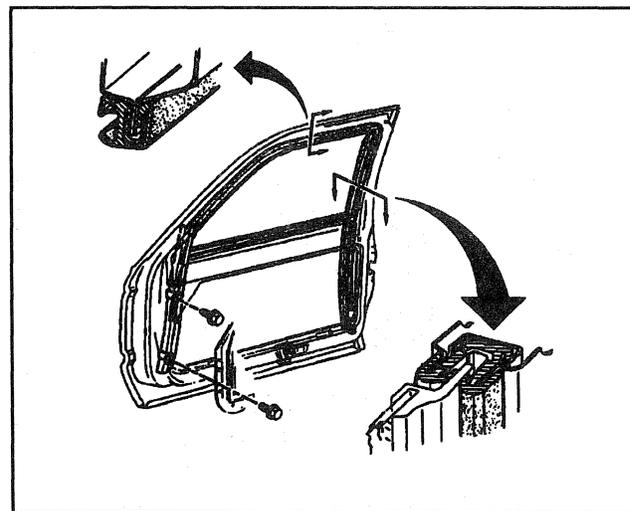


Figure 30—Front Door Inner Panel to Window Glass Assembly

↔ Install or Connect (Figures 24, 30 and 31)

NOTICE: Refer to "Notice" on page 10A1-1.

1. Slide window into glass channels through the bottom of door.
2. Window front channel top bolt. Do not tighten bolt.
3. Inner mounting panel.
 - A. Slide regulator rollers into glass channel.
 - B. Align inner panel lower front corner bolt with hole in front glass channel assembly.
 - C. Tighten front channel top bolt.
 - D. Tighten all inner panel bolts.

⌚ Tighten

- Run channel and inner panel bolts to 2 N-m (18 lb in).
4. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
 5. Trim panel. Refer to "Trim Panel Replacement" in this section.

WINDOW GLASS WEATHERSTRIP REPLACEMENT

↔ Remove or Disconnect (Figure 31)

1. Window. Refer to "Window Replacement" in this section.
2. Weatherstrip.
 - Pull weatherstrip from front of glass run channel, top of window frame flange, rear of glass run channel.

↔ Install or Connect (Figure 31)

1. Weatherstrip.
 - Pull weatherstrip from front of glass run channel, top of window frame flange, rear of glass run channel.
2. Window. Refer to "Window Replacement" in this section.

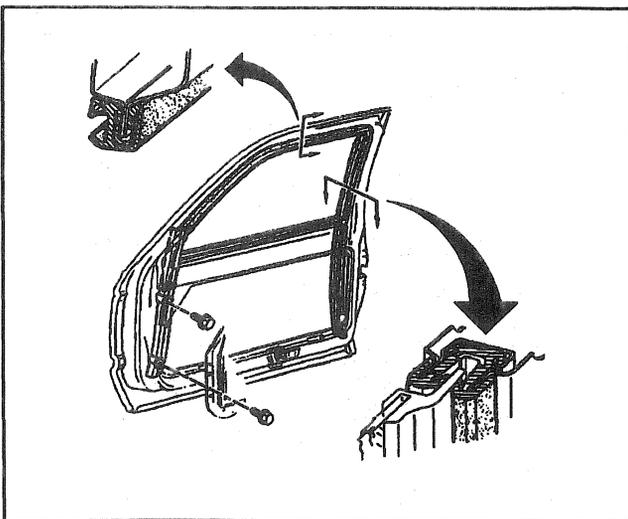


Figure 31—Front Door Window Glass Run Channel Assembly

FRONT GLASS RUN CHANNEL REPLACEMENT

↔ Remove or Disconnect (Figure 31)

1. Window. Refer to "Window Replacement" in this section.
2. Window glass weatherstrip. Refer to "Window Glass Weatherstrip Replacement" in this section.
3. Front glass run channel top bolt.
4. Front glass run channel from door.

↔ Install or Connect (Figure 31)

1. Rear glass run channel to door.
2. Window front channel top bolt. Do not tighten bolt.
3. Window glass weatherstrip. Refer to "Window Glass Weatherstrip Replacement" in this section.
4. Window. Refer to "Window Replacement" in this section.

OUTSIDE REARVIEW MIRROR REPLACEMENT

↔ Remove or Disconnect (Figure 32)

1. Trim panel upper extension. Refer to "Trim Panel Upper Extension Replacement" in this section.
2. Access hole plugs.
3. Nuts securing the outside rearview mirror to the door.
4. Outside rearview mirror from the door.
5. Electrical connector (if equipped).

↔ Install or Connect (Figure 32)

NOTICE: Refer to "Notice" on page 10A1-1.

1. Electrical connector (if equipped).
2. Outside rearview mirror to the door.

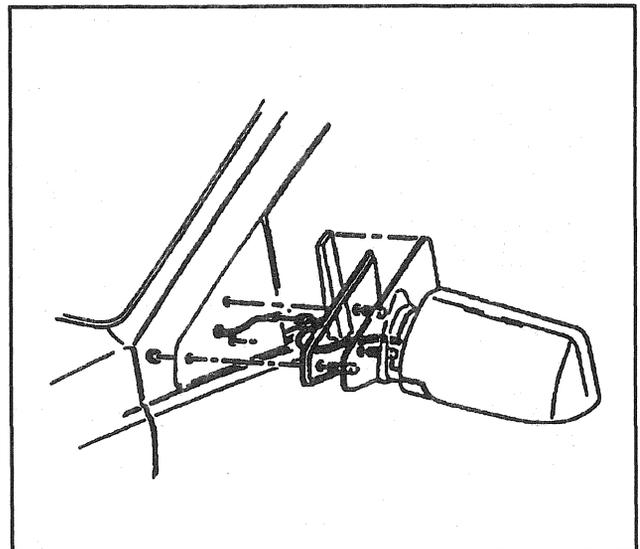


Figure 32—Outside Rearview Mirror

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3. Nuts securing the outside rearview mirror to the door.

Tighten

- Outside rearview mirror nuts to 6 N·m (53 lb in).
4. Access hole plugs.
 5. Trim panel upper extension. Refer to "Trim Panel Upper Extension Replacement" in this section.

OUTSIDE REARVIEW MIRROR LENS REPLACEMENT

Remove or Disconnect

1. Mirror from the door. Refer to "Outside Rearview Mirror Replacement" in this section.
 - A. Damaged mirror back and glass sub-assembly from mirror housing by inserting fingers as far as possible behind the mirror back toward the center of the back. Pull mirror back straight out of the housing with enough force to disengage the trunnion from the motor pack.

Inspect

- Motor pack top for damage to the trunnion area.
2. Remaining jack screws which may have remained in the motor pack helical gear openings.

Clean

- Glass from inside the mirror frame.

Install or Connect

NOTICE: Refer to "Notice" on page 10A1-1.

- Remove the replacement mirror back and glass sub-assembly and inspect for visual damage. Insure mirror back and glass sub-assembly has a trunnion bar and 2 jack screws.
1. Align mirror back jack screws with helical gear openings. Gently press the mirror back toward the motor pack to put slight pressure on the jack screws at helical gear openings. On a LH mirror, electrically actuate the mirror to travel downward. This will pull the up/down jack screw into the motor pack. Discontinue activation when the length of the jack screw is 50% inserted. Actuate the mirror to travel left. This will pull the left/right jack screw into the motor pack. Continue activation until 50% of the length of the jack screw is inserted.
 - **NOTE:** On a RH mirror, electrically actuate down and right.
 2. After successful insertion of jack screws into the motor pack; visually look over the top of the mirror back into the mirror housing. Manipulate the mirror back to align the mirror back trunnion into the motor pack trunnion receptor area.

Important

- Proper alignment of trunnion during this step will prevent damage to this area.
3. After proper alignment, place the palm of your hand on the center of the glass and firmly press the glass toward the motor pack to achieve proper insertion (insertion is achieved when mirror back trunnion is nested in the motor pack trunnion area).

Important

- Do not strike the glass, but uniformly apply increasing pressure.
4. To test for completion, press the glass to manually move in each direction. The mirror back should stay firmly attached to the motor pack. Electrically actuate the mirror to insure proper operation.
 5. Mirror to door.

PRESSURE RELIEF VALVE

Pressure relief valves are located in the front doors of pickup models and behind the quarter panel stationary glass on utility and suburban models. Refer to SECTION 10A3 for pressure relief valve removal procedures.

Outside Vent Valve Assembly

Remove or Disconnect (Figure 33)

1. Screw retaining the assembly to the door.
2. Valve assembly by lifting it up.

Install or Connect (Figure 33)

1. Valve assembly to the door edge.

Inside Module Valve Assembly

Remove or Disconnect (Figure 34)

1. Door trim panel. Refer to "Door Trim Panel Replacement" in this section.

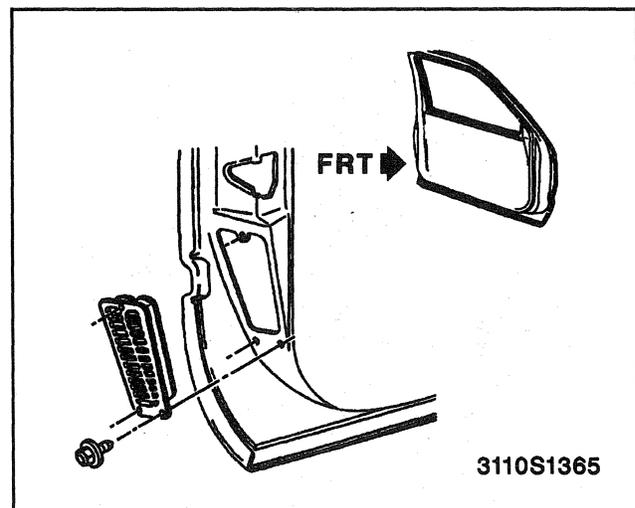


Figure 33—Outside Vent Valve Assembly

2. Valve by drilling out the rivets.

↔ Install or Connect (Figure 34)

1. Valve assembly to the door by riveting.
2. Door trim panel. Refer to "Door Trim Panel Replacement" in this section.

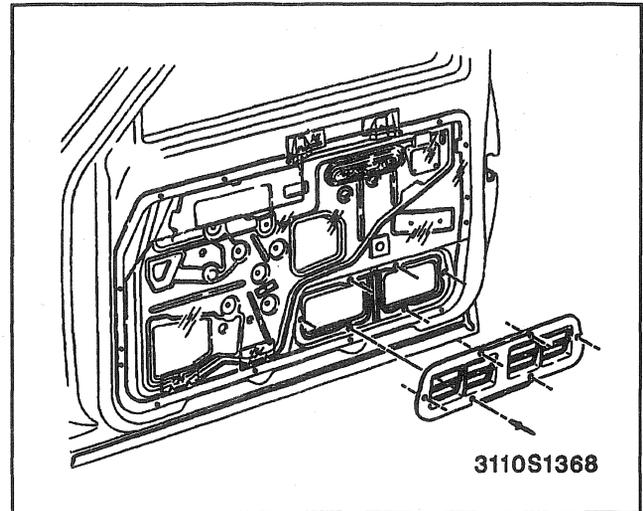


Figure 34—Inside Module Valve Assembly

REAR SEAT ACCESS DOOR (EXTENDED CAB)—ON-VEHICLE SERVICE

TRIM PANEL REPLACEMENT

Tool Required:
J 38778 Trim Panel Remover

↔ Remove or Disconnect (Figures 35 and 36)

1. Trim panel armrest screws (Figure 35).
2. Seat belt retractor cover.
3. Seat belt retaining "D" ring.
4. Trim panel from the door (Figure 36).
 - Carefully pry the retainers from their seats using J 38778.
5. Retainers from trim panel.
 - Pull retainers from slot.

↔ Install or Connect (Figures 35 and 36)

NOTICE: Refer to "Notice" on page 10A1-1.

1. Retainers to trim panel (Figure 36).
 - Push retainer from slot.
2. Trim panel to the door.
 - A. Align retainers with holes in door.
 - B. Carefully apply pressure to seat retainers.
3. Seat belt retaining "D" ring.
4. Seat belt retractor cover.
5. Trim panel armrest screws (Figure 35).

⌚ Tighten

- Trim panel armrest screws to 5 N.m (44 lb in).

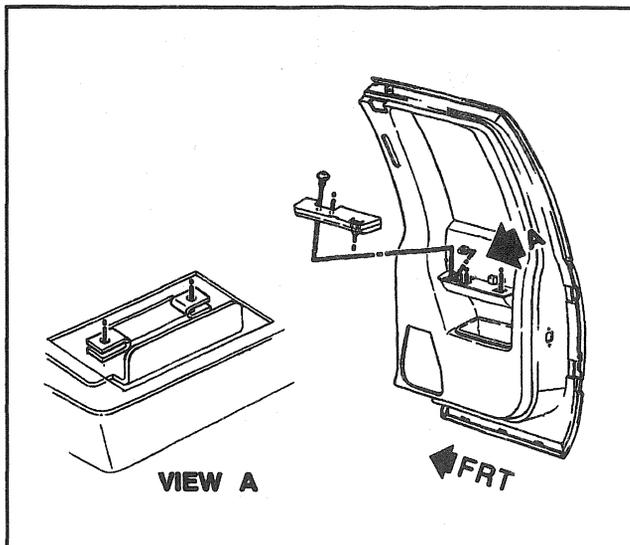


Figure 35—Rear Seat Access Door Armrest

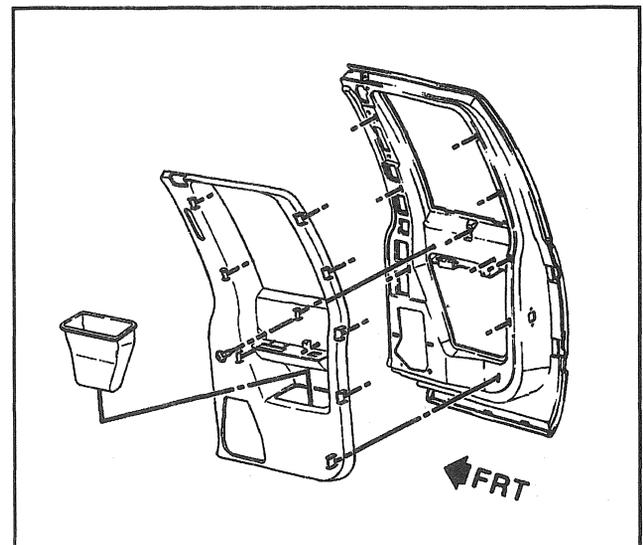


Figure 36—Rear Seat Access Door Trim Panel

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DOOR REPLACEMENT

↔ Remove or Disconnect (Figure 37)

- Apply cloth backed tape to the door and the body pillar.
1. Lower hinge pin retainer.
 2. Lower hinge pin using a soft-faced hammer and a pair of locking pliers to grasp the pin and drive it out.
 - Install a bolt through the lower hinges temporarily to hold the door in place while removing the upper hinge pin.
 3. Upper hinge pin retainer.
 4. Upper hinge pin.
 5. Bolt in lower hinge pin hole.
 6. Door from the vehicle.

→← Install or Connect (Figure 37)

1. Door to the vehicle.
2. Bolt temporarily through the lower hinge pin holes.
3. Upper hinge pin with the pointed end up.
4. New hinge pin retainer.
 - Remove temporary bolt from the lower hinge.
5. Lower hinge pin with the pointed edge down.
6. New hinge pin retainer.
7. Lubricate bushing with engine oil.

DOOR HINGE REPLACEMENT

↔ Remove or Disconnect (Figures 38 and 39)

1. Door from body. Refer to "Door Replacement" in this section.
2. Excess sealer surrounding hinge.
3. Door hinges.
 - A. Scribe the location of the existing hinges on the body pillar and door.
 - B. Center punch each of the weld marks on the original hinge (Figure 38). It is critical to punch the center of the weld so that all of the weld is removed during drilling.

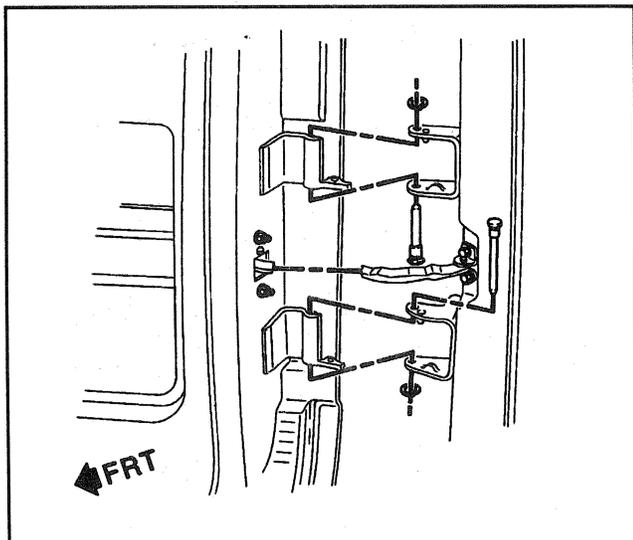


Figure 37—Rear Seat Access Door Hinges

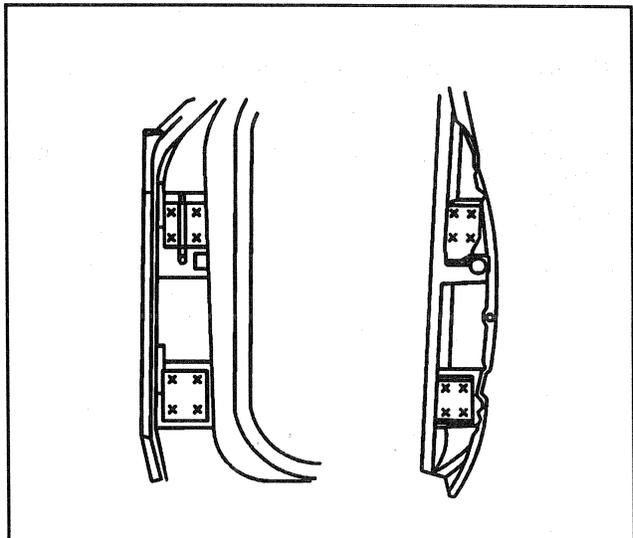


Figure 38—Spot Weld Locations

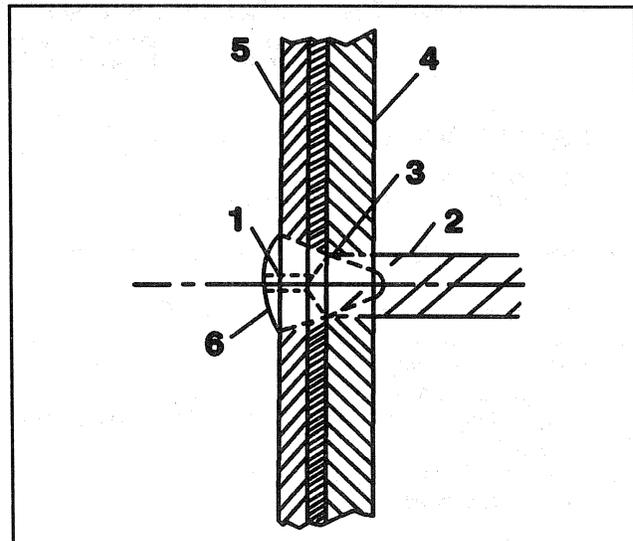


Figure 39—Drilling Out Spot Welds

- C. Drill a 3 mm (1/8 inch) pilot hole through the welds deep enough to penetrate the hinge base only (Figure 39).
- D. Drill a 13 mm (1/2 inch) hole through the hinge base only using the smaller hole as a pilot (Figure 39).
- E. Drive a chisel between the hinge and door pillar.

→← Install or Connect (Figures 38 and 39)

NOTICE: Refer to "Notice" on page 10A1-1.

1. Bolt-on hinges to pillar or door.
 - A. Position the bolt-on service replacement hinges within the scribe marks made on the body hinge pillar and the door at the time of removal.
 - B. Center punch each bolt hole location on the body hinge pillar and/or door.

C. Drill a 13 mm (1/2 inch) hinge attaching hole in three steps to ensure placing the hinge in the proper position.

2. Prepare the surface for the replacement hinges using a file or equivalent.

- Coat the mating surface of the hinges with a medium bodied sealer. .

3. Hinges, backing plate, bolts, and nuts.

A. Align the hinge and backing plate with the holes in the hinge pillar and door.

B. Place the bolts through the hinge, pillar and/or door, and through the backing plate.

Tighten

- Nuts to 35 N.m (26 lb ft).

4. Door to body. Refer to "Door Replacement" in this section.

Adjust

- Refer to "Door Adjustment" in this section.

5. Apply sealer around hinges.

DOOR ADJUSTMENT

This procedure can only be used when bolt-on service replacement hinges are installed.

- Loosen the door hinge to the body side pillar bolts.

Adjust

1. Door up or down, forward or rearward, and in or out at the door hinges.
2. Gap between the rocker panel and the door.
3. Gap between the door and the roof panel.
4. Gap between the rear of the door and the rear pillar.
5. Door surfaces flush with other panels within ± 1.0 mm (0.04 inch).

Tighten

- Hinge bolts to 35 N.m (26 lb ft).

Adjust

- Lock mechanism to strikers.

DOOR HARDWARE LUBRICATION

The mechanical components of the door assembly are lubricated during assembly. If additional lubrication is required to any door hardware mechanism, use Lubriplate Spray-Lube "A" GM P/N 1052349, Lubriplate Auto-Lube "A" GM P/N 1052196, or equivalent. Lubricate door hinge pins and rollers at normal service intervals with 30 weight engine oil. Do not lubricate hinge roller to hold-open link contacting surfaces. This may prevent the roller from rolling properly.

DOOR STRIKERS

Upper

Remove or Disconnect (Figures 40 and 41)

1. Latch striker cover (Figure 40).
2. Striker assembly bolts (Figure 41).

Install or Connect (Figures 40 and 41)

NOTICE: Refer to "Notice" on page 10A1-1.

1. Striker assembly bolts (Figure 41).
2. Latch striker cover (Figure 40).

Adjust

- Striker assembly alignment.

Tighten

- Bolts to 28 N.m (21 lb ft).

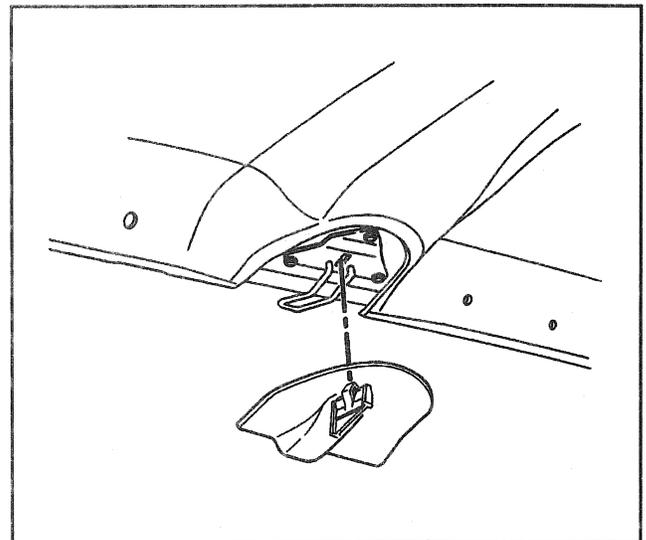


Figure 40—Latch Striker Cover

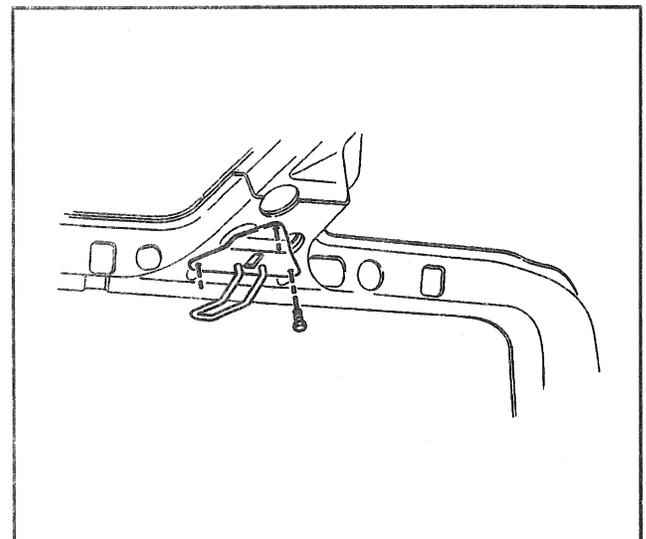


Figure 41—Upper Striker Assembly

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Lower

 Remove or Disconnect (Figure 42)

1. Mark location of assembly before removal.
2. Striker assembly bolts.

 Install or Connect (Figure 42)

NOTICE: Refer to "Notice" on page 10A1-1.

1. Striker assembly bolts.

 Adjust

- Striker assembly alignment.

 Tighten

- Bolts to 10 N.m (89 lb in).

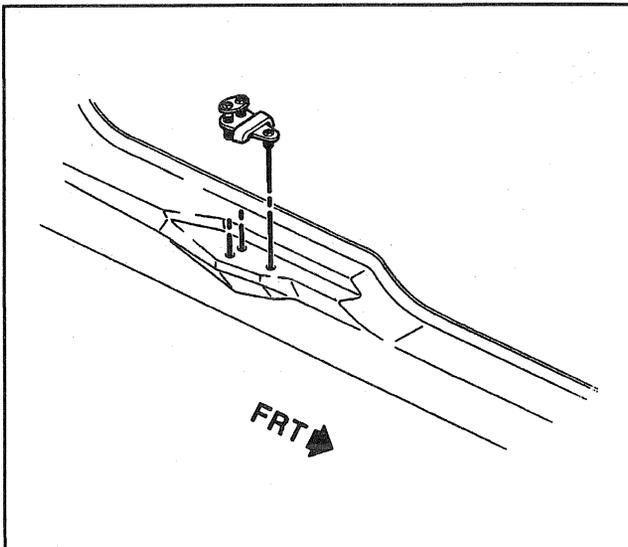


Figure 42—Lower Striker Assembly

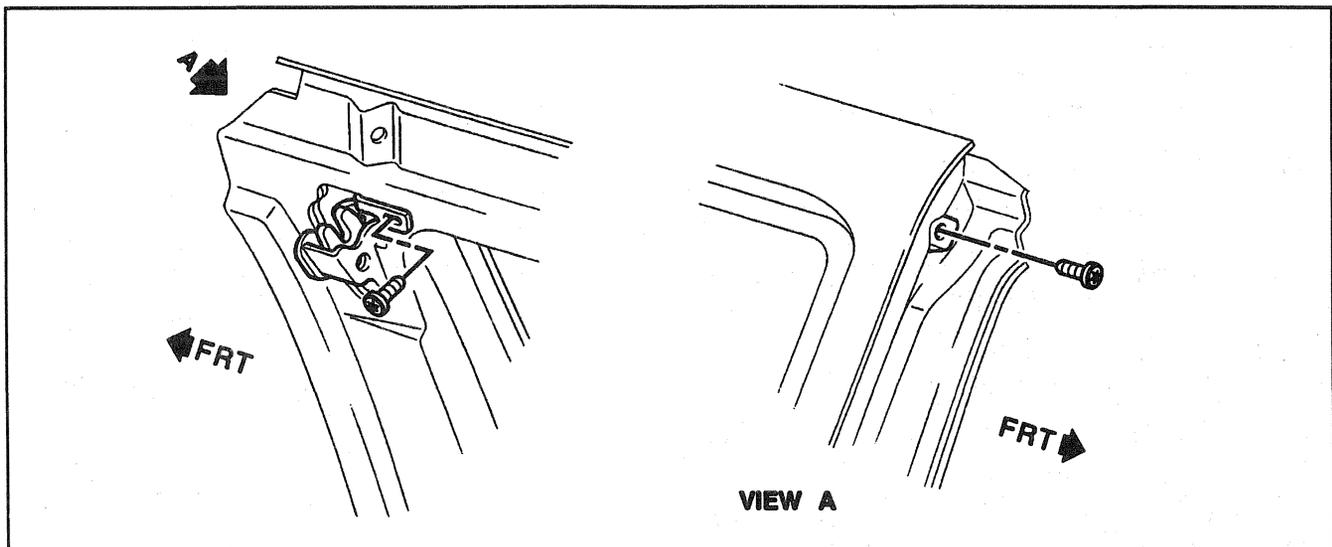


Figure 43—Upper Latch Assembly

DOOR LATCHES

Upper

 Remove or Disconnect (Figure 43)

1. Latch assembly bolts.

 Install or Connect (Figure 43)

NOTICE: Refer to "Notice" on page 10A1-1.

1. Latch assembly bolts.
 - Hand start front before rear to engage the net hole locator.

 Adjust

- Latch assembly alignment.

 Tighten

- Bolts to 24 N.m (18 lb ft).

Lower

 Remove or Disconnect (Figure 44)

1. Latch assembly bolts.
 - Note: If striker has not been removed, use as alignment guide. If striker has been removed, mark location.

 Install or Connect (Figure 44)

NOTICE: Refer to "Notice" on page 10A1-1.

1. Latch assembly bolts.

 Adjust

- Latch assembly alignment.

 Tighten

- Bolts to 24 N.m (18 lb ft).

DOOR HANDLE AND LINKAGE

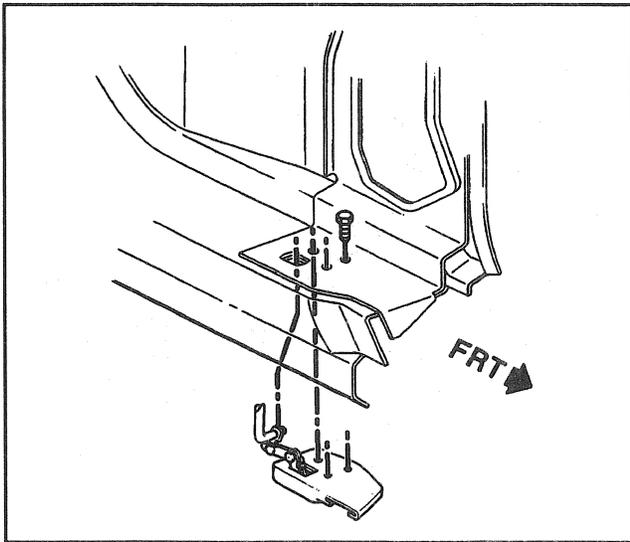


Figure 44—Lower Latch Assembly

CHECK STRAP

↔ Remove or Disconnect (Figure 45)

1. Check strap bolts.
 - Door in full open position.
 - Remove body side first, then door side.
 - Pull from inside door to remove.

↔ Install or Connect (Figure 45)

NOTICE: Refer to "Notice" on page 10A1-1.

1. Align installation tab.
 - Install door side first.
2. Check strap bolts.

⌚ Tighten

- Bolts to 10 N·m (89 lb in).

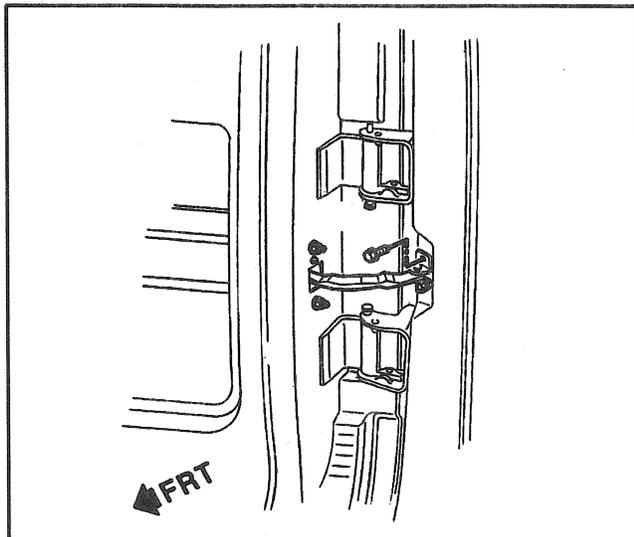


Figure 45—Check Strap Assembly

↔ Remove or Disconnect (Figures 46 and 47)

Upper Linkage

1. Rod from handle assembly (Figure 46).
2. Upper rod retainer (Figure 47).
3. Upper latch assembly.
 - Rod slides out with latch through upper access hole.

↔ Install or Connect (Figures 46 and 47)

1. Upper latch assembly.
2. Upper rod retainer (Figure 46).
3. Rod to handle assembly (Figure 47).

⌚ Adjust

- Upper latch assembly.
- Linkage as required.

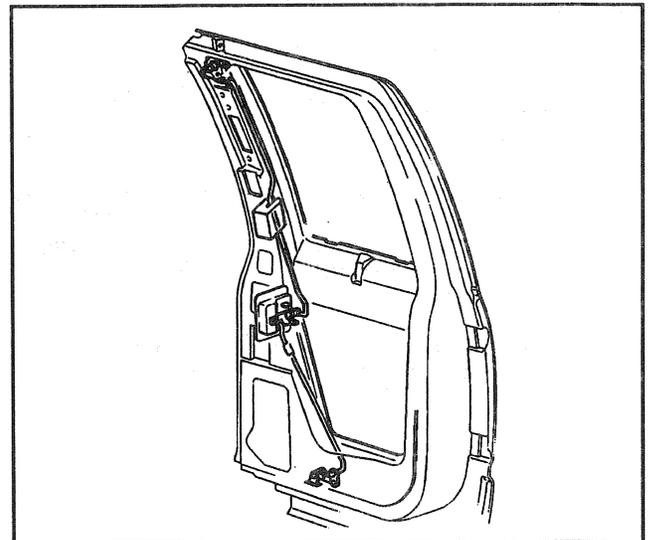


Figure 46—Rear Access Door Linkage

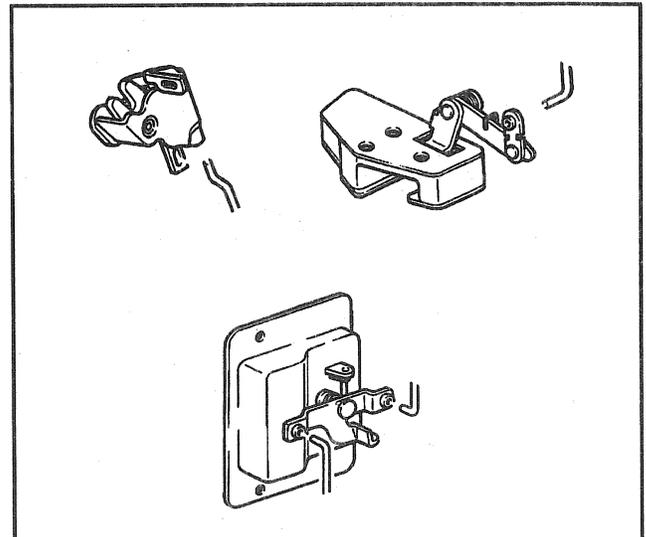


Figure 47—Linkage Attaching Points

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Lower Linkage

↔ Remove or Disconnect (Figures 46 and 47)

1. Rod from handle assembly (Figure 46).
2. Rod from lower latch assembly (Figure 47).

↔ Install or Connect (Figures 46 and 47)

1. Rod to lower latch assembly (Figure 46).
2. Rod to handle assembly (Figure 47).

🔧 Adjust

- Lower latch assembly.
- Linkage as required.

Door Handle

Tool Required:
J 34940 Rivet Gun

↔ Remove or Disconnect (Figure 48)

1. Rivets.
2. Control linkage.

↔ Install or Connect (Figure 48)

1. Control linkage.

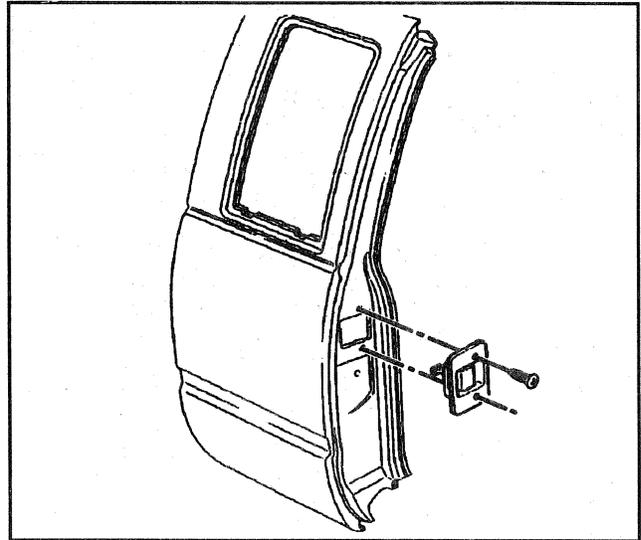


Figure 48—Rear Access Door Handle

2. Rivets.

🔧 Adjust

- Linkage as required.

REAR SIDE DOORS (CREW CAB, UTILITY, AND SUBURBAN)—ON VEHICLE SERVICE

ASHTRAY ASSEMBLY REPLACEMENT

↔ Remove or Disconnect

1. Ashtray
 - Grasp the inside of ashtray and pull out.

↔ Install or Connect

1. Ashtray.
 - Push ashtray into hole in trim panel.

WINDOW REGULATOR HANDLE REPLACEMENT

Tool Required:
J 9886-01 Door Handle Remover

↔ Remove or Disconnect (Figures 50 and 51)

1. Window regulator handle from vehicle.
 - A. Insert J 9886-01 between the handle and bearing plate.
 - B. Align the tool and push to disengage the clip.
 - C. Pull the handle from door.

2. Bearing plate (Figure 50).

↔ Install or Connect (Figures 50 and 51)

1. Bearing plate to door (Figure 50).
2. Window regulator handle.
 - A. Raise window.
 - B. Install the clip onto the handle.

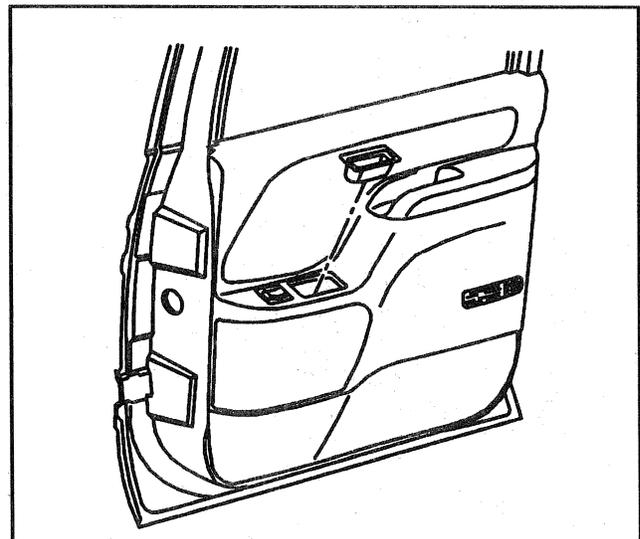


Figure 49—Rear Door Ashtray Assembly

- C. Insert handle onto window regulator shaft so the handle is pointing toward the front of the door.
- D. Push on the handle until the clip engages window regulator shaft.

INSIDE HANDLE BEZEL REPLACEMENT

←→ Remove or Disconnect (Figure 52)

1. Handle bezel from door trim panel.
 - Insert a flat blade tool between door inside bezel and handle assembly.
 - Carefully bend retaining clips outward while pulling out bezel. Refer to arrows shown in.

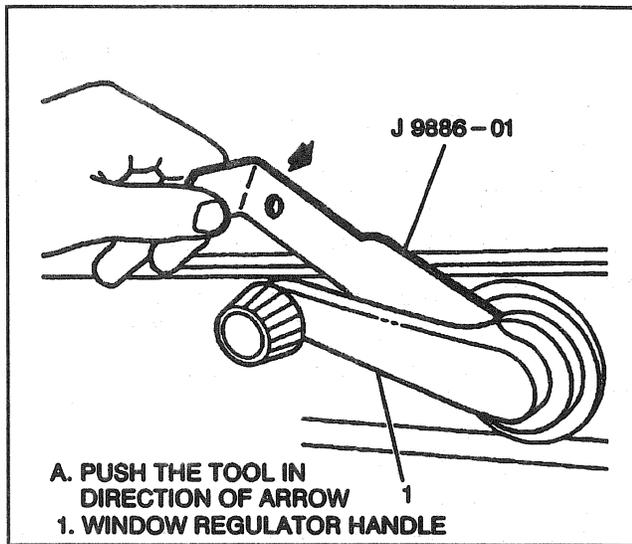


Figure 50—Window Regulator Handle Retaining Clip Removal

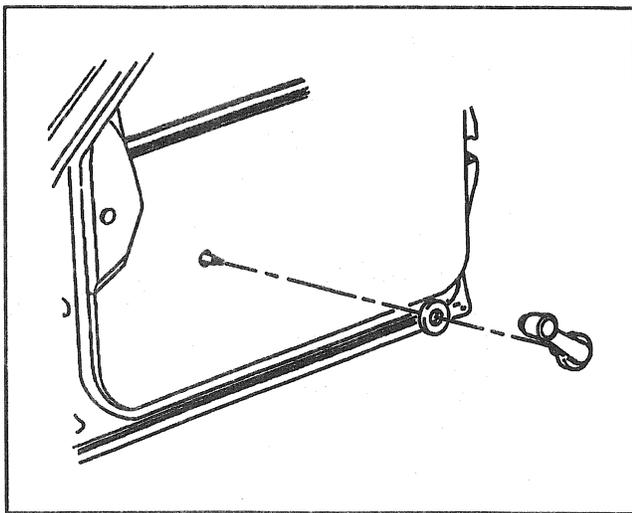


Figure 51—Window Regulator Handle and Bearing Plate

→← Install or Connect (Figure 52)

1. Handle bezel to door trim panel.
 - Snap bezel into place.

POWER WINDOW SWITCH REPLACEMENT

←→ Remove or Disconnect (Figure 53)

1. Negative battery cable.
2. Switch mounting panel.
 - Use a flat blade tool to carefully pry door power window switch from door trim panel.
3. Power accessory electrical connectors from switch.

→← Install or Connect (Figure 53)

1. Power accessory electrical connectors to switch.
2. Switch to door trim panel.
 - Snap in place.

SPEAKER GRILLE AND SPEAKER REPLACEMENT

←→ Remove or Disconnect (Figure 54)

- Refer to SECTION 9A for audio system diagnosis.
1. Grille.
 - Carefully pry out grille with a flat-blade tool.
 2. Speaker bolts.
 3. Speaker from door.
 - Disconnect wiring connector.

→← Install or Connect (Figure 54)

1. Connect speaker wiring.
2. Speaker to door.
3. Speaker bolts.
4. Grille.
 - Snap in place.

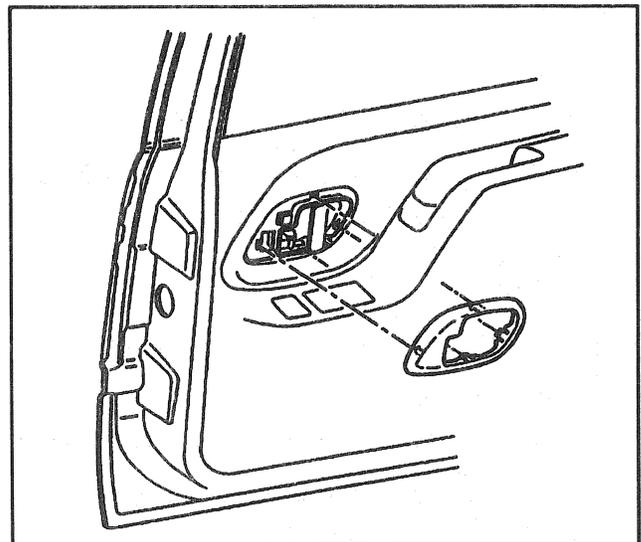


Figure 52—Rear Door Inside Handle Bezel

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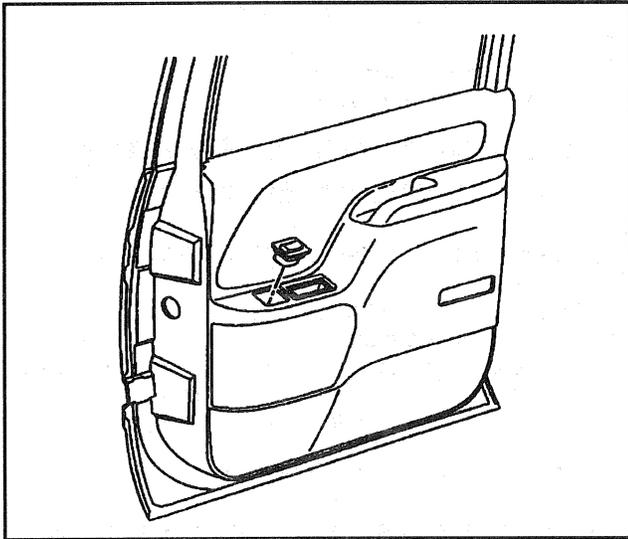


Figure 53—Rear Door Power Window Switch

COURTESY LAMP REPLACEMENT

←→ Remove or Disconnect (Figure 55)

- Refer to the "Driveability, Emissions and Electrical Manual" for electrical diagnosis.
1. Trim panel. Refer to "Trim Panel Replacement" in this section.
 2. Lamp from trim panel.
 - Disconnect wiring connector.
 - Carefully release lamp assembly retainers with a flat-blade tool.

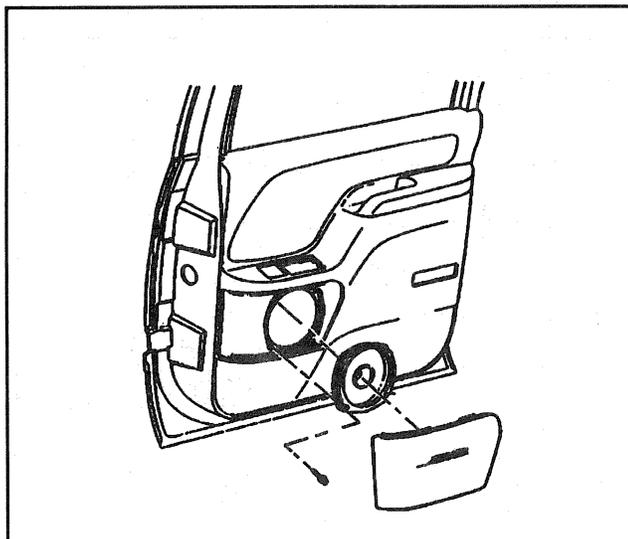


Figure 54—Rear Door Grill and Speaker Replacement

→← Install or Connect (Figure 55)

1. Lamp to trim panel.
 - Snap lamp assembly into trim panel.
 - Connect wiring connector.
2. Trim panel. Refer to "Trim Panel Replacement" in this section.

TRIM PANEL REPLACEMENT

Tool Required:
J 38778 Trim Panel Remover

←→ Remove or Disconnect (Figure 56)

1. Door handle bezel. Refer to "Inside Handle Bezel Replacement" in this section.
2. Window regulator handle (if equipped). Refer to "Window Regulator Handle Replacement" in this section.
3. Speaker grill and speaker (if equipped). Refer to SECTION 9A.
4. Trim panel armrest screws.
5. Trim panel from the door.
 - Carefully pry the retainers from their seats using J 38778.
 - Disconnect courtesy light connector (if equipped).
 - Disconnect power window switch (if equipped).
 - Disconnect speaker wiring (if equipped).
6. Retainers from trim panel.
7. Courtesy lamp lens. Refer to "Courtesy Lamp Replacement" in this section.
8. Power window switch (if equipped). Refer to "Power Window Switch Replacement" in this section.
9. Speaker and speaker grill (if equipped). Refer to "Speaker Grille and Speaker Replacement" in this section.

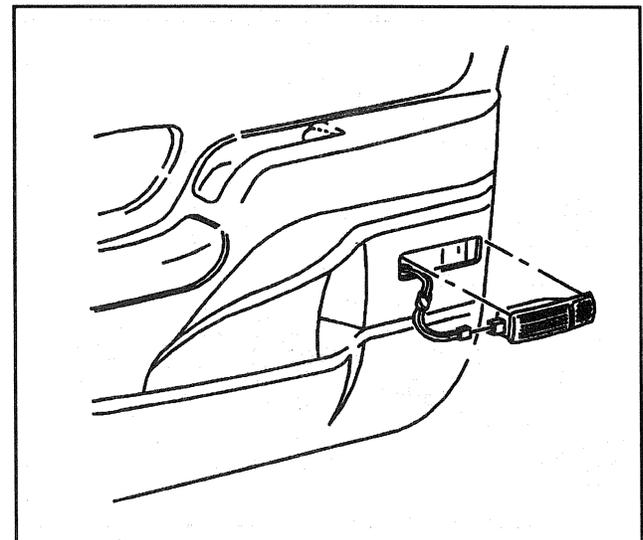


Figure 55—Front Door Trim Panel Courtesy Lamp

↔ Install or Connect (Figure 56)

NOTICE: Refer to "Notice" on page 10A1-1.

1. Retainers to trim panel.
2. Power window switch (if equipped). Refer to "Power Window Switch Replacement" in this section.
3. Courtesy lamp lens or reflector to trim panel.
4. Speaker and speaker grill (if equipped). Refer to SECTION 9A.
5. Trim panel to the door.
 - Connect speaker and power window switch connectors (if equipped).
 - Connect courtesy lamp connector.
 - Align retainers with holes in door.
 - Carefully apply pressure to seat retainers.
6. Window regulator handle (if equipped). Refer to "Window Regulator Handle Replacement" in this section.
7. Trim panel armrest screws.

⌚ Tighten

- Trim panel armrest screws to 2 N.m (18 lb in).
8. Door handle bezel. Refer to "Inside Handle Bezel Replacement" in this section.

INNER PANEL WATER DEFLECTOR REPLACEMENT

Waterproof deflectors are used to seal the inner panel and prevent water from entering into the body. The deflector is secured with adhesive between the deflector and door.

↔ Remove or Disconnect (Figure 57)

1. Trim panel. Refer to "Trim Panel Replacement" in this section.
2. Water deflector.
 - A. Break the bond between the sealer and the door with a flat-blade tool.
 - B. Pull off.

↔ Install or Connect (Figure 57)

NOTICE: Refer to "Notice" on page 10A1-1.

1. Water deflector to the door.
 - Use waterproof tape, 3M® 777 adhesive, or equivalent if needed.
2. Trim panel to the door.

WIRING HARNESS REPLACEMENT

↔ Remove or Disconnect (Figure 58)

1. B-pillar trim panel. Refer to SECTION 10A4.
2. Disconnect body harness, conduit and power door lock connector.

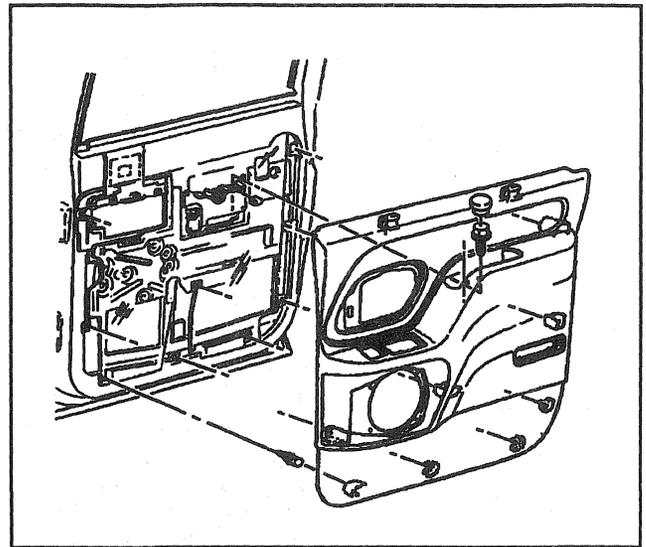


Figure 56—Rear Door Trim Panel

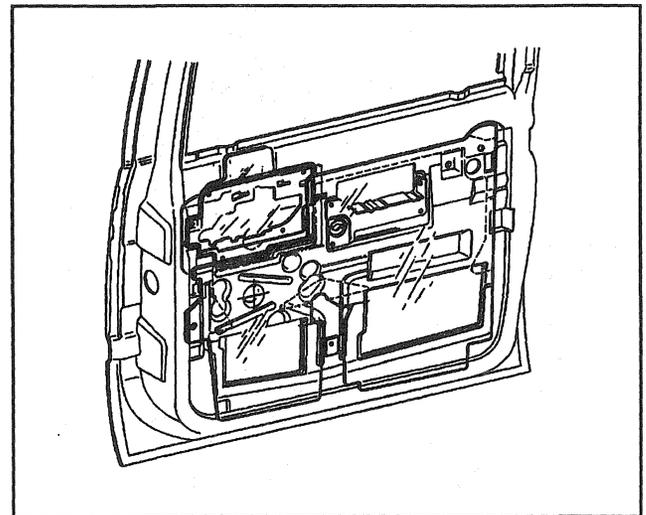


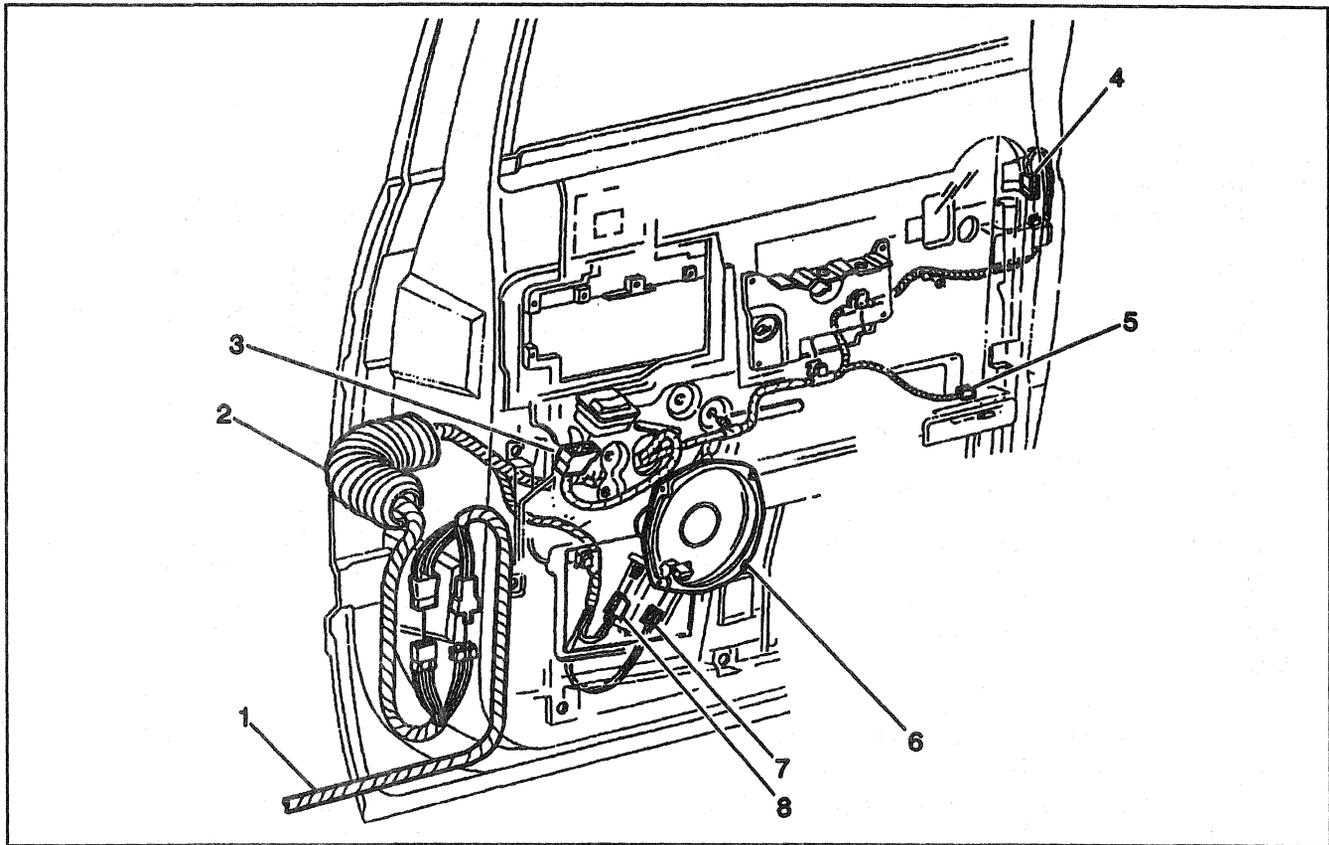
Figure 57—Rear Door Water Deflectors

3. Trim panel. Refer to "Trim Panel Replacement" in this section.
4. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
5. Courtesy lamp wiring retainers.
6. Power window motor wiring connector.

↔ Install or Connect (Figure 58)

1. Power window motor wiring connector.
2. Courtesy lamp wiring retainers.
3. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
4. Trim panel. Refer to "Trim Panel Replacement" in this section.
5. Connect body harness, conduit and lock actuator.
6. B-pillar trim panel. Refer to SECTION 10A4.

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Legend

- | | |
|-----------------------------------|---|
| (1) Body Wiring Harness | (5) Courtesy Light Wiring Connector |
| (2) Rear Side Door Conduit | (6) Speaker |
| (3) Power Window Switch Connector | (7) Speaker Wiring Connector |
| (4) Power Door Lock Connector | (8) Power Window Motor Wiring Connector |

Figure 58—Rear Door Wiring Harness Connectors

DOOR REPLACEMENT

↔ Remove or Disconnect (Figures 58 and 59)

VEHICLES WITH POWER DOOR COMPONENTS:

1. Negative battery cable. Refer to SECTION 6D1.
2. Wiring harness connectors inside B-pillar.
 - A. Remove B-pillar trim panel. Refer to SECTION 10A4.
 - B. Disconnect wiring harness connectors.
 - C. Disconnect wire harness conduit.

ALL VEHICLES:

- Apply cloth backed tape to the door and the body pillar.
 1. Lower hinge pin retainer (Figure 59).
 2. Lower hinge pin using a soft-faced hammer and a pair of locking pliers to grasp the pin and drive it out.
- Install a bolt through the lower hinges temporarily to hold the door in place while removing the upper hinge pin.
 3. Upper hinge pin retainer (Figure 59).
 4. Upper hinge pin.
 5. Bolt in lower hinge pin hole.
 6. Door from the vehicle.

↔ Install or Connect (Figures 58 and 59)

ALL VEHICLES:

1. Door to the vehicle.

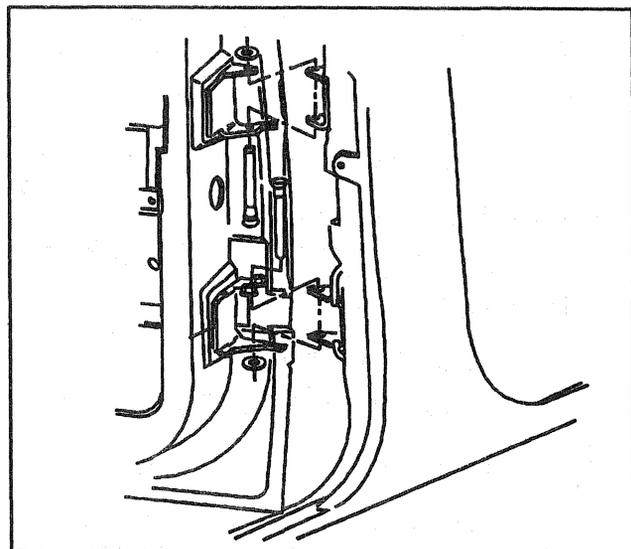


Figure 59—Rear Door Hinge Pin Removal

2. Bolt temporarily through the lower hinge pin holes.
3. Upper hinge pin with the pointed end up.
4. New hinge pin retainer.
 - Remove temporary bolt from the lower hinge.
5. Lower hinge pin with the pointed edge down.
6. New hinge pin retainer.

VEHICLES WITH POWER DOOR COMPONENTS:

1. Wire harness connectors inside B-pillar.
 - A. Route wire harness through conduit.
 - B. Connect wiring harness connectors.
 - C. Install B-pillar trim panel. Refer to SECTION 10A4.
2. Negative battery cable.
3. Lubricate bushing with engine oil.

DOOR HINGE REPLACEMENT**↔ Remove or Disconnect (Figures 60 through 62)**

1. Door from body. Refer to "Door Replacement" in this section.
2. B-pillar trim panel. Refer to SECTION 10A4.
3. Excess sealer surrounding hinge.
4. Door hinges.
 - A. Scribe the location of the existing hinges on the body pillar and door.
 - B. Center punch each of the weld marks on the original hinge. It is critical to punch the center of the weld so that all of the weld is removed during drilling.
 - C. Drill a 3 mm (1/8 inch) pilot hole through the welds deep enough to penetrate the hinge base only.
 - D. Drill a 13 mm (1/2 inch) hole through the hinge base only using the smaller hole as a pilot.
 - E. Drive a chisel between the hinge and door pillar.

↔ Install or Connect (Figures 60 through 62)

1. Bolt-on hinges to pillar or door.
 - A. Position the bolt-on service replacement hinges within the scribe marks made on the body hinge pillar and the door at the time of removal.
 - B. Center punch each bolt hole location on the body hinge pillar and/or door.
 - C. Drill a 13 mm (1/2 inch) hinge attaching hole in three steps to ensure placing the hinge in the proper position.
2. Prepare the surface for the replacement hinges using a file or equivalent.
 - Coat the mating surface of the hinges with a medium bodied sealer.
3. Hinges, backing plate, bolts, and nuts.
 - A. Align the hinge and backing plate with the holes in the hinge pillar and door.
 - B. Place the bolts through the hinge, pillar and/or door, and through the backing plate.

⌚ Tighten

- Nuts to 35 N·m (26 lb ft).
4. Door to body. Refer to "Door Replacement" in this section.

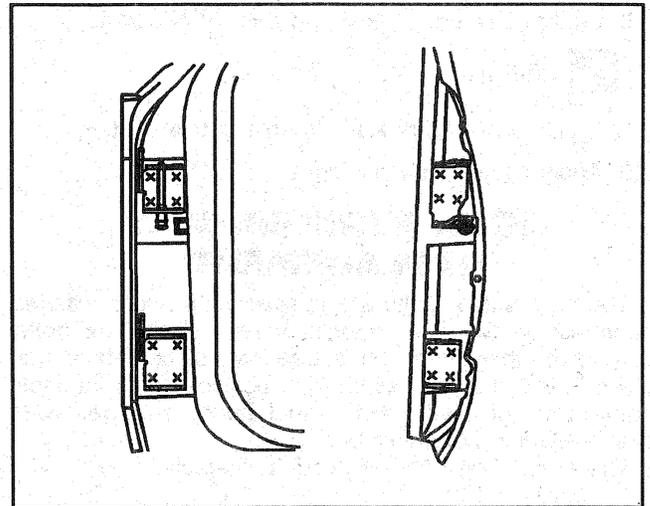


Figure 60—Spot Weld Locations

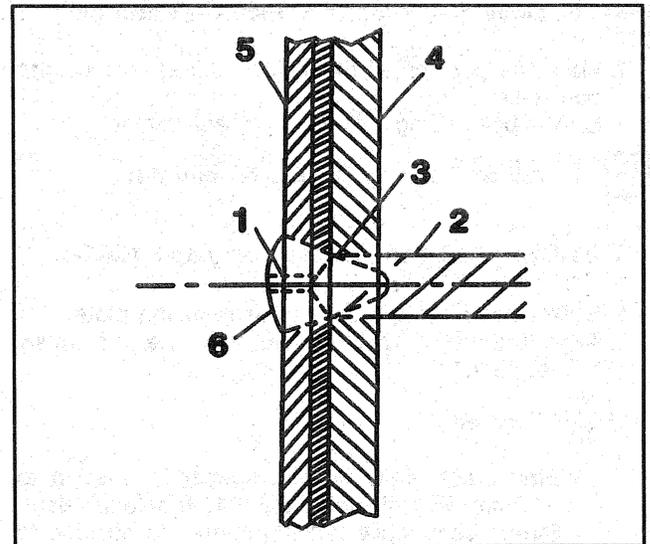


Figure 61—Drilling out Spot Welds

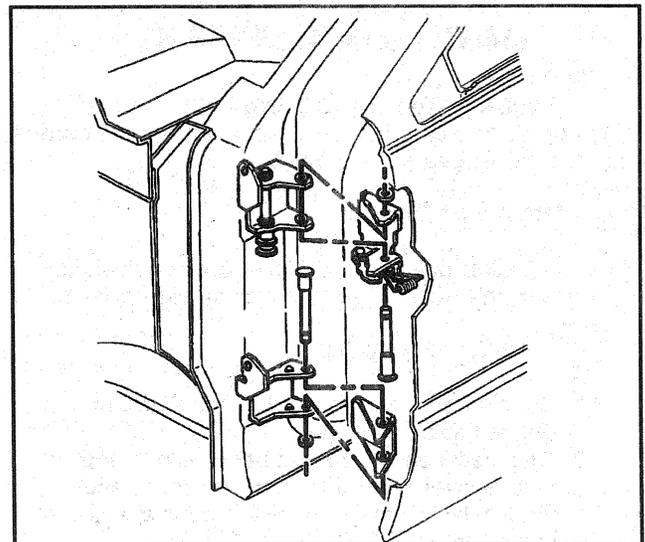


Figure 62—Door And Body Hinges

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5. B-pillar trim panel. Refer to SECTION 10A4.



Adjust

- Refer to "Door Adjustment" in this section.

6. Apply sealer around hinges.

DOOR STRIKER BOLT REPLACEMENT

The door striker bolts are special bolts and a washer mounted on the door opening's rear pillar. The bolts pass through a hole into a threaded plate behind the pillar. The cab door is secured in position when the lock cam (arm) of the locking mechanism engages and snaps around the striker bolt.

The striker bolt position is not adjustable.

Tool Required:

J 29843-9 Torx Bit (Bit Size T47)



Remove or Disconnect (Figure 63 and 64)

1. Mark the position of the striker bolt spacer on the door pillar.
2. Striker bolts using J 29843-9 or equivalent.



Install or Connect (Figure 63 and 64)

NOTICE: Refer to "Notice" on page 10A1-1.

1. Striker bolts into the door pillar retaining plate.
2. Align the striker bolt spacer with the previously made mark.



Tighten

- Striker bolt while holding spacer in position to 63 N.m (46 lb ft) using J 29843-9 or equivalent.
- Striker bolts while holding spacer in position to 28 N.m (21 lb ft) using J 29843-9 or equivalent. (Utility Only)

DOOR ADJUSTMENT

Tool Required:

J 29843-9 Torx Bit (Bit Size T47)

This procedure can only be used when bolt-on service replacement hinges are installed.



Remove or Disconnect

- Door striker bolt using J 29843-9 or equivalent.
- Loosen the door hinge to the body side pillar bolts.



Adjust (Figure 65)

1. Door up or down, forward or rearward, and in or out at the door hinges.
2. Gap between the rocker panel and the door.
3. Gap between the door and the roof panel.
4. Gap between the rear of the door and the rear pillar.
5. Gap between the door and the fender.
6. Door surfaces flush with other panels within ±

1.0 mm (0.04 inch).



Tighten

- Hinge bolts to 35 N.m (26 lb ft).



Install or Connect

NOTICE: Refer to "Notice" on page 10A1-1.

1. Door striker bolt.



Adjust

- Bolt to properly engage the door lock.



Tighten

- Bolt to 28 N.m (21 lb ft).

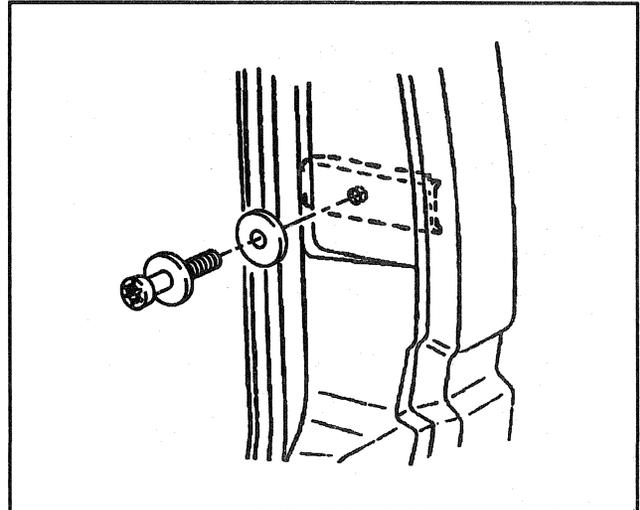


Figure 63—Door Striker

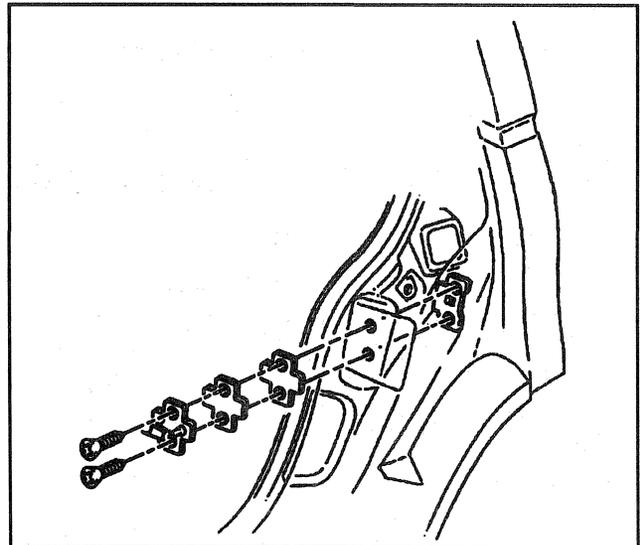


Figure 64—Door Striker (Utility Only)

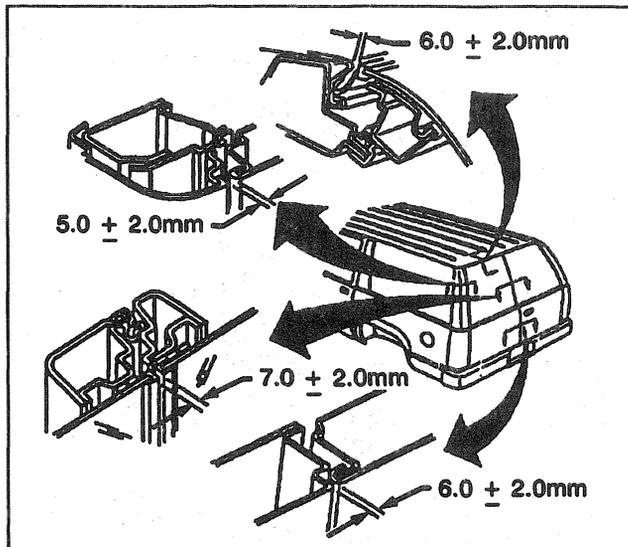


Figure 65—Door Adjustment

DOOR HARDWARE LUBRICATION

The mechanical components of the door assembly are lubricated during assembly. If additional lubrication is required to any door hardware mechanism, use Lubriplate Spray-Lube "A" GM P/N 1052349, Lubriplate Auto-Lube "A" GM P/N 1052196, or equivalent. Lubricate door hinge pins and rollers at normal service intervals with 30 weight engine oil. Do not lubricate hinge roller to hold-open link contacting surfaces. This may prevent the roller from rolling properly.

INSIDE DOOR HANDLE ASSEMBLY REPLACEMENT

Tool Required:
J 34940 Rivet Gun

↔ Remove or Disconnect (Figures 66 and 67)

1. Trim panel. Refer to "Trim Panel Replacement" in this section.
2. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
3. Inside door handle assembly (Figure 66).
 - Drill out the rivet heads.
 - Slide door handle forward.
4. Inside handle control rod from the handle and lock lever assembly (Figure 67).
5. Inside lock control rod from the handle and lock lever assembly (Figure 67).

→ Install or Connect (Figures 66 and 67)

1. Inside handle control rod from the handle and lock lever assembly.
2. Inside lock control rod from the handle and lock lever assembly.

3. Inside door handle.

- Insert handle assembly into slot and slide assembly to the rear.
- Handle rivets using J 34940.

4. Water deflector.

5. Trim Panel.

INSIDE DOOR HANDLE BRACKET REPLACEMENT

Tool Required:
J 34940 Rivet Gun

↔ Remove or Disconnect (Figure 68)

1. Inside door handle assembly. Refer to "Inside Door Handle Assembly Replacement" in this section.
2. Inside door handle bracket from door.
 - Drill out rivets.

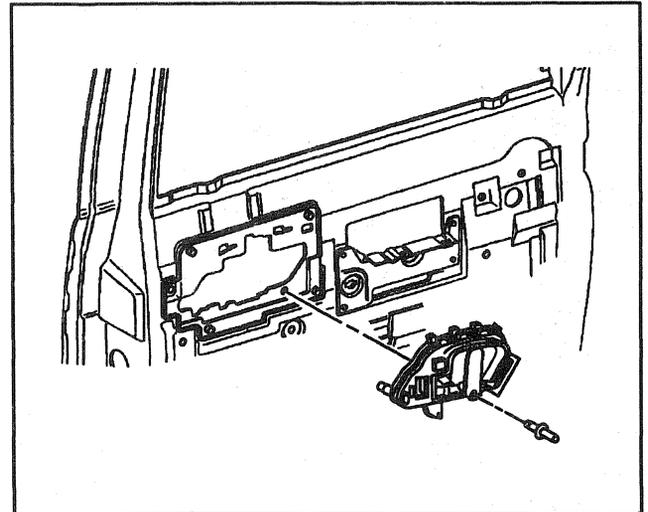


Figure 66—Rear Door Inner Handle Assembly

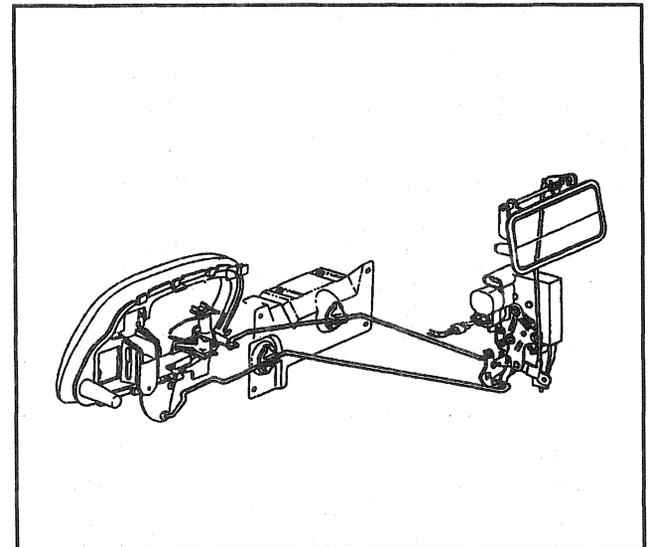


Figure 67—Rear Door Inner Handle Control Rods

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↔ Install or Connect (Figure 68)

1. Inside door handle bracket to door.
 - Bracket rivets using J 34940.
2. Inside door handle assembly. Refer to "Inside Door Handle Assembly Replacement" in this section.

ARMREST BRACKET REPLACEMENT

Tool Required:
J 34940 Rivet Gun

↔ Remove or Disconnect (Figure 69)

1. Trim panel. Refer to "Trim Panel Replacement" in this section.
2. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
3. Armrest bracket from door.
 - Drill out rivets.
 - Disconnect control rods from retainers.
4. Retainers and U-nuts from bracket.

↔ Install or Connect (Figure 69)

1. Retainers and U-nuts to bracket.
2. Armrest bracket to door.
 - Connect control rods from retainers.
 - Bracket rivets using J 34940.
3. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
4. Trim panel. Refer to "Trim Panel Replacement" in this section.

LOCK ASSEMBLY

↔ Remove or Disconnect (Figures 70 and 71)

1. Trim panel. Refer to "Trim Panel Replacement" in this section.

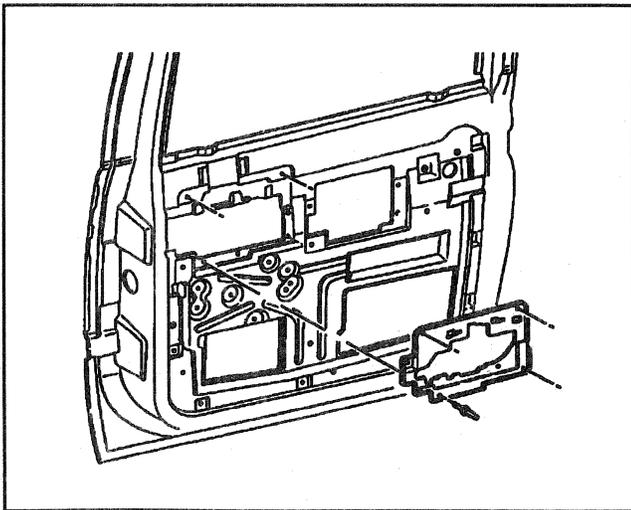


Figure 68—Rear Door Inner Handle Assembly Bracket

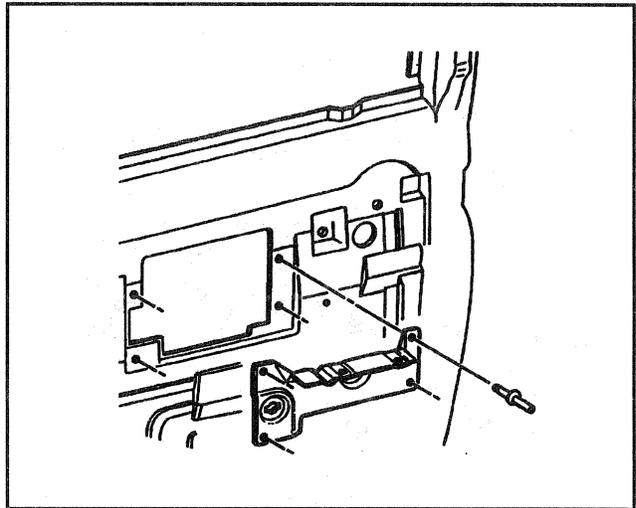


Figure 69—Armrest Bracket

2. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
3. Inside door handle and lock control rods (Figure 70).
4. Outside door handle (Suburban, Crew Cab-threaded clip requires unsnap) (Yukon/Tahoe 4 door-push in clip) (Figure 71).
5. Power door lock connector.
6. Lock assembly bolts.
7. Lock assembly from vehicle.
 - Child security lock from lock assembly. (Utility Only)

↔ Install or Connect (Figures 70 and 71)

1. Lock assembly to vehicle.
 - Child security lock to lock assembly. (Utility Only)
2. Lock assembly bolts.
3. Power door lock connector.

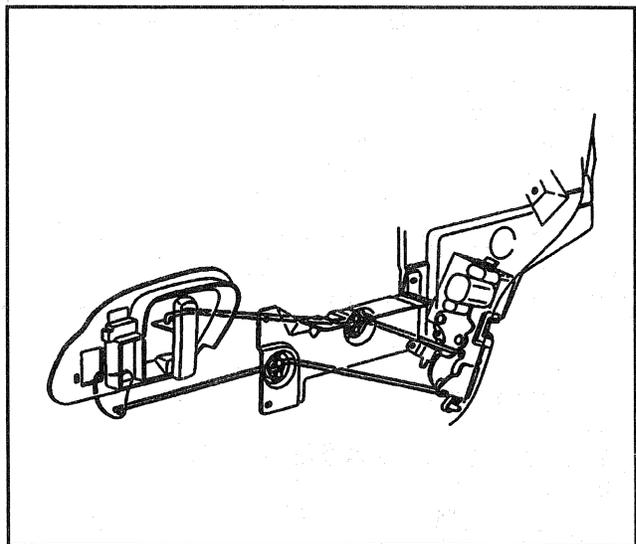


Figure 70—Inside Rear Side Door Handle and Lock Control Rods

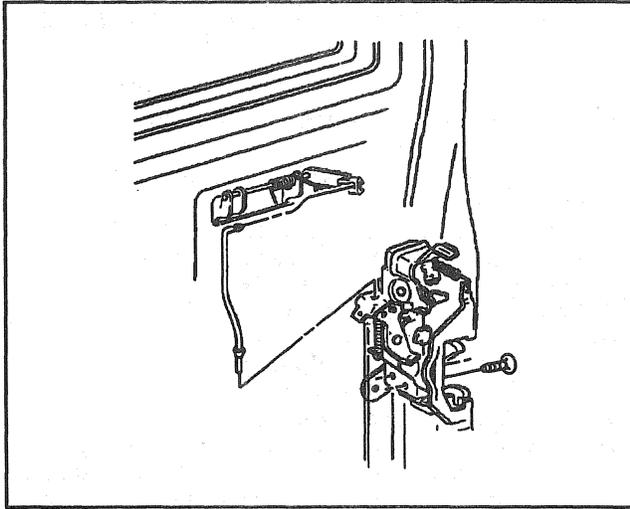


Figure 71—Outside Rear Side Door Handle and Lock Assembly

4. Outside door handle (Suburban, Crew Cab-threaded clip requires snap) (Yukon/Tahoe 4 door-push in clip) (Figure 70).
5. Inside door handle and lock control rods (Figure 70).
6. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
7. Trim panel. Refer to "Trim Panel Replacement" in this section.

OUTSIDE HANDLE REPLACEMENT

New lock cylinders are available as replacement parts. If door lock cylinders require replacement for any reason, apply a coating of GM P/N 12345120 or equivalent lubricant inside of the lock case and cylinder keyway prior to assembling and installing the cylinder.

↔ Remove or Disconnect (Figure 72)

1. Trim panel. Refer to "Trim Panel Replacement" in this section.
2. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
3. Outside handle mounting bolts.
4. Outside handle from door.
 - Remove handle control rod from clip retainer.

→ Install or Connect (Figure 72)

NOTICE: Refer to "Notice" on page 10A1-1.

1. Handle control rod to handle clip retainer.
2. Handle to the vehicle.
 - A. Hold handle assembly upside down.
 - B. Insert handle control rod into hole in lock.
 - C. Flip handle assembly right side up.

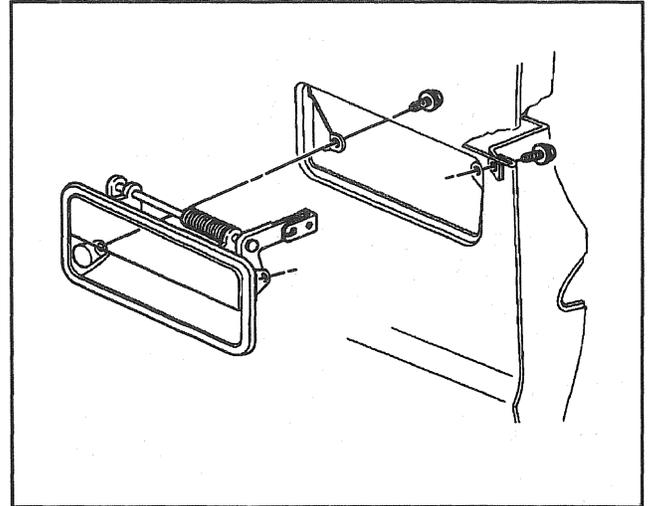


Figure 72—Outside Handle

3. Outside handle mounting bolts.

⌚ Tighten

- Bolts to 4 N.m (35 lb in).
4. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
 5. Trim panel. Refer to "Trim Panel Replacement" in this section.

WINDOW REPLACEMENT

↔ Remove or Disconnect (Figures 73 and 74)

- Lower window.
1. Trim panel. Refer to "Trim Panel Replacement" in this section.
 2. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
 3. Window sash channel bolts.
 4. Glass weatherstrip (Figure 74).
 - Pull weatherstrip out of window frame and front run channel.

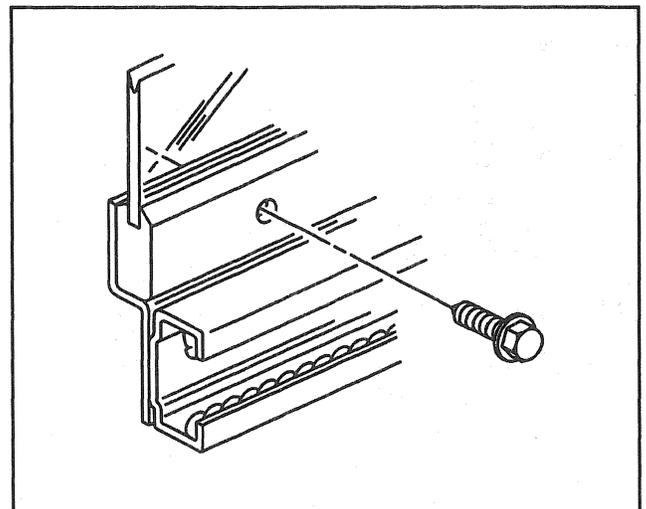


Figure 73—Rear Door Window Sash Channel

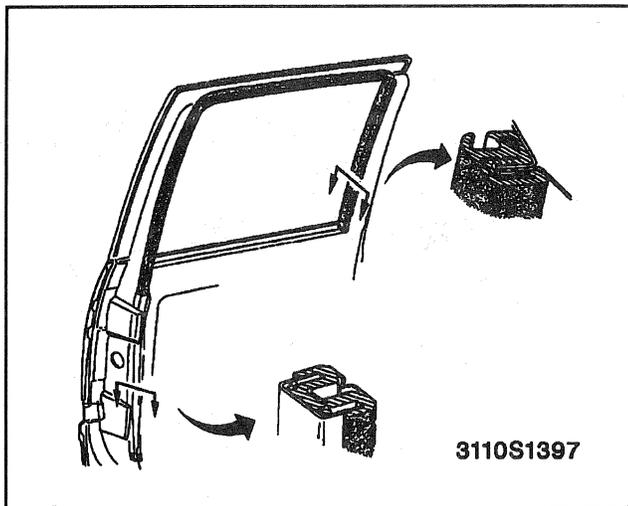


Figure 74—Rear Door Window Weatherstrip

5. Lift window out of the top of door.

→← Install or Connect (Figures 73 and 74)

NOTICE: Refer to "Notice" on page 10A1-1.

1. Slide window into glass channels through the top of door.
2. Glass weatherstrip (Figure 74).
3. Window sash channel bolts.

⌚ Tighten

- Window sash channel bolts to 2 N.m (18 lb in).
4. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
 5. Trim panel. Refer to "Trim Panel Replacement" in this section.

WINDOW GLASS WEATHERSTRIP REPLACEMENT

→← Remove or Disconnect (Figure 74)

1. Window. Refer to "Window Replacement" in this section.
2. Weatherstrip.
 - Pull weatherstrip from front of glass run channel, top of window frame flange, rear of glass run channel.

→← Install or Connect (Figure 74)

1. Weatherstrip.
 - Pull weatherstrip from front of glass run channel, top of window frame flange, rear of glass run channel.
2. Window. Refer to "Window Replacement" in this section.

WINDOW FRONT GLASS RUN CHANNEL

→← Remove or Disconnect (Figure 75)

1. Window. Refer to "Window Replacement" in this section.
2. Window glass weatherstrip. Refer to "Window Glass Weatherstrip Replacement" in this section.
3. Front glass run channel top bolt.
4. Front glass run channel from door.

→← Install or Connect (Figure 75)

1. Rear glass run channel to door.
2. Window front channel top bolt. Do not tighten bolt.
3. Window glass weatherstrip. Refer to "Window Glass Weatherstrip Replacement" in this section.
4. Window. Refer to "Window Replacement" in this section.

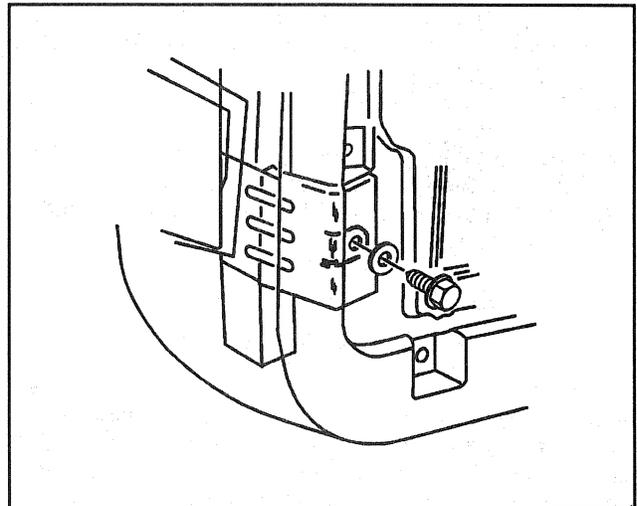


Figure 75—Rear Window Front Glass Run Channel Bolts

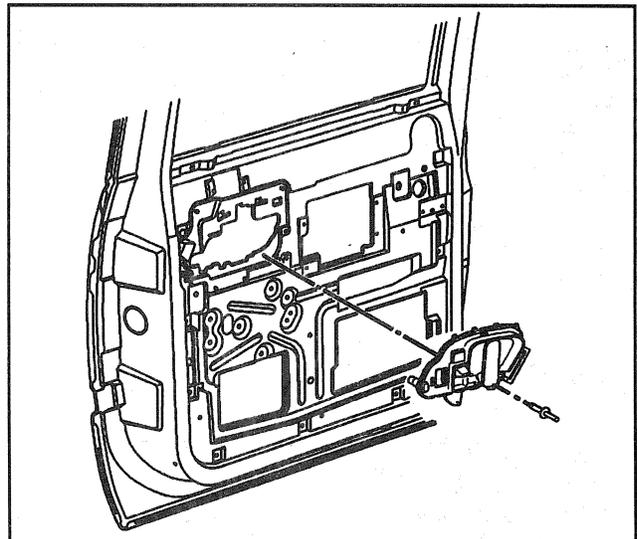


Figure 76—Rear Side Door Control Assembly

WINDOW REGULATOR REPLACEMENT AND MOTOR REPLACEMENT

Tool Required:

J 34940 Rivet Gun

The power window motor can not be serviced. It is replaced as a unit with the regulator.

↔ Remove or Disconnect (Figure 77)

1. Trim panel. Refer to "Trim Panel Replacement" in this section.
2. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
3. Window glass. Refer to "Window Replacement" in this section.
4. Window sash.
5. Glass weatherstrip.
6. Regulator assembly from door.
 - A. Drill rivets securing the regulator to door inner panel.
 - B. Guide regulator assembly through rear lower hole.

→← Install or Connect (Figure 77)

1. Regulator assembly to door.
 - A. Guide regulator assembly through rear lower hole.
 - B. Install rivets securing the regulator to the door inner panel using J 34940.
2. Glass weatherstrip.

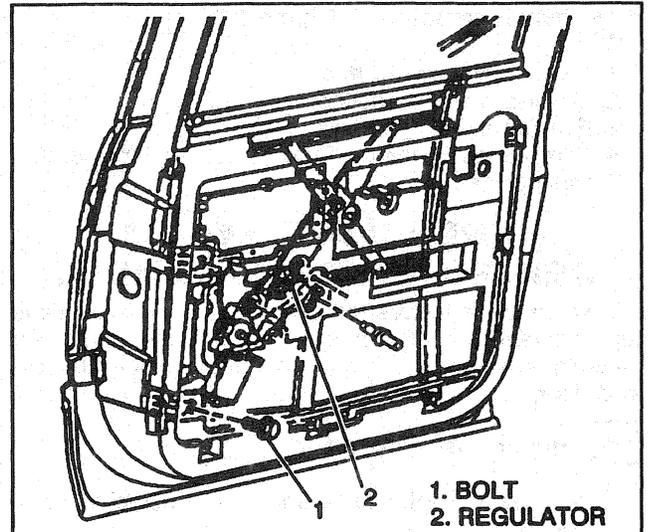


Figure 77—Rear Door Window Regulator Assembly

3. Window sash.
4. Window glass. Refer to "Window Replacement" in this section.
5. Water deflector. Refer to "Inner Panel Water Deflector Replacement" in this section.
6. Trim panel. Refer to "Trim Panel Replacement" in this section.

REAR CARGO DOORS (UTILITY AND SUBURBAN)—ON-VEHICLE SERVICE

TRIM PANEL REPLACEMENT

Tool Required:

J 38778 Trim Panel Remover

↔ Remove or Disconnect (Figure 78)

1. Trim panel from the door.
 - Carefully pry the retainers from their seats using J 38778.
2. Remove retainers from trim panel.

→← Install or Connect (Figure 78)

1. Retainers to trim panel.
2. Trim panel to the door.
 - Align retainers with holes in door.
 - Carefully apply pressure to seat retainers.

WINDOW GARNISH MOLDINGS

↔ Remove or Disconnect (Figure 79)

1. Trim panel. Refer to "Trim Panel Replacement" in this section.

2. Garnish molding screws.
3. Garnish molding retainers.
4. Garnish molding from door.

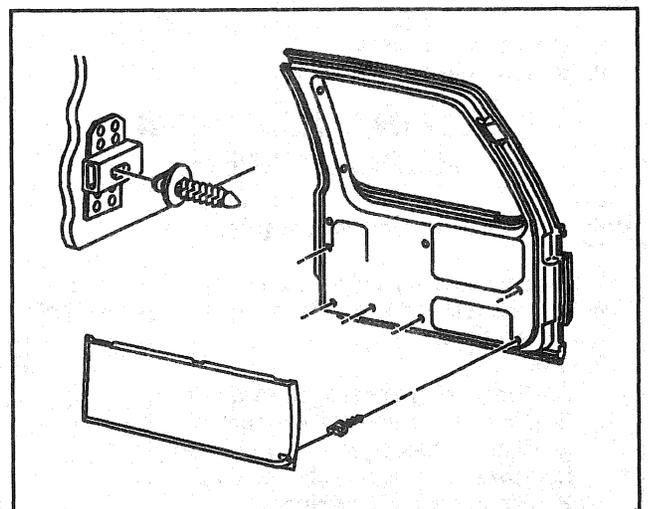


Figure 78—Rear Cargo Door Trim Panel

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↔ Install or Connect (Figure 79)

1. Garnish molding to door.
2. Garnish molding retainers.
3. Garnish molding screws.
4. Trim panel. Refer to "Trim Panel Replacement" in this section.

INNER PANEL WATER DEFLECTOR REPLACEMENT

Waterproof deflectors are used to seal the inner panel and prevent water from entering into the body. The deflector is secured with adhesive between the deflector and door.

↔ Remove or Disconnect

1. Trim panel. Refer to "Trim Panel Replacement" in this section.
2. Water deflector.
 - A. Break the bond between the sealer and the door with a flat-blade tool.
 - B. Pull off.

↔ Install or Connect

NOTICE: Refer to "Notice" on page 10A1-1.

1. Water deflector to the door.
 - Use waterproof tape or 3M® 777 adhesive if needed.
2. Trim panel to the door.

ACCESS HOLE COVERS (BASE MODELS ONLY)

↔ Remove or Disconnect (Figure 80)

1. Access hole cover screws.
2. Access hole covers.

↔ Install or Connect (Figure 80)

1. Access hole covers.
2. Access hole cover screws.

WIRING HARNESS REPLACEMENT

↔ Remove or Disconnect (Figure 81)

1. Negative battery cable. Refer to SECTION 6D1.
2. Trim panel. Refer to "Trim Panel Replacement" in this section.
3. Wiring.
 - A. Door wiring contact screws.
 - B. Door wiring contact connector.
 - C. Window defogger wiring connectors.
 - D. Power door lock actuator connector.
 - E. Wiring harness retainers.
4. Wiring harness from the door.

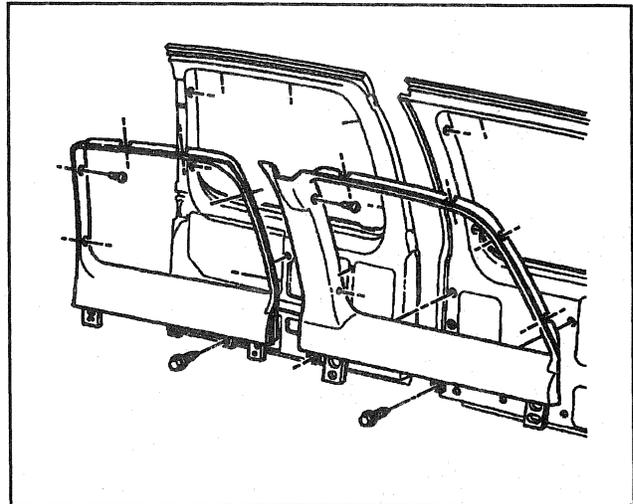


Figure 79—Rear Cargo Door Window Garnish Moldings

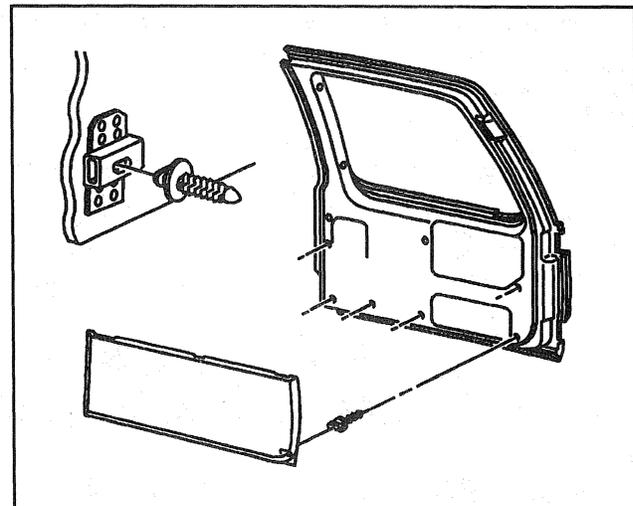


Figure 80—Rear Cargo Door Access Hole Covers

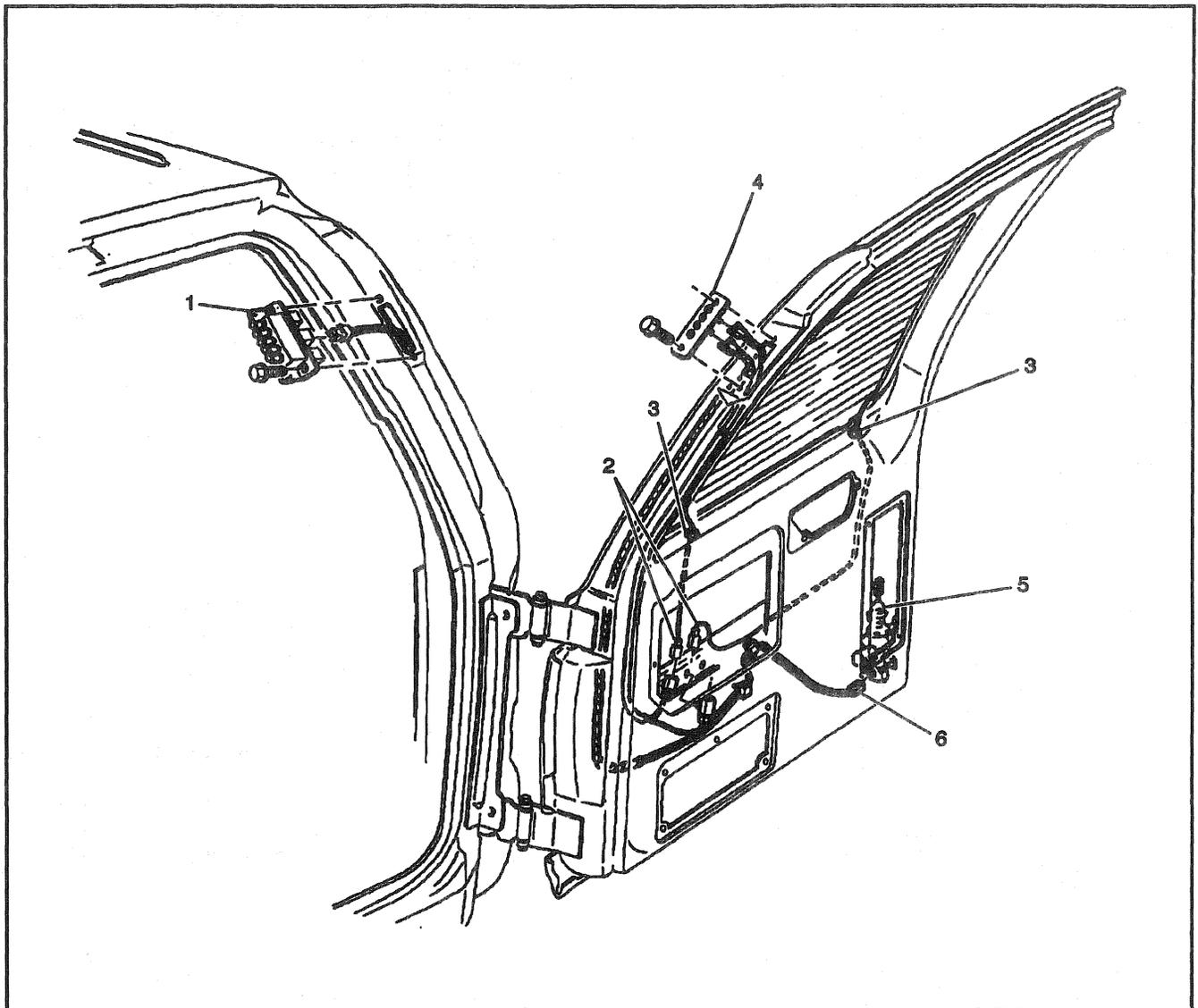
↔ Install or Connect (Figure 81)

1. Wiring harness to door.
2. Wiring.
 - A. Wiring harness retainers.
 - B. Power door lock actuator connector.
 - C. Window defogger wiring connectors.
 - D. Door wiring contact connector.
 - E. Door wiring contact screws.
3. Trim panel. Refer to "Trim Panel Replacement" in this section.
4. Negative battery cable.

CARGO DOOR REPLACEMENT

↔ Remove or Disconnect (Figure 82)

1. Negative battery cable (vehicles with power components only). Refer to SECTION 0A.
 - Apply cloth backed tape to the door, and body pillar.

**Legend**

- | | |
|--------------------------------------|---|
| (1) Door Opening Contacts | (4) Rear Cargo Door Contacts |
| (2) Window Defogger Wiring Connector | (5) Power Door Lock Actuator |
| (3) Grommet | (6) Power Door Lock Actuator Wiring Connector |

Figure 81—Door Wiring Harness Locations

2. Check assembly hinge pin using soft-faced hammer and locking pliers.
3. Lower hinge pin using a soft-faced hammer and locking pliers.
 - Temporarily install a bolt through the lower hinges to hold the door in place while removing the upper hinge pin.
4. Upper hinge pin.
5. Bolt in lower hinge pin hole.
6. Door from vehicle.
3. Upper hinge pin with the pointed end down using a soft-faced hammer and a pair of locking pliers to grasp the pin.
 - Remove the temporary bolt in the lower hinge.
4. Lower hinge pin with the pointed end down.
 - Remove cloth backed tape from the door, and the body pillar.
5. Check assembly pin with the pointed end down.
6. Negative battery cable.

CARGO DOOR HINGE CHECK ASSEMBLY REPLACEMENT

→← Install or Connect (Figure 82)

1. Door to the vehicle.
2. Bolt through the lower hinge pin holes.

←→ Remove or Disconnect (Figure 83)

1. Apply cloth backed tape to the door and body pillar.

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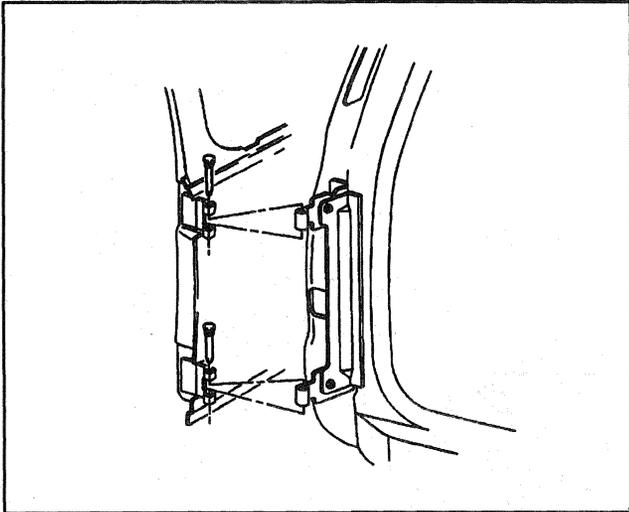


Figure 82—Rear Cargo Door Hinge Pins

2. Excess sealer surrounding hinge.
3. Remove two bolts per hinge from door pillar.
4. Hinges from door.
 - A. Scribe the location of the existing hinges on the body pillar and door.
 - B. Center punch each of the weld marks on the original hinge. It is critical to punch the center of the weld so that all of the weld is removed during drilling.
 - C. Drill a 3 mm (1/8 inch) pilot hole through the welds deep enough to penetrate the hinge base only.
 - D. Drill a 13 mm (1/2 inch) hole through the hinge base only using the smaller hole as a pilot.
 - E. Drive a chisel between the hinge and the door.

Install or Connect

NOTICE: Refer to "Notice" on page 10A1-1.

1. Bolt-on hinges to door.
 - A. Position the bolt-on service replacement hinges within the scribe marks made on the body hinge pillar and the door at the time of removal.
 - B. Center punch each bolt hole location on the body hinge pillar and/or door.
 - C. Drill a 13 mm (1/2 inch) hinge attaching hole in three steps to ensure placing the hinge in the proper position.
2. Prepare the surface for the replacement hinges using a file or equivalent.
 - Coat the mating surface of the hinges with a medium bodied sealer.
3. Hinges, backing plate, bolts, and nuts to door and pillar.
 - A. Align the hinge and backing plate with the holes in the hinge pillar and door.
 - B. Place the bolts through the hinge, pillar and/or door, and through the backing plate.

Tighten

- Nuts to 35 N.m (26 lb ft).
4. Door to body. Refer to "Cargo Door Replacement" in this section.
 5. Apply sealer around hinges.

REAR CARGO DOOR BODY MOUNTED STRIKERS

Remove or Disconnect (Figure 84)

1. Mark the position of the upper and/or lower striker.
2. Striker screw.
3. Striker.

Install or Connect (Figure 84)

NOTICE: Refer to "Notice" on page 10A1-1.

1. Striker to the vehicle.
2. Striker screw.

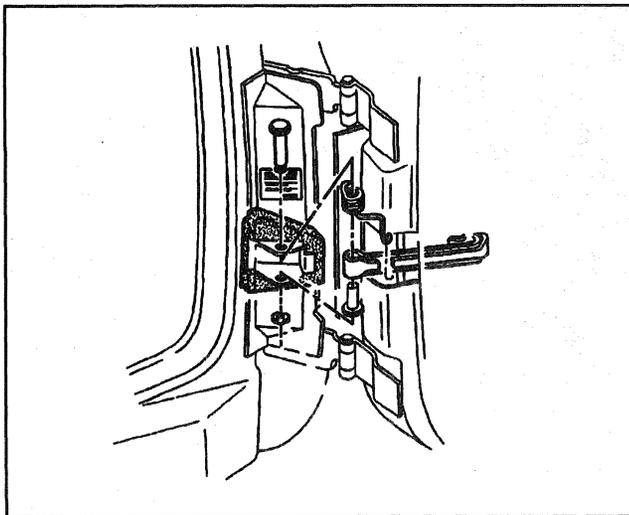


Figure 83—Hinge Check Assembly

2. Pin retainer.
3. Hinge pin using a soft-faced hammer and locking pliers.
4. Spring.
5. Check assembly.

Install or Connect (Figure 83)

1. Check assembly.
2. Spring.
3. Hinge pin using a soft-faced hammer and locking pliers.
4. New pin retainer.
 - Remove cloth backed tape from the door and the body pillar.

CARGO DOOR HINGE REPLACEMENT

Remove or Disconnect

1. Door from body. Refer to "Cargo Door Replacement" in this section.

- Align the striker and screw with the previously made mark.

 **Tighten**

- Screw to 8 N.m (75 lb in).

REAR CARGO DOOR PROTECTORS

 **Remove or Disconnect (Figure 85)**

- Protector bolts.
- Protector.

 **Install or Connect (Figure 85)**

- Protector.
- Protector bolts.

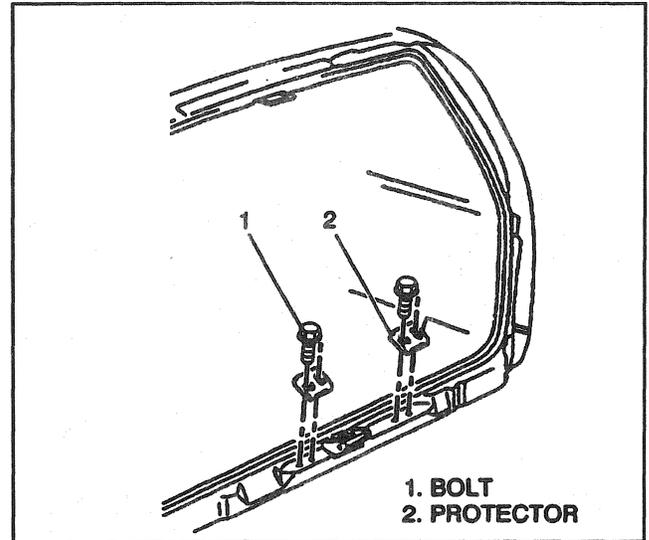


Figure 85—Rear Cargo Door Protectors

CARGO DOOR LOCK ASSEMBLY REPLACEMENT (RIGHT DOOR)

 **Remove or Disconnect (Figure 86)**

- Door trim panel (if equipped). Refer to "Door Trim Panel Replacement" in this section.
- Access hole cover (if equipped). Refer to "Access Hole Covers" in this section.
- Lock rod from lock assembly rod clip.
- Lock assembly bolts.
- Lock assembly from door.

 **Install or Connect (Figure 86)**

- Lock assembly to door.
- Lock assembly bolts.
- Lock rod from lock assembly rod clip.
- Access hole cover (if equipped). Refer to "Access Hole Covers" in this section.

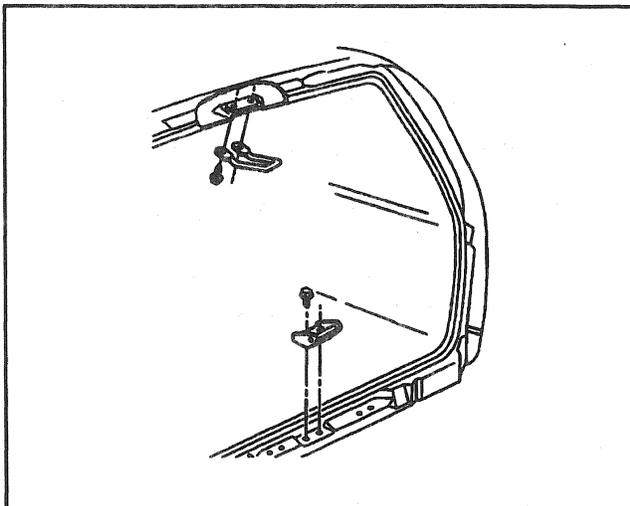


Figure 84—Cargo Upper and Lower Strikers

LOCK ACTUATOR

Tool Required:
J 34940 Rivet Gun

 **Remove or Disconnect (Figures 87 and 88)**

- Trim panel (if equipped). Refer to "Trim Panel Replacement" in this section.
 - Water deflector (if equipped). Refer to "Inner Panel Water Deflector Replacement" in this section.
 - Access hole cover (if equipped). Refer to "Access Hole Covers" in this section.
 - Actuator lock control rod (Figure 87).
 - Actuator wiring connector.
 - Actuator from door
- Drill out rivets.

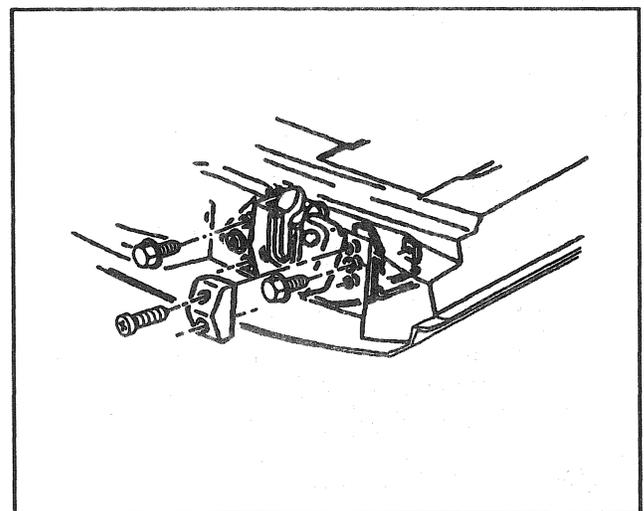


Figure 86—Rear Cargo Door Outside Handle and Lock Control Rods

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Install or Connect (Figures 87 and 88)

1. Actuator to door.
 - Use J 34940 to install actuator rivets.
2. Actuator lock control rod (Figure 87).
3. Actuator wiring connector.
4. Water deflector (if equipped). Refer to "Inner Panel Water Deflector Replacement" in this section.
5. Trim panel (if equipped). Refer to "Trim Panel Replacement" in this section.
6. Access hole cover (if equipped). Refer to "Access Hole Covers" in this section.

DOOR LOCK CYLINDER, ROD, AND OUTSIDE HANDLE REPLACEMENT (RIGHT DOOR)

New lock cylinders are available as replacement parts. If door lock cylinders require replacement for any reason, apply a coating of GM P/N 12345120 lubricant or equivalent inside of the lock case and cylinder keyway prior to assembling and installing the cylinder.

To repair a binding lock cylinder, refer to "Binding lock cylinders." To code a new lock cylinder, refer to "Lock Cylinder Coding" in SECTION 0A.

Remove or Disconnect (Figure 89)

1. Door trim panel (if equipped). Refer to "Door Trim Panel Replacement" in this section.
2. Water deflector (if equipped). Refer to "Inner Panel Water Deflector Replacement" in this section.
3. Access hole cover (if equipped). Refer to "Access Hole Covers" in this section.
4. Lock cylinder rod from the rod clip.
5. Outside handle rod from the rod clip.
6. Outside handle mounting bolts.
7. Handle assembly.
8. Door lock cylinder from the outside handle housing.

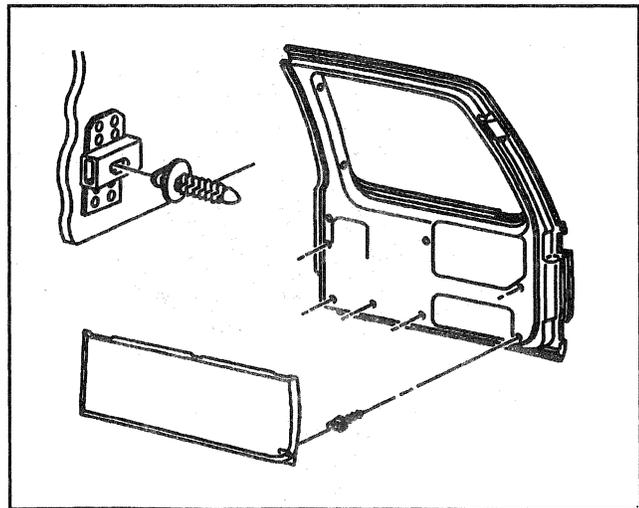


Figure 87—Rear Side Door Lock Actuator Wiring Connector and rivets

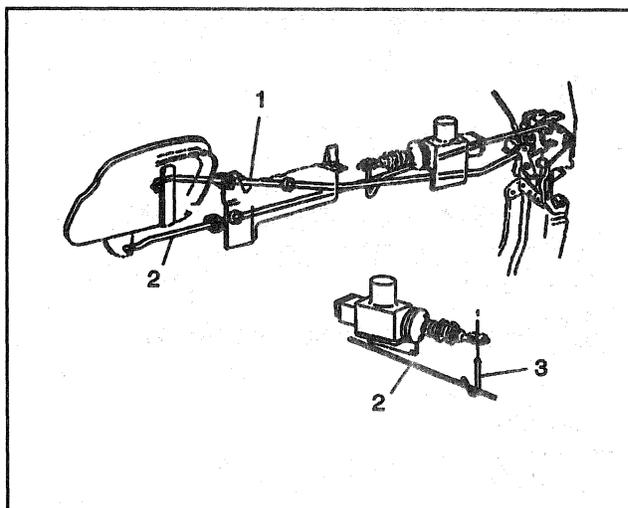


Figure 88—Rear Side Door Lock Actuator Control Rod

Install or Connect (Figure 89)

NOTICE: Refer to "Notice" on page 10A1-1.

1. Door lock cylinder to the outside handle housing.
2. Handle assembly.
3. Outside handle mounting bolts.

Tighten

- Bolts to 4 N.m (35 lb in).

4. Outside handle rod from the rod clip (Figure 89).
5. Lock cylinder rod from the rod clip (Figure 89).
6. Access hole cover (if equipped). Refer to "Access Hole Covers" in this section.
7. Water deflector (if equipped). Refer to "Inner Panel Water Deflector Replacement" in this section.
8. Door trim panel (if equipped). Refer to "Door Trim Panel Replacement" in this section.

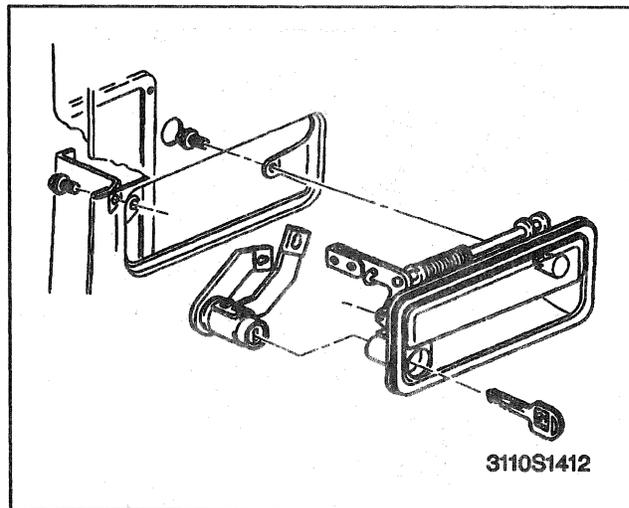


Figure 89—Rear Cargo Door Outside Handle and Lock Assembly

LEFT DOOR LATCH CONTROL HANDLE

Remove or Disconnect (Figures 90 and 91)

1. Door trim panel (if equipped). Refer to "Door Trim Panel Replacement" in this section.
2. Water deflector (if equipped). Refer to "Inner Panel Water Deflector Replacement" in this section.
3. Access hole cover (if equipped). Refer to "Access Hole Covers" in this section.
4. Lower latch control rod from control handle clip (Figure 90).
5. Upper latch control rod from control handle clip (Figure 90).
6. Latch control handle nuts (Figure 91).
7. Latch control handle (Figure 91).

Install or Connect (Figures 90 and 91)

1. Latch control handle (Figure 91).
2. Latch control handle nuts (Figure 91).
3. Upper latch control rod from control handle clip (Figure 90).
4. Lower latch control rod from control handle clip (Figure 90).
5. Access hole cover (if equipped). Refer to "Access Hole Covers" in this section.
6. Water deflector (if equipped). Refer to "Inner Panel Water Deflector Replacement" in this section.
7. Door trim panel (if equipped). Refer to "Door Trim Panel Replacement" in this section.

LEFT DOOR MOUNTED STRIKER

Tool Required:

J 29843-9 Torx Bit (Bit Size T47)

The door striker bolt is a special bolt and washer mounted on the left door opening. The bolt passes through a hole into a threaded plate inside of the door. Cargo doors are secured in position when the lock cam (arm) of the locking mechanism in the right door engages and snaps around the striker bolt.

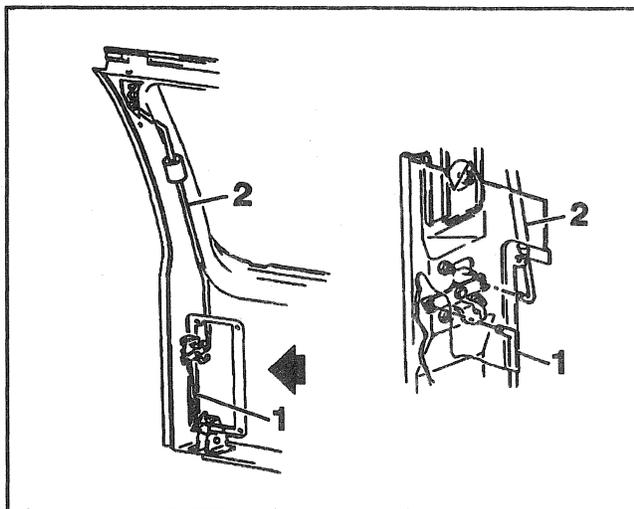


Figure 90—Rear Cargo Door Latch Control Rods

Remove or Disconnect (Figure 91)

1. Door trim panel (if equipped). Refer to "Door Trim Panel Replacement" in this section.
2. Water deflector (if equipped). Refer to "Inner Panel Water Deflector Replacement" in this section.
3. Access hole cover (if equipped). Refer to "Access Hole Covers" in this section.
4. Mark the position of the striker bolt spacer on the door pillar.
5. Striker bolt using J 29843-9 or equivalent.

Install or Connect (Figure 91)

NOTICE: Refer to "Notice" on page 10A1-1.

1. Striker bolt into the door pillar retaining plate.
2. Align the striker bolt spacer with the previously made mark.

Tighten

- Striker bolt while holding spacer in position to 63 N.m (46 lb ft) using J 29843-9 or equivalent.

3. Access hole cover (if equipped). Refer to "Access Hole Covers" in this section.
4. Water deflector (if equipped). Refer to "Inner Panel Water Deflector Replacement" in this section.
5. Door trim panel (if equipped). Refer to "Door Trim Panel Replacement" in this section.

LOWER LATCH REPLACEMENT

Remove or Disconnect (Figures 92 and 93)

1. Door trim panel (if equipped). Refer to "Door Trim Panel Replacement" in this section.
2. Water deflector (if equipped). Refer to "Inner Panel Water Deflector Replacement" in this section.
3. Access hole cover (if equipped). Refer to "Access Hole Covers" in this section.

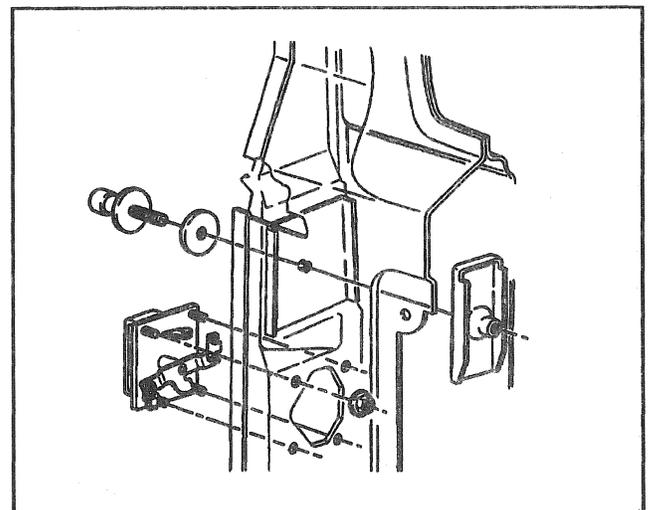


Figure 91—Rear Cargo Door Lock Striker and Latch Control Handle (Mounted to Left Door)

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4. Control rod from latch (Figure 92).
5. Control latch bolts and spacer (Figure 93).
6. Control latch from door (Figure 93).

→→ Install or Connect (Figures 92 and 93)

1. Control latch to door (Figure 93).
2. Control latch spacer and bolts (Figure 93).
3. Control rod to latch (Figure 92).
4. Access hole cover (if equipped). Refer to "Access Hole Covers" in this section.
5. Water deflector (if equipped). Refer to "Inner Panel Water Deflector Replacement" in this section.
6. Door trim panel (if equipped). Refer to "Door Trim Panel Replacement" in this section.

DOOR BUMPER ASSEMBLY REPLACEMENT

↔↔ Remove or Disconnect (Figure 93)

1. Bumper bolts.

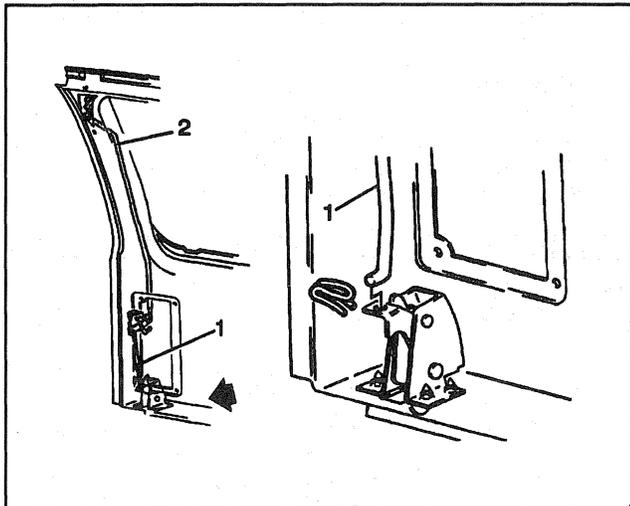


Figure 92—Lower Latch Control Rod

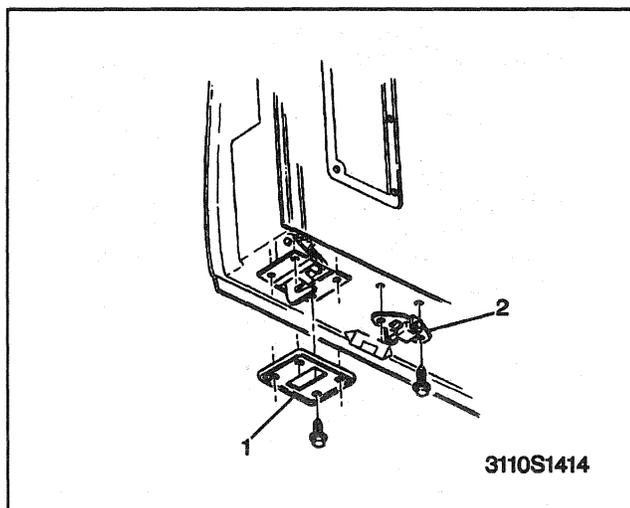


Figure 93—Lower Latch and Bumper

2. Bumper assembly.

↔↔ Install or Connect (Figure 93)

1. Bumper assembly.
2. Bumper bolts.

UPPER LATCH REPLACEMENT

↔↔ Remove or Disconnect (Figures 94 and 95)

1. Door trim panel (if equipped). Refer to "Door Trim Panel Replacement" in this section.
2. Water deflector (if equipped). Refer to "Inner Panel Water Deflector Replacement" in this section.
3. Access hole cover (if equipped). Refer to "Access Hole Covers" in this section.
4. Control rod from latch (Figure 94).
5. Latch cover.

- Remove cover screw.

6. Latch bolts (Figure 95).
7. Latch from door (Figure 95).

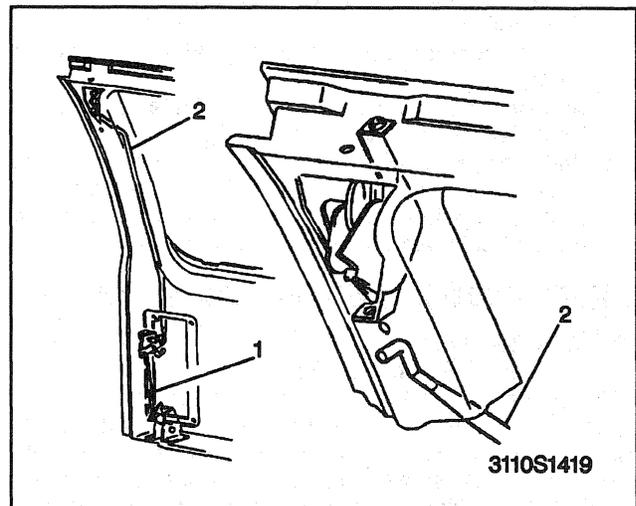


Figure 94—Upper Latch Control Rod

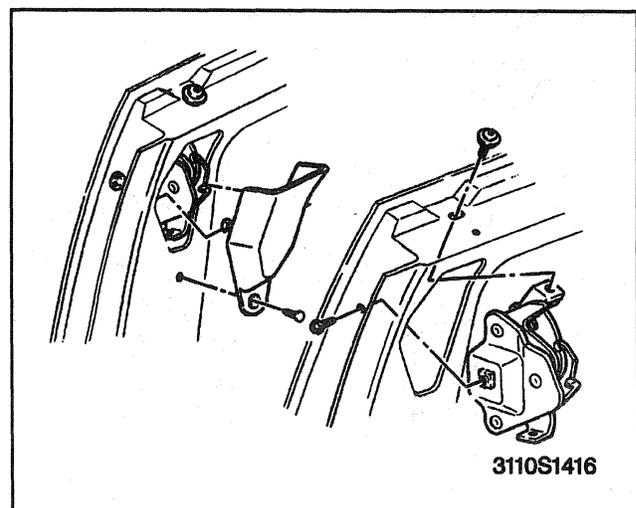


Figure 95—Upper Latch and Bumper

↔ Install or Connect (Figures 94 and 95)

1. Latch to door (Figure 95).
2. Latch bolts (Figure 95).
3. Control rod to latch (Figure 94).

4. Access hole cover (if equipped). Refer to "Access Hole Covers" in this section.
5. Water deflector (if equipped). Refer to "Inner Panel Water Deflector Replacement" in this section.
6. Door trim panel (if equipped). Refer to "Door Trim Panel Replacement" in this section.

WEATHERSTRIP REPLACEMENT

SIDE DOOR WINDOW SEALING STRIP REPLACEMENT

The outer belt sealing strip is used to seal between the inner and outer door panels and the window at the belt line. The outer sealing strip can be replaced. Do not remove the inner sealing strip since the strip is stapled to the trim panel.

↔ Remove or Disconnect (Figures 96 and 97)

1. Trim panel. Refer to "Trim Panel Replacement" in this section.
2. Outer sealing strip from the door channel.

↔ Install or Connect (Figures 96 and 97)

1. Outer sealing strip to the door channel.
 - Press it into place.
2. Trim panel. Refer to "Trim Panel Replacement" in this section.

SIDE DOOR OPENING WEATHERSTRIP REPLACEMENT

↔ Remove or Disconnect (Figure 98)

1. Pull the weatherstrip from the door pinchweld flange.

↔ Install or Connect (Figure 98)

1. Door weatherstrip to the door pinchweld flange.
 - A. Position the preformed corner of the weatherstrip in the upper rear corner of the door opening.
 - B. Push the weatherstrip onto the flange, starting at the preformed corner, and working around the entire edge of the door opening.

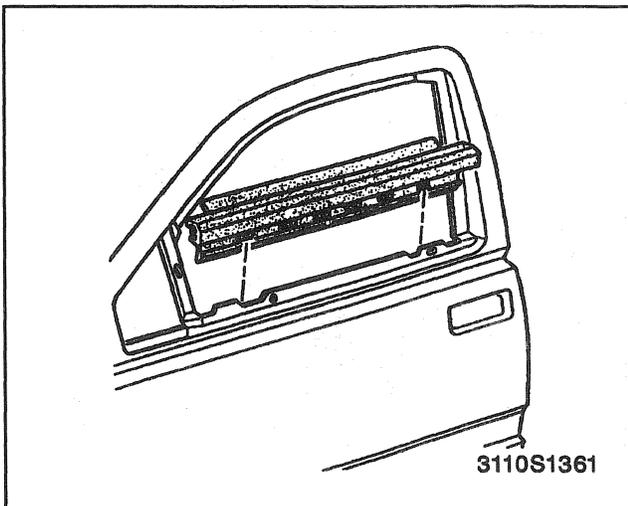
SIDE DOOR ROOF DRIP WEATHERSTRIP REPLACEMENT

↔ Remove or Disconnect (Figure 99)

1. Pull the roof drip molding from the pinchweld and windshield molding flange.

↔ Install or Connect (Figure 99)

1. Roof drip molding.
 - Push the molding over the pinchweld.



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Figure 96—Front Door Outer Belt Door Window Outer Seal

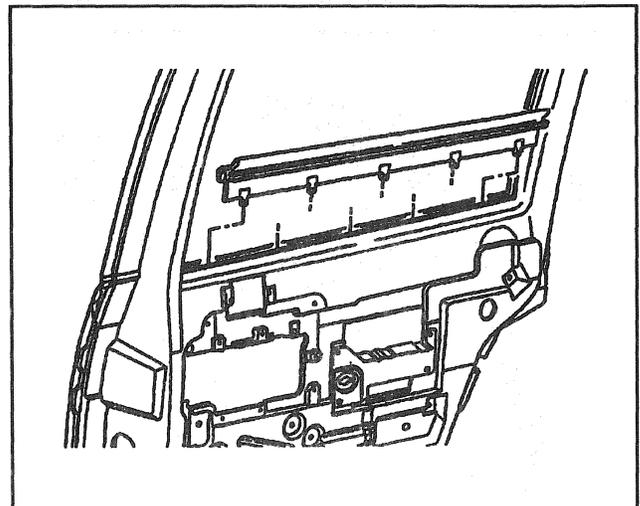


Figure 97—Rear Door Outer Belt Door Window Outer Seal

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SIDE DOOR AUXILIARY WEATHERSTRIP REPLACEMENT

Tool Required:
J 38778 Trim Panel Remover

←→ Remove or Disconnect (Figure 100)

1. Weatherstrip from mounting surface using J 38778.

→→ Install or Connect (Figure 100)

1. Weatherstrip to mounting surface.
 - Press retainers in place.

CARGO DOOR OPENING WEATHERSTRIP

←→ Remove or Disconnect (Figure 101)

1. Pull the weatherstrip from the door pinchweld flange.

→→ Install or Connect (Figure 100)

1. Door weatherstrip to the door pinchweld flange.
 - A. Align white mark on weatherstrip with the left edge of upper striker.
 - B. Push weatherstrip on to flange while working outward to left and right corners of door opening.
 - C. Push weatherstrip down both sides of outer flanges to lower corners.
 - D. Locate the center of the lower portion of weatherstrip and push onto lower flange.
 - E. Push excess loops of weatherstrip from the center to outward to corners.
2. Push weatherstrip securely around the outside perimeter of door opening flange.

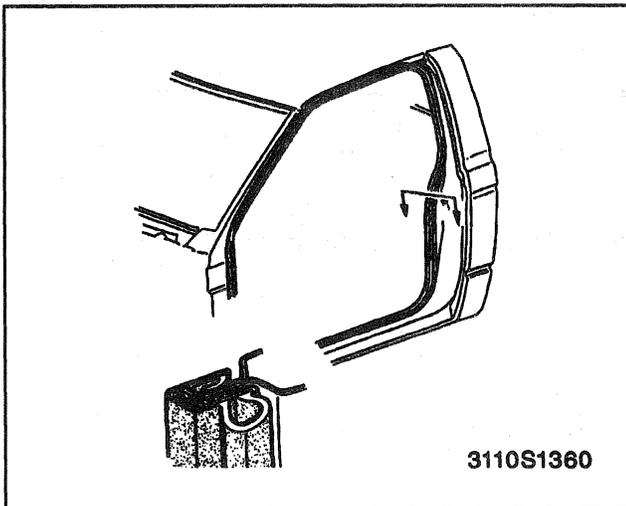


Figure 98—Door Opening Weatherstrip Installation

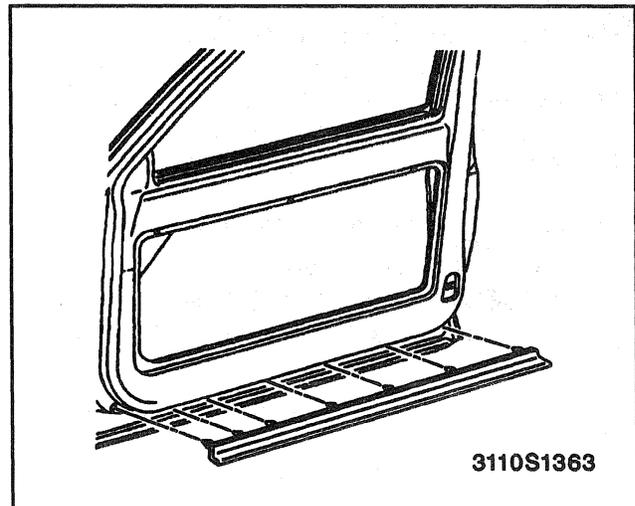


Figure 100—Rocker Auxiliary Weatherstrip

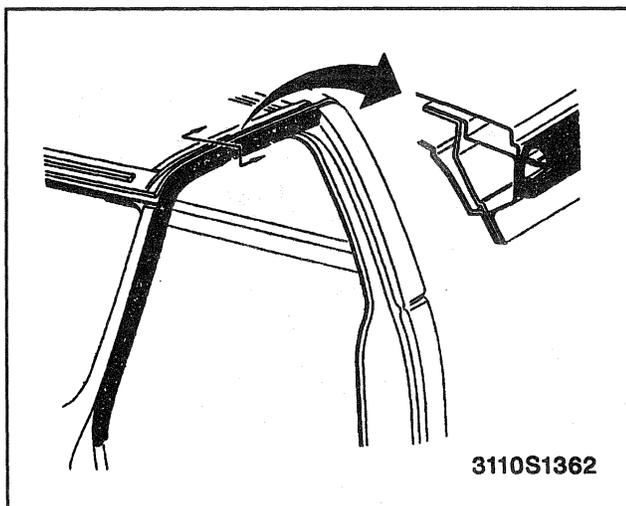


Figure 99—Roof Drip Molding

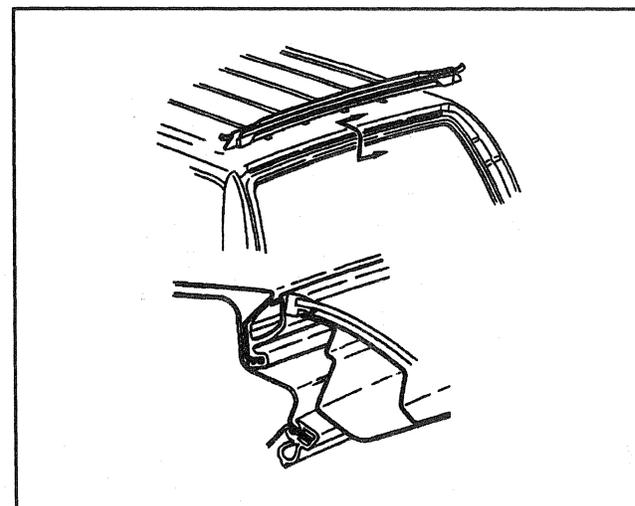


Figure 101—Cargo Door Opening Weatherstrip

CARGO DOOR UPPER WEATHERSTRIP

←→ Remove or Disconnect (Figure 102)

1. Pull the weatherstrip from the door pinchweld flange.

→← Install or Connect (Figure 102)

1. Center weatherstrip assembly.
2. Push firmly to the center of upper roof flange.
3. Peel off backing paper while pressing weatherstrip firmly to flange.

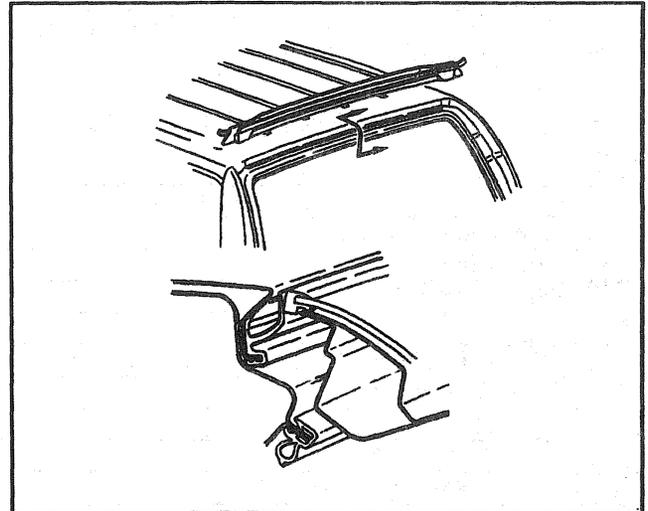


Figure 102—Cargo Door Upper Weatherstrip

CARGO DOOR CORNER WEATHERSTRIP

Tool Required:
J 38778 Trim Panel Remover

←→ Remove or Disconnect (Figure 103)

1. Weatherstrip from mounting surface using J 38778.

→← Install or Connect (Figure 103)

1. Weatherstrip to mounting surface.
 - Peel off backing paper.
 - Press retainers in place.

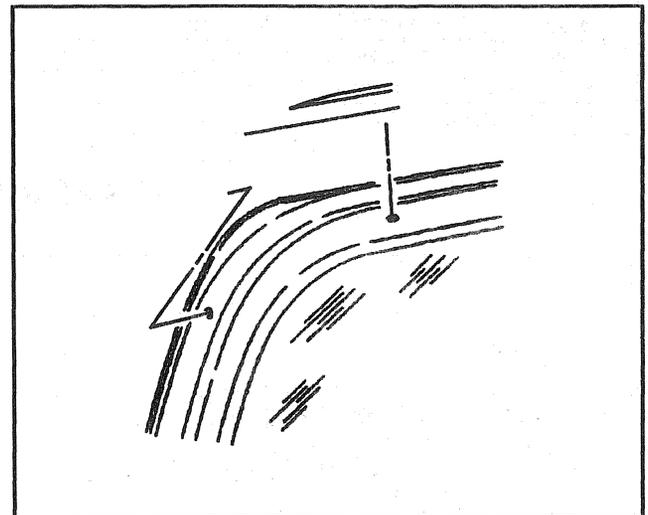


Figure 103—Cargo Door Corner Weatherstrip

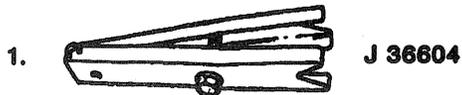
10A1-44 DOORS

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Application	N-m	Lb ft	Lb in
Armrest Mounting Screws	5	—	44
Check Strap Bolts	10	—	89
Door Hinge Bolts	35	26	—
Door Hinge Nuts	35	26	—
Door Lock and Actuator Assembly Mounting Bolts	9	—	80
Door Striker Bolt	28	21	—
Door Striker Screw	8	—	75
Mini Wedge Door Striker Bolt	63	46	—
Window Run Channel Screws	2	—	18
Window Sash Channel Bolts	6	—	53
Outside Door Handle Mounting Bolts	4	—	35
Outside Rearview Mirror Retaining Nuts	6	—	53
Side Access Door Lower Striker Bolt	10	—	89
Side Access Door Latch Bolts	24	18	—
Trim Panel Armrest Screws	2	—	18

SPECIAL TOOLS



1. DOOR HINGE SPRING COMPRESSOR
2. TRIM PAD REMOVER
3. DOOR HANDLE CLIP REMOVER

2910S2400

SECTION 10A2

SEATS

CAUTION: This vehicle has a Supplemental Inflatable Restraint (SIR) System. Refer to the SIR Component and Wiring Location view in order to determine whether you are performing service on or near the SIR components or the SIR wiring. When you are performing service on or near the SIR components or the SIR wiring, refer to the SIR On-Vehicle Service information. Failure to follow the CAUTIONS could cause air bag deployment, personal injury, or unnecessary SIR system repairs.

CAUTION: Replace belts, retractors, and hardware in use in all but a minor collision. Also, restraint systems should be replaced and anchorages properly repaired if they were in areas damaged by a collision, whether the belt was in use or not. If there is any question, replace the belt system. Damage, whether visible or not, could result in serious personal injury in the event of an accident.

NOTICE: Always use the correct fastener in the proper location. When you replace a fastener, use ONLY the exact part number for that application. General Motors will call out those fasteners that require a replacement after removal. General Motors will also call out the fasteners that require thread lockers or thread sealant. UNLESS OTHERWISE SPECIFIED, do not use supplemental coatings (paints, greases, or other corrosion inhibitors) on threaded fasteners or fastener joint interfaces. Generally, such coatings adversely affect the fastener torque and joint clamping force, and may damage the fastener. When you install fasteners, use the correct tightening sequence and specifications. Following these instructions can help you avoid damage to parts and systems.

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10A2-2 SEATS**DIAGNOSIS OF MANUAL SEAT ADJUSTER**

PROBLEM	POSSIBLE CAUSE	CORRECTION
Adjuster Will Not Lock	<ol style="list-style-type: none">1. Wire assembly too tight.2. Lock bar spring disconnected or broken.3. Lock bar sticking or binding.	<ol style="list-style-type: none">1. Loosen the wire assembly by moving the hooked end to the forward hole of the lock bar.2. Connect the spring or install a new spring.3. Lubricate the lock bar pivot. If the bar is binding, eliminate the cause of binding or replace the adjuster.
Adjuster Will Not Unlock	<ol style="list-style-type: none">1. Wire assembly too loose or disconnected.2. Lock bar sticking or binding.	<ol style="list-style-type: none">1. Eliminate the slack in the wire assembly by moving the hooked end to the rearward hole of the lock bar.2. Lubricate the lock bar pivot. If the bar is binding, eliminate the cause of binding or replace the adjuster.
Seat Hard To Move Forward Or Rearward	<ol style="list-style-type: none">1. Adjusters new, not seated.2. Adjuster(s) improperly lubricated.3. Adjuster(s) binding due to bent or damaged channels.	<ol style="list-style-type: none">1. Operate the seat to the full forward and full rearward positions several times to work the new tightness out of the channels.2. Lubricate the adjuster channels with Lubriplate Auto-Lube A or equivalent.3. Replace the adjuster.
Easy Entry Passenger Seat In Extended Cab Does Not Slide Forward When The Seat Is Tilted Forward	Cable from the seat back to the adjuster is disconnected.	Pull back the covering on the seat back and seat. Make sure the cable is still connected and taut from the seat back through the seat to the adjuster.
D0217		

DIAGNOSIS OF SIX-WAY POWER ADJUSTER

CONDITION	POSSIBLE CAUSE	CORRECTION
Horizontal operation of the seat is not smooth. Apparent hard operation.	<ol style="list-style-type: none"> 1. Improper lubrication of the seat adjuster carriages and seat adjuster slides. 2. Transmission assembly is loose or binding. 	<ol style="list-style-type: none"> 1. Lubricate carriages and seat adjuster slides with a lithium base grease. 2. Inspect transmission assembly. Tighten mounting screws or replace assembly if necessary.
Horizontal chuck or looseness.	<ol style="list-style-type: none"> 1. Seat adjuster carriages out of alignment or worn. 	<ol style="list-style-type: none"> 1. Inspect transmission assembly and replace if necessary.
Adjuster will not operate horizontally.	<ol style="list-style-type: none"> 1. No power to the adjuster assembly. 2. Seat adjuster drive cable damaged. 3. Seat adjuster motor is not working. 	<ol style="list-style-type: none"> 1. Refer to Engine Controls, Transmission Diagnosis and Electrical Diagnosis Manual for this vehicle. 2. Inspect drive cable and replace if necessary. 3. Inspect adjuster motor assembly and replace if necessary.
One or both adjusters will not operate vertically.	<ol style="list-style-type: none"> 1. No power to the adjuster assembly. 2. Seat adjuster drive cables damaged. 3. Seat adjuster motor is not working. 	<ol style="list-style-type: none"> 1. Refer to Engine Controls, Transmission Diagnosis and Electrical Diagnosis Manual for this vehicle. 2. Inspect drive cables and replace if necessary. 3. Inspect adjuster motor assembly and replace if necessary.

D0311

ON-VEHICLE SERVICE**FRONT SEAT TRIM COVER REPLACEMENT**
 Install or Connect (Figures 1, 2 and 7)

 Remove or Disconnect (Figures 1, 2 and 7)

1. Trim cover to seat.
2. Screws.

1. Screws.
2. Trim cover from seat.

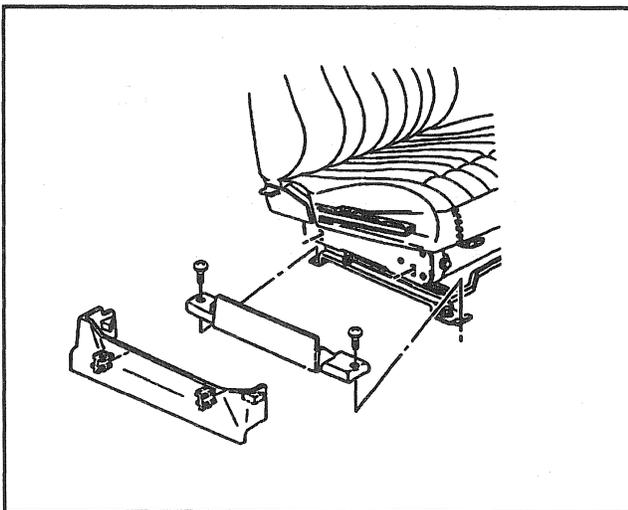


Figure 1—Front Bucket Seat Trim Cover (Right Side Only)

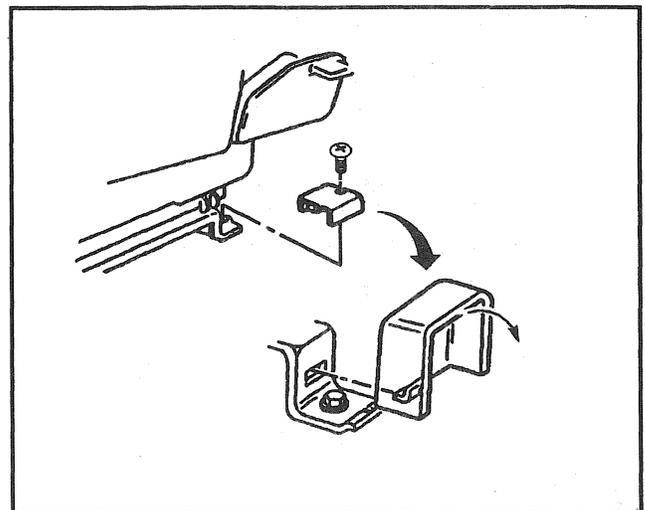


Figure 2—Front Bucket Seat Trim Cover and Components (Right Side Inner Only)

10A2-4 SEATS

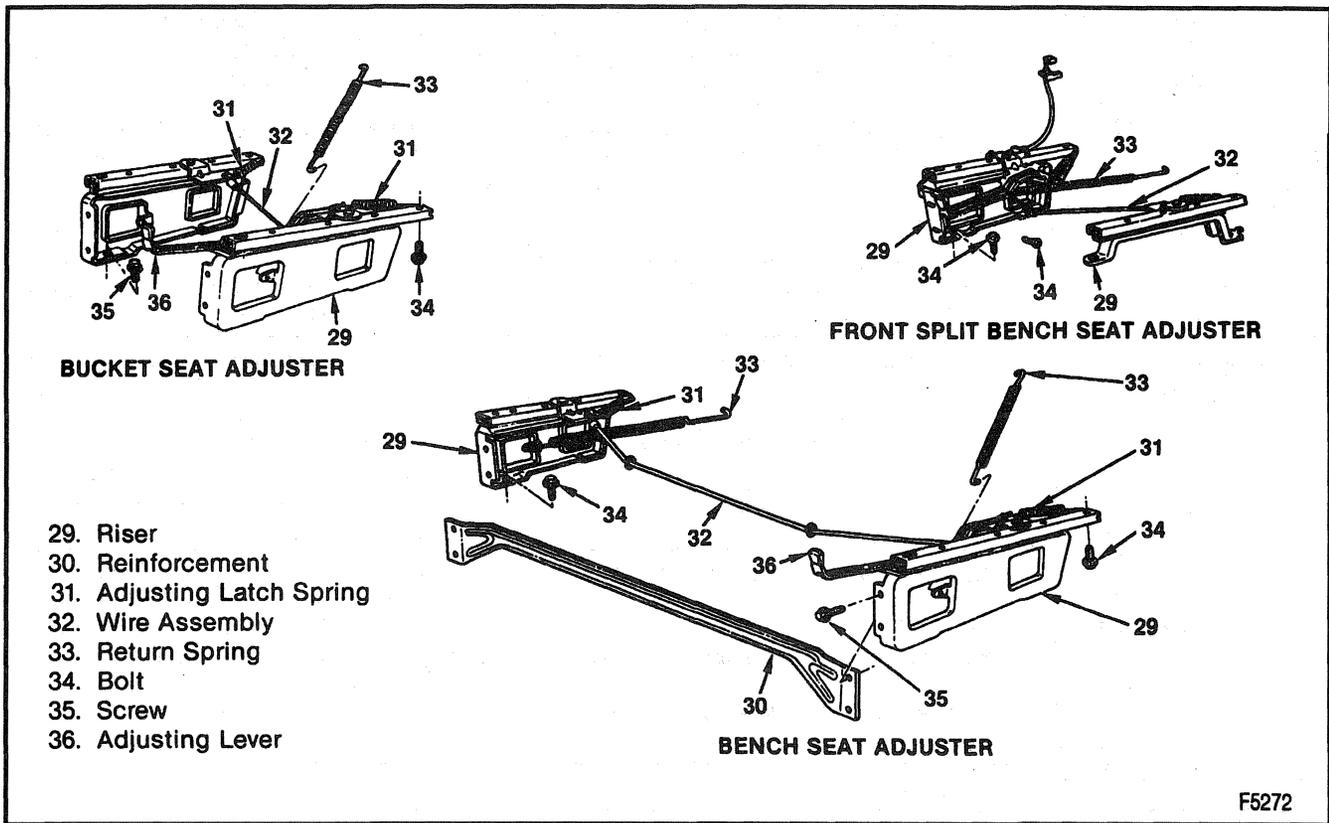


Figure 3—Manual Seat Adjusters

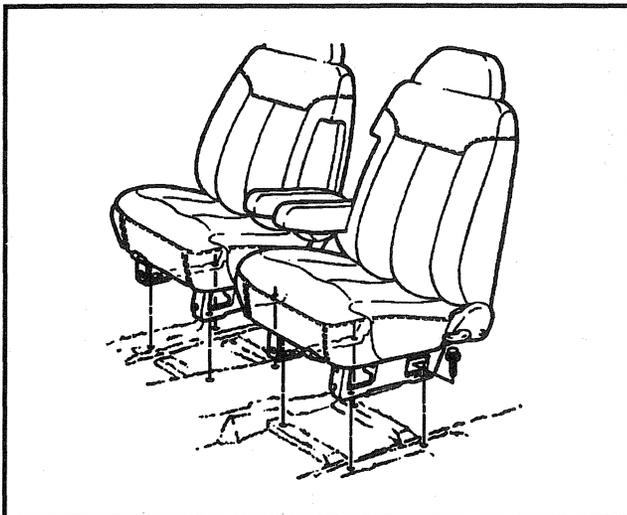


Figure 4—Front Bucket Seat Mounting

FRONT BUCKET SEAT REPLACEMENT

 Remove or Disconnect (Figures 3 and 4)

1. Seat trim cover. Refer to "Front Seat Trim Cover Replacement" in this section.
2. Seat retaining bolts.
3. Seat from the vehicle.

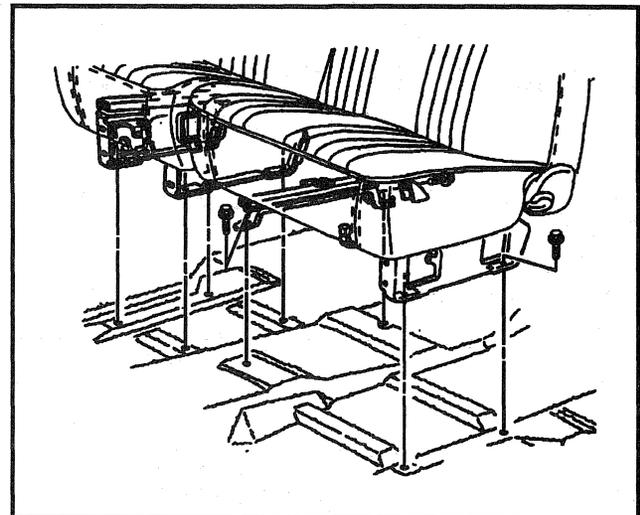


Figure 5—Front Split Bench Seat Mounting

 Install or Connect (Figures 3 and 4)

1. Seat to the vehicle.
2. Seat retaining bolts.

 Tighten

- Bolts to 55 N.m (41 lb ft).
3. Seat trim cover. Refer to "Front Seat Trim Cover Replacement" in this section.

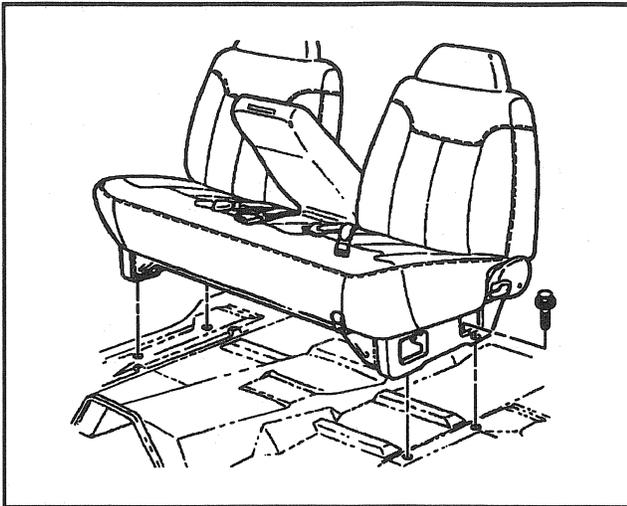


Figure 6—Front Bench Seat Mounting

FRONT SPLIT BENCH SEAT REPLACEMENT

↔ Remove or Disconnect (Figure 5)

1. Seat trim cover. Refer to "Front Seat Trim Cover Replacement" in this section.
2. Seat retaining bolts.
3. Seat and seat belt from the vehicle.

→↔ Install or Connect (Figure 5)

NOTICE: Refer to "Notice" on page 10A2-1.

1. Seat to the vehicle.
2. Seat retaining bolts.

⌚ Tighten

- Bolts to 55 N.m (41 lb ft).

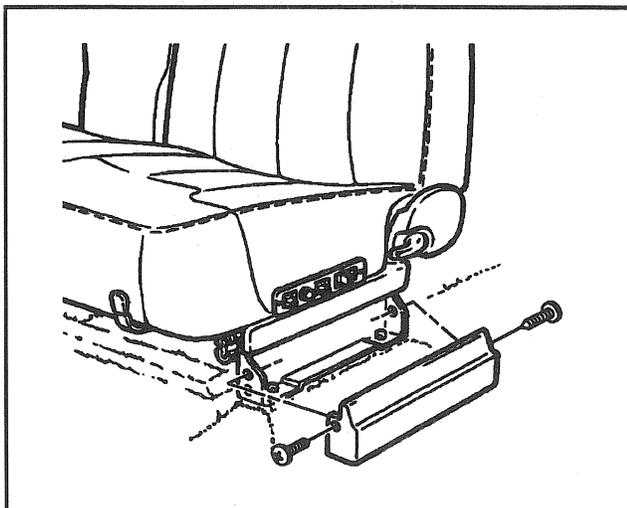


Figure 7—Lumbar Switch With Power Seats (Switch Without Power Seats Similar)

3. Bolts retaining the seat belt to the floor.

⌚ Tighten

- Bolts to 55 N.m (41 lb ft).

4. Seat trim cover to seat. Refer to "Front Seat Trim Cover Replacement" in this section.

FRONT BENCH SEAT REPLACEMENT

↔ Remove or Disconnect (Figure 6)

1. Seat trim cover. Refer to "Front Seat Trim Cover Replacement" in this section.
2. Seat retaining bolts.
3. Seat from the vehicle.

→↔ Install or Connect (Figure 6)

NOTICE: Refer to "Notice" on page 10A2-1.

1. Seat to the vehicle.
2. Seat retaining bolts.

⌚ Tighten

- Bolts to 55 N.m (41 lb ft).

3. Seat trim cover to seat. Refer to "Front Seat Trim Cover Replacement" in this section.

Power Seat Lumbar Switch Replacement

↔ Remove or Disconnect (Figure 7)

1. Screws attaching switch to side of seat cushion.
 - Pull switch partially out from seat cushion.
2. Switch from switch bezel.
3. Switch wiring harness in-line connector.
4. Rubber hoses.
5. Switch, wiring harness and hoses from side of seat cushion.

→↔ Install or Connect (Figure 7)

- Route switch wiring harness and hoses through opening in side of seat cushion and through opening in seat frame.
1. Rubber hoses.
 2. Switch wiring harness to vehicle wiring harness.
 3. Switch wiring harness in-line connector.
 4. Switch in switch bezel.
 - Position switch bezel in seat cushion opening and install screws.

Manual Seat Lumbar Switch Replacement

↔ Remove or Disconnect

1. Seat from vehicle. Refer to "Front Split Bench Seat Replacement or Front Bucket Seat Replacement" in this section.

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2. Screws that attach switch to side of seat cushion.
 - Pull switch out from opening in side of seat cushion.
3. Switch wiring harness in-line connector.
4. Rubber hoses.
5. Switch, wiring harness and hoses from side of seat cushion.

↔ Install or Connect

- Route switch wiring harness and hoses through opening in side of seat cushion.
1. Rubber hoses.
 2. Switch wiring harness to vehicle wiring harness.
 - Position switch in seat cushion opening and install screws.
 3. Seat assembly in vehicle. Refer to "Front Split Bench Seat Replacement or Front Bucket Seat Replacement" in this section.

Lumbar Bladder Replacement (Non-Removable Seatback Panel)

↔ Remove or Disconnect

1. Seat from vehicle. Refer to "Front Split Bench Seat Replacement or Front Bucket Seat Replacement" in this section.
 - Tilt seatback forward and place seat assembly upside-down.
2. Seatback panel lower retainer from seat frame.
3. Rubber hose between bladder and pump.
 - Place hand down inside seatback and disconnect bladder mounting bars from round hooks on frame (one on each side).
4. Slide bladder downwards and off mounting bars.
5. Bladder from seatback.

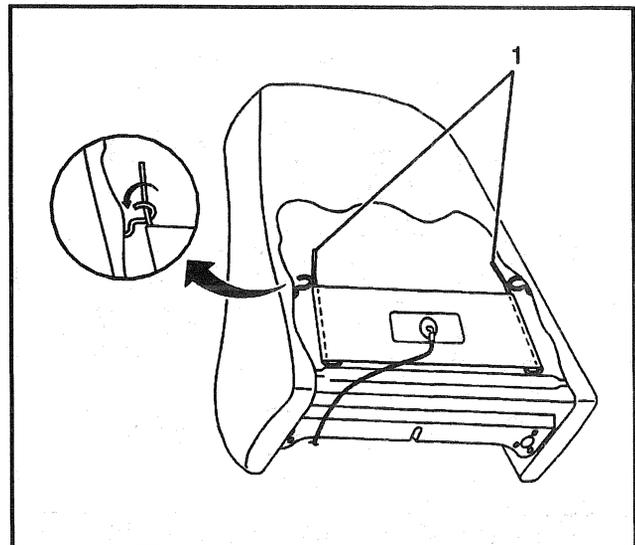
↔ Install or Connect

- Position bladder inside seatback on mounting bars and slide upwards.
1. Rubber hose between bladder and pump.
 2. Bladder mounting bars to round hooks on frame (one on each side).
 3. Seatback panel lower retainer to seat frame.
 4. Seat assembly in vehicle. Refer to "Front Split Bench or Front Bucket Seat Replacement" in this section.

Lumbar Bladder Replacement (Seats with Removable Seatback Panel)

↔ Remove or Disconnect (Figure 8)

1. Slide seat forward.
2. Seat trim close-out strip from seatback trim panel.
3. Lower screws from seatback trim panel.
 - Push down and pull out at top of seatback trim panel and remove.
4. Left and right seat trim J-hooks from seat frame.
5. Rubber hose from bladder assembly.
6. Bladder mounting bars from around hooks on frame (one located on each side). Refer to Figure 8.
7. Slide bladder upwards, off mounting bars.



Figure—8 Bladder Assembly

8. Bladder from seatback.

↔ Install or Connect (Figure 8)

1. Bladder to seatback by sliding over bladder mounting bars. Refer to Figure 8.
2. Rubber hose to bladder.
3. Bladder mounting bars around hooks on frame (one located on each side). Refer to Figure 8.
4. Left and right seat trim J-hooks onto seat frame.
5. Lower seatback panel bracket to lower seatback.
 - Push down and in at top of seatback panel to secure.
6. Seatback panel screws.
7. Seat trim close-out strip to seatback trim panel.
8. Slide seat back into original position.

Lumbar Bladder Replacement (Seats without Removable Seatback Panel)

↔ Remove or Disconnect (Figure 8)

1. Seat from vehicle. Refer to "Front Split Bench Seat Replacement or Front Bucket Seat Replacement" in this section.
2. Seat trim close-out strip at bottom of seatback.
3. Rubber hose from bladder assembly.
4. Bladder mounting bars from around hooks on frame (one located on each side). Refer to Figure 8.
5. Slide bladder upwards, off mounting bars.
6. Bladder from seatback.

↔ Install or Connect (Figure 8)

1. Bladder to seatback by sliding over bladder mounting bars. Refer to Figure 8.
2. Rubber hose to bladder.
3. Bladder mounting bars around hooks on frame (one located on each side). Refer to Figure 8.
4. Seat trim close-out strip at bottom of seatback.
5. Seat.

Lumbar Pump Replacement**←→ Remove or Disconnect (Figure 8)**

1. Seat from vehicle. Refer to "Front Split Bench Seat Replacement or Front Bucket Seat Replacement" in this section.
2. Pump wiring harness in-line connector.
3. Rubber hose from switch to pump.
4. Retaining rings which secure pump and pump cover assembly to seat.
5. Pump and pump cover assembly from seat.

→← Install or Connect (Figure 8)

1. Pump and pump cover assembly in seat and secure with retaining rings.
2. Rubber hose from switch to pump.
3. Pump wiring harness in-line connector.
4. Seat assembly in vehicle. Refer to "Front Split Bench Seat Replacement or Front Bucket Seat Replacement" in this section.

INTERMEDIATE SEAT REPLACEMENT**←→ Remove or Disconnect (Figures 9 through 11)**

1. Front and rear leg trim covers (Figure 10).
2. Seat retaining bolts (Figure 11).
3. Seat from the vehicle.

→← Install or Connect (Figures 9 through 11)

NOTICE: Refer to "Notice" on page 10A2-1.

1. Seat into the vehicle.
2. Seat retaining bolts (Figure 11).

 Tighten

- Bolts to 55 N.m (41 lb ft).
3. Front and rear leg trim covers (Figure 10).

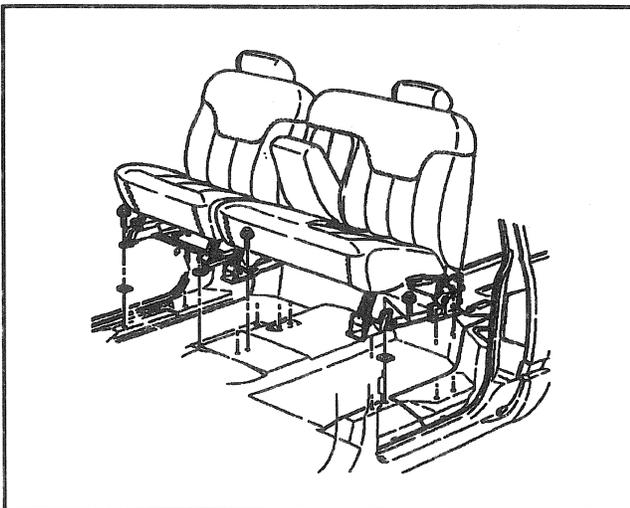


Figure 9—Folding Intermediate Seat Mounting

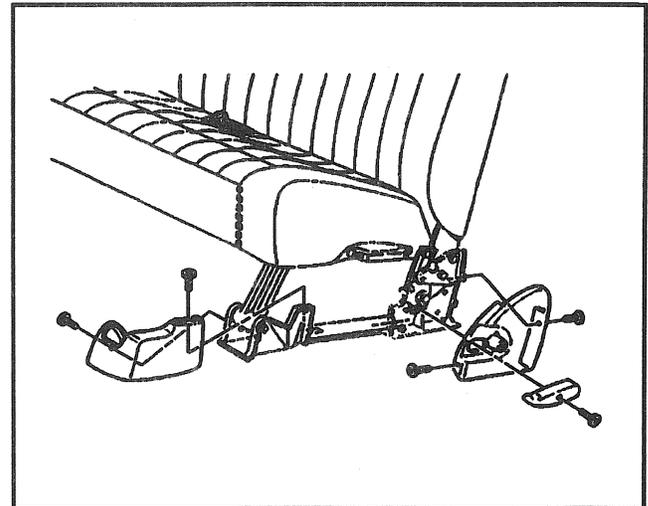


Figure 10—Folding Intermediate Seat Trim Covers (Utility)

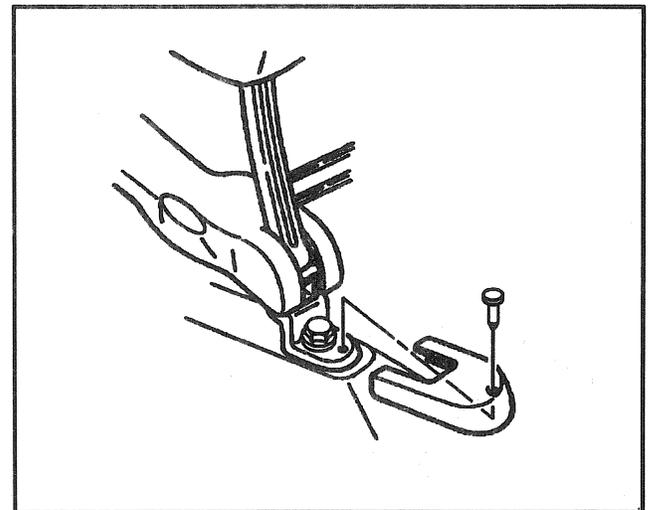


Figure 11—Seat Retaining Bolts and Components (Utility)

REAR SEAT REPLACEMENT**←→ Remove or Disconnect (Figures 12 through 16)**

1. Seat retaining bolts.
2. Seat belt support assembly.
3. Seat from vehicle.

→← Install or Connect (Figures 12 through 16)

1. Seat belts to support assembly, if removed.
2. Seat to the vehicle.
3. Seat retaining bolts.

 Tighten

- Bolts to 55 N.m (41 lb ft).

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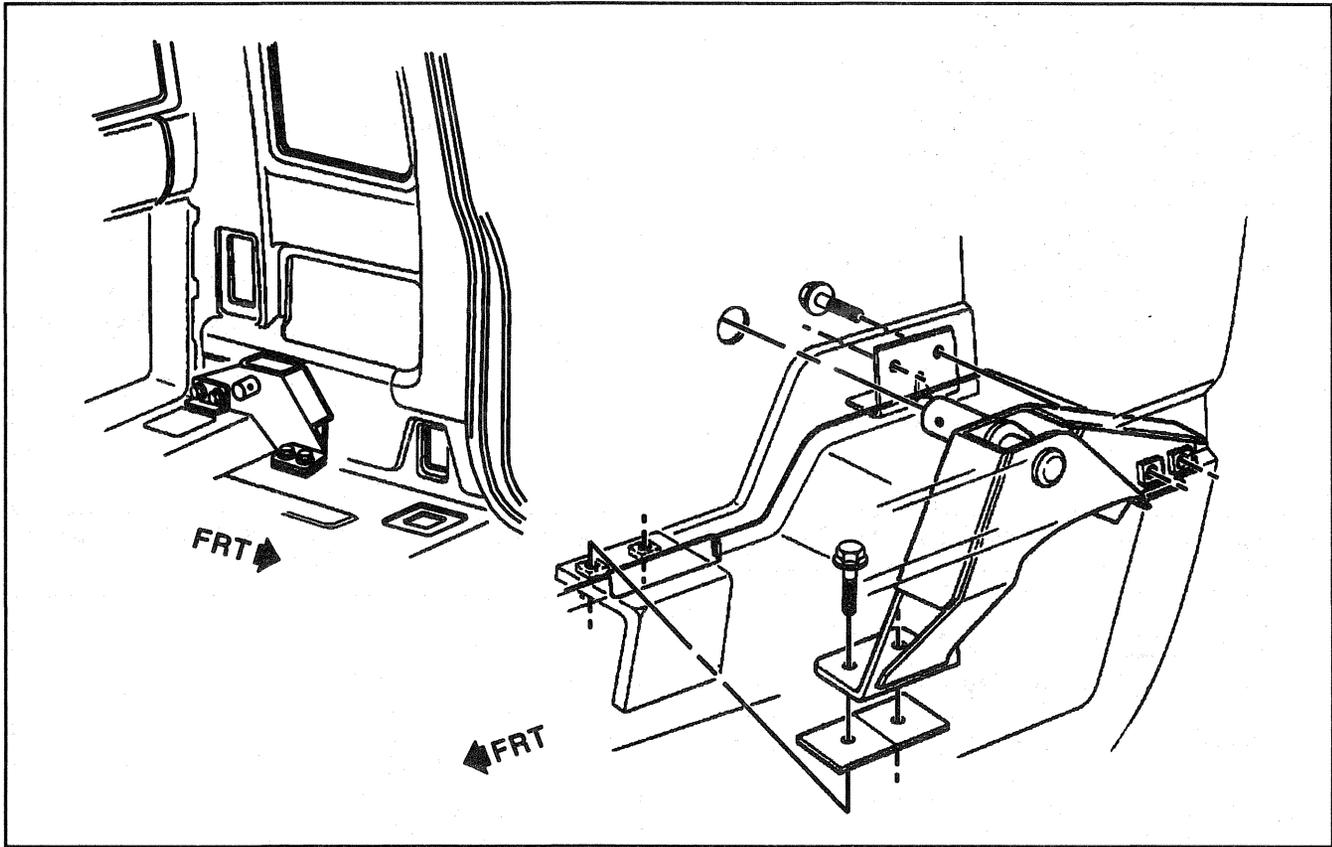


Figure 12—Rear Folding Seat Support (Extended Cab)

REAR SEAT SUPPORT REPLACEMENT (EXTENDED CAB) WITH REAR ACCESS DOOR -RIGHT SIDE ONLY

↔ Remove or Disconnect (Figure 12)

1. Jack cover and contents.
2. Jack bottom box.
3. Pivot trim covers.
4. Rear seat mounting bolts.
5. Lift and support seat end.
6. Support retaining bolts.
7. Support assembly from the vehicle.

↔ Install or Connect (Figure 12)

NOTICE: Refer to "Notice" on page 10A2-1.

1. Support assembly to the vehicle.
2. Support retaining bolts.
3. Lower seat to pivot assembly.

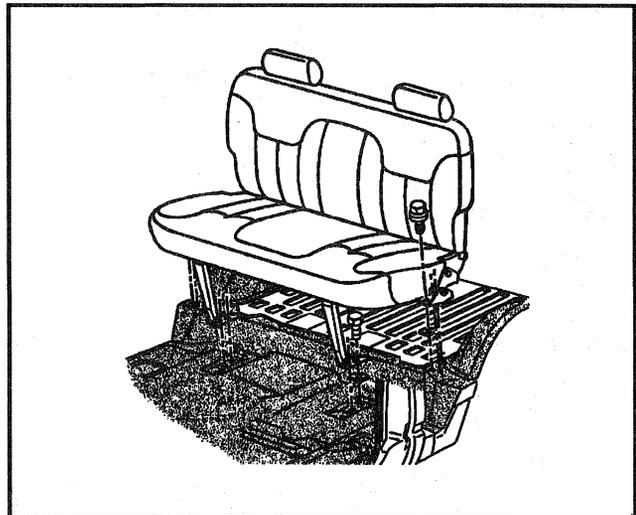


Figure 13—Rear Folding Seat Mounting (Utility)

4. Seat mounting bolts.

Tighten

- Bolts to 55 N.m (41 lb ft).

5. Pivot trim covers.
6. Jack bottom box.
7. Jack cover and contents.

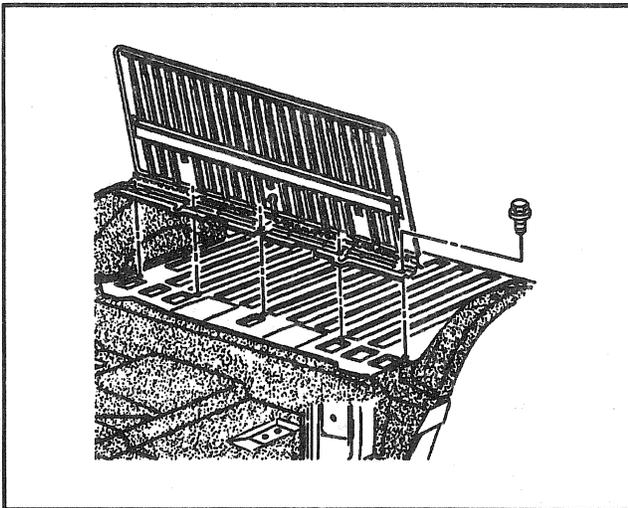


Figure 14—Rear Folding Seat Panel (Utility)

REAR SEAT SUPPORT REPLACEMENT (EXTENDED CAB) LEFT SIDE-ALL MODELS & RIGHT SIDE WITHOUT REAR ACCESS DOOR

←→ Remove or Disconnect (Figure 12)

1. Jack cover and contents (right side only).
2. Jack bottom box (right side only).
3. Rear seat with pivot covers.
4. Rear seat from vehicle.
5. Front seat belt retractors.
6. Front shoulder pivots.
7. Armrest.
8. Lower rear quarter trim panel.
9. Lower center trim panel under rear glass.
10. Upper rear quarter trim panel.
11. Support retaining bolts.
12. Support assembly from the vehicle.

→← Install or Connect (Figure 12)

NOTICE: Refer to "Notice" on page 10A2-1.

1. Support assembly to the vehicle.
2. Support retaining bolts.

Tighten

- Bolts to 55 N.m (41 lb ft).
3. Upper rear quarter trim panel.
 4. Lower center trim panel under rear glass.
 5. Lower rear quarter trim panel.
 6. Armrest.
 7. Front shoulder pivots.
 8. Front seat belt retractors.
 9. Rear seat into vehicle and position.
 10. Rear seat and pivot covers.
 11. Jack bottom box (right side only).
 12. Jack cover and contents (right side only).

SEAT BELTS

NOTICE: Before servicing or replacing lap and shoulder belts, including single loop belt systems, refer to the following precautionary items:

1. Lap and shoulder belts will be serviced as follows:
 - A. Replace only the part in question.
 - B. All belts need to be serviced as a set except to assure the belt components are from the same supplier.
 - C. Do not intermix standard and deluxe belts on front or rear seats.
 - D. All attachment hardware must be replaced, not reused.
2. Keep sharp edges and damaging objects away from belts.
3. Avoid bending or damaging any portion of the belt buckle or latch plate.
4. Do not bleach or dye belt or strap webbing. Clean with a mild soap solution and water.
5. When installing lap or shoulder belt anchor bolts, start the bolts by hand to ensure that the bolts is threaded straight.
6. Do not attempt repairs on lap or shoulder belt retractor mechanisms to lap belt retractor covers. Replace defective assemblies with new service replacement parts.
7. Do not attempt to remove the seat belt retractor cover. The cover and the long rivet securing the cover to the retractor are not available as service replacement parts.

FRONT SEAT BELT REPLACEMENT

←→ Remove or Disconnect (Figures 17 through 25)

1. Cover from the door pillar anchor plate.
 - Pry the bottom up.
2. Bolts from the door pillar weld nut.
3. Bolts retaining the retractor to the floor panel.
4. Retractor from the vehicle.
5. Cover from the buckle assembly which conceals the nut.
6. Nut from the buckle assembly to floor weld stud.
7. Seat belt warning wire from the buckle assembly (driver's side only).
8. Buckle assembly from the vehicle.

→← Install or Connect (Figures 17 through 25)

NOTICE: Refer to "Notice" on page 10A2-1.

1. Buckle assembly to the floor panel.
2. Seat belt warning wire to the buckle assembly (driver's side only).

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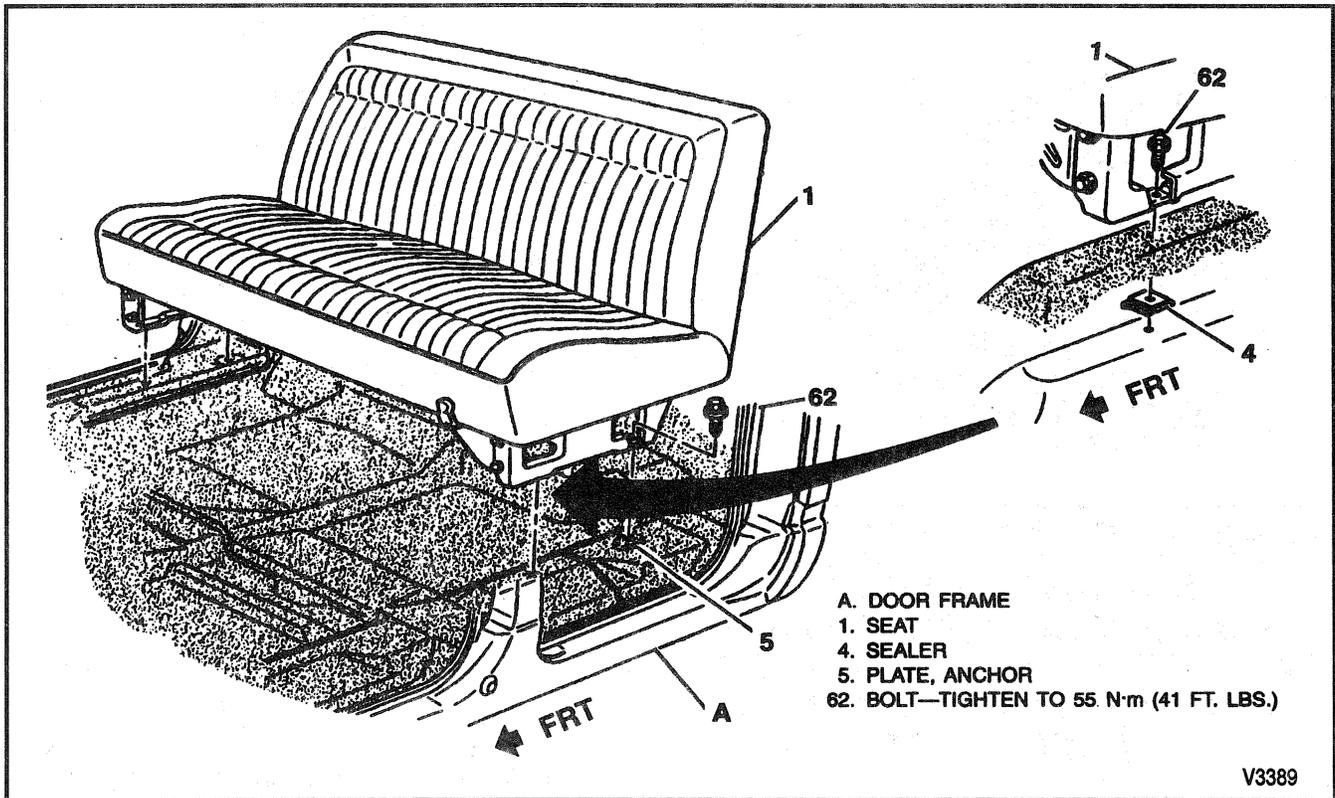


Figure 15—Rear Seat Mounting (Crew Cab)

3. Nut to the buckle assembly and onto the floor panel weld stud.

 **Tighten**

- Nut to 42 N·m (31 lb ft).

4. Cover assembly over nut.

5. Retractor and belt to floor.

6. Bolts through the retractor and into the floor panel weld nut.

 **Tighten**

- Bolts to 55 N·m (41 lb ft).

7. Bolts through the anchor plate and washer, and into the door pillar weld nut.

 **Tighten**

- Bolts to 55 N·m (41 lb ft).

8. Cover over the door pillar anchor plate.

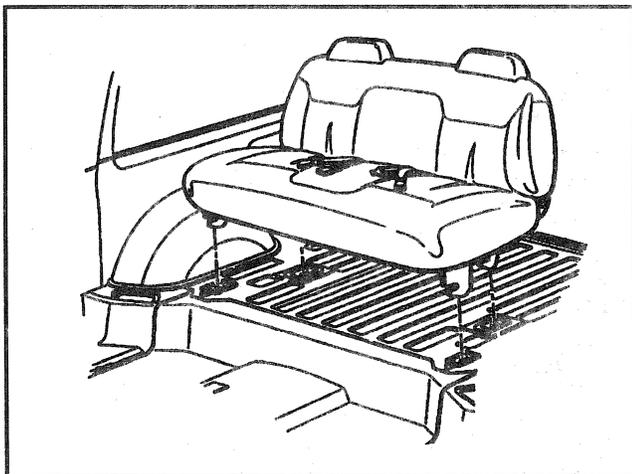


Figure 16—Rear Seat Mounting (Suburban)

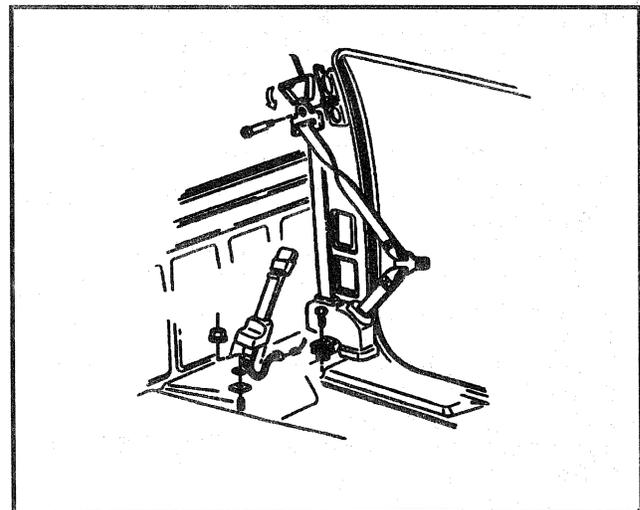


Figure 17—Front Seat Belts (Regular Cab with Bucket Seats)

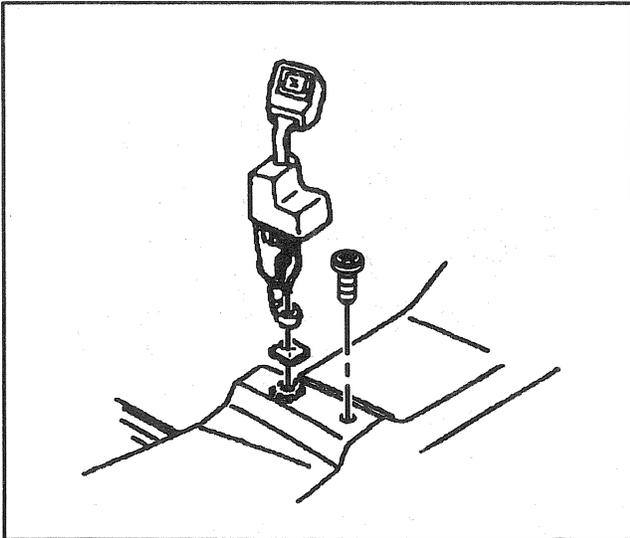


Figure 18—Front Seat Belt Attachments (Regular Cab with Bucket Seats)

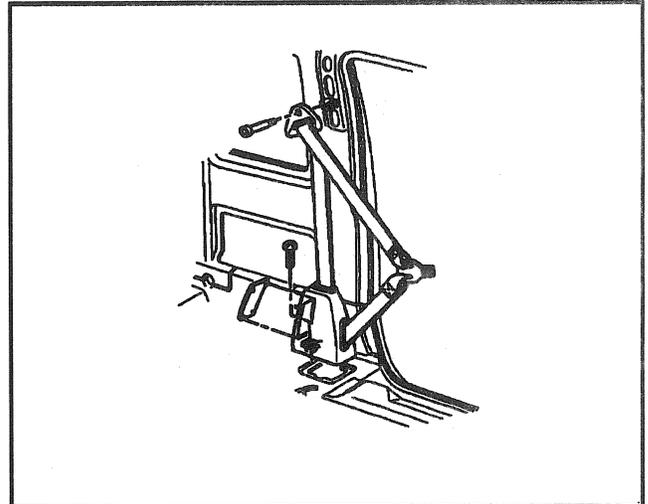


Figure 20—Front Lap Belt Seat Assembly with Split Front Bench (Regular Cab)

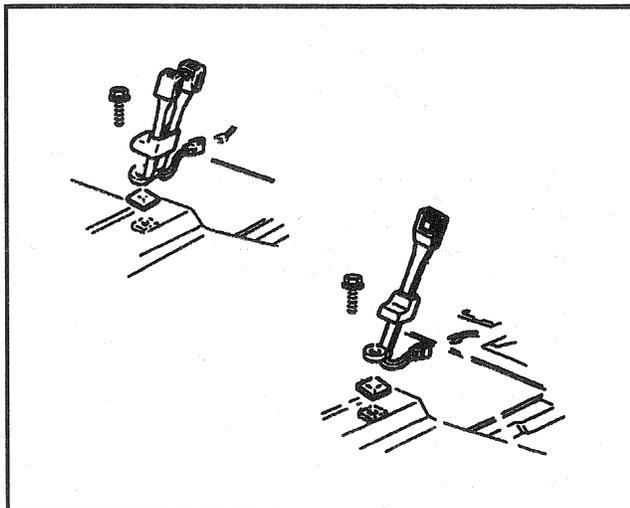


Figure 19—Front Seat Belt Attachments Regular Cab with Bench Seats

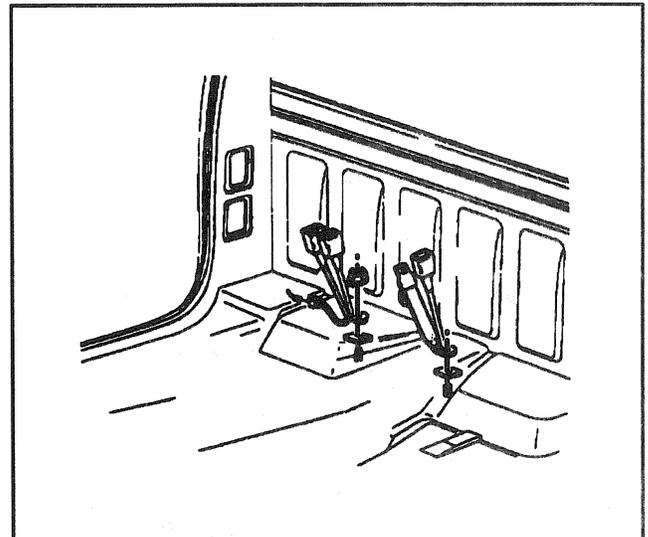


Figure 21—Front Seat Belts (Regular Cab with Bench Seats)

REAR SEAT BELT REPLACEMENT

↔ Remove or Disconnect (Figures 26 through 33)

1. Rear seat. Refer to "Rear Seat Replacement" in this section.
2. Buckle from the rear seat support assembly.
3. Quarter trim panel. Refer to SECTION 10A4.
4. Bolts holding the retractor to the body.
5. Seat belt and retractor.
6. Nuts holding the buckle assembly to the studs.
7. Buckle assembly.

↔ Install or Connect (Figures 26 through 33)

NOTICE: Refer to "Notice" on page 10A2-1.

1. Buckle assembly to the floor panel stud.
2. Nuts to the buckle assembly.

 **Tighten**

- Nuts to 42 N.m (31 lb ft).

3. Bolts through the seat belt retractor to the weld nut.

 **Tighten**

- Bolts to 55 N.m (41 lb ft).

4. Quarter trim panel. Refer to SECTION 10A4.
5. Bolts to the upper anchor plate.

 **Tighten**

- Bolts to 55 N.m (41 lb ft).

6. Rear seat. Refer to "Rear Seat Replacement" in this section.

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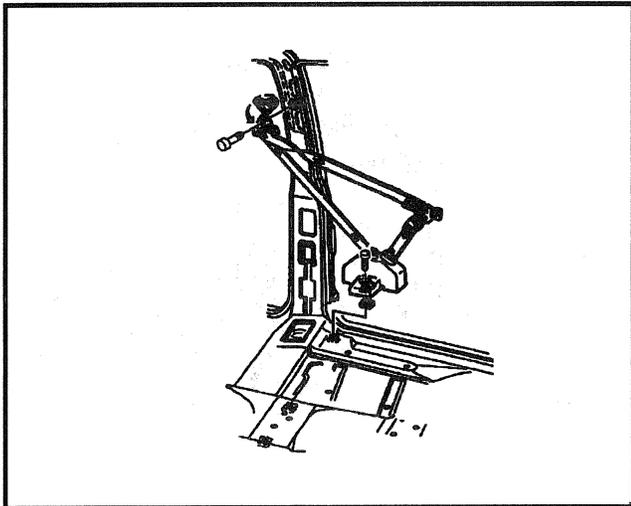


Figure 22—Front Seat Belts (Suburban and Crew Cab)

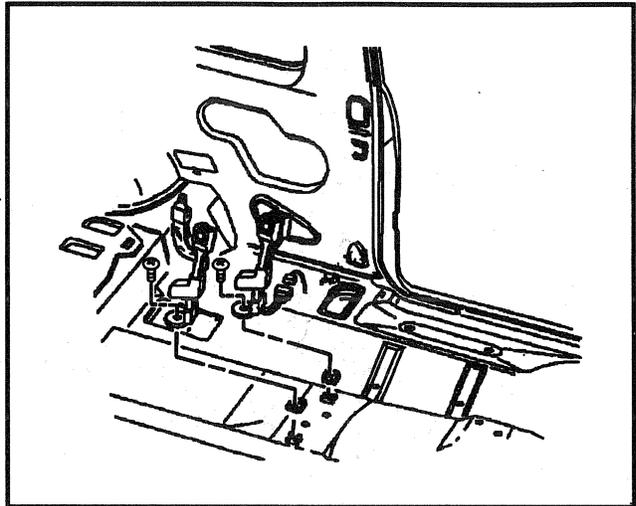


Figure 25—Front Seat Belt Attachments (Utility Model)

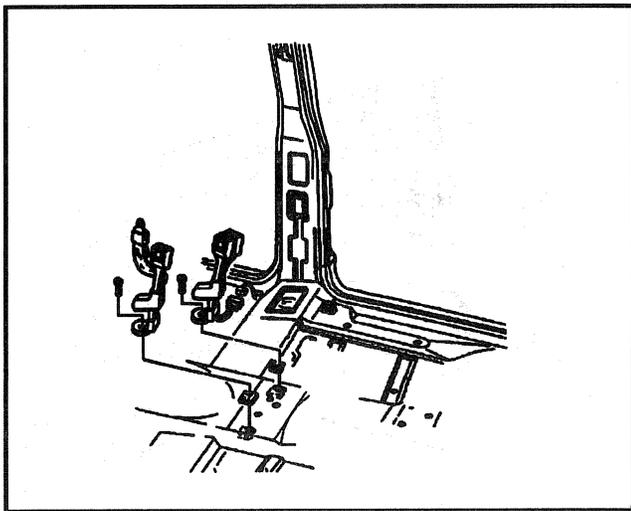


Figure 23—Front Seat Belt Attachments (Suburban and Crew Cab)

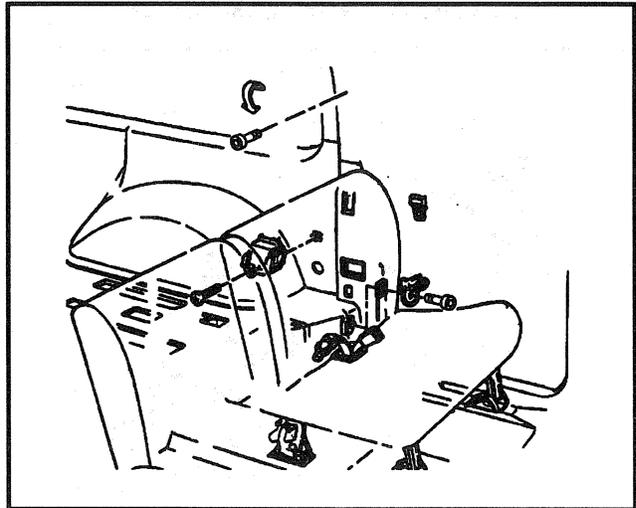


Figure 26—Folding Intermediate Seat Belts (Suburban)

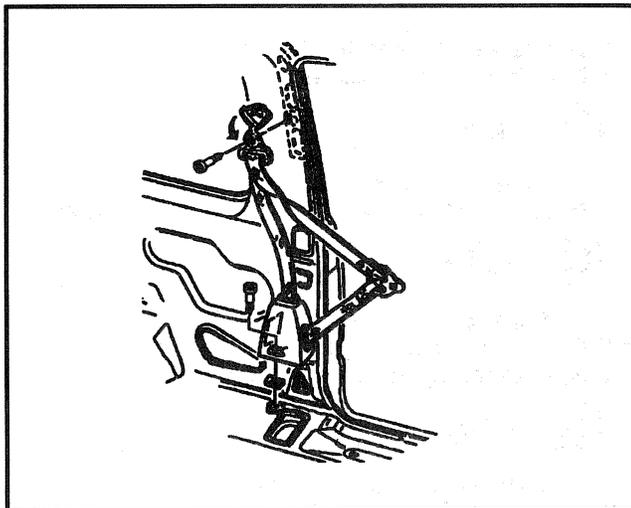


Figure 24—Front Seat Belts (Utility Models)

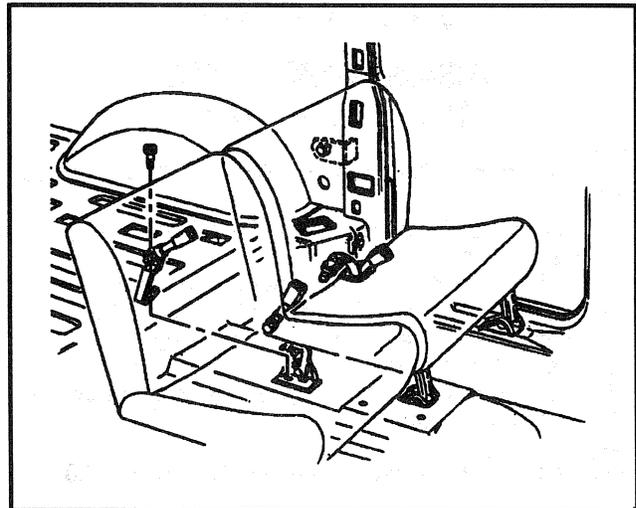


Figure 27—Folding Intermediate Seat Belts (Suburban)

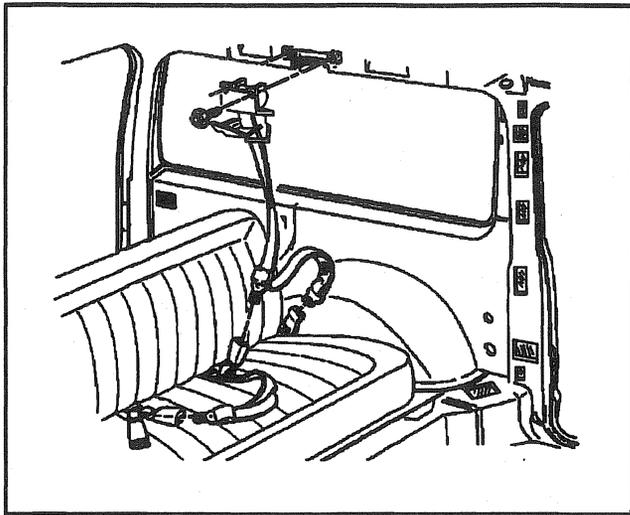


Figure 28—Rear Seat Belts (Suburban with Removable Folding Rear Seat)

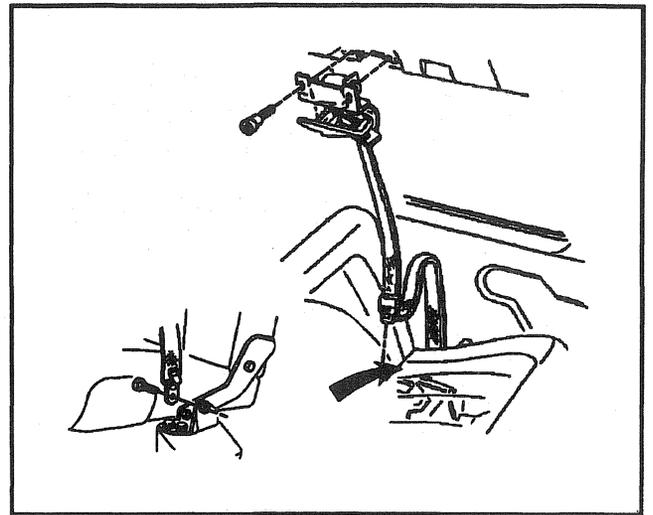


Figure 30—Rear Seat Belts Attachments (Utility with Folding Rear Seat)

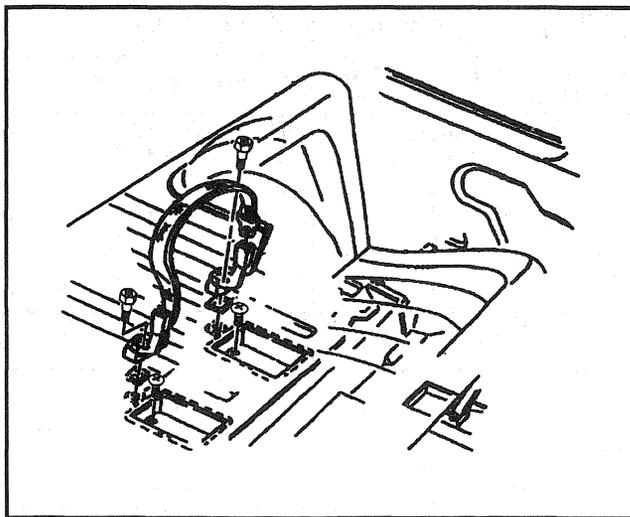


Figure 29—Rear Seat Belts (Utility with Folding Rear Seat)

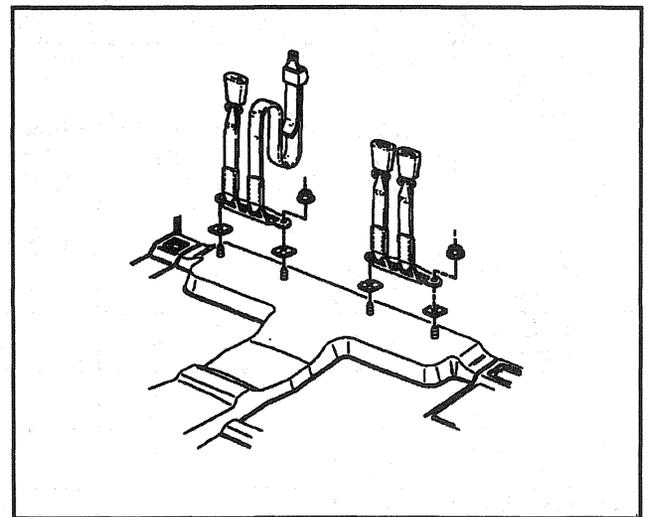


Figure 31—Rear Seat Belts (Crew Cab with Folding Rear Seat)

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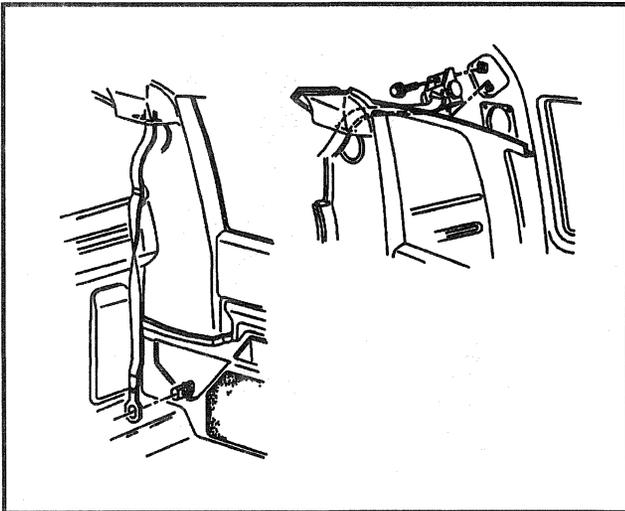


Figure 32—Rear Seat Belt Attachment (Crew Cab with Folding Rear Seat)

TOP TETHER CHILD SEAT ANCHOR POINTS

Child Seat Position	Suburban				Utility (2 Door)	Utility (4 Door)	Crew Cab	Extended Cab		Pickup
	With 2nd Folding Seat (AT5)	Without 2nd Folding Seat (AT5)	With 3rd Seat (AS3)	Without 3rd Folding Seat (AS3)				With 2nd Seat (AM7)	Without 2nd Seat (AM7)	
Front Seat Center	1	2	X	X	1	1	1	1	10	9R
Front Seat Right	3	2	X	X	1	3	1	1	11	9R
2nd Seat Center Folding	X	X	4	13	X	X	X	X	X	X
2nd Seat Left Folding	X	X	4	5	X	X	X	X	X	X
2nd Seat Right Folding	X	X	12	6	X	X	X	X	X	X
3rd Seat Center	X	X	13	X	X	X	X	X	X	X
3rd Seat Left	X	X	7	X	X	X	X	X	X	X
3rd Seat Right	X	X	8	X	X	X	X	X	X	X
2nd Center	X	X	X	X	13	13	9RL	9RL	X	X
2nd Seat Left	X	X	X	X	7	7	9L	9L	X	X
2nd Seat Right	X	X	X	X	8	8	9R	9R	X	X
1	Use 2nd seat center occupant lap belt latch plate if seat is unoccupied*, refer to Figures 33, 34, 35 and 36.									
2	Use seat anchor located in Figure 39.									
3	Use GM P/N 15971501 to latch tether to buckle on 2nd 40% seat if seat is unoccupied*, refer to Figure 35.									
4	Use 3rd seat center occupant lap belt latch plate if seat is unoccupied*, refer to Figure 38.									
5	Use left front cargo tie down located in Figure 40.									
6	Use right front cargo tie down located in Figure 40.									
7	Use left rear cargo tie down located in Figure 40.									
8	Use right rear cargo tie down located in Figure 40.									
9	Use pickup anchorage located in Figure 43.									
R	Locate anchor between scallops from right side of back panel per service manual.									
L	Locate anchor between scallops from left side of back panel per service manual.									

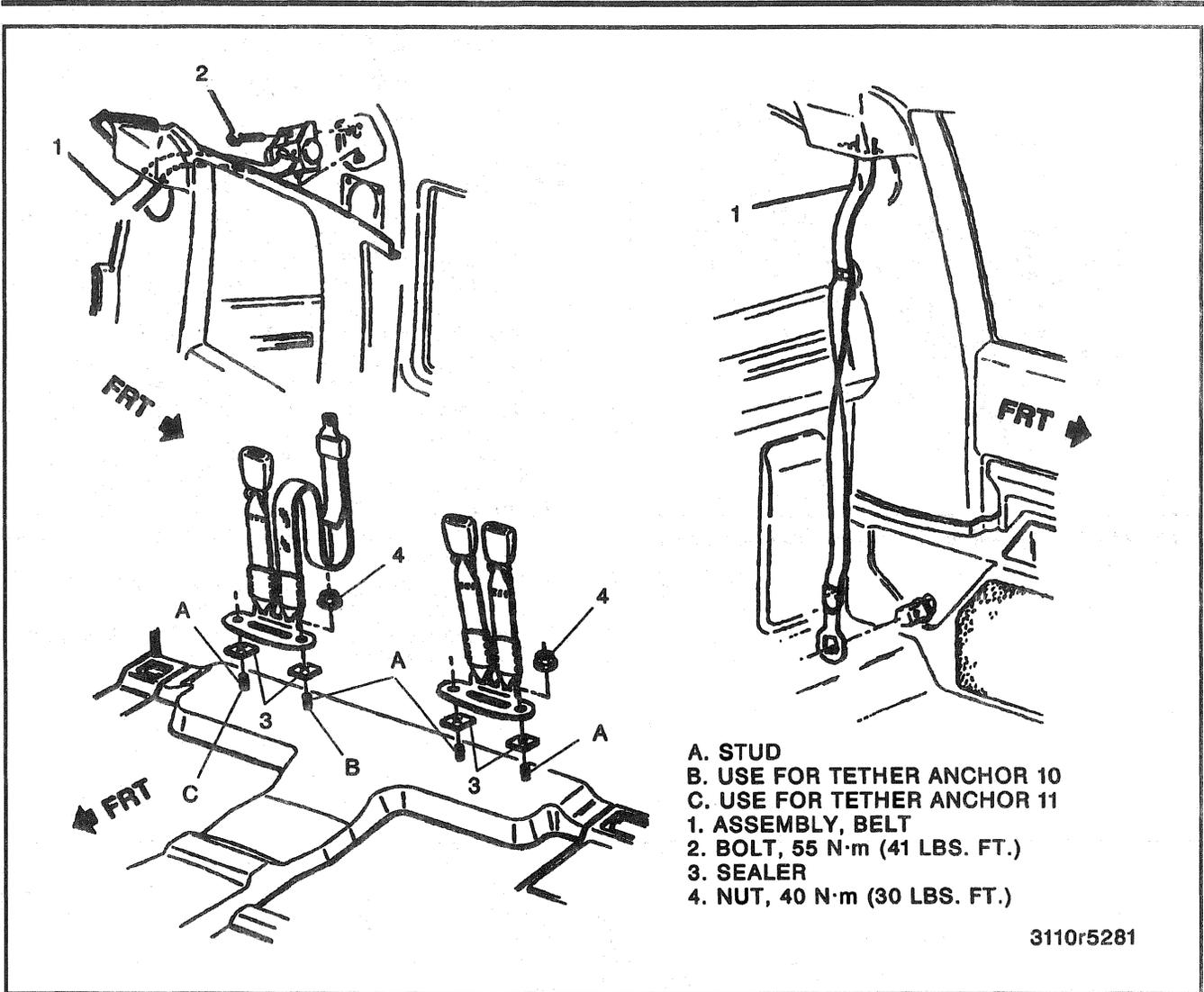


Figure 33—Rear Seat Belts (Extended Cab)

TOP TETHER CHILD SEAT ANCHOR POINTS (cont'd)

Child Seat Position	Suburban				Utility (2 Door)	Utility (4 Door)	Crew Cab	Extended Cab		Pickup
	With 2nd Folding Seat (AT5)	Without 2nd Folding Seat (AT5)	With 3rd Seat (AS3)	Without 3rd Folding Seat (AS3)				With 2nd Seat (AM7)	Without 2nd Seat (AM7)	
10	Use stud in floor located in Figure 37.									
11	Use stud in floor located in Figure 37.									
12	Use GM P/N 15971501 to latch tether to 3rd seat buckle directly behind this child seat position if seat is unoccupied*, refer to Figure 38.									
13	Attach GM P/N 15989781 to the rearmost set of cargo tie downs. Hook top tether to plate at the center of the tether as shown in Figure 42.									
X	Not applicable.									
*	If the number of occupants in the vehicle does not allow the availability of an unoccupied seat then the child seat should be placed in a rear seat position that will allow the use of the cargo tie downs on Suburban and Utility models or back panel anchor on pickup, extended cab, and crew cab models. Use chart above for tether locations.									

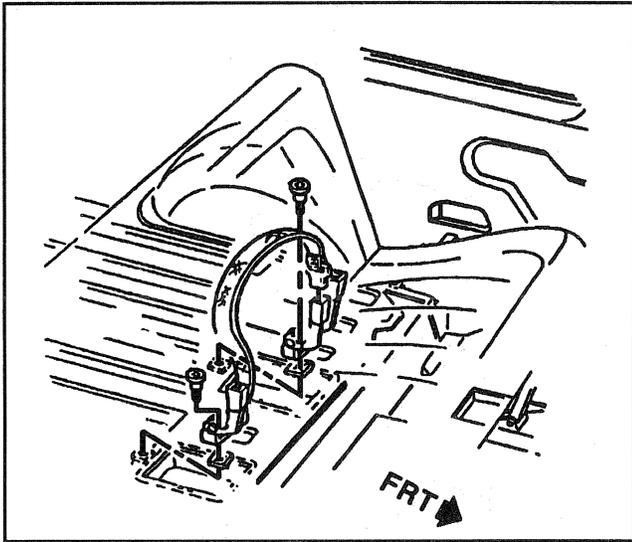


Figure 34—Top Tether Child Seat Anchor Points (Item # 1)

TOP TETHER BACK PANEL INSTALLATION

Tools Required:
J 38778 Trim Pad Clip Remover

↔ Install or Connect (Figures 36 and 37)

1. Remove the seat. Refer to "Rear Seat Replacement" this section.
2. Pry the trim panel off the sheet metal below the rear window with J 38778.
3. Pry the carpet off the rear panel with J 38778.
4. Locate the position where the hole will be drilled from inside the cab. The hole may be located either 109 mm (4.3 inches) or 545 mm (21.4 inches) out-board from the centerline or center line of the back panel and 42 mm (1.65 inches) below the horizontal sheet metal panel (Figures 36 and 37).
5. Drill a 9-mm (3/8 inch) hole through the sheet metal from inside the cab. Use a drill stop to prevent damage to the pickup box.
6. Place the washer on the bolts and apply a bead of sealer around the hole in the washer.
7. Using a clamping tool, feed the bolts through the hole from the outside of the cab.

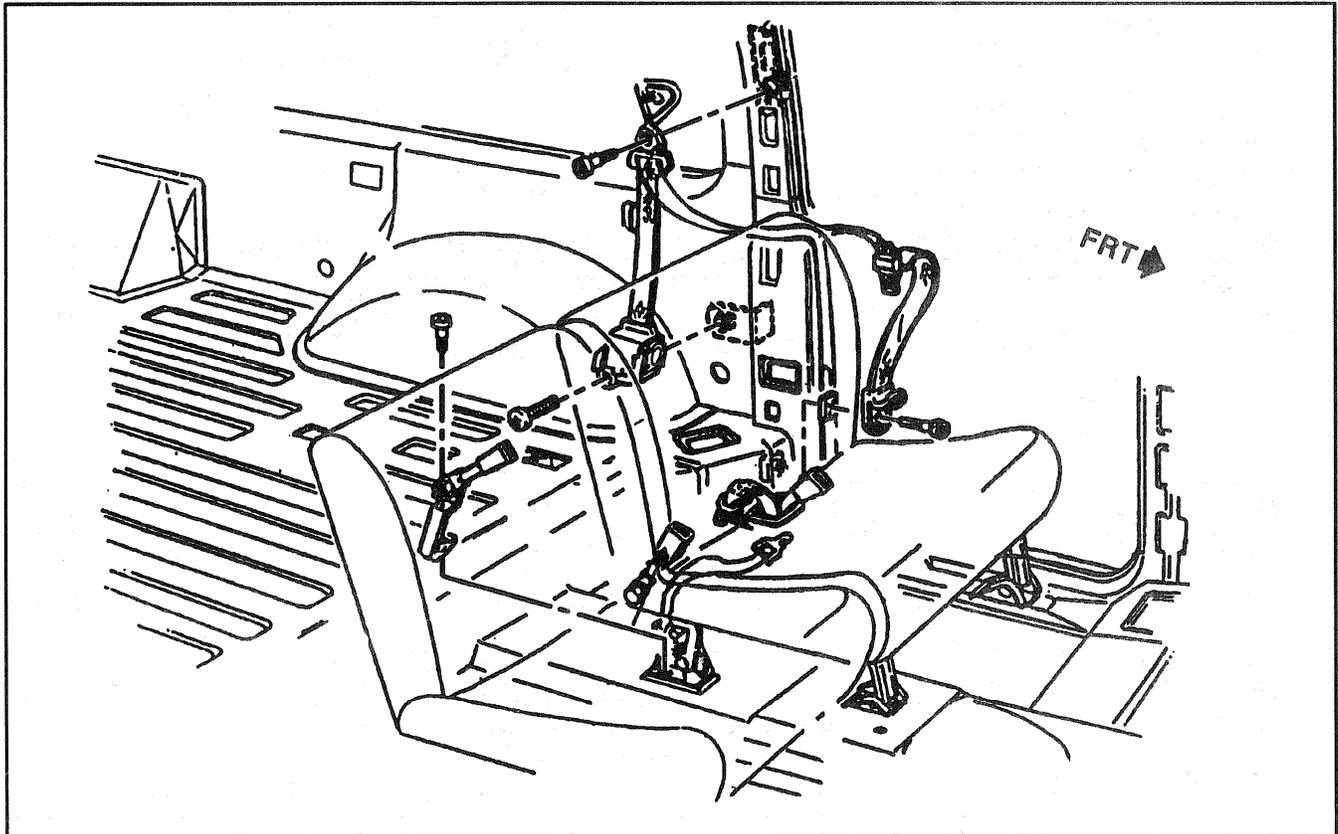


Figure 35—Top Tether Child Seat Anchor Points (Items # 1 & 3)

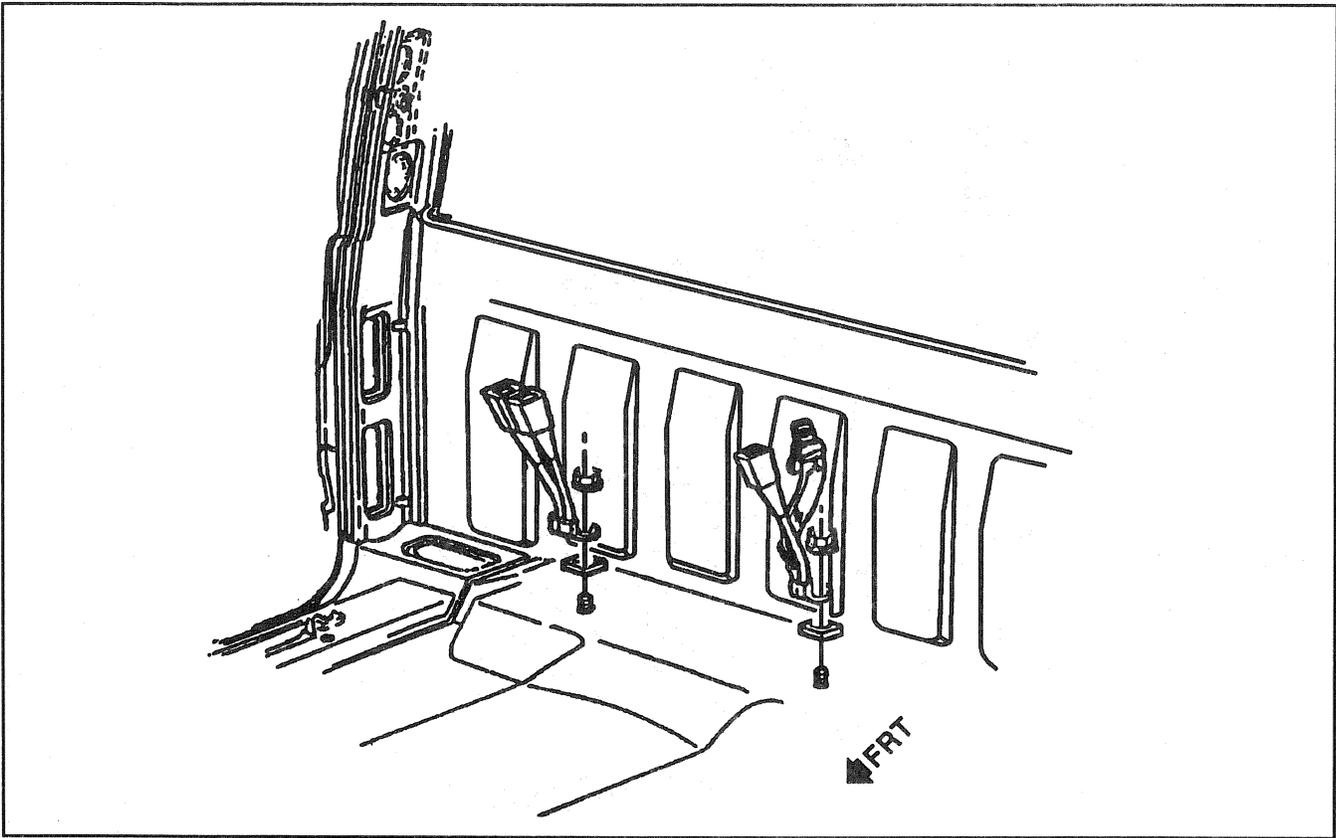


Figure 36—Front Right & Center Hook Tether to Latch Plate (Item # 1)

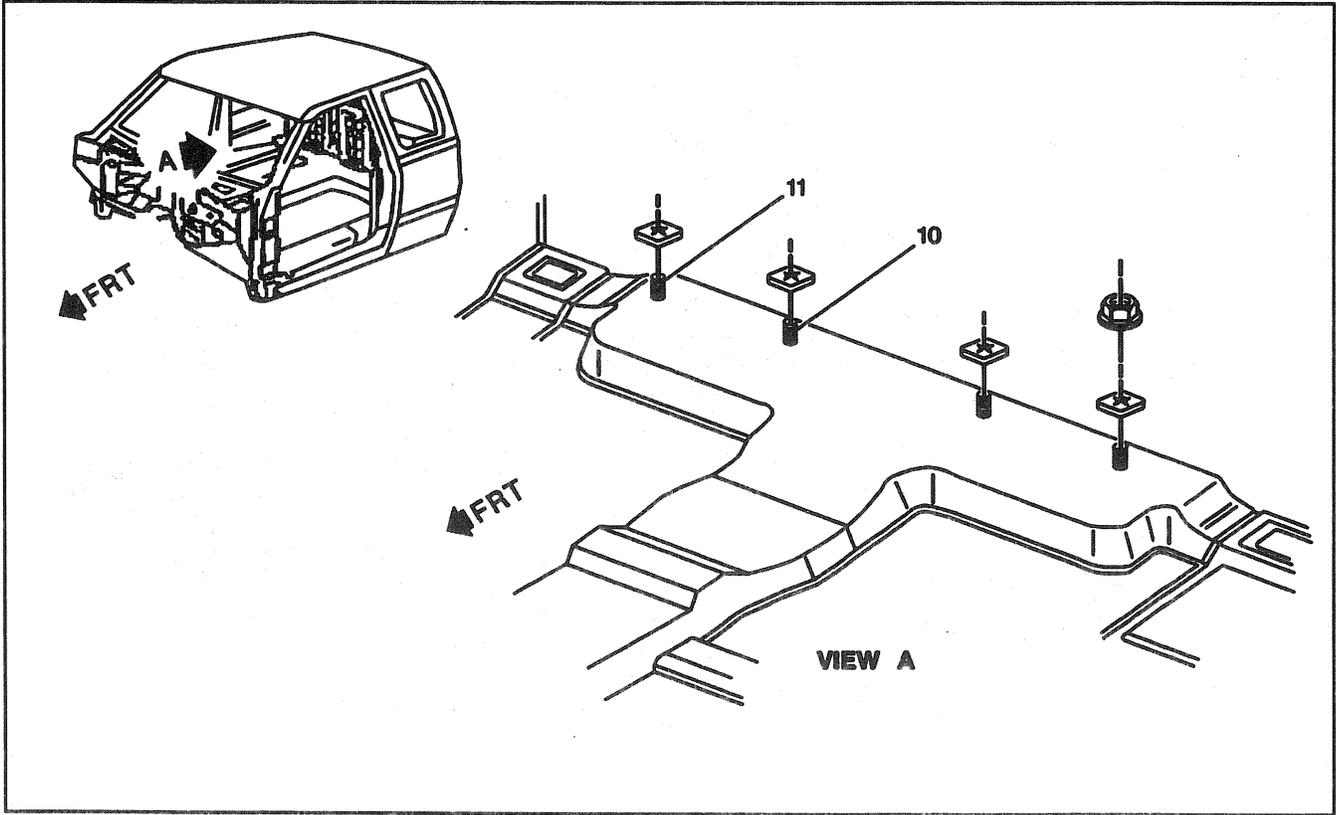


Figure 37—Top Tether Child Seat Anchor Points (Items # 10 & 11)

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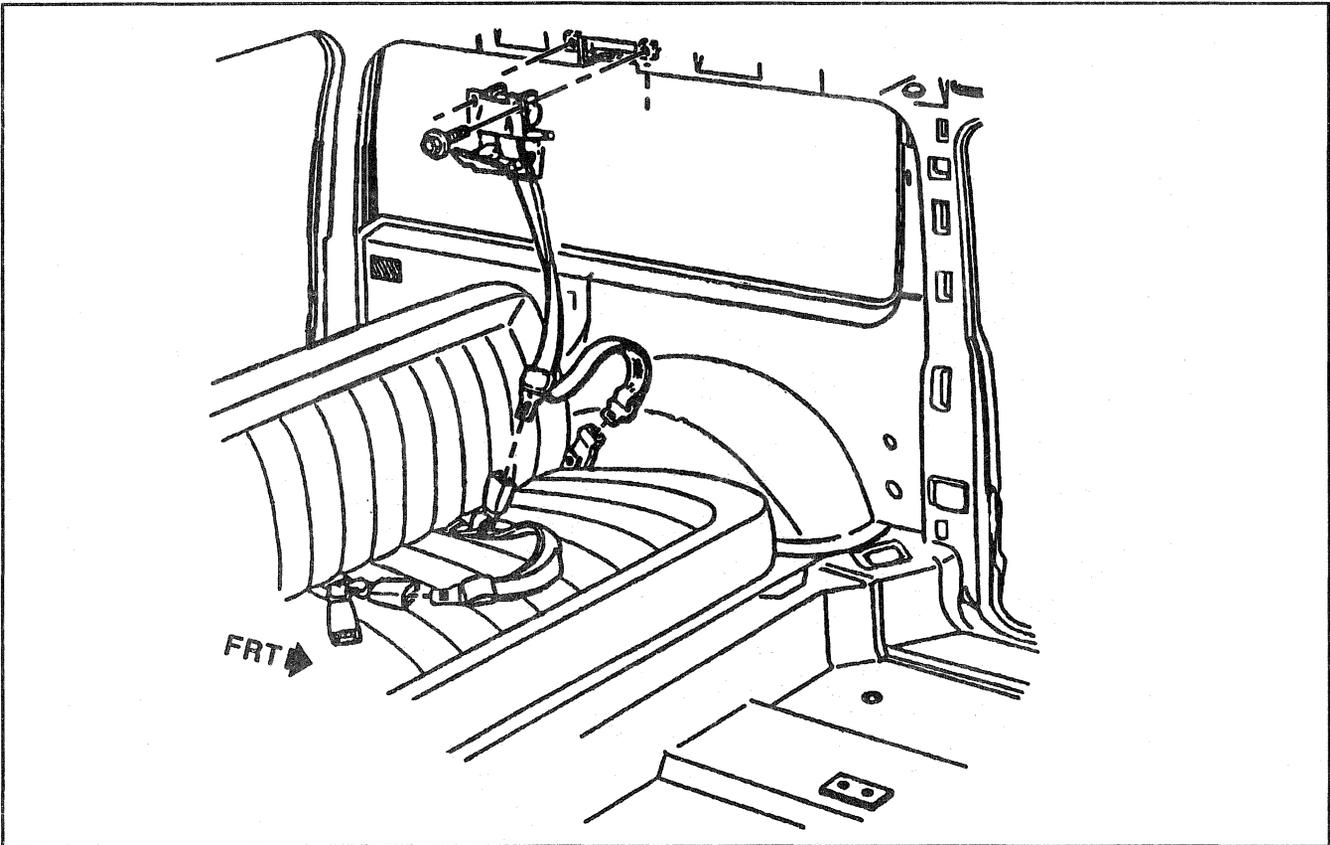


Figure 38—Top Tether Child Seat Anchor Points (Item # 4)

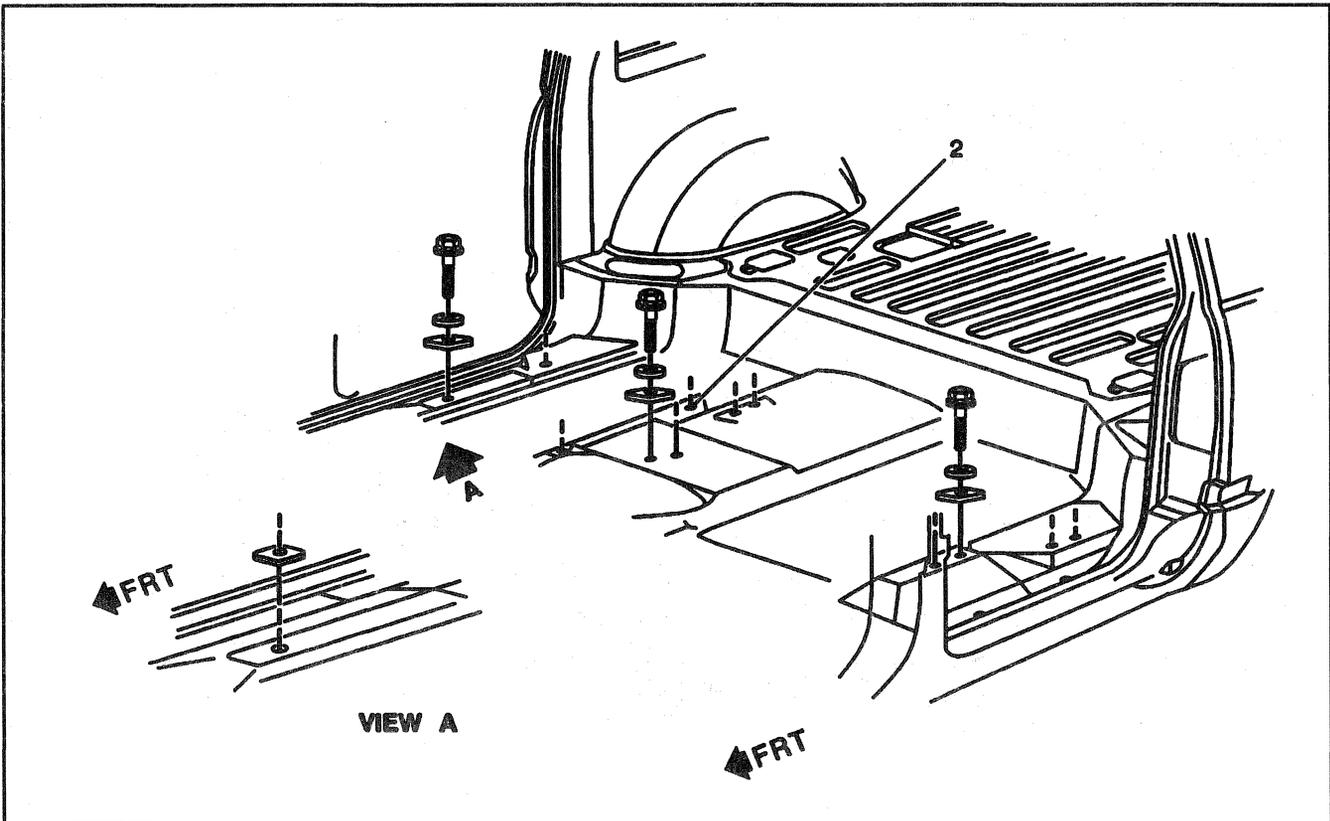


Figure 39—Top Tether Child Seat Anchor Points, 40% Seat Inboard Rear Mounting Hole (Item # 2)

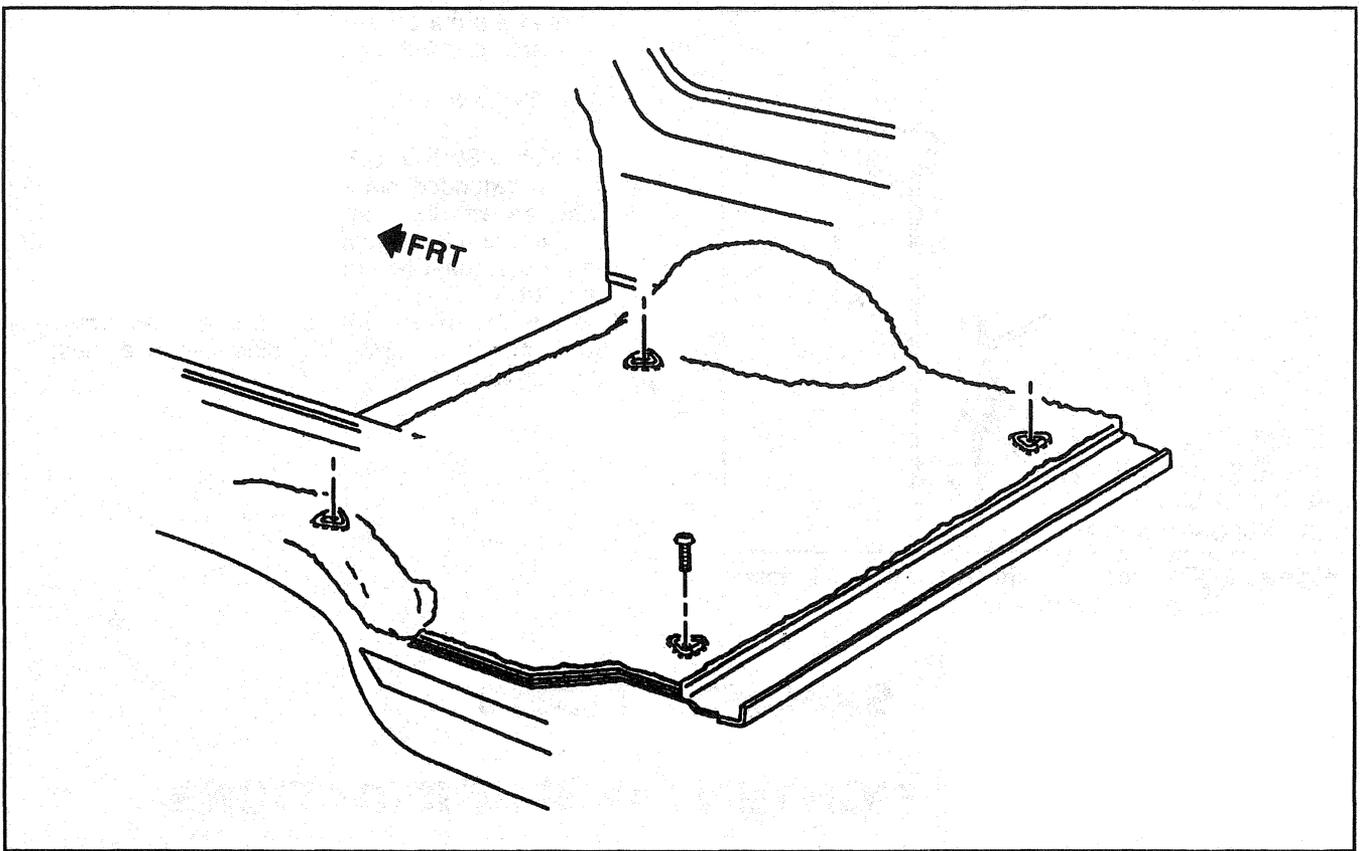


Figure 40—Top Tether Child Seat Anchor Points (Items # 5, 6, 7, & 8)

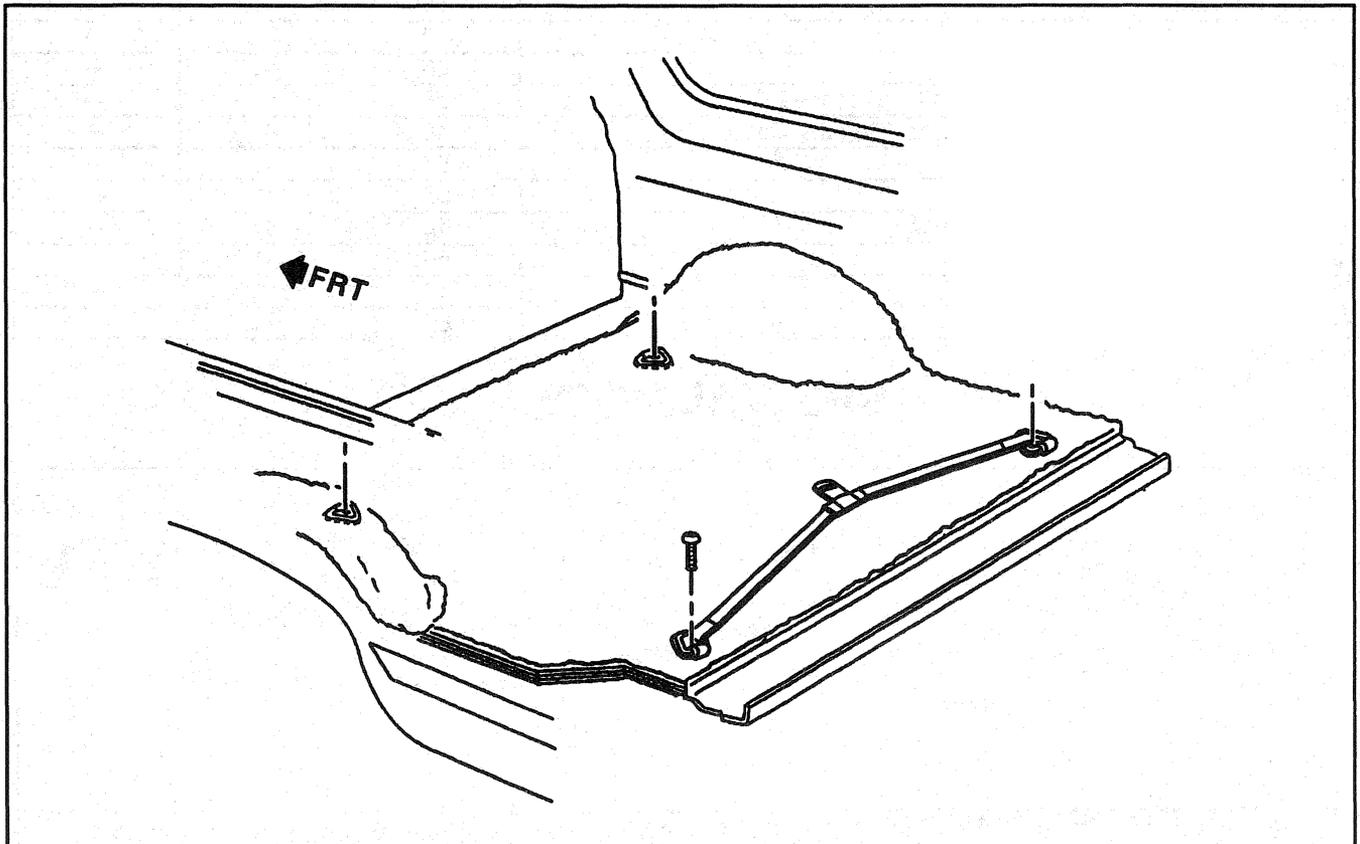


Figure 41—Top Tether Child Seat Anchor Points (Item # 13)

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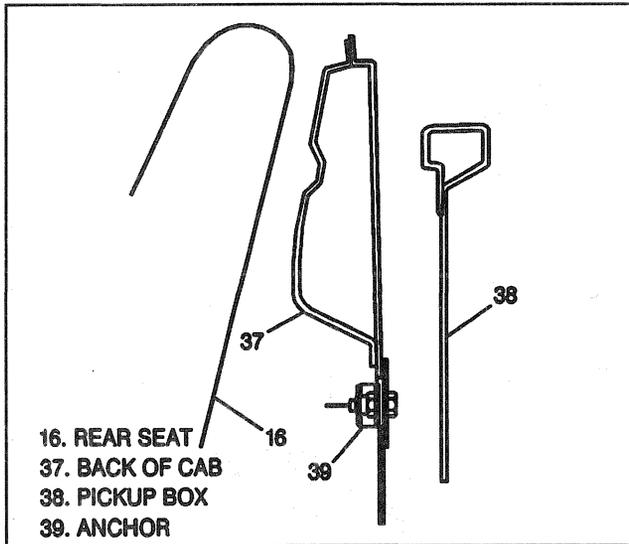


Figure 42—Top Tether Child Seat Anchor Points
(Item # 9)

8. Thread the nut on the bolts, holding the bolts head with an extended length wrench.



Tighten

- Nut to 30 N-m (22 lb ft).

9. In the extended cab, the length of the bolts may interfere with the rear seat when it is in the folded position. If this occurs, saw off the end of the bolts, leaving at least two threads visible from the end of the nut.

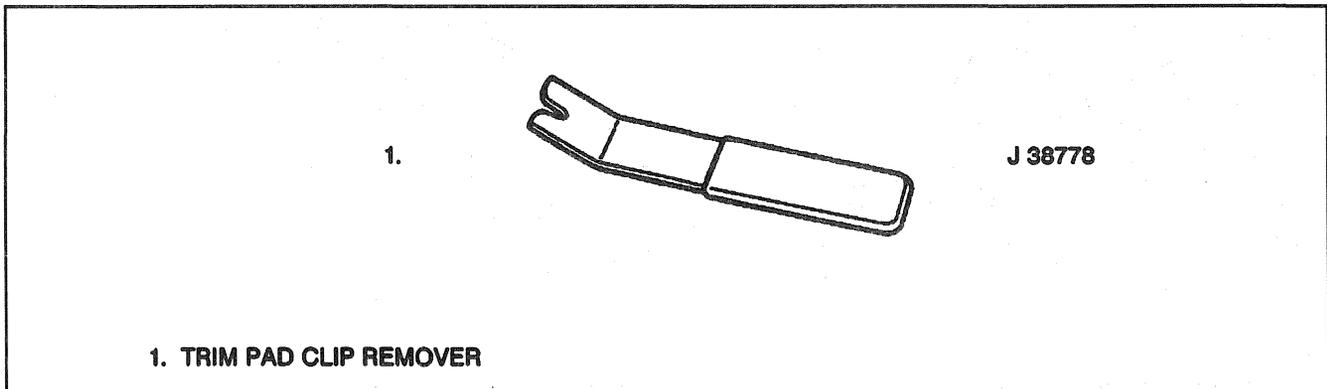
Note: In the event the child seat anchorage is removed, the 9-mm (3/8-inch) diameter hole must be properly resealed.

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Application	N-m	Lb ft	Lb in
Anchor Plate Bolt	55	41	—
Child Restraint Anchor Nut	30	22	—
Front Seat Belt Anchor Plate Bolts	55	41	—
Front Seat Belt Buckle Assembly Bolts (Extended Cab)	55	41	—
Front Seat Belt Buckle Assembly Bolts (Regular Cab)	42	31	—
Front Seat Belt Retractor Bolts	55	41	—
Front Seat Retaining Bolts	55	41	—
Rear Seat Belt Buckle Assembly Nuts	42	31	—
Rear Seat Belt Retractor Bolts	55	41	—
Rear Seat Retaining Bolts	17	13	—
Rear Seat Support Bolts	55	41	—

SPECIAL TOOLS



SECTION 10A3

WINDOWS

CAUTION: This vehicle has a Supplemental Inflatable Restraint (SIR) System. Refer to the SIR Component and Wiring Location view in order to determine whether you are performing service on or near the SIR components or the SIR wiring. When you are performing service on or near the SIR components or the SIR wiring, refer to the SIR On-Vehicle Service information. Failure to follow the CAUTIONS could cause air bag deployment, personal injury, or unnecessary SIR system repairs.

CAUTION: When replacing stationary windows, urethane kit GM P/N 12346284 or equivalent must be used to maintain original installation integrity. Failure to use the urethane kit will result in poor retention of the windshield which may allow unrestrained occupants to be ejected from the vehicle resulting in personal injury.

CAUTION: When working with any type of glass, use approved safety glasses and gloves to reduce the risk of personal injury.

NOTICE: *Always use the correct fastener in the proper location. When you replace a fastener, use ONLY the exact part number for that application. General Motors will call out those fasteners that require a replacement after removal. General Motors will also call out the fasteners that require thread lockers or thread sealant. UNLESS OTHERWISE SPECIFIED, do not use supplemental coatings (paints, greases, or other corrosion inhibitors) on threaded fasteners or fastener joint interfaces. Generally, such coatings adversely affect the fastener torque and joint clamping force, and may damage the fastener. When you install fasteners, use the correct tightening sequence and specifications. Following these instructions can help you avoid damage to parts and systems.*

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GENERAL INFORMATION

The information contained in this section provides service procedures that apply to stationary windows retained with urethane adhesive and related reveal moldings. Also covered in this section is the rear window defogger system.

Stationary Windows

Most stationary windows (specifically windshields) are retained to the body with urethane adhesive which when totally cured, adheres the window to the body increasing structural integrity. The reinstallation of windows with urethane adhesive requires either partial or complete replacement of the urethane adhesive bead:

- The "Short Method" (also known as "Short Cut") is the partial replacement.
- The "Extended Method" (also known as "Long Method" or "Full Cut") is the complete replacement.

The major difference between the "Short" and "Extended" methods is the amount of urethane adhesive used to install the new window. The various primers included with the urethane adhesive kit do not necessarily apply to every window replacement. Be sure to use the appropriate primer for each application. **DO NOT** apply primers over urethane adhesive.

Short Method

The short method can be used where the original urethane adhesive bead left on the window opening pinchweld flange (after window removal) can serve as a base for the new window. This method uses a small bead of urethane adhesive (either placed on the replacement window or on the existing bead of urethane adhesive remaining on the body) to adhere the window in the opening to the original urethane adhesive bead.

This method is best used when the following apply: When the original bead of urethane adhesive left on the body after window removal is:

- A. Mostly intact, without large portions of bead missing.
- B. Solidly adhered to the pinchweld flange and no corrosion is present on the flange.
- C. Uniform in shape, smooth, without multiple cuts or loose material present.
- D. When repainting of the opening or collision repair/sheet metal replacement is **NOT** required.
- E. When urethane adhesive deterioration is not evident (no powdery residue).

Extended Method

The extended method is to be used when the original urethane adhesive bead left on the window opening pinchweld flange (after window removal) **CANNOT** serve as a base for the new window, **OR**, in any case where the use of the Short Method is in doubt.

This method includes:

- A. The replacement of the urethane adhesive bead, where 1 to 2 mm of the original bead remains and applying pinchweld primer to any exposed painted areas on the pinchweld flange.
- B. The replacement of the **ENTIRE** urethane adhesive bead and the application of pinchweld primer to the entire window opening pinchweld flange (as in any repair where the opening needs to be refinished, or where sheet metal repairs/replacements have occurred).



Important

The urethane adhesive bead profile for Extended Method will vary depending on the style of vehicle being repaired.

ELECTROCHROMIC INSIDE REARVIEW MIRROR WITH COMPASS

If equipped, this mirror automatically dims to a level required to minimize glare while still maintaining maximum rear vision when Auto Mirror is enabled. The compass is an eight point compass readout that calibrates automatically as the vehicle is driven.

There are two buttons on the bottom of the mirror. A "COMP" position which turns on/off the compass, and the "MIRROR" which turns on/off the Auto Mirror feature (Figure 2).

To operate the mirror and compass do the following:

1. Turn vehicle ignition switch to "ON."
2. Push in Mirror side of switch to turn Auto Mirror on/off. Auto Mirror is enabled when Auto LED is on.
3. Push in "MIRROR" side of switch and hold 3 seconds. Mirror will darken and remain dark until switch is released. Upon release, Auto Mirror is enabled.
4. Push in "COMP" button to turn compass on/off. Compass is enabled when a direction is displayed in the mirror compass window.
5. If a different Zone selection is desired, refer to "Compass Calibration" in this section.

Compass should display a direction, or a "C." Go to mirror function checkout. If the compass display characters are not on, check that the compass is enabled (push in "COMP" button on the bottom of mirror); recheck ignition is "ON."

If compass display characters are not displayed check the following:

- For Electrical Diagnosis of the mirror refer to the 1997 C/K Truck Driveability, Emissions & Electrical Diagnosis Manual, Section 8A-84.

1. Remove connector from rear of housing.
2. Check for ignition switched battery voltage at the connector with a digital volt meter.
3. Ignition switched battery voltage should be in the range of 11.0 to 15 volts.
4. If correct voltage is present between terminals, replace mirror assembly.
5. If zero volts is between terminals, check fuse and wiring harness from mirror to fuse box and chassis ground.

Night Vision Mirror Function Check

There may be a time that the night vision mirror or compass does not operate properly. System function checks and procedures for correcting the operation of the night vision mirror are listed below.

1. Compass reads direction but is not accurate. Refer to "Compass Variance" in this section.
2. Compass displays a "C." Refer to "Compass Calibration" in this section.
3. Compass displays all segments. Refer to "Magnetic Field" in this section.
4. Mirror does not automatically dim when glare is present in mirror at night time. Refer to "Mirror Autodim" in this section.

Compass Variance Set-Up

Compass variance is the difference between Magnetic North and Geographic North. The difference between Magnetic and Geographic North can be great enough to cause the compass to give false readings.

Compass variance is compensated by calibrating the compass. To do this successfully refer to the map in Figure 1 to determine the zone number to be entered into the compass Magnetic North to True North. The mirror is preset to Zone 8. Vehicles sold in Japan are preset to Zone 9.

To set compass variance do the following:

1. With the display turned on, push in the "COMP" button for 3 seconds, until the Zone selection comes up (a number will be displayed in the mirror compass window).
2. Toggle until correct zone is found and release switch.
3. The display will show all segments, and return to the normal compass mode within 10 seconds of no switch activity.

Calibration of Compass

1. Turn vehicle ignition switch ON. The letter "C" should be displayed in the mirror compass window. If not, hold the "COMP" switch (bottom of the mirror) for 6 seconds until the letter "C" is displayed in the mirror compass window.
2. To check calibration quickly, drive vehicle in a 360-degree circle in an area free of large metal and metallic objects (AT LESS THAN 5 MPH) until the display reads a compass direction. If compass does not calibrate after three 360 degree circles and the compass still displays "C," replace mirror assembly. If compass displays "C" to begin with and then after two minutes displays all segments refer to "Magnetic Field" in this section.
3. Normal calibration is achieved automatically by simply driving the vehicle.

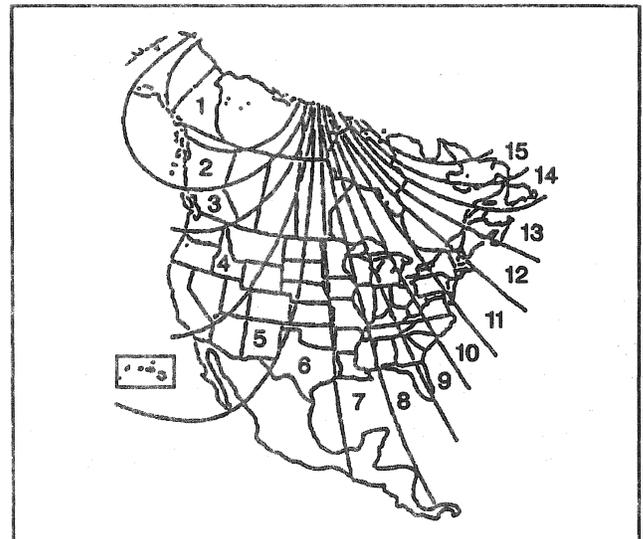


Figure 1—Compass Variance Zone Map

10A3-4 WINDOWS

Magnetic Field

1. If there is a strong magnetic field in the area near the mirror, the compass circuit cannot compensate for it. Check for magnetic antenna mount, magnetic notepad holder, and any similar magnetized items in area of mirror. Remove magnetic item and turn mirror off for 30 seconds and then back on again. If mirror comes back on displaying direction or "C," inform vehicle owner of offending magnetic part and refer to "Compass Calibration" in this section.
2. If mirror still displays all segments, replace mirror assembly.

Mirror Autodim

A forward-facing sensor in the back of the mirror case measures the ambient light just as your eyes do. When the rear-facing sensor in the mirror glass senses glare such as headlights from a following vehicle, it energizes the chemical layer in the glass, causing it to darken only to the precise level required to eliminate glare while maximizing rear vision. As glare is reduced the mirrored glass returns to its normal clear state.

Perform the following steps to check auto mirror function:

1. Position the vehicle in a well lit area.
2. Locate the forward facing sensor on the back side of the mirror housing.
3. Cover the forward facing sensor with a dark cloth (black preferred). After the dark cloth has been over the sensor for 10 seconds to one minute, the glass should start to darken.
4. Remove the cloth, and the glass will begin to return to the clear reflective stage.
5. Repeat above steps several times to make sure the mirror is operating correctly.

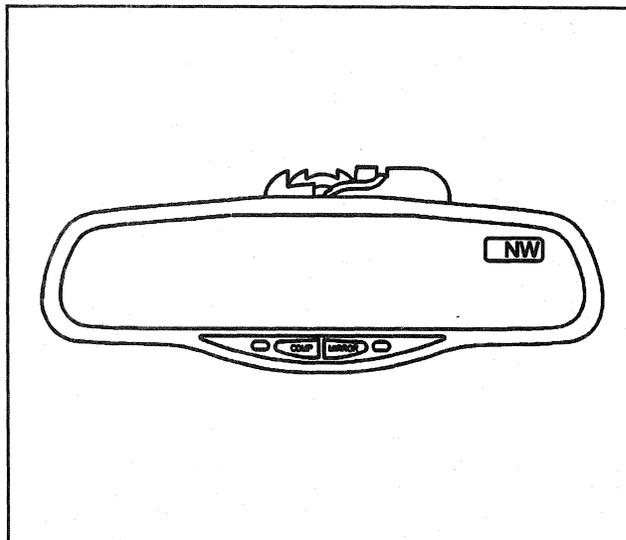


Figure 2—Night Vision Rearview Mirror

6. If glass will not darken after cloth over forward facing sensor has been in place for two minutes and vehicle is positioned in brightly lit area and compass display is showing a direction, replace mirror assembly.
7. If compass display is not on, check to see if ignition is on and push in the "COMP" position and perform test again.

Mirror Clean-Up

Once the Compass Variance adjustment and the compass is displaying correct direction, the mirror glass should be cleaned with a paper towel dampened with glass cleaner. Spraying glass cleaner directly on mirror is not recommended.

ON-VEHICLE SERVICE

REAR VIEW MIRROR MOUNT BUTTON REPLACEMENT

Tools Required:

Inside Mirror Adhesive Kit GM P/N 1052369 or equivalent.

←→ Remove or Disconnect (Figures 3 and 4)

1. Mirror mounting button from mirror bracket (Figure 3).
 - A. Mark **outside** of windshield with crayon to identify old location of rear view mirror button (Figure 4).
 - B. Thoroughly scrape inside windshield glass and mirror button with a safety razor or utility knife to remove all old adhesive. Wipe clean with clean cloth saturated with alcohol.

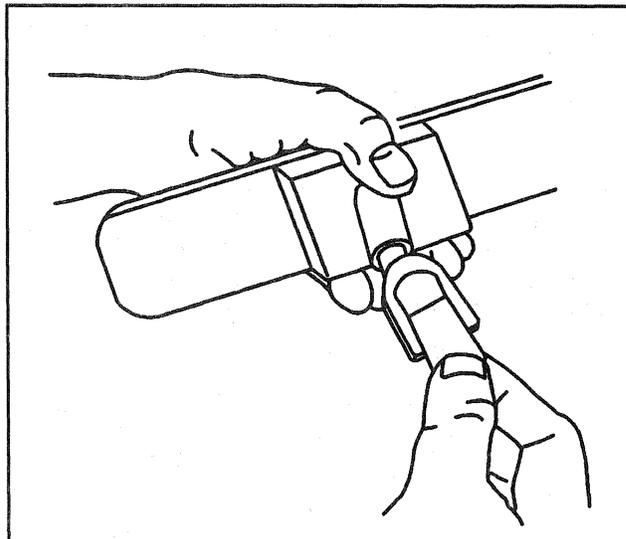


Figure 3—Removing Mirror Button

Install or Connect (Figures 5 and 6)

1. Apply a generous amount of activator to the mounting surface of the mirror button and windshield where the button is to be positioned. Allow the activator to dry for five minutes. **DO NOT TOUCH** the mounting surface of the button or the glass (Figure 5).
2. Apply one drop of adhesive to the center of the button.
3. Immediately apply the button to the windshield, ensuring it is the right way up, and hold firmly for a minute. Allow to set for fifteen minutes (Figure 6).
4. Mirror to mirror mount button.

WINDSHIELD SERVICE

When replacing a cracked windshield, it is important that the cause of the crack be determined and the condition corrected before a new window is installed. The cause of the crack may be an obstruction or high spot somewhere around the flange of the opening. Cracking may not occur until pressure from the high spot or obstruction becomes particularly high due to winds, extremes of temperature, or rough terrain. Suggestions of what to look for are described later in this section under "Inspection."

If a windshield is broken, the glass may already have fallen or been removed from the adhesive. Often, however, it is necessary to remove a cracked or otherwise imperfect windshield that is still intact.

If a crack extends to the edge of the window, mark the point where the crack meets the reveal molding. (Use a piece of chalk and mark the point on the cab, next to the reveal molding). Later, when examining the flange of the opening for a cause of the crack start at the point marked.

Before removing the window cover the instrument panel and the surrounding sheet metal with protective coverings.

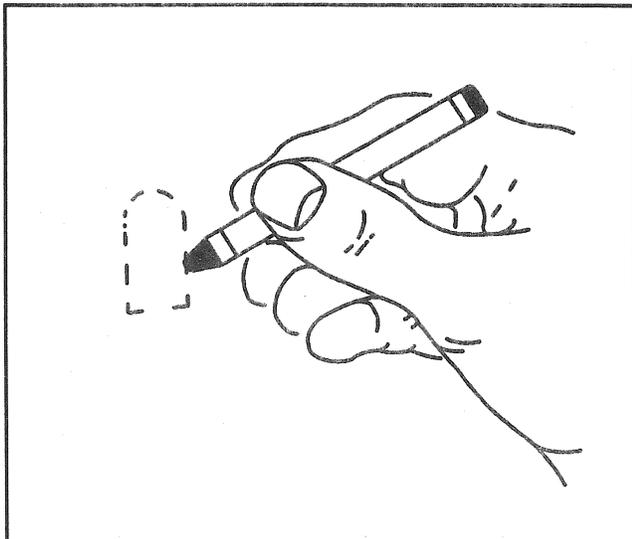


Figure 4—Marking the Location

WINDSHIELD REMOVAL (BROKEN WINDSHIELD)

Tools Required:

- J 24709-01 Urethane Glass Sealant Remover (Hot Knife—115 Volt)
- J 24402-A Glass Sealant Removal Knife

Remove or Disconnect (Figures 7 through 9)

- Place protective coverings around the window removal area.
- 1. Windshield wiper arms. Refer to SECTION 8E1.
- 2. Radio antenna mast. Refer to SECTION 9A.
- 3. Cowl vent grille. Refer to SECTION 2B.
- 4. Windshield stop screws.
- 5. Rear view mirror (Figure 9). Refer to "Mirror Removal" in this section.
 - Be sure to disconnect electrical lead for vehicles equipped with night vision rearview mirror.

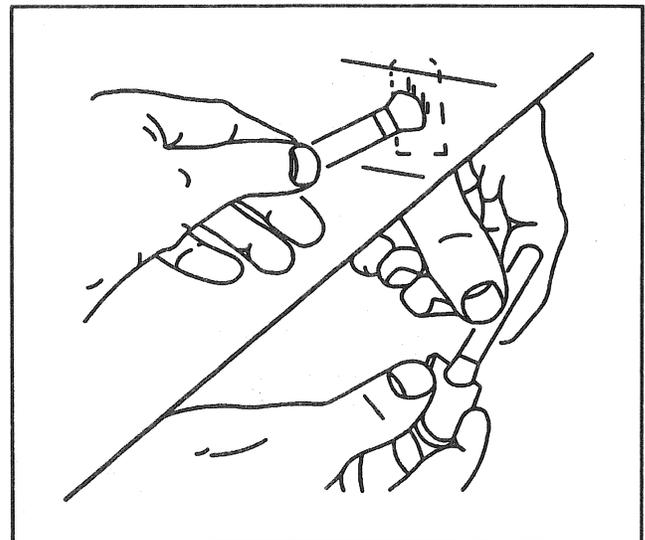


Figure 5—Applying the Activator

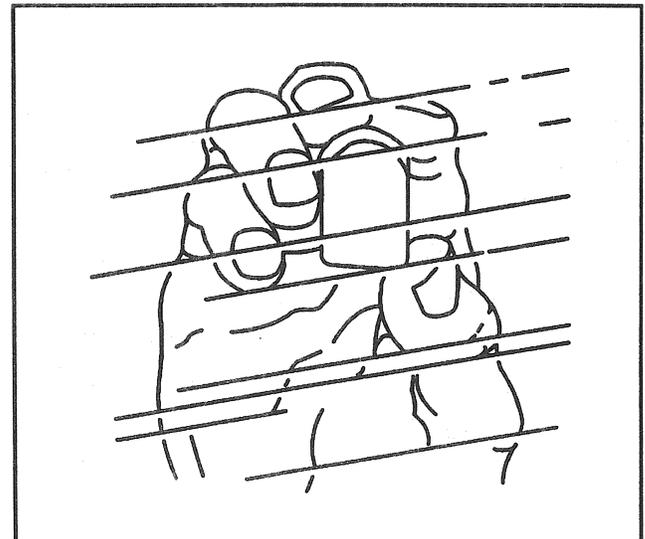


Figure 6—Mounting the Button

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6. Door opening seals, windshield garnish moldings, and speaker covers.

- Cut the molding from the window with a razor-type knife taking care not to damage the paint.
- Work from the outside.

7. Windshield glass using J 24709-01 or J 24402-A.

A. Insert the blade between the glass and urethane.

B. Keep the blade against the window edge, and cut the adhesive from the windshield.

C. An assistant may be needed when removing the windshield.



Clean

- Loosened adhesive from the pinchweld flange by wiping with a dry cloth.
- Do not attempt to scrape away old adhesive still attached. The paint could be damaged.

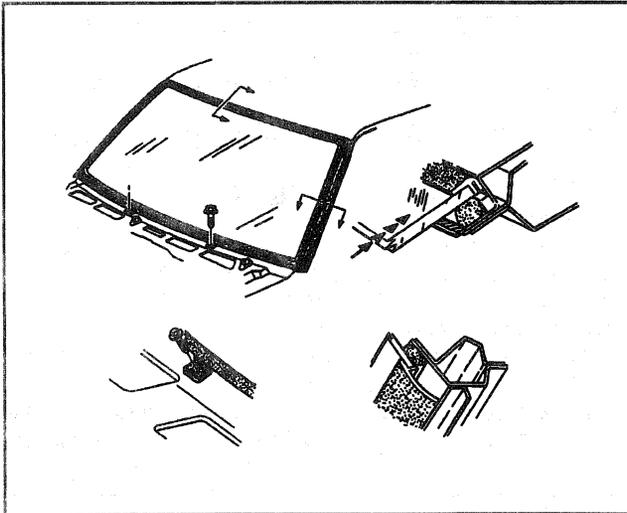
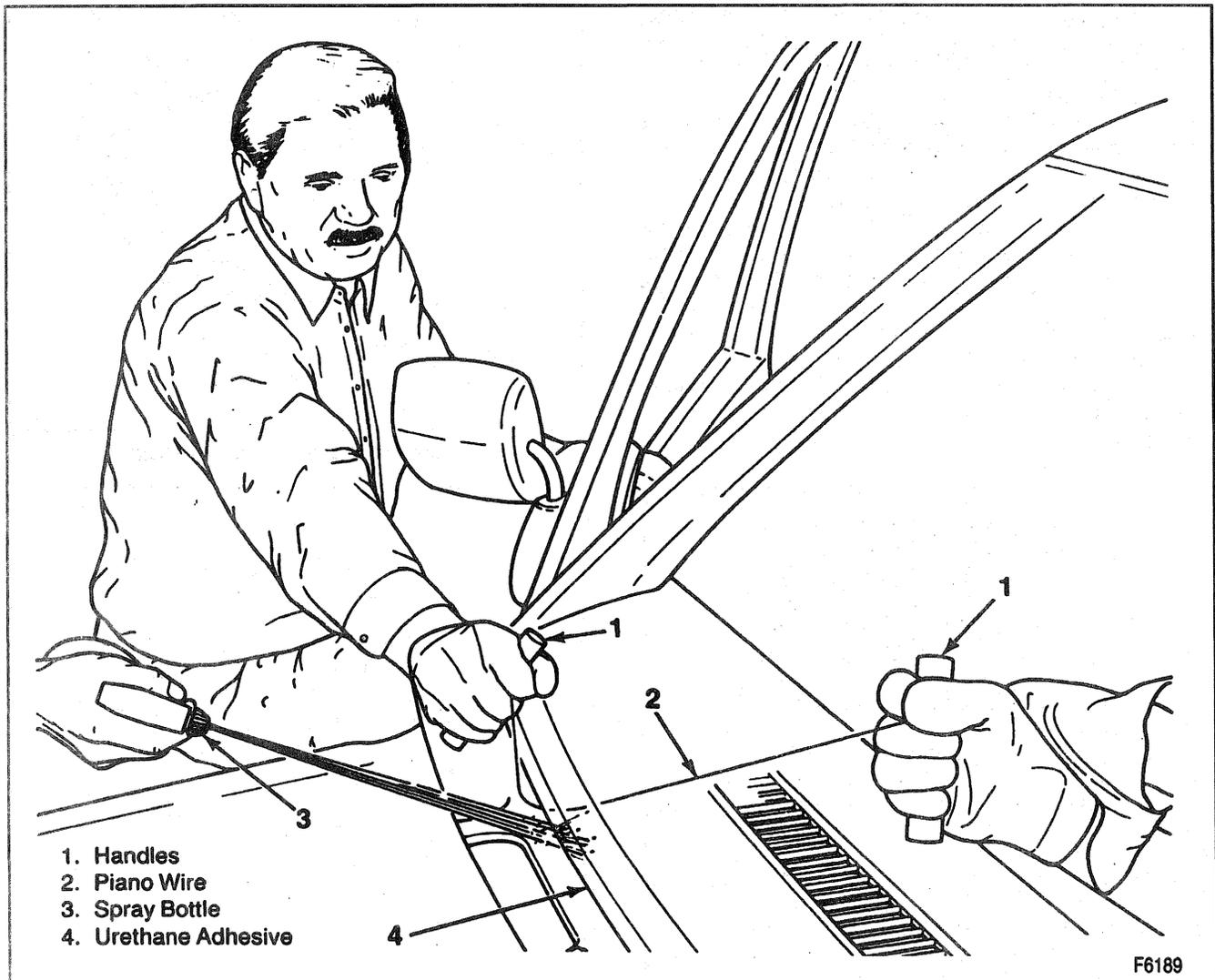


Figure 7—Windshield Assembly



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Figure 8—Cutting the Window from the Frame

WINDSHIELD REMOVAL (UNDAMAGED WINDSHIELD)

Tools Required:

J 36020 Windshield Remover

Remove or Disconnect (Figures 7 and 8)

1. Windshield wiper arms. Refer to SECTION 8E1.
2. Radio antenna mast. Refer to SECTION 9A.
3. Cowl vent grille. Refer to SECTION 2B.
4. Windshield stop screws.
5. Rear view mirror. Refer to "Mirror Removal" in this section.
 - Be sure to disconnect electrical lead for vehicles equipped with night vision rearview mirror.
6. Radio speaker grilles.
7. Windshield pillar trim from both sides of the vehicle and pull the door seal back from the windshield area.
 - A. Using J 36020, insert one end of the wire through the urethane adhesive to the interior of the vehicle and wrap each end of the wire around each handle. Or cut a 6 foot length of 0.020 inch piano wire. Insert one end of the wire through the adhesive around the windshield and wrap each end of the wire around a suitable handle.
 - B. Spray a liquid soap solution around the entire perimeter of the windshield so the urethane is wet.
 - C. With one person at each end of the wire, work the wire back and forth exerting pressure against the urethane. Continue this action until all of the urethane has been cut and the windshield is loose.

Important

When working the wire back and forth, follow these precautions:

1. To protect the instrument panel from being damaged during the cutting action of the wire, place a cloth or piece of cardboard between the wire and instrument panel pad.
 2. When working the wire back and forth do not allow the wire to make contact with the glass.
 3. Periodically spray soap solution ahead of the wire until the urethane has been completely cut.
1. Glass from the vehicle with the aid of a helper.

Inspection

An inspection of the flange of the windshield opening, reveal molding, and glass may reveal the cause of a broken windshield. This can help prevent future breakage.

Look for high weld or solder spots, hardened spot weld sealer, or any other obstruction or irregularity in the flange. Also, check the cowl vent grille for contact with the windshield.

Check the fit of the rearview adhesive mounting pad. Replace the mounting pad if needed. Refer to Figure 10 for proper location of the mounting pad.

Service Kits

To replace a urethane adhered windshield, use adhesive caulking kit GM P/N 12346284 or equivalent. Materials in the adhesive caulking kit GM P/N 12346284 include:

1. Instruction sheet.
2. Urethane cartridge.
3. Urethane cartridge nozzle.
4. 10cc bottle of clear glass primer (#1).
5. 10cc bottle of black glass primer (#2).
6. 30cc bottle of black pinchweld primer (#3).
7. 30cc bottle of clear PVC primer (#4).
8. Applicator daubers for primers.

Other materials required for windshield installation which are not included in the service kit include:

1. Alcohol for cleaning the edge of the glass.
2. Adhesive dispensing gun.
3. A standard cartridge type caulking gun reworked as follows:
 - A. Widen the end slot to fit the diameter of the dispensing nozzle of the adhesive tube.
 - B. Reduce the diameter of the plunger disc so that the disc will enter the large end of the adhesive tube.
4. Commercial type razor knife (for cutting along the edge of the glass).

WINDSHIELD INSTALLATION

Install or Connect (Figures 6 through 9)

NOTICE: Refer to "Notice" on page 10A3-1.

- If the original windshield is being reinstalled, clean all old urethane off the windshield using a razor knife.
- Clean surface of glass where adhesive is to be applied with a good glass cleaner.
- Use repair kit GM P/N 12346284 or equivalent which contains the necessary primers and adhesives.

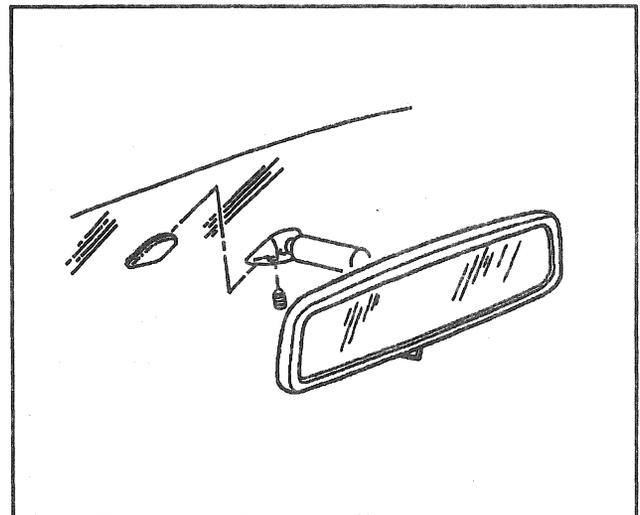


Figure 9—Rearview Mirror

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- Before removing primer caps #1 and #2, shake vigorously. Both glass prep #1 and primer #2 must be used for proper adhesion of urethane to glass.
1. Using dauber, apply glass prep #1 to edge and inner surface of glass. Wipe dry with clean cloth.
 2. Apply glass primer #2 to edge and surface of glass and allow to dry approximately 6 to 10 minutes.
 3. Apply bead of urethane.
 - For "short method", bead size should be approximately 4.5 mm (1/8 inch to 3/16 inch) diameter.
 - For "extended method", bead size should be approximately 4.5 mm wide x 10.0 mm high (3/16 inch x 3/8 inch).
 4. Windshield:
 - Drill or punch a hole in the center of each tab at the bottom of the windshield.
 - With the aid of a helper, lift the windshield into place.
 - Align the groove in each upper outer edge of the windshield molding with the door edge.
 5. Windshield stop screws.
 6. Rear view mirror.
 7. Windshield pillar trim and door weatherstrip.
 8. Speaker grilles.
 9. Cowl vent grille.
 10. Windshield wiper arms.
 11. Radio antenna mast.
 12. Windshield garnish moldings.

NOTICE: *Until the new urethane has cured, air pressure from a closing door may cause the windshield to move. To prevent this, lower one window several inches before closing the door.*

- Allow the vehicle to stand for several hours for the adhesive to dry.
- Test the windshield for water leaks. Refer to "Water Leak Tests" in this section.

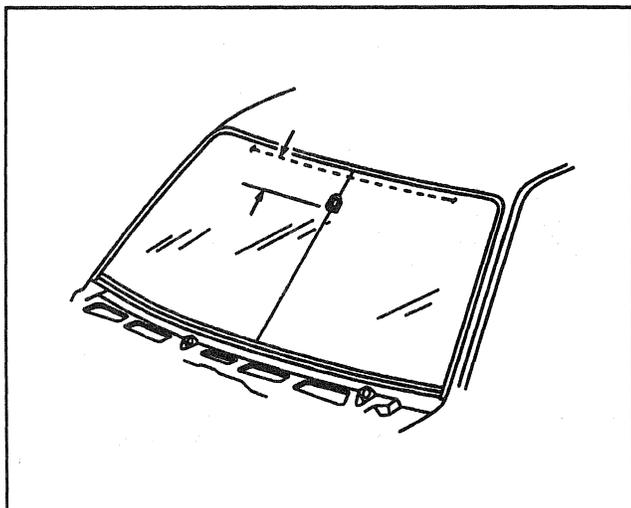


Figure 10—Rearview Mirror Adhesive Pad Location

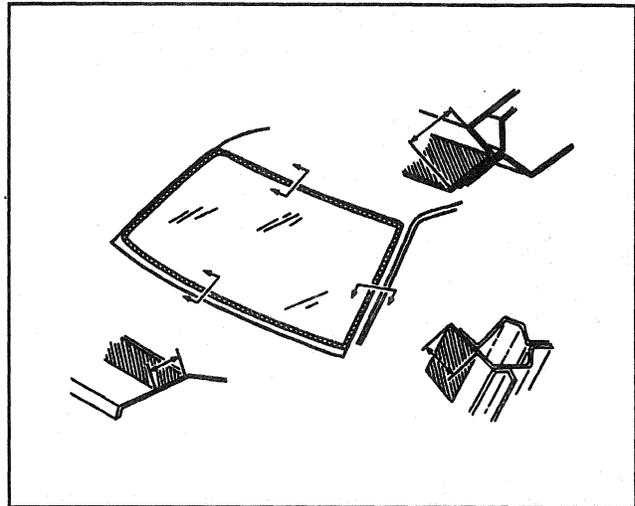


Figure 11—Windshield Primer Locations

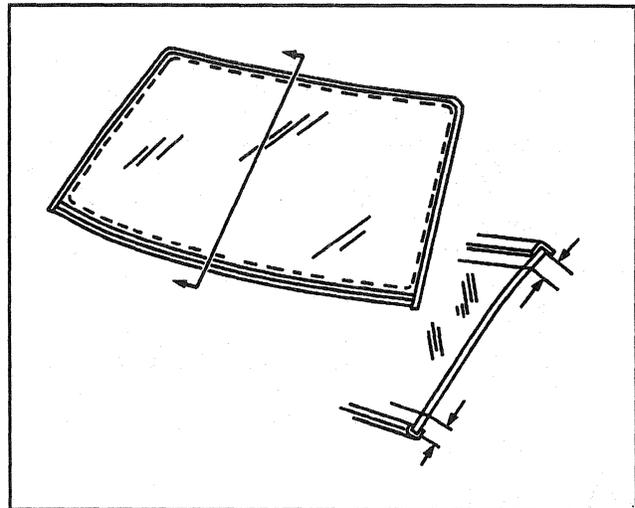


Figure 12—Windshield Primer Dimensions

STATIONARY BODY SIDE WINDOW REPLACEMENT

Tools Required:

- J 24709-01 Urethane Glass Sealant Remover - Hot Knife.
- J 24402-A Glass Sealant Remover Knife.

↔ Remove or Disconnect (Figures 14 and 15)

1. Quarter trim panel from around the window frame. Refer to SECTION 10A4.
2. Molding from the glass with a razor knife.
3. Window glass assembly using J 24709-01 or J 24402-A.
 - Wipe away loose adhesive from the frame with a dry cloth.

↔ Install or Connect (Figures 16 through 18)

NOTICE: *Refer to "Notice" on page 10A3-1.*

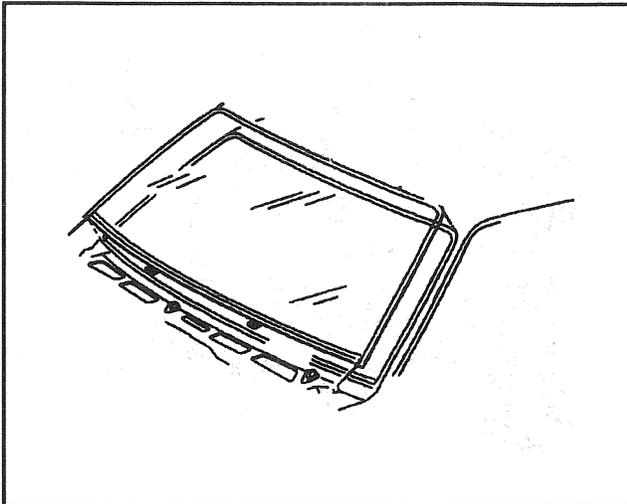


Figure 13—Glass Installation

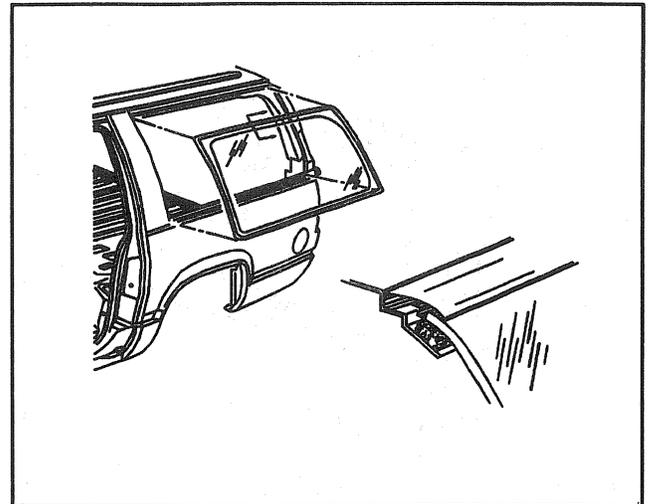


Figure 15—Stationary Body Side Glass

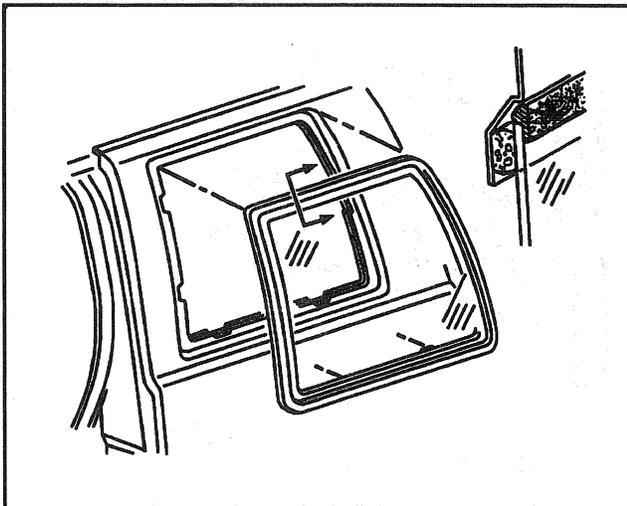


Figure 14—Extended Cab Stationary Body Side Glass

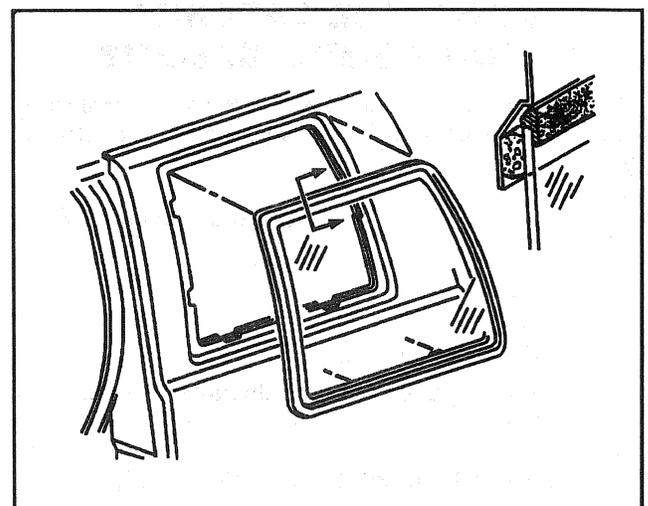


Figure 16—Primer and Adhesive Application Points

1. Body primer on the pinchweld flange in areas where the paint has come off.
 - Use the GM repair kit P/N 12346284 or equivalent, which contains the proper primers and adhesive.
 - Allow the primer to dry.
2. Clear primer to the window covering an area of 18 mm (3/4 inch) from the edge of the glass (Figures 16 and 17).
 - Wipe primer dry immediately.
3. Black primer to the same area as the clear primer.
 - Allow the primer to dry.
4. Urethane adhesive bead to the body to fill in any gaps in the old adhesive.
 - Apply a light hand pressure to the glass to wet-out the adhesive and to bond the glass to the pinchweld (Figure 18).
5. Quarter trim panel. Refer to SECTION 10A4.
 - Allow the adhesive to dry for several hours and then test the window for water leaks. Refer to "Water Leak Test" in this section.

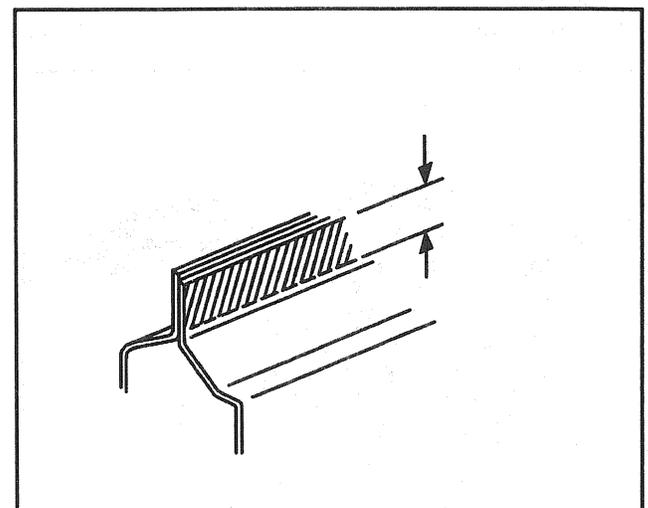


Figure 17—Window Frame Pinchweld for Body Primer

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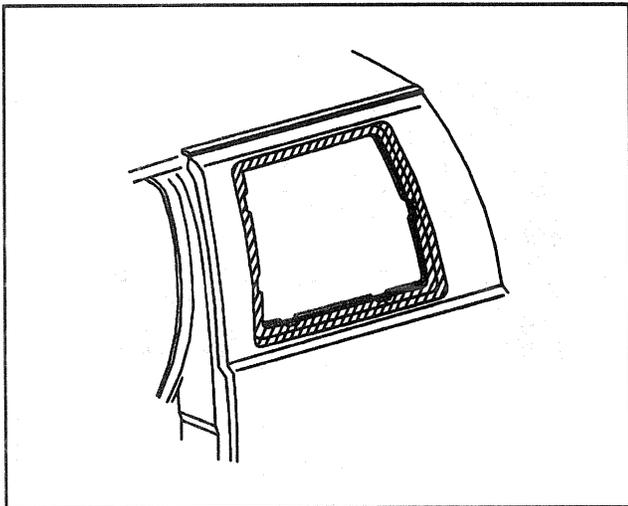


Figure 18—Window Frame

BODY SIDE LATCHED WINDOW REPLACEMENT

The latched side window is a one-piece assembly that includes the window, molding, hinges, and latch assembly.

↔ Remove or Disconnect (Figures 19 and 20)

1. Latch rivets.
2. Hinge rivets.
3. Window assembly.

- Do not replace the weatherstrip unless it is damaged.

→← Install or Connect (Figures 19 and 20)

1. Window assembly.
2. Hinge rivets.
3. Latch rivets.

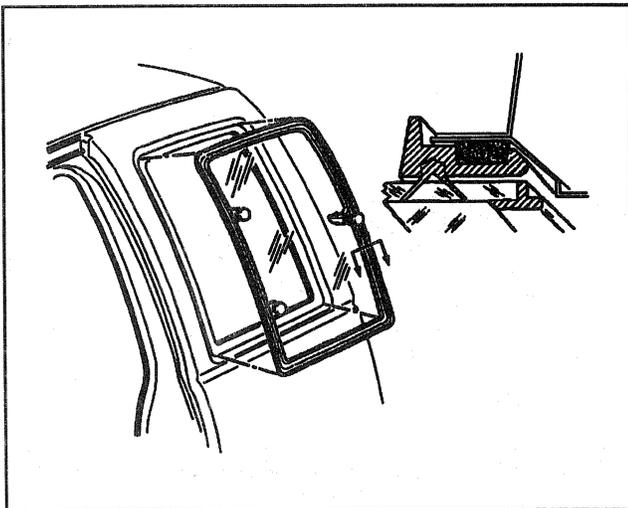


Figure 19—Body Side Latched Window Components

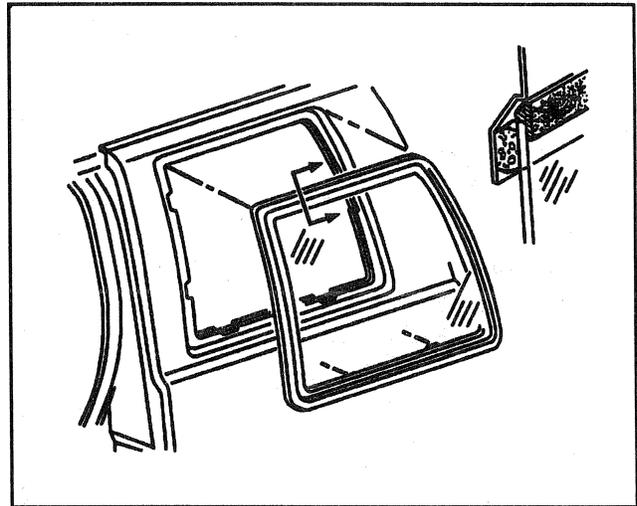


Figure 20—Side Latched Window Weatherstrip

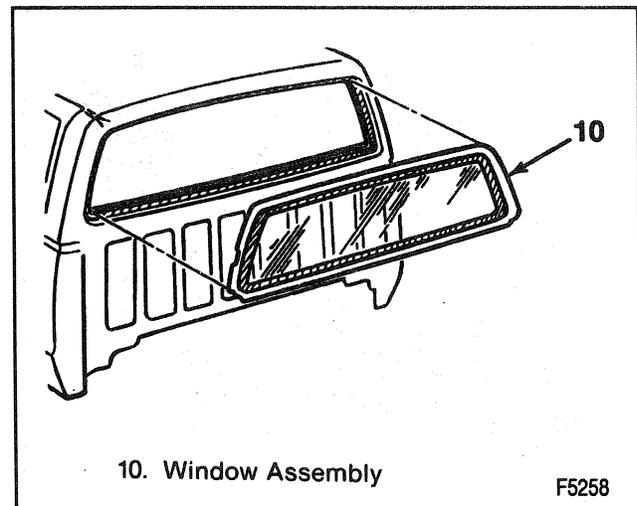


Figure 21—Rear Window Assembly (Pickup Model)

REAR WINDOW REPLACEMENT

↔ Remove or Disconnect (Figures 21 through 27)

- On a window with a defogger, unclip the connector at the left and right side of the window from the inside of the cab.
- Remove all trim panels necessary to gain access for rear window removal. Refer to SECTION 10A4 for the trim panel removal procedures.

1. Molding from the glass with a razor knife.
2. Glass assembly from the window frame using J 24709-01 or J 24402-A.
 - With a helper standing outside the cab, push the window out from the inside.
3. Wipe away the loose adhesive from the frame with a dry cloth.

→← Install or Connect (Figures 21 through 27)

NOTICE: Refer to "Notice" on page 10A3-1.

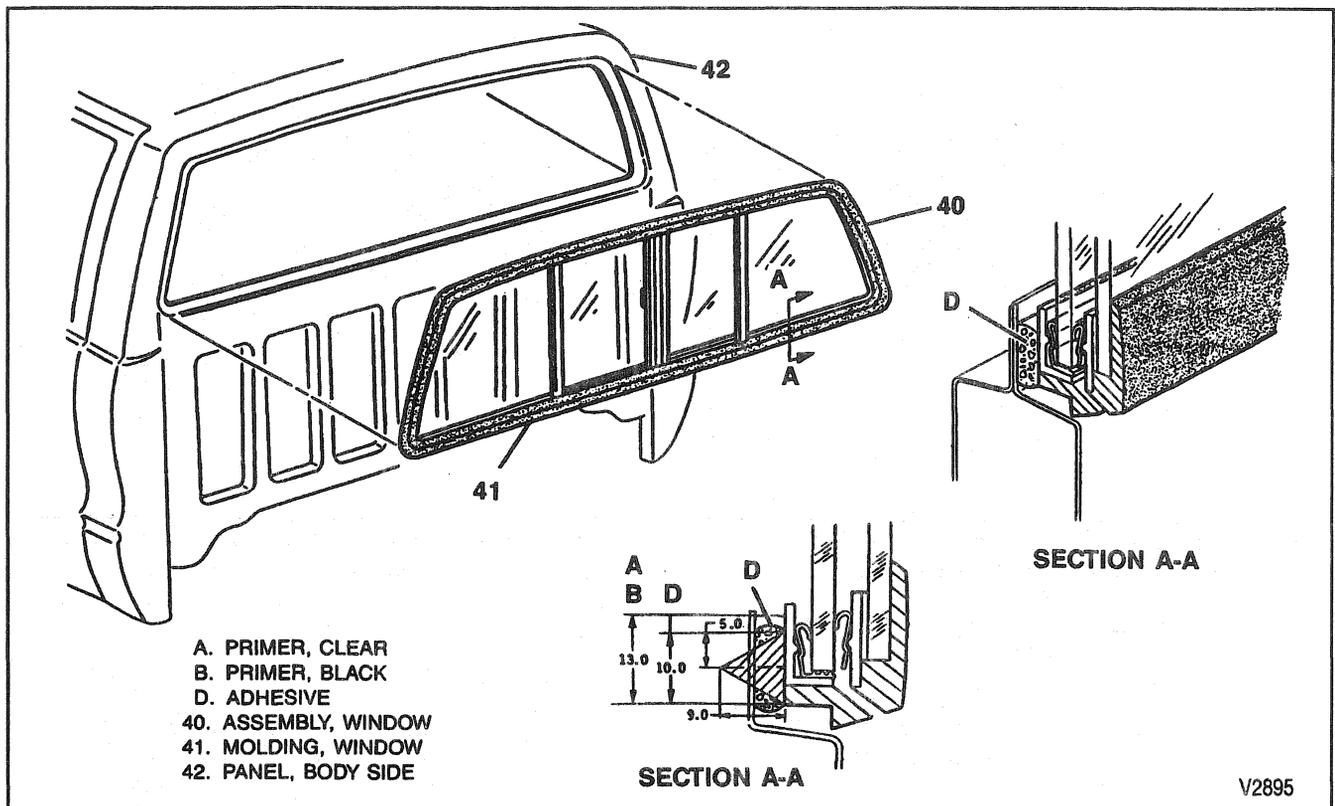


Figure 22—Rear Sliding Glass Window Assembly (Pickup)

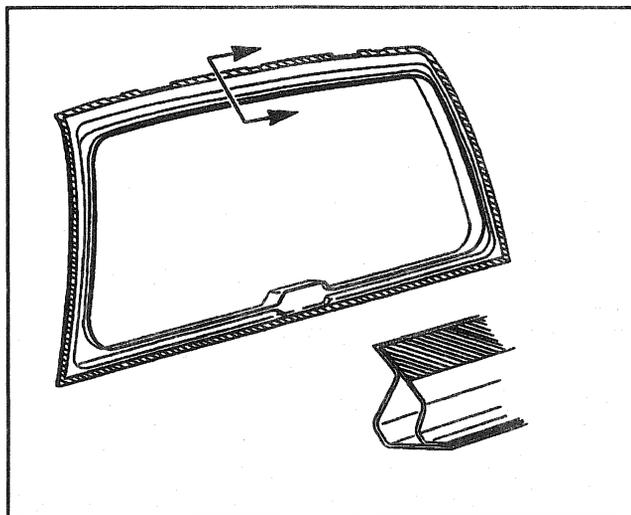


Figure 23—Primer and Adhesive Application Points

1. Body primer to the pinchweld flange in areas where the paint has come off.
 - Use the repair kit GM P/N 12346284 or equivalent that contains the proper primers and adhesive.
 - Allow the primer to dry.

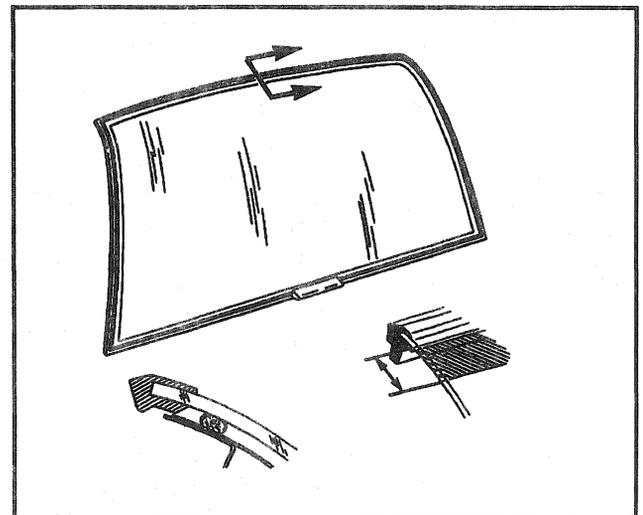


Figure 24—Rear Window Assembly (Suburban and Utility)

2. Clear primer to the window covering an area of 18 mm (3/4 inch) from the edge of the glass (Figure 25).
 - Wipe off immediately.
3. Black primer to the same area as the clear primer.
 - Allow the primer to dry.

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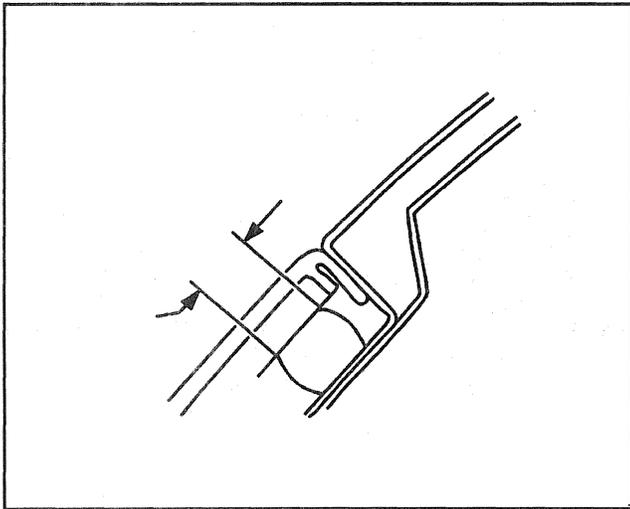


Figure 25—Rear Window Primer Width
(Suburban and Utility)

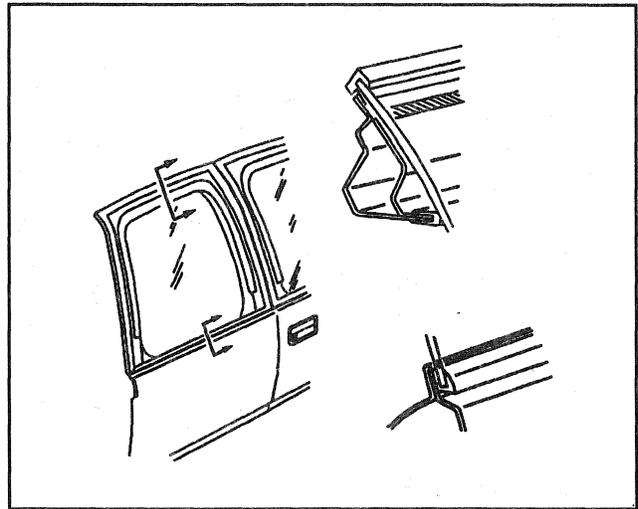


Figure 26—Rear Window Primer Locations
(Suburban and Utility)

4. Urethane adhesive bead to the body to fill in any gaps in the old adhesive.
5. Window.
 - On windows with defoggers, connect the clips on each side of the window on the inside to the body connectors.
 - Install all trim panels that were removed to gain access for rear window removal
 - On sliding windows, be sure the two tabs on the bottom of the window are positioned in the slots on the body before installing the window.

REAR WINDOW DEFOGGER SYSTEM

The optional defogger consists of a heating element bonded to the inside surface of the rear glass. This unit uses an instrument panel mounted switch with an integral indicator lamp and will operate for 5 to 10 minutes and will then turn off by automatic timer. The system can be turned off during this operating period by manually shutting off the defogger switch or turning off the ignition switch. When activated, an indicator light is illuminated. A 12-volt current flows through the relay and out to the resistive heating elements on the rear window. The current enters the grid from the left side of the window and leaves the grid heater from the right side of the window. The ground circuit is on the right side of the cab.

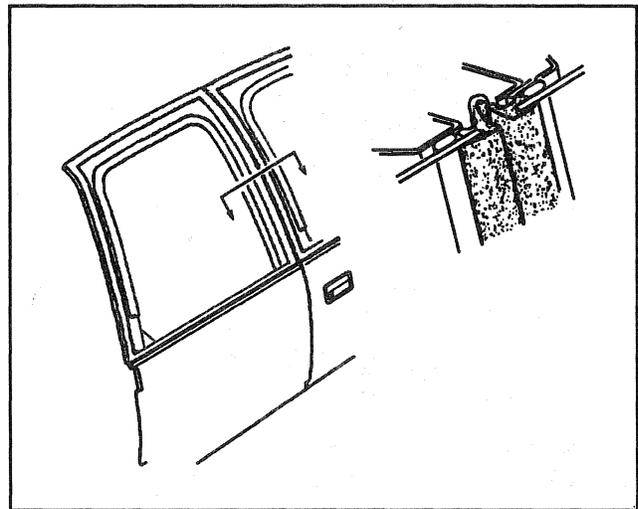


Figure 27—Rear Door Window Seal Installation
(Suburban and Utility)

The length of time required to remove interior fog varies under such conditions as vehicle speed, outside glass temperature, atmospheric pressure, and number of passengers.

The rear window harness plugs into a connector at the fuse panel and leads to the instrument panel mounted switch. The harness then continues from the switch routed along the left rocker panel area to the rear of the cab. At this point it is routed up to where it meets the grid connector at the back glass.

DIAGNOSIS OF THE REAR WINDOW DEFOGGER SYSTEM

PROBLEM	POSSIBLE CAUSE	CORRECTION
System Won't Heat The Window	<ol style="list-style-type: none"> 1. Blown fuse. 2. Broken switch. 3. Circuit is open. 	<ol style="list-style-type: none"> 1. Replace the fuse with a fuse of the correct rating. 2. Test the switch for conduction. Replace the switch if necessary. 3. Test for voltage at the left connection of the window. If voltage is present, check the ground circuit. If voltage is not present, test the relay for operation and voltage. If the relay voltage is present, find the open in the harness between the relay and the heater.
System Won't Turn On. The Indicator Lamp Is Off.	<ol style="list-style-type: none"> 1. Blown rear window defogger fuse. 2. Relay is faulty. 3. Switch is faulty. 	<ol style="list-style-type: none"> 1. Replace the fuse with a fuse of the correct rating. 2. Make sure the relay is firmly seated in its socket. Jump the ORN/BLK wire to the LT BLU wire. The relay should click. If the relay clicks, find the open between the switch and the relay if the relay doesn't click, replace the relay. 3. Test the switch with a test lamp. Replace the switch with a test lamp. Replace the switch if it's proven faulty.

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TESTING REAR WINDOW DEFOGGER GRID LINES

1. Start the engine and turn on the defogger system.
2. Ground an unpowered test lamp and lightly touch the prod tip to each grid line.
 - Move the lamp from the feed wire side to the grounded side of each grid. The lamp should be fully bright then gradually dim as it is moved across the grid. Be sure to check each grid line in at least two places to avoid the possibility of bridging a gap (Figure 28).
3. If the test lamp shows full brilliance at both ends of the grid line, check for a loose ground wire connection to the sheet metal.
4. If the lamp suddenly goes out as it is moved across the grid, a break has been located.

GRID LINE REPAIR

Tools Required:

- Rear Window Defogger Repair Kit GM
P/N 12345345, or equivalent.
- Heat Gun - capable of reaching 260° C (500° F)



Remove or Disconnect

1. Negative battery cable(s). Refer to SECTION 6D1.



Inspect

- Rear window defogger lines. (Mark the grid line breaks on the outside of the window with a grease pencil).



Clean

- The grid line area to be repaired. Buff with steel wool and wipe clean using a cloth dampened with alcohol. Buff and clean about 6 mm (0.25 in.) beyond each side of the break in the grid line. Be sure the glass is at room temperature.



Install or Connect

NOTICE: Refer to "Notice" on page 10A3-1.

1. Grid line repair template or two strips of tape positioned above and below the repair area. Repair template or tape **MUST** be used to control the width of the repair area. If the template is used, be sure the die cut metering slot is the same width as the grid line.

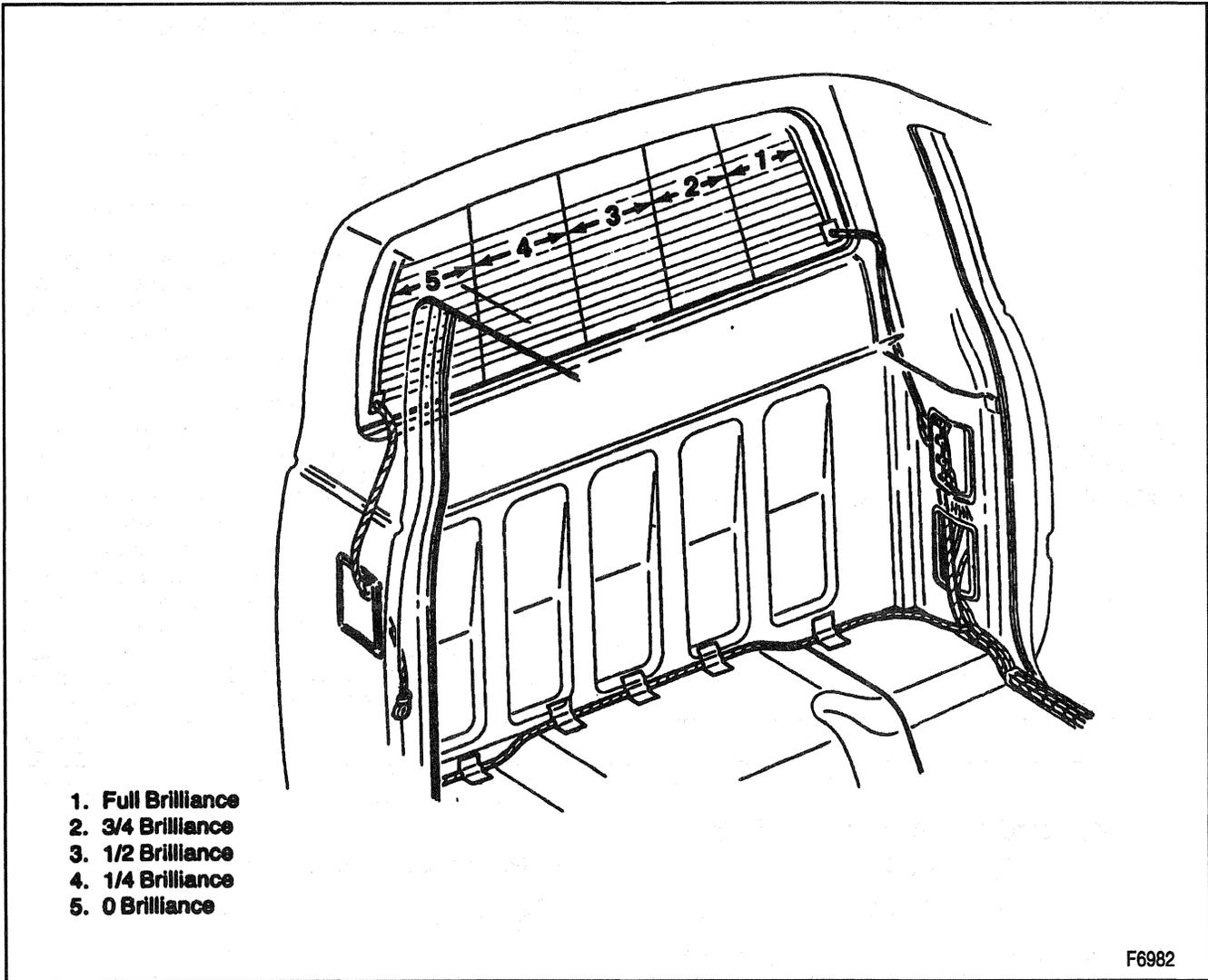


Figure 28—Test Lamp Brilliance Zones - Normal Operating Rear Window

CAUTION: To Avoid Personal injury:

- Do not allow the repair material to come in contact with skin or eyes and avoid breathing vapor.
- Do not use near sparks or open flame.

2. The grid repair material at room temperature to the repair area using a small brush (Figure 29).
3. Remove the template or tape carefully.

NOTICE: *The grid line repair material must be cured with heat. To avoid heat damage to the interior trim, protect the trim near the repair where heat is applied.*

4. Holding the heat gun 25 to 50 mm (1 to 2 inches) from the repair area, apply heat at 260° to 370° C (500° to 700° F) for 2 to 3 minutes (Figure 30). If a heat gun is not available, allow the repair to air dry at an ambient temperature of 20° to 39° C (70° to 90° F) for 24 hours.
5. Negative battery cable(s).

 **Inspect**

- A. Grid line repair area. If the repair appears discolored, apply a coat of tincture of iodine to the repair area using a pipe cleaner or a fine brush. Allow iodine to dry for about 30 seconds and carefully wipe off the excess with a lint-free cloth.
- B. Test the defogger operation to verify grid line repair.
- C. Leave the grid area untouched for 24 hours.

BRAIDED LEAD WIRE REPAIR

1. The rear defogger bus bar lead wire or terminal can be reattached by soldering using a solder containing 3 percent silver and a rosin flux paste.
2. Before soldering the bus bar, the repair area should be buffed with fine steel wool. This removes the oxide coating formed during the glass manufacture.
3. Apply the paste-type rosin flux in small quantities to the wire lead and bus bar repair area using a brush.

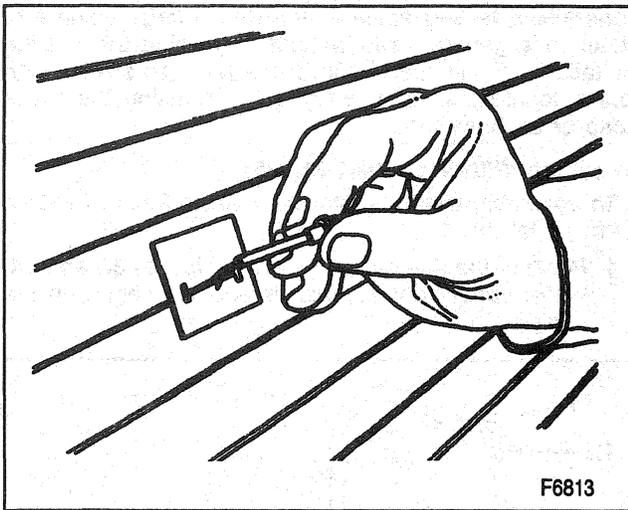


Figure 29—Apply Grid Material to a Broken Grid Line

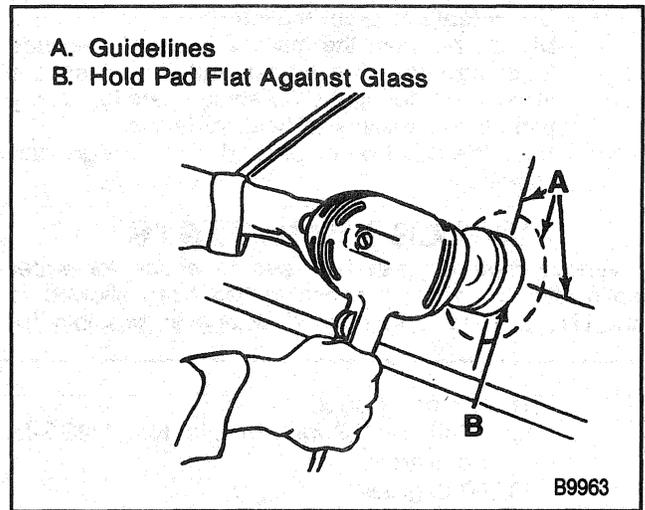


Figure 31—Window Polishing

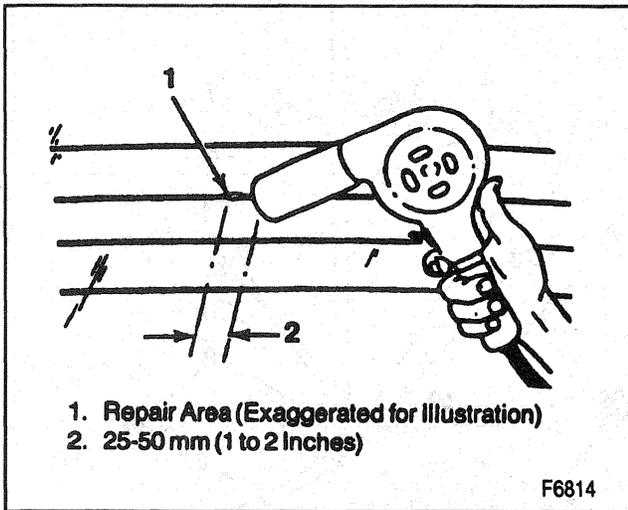


Figure 30—Applying Heat to the Grid Line Repair

4. The soldering iron tip should be coated with solder beforehand. Use only enough heat to melt the solder and only enough solder to ensure a complete repair.
5. Do not overheat the wire when resoldering it to the bus bar.

WINDOW POLISHING

Minor Scratch and Abrasion Removal

Minor scratches and abrasions can be removed or reduced by following the procedure outlined below. Precautions must be taken to prevent distortions of vision. Double vision may result if an attempt is made to remove deep scratches. Deep scratches should not be removed from an area in the driver's line of vision; in such cases, the glass should be replaced.

The procedure that follows was developed using a cerium oxide compound. Follow manufacturer's directions if other materials are used.

- A. Guidelines
- B. Hold Pad Flat Against Glass

Recommended Equipment

1. A low speed (600-1300 RPM) rotary polisher.
2. A wool felt, rotary polishing pad 7 mm (3 inches) in diameter and 51 mm (2 inches) thick.
3. Powdered cerium oxide mixed with water. This is the abrasive compound.
4. A wide mouth container to hold the abrasive compound.

Polishing Procedure (Figure 31)

1. Mix at least 44 ml (1.5 oz) of cerium oxide with enough water to obtain a creamy consistency. If the mixture is too thick it will cake on the felt pad more quickly. If it is too runny, more polishing time will be needed.
2. Draw a circle around the scratches on the opposite side of the glass with a marking crayon or equivalent.
3. Draw a line directly behind the scratch(es) to serve as a guide for locating the scratch while polishing.
4. Cover the surrounding area with masking paper to catch the drippings or spattered polish.
5. Dip the felt pad attached to the polisher into the mixture. Do not submerge the pad or allow the pad to stay in the mixture as it may loosen the bond between the pad and the metal plate.

NOTICE: *Never hold the tool in one spot or operate the tool on the glass any longer than 30 to 45 seconds. If the glass becomes hot to touch, let it air cool before proceeding further. Cooling with cold water may crack heated glass. Avoid excessive pressure. It may cause overheating of the glass.*

6. Polish the scratched area, but note the following:
 - Agitate the mixture as often as needed to maintain the creamy consistency of the compound.
 - Use moderate but steady pressure.
 - Hold the pad flat against the glass.

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- Use a feathering-out motion.
- Dip the pad into the mixture every 15 seconds to ensure that the wheel and the glass are always wet during the polishing operation. A dry pad causes excessive heat to develop.
- Keep the pad free of dirt and other foreign substances.

WATER LEAK TESTS

Various methods can be used to check for water leaks after the window adhesive has been allowed to dry. Use the first test method whenever possible for

generalized testing since it provides a large volume of water to a general area without exceeding the sealing limitations of the glass. Once the leak area has been found, locate the exact entry point by using the water hose or air hose test.

Checking With Watertest Stands

To assemble watertest stands, refer to Figure 32. Use them as follows.

1. Position the stands as shown in Figures 33 and 34. Water spray from the stands should overlap on the vehicle.

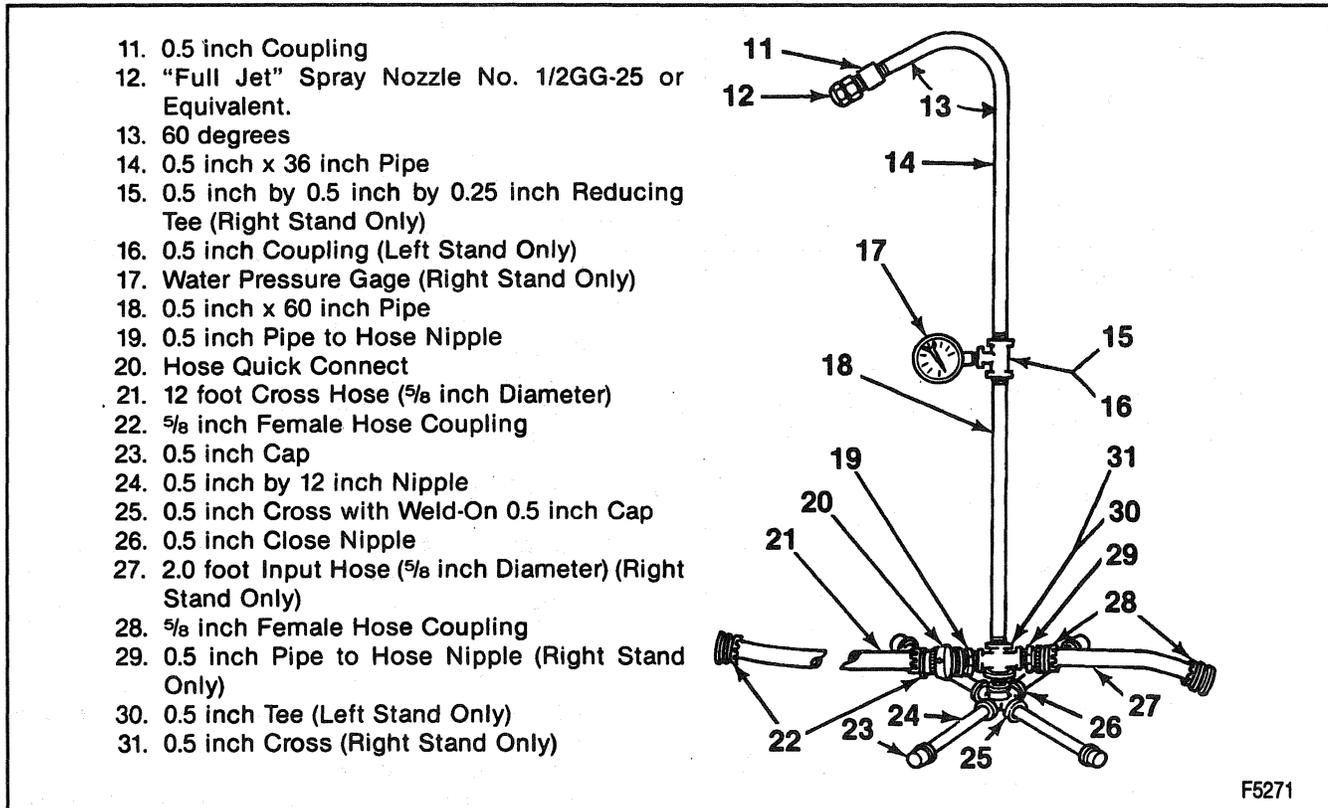


Figure 32—Watertest Stand Assembly

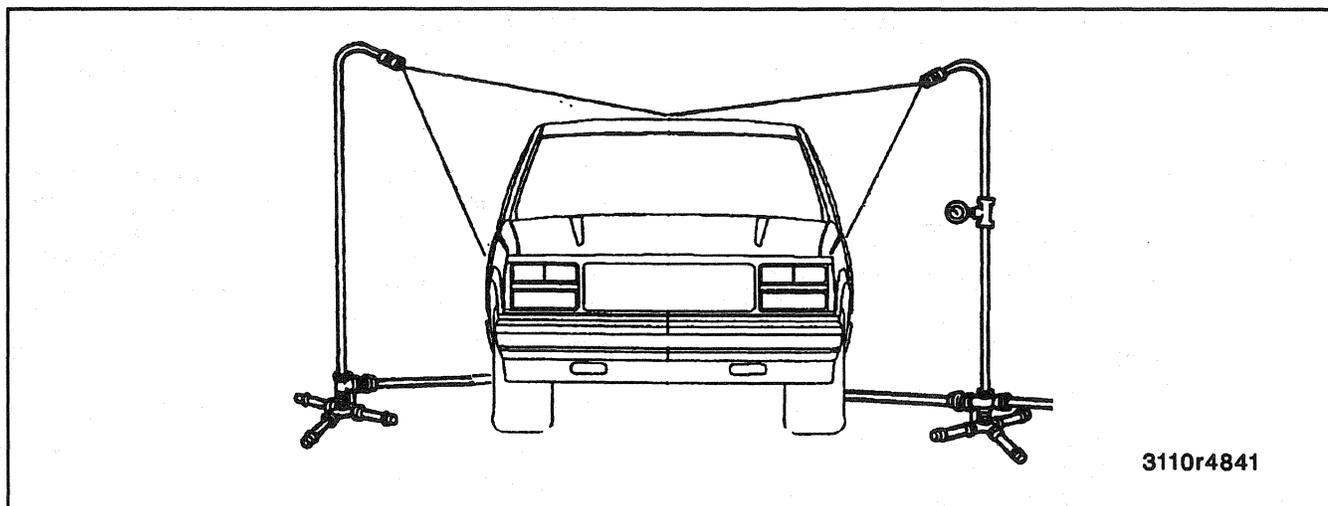


Figure 33—Water Leak Test Stands

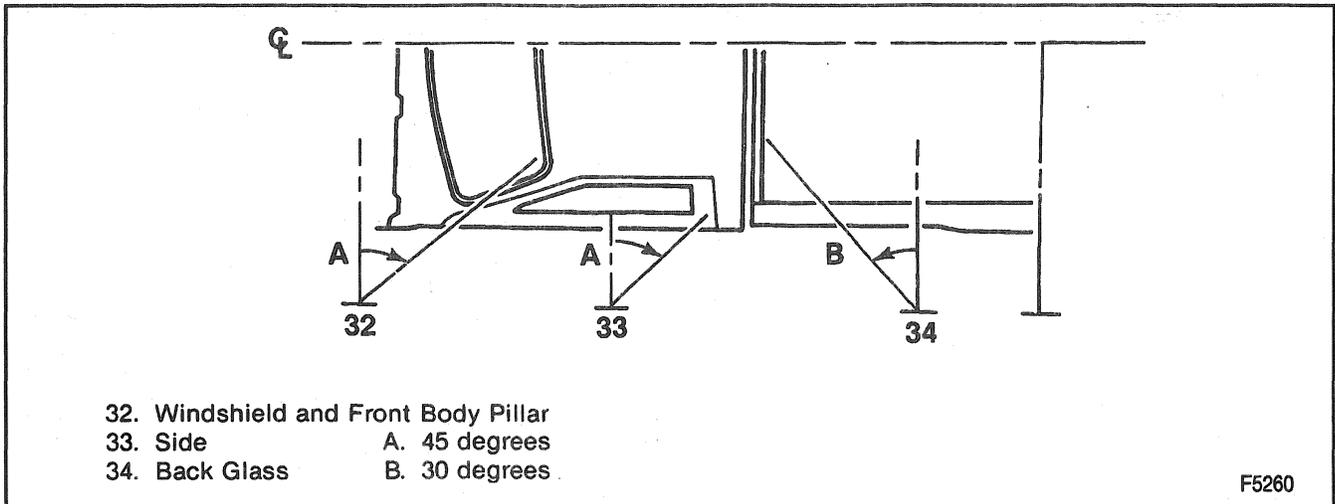


Figure 34—Water Leak Test with Test Stands

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2. Run the water at a volume of 14 liters (3.7 gallons) per minute and at a pressure of 155 kPa (22 psi) (measured at the nozzle) for at least 4 minutes.
3. Have someone inside the cab during the test to check for the location of any leaks.
4. To check the windshield, the water spray should be aimed 30 degrees down and 45 degrees toward the rear. Aim at the corner of the windshield (Figure 34).
5. To check the side windows, the water spray should be aimed 30 degrees down and 45 degrees toward the rear. Aim at the center of the rear quarter.
6. To check the back window, aim the water spray 30 degrees down and 30 degrees toward the front.

Water Hose Test

Run water through a hose without the nozzle attached. Begin testing at the base of the window or windshield and slowly move the hose upward and across the top. Have someone in the vehicle watch for leaks.

Air Hose/Bubble Solution Test

NOTICE: *The air hose test should only be used on fully cured urethane. Otherwise, damage to the urethane bead could result in additional leaks.*

Put liquid detergent diluted with water in a squirt bottle. Have a helper inside the cab with an air hose. Beginning at the bottom of the window and gradually moving up the window edges and across the top, squirt soap solution on the window moldings and glass on the outside of the vehicle. Have a helper aim the compressed air at the same locations from the inside of the vehicle. Air pressure from the hose should not exceed 205 kPa (30 psi). Bubbles will form in the soap solution at the location of the leak.

WINDSHIELD WATER LEAK REPAIR

Depending on where the leak is located, it may be necessary to remove trim molding or the headliner to repair the leak. Refer to SECTION 10A4 for removal procedures.

1. Determine the source of water entry.
2. If water is leaking at the edge of the windshield, reseal it using 3M® “Windo-Weld Resealant” P/N 08633 and applicator gun 3M® 08992 or equivalent. Use a “duck bill” applicator tip to inject the sealant under the molded glass seal.
3. If water is leaking into the vehicle at the sides of the glass use 3M® “Super Fast” urethane auto glass sealant P/N 08609 or equivalent.

WINDNOISE DIAGNOSIS AND REPAIR

To analyze a reported windnoise condition, a test drive in the vehicle is necessary due to the many variables that could singularly or collectively be attributed to creating the objectionable noise condition.

CAUTION: For safety reasons an assistant should drive the vehicle while the technician checks for the location of the reported condition.

A regular route for the road test should already have been chosen. The road should include smooth and straight streets that run in all four directions (North, South, East and West). It should be an area where there is little traffic or noise that would interfere with the test.

The vehicle should be driven at the speed in which the noise was noticed or until it is heard. Safe and legal speeds should never be exceeded.

! Important

- Often there is one primary leak source and one or more secondary leaks that contribute to the noise condition. Repairing only one of the contributing leak sources may not completely repair the total condition, but only reduce it.

Many of the waterleak diagnosis tests are also used for windnoise diagnosis.

10A3-18 WINDOWS

Most windnoise is caused by either leaking seals or misaligned body surfaces. There are three basic types of windnoise:

- Whistle
- Roar
- Rush

When moving at highway speeds, air pressure inside the vehicle becomes significantly greater than air pressure outside. If there is a leak, the escaping air causes a hiss or whistle.

Wind roar is caused by air passing over or through an opening between two body surfaces. Adjustments in alignment to the body surfaces can correct wind roar.

Wind rush is caused by air pressing over the vehicle's body and is related to the aerodynamics of the vehicle. Both wind whistle and wind roar which are serviceable should be ruled out before concluding a wind noise is due to wind rush.

Diagnose wind whistle or roar as follows:

1. Note details about the wind noise:
 - Perceived location.
 - Location where loudest.
 - When it occurs.
 - Vehicle speed.
 - Interior fan speed.
 - Position of windows.
 - What it sounds like.
2. Inspect vehicle for possible cause of windnoise.
3. Test drive vehicle and determine if windnoise is external or internal.
4. Perform a visual inspection of the following:
 - Loose fasteners.
 - Torn weatherstrips.
 - Broken weld joints.
 - Sealer and/or adhesive skips.

Exterior Windnoise

Exterior windnoise will be louder when the vehicle is driven with one or more windows down. It is caused by air passing over body panels, seams or openings.

The following items should be used by the technician during the test drive to aid in leak detection:

- Mechanic's stethoscope or heater hose.
- Masking tape-51 mm (2 inches) in width.
- Strip caulk.
- China marking pencil.

NOTICE: *If masking the grille and headlamp bezel areas, care must be taken not to restrict airflow and cause vehicle overheating.*

1. While driving, determine location by lowering one window at a time. If location appears to correspond with condition noticed in Step 2 above, pull over and make a temporary repair with 51 mm (2 inch) wide masking tape.
2. Tape over gaps and moldings one at a time, test driving in between. When the area causing the windnoise is taped over, the wind noise should no longer occur.

Temporarily repair the condition with masking tape. Adjust tape as required. Continue testing to determine if noise has been eliminated or other leak areas exist.

When all reported leak conditions have been located, make permanent repairs utilizing proper alignment techniques and sealing materials as required.

Interior Windnoise

Interior windnoise will not be heard with a window lowered. It is caused by air leaving the inside of the vehicle through a seal or seam.

1. Tape over relief valves to cause added air pressure within the vehicle.
2. Test drive the vehicle and listen for windnoise or whistle.
3. Pull over and make temporary repairs using masking tape. If still unable to determine source of interior windnoise, perform one or more of the following three diagnostic tests.

Tracing Powder or Chalk Test.



Clean

- Weatherstrips and contact surfaces with cleaning solvent.
 - A. Apply powder or chalk in an unbroken line to the contact surface of weatherstrip around perimeter of suspected areas. Surrounding areas must be free of chalk or powder.
 - B. Close panel completely without slamming. This presses the weatherstrip firmly against the mating surfaces.



Inspect

- Applied line on weatherstrip will be marred where contact is good. A corresponding imprint will be on mating surfaces.
- Gaps or irregularities in powder or chalk line on mating surfaces indicate areas with poor seal.

Air Pressure Test.

- A. Mask off both pressure relief valves.
- B. Turn on vehicle's ventilation fan.
- C. Close all windows and doors.
- D. With stethoscope or length of heater hose, listen for escaping air along door and window seals.

Soap Solution or Bubble Test.

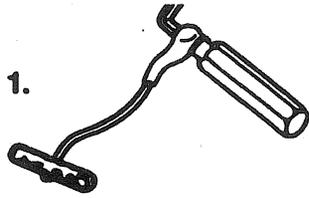
- A. Mask off pressure relief valve(s).
- B. Turn on vehicle's ventilation fan.
- C. Close all windows and doors.
- D. Apply soap solution to potential leak areas.
- E. Look for bubbles revealing escaping air.

An air hose can be used instead of pressurizing the vehicle's interior. Do not exceed 207 kPa (30 psi) when an air hose is used.

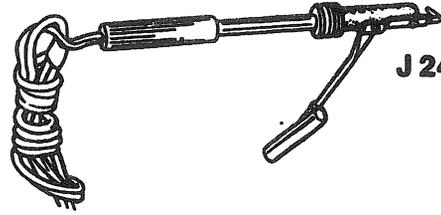
Windnoise leak repairs are very similar to waterleak repairs. The actual procedure depends on the type of seal being repaired.

Leaks around door opening weatherstrips do not always indicate a faulty weatherstrip. A door or door window adjustment may resolve the problem.

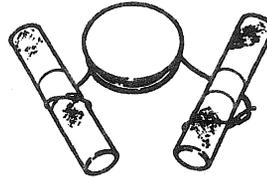
SPECIAL TOOLS



1. J 24402-A



2. J 24709-01



3. J 36020

- 1. Glass Sealant Removal Knife**
- 2. Urethane Glass Sealant Remover**
- 3. Allante Windshield Remover**

SECTION 10A4

INTERIOR TRIM

CAUTION: This vehicle has a Supplemental Inflatable Restraint (SIR) System. Refer to the SIR Component and Wiring Location view in order to determine whether you are performing service on or near the SIR components or the SIR wiring. When you are performing service on or near the SIR components or the SIR wiring, refer to the SIR On-Vehicle Service information. Failure to follow the CAUTIONS could cause air bag deployment, personal injury, or unnecessary SIR system repairs.

NOTICE: *Always use the correct fastener in the proper location. When you replace a fastener, use ONLY the exact part number for that application. General Motors will call out those fasteners that require a replacement after removal. General Motors will also call out the fasteners that require thread lockers or thread sealant. UNLESS OTHERWISE SPECIFIED, do not use supplemental coatings (paints, greases, or other corrosion inhibitors) on threaded fasteners or fastener joint interfaces. Generally, such coatings adversely affect the fastener torque and joint clamping force, and may damage the fastener. When you install fasteners, use the correct tightening sequence and specifications. Following these instructions can help you avoid damage to parts and systems.*

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ON-VEHICLE SERVICE

HANDLING ELECTROSTATIC DISCHARGE (ESD) SENSITIVE PARTS

Many solid state electrical components, such as those found in the instrument panel and the radio, can be damaged by Electrostatic Discharge (ESD). Some will display a label, but many will not (Figure 1).

NOTICE: *In order to avoid possibly damaging any components, observe the following:*

1. Body movement produces an electrostatic charge. To discharge personal static electricity, touch a ground point (metal) on the vehicle. This should be done any time you:
 - Slide across the seat.
 - Sit down or get up.
 - Do any walking.

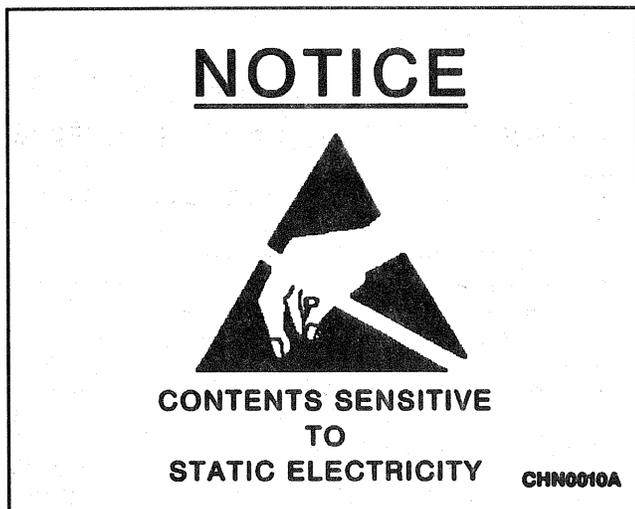


Figure 1—Electrostatic Discharge Parts Label

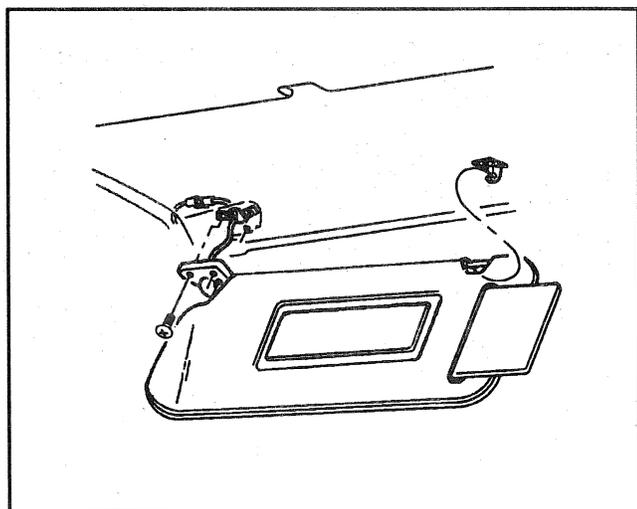


Figure 2—Sunshade Replacement

2. Do not touch exposed electric terminals on components with your finger or any tools. Remember, the connector that you are checking might be tied into a circuit that could be damaged by electrostatic discharge.
3. When using a screwdriver or similar tool to disconnect a connector, never let the tool come in contact with or come between the exposed terminals.
4. Never jump, ground, or use test equipment probes on any components or connectors unless specified in diagnosis. When using test equipment, always connect the ground lead first.
5. Do not remove the solid state component from its protective packaging until you are ready to install the part.
6. Always touch the solid state component's package to a ground before opening. Solid state components can also be damaged if:
 - They are bumped or dropped.
 - They are laid on any metal work benches or components that operate electrically, such as a TV, radio, or oscilloscope.

SUNSHADE REPLACEMENT

↔ Remove or Disconnect (Figure 2)

1. Screws.
2. Electrical connector (if equipped).
3. Sunshade.

→← Install or Connect (Figure 2)

1. Electrical connector (if equipped).
2. Sunshade.
3. Screws.

ASSIST HANDLE REPLACEMENT

↔ Remove or Disconnect (Figures 3 through 6)

1. Handle screw covers.
2. Screws.
3. Handle.

→← Install or Connect (Figures 3 through 6)

1. Handle.
2. Screws.
3. Handle screw covers.

COAT HOOK REPLACEMENT

↔ Remove or Disconnect (Figure 7)

1. Screw.
2. Coat hook.

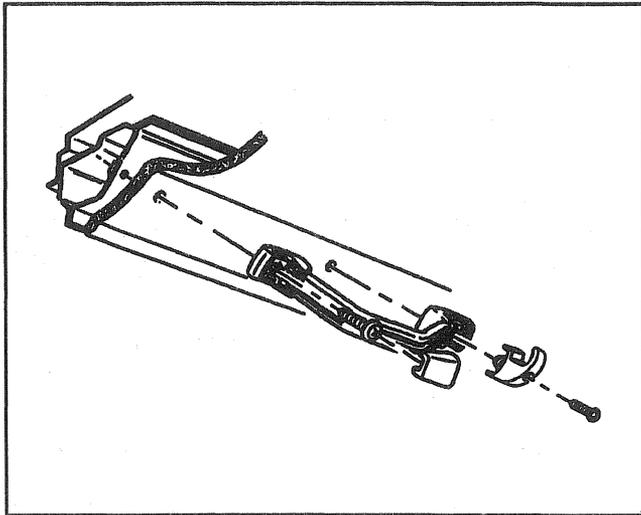


Figure 3—Assist Handle Replacement (Rear)

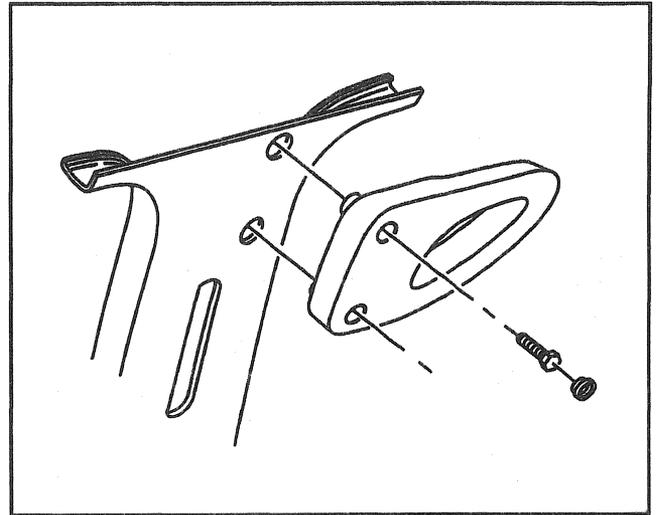


Figure 6—Assist Handle Replacement (Rear Side Door)

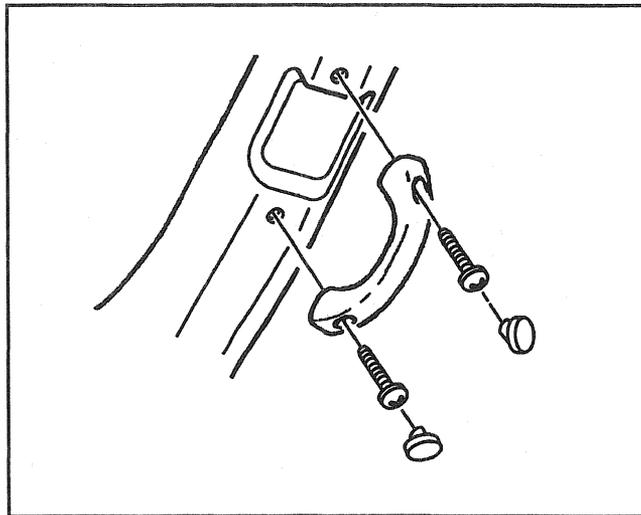


Figure 4—Assist Handle Replacement (Front)

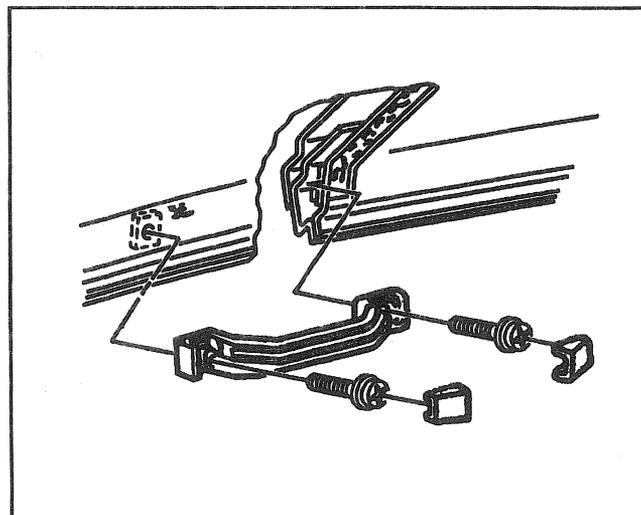


Figure 5—Assist Handle Replacement (Right Side Only)



Install or Connect (Figure 7)

1. Coat hook.
2. Screw.

FLOOR STORAGE COMPARTMENT REPLACEMENT



Remove or Disconnect (Figure 8)

1. Front tray from the compartment.
2. Storage bin.
3. Two bolts.
4. Storage compartment.



Install or Connect (Figure 8)

1. Storage compartment.

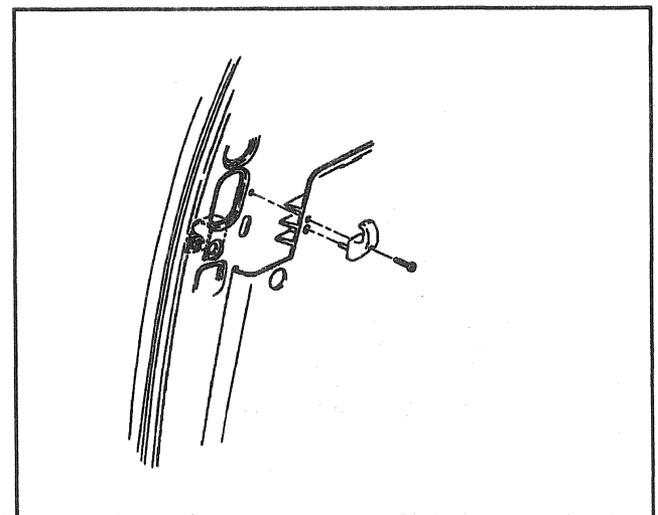
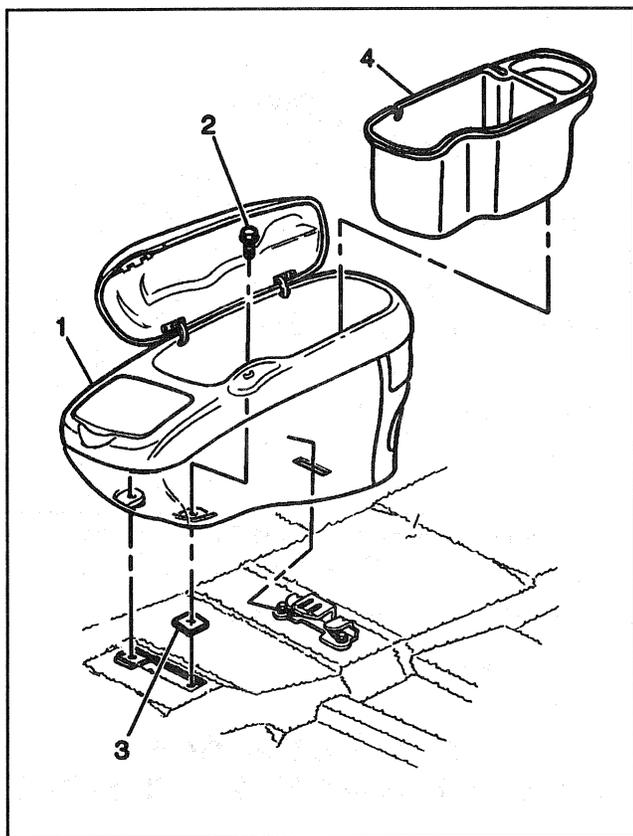


Figure 7—Coat Hook Replacement

10A4-4 INTERIOR TRIM



Legend

- (1) Floor Storage Compartment Assembly
- (2) Bolt
- (3) Sealer
- (4) Floor Storage Compartment Tray

Figure 8—Floor Storage Compartment

- 2. Two bolts.



Tighten

- Storage compartment bolts to 6 N.m (53 lb in).
- 3. Storage bin.
- 4. Front tray.

UPPER WINDSHIELD GARNISH MOLDING REPLACEMENT



Remove or Disconnect (Figure 9)

- 1. Upper windshield trim.
- 2. Roof side door trim.
- 3. Windshield pillar trim.



Install or Connect (Figure 9)

- 1. Windshield pillar trim.
- 2. Roof side door trim.
- 3. Upper windshield trim.

WINDSHIELD GARNISH MOLDING REPLACEMENT



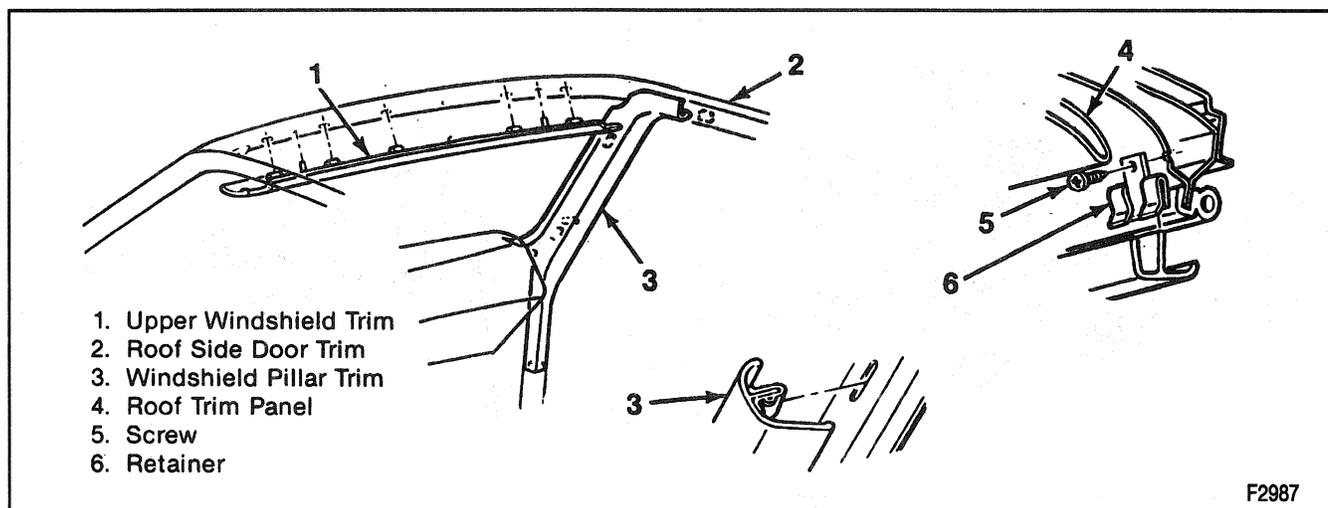
Remove or Disconnect (Figure 10)

- 1. Hinge pillar trim panel. Refer to "Hinge Pillar Trim Panel Replacement" in this section.
- 2. Windshield garnish molding.
 - Pull molding straight out to release retainers.



Install or Connect (Figure 10)

- 1. Windshield garnish molding.
 - Insert molding retainers into slots and press.
- 2. Hinge pillar trim panel. Refer to "Hinge Pillar Trim Panel Replacement" in this section.



- 1. Upper Windshield Trim
- 2. Roof Side Door Trim
- 3. Windshield Pillar Trim
- 4. Roof Trim Panel
- 5. Screw
- 6. Retainer

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Figure 9—Upper Windshield Garnish Molding

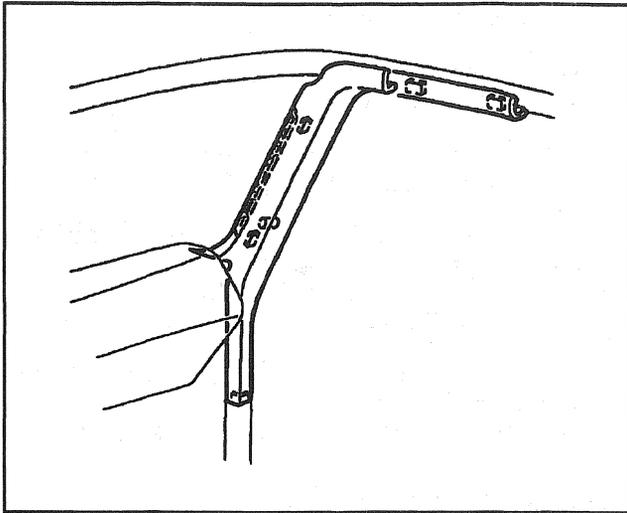


Figure 10—Windshield Garnish Molding Replacement

REAR SIDE DOOR UPPER GARNISH MOLDING REPLACEMENT

 Remove or Disconnect (Figure 11)

- 1. Molding by pulling straight down.

 Install or Connect (Figure 11)

- 1. Molding by inserting retainers into slots and pressing into place.

HEADLINER REPLACEMENT

Pickup, Extended Cab, and Crew Cab

 Remove or Disconnect (Figures 12 through 14)

- 1. Sunshades. Refer to "Sunshade Replacement" in this section.

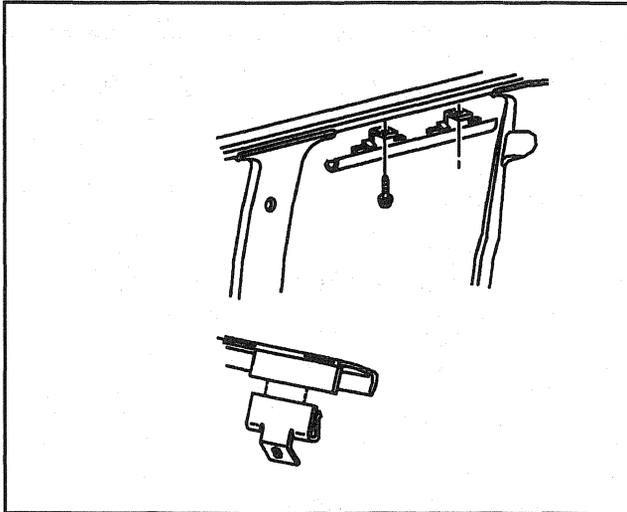


Figure 11—Rear Side Door Upper Garnish Molding Replacement

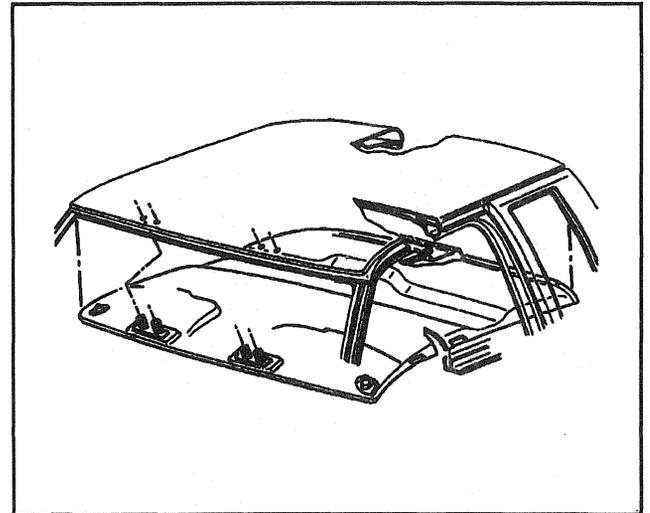


Figure 13—Headliner (Extended Cab)

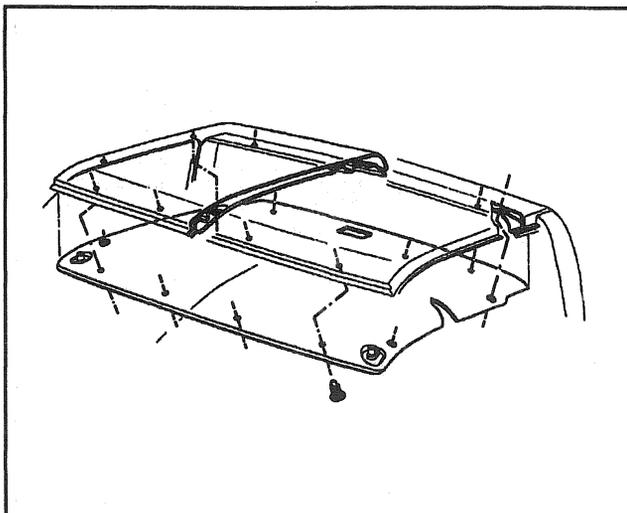


Figure 12—Headliner (Pickup)

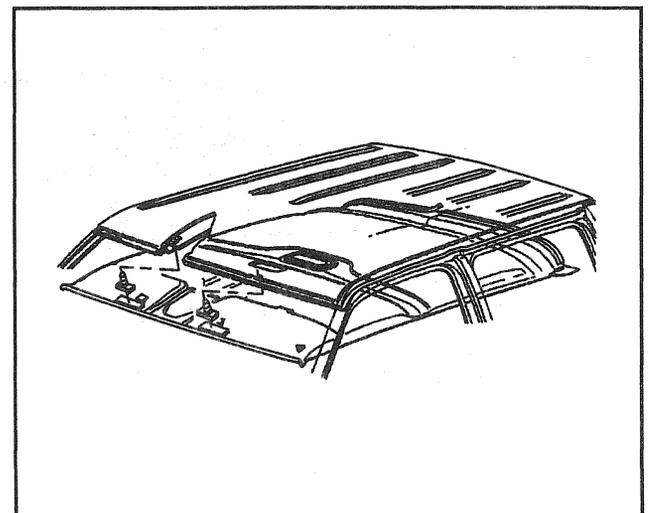


Figure 14—Headliner (Crew Cab)

10A4-6 INTERIOR TRIM

2. Assist handles (if equipped). Refer to "Assist Handle Replacement" in this section.
3. Rear window lower molding. Refer to "Rear Window Lower Garnish Molding Replacement" in this section.
4. Quarter panel trim. Refer to "Quarter Panel Trim Replacement" in this section.
5. Rear window upper molding. Refer to "Rear Window Upper Garnish Molding Replacement" in this section.
6. Upper windshield garnish molding. Refer to "Upper Windshield Garnish Molding Replacement" in this section.
7. Headliner.
 - A. Grasp the panel on the left and right sides near the front of the cab.
 - B. Disengage the front of the panel from the roof.
8. Retainers from trim panel.

Install or Connect (Figures 12 through 14)

1. Retainers to the trim panel.

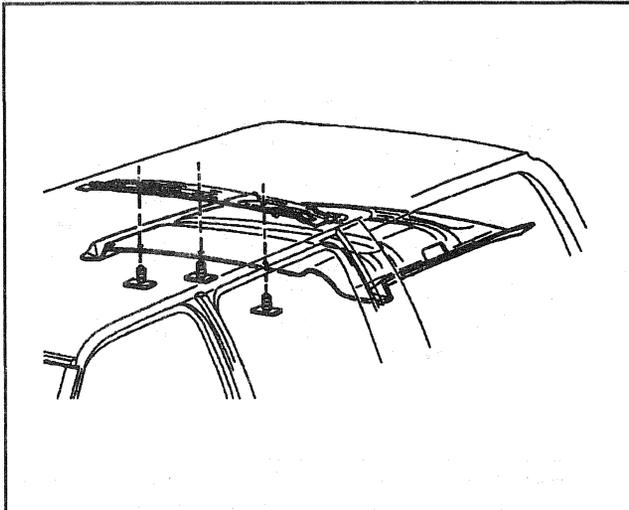


Figure 15—Rear Headliner (Suburban w/o Rear A/C)

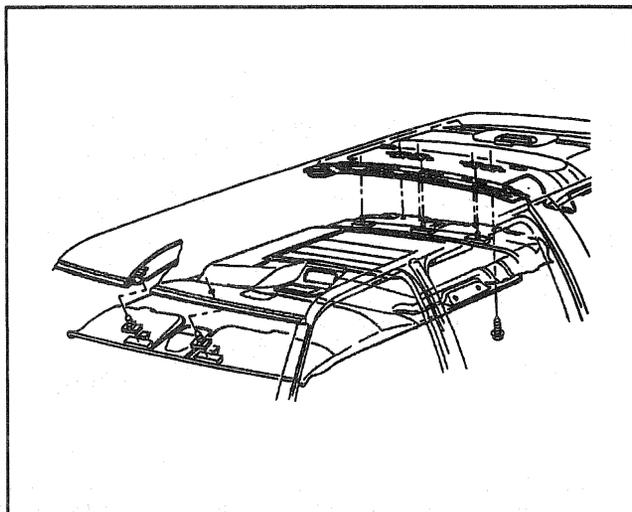


Figure 16—Rear Headliner (Suburban w/Rear A/C)

2. Headliner to the vehicle.
 - Insert the retainers into the windshield frame.
3. Upper windshield garnish molding. Refer to "Upper Windshield Garnish Molding Replacement" in this section.
4. Rear window upper molding. Refer to "Rear Window Upper Garnish Molding Replacement" in this section.
5. Quarter panel trim. Refer to "Quarter Panel Trim Replacement" in this section.
6. Rear window lower molding. Refer to "Rear Window Lower Garnish Molding Replacement" in this section.
7. Assist handle (if equipped). Refer to "Assist Handle Replacement" in this section.
8. Sunshades. Refer to "Sunshade Replacement" in this section.

Suburban and Utility

Remove or Disconnect (Figures 15 through 17)

1. Assist handles (if equipped). Refer to "Assist Handle Replacement" in this section.
2. Sunshades. Refer to "Sunshade Replacement" in this section.
3. Windshield garnish moldings. Refer to "Windshield Garnish Molding Replacement" in this section.
4. Coat hooks. Refer to "Coat Hook Replacement" in this section.
5. Dome lamps.
6. HVAC control assembly (if equipped). Refer to SECTION 1B.
7. Upper windshield garnish moldings. Refer to "Upper Windshield Garnish Molding Replacement" in this section.
8. Rear seat belt upper trim covers.
9. Side door lock pillar molding. Refer to "Pillar Molding Replacement" in this section.
10. Upper center trim panel.
11. Cargo door lock pillar molding panel. Refer to "Pillar Molding Replacement" in this section.
12. Overhead console. Refer to "Overhead Console Replacement" in this section.

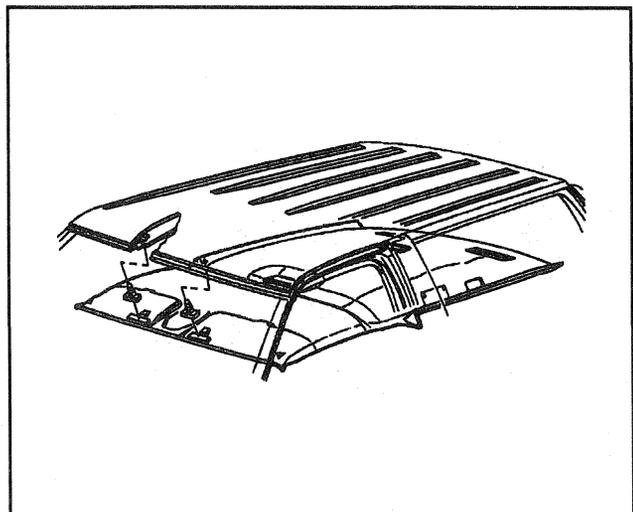


Figure 17—Headliner (Two-Door Utility)

↔ Install or Connect (Figures 15 through 17)

1. Overhead console. Refer to "Overhead Console Replacement" in this section.
2. Windshield garnish moldings.
3. Assist handles.
4. Coat hooks.
5. Dome lamps.
6. HVAC control assembly (if equipped).
7. Upper windshield garnish moldings. Refer to "Upper Windshield Garnish Molding Replacement" in this section.
8. Rear seat belt upper trim covers.
9. Side door lock pillar molding. Refer to "Pillar Molding Replacement" in this section.
10. Upper center trim panel.
11. Cargo door lock pillar molding panel. Refer to "Pillar Molding Replacement" in this section.
12. Sunshades. Refer to "Sunshade Replacement" in this section.
13. Assist handles (if equipped).

OVERHEAD CONSOLE REPLACEMENT

↔ Remove or Disconnect (Figure 18)

1. Console to the roof screw.
2. Electrical connectors.
3. Console.

↔ Install or Connect (Figure 18)

NOTICE: Refer to "Notice" on page 10A4-1.

1. Console to the roof.
2. Electrical connectors.
3. Console to the roof screw.

⌚ Tighten

- Overhead Console Screws to 2 N.m (18 lb in).

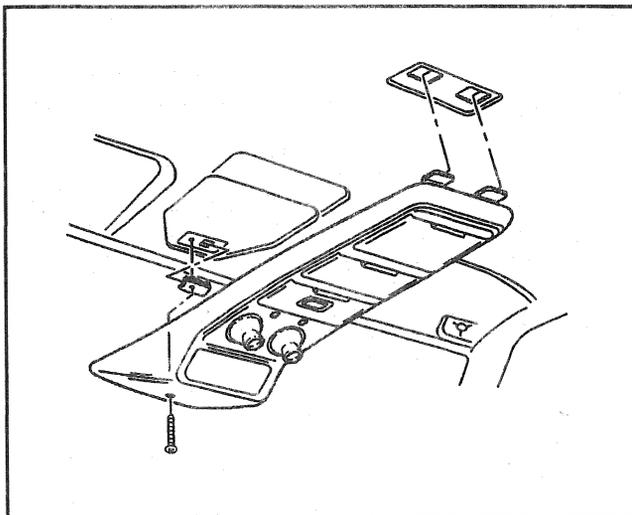


Figure 18—Overhead Console

REAR WINDOW UPPER GARNISH MOLDING REPLACEMENT

↔ Remove or Disconnect (Figures 19 and 20)

1. Retainer screws.
2. Molding from rear body panel.

↔ Install or Connect (Figures 19 and 20)

NOTICE: Refer to "Notice" on page 10A4-1.

1. Molding to the rear body panel.
2. Retainer screws.

⌚ Tighten

- Upper Garnish Molding Screws to 2 N.m (18 lb in.).

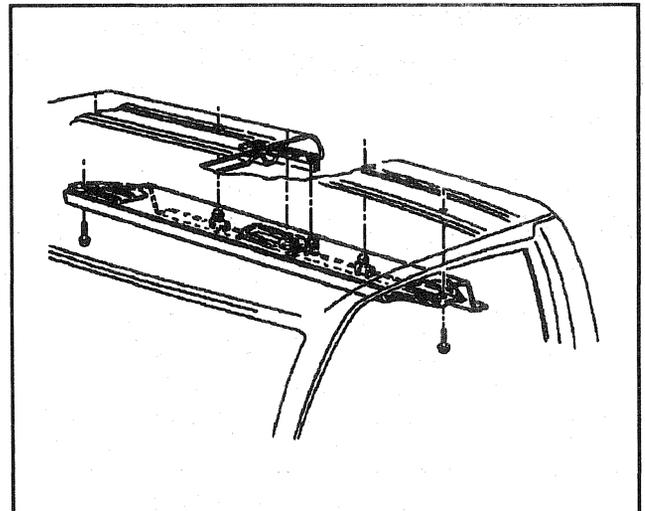


Figure 19—Rear Window Upper Garnish Molding (Pickup, Extended Cab, and Crew Cab)

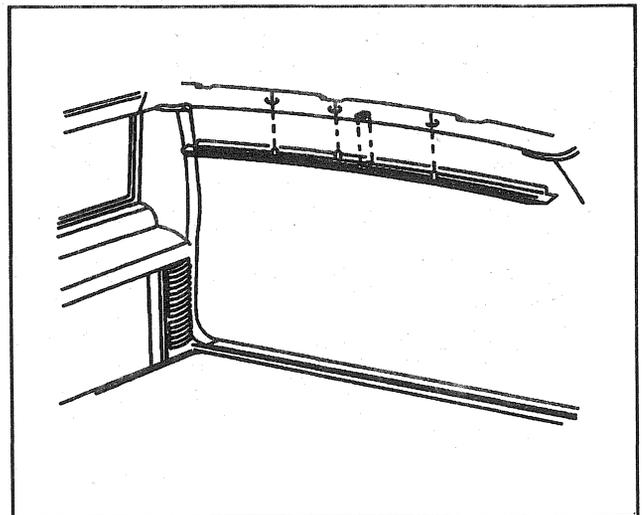


Figure 20—Rear Window Upper Garnish Molding (Suburban and Utility)

10A4-8 INTERIOR TRIM

REAR WINDOW LOWER GARNISH MOLDING REPLACEMENT

↔ Remove or Disconnect (Figure 21)

1. Lightly pull lower edge of molding to release the four clips.
2. Lift molding up and away from glass to release upper retainers.

→← Install or Connect (Figure 21)

1. Align molding clips with holes in body panel along back glass.
2. Snap molding into place by applying light pressure along top of molding at glass.
3. Align lower row of molding clips, then snap lower portion of molding into place.

QUARTER PANEL TRIM REPLACEMENT

Pickup, Extended Cab, and Crew Cab

↔ Remove or Disconnect (Figures 22 and 23)

1. Coat hook. Refer to "Coat Hook Replacement" in this section.
2. Seat belt guide. Refer to SECTION 10A2
3. Seat belt retractor. Refer to SECTION 10A2.
4. Jack cover, jack, and jack tray (right side).
5. Rear window lower garnish molding. Refer to "Rear Window Lower Garnish Molding Replacement" in this section.
6. Quarter panel trim screws (Pickup and Crew Cab only).
7. Rear screw from the sill plate (Pickup and Crew Cab only).

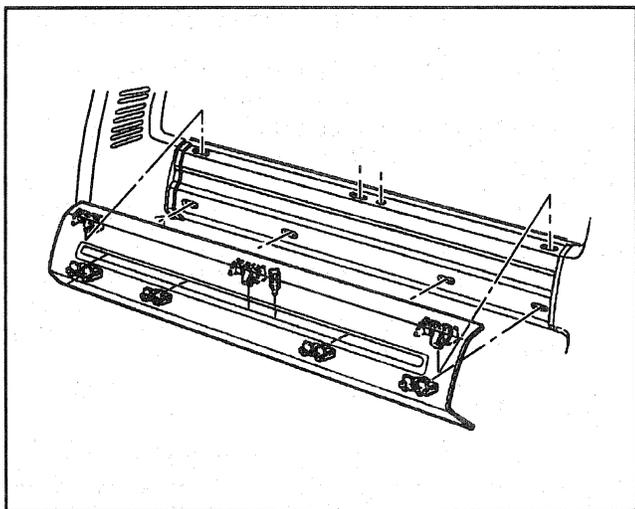


Figure 21—Rear Window Lower Garnish Molding

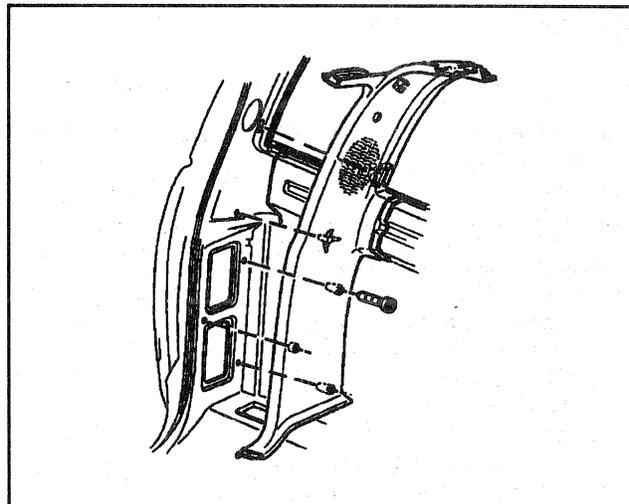


Figure 22—Quarter Panel Trim (Pickup and Crew Cab)

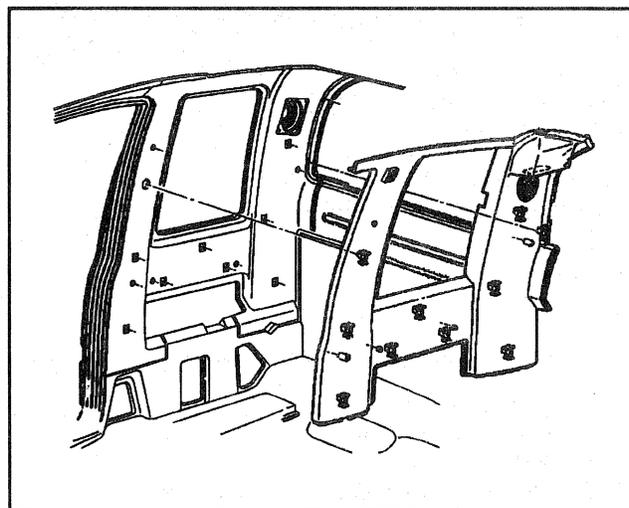


Figure 23—Quarter Panel Trim (Extended Cab)

8. Quarter panel.

→← Install or Connect (Figures 22 and 23)

NOTICE: Refer to "Notice" on page 10A4-1.

1. Quarter panel.
2. Panel screws (Pickup and Crew Cab only).

⌚ Tighten

- Quarter panel trim screws to 2 N.m (18 lb in).

3. Rear screw into the sill plate.
4. Rear window lower garnish molding.
5. Jack tray, jack, and cover (right side).
6. Seat belt retractor. Refer to SECTION 10A2.
7. Seat belt guide. Refer to SECTION 10A2.
8. Coat hook. Refer to "Coat Hook Replacement" in this section.

Suburban and Utility

Right Side

↔ Remove or Disconnect (Figures 24 through 34)

1. Rear seat. Refer to SECTION 10A2.
2. Arm rest to side panel screws. (Suburban only)
3. Arm rest from the quarter panel trim.
4. Rear blower motor trim cover.
5. Cargo door pillar molding. Refer to "Pillar Molding Replacement" in this section.
6. Rear door lock pillar molding (Suburban only). Refer to "Pillar Molding Replacement" in this section.
7. Front door lock pillar molding (Utility). Refer to "Pillar Molding Replacement" in this section.
8. Quarter panel trim screws.
9. Quarter panel trim from the vehicle.

- Lift panel to release from vehicle.

↔ Install or Connect (Figures 24 through 34)

NOTICE: Refer to "Notice" on page 10A4-1.

1. Quarter panel trim to the vehicle.
2. Quarter panel trim screws.

⌚ Tighten

- Quarter Panel Trim Screws to 2 N.m (18 lb in).
3. Rear door lock pillar molding to pillar (Suburban only).
 4. Front door lock pillar molding to pillar (Utility only). Refer to "Hinge Pillar Molding Replacement" in this section.
 5. Cargo door pillar molding to pillar. Refer to "Hinge Pillar Trim Panel Replacement" in this section.
 6. Rear blower motor trim cover.
 7. Arm rest to quarter panel trim.
 8. Arm rest to the quarter panel trim screws.

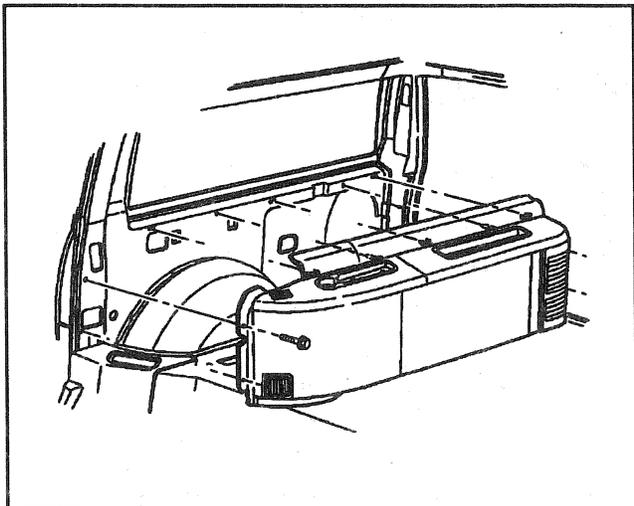


Figure 24—Right Quarter Panel Trim (Suburban)

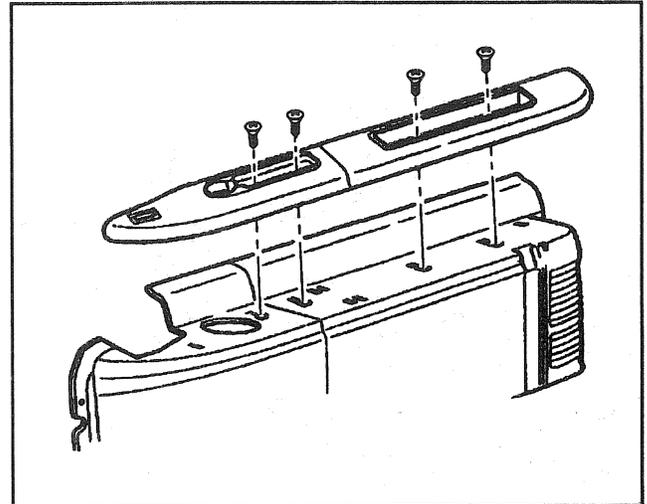


Figure 25—Right Quarter Panel Trim (Upper Arm Rest)

⌚ Tighten

- Quarter Panel Trim Armrest Screws to 2 N.m (18 lb in).
9. Rear seat. Refer to SECTION 10A2.

Left Side

↔ Remove or Disconnect (Figures 24 through 34)

1. Rear seat. Refer to SECTION 10A2.
2. Spare tire cover.
3. Spare tire and jack (Utility).
4. Spare tire rest trim covers.
5. Spare tire rest bolts.
6. Spare tire rest from the vehicle.
7. Spare tire holder from the floor.
8. Spare tire I-bolt from the vehicle.
9. Arm rest.
10. Cargo door pillar moldings. Refer to "Hinge Pillar Trim Panel Replacement" in this section.
11. Intermediate seat belt to rear door pillar bolt. Refer to SECTION 10A2.
12. Intermediate seat belt anchor to the floor bolt. Refer to SECTION 10A2.
13. Rear door lock pillar molding. Refer to "Hinge Pillar Trim Panel Replacement" in this section.
14. Quarter panel trim screws.
15. Quarter panel trim from the vehicle.

↔ Install or Connect (Figures 24 through 34)

NOTICE: Refer to "Notice" on page 10A4-1.

1. Quarter panel trim to vehicle.
2. Quarter panel trim screws.

⌚ Tighten

- Quarter Panel Trim Screws to 2 N.m (18 lb in).
3. Rear door lock pillar trim panel (Suburban only). Front door lock pillar (Utility only). Refer to "Hinge Pillar Trim Panel Replacement" in this section.

10A4-10 INTERIOR TRIM

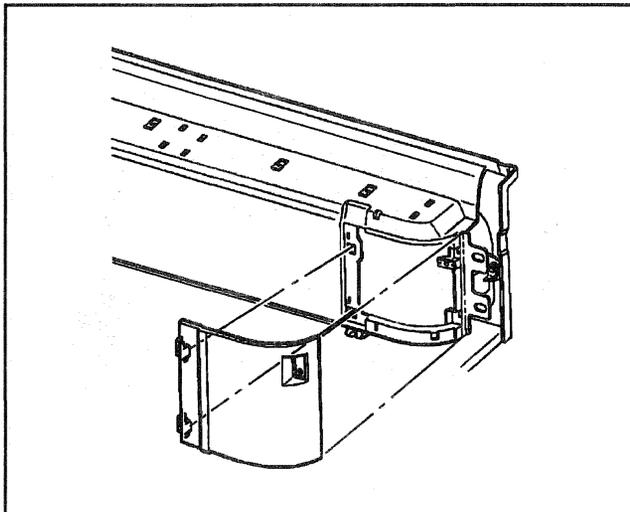


Figure 26—Right Quarter Panel Trim (Access Door)

4. Intermediate seat belt anchor to floor bolt. Refer to SECTION 10A2.
5. Intermediate seat belt to rear door pillar bolt. Refer to SECTION 10A2.
6. Cargo door pillar trim panels to pillar. Refer to "Hinge Pillar Trim Panel Replacement" in this section.
7. Arm rest.
8. Spare tire I-bolt to vehicle.
9. Spare tire holder to floor.
10. Spare tire rest to vehicle.
11. Spare tire rest bolts.
12. Spare tire rest covers and jack (Utility).
13. Spare tire.
14. Spare tire cover.
15. Rear seat. Refer to SECTION 10A2.

LOWER REAR QUARTER TRIM PANEL REPLACEMENT

Pickup and Extended Cab

 Remove or Disconnect (Figures 35 through 38)

1. Armrest (if equipped).
2. Pocket from the lower panel (if equipped).
3. Lower panel screws.
4. Panel from the vehicle.

 Install or Connect (Figures 35 through 38)

1. Panel to the vehicle.
2. Lower panel screws.
3. Pocket to the lower panel (if equipped).
4. Armrest (if equipped).

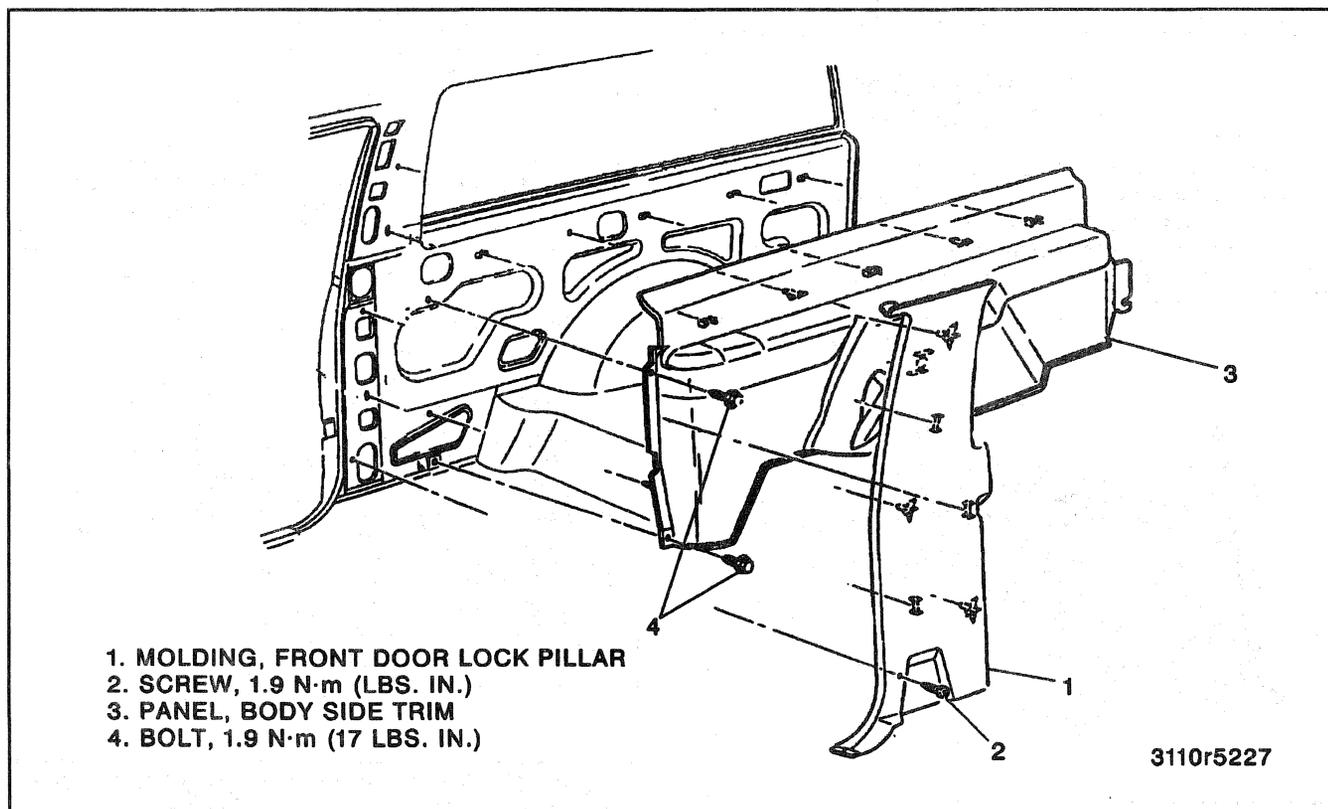
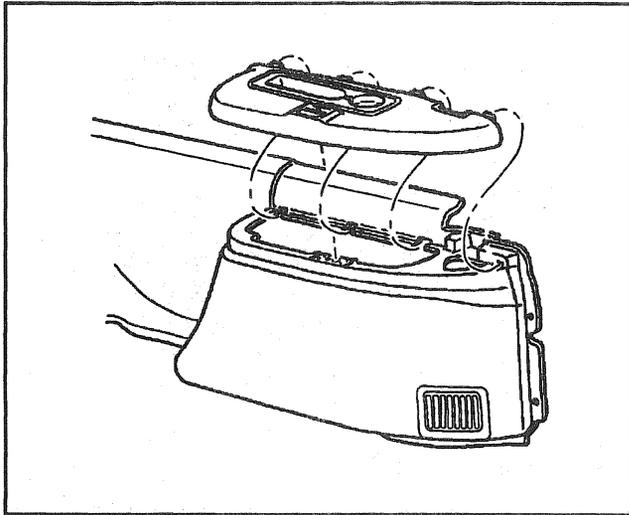


Figure 27—Quarter Panel Trim (Utility)



**Figure 28—Left Quarter Panel Trim
(Upper Armrest-Suburban)**

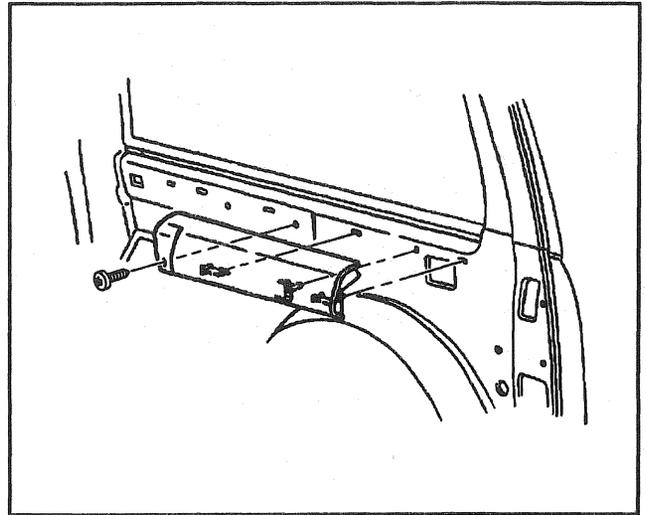
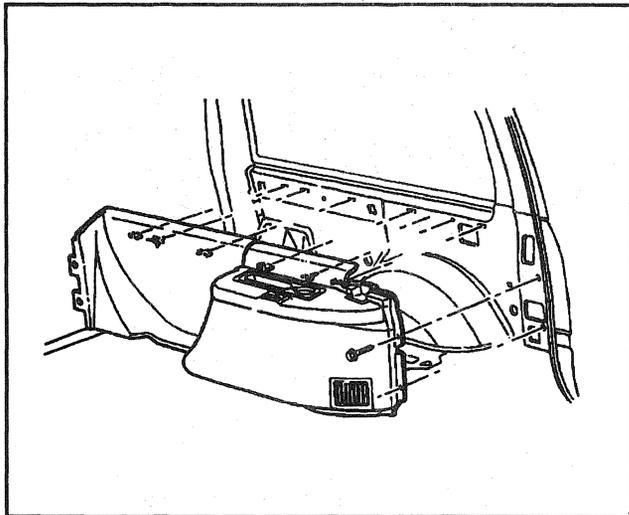
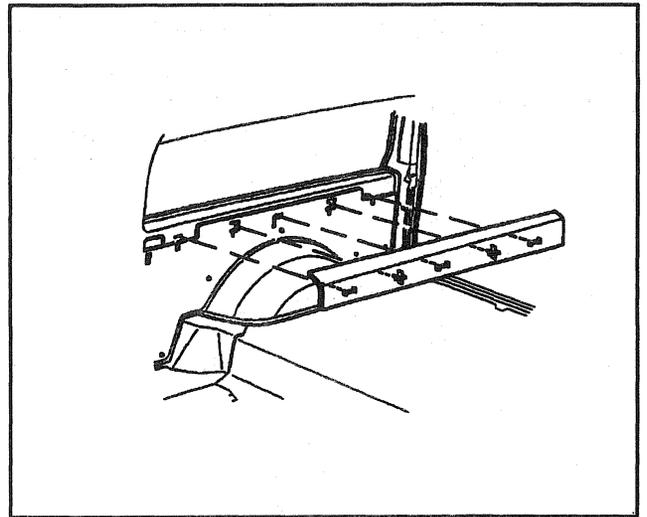


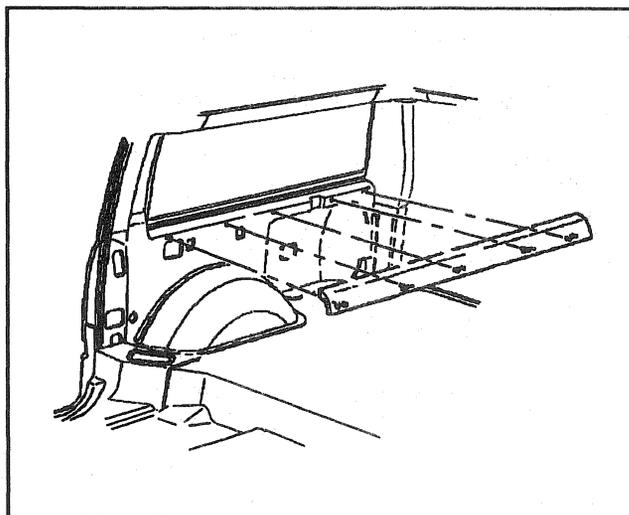
Figure 31—Rear Window Garnish Molding



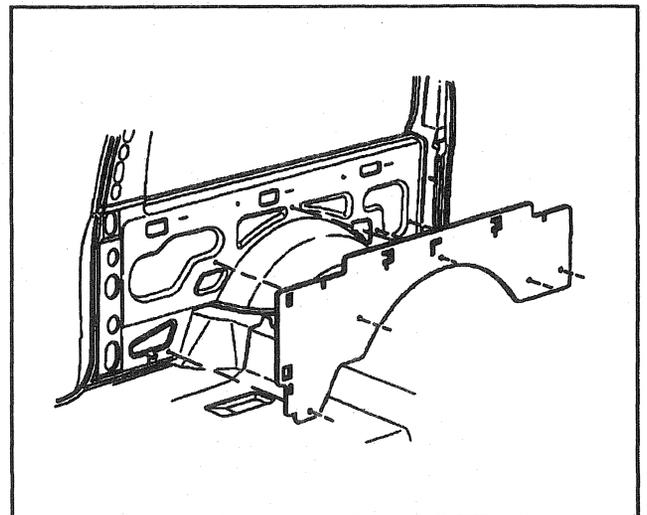
**Figure 29—Left Quarter Panel Trim
(Lower-Suburban)**



**Figure 32—Rear Window Garnish Molding
(Utility w/o Convenience Package)**



**Figure 30—Rear Window Garnish Molding
(Suburban w/o Convenience Package)**



**Figure 33—Quarter Panel Trim (Right Side—Two
door Utility w/o Convenience Package)**

10A4-12 INTERIOR TRIM

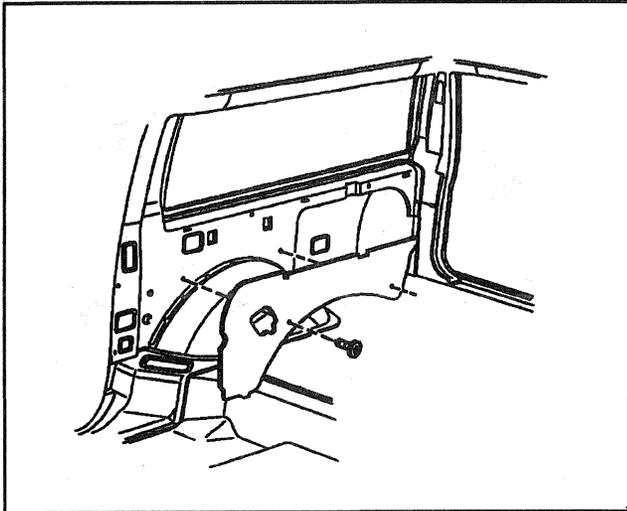


Figure 34—Quarter Panel Trim
(Right Side—Suburban w/o Convenience Package)

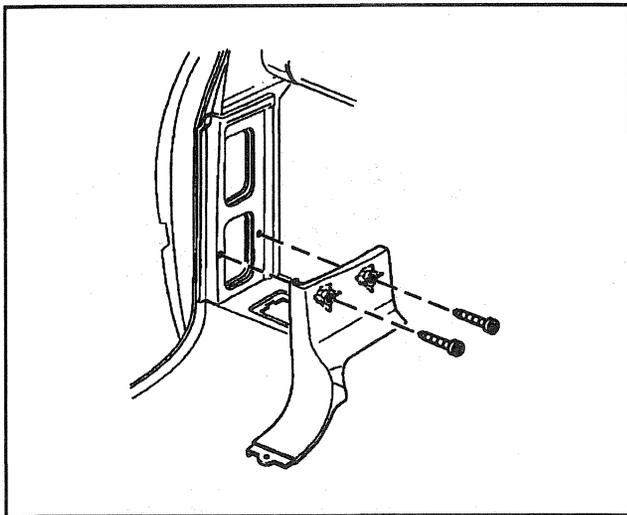


Figure 35—Side Rear Lower (Pickup)

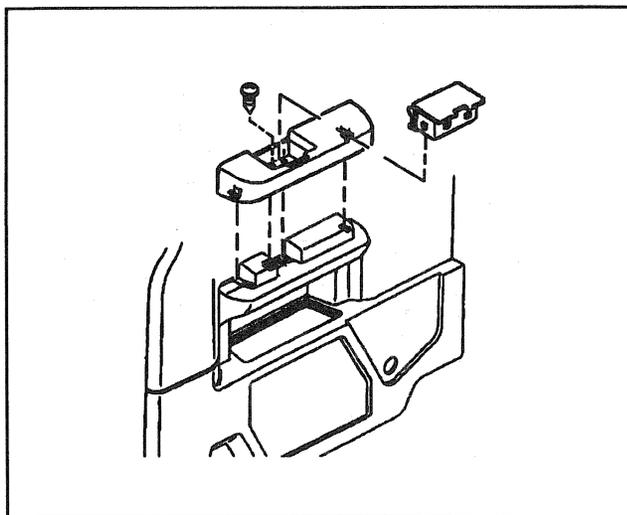


Figure 36—Side Rear Lower Panel
(Extended Cab w/Rear Seat)

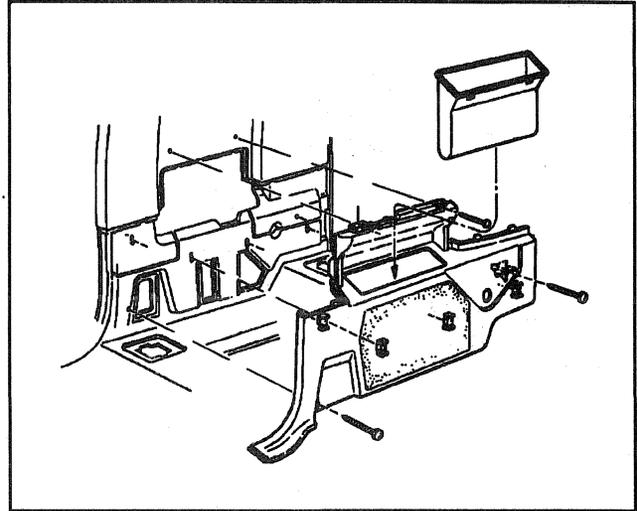


Figure 37—Side Rear Lower Panel (Extended Cab)

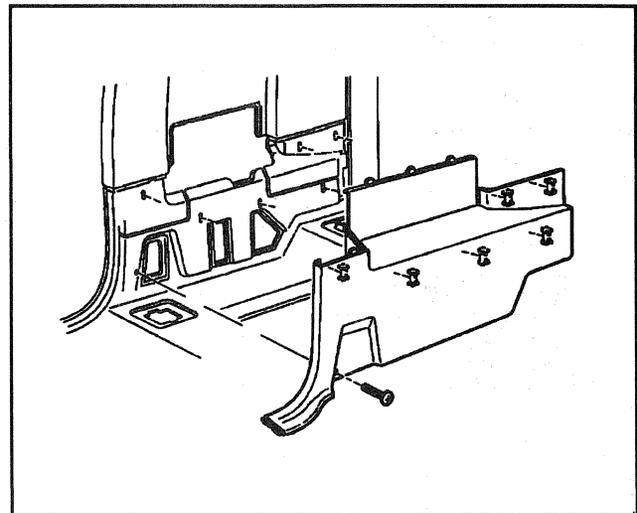


Figure 38—Side Rear Lower Panel
(Extended Cab w/o Rear Seat)

HINGE PILLAR TRIM PANEL REPLACEMENT

 Remove or Disconnect (Figure 39)

1. Retainer screw.
2. Trim panel from the retainers.

 Install or Connect (Figure 39)

1. Trim panel to the retainers.
2. Retainer screw.

DOOR SILL PLATE REPLACEMENT

 Remove or Disconnect (Figure 40)

1. Screws.

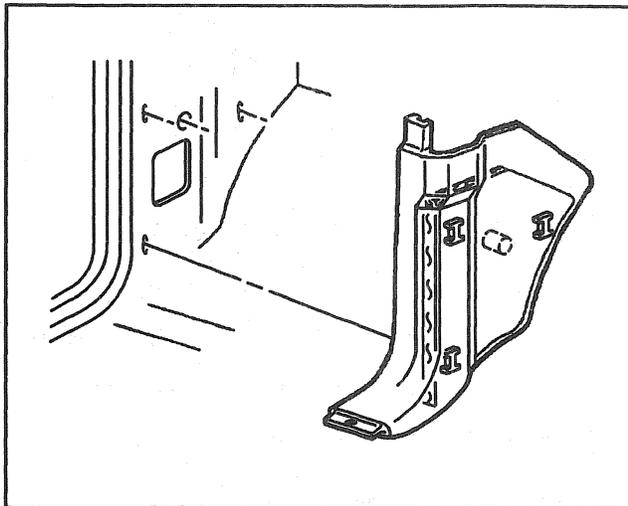


Figure 39—Hinge Pillar Trim Panel

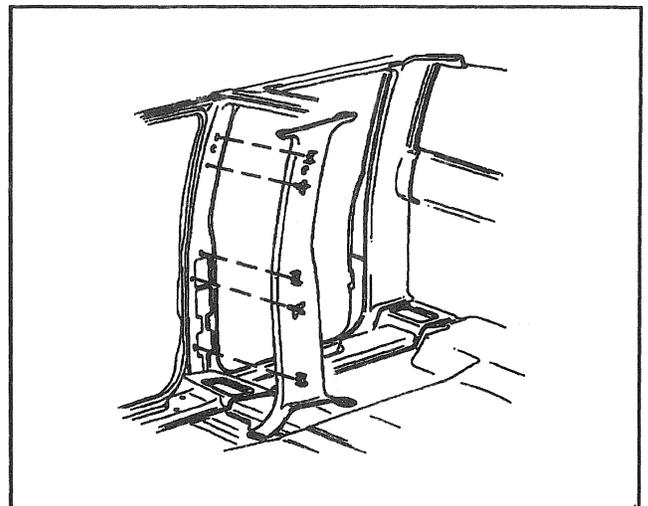


Figure 41—Front Side Door Lock Pillar Garnish Molding (Crew Cab)

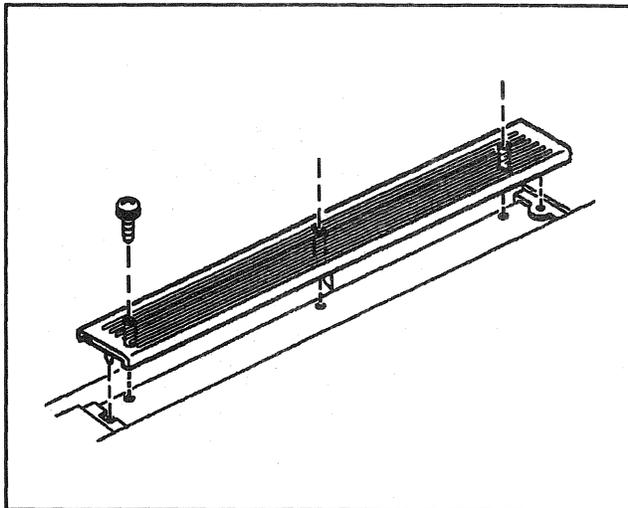


Figure 40—Door Sill Plate Replacement

- 2. Sill plate.

↔ Install or Connect (Figure 40)

- 1. Sill plate.
- 2. Screws.

⌚ Tighten

- Door sill plate screws to 2 N.m (18 lb in).

PILLAR MOLDING REPLACEMENT

Suburban, Utility, and Crew Cab

↔ Remove or Disconnect (Figures 41 through 45)

- 1. Door sill plates. Refer to "Door Sill Plate Replacement" in this section.
- 2. Seat belt to pillar anchors (side door lock pillars only). Refer to SECTION 10A2.
- 3. Pillar molding screws

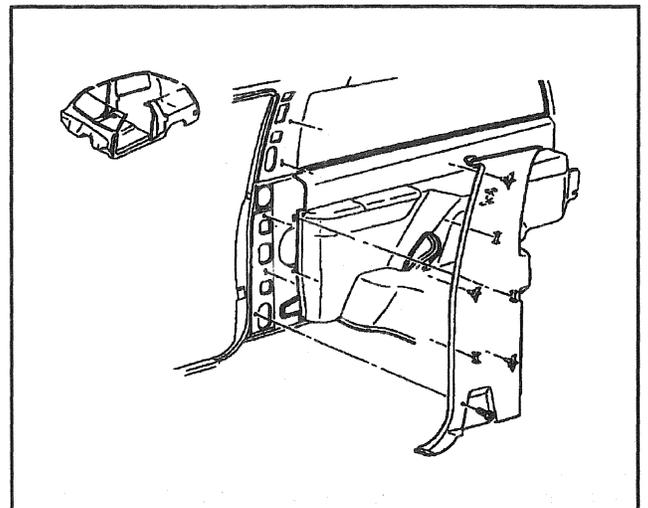


Figure 42—Front Side Door Lock Pillar Garnish (Two-Door Utility)

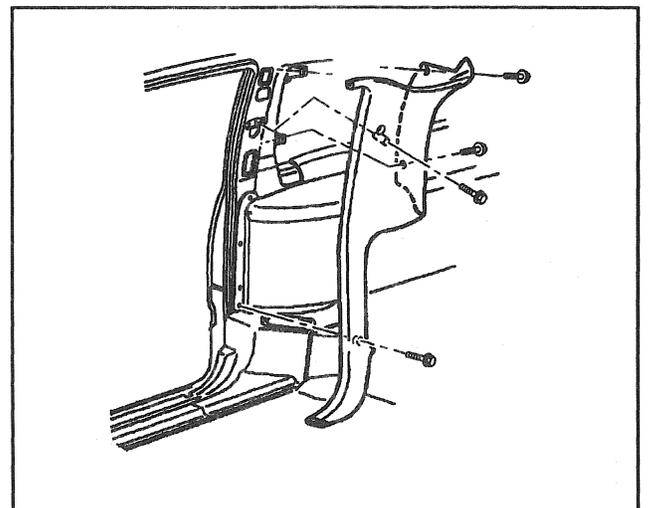


Figure 43—Right Rear Side Door Lock Pillar Garnish (Suburban)

10A4-14 INTERIOR TRIM

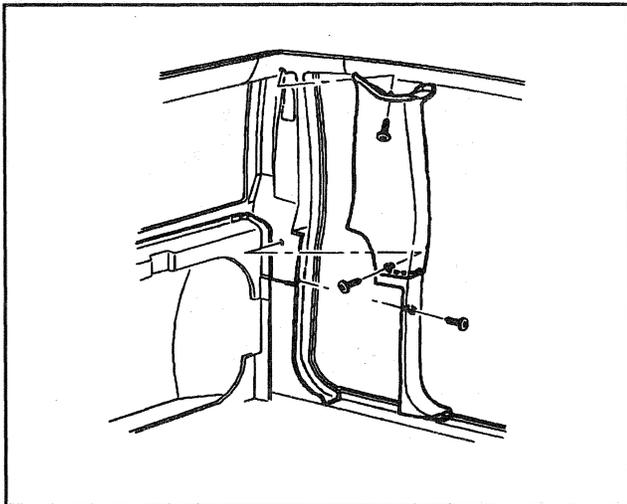


Figure 44—Rear Body Corner Garnish (Suburban)

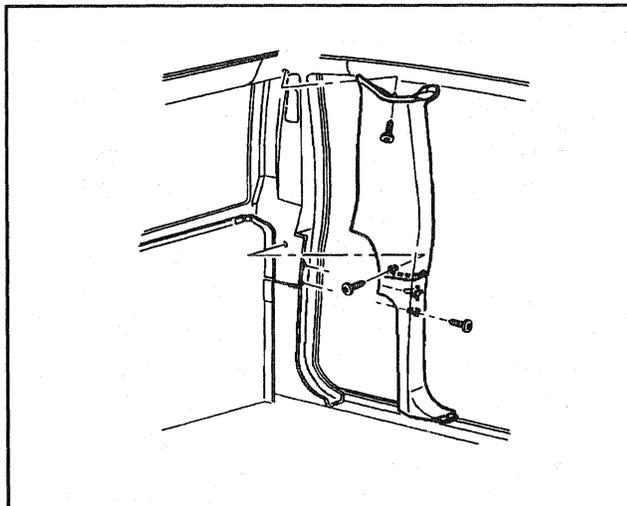


Figure 45—Rear Body Corner Garnish (Two-Door Utility)

4. Pillar moldings.

↔ Install or Connect (Figure 41 through 45)

NOTICE: Refer to "Notice" on page 10A4-1.

1. Pillar moldings.
2. Pillar moldings screws to pillar.



Tighten

- Pillar molding screws to 2 N·m (18 lb in).

3. Seat belt anchors to pillars. Refer to SECTION 10A2.
4. Door sill plates. Refer to "Door Sill Plate Replacement" in this section.

LUGGAGE SHADE REPLACEMENT

If equipped the vehicle will have a luggage shade located in the rear compartment. The luggage shade is adjustable to three positions to cover the rear compartment area of the vehicle.

↔ Remove or Disconnect (Figure 46)

1. Luggage shade assembly from vehicle.
 - Pull back and up to release rear of luggage shade.
 - Pull in and up to release front of luggage shade.

↔ Install or Connect (Figure 46)

1. Luggage shade assembly to vehicle.
 - Insert front of luggage shade into right side first then push in and insert left side into interior side panel.
 - Pull back and insert into one of three available positions.

AUXILIARY DOOR LOCK SWITCH REPLACEMENT

On the passenger side of the rear cargo door or tailgate, there is a power lock switch which can be used to lock or unlock all of the doors.

On vehicles with cargo doors, if the rear cargo lock switch is pressed with the cargo doors open, all of the doors will lock five seconds after the cargo doors are closed. If the cargo doors are closed, the vehicle doors will lock when a power door lock switch is pressed.

↔ Remove or Disconnect (Figure 47)

1. (2) screws on right "D" pillar trim panel.
2. Wiring connector.
3. Unclip switch.
4. Switch.

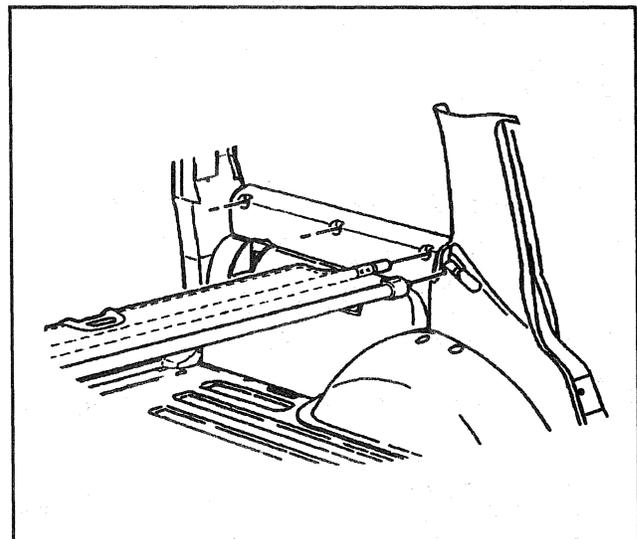


Figure 46—Luggage Shade

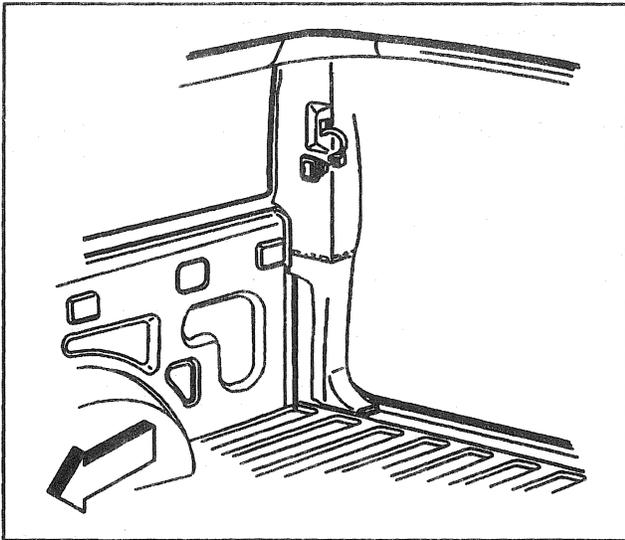


Figure 47—Auxiliary Door Lock Switch

→← Install or Connect (Figure 47)

1. Clip switch into location.
2. Wiring connector.
3. (2) screws into right "D" pillar trim panel.

⌚ Tighten

- "D" pillar trim panel screws to 2 N.m (18 lb in).

REAR PANEL CARPET REPLACEMENT

Pickup, Extended Cab, and Crew Cab

←→ Remove or Disconnect (Figure 48)

1. Rear window lower garnish molding. Refer to "Rear Window Lower Garnish Molding Replacement" in this section.
2. Side rear trim panel.
3. Side rear lower panel.
4. Carpet retainers.
5. Carpet panel.
6. Carpet.

→← Install or Connect (Figure 48)

1. Carpet.
2. Carpet panel.
3. Carpet retainers.

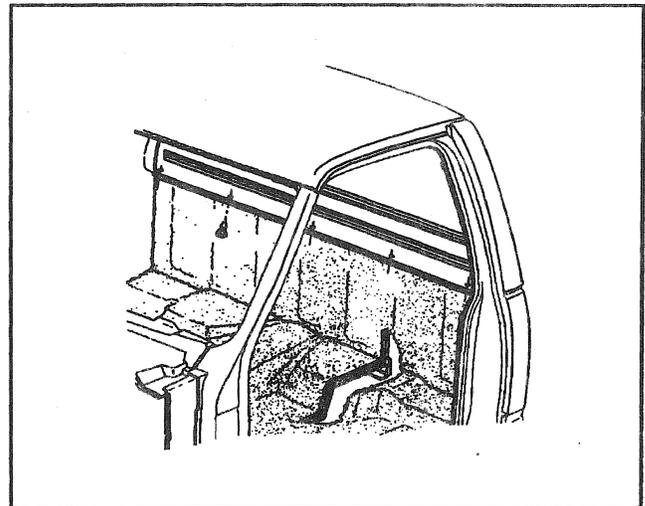


Figure 48—Rear Carpet Panel

4. Side rear lower panel.
5. Side rear lower panel.
6. Rear window lower garnish molding. Refer to "Rear Window Lower Garnish Molding Replacement" in this section.

FLEXIBLE PLASTIC PART REFINISHING

NOTICE: Use supplies, primer, basecoats and clearcoats from the same manufacturer for the best results. Do not intermix paint systems.

To refinish repaired or replacement flexible parts, follow the paint manufacturer's system regarding preparation, priming, and refinishing. Because these parts are flexible, they may require special additives in the primers and topcoat to prevent cracking and poor adhesion. Always use manufacturer's recommended materials. Never intermix with other systems.

To identify the type of paint to use when refinishing interior panels, refer to "Service Parts Identification Label" in SECTION 0A. This label contains all paint technology, paint codes, trim level, and any special order paint color codes necessary to identify the correct paint.

10A4-16 INTERIOR TRIM

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Application	N.m	Lb ft	Lb in
Floor Console Bolts	6	—	53
Overhead Console Screws	2	—	18
Pillar Molding Screws	2	—	18
Door Sill Plate Screws	2	—	18
Quarter Panel Trim Screws	2	—	18
Quarter Panel Trim Armrest Screws	2	—	18
Upper Garnish Molding Screws	2	—	18
"D" Pillar Trim Panel Screws	2	—	18

SECTION 10A5

ENDGATE

CAUTION: This vehicle has a Supplemental Inflatable Restraint (SIR) System. Refer to the SIR Component and Wiring Location view in order to determine whether you are performing service on or near the SIR components or the SIR wiring. When you are performing service on or near the SIR components or the SIR wiring, refer to the SIR On-Vehicle Service information. Failure to follow the CAUTIONS could cause air bag deployment, personal injury, or unnecessary SIR system repairs.

CAUTION: When applying sound deadeners or anti-corrosion materials, due care and preventative measures must be exercised to prevent any material from being sprayed into door and quarter panel mechanisms such as door locks, glass run channels, window quarters and seat belt retractors, as well as any moving or rotating mechanical or suspension parts on the underbody, particularly the parking brake cable. After material application, be sure all body drain holes are open. Improper application may limit the operation of moving parts or increase the chance of corrosion damage. Personal injury could result.

NOTICE: *Always use the correct fastener in the proper location. When you replace a fastener, use ONLY the exact part number for that application. General Motors will call out those fasteners that require a replacement after removal. General Motors will also call out the fasteners that require thread lockers or thread sealant. UNLESS OTHERWISE SPECIFIED, do not use supplemental coatings (paints, greases, or other corrosion inhibitors) on threaded fasteners or fastener joint interfaces. Generally, such coatings adversely affect the fastener torque and joint clamping force, and may damage the fastener. When you install fasteners, use the correct tightening sequence and specifications. Following these instructions can help you avoid damage to parts and systems.*

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ON-VEHICLE SERVICE (PICKUP MODELS)

ENDGATE REPLACEMENT



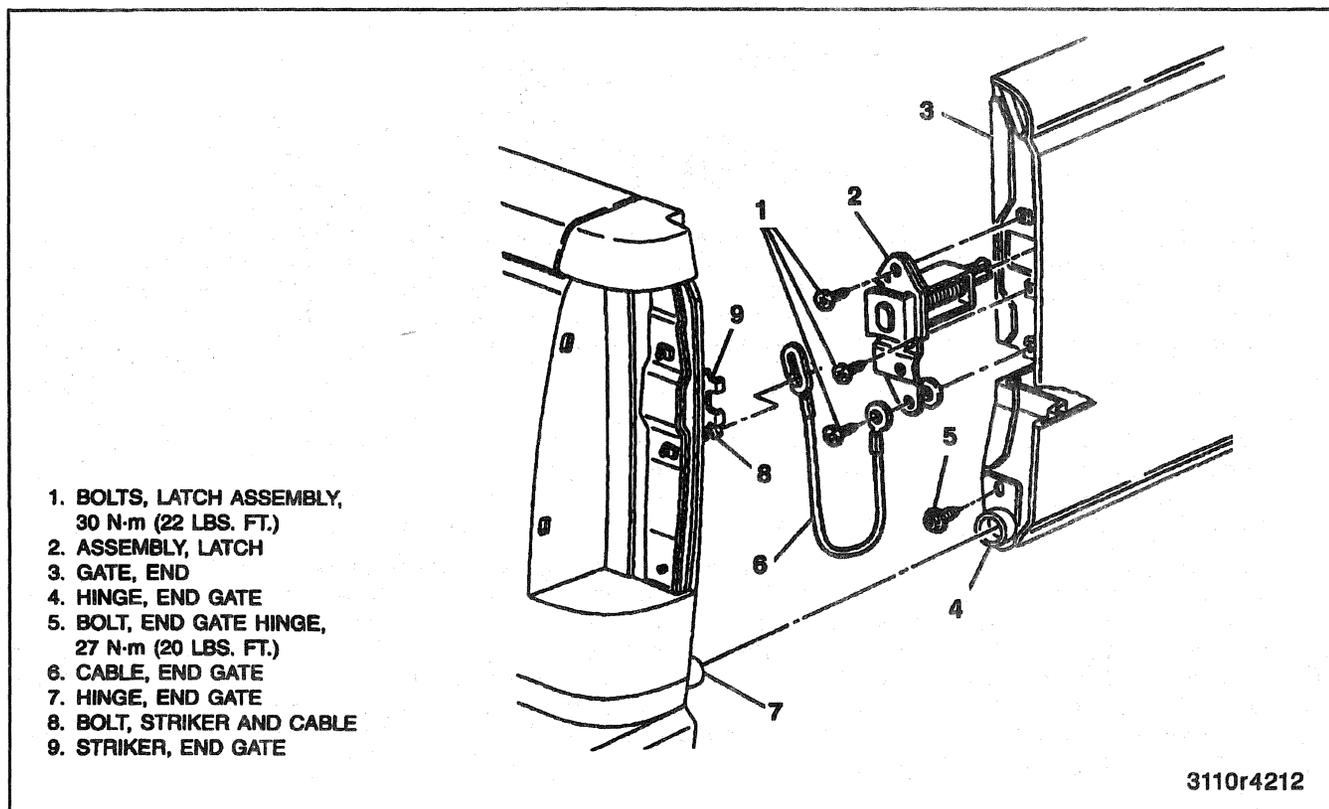
Remove or Disconnect (Figures 1 and 2)

- Lower the endgate to a horizontal position.

- Pull up on the middle of the cable assembly.
- With the aid of an assistant, raise the endgate 45 degrees.

1. Cable on each side from the side panel striker bolts (Figure 1).

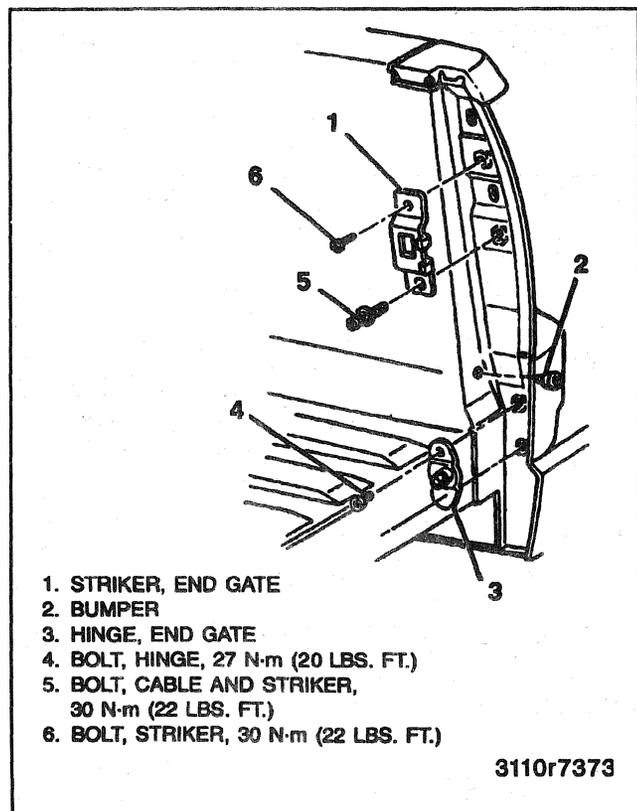
10A5-2 ENDGATE



1. BOLTS, LATCH ASSEMBLY, 30 N-m (22 LBS. FT.)
2. ASSEMBLY, LATCH
3. GATE, END
4. HINGE, END GATE
5. BOLT, END GATE HINGE, 27 N-m (20 LBS. FT.)
6. CABLE, END GATE
7. HINGE, END GATE
8. BOLT, STRIKER AND CABLE
9. STRIKER, END GATE

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Figure 1—End Cable and Latch Components



1. STRIKER, END GATE
2. BUMPER
3. HINGE, END GATE
4. BOLT, HINGE, 27 N-m (20 LBS. FT.)
5. BOLT, CABLE AND STRIKER, 30 N-m (22 LBS. FT.)
6. BOLT, STRIKER, 30 N-m (22 LBS. FT.)

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Figure 2—Side Panel Striker and Hinge Components

2. Endgate from the right side hinge assembly and then the left hinge assembly with the aid of a helper.

⇔ Install or Connect (Figures 1 and 2)

- Use a helper to lift the endgate.
1. Endgate to side panel hinge assemblies holding the gate at a 45 degree angle (Figure 1).
 2. Cable on each side onto the side panel striker bolts (Figure 2).

ENDGATE LATCH OPERATING HANDLE REPLACEMENT

⇔ Remove or Disconnect (Figure 3)

- Lower the endgate.
1. Three bolts and washers from the back of the endgate behind the handle.
 - Raise the endgate.
 2. Bezel from around the handle by prying gently.

🔍 Inspect

- Bezel for damage to the retention prongs. If any are broken or bent, replace the bezel.
3. Latch operating rods from the retainers on the handle by pushing the rods back.
 4. Handle assembly from the endgate.

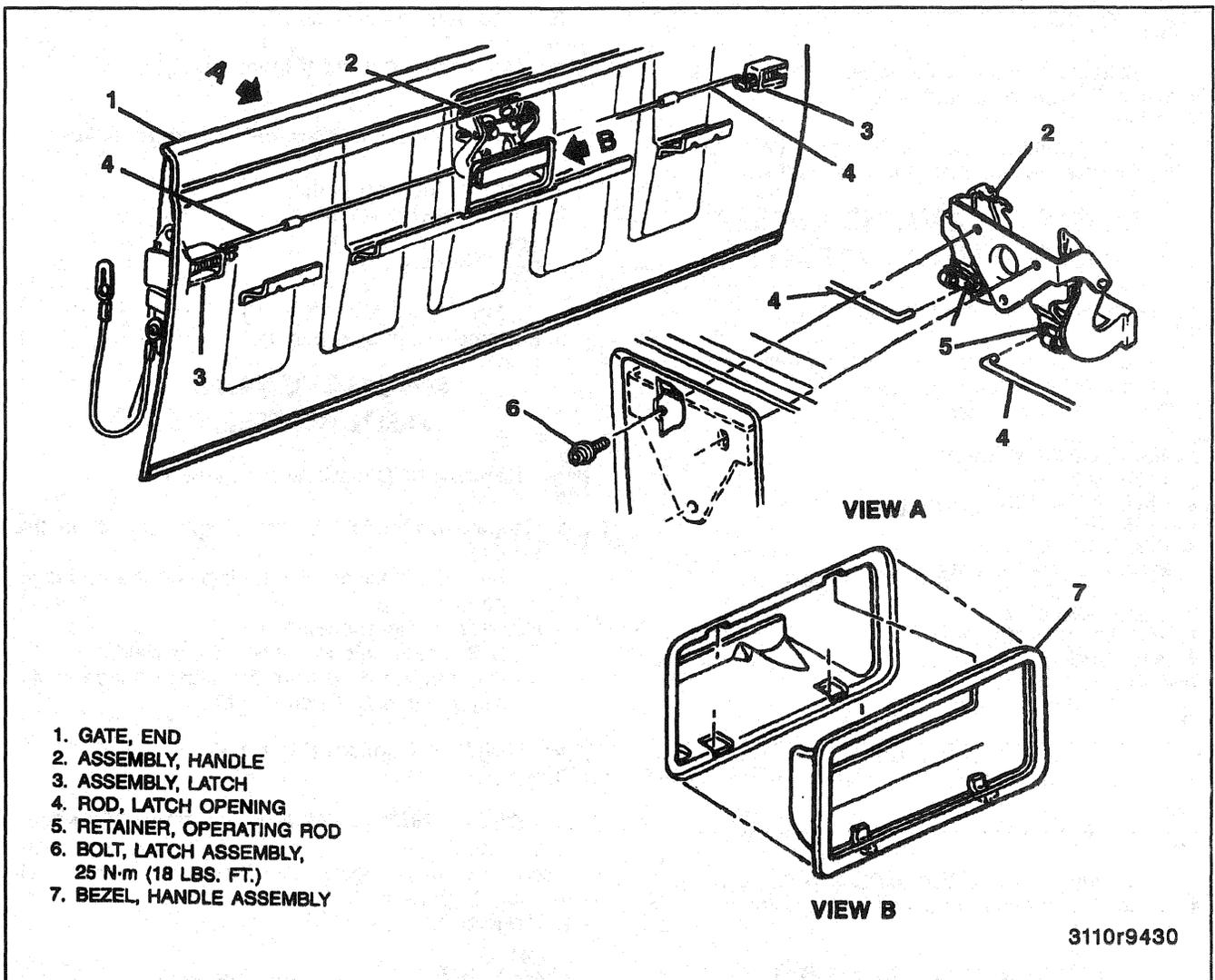


Figure 3—Latch Operating Handle

Install or Connect (Figure 3)

NOTICE: Refer to "Notice" on page 10A5-1.

1. Handle assembly into the endgate.
2. Latch operating rods into the retainers on the handle.
3. Bezel to the handle and endgate.
 - Lower the endgate.
4. Three bolts and washers into the handle from the back of the endgate.

Tighten

- Endgate to handle bolts to 25 N.m (18 lb ft).

ENDGATE LATCH AND ROD REPLACEMENT

Remove or Disconnect (Figure 1 and 3)

1. Operating handle. Refer to "Endgate Latch Operating Handle Replacement" in this section.
 - Lower and support the endgate and lift the cables off the striker bolts.
2. Three bolts holding the latch assembly to the endgate.
3. Latch assembly and rod.

Install or Connect (Figures 1 and 3)

NOTICE: Refer to "Notice" on page 10A5-1.

1. Latch assembly and rod to the endgate.
2. Three bolts holding the latch assembly to the endgate (Figure 1).

10A5-4 ENDGATE

Tighten

- Latch to endgate bolts to 30 N.m (22 lb ft).
3. Raise the endgate and attach the cables to the striker bolts.
 4. Operating handle. Refer to "Endgate Latch Operating Handle Replacement" in this section.

STRIKER AND STRIKER BOLT REPLACEMENT

Remove or Disconnect (Figure 2)

1. Lower the endgate to a support and lift the cables off the striker bolts.
2. Striker and cable bolt.
3. Striker bolt.
4. Striker.

Install or Connect (Figure 2)

NOTICE: Refer to "Notice" on page 10A5-1.

1. Striker to the side panel.
2. Striker bolt.

Tighten

- Striker bolt to 30 N.m (22 lb ft).
3. Striker and cable bolt.

Tighten

- Striker and cable bolt to 30 N.m (22 lb ft).
4. Raise the endgate and attach the cables to the striker bolts.

SIDE PANEL LOWER HINGE REPLACEMENT

Remove or Disconnect (Figure 2)

1. Endgate. Refer to "Endgate Replacement" in this section.
2. Bolts from the panel hinge.

ON-VEHICLE SERVICE (UTILITY MODELS)

ENDGATE REPLACEMENT

Remove or Disconnect (Figures 4 and 5)

- Open the endgate to a horizontal position.
1. Torque rod. Refer to "Torque Rod Replacement" in this section.
 2. Electrical connector for rear window release.
 - Support the endgate in a horizontal position with a suitable support.
 3. Support cable bolts and washers.

3. Hinge from the side panel.

Install or Connect (Figure 2)

NOTICE: Refer to "Notice" on page 10A5-1.

1. Hinge to the side panel.
2. Lower panel hinge bolts.

Tighten

- Bolts to 27 N.m (20 lb ft).
3. Endgate to the side panels.

ENDGATE HINGE REPLACEMENT

Remove or Disconnect (Figure 1)

1. Endgate. Refer to "Endgate Replacement" in this section.
 - Mark the position of the hinge on the endgate.
2. Hinge bolt.
3. Hinge from the endgate.
 - Drill a pilot hole in center of the weld.
 - Drill out the weld from the endgate side of the hinge with a 3/8 inch drill bit.

Install or Connect (Figure 1)

NOTICE: Refer to "Notice" on page 10A5-1.

1. Hinge to the endgate. Use the marks made previously to position it.
2. Hinge bolt.

Tighten

- Hinge to endgate bolt to 27 N.m (20 lb ft).
 - Plug weld the hole that was drilled in the endgate.
 - MIG weld the hinge to the endgate around the edge of the hinge.
 - Paint and lubricate the hinge.
3. Endgate to the pickup box.

4. Hinge pin clips.
 - Spread the clip enough to move the clip above the recess in the pin.
 - As the pin is removed, the clip will ride on the pin, and fall free of the pin.
5. Hinge pins from the right and left hinges.
6. Endgate from the vehicle.

Install or Connect (Figures 4 and 5)

NOTICE: Refer to "Notice" on page 10A5-1.

1. Endgate to the vehicle.
 - Support the endgate in a horizontal position with a suitable support.
2. Hinge pins into the left and right hinges.
3. Hinge pin clips to the hinge pins.
4. Support cable bolts and washers.

 **Tighten**

- Support cable to body bolts to 29 N.m (21 lb ft).
5. Electrical connector for rear window release.
 6. Torque rod. Refer to "Torque Rod Replacement" in this section.

TORQUE ROD REPLACEMENT

 **Remove or Disconnect (Figure 5)**

1. Bolt at left end with endgate open.
2. Rear bumper. Refer to SECTION 2A.
3. Rear bumper filler panel. Refer to SECTION 2A.
4. Bolts retaining the torque rod to the endgate.
 - With the gate in the closed position, the bolts are accessible from under the vehicle.
5. Torque rod and retainers.

 **Install or Connect (Figure 5)**

NOTICE: Refer to "Notice" on page 10A5-1.

1. Torque rod and retainers to vehicle.
 - With the gate in the closed position, place the torque rod and retainers onto the vehicle.
2. Bolts to the torque rod retainers.

 **Tighten**

- Torque rod bracket bolts to 15 N.m (11 lb ft).
3. Bolt at left end with endgate open.

 **Tighten**

- Torque rod retainer bolt to 15 N.m (11 lb ft).
4. Rear bumper filler panel. Refer to SECTION 2A.
 5. Rear bumper. Refer to SECTION 2A.

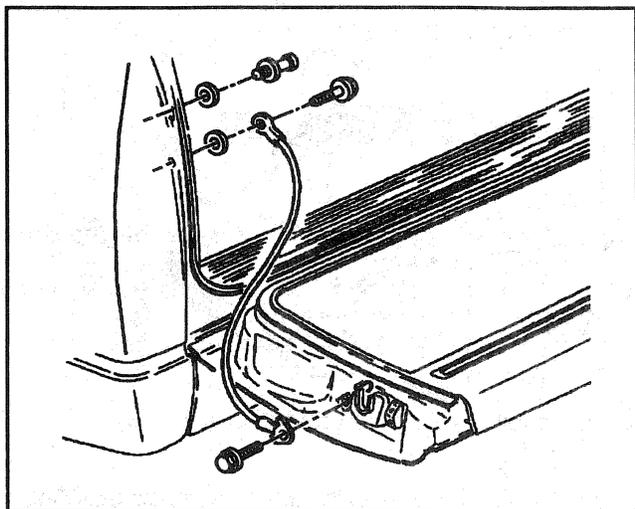


Figure 4—Endgate Replacement

TRIM PANEL REPLACEMENT

 **Remove or Disconnect (Figure 6)**

- Lower the endgate.
 1. Trim panel to endgate screws.
 2. Trim panel from the endgate.

 **Install or Connect (Figure 6)**

NOTICE: Refer to "Notice" on page 10A5-1.

1. Trim panel to the endgate.
2. Trim panel to endgate screws.

 **Tighten**

- Trim panel to endgate screws to 2 N.m (18 lb in).

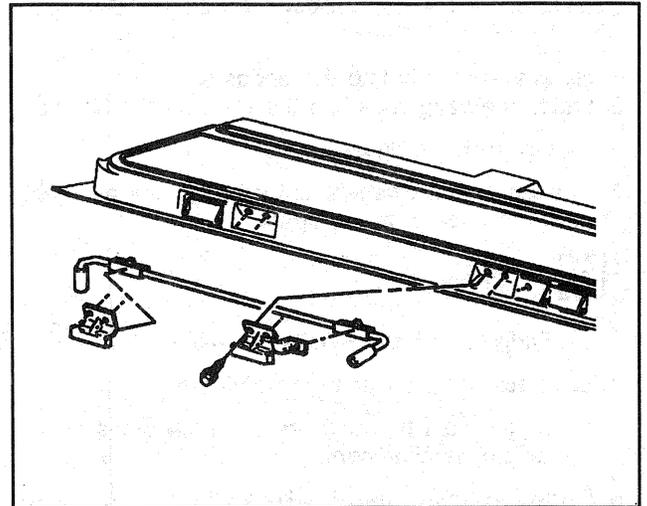


Figure 5—Torque Rod Replacement

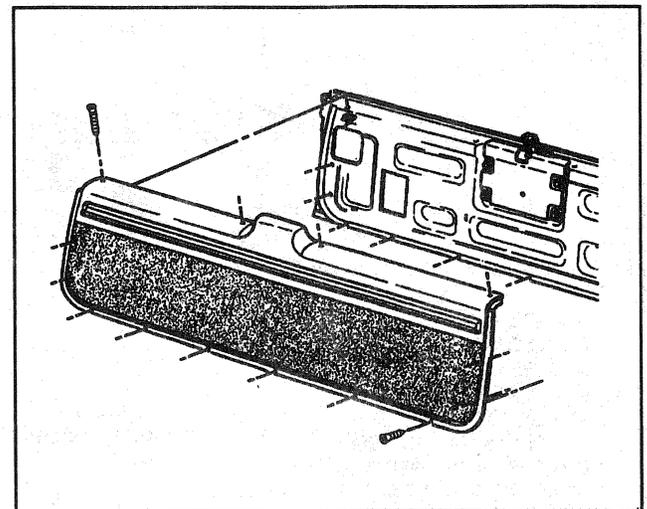


Figure 6—Trim Panel and Belt Weatherstrip

10A5-6 ENDGATE

ENDGATE LATCH OPERATING HANDLE REPLACEMENT

↔ Remove or Disconnect (Figure 7)

- Lower the endgate.
1. Trim panel. Refer to "Trim Panel Replacement" in this section.
 2. Lock assembly cover from the endgate.
 3. Two bolts and washers from the back of the endgate behind the handle assembly.
 - Raise the endgate.
 4. Handle assembly by prying gently.
 5. Latch operating rods from the clips on the handle by pushing the rods back.
 6. Handle assembly from the endgate.

↔ Install or Connect (Figure 7)

NOTICE: Refer to "Notice" on page 10A5-1.

1. Handle assembly into the endgate.
2. Latch operating rods into the clips on the handle.
 - Lower the endgate.
3. Two bolts and washers onto the handle assembly from the back of the endgate.

Tighten

- Endgate to handle bolts to 4 N.m (35 lb in).
4. Lock assembly cover to the endgate.
 - Cover must be installed with both gates closed for proper alignment.
 5. Endgate trim panel. Refer to "Trim Panel Replacement" in this section.

ENDGATE LATCH ASSEMBLY REPLACEMENT (RIGHT OR LEFT)

↔ Remove or Disconnect (Figure 8)

- Open the endgate to the horizontal position.
1. Endgate trim panel. Refer to "Trim Panel Replacement" in this section.
 2. Lock assembly cover.
 3. Locking rod from the lock assembly.
 4. Screws securing the bumper to the endgate.
 5. Bumper from the endgate.
 6. Bolts securing the latch to the endgate.
 7. Latch from the endgate.

↔ Install or Connect (Figure 8)

NOTICE: Refer to "Notice" on page 10A5-1.

1. Latch to the gate.
2. Bolts securing the latch to the endgate.

Tighten

- Latch to the endgate bolts to 25 N.m (18 lb ft).
3. Bumper to the endgate.
 4. Screws securing the bumper to the endgate.

Tighten

- Bumper to the endgate screws to 3 N.m (27 lb in).
5. Locking rod to the window latch.
 6. Lock assembly cover.
 - Cover must be installed with both gates closed for proper alignment.
 7. Endgate trim panel. Refer to "Trim Panel Replacement" in this section.

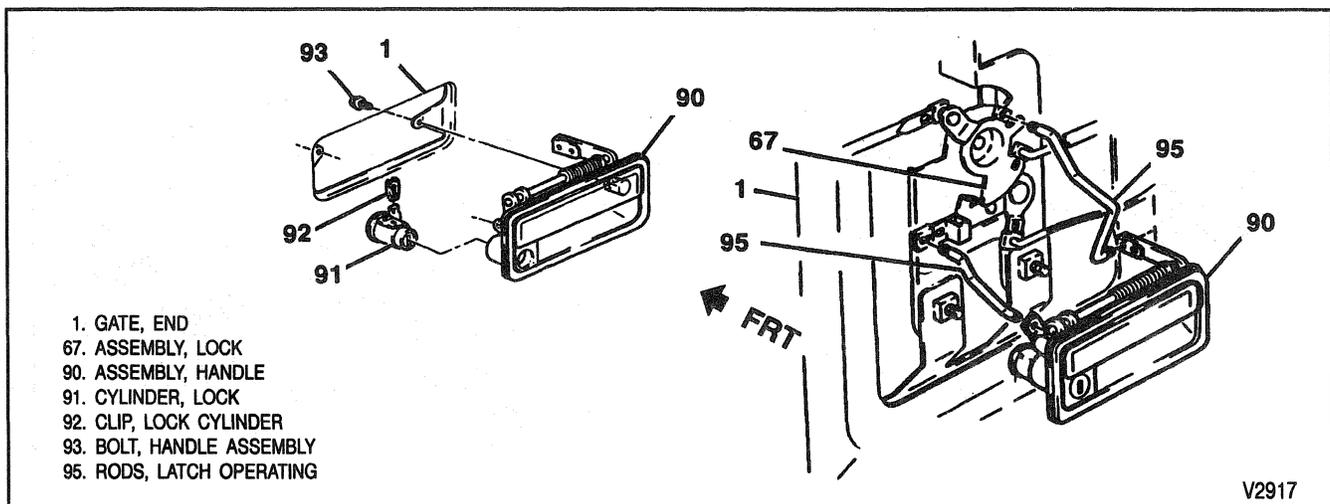


Figure 7—Endgate Latch Handle Replacement

**ENDGATE LATCH STRIKER
ADJUSTMENT**



Adjust (Figure 6)

- Loosen striker bolt and move assemblies up or down, forward or backward, to obtain the proper close of the endgate. The endgate should seal completely with minimum closing effort.



Tighten

- Striker assemblies to 63 N.m (47 lb ft).

**LOCK ASSEMBLY
REPLACEMENT**



Remove or Disconnect (Figure 8)

1. Trim panel. Refer to "Trim Panel Replacement" in this section.
2. Lock assembly cover to the endgate bolts.
3. Lock assembly cover.
4. Lock rods from the lock assembly.
 - Mark the location of the lock assembly on the endgate.
5. Lock assembly to the endgate bolts.
6. Lock assembly from the endgate.



Install or Connect (Figure 8)

NOTICE: Refer to "Notice" on page 10A5-1.

1. Lock assembly to the endgate.
 - Align the assembly to the marks on the endgate inner panel.
2. Lock assembly to the endgate bolts.



Tighten

- Lock assembly to the endgate bolts to 15 N.m (11 lb ft).

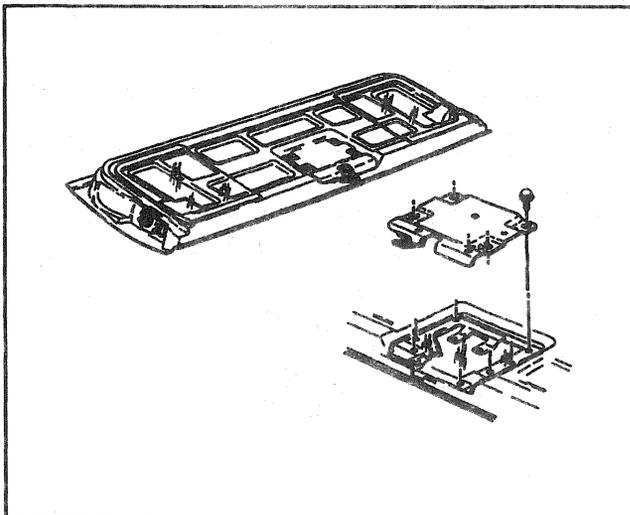


Figure 8—Endgate Latch Replacement

3. Lock rods to the lock assembly.
4. Lock assembly cover.
 - Cover must be installed with both gates closed for proper alignment.
5. Lock assembly cover to endgate bolts.



Tighten

- Cover to endgate bolts to 15 N.m (11 lb ft).
6. Trim Panel. Refer to "Trim Panel Replacement" in this section.

**ENDGATE BELT WEATHERSTRIP
REPLACEMENT**



Remove or Disconnect (Figure 6)

1. Trim panel. Refer to "Trim Panel Replacement" in this section.
2. Weatherstrip from the endgate flange.



Install or Connect (Figure 6)

1. Weatherstrip onto endgate flange.
 - A. Install ends of weatherstrip first by pressing fastener into the endgate hole.
 - B. Push center of weatherstrip onto center of endgate flange and work out to ends.
2. Trim panel. Refer to "Trim Panel Replacement" in this section.

**ENDGATE WINDOW STRIKER
REPLACEMENT**



Remove or Disconnect (Figure 9)

- Open the endgate window.
1. Striker to the endgate window pin.
 2. Striker to the endgate window bolt.
 3. Striker from the endgate window.

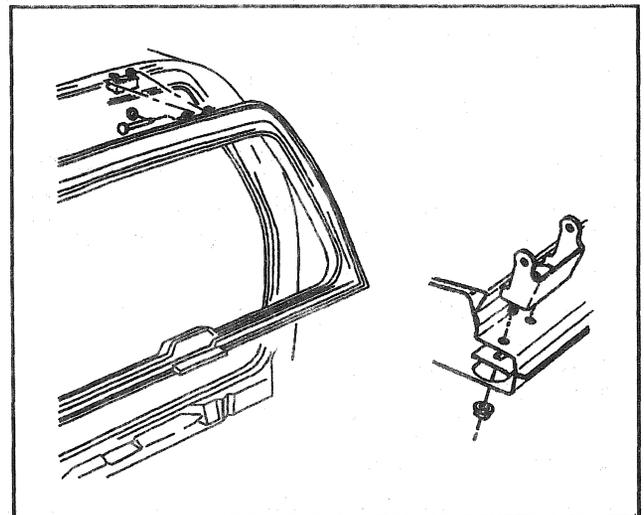


Figure 9—Endgate Window Striker and Hinge

10A5-8 ENDGATE

Install or Connect (Figure 9)

NOTICE: Refer to "Notice" on page 10A5-1.

1. Striker to the endgate window.
2. Striker to the gate window bolt.

Tighten

- Striker to the endgate window bolt to 10 N.m (89 lb in).
3. Striker to the endgate window pin.

Tighten

- Striker to the endgate window pin to 10 N.m (89 lb in).

ENDGATE WINDOW HINGE REPLACEMENT

Remove or Disconnect (Figure 9)

1. Endgate window supports. Refer to "Endgate Window Support Replacement" in this section.
2. Hinge pin retainers and the hinge pins.
3. Endgate window assembly from the vehicle.
4. Endgate window garnish molding.
5. Hinge to endgate window assembly nuts.
6. Hinge from the endgate window.

Install or Connect (Figure 9)

NOTICE: Refer to "Notice" on page 10A5-1.

1. Hinge to the endgate window.
2. Hinge to endgate window assembly nuts.

Tighten

- Hinge to endgate window assembly nuts to 23 N.m (17 lb ft).
3. Endgate window garnish molding.
 4. Endgate window assembly to the vehicle.
 5. Hinge pins and the hinge pin retainers.
 6. Endgate window supports. Refer to "Endgate Window Support Replacement" in this section.

ENDGATE WINDOW SUPPORT REPLACEMENT

CAUTION: Do not attempt to remove or loosen gas support assembly attachments with glass in any position other than fully open as personal injury may result.

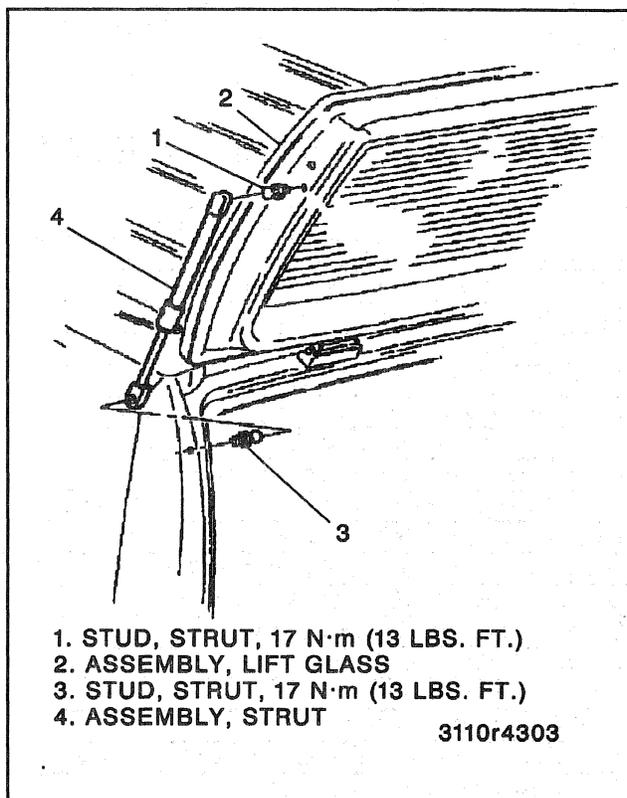


Figure 10—Window Support

Do not intermix original quality gas supports with other quality supports, since not all supports have the same output level.

Remove or Disconnect (Figure 10)

1. Rear window defogger wires attached to the gas supports (if equipped).
2. Ball sockets from the glass side.
 - Support the rear window glass.
 - Carefully pry the gas support ball socket from the ball. Insert a small screwdriver between the ball and the ball socket and pull the gas support from the window.
3. Ball sockets from the body side.

Install or Connect (Figure 10)

1. Gas support ball socket to the body and glass sides.
 - Push the ball socket onto the ball.
2. Rear window defogger wires to the gas supports (if equipped).

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Application	N-m	Lb ft	Lb in
Body Side Hinge Bolts (Pickup)	27	20	—
Endgate Bumper to Endgate Screws (Utility)	3	—	27
Endgate Latch to Endgate Bolts (Utility)	10	—	89
Endgate Side Hinge Bolts (Pickup)	27	20	—
Endgate Striker Bolts (Pickup)	30	22	—
Endgate Window Assembly Hinge Nuts (Utility)	23	17	—
Endgate Window Assembly Striker Bolts (Utility)	10	—	89
Latch Operating Handle Bolts (Pickup)	25	18	—
Latch Operating Handle to Endgate Bolts (Utility)	4	—	35
Latch to Endgate Bolts (Pickup)	30	22	—
Lock Assembly Cover to Endgate Bolts (Utility)	15	11	—
Lock Assembly to Endgate Bolts (Utility)	15	11	—
Support Cable to Body Bolts (Utility)	29	21	—
Support Cable to Endgate Bolts (Utility)	3	—	27
Striker to Body Bolts (Utility)	63	47	—
Strut Stud to Body (Utility)	17	13	—
Strut Stud to Endgate Window Assembly (Utility)	17	13	—
Torque Rod Bracket Bolts (Utility)	15	11	—
Trim Panel to Endgate Screws (Utility)	2	—	18

SECTION 10B

CAB AND BODY MAINTENANCE

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ON-VEHICLE SERVICE

CLEANING AGENTS

CAUTION: Follow the manufacturer's advice when cleaning agents or other chemicals are used inside or outside the vehicle. Some cleaners may be poisonous or flammable, and improper use may cause personal injury or damage. When cleaning the interior or exterior of the vehicle, do not use the following cleaners except as specifically directed in the fabric cleaning procedures contained in this manual:

- acetone
- lacquer thinners
- enamel reducers
- nail polish removers
- laundry soaps
- bleaches
- reducing agents

Never use carbon tetrachloride, gasoline, benzene, or naphtha for any cleaning purpose.

Open all vehicle doors for ventilation when any cleaning agents or other chemicals are used inside the vehicle. Overexposure to some vapors, which is more likely to occur in small, unventilated spaces, may result in a health problem.

NOTICE: To avoid possible permanent discoloration of light colored seats, do not let materials with non-fast colors come in contact with seat trim materials until these materials are totally dry. This includes certain types of clothing, such as colored denim, corduroy, leather, and suede.

Use the proper cleaning techniques and cleaners on the first cleaning to avoid water spots, spot rings, or setting of stains or soilage—all of which are more difficult to remove in a second cleaning.

Remove dust and loose dirt often that collect on interior fabrics with a vacuum cleaner or soft bristle brush. Wipe vinyl trim regularly with a clean damp cloth.

INTERIOR CLEANING

Basic Steps Before Cleaning

1. Remove stains as quickly as possible before they set.
2. Use a clean cloth or sponge, and change to a clean area often. A soft brush may be used if stains persist.
3. Use solvent-type cleaners only in a well ventilated area. Do not saturate the stained area.
4. If a ring forms after spot cleaning, clean the entire area immediately.
5. Follow manufacturer's instructions for all cleaning agents.

10B-2 CAB AND BODY MAINTENANCE

General Cleaning of Fabric Trim

Use Multi-Purpose Powdered Cleaner GM P/N 1050429 or equivalent for this type of cleaning and for cleaning panel sections where small cleaning rings may be left from spot cleaning.

Vacuum and brush the area to remove any loose dirt and mask surrounding trim along stitch or welt lines.

Clean a whole trim panel or section. Mix the cleaner following the directions on the container label. Mix in proportion for smaller quantities. Use suds on a clean sponge. Do not saturate the material or rub it harshly. Wipe off remaining residue with a slightly damp absorbent towel or cloth. Dry the material with an air hose. A heat dryer or heat lamp may be used. Use care with a heat dryer or lamp to prevent fabric damage.

Spot Cleaning Fabric Trim

Before trying to remove a spot or stain from fabric, try to determine the type and age of the spot or stain. Some spots or stains can be removed with water or a mild soap solution. Remove spots or stains as soon as possible.

Some types of stains or soilage, such as lipstick, inks and grease, are very difficult (sometimes impossible) to remove completely. When cleaning this type of stain, do not enlarge the soiled area. Use Multi-Purpose Powdered Cleaner GM P/N 1050429 or equivalent for spot-cleaning grease, oil, or fat stains.

Gently scrape excess stain from the trim material with a clean dull knife or scraper. Use very little cleaner, light pressure, and clean cloths, preferably cheesecloth. Start cleaning at the outside of the stain and feather towards the center. Keep changing to a clean section of the cloth.

After the stain has been removed, immediately dry the area with an air hose, heat dryer, or heat lamp to help prevent a cleaning ring. Use caution when using a heat dryer or lamp to help prevent fabric damage.

If a ring forms, immediately repeat the cleaning operation over a slightly larger area with emphasis on "feathering" towards its center. If a ring still remains, mask off the surrounding trim sections and clean the entire area with Multi-Purpose Powdered Cleaner GM P/N 1050429 or equivalent as described earlier in this section.

Removal of Specific Stains

Grease or Oily Stains

The following applies to stains caused by such substances as grease, oil, butter, margarine, shoe polish, coffee with cream, chewing gum, cosmetic creams, vegetable oils, wax crayon, tar, and asphalt.

- Carefully scrape off excess matter, then use Multi-Purpose Powdered Cleaner GM P/N 1050429 or equivalent as explained earlier in this section.
- Shoe polish, wax crayons, tar, and asphalt will stain if left on trim; remove them as soon as possible. Use care since the cleaner may cause the stains to "bleed" as it dissolves them.

Non-Greasy Stains

This includes stains from catsup, black coffee, egg, fruit, fruit juice, milk, soft drinks, wine, vomit, blood, and urine.

- Carefully scrape off excess matter, then sponge the stain with cool water.
- If a stain remains, use Multi-Purpose Powdered Cleaner GM P/N 1050429 or equivalent as explained earlier in this section.
- If an odor lingers after cleaning vomit or urine, treat the area with a water/baking soda solution of 5 milliliters (1 teaspoon) of baking soda to 250 milliliters (1 cup) of lukewarm water.
- Finally, if needed, clean lightly with Multi-Purpose Powdered Cleaner GM P/N 1050429 or equivalent.

Combination Stains

This includes stains from candy, ice cream, mayonnaise, chili sauce, and stains of unknown origin.

- Carefully scrape off excess matter. Clean with cold water and allow to dry.
- If a stain remains, clean it with Multi-Purpose Powdered Cleaner GM P/N 1050429 or equivalent.

Cleaning Vinyl Trim

Ordinarily soilage can be removed from vinyl with warm water and mild soap.

Apply a small amount of soap solution and let it soak for a few minutes to loosen the dirt; then rub briskly with a clean damp cloth to remove dirt and traces of soap. This may be repeated several times, if needed.

Soilage from such things as tars, asphalt, shoe polish, etc. will stain if left on trim. Wipe off these compounds as quickly as possible and clean the area with a clean cloth dampened with Vinyl and Leather Cleaner GM P/N 1050214 or equivalent.

Seat Belt Care

CAUTION: Do not bleach or dye seat belts since this may severely weaken them. Damaged seat belts are a safety hazard.

- Keep the belts clean and dry.
- Clean seat belts only with mild soap and lukewarm water.

GLASS SURFACES

Glass surfaces should be cleaned on a regular basis. Use Glass Cleaner GM P/N 1050427 or equivalent to remove normal tobacco smoke and dust films.

A nonabrasive cleaner may be used on the outside of the windshield. Clean wiper blades with a cloth soaked in a solution of one-half water and one-half Opticlean® GM P/N 1051515 or equivalent. A solution of one-half water and one-half methanol alcohol may also be used. Then rinse the blade with water.

EXTERIOR CLEANING

Washing and Waxing

Wash the vehicle in lukewarm or cold water. Do not use hot water or wash the vehicle in the direct rays of the sun. Do not use strong soap or chemical detergents. All cleaning agents should be promptly flushed from the surface and not allowed to dry on the finish.

Painted body surfaces and chrome plating should be protected by a coating of wax. Any good body wax can be used for both painted and chrome surfaces. Apply wax immediately after the vehicle has been cleaned. Periods between applications should be short enough to ensure continuous protection of the finish.

Foreign Material Deposits

Calcium chloride and other salts, ice melting agents, road oil and tar, tree sap, bird droppings, chemicals from industrial chimneys, and other foreign matter may damage vehicle finishes if left on painted surfaces. Use cleaners that are marked safe for painted surfaces for these deposits.

Cleaning Bright Metal Parts

Clean bright metal parts regularly. Washing with water is all that is usually needed. Use Chrome Cleaner and Polish GM P/N 1050173 or equivalent on chrome or stainless steel trim, if necessary.

Use special care with aluminum trim. Do not use auto or chrome polish, steam, or caustic soap to clean aluminum. A coating of wax, rubbed to a high polish, is recommended for all bright metal parts.

Weatherstrip Lubrication

Use silicone grease to lengthen weatherstrip life, to help sealing, and to help eliminate squeaks. Use a clean cloth to apply a thin film of silicone grease to all weatherstrips.

WATER LEAKS

If water has leaked into the interior, test for leak points. Refer to "Water Leak Tests" in SECTION 10A3. Mark the location(s) of any leaks.

Water which appears at a certain place inside the body may actually be entering from another point. It may be necessary to remove the floor mat, insulation, instrument panel, etc. in order to backtrack the path of

the water to the point of entry. If it is still not possible to locate the point of entry, do the following:

1. Close all windows and vents.
2. Cover the air pressure relief valves.
3. Place the air lever in position to use outside air.
4. Turn the fan lever to the "HI" position.
5. Close the doors.
6. Run a small stream of water over the area suspected of leaking.
7. Check for pressure bubbles that indicate air is escaping from the interior.

Corrective Measures

If the leak is between body panels, use an air drying body sealing compound.

If the leak is around a door, it may be because the door is not properly aligned. Refer to SECTION 10A1 and align the door. If the door is contacting the weatherstrip correctly, make sure the weatherstrip is not damaged and is properly seated on the opening flange. If the weatherstrip is damaged, replace it.

DUST LEAKS

Dust will leak into the vehicle where water will not, particularly in the lower portion of the interior. Forward motion of the vehicle can create a slight vacuum which pulls air and dust inside.

To determine the location of dust leaks:

1. Remove the mats and insulation from the floor and toe panel.
2. Drive the vehicle on a dusty road.
3. Examine the interior. Dust in the shape of a small cone or slit will usually be found at the point of leakage.
4. Mark the points of leakage.
5. With the interior of the vehicle darkened, shine bright lamps on the underside of the floor and cowl, and have an assistant check inside for any points where the light shines through. Mark the leakage points. Check weld joints and body mounts.

Sealing of leaks should be done with an air-drying body-sealing compound.