

## SECTION 10-9

# ROOF AND FOLDING TOP

**CAUTION:** This vehicle is equipped with Supplemental Inflatable Restraint (SIR), refer to CAUTIONS in SECTION 9J under "ON-VEHICLE SERVICE" and the SIR Component and Wiring Location view in SECTION 9J before performing service on or around SIR components or wiring. Failure to follow CAUTIONS could result in possible air bag deployment, personal injury or otherwise unneeded SIR system repairs.

**NOTICE:** If the vehicle has been exposed to extensive water intrusion, such as water leaks, window left open, driving through high water and so forth, the Sensing and Diagnostic Module (SDM) and the SDM connector may need to be replaced. With the ignition "OFF," inspect the area under the front seat and the area around the SDM, including the carpet. If any significant soaking or evidence of significant soaking is detected, the water must be removed, water damage repaired and the SDM and the SDM connector MUST be replaced. Before attempting any of these repairs, the SIR system must be disabled. Refer to SECTION 9J under "ON-VEHICLE SERVICE" for instructions on how to disable the SIR system and replace the SDM and SDM connector.

**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 sequence and tightening specifications. Following these instructions can help you avoid damage to parts and systems.

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### ON-VEHICLE SERVICE

#### HEADLINING

**Figures 1 through 5**



#### Remove or Disconnect

1. Negative (-) battery cable.
2. Slide inside rearview mirror trim bezel off mirror (Figure 1).
3. Two screws and inside rearview mirror from vehicle (Figure 1).

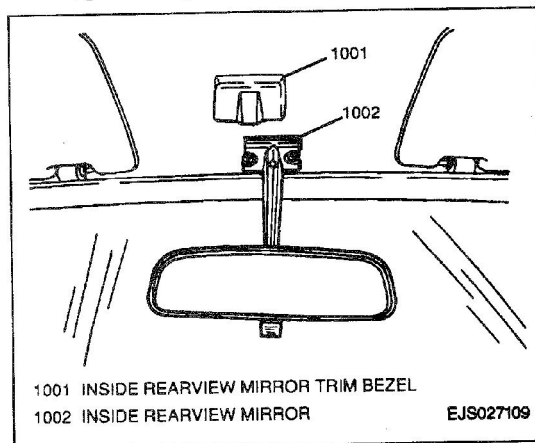
4. One screw from each sunshade support and supports from vehicle (Figure 2).
5. Two screws from each sunshade and sunshades from vehicle.
6. Pull dome lamp lens off dome lamp (Figure 3).
7. Two screws and lower dome lamp from roof.
8. Dome lamp electrical connector and remove dome lamp from vehicle.
9. Two screws from each assist handle and assist handles from vehicle (Figure 4).
10. One screw and coat hook from vehicle (Figure 4).
11. Loosen door opening finishing lace along both A-pillar trim panels.

## 10-9-2 ROOF AND FOLDING TOP

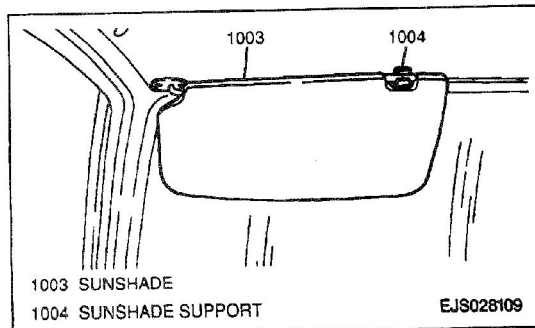
12. Gently pry both A-pillar trim panels loose and remove from vehicle.
13. Gently pry the headlining front trim loose and remove from vehicle.
14. Open rear quarter window.
15. Two screws from rear quarter window latch.
16. Pull quarter window weatherstrip from body.
17. Front and rear seat belt guide loop anchor bolts.
18. Loosen rear door opening weatherstrip along rear quarter window interior trim and headlining rear trim (Figure 5).
19. Loosen front door opening weatherstrip.
20. Six plastic clips and rear quarter window interior trim from vehicle.
21. Five plastic clips and headlining rear trim from vehicle (Figure 5).
22. Seven plastic clips and headlining from vehicle.

### Install or Connect

1. Headlining to vehicle; secure with seven plastic clips.
2. Headlining rear trim to vehicle; secure with five plastic clips.
3. Rear quarter window interior trim; secure with six plastic clips.



Figure—1 Inside Rearview Mirror

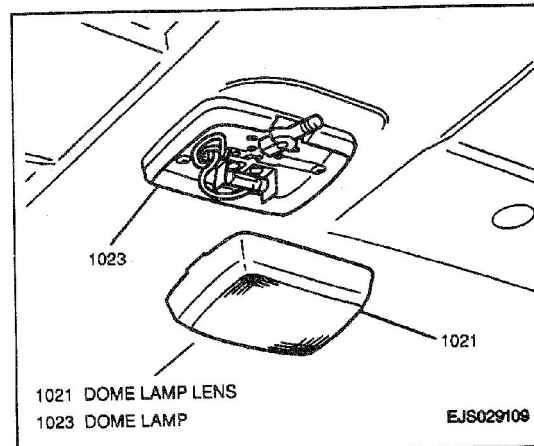


Figure—2 Sunshade

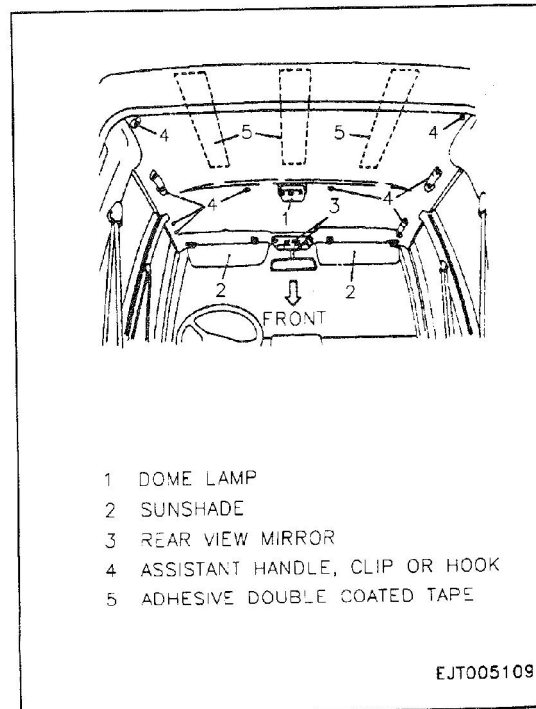
4. Press front door opening weatherstrip into place.
5. Press rear door opening weatherstrip into place.
6. Front and rear seat belt guide loop anchor bolts.

### Tighten

- Front and rear seat belt guide loop anchor bolts to 45 N.m (33 lb. ft.).
7. Rear quarter window weatherstrip to body; press into place.
  8. Rear quarter window latch to vehicle; secure with two screws.



Figure—3 Dome Lamp



Figure—4 Headlining Trim and Hardware

9. Close rear quarter window.
10. Headlining front trim to vehicle; press into place.
11. A-pillar trim panels to vehicle; press into place.
12. Press door opening finishing lace into place along both A-pillar trim panels.
13. Coat hooks to vehicle; secure each with one screw (Figure 4).
14. Assist handles to vehicle; secure each with two screws (Figure 4).
15. Dome lamp electrical connector.
16. Dome lamp to roof; secure with two screws.
17. Dome lamp lens to dome lamp (Figure 3).
18. Sunshades to vehicle; secure each with two screws (Figure 2).
19. Sunshade supports to vehicle; secure each with one screw (Figure 2).
20. Inside rearview mirror to vehicle; secure with two screws (Figure 1).
21. Slide inside rearview mirror trim bezel onto mirror (Figure 1).
22. Negative (-) battery cable.

### Tighten

- Negative (-) battery cable-to-negative (-) battery terminal retainer to 15 N.m (11 lb. ft.).

## SUNSHADES

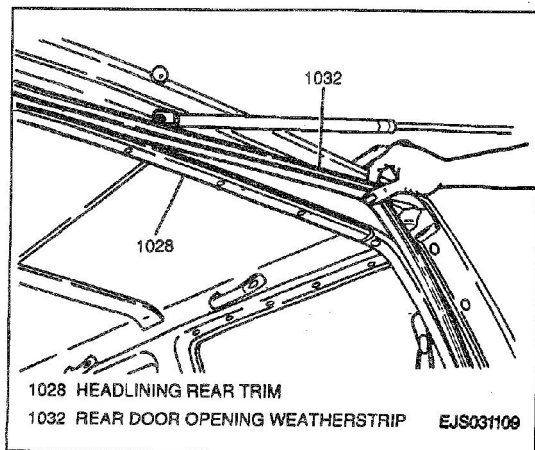
Figure 2

### Remove or Disconnect

1. One screw from each sunshade support and supports from vehicle (Figure 2).
2. Two screws from each sunshade and sunshades from vehicle (Figure 2).

### Install or Connect

1. Sunshades to vehicle; secure each with two screws (Figure 2).



Figure—5 Rear Door Opening Weatherstrip

2. Sunshade supports to vehicle; secure each with one screw (Figure 2).

## INTERIOR LIGHTING

### Dome Lamp

The dome lamp is mounted on the headlining between the front seats. Refer to SECTION 8B for dome lamp service procedures.

## INSIDE REARVIEW MIRROR

Figure 1

### Remove or Disconnect

- Slide inside rearview mirror trim bezel from mirror (Figure 1).
- 1. Two screws and inside rearview mirror from vehicle (Figure 1).

### Install or Connect

1. Inside rearview mirror to vehicle; secure with two screws (Figure 1).
- Slide inside rearview mirror trim bezel onto mirror (Figure 1).

## FOLDING TOP

### Operation

### Opening Folding Top

Figures 6 through 10

**CAUTION:** The folding top is provided only to offer some protection against undesirable weather conditions. It is not designed to hold occupants inside the vehicle or to protect against the intrusion of foreign objects in the event of an accident. Occupants should wear seat belts whenever traveling in this vehicle.

**CAUTION:** Never attempt to open the folding top while driving. You may lose control of the vehicle or may damage the folding top.

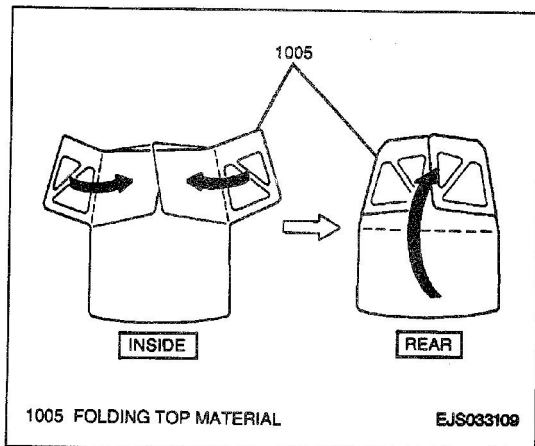
**CAUTION:** Never stand in the vehicle while driving. Occupants who are not properly restrained can be severely injured in case of a sudden maneuver or an accident.

**CAUTION:** To avoid possible personal injury and/or damage to the folding top, make sure that the front of the folding top is securely locked to the windshield header or the folding top is completely opened before driving.

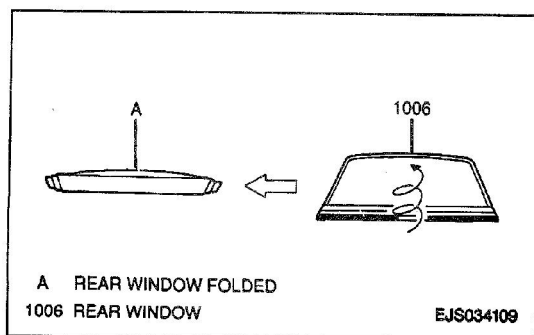
## 10-9-4 ROOF AND FOLDING TOP

**NOTICE:** The following circumstances may be damaging to the folding top:

- Opening or closing the top when the temperature is below 5°C (41°F).
  - Taking the vehicle through an automatic car wash.
  - Driving the vehicle when the top is not fully closed or fully open.
  - Opening the folding top when it is wet. Water trapped in the folding top may cause stains, mildew and damage to the inside of the vehicle.
  - Opening the folding top when the rear flap or side windows are dirty. Dirt could scratch the side windows.
  - Sitting on or putting excessive weight on the folding top.
1. Remove folding top material from vehicle. Refer to "Folding Top Material" later in this section.
  2. Place the folding top material on a clean, flat surface with the inside facing up.



Figure—6 Folding the Top Material For Storage



Figure—7 Rolling the Rear Window



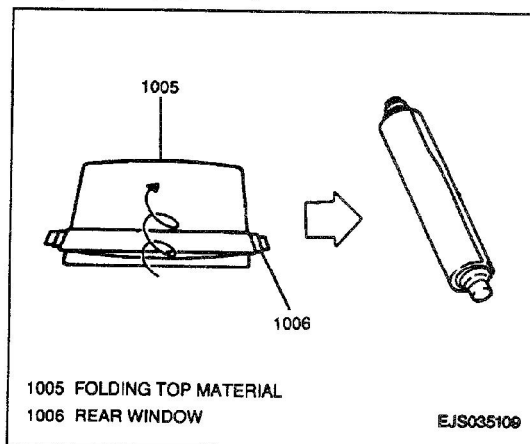
### Clean

- Folding top material and the rear window before rolling to prevent scratching.
3. Fold the folding top material (Figure 6).
  4. Roll rear window (Figure 7).
  5. Roll rear window into folding top material (Figure 8).
  6. Fold rear top bow down and secure it to rear seat belt anchor bracket with retaining strap (Figure 10).
  7. Move front top bow forward and hook to folding top latches; push latches down until they click.

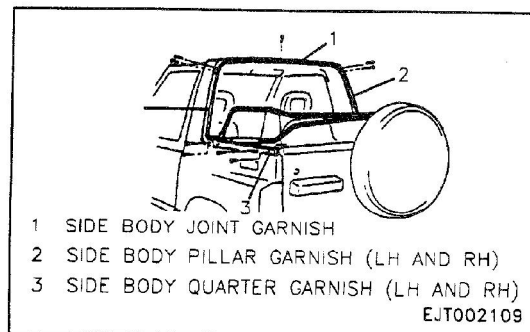
### Closing Folding Top

#### Figure 10

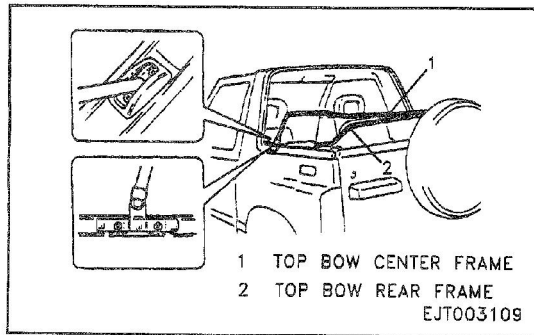
1. Push in folding top latch buttons, pull latch back and unhook latch from front top bow.
2. Lift front top bow.
3. Unsnap retaining strap and lift rear top bows from rear seat belt Anchor Bracket to their up right positions (Figure 10).



Figure—8 Rolling Rear Window Into Folding Top Material



Figure—9 Garnish Moldings



Figure—10 Securing Rear Top Bow to Left Seat Belt Anchor Bracket

4. Unroll folding top material and rear window.
5. Install folding top material to vehicle. Refer to "Folding Top Material" later in this section.

### Maintenance

#### Cleaning the Folding Top

Wash the folding top often with vinyl top cleaner GM P/N 1050729, or equivalent, or leather/vinyl/ upholstery (multi-purpose) cleaner GM P/N 1050429, or equivalent. Follow the cleaner manufacturer's instructions when using any of these products. When washing the folding top, use a brush with soft bristles so as not to damage the folding top material. Rinse the top with plenty of clean water to remove all traces of the cleaning agent. Do not use volatile type cleaners or household bleaching agents on the folding top material.

**NOTICE:** Be sure to keep cleaning solution from running down onto the body of the vehicle. It could cause streaks and may damage the paint finish. Be sure that the folding top is dry before lowering it into place. A damp top can become wrinkled. Trapped water can cause stains and mildew, and it may damage the inside of the vehicle.

#### Cleaning Plastic Rear Window

The rear window is made of a very pliable plastic material that can be scratched easily. Listed are a series of precautions you should take to help prevent the rear window from sustaining damage.

- To wipe off dust, use a soft cotton cloth moistened with clean lukewarm or cold water. Move the cloth in one direction without stopping. Never use a dry cloth.
- To remove frost, snow or ice, use lukewarm water without using a scraper or de-icing chemicals.
- To wash the rear window, be sure to use lukewarm or cold water. Do not use hot water or any strong soap or detergents. Never use solvents such as alcohol or harsh cleaning agents. After a thorough rinse, wipe with a soft and slightly moist, clean cloth.

- Never paste stickers, gummed labels or any tape to the rear window. It is very hard to remove adhesives left on the rear window after removing stickers and labels. Removing such adhesives forcibly or with solvents may damage the rear window. If adhesives on the rear window are still soft and sticky, they may be removed by repeated sticking-and-removing action with another new sticker or tape.

### Watertest and Waterleak Procedures

Figure 11

General Motors vehicles are designed to operate under normal environmental conditions. The design criteria for sealing materials and components takes into consideration the sealing forces required to withstand the natural elements. These specifications do not, and cannot, take into consideration all artificial conditions (i.e., high pressure car washes).

The watertest procedure has been correlated to the natural elements and will determine the ability of a car to perform under normal operating conditions.

Repairing body waterleaks is a result of proper testing, diagnosis, and repair through adjustment of misaligned components and/ or application of proven repair materials. The first step in waterleak diagnosis is finding the conditions under which the leak occurs (for example, leak noticed only when parked on an inclined drive or water in spare tire compartment).

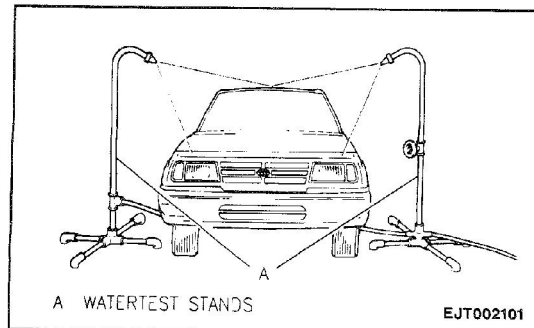
If the general leak area can be found, the exact entry point can be quickly isolated by the use of a localized test such as a water hose or air hose. If the leak source is not obvious, the generalized testing method using water equipment such as the watertest stands should be used (Figure 11). It may be necessary to remove some interior trim panels or components to locate leaks and confirm repairs.

### Generalized Testing

Figure 12

Specifications for construction of the watertest stand are shown in Figure 12.

If the specified water pressure of 155 kPa (22 psi) cannot be obtained because of a local situation, both test stands may be moved toward the vehicle body until water spray overlap can be obtained.



Figure—11 Watertest Stands Positioned For Testing

## 10-9-6 ROOF AND FOLDING TOP

### Localized Testing (Spot Test)

Localized testing may be made with either water or air. Begin the test at the base of the suspected area and continue upward slowly until the leak is located.

#### Important

- Pinpoint the leak area before any repair is made. Random repair may only temporarily restrict water entry and make future diagnosis and repair more difficult.

Continue localized testing in the same general area to confirm that all leaks have been located.

### Water Hose Test

- Have another technician inside the vehicle to detect the actual point of entry.
- Use unrestricted water flow (no nozzle).
- Begin at base of suspected waterleak area and move upward slowly.

### Air Hose Test

- Apply bubble solution (liquid soap) to suspected leak area.
- Apply air pressure with an air hose from inside the vehicle. Do not exceed 205 kPa (30 psi).
- Watch for outside bubbles at suspected leak area.

### Waterleak Repair

To locate the precise location of the leak or to repair the leak, it may be necessary to remove some interior trim panels or components.

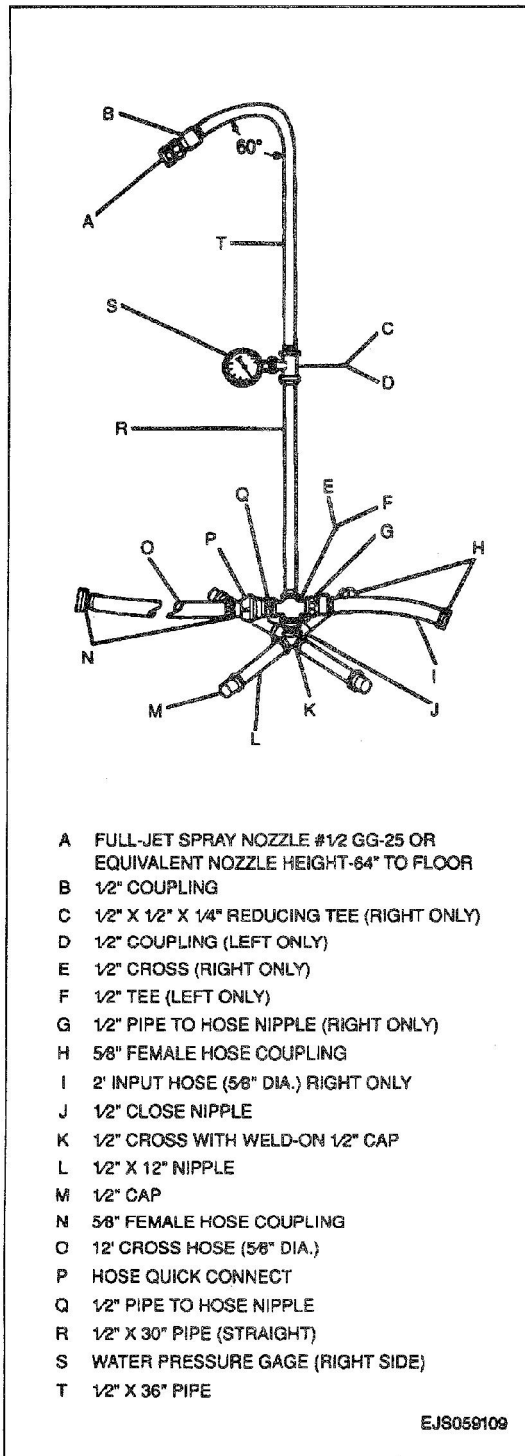
After completion of any waterleak repair, the general area should be retested using the watertest stand. Do not use an air hose or water hose to test repaired areas as the repair material may dislodge under abnormal pressure.

### Folding Top Material

#### Figures 13 through 23

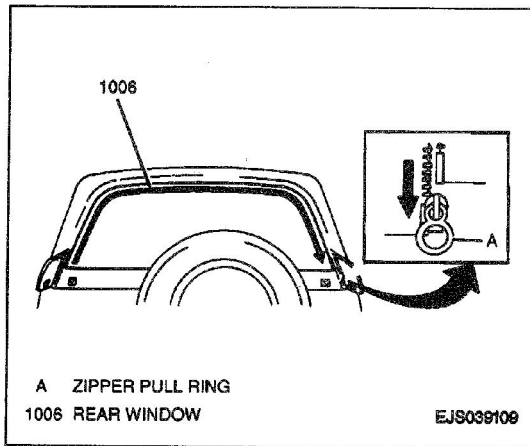
#### Remove or Disconnect

- Unfasten the corner flap of the folding top on the lower left side of rear door to uncover the zipper pull ring.
- Unfasten the corner flap of the folding top on the lower right side of the rear door.
- Unzip the zipper fully from folding top (Figure 13).
- Hang down the rear window rearward.
- Pull the rear window and the frame rearward and from the vehicle (Figure 14).

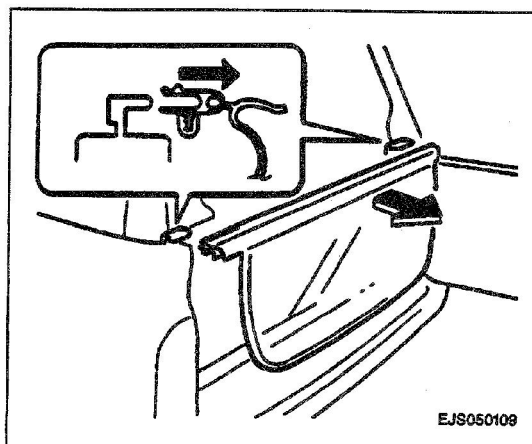


Figure—12 Watertest Stand Specifications

- Slide the rear window sideward to remove it from the window frame (If necessary).
- Place rear window on a clean, flat surface with the inside facing up.
- Unfasten the topend and rearend of the side windows (Figure 15)
- Unzip the zipper as far it goes (to the position A).
- Unhook the bottom end (B) and frontend (C) of the side window by pulling it down-forward (Figure 16).
- Unzip the zipper fully and remove side windows from vehicle.
- Unsnap tension straps from roof rails and pull them out of the plastic loops (Figure 18).
- Unsnap flaps from roof support, near dome lamp (Figure 19).
- Detach canvas top from center top bow (If removing canvas top from vehicle).
- Push in folding top latch buttons, pull latch back and unhook latch from front top bow (Figure 20).



Figure—13 Rear Window Zipper

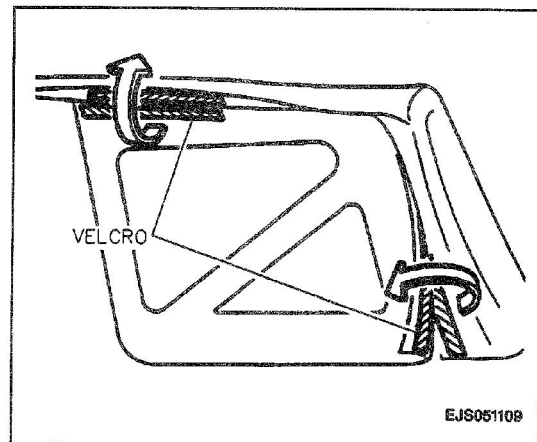


Figure—14 Removing Rear Window and Frame

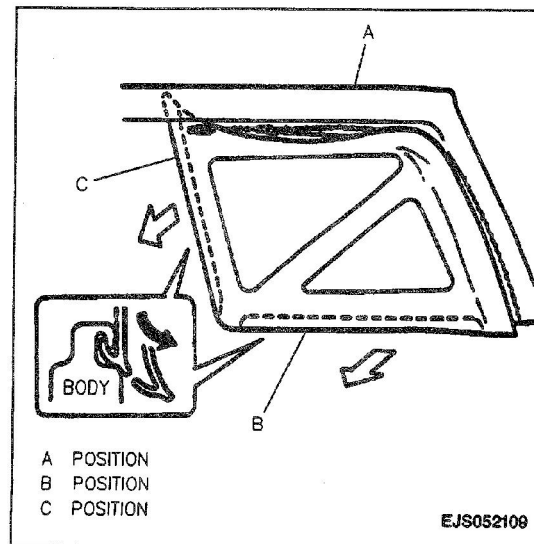
- Lift front top bow.
- Unsnap folding top material from front top bow (Figure 21).
- Detach the rear bottom corners of the canvas top by unfastening the fastener and unhooking the bottom part (Figure 22).
- Unsnap the folding top material from the rear top bow (Figure 23).
- Folding top material from vehicle.

#### Install or Connect

1. Folding top material to vehicle.
  - Snap folding top material to rear top bow.
2. Rear canvas corners fasten to body (Figure 22).

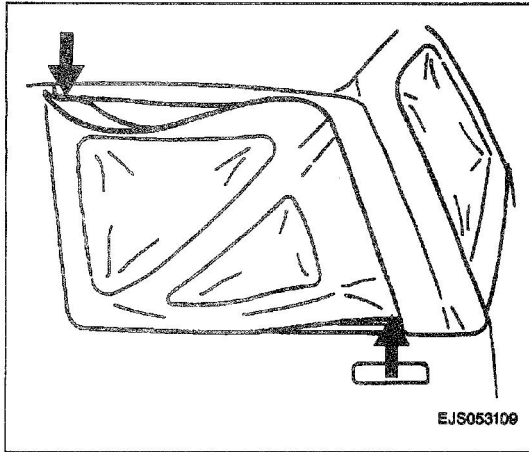


Figure—15 Unfastening Topend and Rearend of Side Windows

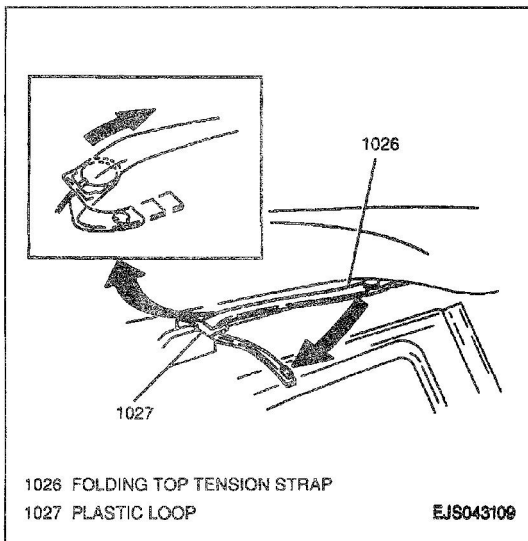


Figure—16 Removing Side Rear Windows

## 10-9-8 ROOF AND FOLDING TOP

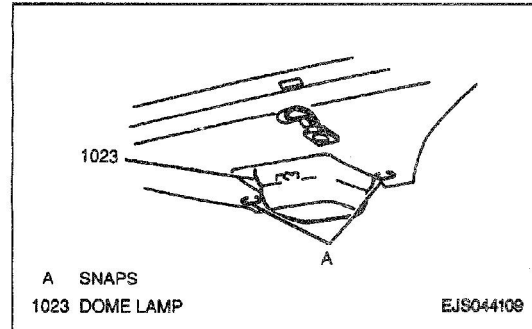


Figure—17 Rear Side Window



Figure—18 Unfastening Folding Top Tension Strap

- Snapping folding top material to front top bow.
  - Move front top bow forward and hook to folding top latches; push latches down until they click (Figure 20).
  - Attach top to center top bow (If canvas top was removed from vehicle).
  - Snap flaps to roof support, near dome lamp.
  - Pull tension straps through plastic loops and snap to roof rails.
  - Install side windows (Figure 17).
3. Install rear Window and frame (Figure 14).
- Zip rear window to canvas top (Figure 13).
  - Fasten the folding top corner flaps on the lower right and left sides of the rear window frame.



Figure—19 Unfastening Folding Top Snaps From Roof Support

### Folding Top Latch

Figure 20

#### Remove or Disconnect

- Push in folding top latch buttons, pull latch back and unhook latch from front top bow (Figure 20).
- Two screws and folding top latch from vehicle.

#### Install or Connect

- Folding top latch to vehicle; secure with two screws.
- Move front top bow forward and hook to folding top latch; push latch down until it clicks (Figure 20).

### Rear Window

Figures 13 and 14

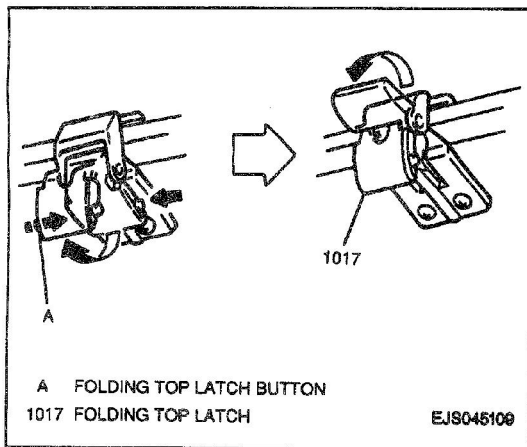
#### Remove or Disconnect

- Open rear door.
- Unfasten the corner flap of the folding top on the lower left side of rear window frame to uncover the zipper pull ring.
- Unfasten the corner flap of the folding top on the lower right side of the rear door.
- Unzip rear window from folding top and remove rear window and window frame from vehicle; (If removing rear window from window frame slide window sideward from frame Figure 14).

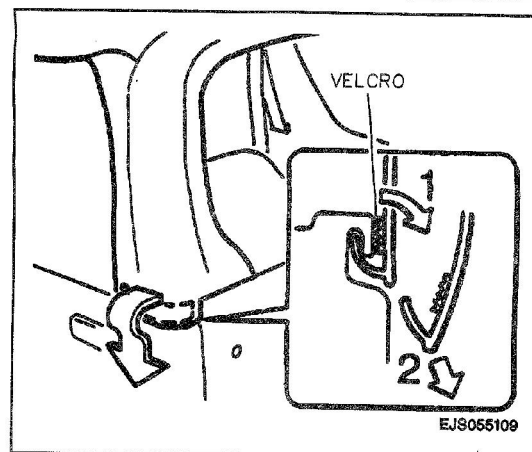
#### Install or Connect

- Rear window and frame onto vehicle (Figure 14).
- Rear window to folding top; zip into place (Figure 13).
- Fasten the folding top corner flaps on the lower right and left sides of the rear window frame.

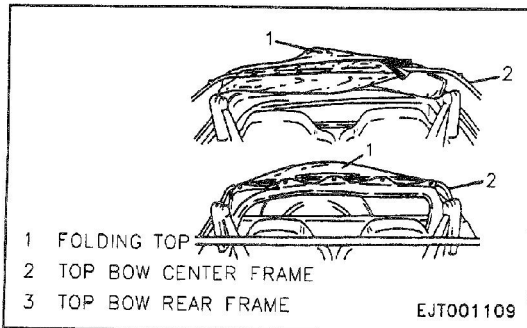




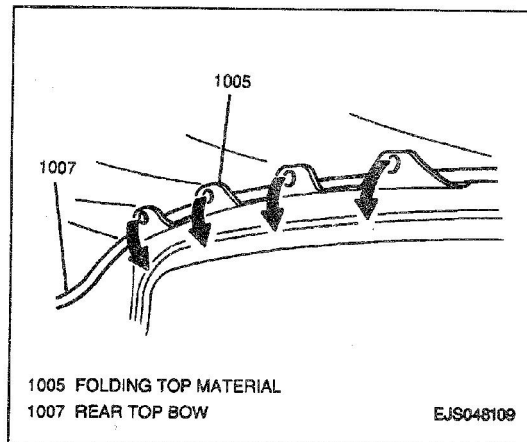
Figure—20 Folding Top Latches



Figure—22 Removing Rear Corner Canvas From Body



Figure—21 Removing Folding Top Material From Front Top Bow



Figure—23 Removing Folding Top Material From Rear Top Bow

## Roof Bows

### Front Top Bow

Figures 18, 20 and 21

#### ↔ Remove or Disconnect

- Push in folding top latch buttons, pull latch back and unhook latch from front top bow (Figure 20).
- Lift front top bow.
- Unsnap folding top material from front top bow (Figure 21).
- Unsnap tension straps from roof rails and pull them out of the plastic loops (Figure 18).
- Four screws and front top bow from vehicle.

#### →→ Install or Connect

- Front top bow to vehicle; secure with four screws.
- Pull tension straps through plastic loops and snap to roof rails (Figure 18).
- Snap folding top material to front top bow (Figure 21).
- Move front top bow forward and hook to folding top latches, push latches down until they click (Figure 20).

### Rear Top Bow Center Frame and Rear Frame

#### ↔ Remove or Disconnect

1. Folding top from vehicle. Refer to "Folding Top" earlier in this section.
2. Garnish Moldings (Figure 9).
3. Four screws and top center bow.
4. Four screws and top rear bow.

#### →→ Install or Connect

1. Rear top bow to vehicle; secure with four screws.
2. Center top bow to vehicle; secure with four screws.
3. Garnish moldings (Figure 9).
4. Folding top to vehicle. Refer to "Folding Top" earlier in this section.

## SPECIFICATIONS

### FASTENER TIGHTENING SPECIFICATIONS

Front and Rear Seat Belt Guide Loop Anchor Bolts.....	45 N.m (33 lb. ft.)
Negative (-) Battery Cable-to-Negative (-) Battery Terminal Retainer.....	15 N.m (11 lb. ft.)