

Fastener Tightening Specifications

Application	Specifications	
	Metric	English
Bodyside Window Hinge Nuts	10 N·m	89 lb in
Bodyside Window Latch Screws	3 N·m	27 lb in
Front Door Window Nuts	11 N·m	97 lb in
Front Door Window Run Channel Bolts	11 N·m	97 lb in
Front Door Window to Sash Nuts	11 N·m	97 lb in
Power Window Motor to Front Door Module	11 N·m	97 lb in
Rear Door Run Channel Bolts	11 N·m	97 lb in
Rear Window Hinge Screws	3 N·m	27 lb in
Rear Window Latch Screws	3 N·m	27 lb in
Windshield Side Reveal Molding Screw	8 N·m	71 lb in
Windshield Weatherstrip Screw along the Inside Edge of the Windshield Frame	2.5 N·m	22 lb in
Windshield Weatherstrip Screw to the Upper Corner of the Windshield Pillar	2.5 N·m	22 lb in
Windshield Weatherstrip Side Retainer Screws	3 N·m	27 lb in

Windshield Replacement

Special Tools

- [J 24402-A](#) Glass Sealant Remover (Cold Knife)
- [J 39032](#) Stationary Glass Removal Tool
- Use a urethane adhesive systems which meet GM Specification GM 3651G

Removal Procedure

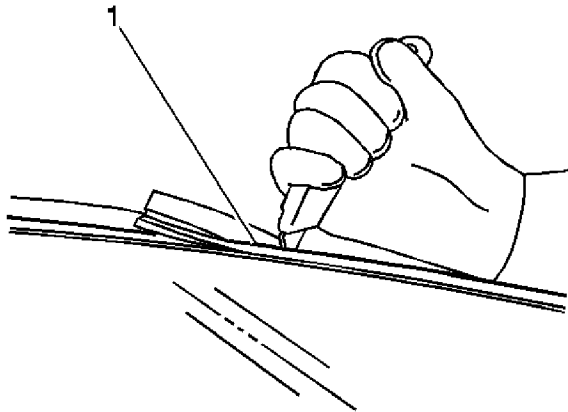
Note: Before cutting out a stationary window, apply a double layer of masking tape around the perimeter of the painted surfaces and the interior trim.

1. Remove the windshield wiper arms. Refer to [Windshield Wiper Arm Replacement](#).
2. Open the hood.
3. Remove the air inlet grille. Refer to [Air Inlet Grille Panel Replacement](#).
4. Remove the windshield frame filler panel. Refer to [Upper Front Fender Filler Panel Replacement](#).
5. Remove the inside rearview mirror. Refer to [Inside Rearview Mirror Replacement](#).

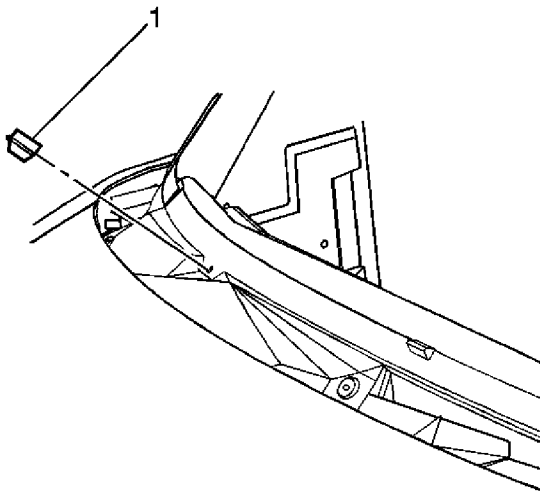
Warning: Refer to [Defroster Outlet Warning](#) in the Preface section.

6. Cover to protect the following parts from broken glass:
 - The upper dash pad
 - The defroster outlets and A/C outlets
 - The seats
 - The carpeting
7. Remove the defroster vent grille. Refer to [Instrument Panel Upper Trim Pad Replacement](#).
8. Remove the windshield upper garnish moldings. Refer to [Upper Pillar Garnish Molding Replacement](#).

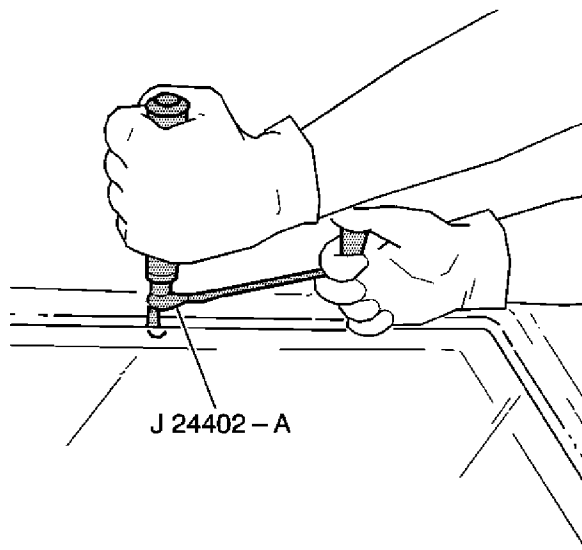
Warning: Refer to [Glass and Sheet Metal Handling Warning](#) in the Preface section.



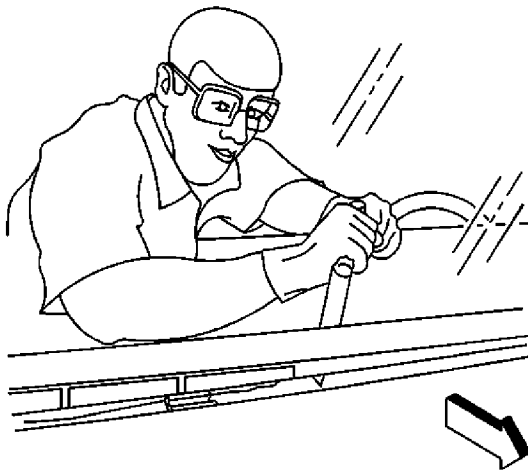
9. Using a sharp utility knife, carefully cut the edge of the lace (1) in order to expose the urethane adhesive bead.
10. Apply a double layer of masking tape to the edge of the roof panel and A-pillars.



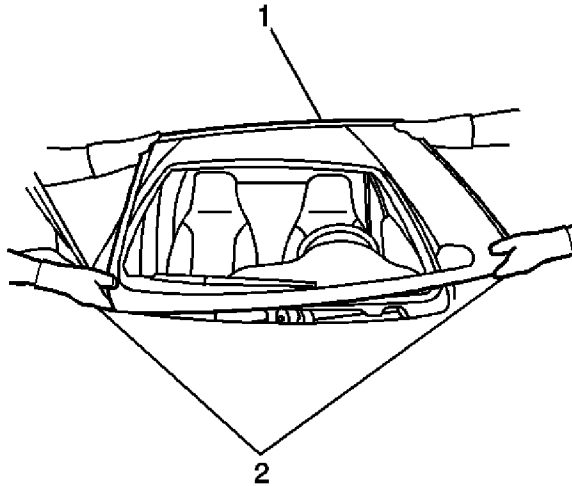
11. Remove the lower windshield supports (1) from the plenum panel, if equipped.



12. Keep the cutting edge of the tool against the window. This will allow the urethane adhesive to be separated from the window.
- Leave a base of urethane on the pinchweld flange.
 - The only suitable lubrication is clear water.
 - Use [J 24402-A](#) , [J 39032](#) or equivalent in order to remove the window.



13. Remove the bottom of the window from the urethane adhesive using a long utility knife or similar tool. Keep the cutting edge of the utility knife against the glass. Do this from inside the vehicle.



14. Remove the windshield (1) from the vehicle with the aid of an assistant (2).

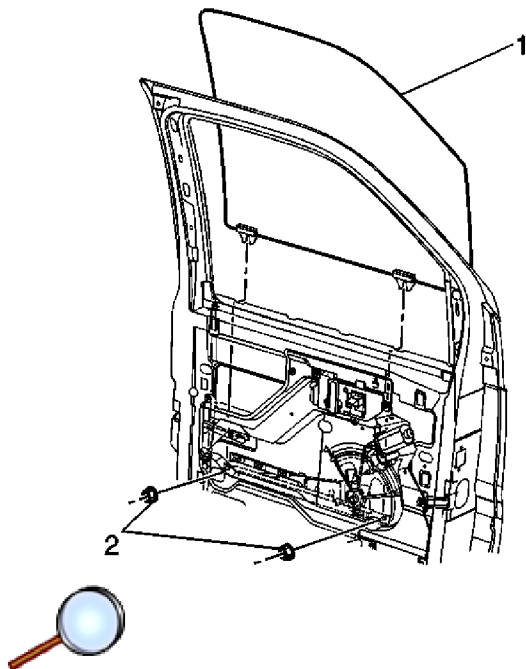
Installation Procedure

1. Install the stationary window into the opening. Refer to [Adhesive Installation of Stationary Windows](#).
2. Install the defroster grille. Refer to [Instrument Panel Upper Trim Pad Replacement](#).
3. Install the windshield interior garnish moldings. Refer to [Upper Pillar Garnish Molding Replacement](#).
4. Install the inside rearview mirror. Refer to [Inside Rearview Mirror Replacement](#).
5. Install the air inlet grille. Refer to [Air Inlet Grille Panel Replacement](#).
6. Install the windshield frame filler panel. Refer to [Upper Front Fender Filler Panel Replacement](#).
7. Close the hood
8. Install the windshield wiper arms. Refer to [Windshield Wiper Arm Replacement](#).
9. Remove the double layer of masking tape around the perimeter of the painted surfaces and the interior trim.

Front Side Door Window Replacement

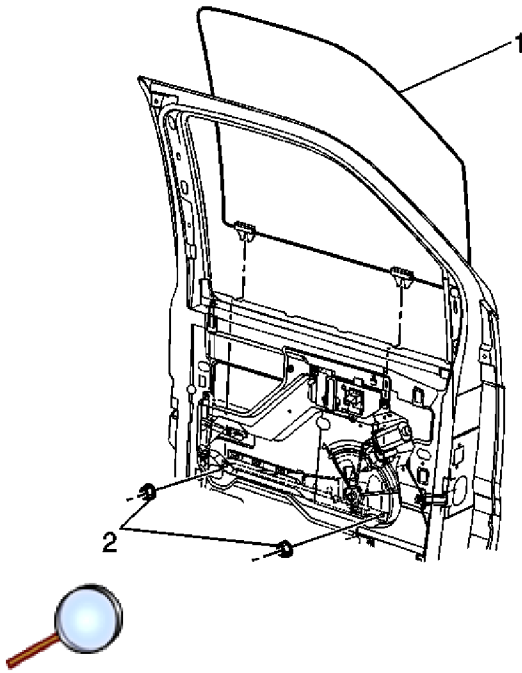
Removal Procedure

1. Raise the front door window (1) approximately half way in order to access the nuts (2) that retain the front door window to the sash.



2. Remove the front door trim panel. Refer to [Front Side Door Trim Panel Replacement](#).
3. Remove the front door rear garnish. Refer to [Front Side Door Rear Garnish Molding Replacement](#).
4. Remove the front door water deflector. Refer to [Front Side Door Water Deflector Replacement](#).
5. Lower the front door window (1).
6. Remove the inner window sealing strip. Refer to [Front Side Door Window Belt Inner Sealing Strip Replacement](#).
7. Remove the outer window sealing strip. Refer to [Outer Belt Sealing Strip Replacement](#).
8. Remove the front run channel from the door. Refer to [Front Side Door Window Channel Replacement](#).
9. Remove the nuts (2) that retain the front door window (1) to the sash.
10. Remove the front door window (1) from the door from the outer side of the vehicle.

Installation Procedure



1. Install the front door window (1) to the door from the outside of the vehicle.

Note: Before raising or lowering the front door window (1), ensure that the front door window (1) is properly aligned in the rear run channel.

2. Install the front run channel to the door. Refer to [Front Side Door Window Channel Replacement](#).

Caution: Refer to [Fastener Caution](#) in the Preface section.

3. Install the nuts (2) in order to retain the front door window (1) to the sash and tighten to **11 N·m (97 lb in)**.
4. Install the inner window sealing strip. Refer to [Front Side Door Window Belt Inner Sealing Strip Replacement](#).
5. Install the outer window sealing strip. Refer to [Outer Belt Sealing Strip Replacement](#).
6. Install the front door water deflector. Refer to [Front Side Door Water Deflector Replacement](#).
7. Install the front door rear garnish. Refer to [Front Side Door Rear Garnish Molding Replacement](#).
8. Install the front door trim panel. Refer to [Front Side Door Trim Panel Replacement](#).

Body Side Window Replacement (Stationary)

Special Tools

- [J 24402-A](#) Glass Sealant Remover (Cold Knife)
- [J 39032](#) Stationary Glass Removal Tool
- Use a urethane adhesive system which meets GM Specification GM 3651G

Removal Procedure

Warning: If a window is cracked but still intact, crisscross the window with masking tape in order to reduce the risk of damage or personal injury.

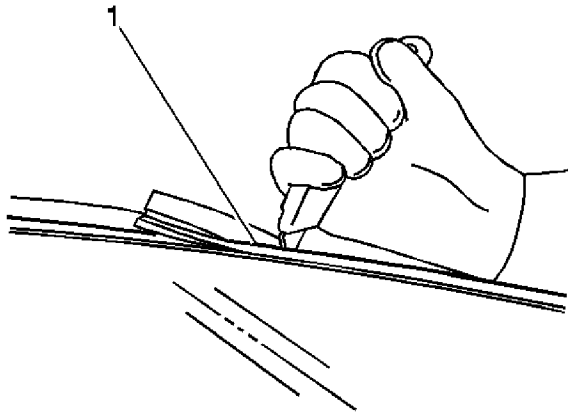
Note: Before cutting out a stationary window, apply a double layer of masking tape around the perimeter of the painted surfaces and the interior trim.

1. When replacing or removing the left side stationary window. Refer to [Body Side Trim Panel Replacement - Left Side](#).
2. When replacing or removing the right side stationary window. Refer to [Body Side Trim Panel Replacement - Right Side](#).

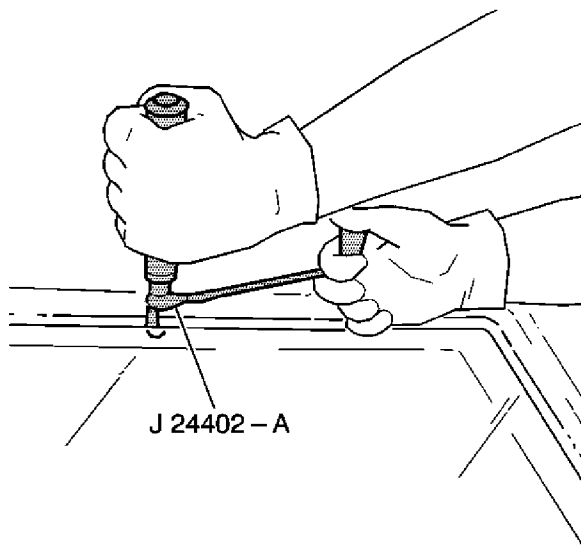
Warning: If broken glass falls into the defroster outlets, it can be blown into the passenger compartment and cause personal injury.

3. Cover to protect the following parts from broken glass:
 - The upper dash pad
 - The defroster outlets and A/C outlets
 - The seats
 - The carpeting

Warning: When working with any type of glass or sheet metal with exposed or rough edges, wear approved safety glasses and gloves in order to reduce the chance of personal injury.



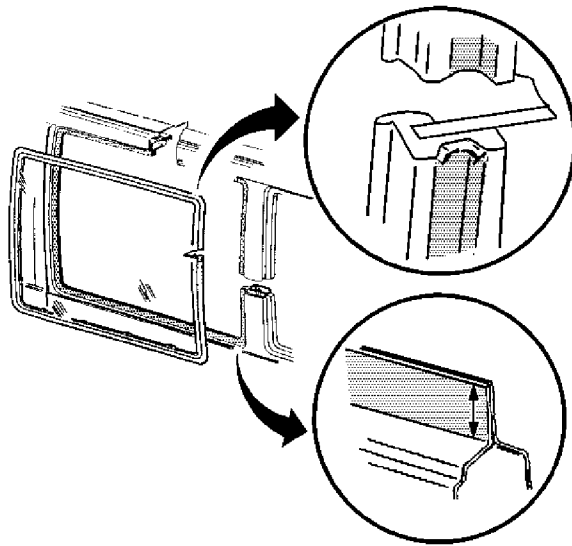
4. Cover to protect the following parts from broken glass:
 - 4.1. Upper dash pad
 - 4.2. Defroster outlets and A/C outlets
 - 4.3. Seats and carpeting



Note: Keep the cutting edge of the tool against the window.

5. This will allow the urethane adhesive to be separated from the window.
 - Leave a base of urethane on the pinchweld flange.
 - The only suitable lubrication is clear water.

- Use [J 24402-A](#) , [J 39032](#) or equivalent in order to remove the window.



6. Remove the stationary window from the pinchweld flange with the aid of an assistant.

Installation Procedure

1. Install a stationary window into the opening. Refer to [Adhesive Installation of Stationary Windows](#).
2. When replacing or installing the left side stationary window. Refer to [Body Side Trim Panel Replacement - Left Side](#).
3. When replacing or installing the right side stationary window. Refer to [Body Side Trim Panel Replacement - Right Side](#).
4. Remove the double layer of masking tape around the perimeter of the painted surfaces and the interior trim.

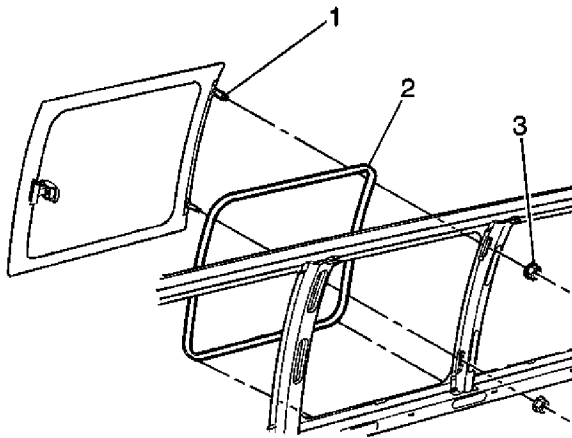
Body Side Window Replacement (Swing Out)

Removal Procedure

The latched side window is a one-piece assembly that includes the following components:

- The window
- The hinges
- The latch assembly

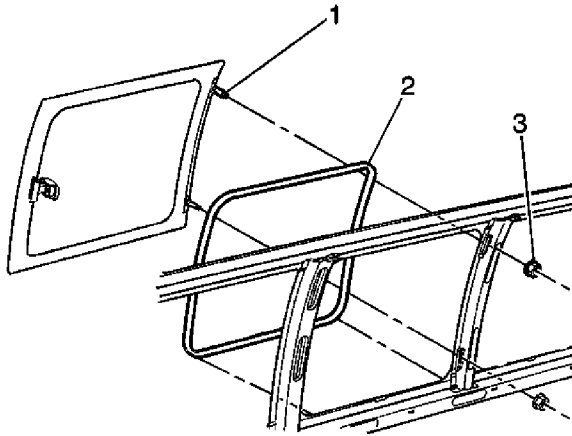
Warning: Refer to [Glass and Sheet Metal Handling Warning](#) in the Preface section.



1. Remove the screws that retain the latch to the vehicle.
2. Remove the nuts (3) that retain the hinge to the vehicle.
3. Remove the window assembly from the vehicle.

Do not replace the weatherstrip (2) unless the weatherstrip is damaged.

Installation Procedure



1. Install the window assembly to the vehicle.

Caution: Refer to [Fastener Caution](#) in the Preface section.

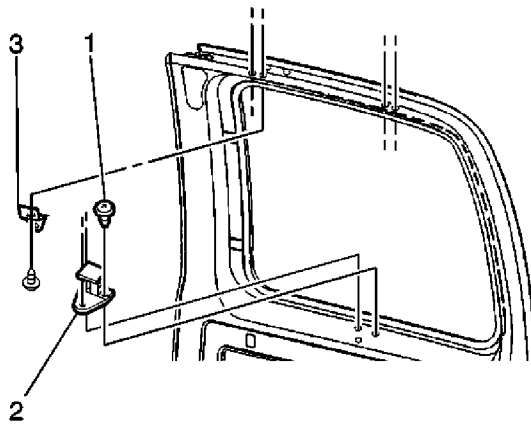
2. Install the nuts (3) that retain the hinge to the vehicle and tighten to **10 N·m (89 lb in)**.
3. Install the screws that retain the latch to the vehicle and tighten to **3 N·m (27 lb in)**.

Hinged Rear Window Replacement

Removal Procedure

1. Remove the rear door trim panel.

Warning: Refer to [Glass and Sheet Metal Handling Warning](#) in the Preface section.

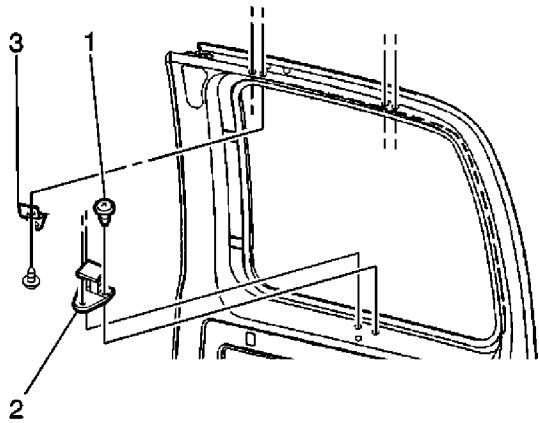


2. Remove the screws (1) that retain the latch to the door.
3. Remove the screws that retain the hinge (3) to the door.
4. Remove the window assembly from the vehicle.

Installation Procedure

1. Install the window assembly to the vehicle.

Caution: Refer to [Fastener Caution](#) in the Preface section.



2. Install the screws that retain the hinge (3) to the door and tighten to **3 N·m (27 lb in)**.
3. Install the screws (1) that retain the latch to the door and tighten to **3 N·m (27 lb in)**.
4. Install the rear door trim panel.

Rear Window Replacement

Special Tools

- [J 24402-A](#) Glass Sealant Remover (Cold Knife)
- [J 39032](#) Stationary Glass Removal Tool
- Use a urethane adhesive systems which meet GM Specification GM 3651G

Removal Procedure

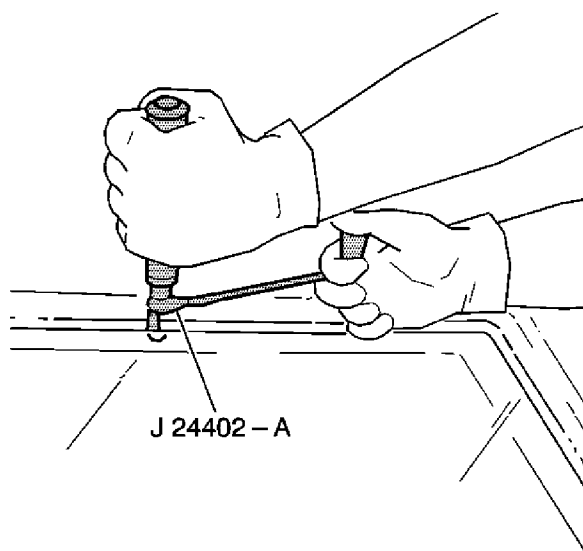
Warning: Refer to [Cracked Window Warning](#) in the Preface section.

Note: Before cutting out a stationary window, apply a double layer of masking tape around the perimeter of the painted surfaces and the interior trim.

1. Remove the rear door trim panels in order to gain access the rear window. Refer to [Rear Door Trim Panel Replacement - Left Side](#) and [Rear Door Trim Panel Replacement - Right Side](#).

Warning: Refer to [Defroster Outlet Warning](#) in the Preface section.

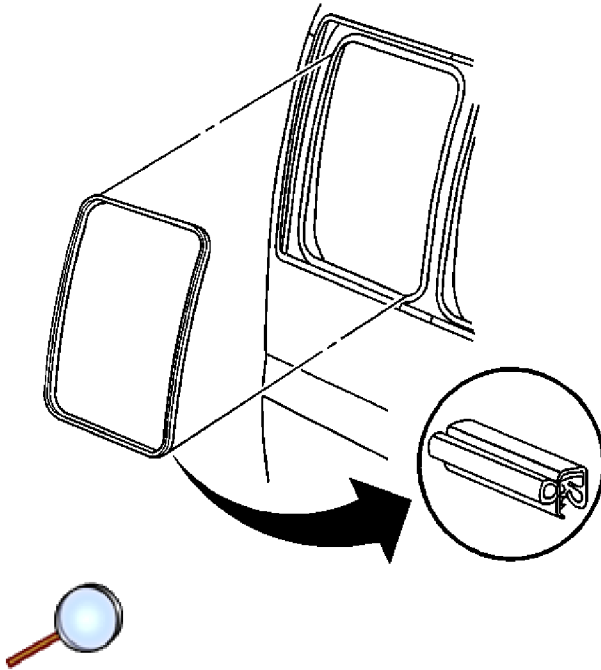
2. Cover to protect the following parts from broken glass:
 - The upper dash pad.
 - The defroster outlets and A/C outlets
 - The seats and carpeting.



Note: Keep the cutting edge of the tool against the window. This will allow the urethane adhesive to be separated from the window.

- Leave a base of urethane on the pinchweld flange.
- The only suitable lubrication is clear water.
- Use [J 24402-A](#) , [J 39032](#) or equivalent in order to remove the window.

3. With the aid of an assistant, use the suction cups to lift the rear window from the opening.



4. Remove the stationary window.

Installation Procedure

1. Install a stationary window into the opening. Refer to [Adhesive Installation of Stationary Windows](#).
2. Install the rear door trim panels which were removed in order to gain access to the rear window removal. Refer to [Rear Door Trim Panel Replacement - Left Side](#) and [Rear Door Trim Panel Replacement - Right Side](#).
3. Remove the double layer of masking tape around the perimeter of the painted surfaces and the interior trim.

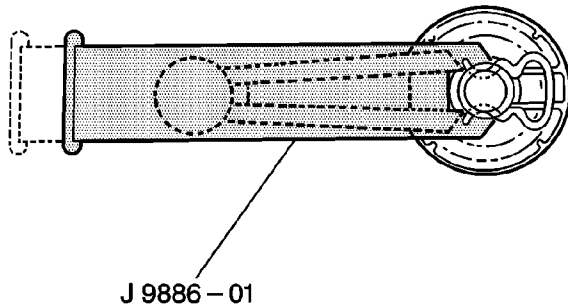
Door Window Regulator Handle Replacement

Tools Required

[J 9886-01](#) Door Handle Clip Remover

Removal Procedure

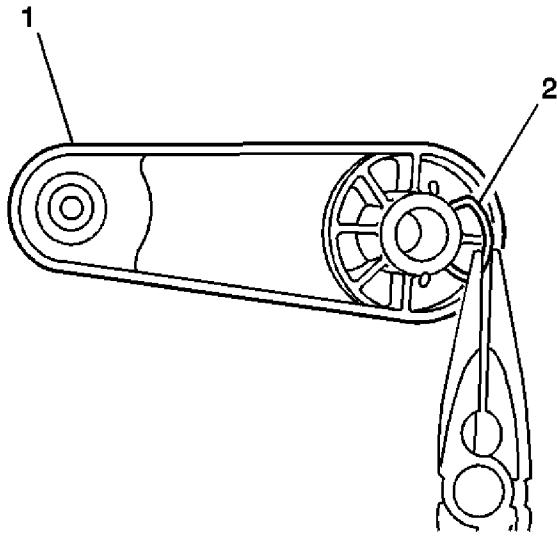
1. Note the position of the door window regulator handle with the window in the full up position.
2. Place the door window regulator handle in the upward position.



3. Remove the spring clip by inserting [J 9886-01](#) between the window regulator handle and the door window regulator handle bearing plate. Press down to remove the spring clip.
4. Remove the window regulator handle.
5. Remove the door window regulator handle bearing plate.

Installation Procedure

1. Position the window to the full up position.

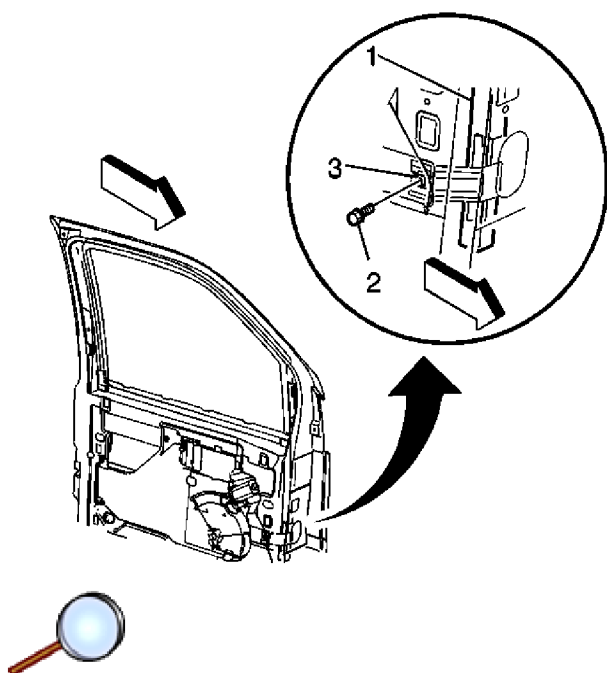


2. Install the spring clip (2) to the door window regulator handle (1).
3. Install the door window regulator handle (1) bearing plate.
4. Position the door window regulator (1) handle to the regulator.
5. Install the door window regulator handle (1), press in until fully seated.

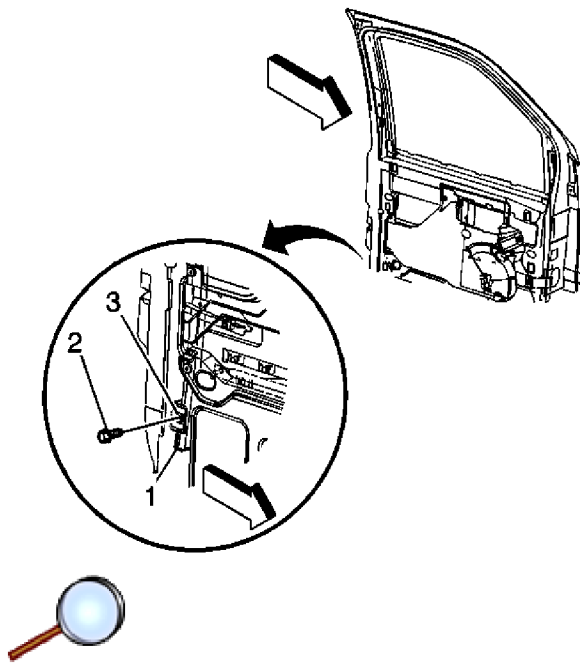
Front Side Door Window Channel Replacement

Removal Procedure

1. Remove the front door trim panel. Refer to [Front Side Door Trim Panel Replacement](#).
2. Remove the front door rear garnish. Refer to [Front Side Door Rear Garnish Molding Replacement](#).
3. Remove the front door water deflector. Refer to [Front Side Door Water Deflector Replacement](#).
4. Lower the front door window.
5. Remove the inner window sealing strip. Refer to [Front Side Door Window Belt Inner Sealing Strip Replacement](#).
6. Remove the outer window sealing strip. Refer to [Outer Belt Sealing Strip Replacement](#).

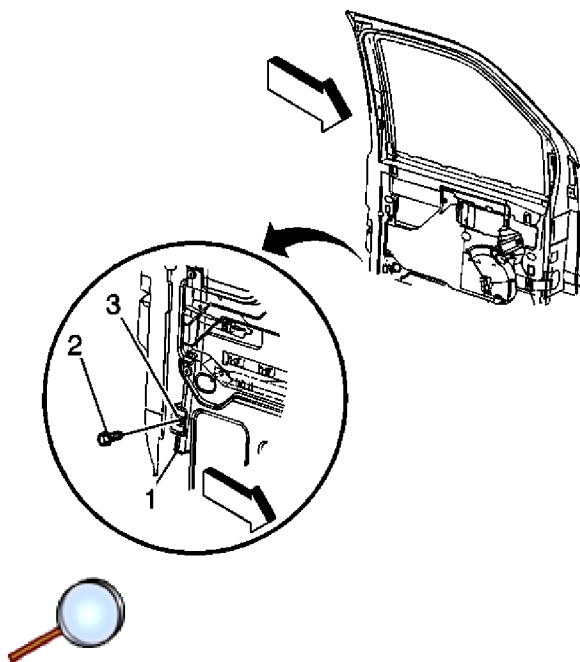


7. Remove the bolt (2) that retains the front run channel (1) to the door.
8. Remove the front run channel (1) from the door.
9. Raise the front window approximately half way in order to access the nuts that retain the front door window to the sash. Access the nuts through the holes in the front door module.
10. Remove the nuts that retain the front door window to the sash.



11. Remove the front door window from the door from the outside of the vehicle.
12. Remove the bolt (2) that retains the rear run channel (1) to the door.
13. Remove the rear run channel (1) from the door.

Installation Procedure



1. Install the rear run channel (1) to the door.

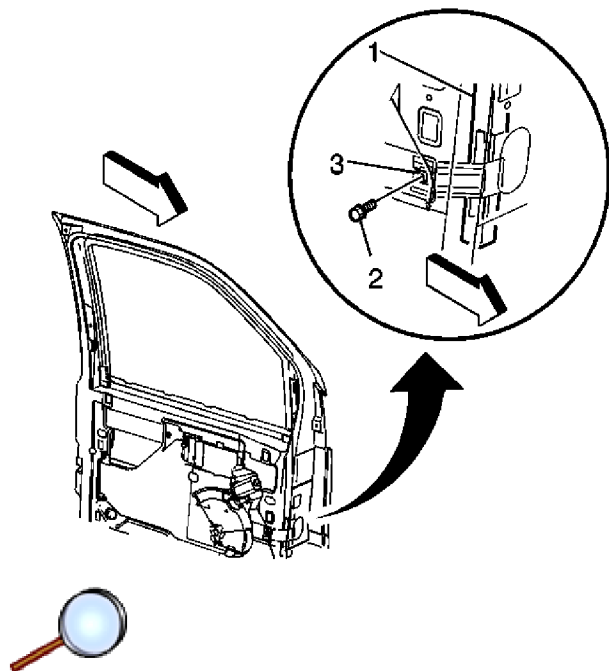
Caution: Refer to [Fastener Caution](#) in the Preface section.

2. Install the bolt (2) in order to retain the rear run channel (1) to the door.

Tighten

Tighten the retaining bolt to 11 N·m (97 lb in).

3. Install the front door window to the door from the outside of the vehicle.



4. Install the nuts (3) in order to retain the front door window to the sash.

Tighten

Tighten the retaining nuts to 11 N·m (97 lb in).

5. Note

Lower the front door window.

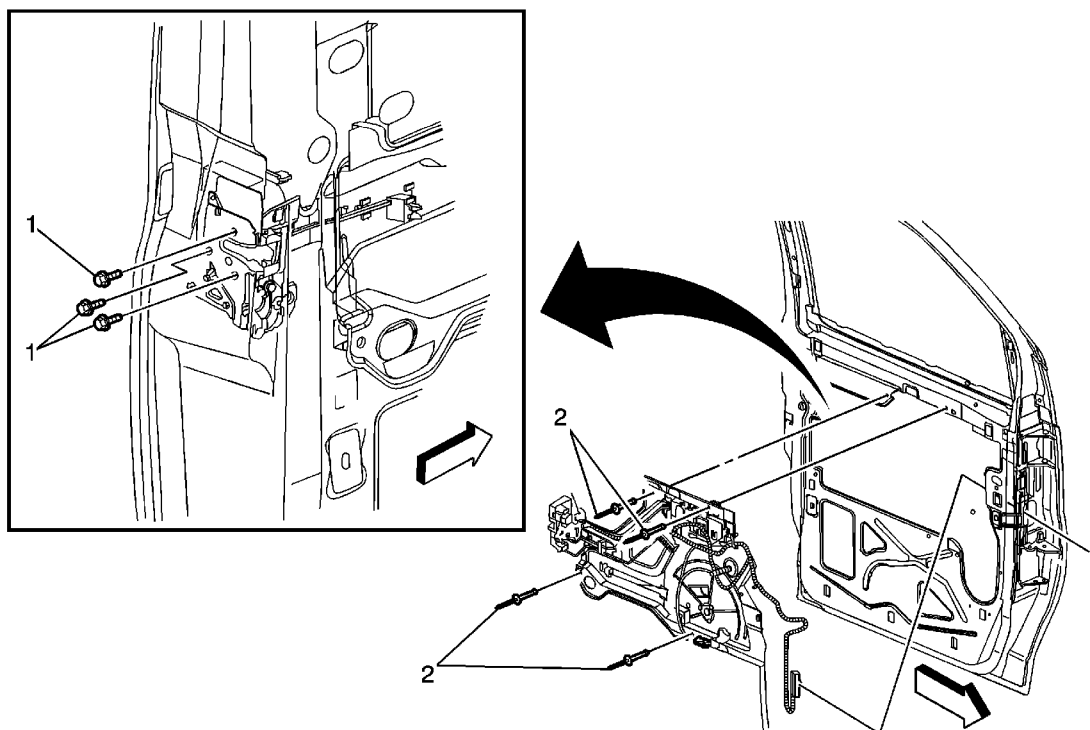
6. Install the front run channel (1) to the door.
7. Install the bolt (2) in order to retain the front run channel (1) to the door.

Tighten

Tighten the retaining bolt to 11 N·m (97 lb in).

8. Adjust window channel for proper alignment.
9. Install the inner window sealing strip. Refer to [Front Side Door Window Belt Inner Sealing Strip Replacement](#).
10. Install the outer window sealing strip. Refer to [Outer Belt Sealing Strip Replacement](#).
11. Install the front door water deflector. Refer to [Front Side Door Water Deflector Replacement](#).
12. Install the front door rear garnish. Refer to [Front Side Door Rear Garnish Molding Replacement](#).
13. Install the front door trim panel. Refer to [Front Side Door Trim Panel Replacement](#).

Front Side Door Window Module Replacement

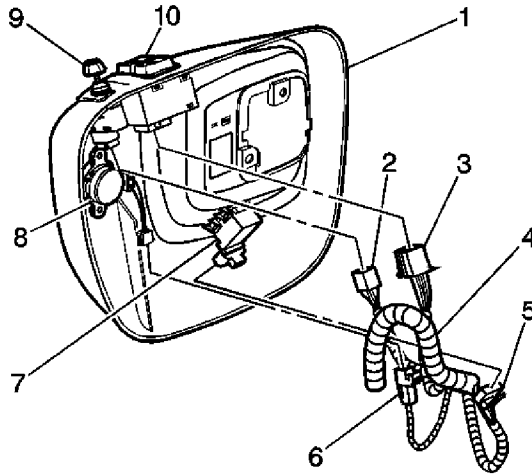


Callout	Component Name
<h3>Preliminary Procedures</h3> <ol style="list-style-type: none">1. Position the front side door window as needed for service.2. Remove the front side door trim panel. Refer to Front Side Door Trim Panel Replacement.3. Remove the front side door water deflector. Refer to Front Side Door Water Deflector Replacement.4. Remove the nuts from the front side door window sash. Refer to Front Side Door Window Replacement.	
1	<p>Front Side Door Lock Screw (Qty: 3)</p> <p>Caution: Refer to Fastener Caution in the Preface section.</p> <h3>Procedure</h3> <ol style="list-style-type: none">1. The front side door lock and lock rods stay with the regulator module.2. Disconnect the electrical connector, located in the front side door conduit. <p>Tighten</p>

	10 N·m (890 lb in)
2	<p>Front Side Door Window Regulator Module Rivet (Qty: 5)</p> <p>Procedure</p> <ol style="list-style-type: none">1. Remove the center of the rivets in the front side door window regulator module using a center punch.2. Drill out the front side door window regulator module rivets, use equivalent rivets when install.
3	<p>Front Side Door Window Regulator Module</p> <p>Procedure</p> <ol style="list-style-type: none">1. Slide the front side door window regulator lower roller out of the lower sash by sliding it forward with the module.2. Lift upward and pull rearward to release the front side door window regulator module from the door.

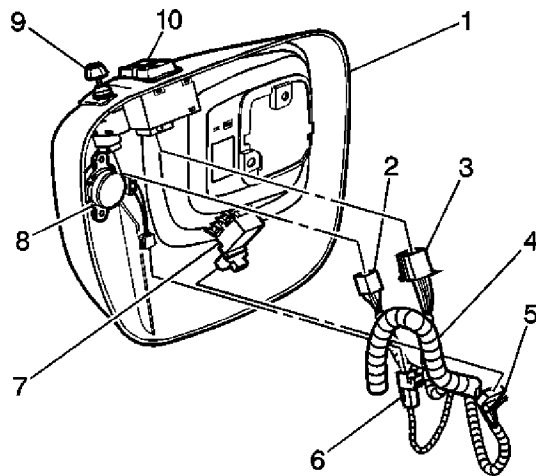
Front Side Door Window Switch Replacement

Removal Procedure



1. Remove the front door trim plate. Refer to [Front Door Trim Plate Replacement](#).
2. Remove the electrical connector (3) from the power window switch.
3. Release the clip from the front door trim plate (1) in order to remove the escutcheon from the trim plate (1).
4. Release the tabs on the power window switch (10) in order to remove the power window switch (10) from the trim plate.

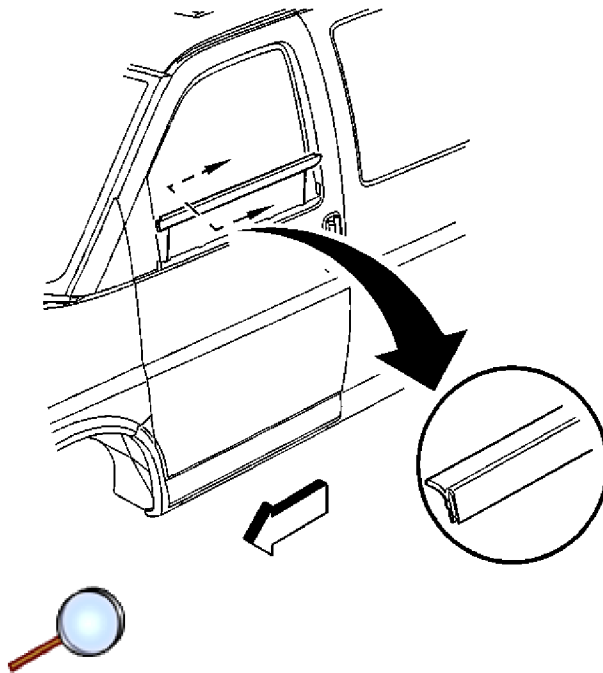
Installation Procedure



1. Install the power window switch (10) to the front door trim plate (1).
2. Push the power window switch in order to engage the retaining clip.
3. Install the electrical connector (3) to the power window switch.
4. Install the front door trim plate (1). Refer to [Front Door Trim Plate Replacement](#).

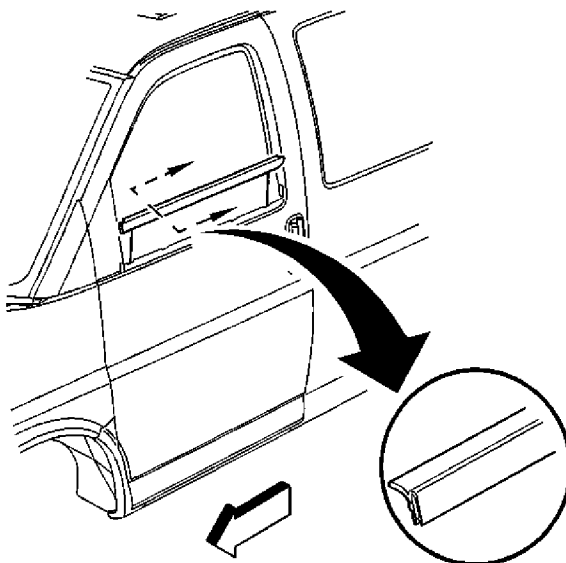
Outer Belt Sealing Strip Replacement

Removal Procedure



1. Lower the window.
2. Tilt the top of the sealing strip away from the vehicle in an outboard direction.
3. Gently pull the sealing strip away from the pinch weld flange.

Installation Procedure



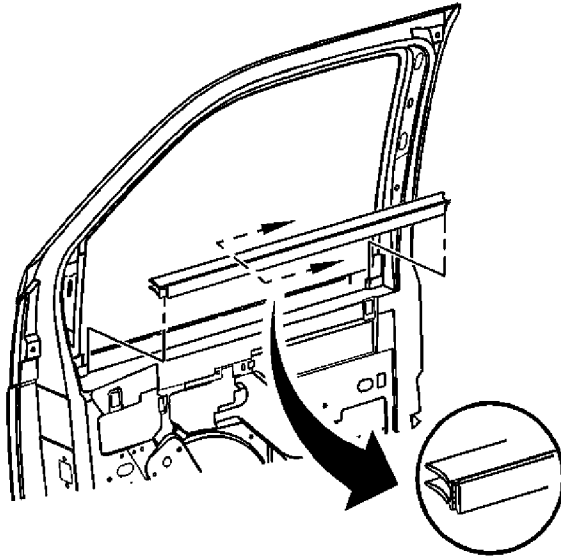
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1. Spray the inside of the sealing strip with a water and soap solution.
2. Install the sealing strip to the pinch-weld flange by tilting the top edge of the sealing strip slightly outboard to ensure the pinch weld flange correctly enters the retention clips.
3. Push down on sealing strip until all clips are fully seated.
4. Raise the window.

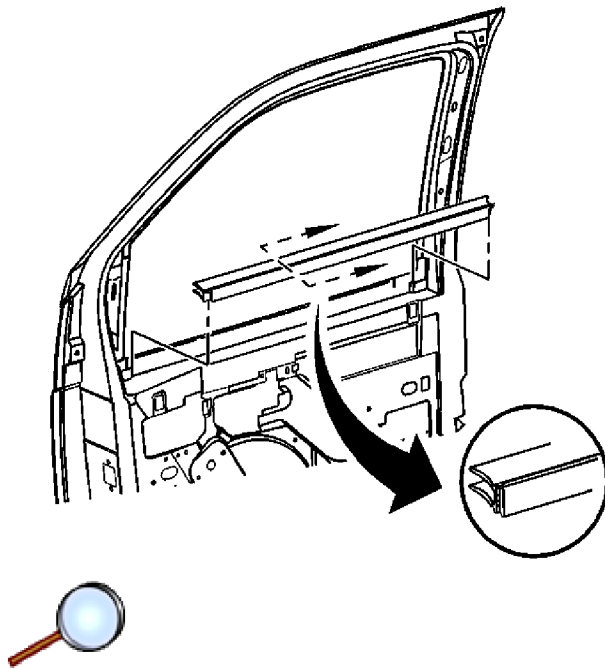
Front Side Door Window Belt Inner Sealing Strip Replacement

Removal Procedure



1. Remove the side front door trim panel from the door. Refer to [Front Side Door Trim Panel Replacement](#).
2. Lower the window all the way down.
3. Remove the sealing strip from the pinch-weld flange by gently pulling up on the sealing strip.

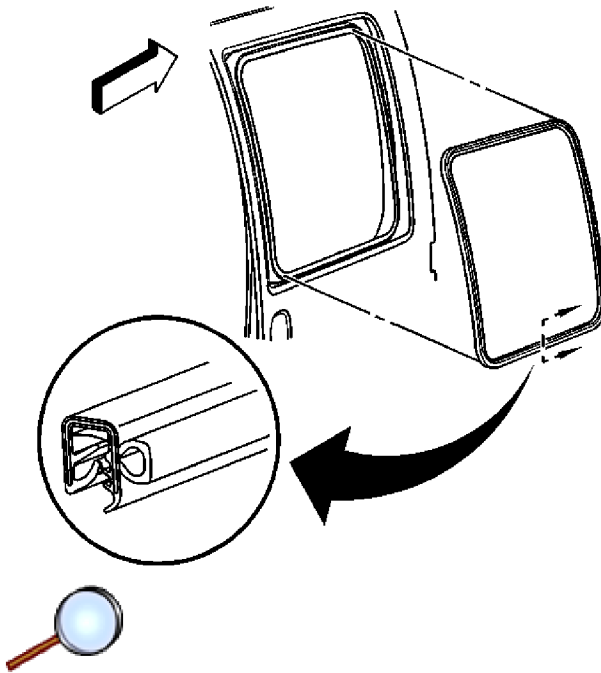
Installation Procedure



1. Install the sealing strip to the pinch-weld flange.
2. Raise the window.
3. Install the side front door trim panel to the door. Refer to [Front Side Door Trim Panel Replacement](#) .

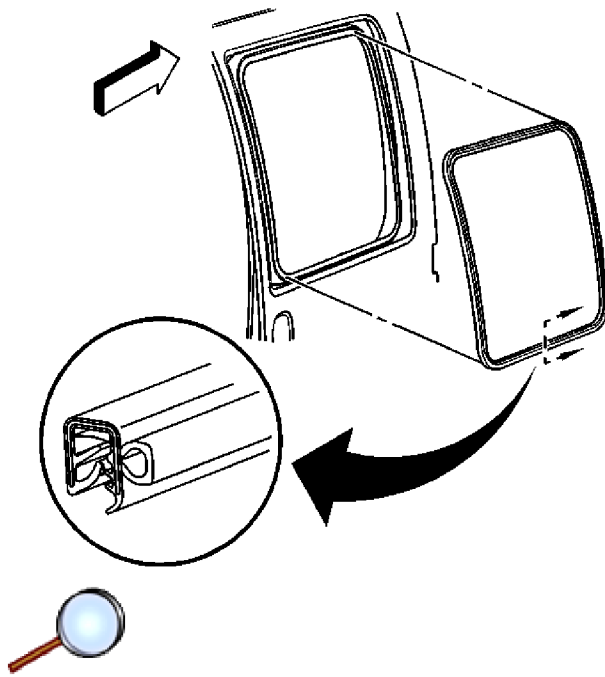
Intermediate Side Door Window Weatherstrip Replacement

Removal Procedure



1. Remove the side door trim panel. Refer to [Front Side Door Trim Panel Replacement](#) .
2. Remove the hinged body side window. Refer to [Body Side Window Replacement](#) .
3. Pull the side door window weatherstrip from the window opening pinch-weld flange.

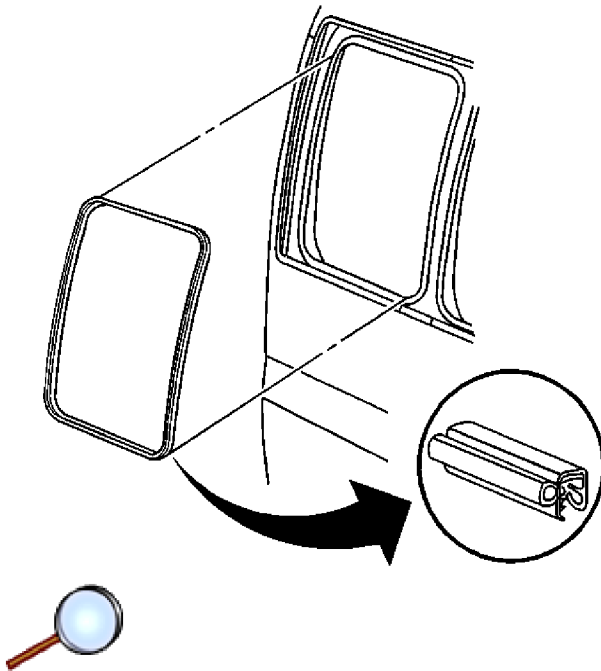
Installation Procedure



1. Install the side door window weatherstrip to the window opening pinch-weld flange.
2. Press the side door window weatherstrip into place.
3. Install the body side window. Refer to [Body Side Window Replacement](#) .
4. Install the side door trim panel. Refer to [Front Side Door Trim Panel Replacement](#) .

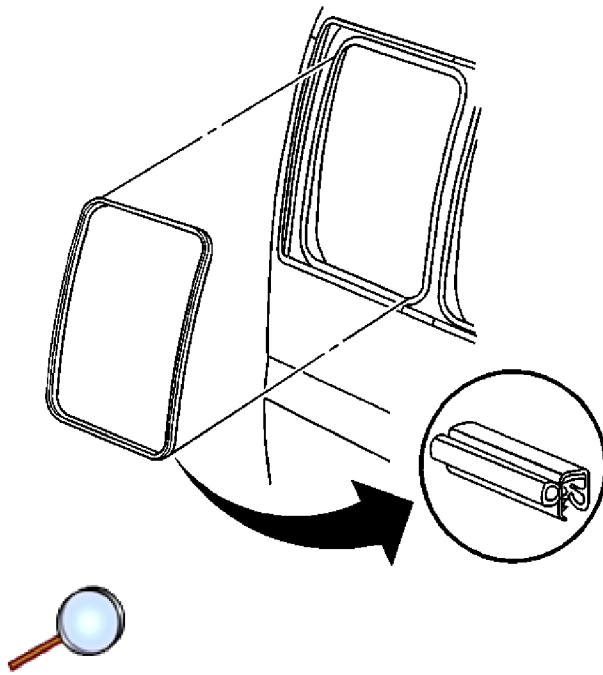
Sliding Door Window Weatherstrip Replacement

Removal Procedure



1. Remove the sliding side door upper trim panel. Refer to [Sliding Rear Side Door Trim Panel Replacement](#).
2. Remove the hinged body side window. Refer to [Hinged Rear Window Replacement](#).
3. Pull the sliding side door window weatherstrip from the window opening pinch-weld flange.
4. Remove the sliding side door window weatherstrip from the vehicle.

Installation Procedure



1. Install the sliding side door window weatherstrip to the vehicle.
2. Align the channel on the sliding side door window weatherstrip with the pinch-weld flange.
3. Press the weatherstrip into place.
4. Install the hinged body side window. Refer to [Hinged Rear Window Replacement](#).
5. Install the sliding side door upper trim panel. Refer to [Sliding Rear Side Door Trim Panel Replacement](#).

Adhesive Installation of Stationary Windows

1. Use a urethane adhesive systems which meet GM Specification GM 3651G

Warning: Refer to [Glass and Sheet Metal Handling Warning](#) in the Preface section.

2. Remove all mounds or loose pieces of urethane adhesive from the pinch-weld area.
3. If the original window is being reused, remove all but approximately 2 mm (3/64 in) of the existing bead of urethane adhesive from the pinch-weld flange surface by using a clean utility knife or razor blade scraper.
4. Inspect for any of the following problems in order to help prevent future breakage of the window:
 - High weld
 - Solder spots on the pinch-weld
 - Hardened sealer
 - Any other obstruction or irregularity in the pinch-weld flange

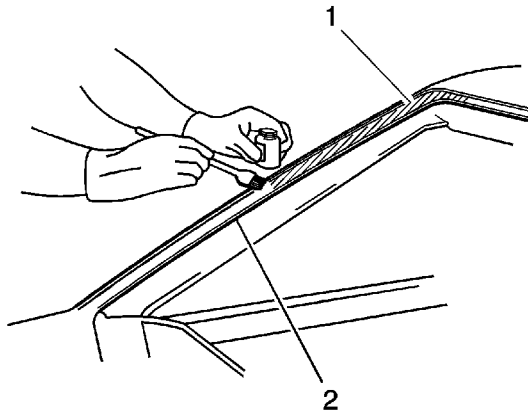
Note: If corrosion of the pinch-weld flange is present or if sheet metal repairs or replacements are required, the pinch-weld flange must be refinished in order to restore the bonding area strength. If paint repairs are required, mask the flange bonding area prior to applying the color coat in order to provide a clean primer only surface. Materials such as BASF DE15®, DuPont 2610®, Sherwin-Williams PSE 4600 and NP70® and Martin-Semour 5120 and 5130® PPG DP90LF SPIES/HECKER 3688/8590 - 3688/5150 - 4070/5090 STANDOX 11158/13320 - 14653/14980 products are approved for this application.

5. After repairing the opening as indicated, perform the following steps:
 - 5.1. Remove all traces of broken window from the outer cowl panel, seats, floor and defroster ducts.
 - 5.2. Clean around the edge of the inside surface of the window with a 50/50 mixture of isopropyl alcohol and water by volume on a dampened lint-free cloth.
6. Shake the pinch-weld primer black #3 for at least 1 minute.

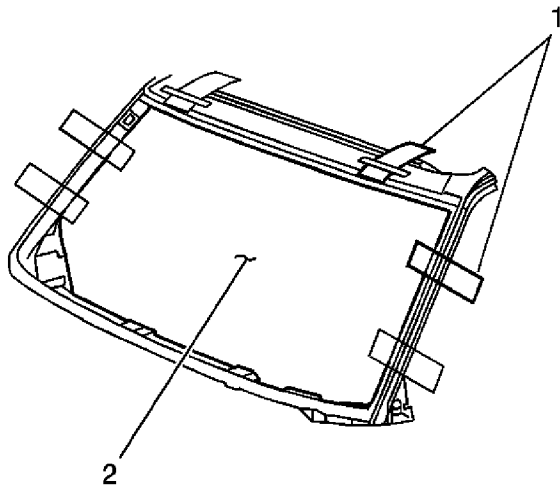
Warning: Refer to [Window Retention Warning](#) in the Preface section.

Warning: Failure to prep the area prior to the application of primer may cause insufficient bonding of urethane adhesive. Insufficient bonding of urethane adhesive may allow unrestrained occupants to be ejected from the vehicle resulting in personal injury.

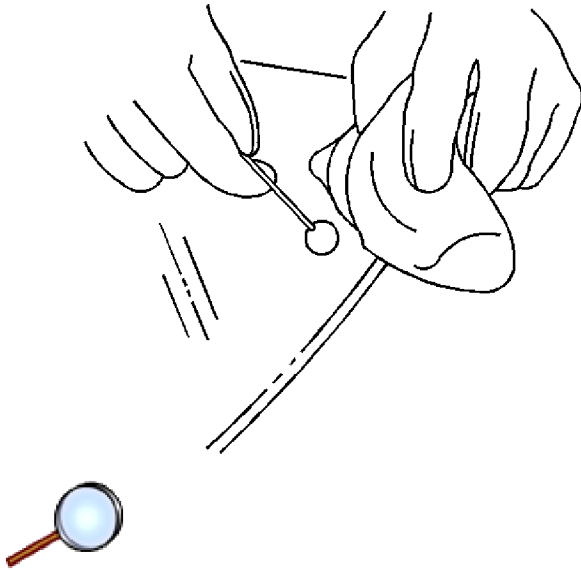
Note: Do not apply the black #3 primer to the existing bead (1) of the urethane adhesive on the pinch-weld flange. Apply the primer only to nicks, scratches or the primed surfaces.



7. Verify all primers and urethane adhesive are within expiration dates.
8. Use a new dauber in order to apply the primer to the surface of the pinch-weld flange (2).
9. Allow the pinch-weld primer to dry for approximately 10 minutes.
10. Position the locator pins on the window into the upper sheet metal slots in order to hold the window in place.
11. With the aid of an assistant, dry fit the window (1) to the opening in order to determine the correct position.



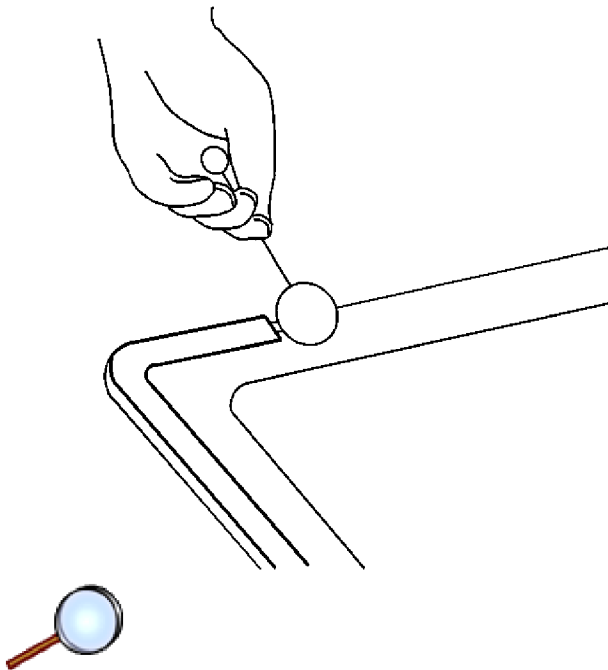
12. Use masking tape in order to mark the locations (1) of the window (2) in the opening.
13. Cut the masking tape in the center and remove the window from the opening.



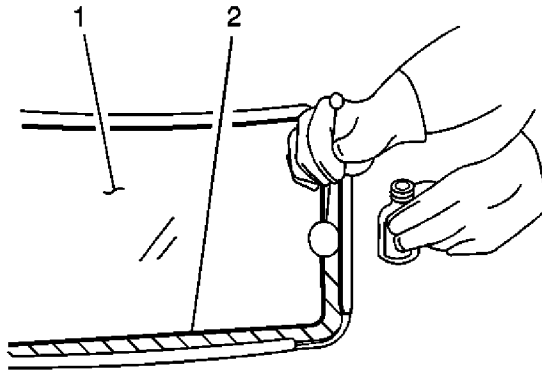
Note: Use care when applying window prep clear #1 on the window. This primer dries almost instantly, and may stain the viewing area of the window if not applied evenly.

14. Use a new dauber in order to apply window prep clear #1 to the area approximately 10-16 mm (3/8-5/8 in) around the entire perimeter of the window inner surface.

Immediately wipe the window primed area using a clean, lint-free cloth.

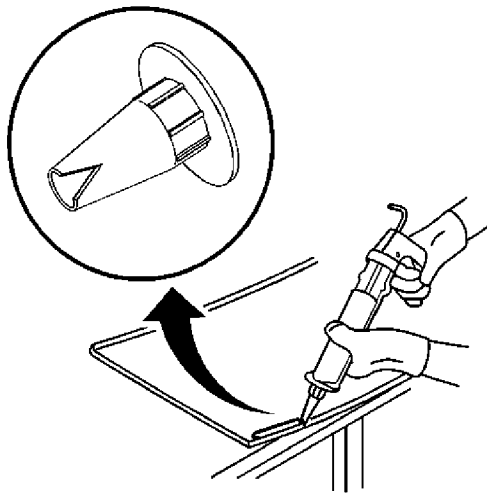


15. Apply a second coat of the window prep clear #1 to the same area of the window.

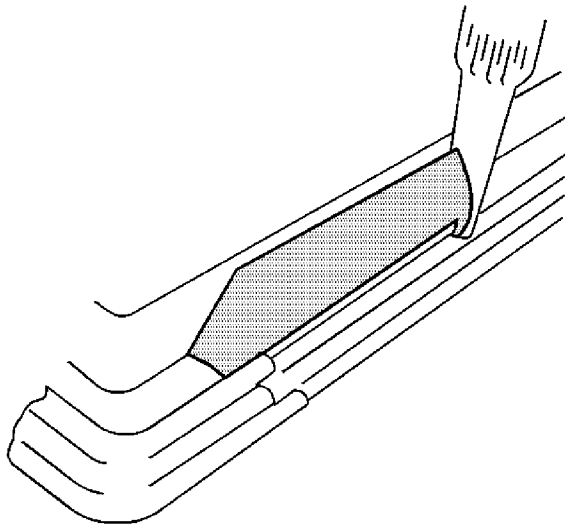


Note: The window primer black #2 is effective up to 8 hours after applying it to the window. The primed surface of the window must be kept clean.

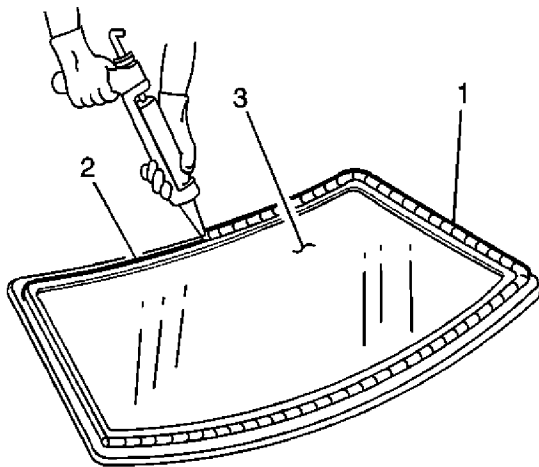
16. Shake the window primer black #2 for at least 1 minute.
17. Use a new dauber in order to apply the window primer black #2 to the same areas (2) that window prep clear #1 was applied.
18. Allow the window primer to dry for approximately 10 minutes.



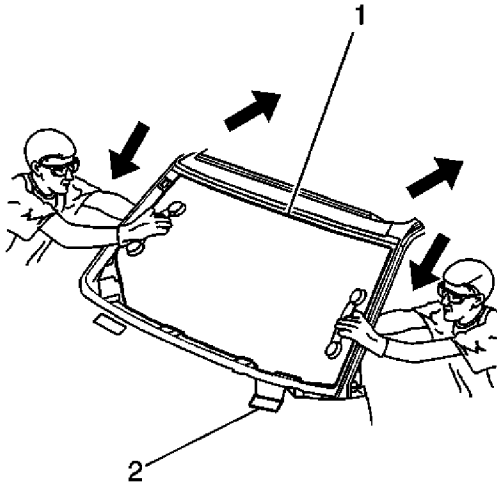
19. Cut the applicator nozzle in order to provide a bead of 13 mm (1/2 in) wide and 13 mm (1/2 in) high.



20. Use a cartridge-type caulking gun in order to apply a smooth, continuous bead of urethane adhesive.

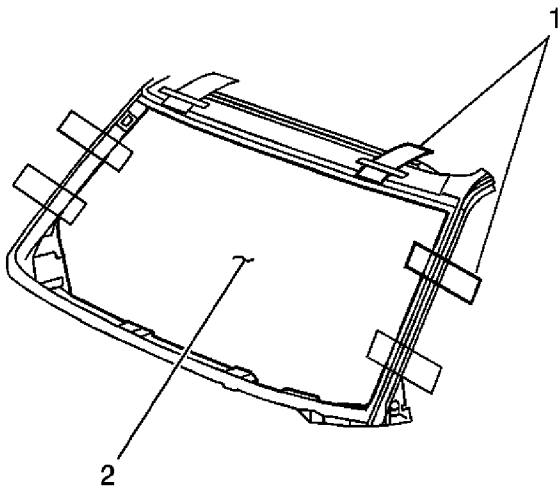


21. Use the edge of the window (1) as a guide for the nozzle in order to apply the urethane adhesive (2) to the inner surface of the window (3).

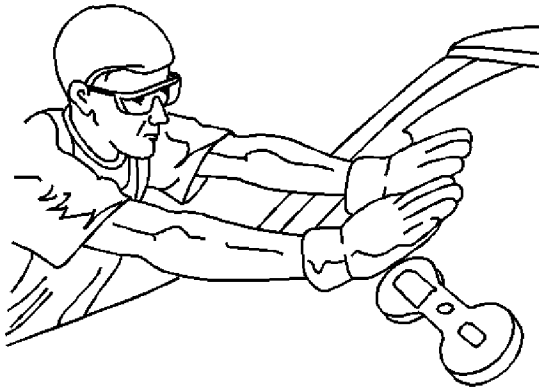


Note: If the locator pins were damage when removing it will be necessary to tape the window in place until chemical-curing for the type of urethane adhesive used.

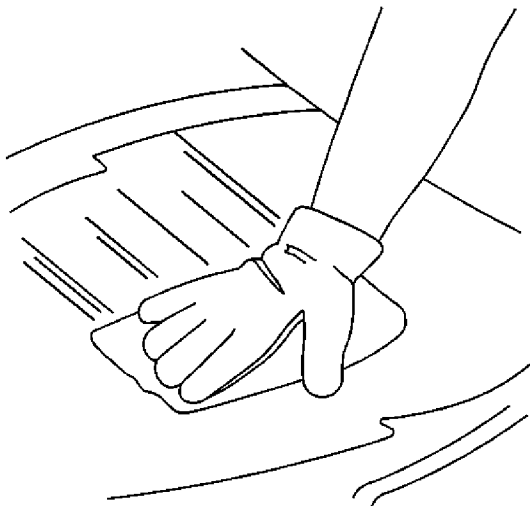
22. Place the window on the lower supports (2), if equipped with the aid of an assistant, place the window in the opening ensuring that the locator pins on the window align with the upper sheet metal slots in order to hold the window in place.



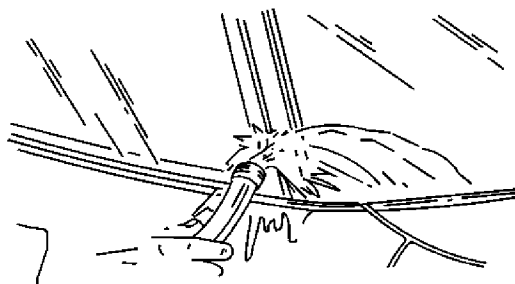
23. Align the masking tape (1) lines on the window (2) and the body.



24. Press the window firmly into place.
25. Tape the window to the body in order to minimize movement until the urethane adhesive cures.



26. Clean any excess urethane adhesive from the body.



Note: Do not direct a hard stream of high pressure water to the freshly applied urethane adhesive.

27. Use a soft spray of warm water in order to immediately water test the window.
28. Inspect the window for leaks.
29. If any leaks are found, use a plastic paddle in order to apply extra urethane adhesive at the leak point.
30. Retest the window for leaks.

Warning: Insufficient curing of urethane adhesive may allow unrestrained occupants to be ejected from the vehicle resulting in personal injury.

- For the moisture-curing type of urethane adhesive, allow a minimum of 6 hours at 21°C (70°F) or greater and with at least 30 percent relative humidity. Allow at least 24 hours for the complete curing of the urethane adhesive.
- For the chemical-curing type of urethane adhesive, allow a minimum of 1 hour .

Do NOT physically disturb the repair area until after these minimum times have elapsed.

31. Maintain the following conditions in order to properly cure the urethane adhesive:
 - Partially lower a door window in order to prevent pressure buildups when closing doors before the urethane adhesive cures.
 - Do not drive the vehicle until the urethane adhesive is cured. Refer to the above curing times.
 - Do not use compressed air in order to dry the urethane adhesive.
32. Complete the window installation.

Adhesive Installation of Bodyside Stationary Windows

1. Use a urethane adhesive systems which meet GM Specification GM 3651G

Warning: Refer to [Glass and Sheet Metal Handling Warning](#) in the Preface section.

2. Remove all mounds or loose pieces of urethane adhesive from the pinchweld area.
3. If the original window is being reused, remove all but approximately 2 mm (0.078 in) of the existing bead of urethane adhesive from the pinchweld flange surface by using a clean utility knife or razor blade scraper.
4. Inspect the pinchweld flange area for the cause of a broken window.

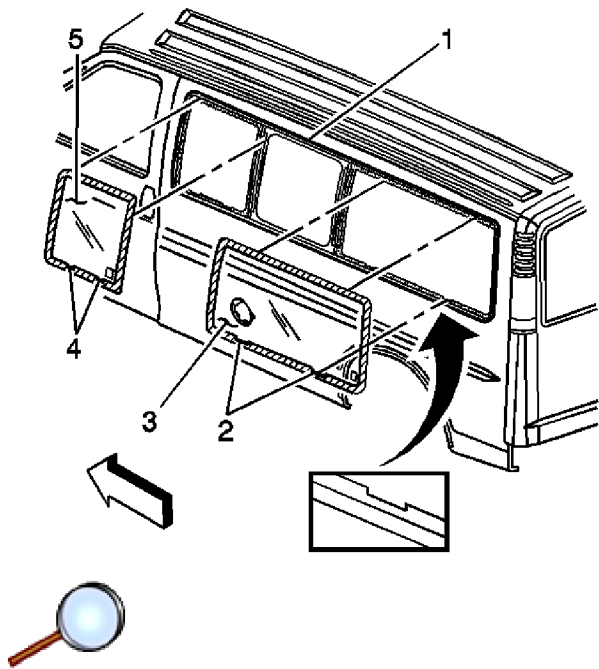
Note: If corrosion of the pinchweld flange is present or if sheet metal repairs or replacements are required, the pinchweld flange must be refinished in order to restore the bonding area strength. If paint repairs are required, mask the flange bonding area prior to applying the color coat in order to provide a clean primer only surface. Materials such as BASF DE17®, DuPont 2610®, Sherwin-Williams PSE 4600 and NP70® and Martin-Semour 5120 and 5130® PPG DP90LF SPIES/ HECKER 3688/8590 - 3688/5150 - 4070/5090 STANDOX 11158/13320 - 14653/14980 products are approved for this application.

5. After repairing the opening as indicated, perform the following steps:
 - 5.1. Remove all traces of broken glass from the seats, floor and/or defroster ducts, if applicable.
 - 5.2. Clean around the edge of the inside surface of the window with a 50/50 mixture of isopropyl alcohol and water by volume on a dampened lint free cloth.
 - 5.3. Allow the isopropyl alcohol to dry completely before applying the primers.

Warning: Refer to [Window Retention Warning](#) in the Preface section.

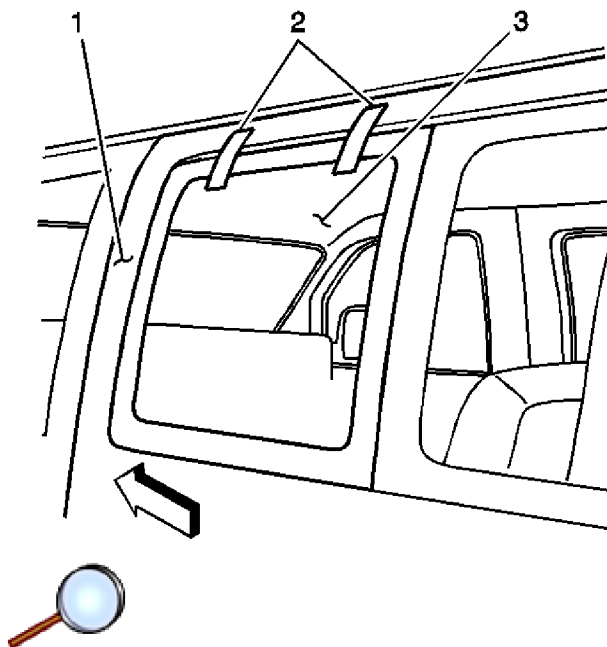
6. Verify all primers and urethane adhesive are within expiration dates.

Warning: Refer to [Failure to Prep Primer Warning](#) in the Preface section.

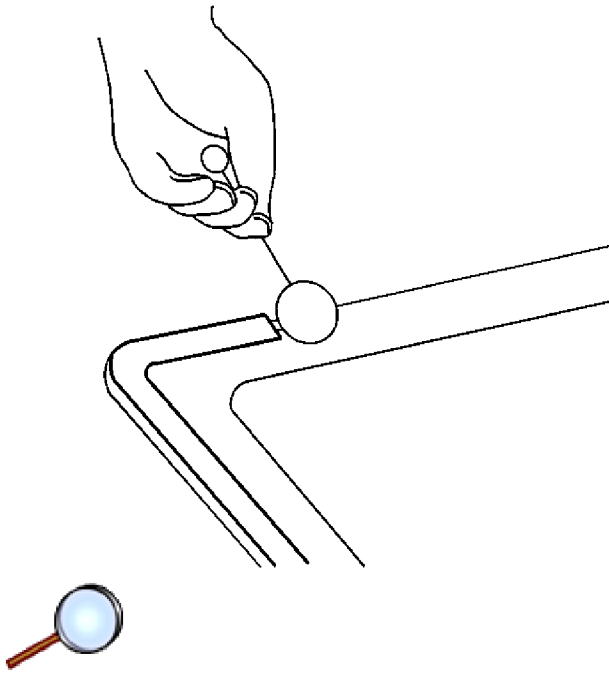


Note: Do not apply the (black #3) primer to the existing bead (1) of the urethane adhesive on the pinchweld flange. Apply the primer only to nicks, scratches or the primed surfaces.

7. Shake the pinchweld primer (black #3) for at least 1 minute.
8. Use a new dauber in order to apply the primer to the surface of the pinchweld flange (1).
9. Allow the pinchweld primer to dry for approximately 10 minutes.
10. With the aid of an assistant dry fit the window (3, 5) to the opening in order to determine the correct position.
11. Ensure the locators (2, 4) are positioned into the locator slots on the lower pinchweld flange.
12. Center the glass side to side into the body opening.



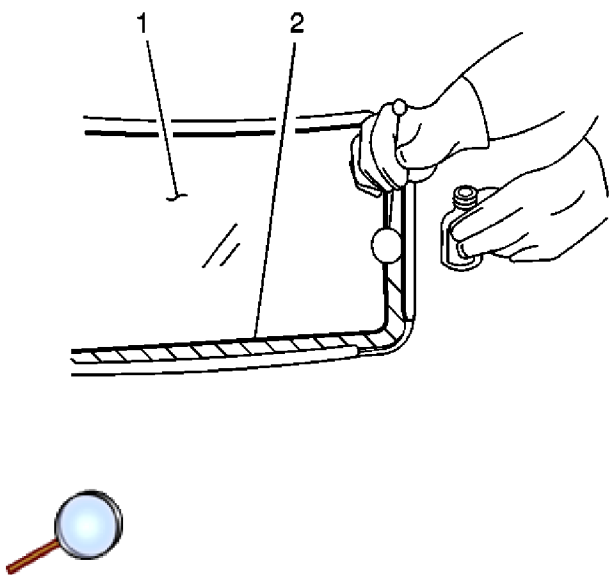
13. Use masking tape (2) in order to mark the locations of the bodyside window in the opening.
14. Cut the masking in the center and remove the bodyside window (3) from the opening.



Note: Use care when applying glass prep (clear #1) on the window. This primer dries almost instantly, and may stain the viewing area of the window if not applied evenly.

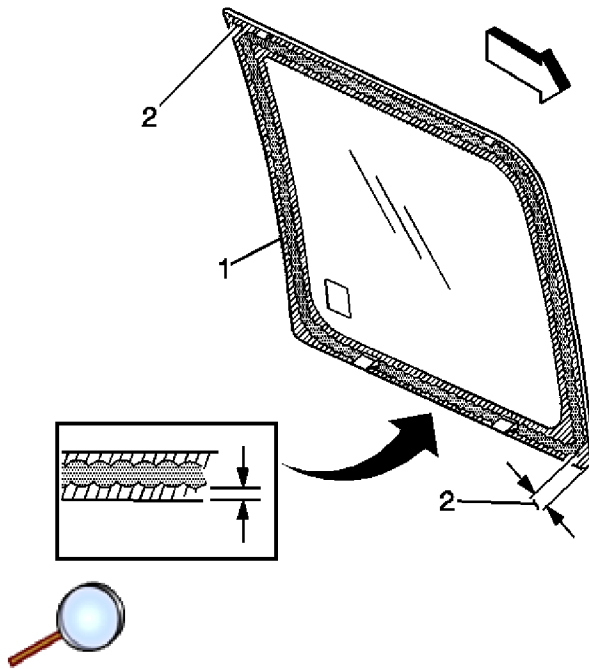
15. Use a new dauber in order to apply glass prep (clear #1) to the area approximately 10-16 mm (3/8-5/8 in) around the entire perimeter of the window inner surface.

Immediately wipe the glass primed area using a clean, lint-free cloth.



Note: The glass primer (black #2) is effective up to 8 hours after applying it to the glass. The primed surface of the glass must be kept clean.

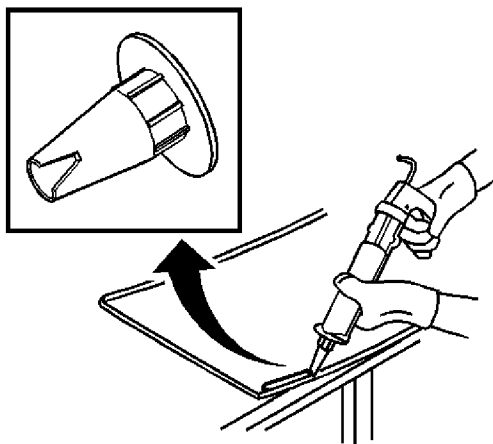
16. Shake the glass primer (black #2) for at least 1 minute.
17. Use a new dauber in order to apply the glass primer (black #2) to the same areas (2) that glass prep (clear #1) was applied.
18. Allow the glass primer to dry for approximately 10 minutes.



Note: Measure a distance of 14-17 mm (0.551- 0.669 in) inward, from the top, bottom and side edges of the window (1) in order to apply the urethane bead onto the window.

19. When applying around the radius edges of the window (2), measure a distance of 17-22 mm (0.669-0.866 in) inward, for the radius edges only.

Use the measurements as a guide in order to apply the urethane adhesive bead to the blackout area of the window.

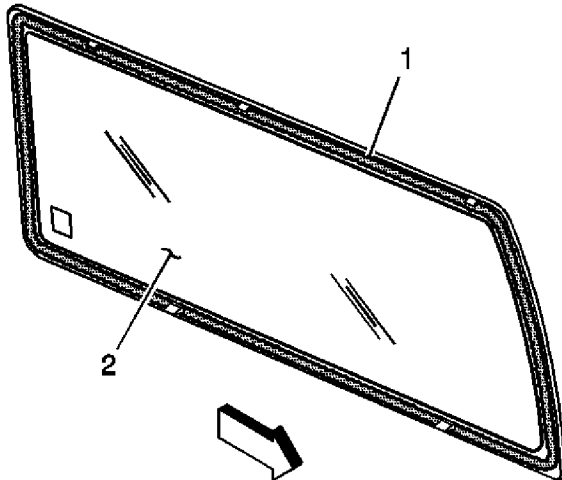




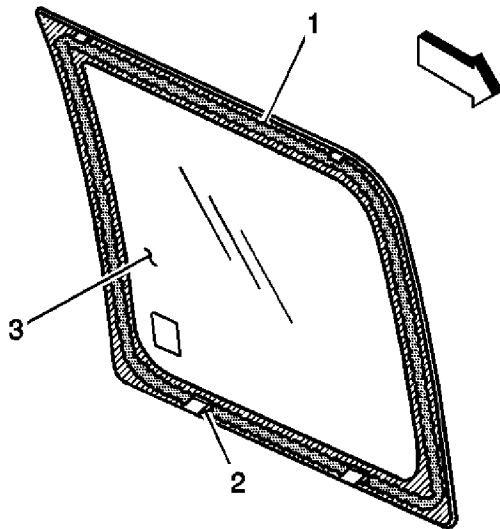
20. Cut the applicator nozzle in order to provide a bead of 10 mm (0.393 in) wide and 15 mm (0.590 in) high.

Note: The urethane adhesive bead must maintain a consistent height and width uniformity.

21. Use a cartridge-type caulking gun in order to apply a smooth, continuous bead of urethane adhesive.

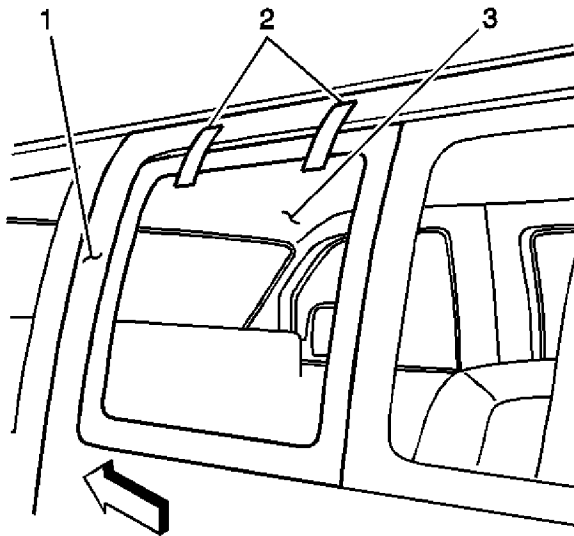


22. Use the specifications as listed above to guide for the nozzle in order to apply the urethane adhesive (1) to the inner surface of the window.

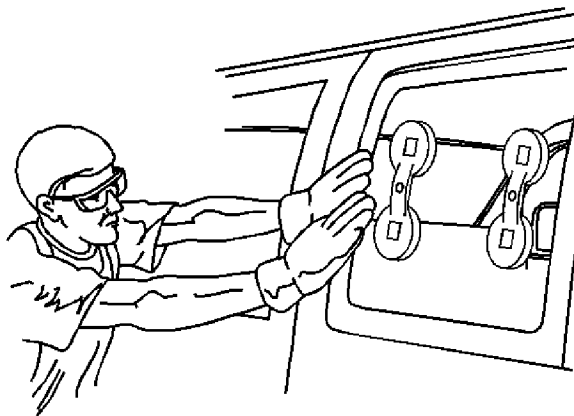


Note: The bodyside glass must be installed to the bodyside opening within 5 minutes after the urethane adhesive is dispensed.

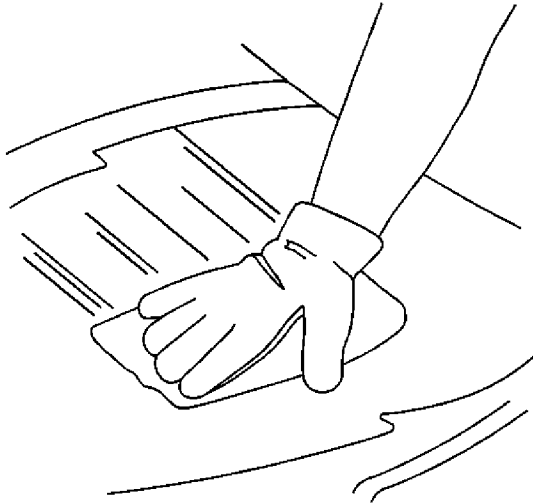
23. Position the window into the bodyside opening.
24. Place the bodyside glass locators (2) onto the slots in the pinchweld flange.



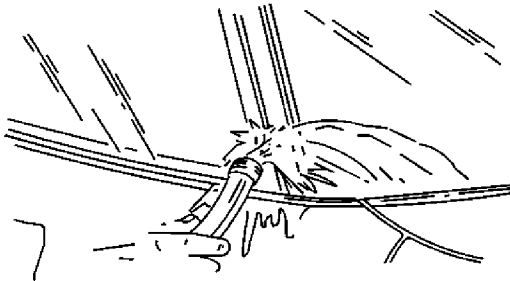
25. Align the masking tape on the bodyside window to the body (2) masking tape.



26. Press around the entire periphery of the bodyside glass edge in order to wet-out the urethane adhesive bead.
27. Tape the window to the body in order to minimize movement until the urethane adhesive cures.



- 28. Clean any excess urethane adhesive from the body by using VMP Naptha.
- 29. Clean any excess urethane adhesive from the interior trim by using acrysol.



Note: Do not direct a hard stream of high pressure water to the freshly applied urethane adhesive.

- 30. Use a soft spray of warm water in order to immediately water test the window.
- 31. Inspect the window for leaks.
- 32. If any leaks are found, use a plastic paddle in order to apply extra urethane adhesive at the leak point.
- 33. Retest the window for leaks.

Warning: Insufficient curing of urethane adhesive may allow unrestrained occupants to be

ejected from the vehicle resulting in personal injury.

- For the moisture-curing type of urethane adhesive, allow a minimum of 6 hours at 21°C (70°F) or greater and with at least 30 percent relative humidity. Allow at least 24 hours for the complete curing of the urethane adhesive.
- For the chemical-curing type of urethane adhesive, allow a minimum of 1 hour .

Do NOT physically disturb the repair area until after these minimum times have elapsed.

34. Maintain the following conditions in order to properly cure the urethane adhesive:

- Partially lower a door window in order to prevent pressure buildups when closing doors before the urethane adhesive cures.
- Do not drive the vehicle until the urethane adhesive is cured. Refer to the above curing times.
- Do not use compressed air in order to dry the urethane adhesive.