

## Fastener Tightening Specifications

Application	Specifications	
	Metric	English
Door Window Regulator Bolts	10 N·m	89 lb in
Door Window Regulator to Door Bolts	10 N·m	89 lb in
Door Window Regulator Motor Bolts to Door	9 N·m	80 lb in
Door Window Regulator Motor to Regulator Bolts	5 N·m	44 lb in
Endgate Molding Retaining Screws	3 N·m	27 lb in
Front Door Window Regulator Clamp Nuts	10 N·m	89 lb in
Front Door Window Weatherstrip/Run Channel Retaining Bolts	10 N·m	89 lb in
Liftgate Window Striker Nuts	6 N·m	53 lb in
Side Reveal Molding Screws	2 N·m	18 lb in

# Windshield Replacement

## Tools Required

- [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

**Note:** When ordering a windshield or door windows, verify if the vehicles is equipped with or without CE1 (RAINSense™) or Y91 (RAINSense™ and luxury edition) and order accordingly. The windshield and door windows have Quiet Tuning acoustic lamination. Due to the difference in processing, along with the difference in the curvature of the window, the optics of the window may appear wavy on a cross-car view from the outside of the vehicle. This is a normal condition and the windshield should not be replaced for this condition. The view through the window from the driver's position is clear and not affected.

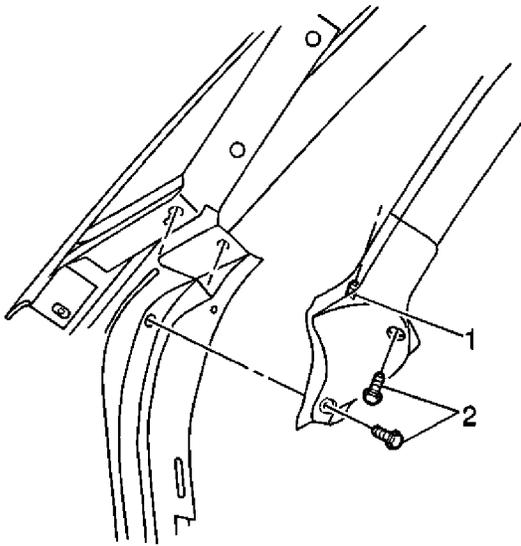
## Removal Procedure

**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.

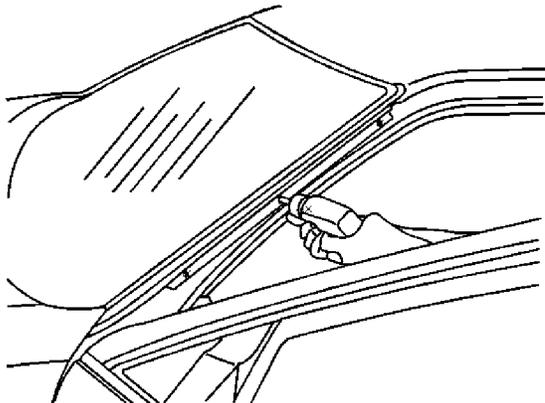
1. Open the hood.

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

2. Cover and protect the following parts from broken glass:
  - Upper dash pad
  - Defroster outlets and A/C outlets
  - Seats and carpeting
3. Remove the windshield wiper arms. Refer to [Windshield Wiper Arm Replacement](#).
4. Remove the cowl air inlet grille panel. Refer to [Air Inlet Grille Panel Replacement](#).



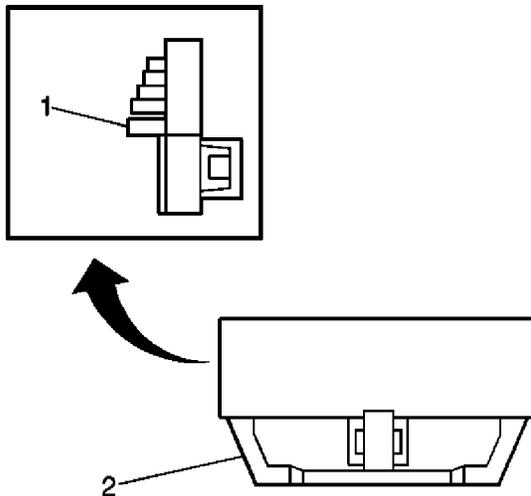
5. Remove the push-pins (2) from the front door sealing weatherstrips (1) located at the base of the pillar.



6. Reposition the front door sealing weatherstrips in order to access the side reveal molding screws.

It is not necessary to remove the front door sealing weatherstrip completely from the vehicle.

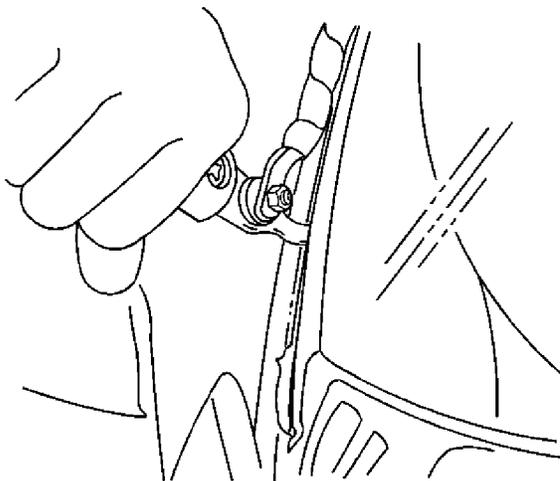
7. Remove the side of the reveal moldings.
8. Remove the rearview mirror. Refer to [Inside Rearview Mirror Replacement](#).
9. Remove the rain sensor, if equipped.



**Note:** The windshield lower supports (1) have molded in locks with an adhesive strip (2) on the back side. If the windshield lower stops have been removed, they must be replaced.

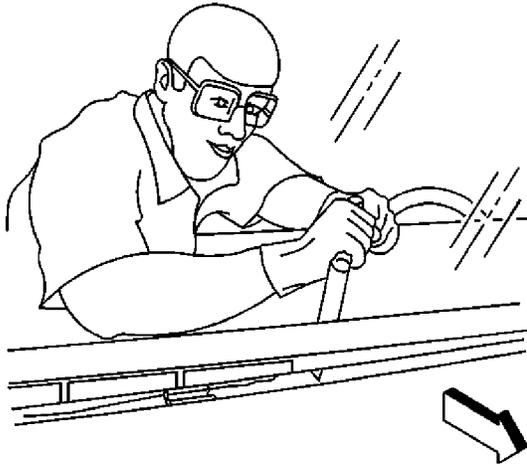
10. Remove the windshield lower supports (1) by using a flat-bladed tool, lightly prying upward in the middle until it releases, if damaged.

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

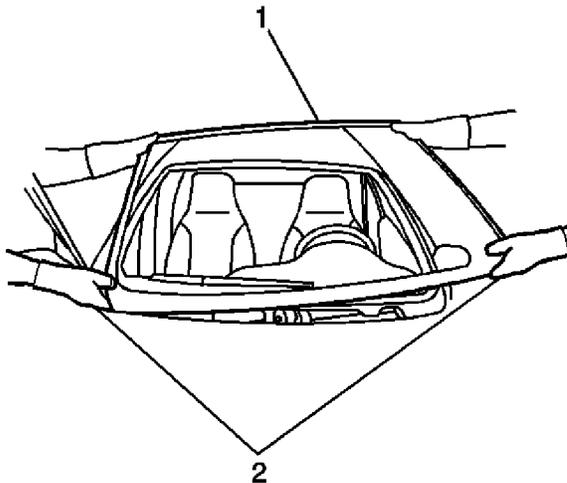


**Note:** Keep the cutting edge of the tool against the window.

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



12. Remove the bottom of the windshield 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.



13. With the aid of an assistant, remove the windshield (1) from the vehicle.

## **Installation Procedure**

1. Install a stationary window into the opening. Refer to [Adhesive Installation of Windshields](#).

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

2. Install the windshield side reveal moldings screws.

### **Tighten**

Tighten the windshield side reveal moldings screws to 2 N·m (18 lb in).

3. Reposition the front door sealing weatherstrips to the pinch-weld flange.
4. Install the push-pin retainers to the front door sealing weatherstrips located at the base of the windshield pillar.
5. Install the cowl air inlet grille panel. Refer to [Air Inlet Grille Panel Replacement](#).
6. Install the windshield wiper arms. Refer to [Windshield Wiper Arm Replacement](#).
7. Install the rearview mirror. Refer to [Inside Rearview Mirror Replacement](#).
8. Install the rain sensor, if equipped.
9. Close the hood.
10. Remove the double layer of masking tape around the perimeter of the painted surfaces and the interior trim.

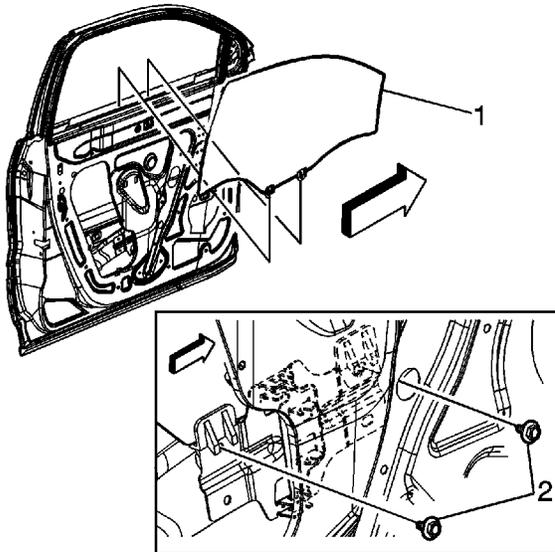
## Front Side Door Window Replacement

**Note:** When ordering a windshield or door windows, verify if the vehicles is equipped with or without CE1 (RAINSense™) or Y91 (RAINSense™ and luxury edition) and order accordingly. The windshield and door windows have Quiet Tuning acoustic lamination. Due to the difference in processing, along with the difference in the curvature of the window, the optics of the window may appear wavy on a cross-car view from the outside of the vehicle. This is a normal condition and the windshield should not be replaced for this condition. The view through the window from the driver's position is clear and not affected.

### Removal Procedure

1. Remove the door trim panel. Refer to [Front Side Door Trim Panel Replacement - Left Side](#) or [Front Side Door Trim Panel Replacement - Right Side](#).
2. Remove the water deflector. Refer to [Front Side Door Water Deflector Replacement](#).
3. Remove the inner belt sealing strip. Refer to [Front Side Door Window Belt Inner Sealing Strip Replacement](#).

**Warning:** Disconnect the power window switch when working inside the driver's door. When operated, the Express Down Feature allows the door window to drop very quickly, without stopping, which could cause personal injury.



4. Place the window (1) in a serviceable position.
5. Remove the regulator bolts (2) at the window sash.

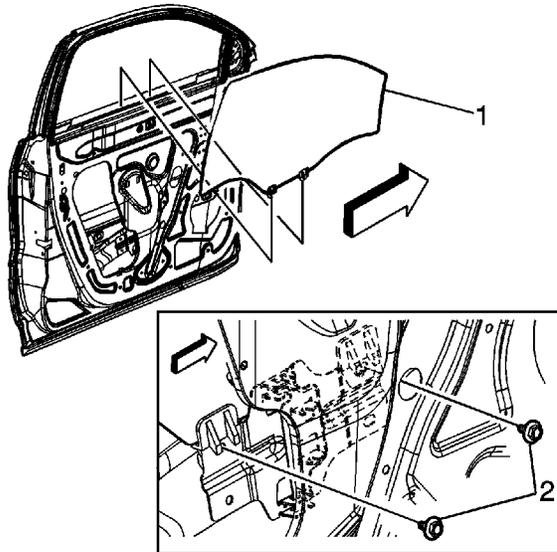
**Warning:** Refer to [Glass and Sheet Metal Handling Warning](#) in the Preface section.

6. In order to remove the window out of the frame, carefully grasp and tilt the window as you guide the window up and forward.

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- Remove the window from the door.

## Installation Procedure



- Install the window to the door with the regulator adjusted to the remove/load position.
- Tilt the window forward and carefully guide the window into the rear run channel.
- Position the window (1) to an upright position.
- Loosely tighten the regulator bolts (2).

**Note:** Do not operate the regulator motor without supporting the window. Ensure that the window remains in the run channels when operating the regulator motor.

- Carefully move the regulator upward for short slow intervals, while ensuring that the window remains in the run channels.
- Position the window (1) to a fully secure position into the upper door weatherstrip.

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

- Tighten the 2 regulator bolts (2).

### **Tighten**

Tighten the bolts to 10 N·m (89 lb in).

- Lower the window to the full down position.
- Install the inner belt sealing strip. Refer to [Front Side Door Window Belt Inner Sealing Strip Replacement](#).
- Install the water deflector. Refer to [Front Side Door Water Deflector Replacement](#).
- Install the door trim panel. Refer to [Front Side Door Trim Panel Replacement - Left Side](#) or [Front Side Door Trim Panel Replacement - Right Side](#).

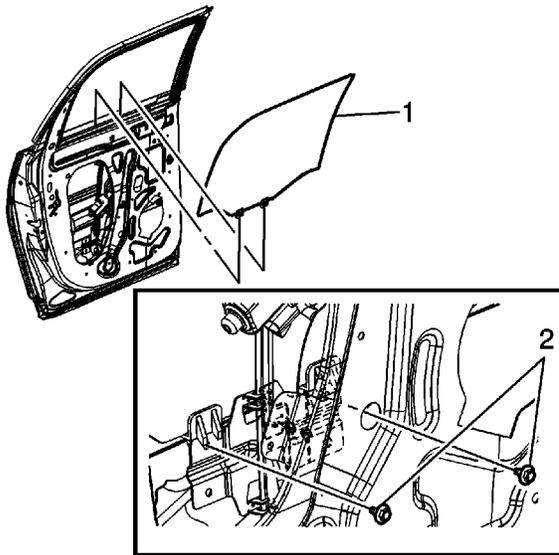
## Rear Side Door Window Replacement

### Removal Procedure

1. Remove the door trim panel. Refer to [Rear Side Door Trim Panel Replacement](#).
2. Remove the water deflector.

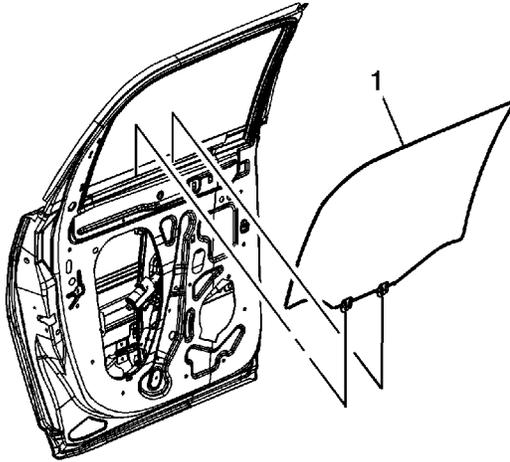
**Note:** Tape the edges of the outer belt sealing strip to pinch weld to protect the paint.

3. Remove the outer belt sealing strip. Refer to [Rear Side Door Window Outer Sealing Strip Replacement](#).



4. Lower the window (1) to align the bolts (2) with the access holes in the inner panel.
5. Remove the window guide bolts (2).
6. Using masking tape place the door window into the upper door frame and tape in place.
7. Remove the window regulator. Refer to [Rear Side Door Window Regulator Replacement](#).
8. Remove the rear door speaker. Refer to [Radio Rear Side Door Speaker Replacement](#).
9. Remove the rear door window front channel. Refer to [Rear Side Door Window Front Channel Replacement](#).
10. Remove the masking tape from the window and frame.

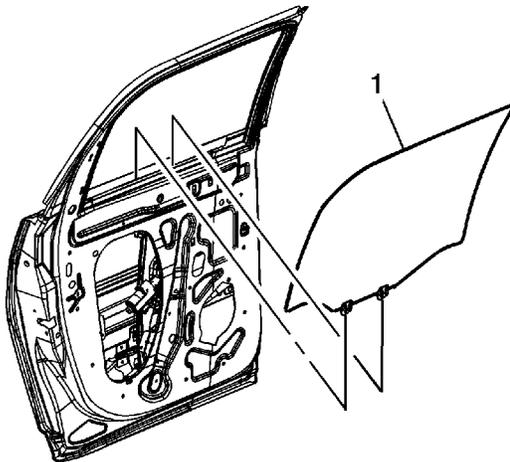
**Warning:** Refer to [Glass and Sheet Metal Handling Warning](#) in the Preface section.



**Note:** In order to remove the window out of the frame, carefully grasp and tilt the window toward the outer door panel. The window comes out between the door panel and the window frame.

11. Remove the window (1) from the door.

## Installation Procedure



1. With the regulator in the remove/load position, install the window (1) to the door.
  - 1.1. Tilt the window forward and carefully guide the window into the rear channel.

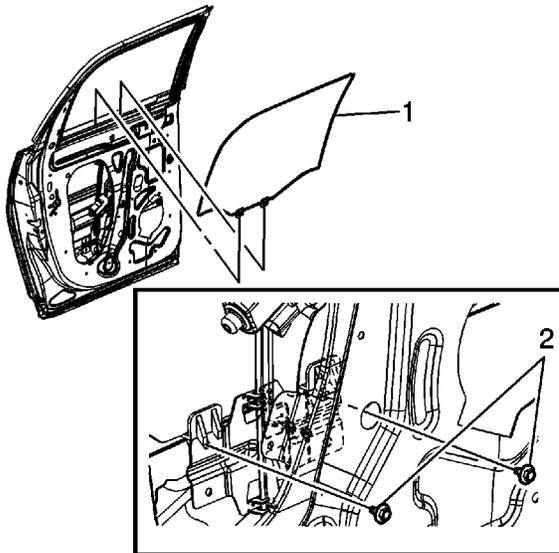
- 1.2. Position the window to an upright position. Ensure that the window is seated into the channels.
- 1.3. Position the window (1) to a fully secure position into the upper door weatherstrip.

**Note:** Do not operate the regulator motor without supporting the window. Ensure that the window remains in the channels when operating the regulator motor.

Carefully move the regulator upward for short slow intervals, while ensuring that the window remains in the channels.

2. Install the rear door window regulator. Refer to [Rear Side Door Window Regulator Replacement](#).

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



3. Install the rear door window guide bolts (2).

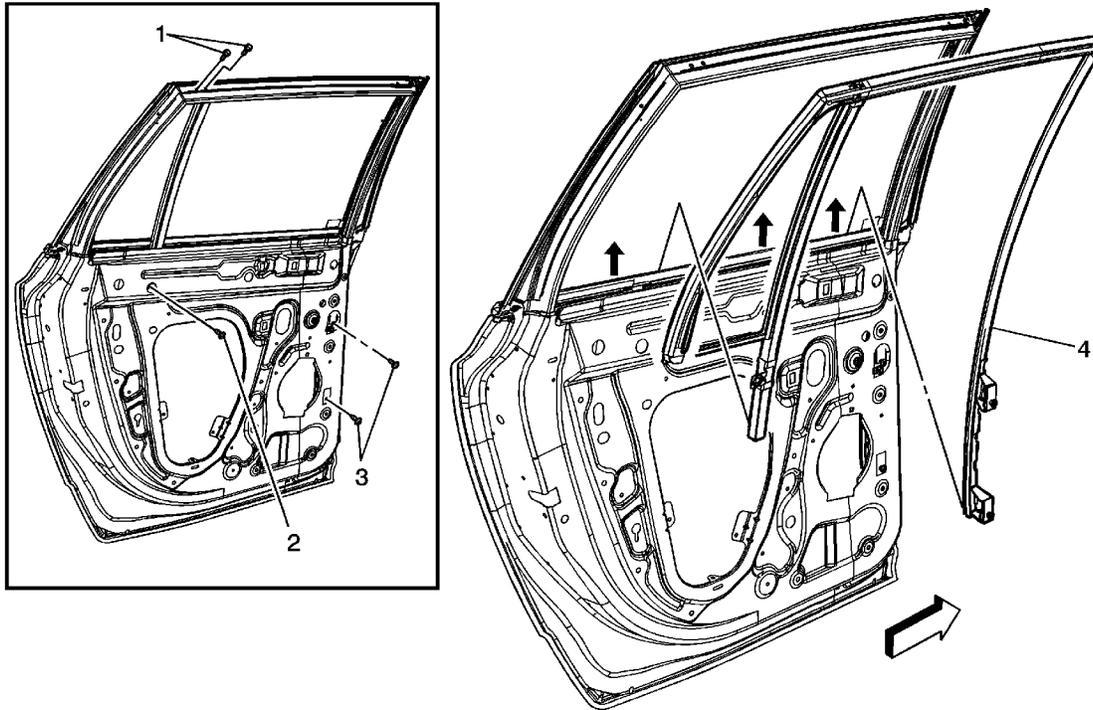
Tighten the rear door window guide bolts (2).

### Tighten

Tighten the bolts to 10 N·m (89 lb in).

4. Install the rear door window front channel. Refer to [Rear Side Door Window Front Channel Replacement](#).
5. Install the rear door speaker. Refer to [Radio Rear Side Door Speaker Replacement](#).
6. Install the outer belt sealing strip. Refer to [Rear Side Door Window Outer Sealing Strip Replacement](#).
7. Remove the tape from the edges of the outer belt sealing strip.
8. Install the water deflector.
9. Install the door trim panel. Refer to [Rear Side Door Trim Panel Replacement](#).
10. Inspect the window for proper operation.

# Rear Side Door Stationary Window Replacement



Callout	Component Name
<p><b>Preliminary Procedures</b></p> <ol style="list-style-type: none"> <li>1. Remove the trim panel. Refer to <a href="#">Rear Side Door Trim Panel Replacement</a>.</li> <li>2. Remove the inner window belt sealing strip. Refer to <a href="#">Rear Side Door Window Inner Sealing Strip Replacement</a>.</li> <li>3. Remove the outer window belt sealing strip. Refer to <a href="#">Rear Side Door Window Outer Sealing Strip Replacement</a>.</li> <li>4. Remove the water deflector. Refer to <a href="#">Rear Side Door Water Deflector Replacement</a>.</li> <li>5. Remove the window. Refer to <a href="#">Rear Side Door Window Replacement</a>.</li> </ol>	
<p>1</p>	<p>Rear Side Door Stationary Window Upper Screws (Qty: 2)</p> <p><b>Caution:</b> Refer to <a href="#">Fastener Caution</a> in the Preface section.</p> <p><b>Tip</b> The quarter glass and weatherstrip/run channel is not serviceable and should be replaced only as an assembly.</p> <p><b>Tighten</b> 5 N·m (44 lb in)</p>
	<p>Rear Side Door Stationary Window Bolt</p>

2	<b>Tighten</b> 10 N·m (89 lb in)
3	Rear Side Door Stationary Window Bolts (Qty: 2) <b>Tighten</b> 10 N·m (89 lb in)
4	Rear Side Door Stationary Window <b>Procedure</b> <ol style="list-style-type: none"><li>1. When removing carefully twist the weatherstrip run channel and pull up at the top of the door frame.</li><li>2. Press the weatherstrip/run channel into the window frame opening.</li><li>3. Position the tabs on the weatherstrip/run channel into the slots on the door.</li><li>4. Attach the molding to the outside of the door with double sided tape.</li></ol>

## Quarter Window Replacement

### Tools Required

- [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.

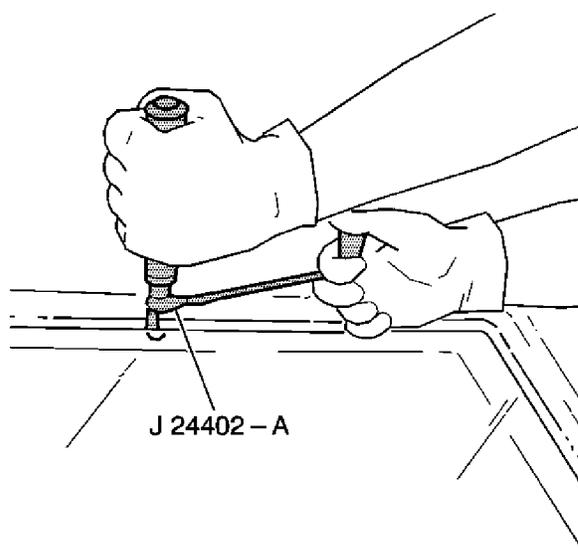
**Note:** Before cutting out a quarter window, apply a double layer of masking tape around the perimeter of the painted surfaces and the interior trim.

1. Open the liftgate.
2. Remove the rear quarter panel trim. Refer to [Quarter Upper Trim Panel Replacement](#).

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

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

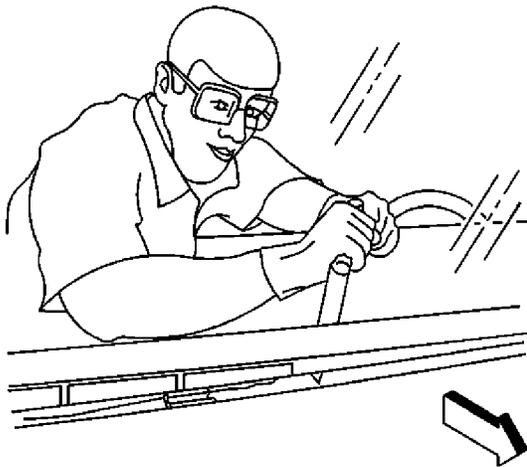
**Warning:** Refer to [Glass and Sheet Metal Handling Warning](#) in the Preface section.





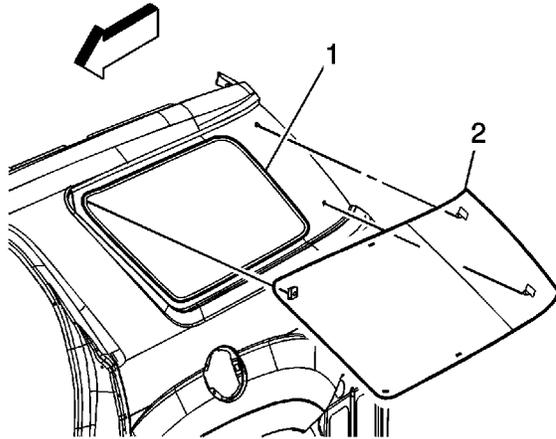
**Note:** Keep the cutting edge of the tool against the window.

4. Remove the window from the urethane adhesive.
  - Leave a base of urethane approximately 2 mm (0.078 in) on the pinch-weld flange.
  - The only suitable lubrication is clear water.
  - Use [J 24402-A](#) , [J 39032](#) , or equivalent to remove the window.



**Note:** Keep the cutting edge of the knife/tool against the window. Do this from inside the vehicle.

5. If necessary, use a long utility knife or similar tool to remove the bottom corners of the window from the urethane adhesive.



6. With the aid of an assistant, remove the window (2) from the vehicle.

## **Installation Procedure**

1. Install the quarter window into the opening. Refer to [Adhesive Installation of Bodyside Stationary Windows](#).
2. Install the rear quarter upper trim panel. Refer to [Quarter Upper Trim Panel Replacement](#).
3. Remove the double layer of masking tape around the perimeter of the painted surfaces and the interior trim.
4. Close the liftgate.

# Liftgate Window Replacement

## Tools Required

- [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.

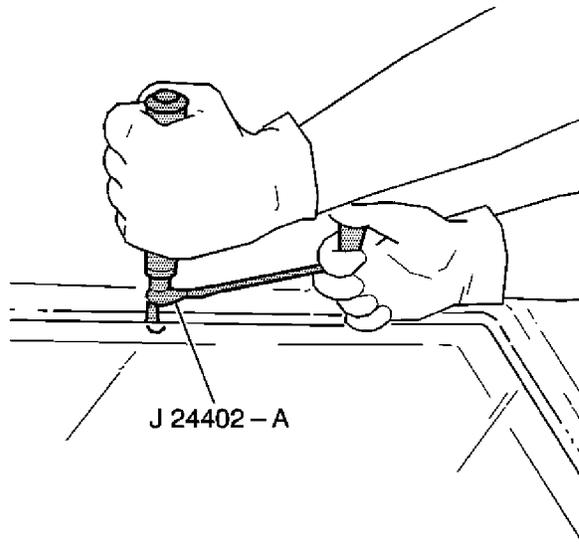
**Note:** Before cutting out a stationary window, apply a double layer of masking tape around the perimeter of the painted surfaces and the interior trim.

1. Open the liftgate.
2. Remove the liftgate trim. Refer to [Liftgate Trim Panel Replacement](#).
3. Disconnect the electrical connectors from the liftgate window defogger bus bar.
4. Remove the rear window wiper arm. Refer to [Rear Window Wiper Arm Replacement](#).
5. Remove the rear spoiler. Refer to [Rear Spoiler Replacement](#).

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

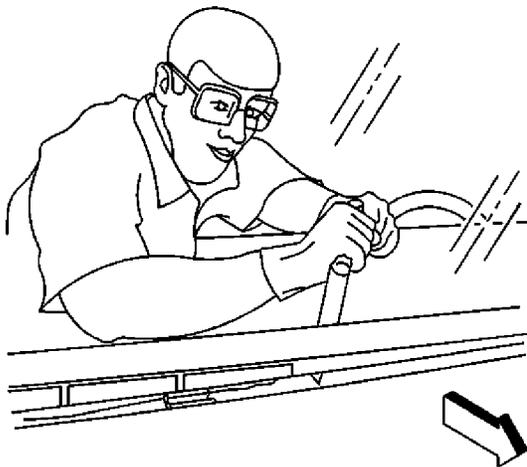
6. Cover the following parts to protect from broken glass:
  - Upper dash pad
  - Defroster outlets and A/C outlets
  - Seats and carpeting

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



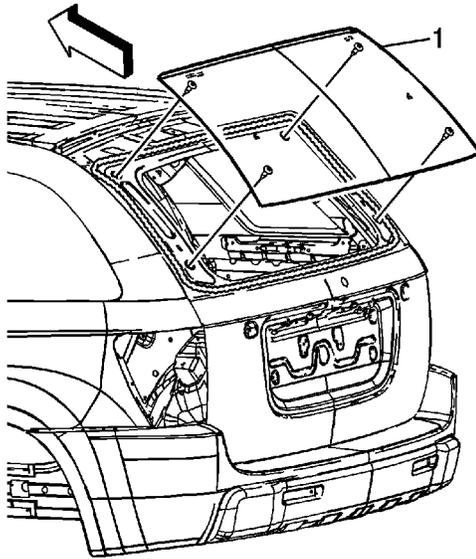
**Note:** Keep the cutting edge of the tool against the window.

7. Remove the window from the urethane adhesive.
  - Leave a base of urethane approximately 2 mm (0.078 in) on the pinch-weld flange.
  - The only suitable lubrication is clear water.
  - Use [J 24402-A](#) , [J 39032](#) or equivalent in order to remove the window.



**Note:** Keep the cutting edge of the knife/tool against the window. Do this from inside the vehicle.

8. If necessary, use a long utility knife or similar tool to remove the bottom corners of the window from the urethane adhesive.



9. With the aid of an assistant, remove the window (1) from the vehicle.

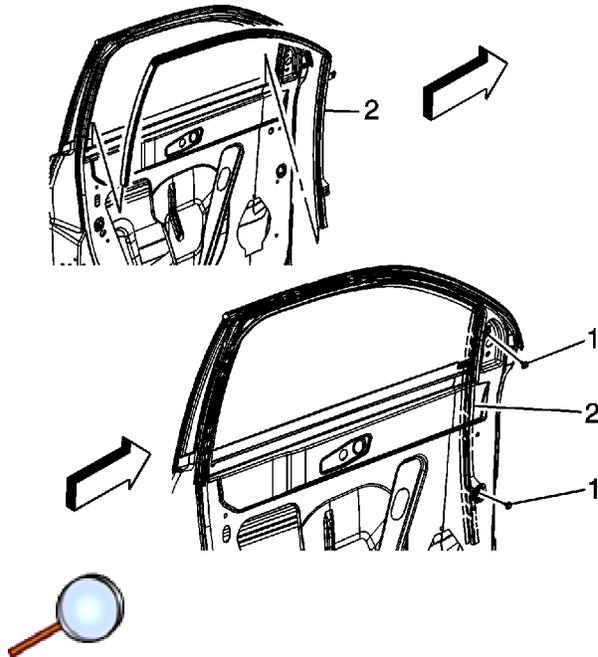
## **Installation Procedure**

1. Install the liftgate window into the opening. Refer to [Adhesive Installation of Endgate Stationary Windows](#).
2. Install the rear spoiler. Refer to [Rear Spoiler Replacement](#).
3. Install the rear window wiper arm. Refer to [Rear Window Wiper Arm Replacement](#).
4. Connect the liftgate window defogger electrical connectors to the bus bar.
5. Install the liftgate trim. Refer to [Liftgate Trim Panel Replacement](#).
6. Remove the double layer of masking tape around the perimeter of the painted surfaces and the interior trim.
7. Close the liftgate.

## Front Side Door Window Channel Replacement

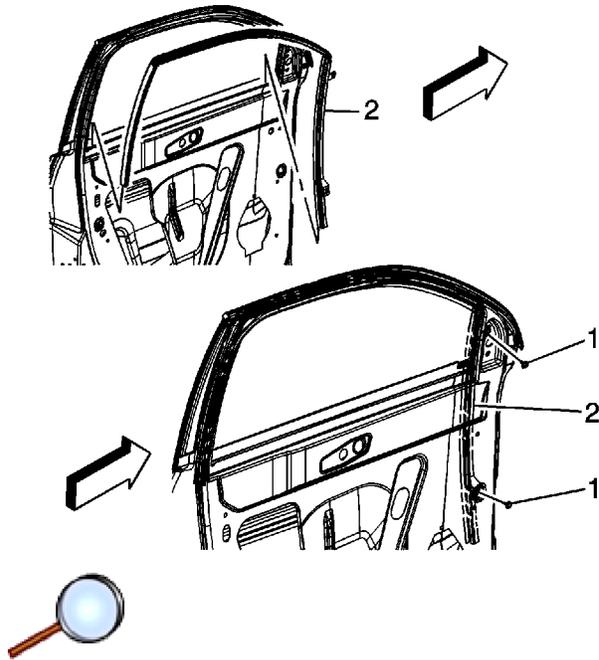
### Removal Procedure

1. Remove the door trim panel. Refer to [Front Side Door Trim Panel Replacement - Left Side](#) or [Front Side Door Trim Panel Replacement - Right Side](#).
2. Remove the water deflector. Refer to [Front Side Door Water Deflector Replacement](#).
3. Remove the window. Refer to [Front Side Door Window Replacement](#).
4. Remove the door speaker. Refer to [Radio Front Side Door Speaker Replacement](#).



5. Remove the 2 bolts (1) that retain the weatherstrip/run channel (2) to the door.
6. Pull the weatherstrip/run channel away from the window frame opening.
7. Carefully twist and pull up on the weatherstrip/run channel, in order remove the weatherstrip/run channel from the top of the door frame.
8. Remove the weatherstrip/run channel from the door.

### Installation Procedure



1. Install the weatherstrip/run channel (2) to the door.
2. Position the tabs on the weatherstrip/run channel into the slots in the door.
3. Press the weatherstrip/run channel into the window frame opening.

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

4. Install the retaining bolts (1).

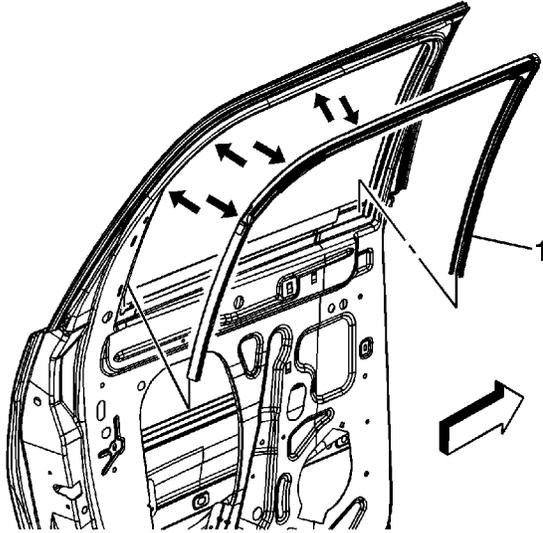
#### **Tighten**

Tighten the retaining bolts to 10 N·m (88 lb in).

5. Install the door speaker. Refer to [Radio Front Side Door Speaker Replacement](#).
6. Install the window. Refer to [Front Side Door Window Replacement](#).
7. Install the water deflector. Refer to [Front Side Door Water Deflector Replacement](#).
8. Install the door trim panel. Refer to [Front Side Door Trim Panel Replacement - Left Side](#) or [Front Side Door Trim Panel Replacement - Right Side](#).

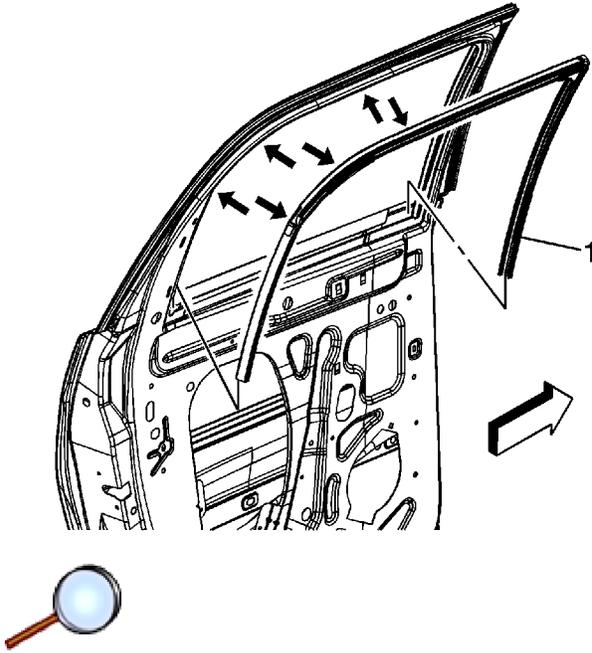
## Rear Side Door Window Channel Replacement

### Removal Procedure



1. Pull the weatherstrip/run channel (1) from the window frame opening.
2. Carefully twist and pull downward on the weatherstrip run channel releasing it from the upper door frame.
3. Remove the weatherstrip/run channel from the door.

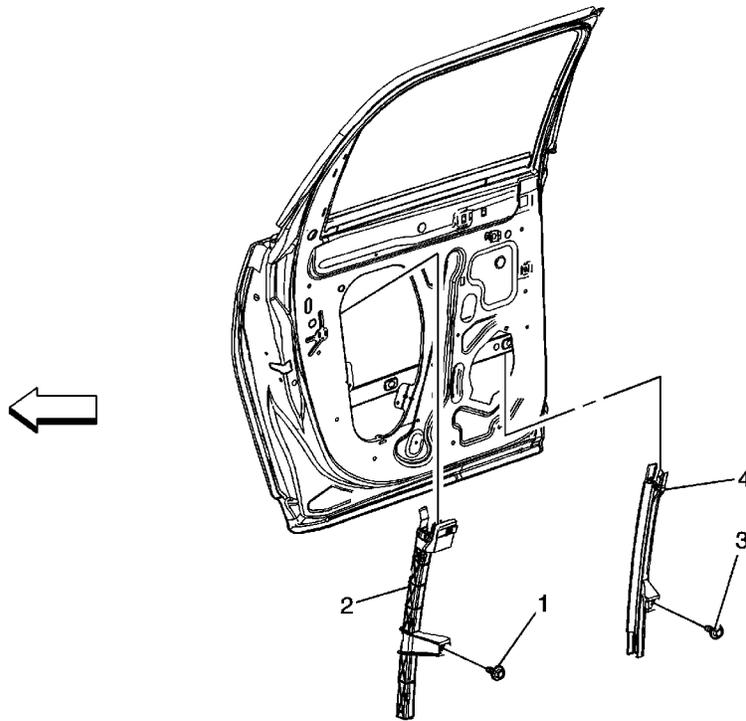
### Installation Procedure



**Important:** Install the weatherstrip/run channel by fitting both corners to the upper door frame and then pushing inward on the sides.

1. Install the weatherstrip/run channel (1) to the door.
2. Press the weatherstrip/run channel (1) into the window frame opening.

## Rear Side Door Window Front Channel Replacement

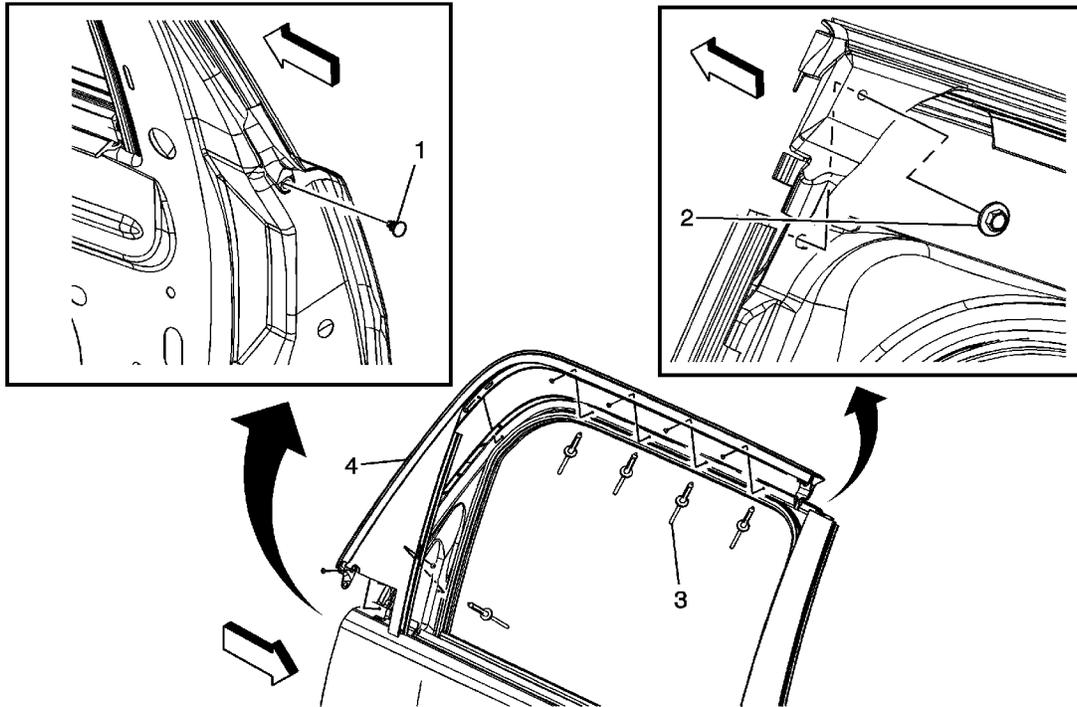


Callout	Component Name
<b>Preliminary Procedure</b>	
Remove the rear side door trim panel. Refer to <a href="#">Rear Side Door Trim Panel Replacement</a> .	
1	Rear Side Door Window Front Channel Bolt  <b>Caution:</b> Refer to <a href="#">Fastener Caution</a> in the Preface section.  <b>Procedure</b>  1. Remove the water deflector. 2. Remove the lower section of the channel weatherstrip from the channel.  <b>Tighten</b> 10 N·m (89 lb in)
2	Rear Side Door Window Front Channel  <b>Procedure</b>  1. Remove the front door weatherstrip channel by pulling downward to release it

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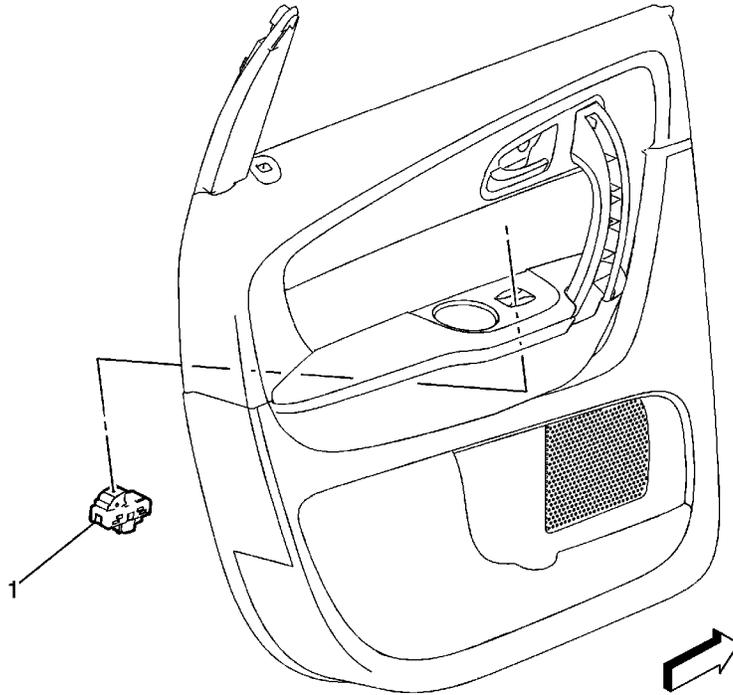
	<p>from the upper door frame.</p> <ol style="list-style-type: none"> <li>2. When installing the channel ensure that the lower channel aligns with the upper channel before install the channel weatherstrip.</li> <li>3. Verify that the window work properly in the channel weatherstrip.</li> </ol>
3	<p>Rear Side Door Window Rear Channel Bolt</p> <p><b>Caution:</b> Refer to <a href="#">Fastener Caution</a> in the Preface section.</p> <p><b>Procedure</b></p> <ol style="list-style-type: none"> <li>1. Remove the water deflector.</li> <li>2. Remove the lower section of the channel weatherstrip from the channel.</li> </ol> <p><b>Tighten</b> 10 N·m (89 lb in)</p>
4	<p>Rear Side Door Window Rear Channel</p> <p><b>Procedure</b></p> <ol style="list-style-type: none"> <li>1. Remove the rear door weatherstrip channel by pulling downward to release it from the upper door rear frame.</li> <li>2. When installing the channel ensure that the lower channel aligns with the upper channel before install the channel weatherstrip.</li> <li>3. Verify that the window work properly in the channel weatherstrip.</li> </ol>

## Rear Side Door Window Reveal Molding Replacement



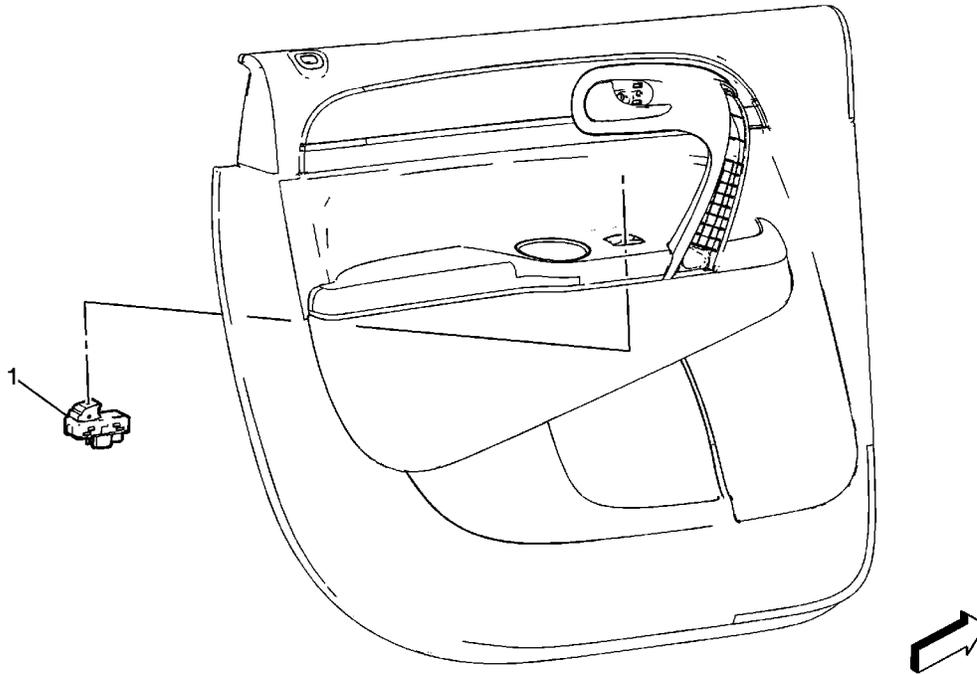
Callous	Component Name
1	Rear Side Door Window Reveal Molding Lower Screw <b>Caution:</b> Refer to <a href="#">Fastener Caution</a> in the Preface section. <b>Tighten</b> 5 N·m (44 lb in)
2	Rear Side Door Window Reveal Molding Upper Screw <b>Tip:</b> Replace the clip if damaged, transfer the clip to the new part.
3	Rear Side Door Window Upper Reveal Molding Rivets (Qty: 6)
4	Rear Side Door Window Upper Reveal Molding

## Rear Side Door Window Switch Replacement (Acadia)



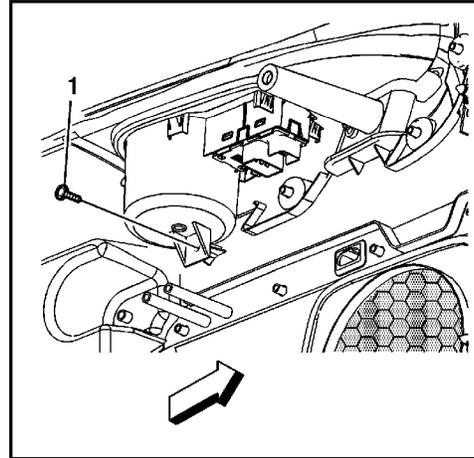
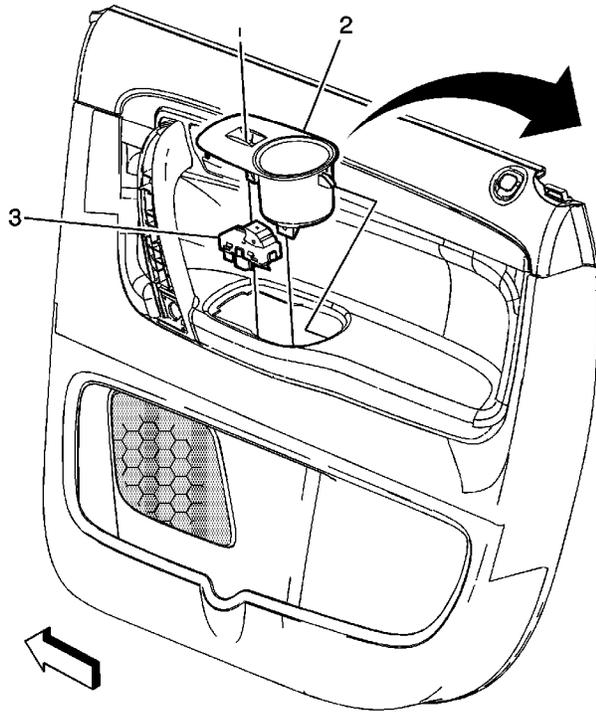
Callout	Component Name
<b>Preliminary Procedure</b>	
Remove the rear side door trim panel. Refer to <a href="#">Rear Side Door Trim Panel Replacement</a> .	
1	Rear Side Door Window Switch Assembly  <b>Tip</b> Use a small flat bladed tool to aid in the removal of the switch from the trim panel.

## Rear Side Door Window Switch Replacement (Enclave)



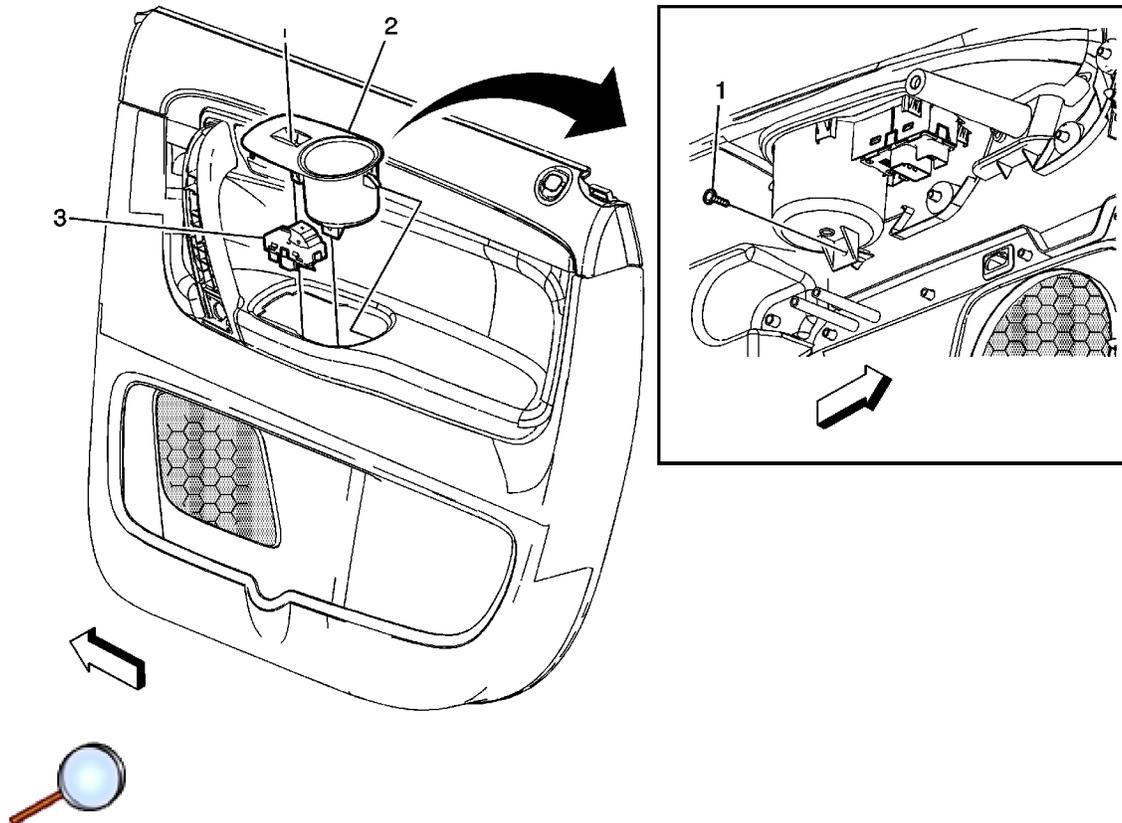
Callout	Component Name
<b>Preliminary Procedure</b>	
Remove the rear side door trim panel. Refer to <a href="#">Rear Side Door Trim Panel Replacement</a> .	
1	Rear Side Door Window Switch Assembly  <b>Tip</b> Use a small flat bladed tool to aid in the removal of the switch from the trim panel.

## Rear Side Door Window Switch Replacement (OUTLOOK)



Callout	Component Name
<b>Preliminary Procedure</b>	
Remove rear door trim panel. Refer to <a href="#">Rear Side Door Trim Panel Replacement</a> .	
1	Rear Switch Plate Screw  <b>Caution:</b> Refer to <a href="#">Fastener Caution</a> in the Preface section.  <b>Tighten</b> 2 N·m (18 lb in)
2	Rear Switch Plate Assembly  <b>Tip</b> Use a flat-bladed tool to pry switch plate from door trim.
3	Rear Side Door Window Switch Assembly  <b>Tip</b> Disconnect electrical connectors.

## Rear Side Door Window Switch Replacement (Traverse)



Callout	Component Name
<b>Preliminary Procedure</b>	
Remove rear door trim panel. Refer to <a href="#">Rear Side Door Trim Panel Replacement</a> .	
1	Rear Switch Plate Screw <b>Caution:</b> Refer to <a href="#">Fastener Caution</a> in the Preface section. <b>Tighten</b> 2 N·m (18 lb in)
2	Rear Switch Plate Assembly <b>Tip</b> Use a flat-bladed tool to pry switch plate from door trim.
3	Rear Side Door Window Switch Assembly <b>Tip</b> Disconnect electrical connectors.

## Front Side Door Window Regulator Replacement

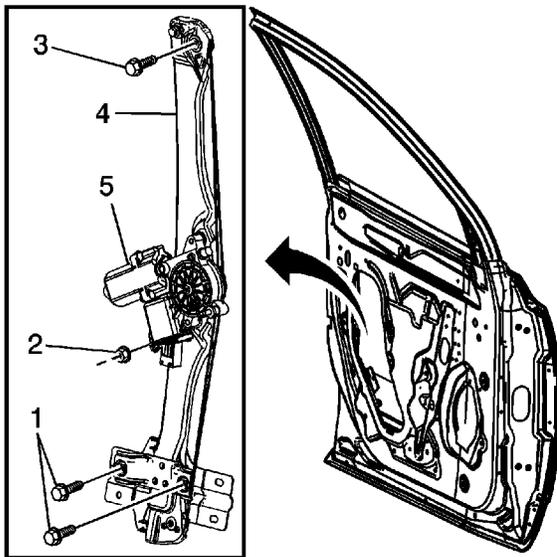
### Removal Procedure

**Warning:** Refer to [Express Window Down Warning](#) in the Preface section.

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

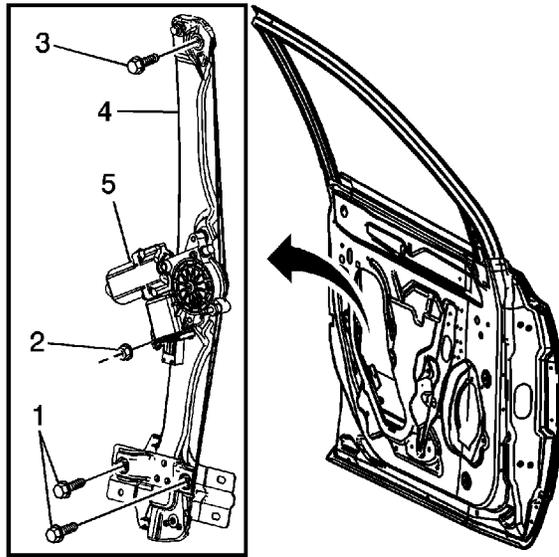
**Note:** If servicing the left front door window regulator it MUST be serviced as assembly because of the window express feature. The right door is serviced as regulator or motor.

1. Remove the door trim panel. Refer to [Front Side Door Trim Panel Replacement - Left Side](#) or [Front Side Door Trim Panel Replacement - Right Side](#).
2. Remove the water deflector. Refer to [Front Side Door Water Deflector Replacement](#).
3. Remove the energy absorber retainers and energy absorber from the door.
4. Remove the covers that conceal the holes for the regulator bolts.
5. Remove the window guide to regulator bolts. Refer to [Front Side Door Window Replacement](#).
6. Raise and support the window in the full up position.
7. Disconnect the electrical connector from the regulator motor.



8. Loosen the upper bolt (3) that retains the regulator to the upper inner door.
9. Remove the nut (2) that retains the motor to the door.
10. Remove the lower bolts (1) that retain the regulator to the door.
11. Rotate the upper portion of the regulator (5) forward.
12. Beginning with the lower portion, remove the regulator through the door opening.
13. Transfer the power window motor (6).

### Installation Procedure



1. Partially install the upper bolt (3) to the regulator (5).
2. Beginning with the upper portion, install the regulator through the door opening in a semi-horizontal position.
3. Position the regulator (5) fully forward into the door cavity.
4. Rotate the regulator to a vertical position.
5. Lower and hang the regulator onto the door sheet metal using the upper bolt (3) that was previously installed.
6. Remove the window support and lower the window to the window guide on the regulator.
7. Loosely tighten the regulator window carrier bolts.
8. Operate the window upward to the full up position, ensuring the window remains in the run channels.

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

9. Install the nut (2) that retains the motor to the door.

#### **Tighten**

Tighten nut to 9 N·m (80 lb in).

10. Install the upper and lower bolts (3, 4) that retain the regulator to the door.

#### **Tighten**

Tighten bolts to 10 N·m (88 lb in).

11. Connect the electrical connector to the regulator motor.
12. Install the energy absorber retainers and energy absorber to the door.
13. Install the covers that conceal the regulator bolt holes.
14. Install the water deflector. Refer to [Front Side Door Water Deflector Replacement](#).
15. Install the door trim panel. Refer to [Front Side Door Trim Panel Replacement - Left Side](#) or [Front Side Door Trim Panel Replacement - Right Side](#).

## Window Motor Programming - Express Function (RPO AXC/AXE)

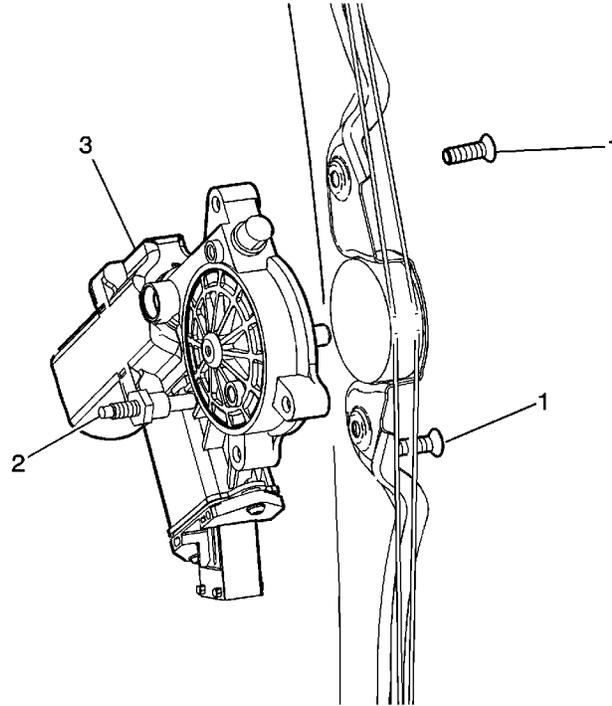
### Express Window Programming and Setup

Anytime battery power is lost or if the power window motor is replaced, the express down and express up features must be relearned.

Follow the procedure below to program the power windows:

- Ignition ON, lower each window to the full down position and hold each window switch at the full down position for 5 seconds.
- Raise each window to the full up position and hold each window switch at the full up position for 5 seconds.
- Verify that the express down and express up features are working by pressing the power window switch past it's first detent and releasing and pulling the power window switch past it's first detent and releasing. If the express down and express up functions are successfully relearned, the power window should roll completely down and roll completely up.

## Door Window Regulator Motor Replacement



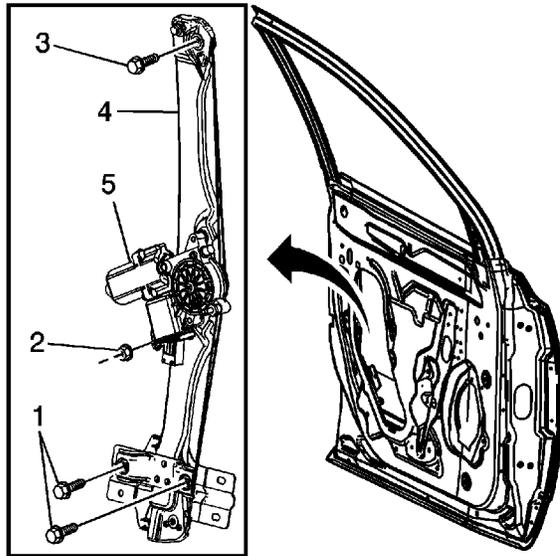
Callout	Component Name
<b>Preliminary Procedure</b>	
Remove the window regulator. Refer to <a href="#">Front Side Door Window Regulator Replacement</a> or <a href="#">Rear Side Door Window Regulator Replacement</a> .	
1	Door Window Regulator Motor Bolt (Qty: 2)  <b>Caution:</b> Refer to <a href="#">Fastener Caution</a> in the Preface section.  <b>Tighten</b> 5 N·m (9 lb in)
2	Door Window Regulator Motor Stud Bolt  <b>Tighten</b> 5 N·m (9 lb in)
3	Door Window Regulator Motor  <b>Procedure</b>  Reprogram the window motor. Refer to <a href="#">Control Module References</a> .

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## Rear Side Door Window Regulator Replacement

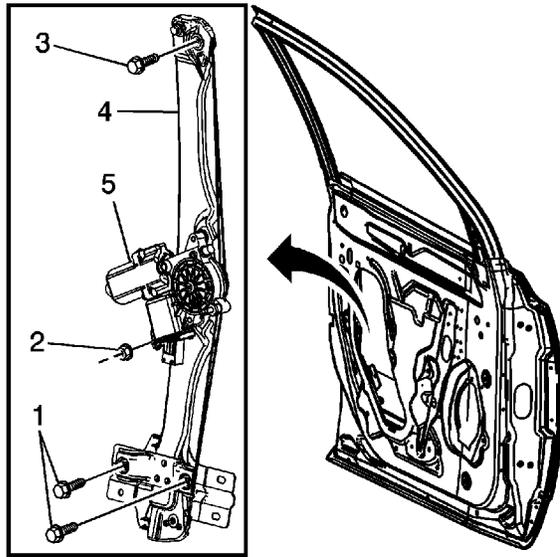
### Removal Procedure

1. Remove the door trim panel. Refer to [Rear Side Door Trim Panel Replacement](#).
2. Remove the water deflector. Refer to [Rear Side Door Water Deflector Replacement](#).
3. Remove the energy absorber retainers and energy absorber from the door.
4. Remove the covers that conceal the holes for the regulator bolts.



5. Remove the window to regulator bolts (1). Refer to [Rear Side Door Window Replacement](#).
6. Raise and support the window in the full up position.
7. Disconnect the electrical connector from the regulator motor.
8. Loosen the upper bolt (3) that retain the regulator to the inner door.
9. Remove the nut (2) that retains the motor to the door.
10. Remove the lower regulator bolt (4).
11. Lift the regulator/motor upward in order to release the upper bolt (3) from the door.
12. Rotate the upper portion of the regulator forward.
13. Beginning with the lower portion, remove the regulator through the door opening.
14. Remove the upper bolt (3) from the regulator (5).
15. Remove the window regulator motor (6) from the regulator. Refer to [Door Window Regulator Motor Replacement](#).

### Installation Procedure



1. Install the window regulator motor (6) to the regulator. Refer to [Door Window Regulator Motor Replacement](#).
2. Partially install the upper bolt (3) to the regulator (5).
3. Beginning with the upper portion, install the regulator through the door opening in a semi-horizontal position.
4. Position the regulator fully forward into the door cavity.
5. Rotate the regulator to a vertical position.
6. Lower and hang the regulator onto the door sheet metal using the upper bolt (3) that were previously installed.

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

7. Install the nut (2) that retains the motor to the door.

#### **Tighten**

Tighten nut to 9 N·m (80 lb in).

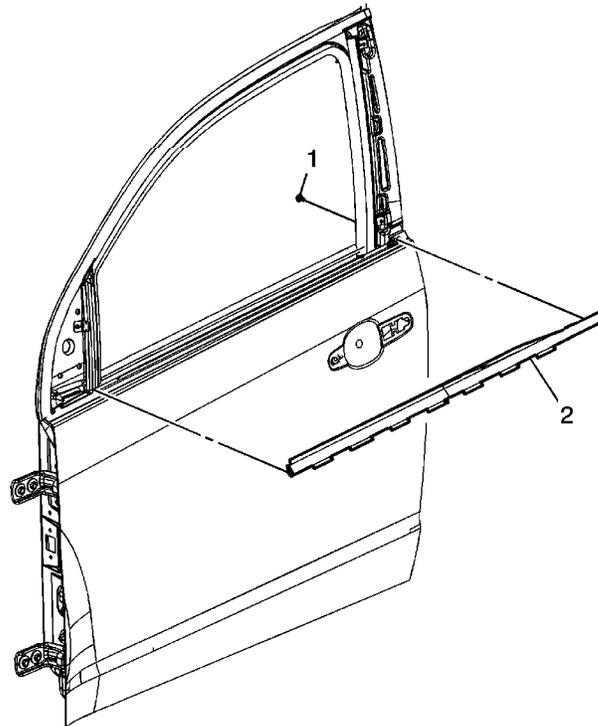
8. Install the upper and lower bolts (3, 4) that retain the regulator to the door.

#### **Tighten**

Tighten bolts to 10 N·m (88 lb in).

9. Connect the electrical connector to the regulator motor.
10. Remove the window support and lower the window to the window guide on the regulator.
11. Loosely tighten the regulator window carrier bolts.
12. Operate the window upward to the full up position, ensuring the window remains in the run channels.
13. Install the energy absorber retainers and energy absorber to the door.
14. Install the covers that conceal the regulator bolt holes.
15. Install the water deflector. Refer to [Rear Side Door Water Deflector Replacement](#).
16. Install the door trim panel. Refer to [Rear Side Door Trim Panel Replacement](#).

# Front Side Door Window Belt Outer Sealing Strip Replacement

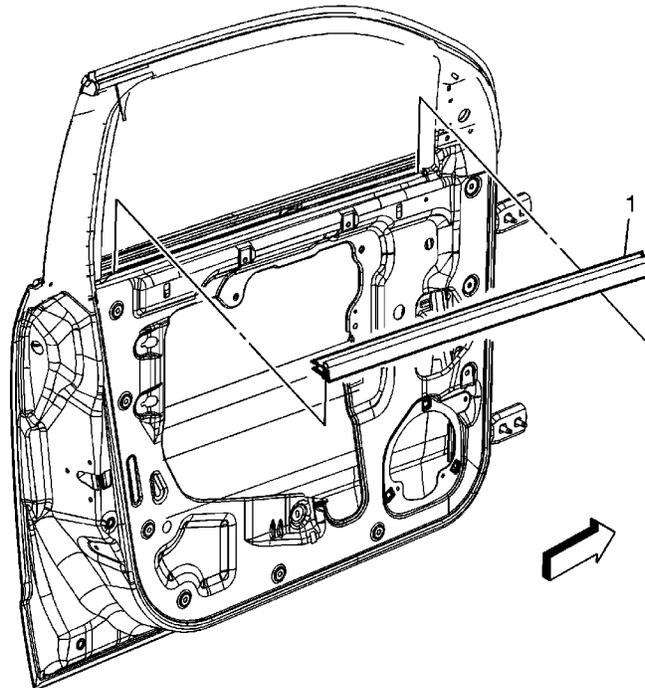


Callout	Component Name
<p><b>Preliminary Procedure</b></p>	
<p>Remove outside rearview mirror. Refer to <a href="#">Power Mirror Replacement</a>.</p>	
<p>1</p>	<p>Front Side Door Outer Sealing Strip Panel Screw</p> <p><b>Caution:</b> Refer to <a href="#">Fastener Caution</a> in the Preface section.</p> <p><b>Tip</b> The screw is located in the lower rear of the door frame.</p> <p><b>Tighten</b> 1.5 N·m (13 lb in)</p>
<p>2</p>	<p>Front Side Door Outer Sealing Strip Panel</p> <p><b>Procedures</b></p> <ol style="list-style-type: none"> <li>1. Remove the outer sealing strip by lifting up on the front of the seal and working rearward.</li> </ol>

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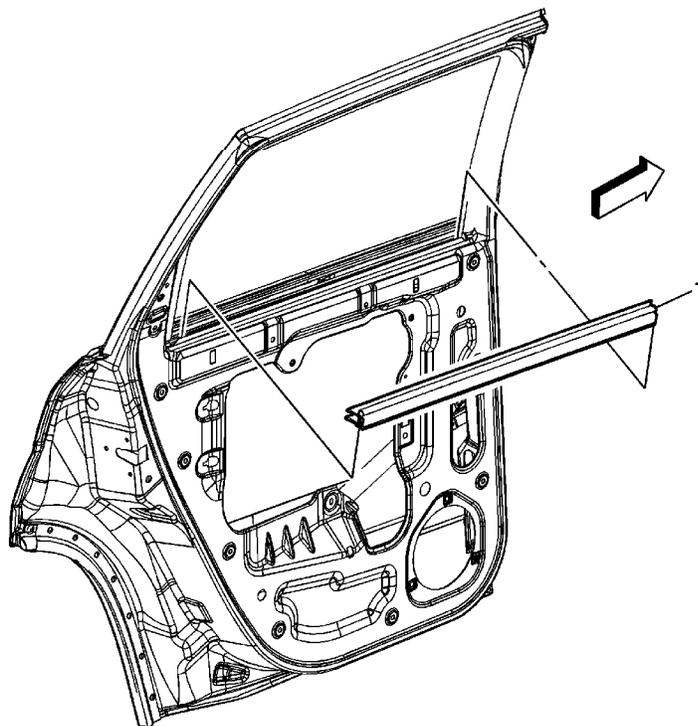
2. When re-installing the outer sealing strip, align the fastener with the locating hole in the door frame.

## Front Side Door Window Belt Inner Sealing Strip Replacement



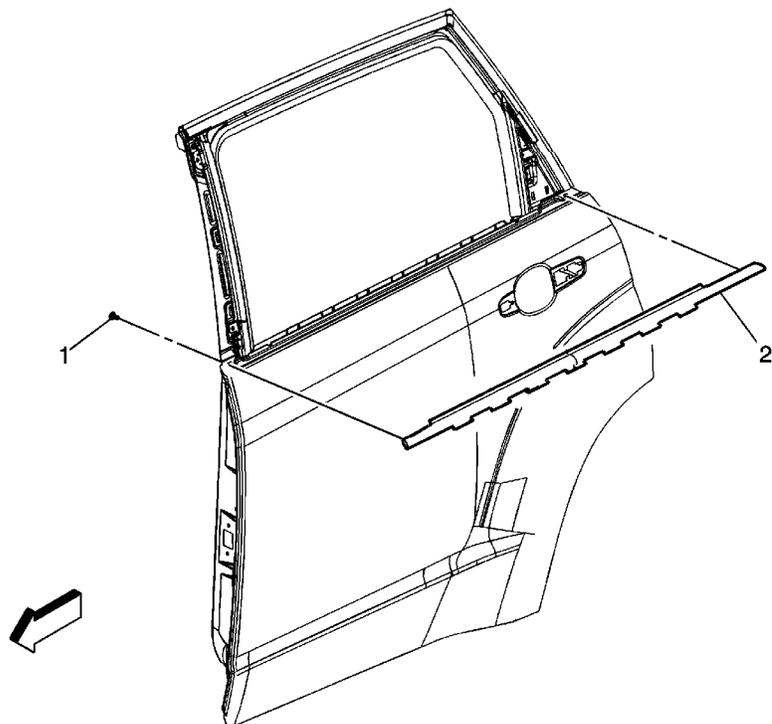
Callout	Component Name
<p><b>Preliminary Procedures</b></p> <p>Remove front door trim panel. Refer to <a href="#">Front Side Door Trim Panel Replacement - Left Side</a> or <a href="#">Front Side Door Trim Panel Replacement - Right Side</a> .</p>	
<p>1</p>	<p>Front Side Door Inner Window Sealing Strip</p> <p><b>Procedure</b></p> <ol style="list-style-type: none"> <li>1. Start from the front edge of the door, pull upward on the inner window sealing strip to release it from the pinch-weld flange.</li> <li>2. Install the inner window sealing strip to the front edge of the door, press firmly onto the pinch-weld flange and work it rearward.</li> </ol>

# Rear Side Door Window Inner Sealing Strip Replacement



Callout	Component Name
<i>Fastener Tightening Specifications:</i> Refer to <a href="#">Fastener Tightening Specifications</a> .	
<b>Preliminary Procedure</b>	
Remove rear door trim panel. Refer to <a href="#">Rear Side Door Trim Panel Replacement</a> .	
1	Rear Side Door Inner Window Sealing Strip  <b>Procedures</b> <ol style="list-style-type: none"> <li>1. Start from the front edge of the door, pull upward on the inner window sealing strip to release it from the pinch-weld flange.</li> <li>2. Install the inner window sealing strip to the front edge of the door, press firmly onto the pinch-weld flange and work it rearward.</li> </ol>

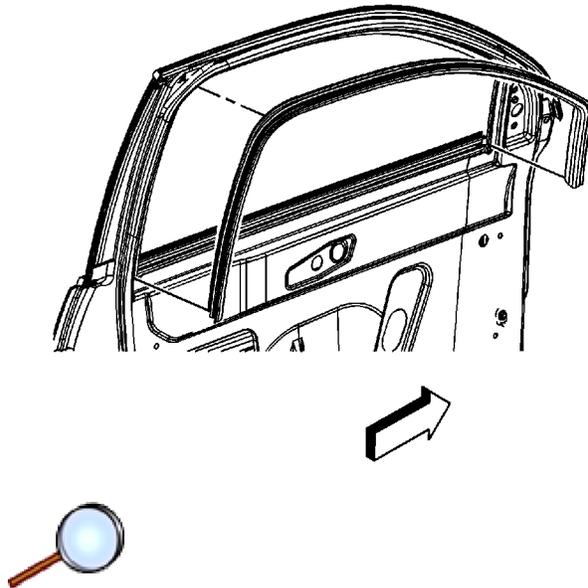
# Rear Side Door Window Outer Sealing Strip Replacement



Callout	Component Name
1	Rear Side Door Outer Sealing Strip Screw  <b>Caution:</b> Refer to <a href="#">Fastener Caution</a> in the Preface section.  <b>Tighten</b> 1.5 N·m (13 lb in)
2	Rear Side Door Outer Sealing Strip  <b>Procedure</b> <ol style="list-style-type: none"> <li>1. Remove by lifting up on seal starting at the rear and working forward.</li> <li>2. When re-installing, align outer seal fastener location with hole in door structure and outer panel retaining tabs.</li> <li>3. Start at rear of belt seal, push down onto flange until fully seated.</li> </ol>

## Front Side Door Window Inner Weatherstrip Replacement

### Removal Procedure



**Important:** It is Not necessary to remove the inner door trim panel.

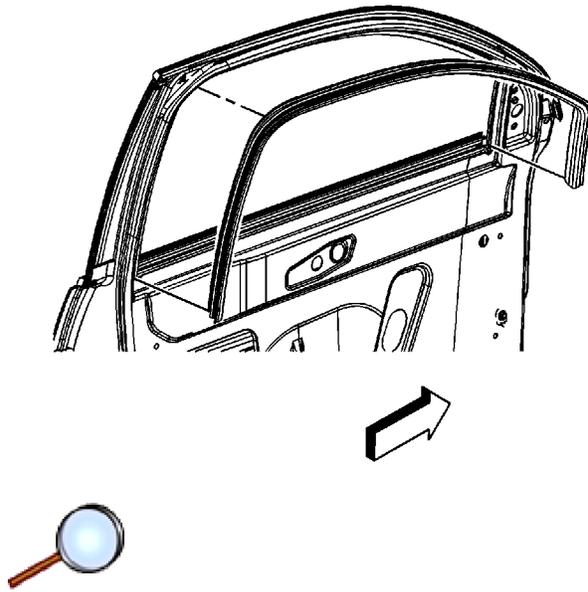
**Important:** Install the weatherstrip/run channel by fitting both corners to the upper door frame and then pushing inward on the sides.

1. Open the door.
2. Lower the window to the full down position.
3. Grasp the window weatherstrip in the center.

Pull downward until the window weatherstrip fully releases from the door frame.

4. Remove the window weatherstrip from the front door.

### Installation Procedure



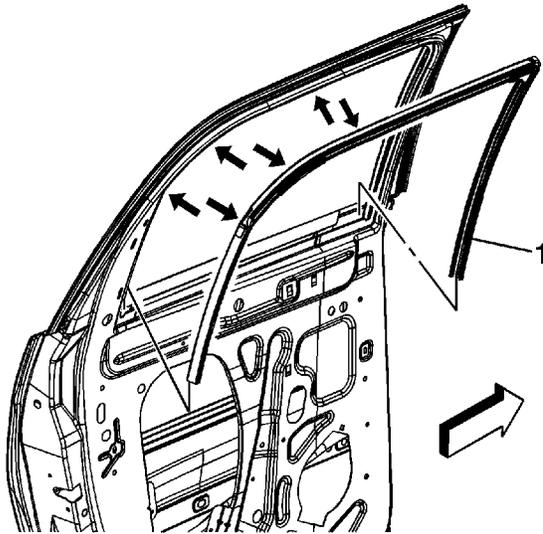
**Important:** It is Not necessary to remove the inner door trim panel.

**Important:** Install the weatherstrip/run channel by fitting both corners to the upper door frame and then pushing inward on the sides.

1. Position the window weatherstrip to the door starting in the upper corners.
2. Firmly seat the window weatherstrip to the door, working out in both directions.
3. Inspect the window to ensure the weatherstrip is properly positioned.
4. Inspect the window for proper operation.
5. Close the door.

## Rear Side Door Window Inner Weatherstrip Replacement

### Removal Procedure

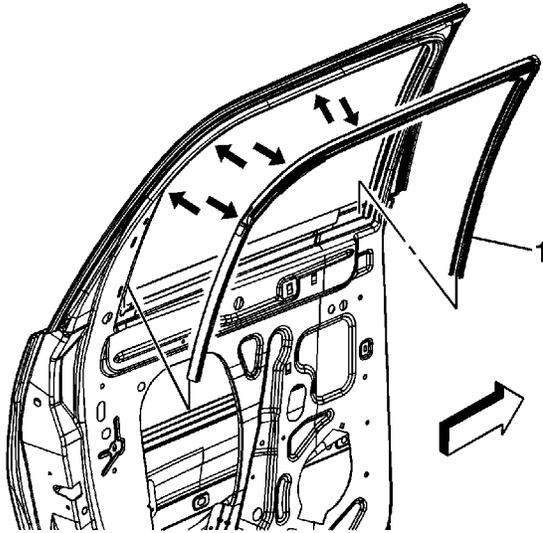


1. Open the door.
2. Lower the window to the full down position.
3. Grasp the window weatherstrip in the center.

Pull downward until the window weatherstrip fully releases from the door frame.

4. Remove the window weatherstrip (1) from the front door.

### Installation Procedure



1. Position the window weatherstrip (1) to the door starting in the corner.
2. Firmly seat the window weatherstrip to the door, working out in both directions.
3. Inspect the window to ensure the weatherstrip is properly positioned.
4. Inspect the window for proper operation.
5. Close the door.

## Adhesive Installation of Windshields

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.

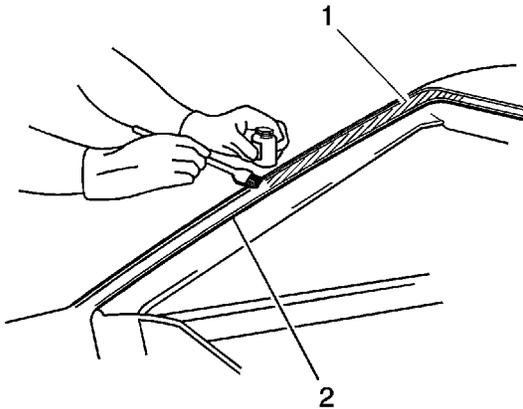
2. Remove all mounds or loose pieces of urethane adhesive from the pinch-weld area.
3. If the original window is being reused, remove all but approximately 2 mm (3/64 in) of the existing bead of urethane adhesive from the pinch-weld flange surface by using a clean utility knife or razor blade scraper.
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 glass 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.

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

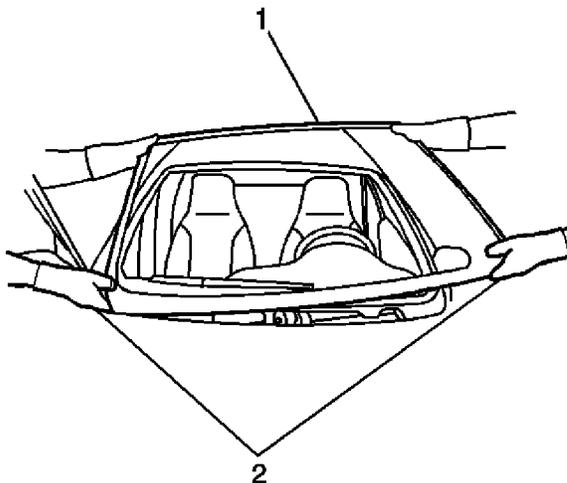
6. Verify all primers and urethane adhesive are within expiration dates.



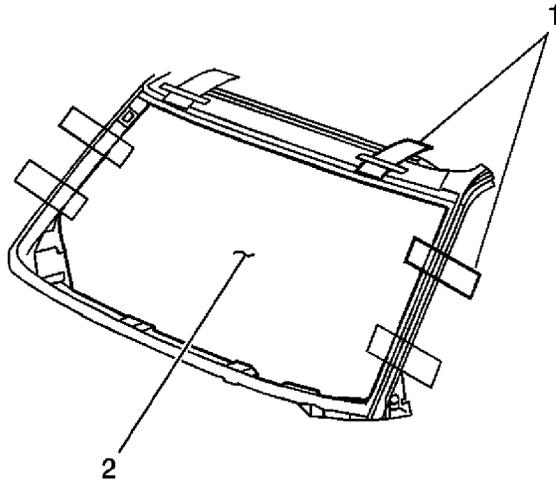
**Warning:** Failure to prep the area prior to the application of primer may cause insufficient bonding of urethane adhesive. Insufficient bonding of urethane adhesive may allow unrestrained occupants to be ejected from the vehicle resulting in personal injury.

**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.

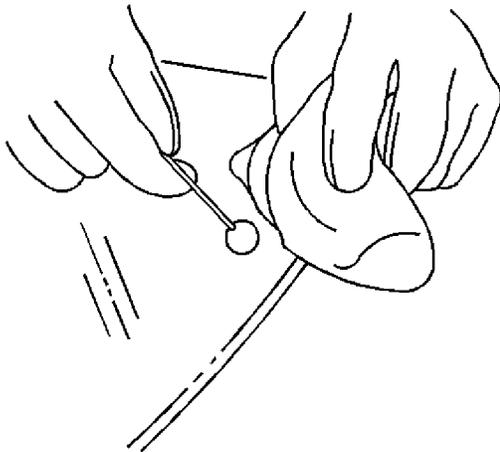
7. Shake the pinch-weld primer black #3 for at least 1 minute.
8. Use a new dauber in order to apply the primer to the surface of the pinch-weld flange (1).
9. Allow the pinch-weld primer to dry for approximately 10 minutes.



10. With the aid of an assistant, dry fit the window (1) to the opening in order to determine the correct position.



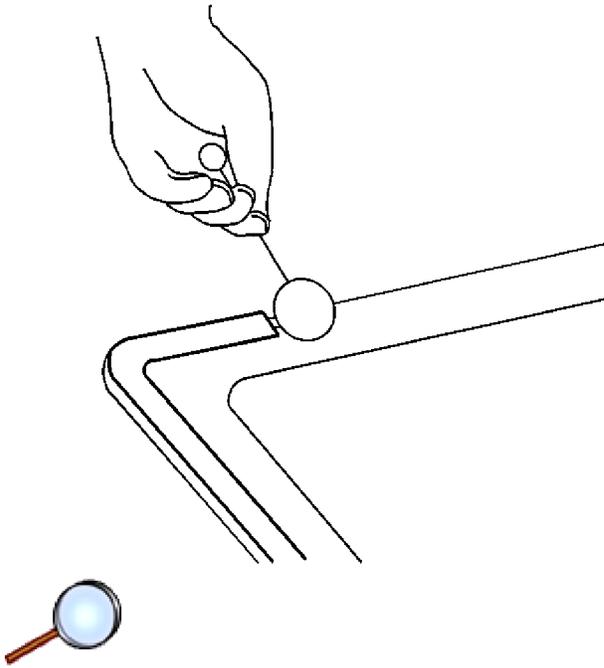
11. Use masking tape in order to mark the locations (1) of the window (2) in the opening.
12. Cut the masking tape in the center and remove the window from the opening.



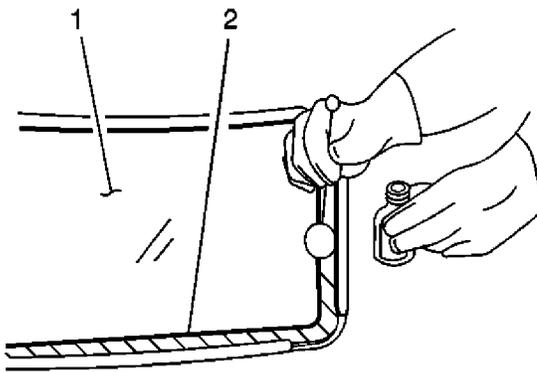
**Note:** Use care when applying glass prep clear #1 on the window. This primer dries almost instantly, and may stain the viewing area of the window if not applied evenly.

13. 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.

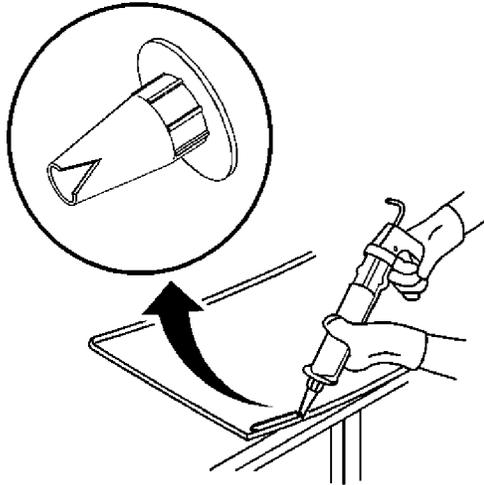


14. Apply a second coat of the glass prep clear #1 to the same area of the glass.

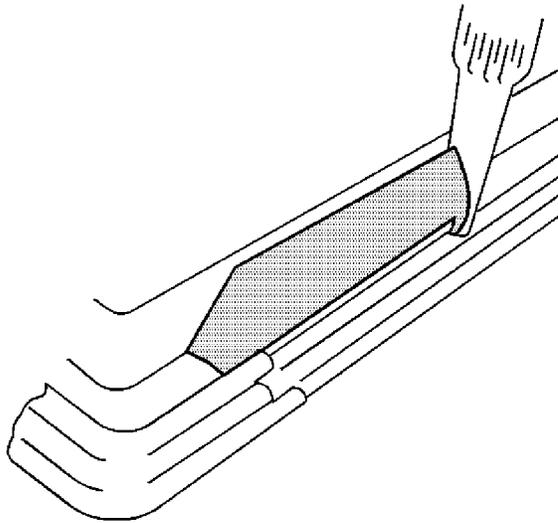


**Note:** The glass primer black #2 is effective up to 8 hours after applying it to the glass. The primed surface of the glass must be kept clean.

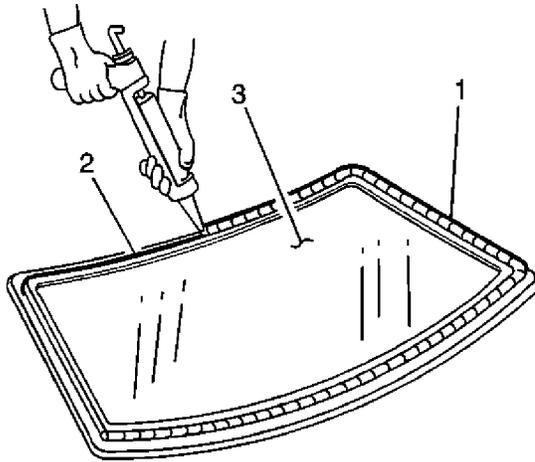
15. Shake the glass primer black #2 for at least 1 minute.
16. Use a new dauber in order to apply the glass primer black #2 to the same areas (2) that glass prep clear #1 was applied.
17. Allow the glass primer to dry for approximately 10 minutes.



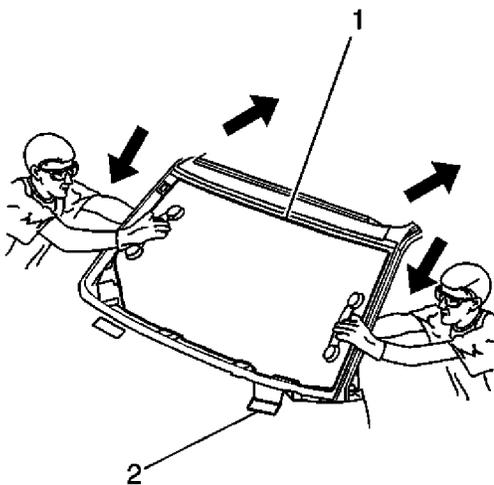
18. Cut the applicator nozzle in order to provide a bead of 12.7 mm (1/2 in) wide and 12.7 mm (1/2 in) high.



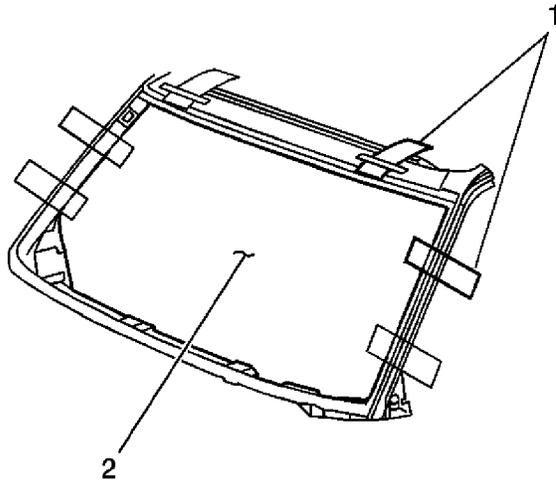
19. Use a cartridge-type caulking gun in order to apply a smooth, continuous bead of urethane adhesive.



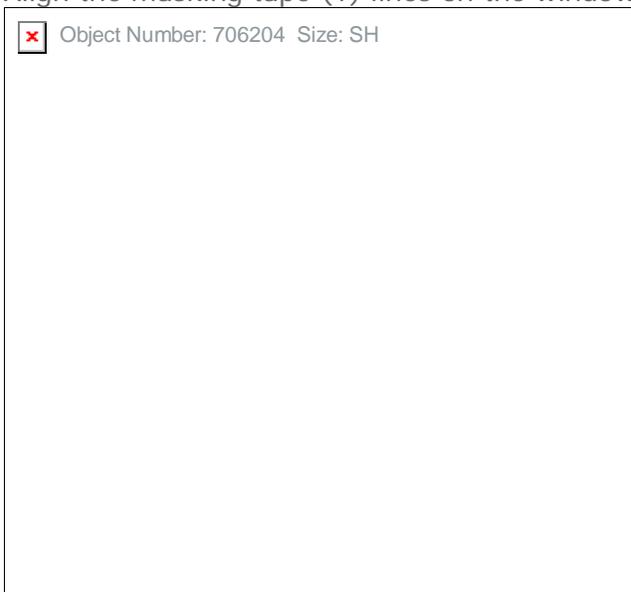
20. Use the edge of the window as a guide for the nozzle in order to apply the urethane adhesive (1) to the inner surface of the window (3).



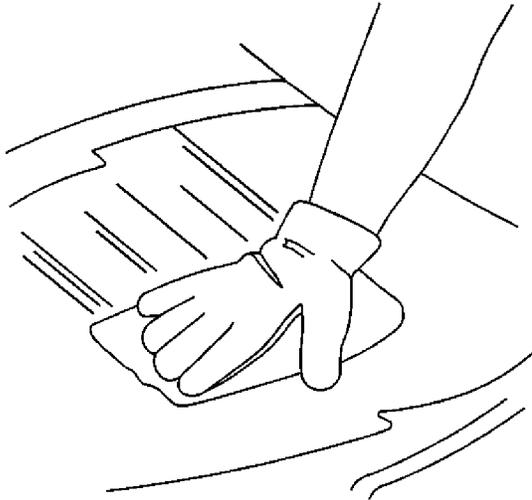
21. With the aid of an assistant, place the window in the opening. If installing a windshield, place the windshield on the lower supports (2), if equipped.



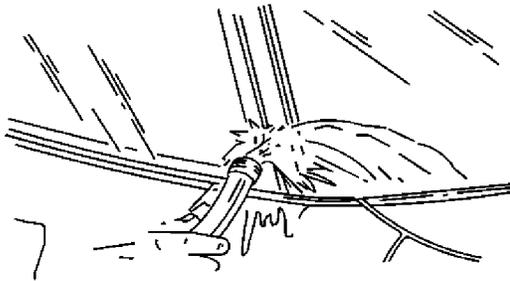
22. Align the masking tape (1) lines on the window (2) and the body.



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



25. 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.

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

30. 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.
31. Complete the window installation.

## Adhesive Installation of Bodyside Stationary Windows

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

1. Use a urethane adhesive systems which meet GM Specification GM 3651G.
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 conditions in order to help prevent future breakage of the window:
  - High weld
  - Solder spots
  - 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:
  - 4.1. Remove all traces of broken glass from the outer cowl panel, seats, floor and defroster ducts.
  - 4.2. 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.

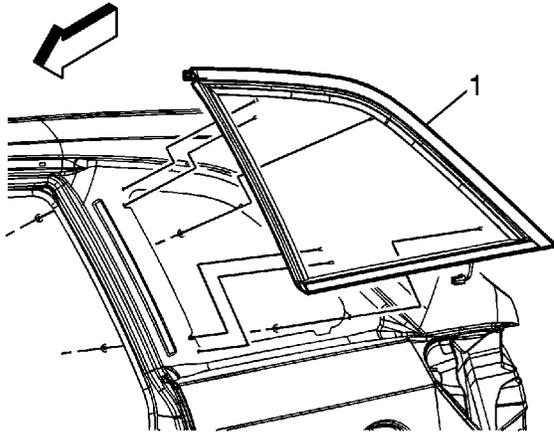
**Warning:** Refer to [Window Retention Warning](#) in the Preface section.

**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.

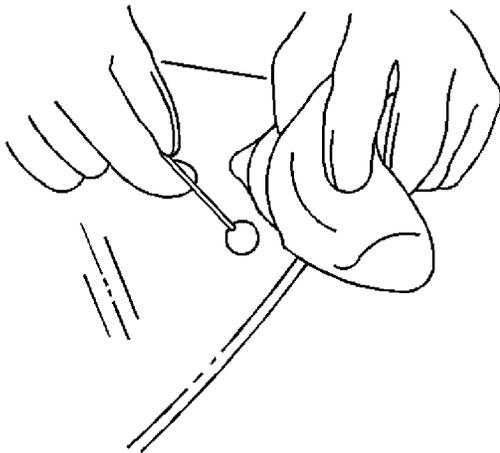
6. Verify all primers and urethane adhesive are within expiration dates.

**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. Shake the pinch-weld primer black #3 for at least 1 minute.
8. Use a new dauber in order to apply the primer to the surface of the pinch-weld flange (1).
9. Allow the pinch-weld primer to dry for approximately 10 minutes.
10. If the original window is being reused, and the window reveal molding is damaged or becomes detached, replace the window



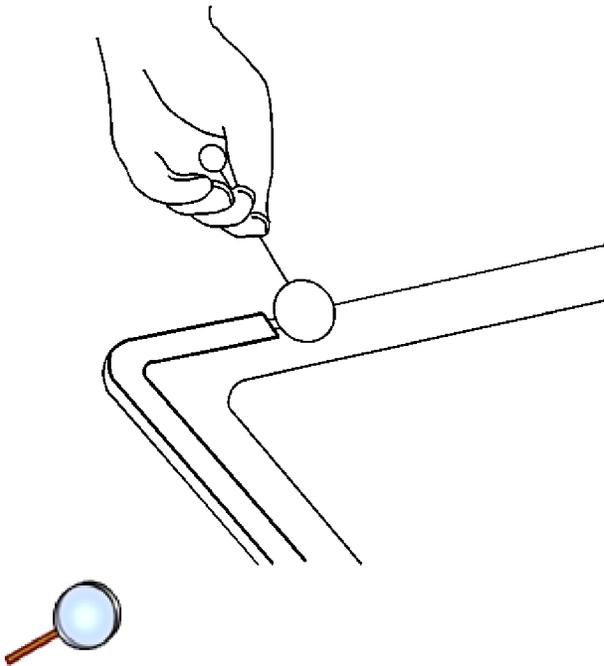
11. With the aid of an assistant, dry fit the window (1) to the opening in order to determine the correct position.
12. Ensure the window locator pins are positioned into the locator slots in the pinch-weld flange.
13. Use masking tape to mark the locations of the window in the opening.
14. Cut the masking in the center and remove the window from the opening.



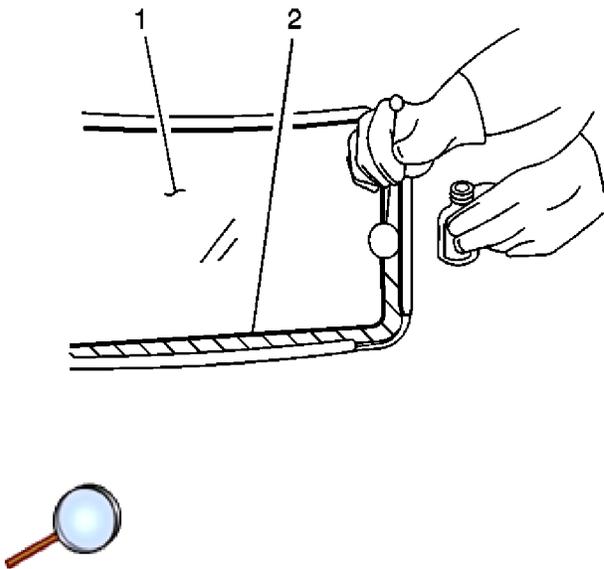
**Note:** Use care when applying glass prep clear #1 on the window. This primer dries almost instantly, and may stain the viewing area of the window if not applied evenly.

15. Use a new dauber in order to apply glass prep clear #1 to the area approximately 18 mm (0.71 in) around the entire perimeter of the window inner surface.

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

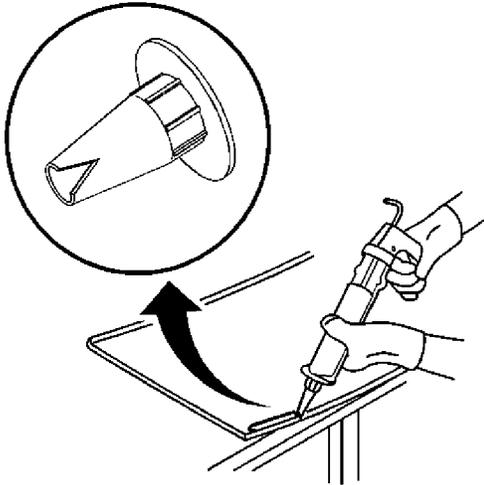


16. Apply a second coat of the glass prep clear #1 to the same area of the glass.

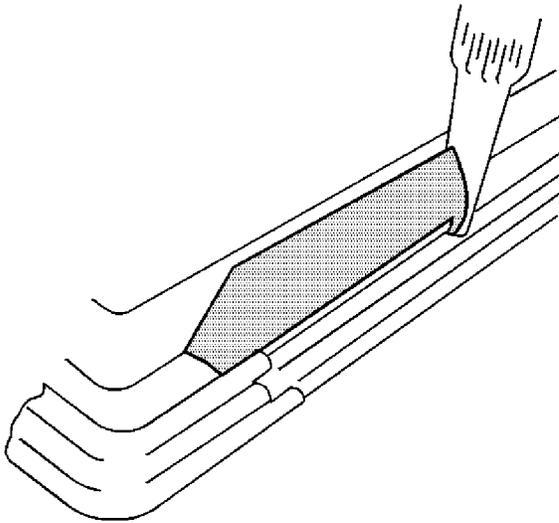


**Note:** The glass primer black #2 is effective up to 8 hours after applying it to the glass. The primed surface of the glass must be kept clean.

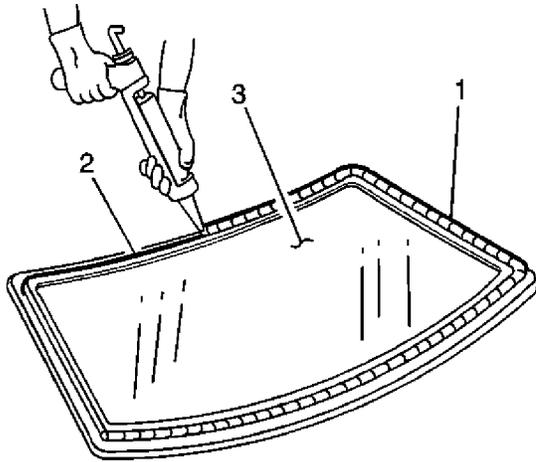
17. Shake the glass primer black #2 for at least 1 minute.
18. Use a new dauber in order to apply the glass primer black #2 to the same areas (2) that glass prep clear #1 was applied.
19. Allow the glass primer to dry for approximately 10 minutes.



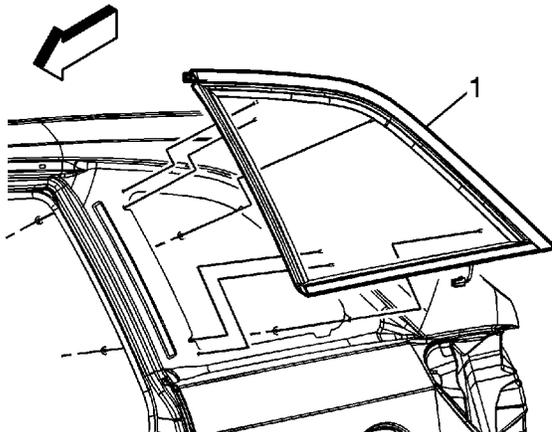
20. Cut the applicator nozzle in order to provide a bead of 12.7 mm (1/2 in) wide and 12.7 mm (1/2 in) high.



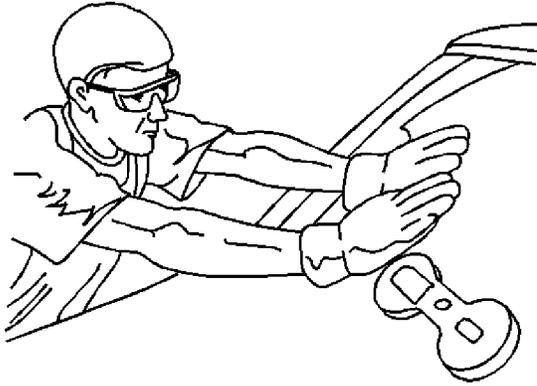
21. Use a cartridge-type caulking gun in order to apply a smooth, continuous bead of urethane adhesive.



22. Use the edge of the window or the inside edge of the reveal molding as a guide for the nozzle in order to apply the urethane adhesive (1) to the inner surface of the window (3).

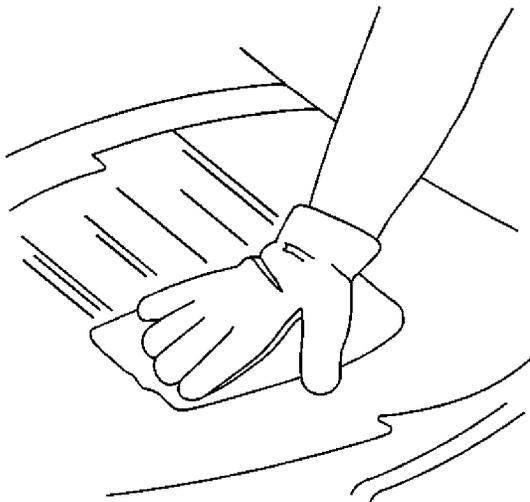


23. With the aid of an assistant, place the window (1) in the opening.  
24. Align the masking tape lines on the window and the body.

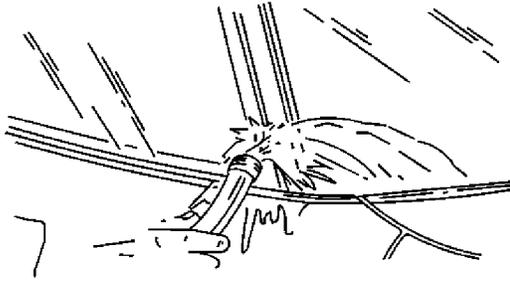


**Note:** To prevent damage to the window due to objects impacting an exposed edge, upon installation, the window must rest 1 mm (0.040 in) below the surface of the sheet metal.

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



27. 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.

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

32. 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.
33. Complete the window installation.

## Adhesive Installation of Roof Stationary Windows

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

1. Use a urethane adhesive systems which meet GM Specification GM 3651G.
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 conditions in order to help prevent future breakage of the window:
  - High weld
  - Solder spots
  - 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:
  - 4.1. Remove all traces of broken glass from the outer cowl panel, seats, floor and defroster ducts.
  - 4.2. 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.

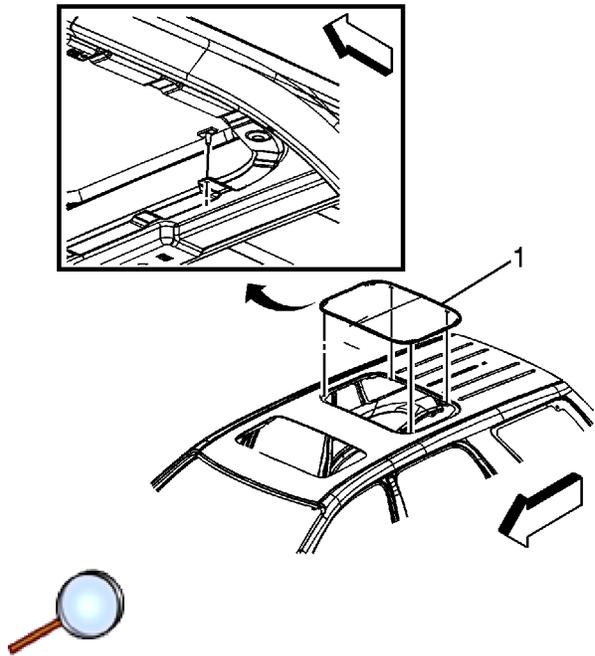
**Warning:** Refer to [Window Retention Warning](#) in the Preface section.

**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.

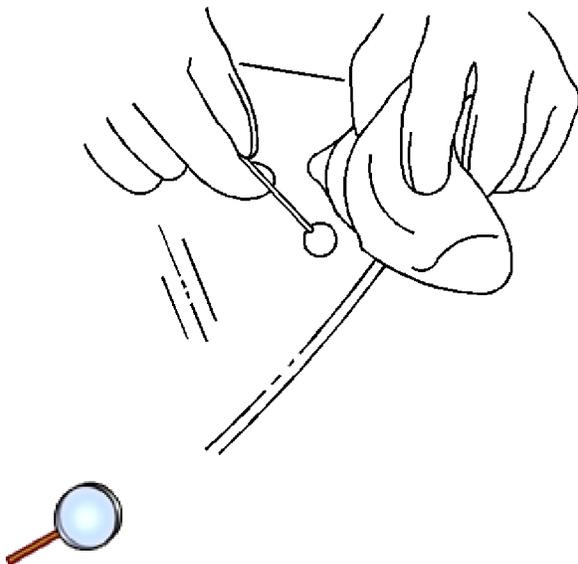
6. Verify all primers and urethane adhesive are within expiration dates.

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

7. Shake the pinch-weld primer black #3 for at least 1 minute.
8. Use a new dauber in order to apply the primer to the surface of the pinch-weld flange.
9. Allow the pinch-weld primer to dry for approximately 10 minutes.



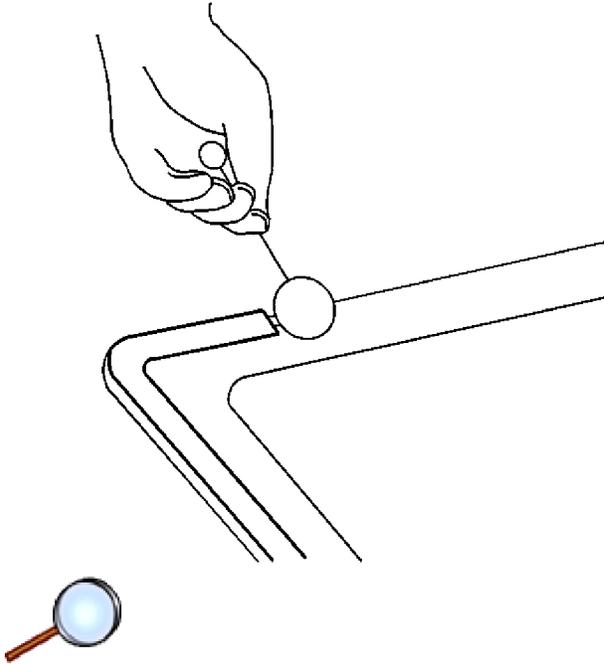
10. With the aid of an assistant, dry fit the window (1) in the opening in order to determine the correct position.
11. Ensure the window locator pins are positioned into the locator slots roof pinch-weld flange.
12. Use masking tape to mark the locations of the window in the opening.
13. Cut the masking in the center and remove the window from the opening.



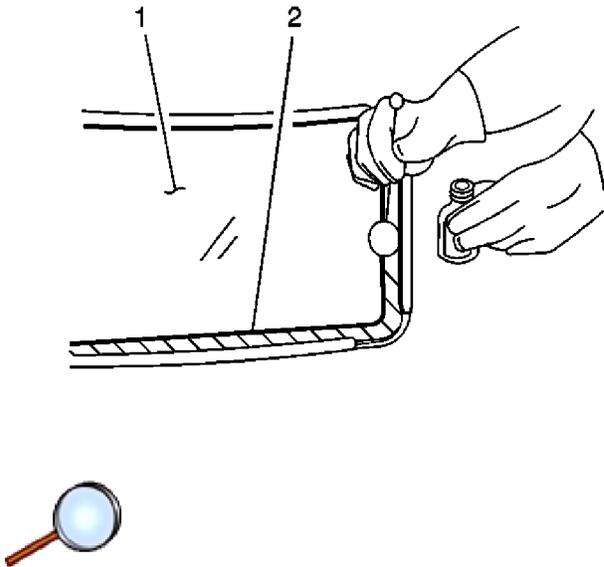
**Note:** Use care when applying glass prep clear #1 on the window. This primer dries almost instantly, and may stain the viewing area of the window if not applied evenly.

14. Use a new dauber in order to apply glass prep clear #1 to the area approximately 18 mm (0.71 in) around the entire perimeter of the window inner surface.

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

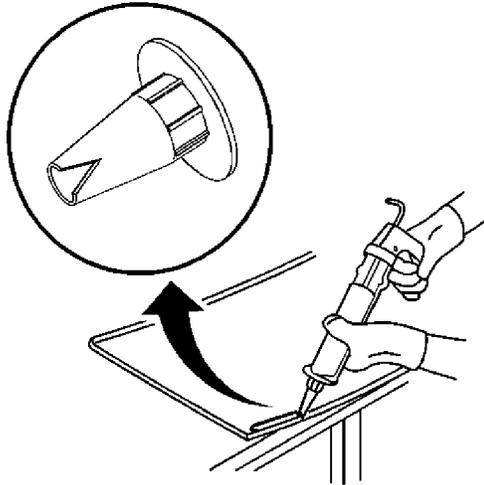


15. Apply a second coat of the glass prep clear #1 to the same area of the glass.

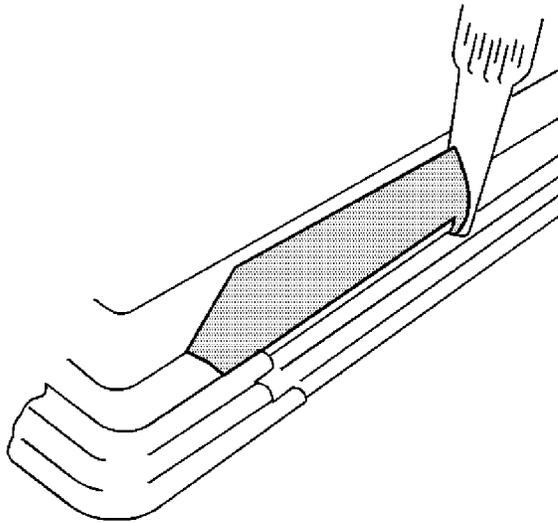


**Note:** The glass primer black #2 is effective up to 8 hours after applying it to the glass. The primed surface of the glass must be kept clean.

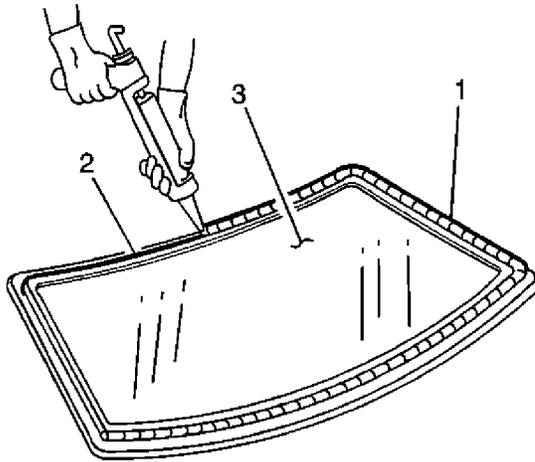
16. Shake the glass primer black #2 for at least 1 minute.
17. Use a new dauber in order to apply the glass primer black #2 to the same areas (2) that glass prep clear #1 was applied.
18. Allow the glass primer to dry for approximately 10 minutes.



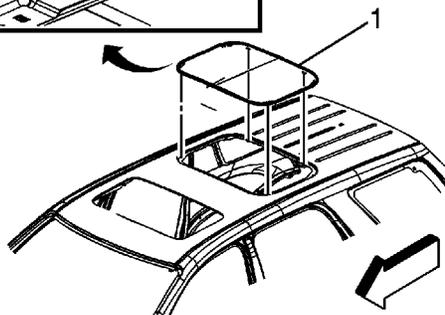
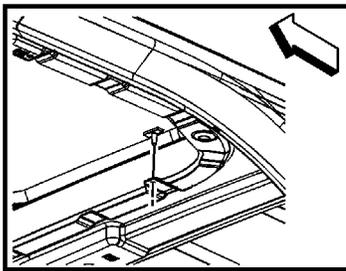
19. Cut the applicator nozzle in order to provide a bead of 12.7 mm (1/2 in) wide and 12.7 mm (1/2 in) high.



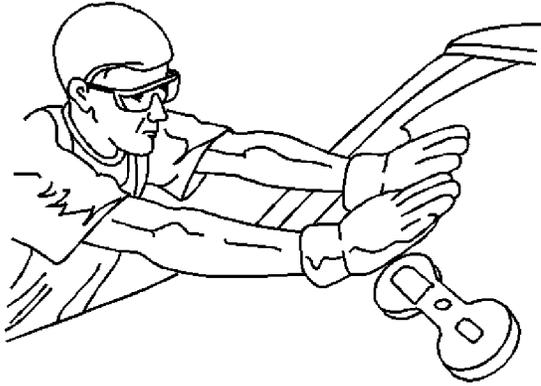
20. Use a cartridge-type caulking gun in order to apply a smooth, continuous bead of urethane adhesive.



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

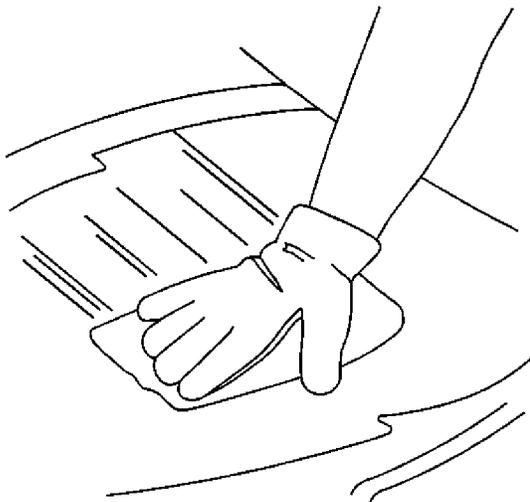


22. With the aid of an assistant, place the window (1) in the opening.  
23. Align the masking tape lines on the window and the body.

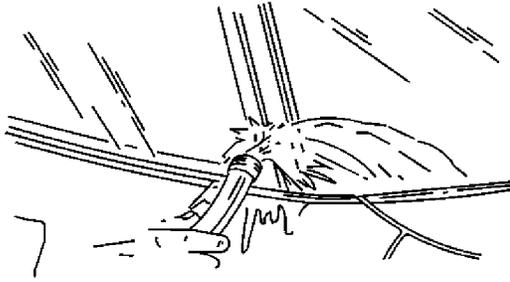


**Note:** To prevent damage to the window due to objects impacting an exposed edge, upon installation, the window must rest 1 mm (0.040 in) below the surface of the sheet metal.

24. Press firmly around the entire periphery of the window in order to wet-out the urethane bead.
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 Endgate 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 conditions in order to help prevent future breakage of the window:
  - High weld
  - Solder spots
  - 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 glass 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.

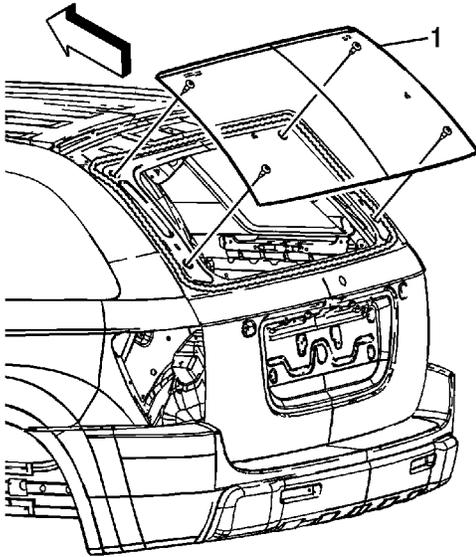
**Warning:** Refer to [Window Retention Warning](#) in the Preface section.

**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.

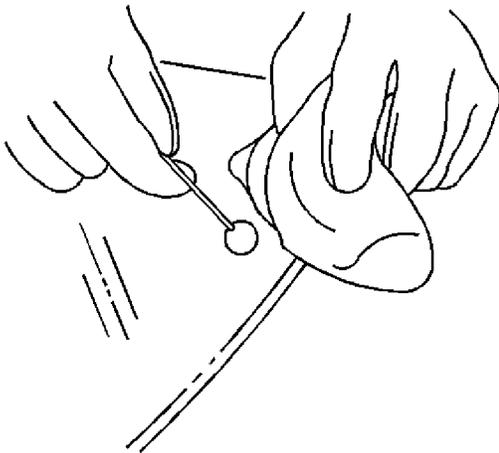
6. Verify all primers and urethane adhesive are within expiration dates.

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

7. Shake the pinch-weld primer black #3 for at least 1 minute.
8. Use a new dauber in order to apply the primer to the surface of the pinch-weld flange.
9. Allow the pinch-weld primer to dry for approximately 10 minutes.



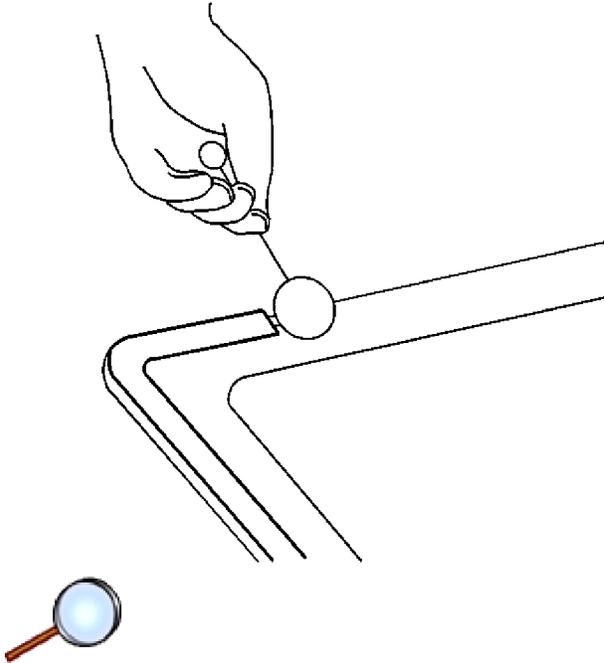
10. With the aid of an assistant, dry fit the window (1) to the opening in order to determine the correct position.
11. Ensure the window locator pins are positioned into the locator slots in the pinch-weld flange.
12. Use masking tape to mark the locations of the window in the opening.
13. Cut the masking in the center and remove the window from the opening.



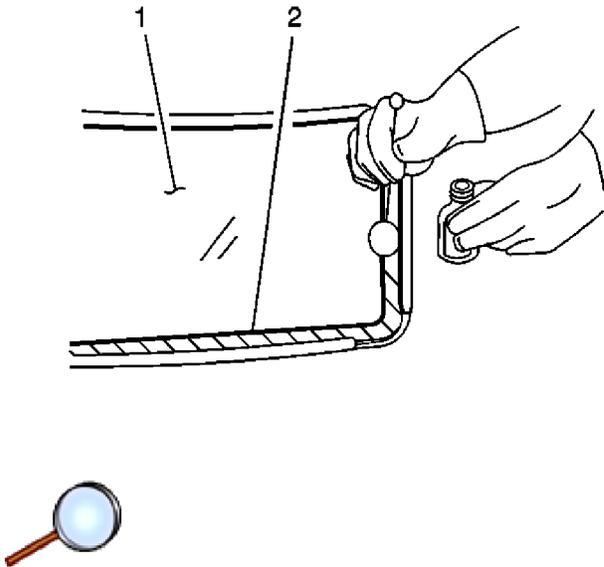
**Note:** Use care when applying glass prep clear #1 on the window. This primer dries almost instantly, and may stain the viewing area of the window if not applied evenly.

14. Use a new dauber in order to apply glass prep clear #1 to the area approximately 18 mm (0.71 in) around the entire perimeter of the window inner surface.

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

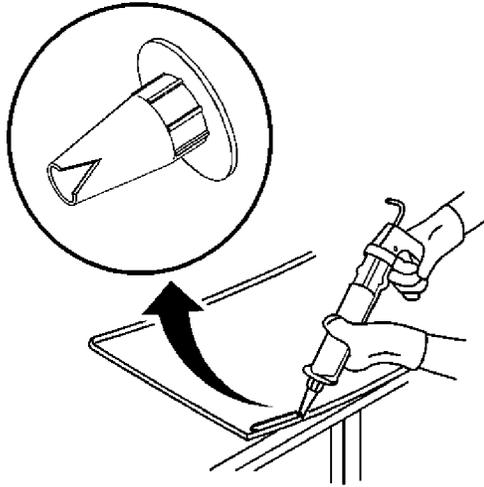


15. Apply a second coat of the glass prep clear #1 to the same area of the glass.

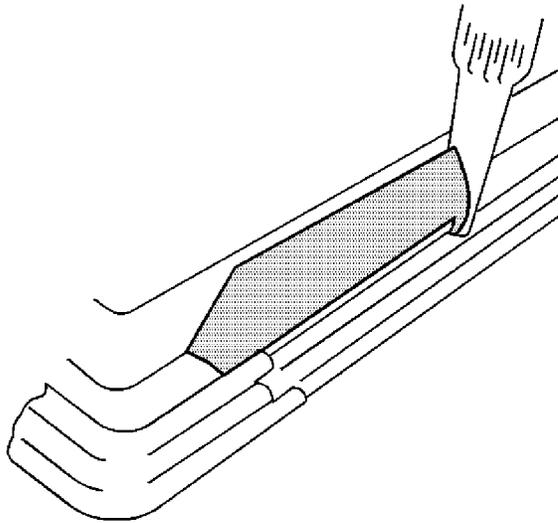


**Note:** The glass primer black #2 is effective up to 8 hours after applying it to the glass. The primed surface of the glass must be kept clean.

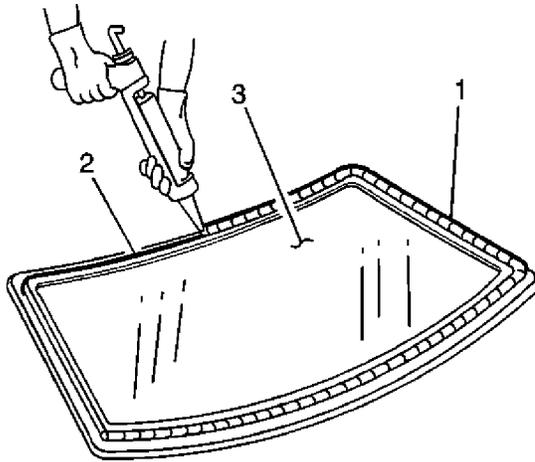
16. Shake the glass primer black #2 for at least 1 minute.
17. Use a new dauber in order to apply the glass primer black #2 to the same areas (2) that glass prep clear #1 was applied.
18. Allow the glass primer to dry for approximately 10 minutes.



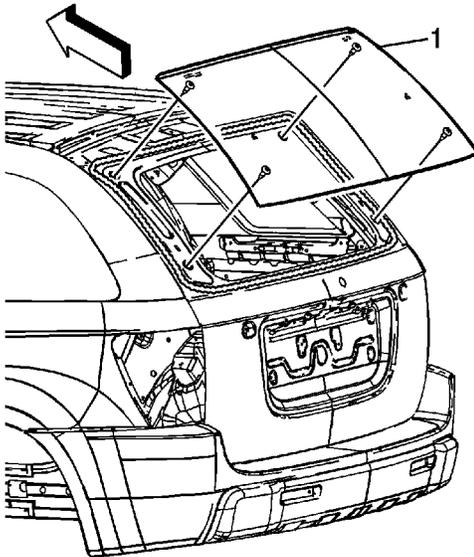
19. Cut the applicator nozzle in order to provide a bead of 12.7 mm (1/2 in) wide and 12.7 mm (1/2 in) high.



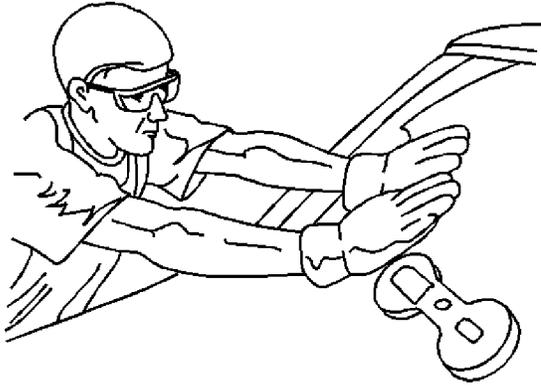
20. Use a cartridge-type caulking gun in order to apply a smooth, continuous bead of urethane adhesive.



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

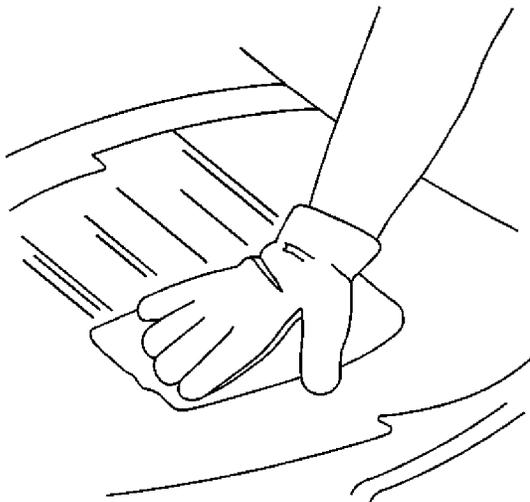


22. With the aid of an assistant, place the window (1) in the opening.  
23. Align the masking tape lines on the window and the body.

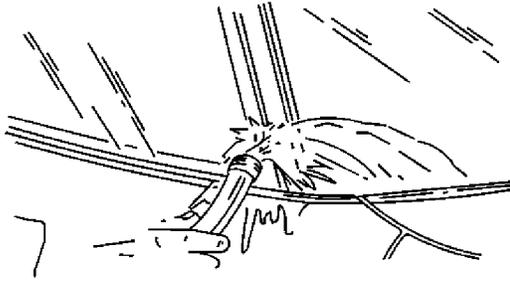


**Note:** To prevent damage to the window due to objects impacting an exposed edge, upon installation, the window must rest 1 mm (0.040 in) below the surface of the sheet metal.

24. Press firmly around the entire periphery of the window in order to wet-out the urethane bead.
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.

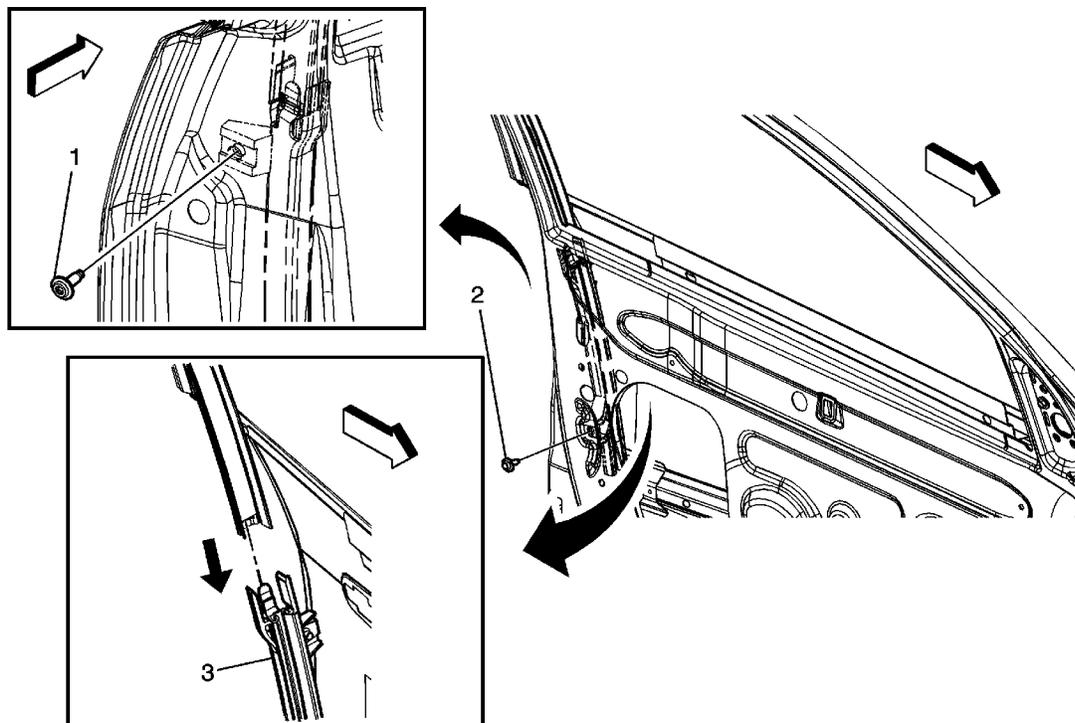
**Warning:** Insufficient curing of urethane adhesive may allow unrestrained occupants to be ejected from the vehicle resulting in personal injury.

- 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.

## Front Side Door Window Rear Channel Replacement



Callout	Component Name
<b>Preliminary Procedures</b>	
1. Remove the interior trim panel. Refer to <a href="#">Front Side Door Trim Panel Replacement - Left Side</a> or <a href="#">Front Side Door Trim Panel Replacement - Right Side</a> . 2. Remove the water deflector. Refer to <a href="#">Front Side Door Water Deflector Replacement</a> .	
1	Front Side Door Window Rear Channel Upper Bolt  <b>Caution:</b> Refer to <a href="#">Fastener Caution</a> in the Preface section.  <b>Tighten</b> 10 N·m (89 lb in)
2	Front Side Door Window Rear Channel Lower Bolt
3	Front Side Door Window Rear Channel  <b>Tip</b> Install the front side door window rear channel, ensure that the upper and lower clip together.