

2004 Cadillac SRX

2004 ACCESSORIES & EQUIPMENT Stationary Windows - SRX

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Stationary Windows - SRX

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Electrochromatic w/ Compass, OnStar® Inside Rear View Mirror Screw (DD7&UE1)	1.8 N.m	16 lb in
OnStar® Inside Rear View Mirror Screw (UE1)	1.8 N.m	16 lb in

SCHEMATIC AND ROUTING DIAGRAMS

DEFOGGER SCHEMATICS

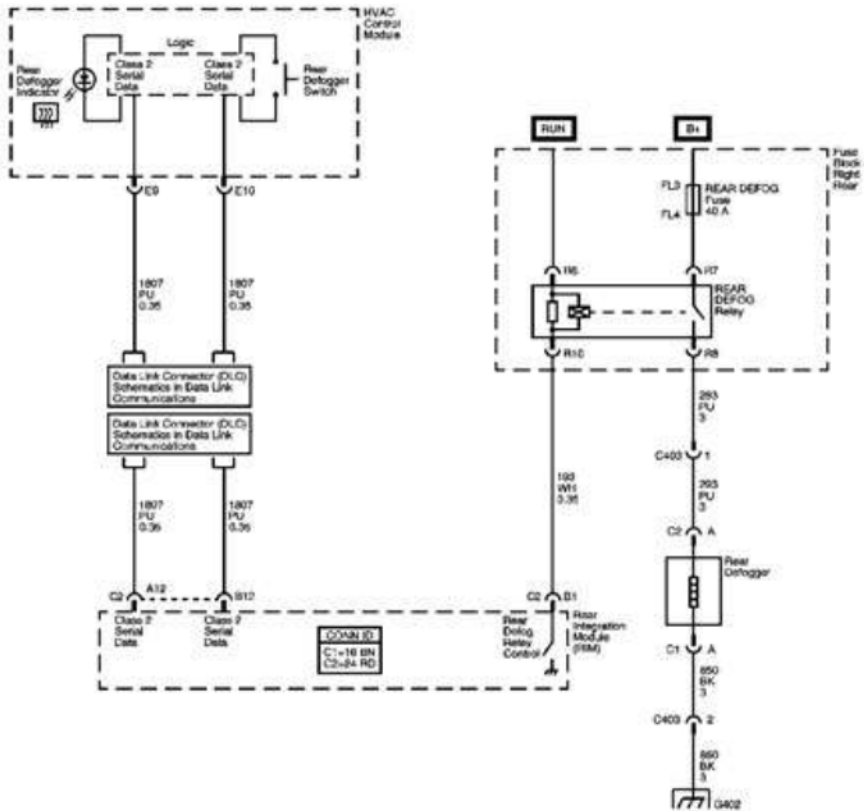


Fig. 1: Defogger Schematics
 Courtesy of GENERAL MOTORS CORP.

INSIDE REARVIEW MIRROR SCHEMATICS

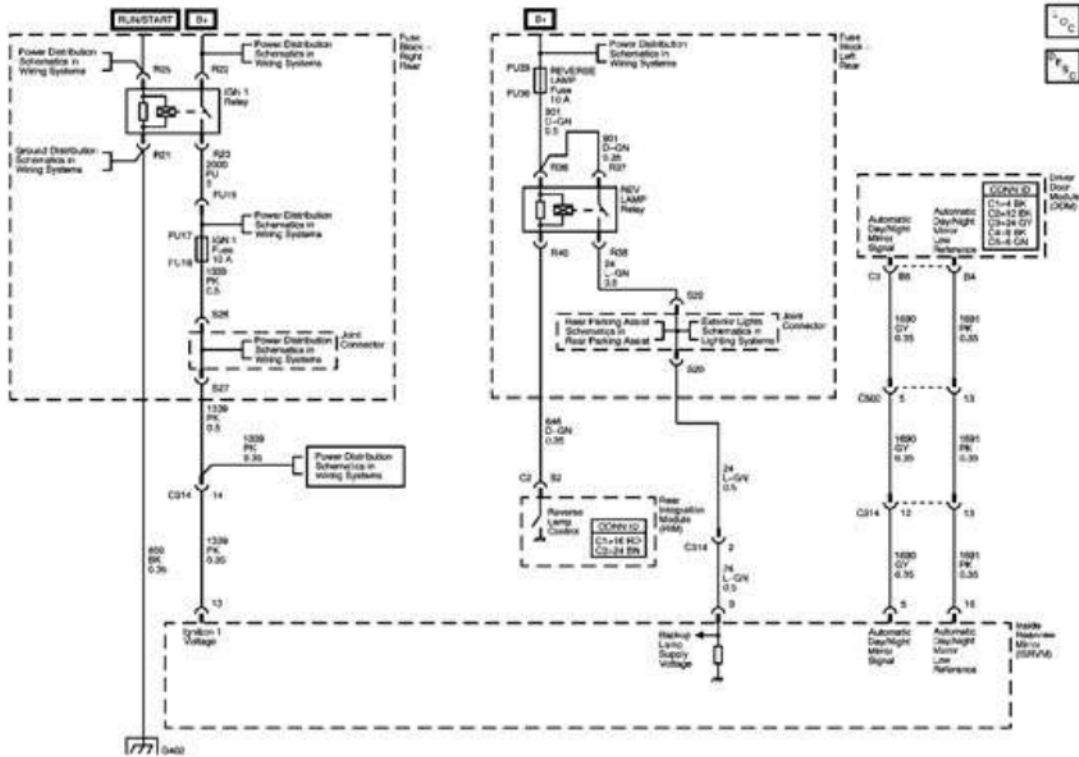


Fig. 2: Inside Rearview Mirror Schematics
 Courtesy of GENERAL MOTORS CORP.

COMPONENT LOCATOR

STATIONARY WINDOWS COMPONENT VIEWS

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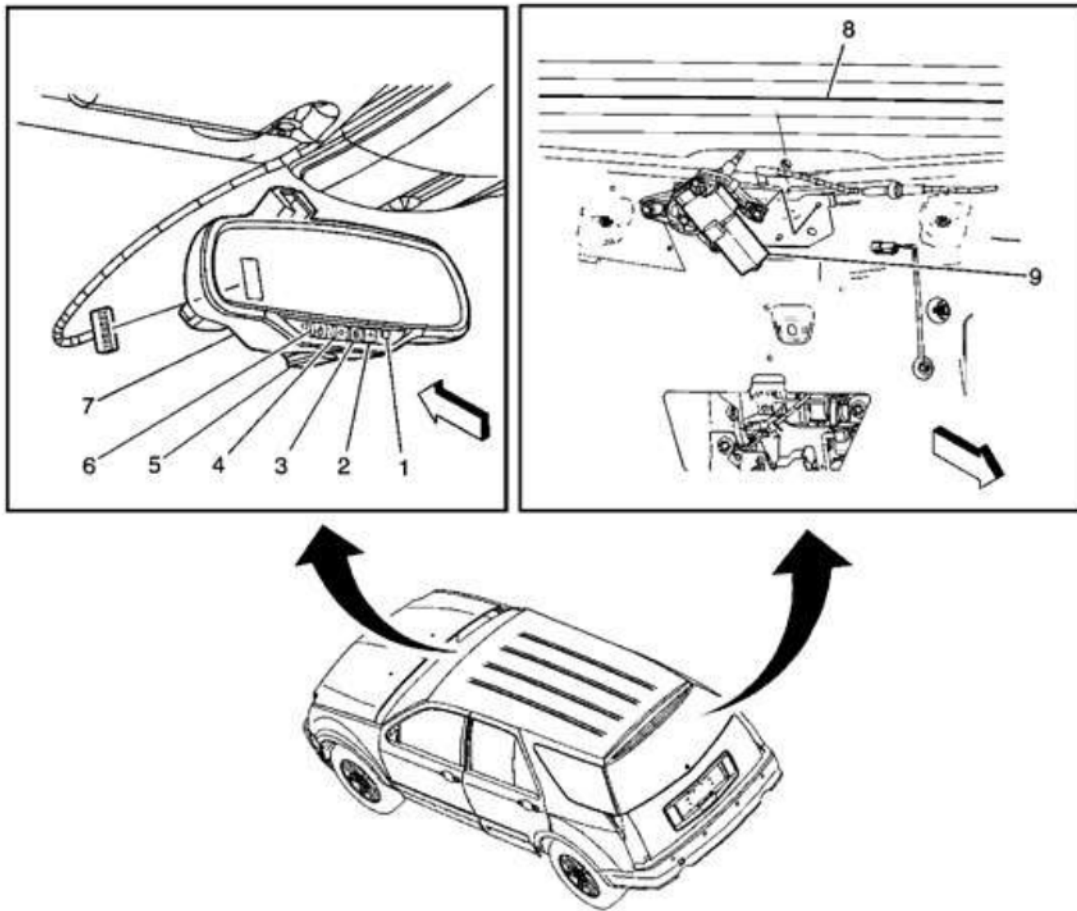


Fig. 3: ISRVM & Rear Window Defogger Grid Component View
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 3

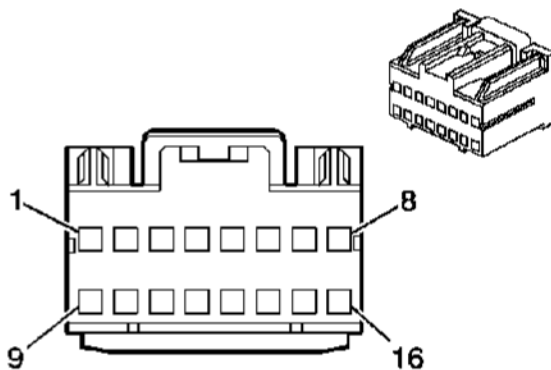
Callout	Component Name
1	Headlight Sensor
2	Emergency Button (UE1)
3	OnStar® Call Center Button (UE1)
4	Answer/End Call Button (UE1)
5	Cellular Microphone (UE1)
6	ISRVM On/Off Button
7	ISRVM
8	Rear Window Defogger Grid
9	Rear Window Wiper Motor

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STATIONARY WINDOWS CONNECTOR END VIEWS

Inside Rearview Mirror (ISRM) Terminal Identification

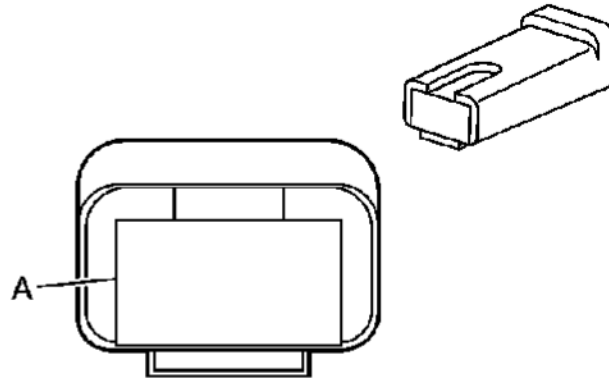


Connector Part Information		• 917981-2 • 16-Way M Amp .040/.070 Hybrid (BK)	
Pin	Wire Color	Circuit No.	Function
1	-	-	Not Used
2	BARE	1782	Drain Wire
3-4	-	-	Not Used
5	GY	1690	Automatic Day/Night Mirror Signal
6-7	-	-	Not Used
8	BK/WH	1051	Ground
9	L-GN	24	Backup Lamp Supply Voltage
10	GY	655	Cellular Microphone Signal (UE1)
11	PU	679	Keypad Signal (UE1)
12	BN	1941	Keypad Supply Voltage
13	PK	1339	Ignition 1 Voltage
14	GY/BK	1798	Keypad Green LED Signal (UE1)
15	PU	1156	Keypad Red LED Signal (UE1)
16	PK	1691	Automatic Day/Night Mirror Low Reference

Rear Window Defogger Grid C1 Terminal Identification

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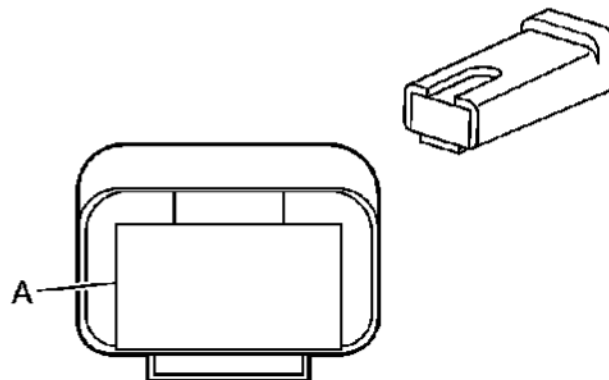


Connector Part Information

- 12015306
- 1-Way F 56 Series (GY)

Pin	Wire Color	Circuit No.	Function
A	BK	850	Ground

Rear Window Defogger Grid C2 Terminal Identification



Connector Part Information

- 12015306
- 1-Way F 56 Series (GY)

Pin	Wire Color	Circuit No.	Function
A	PU	293	Rear Defog Element Supply Voltage

DIAGNOSTIC INFORMATION AND PROCEDURES

DIAGNOSTIC STARTING POINT - STATIONARY WINDOWS

For the inside rearview mirror with the automatic day-night feature, begin the diagnosis by reviewing the system Description and Operation. Reviewing the Description and Operation information will help you determine the correct symptom diagnostic procedure when a malfunction exists. Reviewing the Description and Operation information will also help you determine if the condition described by the customer is normal operation. Refer to **Symptoms - Stationary Windows** in order to identify the correct procedure for diagnosing the system and where the procedure is located.

For the rear window defogger, begin the diagnosis with the **Diagnostic System Check - Defogger**. The Diagnostic System Check will provide the following information:

- The identification of the control modules which command the system
- The ability of the control modules to communicate through the serial data circuit
- The identification of any stored diagnostic trouble codes (DTCs) and their status

The use of the Diagnostic System Check will identify the correct procedure for diagnosing the system and where the procedure is located.

DIAGNOSTIC SYSTEM CHECK - DEFOGGER**Test Description**

The numbers below refer to the step numbers on the diagnostic table.

- 2:** Lack of communication may be due to a partial malfunction of the class 2 serial data circuit. The specified procedure will determine the particular condition.
- 4:** The Symptom Table will determine the correct diagnostic procedure to use.
- 5:** The presence of DTCs which begin with "U" indicate some other module is not communicating. The specified procedure will compile all the available information before tests are performed.

Diagnostic System Check - Defogger

Step	Action	Yes	No
1	Install a scan tool. Does the scan tool power up?	Go to Step 2	Go to <u>Scan Tool Does Not Power Up</u> in Data Link Communications

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2	1. Turn ON the ignition, with the engine OFF. 2. Attempt to establish communication with the following: • Rear Integration Module (RIM) • HVAC Control Module Does the scan tool communicate with the modules?	Go to Step 3	Go to <u>Scan Tool Does Not Communicate with Class 2 Device</u> in Data Link Communications
3	IMPORTANT: Important: The engine may start during the following step. Turn OFF the engine as soon as you have observed the Crank power mode. 1. Access the Class 2 Power Mode parameter in the Diagnostic Circuit Check menu on the scan tool. 2. Rotate the ignition switch through all positions while observing the Class 2 Power Mode parameter. Does the Class 2 Power Mode parameter reading match the ignition switch position for all switch positions?	Go to Step 4	Go to <u>Power Mode Mismatch</u> in Body Control System
4	Select the display DTCs function on the scan tool for the following modules. • RIM • HVAC Control Module Does the scan tool display any DTCs?	Go to Step 5	Go to <u>Symptoms - Stationary Windows</u>
5	Does the scan tool display DTCs that begin with "U"?	Go to <u>Scan Tool Does Not Communicate with Class 2 Device</u> in Data Link Communications	Go to Step 6
	Does the scan tool display DTCs B1000, B1004,	Go to	

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6	B1007, or B1009?	<u>Diagnostic Trouble Code (DTC) List</u> in Body Control System	Go to Step 7
7	Does the scan tool display DTCs B1327 or B1328?	Go to <u>Diagnostic Trouble Code (DTC) List</u> in Engine Electrical	Go to <u>Symptoms - Stationary Windows</u>

SCAN TOOL OUTPUT CONTROLS**Rear Integration Module (RIM)**

Scan Tool Output Control	Additional Menu Selection(s)	Description
Rear Defog Relay	-	The RIM actuates the REAR DEFOG relay for 5 seconds after you select ON. The rear window defogger should be active for 5 seconds.

SCAN TOOL DATA LIST**Rear Integration Module (RIM)**

Scan Tool Parameter	Data List	Units Displayed	Typical Data Value
Ignition ON/Engine OFF			
Load Shed Lvl.2 R. Defog.	Input/Output	Enabled/Disabled	Disabled
Rear Defog Relay	Input/Output	On/Off	Off

SCAN TOOL DATA DEFINITIONS**Rear Integration Module (RIM)****Load Shed Lvl.2 R. Defog.**

The scan tool displays Enabled/Disabled. The scan tool displays Enabled, when system voltage is low. The RIM cycles the rear window defogger ON at 50 percent of a cycle and OFF at 50 percent of the cycle.

Rear Defog Relay

The scan tool displays On/Off. When the rear window defogger is enabled, the HVAC control module sends a class 2 message to the RIM to enable the rear defogger relay. The RIM energizes the rear defogger relay by grounding the control circuit of the rear defogger relay, which the scan tool displays as On.

SYMPTOMS - STATIONARY WINDOWS

IMPORTANT: For the inside rearview mirror with the automatic day-night feature, review the system operation in order to familiarize yourself with the system functions. Refer to Automatic Day-Night Mirror Description and Operation.

For the rear window defogger system, the following steps must be performed before using the symptom tables.

1. Perform the Diagnostic System Check - Defogger before using the symptom tables in order to verify that all of the following are true:
 - There are no DTCs set.
 - The control modules can communicate via the serial data link.
2. Review the rear window defogger system operation in order to familiarize yourself with the system functions. Refer to Rear Window Defogger Description and Operation.

Visual/Physical Inspection

- Inspect for aftermarket devices which could affect the operation of the rear window defogger or the automatic day-night feature of the inside rearview mirror. Refer to Checking Aftermarket Accessories in Wiring Systems.
- Inspect the easily accessible or visible system components for obvious damage or conditions which could cause the symptom.

Intermittent

Faulty electrical connections or wiring may be the cause of intermittent conditions. Refer to Testing for Intermittent Conditions and Poor Connections in Wiring Systems.

Symptom List

Refer to a symptom diagnostic procedure from the following list in order to diagnose the symptom:

- Defogger Inoperative - Rear Window

- **Defogger Grid Lines Diagnosis**
- **Mirrors - Automatic Day-Night Inoperative**

DEFOGGER INOPERATIVE - REAR WINDOW

Test Description

The numbers below refer to the step numbers on the diagnostic table.

6: If Load Shed Lvl.2 R. Defog. data parameter is displayed as Enabled, system voltage may be low due to number of loads enabled on the vehicle, while the ignition is ON. This may be normal due to the number of loads enabled or the vehicle may have a charging system or battery concern.

7: Gain access to the RR DEFOG relay and listen for an audible click when the relay operates. Command both the ON and OFF states of the RR DEFOG relay. Repeat the commands as necessary.

Defogger Inoperative - Rear Window

Step	Action	Yes	No
Schematic Reference: <u>Defogger Schematics</u> Connector End View Reference: <u>Stationary Windows Connector End Views</u>			
1	Did you perform the Defogger Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Defogger</u>
2	1. Turn ON the ignition, with the engine OFF. 2. Depress the rear window defogger switch. 3. Observe the rear window defogger indicator on the HVAC control module. Does the rear window defogger indicator illuminate?	Go to Step 3	Go to Step 5
3	Connect a test lamp between the rear window defogger grid and ground. Does the test lamp illuminate?	Go to Step 4	Go to Step 7
4	Connect a test lamp between the left side of the rear window defogger grid and the right side of the rear window defogger grid.	Go to <u>Testing for Intermittent Conditions and</u>	

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	Does the test lamp illuminate?	Poor Connections in Wiring Systems	Go to Step 17
5	With a scan tool, observe the Rear Defog Relay data parameter in the rear integration module (RIM) data list. Does the scan tool display ON?	Go to Step 6	Go to Step 14
6	With a scan tool, observe the Load Shed Lvl. 2 R. Defog. data parameter in the RIM data list. Does the scan tool display Enabled?	Go to Diagnostic System Check - Engine Electrical in Engine Electrical	Go to Step 14
7	1. Select from the special functions, the Rear Defog Relay from the RIM output controls. 2. With a scan tool, command the RR DEFOG relay ON and OFF. Do you hear a click when you command the RR DEFOG relay ON and OFF?	Go to Step 10	Go to Step 8
8	1. Turn OFF the ignition. 2. Disconnect the RR DEFOG relay. 3. Turn ON the ignition, with the engine OFF. 4. Connect a test lamp between the ignition voltage circuit of the RR DEFOG relay coil and ground. Does the test lamp illuminate?	Go to Step 9	Go to Step 18
9	1. Connect a test lamp between the control circuit of the RR DEFOG relay and the ignition voltage circuit of the RR DEFOG relay coil. 2. With a scan tool, command the RR DEFOG relay ON. Does the test lamp illuminate?	Go to Step 15	Go to Step 12

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10	1. Turn OFF the ignition. 2. Disconnect the RR DEFOG relay. 3. Turn ON the ignition, with the engine OFF. 4. Connect a test lamp between the battery positive voltage circuit of the RR DEFOG relay switched input and a good ground. Does the test lamp illuminate?	Go to Step 11	Go to Step 13
11	1. Connect a 40-amp fused jumper between the battery positive voltage circuit of the RR DEFOG relay switched input and the relay switched output to the supply voltage circuit of the rear window defogger. 2. Connect a test lamp between the rear window defogger grid and ground. Does the test lamp illuminate?	Go to Step 15	Go to Step 20
12	Test the control circuit of the RR DEFOG relay for an open or short to battery positive voltage. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 24	Go to Step 16
13	Test the battery positive voltage circuit of the RR DEFOG relay switched input for an open or high resistance. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 24	Go to Step 19
14	Inspect for a poor connection at the harness connector of the HVAC control module. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 24	Go to Step 21
	Inspect for a poor connection at the RR DEFOG relay. Refer to <u>Testing for Intermittent Conditions and Poor</u>		

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15	<u>Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 24	Go to Step 22
16	Inspect for a poor connection at the harness connector of the RIM. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 24	Go to Step 23
17	Repair an open or high resistance in the ground circuit of the rear window defogger. Refer to <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 24	-
18	Repair an open or a high resistance in the ignition voltage circuit of the RR DEFOG relay coil. Refer to <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 24	-
19	Repair a short to ground in the supply voltage circuit of the rear window defogger. Refer to <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 24	-
20	Repair an open or high resistance in the supply voltage circuit of the rear window defogger. Refer to <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 24	-
21	Replace the HVAC control module. Refer to <u>HVAC Control Module Replacement</u> in HVAC Systems - Automatic. Did you complete the replacement?	Go to Step 24	-
22	Replace the RR DEFOG relay. Refer to <u>Relay Replacement (Within an Electrical Center)</u> or <u>Relay Replacement (Attached to Wire Harness)</u> in Wiring Systems. Did you complete the replacement?	Go to Step 24	-
23	IMPORTANT: Perform the setup procedure for the RIM.		

	Replace the RIM. Refer to <u>Rear Integration Module Replacement</u> in Body Control System. Did you complete the replacement?	Go to Step 24	-
24	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

DEFOGGER GRID LINES DIAGNOSIS

1. Start the engine.
2. Activate the rear window defogger system.
3. Connect a test lamp to a good ground.

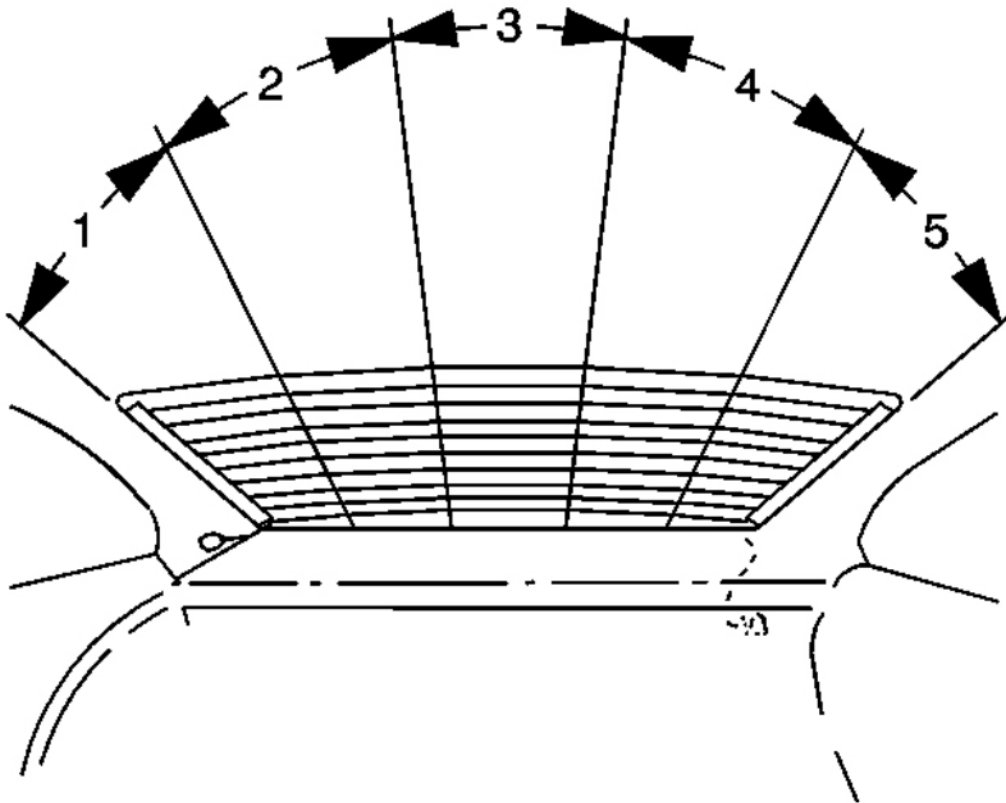


Fig. 4: Identifying Defogger Grid Line Zones
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: The test lamp brilliance will decrease proportionately to the increased resistance in the grid line as the probe is moved from the battery positive bus wire to the ground bus wire. The test lamp brilliance may vary from one window to another.

4. Move the test lamp probe from zone 5 to zone 1 along each grid line.
 - If the test lamp shows full brilliance at both ends of the grid lines. Inspect for an open or poor connection in the ground circuit of the rear window defogger grid. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems.

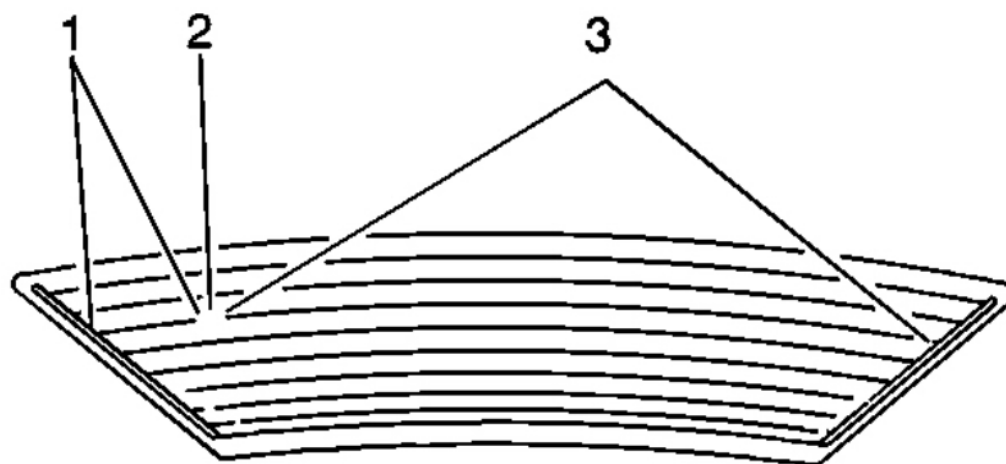


Fig. 5: Identifying Grid Line Test Locations
Courtesy of GENERAL MOTORS CORP.

- If the test lamp goes out, test the grid line in at least 2 places (1,3) to eliminate the possibility of bridging the open (2) in the grid line.
5. If an open (2) is located, the rear window must be replaced.

MIRRORS - AUTOMATIC DAY-NIGHT INOPERATIVE

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The automatic day-night feature of the inside rearview mirror may not operate properly or become inoperative due to an intermittent short to battery voltage in the backup lighting system.

Mirrors - Automatic Day-Night Inoperative

Step	Action	Value(s)	Yes	No
Schematic Reference: <u>Inside Rearview Mirror Schematics</u>				
Connector End View Reference: <u>Stationary Windows Connector End Views</u>				
1	Did you review the operation of the automatic day-night feature of the inside rearview mirror and perform the necessary inspections?	-	Go to Step 2	Go to <u>Symptoms - Stationary Windows</u>
2	1. Turn ON the ignition, with the engine OFF. 2. Turn ON the automatic day-night feature of the inside rearview mirror. 3. Cover the sensor on the inside rearview mirror back, facing the front window. 4. Shine a bright light into the sensor on the inside rearview mirror face, facing the rear window. Does the inside rearview mirror darken?	-	Go to Diagnostic Aids	Go to Step 3
3	1. Turn OFF the ignition. 2. Disconnect the harness connector of the inside rearview mirror. 3. Measure the resistance between the ground circuit of the inside rearview mirror and a good ground. Is the resistance less than the specified value?	3 ohms	Go to Step 4	Go to Step 9
4	1. Turn ON the ignition, with the engine OFF. 2. Measure the voltage between the ignition voltage circuit and the	B+		

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	ground circuit of the inside rearview mirror.			
	Is the voltage within the specified range?		Go to Step 5	Go to Step 10
5	- Place the transmission in PARK. - Measure the voltage between the backup lamp supply voltage circuit and the ground circuit of the inside rearview mirror. Is the voltage less than the specified value?	0.5 V	Go to Step 6	Go to Backup Lamps Always On (Automatic Transmission) in Lighting Systems
6	- Place the transmission in REVERSE. - Measure the voltage between the backup lamp supply voltage circuit and the ground circuit of the inside rearview mirror. Is the voltage within the specified range?	B+	Go to Step 8	Go to Step 7
7	Test the backup lamp supply voltage circuit of the inside rearview mirror for an open or short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	-	Go to Step 12	Go to Backup Lamps Inoperative (Automatic Transmission) in Lighting Systems
8	Inspect for poor connections at the harness connector of the inside rearview mirror. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	-	Go to Step 12	Go to Step 11
9	Repair an open or high resistance in the ground circuit of the inside rearview mirror. Refer to Wiring Repairs in Wiring Systems.	-	Go to Step	

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	Did you complete the repair?		12	-
10	Repair an open or short to ground in the ignition voltage circuit of the inside rearview mirror. Refer to <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	-	Go to Step 12	-
11	IMPORTANT: Perform the <u>Compass Calibration and Variance Procedure</u> for the inside rearview mirror with compass. Replace the inside rearview mirror. Refer to <u>Rearview Mirror Replacement (UE1)</u> or <u>Rearview Mirror Replacement (DD7, DD8)</u> . Did you complete the replacement?	-	Go to Step 12	-
12	Operate the system in order to verify the repair. Did you correct the condition?	-	System OK	Go to Step 2

REPAIR INSTRUCTIONS

WINDSHIELD UPPER REVEAL MOLDING REPLACEMENT

The windshield reveal molding is a one piece molded design. The reveal molding is adhesive bonded to the windshield and cannot be removed for replacement. Refer to **Windshield Replacement** if the molding becomes damaged.

WINDSHIELD SIDE REVEAL MOLDING REPLACEMENT

Removal Procedure

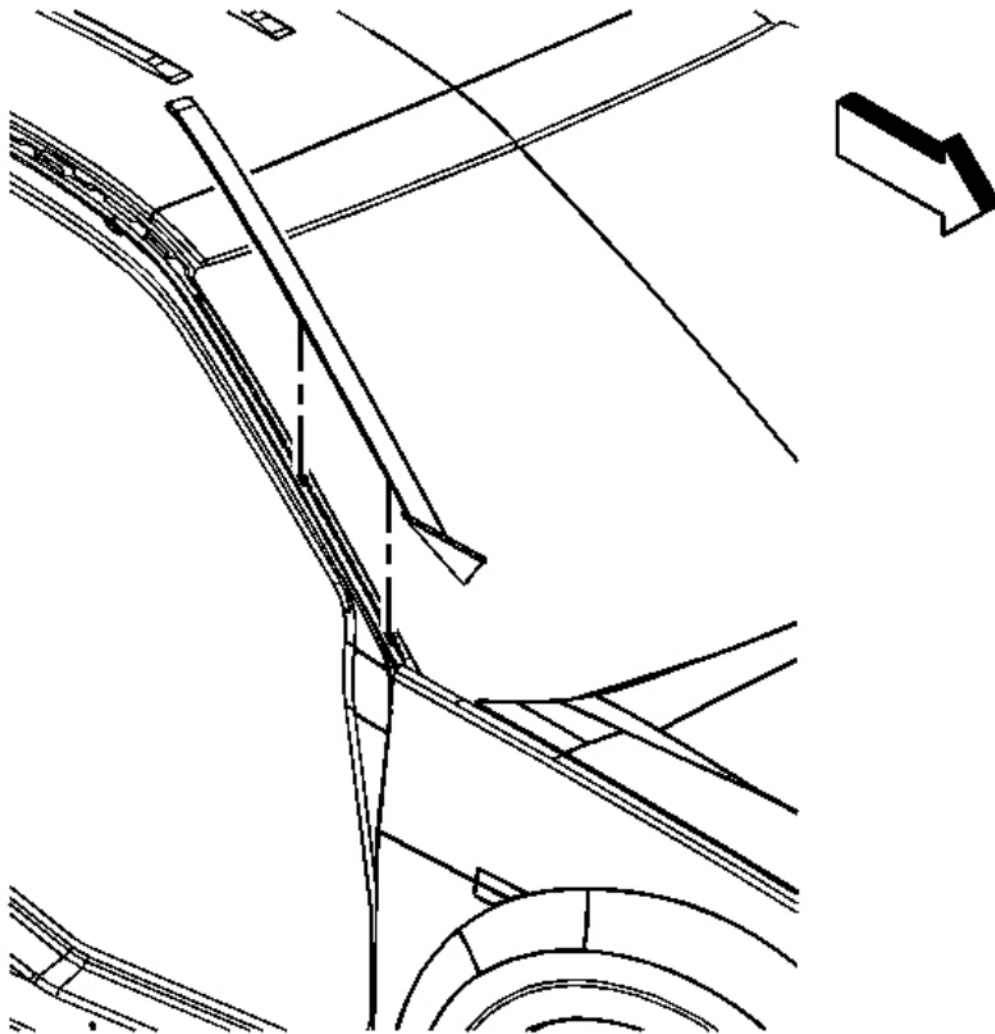


Fig. 6: View Of Windshield Side Reveal Molding
Courtesy of GENERAL MOTORS CORP.

1. Apply 2 layers of masking tape on the windshield next to the reveal molding being serviced.
2. Starting from the top, using a plastic flat-bladed tool, pry up the reveal molding at the 2 retainer clip locations.
3. Remove the reveal molding from the vehicle.
4. If the molding is bent or damaged, replace the molding.

Installation Procedure

1. If the windshield reveal molding retainer clips are bent or damaged, replace the clips.
2. Align the top end of the reveal molding to the end cap tongue inside the opening of the roof rail.
3. Swing the reveal molding downward and align the molding with the clips.

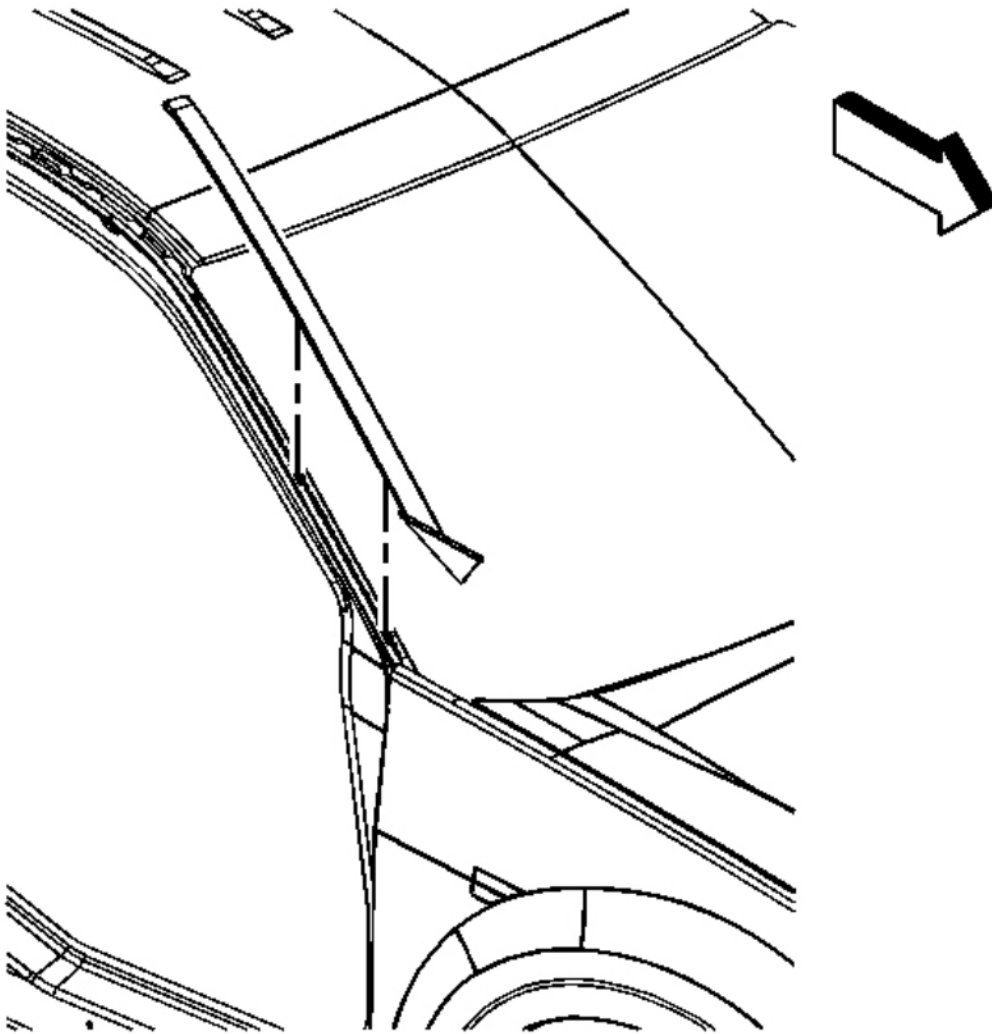


Fig. 7: View Of Windshield Side Reveal Molding
Courtesy of GENERAL MOTORS CORP.

4. Press down on the side reveal molding evenly in order to engage the molding to the windshield retainer clips.
5. Remove the masking tape.
6. Clean the tape residue from the windshield.

REARVIEW MIRROR REPLACEMENT (UE1)

Removal Procedure

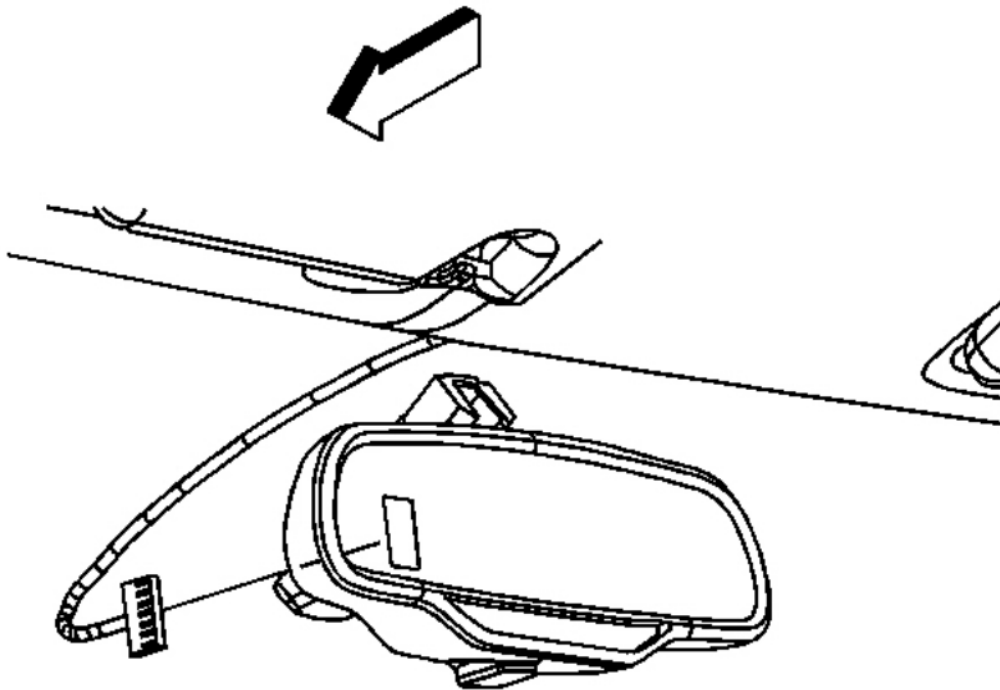


Fig. 8: View Of Rearview Mirror Electrical Connector
Courtesy of GENERAL MOTORS CORP.

1. Disconnect the electrical connector from the back of the mirror.
2. Remove the wire cover.
3. Adjust the mirror to the full upward position.
4. Remove the base trim cover.

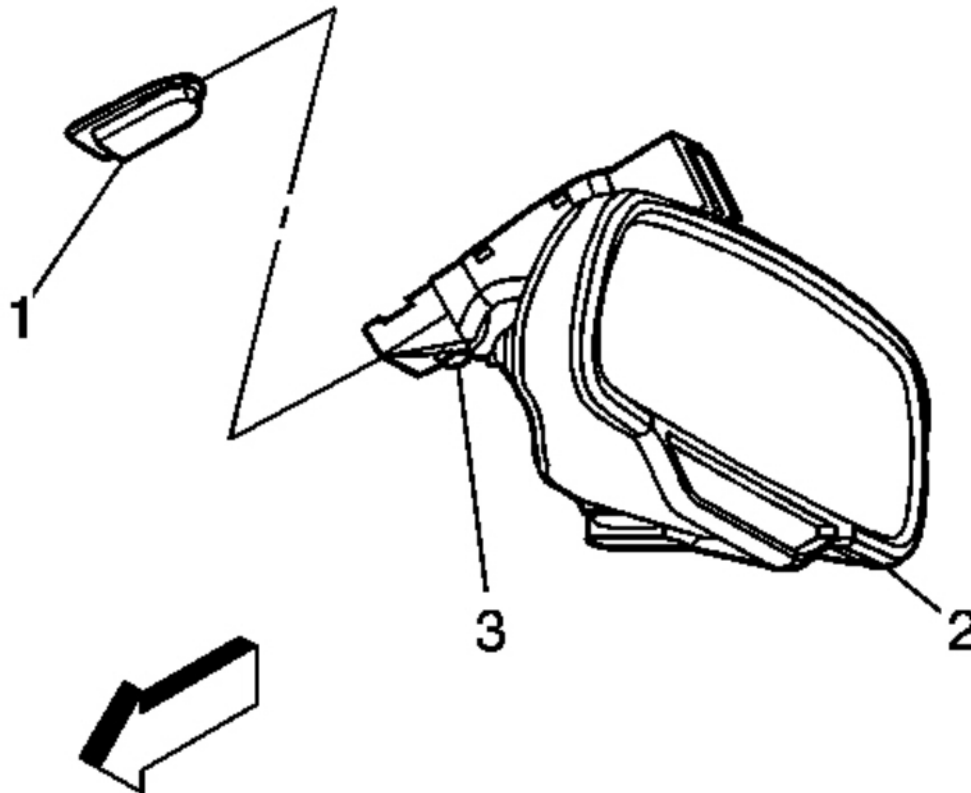


Fig. 9: View Of Rearview Mirror Mounting Components
Courtesy of GENERAL MOTORS CORP.

5. Loosen the screw (3) in order to remove the mirror (2) from the button assembly (1).
6. Slide the mirror assembly in an upward motion in order to remove.

Installation Procedure

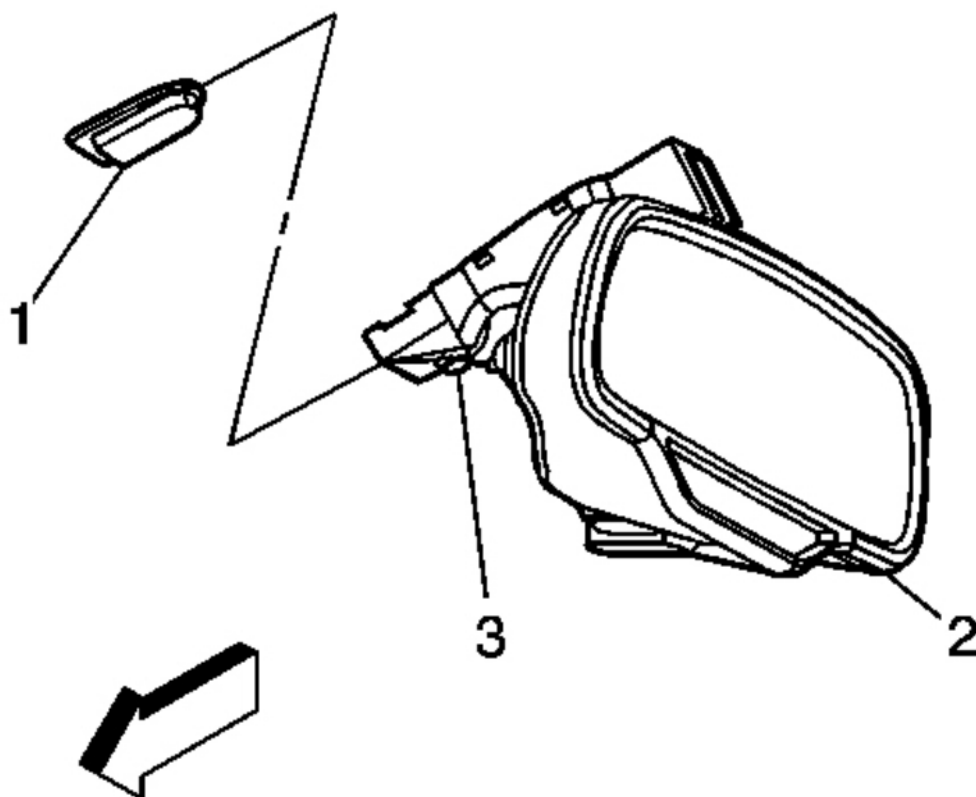


Fig. 10: View Of Rearview Mirror Mounting Components
Courtesy of GENERAL MOTORS CORP.

1. Position the center bottom of the mirror mount against the windshield at the top of the support button (1).
2. Slide the base of the mirror onto the button.

NOTE: Refer to Fastener Notice in Cautions and Notices.

3. Make sure the mirror is firmly seated on the windshield button by pushing down on the base of the mirror.

Tighten: Tighten the screw (3) to 1.8 N.m (16 lb in) in order to secure the mirror base to the button.

4. Install the base trim cover.

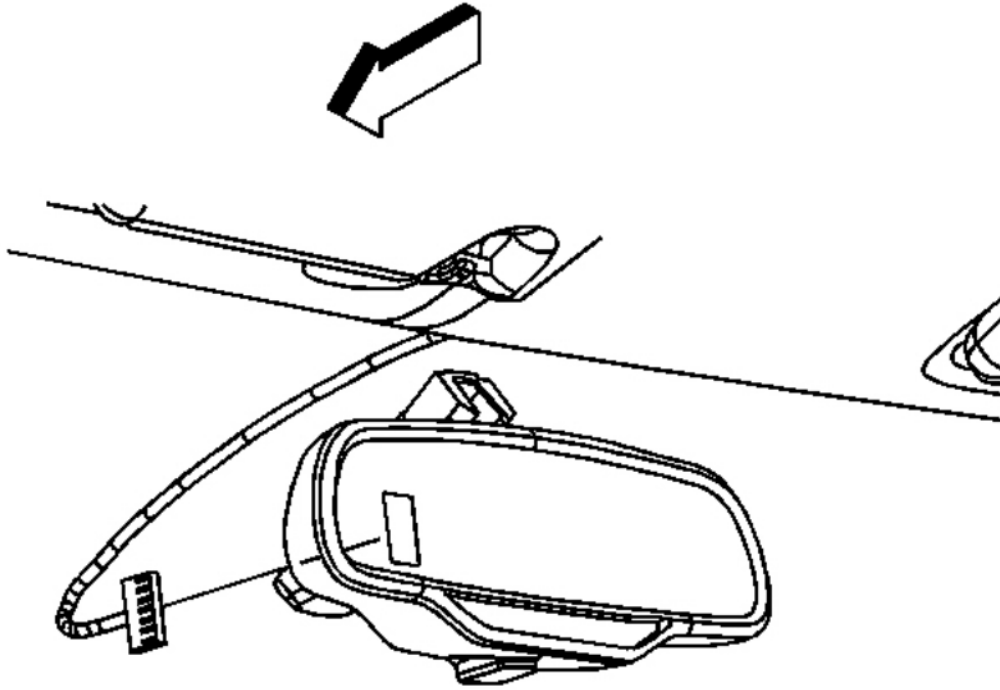


Fig. 11: View Of Rearview Mirror Electrical Connector
Courtesy of GENERAL MOTORS CORP.

5. Connect the electrical connector.
6. Install the wire cover.
7. Reposition the mirror assembly.

REARVIEW MIRROR REPLACEMENT (DD7, DD8)

Removal Procedure

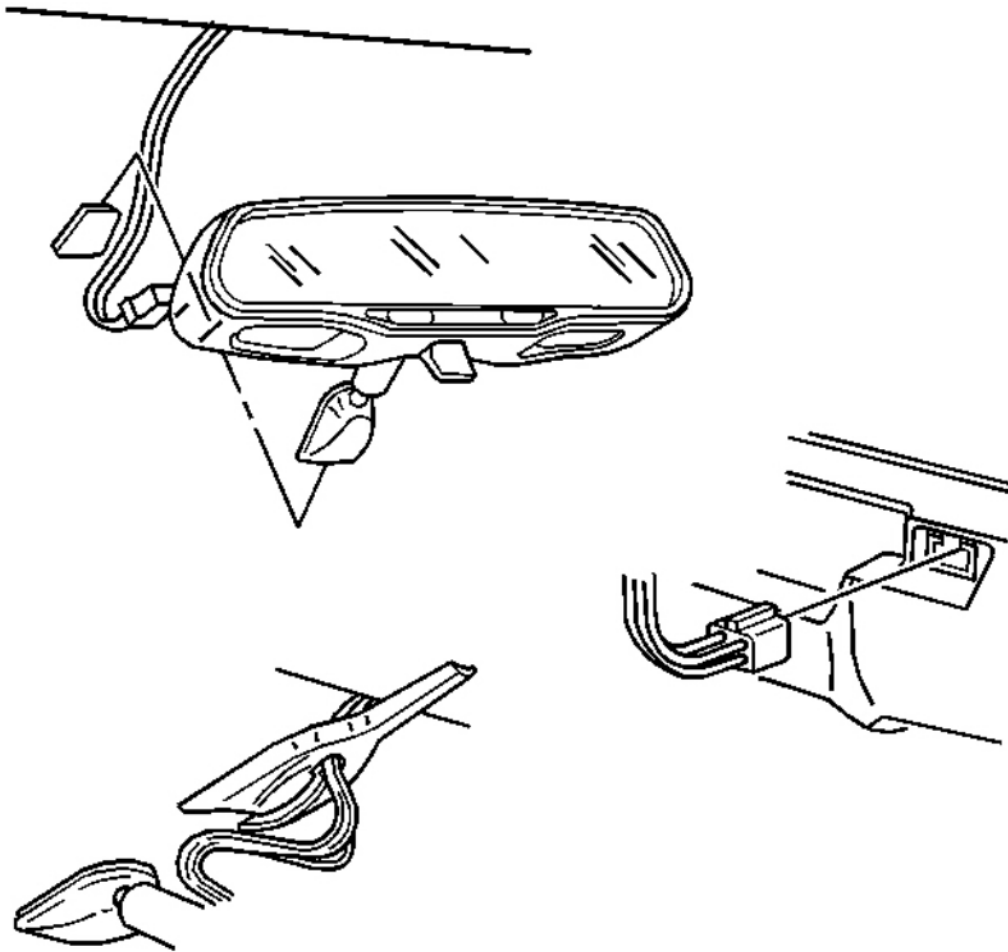


Fig. 12: View Of Rearview Mirror Wire Harness
Courtesy of GENERAL MOTORS CORP.

1. Remove the wire harness cover from the lighted rearview mirror, if equipped.

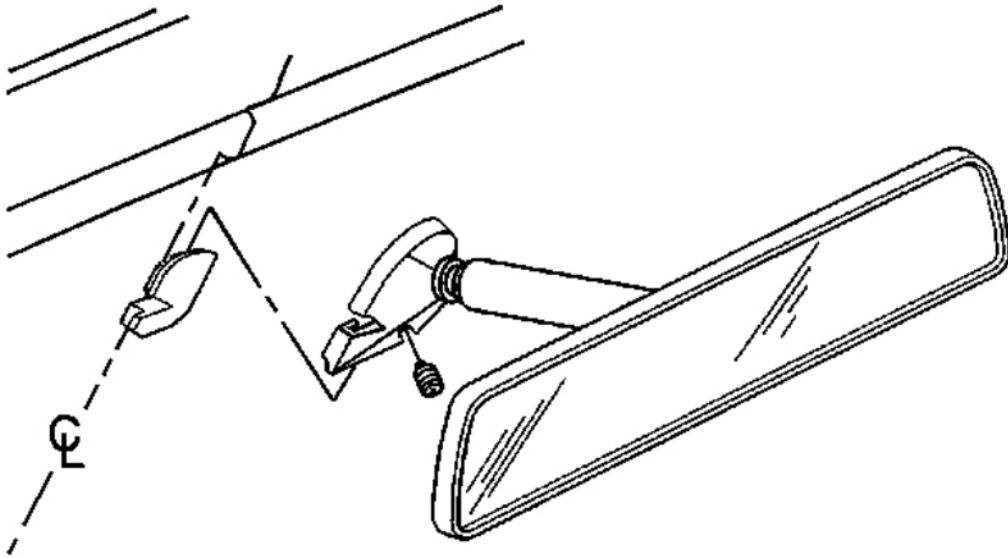


Fig. 13: View Of Rearview Mirror Mounting Components
Courtesy of GENERAL MOTORS CORP.

2. Remove the screw from the base.
3. Slide mirror off of the support.
4. Disconnect the electrical connector from the lighted rearview mirror, if equipped.

Installation Procedure

1. Connect the electrical connector to the mirror.

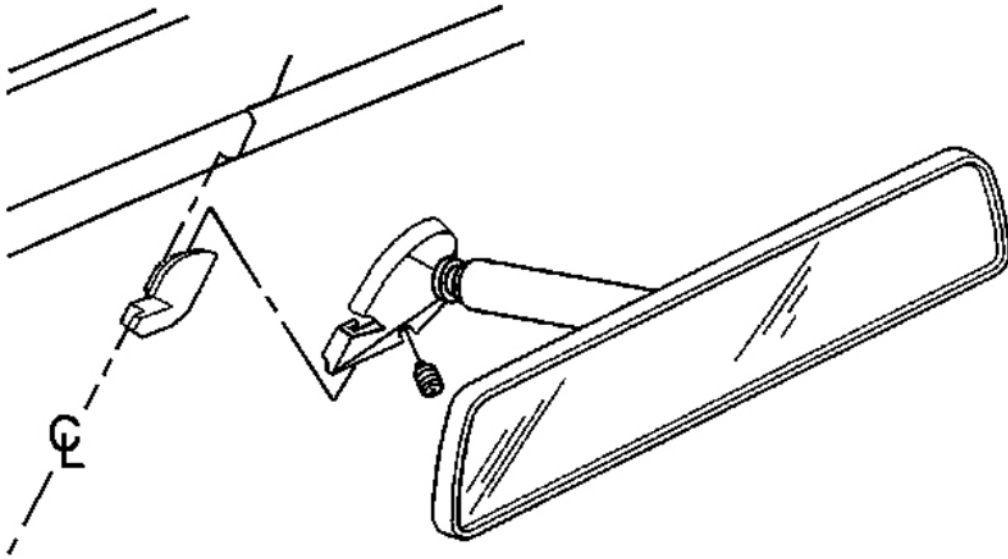


Fig. 14: View Of Rearview Mirror Mounting Components
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Slide the mirror onto the support base.
3. Install the screw to the base.

Tighten: Tighten the screw to 1.8 N.m (16 lb in).

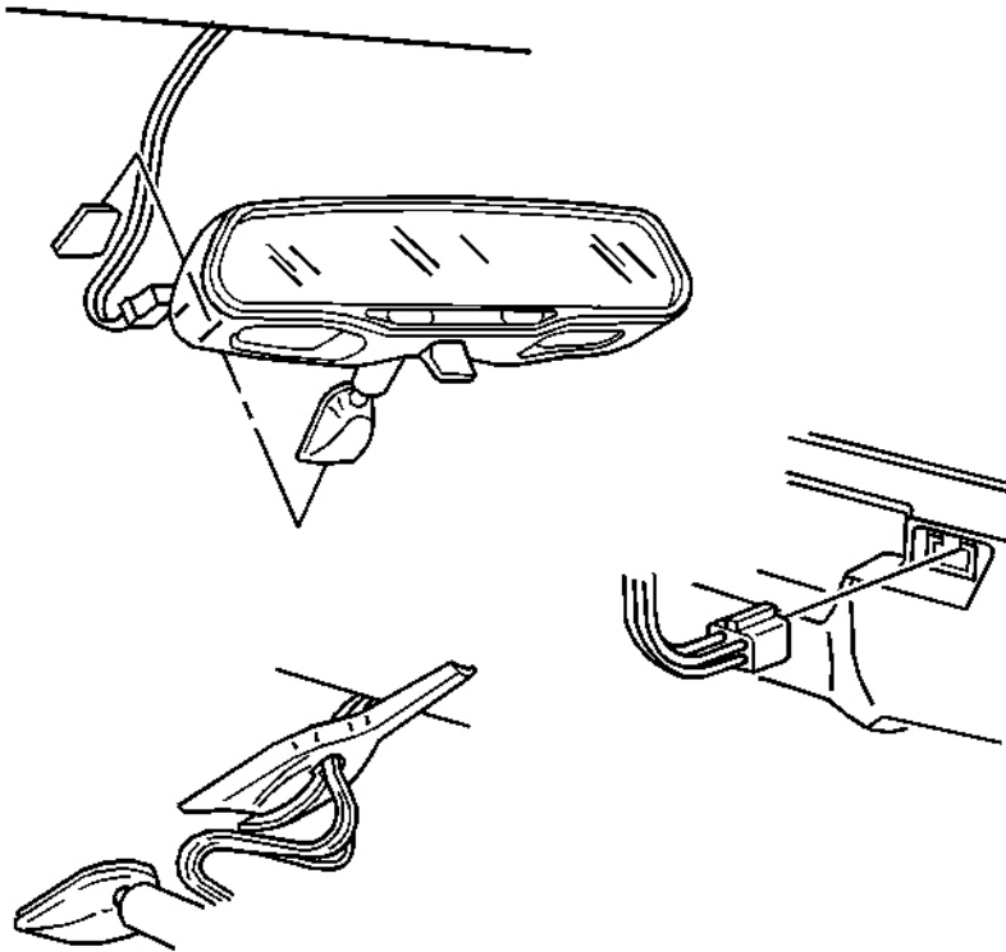


Fig. 15: View Of Rearview Mirror Wire Harness
Courtesy of GENERAL MOTORS CORP.

4. Secure the electrical harness cover to the rearview mirror.
5. Reposition the mirror.
6. Calibrate the mirror. Refer to **Compass Calibration and Variance Procedure**.

REARVIEW MIRROR SUPPORT INSTALLATION

Tools Required

- Inside Mirror Adhesive Kit GM P/N 1052369 (Canadian P/N 993362) or Equivalent

- Safety Razor or Utility Knife

1. Determine the location of the mirror mounting base by marking the outside of the windshield with a wax pencil where the base was previously located. If it is not clear where the base was located, use the following steps to determine where the base should be installed:

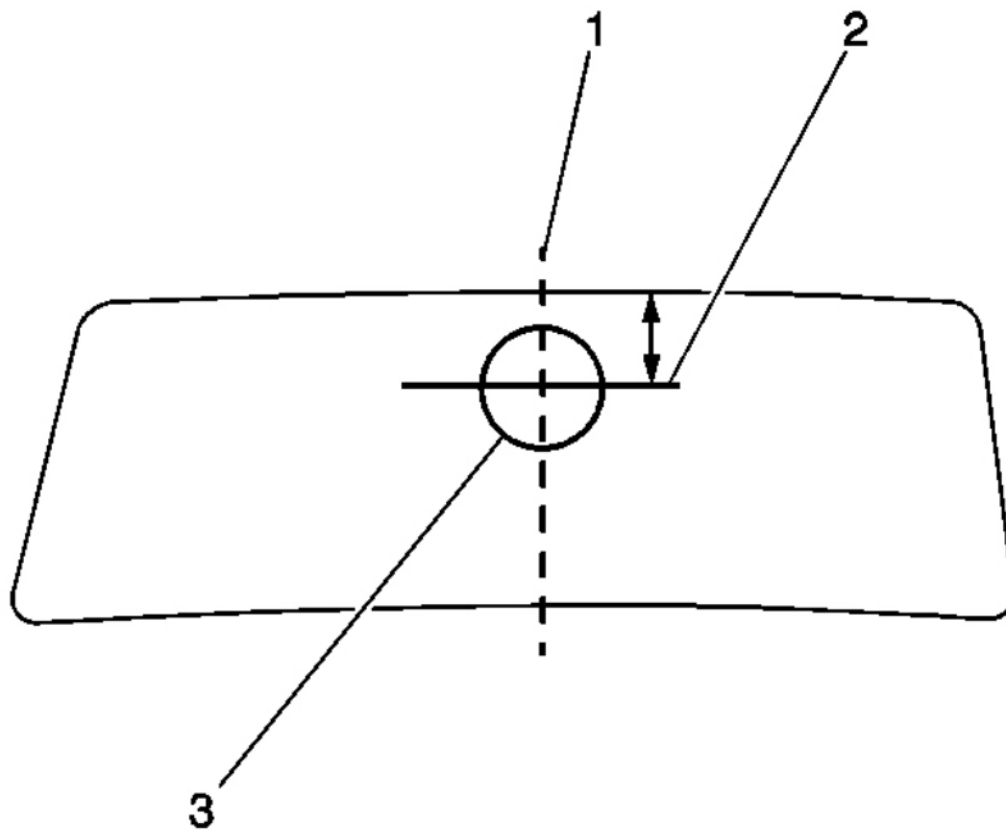


Fig. 16: Identifying Mirror Mounting Base Location
Courtesy of GENERAL MOTORS CORP.

1. Using a measuring tape, measure the distance between the windshield pillars at the windshield blackout line.
2. Using a marking pencil, halfway between the windshield pillars, draw a centerline (1) on the windshield from the roof panel to the windshield base.

3. Draw a perpendicular line intersecting the centerline (2) at that location.

The bottom center of the mirror mounting base will be at the intersection of these lines.

2. Scrape the inside windshield glass thoroughly with a safety razor or utility knife in order to remove all old adhesive.
3. If reinstalling the original mounting base, place the mirror mounting base in a suitable holding device, such as a vice.
4. Scrape the mirror mounting base thoroughly with a safety razor or utility knife in order to remove all old adhesive.
5. Clean the inside windshield glass and the mounting surface of the mirror mounting base thoroughly with a clean cloth saturated with naphtha or a 50/50 mixture by volume of clean water and isopropyl alcohol.

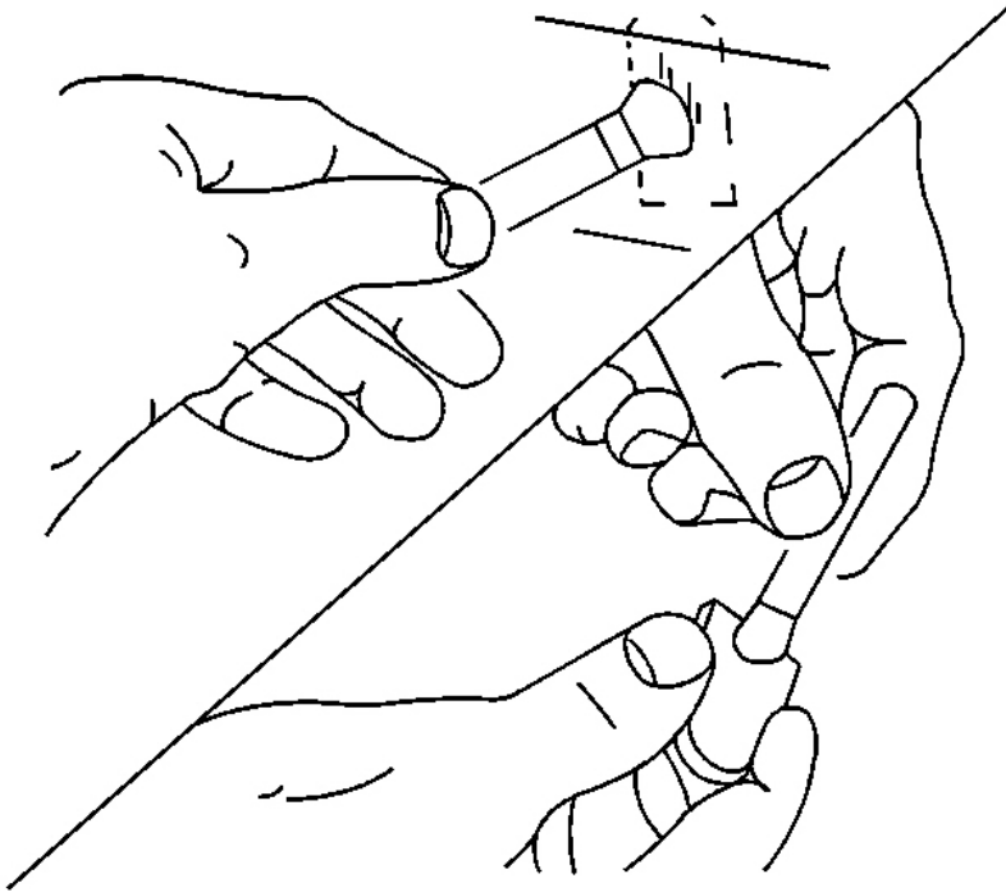


Fig. 17: Applying Adhesive To Mirror Base & Window
Courtesy of GENERAL MOTORS CORP.

6. Apply a small amount of activator to the mounting surface of the mirror mounting base.
7. Apply a small amount of activator to the windshield where the mounting base is to be installed.
8. Allow the activator to dry 5 minutes.

IMPORTANT: Do not touch the mounting surface of the mirror mounting base or the glass.

9. Apply 1 drop of adhesive to the center of the mirror mounting base.

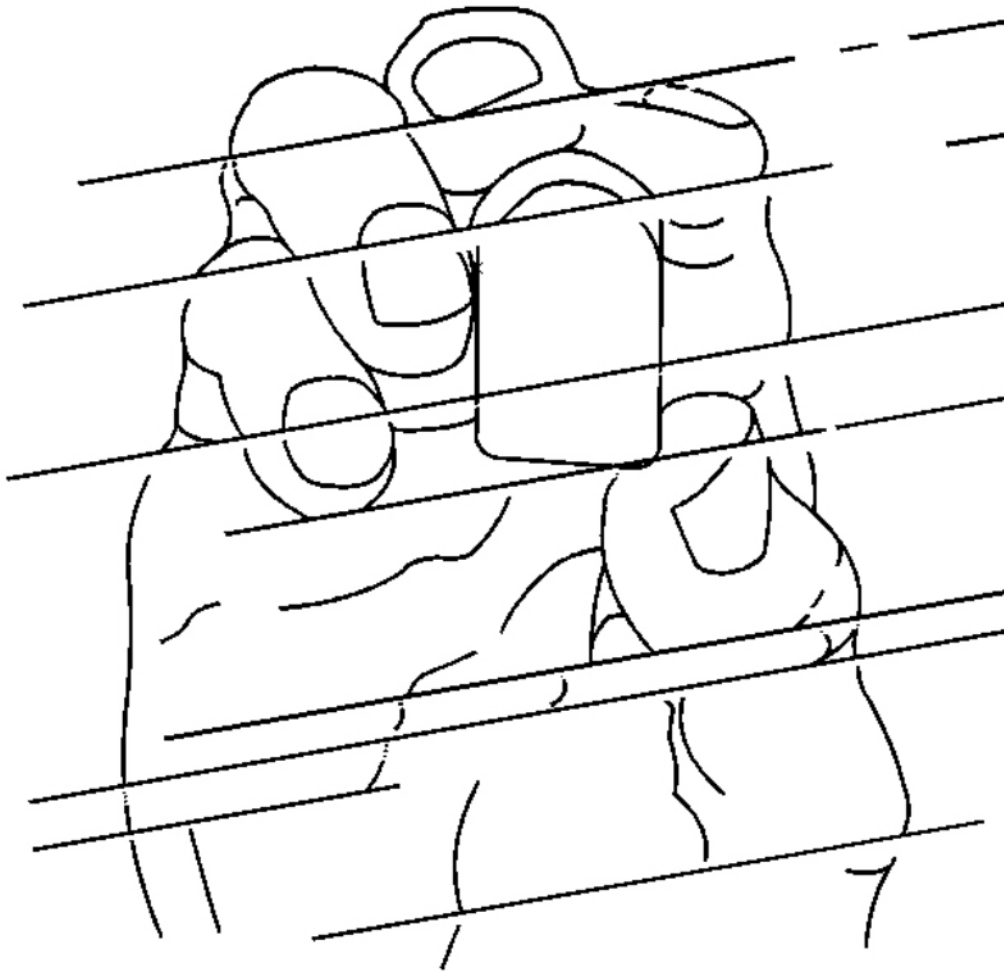


Fig. 18: Installing Mirror Mounting Base
Courtesy of GENERAL MOTORS CORP.

10. Immediately apply the mounting base to the windshield, ensuring that the mounting base aligns correctly to the marks made on the outside of the windshield.
11. Hold the mounting base firmly in place for 1 minute.
12. Allow the adhesive to set for 15 minutes before installing the rearview mirror.
13. Clean the wax pencil lines from the exterior surface of the glass.
14. Install the mirror to the mirror mounting base. Refer to **Rearview Mirror Replacement (UE1)** or **Rearview Mirror Replacement (DD7, DD8)**.

WINDSHIELD REPLACEMENT

Tools Required

- **J 24402-A** Glass Sealant Cold Knife Remover. See Special Tools and Equipment.
- **J 39032** Stationary Glass Removal Tool. See Special Tools and Equipment.
- **J 25070** Heat Gun
- Urethane Adhesive Kit GM P/N 12346392 or Equivalent
- Isopropyl Alcohol or Equivalent
- Cartridge-type Caulking Gun
- Commercial-type Utility Knife
- Razor Blade Scraper
- Suction Cups
- Plastic Paddle

Removal Procedure

IMPORTANT: 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.
2. Remove the windshield wiper arms. Refer to Wiper Arm Replacement in Wipers/Washer Systems.
3. Remove the air inlet grille. Refer to Air Inlet Grille Panel Replacement in Body Front End.

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

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

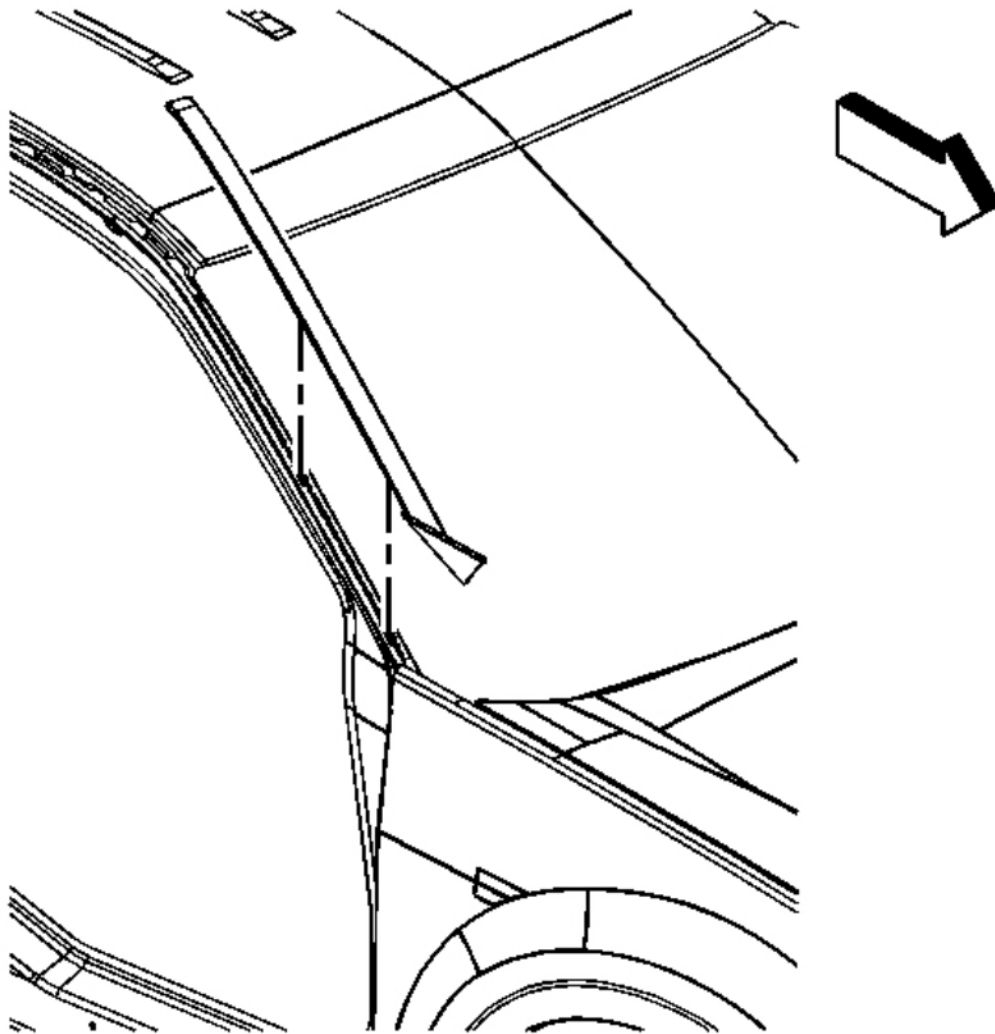


Fig. 19: View Of Windshield Side Reveal Molding
Courtesy of GENERAL MOTORS CORP.

5. Remove the windshield side reveal moldings. Refer to **Windshield Side Reveal Molding Replacement**.
6. Remove the rearview mirror. Refer to **Rearview Mirror Replacement (UE1)** or **Rearview Mirror Replacement (DD7, DD8)**.
7. Remove the interior windshield garnish moldings. Refer to **Garnish Molding Replacement - Windshield Pillar** in Interior Trim.

CAUTION: Refer to Glass and Sheet Metal Handling Caution in Cautions and Notices.

IMPORTANT: The upper windshield reveal molding is a one-piece molding and fills the cavities between the body and windshield. The upper windshield reveal molding can not be reused if the molding is stretched or damaged.

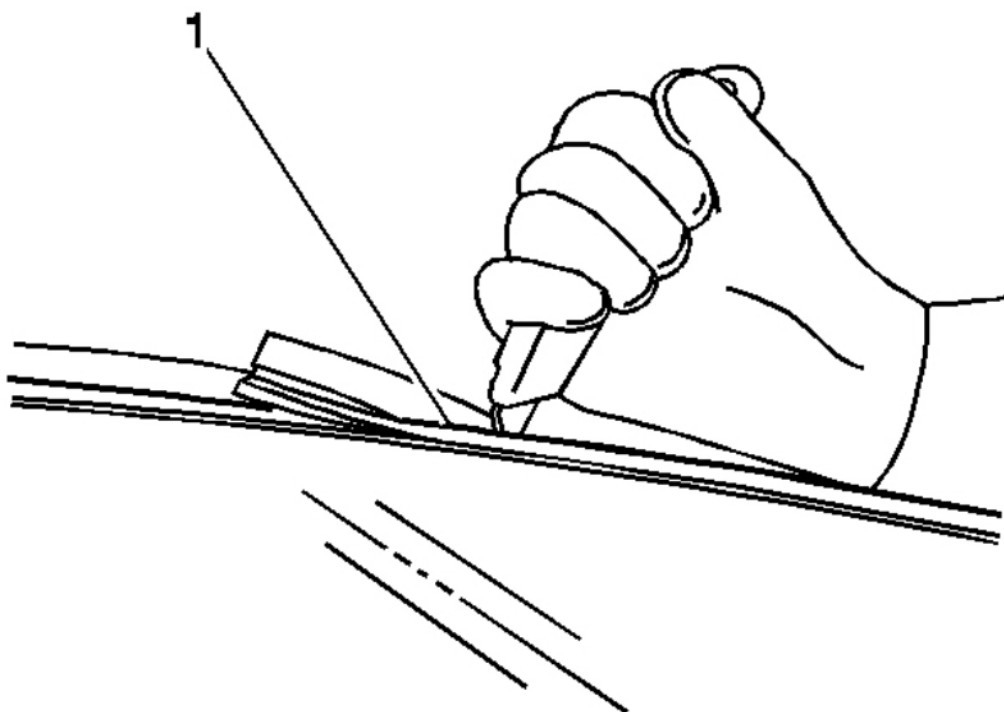


Fig. 20: Using Utility Knife To Remove Reveal Molding
Courtesy of GENERAL MOTORS CORP.

8. Using a utility knife, carefully cut the upper flap (1) of the windshield reveal molding in order to access the urethane adhesive bead.
9. Prior to cutting the urethane adhesive bead, apply 2 layers of masking tape on the body next to the windshield edge.

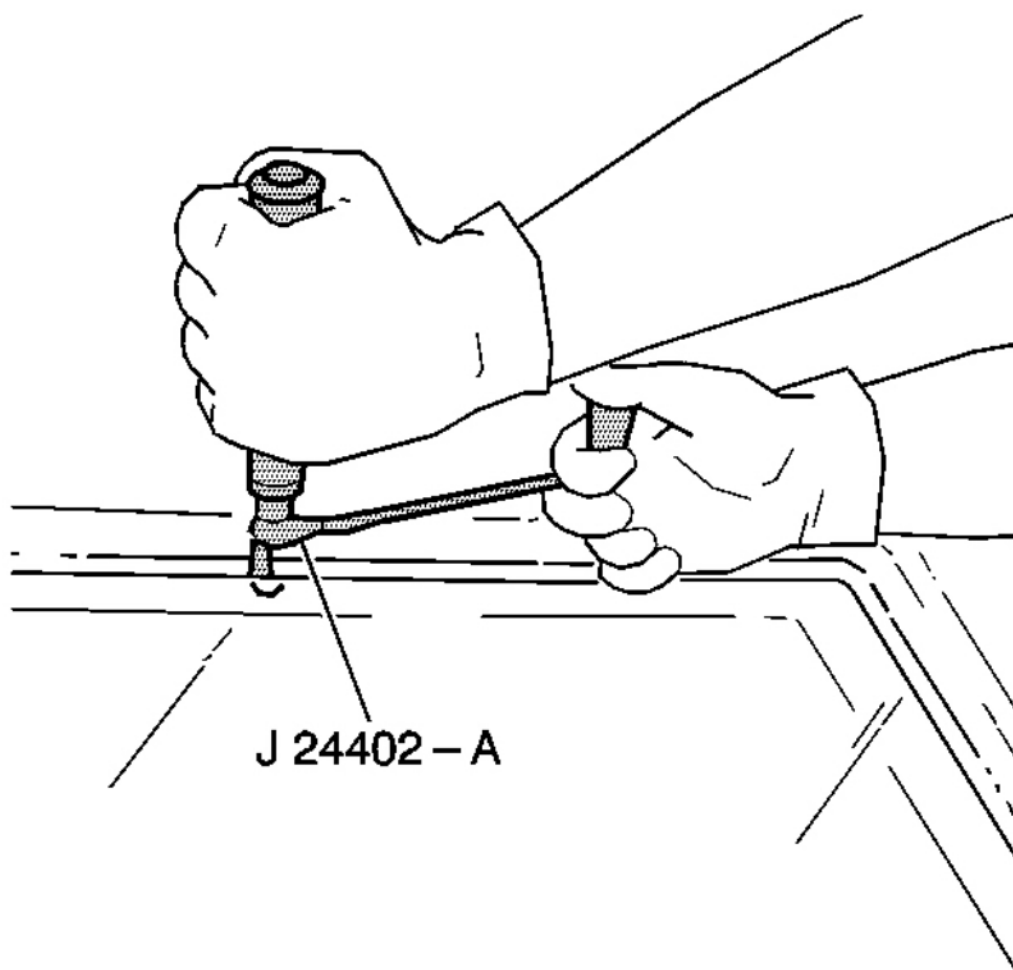


Fig. 21: Separating Urethane Adhesive From Window
Courtesy of GENERAL MOTORS CORP.

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

10. Separate the urethane adhesive from the window.
 - Leave a base of urethane on the pinchweld flange.
 - The only suitable lubrication is clean water.
 - Use **J 24402-A** , **J 39032** or equivalent in order to remove the window. See **Special Tools and Equipment**.

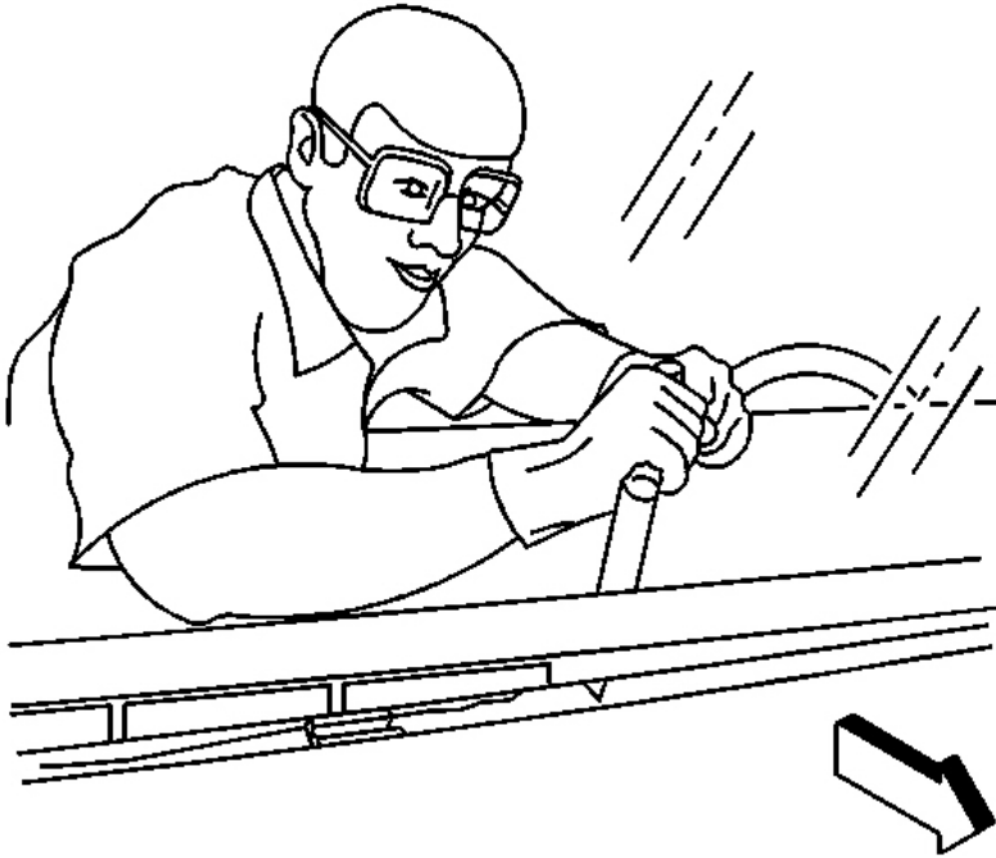


Fig. 22: Separating Bottom Of Window
Courtesy of GENERAL MOTORS CORP.

11. 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.

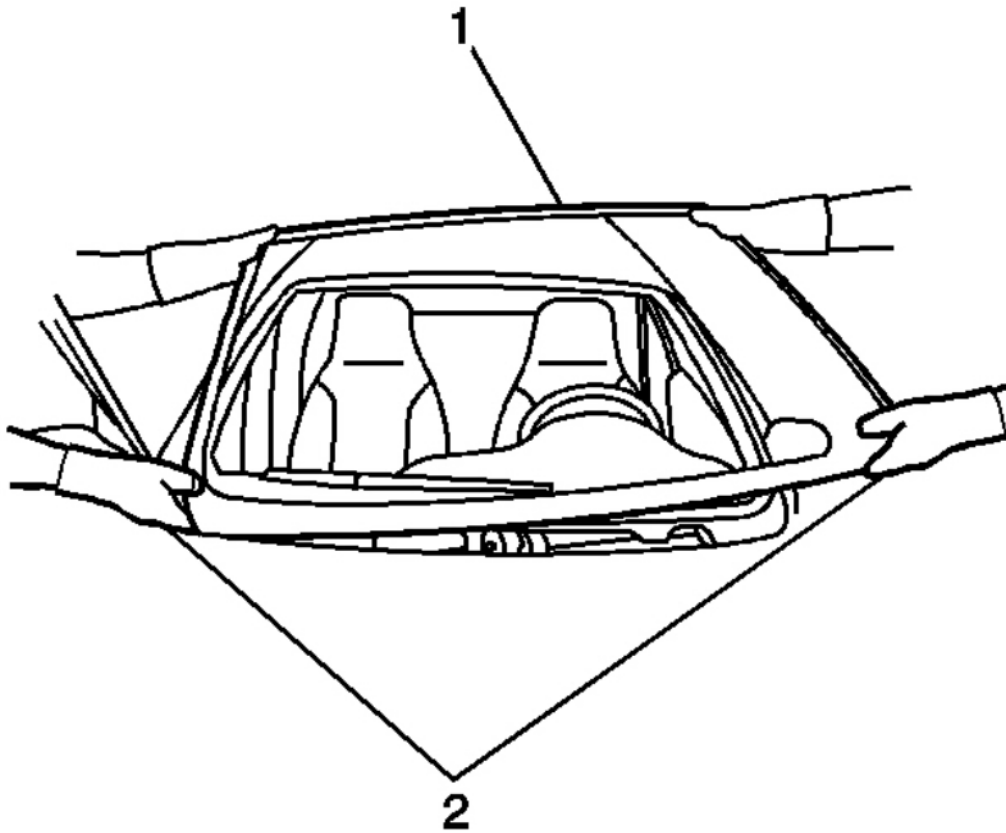


Fig. 23: Removing/Installing Windshield
Courtesy of GENERAL MOTORS CORP.

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

Installation Procedure

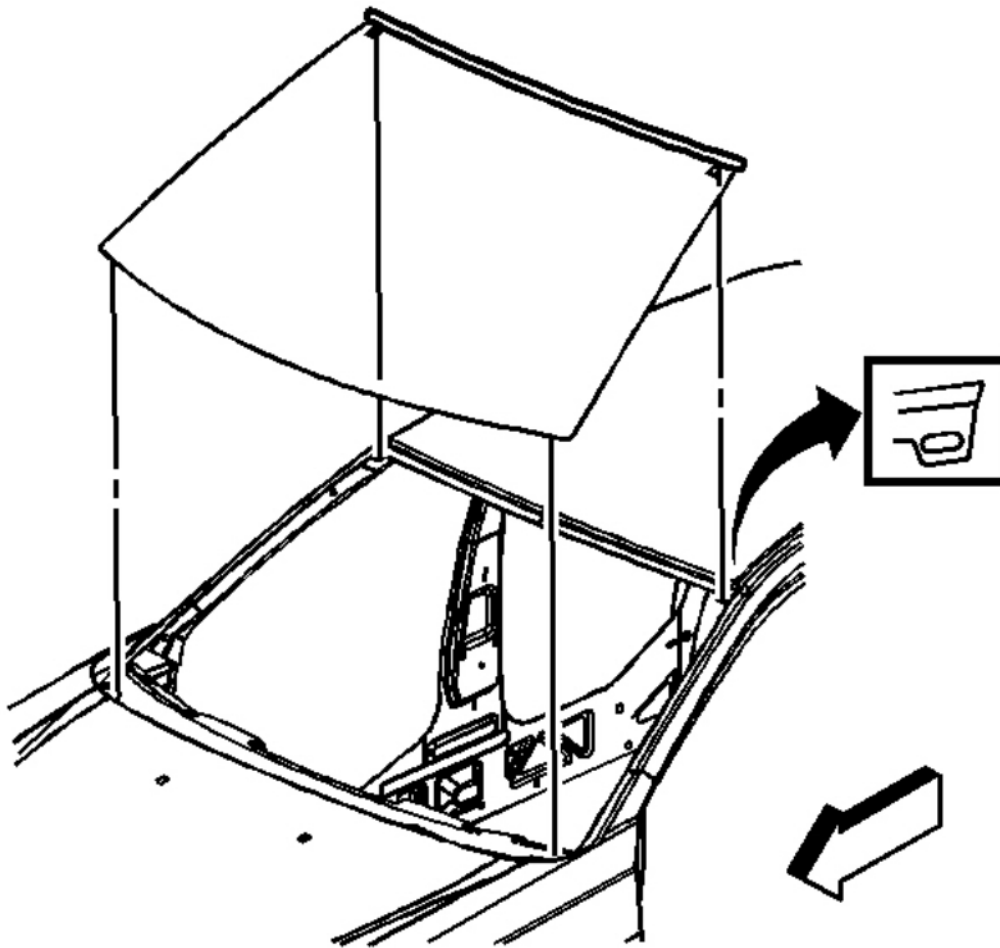


Fig. 24: Upper Sheet Metal Window Slots
Courtesy of GENERAL MOTORS CORP.

1. Position the locator pins on the window into the upper sheet metal slots in order to hold the stationary window in place in a cross-car position.

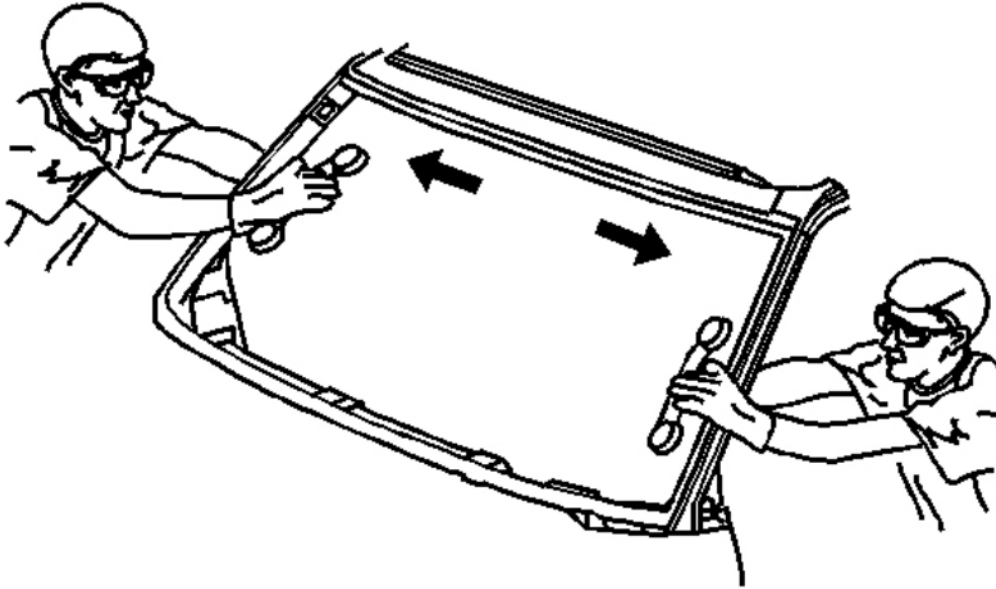


Fig. 25: Installing Windshield
Courtesy of GENERAL MOTORS CORP.

2. Install the stationary window into the opening. Refer to **Urethane Adhesive Installation of Stationary Windows.**

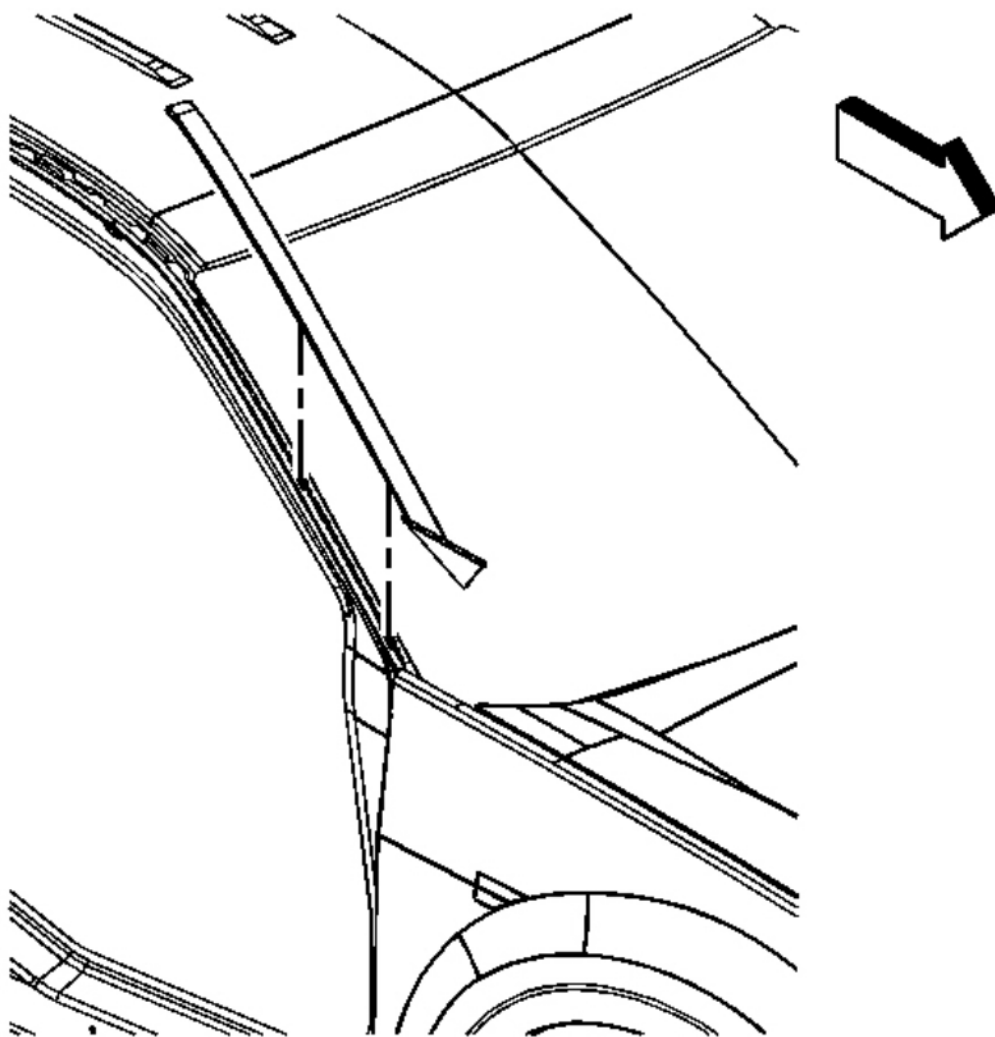


Fig. 26: View Of Windshield Side Reveal Molding
Courtesy of GENERAL MOTORS CORP.

3. Install the windshield side reveal moldings. Refer to **Windshield Side Reveal Molding Replacement**.
4. Install the rearview mirror. Refer to **Rearview Mirror Replacement (UE1)** or **Rearview Mirror Replacement (DD7, DD8)**.
5. Install the interior windshield garnish moldings. Refer to **Garnish Molding Replacement - Windshield Pillar** in Interior Trim.

6. Install the air inlet grille. Refer to **Air Inlet Grille Panel Replacement** in Body Front End.
7. Install the windshield wipers arms. Refer to **Wiper Arm Replacement** in Wipers/Washer Systems.
8. Remove the double layer of masking tape around the perimeter of the painted surfaces and the interior trim.
9. Close the hood.

QUARTER WINDOW REPLACEMENT

Tools Required

- **J 24402-A** Glass Sealant Cold Knife Remover. See **Special Tools and Equipment**.
- **J 39032** Stationary Glass Removal Tool. See **Special Tools and Equipment**.
- Urethane Adhesive Kit GM P/N 12346392 or Equivalent
- Isopropyl Alcohol or Equivalent
- Cartridge-type Caulking Gun
- Commercial-type Utility Knife
- Razor Blade Scraper
- Suction Cups
- Plastic Paddle

Removal Procedure

CAUTION: 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.

IMPORTANT: 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.

NOTE: In order to avoid damaging the antenna lead connector, follow these guidelines:

- Use a plastic tool and carefully pry the connector from the

window.

- **Do NOT pull on the connector, which may be stuck to the urethane adhesive or the headliner.**

2. Disconnect the antenna lead located on the rear quarter window, if equipped.
3. Disconnect the OnStar® connector located on the rear quarter window, if equipped.

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

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

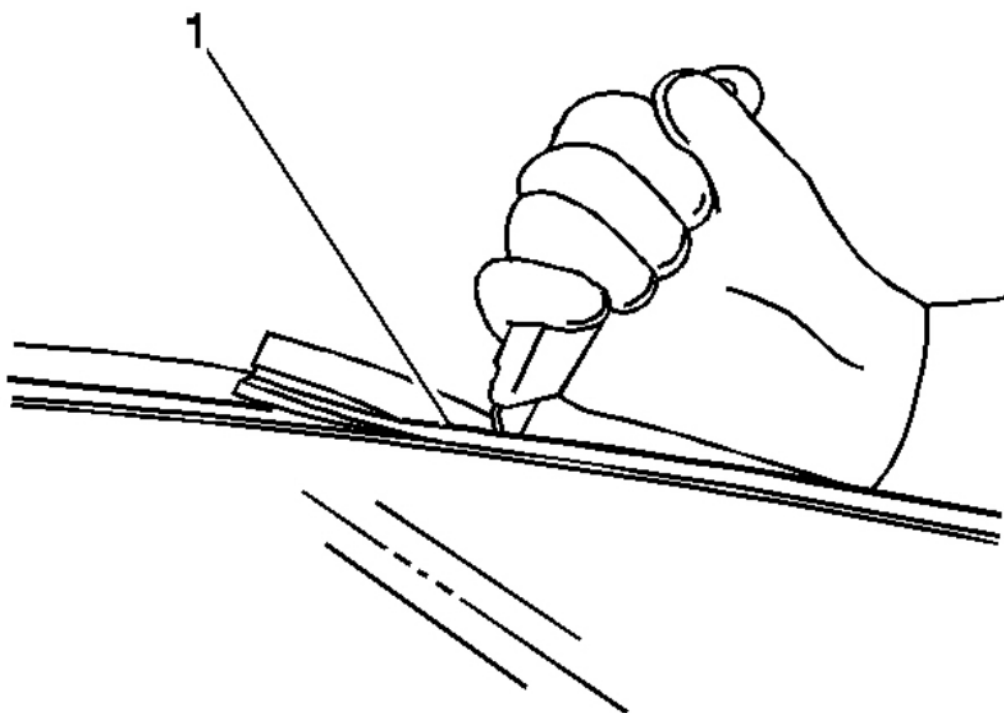


Fig. 27: Using Utility Knife To Remove Reveal Molding
Courtesy of GENERAL MOTORS CORP.

CAUTION: 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.

5. Remove the quarter window reveal molding using a utility knife to cut around the window.

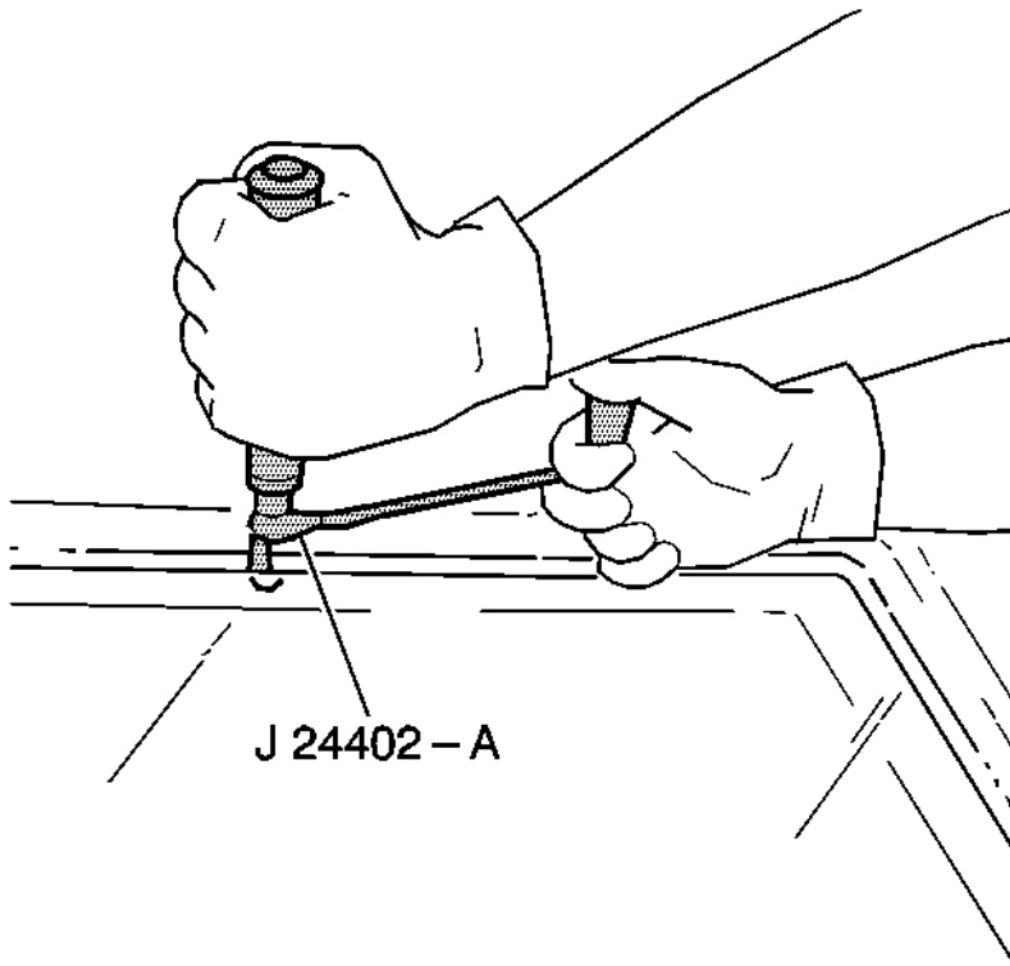


Fig. 28: Separating Urethane Adhesive From Window

Courtesy of GENERAL MOTORS CORP.

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

6. Separate the urethane adhesive 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. See **Special Tools and Equipment**.

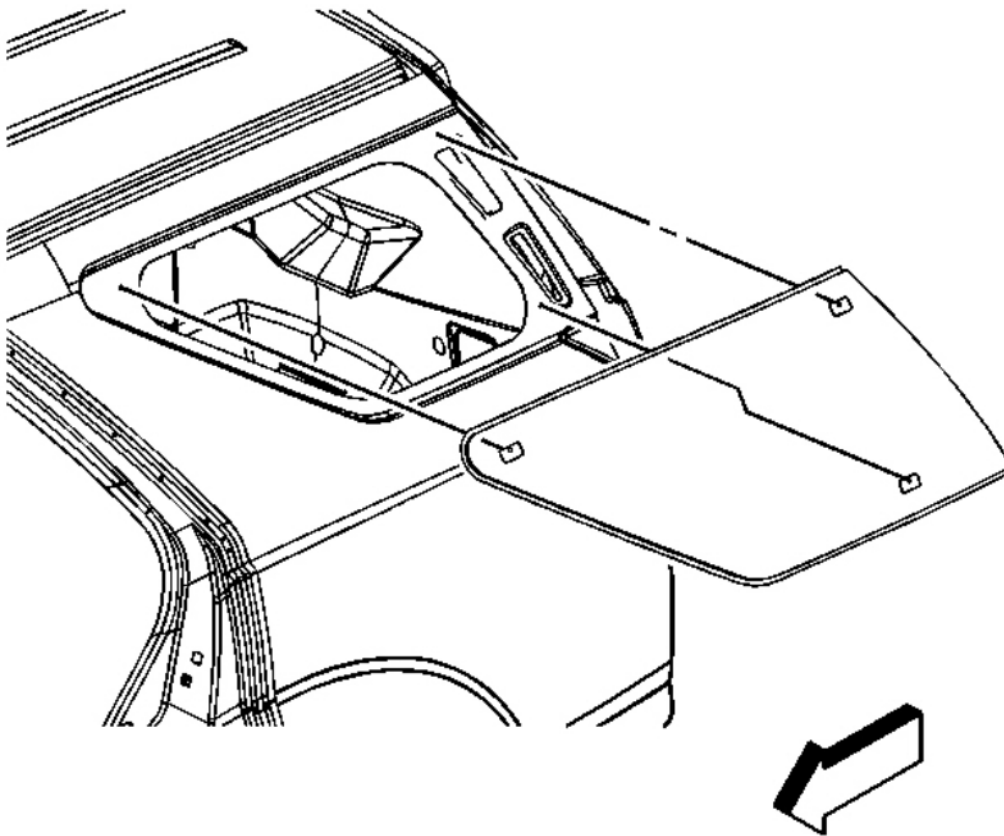


Fig. 29: View Of Quarter Window
Courtesy of GENERAL MOTORS CORP.

7. With the aid of an assistant, remove the stationary window from the pinchweld flange.

Installation Procedure

1. Install a stationary window into the opening. Refer to **Urethane Adhesive Installation of Bodyside Stationary Windows**.
2. Connect the antenna lead located on the rear quarter window.
3. Connect the OnStar® connector located on the rear quarter window.
4. Remove the double layer of masking tape around the perimeter of the painted surfaces and the interior trim.
5. Test the radio and the OnStar® system to verify reception.
6. Close the liftgate.

URETHANE ADHESIVE INSTALLATION OF STATIONARY WINDOWS

CAUTION: Refer to Glass and Sheet Metal Handling Caution in Cautions and Notices.

IMPORTANT: Remove all but approximately 2 mm (3/64 in) of the existing bead of urethane adhesive from the pinchweld flange.

1. Remove all mounds or loose pieces of urethane adhesive from the pinchweld area.
2. If the original window is being reused, remove all but a thin film of the existing urethane adhesive from the window surface by using a clean utility knife or razor blade scraper.
3. Inspect the following components for the causes of a broken window:
 - The flange of the window opening
 - The window reveal molding
4. Inspect for any of the following problems in order to help prevent future breakage of the window:
 - High weld
 - Solder spots
 - Hardened sealer
 - Any other obstruction or irregularity in the pinchweld flange

IMPORTANT: 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 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:
 1. Remove all traces of broken glass from the outer cowl panel, seats, floor and defroster ducts.
 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.

CAUTION: When replacing stationary windows, use Urethane Adhesive Kit GM P/N 12346392 (Canadian P/N 10952983), or a urethane adhesive system meeting GM Specification GM3651G, to maintain original installation integrity. Failure to use the urethane adhesive kit will result in poor retention of the window which may allow unrestrained occupants to be ejected from the vehicle resulting in personal injury.

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

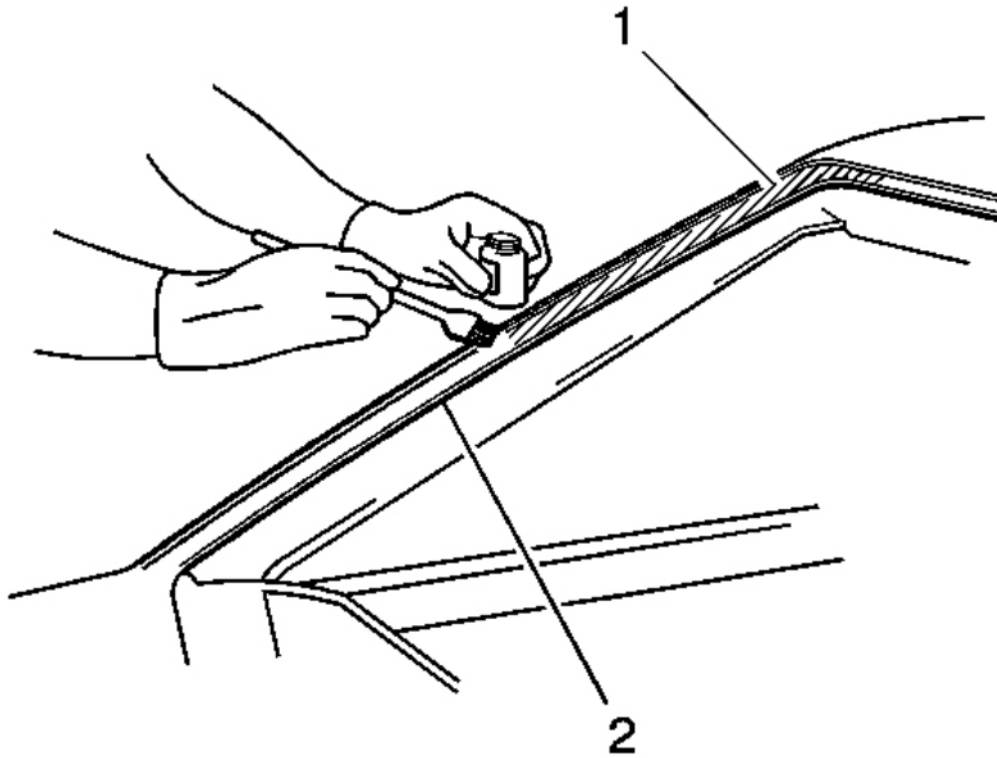


Fig. 30: Applying Pinch-Weld Primer
Courtesy of GENERAL MOTORS CORP.

CAUTION: 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.

IMPORTANT: 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.

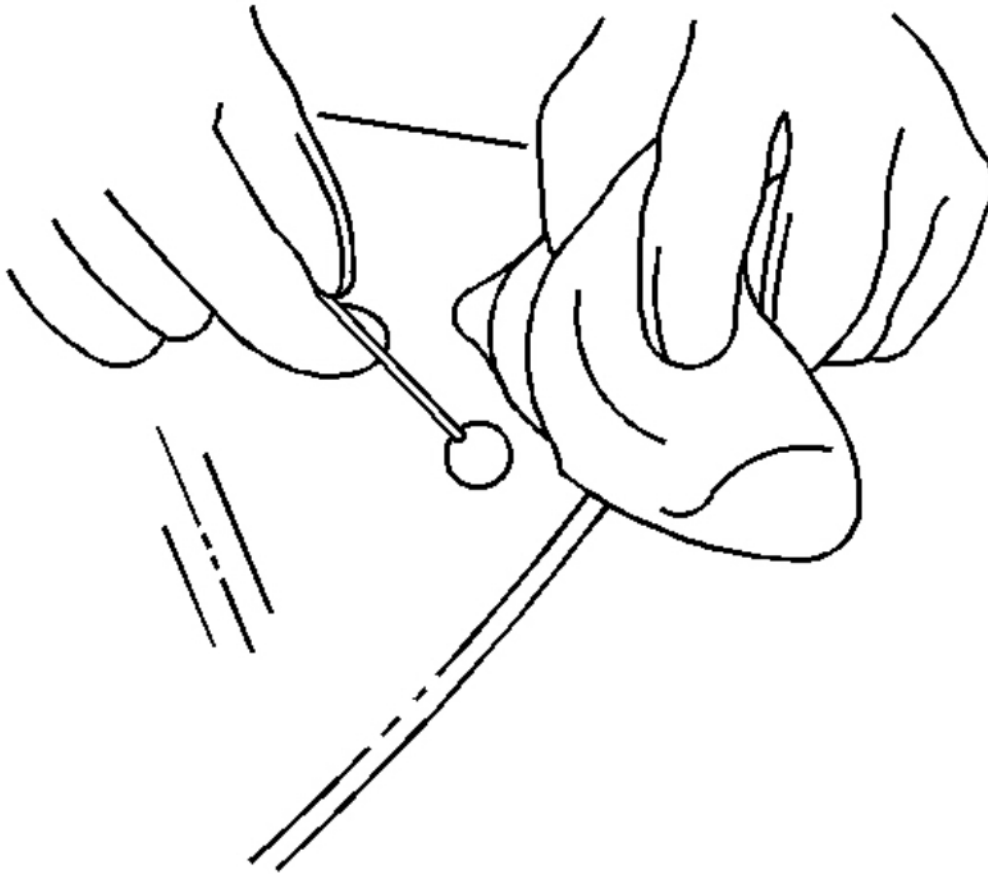


Fig. 31: Applying Glass Prep
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: 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.

10. 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.

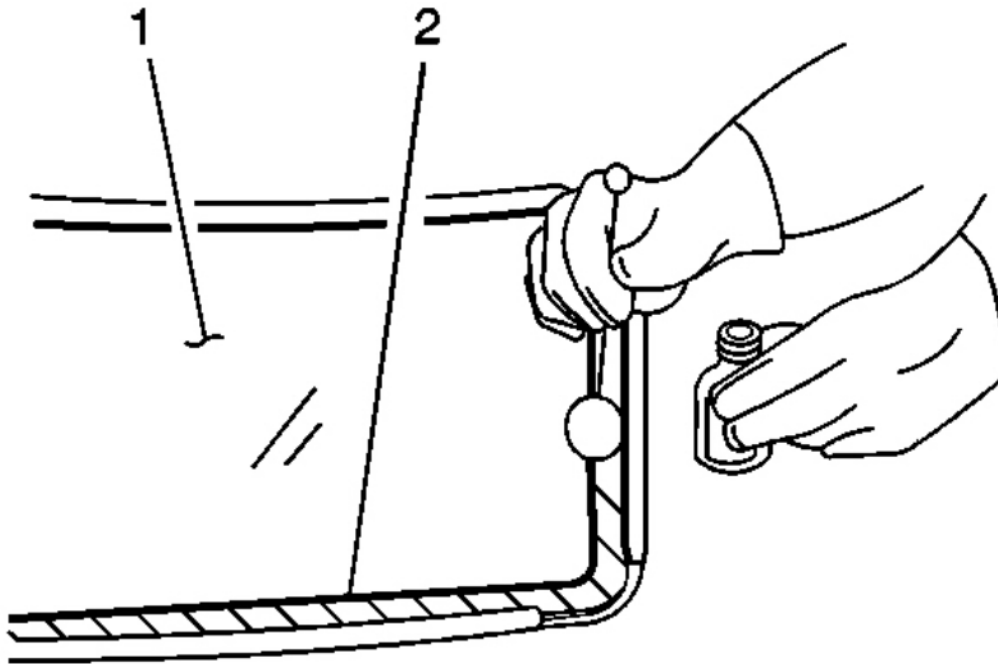


Fig. 32: Applying Glass Primer
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: 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.

11. Shake the glass primer black #2 for at least 1 minute.
12. 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.
13. Allow the glass primer to dry for approximately 10 minutes.

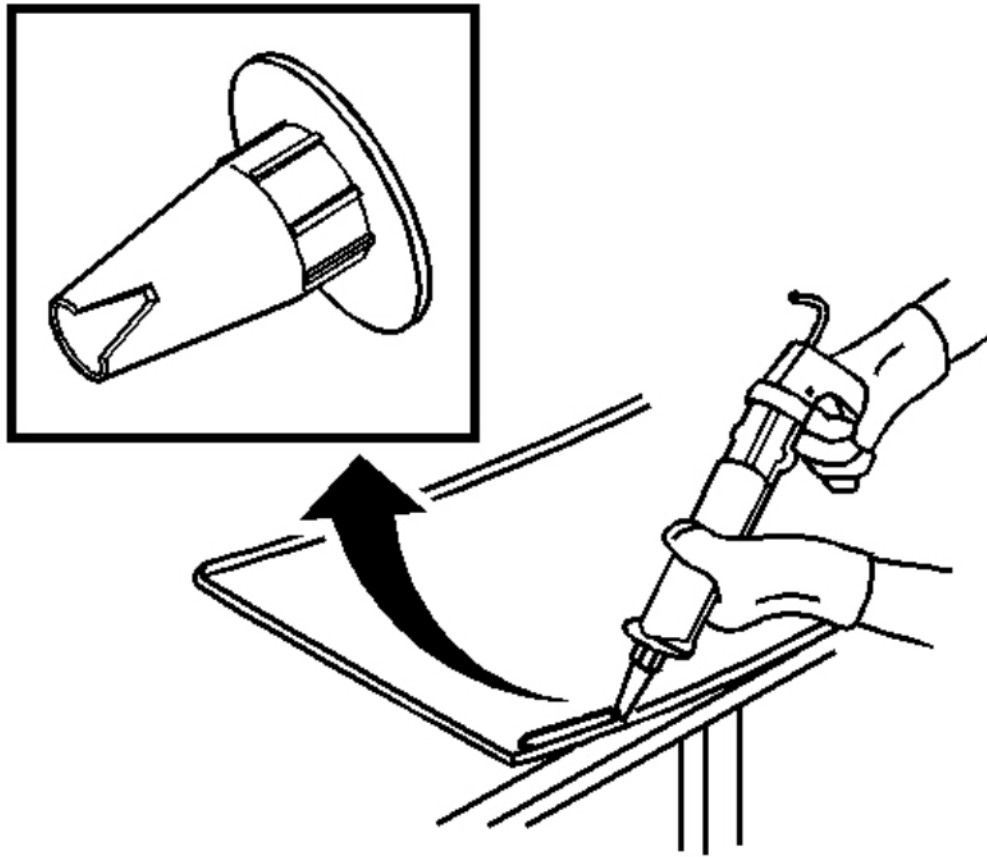


Fig. 33: View Of Cut Applicator Nozzle
Courtesy of GENERAL MOTORS CORP.

14. Cut the applicator nozzle as indicated in order to provide a minimum bead size of 8 mm (3/8 in) wide and 14 mm (5/8 in) high.

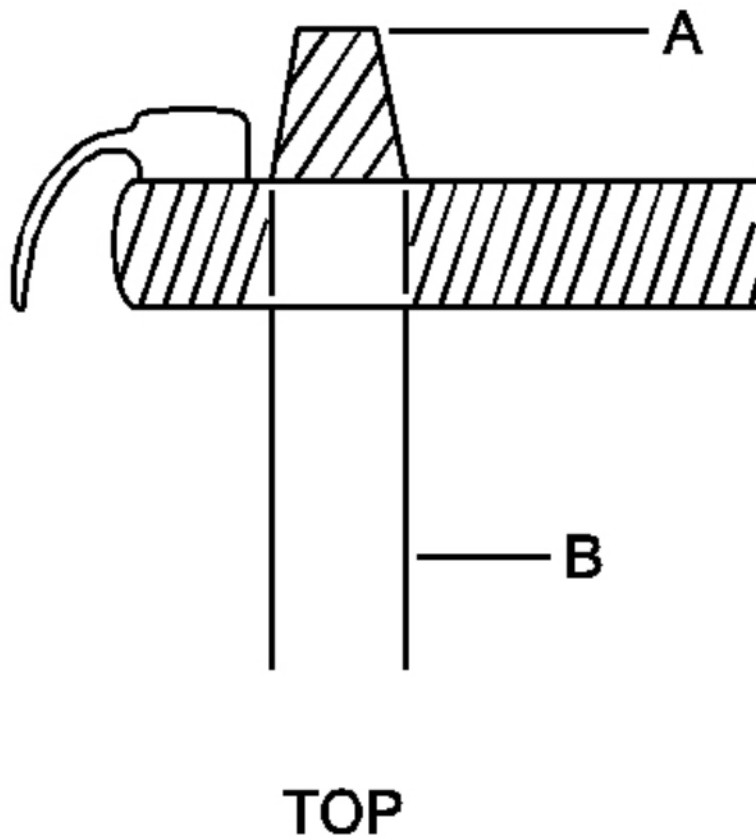


Fig. 34: View Of Urethane Adhesive Bead Uniformity
Courtesy of GENERAL MOTORS CORP.

15. The urethane adhesive bead must maintain a consistent height (A) and width (B) uniformity.

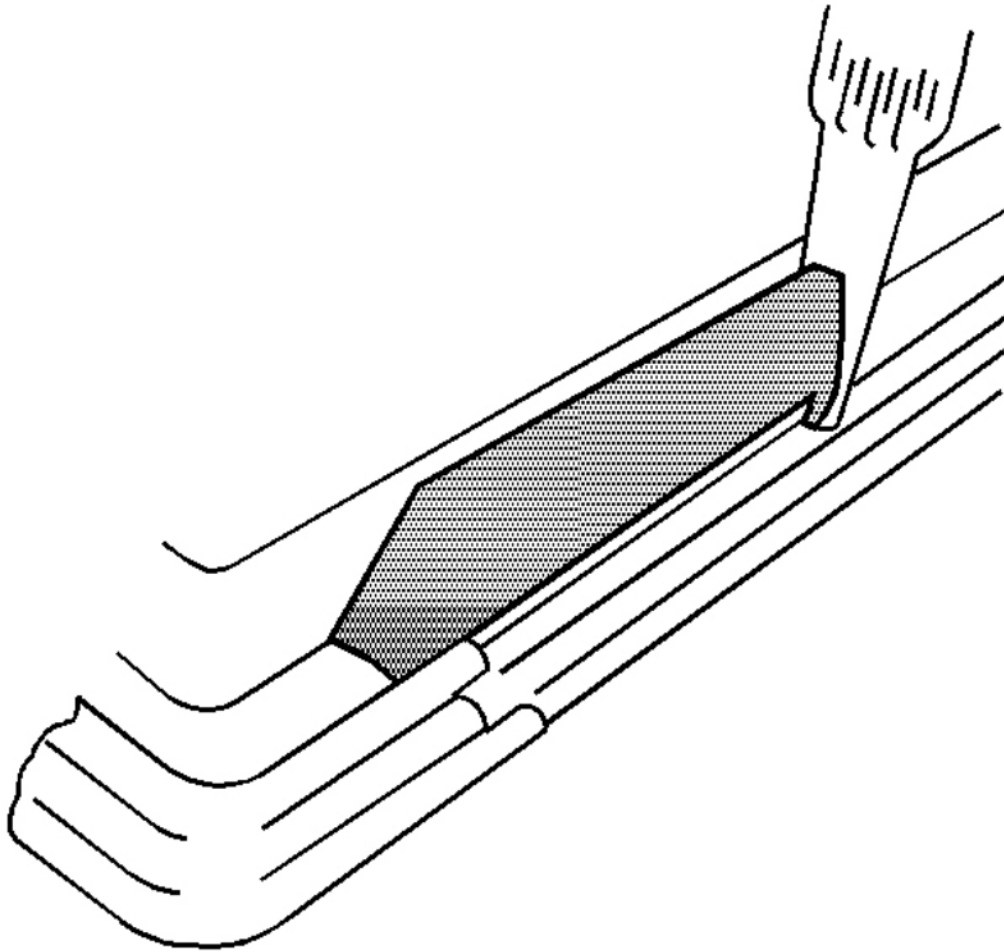


Fig. 35: Applying Urethane Adhesive
Courtesy of GENERAL MOTORS CORP.

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

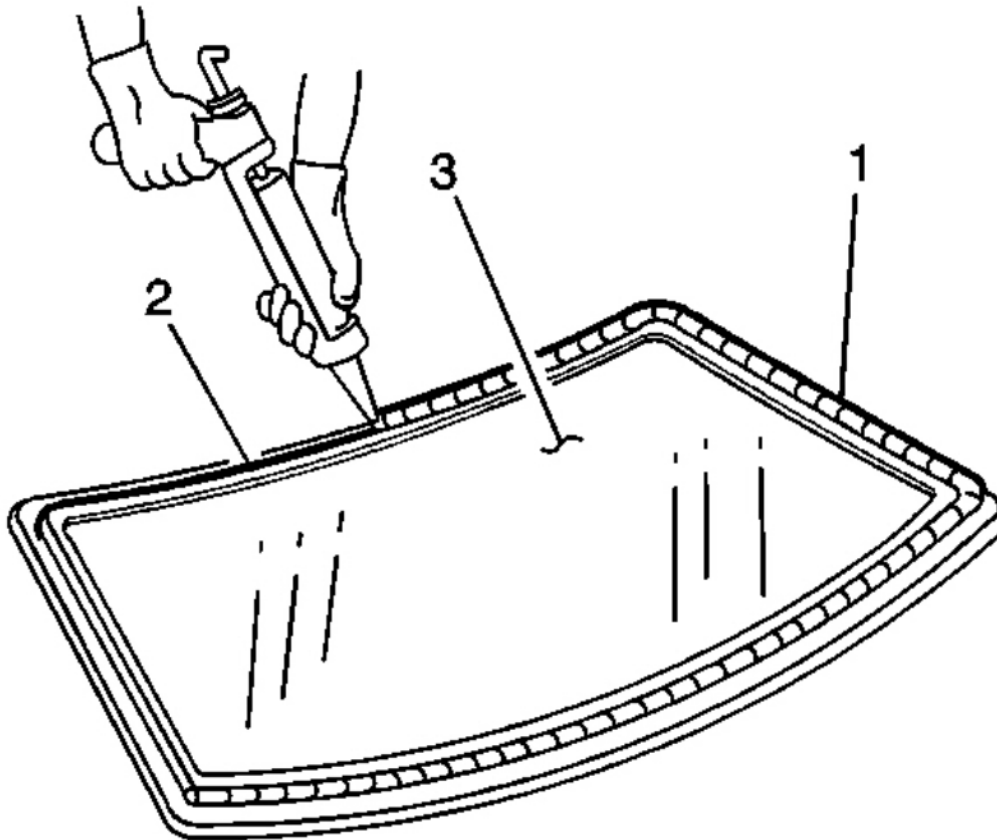


Fig. 36: Applying Urethane Adhesive To Inner Surface Of Window
Courtesy of GENERAL MOTORS CORP.

17. 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).

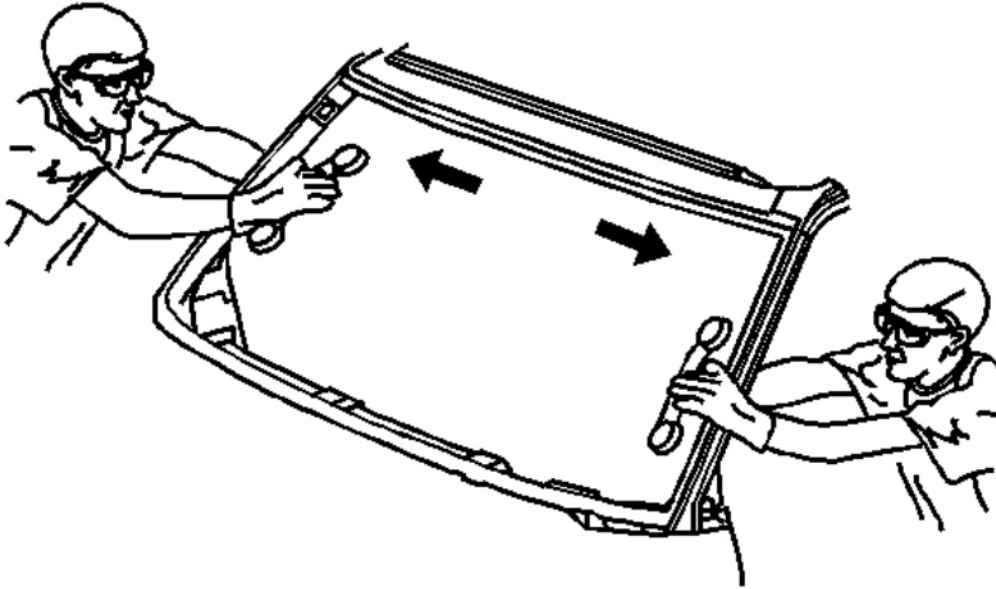


Fig. 37: Installing Windshield
Courtesy of GENERAL MOTORS CORP.

18. With the aid of an assistant, place the window into the opening while positioning the locator pins to the body.
19. Center the front window between the six rubber bumpers located on the side reveal molding retainer clips.

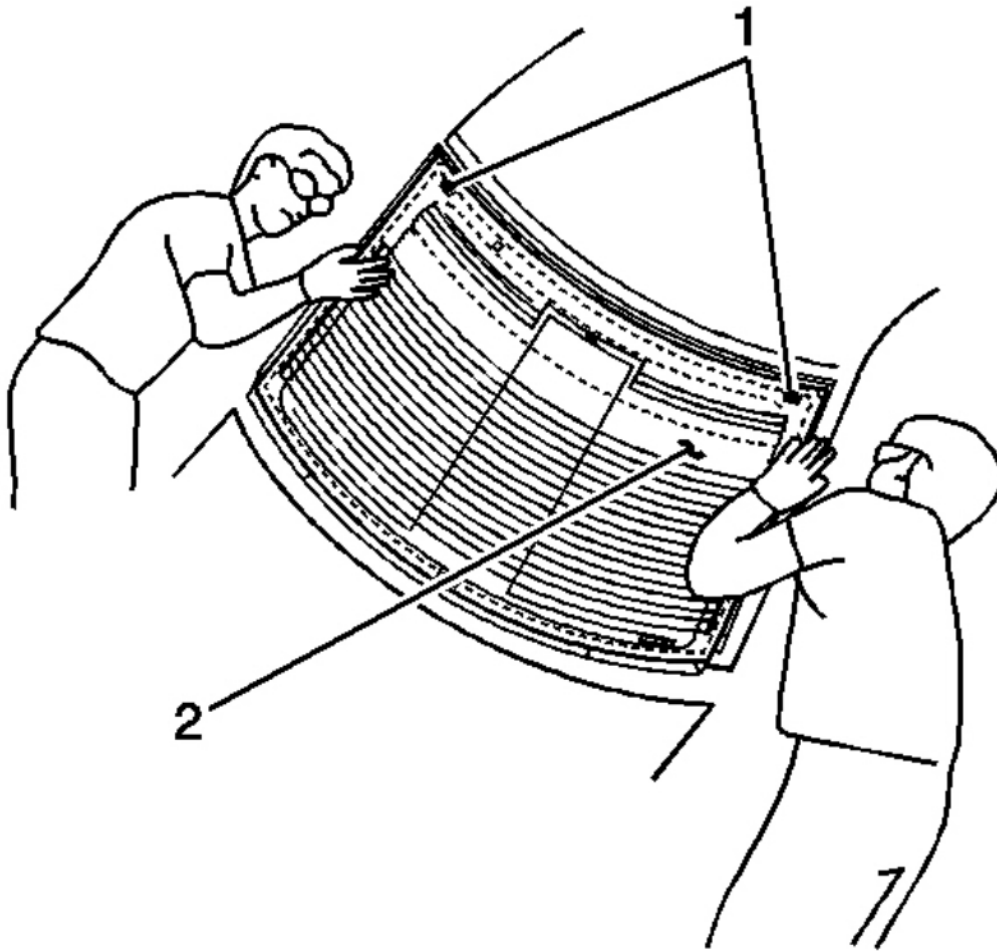


Fig. 38: Installing Rear Window
Courtesy of GENERAL MOTORS CORP.

20. With the aid of an assistant, place the rear window into the opening while positioning the locator pins (1) to the body.
21. Center the rear window (2) into the opening.

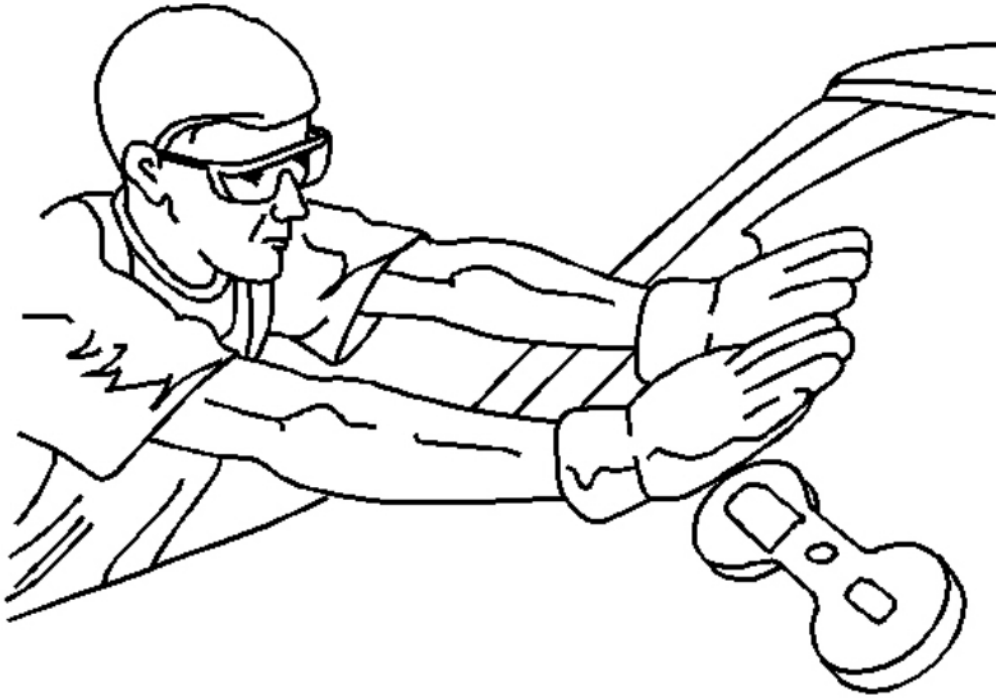


Fig. 39: Pressing Window Into Place
Courtesy of GENERAL MOTORS CORP.

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

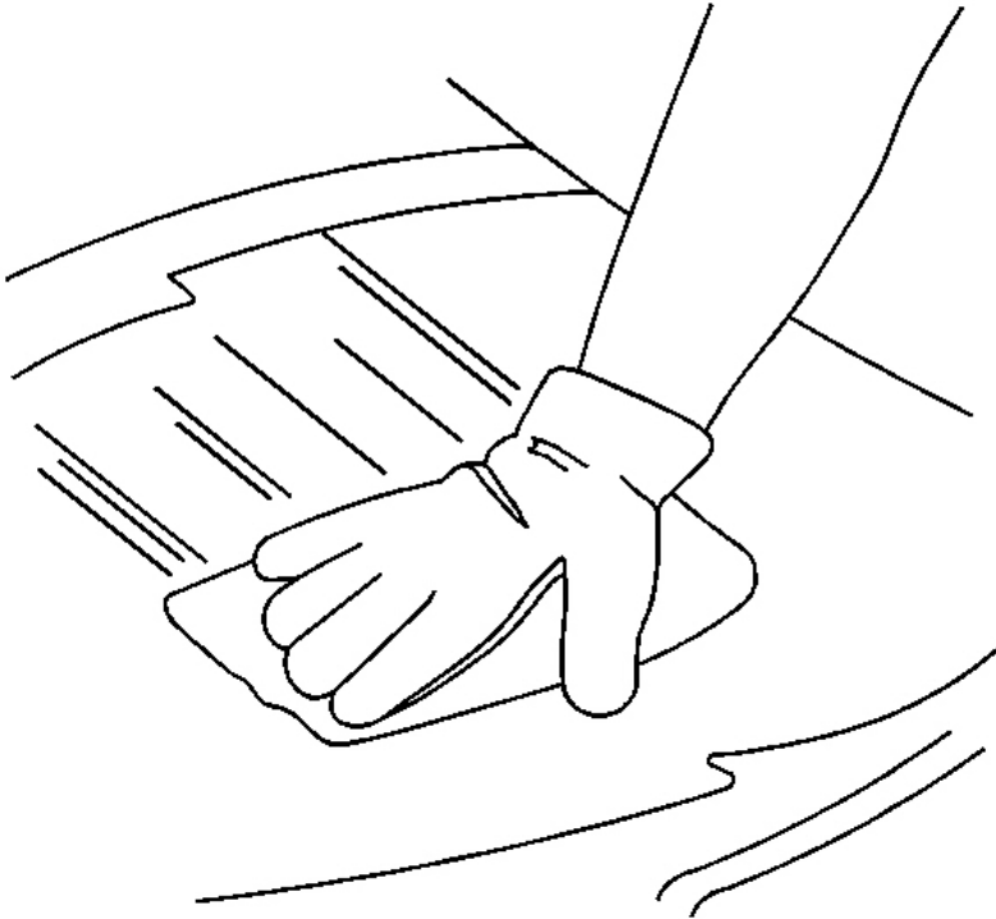


Fig. 40: Cleaning Window

Courtesy of GENERAL MOTORS CORP.

23. Clean any excess urethane adhesive from the body using VM&P Naptha.
24. Clean any excess urethane adhesive from the interior trim using acrysol.

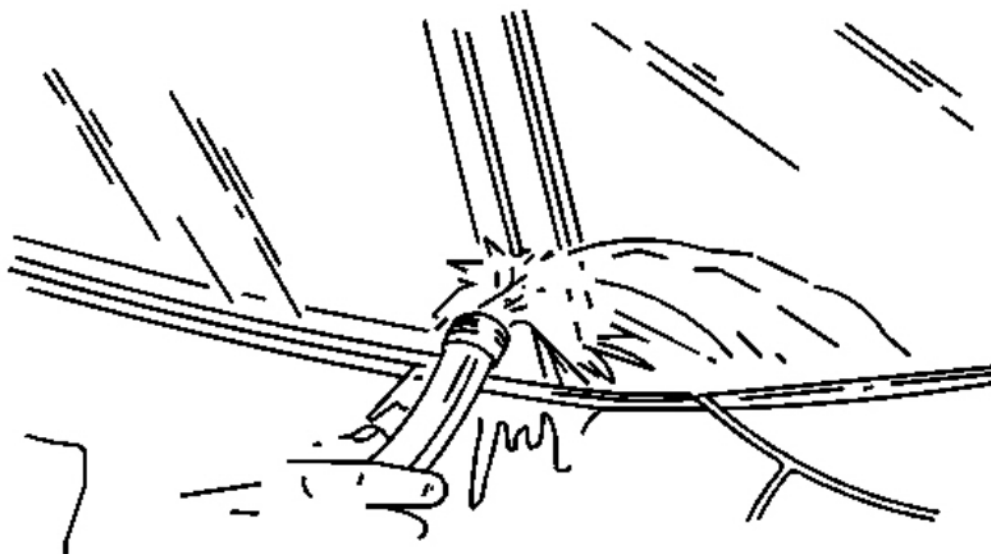


Fig. 41: Performing Water Hose Test
Courtesy of GENERAL MOTORS CORP.

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

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

CAUTION: 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.

29. 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.
30. Complete the window installation.

URETHANE ADHESIVE INSTALLATION OF BODYSIDE STATIONARY WINDOWS

CAUTION: Refer to Glass and Sheet Metal Handling Caution in Cautions and Notices.

IMPORTANT: Remove all but approximately 2 mm (0.078 in) of the existing bead of urethane adhesive from the pinch-weld flange.

1. Remove all mounds or loose pieces of urethane adhesive from the pinch-weld area.
2. If the original window is being reused, remove all but a thin film of the existing urethane adhesive from the window surface by using a clean utility knife or razor blade scraper.
3. Inspect the pinch-weld flange area for the cause of a broken window.
4. Inspect for any of the following problems 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

IMPORTANT: 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 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:
 1. Remove all traces of broken glass from the seats, floor and/or defroster ducts, if applicable.
 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.
 3. Allow the isopropyl alcohol to dry completely before applying the primers.

CAUTION: When replacing stationary windows, use Urethane Adhesive Kit GM P/N 12346392 (Canadian P/N 10952983), or a urethane adhesive system meeting GM Specification GM3651G, to maintain original installation integrity. Failure to use the urethane adhesive kit will result in poor retention of the window which 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.

CAUTION: 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.

IMPORTANT: 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 black #3 primer 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.

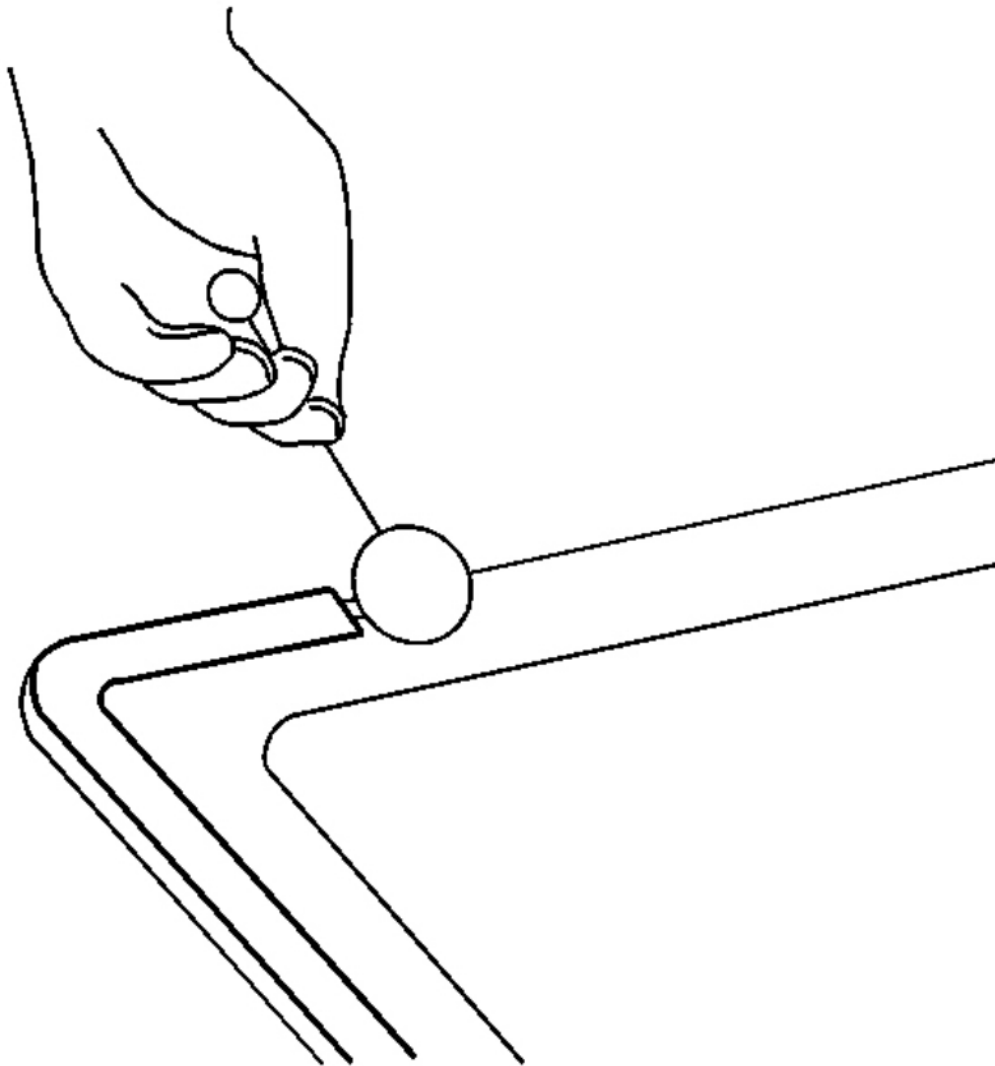


Fig. 42: Applying Glass Prep
Courtesy of GENERAL MOTORS CORP.

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

10. Use a new dauber in order to apply clear #1 glass prep 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.

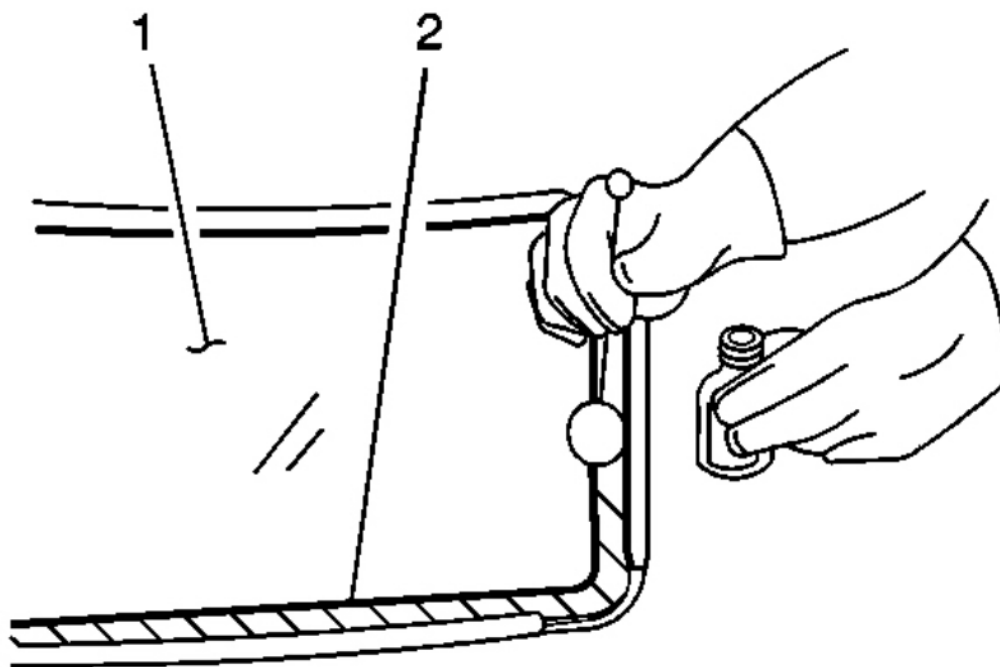


Fig. 43: Applying Glass Primer
Courtesy of GENERAL MOTORS CORP.

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

11. Shake the black #2 glass primer for at least 1 minute.
12. Use a new dauber in order to apply the black #2 glass primer to the same areas (2) that the

clear #1 glass prep was applied.

13. Allow the glass primer to dry for approximately 10 minutes.

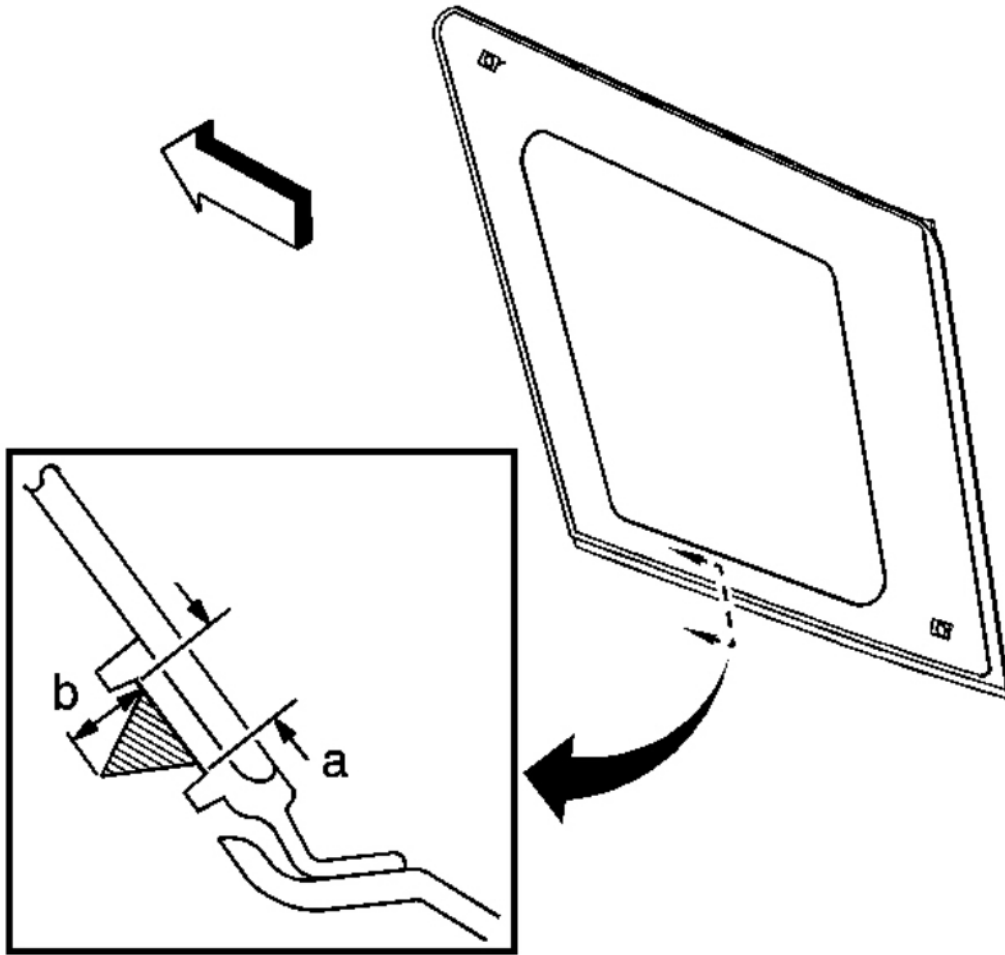


Fig. 44: Applying Quarter Window Adhesive
Courtesy of GENERAL MOTORS CORP.

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

14. When applying around the radius edges of the window, 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.

15. Cut the applicator nozzle in order to provide a minimum bead of (b) 8 mm (0.32 in) wide and (c) 14 mm (0.55 in) high.

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

16. Use a cartridge-type caulking gun in order to apply a smooth, continuous bead of urethane adhesive.
17. Use the specifications as listed above to guide for the nozzle in order to apply the urethane adhesive to the inner surface of the window.

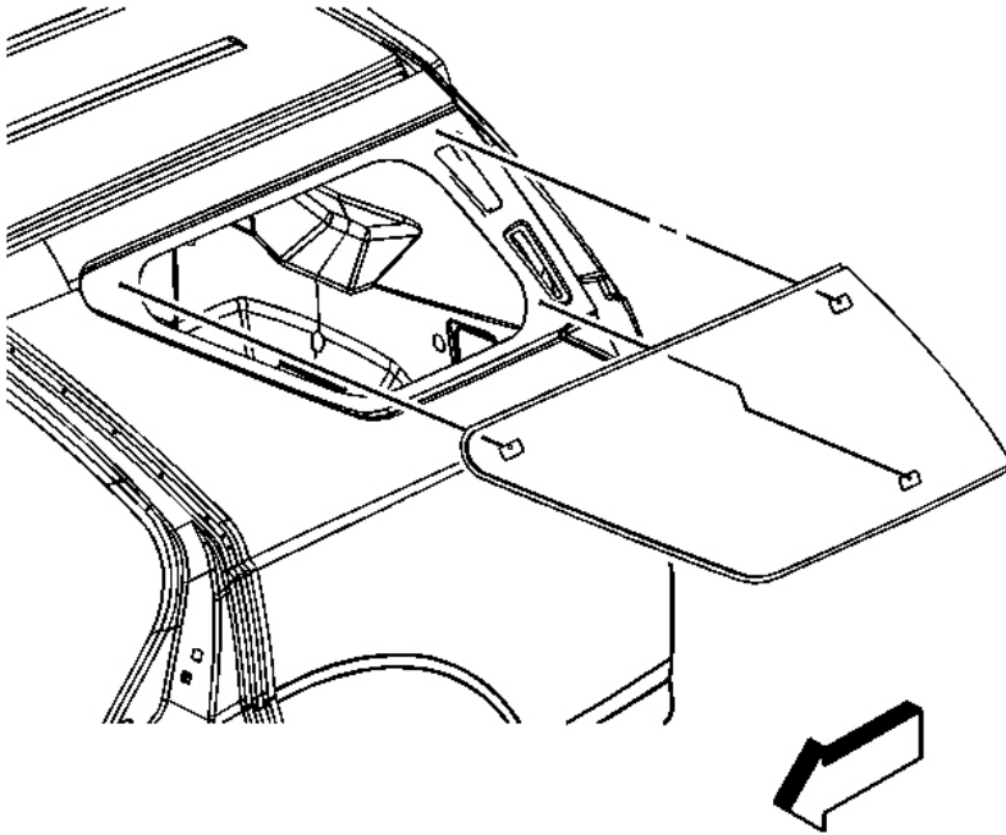


Fig. 45: View Of Quarter Window
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: Install the glass to the opening within 5 minutes after the urethane adhesive is applied.

18. Position the window into the opening using the alignment pins.
19. Press around the entire perimeter of the glass edge in order to wet-out the urethane adhesive bead.
20. Tape the window to the body side in order to minimize movement until the urethane adhesive cures.

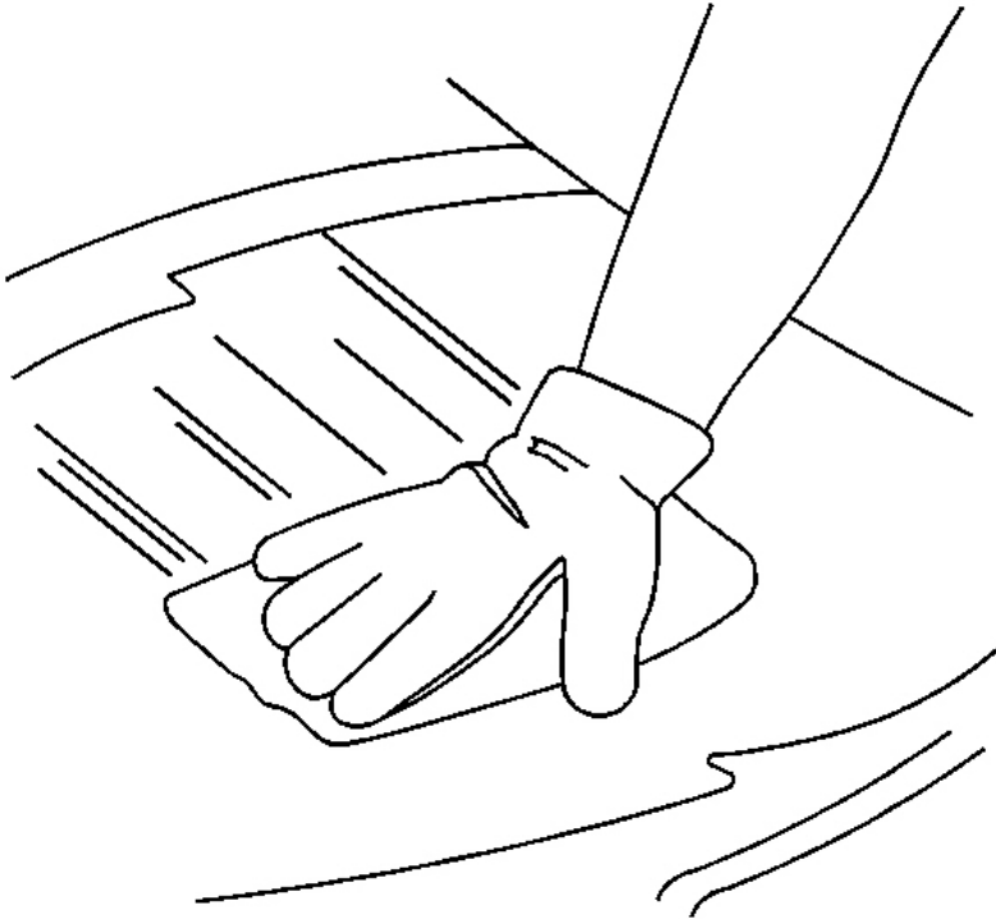


Fig. 46: Cleaning Window
Courtesy of GENERAL MOTORS CORP.

21. Clean any excess urethane adhesive from the body by using VMP Naptha.
22. Clean any excess urethane adhesive from the interior trim by using Acrysol.

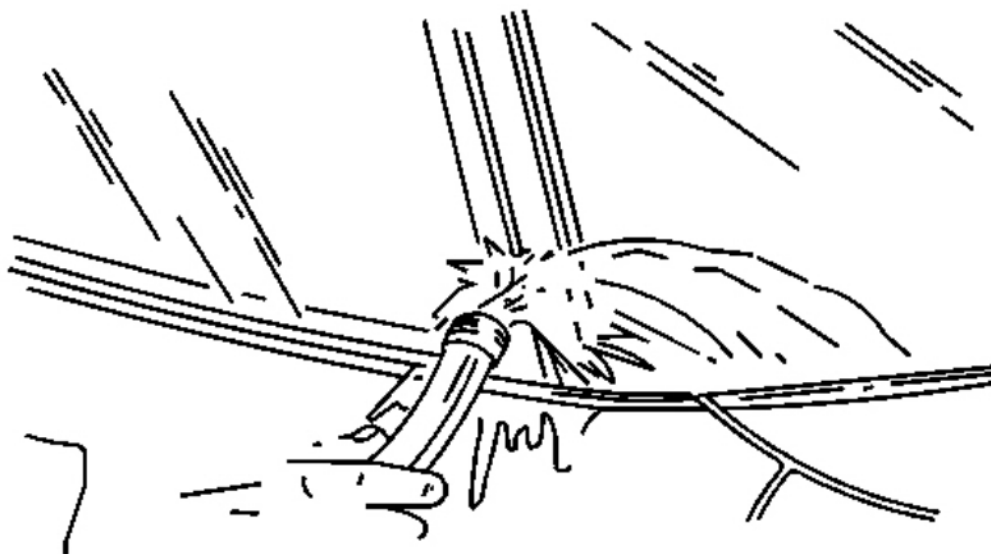


Fig. 47: Performing Water Hose Test
Courtesy of GENERAL MOTORS CORP.

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

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

CAUTION: 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.

27. 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.

WINDOW REPLACEMENT - LIFTGATE

Tools Required

- **J 24402-A** Glass Sealant Cold Knife Remover. See **Special Tools and Equipment**.
- **J 39032** Stationary Glass Removal Tool. See **Special Tools and Equipment**.
- Urethane Adhesive Kit GM P/N 12346392 or Equivalent
- Isopropyl Alcohol or Equivalent
- Cartridge-type Caulking Gun
- Commercial-type Utility Knife
- Razor Blade Scraper
- Suction Cups
- Plastic Paddle

Removal Procedure

CAUTION: 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.

IMPORTANT: Before cutting out a stationary window, apply a double layer

of masking tape around the perimeter of the painted surfaces and inner trim.

1. Open the liftgate.
2. Remove the liftgate trim panel. Refer to **Trim Panel Replacement - Liftgate** in Body Rear End.
3. Remove the rear wiper motor. Refer to **Wiper Motor Replacement - Liftgate** in Wipers/Washer Systems.
4. Disconnect the rear window defogger connector.

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

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

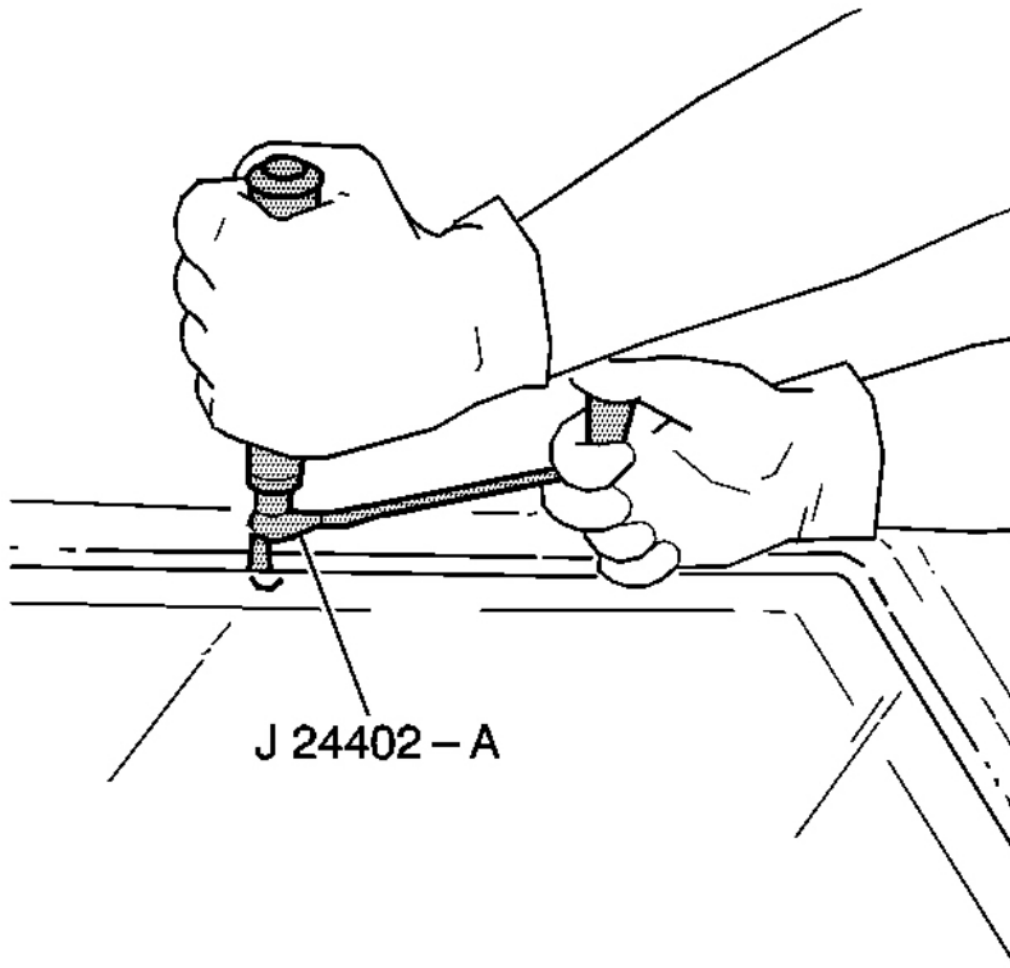


Fig. 48: Separating Urethane Adhesive From Window
Courtesy of GENERAL MOTORS CORP.

CAUTION: Refer to Glass and Sheet Metal Handling Caution in Cautions and Notices.

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

6. Separate the urethane adhesive 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. See **Special Tools and Equipment**.

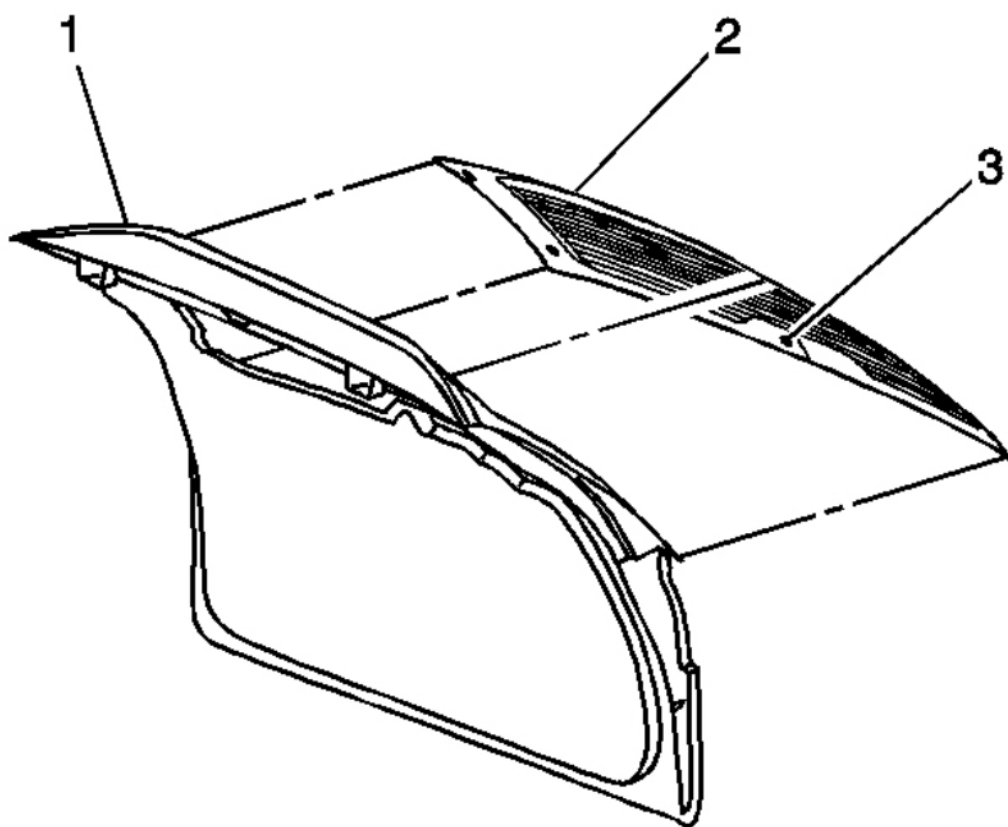


Fig. 49: Removing Liftgate Window
Courtesy of GENERAL MOTORS CORP.

7. With the aid of an assistant, use the suction cups in order to lift the liftgate window (2) from the opening.

Installation Procedure

1. Install the stationary window into the opening. Refer to **Urethane Adhesive Installation of Stationary Windows**.

2. Reconnect the rear window defogger connector.
3. Install the wiper motor. Refer to **Wiper Motor Replacement - Liftgate** in Wipers/Washer Systems.
4. Install the liftgate trim panel. Refer to **Trim Panel Replacement - Liftgate** in Interior Trim.
5. Close the liftgate.
6. Remove the double layer of masking tape around the perimeter of the painted surfaces and the interior trim.

DESCRIPTION AND OPERATION

ADHESIVE SERVICE KIT DESCRIPTION

The GM of Canada Adhesive Caulking Kit, P/N 10952983, contains the following items:

- Four different primers
- A tube of urethane adhesive with a nozzle
- Four daubers
- Instructions with warnings

Use the urethane adhesive caulking kit for replacement of any urethane adhesive-installed window using the full cut method.

In the United States or Canada, you may use any of the following equivalent urethane adhesive systems which meet GM Specification GM 3651G:

- Dow Automotive - Essex 400HV. One part and requires associated primers.
- Dow Automotive - Essex U216. Two part and requires associated primers.

Call Dow Automotive at 1-800-453-3779 for more information.

- 3M™ "Fast Cure" Auto Glass Urethane. One part and requires associated primers.

Call 3M™ at 1-877-666-2277 for more information.

Use these materials based on specific manufacturer. Do NOT intermix primers or adhesives from one manufacturer to another.

Always follow the system manufacturer's instructions for application, handling, and curing.

AUTOMATIC DAY-NIGHT MIRROR DESCRIPTION AND OPERATION

Inside Rearview Mirror with the Automatic Day-Night Feature System Components

The automatic day-night feature system consist of an inside rearview mirror.

Power and Ground of the Inside Rearview Mirror

- With the ignition ON, ignition voltage is supplied to the mirror from the IGN 1 fuse in the right rear fuse block.
- Ground for the mirror is provided by G402.

Inside Rearview Mirror with the Automatic Day-Night Feature System Operation

The inside rearview mirror uses 2 photocell sensors. One sensor is the headlight sensor, located on the rear side of the mirror. The headlight sensor is used to determine light conditions present at the mirror face. The other sensor is the ambient light sensor, located on the front of the mirror or windshield side. The ambient light sensor is used to determine light conditions present at the mirror. With automatic day-night feature enabled, the mirror uses ambient light sensor to determine the exterior light condition. With a low light condition detected, and a high light condition from behind at the headlight sensor, the inside rearview mirror will automatically darken the face of the mirror.

In the daytime, the mirror is in a normal state because of the high light condition that is indicated by the ambient light sensor. With the gear selector lever in the REVERSE position, backup lamp supply voltage is supplied as an input to the inside rearview mirror. In night time conditions only, the mirror monitors this input to disable the automatic day-night feature which allows the face to gradually change to a normal state. This allows the driver to see objects in the mirror clearly when backing up.

Compass

The mirror uses two magnetic field sensors for compass direction. One sensor is for north and south, the other is for east and west. The mirror supplies a signal and low reference to each sensor. As the vehicle travels with or against the earth's magnetic pull, there will be a change in voltage on one or both sensors. As a result of the change in voltage, the mirror changes the heading on the compass display.

Switches of the Inside Rearview Mirror with the Automatic Day-Night Feature

The inside rearview mirror has 2 switches that perform the following functions:

- The AUTO switch is used to enable the automatic day-night feature of the mirror. With the ignition in the ON position, depress the AUTO switch to enable the automatic day-night feature of the mirror. A green indicator will illuminate on the mirror when the automatic day-night feature is enabled.
- The OFF switch is used to disable the automatic day-night feature of the mirror.

Switches of the Inside Rearview Mirror with the Automatic Day-Night Feature without Compass with OnStar®

The inside rearview mirror has 4 switches that perform the following functions:

- The on/off switch for automatic day-night feature of the inside rearview mirror is located at the left side of the mirror. The on/off switch is used to enable or disable the automatic day-night feature of the mirror. With the ignition in the ON position, depress the on/off switch to enable the automatic day-night feature of the mirror. A green indicator will illuminate on the mirror when the automatic day-night feature is enabled. To disable the automatic day-night feature of the mirror, depress the on/off switch.
- The three switches on the right side of the mirror are for OnStar® operation. For more information, refer to **OnStar Description and Operation** in Cellular Communication.

Switches of the Inside Rearview Mirror with the Automatic Day-Night Feature with Compass and OnStar®

The inside rearview mirror has 4 switches that perform the following functions:

- The on/off switch located at the left side of the mirror performs the following functions:
 - To enable or disable the automatic day-night feature of the mirror. With the ignition in the ON position, depress and hold the on/off switch for 4 seconds to enable the automatic day-night feature of the mirror. A green indicator will illuminate on the mirror when the automatic day-night feature is enabled. To disable the automatic day-night feature of the mirror, depress and hold the on/off switch for 4 seconds.
 - To turn the compass on and off. With the ignition in the ON position, depress the on/off switch to turn the compass on. Depress the on/off switch again to turn the compass off. The on/off switch is also used to place the compass into a calibration or zone mode. For more information, refer to **Compass Calibration and Variance Procedure**.
- The 3 switches on the right side of the mirror are for OnStar® operation. For more information, refer to **OnStar Description and Operation** in Cellular Communication.

COMPASS CALIBRATION AND VARIANCE PROCEDURE

Compass Calibration

Before calibrating the compass, drive the vehicle to an open area that is magnetically clean or free of large metallic objects such as high tension power lines or large steel buildings. Verify there are no magnetized roof antennas, magnets on or hanging from the mirror, or any other magnetized objects on the inside or outside of the vehicle close to the mirror.

1. Start the engine.

IMPORTANT: Before calibrating the compass, make sure the mirror has the correct zone number. Refer to Compass Magnetic Variation Adjustment.

2. Press and hold the switch for the compass, which may be depicted as COMP, COMPASS, or on/off (w/UE1) depending on the type of mirror on the vehicle, until the letter "C" or "CAL" is displayed.
3. Drive the vehicle in circles at a speed of less than 8 km/h (5 mph) until the "C" or "CAL" is replaced by a proper vehicle heading. The calibration procedure is now complete.

Compass Magnetic Variation Adjustment

Magnetic variation adjustments are required when the compass displays a constant error in heading. Variation is the difference between magnetic north and true north due to geographical location.

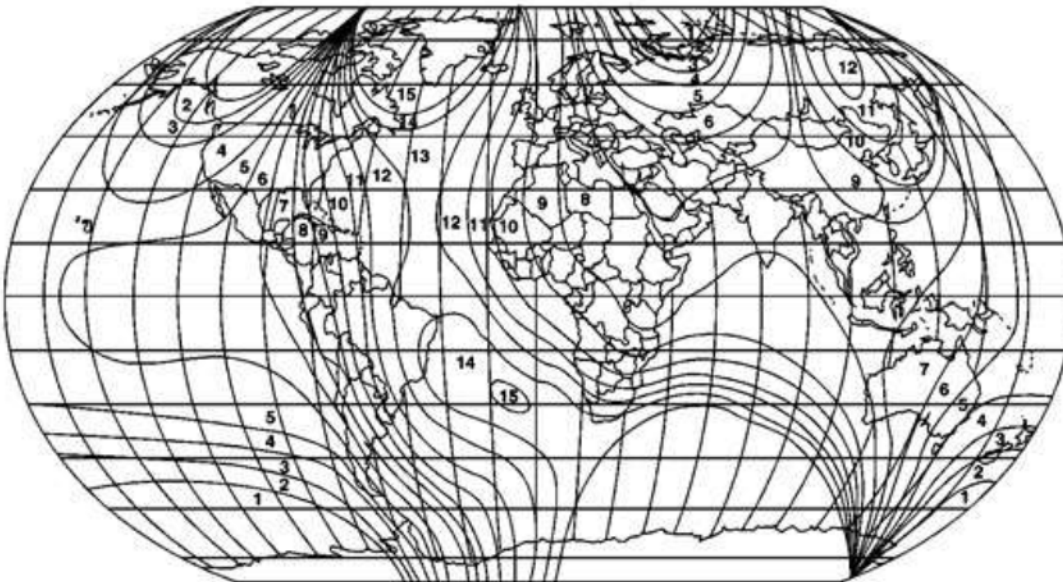


Fig. 50: World Magnetic Variation Map

Courtesy of GENERAL MOTORS CORP.

1. Locate your current geographic location on the World Magnetic Variation Map.
2. Turn ON the ignition, with the engine OFF.
3. Press and hold the switch for the compass, which may be depicted as COMP, COMPASS, or on/off (w/UE1) depending on the type of mirror on the vehicle, until a zone number appears on the compass display.
4. Depress the switch for the compass to select the desired zone number.
5. Wait 5 seconds. The display will return to a compass heading. The variance procedure is now complete.
6. Calibrate the compass. Refer to Compass Calibration mentioned above.

REAR WINDOW DEFOGGER DESCRIPTION AND OPERATION**Rear Defogger System Components**

The rear window defogger system consist of the following components:

- HVAC control module
- Rear integration module (RIM)
- REAR DEFOG relay
- Rear window defogger grid

Rear Window Defogger Operation

Battery positive voltage is supplied through the REAR DEFOG fuse to the REAR DEFOG relay switched input. Ignition voltage is supplied to the REAR DEFOG relay coil. When you turn the ignition to the ON position, and depress the rear window defogger switch. The HVAC control module sends a class 2 message to the RIM to enable the rear window defogger system. The RIM energizes the REAR DEFOG relay by grounding the control circuit of the relay. This allows battery positive voltage from the relay switched input through the switch contacts and out the relay switched output to the rear window defogger. The RIM then sends a class 2 message to the HVAC control module requesting the illumination of the rear window defogger indicator. The HVAC control module illuminates the rear window defogger indicator. Ground for the rear window defogger is provided by G304.

When you turn ON the ignition and press the rear window defogger switch for the first time, the defogger cycle lasts 10 minutes. Further operation results in 5 minute defogger cycles. The defogger cycle resets to 10 minutes when you cycle the ignition to the OFF position and then back to the ON position.

The rear defogger feature will not time out if the vehicle speed is above 48 km/h (30 mph).

If the battery voltage is very low, the RIM will execute a load shed management control algorithm for the rear defogger feature. In Load Shed Level 1, the rear defogger is cycled at 80% on and 20% off of its time. If Load Shed Level 2 is needed, the rear defogger is cycled at 50% off and 50% on of its time. For more information about Load Shed, refer to **Body Control System Description and Operation** in Body Control System.

STATIONARY WINDOW DESCRIPTION

Most stationary windows, specifically windshields, are retained to the body with urethane adhesive which adheres the window to the body, increasing structural integrity. The reinstallation of the windows with urethane adhesive requires complete replacement of the urethane adhesive bead, and is known as the full cut method.

FULL-CUT METHOD DESCRIPTION

Use only the full cut method, also known in the field as full strip method, when installing windows.

This method includes the following:

- The replacement of a majority of the urethane adhesive bead. Remove all but approximately 2 mm (3/64 in) of the existing bead of urethane adhesive from the pinch-weld flange.
- Apply pinch-weld primer to any exposed painted areas on the pinch-weld flange.

No mounds or loose pieces of urethane adhesive should remain on the pinch-weld flange. Do not remove all traces of urethane adhesive.

IMPORTANT:

- **If corrosion of the pinch-weld flange is present, or if sheet metal repairs or replacements are required, refinish the pinch-weld flange in order to present a clean, primer-only surface.**
- **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.**
- **Appropriate materials for these primer applications are typically 2 component catalyzed products. Use materials such as BASF DE15®, DuPont 2610®, Sherwin-Williams PSE 4600 and NP70® and Martin-Semour 5120,5130®, PPG**

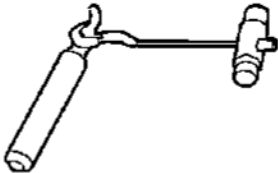
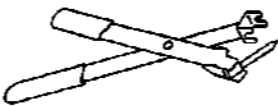
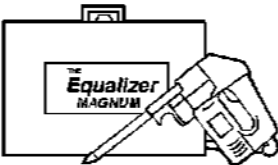
DP90LF SPIES/HECKER 3688/8590 - 3688/5150 - 4070/5090 STANDOX 11158/13320 - 14653/14980 products are approved for this application. Follow the manufacturer's directions for the mix, the application, and the drying times.

- **After repairing the opening as indicated, shake the pinch-weld primer black #3 well. Using a new dauber, apply the primer to the primed surface of the flange in the bonding area. Allow the primer to dry for 10 minutes.**

SPECIAL TOOLS AND EQUIPMENT

SPECIAL TOOLS

Special Tools

Illustration	Tool Number/ Description
	J 24402-A Glass Sealant Cold Knife Remover
	J 34946 Window Pin Remover
	J 39032 Stationary Glass Removal Tool

2004 Cadillac SRX

2004 ACCESSORIES & EQUIPMENT Stationary Windows - SRX



J 39040
Quarter Window Remover