

2008 Chevrolet Silverado 1500

2008 ACCESSORIES & EQUIPMENT Sunroof - Cab & Chassis Sierra, Cab & Chassis Silverado, Sierra & Silverado

2008 ACCESSORIES & EQUIPMENT

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SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Application	Specifications	
	Metric	English
Sunroof Actuator to Bracket Screws	3 N.m	27 lb in
Sunroof Air Deflector Screws	3 N.m	27 lb in
Sunroof Module	10 N.m	89 lb in
Sunroof Water Tray to Sunroof Module Screws	1 N.m	9 lb in
Sunroof Window to Module Screws	3 N.m	27 lb in

SCHEMATIC AND ROUTING DIAGRAMS

SUNROOF SCHEMATICS

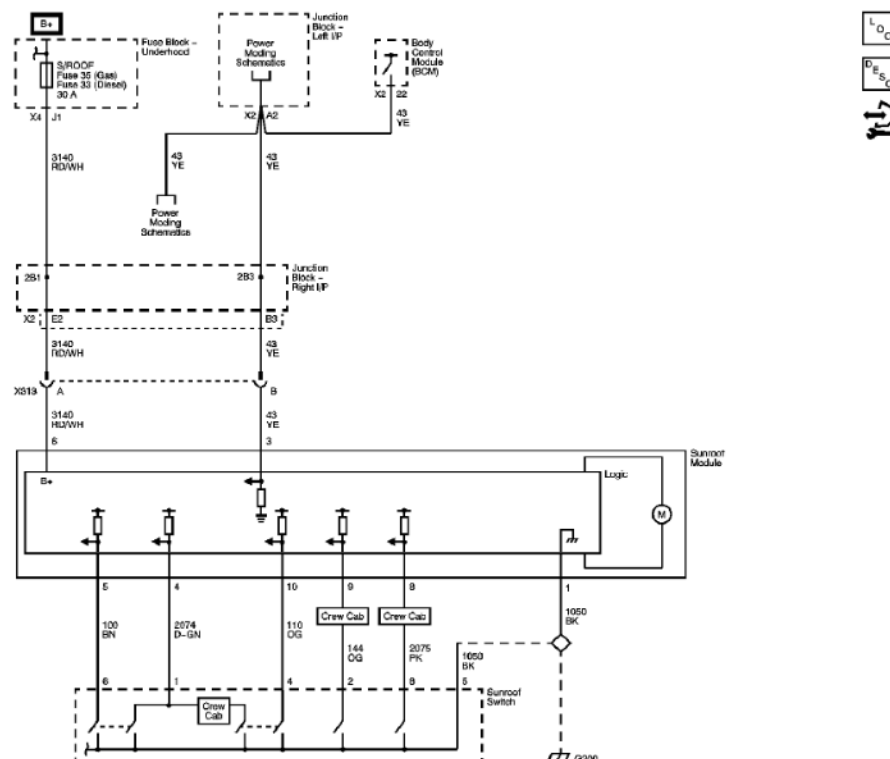


Fig. 1: Sunroof Schematic

Courtesy of GENERAL MOTORS CORP.

DIAGNOSTIC INFORMATION AND PROCEDURES

DIAGNOSTIC STARTING POINT - ROOF

Begin the power sunroof system diagnosis with the **Diagnostic System Check - Vehicle** . 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 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.

SYMPTOMS - ROOF

IMPORTANT: Review the system description in order to familiarize yourself with the system functions. Refer to Sunroof Description and Operation.

Visual/Physical Inspection

- Inspect for aftermarket devices which could affect the operation of the Sunroof System. Refer to **Checking Aftermarket Accessories** .
- 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** .

Symptom List

Refer to **Power Sunroof Inoperative** in order to diagnose the symptom.

POWER SUNROOF INOPERATIVE

Diagnostic Instructions

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- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Battery	1	1	-	-
Accessory	1	1	3	-
Close Switch Signal	1	1	1	-
Express Switch Signal	2	2	2	-
Open Switch Signal	1	1	1	-
Vent Close Switch Signal	1	1	1	-
Vent Open Switch Signal	1	1	1	-
Ground	-	1	-	-
1. Power sunroof inoperative 2. Express open and close inoperative 3. Power sunroof operates with ignition off				

Circuit/System Description

The power sunroof is operated by the sunroof motor/actuator which consists of the motor and electronic control unit as a complete assembly. The system is powered by a battery supply circuit and an ignition/retained accessory power signal circuit determines when the sunroof may be operated. The switch signal circuits are supplied battery voltage through a resistor and monitored within the ECU. When a sunroof switch is pressed the switch signal circuit is closed to ground and most of the voltage supplied to the signal circuit will be dropped across the resistor within the ECU indicating the switch is active.

Diagnostic Aids

Prior to performing sunroof system circuit diagnosis, perform the **Sunroof Motor/Actuator Initialization/Teach Process (Extended Cab New Motor)** or **Sunroof Motor/Actuator Initialization/Teach Process (Extended Cab Existing Motor)** or **Sunroof Motor/Actuator Initialization/Teach Process (Crew Cab Existing Motor)** or **Sunroof Motor/Actuator Initialization/Teach Process (Crew Cab New Motor)**.

Reference Information

Schematic Reference

Sunroof Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Sunroof Description and Operation

Electrical Information Reference

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. With the sunroof in the closed position, press the sunroof open switch. The sunroof should open.
 - If the sunroof does not open, refer to Power Sunroof Malfunction below.
2. With the sunroof in the open position, press the sunroof close switch. The sunroof should close.
 - If the sunroof does not close, refer to Power Sunroof Malfunction below.
3. With the sunroof in the closed position, operate the sunroof express open feature. The sunroof should fully open.
 - If the express open feature does not function, refer to Power Sunroof Express Feature Malfunction below.
4. With the sunroof in the open position, operate the sunroof express close feature. The sunroof should fully close.
 - If the express close feature does not function, refer to Power Sunroof Express Feature Malfunction below.

Circuit/System Testing**Power Sunroof Malfunction**

1. Disconnect the sunroof switch connector.
2. Verify that a test lamp illuminates between the ground circuit terminal 5 and B+.
 - If the test lamp does not illuminate, test the ground circuit for an open/high resistance.
3. Ignition ON, connect a 3A fused jumper wire between the signal circuit listed below and ground. The sunroof should be inoperative in at least one or more directions.
 - Sunroof open terminal 6
 - Sunroof close terminal 4
 - Vent open (Crew Cab) terminal 2
 - Vent close (Crew Cab) terminal 8
 - If the sunroof moved in all directions, replace the sunroof switch.
4. Ignition OFF, disconnect the harness connector at the sunroof motor/actuator.
5. Verify that a test lamp illuminates between the ground circuit terminal 1 and B+.
 - If the test lamp does not illuminate, test the ground circuit for an open/high resistance.
6. Verify that a test lamp illuminates between the B+ circuit terminal 6 and ground.
 - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance.
7. Ignition ON, verify that a test lamp illuminates between the ignition circuit terminal 3 and ground.
 - If the test lamp does not illuminate, test the ignition circuit for a short to ground or an open/high resistance. If the circuit tests normal, refer to **Power Mode Mismatch**.
8. Ignition OFF, connect the sunroof motor/actuator harness connector.
9. Ignition ON, at the sunroof switch harness connector, test for 8.5-12.8 volts between the signal circuits listed below and ground.
 - Sunroof open terminal 6
 - Sunroof close terminal 4
 - Vent open (Crew Cab) terminal 2
 - Vent close (Crew Cab) terminal 8
 - If less than the specified value, test the signal circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the sunroof motor/actuator.
10. If all circuits test normal, replace the sunroof motor/actuator.

Crew Cab Power Sunroof Express Feature Malfunction

1. Ignition OFF, disconnect the harness connector at the sunroof switch.
2. Ignition ON, with the sunroof in the closed position, connect 3A fused jumper wires between both signal circuits listed below and ground for less than 1 second. The sunroof should express open.
 - Terminal 1
 - Terminal 6
 - If the sunroof did not express open, test the signal circuit terminal 1 for a short to ground or an open/high resistance. If the circuit tests normal, replace the sunroof motor/actuator.
3. With the sunroof in the open position, connect 3A fused jumper wires between both signal circuits listed below and ground for less than 1 second. The sunroof should express open.
 - Terminal 1
 - Terminal 4
 - If the sunroof did not express open, test the signal circuit terminal 1 for a short to ground or an open/high resistance. If the circuit tests normal, replace the sunroof motor/actuator.
4. If all circuits test normal, replace the sunroof switch.

Component Testing

Sunroof Switch

1. Ignition OFF, disconnect the harness connector at the sunroof switch.
2. Test for infinite resistance between the switch terminals listed below and the ground circuit terminal 5 with the switch in the open position.
 - Express open/close (Crew Cab) terminal 1
 - Sunroof close terminal 4
 - Sunroof open terminal 6
 - Vent close (Crew Cab) terminal 8
 - Vent open (Crew Cab) terminal 2
 - If not the specified value, replace the sunroof switch.
3. Test for less than 5 ohms between the switch terminals listed below and the ground circuit terminal 5 with the switch in the closed position.
 - Express open/close (Crew Cab) terminal 1

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- Sunroof close terminal 4
- Sunroof open terminal 6
- Vent close (Crew Cab) terminal 8
- Vent open (Crew Cab) terminal 2
- If greater than the specified value, replace the sunroof switch.

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

- **Sunroof Motor/Actuator Replacement (Extended Cab)** or **Sunroof Motor/Actuator Replacement (Crew Cab)**
- **Sunroof Switch Replacement (Crew Cab)**

REPAIR INSTRUCTIONS

SUNROOF AIR DEFLECTOR REPLACEMENT (EXTENDED CAB)

Removal Procedure

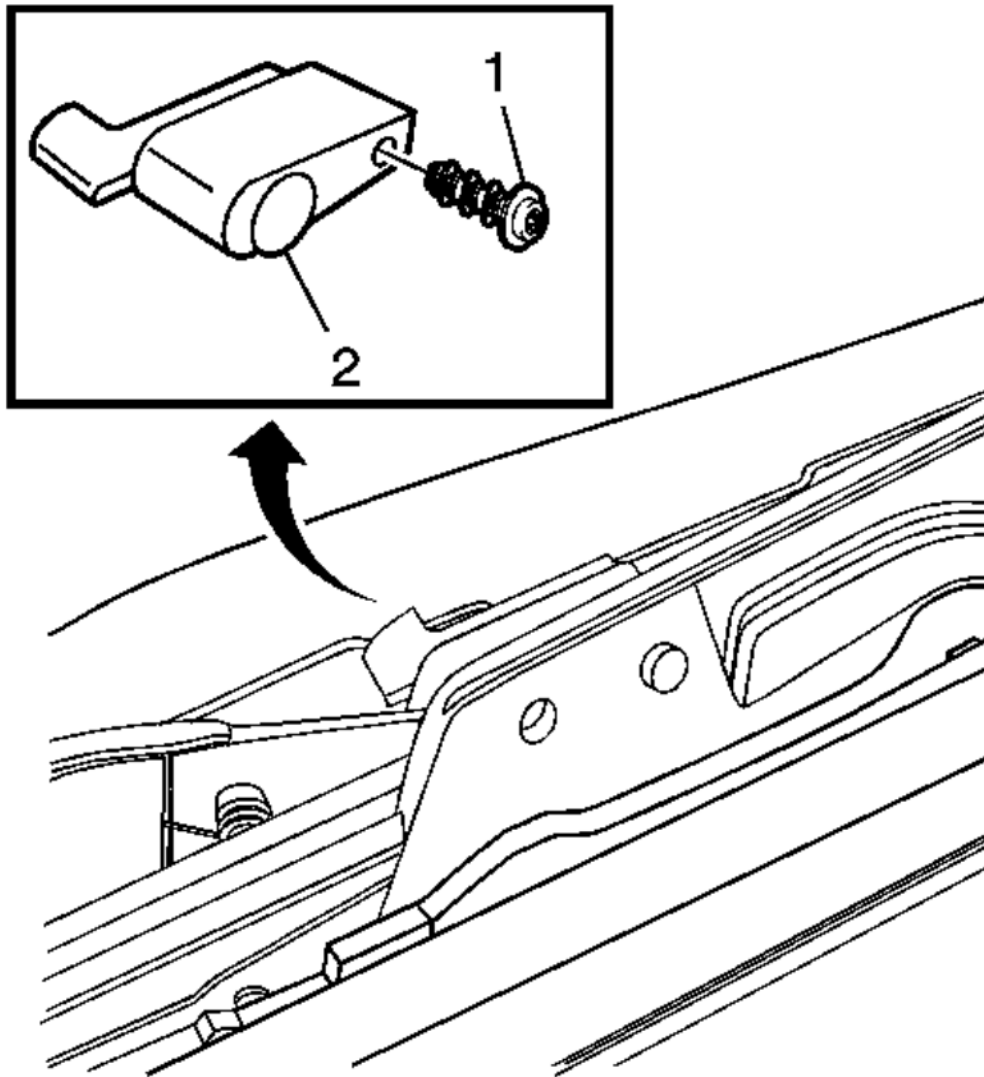


Fig. 2: Actuator Blocks

Courtesy of GENERAL MOTORS CORP.

1. Open the power sunroof window to the fully rear position.
2. Remove the actuators screws (1) and actuators (2) from each side of the sunroof module.

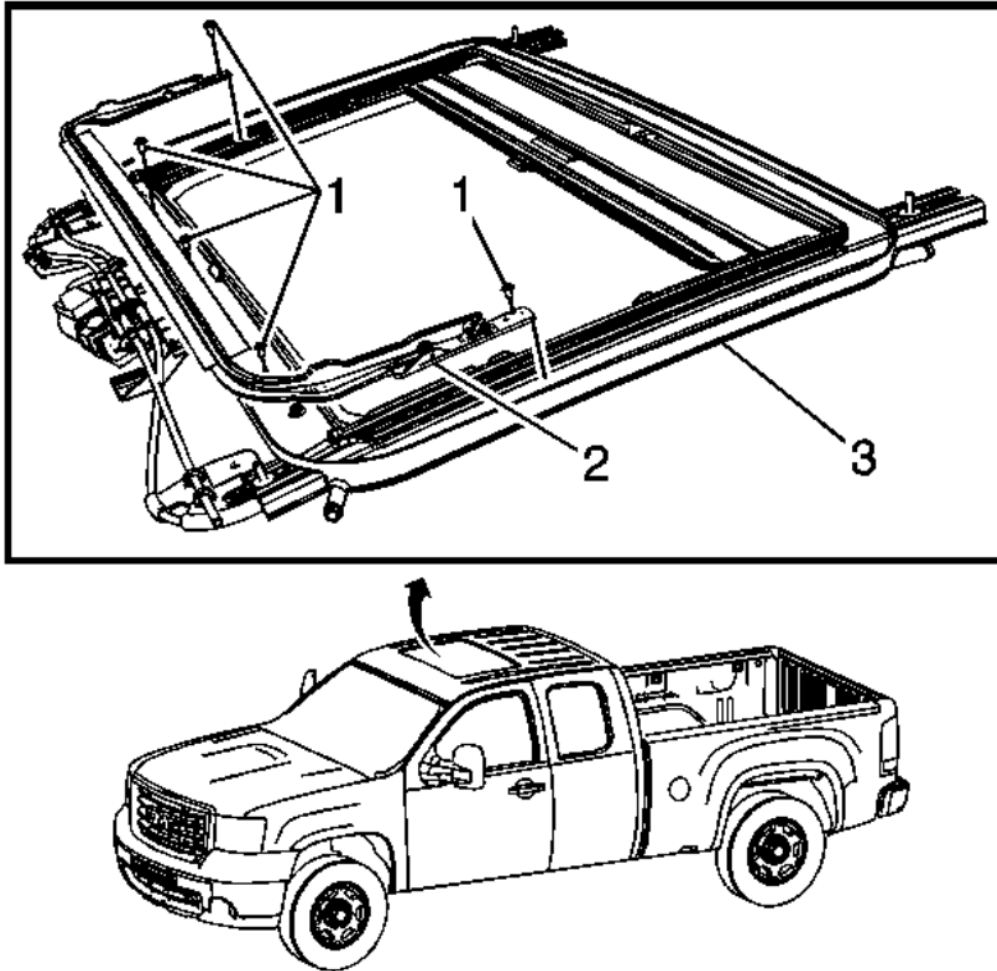


Fig. 3: Screws, Sunroof Air Deflector And Sunroof Module
Courtesy of GENERAL MOTORS CORP.

3. Remove the screws (1) attaching the sunroof air deflector (2) to the sunroof module (3).
4. Slide the air deflector rearward until it releases from the sunroof module.
5. Remove the sunroof air deflector (2) from the sunroof module (3).

Installation Procedure

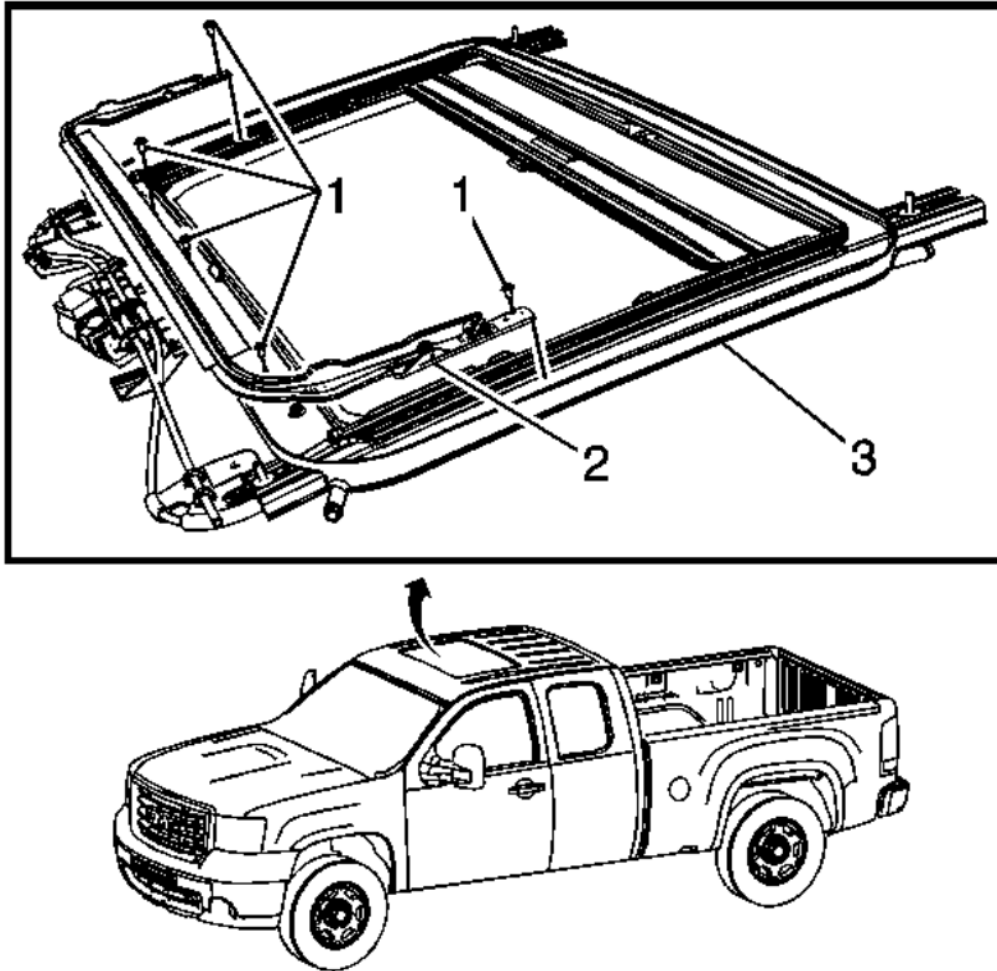


Fig. 4: Screws, Sunroof Air Deflector And Sunroof Module
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: Transfer the air deflector parts to the new air deflector.

1. Position the sunroof air deflector (2) to the sunroof module (3).

NOTE: Refer to Fastener Notice .

2. Install the screws (1) attaching the sunroof air deflector (2) to the sunroof module (3).

Tighten: Tighten the screws to 2 N.m (18 lb in).

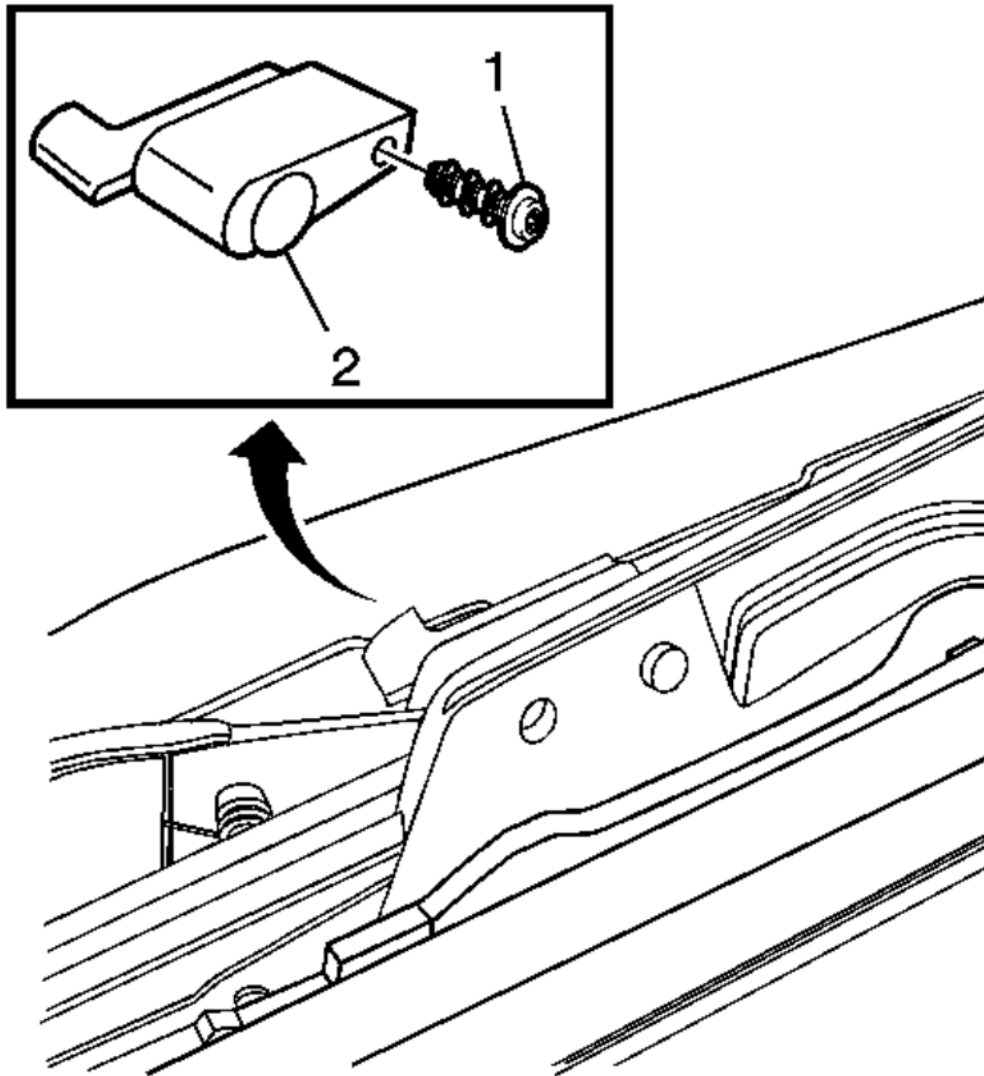


Fig. 5: Actuator Blocks
Courtesy of GENERAL MOTORS CORP.

3. Install the actuators screws (1) and actuators (2) to each side sunroof module.

Tighten: Tighten the screws to 2 N.m (18 lb in).

4. Verify that the spring action of the sunroof air deflector is operating.
5. Close the sunroof window.

SUNROOF AIR DEFLECTOR REPLACEMENT (CREW CAB)

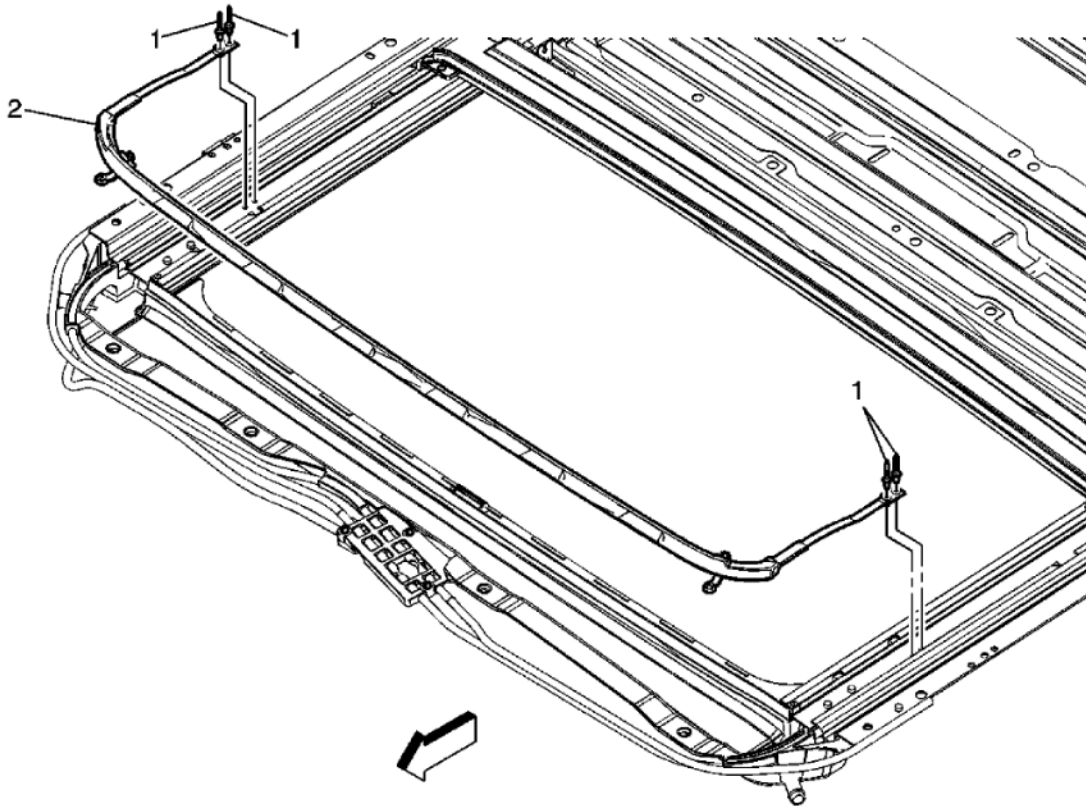


Fig. 6: View Of Sunroof Air Deflector (Crew Cab)

Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure: Remove the garnish molding. Refer to <u>Sunroof Panel/Window Garnish Molding Replacement (Crew Cab)</u> .	
1	Sunroof Air Deflector (Qty: 4) CAUTION: Refer to <u>Glass and Sheet Metal Handling Caution</u> . Procedure

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	1. Open the sunroof to expose the 2 rivets located on each side. 2. Tape off the under side of the sunroof track when drilling to prevent debris from entering the track. 3. Drill out the rivets.
2	Sunroof Air Deflector Procedure: Before cycling the sunroof, vacuum out the sunroof track to remove all debris.

SUNROOF DRAIN INSPECTION AND CLEANING

Drain Hose Routing

IMPORTANT: If the headliner is wet DO NOT remove any interior trim. Do the Plugged Drain Hose test first.

A drain trough encircles the sunroof window panel and water is drained off by the drain hoses located at each corner of the housing. A drain channel spans across the sunroof module at the rear of the window panel and directs water into the trough.

1. The front drain hoses are routed down the windshield pillars and out the center of the pillar between the door hinges. The front hoses are installed in a rubber grommet and retained by clips.
2. The rear drain hoses are routed through the rear pillars and out of the rocker panel. In some vehicle the drain hoses are routed out through the metal roof slots and routed to the lower wheelhouse to drain out of the vehicle. The rear hoses are installed in a rubber grommet and retained by clips.

Plugged Drain Hose

If a waterleak has occurred check for a plugged drain hose at each corner of drainage system.

1. Open the sunroof window.
2. To test for blockage, pour a small container of water into the module housing drain trough. Check each corner to confirm the drain hose is draining water.

CAUTION: Wear safety glasses in order to avoid eye damage.

3. Use compressed air, 241 kPa (35 psi) or less to blow out any drain hose that is plugged.

4. Test the system again.
5. If the hose remains plugged, check to see it is properly routed and does not have a kink. Refer to **Sunroof Housing Front Drain Hose Replacement** or **Sunroof Housing Rear Drain Hose Replacement**.
6. Remove the blockage using the following steps.
 1. Push mechanics wire through the hose to remove the obstruction.
 2. Use compressed air in order to blow out any remaining material.

Disconnected Drain Hose

Inspect the drainage system for disconnected drain hoses. Complete the following steps in order to obtain partial access to drain hoses and check for a disconnected hose.

1. Open the sunroof window panel.
2. Lower the headliner as needed. Refer to **Headlining Trim Panel Replacement (Regular Cab)** or **Headlining Trim Panel Replacement (Crew Cab)** or **Headlining Trim Panel Replacement (Extended Cab)**.
3. Connect any disconnected hoses.
4. Ensure that the rear drain hoses are properly routed in the metal roof slot and taped in place.

SUNROOF WATER GUTTER REPLACEMENT (EXTENDED CAB)

Removal Procedure

IMPORTANT: Tape off the perimeter of the sunroof window opening before removing the sunroof module to prevent scratching.

1. Remove the air deflector. Refer to **Sunroof Air Deflector Replacement (Extended Cab)** or **Sunroof Air Deflector Replacement (Crew Cab)**.
2. Set the sunroof window to be in the open position of a minimum of 25 mm (1 in).

IMPORTANT: It is only necessary to lower the headliner. Only do those steps in headliner replacement that will lower the headliner enough to gain access.

3. Remove the sunroof module assembly. Refer **Sunroof Module Assembly Replacement**.

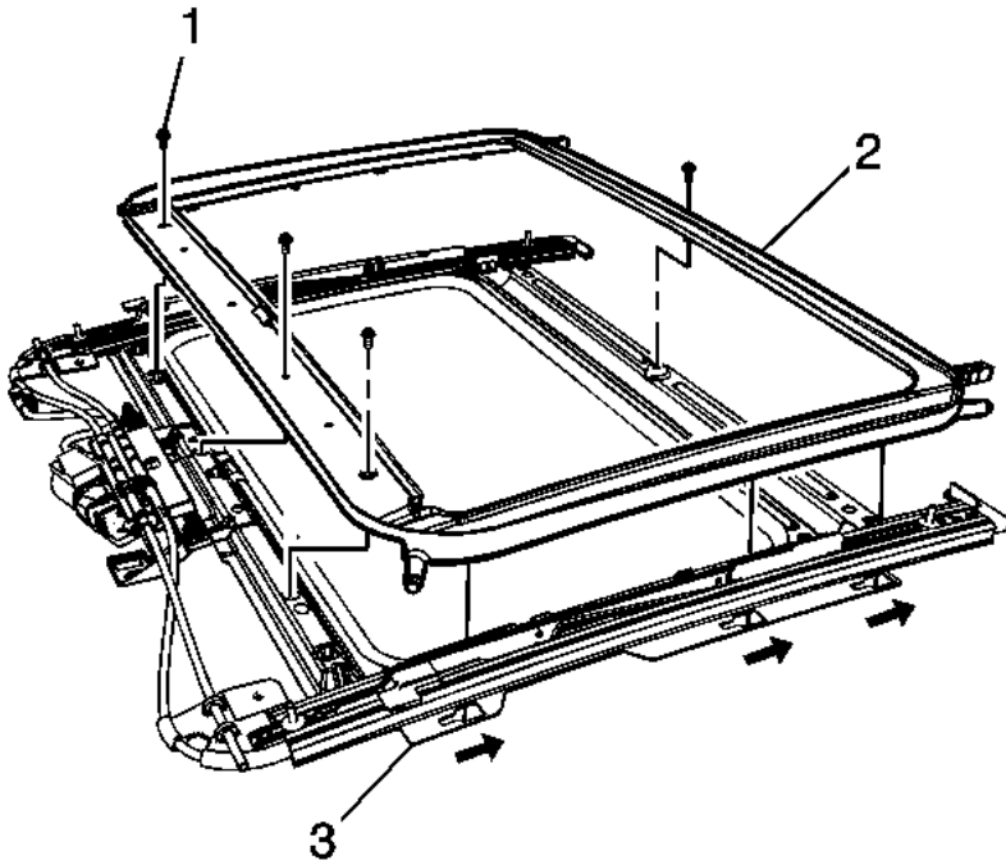


Fig. 7: Screws And Water Gutter
Courtesy of GENERAL MOTORS CORP.

4. Remove the screws (1) from the water gutter (2).

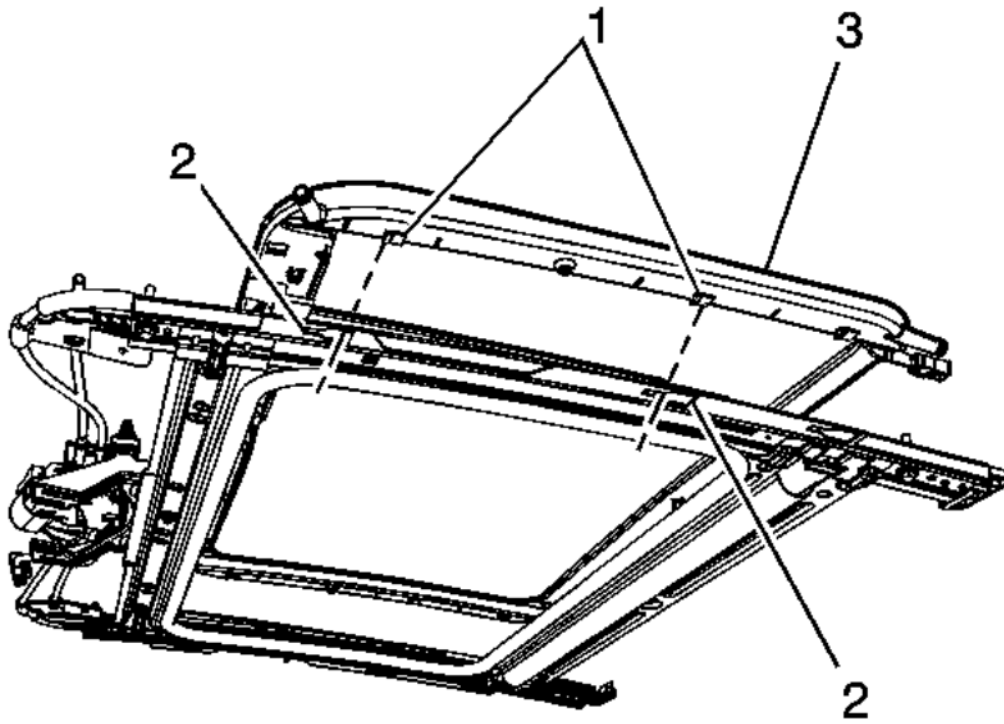


Fig. 8: Water Gutter & Retainers
Courtesy of GENERAL MOTORS CORP.

5. Slide the water gutter rearward to release the retaining tabs (1) from the slots (2) in the track.
6. Remove the water gutter (3) from the track.

Installation Procedure

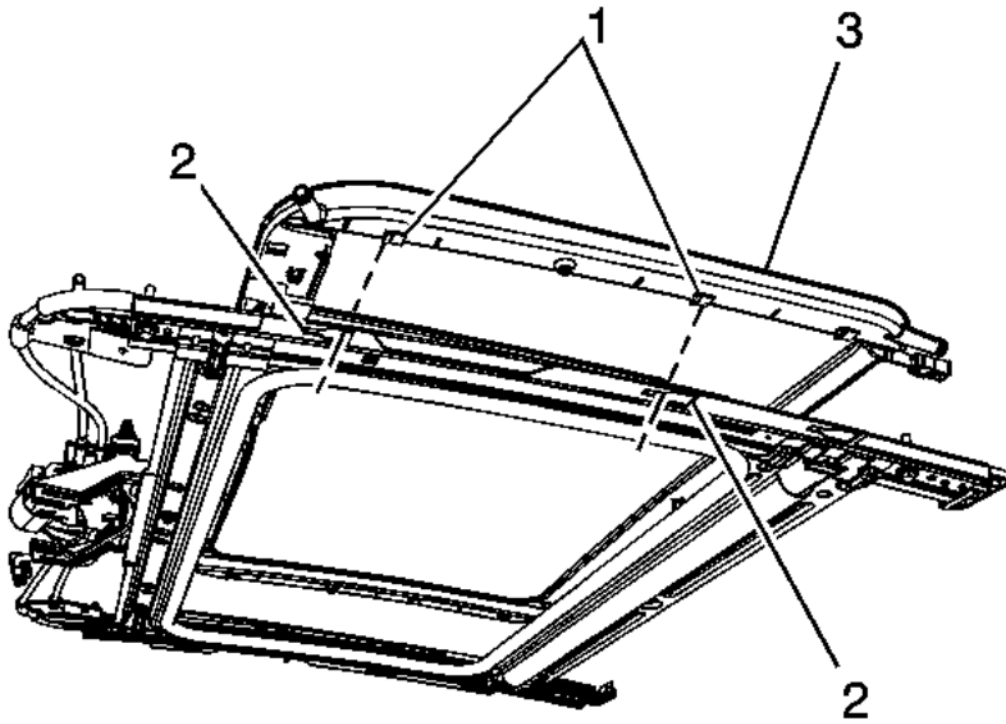


Fig. 9: Water Gutter & Retainers

Courtesy of GENERAL MOTORS CORP.

1. Position the sunroof water gutter to the sunroof window track.
2. Seat the retaining tabs (1) on the water gutter (3) into the slots (2) in the track, and push the water gutter forward until the retaining tabs lock into place.
3. Ensure that all 6 tabs are secured.

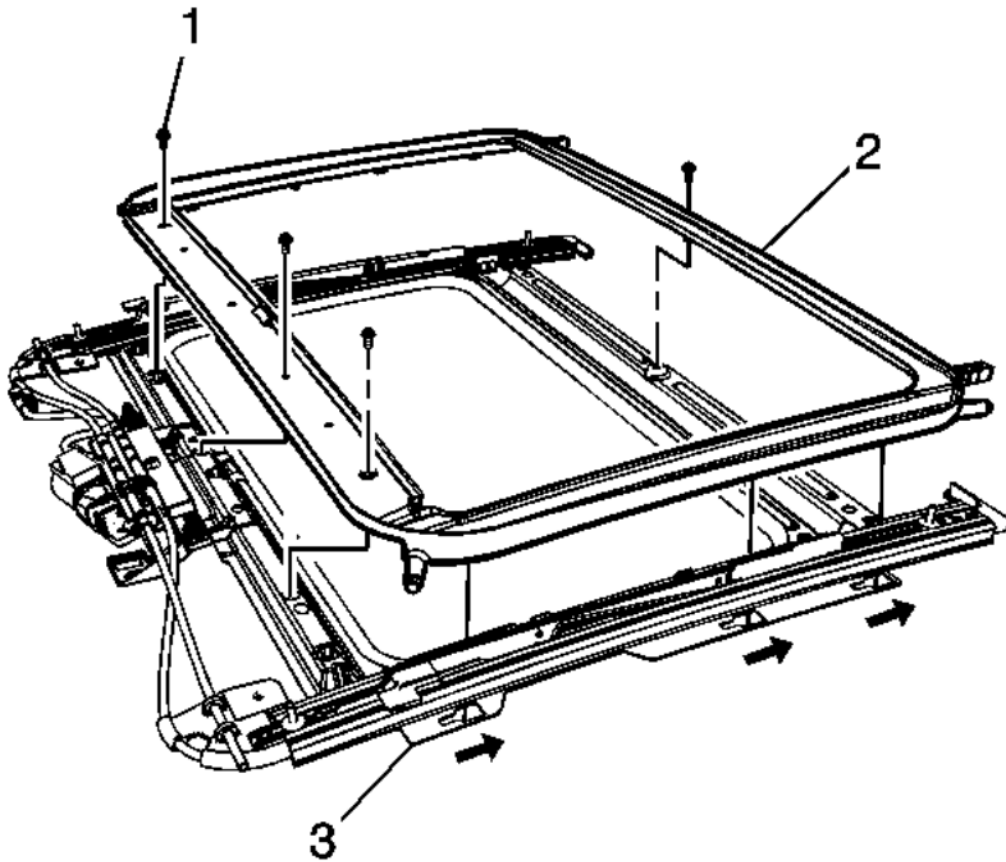


Fig. 10: Screws And Water Gutter
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice .

4. Install the water gutter screws (1).

Tighten: Tighten the screws to 2 N.m (18 lb in).

5. Install the sunroof module. Refer Sunroof Module Assembly Replacement.
6. Open the sunroof window to the fully open position.
7. Install the air deflector. Refer to Sunroof Air Deflector Replacement (Extended Cab) or Sunroof Air Deflector Replacement (Crew Cab).

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8. Remove the tape from around the perimeter of the sunroof window.
9. Verify that the sunroof is operating properly.

SUNROOF HOUSING FRONT DRAIN HOSE REPLACEMENT

Removal Procedure

1. Remove the instrument panel trim. Refer to **Instrument Panel Upper Trim Panel with Windshield Defroster Nozzle Grille Replacement (without RPO SLT)** or **Instrument Panel Upper Trim Panel with Windshield Defroster Nozzle Grille Replacement (with RPO SLT)** .

IMPORTANT: It is only necessary to lower the headliner. Only do those steps in headliner replacement that will lower the headliner enough to gain access.

2. It is only necessary to lower the headliner. Only do those steps in headliner replacement that will lower the headliner enough to gain access to the part. Refer to **Headlining Trim Panel Replacement (Regular Cab)** or **Headlining Trim Panel Replacement (Crew Cab)** or **Headlining Trim Panel Replacement (Extended Cab)** .

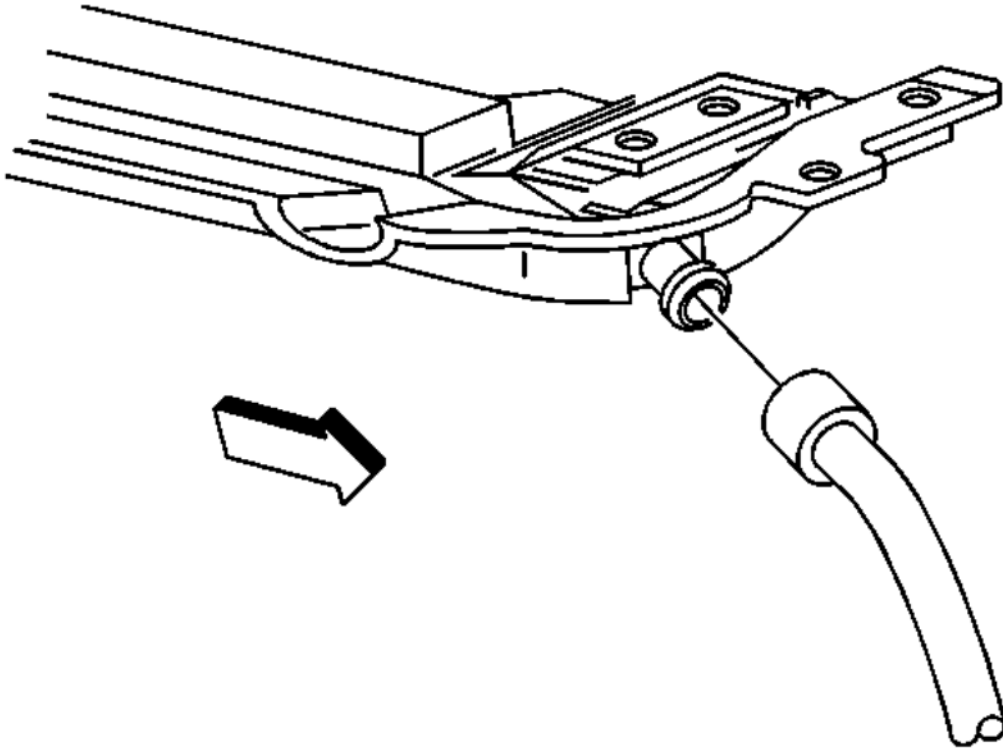


Fig. 11: Front Sunroof Drain Hose From Sunroof Module Front Spigot
Courtesy of GENERAL MOTORS CORP.

3. Disconnect the front sunroof drain hose from the sunroof module front spigot, right or left side, as needed.

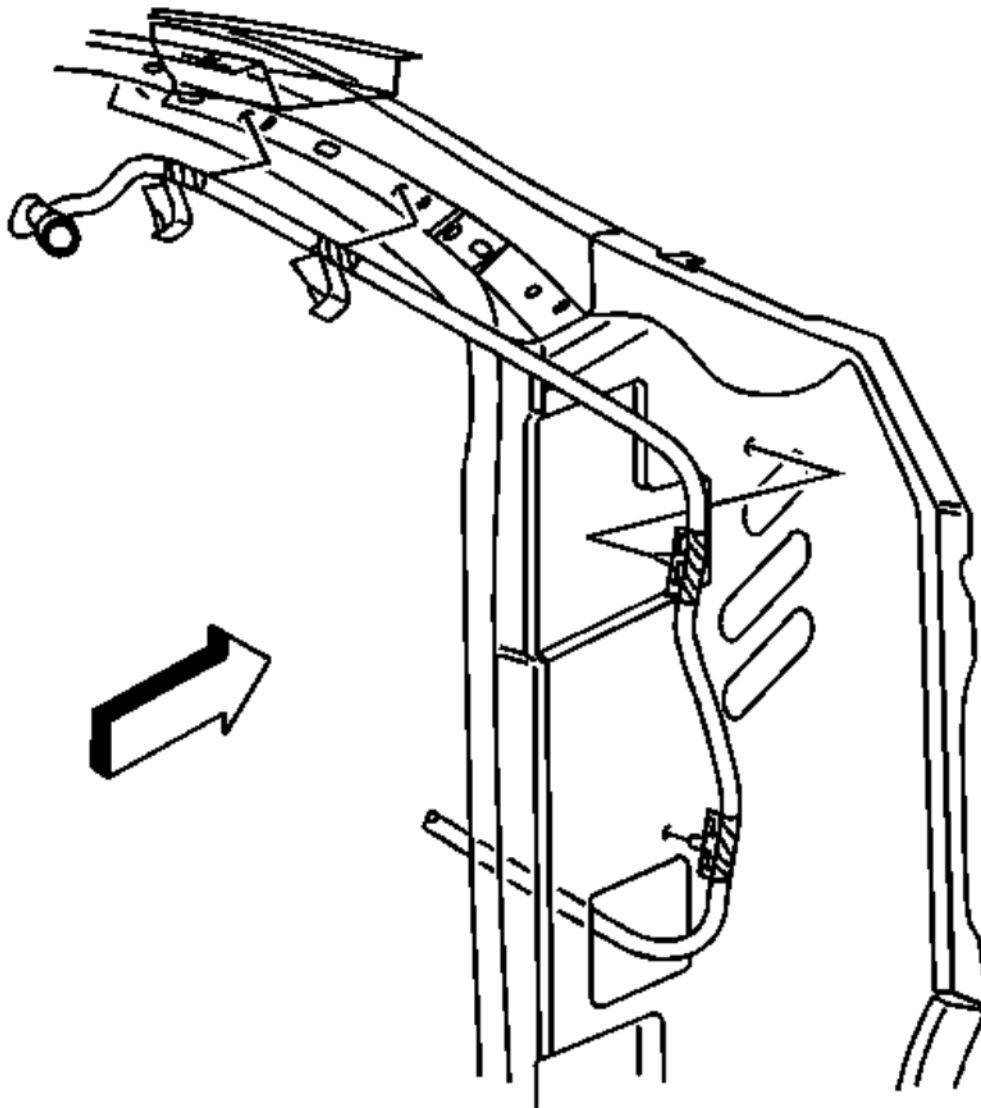


Fig. 12: Hose Clips Securing Drain Hose To Cowl Panel And Side Door Frame
Courtesy of GENERAL MOTORS CORP.

4. Remove the 1 hose clips securing the drain hose to the windshield pillar, right or left side, as needed.
5. Remove the drain hose from the vehicle, right or left side, as needed.

Installation Procedure

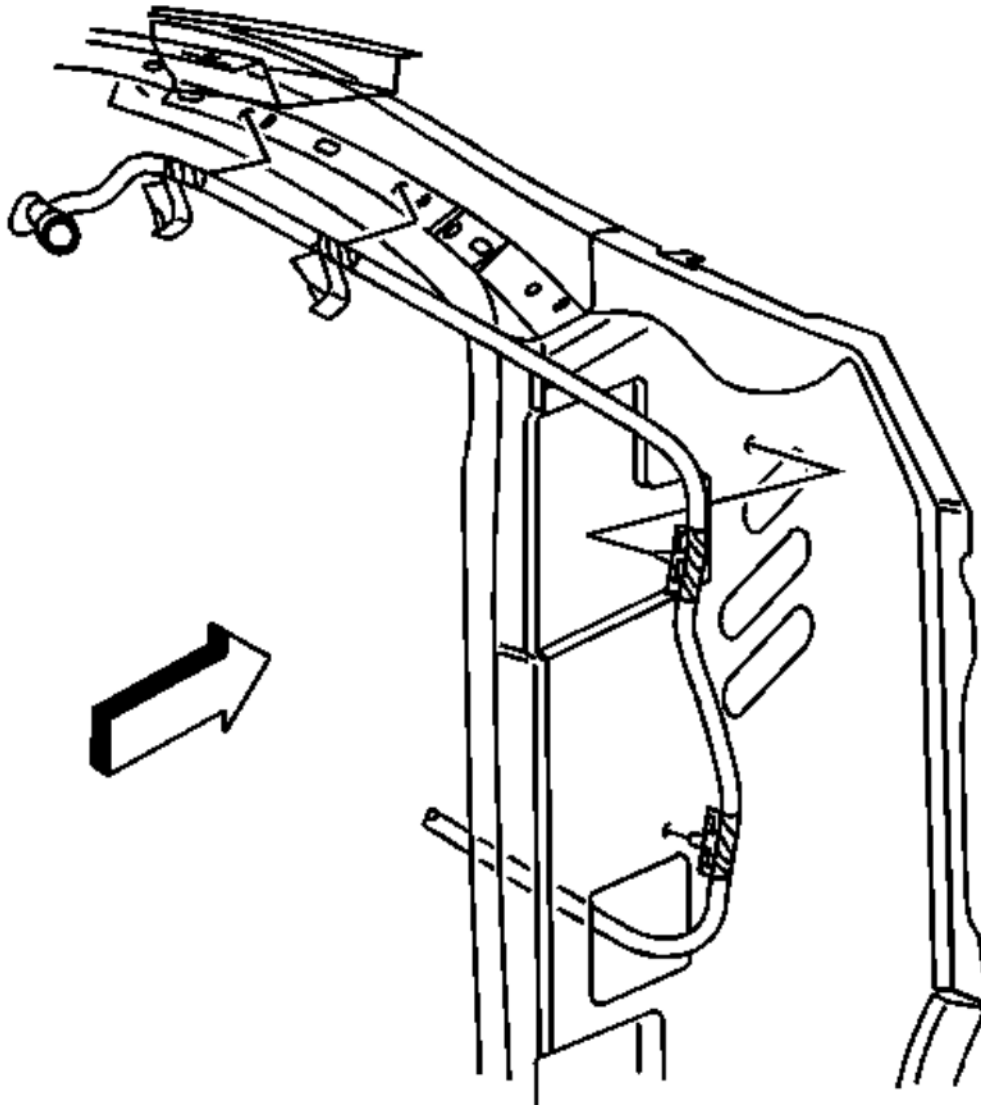


Fig. 13: Hose Clips Securing Drain Hose To Cowl Panel And Side Door Frame
Courtesy of GENERAL MOTORS CORP.

1. Install the drain hose by passing it through the front of the dash panel.
2. Route the end of the drain hose through side cowl panel until the paint mark is visible, right

or left side, as needed.

3. Install the 1 hose clips securing the drain hose to the side door frame, right or left side, as needed.

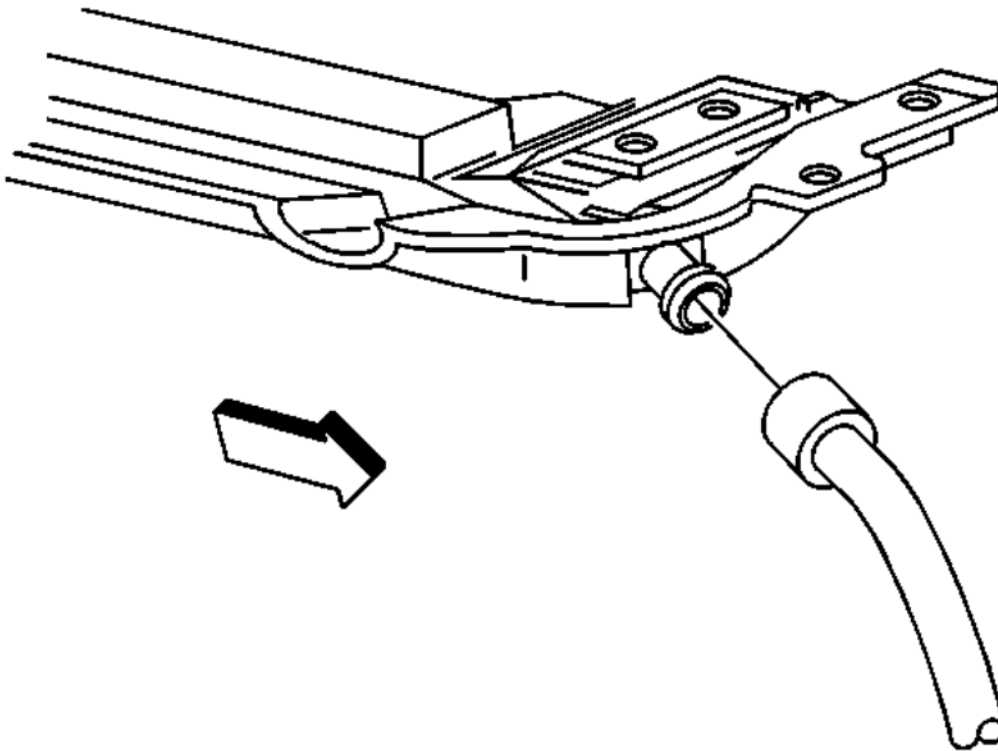


Fig. 14: Front Sunroof Drain Hose From Sunroof Module Front Spigot
Courtesy of GENERAL MOTORS CORP.

4. Connect the front sunroof drain hose to the sunroof module front spigot, right or left side, as needed.
5. Install the instrument panel trim. Refer to **Instrument Panel Upper Trim Panel with Windshield Defroster Nozzle Grille Replacement (without RPO SLT)** or **Instrument Panel Upper Trim Panel with Windshield Defroster Nozzle Grille Replacement (with RPO SLT)** .
6. Install the headliner. Refer to **Headlining Trim Panel Replacement (Regular Cab)** or **Headlining Trim Panel Replacement (Crew Cab)** or **Headlining Trim Panel**

Replacement (Extended Cab) .

SUNROOF HOUSING REAR DRAIN HOSE REPLACEMENT

Removal Procedure

IMPORTANT: It is only necessary to lower the headliner. Only do those steps in headliner replacement that will lower the headliner enough to gain access.

1. Lower the headliner. Refer to Headlining Trim Panel Replacement (Regular Cab) or Headlining Trim Panel Replacement (Crew Cab) or Headlining Trim Panel Replacement (Extended Cab) .

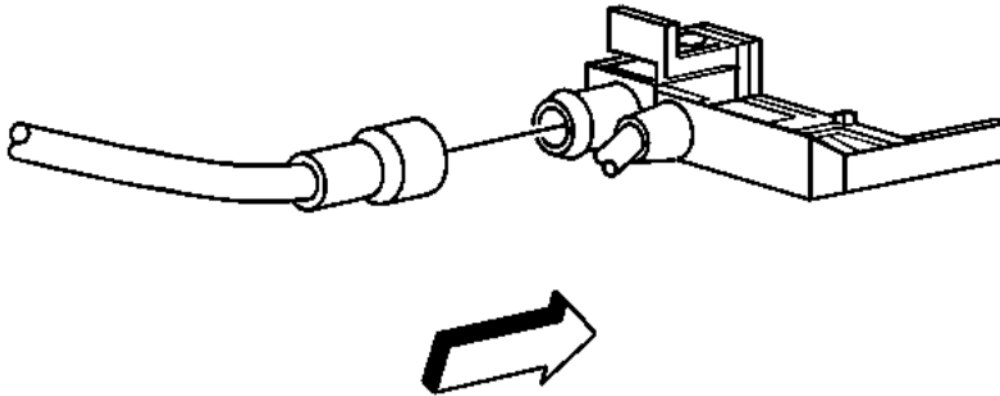


Fig. 15: Rear Sunroof Drain Hose From The Sunroof Module Rear Spigot
Courtesy of GENERAL MOTORS CORP.

2. Disconnect the rear sunroof drain hose from the sunroof module rear spigot, right or left side, as needed.

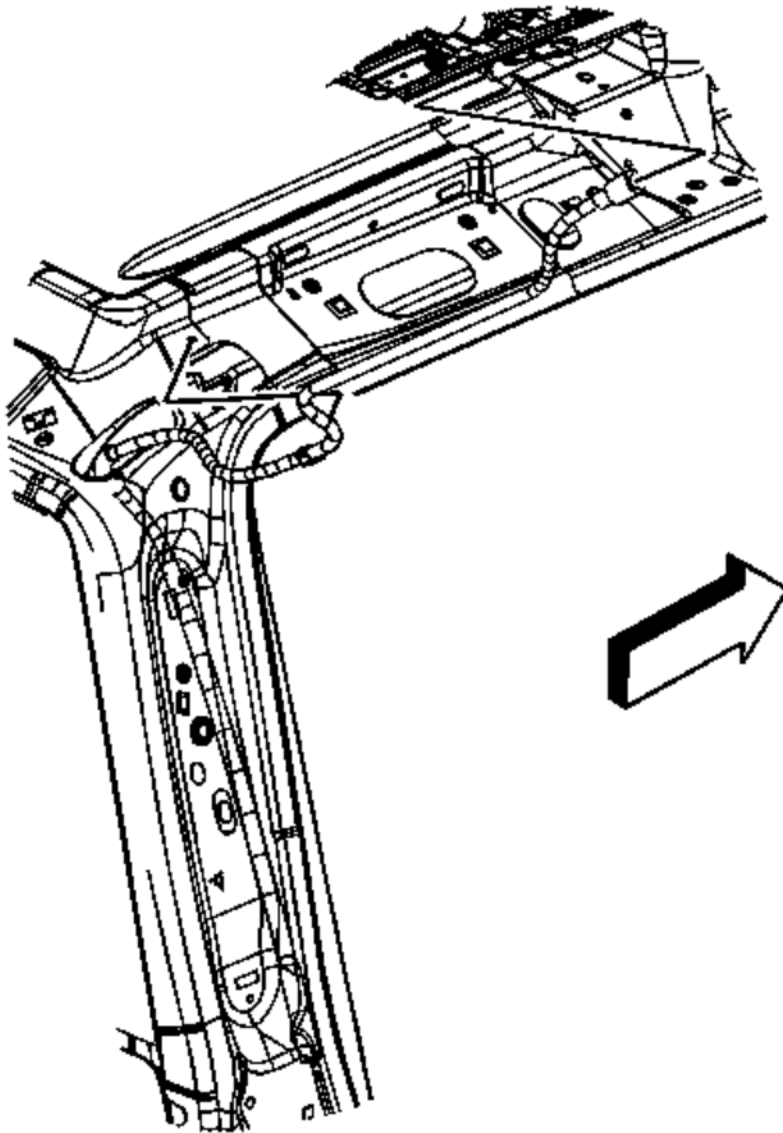


Fig. 16: Hose Clip Securing Drain Hose To Vehicle
Courtesy of GENERAL MOTORS CORP.

3. Remove the hose clip securing the drain hose to the vehicle, right or left side, as needed.
4. Remove the drain hose from the vehicle, right or left side, as needed.

Installation Procedure

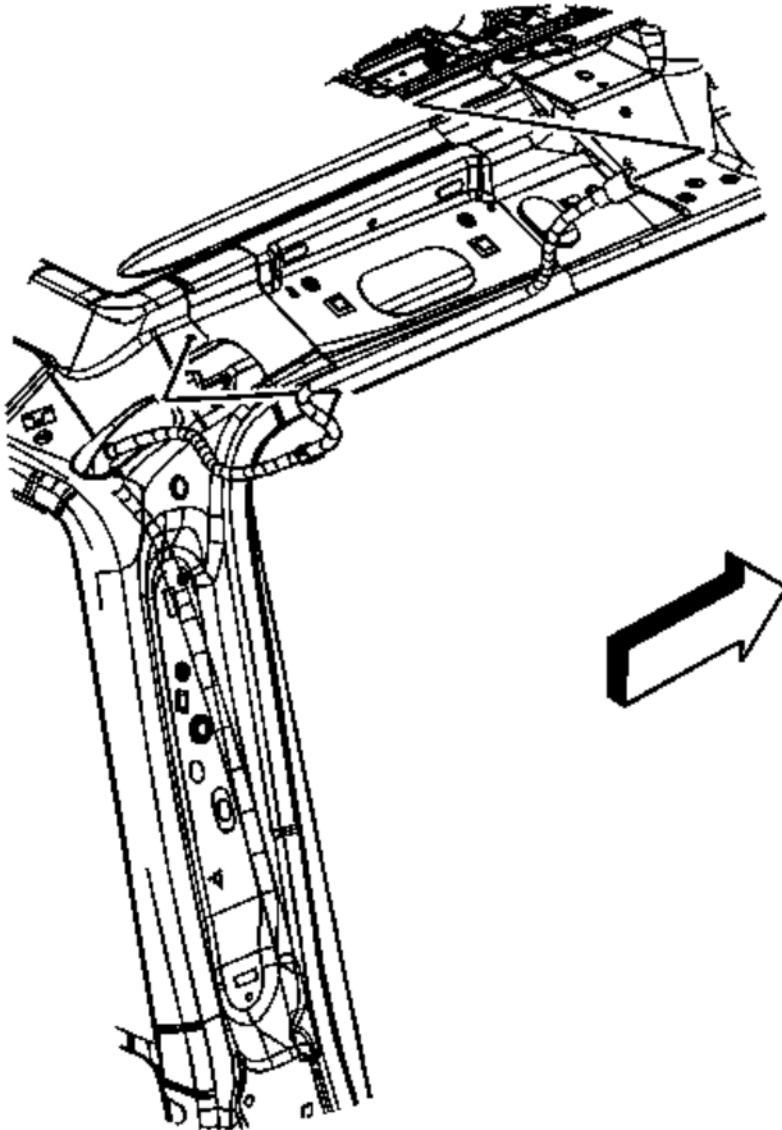


Fig. 17: Hose Clip Securing Drain Hose To Vehicle
Courtesy of GENERAL MOTORS CORP.

1. Route the end of the drain hose through the access hole and down the inner side panel, right

or left side, as needed.

2. Install the hose clip to the door frame securing the drain hose to the vehicle, right or left side, as needed.

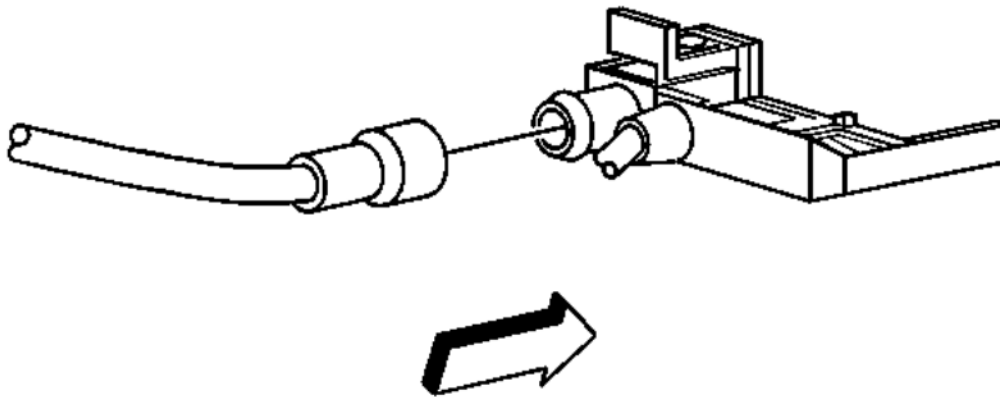


Fig. 18: Rear Sunroof Drain Hose From The Sunroof Module Rear Spigot
Courtesy of GENERAL MOTORS CORP.

3. Connect the rear drain sunroof hose to the sunroof module rear spigot, right or left side, as needed.
4. Install the headliner. Refer to Headlining Trim Panel Replacement (Regular Cab) or Headlining Trim Panel Replacement (Crew Cab) or Headlining Trim Panel Replacement (Extended Cab) .

SUNROOF OPENING TRIM FINISH LACE REPLACEMENT (EXTENDED CAB)

Removal Procedure

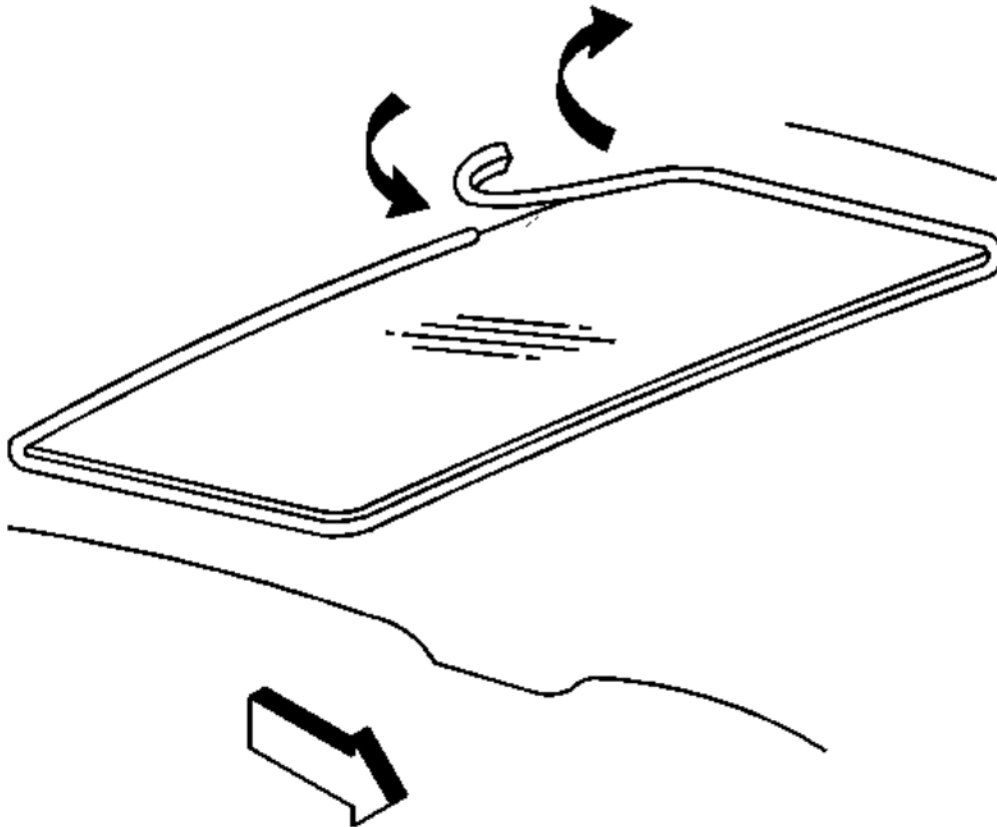


Fig. 19: View Of Sunroof Finishing Lace
Courtesy of GENERAL MOTORS CORP.

1. Beginning at the joint located in the center rear of the lace of the sunroof opening, pull the sunroof finishing lace from the sunroof window track assembly.
2. Remove the sunroof finishing lace from the track.

Installation Procedure

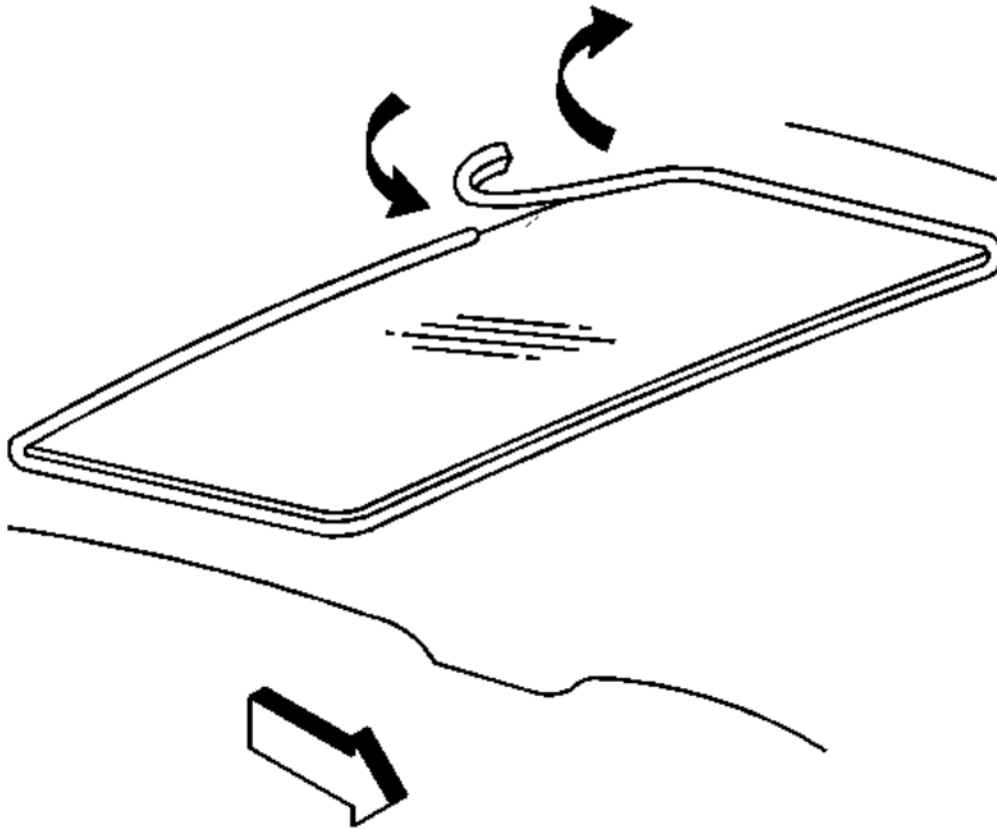


Fig. 20: View Of Sunroof Finishing Lace
Courtesy of GENERAL MOTORS CORP.

1. Position the end of the sunroof finishing lace at the center rear of the sunroof opening.

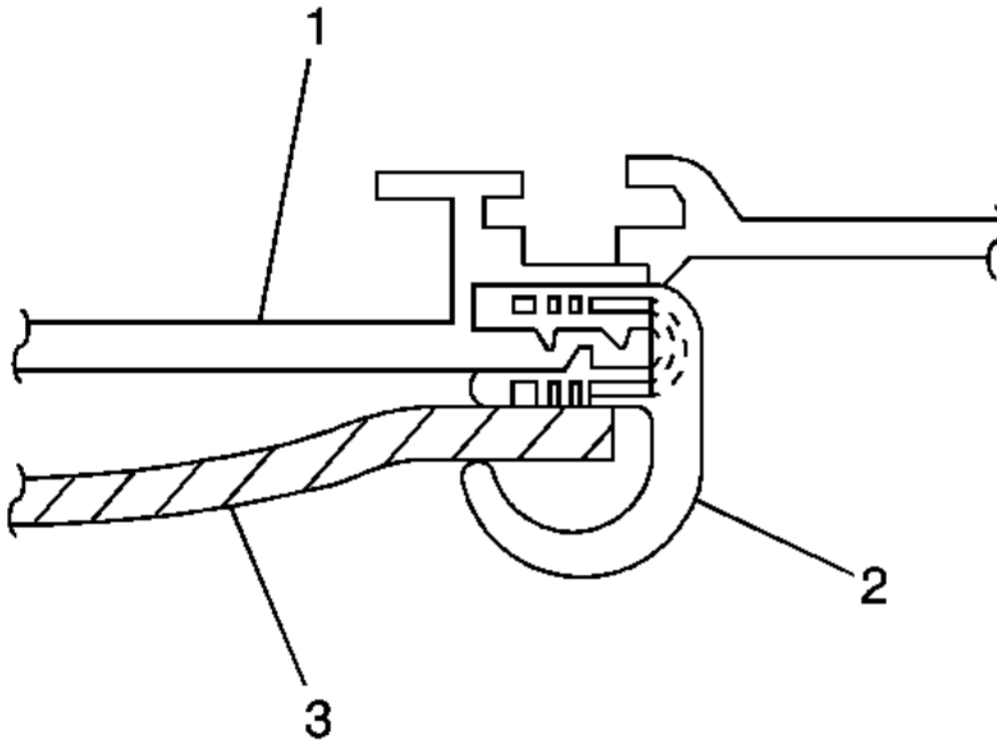


Fig. 21: Pushing Finishing Lace Onto Track Assembly Flange
Courtesy of GENERAL MOTORS CORP.

2. Push the finishing lace (2) onto the track assembly flange (1) until fully seated around the sunroof opening.
3. Pull the finishing lace draw cord toward the sunroof opening. Remove the cord from the periphery of the opening.
4. Ensure that the finishing lace (2) is properly seated over the outer surface of the headliner (3).

SUNROOF MODULE ASSEMBLY REPLACEMENT

Removal Procedure

IMPORTANT: Transfer all necessary parts to the new sunroof module assembly.

1. Remove the sunroof window. Refer to **Sunroof Window Replacement (Extended Cab)** or **Sunroof Window Replacement (Crew Cab)**.
2. Remove the sunshade. Refer to **Sunroof Sunshade Replacement (Extended Cab)** or **Sunroof Sunshade Replacement (Crew Cab)**.
3. Remove the sunroof finish lace. Refer to **Sunroof Opening Trim Finish Lace Replacement (Extended Cab)**.
4. Remove the air deflector. Refer to **Sunroof Air Deflector Replacement (Extended Cab)** or **Sunroof Air Deflector Replacement (Crew Cab)**.
5. It is only necessary to lower the headliner. Only do those step in headliner replacement that will lower the headliner enough to gain access to the part. Refer to **Headlining Trim Panel Replacement (Regular Cab)** or **Headlining Trim Panel Replacement (Crew Cab)** or **Headlining Trim Panel Replacement (Extended Cab)** .

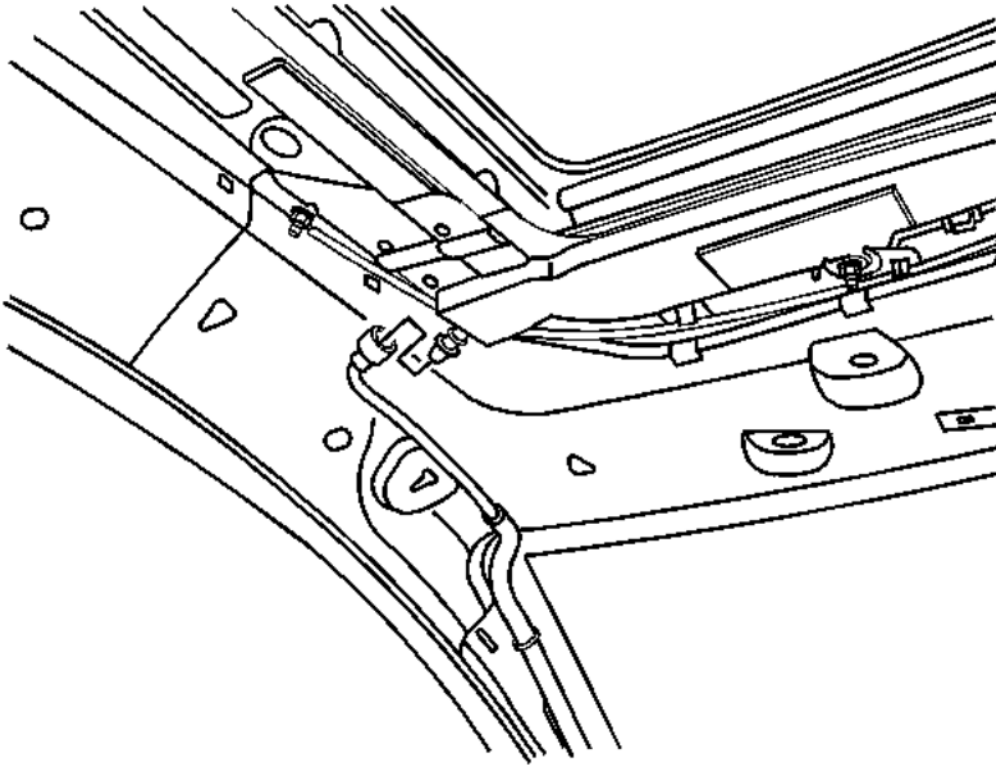


Fig. 22: View Of Sunroof Front Drain Hose

Courtesy of GENERAL MOTORS CORP.

6. Disconnect the front sunroof drain hoses from the drain spigot.

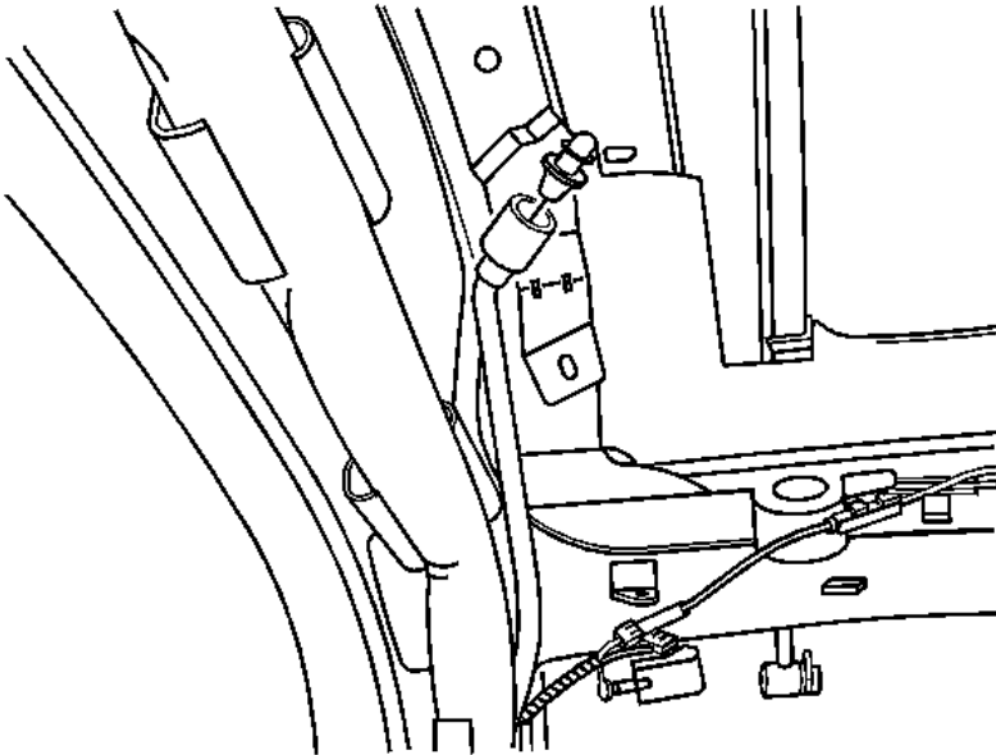


Fig. 23: View Of Sunroof Rear Drain Hose
Courtesy of GENERAL MOTORS CORP.

7. Disconnect the rear sunroof drain hoses from the drain spigot.

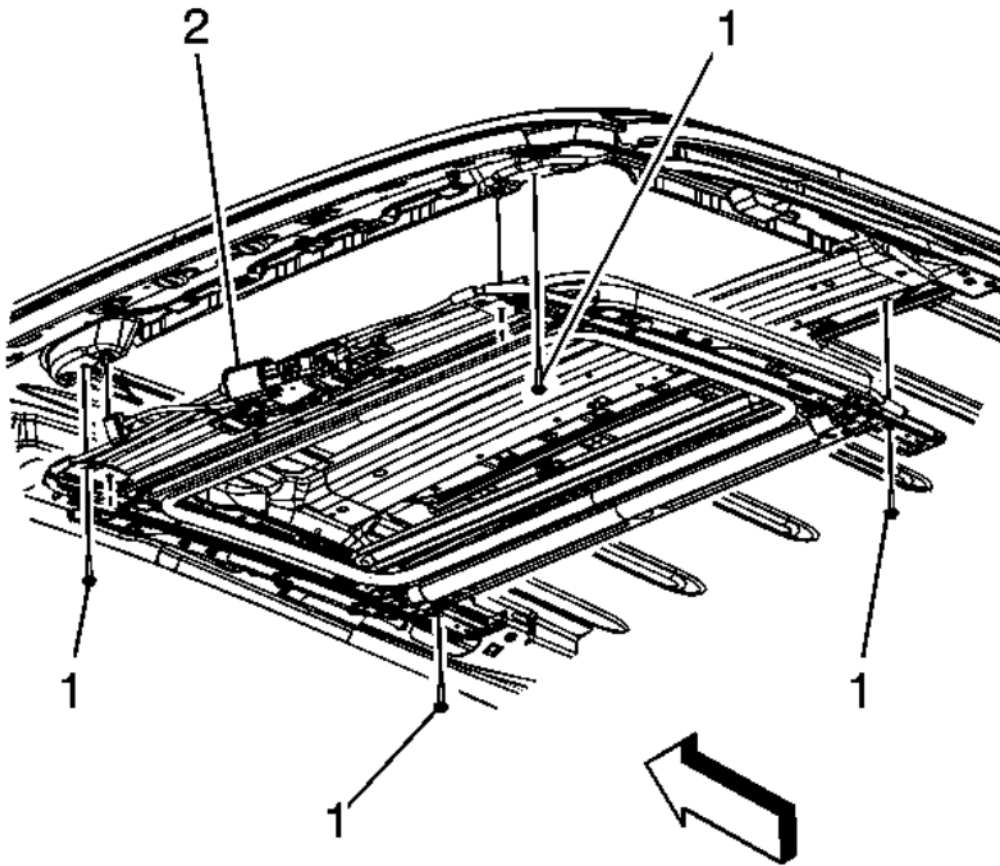


Fig. 24: Locating Module
 Courtesy of GENERAL MOTORS CORP.

8. Remove the front to bolts located at the motor base first.
9. With the aid of an assistant, remove the remaining bolts (1) that secure the module (2) to the roof ring.

Lower and remove the sunroof module assembly out through the passenger side door.

10. If you are replacing the sunroof module assembly, remove the sunroof motor/actuator. Refer to **Sunroof Motor/Actuator Replacement (Extended Cab)** or **Sunroof Motor/Actuator Replacement (Crew Cab)**.

1. If you are replacing the sunroof module assembly, install the sunroof motor/actuator. Refer to **Sunroof Motor/Actuator Replacement (Extended Cab)** or **Sunroof Motor/Actuator Replacement (Crew Cab)**.

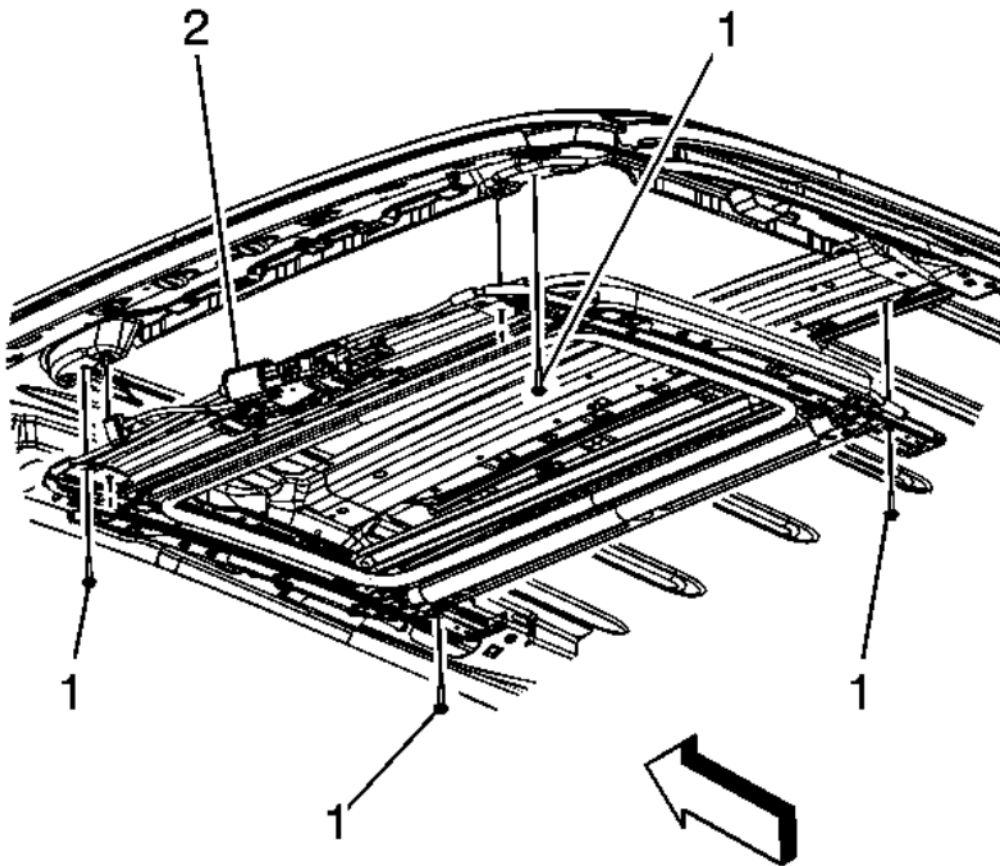


Fig. 25: Locating Module
Courtesy of GENERAL MOTORS CORP.

2. With the aid of an assistant, position the sunroof module assembly to the roof ring.

NOTE: Refer to **Fastener Notice** .

3. Install the 4 bolts (1) that secure the module (2) to the roof ring.

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

4. Install the remaining bolts at the motor base.

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

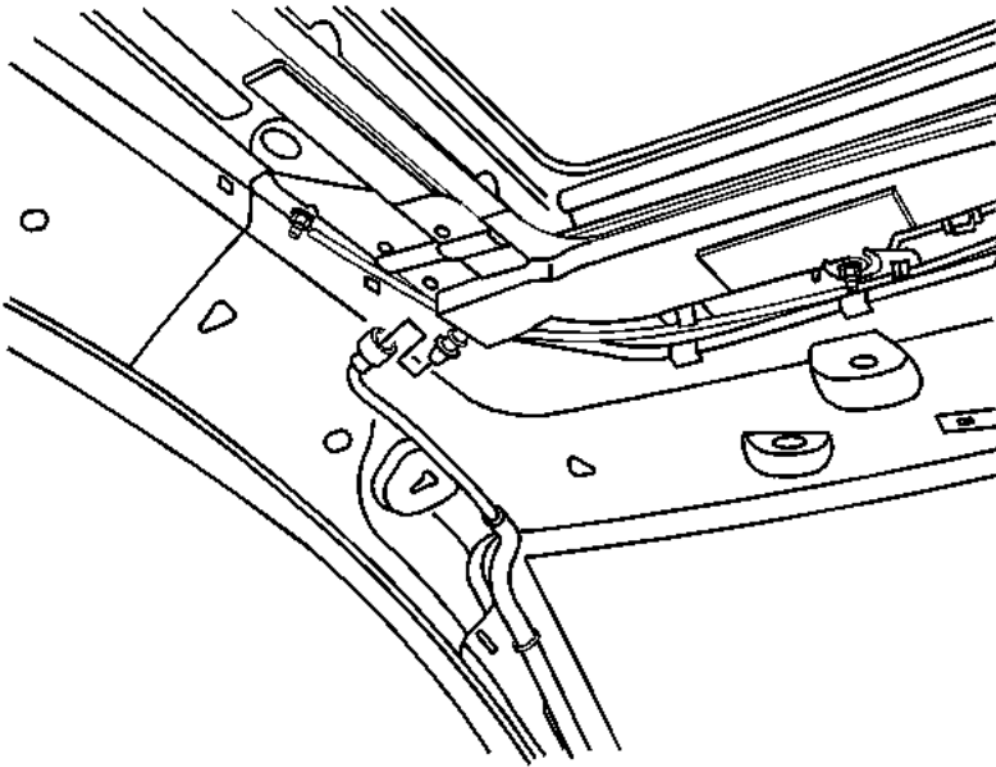


Fig. 26: View Of Sunroof Front Drain Hose
Courtesy of GENERAL MOTORS CORP.

5. Connect the front and rear drain hoses to the drain spigots.
6. Install the sunshade. Refer to **Sunroof Sunshade Replacement (Extended Cab)** or **Sunroof Sunshade Replacement (Crew Cab)**.
7. Install the headliner. Refer to **Headlining Trim Panel Replacement (Regular Cab)** or **Headlining Trim Panel Replacement (Crew Cab)** or **Headlining Trim Panel Replacement (Extended Cab)** .

Verify that the electrical connector is connected to the sunroof motor/actuator.

8. Install the sunroof window. Adjust as necessary. Refer to **Sunroof Window Height and Opening Fit Adjustment**.
9. Initialize the sunroof motor/actuator. Refer to **Sunroof Motor/Actuator Initialization/Teach Process (Extended Cab New Motor)** or **Sunroof Motor/Actuator Initialization/Teach Process (Extended Cab Existing Motor)** or **Sunroof Motor/Actuator Initialization/Teach Process (Crew Cab Existing Motor)** or **Sunroof Motor/Actuator Initialization/Teach Process (Crew Cab New Motor)**.
10. Install the air deflector. Refer to **Sunroof Air Deflector Replacement (Extended Cab)** or **Sunroof Air Deflector Replacement (Crew Cab)**.
11. Install the sunroof finish lace. Refer to **Sunroof Opening Trim Finish Lace Replacement (Extended Cab)**.
12. Inspect the sunroof for proper operation.

SUNROOF PANEL/WINDOW GARNISH MOLDING REPLACEMENT (CREW CAB)

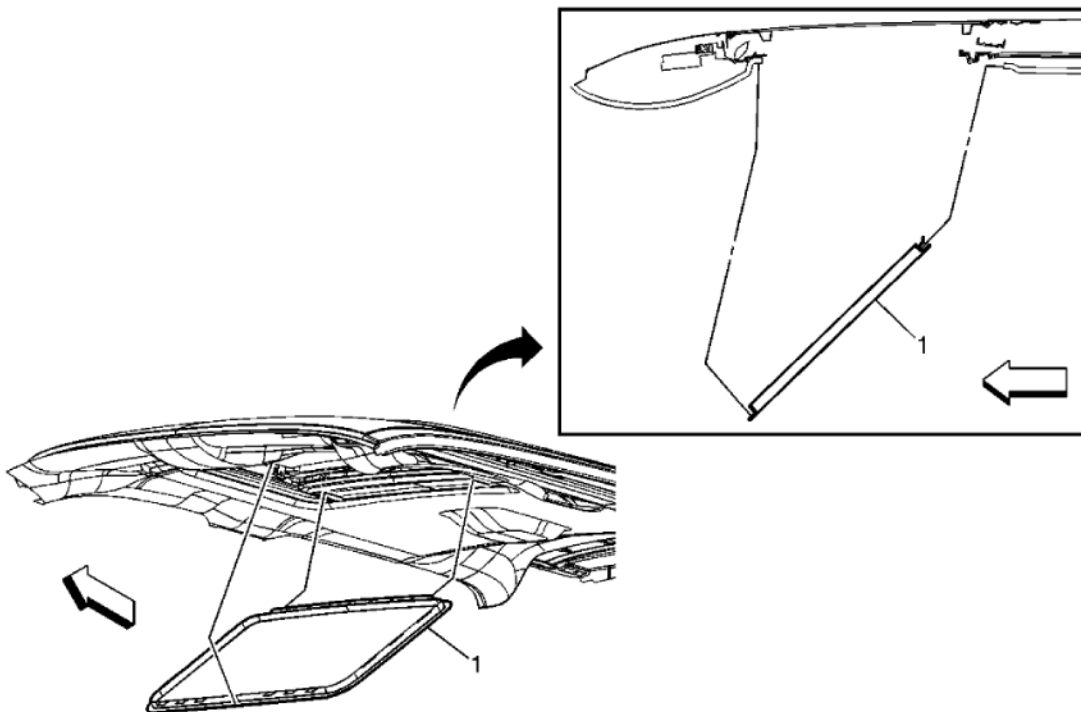


Fig. 27: View Of Sunroof Panel/Window Garnish Molding (Crew Cab)
Courtesy of GENERAL MOTORS CORP.

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Callout	Component Name
1	Sunroof Panel/Window Garnish Molding Assembly Tip: 1. Tilt molding approximately 45 degrees with rear end up. 2. Push molding rearward to sandwich headliner and sunroof tub between molding flange and tabs. 3. Grab front of molding at centerline and pull rearward approximately 1 inch. 4. Push front edge up, locking front tabs in place. 5. Push up on outboard edges of molding to secure. 6. After molding is secured, slide the molding forward until it stops.

SUNROOF MOTOR/ACTUATOR INITIALIZATION/TEACH PROCESS (EXTENDED CAB NEW NEW MOTOR)

Perform the Initialization/Teach Procedure any time a new sunroof motor/actuator is installed in the vehicle.

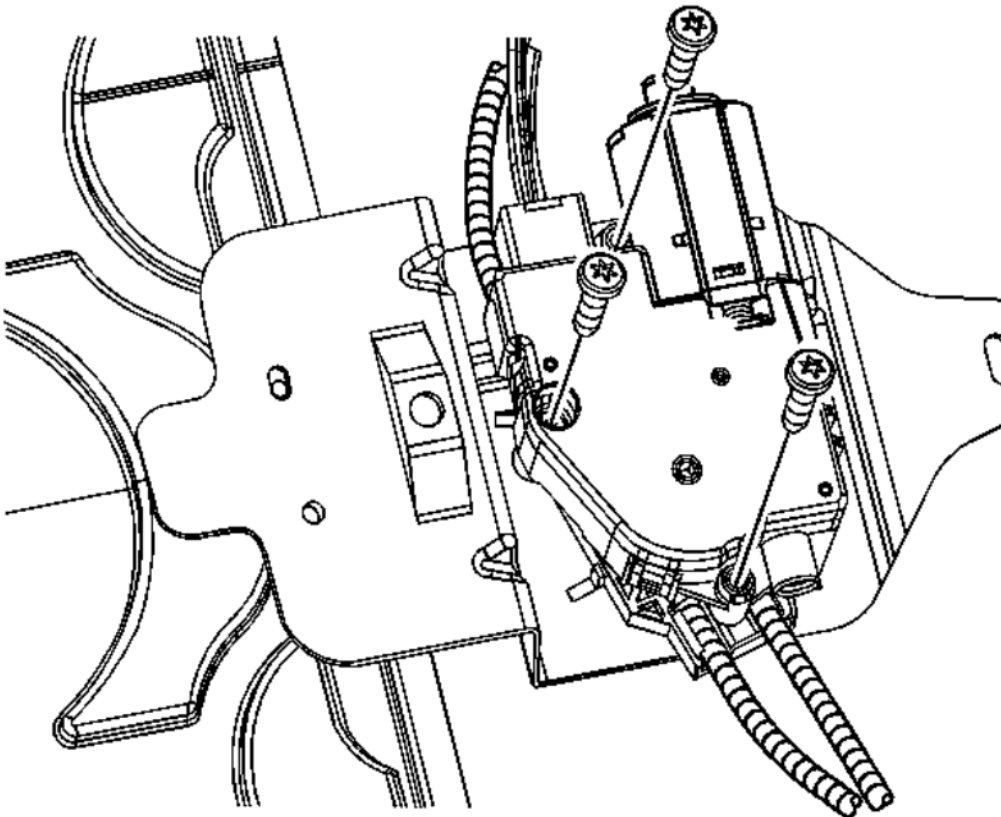


Fig. 28: Identifying Sunroof Motor/Actuator (New Style MD4)
Courtesy of GENERAL MOTORS CORP.

1. Press and hold the open switch until the glass panel stalls at the hard stop, then moves slightly forward. This position is called the soft stop or full open position.
2. Release the switch.
3. Press and hold the open switch within 6 seconds.
4. Hold the open switch until the glass panel moves to the closed position and stops.
5. Release the switch.

SUNROOF MOTOR/ACTUATOR INITIALIZATION/TEACH PROCESS (EXTENDED CAB EXISTING MOTOR)

Perform the Initialization/Teach Procedure any time a new sunroof motor/actuator is installed in

the vehicle.

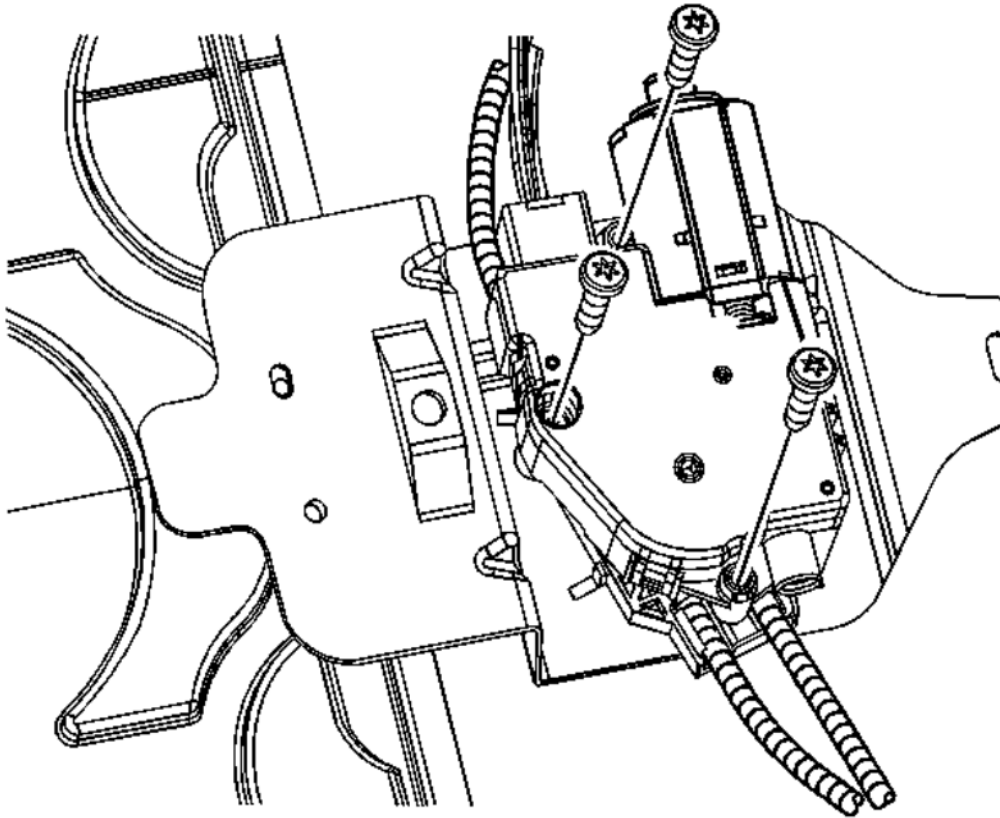


Fig. 29: Identifying Sunroof Motor/Actuator (New Style MD4)
Courtesy of GENERAL MOTORS CORP.

1. Press and hold the open switch until the full open position.
2. Release the switch.
3. Press and hold the open switch for 10 seconds or more. The glass panel will move further rearward of the open position, stall at the hard stop, and move back slightly to the soft stop or full open position.
4. Release the switch
5. Press and hold the open switch within 6 seconds.
6. Hold the open switch until the glass panel moves to the closed position and stops.

7. Release the switch.

SUNROOF MOTOR/ACTUATOR INITIALIZATION/TEACH PROCESS (CREW CAB EXIST EXISTING MOTOR)**Re-Initialization/Teach Procedure (Manual Method), possible Re-Installation**

Perform the initialization/teach procedure at the first operation test of the sunroof. Ensure the electrical harness on the headliner is connected to the large roof, battery power is applied and the ignition switch is on.

1. Press the sunroof switch to the VENT OPEN position until the window reaches the vent open soft stop position and release. Press the sunroof switch - vent open and hold for approximately 10 seconds, until the window stalls at the front hard stop in the vent open position, and then moves slightly to the soft stop position. Release the button. (This is the re-initialization portion.)

Continue with steps 2-4.

2. Within 3 seconds, press and hold the sunroof switch-vent open again. The sunroof window will move toward and past the flush position. (This is the teach portion.)
3. Continue holding the switch until the sunroof window moves to full open and then back to close and stops at the closed position. Release the button. The initialization/teach procedure is complete.
4. Verify the operation of the roof.

The initialization/teach procedure is not completed if one of the following events occurs before the initialization/teach cycle is finished:

- The sunroof switch is not held in the VENT OPEN position.
- Ignition and/or battery power has not been removed.
- Glass panel has not reached the CLOSE position.

If the initialization/teach procedure is not carried out completely, it must be started again.

SUNROOF MOTOR/ACTUATOR INITIALIZATION/TEACH PROCESS (CREW CAB NEW MOTOR)**Initialization/Teach Procedure (Manual Method), New/First Time Installation**

Perform the initialization/teach procedure at the first operation test of the sunroof. Ensure the

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electrical harness on the headliner is connected to the large roof, battery power is applied and the ignition switch is on.

1. Press the sunroof switch to the VENT OPEN position until the window stall at the front hard stop in the VENT OPEN position, and then moves slightly to the soft stop position. Release the button. (This is the initialization portion).
2. Within 3 seconds, press and hold the sunroof switch-vent open again. The sunroof window will move toward and past the flush position. (This is the teach portion).
3. Continue holding the switch until the sunroof window moves to full open and then back to close and stops at the closed position. Release the button. The initialization/teach procedure is complete.
4. Verify the operation of the roof.

The initialization/teach procedure is not completed if one of the following events occurs before the initialization/teach cycle is finished:

- The sunroof switch is not held in the VENT OPEN position.
- Ignition and/or battery power has not been removed.
- Glass panel has not reached the CLOSE position.

If the initialization/teach procedure is not carried out completely, it must be started again.

SUNROOF MOTOR/ACTUATOR REPLACEMENT (EXTENDED CAB)

Removal Procedure

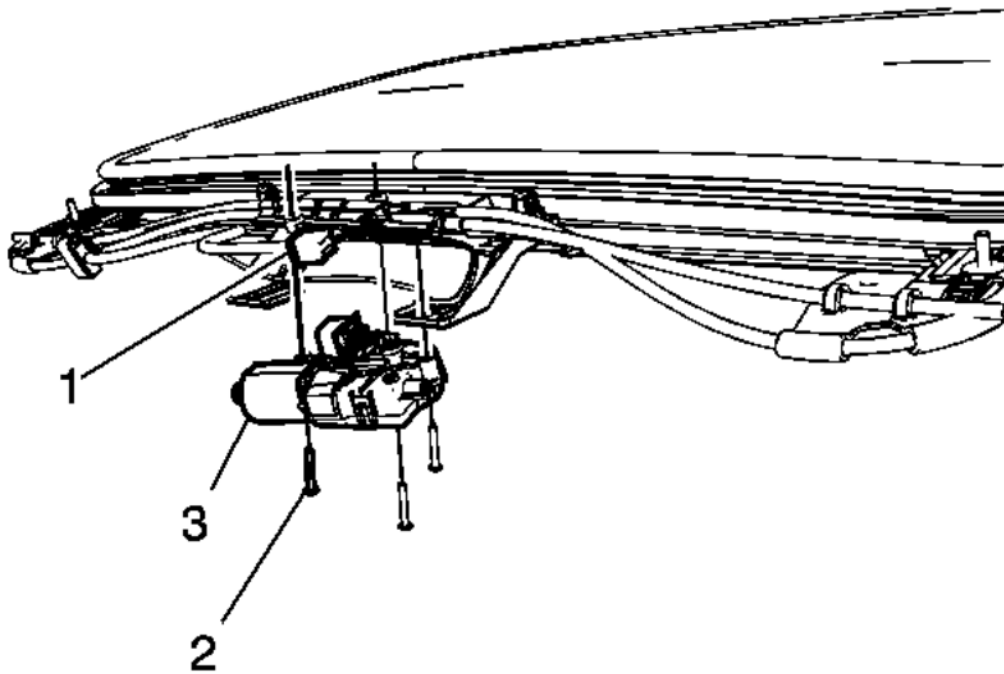


Fig. 30: Sunroof Motor/Actuator
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: The sunroof motor/actuator drive shaft turns in both directions and contains no limit switches. You may replace the sunroof motor/actuator with the window panel in any position.

1. It is only necessary to lower the headliner. Only do those step in headliner replacement that will lower the headliner enough to gain access to the part. Refer to Headlining Trim Panel Replacement (Regular Cab) or Headlining Trim Panel Replacement (Crew Cab) or Headlining Trim Panel Replacement (Extended Cab) .
2. Disconnect the electrical connector (1) from the motor/actuator.
3. Remove the screws (2) from the sunroof motor/actuator.
4. Pull straight down to disengage the drive gear from the cables housed within the sunroof cable drive tubes.
5. Remove the sunroof motor/actuator (3) from the sunroof module.

Installation Procedure

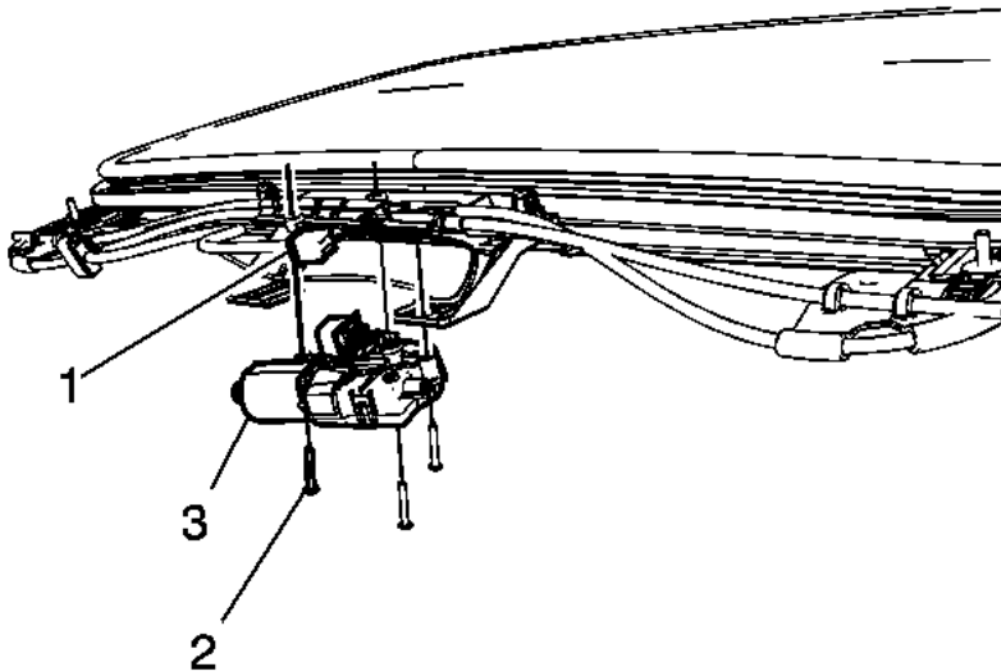


Fig. 31: Sunroof Motor/Actuator
Courtesy of GENERAL MOTORS CORP.

1. Position the sunroof motor/actuator (3) to the sunroof module.
2. Push the sunroof motor/actuator straight upward to engage the drive gear between the cables housed within the sunroof cable drive tubes.

NOTE: Refer to **Fastener Notice** .

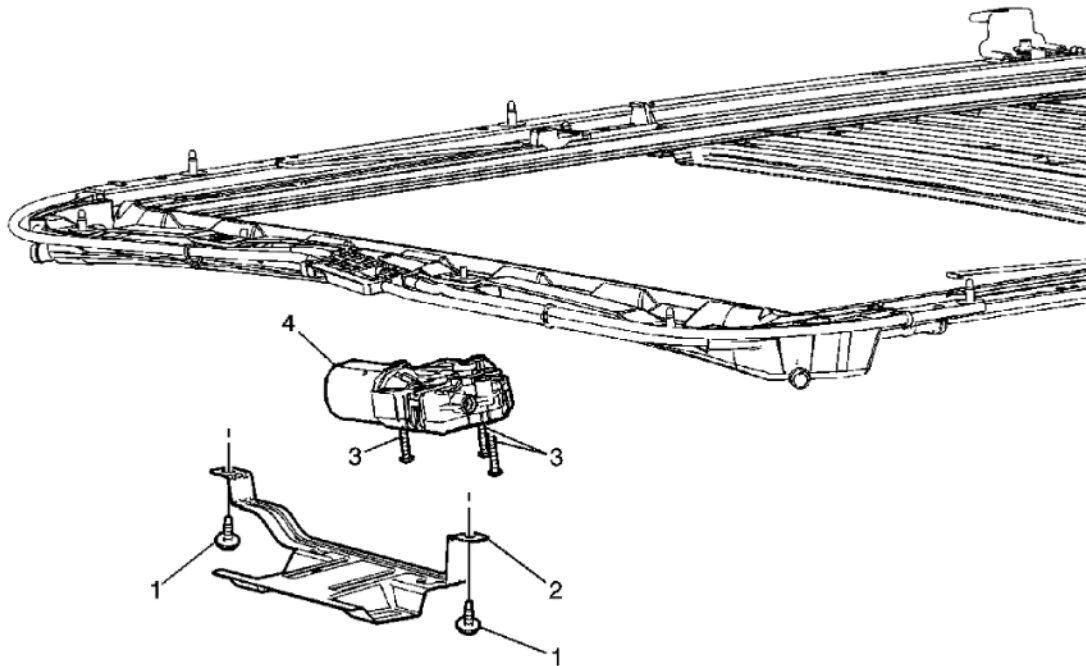
3. Install the sunroof motor/actuator screws (2) to the sunroof actuator.

Tighten: Tighten the screws to 4 N.m (35 lb in).

4. Connect the electrical connector (1) to the sunroof motor/actuator.
5. Install the headliner. Refer to **Headlining Trim Panel Replacement (Regular Cab)** or **Headlining Trim Panel Replacement (Crew Cab)** or **Headlining Trim Panel**

Replacement (Extended Cab) .

6. Initialize/teach the sunroof motor/actuator. Refer to **Sunroof Motor/Actuator Initialization/Teach Process (Extended Cab New Motor)** or **Sunroof Motor/Actuator Initialization/Teach Process (Extended Cab Existing Motor)** or **Sunroof Motor/Actuator Initialization/Teach Process (Crew Cab Existing Motor)** or **Sunroof Motor/Actuator Initialization/Teach Process (Crew Cab New Motor)**.
7. Inspect the sunroof for proper operation.
8. Refer to **Control Module References** for programming and setup information.

SUNROOF MOTOR/ACTUATOR REPLACEMENT (CREW CAB)**Fig. 32: View Of Sunroof Motor/Actuator (Crew Cab)**

Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure:	
It is only necessary to lower the headliner. Only do those step in headliner replacement that will lower the headliner enough to gain access to the part. Refer to <u>Headlining Trim Panel Replacement (Regular Cab)</u> or <u>Headlining Trim Panel Replacement (Crew Cab)</u> or <u>Headlining Trim Panel Replacement (Extended Cab)</u> .	
	Headliner Trim Panel Console Bracket Bolt (Qty: 2)

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1	NOTE: Refer to <u>Fastener Notice</u> . Tighten: 10 N.m (89 lb in)
2	Headliner Trim Panel Console Bracket
3	Sunroof Motor/Actuator Bolt (Qty: 3) Tighten: 4 N.m (35 lb in)
4	Sunroof Motor/Actuator Procedure: Ensure that the motor/actuator is initialize/tech. Refer to <u>Sunroof Motor/Actuator Initialization/Teach Process (Extended Cab New Motor)</u> or <u>Sunroof Motor/Actuator Initialization/Teach Process (Extended Cab Existing Motor)</u> or <u>Sunroof Motor/Actuator Initialization/Teach Process (Crew Cab Existing Motor)</u> or <u>Sunroof Motor/Actuator Initialization/Teach Process (Crew Cab New Motor)</u> .

SUNROOF SUNSHADE REPLACEMENT (EXTENDED CAB)

Removal Procedure

IMPORTANT: If the sunshade spring releases, it will be necessary to rewind it. Turn the sunshade roller end slot 20 times in the counterclockwise direction.

IMPORTANT: A new sunshade service part comes pre-loaded with a pin tool holding spring tension on the sunshade. If the sunshade spring releases, it will be necessary to rewind it and reinstall the pin tool. Following installation, retain the pin tool for future applications.

1. Remove the sunroof window. Refer to Sunroof Window Replacement (Extended Cab) or Sunroof Window Replacement (Crew Cab).
2. Power the sunroof window guides to the fully open position.

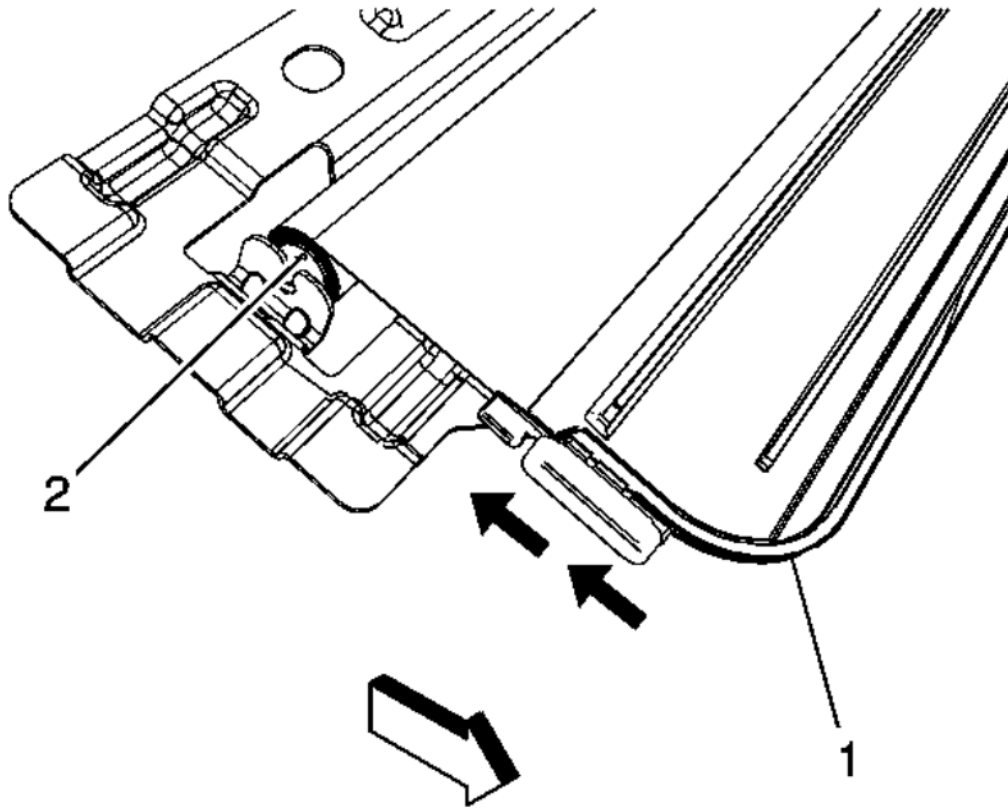


Fig. 33: View of Sunshade And Cam Locking Hole
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: The cam locking hole will come in to view when the sunshade is in the fully open position on the passengers side.

3. Close the sunshade (1) until the cam locking hole (2) come in to view.

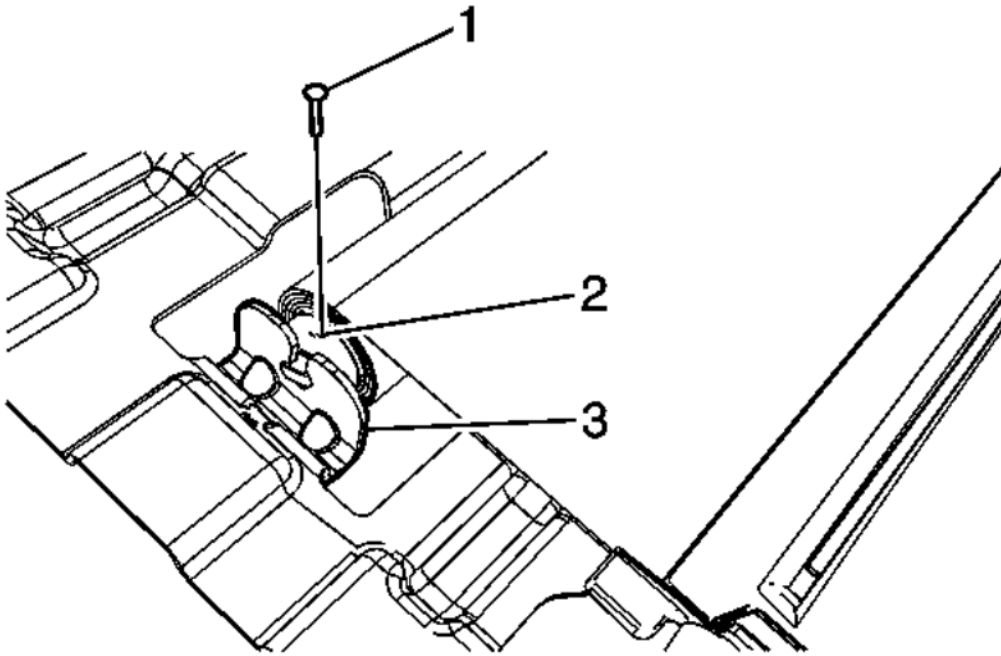


Fig. 34: Sunshade Cam Locking Hole
Courtesy of GENERAL MOTORS CORP.

4. Insert a suitable tool (1) into the sunshade cam locking hole (2).

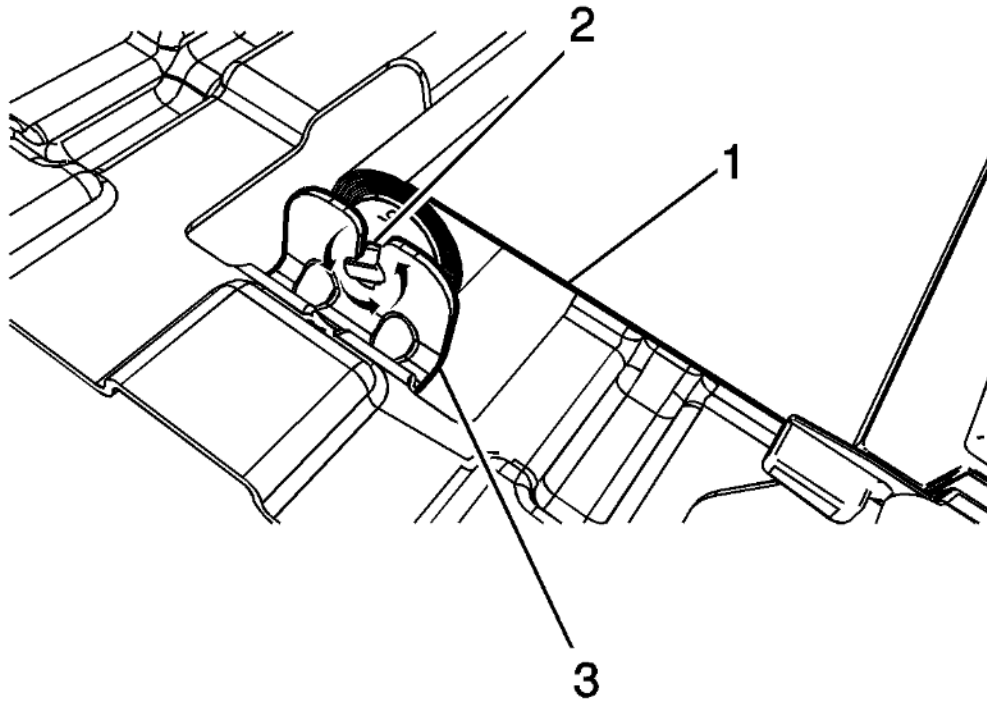


Fig. 35: Turning The Sunshade Cam Counterclockwise
Courtesy of GENERAL MOTORS CORP.

5. Turn the sunshade (1) counterclockwise until the shade cam (2) is align with the bracket (3) notch.

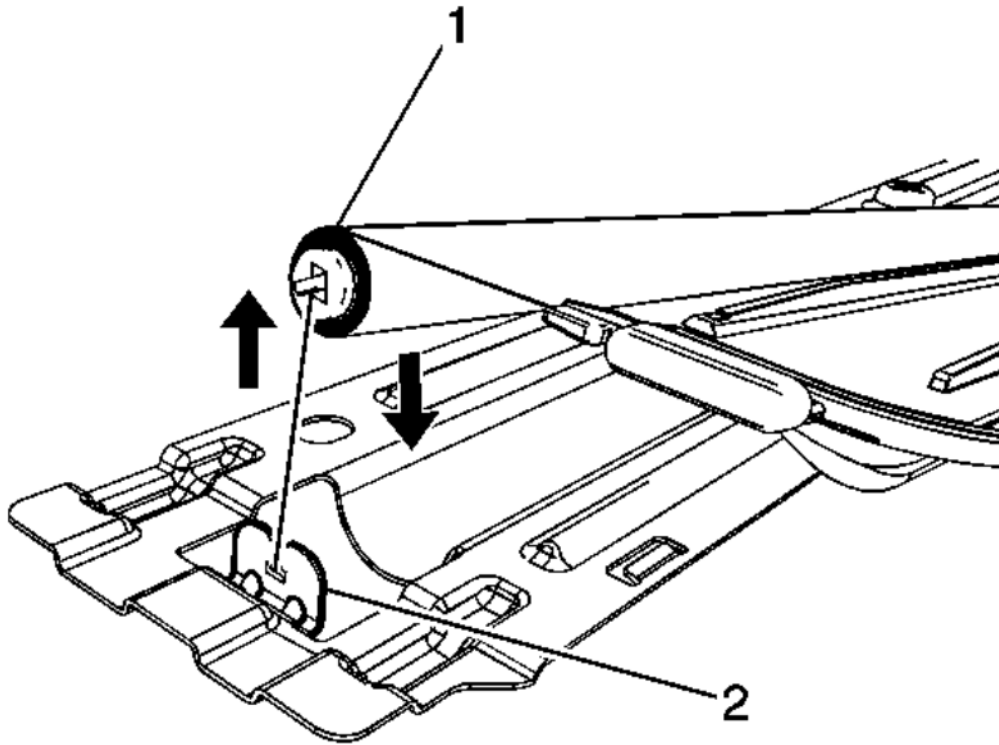


Fig. 36: Identifying Sunshade Bracket Notch
Courtesy of GENERAL MOTORS CORP.

6. Lift upward on the sunshade (1) removing it from the bracket (2).

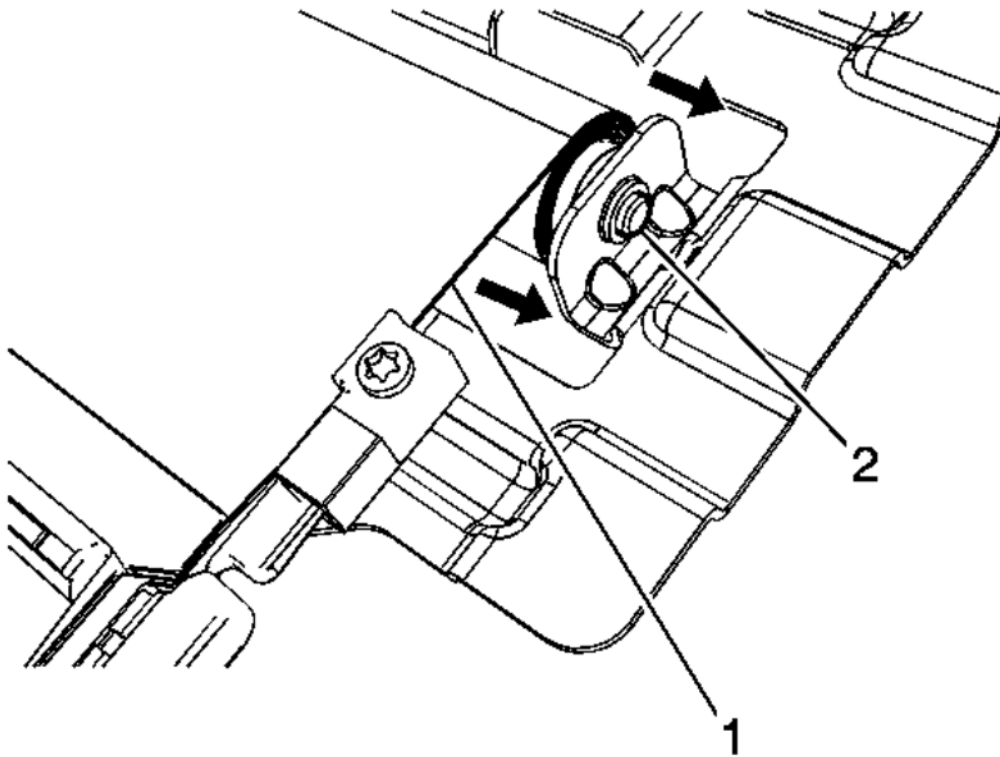


Fig. 37: View Of Sunshade End & Bracket Notch
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: The sunshade must be removed from the top of the vehicle.

7. Push the sunshade (1) inward to the driver side releasing it from the bracket (2) notch.
8. Remove the sunshade from outside of the vehicle.

Installation Procedure

1. Install the sunshade to the vehicle from the passengers side.

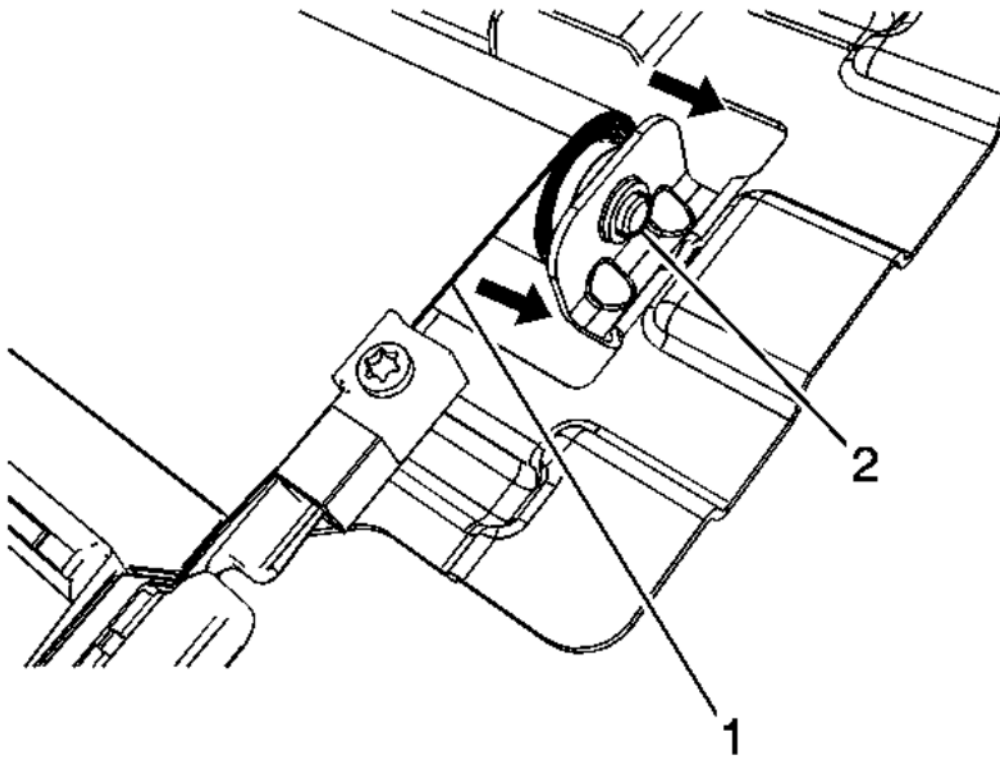


Fig. 38: View Of Sunshade End & Bracket Notch
Courtesy of GENERAL MOTORS CORP.

2. Insert the end of the sunshade (1) to the driver side bracket (2) notch.

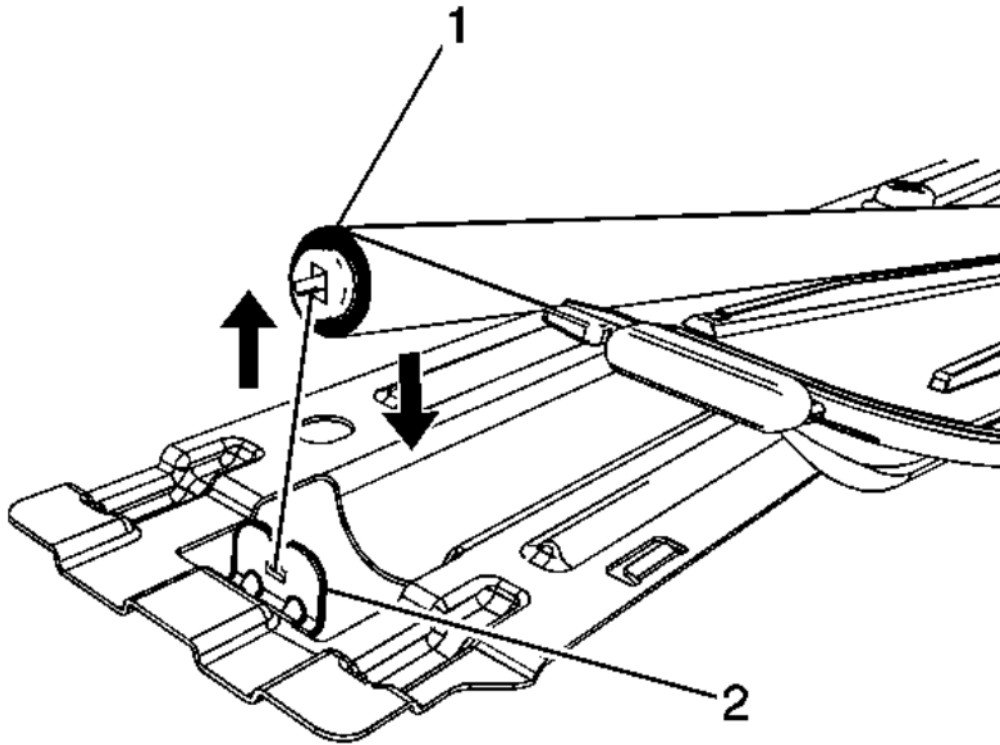


Fig. 39: Identifying Sunshade Bracket Notch
Courtesy of GENERAL MOTORS CORP.

3. Insert the sunshade (1) to the passengers side bracket (2) notch.

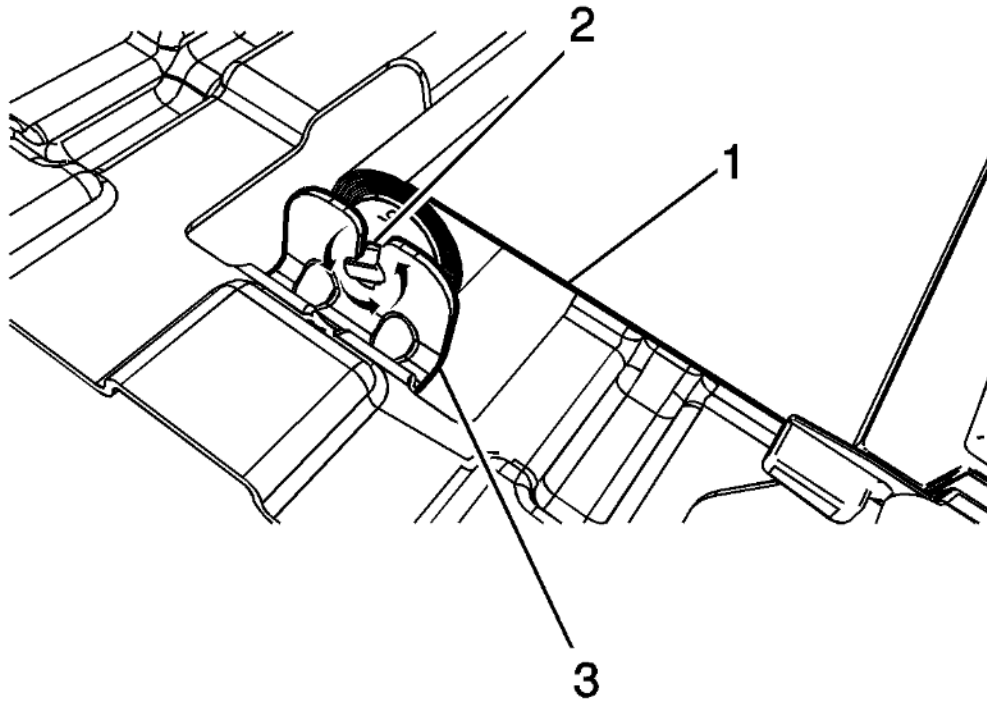


Fig. 40: Turning Sunshade Cam Counterclockwise
Courtesy of GENERAL MOTORS CORP.

4. Turn the sunshade cam (2) until it is aligned with the bracket (3) notch.
5. Install the sunshade.

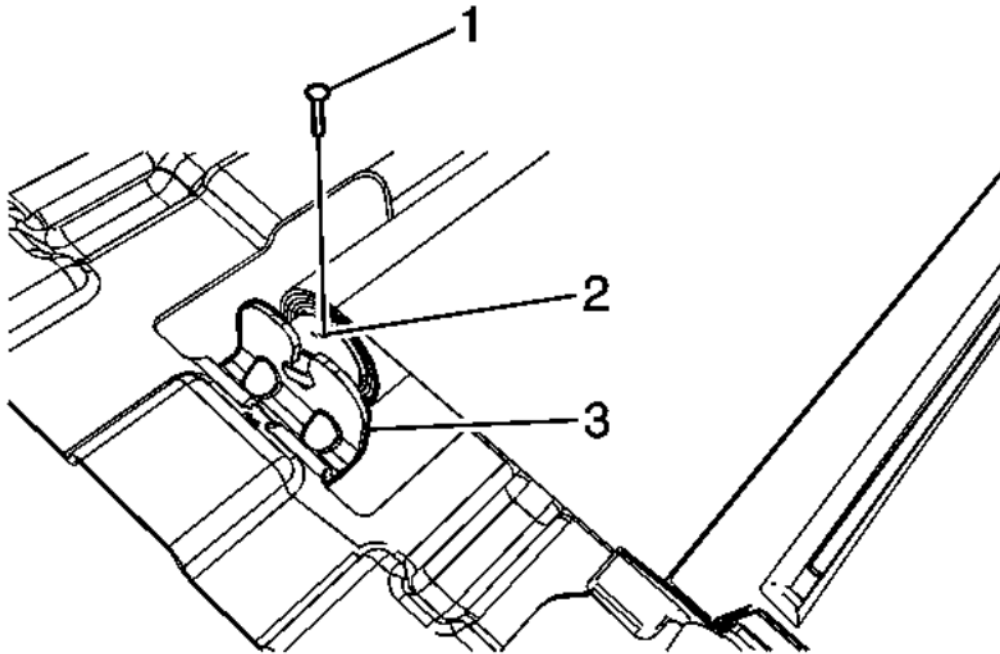


Fig. 41: Sunshade Cam Locking Hole
Courtesy of GENERAL MOTORS CORP.

6. Remove the suitable tool (1) from the sunshade cam locking hole (2).
7. Ensure that the sunshade cam (2) is fully seated in the bracket (3) and the sunshade slides smoothly.
8. Install the sunroof window. Refer to **Sunroof Window Replacement (Extended Cab)** or **Sunroof Window Replacement (Crew Cab)**.
9. Verify the operation of the sunshade.

SUNROOF SUNSHADE REPLACEMENT (CREW CAB)

Removal Procedure

1. Remove the sunroof window. Refer to **Sunroof Window Replacement (Extended Cab)** or **Sunroof Window Replacement (Crew Cab)**.

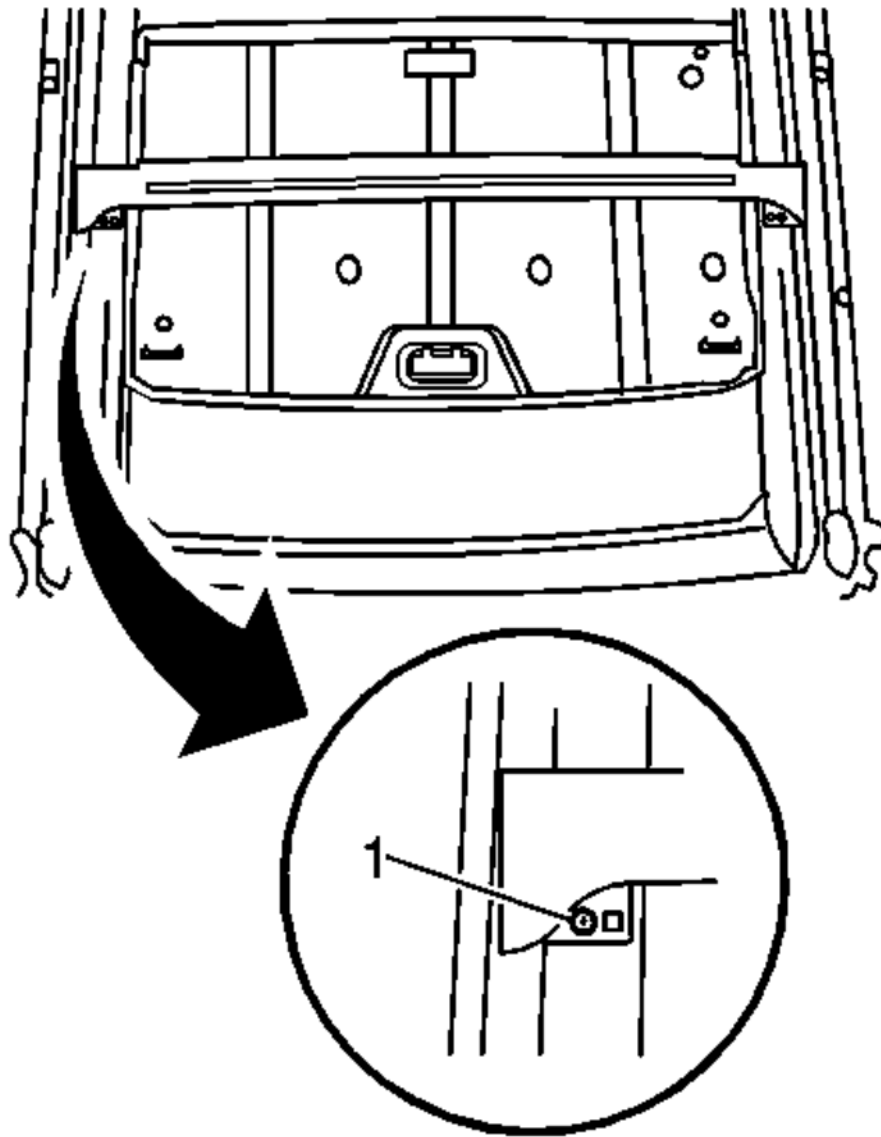


Fig. 42: Sunroof Assembly Retaining Screw
Courtesy of GENERAL MOTORS CORP.

2. Remove the screws (1) that retain the water trough to the sunroof assembly.
3. Remove the water trough from the sunroof assembly from the top of the vehicle.

IMPORTANT: The sunshade must be removed from the top of the vehicle.

4. Slide the sunshade forward.

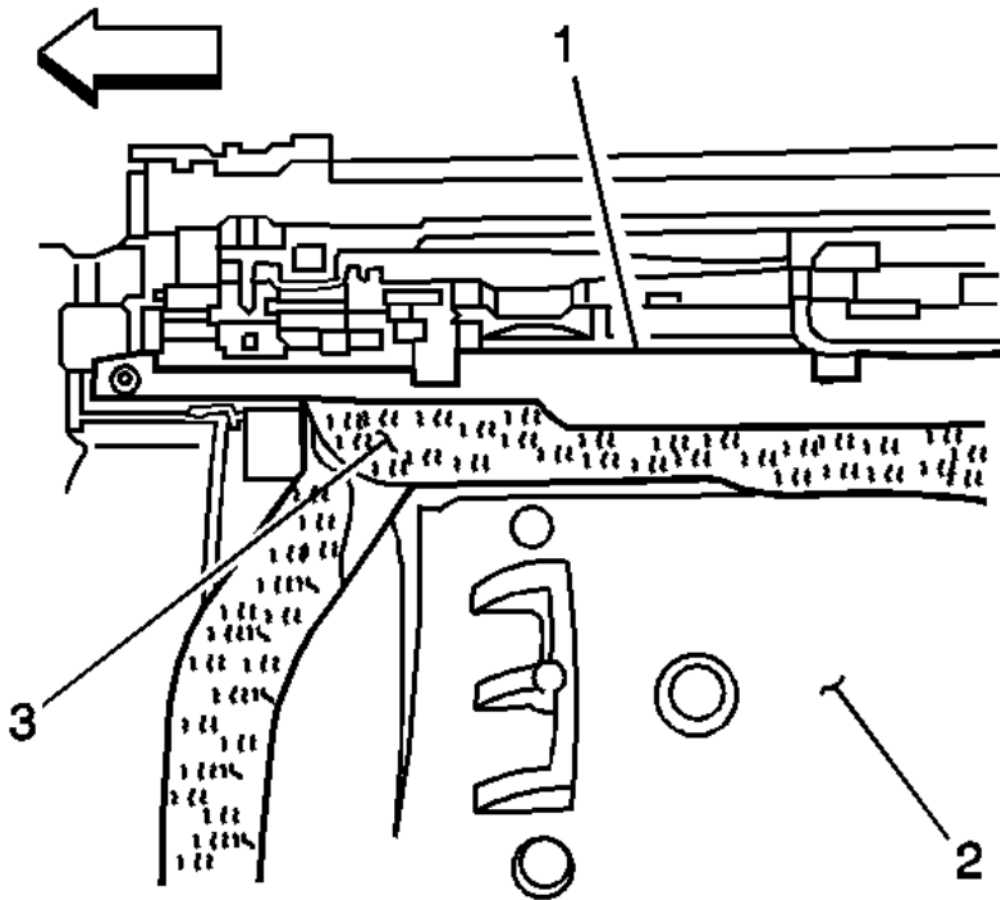


Fig. 43: Track Slot, Retaining Tabs And Sunshade
Courtesy of GENERAL MOTORS CORP.

5. Flex the center of the sunshade (2) upward while simultaneously sliding the panel sideways to release the retaining tabs (3) from the track slot (1).
6. Remove the sunshade from the top of the vehicle.

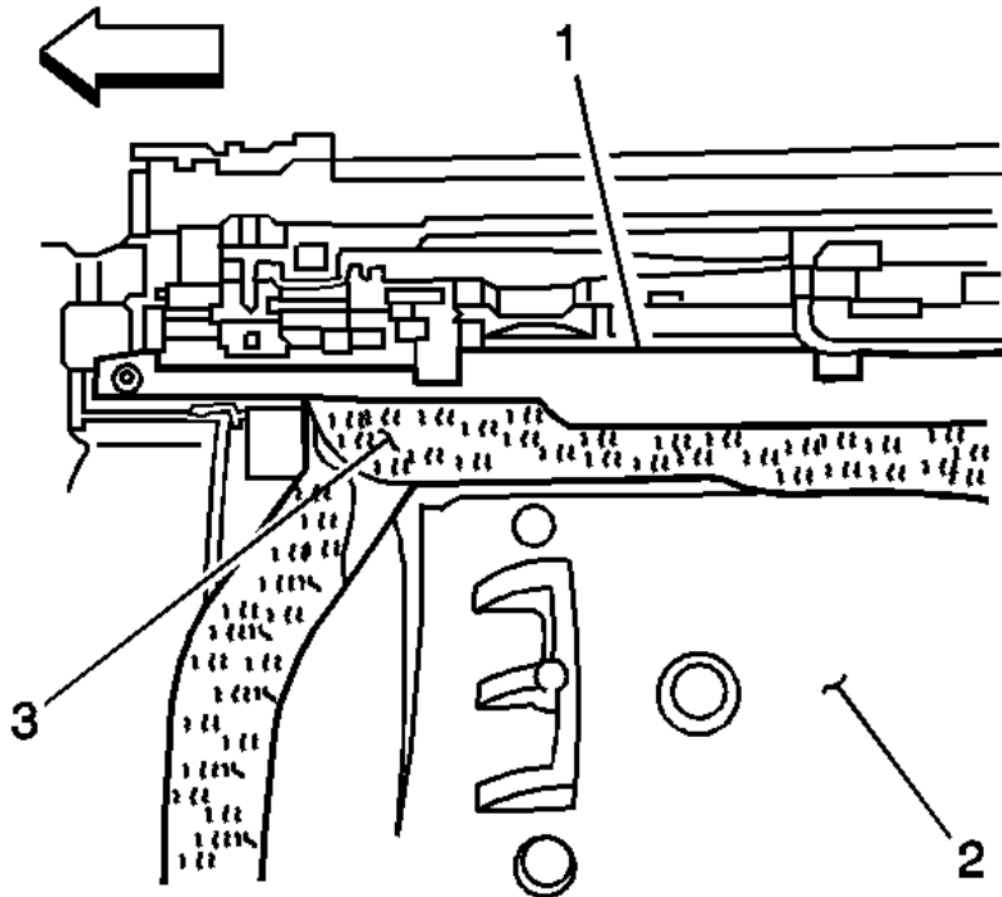


Fig. 44: Track Slot, Retaining Tabs And Sunshade
Courtesy of GENERAL MOTORS CORP.

1. Position the sunshade to the vehicle from the top of the vehicle.
2. Install the retaining tabs on the far side of the sunshade, starting with the center tab first in the track slot of the sunroof.
3. Flex the center of the sunshade (2) upwards while simultaneously inserting the retaining tabs (3) into the track slot (1).
4. Ensure that the sunshade tabs are fully seated in the track slots, and the sunshade slides smoothly.

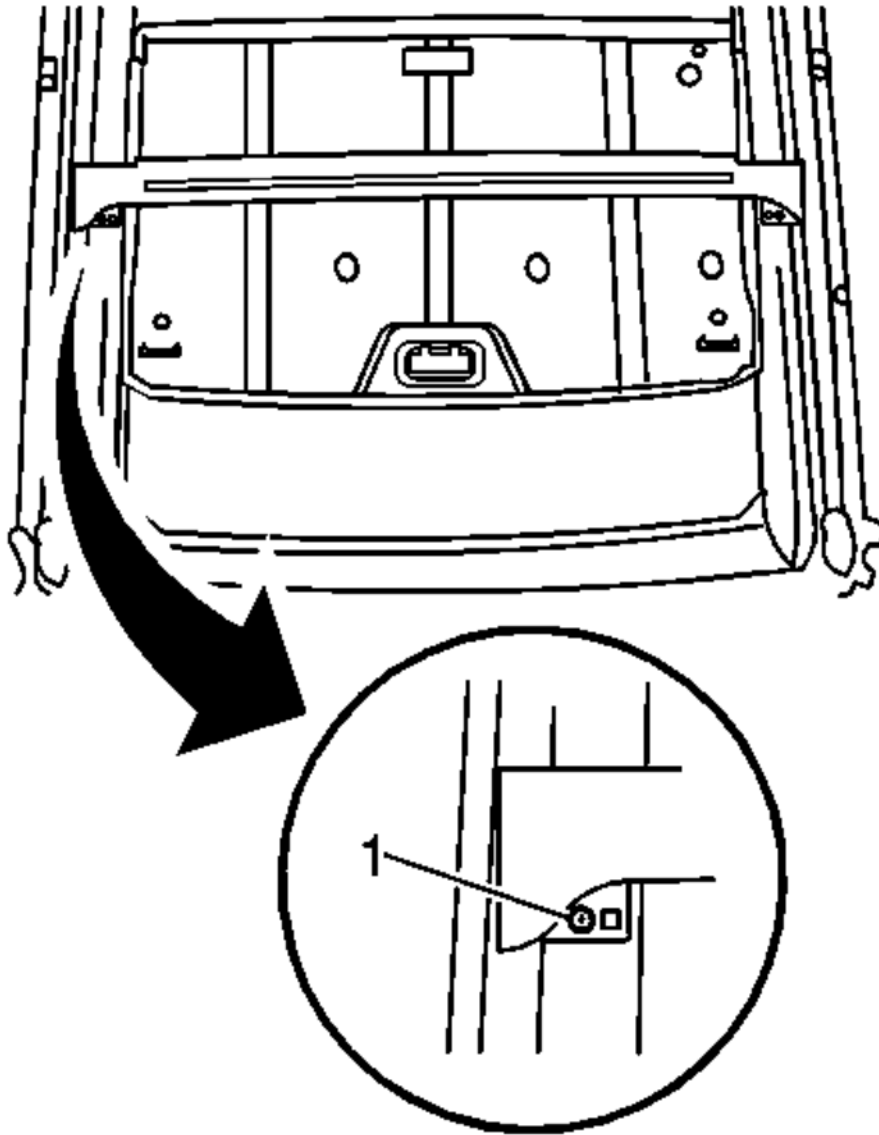


Fig. 45: Sunroof Assembly Retaining Screw
Courtesy of GENERAL MOTORS CORP.

5. Install the water trough to the sunroof from the top of the vehicle.

NOTE: Refer to Fastener Notice .

6. Install the screws (1) that retain the water trough to the sunroof.

Tighten: Tighten the screws to 1 N.m (9 lb in).

7. Install the sunroof window. Refer to **Sunroof Window Replacement (Extended Cab)** or **Sunroof Window Replacement (Crew Cab)**.

SUNROOF SUNSHADE STOP REPLACEMENT

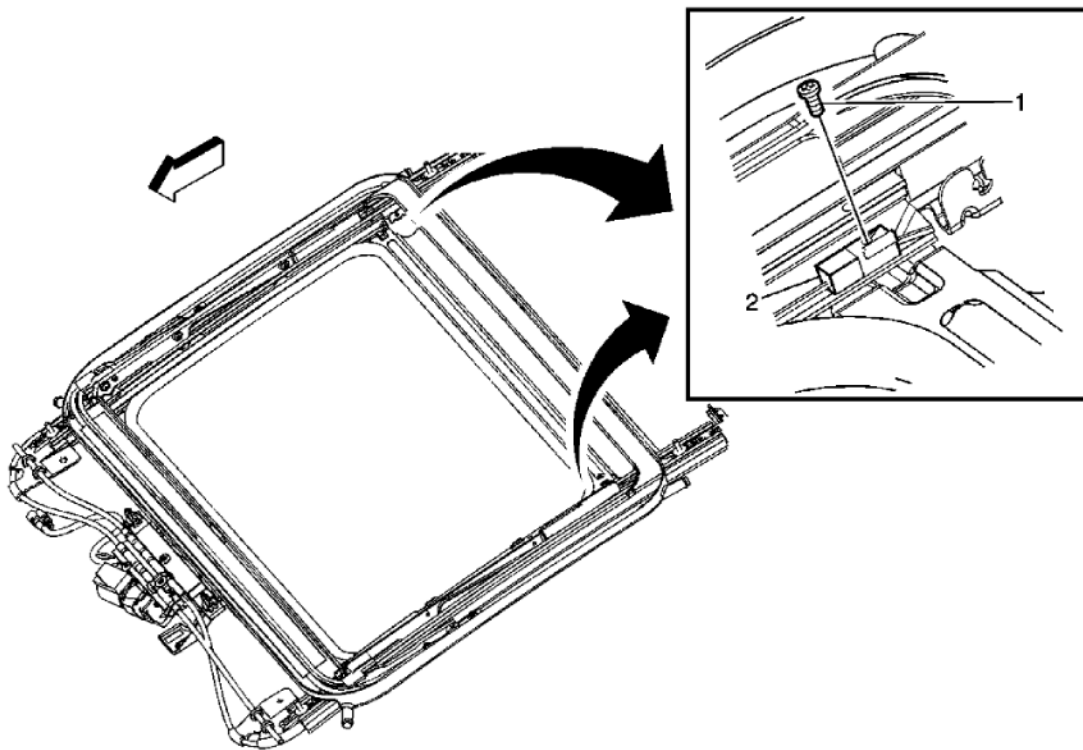


Fig. 46: View Of Sunroof Sunshade Stop
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure: Remove the sunroof window. Refer to <u>Sunroof Window Replacement (Extended Cab)</u> or <u>Sunroof Window Replacement (Crew Cab)</u> .	
1	Sunroof Window Stop Screws (Qty: 2) NOTE: Refer to <u>Fastener Notice</u> .

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	Tighten: 5 N.m (44 lb in)
2	Sunroof Window Stop (Qty: 2)

SUNROOF SWITCH REPLACEMENT (CREW CAB)

Removal Procedure

1. Remove the overhead console in order to access the sunroof switch. Refer to **Roof Console Replacement** .

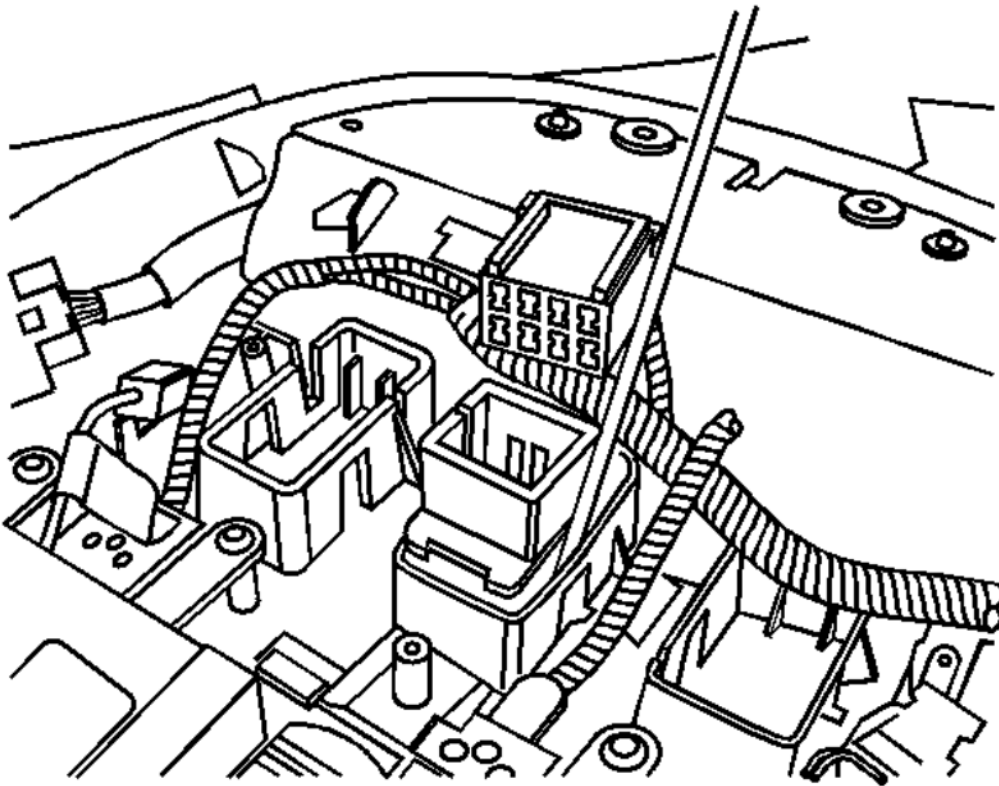


Fig. 47: Sunroof Switch Electrical Connector
Courtesy of GENERAL MOTORS CORP.

2. Disconnect the electrical connector from the sunroof switch.
3. With a flat-bladed tool, carefully release the tabs that retain the sunroof switch to the

overhead console.

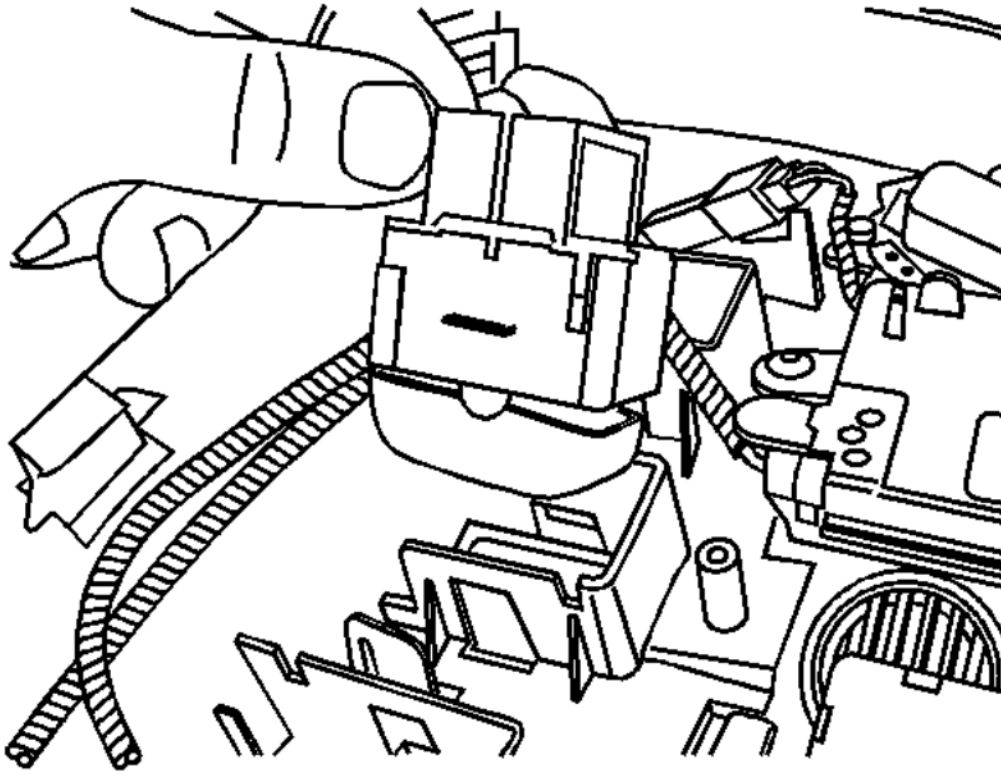


Fig. 48: Removing/Installing Sunroof Switch
Courtesy of GENERAL MOTORS CORP.

4. Remove the sunroof switch from the overhead console.

Installation Procedure

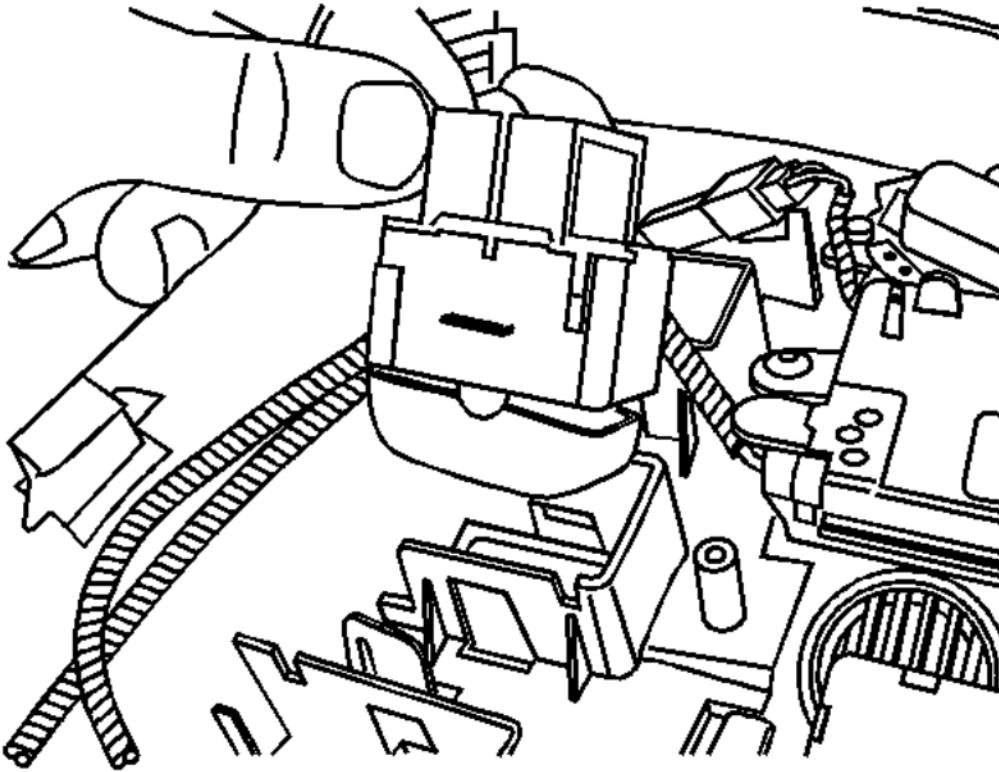


Fig. 49: Removing/Installing Sunroof Switch
Courtesy of GENERAL MOTORS CORP.

1. Position the sunroof switch alignment tabs to the slots in the console.
2. Install the sunroof switch into the console, ensuring that the retaining tabs are fully seated.
3. Connect the electrical connector to the sunroof switch.
4. Install the overhead console to the roof. Refer to **Roof Console Replacement** .

SUNROOF TRACK TIMING/SYNCHRONIZATION (EXTENDED CAB)

Removal Procedure

1. Place the module in the full open position.
2. It is only necessary to lower the headliner. Only do those step in headliner replacement that will lower the headliner enough to gain access to the part. Refer to **Headlining Trim Panel**

Replacement (Regular Cab) or Headlining Trim Panel Replacement (Crew Cab) or Headlining Trim Panel Replacement (Extended Cab) .

3. Disconnect the electrical connector from the motor/actuator.
4. Remove the motor/actuator. Refer to **Sunroof Motor/Actuator Replacement (Extended Cab)** or **Sunroof Motor/Actuator Replacement (Crew Cab)**.
5. Push the window guides rearward on the track until the guides are positioned against the rear hard stop.

Installation Procedure

1. Install the motor/actuator. Refer to **Sunroof Motor/Actuator Replacement (Extended Cab)** or **Sunroof Motor/Actuator Replacement (Crew Cab)**.
2. Connect the electrical connector to the motor/actuator.
3. Install the headliner. Refer to **Headlining Trim Panel Replacement (Regular Cab) or Headlining Trim Panel Replacement (Crew Cab) or Headlining Trim Panel Replacement (Extended Cab) .**
4. Perform the Initialization/Teach Procedure. Refer to **Sunroof Motor/Actuator Initialization/Teach Process (Extended Cab New Motor)** or **Sunroof Motor/Actuator Initialization/Teach Process (Extended Cab Existing Motor)** or **Sunroof Motor/Actuator Initialization/Teach Process (Crew Cab Existing Motor)** or **Sunroof Motor/Actuator Initialization/Teach Process (Crew Cab New Motor)**.
5. Verify the operation of the sunroof.

SUNROOF TRACK TIMING/SYNCHRONIZATION (CREW CAB)

Removal Procedure

1. Place the module in the closed/flush position.
2. Remove the sunroof window. **Sunroof Window Replacement (Extended Cab)** or **Sunroof Window Replacement (Crew Cab)**.
3. It is only necessary to lower the headliner. Only do those step in headliner replacement that will lower the headliner enough to gain access to the part. Refer to **Headlining Trim Panel Replacement (Regular Cab)** or **Headlining Trim Panel Replacement (Crew Cab)** or **Headlining Trim Panel Replacement (Extended Cab) .**
4. Disconnect the electrical connector from the motor/actuator.
5. Remove the motor/actuator. Refer to **Sunroof Motor/Actuator Replacement (Extended Cab)** or **Sunroof Motor/Actuator Replacement (Crew Cab)**.

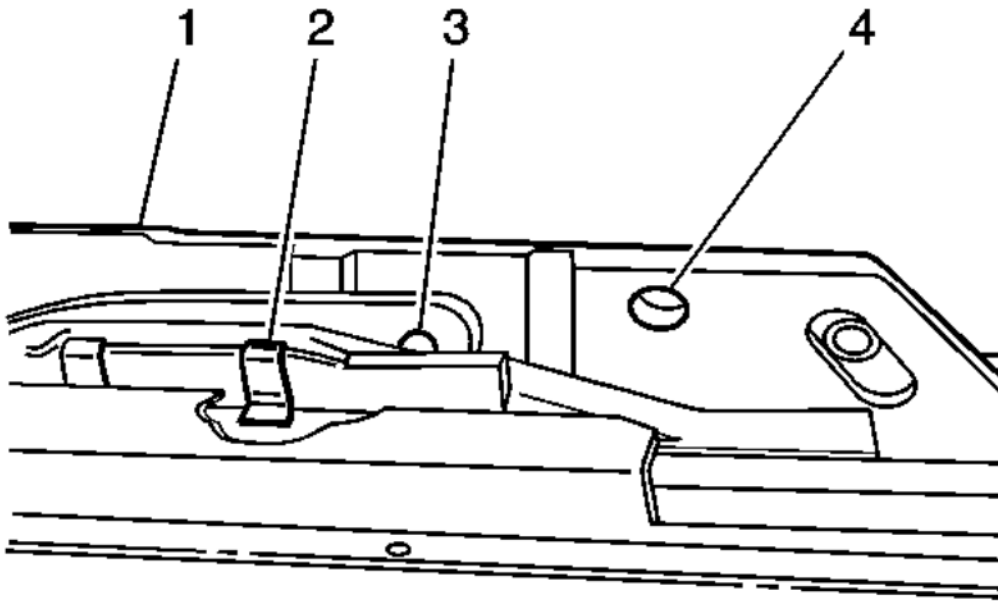


Fig. 50: View Of Cam Assembly, Timing Hole & Lifter Arm
Courtesy of GENERAL MOTORS CORP.

6. Push the cam assembly (2) forward until the timing hole (3) in the cam is aligned with the timing hole (4) in the lifter arm (1).

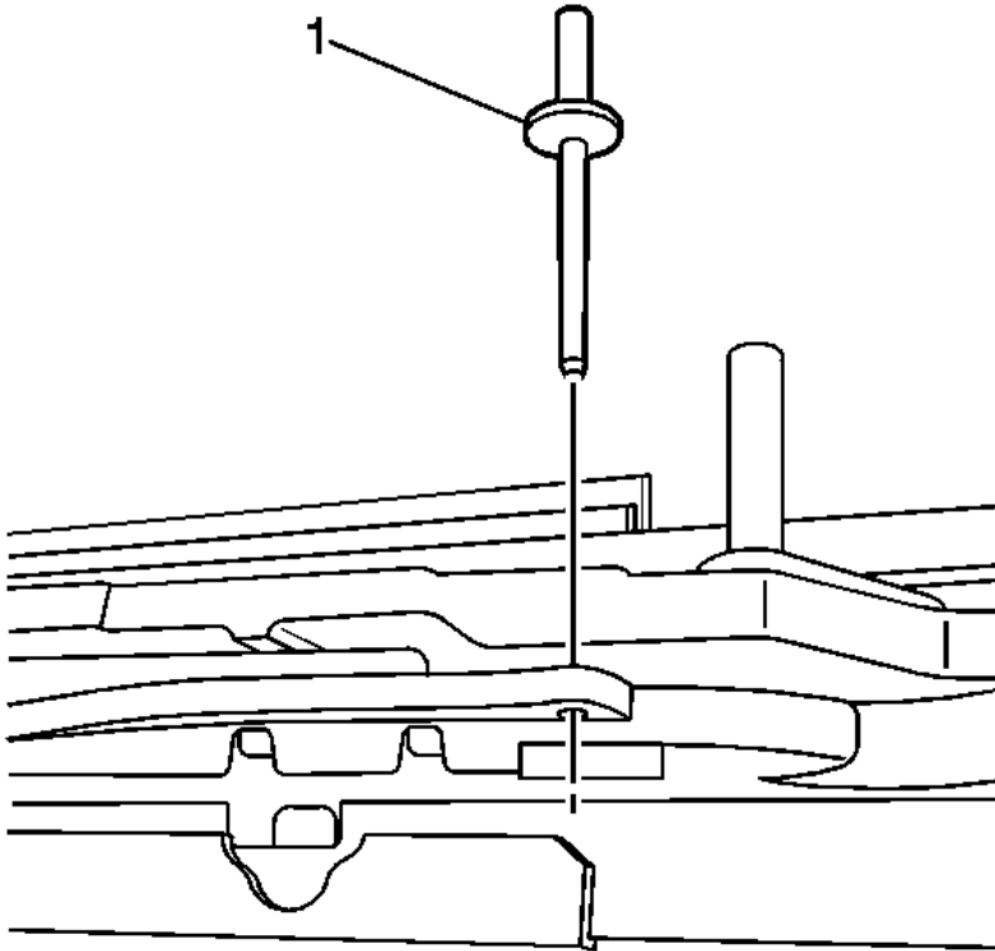


Fig. 51: View Of Pin & Drive Motor
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: Both mechanisms should now be in the closed position.

7. Insert a pin (1) in the holes to hold the position while installing the drive motor.
8. Repeat this procedure for the opposite side.

Installation Procedure

NOTE: Refer to Fastener Notice .

2008 Chevrolet Silverado 1500

2008 ACCESSORIES & EQUIPMENT Sunroof - Cab & Chassis Sierra, Cab & Chassis Silverado, Sierra & Silverado

1. Install the sunroof window. Refer to **Sunroof Window Replacement (Extended Cab)** or **Sunroof Window Replacement (Crew Cab)**.

Tighten: Tighten the screws to 4 N.m (35 lb in).

2. Install the motor/actuator. Refer to **Sunroof Motor/Actuator Replacement (Extended Cab)** or **Sunroof Motor/Actuator Replacement (Crew Cab)**.

Tighten: Tighten the motor attachment screws to 3.5 N.m (31 lb in).

3. Connect the electrical connector to the motor/actuator.

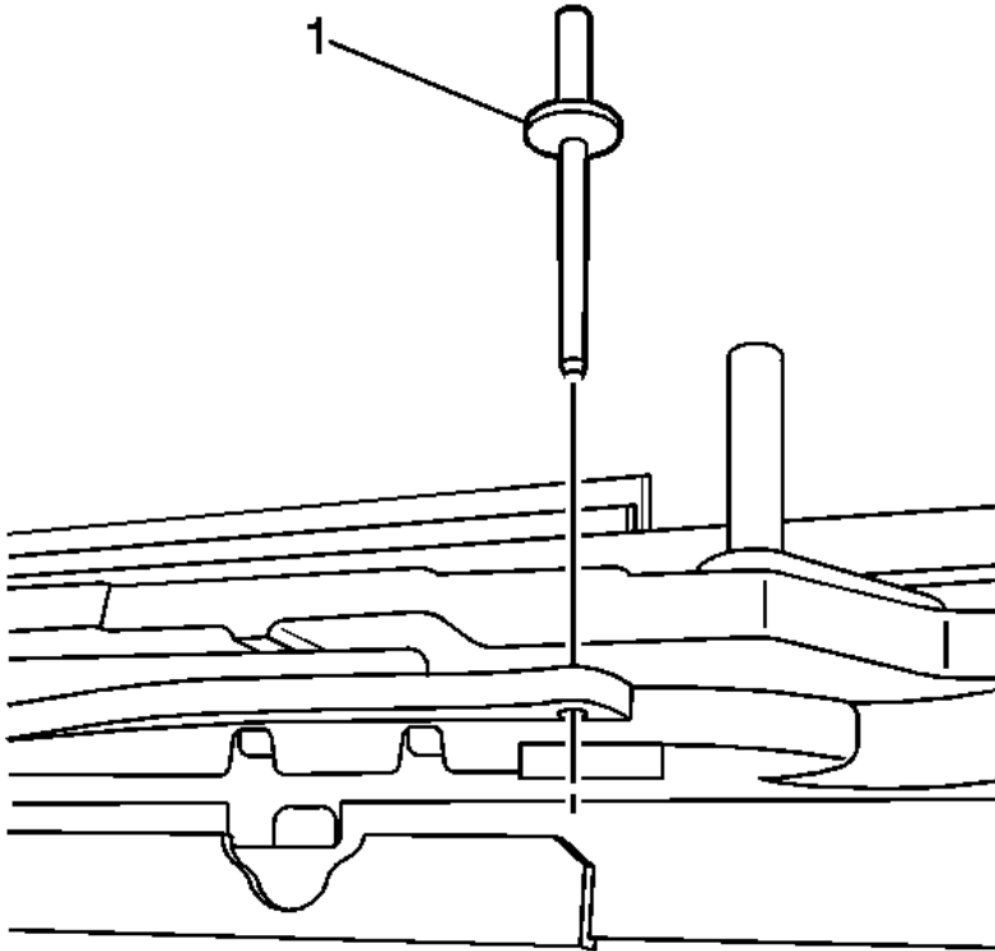


Fig. 52: View Of Pin & Drive Motor
Courtesy of GENERAL MOTORS CORP.

4. Remove the pin (1) from the holes that held the position while installing the drive motor.
5. Install the headliner. Refer to **Headlining Trim Panel Replacement (Regular Cab)** or **Headlining Trim Panel Replacement (Crew Cab)** or **Headlining Trim Panel Replacement (Extended Cab)** .
6. Perform the Initialization/Teach Procedure. Refer to **Sunroof Motor/Actuator Initialization/Teach Process (Extended Cab New Motor)** or **Sunroof Motor/Actuator Initialization/Teach Process (Extended Cab Existing Motor)** or **Sunroof**

Motor/Actuator Initialization/Teach Process (Crew Cab Existing Motor) or Sunroof Motor/Actuator Initialization/Teach Process (Crew Cab New Motor).

7. Verify the operation of the sunroof.

SUNROOF WINDOW WEATHERSTRIP REPLACEMENT (CREW CAB)

Removal Procedure

1. Remove the sunroof window. Refer to Sunroof Window Replacement (Extended Cab) or Sunroof Window Replacement (Crew Cab).

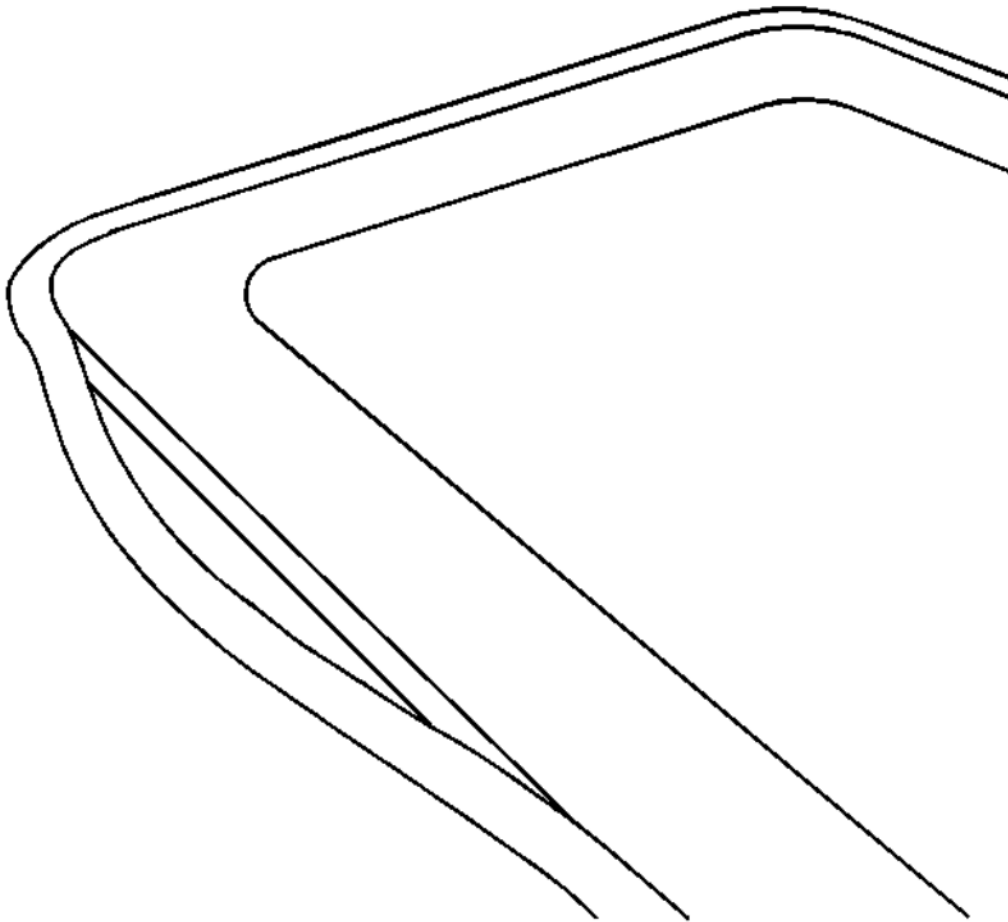


Fig. 53: Sunroof Window Weatherstrip
Courtesy of GENERAL MOTORS CORP.

2. Carefully remove the sunroof window weatherstrip from the perimeter of the sunroof window.

Installation Procedure

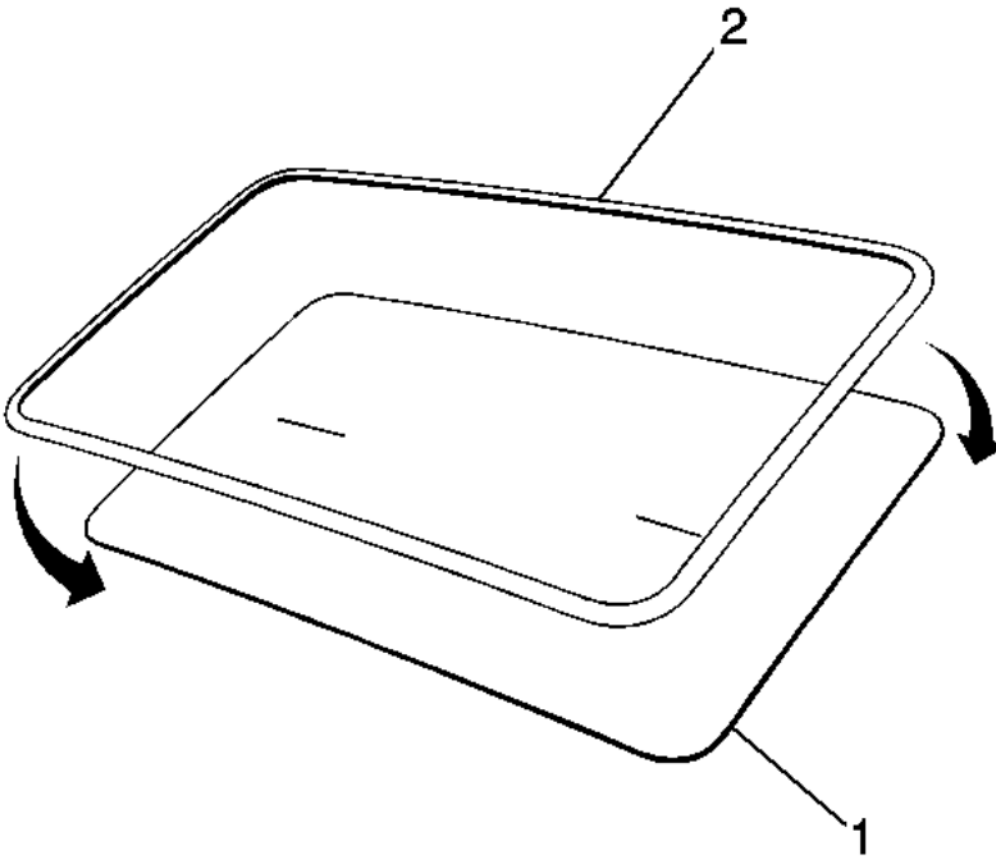


Fig. 54: View Of Weatherstrip
Courtesy of GENERAL MOTORS CORP.

1. Carefully install the sunroof window weatherstrip (2) to the perimeter of the sunroof window (1), ensuring that the weatherstrip is fully seated.
2. Install the sunroof window to the sunroof module assembly. Refer to **Sunroof Window Replacement (Extended Cab)** or **Sunroof Window Replacement (Crew Cab)**.
3. Ensure that the sunroof does not have any air or waterleaks.

SUNROOF WINDOW WEATHERSTRIP REPLACEMENT (EXTENDED CAB)

Removal Procedure

1. Remove the sunroof window. Refer to Sunroof Window Replacement (Extended Cab) or Sunroof Window Replacement (Crew Cab).

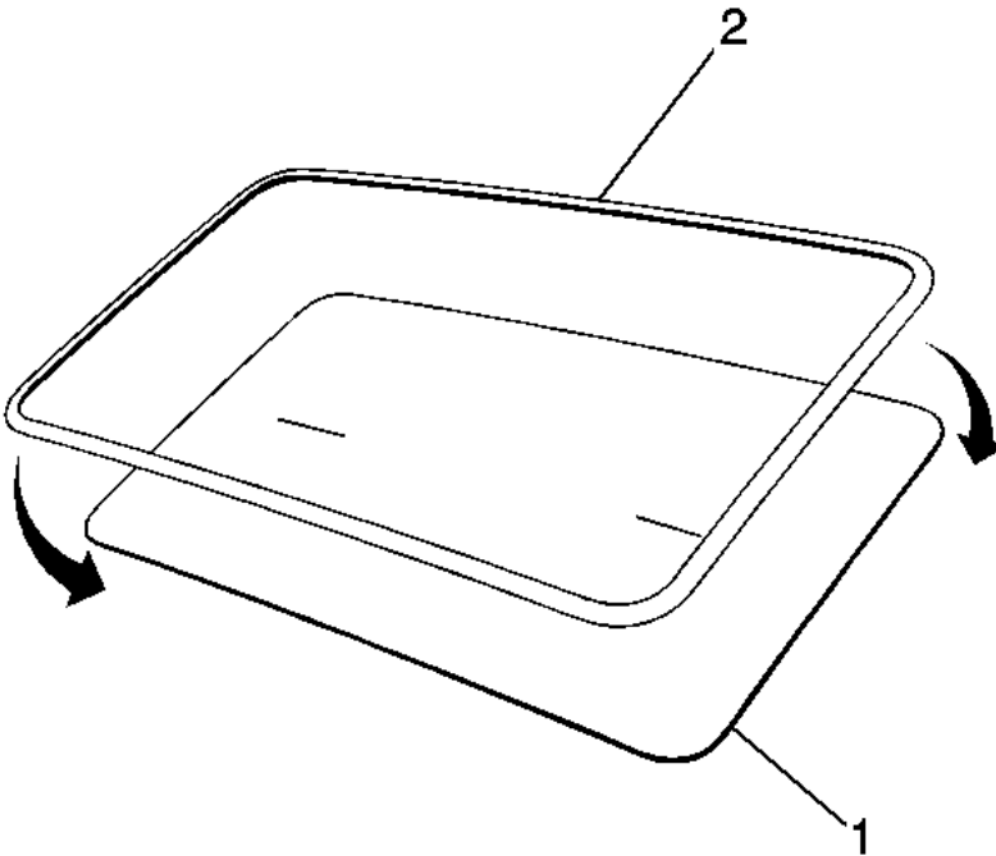


Fig. 55: View Of Weatherstrip
Courtesy of GENERAL MOTORS CORP.

2. Carefully remove the sunroof window weatherstrip (2) from the perimeter of the sunroof window (1).

Installation Procedure

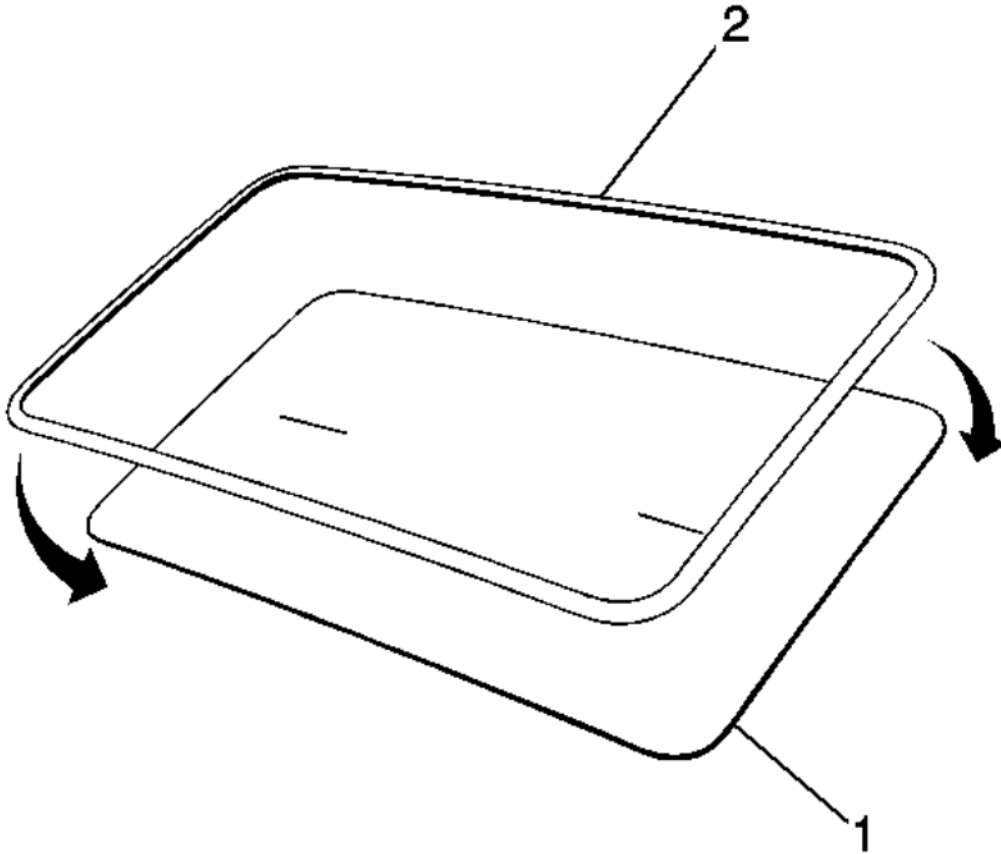


Fig. 56: View Of Weatherstrip

Courtesy of GENERAL MOTORS CORP.

1. Carefully install the sunroof window weatherstrip (2) to the perimeter of the sunroof window (1), ensuring that the weatherstrip is fully seated.
2. Install the sunroof window. Refer to **Sunroof Window Replacement (Extended Cab)** or **Sunroof Window Replacement (Crew Cab)**.
3. Ensure that the sunroof does not have any air or waterleaks.

SUNROOF WINDOW HEIGHT AND OPENING FIT ADJUSTMENT

1. Open the sunshade.
2. Close the sunroof window.

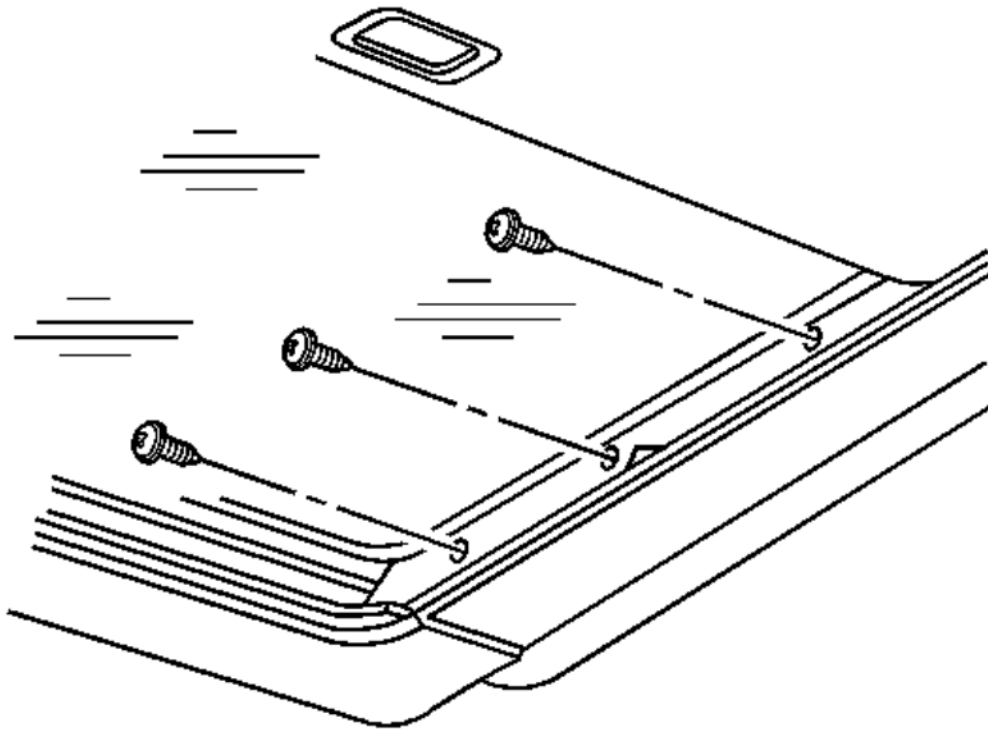


Fig. 57: Identifying 3 Adjusting Screws
Courtesy of GENERAL MOTORS CORP.

3. Loosen the adjusting screws on each side of the sunroof window.
 - Crew Cab has two screws.
 - Extended Cab has three screws.
4. Adjust the corners of the window panel using the following guidelines:
 - Adjust the front of the sunroof window flush to 2 mm (0.08 in) below the top surface of the roof panel.
 - Adjust the rear of the sunroof window flush to 2 mm (0.08 in) above the top surface of the roof panel.

NOTE: Refer to Fastener Notice .

5. Install the sunroof window adjustment screws.

Tighten: Tighten the screws to 4 N.m (35 lb in).

- Crew Cab has two screws.
- Extended Cab has three screws.

SUNROOF WINDOW REPLACEMENT (EXTENDED CAB)

Removal Procedure

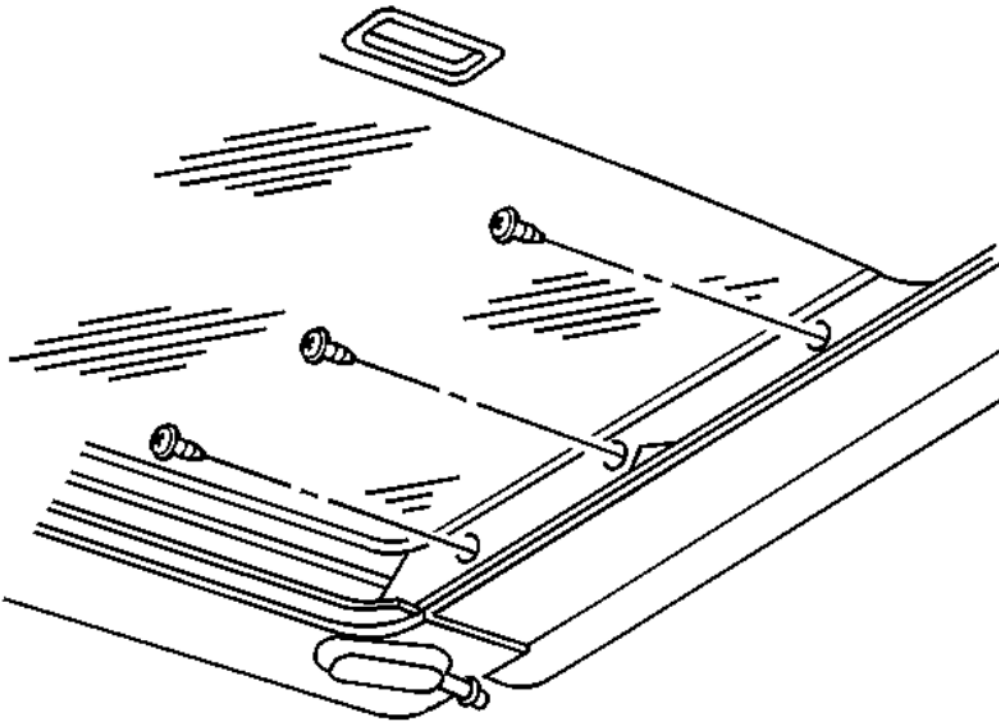


Fig. 58: View Of Sunroof Window Panel Screws
Courtesy of GENERAL MOTORS CORP.

1. Position the sunshade panel fully rearward.
2. Position the sunroof window panel to the vent position.
3. Remove the sunroof window panel screws from the sunroof window panel.
4. Remove the sunroof window panel from the sunroof module.

Installation Procedure

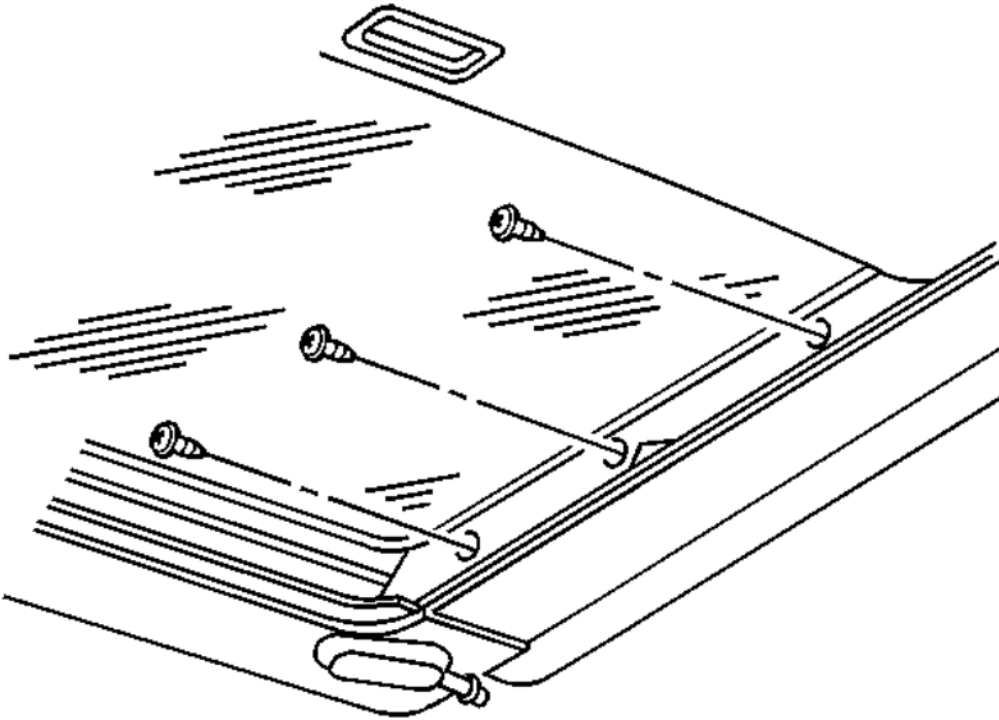


Fig. 59: View Of Sunroof Window Panel Screws
Courtesy of GENERAL MOTORS CORP.

1. Position the sunroof window panel to the sunroof module.

Ensure that the information logo stencil is towards the rear of the sunroof opening.

NOTE: Refer to **Fastener Notice** .

2. Install the sunroof window panel screws to the sunroof window panel.

Tighten: Tighten the sunroof window panel screws to 4 N.m (35 lb in).

3. Adjust the sunroof window panel as necessary. Refer to **Sunroof Window Height and Opening Fit Adjustment**.

4. Inspect the sunroof window panel for proper operation.

SUNROOF WINDOW REPLACEMENT (CREW CAB)

Removal Procedure

IMPORTANT: The sunroof must be in the fully closed position prior to removing the sunroof window.

1. Open the sunshade panel.

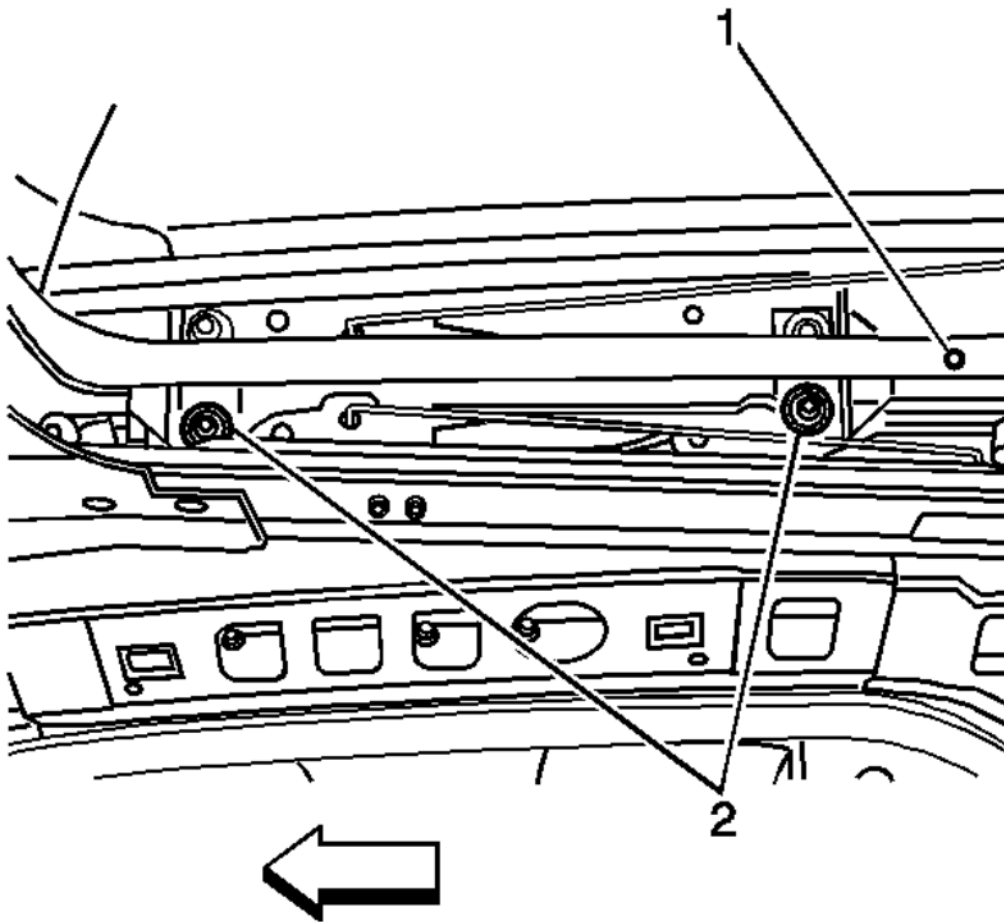


Fig. 60: Sunroof Window And Retaining Screws
Courtesy of GENERAL MOTORS CORP.

2. Remove the 4 screws (2) that retain the sunroof window (1) to the sunroof module assembly.
3. Remove the sunroof window from the top of the vehicle.

Installation Procedure

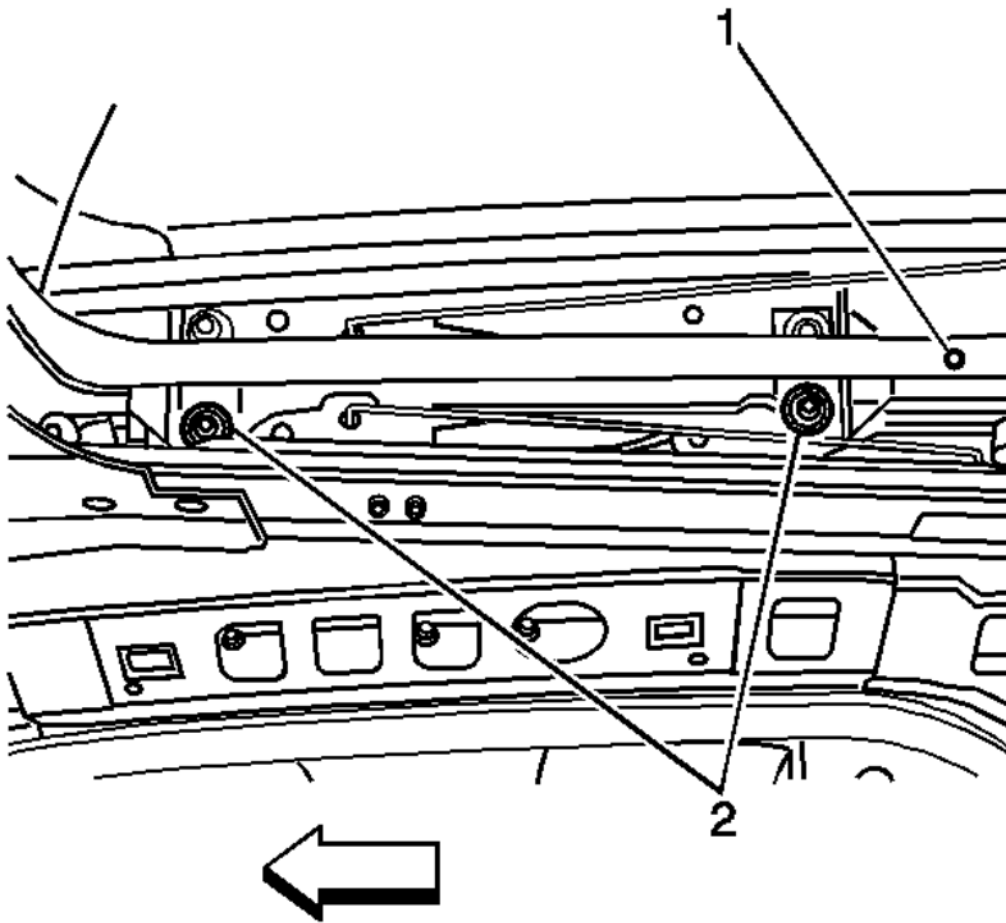


Fig. 61: Sunroof Window And Retaining Screws
Courtesy of GENERAL MOTORS CORP.

1. Position the sunroof window (1) to the vehicle.
2. Loosely insert the screws (2) that retain the sunroof window (1) to the sunroof module assembly.

NOTE: Refer to **Fastener Notice** .

3. Adjust the sunroof window panel as necessary. Refer to **Sunroof Window Height and Opening Fit Adjustment**.

Tighten: Tighten the screws to 3 N.m (27 lb in).

DESCRIPTION AND OPERATION

SUNROOF DESCRIPTION AND OPERATION

The power sunroof is operated by the sunroof motor/actuator which consists of the motor and electronic control unit as a complete assembly. The system is powered by a battery supply circuit and an ignition/retained accessory power signal circuit determines when the sunroof may be operated. The switch signal circuits are supplied battery voltage through a resistor and monitored within the ECU. When a sunroof switch is pressed the switch signal circuit is closed to ground and most of the voltage supplied to the signal circuit will be dropped across the resistor within the ECU indicating the switch is active.