

ACCESSORIES & EQUIPMENT Interior

Trim and Paneling - CTS Sedan

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Body Side Rear Window Garnish Molding Fastener	2.5	22 lb in
Cargo Tie Down Loop Fastener	20	15 lb ft
Front Side Door Inside Handle Fastener	2.5	22 lb in
Front Side Door Pull Handle Fastener	2.5	22 lb in
Front Side Door Trim Lower Fastener	2.5	22 lb in
Liftgate Assist Strap Fastener	2.5	22 lb in
Rear Side Door Inside Handle Bezel Fastener	1.4	12 lb in
Rear Side Door Inside Handle Fastener	2.5	22 lb in
Rear Side Door Pull Handle Fastener	2.5	22 lb in
Rear Side Door Window Inside Sunshade Fastener	2.5	22 lb in
Rear Side Door Window Inside Sunshade Hook Fastener	2.5	22 lb in
Rear Window Panel Trim Fastener	9	80 lb in
Roof Rail Front Assist Handle Fastener	6	53 lb in
Roof Rail Rear Assist Handle Fastener	6	53 lb in
Sunshade Fastener	2.5	22 lb in
Sunshade Support Fastener	2.5	22 lb in

SCHEMATIC WIRING DIAGRAMS

SUNSHADE WIRING SCHEMATICS

Rear Window Sunshade (DB3)

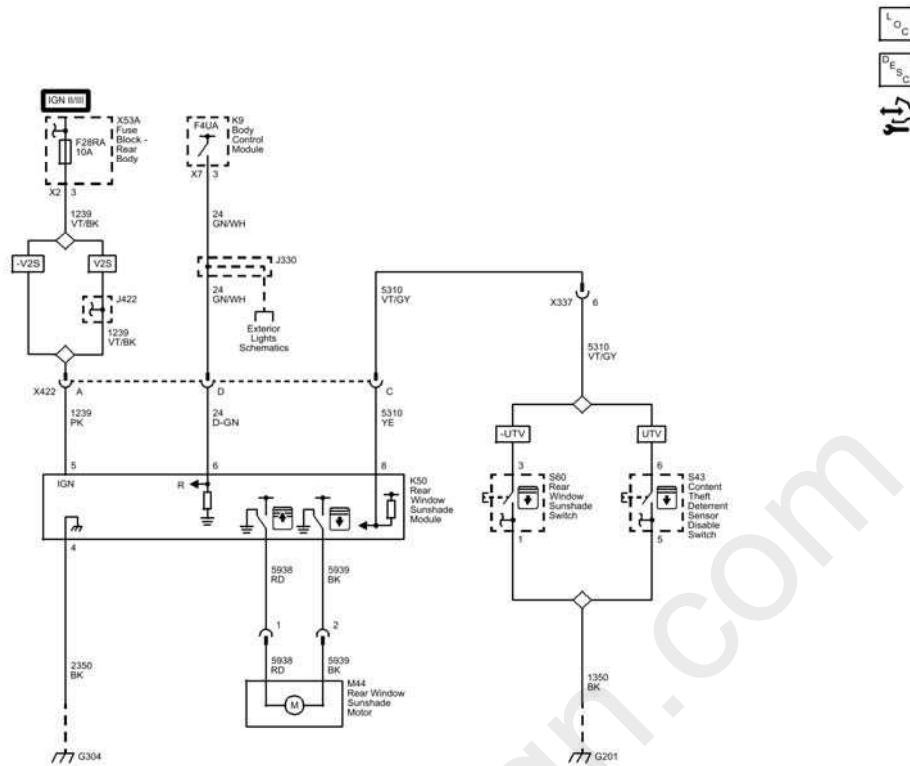


Fig. 1: Rear Window Sunshade (DB3)
Courtesy of GENERAL MOTORS COMPANY

CUP HOLDER WIRING SCHEMATICS

Power Retractable Cover



Courtesy of GENERAL MOTORS COMPANY

SYMPTOMS - INTERIOR TRIM AND PANELING

- Perform the **Diagnostic System Check - Vehicle** before using a symptom table in order to verify that all of the following conditions are true:
 - There are no DTCs set.
 - The control modules can communicate via the serial data link.
- Review the system description and operation in order to familiarize yourself with the system functions. Refer to the following:
 - **Rear Window Inside Sunshade Description and Operation**
 - **Power Cup Holder Description and Operation**

- Inspect for aftermarket devices which could affect the operation of the lighting 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

Thoroughly inspect the wiring and connectors. An incomplete inspection of the wiring and connectors may result in misdiagnosis causing part replacement with the reappearance of the malfunction. If an intermittent malfunction exists, refer to **Testing for Intermittent Conditions and Poor Connections** .

Symptom List

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

- **Power Cup Holder Cover Malfunction**
- **Rear Window Inside Sunshade Malfunction**

POWER CUP HOLDER COVER MALFUNCTION

Diagnostic Instructions

- 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
Ignition	1	1	-	-
Ground	-	1	-	-
1. Cup Holder Cover Inoperative				

Circuit/System Description

The slide plate motor mechanism contains sensor that will detect forward or backward pressure on the button on the top rear of the cup holder cover. When the cover is in the closed position, the operator will gently push the button forward and the motor will engage pulling the cover forward to the open position allowing access to the cup holders below. When the button is gently pulled, the motor will engage and pull the cover back to the closed position. The mechanism also contains anti-pinch protection, when the mechanism detects an obstruction while pulling the cover back to the closed position, it will automatically reverse direction.

Reference Information

Schematic Reference

Cup Holder Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - SEDAN

Description and Operation

Power Cup Holder Description and Operation

Electrical Information Reference

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

Circuit/System Verification

1. Ignition ON.
2. Gently push the cupholder cover button forward and backward, the motor will engage pulling the cover forward to the open position and backward to the closed position.
 - **If the power cupholder cover does not open or close**

Refer to Circuit/System Testing

- **If the power cupholder cover does open and close**
3. All OK.

Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the M100 Cupholder Motor-Center Console. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 ohms between the ground circuit terminal 3 and ground.
 - **If 10 ohms or greater**
 1. Ignition OFF.
 2. Test for less than 2 ohms in the ground circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.
 - If less than 2 ohms, repair the open/high resistance in the ground connection.
 - **If less than 10 ohms**
3. Ignition ON
4. Verify a test lamp illuminates between the ignition circuit terminal 1 and ground.
 - **If the test lamp does not illuminate and the circuit fuse is good**
 1. Ignition OFF, remove the test lamp.
 2. Test for less than 2 ohms in the ignition circuit end to end.

- If 2 ohms or greater, repair the open/high resistance in the circuit.
- If less than 2 ohms, verify the fuse is not open and there is voltage at the fuse.
- **If the test lamp does not illuminate and the circuit fuse is open**
- 1. Ignition OFF, remove the test lamp.
- 2. Test for infinite resistance between the ignition circuit and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance
- 3. Test for infinite resistance between the signal circuit and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the M100 Cupholder Motor-Center Console.
- **If the test lamp illuminates**
- 5. Replace the M100 Cupholder Motor-Center Console.

Repair Instructions

Perform the **Diagnostic Repair Verification** after completing the repair.

Front Floor Console Cup Holder Plate Replacement

REAR WINDOW INSIDE SUNSHADE MALFUNCTION

Diagnostic Instructions

- 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
Rear Window Sunshade Control Module Ignition	2	2	-	-
Rear Window Sunshade Control Module Ground	-	2	-	-
Rear Window Sunshade Motor Control	2	2	2	-
Backup Lamp Signal	B2545 02	1	1	-
Rear Window Sunshade Switch Signal	2	2	2	-
Rear Window Sunshade Switch Ground	-	2	-	-
1. Rear Window Sunshade Malfunction				

2. Rear Window Sunshade Inoperative

Circuit/System Description

The rear window sunshade control module contains the logic for extending or retracting the sunshade based on inputs received from the sunshade switch. Both control switches are a momentary type, one is located in the overhead console, the other is located in the Rear Audio Control Module. The module activates the sunshade motor based on the inputs received from either switch. When the ignition switch is in the ON position, voltage is applied to the rear window sunshade control module. The rear window sunshade control module controls the rear window sunshade motor direction by changing the polarity of the applied voltage. If the ignition switch is turned to the OFF position while the sunshade is moving, the module enters a "Standby" mode, and the shade will complete its cycle. The module will remain in the "Standby" mode and the shade will remain in the position it was in when movement ceased, until the module receives another switch activation input. Movement will then resume, but in the opposite direction from the last activation.

The rear window sunshade control module also monitors the voltage level in the backup lamp control circuit, if the module detects voltage in the backup lamp circuit while the sunshade is extended, it will command the sunshade motor to retract the sunshade to provide the operator with an unobstructed view through the rear window and will automatically extend when the voltage in the backup lamps drops to 0 volts.

The sunshade motor assembly contains the reversible direct current drive motor and the gear train used to move the shade material to the desired position. The motor also contains a positive temperature coefficient thermal circuit breaker to protect the system from an overload.

Reference Information

Schematic Reference

Sunshade Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - SEDAN

Description and Operation

Rear Window Inside Sunshade Description and Operation

Electrical Information Reference

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

Circuit/System Verification

1. Ignition ON.
2. Verify the rear window sunshade while commanding the EXTEND and RETRACT function by pressing the S60 Rear Window Sunshade Switch.

- **If the EXTEND and RETRACT function does not work**

Refer to Circuit/System Testing - Rear Window Sunshade Inoperative

- **If the EXTEND and RETRACT function works**

3. Command the rear window sunshade to EXTEND by pressing a S60 Rear Window Sunshade Switch.
4. Engine running, verify the rear window sunshade RETRACT function by shifting the transmission shift lever from P (park) to the R (reverse) position.

- **If the rear window sunshade does not RETRACT with the transmission shift lever in the R (reverse) position**

Refer to Circuit/System Testing - Reverse Override Malfunction

- **If the rear window sunshade does RETRACT with the transmission shift lever in the R (reverse) position**

5. All OK.

Circuit/System Testing

Rear Window Sunshade Inoperative

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the K50 Rear Window Sunshade Module. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 ohms between the ground circuit terminal 4 and ground.
 - **If 10 ohms or greater**
 1. Ignition OFF.
 2. Test for less than 2 ohms in the ground circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.
 - If less than 2 ohms, repair the open/high resistance in the ground connection.
 - **If less than 10 ohms**
3. Ignition ON.
4. Verify a test lamp illuminates between the ignition circuit terminal 8 and ground.
 - **If the test lamp does not illuminate and the circuit fuse is good**
 1. Ignition OFF.
 2. Test for less than 2 ohms in the ignition circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.
 - If less than 2 ohms, refer to **Retained Accessory Power Malfunction** .
 - **If the test lamp does not illuminate and the circuit fuse is open**
 1. Ignition OFF.

2. Test for infinite resistance between the ignition circuit and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the K50 Rear Window Sunshade Module.
 - **If the test lamp illuminates**
5. Connect a test lamp between the signal circuit terminal 5 and B+
6. Verify the test lamp turns ON and OFF when pressing and releasing the S60 Rear Window Sunshade Switch.
 - **If the test lamp is always ON**
 1. Ignition OFF, remove the test lamp, disconnect the harness connector at the S60 Rear Window Sunshade Switch.
 2. Test for infinite resistance between each control circuit and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance
 3. Test for less than 2 ohms in each control circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.
 - If less than 2 ohms, test or replace the S60 Rear Window Sunshade Switch.
 - **If the test lamp is always ON**
 1. Ignition OFF, remove the test lamp, disconnect the harness connector at the S60 Rear Window Sunshade Switch, Ignition ON.
 2. Test for less than 1 V between each control circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V, test or replace the S60 Rear Window Sunshade Switch.
 - **If the test lamp turns ON during each of the commands**
 - 7. Ignition OFF, connect the harness connector at the K50 Rear Window Sunshade Module.
 - 8. Disconnect the harness connector at the M44 Rear Window Sunshade Motor. It may take up to 2 minutes for all vehicle systems to power down.
 - 9. Test for less than 35 ohms between the control circuit terminal 1 and ground.
 - **If 35 ohms or greater**
 1. Ignition OFF, disconnect the harness connector at the K50 Rear Window Sunshade Module.
 2. Test for less than 2 ohms in the control circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.
 - If less than 2 ohms, replace the K50 Rear Window Sunshade Module.
 - **If less than 35 ohms**
 - 10. Test for less than 35 ohms between the control circuit terminal 2 and ground.
 - **If 35 ohms or greater**
 1. Ignition OFF, disconnect the harness connector at the K50 Rear Window Sunshade Module.
 2. Test for less than 2 ohms in the control circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.

- If less than 2 ohms, replace the K50 Rear Window Sunshade Module.
- **If less than 35 ohms**
- 11. Connect a test lamp between control circuit terminal 1 and control circuit terminal 2, ignition ON.
- 12. Verify the test lamp turns ON when commanding the EXTEND and RETRACT states with by pressing the S60 Rear Window Sunshade Switch.
 - **If the test lamp remains OFF during either of the commands**
 1. Ignition OFF, remove the tests lamp, disconnect the harness connector at the K50 Rear Window Sunshade Module.
 2. Test for infinite resistance between each control circuit and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the K50 Rear Window Sunshade Module.
 - **If the test lamp is always ON**
 1. Ignition OFF, remove the test lamp, disconnect the harness connector at the K50 Rear Window Sunshade Module, ignition ON.
 2. Test for less than 1 V between each control circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V, replace the K50 Rear Window Sunshade Module.
 - **If the test lamp turns ON during each of the commands**
- 13. Test or replace the M44 Rear Window Sunshade Motor.

Reverse Override Malfunction

1. Ignition OFF, disconnect the harness connector at the K50 Rear Window Sunshade Module, ignition ON.
2. Connect a test lamp between the signal circuit terminal 7 and the ground circuit terminal 4.
3. Verify the test lamp turns ON and OFF while commanding the Backup Lamps Active and Inactive with a scan tool.
 - **If the test lamp is always ON or OFF**

Refer to **Backup Lamps Malfunction** .

- **If the test lamp turns ON and OFF**
- 4. Test the K50 Rear Window Sunshade Module.

Component Testing

Rear Window Sunshade Switch On Overhead Console

1. Ignition OFF, disconnect the harness connector at the S60 Rear Window Sunshade Switch.
2. Test for infinite resistance between the signal terminal 3 and the ground terminal 1 with the switch in the open position.
 - **If less than infinite resistance**

Replace the S60 Rear Window Sunshade Switch.

- **If infinite resistance**

3. Test for less than 3 ohms between the signal terminal 3 and the ground terminal 1 with the switch in the closed position.

- **If 3 ohms or greater**

Replace the S60 Rear Window Sunshade Switch.

- **If less than 3 ohms**

4. All OK.

Rear Window Sunshade Motor

1. Ignition OFF, disconnect the harness connector at the M44 Rear Window Sunshade Motor.
2. Install a 10 A fused jumper wire between one of the control terminals and 12 V. Momentarily install a jumper wire between the other control terminal and ground. Reverse the jumper wires at least two times, the M44 Rear Window Sunshade Motor should EXTEND and RETRACT functions.

- **If the function does not perform the EXTEND and RETRACT functions**

Replace the M44 Rear Window Sunshade Motor.

- **If the function performs the EXTEND and RETRACT functions**

3. All OK.

Repair Instructions

Perform the **Diagnostic Repair Verification** after completing the repair.

- **Roof Console Accessory Switch Trim Plate Replacement**
- **Rear Window Inside Sunshade Replacement**

REPAIR INSTRUCTIONS

FRONT SIDE DOOR ARMREST COVER TRIM REPLACEMENT

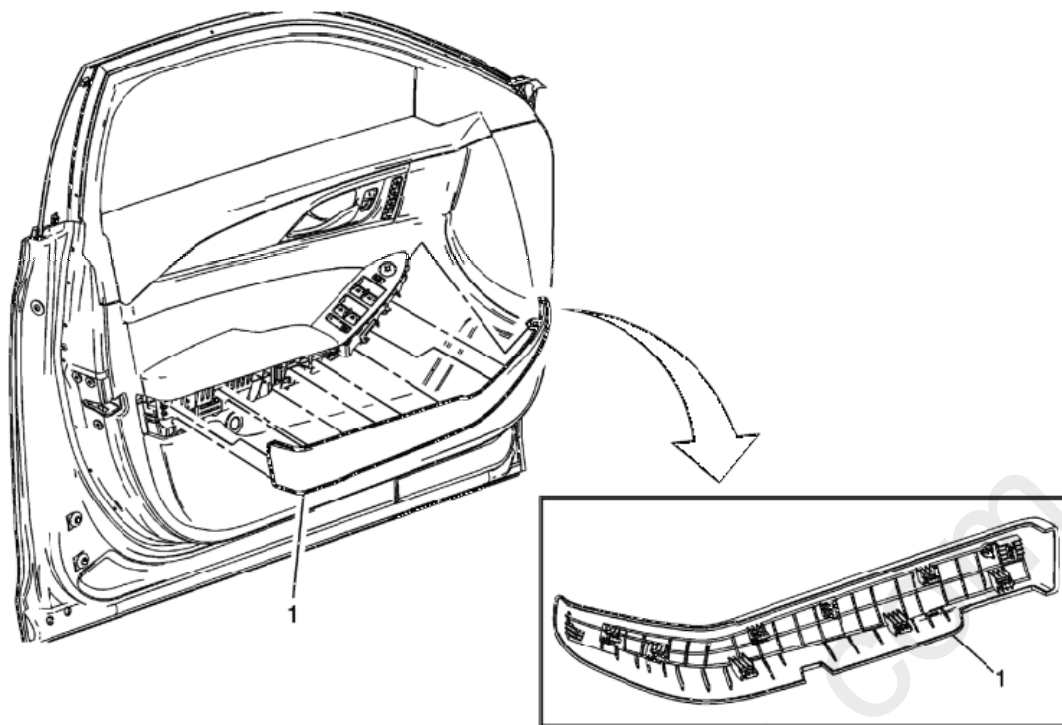


Fig. 3: Front Side Door Armrest Cover Trim
 Courtesy of GENERAL MOTORS COMPANY

Front Side Door Armrest Cover Trim Replacement

Callout	Component Name
1	Front Side Door Armrest Cover Trim Assembly Procedure Procedure 1. Use a plastic flat-bladed tool to disengage the front side door armrest cover trim from the front side door trim. 2. Starting at the rear edge of the door armrest cover trim, pull the rear portion of the front side door armrest cover trim away from the door. Release the hook retaining feature of the front side door armrest cover trim from the door trim panel.

REAR SIDE DOOR ARMREST COVER TRIM REPLACEMENT

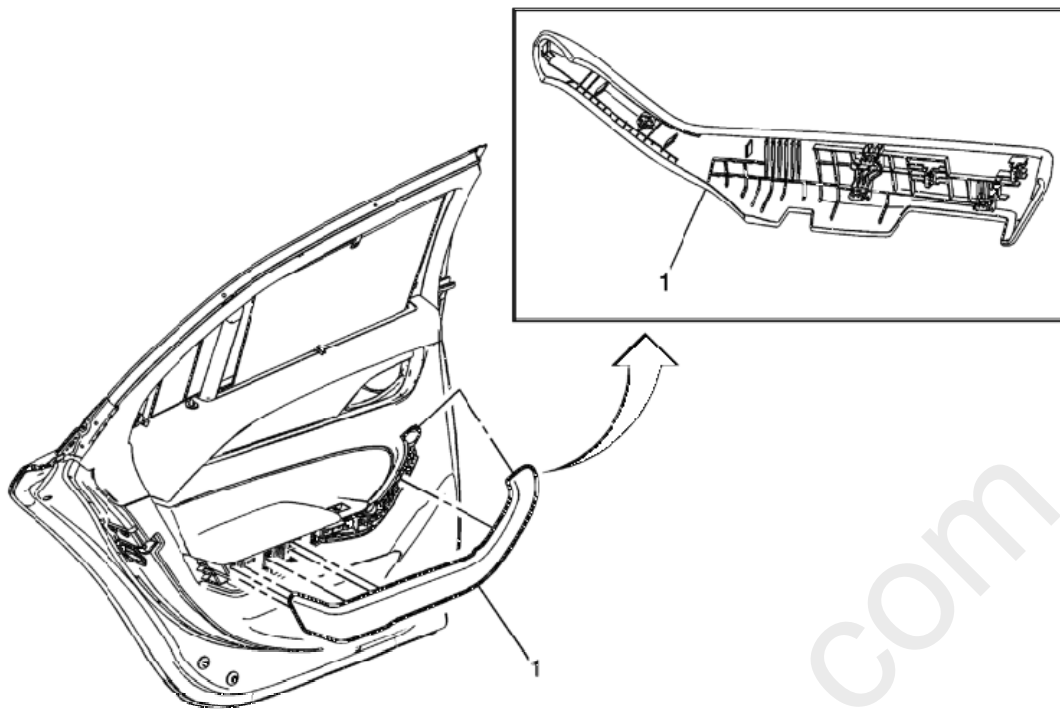


Fig. 4: Rear Side Door Armrest Cover Trim Replacement
 Courtesy of GENERAL MOTORS COMPANY

Rear Side Door Armrest Cover Trim Replacement

Callout	Component Name
1	Rear Side Door Armrest Cover Trim Assembly Procedure Using a flat-bladed tool, release the rear side door armrest cover trim from the rear side door trim.

FRONT SIDE DOOR ARMREST SWITCH MOUNT PLATE REPLACEMENT (DRIVER SIDE DOOR)

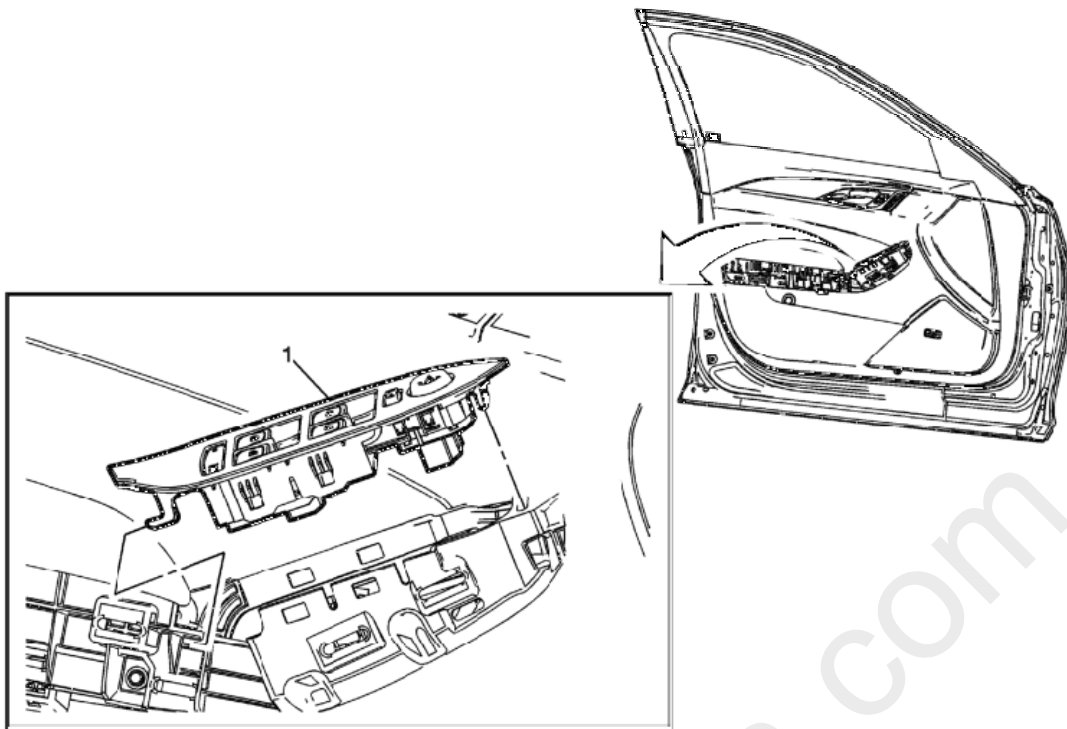


Fig. 5: Front Side Door Armrest Switch Mount Plate (Driver Side Door)
 Courtesy of GENERAL MOTORS COMPANY

Front Side Door Armrest Switch Mount Plate Replacement (Driver Side Door)

Callout	Component Name
Preliminary Procedure Remove the front side door armrest cover trim. Refer to <u>Front Side Door Armrest Cover Trim Replacement</u> .	
1	Front Side Door Armrest Switch Mount Plate Driver Side Door Assembly Procedure 1. Using a flat-bladed plastic trim tool, start at the front of the armrest switch plate and gently insert trim tool to lift the front side door armrest switch mount plate from the door trim assembly. Pull forward to disengage foot on rear of armrest switch mount plate. 2. Disconnect the electrical connector from the switch assembly. 3. Transfer parts as necessary.

FRONT SIDE DOOR ARMREST SWITCH MOUNT PLATE REPLACEMENT (PASSENGER SIDE DOOR)

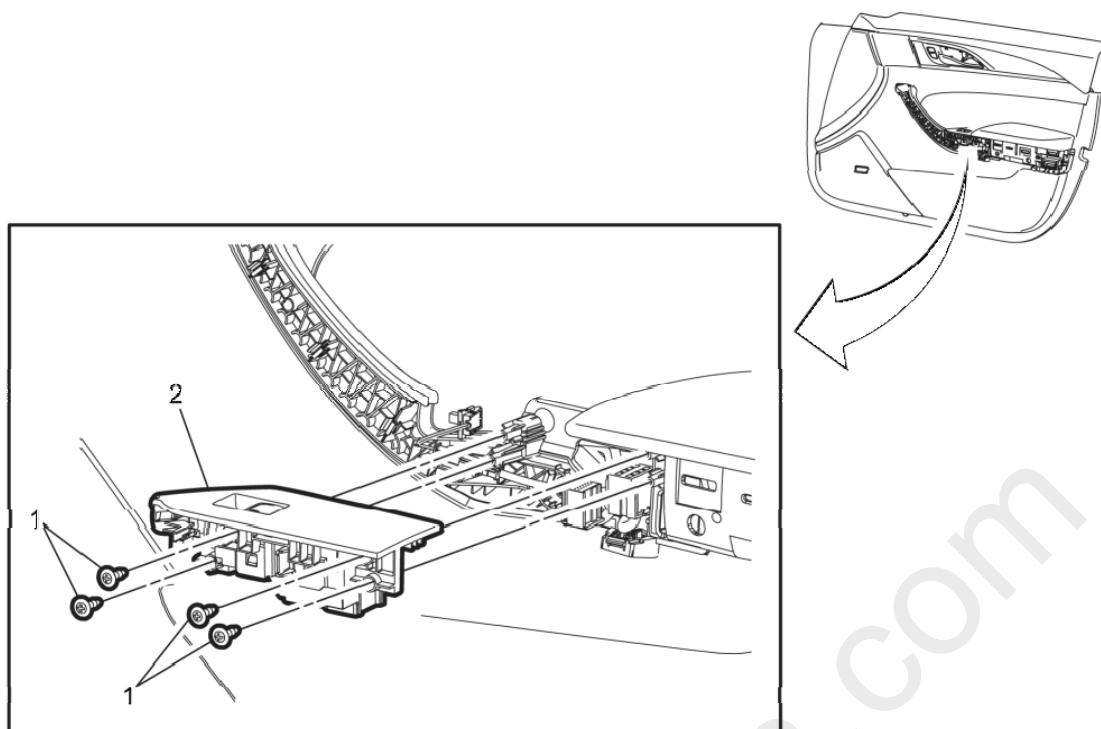


Fig. 6: Front Side Door Armrest Switch Mount Plate (Passenger Side Door)
 Courtesy of GENERAL MOTORS COMPANY

Front Side Door Armrest Switch Mount Plate Replacement (Passenger Side Door)

Callout	Component Name
Preliminary Procedure Remove the front side door armrest cover trim. Refer to <u>Front Side Door Armrest Cover Trim Replacement</u> .	
1	Front Side Door Pull Handle Fastener (Qty: 4) CAUTION: Refer to <u>Fastener Caution</u> . Tighten 2.5 (22 lb in)
2	Front Side Door Armrest Switch Mount Plate Passenger Side Door Assembly Procedure 1. Slide the switch mount plate outward away from the door trim panel. 2. Disconnect the electrical connector from the switch assembly. 3. Transfer parts as necessary.

FRONT SIDE DOOR TRIM REPLACEMENT

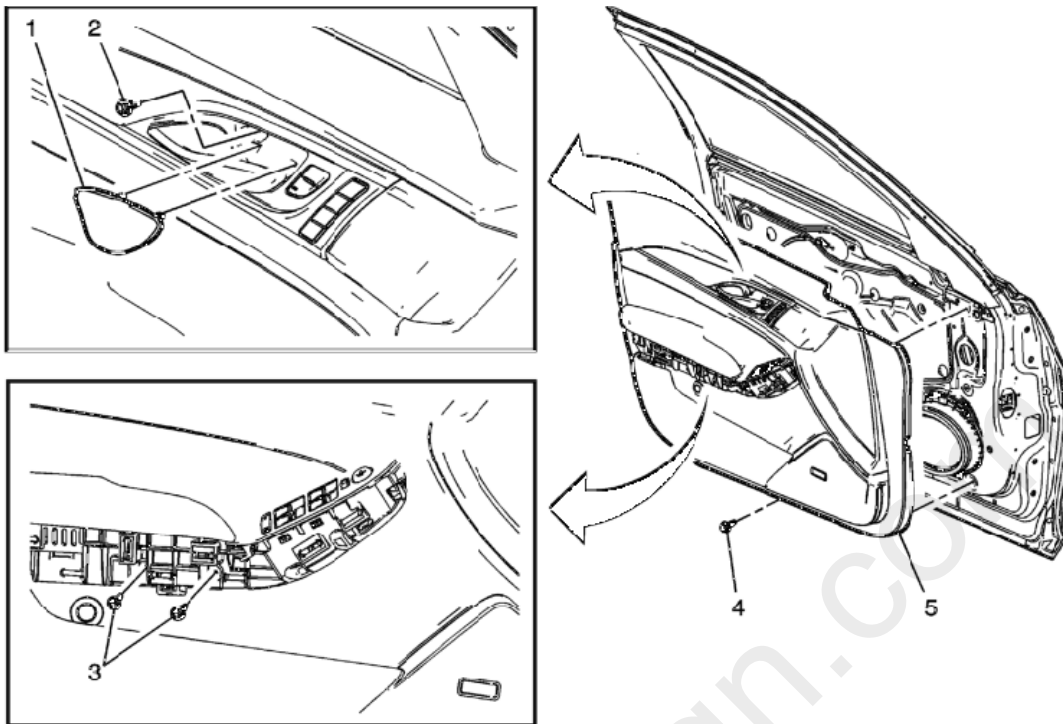


Fig. 7: Front Side Door Trim

Courtesy of GENERAL MOTORS COMPANY

Front Side Door Trim Replacement

Callout	Component Name
Preliminary Procedure Remove the front side door armrest cover trim. Refer to <u>Front Side Door Armrest Cover Trim Replacement</u> .	
1	Front Side Door Inside Handle Bolt Finish Cap NOTE: Use a suitable tool, place the tool between the notch located at the rear of the door handle cap and the door handle. Turn the suitable tool clockwise releasing the door handle cap, exposing the handle fastener.
2	Front Side Door Inside Handle Fastener CAUTION: Refer to <u>Fastener Caution</u> . Tighten 2.5 (22 lb in)
	Front Side Door Pull Handle Fastener (Qty: 2)

3	Tighten 2.5 (22 lb in)
4	Front Side Door Trim Lower Fastener Tighten 2.5 (22 lb in)
5	Front Side Door Trim Assembly Procedure 1. Using the appropriate plastic trim tool loosen the retainers along the bottom of the door trim panel. 2. Remove the door trim panel by pulling outward at the top of the trim panel to disengage the upper retainers. 3. Pull upwards on the door lock retainer cable to disengage. 4. Disconnect the electrical connector. 5. Place the door trim panel on a clean flat surface. 6. Remove the front side door window inner sealing strip and metal retainer clips from door trim panel, if necessary. Refer to <u>Front Side Door Window Inner Sealing Strip Replacement</u> . 7. When installing the door trim panel, reinstall metal clips and front side door window inner sealing strip prior to installing door trim panel.

FRONT SIDE DOOR TRIM PANEL APPLIQUE REPLACEMENT

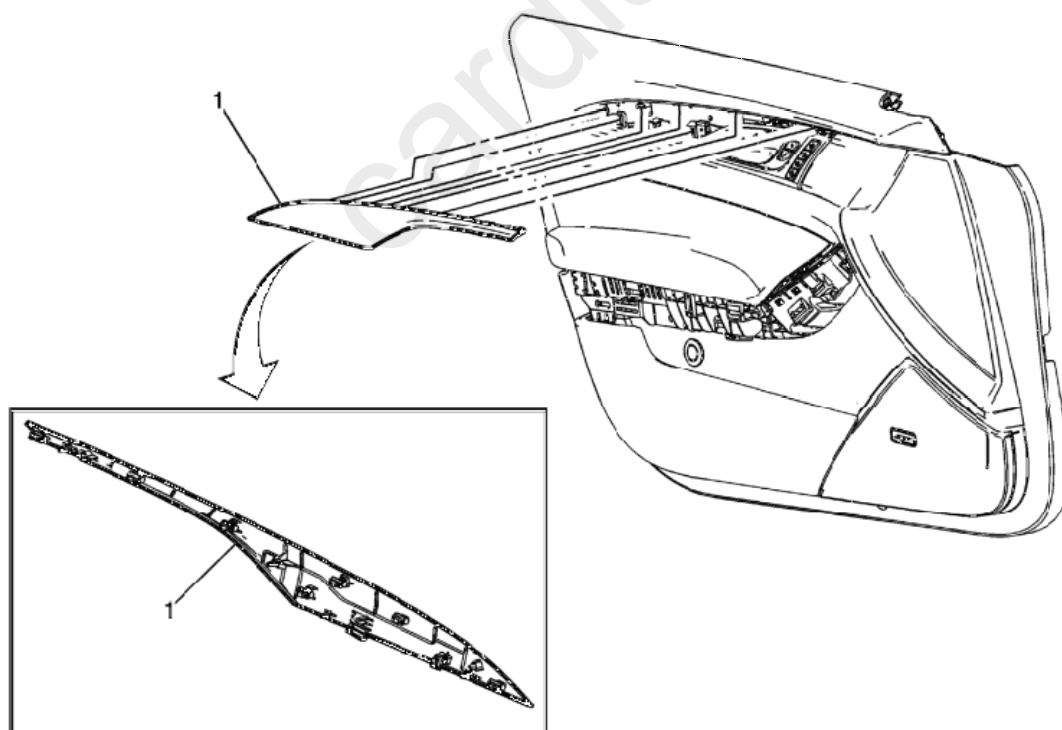


Fig. 8: Front Side Door Trim Panel Applique
Courtesy of GENERAL MOTORS COMPANY

Front Side Door Trim Panel Applique Replacement

Callout	Component Name
1	Front Side Door Trim Panel Applique Assembly Procedure Start carefully at the narrow edge of the door trim applique, and work across the applique to disengage the part using a plastic trim stick.

REAR SIDE DOOR TRIM PANEL APPLIQUE REPLACEMENT

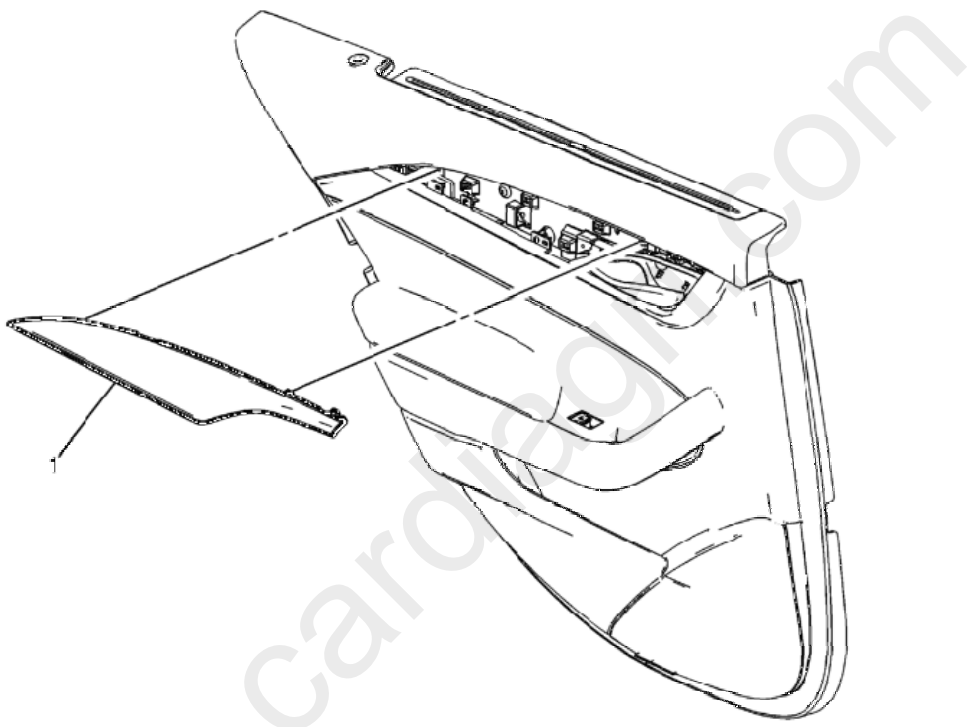


Fig. 9: Rear Side Door Trim Panel Applique
Courtesy of GENERAL MOTORS COMPANY

Rear Side Door Trim Panel Applique Replacement

Callout	Component Name
Procedure Remove the rear side door trim. Refer to Rear Side Door Trim Replacement .	
1	Rear Side Door Trim Panel Applique Assembly Procedure Release the integral applique retainers and slide the applique forward to disengage the integral hook retainer.

REAR SIDE DOOR WINDOW GARNISH MOLDING REPLACEMENT

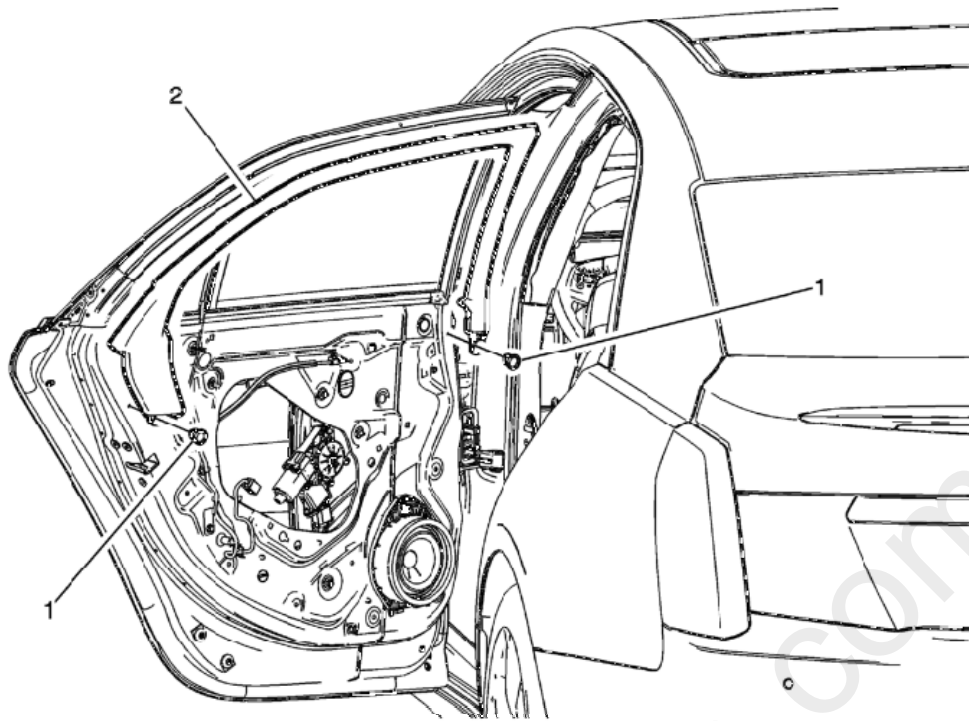


Fig. 10: Rear Side Door Window Garnish Molding
 Courtesy of GENERAL MOTORS COMPANY

Rear Side Door Window Garnish Molding Replacement

Callout	Component Name
Preliminary Procedures 1. Remove the rear side door trim. Refer to <u>Rear Side Door Trim Replacement</u>. 2. Remove the rear side door window inside sunshade. Refer to <u>Rear Side Door Window Inside Sunshade Replacement</u>. 3. Release and remove the rear shade hook from the door frame using a flat plastic trim tool if equipped with sunshade DE8. 4. If equipped with sunshade DE8, remove the torx retaining screw from the center shade retainer and remove the center shade retainer from the door frame using a flat plastic trim tool.	
1	Rear Side Door Window Garnish Molding Retainer (Qty: 2) Procedure Use a door trim panel removal tool or equivalent to aid in the removal of the retainer.
2	Rear Side Door Window Garnish Molding Assembly Procedure Pull outward starting at the front and moving slowly rearward to remove the molding.

FRONT SIDE DOOR WINDOW GARNISH MOLDING REPLACEMENT

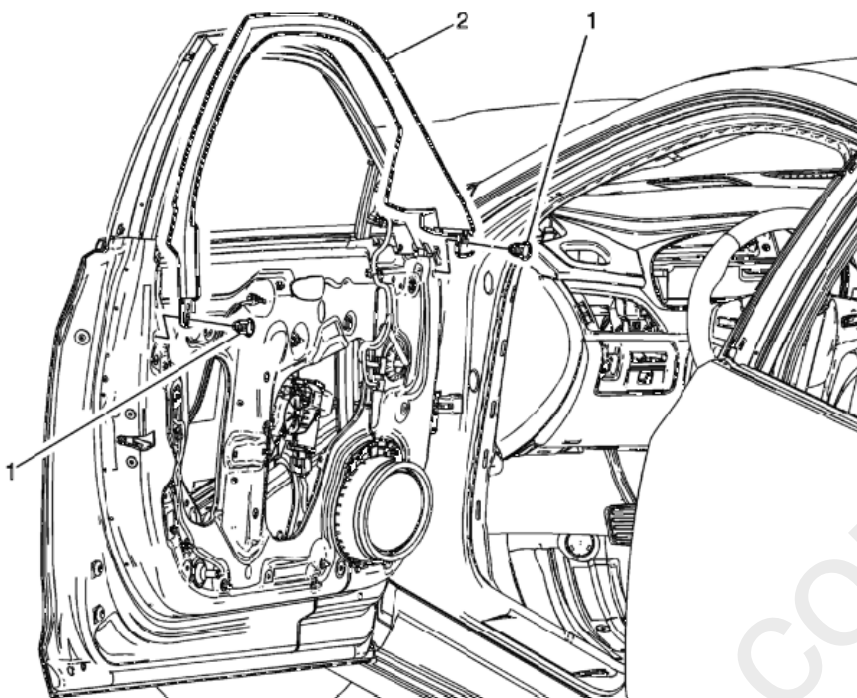


Fig. 11: Front Side Door Window Garnish Molding
 Courtesy of GENERAL MOTORS COMPANY

Front Side Door Window Garnish Molding Replacement

Callout	Component Name
Preliminary Procedure	
Remove the front side door trim. Refer to Front Side Door Trim Replacement .	
1	Front Side Door Window Garnish Molding Retainer (Qty: 2)
2	Front Side Door Window Garnish Molding Assembly
	Procedure
	1. Use a plastic flat-bladed tool to remove the push-in retainers. 2. Ensure that the door weatherstrip is not trapped below the garnish molding once completely installed. Reposition the weatherstrip as necessary.

REAR SIDE DOOR ARMREST SWITCH MOUNT PLATE REPLACEMENT

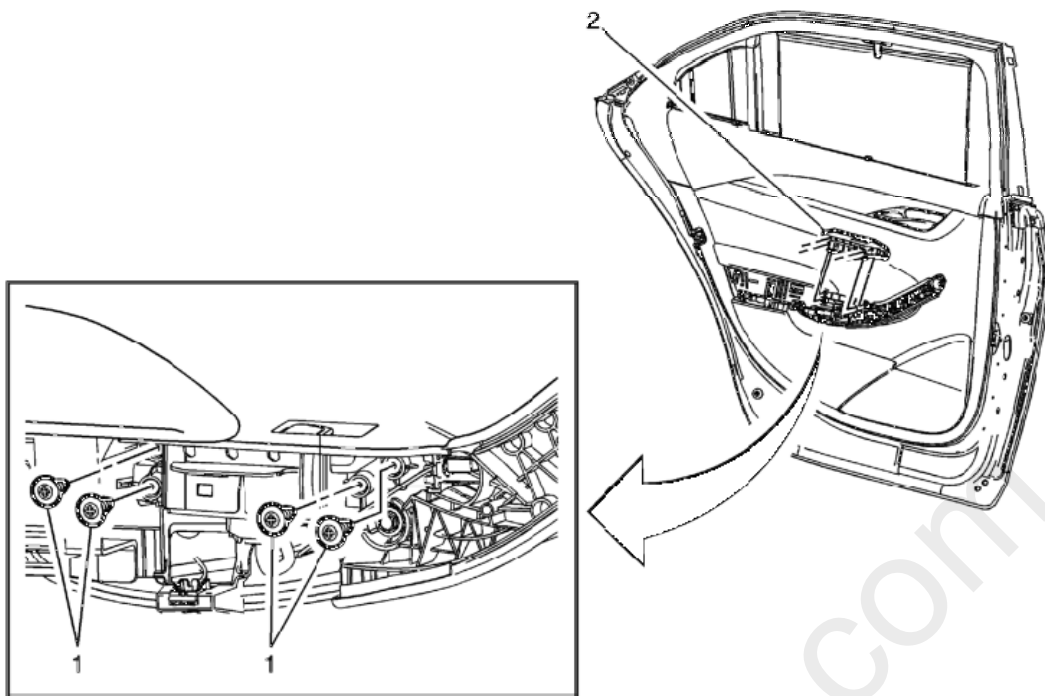


Fig. 12: Rear Side Door Armrest Switch Mount Plate
 Courtesy of GENERAL MOTORS COMPANY

Rear Side Door Armrest Switch Mount Plate Replacement

Callout	Component Name
Preliminary Procedure Remove the rear side door armrest cover trim. Refer to <u>Rear Side Door Armrest Cover Trim Replacement</u> .	
1	Rear Side Door Inside Handle Bezel Fastener (Qty: 4) CAUTION: Refer to <u>Fastener Caution</u> . Tighten 1.4 (12 lb in)
2	Rear Side Door Accessory Switch Mount Plate Assembly Procedure 1. Disengage light pipe from switch mount plate. 2. Disconnect the electrical connector. 3. Transfer parts as necessary.

FRONT SIDE DOOR SILL GARNISH MOLDING REPLACEMENT

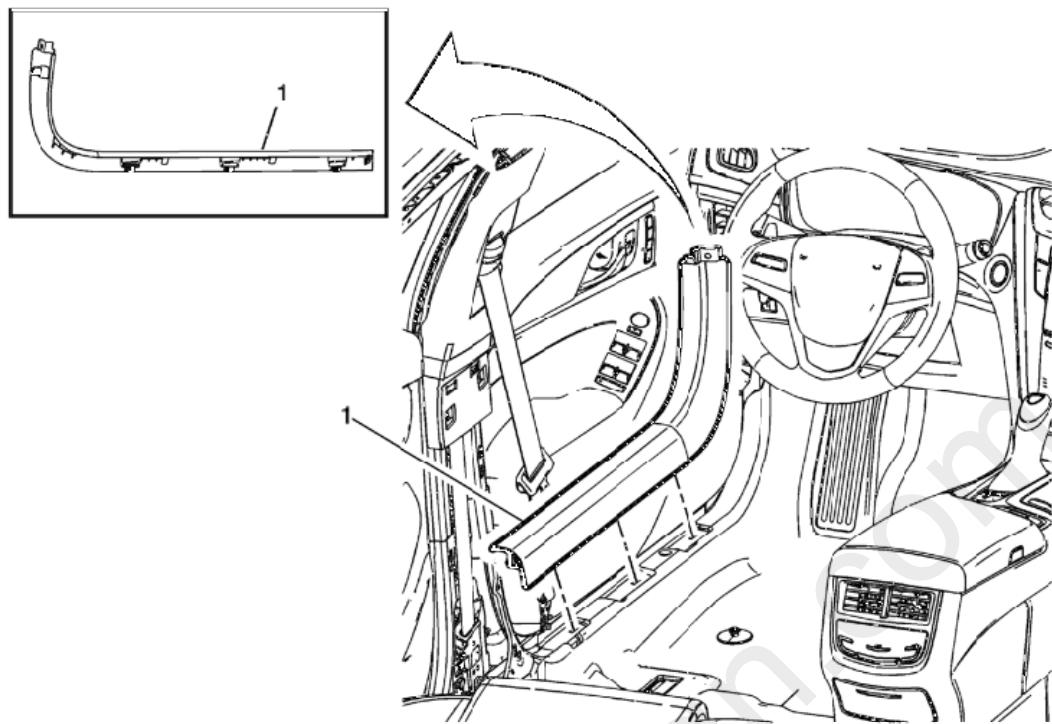


Fig. 13: Front Side Door Sill Garnish Molding
Courtesy of GENERAL MOTORS COMPANY

Front Side Door Sill Garnish Molding Replacement

Callout	Component Name
Preliminary Procedure Remove the body hinge pillar garnish molding. Refer to Body Hinge Pillar Garnish Molding Replacement .	
1	Front Side Door Sill Garnish Molding Assembly Procedure 1. Pull toward the rear of the vehicle to disengage integral clips. 2. Reposition the front floor panel carpet as needed.

REAR SIDE DOOR SILL GARNISH MOLDING REPLACEMENT

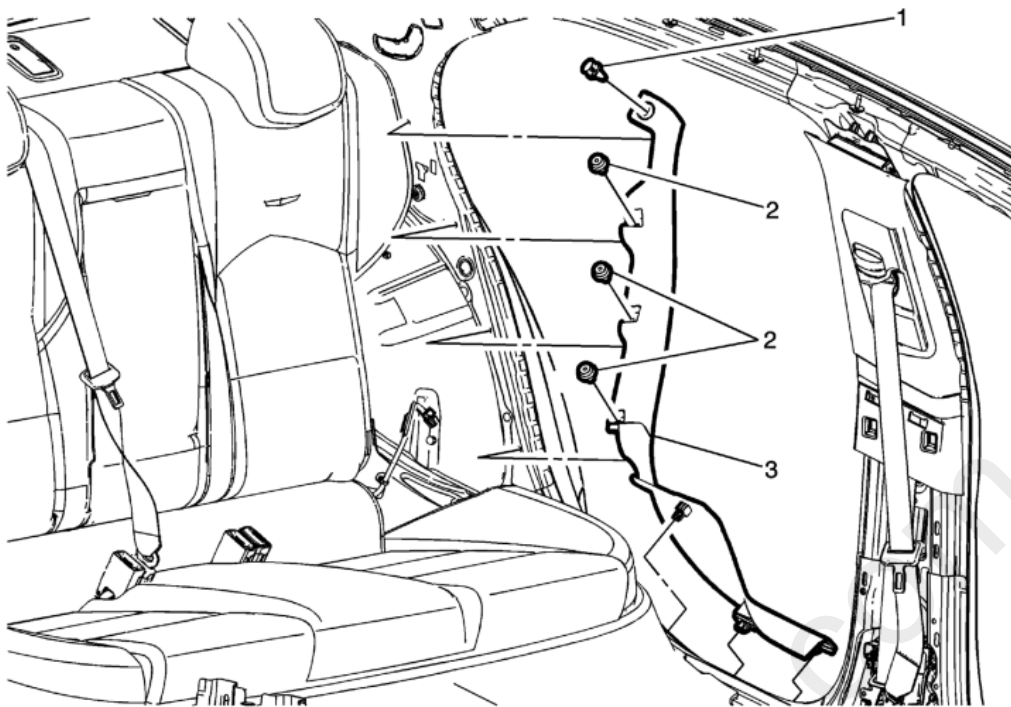


Fig. 14: Rear Side Door Sill Garnish Molding
Courtesy of GENERAL MOTORS COMPANY

Rear Side Door Sill Garnish Molding Replacement

Callout	Component Name
Preliminary Procedures	
1. Remove the rear seat back bolster. Refer to <u>Rear Seat Back Bolster Replacement</u> . 2. Remove the rear seat back cushion, if equipped with without AM9 fixed seat back. Refer to <u>Rear Seat Back Cushion Removal and Installation (40% with AM9)</u> , <u>Rear Seat Back Cushion Removal and Installation (60% with AM9)</u> , <u>Rear Seat Back Cushion Removal and Installation (without AM9)</u> .	
1	Rear Side Door Sill Trim Plate Clip
2	Rear Side Door Sill Trim Plate Retainer (Qty: 3) Procedure Slide the molding off of the retainers, replace the sill trim plate retainers, as needed.
3	Rear Side Door Sill Garnish Molding Assembly Procedure Use the appropriate plastic trim tool to aid in the removal of the rear side door sill garnish molding.

ROOF RAIL FRONT ASSIST HANDLE REPLACEMENT

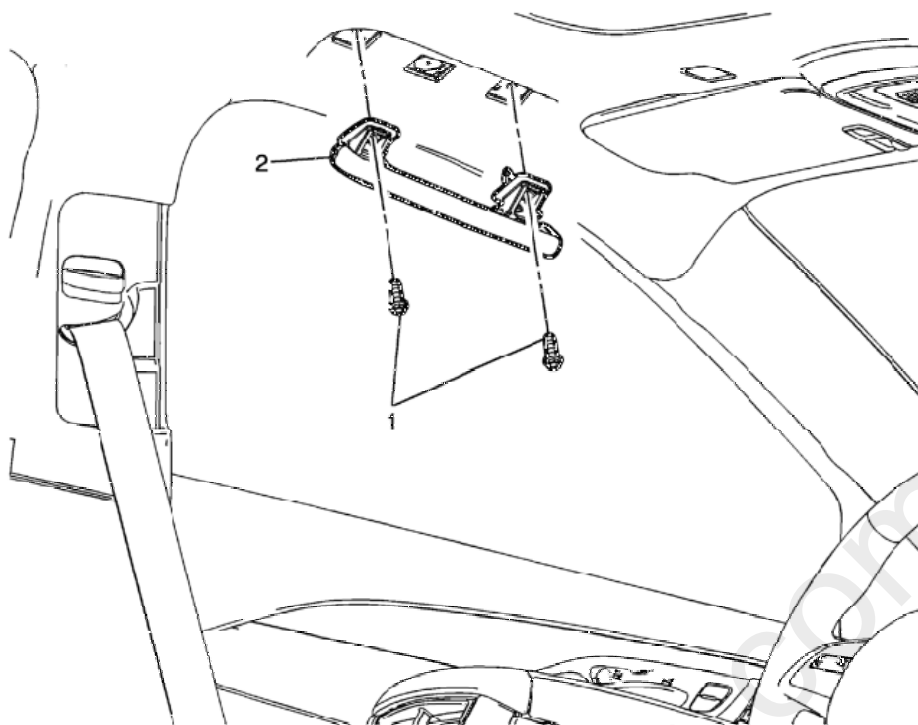


Fig. 15: Roof Rail Front Assist Handle
 Courtesy of GENERAL MOTORS COMPANY

Roof Rail Front Assist Handle Replacement

Callout	Component Name
1	Roof Rail Front Assist Handle Fastener (Qty: 2) CAUTION: Refer to <u>Fastener Caution</u> . Procedure 1. Fold the assist handle downward and hold. 2. Use a small flat-bladed tool to open the assist handle covers to access the fasteners. Tighten 6 (53 lb in)
2	Roof Rail Front Assist Handle Assembly

ROOF RAIL REAR ASSIST HANDLE REPLACEMENT

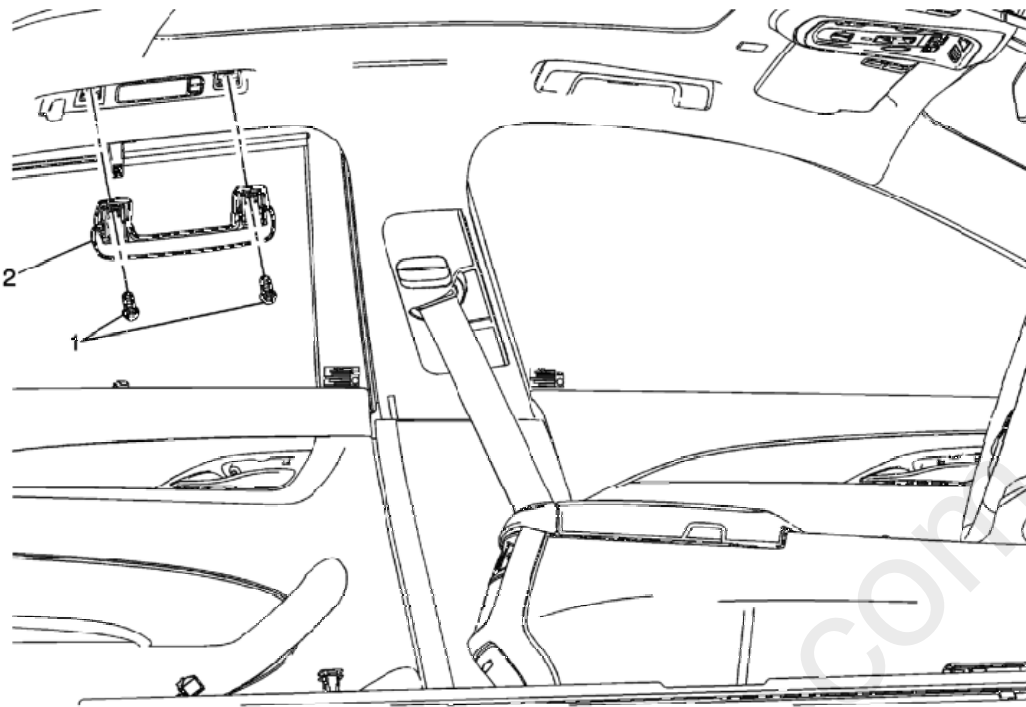


Fig. 16: Roof Rail Rear Assist Handle
 Courtesy of GENERAL MOTORS COMPANY

Roof Rail Rear Assist Handle Replacement

Callout	Component Name
1	Roof Rail Rear Assist Handle Fastener (Qty: 2) CAUTION: Refer to <u>Fastener Caution</u> . Procedure 1. Fold the assist handle downward and hold. 2. Use a small flat-bladed tool to open the assist handle covers to access the screws. Tighten 6 (53 lb in)
2	Roof Rail Rear Assist Handle Assembly

SUNSHADE REPLACEMENT

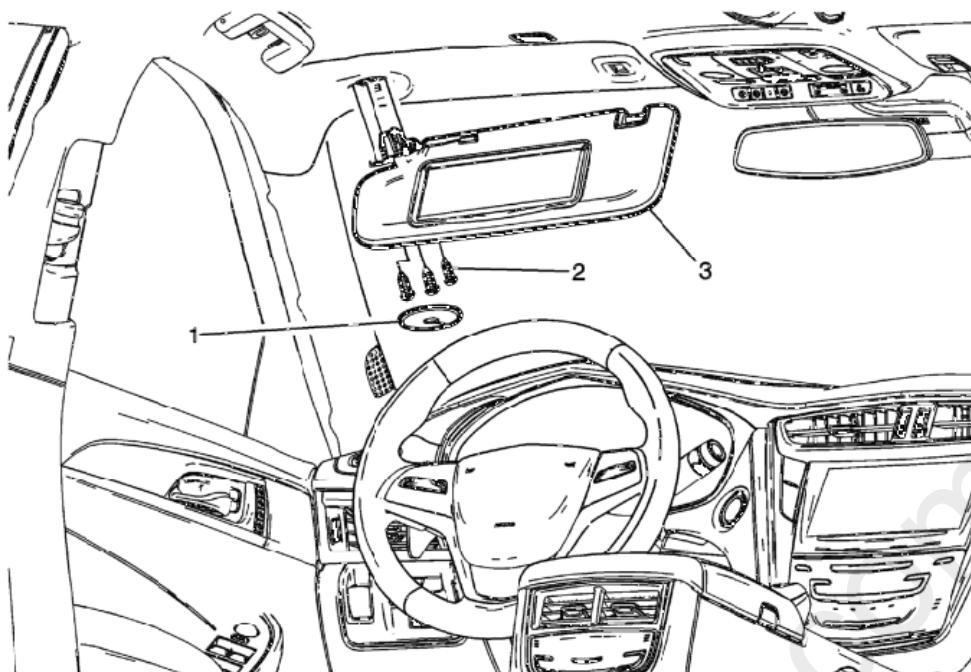


Fig. 17: Sunshade Assembly
Courtesy of GENERAL MOTORS COMPANY

Sunshade Replacement

Callout	Component Name
Preliminary Procedure Lower the front portion of the headliner to access the sunshade electrical connector and sunshade retainer. Refer to <u>Headlining Trim Panel Replacement (With Sunroof)</u> , <u>Headlining Trim Panel Replacement (Without Sunroof)</u> .	
1	Sunshade Retainer Bolt Cover
2	Sunshade Fastener (Qty: 3) CAUTION: Refer to <u>Fastener Caution</u> . Tighten 2.5 (22 lb in)
3	Sunshade Assembly Procedure 1. Squeeze the tabs at the base of the sunshade assembly to detach it from the roof panel and allow the headliner with the sunshade attached to be lowered. 2. Disconnect the electrical connector.

3. Release the retainer attaching the sunshade to the headliner assembly.

SUNSHADE SUPPORT REPLACEMENT

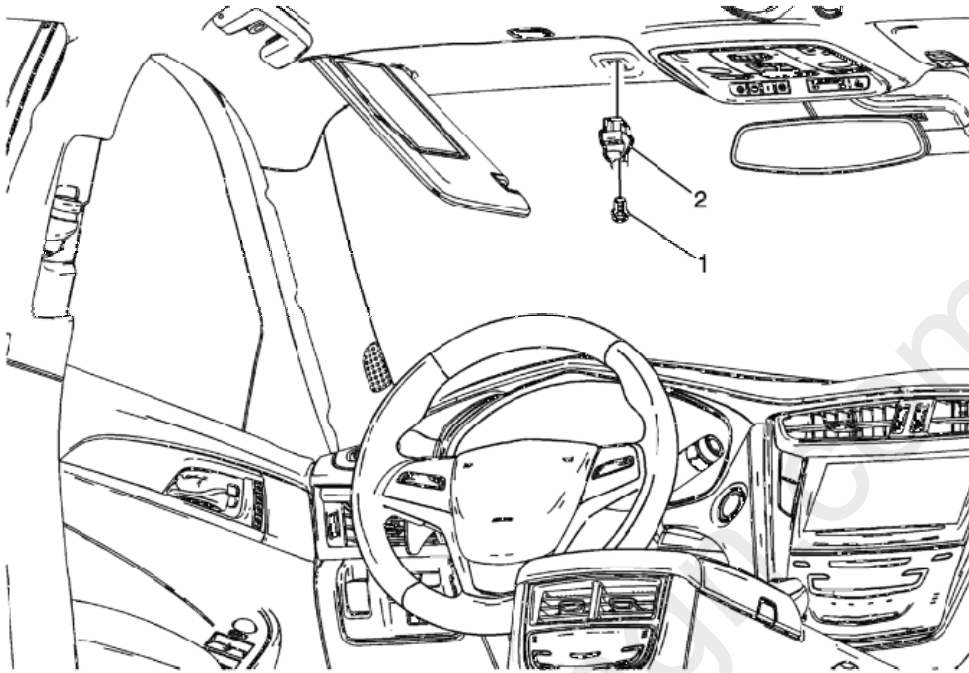


Fig. 18: Sunshade Support
Courtesy of GENERAL MOTORS COMPANY

Sunshade Support Replacement

Callout	Component Name
1	Sunshade Support Fastener CAUTION: Refer to <u>Fastener Caution</u> . NOTE: Pull the cover downward to access the fastener. Tighten 2.5 (22 lb in)
2	Sunshade Support Assembly Procedure Unclip the sunshade from the support and reposition.

WINDSHIELD GARNISH MOLDING REPLACEMENT

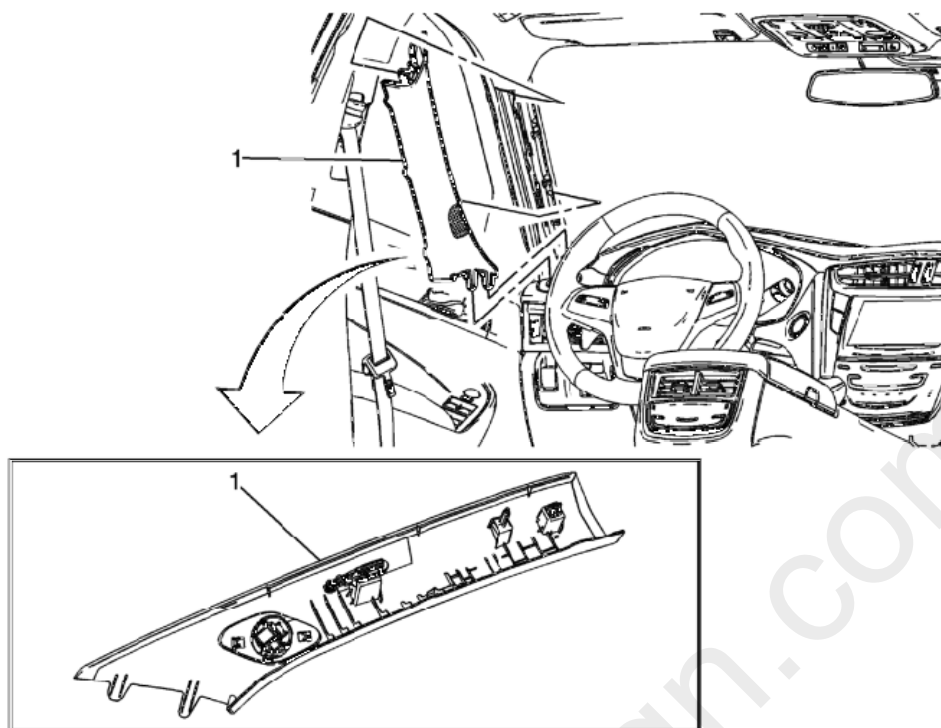


Fig. 19: Windshield Garnish Molding
Courtesy of GENERAL MOTORS COMPANY

Windshield Garnish Molding Replacement

Callout	Component Name
Preliminary Procedure Disable the SIR system. Refer to <u>SIR Disabling and Enabling</u> .	
1	Windshield Garnish Molding Assembly Procedure 1. Disconnect the electrical connector. 2. The tether clip at the lower portion of the garnish molding MUST be replaced every time the windshield garnish molding is removed.

BODY HINGE PILLAR GARNISH MOLDING REPLACEMENT

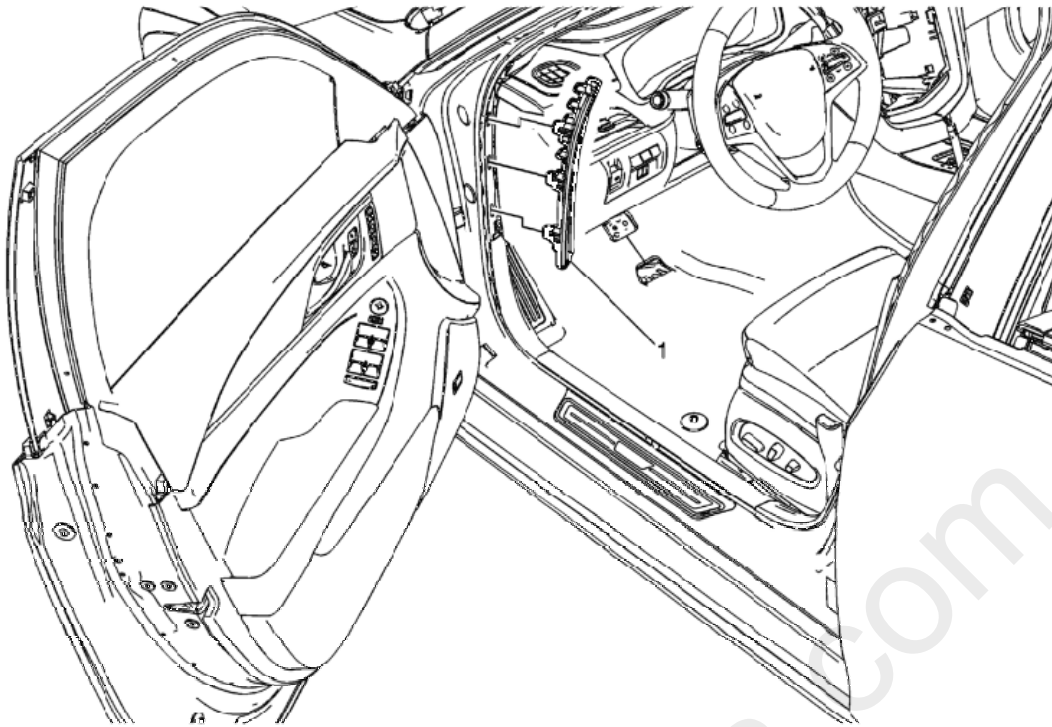


Fig. 20: Body Hinge Pillar Garnish Molding
 Courtesy of GENERAL MOTORS COMPANY

Body Hinge Pillar Garnish Molding Replacement

Callout	Component Name
Preliminary Procedure Remove the instrument panel outer trim cover. Refer to <u>Instrument Panel Outer Trim Cover Replacement</u> .	
1	Body Hinge Pillar Garnish Molding Assembly Procedure Pull toward the rear of the vehicle to disengage integral clips.

CENTER PILLAR UPPER TRIM PANEL REPLACEMENT

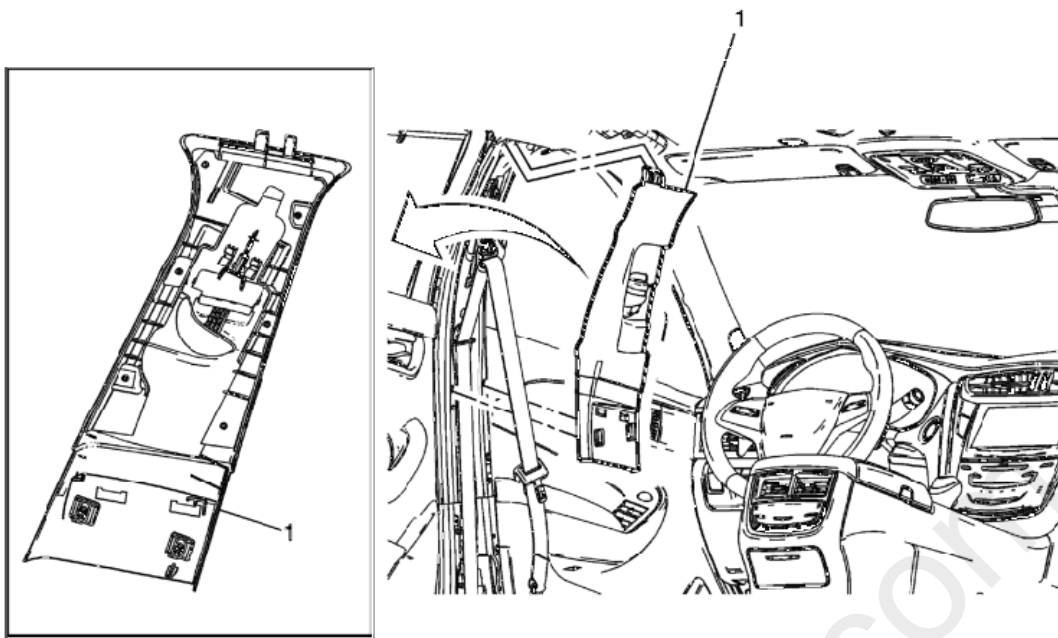


Fig. 21: Center Pillar Upper Trim Panel
 Courtesy of GENERAL MOTORS COMPANY

Center Pillar Upper Trim Panel Replacement

Callout	Component Name
Preliminary Procedures	
1. Remove the center pillar lower trim panel. Refer to <u>Center Pillar Lower Trim Panel Replacement</u>. 2. Remove the seat belt tensioner fastener and feed the seat belt through the center pillar upper trim panel. Refer to <u>Front Seat Belt Anchor Plate Tensioner Replacement</u>. 3. Move the driver or passenger seat to the full forward position.	
1	Center Pillar Upper Trim Panel Assembly Procedure 1. Starting at the bottom, gently pull on the center pillar upper trim panel to disengage the retaining clips. 2. When replacing the center pillar upper trim panel, feed the seat belt through the panel. 3. Verify the upper tabs are fully seated between the headliner and the center pillar inner panel.

CENTER PILLAR LOWER TRIM PANEL REPLACEMENT

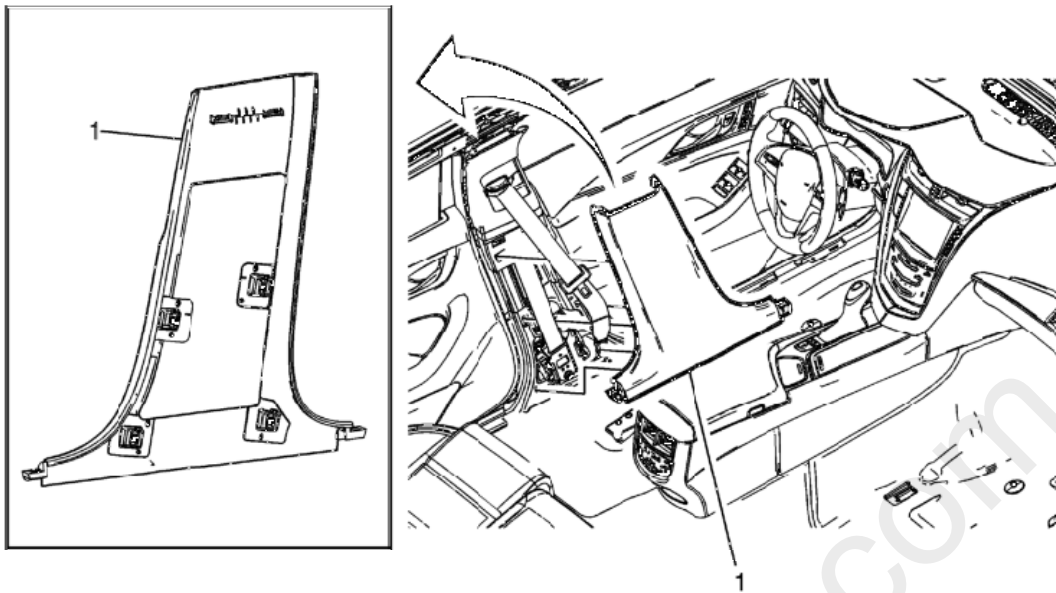


Fig. 22: Center Pillar Lower Trim Panel
 Courtesy of GENERAL MOTORS COMPANY

Center Pillar Lower Trim Panel Replacement

Callout	Component Name
Preliminary Procedures	
1. Remove the front side door sill garnish molding. Refer to <u>Front Side Door Sill Garnish Molding Replacement</u> . 2. Remove the rear side door sill garnish molding. Refer to <u>Rear Side Door Sill Garnish Molding Replacement</u> . 3. Move the driver or passenger seat to the full forward position.	
1	Center Pillar Lower Trim Panel Assembly Procedure Ensure the seat belt webbing does not become trapped during installation.

RADIO WINDSHIELD SIDE GARNISH MOLDING SPEAKER GRILLE REPLACEMENT

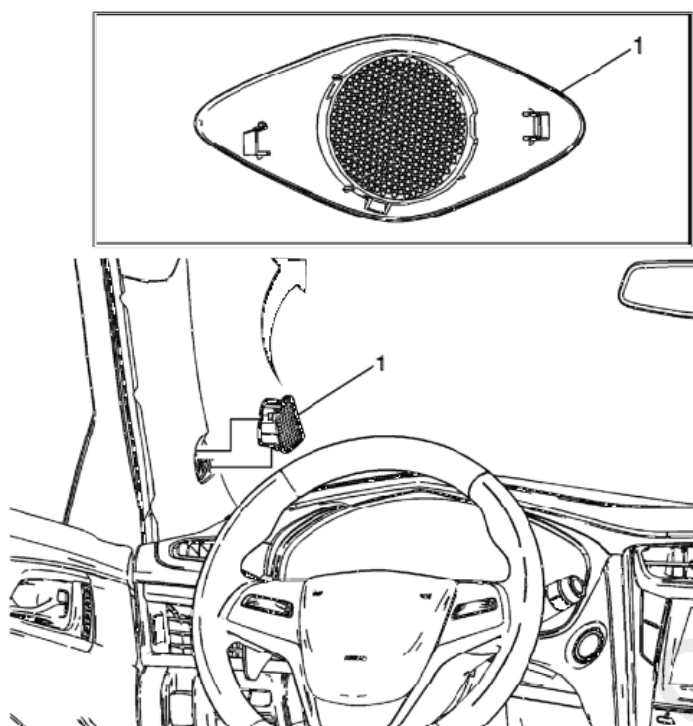


Fig. 23: Radio Windshield Side Garnish Molding Speaker Grille
 Courtesy of GENERAL MOTORS COMPANY

Radio Windshield Side Garnish Molding Speaker Grille Replacement

Callout	Component Name
Preliminary Procedure Remove the radio windshield side garnish molding speaker. Refer to <u>Radio Windshield Side Garnish Molding Speaker Replacement</u> .	
1	Radio Windshield Side Garnish Molding Speaker Grille Procedure Release the three retaining tabs to release the radio windshield side garnish molding speaker grille from the windshield garnish molding.

REAR WINDOW PANEL TRIM REPLACEMENT (WITH DB3)

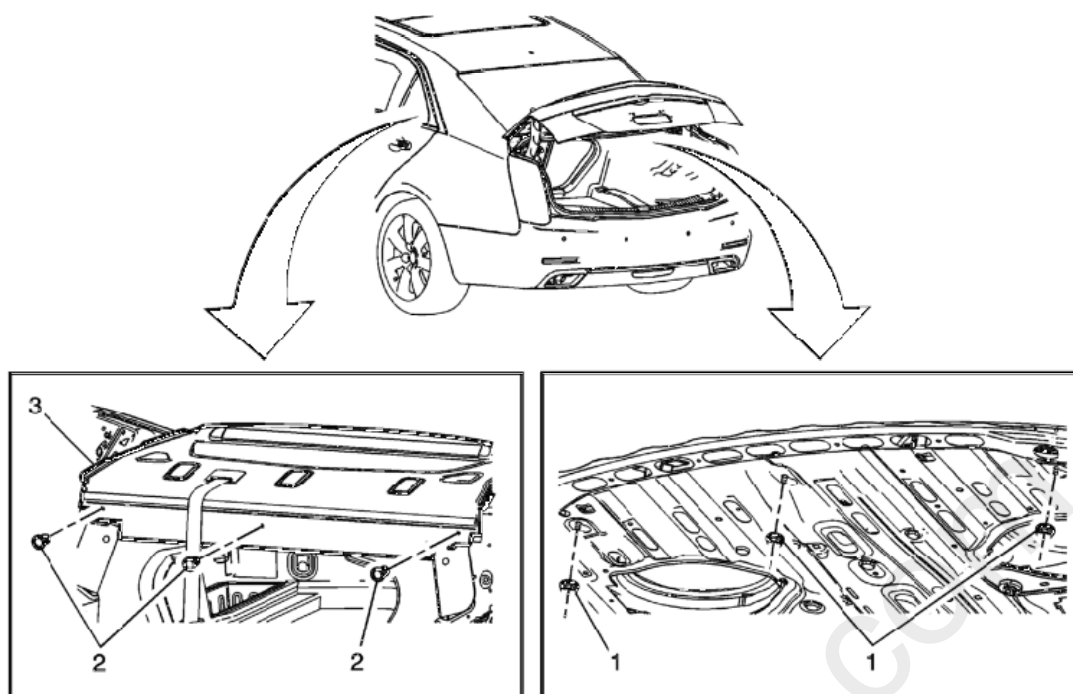


Fig. 24: Rear Window Panel Trim (with DB3)
 Courtesy of GENERAL MOTORS COMPANY

Rear Window Panel Trim Replacement (With DB3)

Callout	Component Name
Preliminary Procedures	
1. Lower the rear compartment rear window lower trim to access the retainers through the rear compartment. Refer to <u>Rear Compartment Rear Window Lower Trim Replacement</u> . 2. Remove the body side rear window garnish molding. Refer to <u>Body Side Rear Window Garnish Molding Replacement</u> .	
1	Rear Window Panel Trim Fastener (Qty: 3) CAUTION: Refer to <u>Fastener Caution</u> . Tighten 9 (80 lb in)
2	Rear Window Panel Trim Push-In Fastener (Qty: 3) Procedure Fold down the rear seats to access the retainers.
	Rear Window Panel Trim Assembly Procedure

3

1. With the aid of an assistant, guide the rear window panel forward in the vehicle and upwards to clear the speaker system.
2. Route the rear seat belt bracket cover and center seat belt through the rear window trim panel opening.
3. Disconnect the electrical connector.
4. When replacing the rear window panel trim assembly, transfer all necessary components.

REAR WINDOW PANEL TRIM REPLACEMENT (WITHOUT DB3)

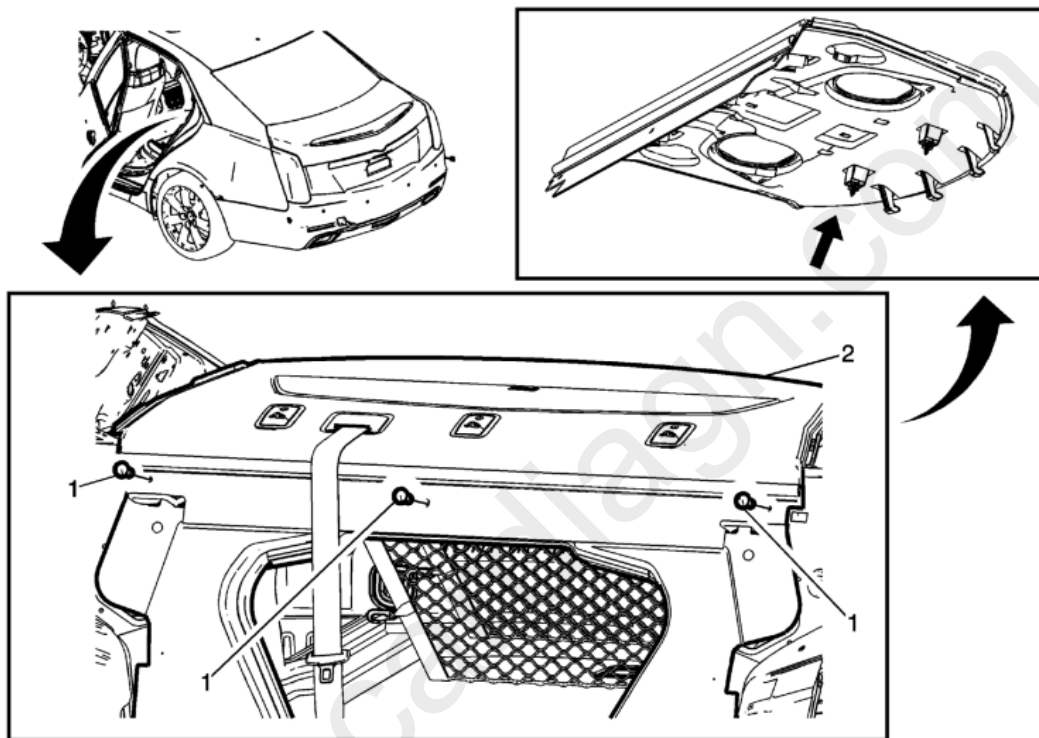


Fig. 25: Rear Window Panel Trim (without DB3)

Courtesy of GENERAL MOTORS COMPANY

Rear Window Panel Trim Replacement (Without DB3)

Callout	Component Name
Preliminary Procedure	
Remove the body side rear window garnish molding. Refer to <u>Body Side Rear Window Garnish Molding Replacement.</u>	
1	Rear Window Panel Trim Fastener (Qty: 3) NOTE: There are two metal clips on the underside of rear window panel. See view above for location.

2	Rear Window Panel Trim Assembly Procedure When replacing the rear window panel trim assembly, transfer all necessary components.
---	---

REAR END TRIM FINISH PANEL REPLACEMENT

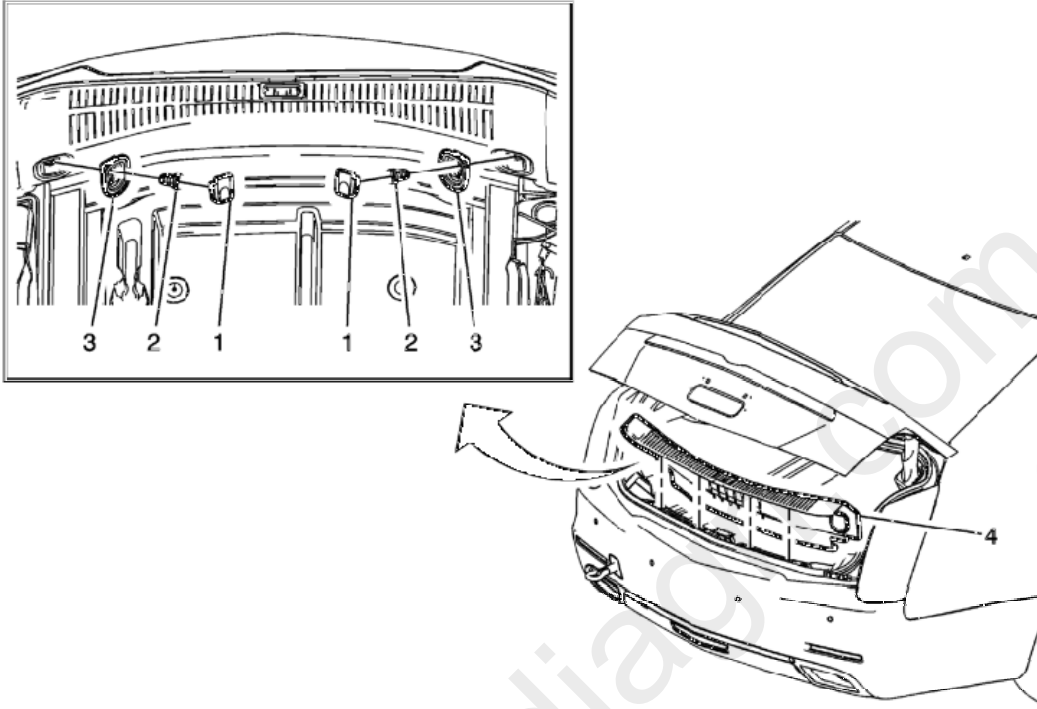


Fig. 26: Rear End Trim Finish Panel
Courtesy of GENERAL MOTORS COMPANY

Rear End Trim Finish Panel Replacement

Callout	Component Name
Preliminary Procedure Remove the rear compartment floor panel carpet. Refer to <u>Rear Compartment Floor Panel Carpet Replacement</u> .	
1	Cargo Tie Down Loop Cap (Qty: 2)
2	Cargo Tie Down Loop Fastener (Qty: 2) CAUTION: Refer to <u>Fastener Caution</u>. Tighten 20 (15 lb ft)
3	Cargo Tie Down Loop Assembly

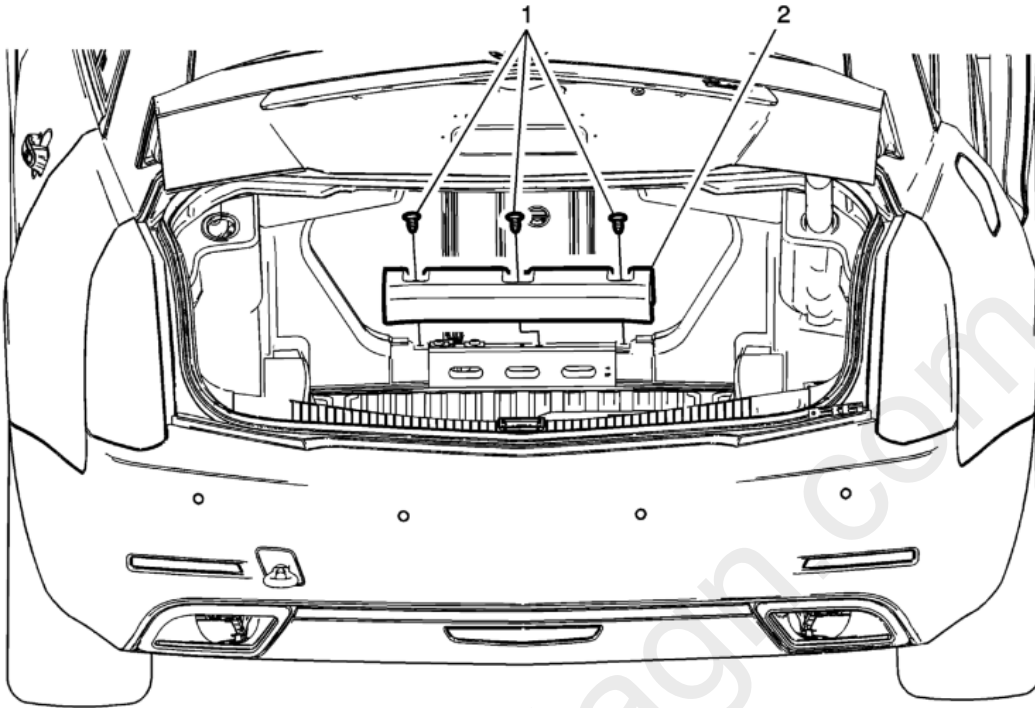
REAR COMPARTMENT FLOOR PANEL TRIM REPLACEMENT

Fig. 27: Rear Compartment Floor Panel Trim
Courtesy of GENERAL MOTORS COMPANY

Rear Compartment Floor Panel Trim Replacement

Callout	Component Name
Preliminary Procedure Remove the rear compartment floor panel carpet. Refer to <u>Rear Compartment Floor Panel Carpet Replacement</u> .	
1	Rear Compartment Floor Panel Trim Retainer (Qty: 3) Procedure 1. Open the rear compartment lid to access the retainers. 2. Use a trim removal tool to aid in the removal of the retainers.
2	Rear Compartment Floor Panel Trim

REAR SIDE DOOR TRIM REPLACEMENT

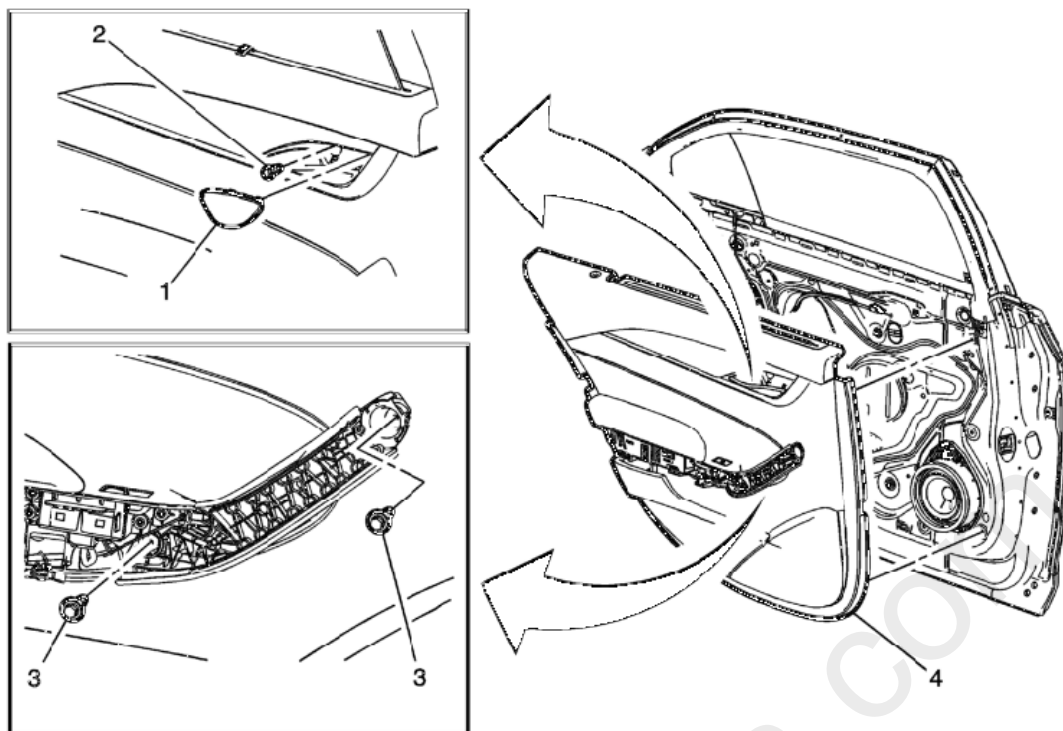


Fig. 28: Rear Side Door Trim
 Courtesy of GENERAL MOTORS COMPANY

Rear Side Door Trim Replacement

Callout	Component Name
Preliminary Procedure Remove the rear side door armrest cover trim. Refer to <u>Rear Side Door Armrest Cover Trim Replacement</u> .	
1	Rear Side Door Inside Handle Bolt Cap NOTE: Use a suitable tool, place the tool between the notch located at the rear of the door handle cap and the door handle. Turn the suitable tool clockwise releasing the door handle cap, exposing the handle fastener.
2	Rear Side Door Inside Handle Fastener CAUTION: Refer to <u>Fastener Caution</u> . Tighten 2.5 (22 lb in)
3	Rear Side Door Pull Handle Fastener (Qty: 2) Tighten 2.5 (22 lb in)

Rear Side Door Trim Assembly

Procedure

1. Use the appropriate plastic trim tool to aid in the removal of the door trim.
2. Remove the door trim panel by pulling outward at the top of the trim panel to disengage the upper retainers.
3. Replace the door trim retainers as needed.
4. Pull upwards on the door lock retainer cable to disengage.
5. Disconnect the electrical connector.

REAR SIDE DOOR WINDOW INSIDE SUNSHADE REPLACEMENT

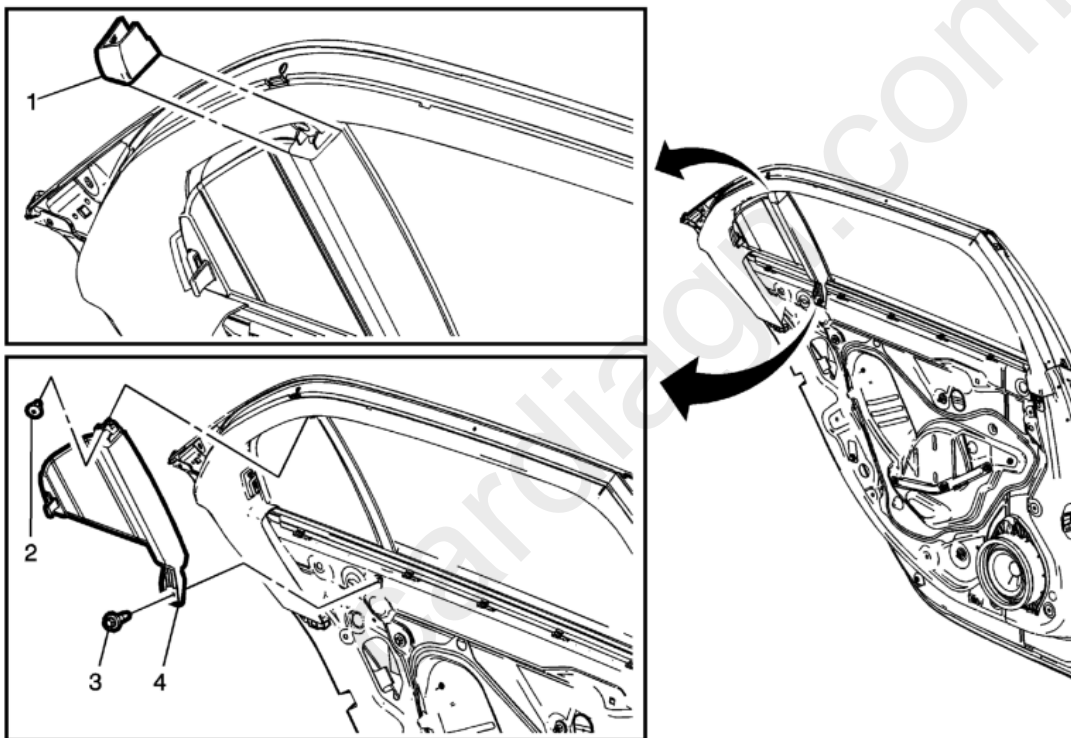


Fig. 29: Rear Side Door Window Inside Sunshade
Courtesy of GENERAL MOTORS COMPANY

Rear Side Door Window Inside Sunshade Replacement

Callout	Component Name
Preliminary Procedure	
Remove the rear side door trim. Refer to <u>Rear Side Door Trim Replacement</u> .	
1	Rear Side Door Window Inside Sunshade Bracket
	Rear Side Door Window Inside Sunshade Hook Fastener
CAUTION:	

2	Refer to <u>Fastener Caution</u> . Tighten 2.5 (22 lb in)
3	Rear Side Door Window Inside Sunshade Fastener Tighten 2.5 (22 lb in)
4	Rear Side Door Window Inside Sunshade Assembly NOTE: Sunshade assembly secures to door with integral tab. Use care when releasing the hook feature at the top portion of the sunshade.

REAR WINDOW INSIDE SUNSHADE REPLACEMENT

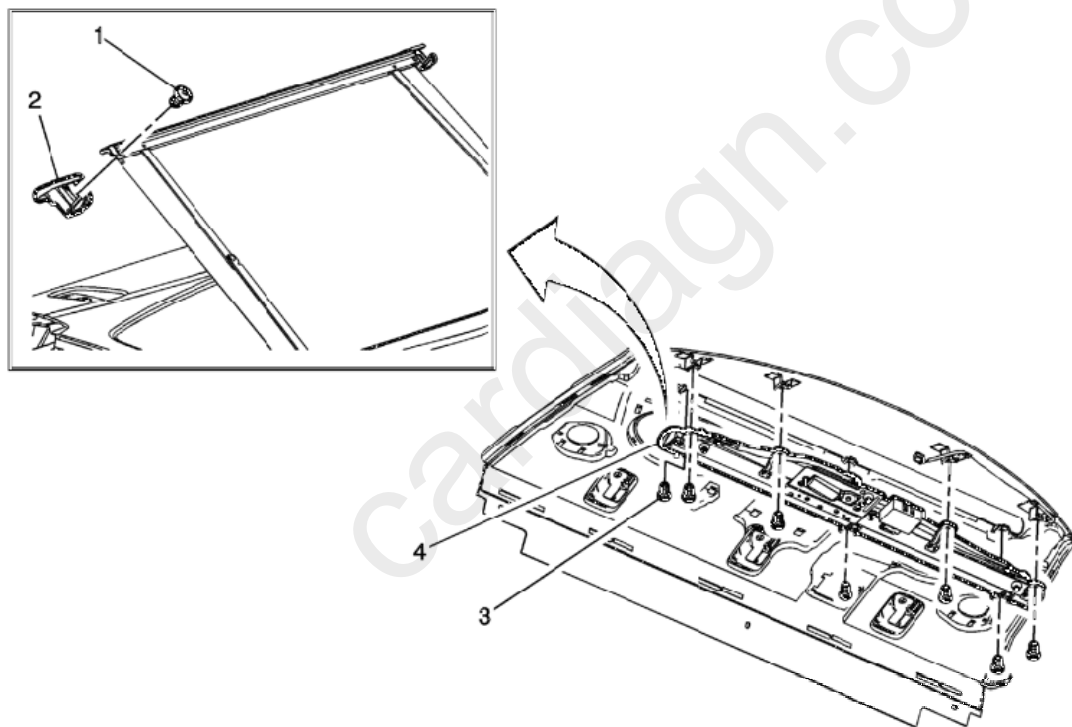


Fig. 30: Rear Window Inside Sunshade
Courtesy of GENERAL MOTORS COMPANY

Rear Window Inside Sunshade Replacement

Callout	Component Name
Preliminary Procedure	
Remove the rear window panel trim. Refer to <u>Rear Window Panel Trim Replacement (With DB3)</u> , <u>Rear Window Panel Trim Replacement (Without DB3)</u> .	

	Rear Window Inside Sunshade Fastener (Qty: 2)
1	CAUTION: Refer to <u>Fastener Caution</u> . Procedure Hand tighten only.
2	Rear Window Inside Sunshade Assembly Endcap
3	Rear Window Panel Trim Fastener (Qty: 7) Tighten 9 (80 lb in)
4	Rear Window Inside Sunshade Assembly

REAR COMPARTMENT REAR WINDOW LOWER TRIM REPLACEMENT

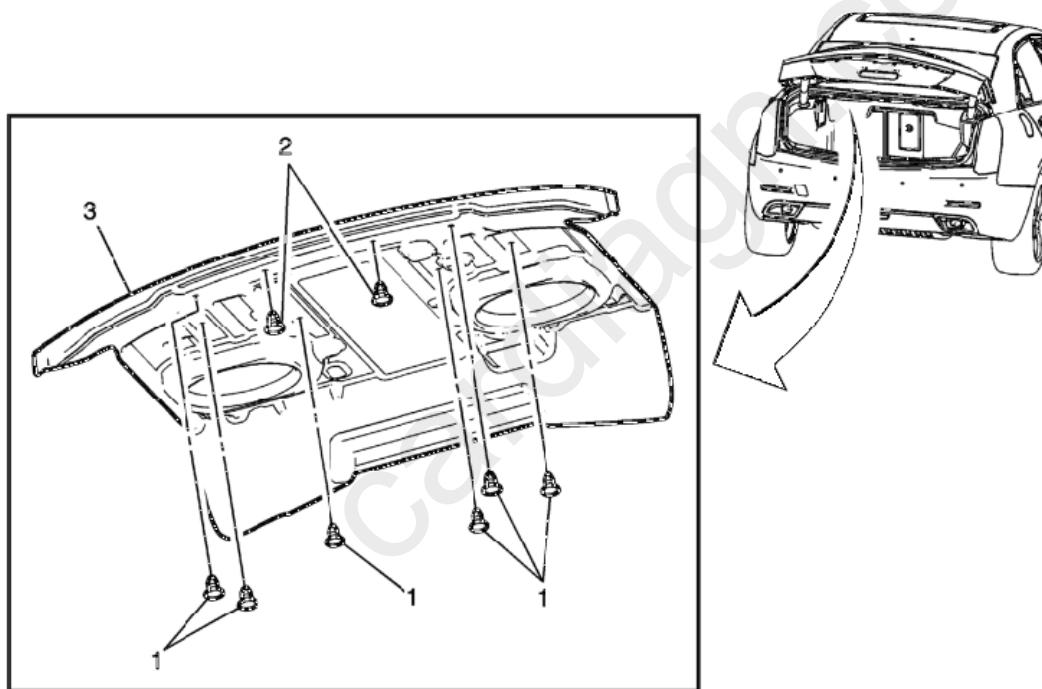


Fig. 31: Rear Compartment Rear Window Lower Trim
Courtesy of GENERAL MOTORS COMPANY

Rear Compartment Rear Window Lower Trim Replacement

Callout	Component Name
1	Rear Compartment Rear Window Lower Trim Retainer (Qty: 6)
	Procedure

	1. Open the rear compartment lid to access retainers. 2. Use a trim removal tool to aid in the removal of the retainers.
2	Radio Rear Speaker Grille Retainer (Qty: 2) Procedure Use a trim removal tool to aid in the removal of the retainers.
3	Rear Compartment Rear Window Lower Trim Assembly

REAR COMPARTMENT LID INNER PANEL TRIM REPLACEMENT

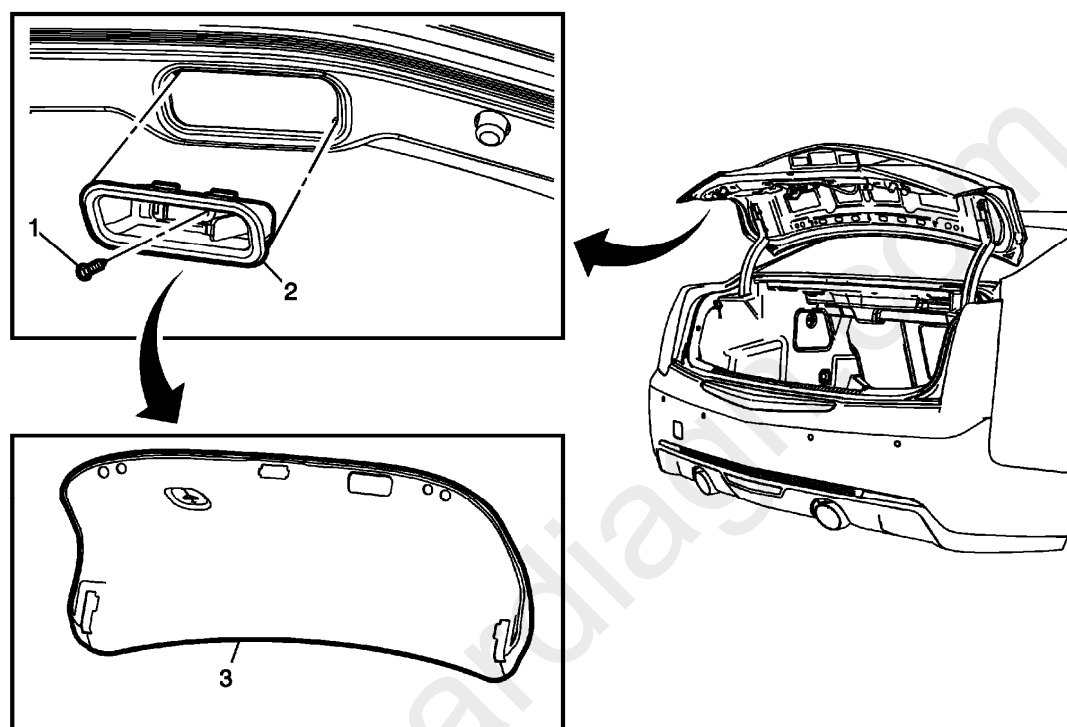


Fig. 32: Rear Compartment Lid Inner Panel Trim
Courtesy of GENERAL MOTORS COMPANY

Rear Compartment Lid Inner Panel Trim Replacement

Callout	Component Name
Preliminary Procedure Remove rear compartment lid latch cover. Refer to <u>Rear Compartment Lid Latch Cover Replacement</u> .	
1	Liftgate Assist Strap Fastener CAUTION: Refer to <u>Fastener Caution</u> . Procedure

	Use a small flat-bladed tool to open integral cover to access fastener. Tighten 2.5 (22 lb in)
2	Rear Compartment Lid Inside Handle
3	Rear Compartment Lid Inner Panel Trim Assembly Procedure Use the appropriate plastic trim tool to aid in the removal of the rear compartment lid inner panel trim.

REAR COMPARTMENT LID LATCH COVER REPLACEMENT

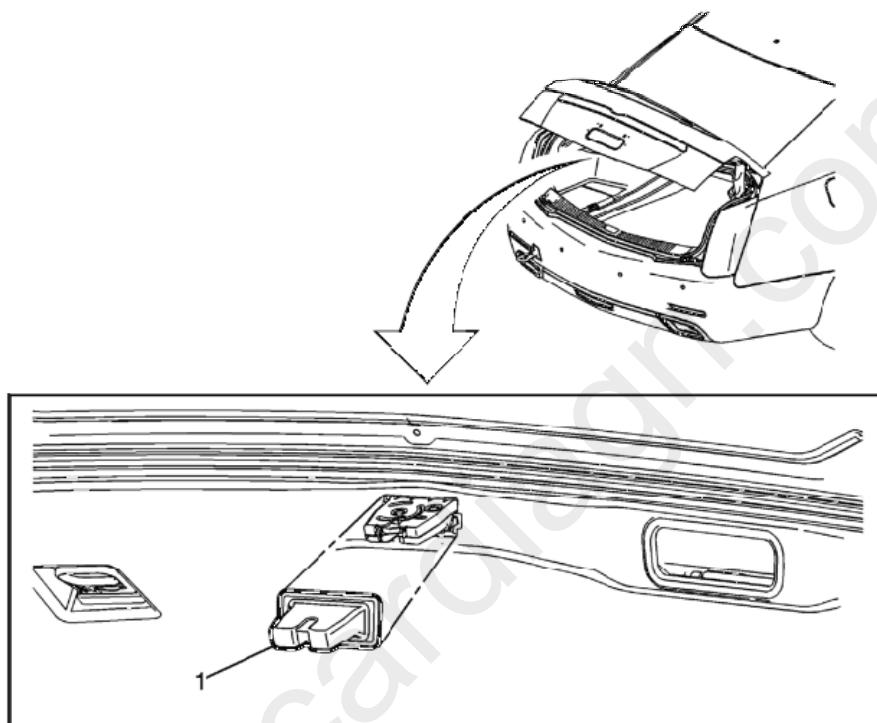


Fig. 33: Rear Compartment Lid Latch Cover
Courtesy of GENERAL MOTORS COMPANY

Rear Compartment Lid Latch Cover Replacement

Callout	Component Name
1	Rear Compartment Lid Latch Cover Assembly Procedure Use a small flat-bladed tool to pull and release the rear compartment lid latch cover.

REAR COMPARTMENT SIDE FRONT TRIM REPLACEMENT

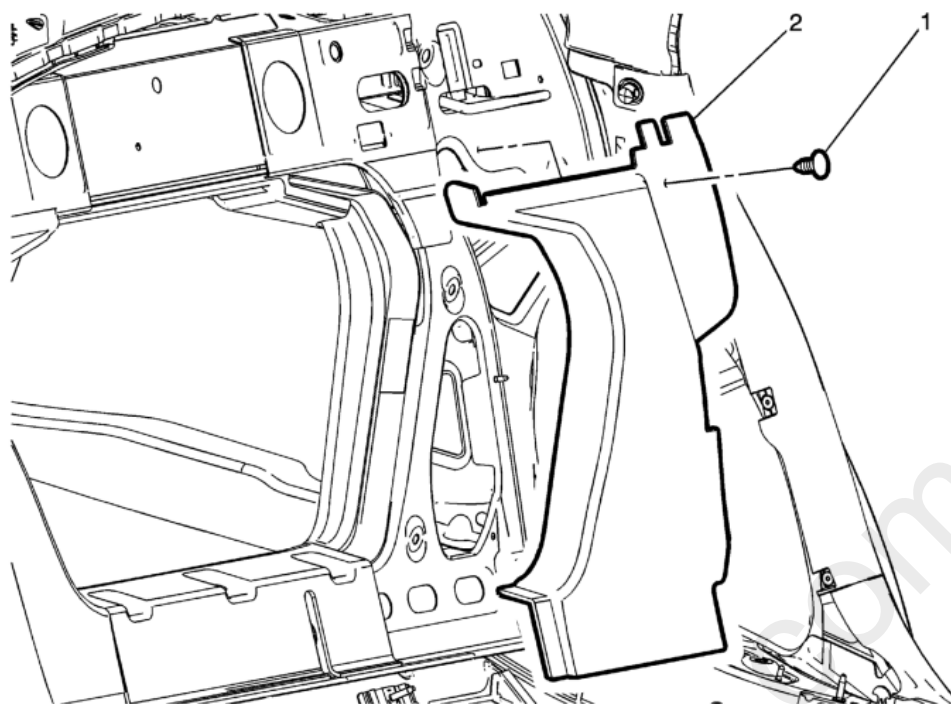


Fig. 34: Rear Compartment Side Front Trim
 Courtesy of GENERAL MOTORS COMPANY

Rear Compartment Side Front Trim Replacement

Callout	Component Name
Preliminary Procedures	
1. Remove the seat back bolster. Refer to <u>Rear Seat Back Bolster Replacement</u> .	
2. Fold down rear seat to access retainer.	
1	Rear Compartment Side Trim Insulator Retainer
2	Rear Compartment Side Front Trim Assembly

REAR COMPARTMENT SIDE TRIM REPLACEMENT - LEFT SIDE

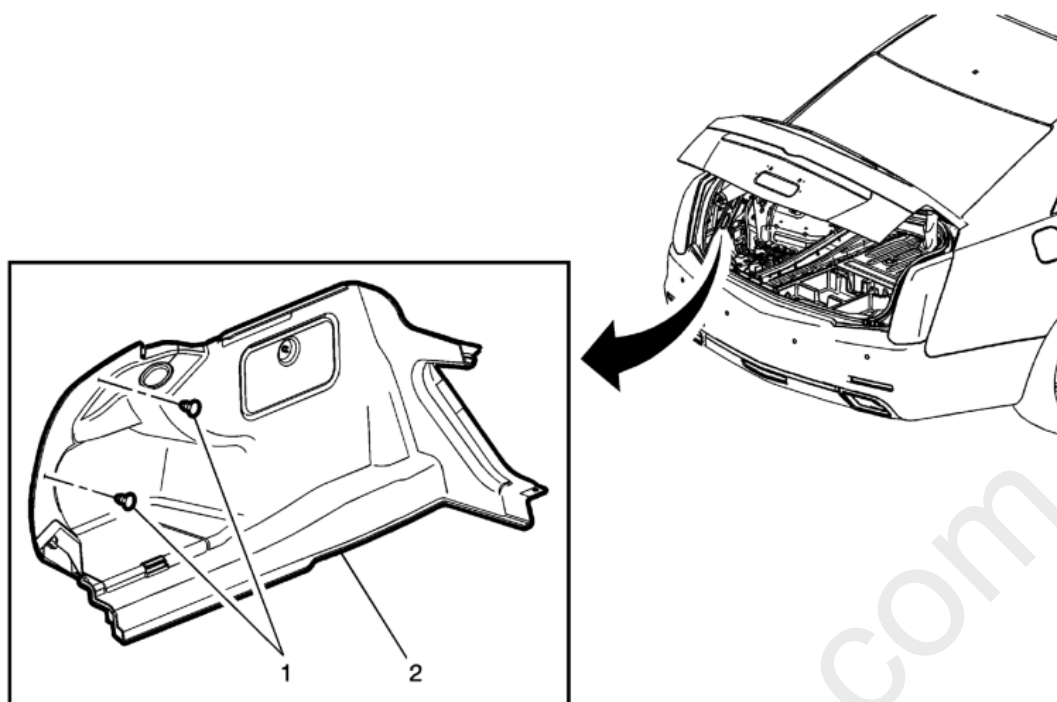


Fig. 35: Rear Compartment Side Trim - Left Side
 Courtesy of GENERAL MOTORS COMPANY

Rear Compartment Side Trim Replacement - Left Side

Callout	Component Name
Preliminary Procedures	
1. Remove the rear end trim finish panel. Refer to <u>Rear End Trim Finish Panel Replacement</u> . 2. Remove the rear compartment rear window lower trim. Refer to <u>Rear Compartment Rear Window Lower Trim Replacement</u> . 3. Remove the rear compartment floor panel trim. Refer to <u>Rear Compartment Floor Panel Trim Replacement</u> . 4. Fold down rear seat to access retainers.	
1	Rear Compartment Side Trim Retainer (Qty: 2)
2	Rear Compartment Side Trim Assembly - Left Side
Procedures	
1. Disconnect electrical connector. 2. Transfer parts as necessary.	

REAR COMPARTMENT SIDE TRIM REPLACEMENT - RIGHT SIDE

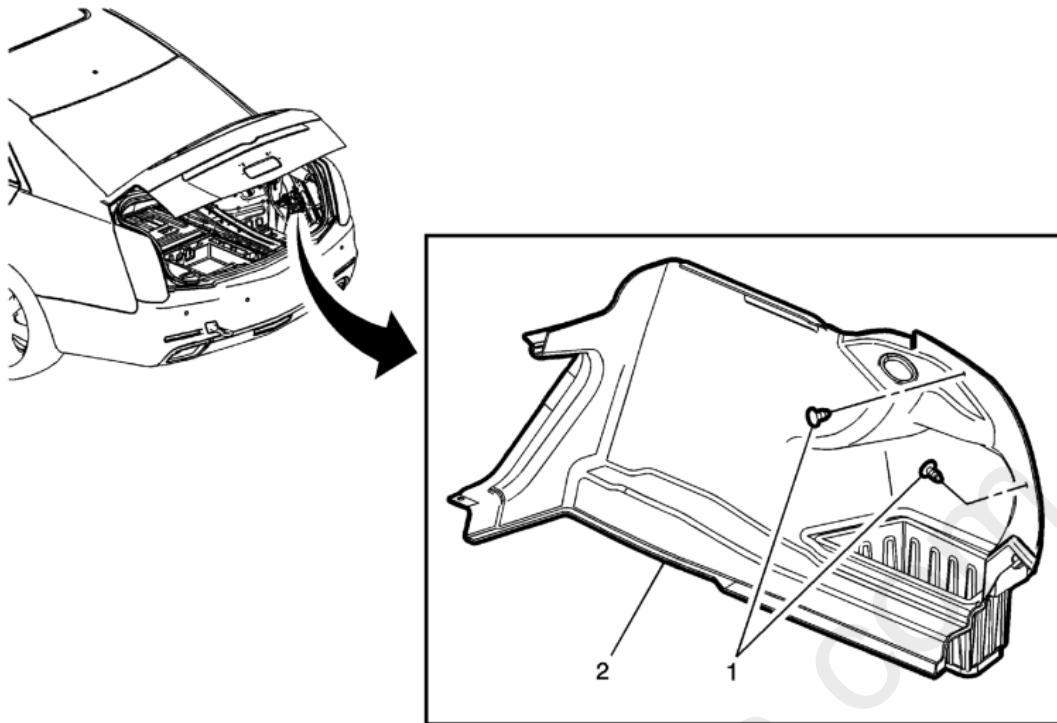


Fig. 36: Rear Compartment Side Trim - Right Side
 Courtesy of GENERAL MOTORS COMPANY

Rear Compartment Side Trim Replacement - Right Side

Callout	Component Name
Preliminary Procedures	
1. Remove the rear end trim finish panel. Refer to <u>Rear End Trim Finish Panel Replacement</u> . 2. Remove the rear compartment rear window lower trim. Refer to <u>Rear Compartment Rear Window Lower Trim Replacement</u> . 3. Remove the rear compartment floor panel trim. Refer to <u>Rear Compartment Floor Panel Trim Replacement</u> . 4. Fold down rear seat to access retainers.	
1	Rear Compartment Side Trim Retainer (Qty: 2)
2	Rear Compartment Side Trim Assembly - Right Side
Procedures	
1. Disconnect electrical connector. 2. Transfer parts as necessary.	

CARGO TIE DOWN LOOP REPLACEMENT

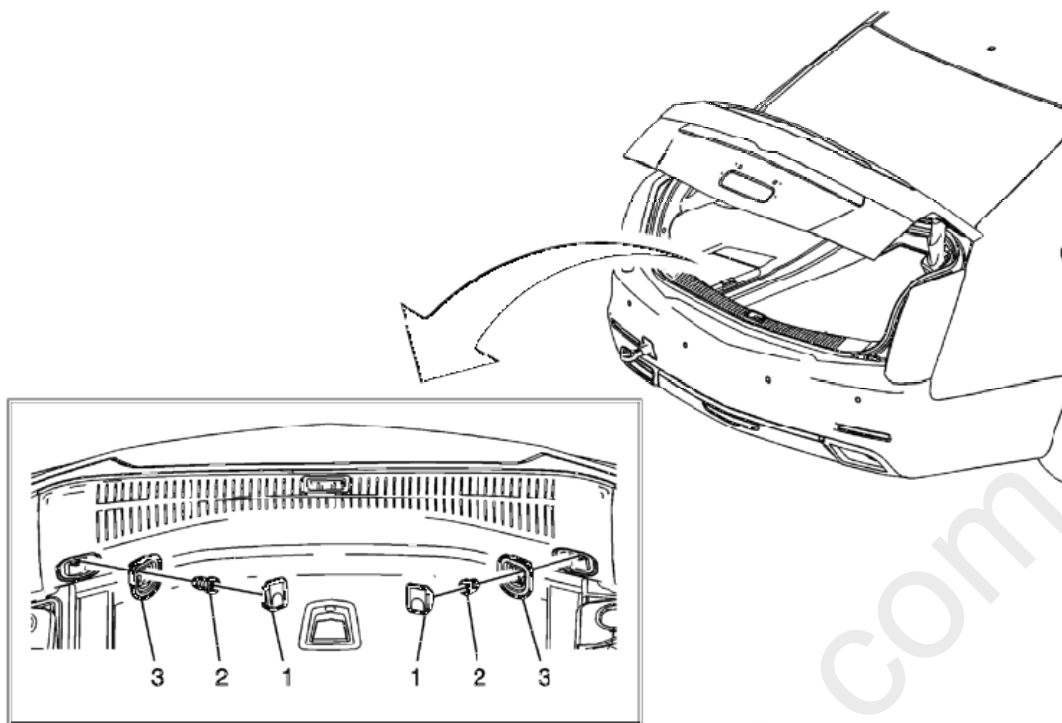


Fig. 37: Cargo Tie Down Loop
 Courtesy of GENERAL MOTORS COMPANY

Cargo Tie Down Loop Replacement

Callout	Component Name
1	Cargo Tie Down Loop Bolt Cap (Qty: 2)
2	Cargo Tie Down Loop Fastener (Qty: 2) CAUTION: Refer to <u>Fastener Caution</u> . Tighten 20 (15 lb ft)
3	Cargo Tie Down Hook Assembly (Qty: 2)

BODY SIDE REAR WINDOW GARNISH MOLDING REPLACEMENT

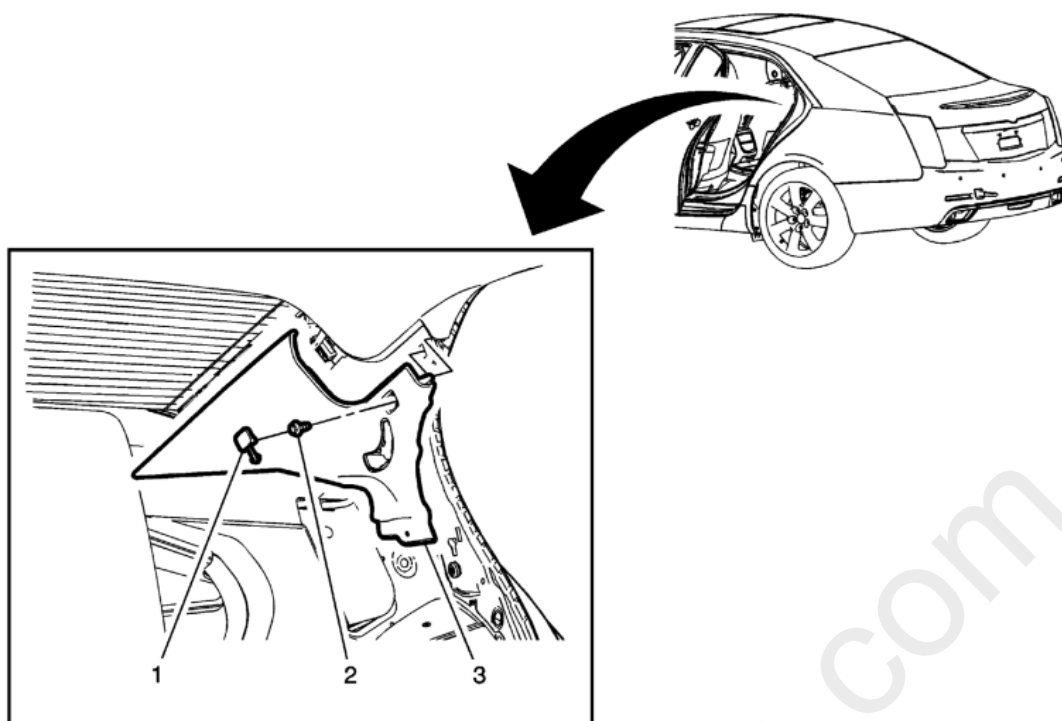


Fig. 38: Body Side Rear Window Garnish Molding
 Courtesy of GENERAL MOTORS COMPANY

Body Side Rear Window Garnish Molding Replacement

Callout	Component Name
Preliminary Procedures	
1. Remove the rear side door sill garnish molding. Refer to <u>Rear Side Door Sill Garnish Molding Replacement</u> . 2. Disable the SIR system. Refer to <u>SIR Disabling and Enabling</u> .	
1	Inflatable Restraint Airbag Plate
2	Body Side Rear Window Garnish Molding Fastener CAUTION: Refer to <u>Fastener Caution</u> . Tighten 2.5 (22 lb in)
3	Body Side Rear Window Garnish Molding Assembly Procedure 1. Remove the seat belt anchor bolt.

2. Disconnect the seat belt through the slot in the escutcheon opening.

QUARTER OUTER PANEL PRESSURE RELIEF VALVE REPLACEMENT

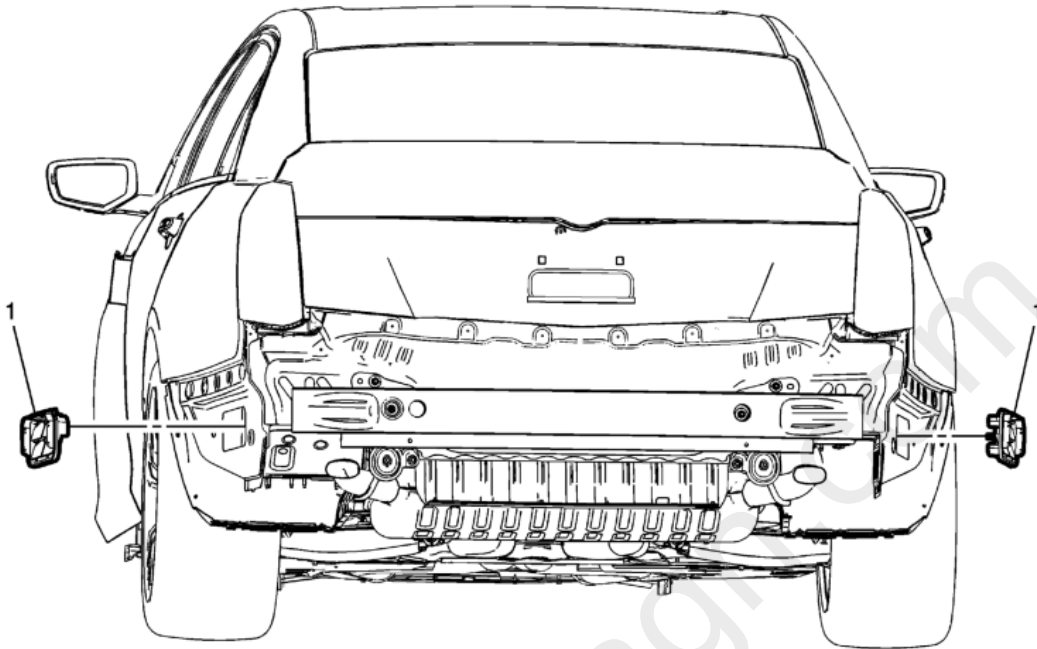


Fig. 39: Quarter Outer Panel Pressure Relief Valve
Courtesy of GENERAL MOTORS COMPANY

Quarter Outer Panel Pressure Relief Valve Replacement

Call out	Component Name
Preliminary Procedure Remove the rear bumper fascia. Refer to <u>Rear Bumper Fascia Replacement</u> .	
1	Quarter Outer Panel Pressure Relief Valve (Qty: 2) Procedures 1. Use a flat-bladed tool to release the locking tabs on the air pressure relief valve at the two upper, and two lower locations. 2. Press the pressure relief valve into the quarter panel until the locking tabs lock in place at both the upper, and lower locations.

DESCRIPTION AND OPERATION

REAR WINDOW INSIDE SUNSHADE DESCRIPTION AND OPERATION

Rear Window Sunshade System Components

The rear window power sunshade system consists of the following components:

- Rear window sunshade module
- Rear window sunshade switch
- Rear window sunshade motor
- Body control module

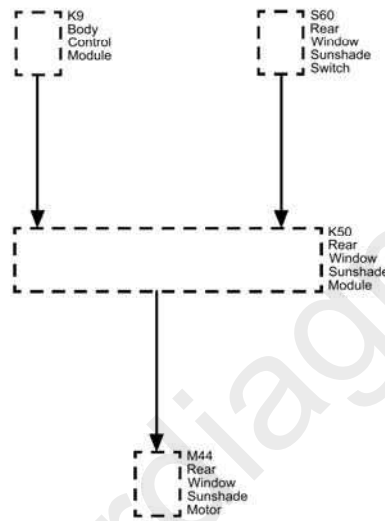


Fig. 40: Rear Window Sunshade Wiring Schematic
Courtesy of GENERAL MOTORS COMPANY

Rear Window Sunshade Operation

The rear window power sunshade is controlled by the sunshade module. In order for the sunshade to function, the module must receive an input from the sunshade switch that is located in the roof console. Only express movements are available. The sunshade switch is a momentary design type of switch and has two positions available to the operator:

- Normal off position
- Momentary sunshade activate position.

The sunshade will only operate when the ignition is in the Run or Accessory modes and when the transaxle is in any position except R (reverse). When the system is powered up, the sunshade functions in 5 different modes.

- Standby Mode
- Express Extend
- Express Retract
- Express Reverse
- Reverse Override

Standby Mode

The sunshade is in a standby mode whenever the module is powered up, and the sunshade is not being operated, and no inputs are being received from the sunshade switch.

Express Extend

When the sunshade is down or retracted, and the transaxle is in any position but R (reverse) and the momentary switch is pushed, the module will activate the rear window sunshade motor to move the sunshade to the fully extended position. If the transaxle is in R (reverse) the express extend function will be disabled.

Express Retract

When the sunshade is up, or, extended, and the momentary switch is pushed, the module will activate the rear window sunshade motor to move the sunshade to the fully retracted position.

When the sunshade is up or extended and the transaxle is shifted into R (reverse), the module will activate the rear sunshade motor to move the sunshade to the fully retracted position

Reverse Override

When the sunshade is up, or extended, and the transaxle is put into Reverse the sunshade will automatically retract. Sunshade switch input cannot over-ride shade position while vehicle is reverse.

Circuit Description

The sunshade module contains the logic for extending or retracting the sunshade based on inputs received from the sunshade switch and the backup lamp signal circuit. The switch is a momentary type, and is located in the roof console. The module activates the rear window sunshade motor based on the inputs received from the switch and the backup lamp signal circuit. When the ignition switch is in the ON position or accessory position, voltage is applied to the sunshade module via the RAP 2 fuse. The sunshade module controls the rear window sunshade motor direction by changing the polarity of the applied voltage. If the ignition switch is turned to the OFF position while the sunshade is moving, the module enters a "Standby" mode, and the shade will complete its cycle. The module will remain in the "Standby" mode and the shade will remain in the position it was in when movement ceased, until the module receives another switch activation input. Movement will then resume, but in the opposite direction from the last activation. When the transmission is put into reverse the body control module provides voltage to the reverse lights along with voltage to the sunshade module. When the module receives this voltage input it will retract the sunshade if presently extended and will not over-ride any sunshade switch input.

When the transaxle is shifted into R (reverse) a signal is sent to the sunshade module, when the sunshade module receives this signal, it will inhibit the express extend command. If the sunshade is up or extended, the sunshade module will command the express retract function to allow unobstructed viewing through the rear window.

The rear window sunshade motor contains the reversible DC drive motor and the gear train used to move the shade material to the desired position. The motor also contains a positive temperature coefficient (PTC) thermal circuit breaker to protect the system from an overload.

POWER CUP HOLDER DESCRIPTION AND OPERATION

Motorized Cup Holder Cover Operation

The slide plate motor mechanism contains sensor that will detect forward or backward pressure on the button on the top rear of the cup holder cover. When the cover is in the closed position, the operator will gently push the button forward and the motor will engage pulling the cover forward to the open position allowing access to the cup holders below. When the button is gently pulled, the motor will engage and pull the cover back to the closed position. The mechanism also contains anti pinch protection, when the mechanism detects an obstruction while pulling the cover back to the closed position, it will automatically reverse direction