

2017 ACCESSORIES & EQUIPMENT

Bolted Exterior Body Panels and Closures - CT6

SPECIFICATIONS

FASTENER SPECIFICATIONS

Reusable Threaded Fastener Tightening Specifications

NOTE:

All fasteners listed in this table can be reused after removal.

Application	Specification
	Metric (English)
Body Side Hinge Bolt	32 N.m (24 lb ft)
Door Side Hinge Bolt	25 N.m (18 lb ft)
Front End Sheet Metal Cross Brace Bolt	22 N.m (16 lb ft)
Front End Sheet Metal Radiator Opening Brace Bolt	22 N.m (16 lb ft)
Front End Sheet Metal Radiator Opening Brace Nut	22 N.m (16 lb ft)
Front Fender Bolt	9 N.m (80 lb in)
Front Fender Front Brace Bolt	9 N.m (80 lb in)
Front Fender Nut	9 N.m (80 lb in)
Front Side Door Check Link Bolt	22 N.m (16 lb ft)
Front Side Door Check Link Nut	10 N.m (89 lb in)
Front Side Door Hinge Bolt	25 N.m (18 lb ft)
Front Side Door Hinge Bolt to Body	32 N.m (24 lb ft)
Front Side Door Hinge Bolt to Door	25 N.m (18 lb ft)
Headlamp Bolt	2.5 N.m (22 lb in)
Hood Hinge Bolt	22 N.m (16 lb ft)
Hood Hinge Nut	22 N.m (16 lb ft)
Hood Primary Latch Bolt	9 N.m (80 lb in)
Rear Compartment Lid Bolt	9 N.m (80 lb in)
Rear Compartment Lid Hinge Bolt	22 N.m (16 lb ft)
Rear Side Door Check Link Bolt	22 N.m (16 lb ft)
Rear Side Door Check Link Nut	10 N.m (89 lb in)
Rear Side Door Hinge Bolt to Body	32 N.m (24 lb ft)
Rear Side Door Hinge Bolt to Door	25 N.m (18 lb ft)
Rear Side Door Lower Hinge Bolt	25 N.m (18 lb ft)
Rear Side Door Upper Hinge Bolt	25 N.m (18 lb ft)
Roof Rail Assist Handle Bracket Screw	9 N.m (80 lb in)

SCHEMATIC WIRING DIAGRAMS

HOOD LATCH WIRING SCHEMATICS

Hood Ajar Switch

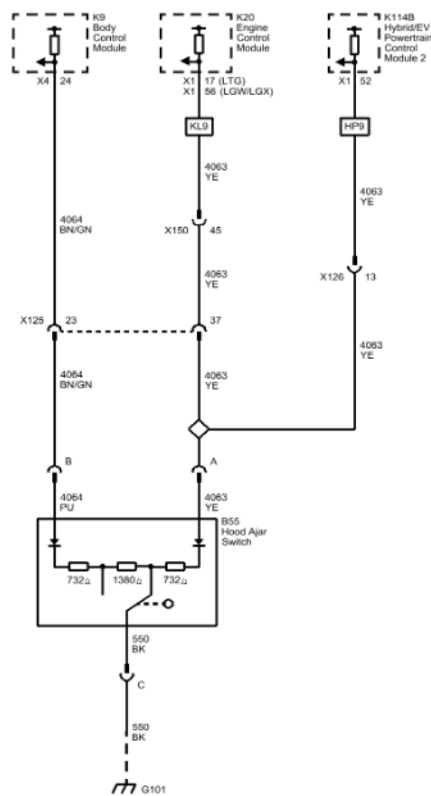


Fig. 1: Hood Ajar Switch

Courtesy of GENERAL MOTORS COMPANY

DIAGNOSTIC INFORMATION AND PROCEDURES

DTC B3006: HOOD AJAR CIRCUIT

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.

DTC Descriptors

DTC B3006

Hood Ajar Circuit

For symptom byte information, refer to [Symptom Byte List](#)

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal - Terminal B	B3006 02	B3006 01, B3006 04	B3006 01	-
Signal - Terminal A*	P257E	P257F	P257F	-
Low Reference*	-	B3006 01, B3006 04, P257F*	-	-
Ground**	-	B3006	-	-
*with KL9 **without KL9				

Circuit/System Description

The body control module applies B+ to the hood ajar signal circuit and monitors the voltage to determine the position of the hood. The hood ajar switch contains a resistor ladder. This resistor ladder will vary the voltage seen by the body control module by pulling down the applied voltage based on the position of the switch. The engine control module also monitors the hood ajar switch on vehicles equipped with KL9.

Conditions for Running the DTC

The body control module continuously monitors for this DTC

Conditions for Setting the DTC

B3006 01

The body control module detects that the hood ajar switch signal circuit is shorted to battery.

B3006 02

The body control module detects that the hood ajar switch signal circuit is shorted to ground.

B3006 04

The body control module detects that the hood ajar switch signal circuit is open.

Action Taken When the DTC Sets

- The hood ajar switch input will be ignored as a content theft deterrent trigger.
- Remote vehicle start will be disabled.

Conditions for Clearing the DTC

- A current DTC will clear when the conditions for setting the DTC are no longer present.
- A history DTC will clear after 40 malfunction free ignition cycles.

Reference Information

Schematic Reference

Immobilizer Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Keyless Entry System Description and Operation (Without ATH) **Keyless Entry System Description and Operation (With ATH)**

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. Ignition ON.

2. Verify the scan tool body control module Hood Position parameter is Open with the hood open and Closed with the hood closed

- **If the parameter does not change**

Refer to Circuit/System Testing.

- **If the parameter changes**

3. All OK.

Circuit/System Testing

Without KL9

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the B55 Hood Ajar Switch. It may take up to 2 min for all vehicle systems to power down.

2. Test for less than 10 Ω between the ground circuit terminal C and ground.

- **If 10 Ω or greater**

1. Ignition OFF

2. Test for less than 2 Ω in the ground circuit end to end.

- If 2 Ω or greater, repair the open/high resistance in the circuit.
- If less than 2 Ω , repair the open/high resistance in the ground connection.

- **If less than 10 Ω**

3. Ignition ON.

4. Test for greater than 10.5 V between the signal circuit terminal B and ground.

- **If 11.5 V or less**

1. Ignition OFF, disconnect the harness connector at the K9 Body Control Module.

2. 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.

3. Test for less than 2 Ω in the signal circuit end to end.

- If 2 Ω or greater, repair the open/high resistance in the circuit.
- If less than 2 Ω , replace the K9 Body Control Module.

- **If greater than 11.5 V**

5. Ignition OFF, disconnect the X4 and X7 harness connector at the K9 Body Control Module, ignition ON.

6. Test for less than 1 V between the signal circuit terminal B and ground.

- **If 1 V or greater**

Repair the short to voltage on the circuit.

- **If less than 1 V**

7. Test or replace the B55 Hood Ajar Switch.

With KL9

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the B55 Hood Ajar Switch. It may take up to 2 min for all vehicle systems to power down.

2. Test for less than 10 Ω between the low reference circuit terminal C and ground.

- **If 10 Ω or greater**

1. Ignition OFF, disconnect the harness connector at the K20 Engine Control Module.

2. Test for less than 2 Ω in the low reference circuit end to end.

- If 2 Ω or greater, repair the open/high resistance in the circuit.
- If less than 2 Ω , replace the K20 Engine Control Module.

- **If less than 10 Ω**

3. Ignition ON.

4. Test for greater than 11.5 V between the signal circuit terminal B and ground.

- **If 11.5 V or less**

1. Ignition OFF, disconnect the harness connector at the K9 Body Control Module.

2. 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.

3. Test for less than 2 Ω in the signal circuit end to end.

- If 2 Ω or greater, repair the open/high resistance in the circuit.
- If less than 2 Ω , replace the K9 Body Control Module.

- **If greater than 11.5 V**

5. Ignition OFF, disconnect the X4 and X7 harness connector at the K9 Body Control Module, ignition ON.

6. Test for less than 1 V between the signal circuit terminal B and ground.

- **If 1 V or greater**

Repair the short to voltage on the circuit.

- **If less than 1 V**

7. Test or replace the B55 Hood Ajar Switch.

Component Testing

1. Ignition OFF, disconnect the harness connector at the B55 Hood Ajar Switch.

2. Test for 2738-3350 Ω between the signal terminal A and the signal terminal B with the hood latch in the CLOSED position.

- **If not between 2738-3350 Ω**

Replace the B55 Hood Ajar Switch.

- **If between 2738-3350 Ω**

3. Test for 658-806 Ω between the signal terminal A and the ground terminal C with the hood latch in the CLOSED position.

- **If not between 658-806 Ω**

Replace the B55 Hood Ajar Switch.

- **If between 658-806 Ω**

4. Test for 2080-2545 Ω between the signal terminal B and the ground terminal C with the hood latch in the CLOSED position.

- **If not between 2080-2545 Ω**

Replace the B55 Hood Ajar Switch.

- **If between 2080-2545 Ω**

5. Test for 2738-3350 Ω between the signal terminal A and the signal terminal B with the hood latch in the OPEN position.

- **If not between 2738-3350 Ω**

Replace the B55 Hood Ajar Switch.

- **If between 2738-3350 Ω**

6. Test for 2080-2545 Ω between the signal terminal A and the ground terminal C with the hood latch in the OPEN position.

- **If not between 2080-2545 Ω**

Replace the B55 Hood Ajar Switch.

- **If between 2080-2545 Ω**

7. Test for 658-806 Ω between the signal terminal B and the ground terminal C with the hood latch in the OPEN position.

- **If not between 658-806 Ω**

Replace the B55 Hood Ajar Switch.

- **If between 658-806 Ω**

8. All OK.

Repair Instructions

Perform the [Diagnostic Repair Verification](#) after completing the repair.

- [Hood Primary and Secondary Latch Replacement](#)
- [Control Module References](#) for body control module or engine control module replacement, programming and setup.

DTC P257D-P257F: ENGINE HOOD SWITCH

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.

DTC Descriptors

DTC P257D

Engine Hood Switch Performance

DTC P257E

Engine Hood Switch Circuit Low Voltage

DTC P257F

Engine Hood Switch Circuit High Voltage

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal - Terminal B	B3006 02	B3006 04	B3006 01	-
Signal - Terminal A	P257E	P257F	P257F	-
Low Reference	-	B3006 04, P257F	-	-

Circuit/System Description

The engine control module applies 5 V to the hood ajar signal circuit and monitors the voltage to determine the position of the hood. The hood ajar switch contains a multiplexed resistor. This resistor will vary the voltage seen by the engine control module by pulling down the applied voltage based on the position of the switch.

Conditions for Running the DTC

Ignition ON.

Conditions for Setting the DTC

P257D

The engine control module detects a plausibility error between the observed hood ajar position and the reported hood ajar position.

P257E

The engine control module detects a short to ground in the hood ajar signal input to the engine control module.

P257F

The engine control module detects a short to voltage or an open/high resistance in the hood ajar signal input to the engine control module.

Action Taken When the DTC Sets

Engine start/stop function will be disabled.

Conditions for Clearing the DTC

DTCs P257D, P257E and P257F are Type B DTCs.

Reference Information

Schematic Reference

Immobilizer Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Hood Ajar Indicator 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. Ignition ON.
2. Verify the scan tool Hood Position parameter is Open when the hood is open and Closed when the hood is closed.
 - **If the parameter does not change**

Refer to Circuit/System Testing.
 - **If the parameter changes**
3. All OK.

Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the B55 Hood Ajar Switch. It may take up to 2 min for all vehicle systems to power down.
2. Test for less than 10 Ω between the low reference circuit terminal C and ground.

- **If 10 Ω or greater**
 1. Ignition OFF, disconnect the harness connector at the K20 Engine Control Module.
 2. Test for less than 2 Ω in the low reference circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K20 Engine Control Module.
 - **If less than 10 Ω**
- 3. Ignition ON.
- 4. Verify DTC P257F is set as current
 - **If DTC P257F is not set as current**
 1. Ignition OFF, disconnect the harness connector at the K20 Engine Control Module.
 2. 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 K20 Engine Control Module.
 - **If DTC P257F is set as current**
- 5. Install a 5 A fused jumper wire between the signal circuit terminal A and ground, ignition ON
- 6. Verify DTC P257E is set as current.
 - **If DTC P257E is not set as current**
 1. Ignition OFF, disconnect the harness connector at the K20 Engine Control Module.
 2. Test for less than 1 V between the signal circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V
 3. Test for less than 2 Ω in the signal circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K20 Engine Control Module.
 - **If DTC P257E is set as current**
- 7. Test or replace the B55 Hood Ajar Switch.

Component Testing

1. Ignition OFF, disconnect the harness connector at the B55 Hood Ajar Switch.
2. Test for 2738-3350 Ω between the signal terminal A and the signal terminal B with the hood latch in the CLOSED position.
 - **If not between 2738-3350 Ω**
Replace the B55 Hood Ajar Switch.
 - **If between 2738-3350 Ω**
3. Test for 658-806 Ω between the signal terminal A and the ground terminal C with the hood latch in the CLOSED position.
 - **If not between 658-806 Ω**
Replace the B55 Hood Ajar Switch.
 - **If between 658-806 Ω**
4. Test for 2080-2545 Ω between the signal terminal B and the ground terminal C with the hood latch in the CLOSED position.
 - **If not between 2080-2545 Ω**
Replace the B55 Hood Ajar Switch.
 - **If between 2080-2545 Ω**
5. Test for 2738-3350 Ω between the signal terminal A and the signal terminal B with the hood latch in the OPEN position.
 - **If not between 2738-3350 Ω**

Replace the B55 Hood Ajar Switch.

- **If between 2738-3350 Ω**

6. Test for 2080-2545 Ω between the signal terminal A and the ground terminal C with the hood latch in the OPEN position.

- **If not between 2080-2545 Ω**

Replace the B55 Hood Ajar Switch.

- **If between 2080-2545 Ω**

7. Test for 658-806 Ω between the signal terminal B and the ground terminal C with the hood latch in the OPEN position.

- **If not between 658-806 Ω**

Replace the B55 Hood Ajar Switch.

- **If between 658-806 Ω**

8. All OK.

Repair Instructions

Perform the [Diagnostic Repair Verification](#) after completing the repair.

- [Hood Primary and Secondary Latch Replacement](#)
- [Control Module References](#) for engine control module replacement, programming and setup.

SYMPTOMS - BOLTED EXTERIOR BODY PANELS AND CLOSURES

IMPORTANT: The following steps must be completed before using the symptom tables.

1. Perform the [Diagnostic System Check - Vehicle](#) before using the symptom tables in order to verify that all of the following are true:
 - There are no DTCs set.
 - The control modules can communicate via the serial data links.
2. Review the system operation in order to familiarize yourself with the system functions. Refer to [Hood Ajar Indicator Description and Operation](#).

Visual/Physical Inspection

- Inspect for aftermarket devices which could affect the operation of the systems. 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 [Hood Ajar Indicator/Message Malfunction](#) in order to diagnose the symptom.

HOOD AJAR INDICATOR/MESSAGE 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.

DTC Descriptors

DTC B3006

Hood Ajar Circuit

For symptom byte information, refer to [Symptom Byte List](#)

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal - Terminal B	B3006 02	B3006 01, B3006 04	B3006 01	-
Signal - Terminal A*	P257E	P257F	P257F	-
Low Reference*	-	B3006 01, B3006 04, P257F*	-	-
Ground**	-	B3006	-	-
*with KL9 **without KL9				

Circuit/System Description

The body control module applies B+ to the hood ajar signal circuit and monitors the voltage to determine the position of the hood. The hood ajar switch contains a resistor ladder. This resistor ladder will vary the voltage seen by the body control module by pulling down the applied voltage based on the position of the switch. The engine control module also monitors the hood ajar switch on vehicles equipped with KL9.

Conditions for Running the DTC

The body control module continuously monitors for this DTC

Conditions for Setting the DTC

B3006 01

The body control module detects that the hood ajar switch signal circuit is shorted to battery.

B3006 02

The body control module detects that the hood ajar switch signal circuit is shorted to ground.

B3006 04

The body control module detects that the hood ajar switch signal circuit is open.

Action Taken When the DTC Sets

- The hood ajar switch input will be ignored as a content theft deterrent trigger.
- Remote vehicle start will be disabled.

Conditions for Clearing the DTC

- A current DTC will clear when the conditions for setting the DTC are no longer present.
- A history DTC will clear after 40 malfunction free ignition cycles.

Reference Information

Schematic Reference

Immobilizer Schematics

Connector End View Reference

Description and Operation

Keyless Entry System Description and Operation (Without ATH) Keyless Entry System Description and Operation (With ATH)

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. Ignition ON.
2. Verify the scan tool body control module Hood Position parameter is Open with the hood open and Closed with the hood closed
 - **If the parameter does not change**
Refer to Circuit/System Testing.
 - **If the parameter changes**
3. All OK.

Circuit/System Testing

Without KL9

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the B55 Hood Ajar Switch. It may take up to 2 min for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal C and ground.
 - **If 10 Ω or greater**
 1. Ignition OFF
 2. Test for less than 2 Ω in the ground circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , repair the open/high resistance in the ground connection.
 - **If less than 10 Ω**
3. Ignition ON.
4. Test for greater than 10.5 V between the signal circuit terminal B and ground.
 - **If 11.5 V or less**
 1. Ignition OFF, disconnect the harness connector at the K9 Body Control Module.
 2. 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.
 3. Test for less than 2 Ω in the signal circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K9 Body Control Module.
 - **If greater than 11.5 V**
5. Ignition OFF, disconnect the X4 and X7 harness connector at the K9 Body Control Module, ignition ON.
6. Test for less than 1 V between the signal circuit terminal B and ground.

- **If 1 V or greater**

Repair the short to voltage on the circuit.

- **If less than 1 V**

7. Test or replace the B55 Hood Ajar Switch.

With KL9

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the B55 Hood Ajar Switch. It may take up to 2 min for all vehicle systems to power down.

2. Test for less than 10 Ω between the low reference circuit terminal C and ground.

- **If 10 Ω or greater**

1. Ignition OFF, disconnect the harness connector at the K20 Engine Control Module.

2. Test for less than 2 Ω in the low reference circuit end to end.

- If 2 Ω or greater, repair the open/high resistance in the circuit.
- If less than 2 Ω , replace the K20 Engine Control Module.

- **If less than 10 Ω**

3. Ignition ON.

4. Test for greater than 11.5 V between the signal circuit terminal B and ground.

- **If 11.5 V or less**

1. Ignition OFF, disconnect the harness connector at the K9 Body Control Module.

2. 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.

3. Test for less than 2 Ω in the signal circuit end to end.

- If 2 Ω or greater, repair the open/high resistance in the circuit.
- If less than 2 Ω , replace the K9 Body Control Module.

- **If greater than 11.5 V**

5. Ignition OFF, disconnect the X4 and X7 harness connector at the K9 Body Control Module, ignition ON.

6. Test for less than 1 V between the signal circuit terminal B and ground.

- **If 1 V or greater**

Repair the short to voltage on the circuit.

- **If less than 1 V**

7. Test or replace the B55 Hood Ajar Switch.

Component Testing

1. Ignition OFF, disconnect the harness connector at the B55 Hood Ajar Switch.

2. Test for 2738-3350 Ω between the signal terminal A and the signal terminal B with the hood latch in the CLOSED position.

- **If not between 2738-3350 Ω**

Replace the B55 Hood Ajar Switch.

- **If between 2738-3350 Ω**

3. Test for 658-806 Ω between the signal terminal A and the ground terminal C with the hood latch in the CLOSED position.

- **If not between 658-806 Ω**

Replace the B55 Hood Ajar Switch.

- **If between 658-806 Ω**

4. Test for 2080-2545 Ω between the signal terminal B and the ground terminal C with the hood latch in the CLOSED position.

- **If not between 2080-2545 Ω**

Replace the B55 Hood Ajar Switch.

- **If between 2080-2545 Ω**

5. Test for 2738-3350 Ω between the signal terminal A and the signal terminal B with the hood latch in the OPEN position.

- **If not between 2738-3350 Ω**

Replace the B55 Hood Ajar Switch.

- **If between 2738-3350 Ω**

6. Test for 2080-2545 Ω between the signal terminal A and the ground terminal C with the hood latch in the OPEN position.

- **If not between 2080-2545 Ω**

Replace the B55 Hood Ajar Switch.

- **If between 2080-2545 Ω**

7. Test for 658-806 Ω between the signal terminal B and the ground terminal C with the hood latch in the OPEN position.

- **If not between 658-806 Ω**

Replace the B55 Hood Ajar Switch.

- **If between 658-806 Ω**

8. All OK.

Repair Instructions

Perform the Diagnostic Repair Verification after completing the repair.

- Hood Primary and Secondary Latch Replacement
- Control Module References for body control module or engine control module replacement, programming and setup.

REPAIR INSTRUCTIONS

FRONT END SHEET METAL CROSS BRACE REPLACEMENT

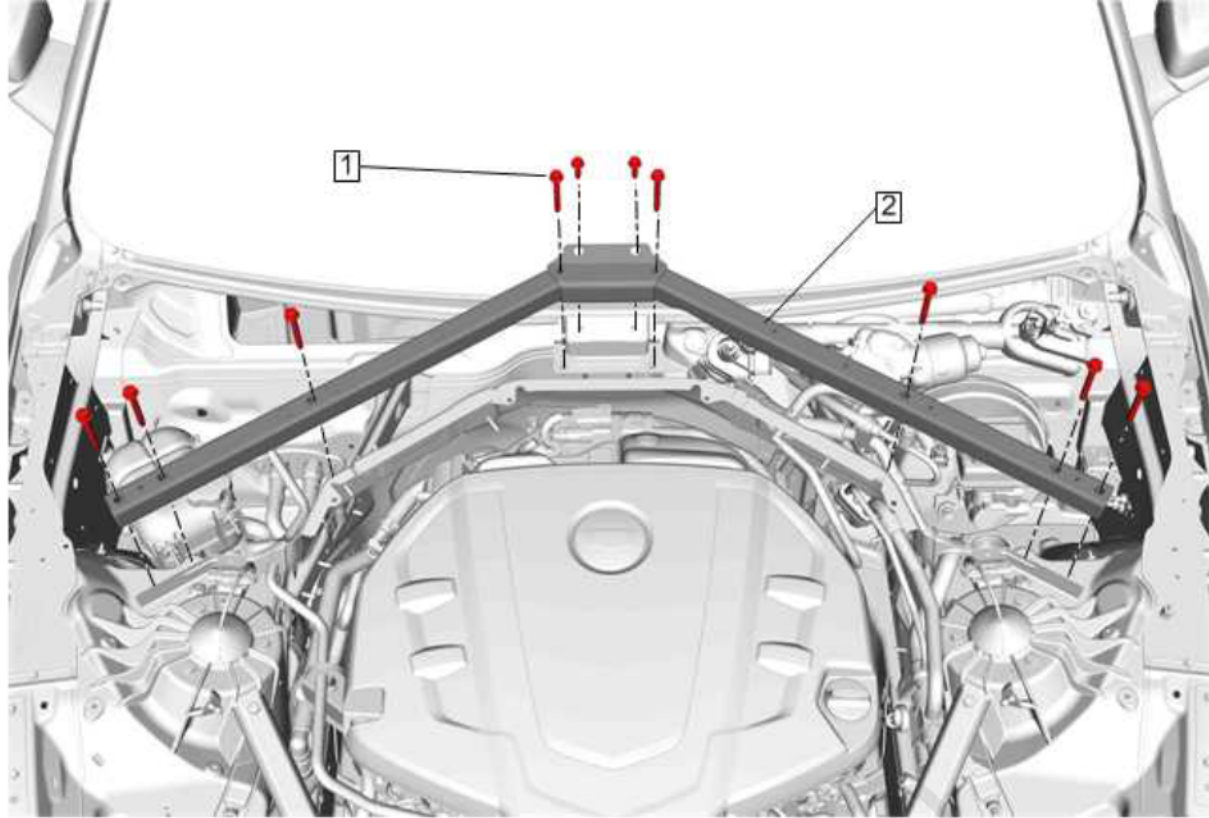


Fig. 2: Front End Sheet Metal Cross Brace
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure <u>Air Inlet Grille Panel Replacement</u>	
1	Front End Sheet Metal Cross Brace Bolt [10x] CAUTION: Refer to <u>Fastener Caution</u> . Tighten 22 N.m (16 lb ft)
2	Front End Sheet Metal Cross Brace

FRONT END SHEET METAL CROSS PANEL REINFORCEMENT REPLACEMENT (LEFT HAND - LTG)

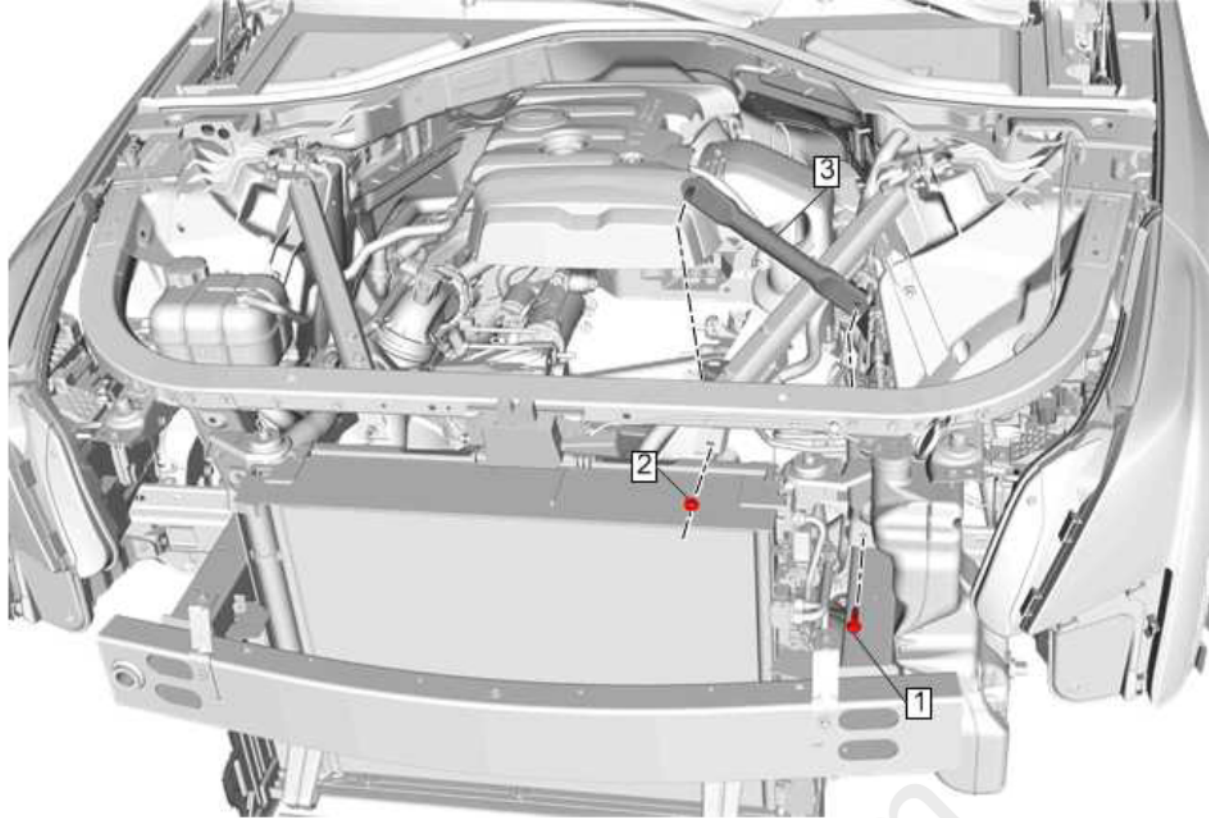


Fig. 3: Front End Sheet Metal Cross Panel Reinforcement (Left Hand - LTG)

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure <u>Radiator Air Side Upper Baffle Replacement (LGW, LGX, LTG - Left Side) Radiator Air Side Upper Baffle Replacement (LGW LTG - Right Side)</u> <u>Air Cleaner Assembly Replacement</u>	
1	Front End Sheet Metal Radiator Opening Brace Bolt CAUTION: Refer to <u>Fastener Caution</u> . Tighten 22 N.m (16 lb ft)
2	Front End Sheet Metal Radiator Opening Brace Nut Tighten 22 N.m (16 lb ft)
3	Front End Sheet Metal Cross Panel Reinforcement

FRONT END SHEET METAL CROSS PANEL REINFORCEMENT REPLACEMENT (RIGHT HAND - LTG)

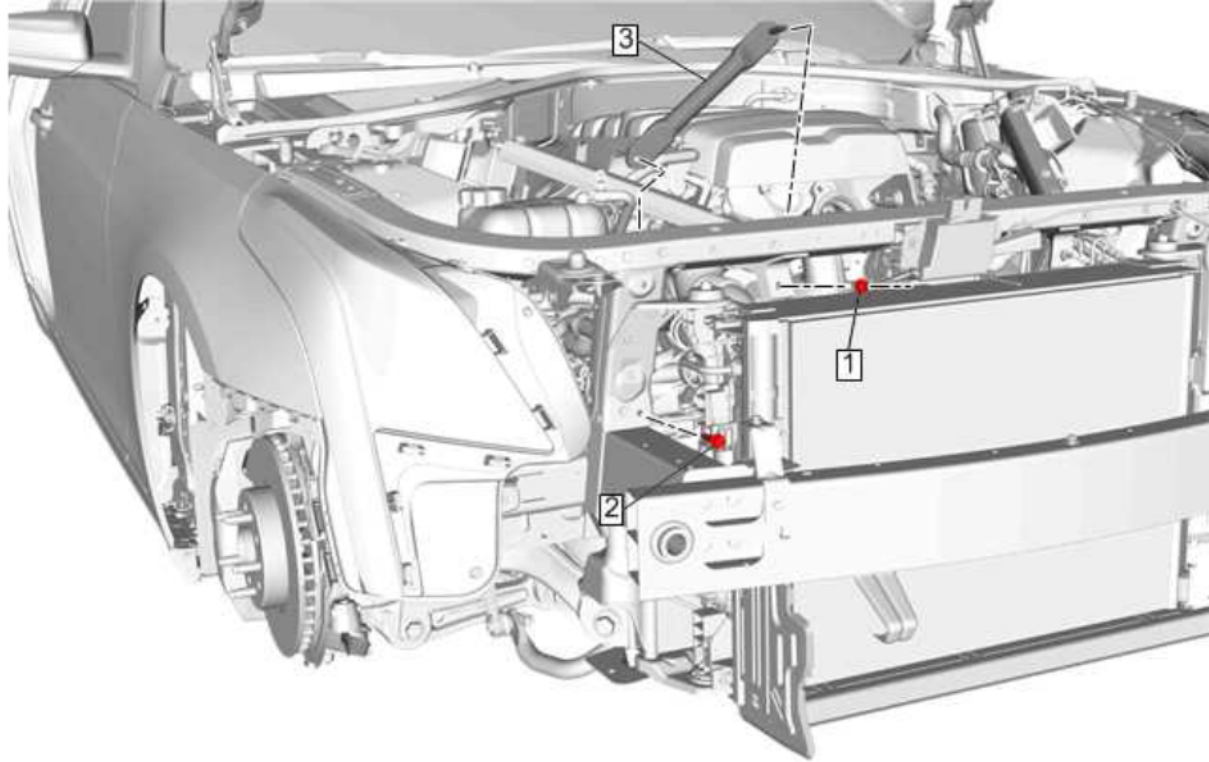


Fig. 4: Front End Sheet Metal Cross Panel Reinforcement (Right Hand - LTG)

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure <u>Radiator Air Side Upper Baffle Replacement (LGW LGX LTG - Left Side) Radiator Air Side Upper Baffle Replacement (LGW LTG - Right Side)</u>	
1	Front End Sheet Metal Radiator Opening Brace Nut CAUTION: Refer to <u>Fastener Caution</u> . Tighten 22 N.m (16 lb ft)
2	Front End Sheet Metal Radiator Opening Brace Bolt Tighten 22 N.m (16 lb ft)
3	Front End Sheet Metal Cross Panel Reinforcement

FRONT END SHEET METAL CROSS PANEL REINFORCEMENT REPLACEMENT (LEFT HAND - LGW, LGX)

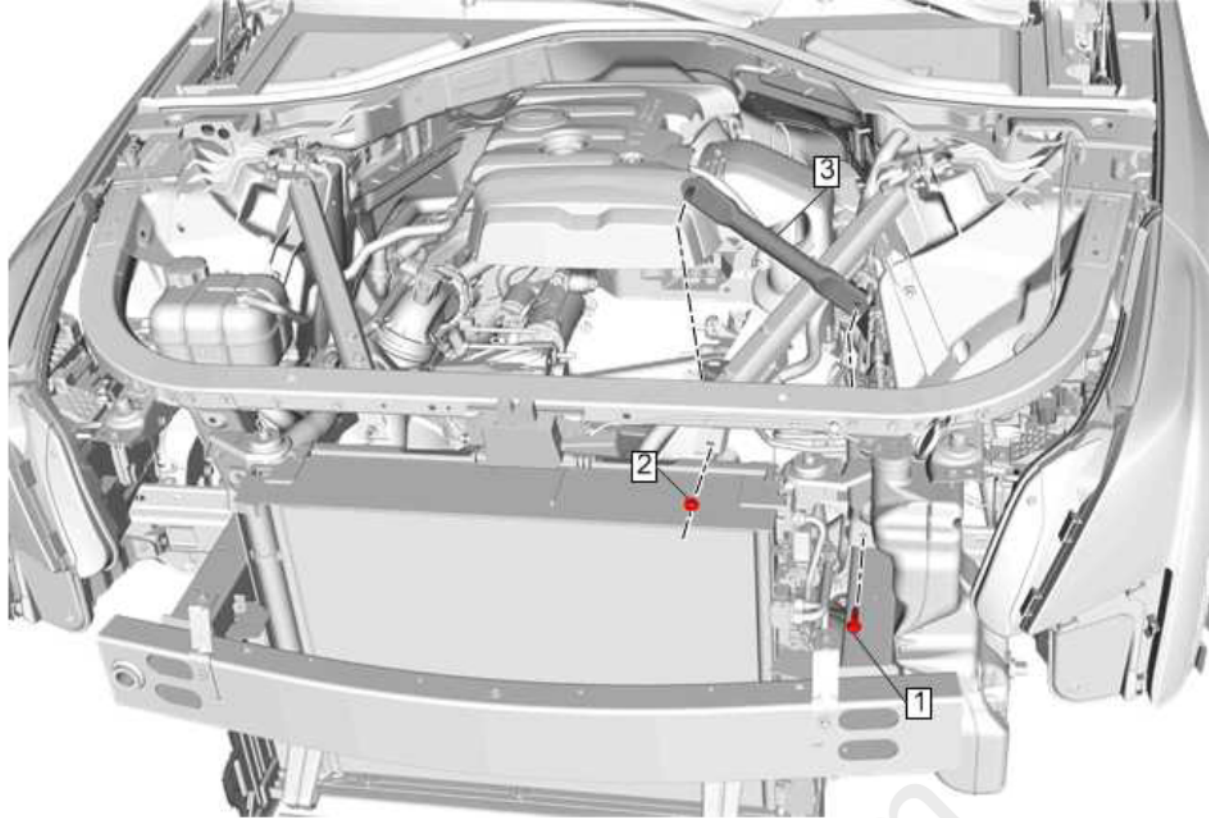


Fig. 5: Front End Sheet Metal Cross Panel Reinforcement (Left Hand - LGW, LGX)
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure <u>Air Cleaner Assembly Replacement</u>	
1	Front End Sheet Metal Radiator Opening Brace Bolt CAUTION: Refer to <u>Fastener Caution</u> . Tighten 22 N.m (16 lb ft)
2	Front End Sheet Metal Radiator Opening Brace Nut Tighten 22 N.m (16 lb ft)
3	Front End Sheet Metal Cross Panel Reinforcement

FRONT END SHEET METAL CROSS PANEL REINFORCEMENT REPLACEMENT (RIGHT HAND - LGW, LGX)

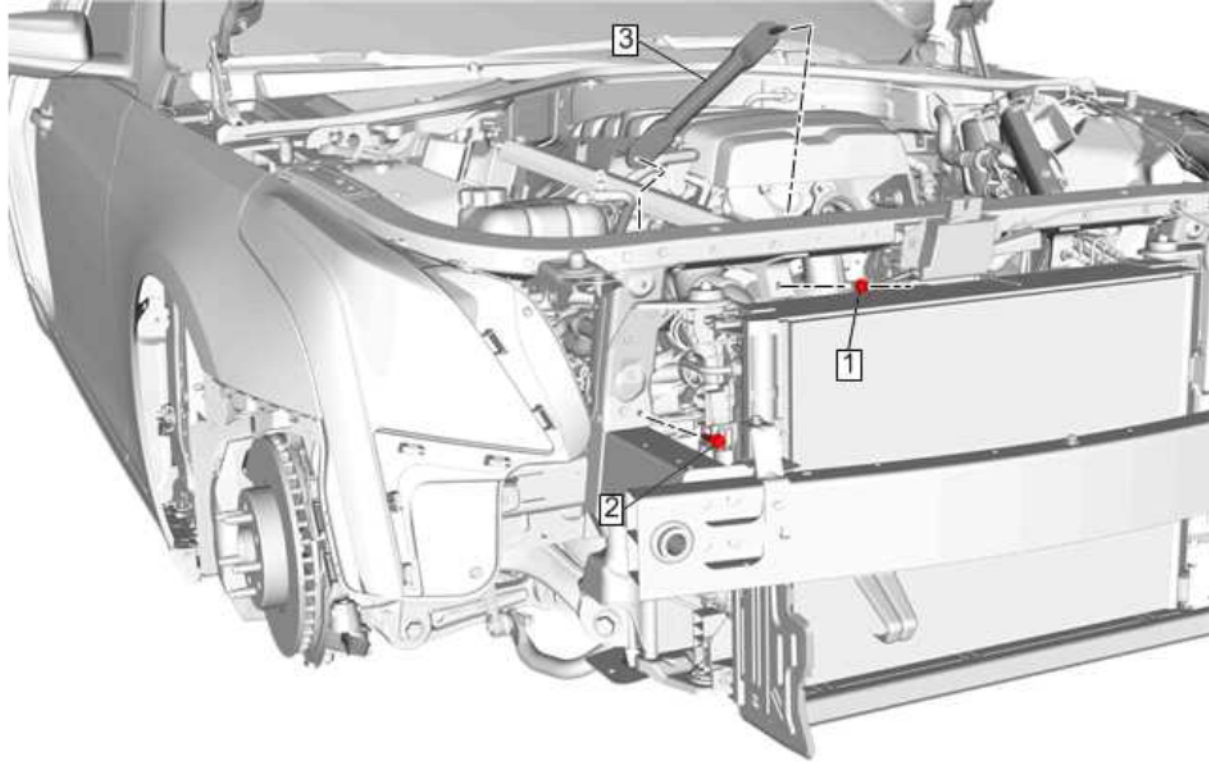


Fig. 6: Front End Sheet Metal Cross Panel Reinforcement (Right Hand - LGW, LGX)
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
1	Front End Sheet Metal Radiator Opening Brace Nut CAUTION: Refer to Fastener Caution . Tighten 22 N.m (16 lb ft)
2	Front End Sheet Metal Radiator Opening Brace Bolt Tighten 22 N.m (16 lb ft)
3	Front End Sheet Metal Cross Panel Reinforcement

FRONT FENDER FRONT BRACE REPLACEMENT

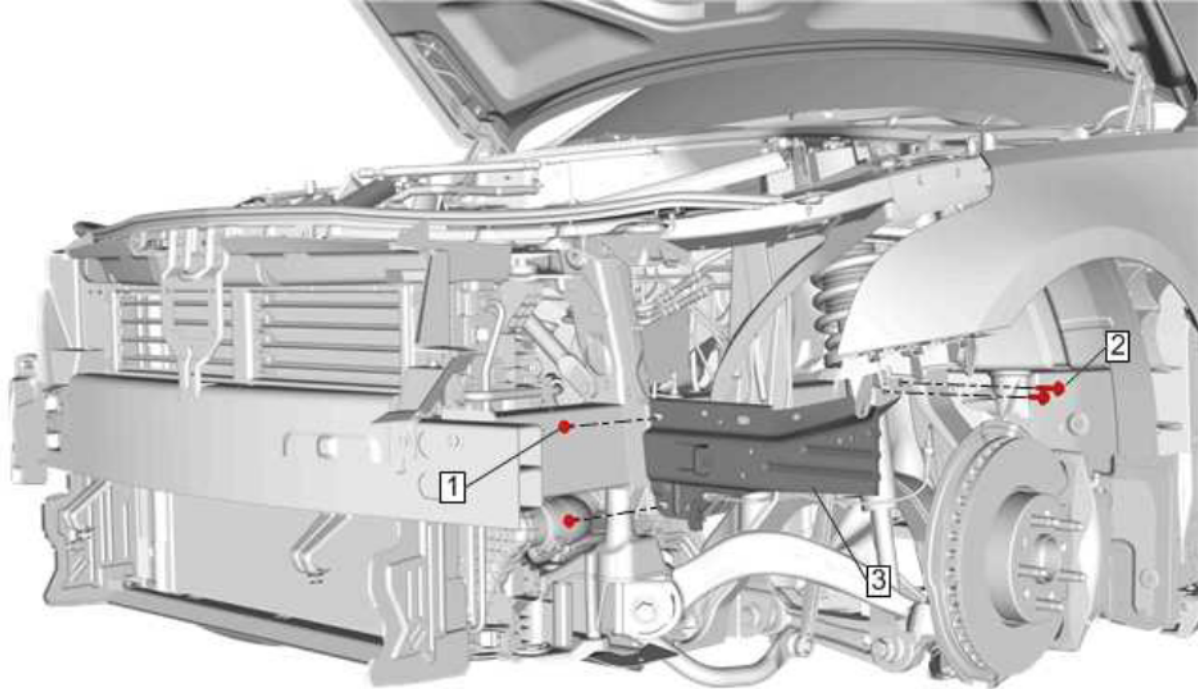


Fig. 7: Front Fender Front Brace

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures <u>Windshield Washer Solvent Container Replacement</u> <u>Headlamp Replacement</u>	
1	Front Fender Front Brace Bolt [2x] CAUTION: Refer to <u>Fastener Caution</u> . Tighten 9 N.m (80 lb in)
2	Front Fender Bolt [2x] Tighten 9 N.m (80 lb in)
3	Front Fender Front Brace

HOOD PRIMARY LATCH RELEASE CABLE REPLACEMENT

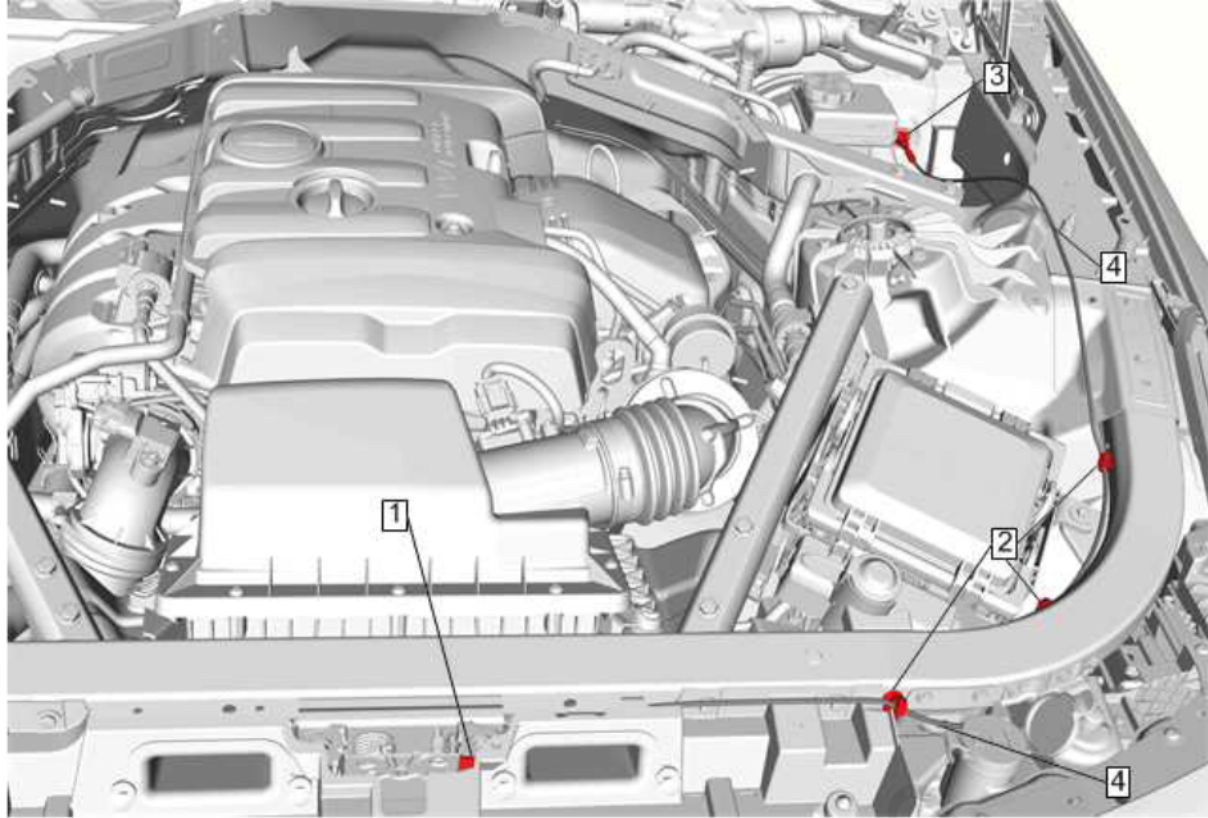


Fig. 8: Hood Primary Latch Release Cable
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure <u>Front Compartment Front Sight Shield Replacement</u> <u>Hood Primary Latch Release Cable Handle Replacement</u>	
1	Hood Primary Latch Release Cable at Latch Procedure Disconnect the release cable from the hood primary latch.
2	Hood Primary Latch Release Cable Retainer [3x] Procedure Disconnect the hood release cable retainers from the hood release cable.
3	Hood Primary Latch Release Cable Grommet
4	Hood Primary Latch Release Cable Procedure 1. Attach mechanics wire to the cable and pull the cable out. 2. Attach mechanics wire to the new cable and guide in.

BACK BODY OPENING SIDE GUTTER REPLACEMENT

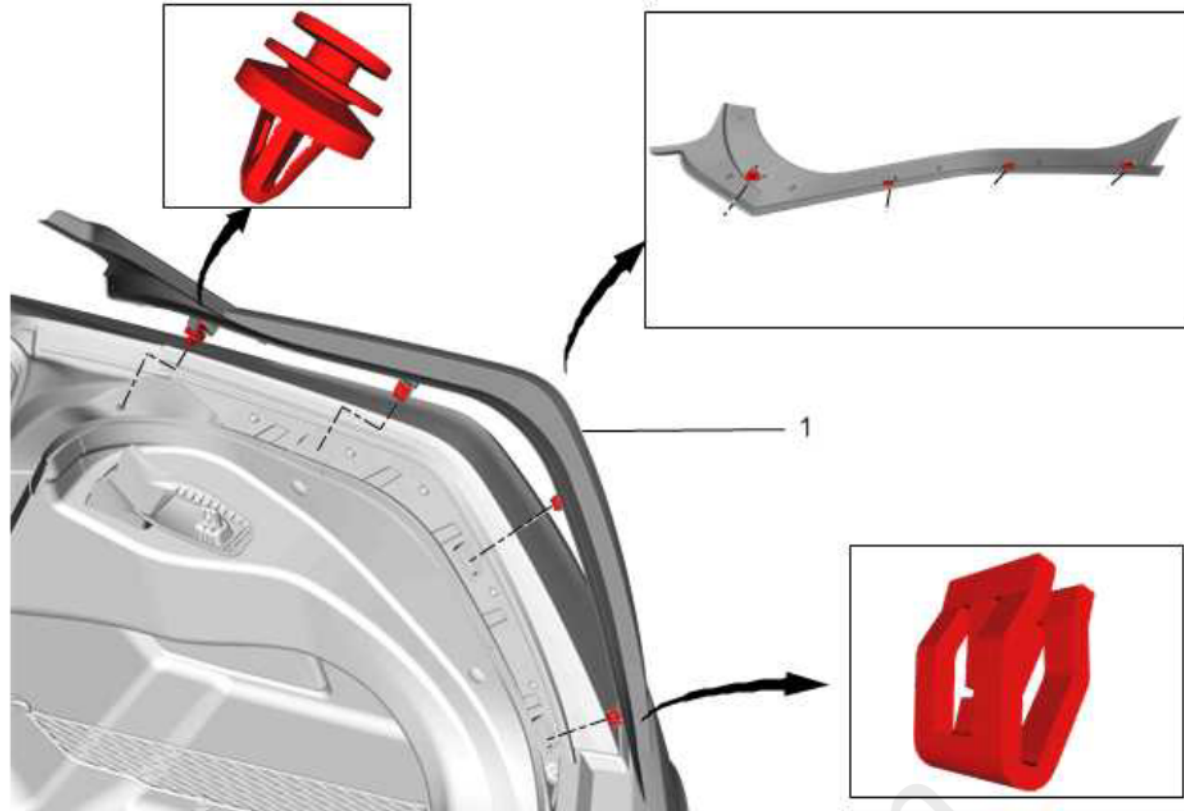


Fig. 9: Back Body Opening Side Gutter

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures Open the rear compartment lid.	
1	Back Body Opening Side Gutter Procedure Using a trim type tool, release the 3 integral clips and the 1 retainers.

FRONT SIDE DOOR ADJUSTMENT

Removal Procedure

Up/Down or In/Out Adjustment

1. Open the door.
2. Apply a double layer of masking tape around the perimeter of the painted surfaces.

NOTE: The door side upper and lower hinge bolts must remain tight enough to retain door adjusted position.

Loosen the door side hinge bolts.

Do NOT remove the bolts from the door.

3. Adjust the door up or down by repositioning the door as necessary.
4. Adjust the door in or out by repositioning the door as necessary.

Installation Procedure

1. Install the door side hinge bolts.

CAUTION: Refer to [Fastener Caution](#) .

Tighten

Tighten the bolts to 25 N.m (18 lb ft).

2. Inspect the door for proper operation and alignment.
3. Remove the tape.

Removal Procedure

Fore/Aft Adjustment

1. Apply a double layer of masking tape around the perimeter of the painted surfaces.

NOTE: The door side upper and lower hinge bolts must remain tight enough to retain door adjusted position.

2. **Front Wheelhouse Liner Replacement** » Remove
3. Loosen the body side hinge bolts, but Do NOT remove the bolts from the door.
4. Adjust the door fore and aft by repositioning the door as necessary.

Installation Procedure

1. Install the body side hinge bolts.

CAUTION: Refer to **Fastener Caution** .

Tighten

Tighten the bolts to 32 N.m (24 lb ft).

2. Adjust the front side door lock striker, if needed. Refer to **Front Side Door Lock Striker Adjustment**
3. Inspect the door for proper operation and alignment.
4. Remove the tape.

FRONT SIDE DOOR REPLACEMENT

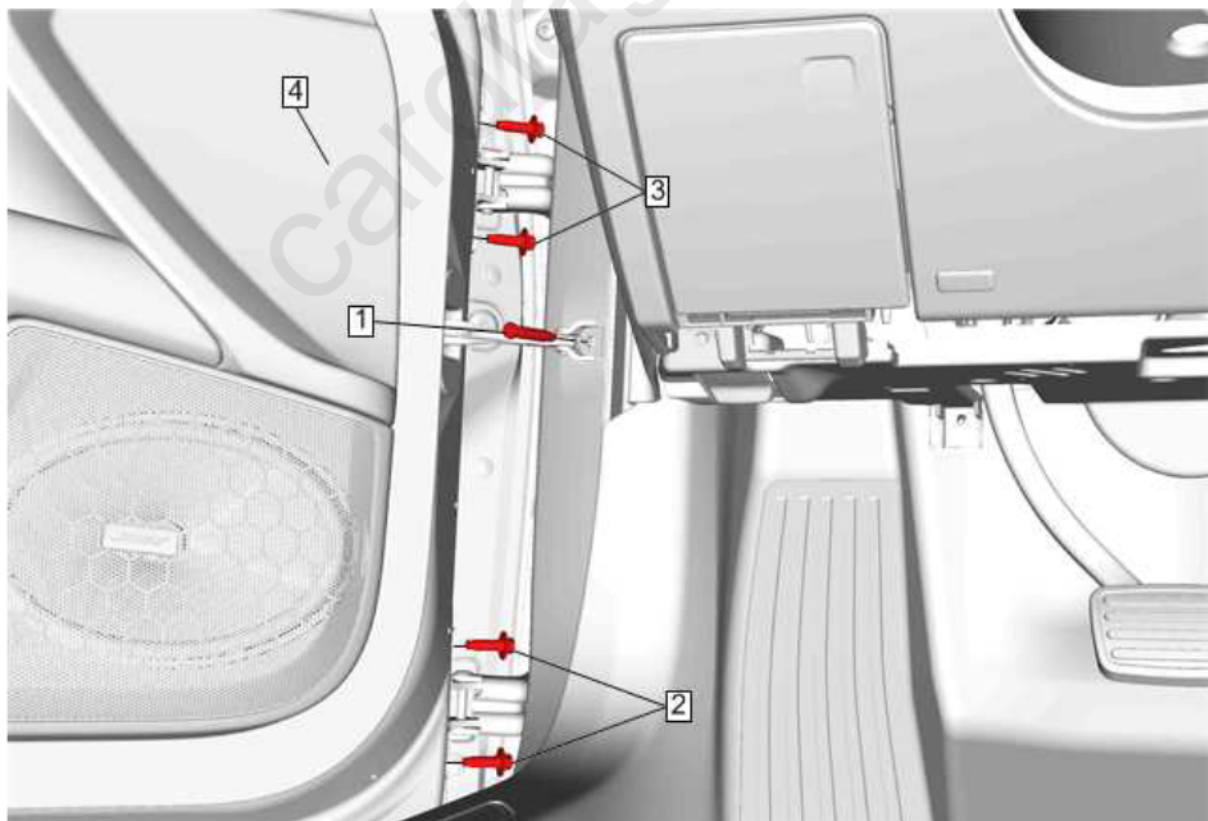


Fig. 10: Front Side Door

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name

Callout	Component Name
Preliminary Procedure Mark location of the hinge using a grease pencil before removing the bolts.	
1	Front Side Door Check Link Bolt CAUTION: Refer to <u>Fastener Caution</u> . Tighten 22 N.m (16 lb ft)
2	Front Side Door Hinge Bolt [2x] Procedure Support the door before removing the hinge bolt. Tighten 25 N.m (18 lb ft)
3	Front Side Door Hinge Bolt [2x] Tighten 25 N.m (18 lb ft)
4	Front Side Door Procedure 1. Disconnect the electrical connector. 2. With the aid of an assistant, remove the door. 3. Transfer components as necessary. 4. <u>Front Side Door Adjustment</u>

REAR SIDE DOOR ADJUSTMENT

Removal Procedure

Up/Down or In/Out Adjustment

1. Open the door.
2. Apply a double layer of masking tape around the perimeter of the painted surfaces.

NOTE: The door side upper and lower hinge bolts must remain tight enough to retain door adjusted position.

Loosen the door side hinge bolts.

Do NOT remove the bolts from the door.

3. Adjust the door up or down by repositioning the door as necessary.
4. Adjust the door in or out by repositioning the door as necessary.

Installation Procedure

1. Install the door side hinge bolts.

CAUTION: Refer to **Fastener Caution** .

Tighten

Tighten the bolts to 25 N.m (18 lb ft).

2. Inspect the door for proper operation and alignment.
3. Remove the tape.

Removal Procedure

Fore/Aft Adjustment

1. Apply a double layer of masking tape around the perimeter of the painted surfaces.

NOTE: The door side upper and lower hinge bolts must remain tight enough to retain door adjusted position.

Loosen the bodyside hinge bolts, but do NOT remove the bolts from the door.

2. Adjust the door fore and aft by repositioning the door as necessary.

Installation Procedure

1. Install the body side hinge bolts.

CAUTION: Refer to [Fastener Caution](#) .

Tighten

Tighten the bolts to 32 N.m (24 lb ft).

2. Adjust the rear side door lock striker, if needed. Refer to [Rear Side Door Lock Striker Adjustment](#)
3. Inspect the door for proper operation and alignment.
4. Remove the tape.

REAR SIDE DOOR REPLACEMENT

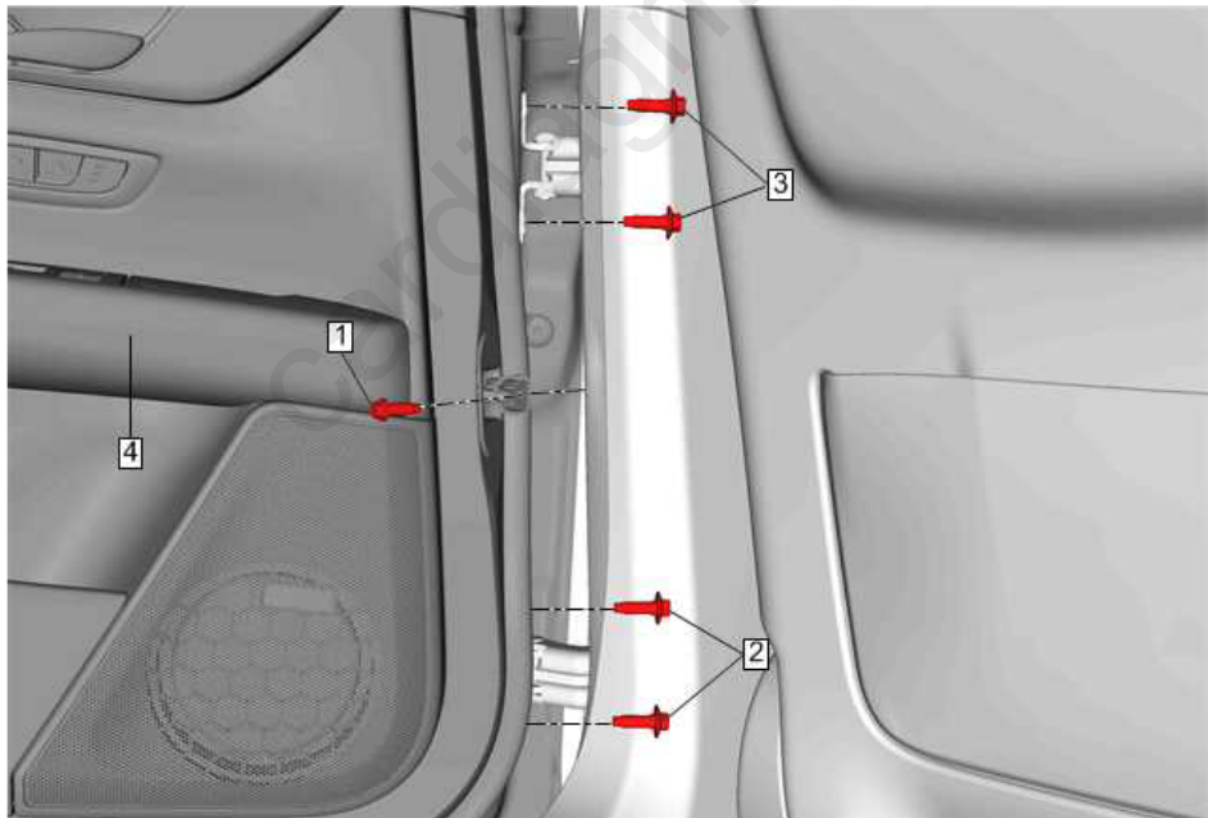


Fig. 11: Rear Side Door

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name

Callout	Component Name
Preliminary Procedures 1. Mark the location of the hinge before removing the bolts with a grease pencil. 2. Disconnect the electrical connector. 3. Support the door before removing the rear side door hinge bolts.	
1	Rear Side Door Check Link Bolt CAUTION: Refer to Fastener Caution . Tighten 22 N.m (16 lb ft)
2	Rear Side Door Lower Hinge Bolt [2x] Tighten 25 N.m (18 lb ft)
3	Rear Side Door Upper Hinge Bolt [2x] Tighten 25 N.m (18 lb ft)
4	Rear Side Door Procedure 1. With the aid of an assistant, remove the door. 2. Transfer components as necessary. 3. Rear Side Door Adjustment

FRONT FENDER REPLACEMENT

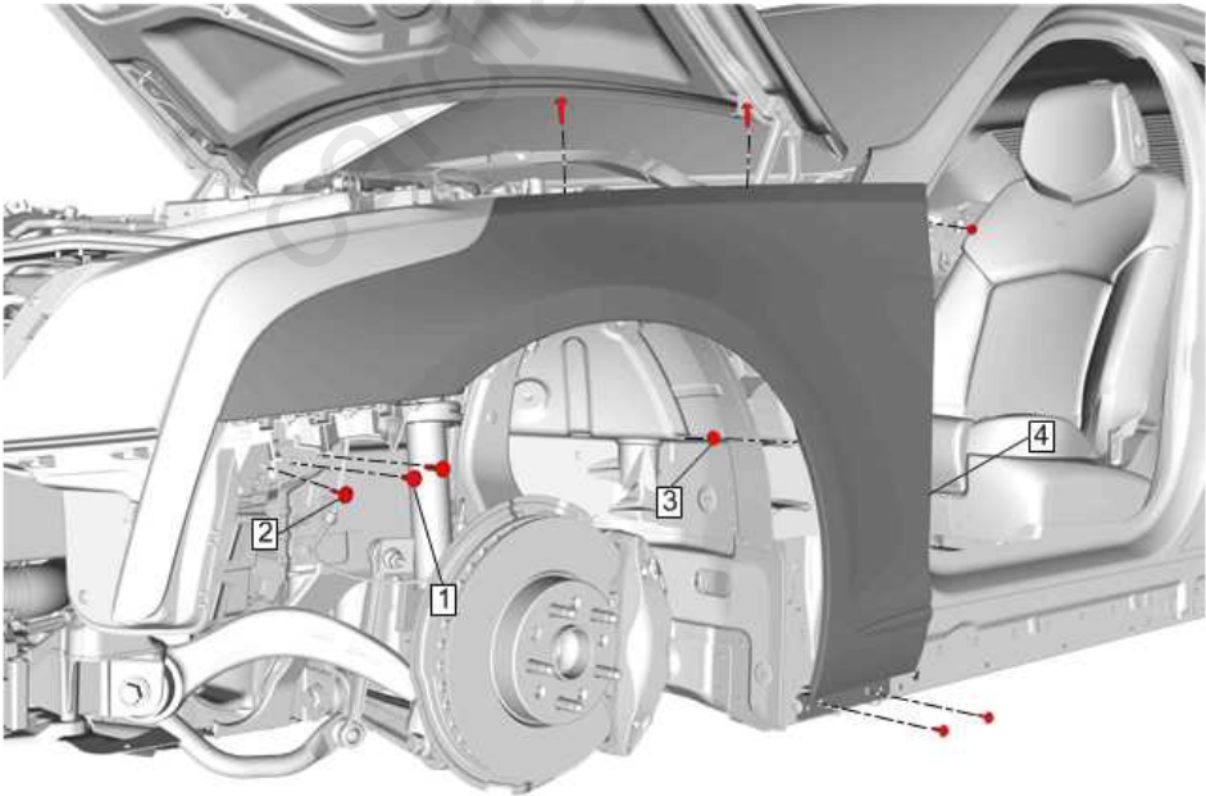


Fig. 12: Front Fender
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name

Callout	Component Name
Preliminary Procedures Front Bumper Fascia Replacement (Without UV3) Front Bumper Fascia Replacement (With UV3) Air Inlet Grille Panel Extension Replacement - Reposition the windshield washer hose.	
1	Front Fender Bolt [7x] CAUTION: Refer to <u>Fastener Caution</u> . Tighten 9 N.m (80 lb in)
2	Headlamp Bolt Tighten 2.5 N.m (22 lb in)
3	Front Fender Nut Tighten 9 N.m (80 lb in)
4	Front Fender Procedure Transfer components as necessary.

FRONT SIDE DOOR WIRING HARNESS REPLACEMENT

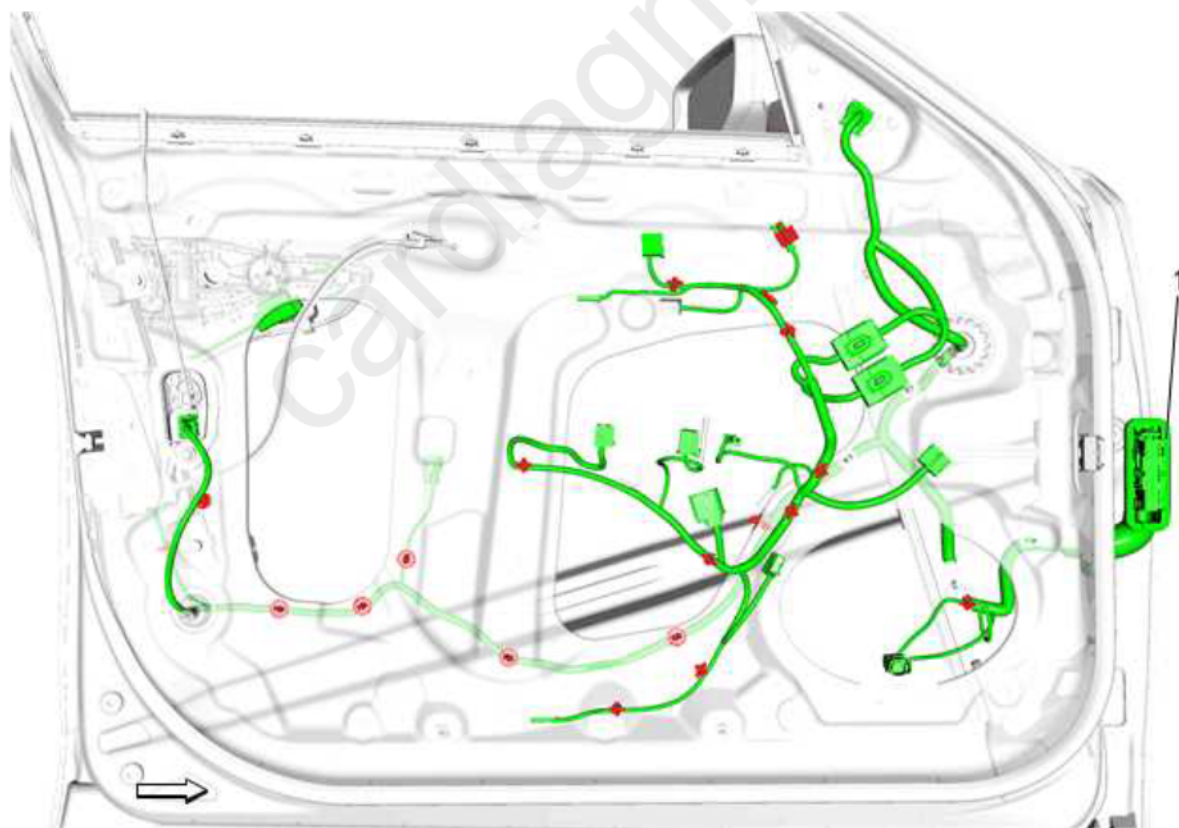


Fig. 13: Front Side Door Wiring Harness
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name

Callout	Component Name
Preliminary Procedures 1. Radio Front Side Door Speaker Replacement 2. Front Side Door Window Garnish Molding Replacement 3. Front Side Door Armrest Bracket Replacement 4. Remove the front side door water deflector.	
1	Front Side Door Wiring Harness Procedure Disconnect the front side door wiring harness electrical connector from the body harness.

REAR SIDE DOOR WIRING HARNESS REPLACEMENT

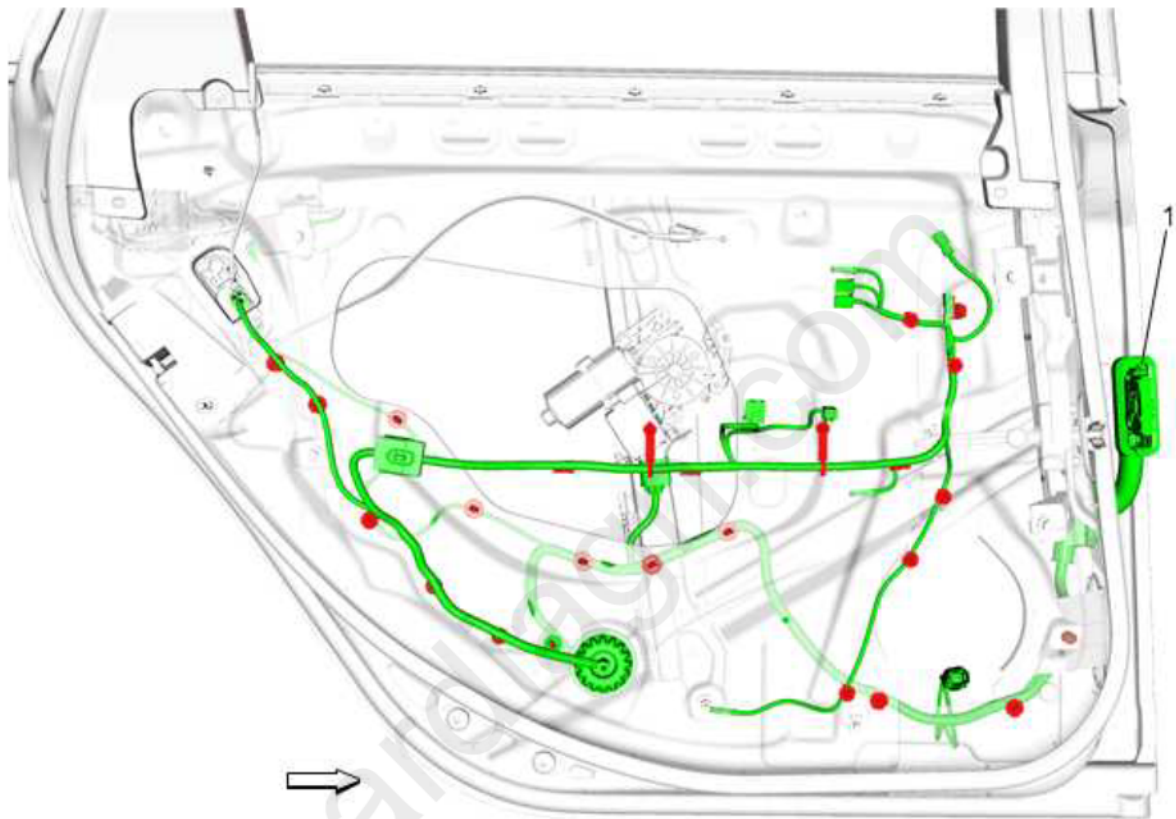


Fig. 14: Rear Side Door Wiring Harness
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures 1. Radio Rear Side Door Speaker Replacement 2. Rear Side Door Armrest Pull Cup Bracket Replacement 3. Remove the rear door water deflector.	
1	Rear Side Door Wiring Harness Procedure Disconnect the rear side door wiring harness electrical connector from the body harness.

HOOD PRIMARY LATCH RELEASE CABLE HANDLE REPLACEMENT

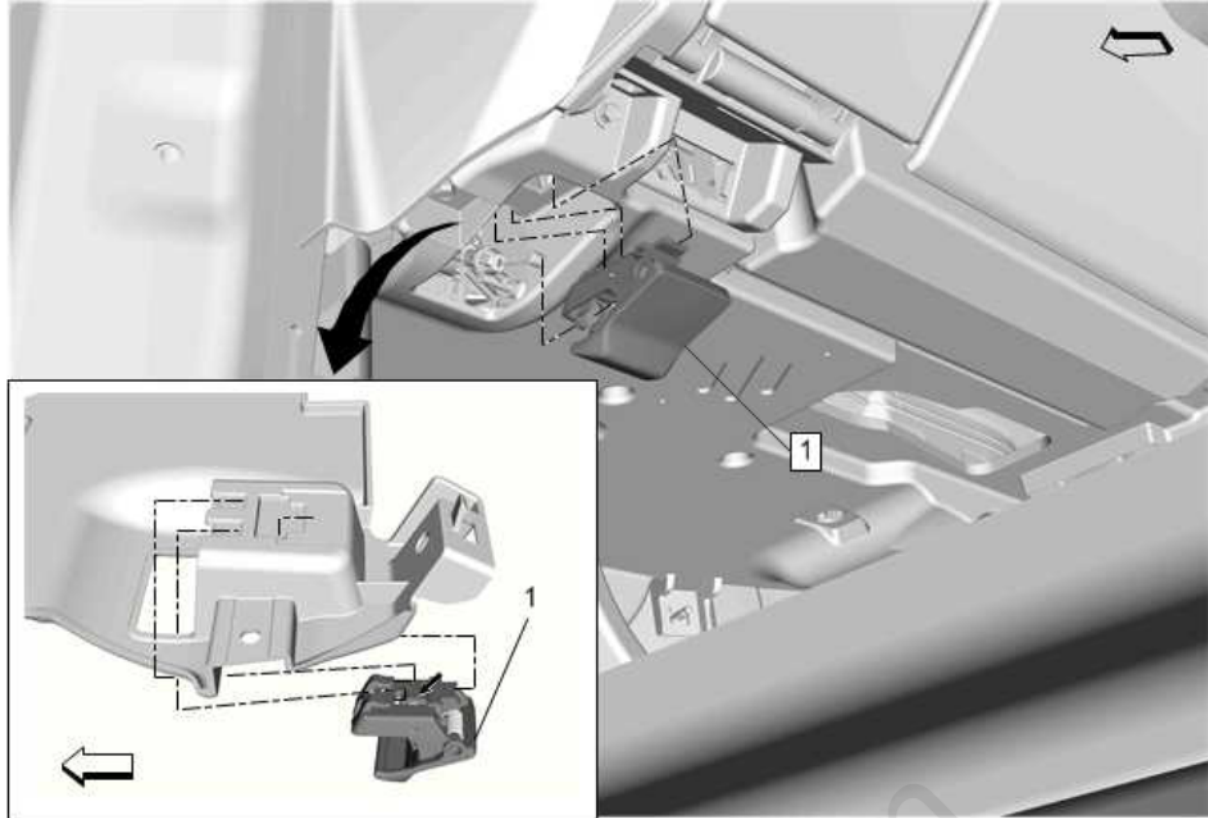


Fig. 15: Hood Primary Latch Release Cable Handle

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Lower the front of the left hand instrument panel lower trim panel insulator replacement. Refer to <u>Instrument Panel Lower Trim Panel Insulator Replacement - Left Side</u>	
1	Hood Primary Latch Release Cable Handle Procedure 1. Press the release cable handle inward/downward to release the retainers from the instrument panel. 2. Disconnect the hood release cable from the hood release handle.

FRONT SIDE DOOR UPPER HINGE AND LOWER HINGE REPLACEMENT

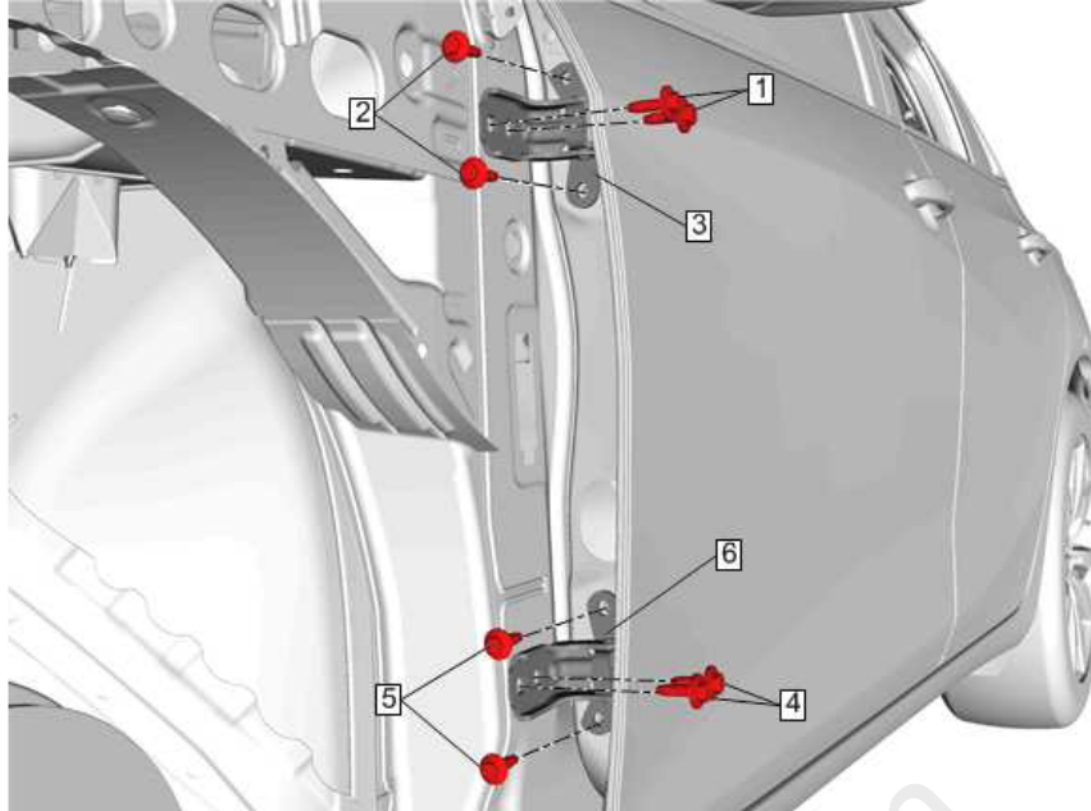


Fig. 16: Front Side Door Upper Hinge and Lower Hinge

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures 1. Apply masking tape to the edges of the door. 2. Front Fender Replacement 3. Mark the location of the hinge with a grease pencil before removing the bolts.	
1	Front Side Door Hinge Bolt to Body [2x] CAUTION: Refer to Fastener Caution . Procedure 1. Keep the door in the closed position. 2. Replace one hinge at a time. Tighten 32 N.m (24 lb ft)
2	Front Side Door Hinge Bolt to Door [2x] Tighten 25 N.m (18 lb ft)
3	Front Side Door Upper Hinge
4	Front Side Door Hinge Bolt to Body [2x] Tighten 32 N.m (24 lb ft)
5	Front Side Door Hinge Bolt to Door [2x] Tighten 25 N.m (18 lb ft)
6	Front Side Door Lower Hinge Procedure Front Side Door Adjustment

HOOD HINGE REPLACEMENT

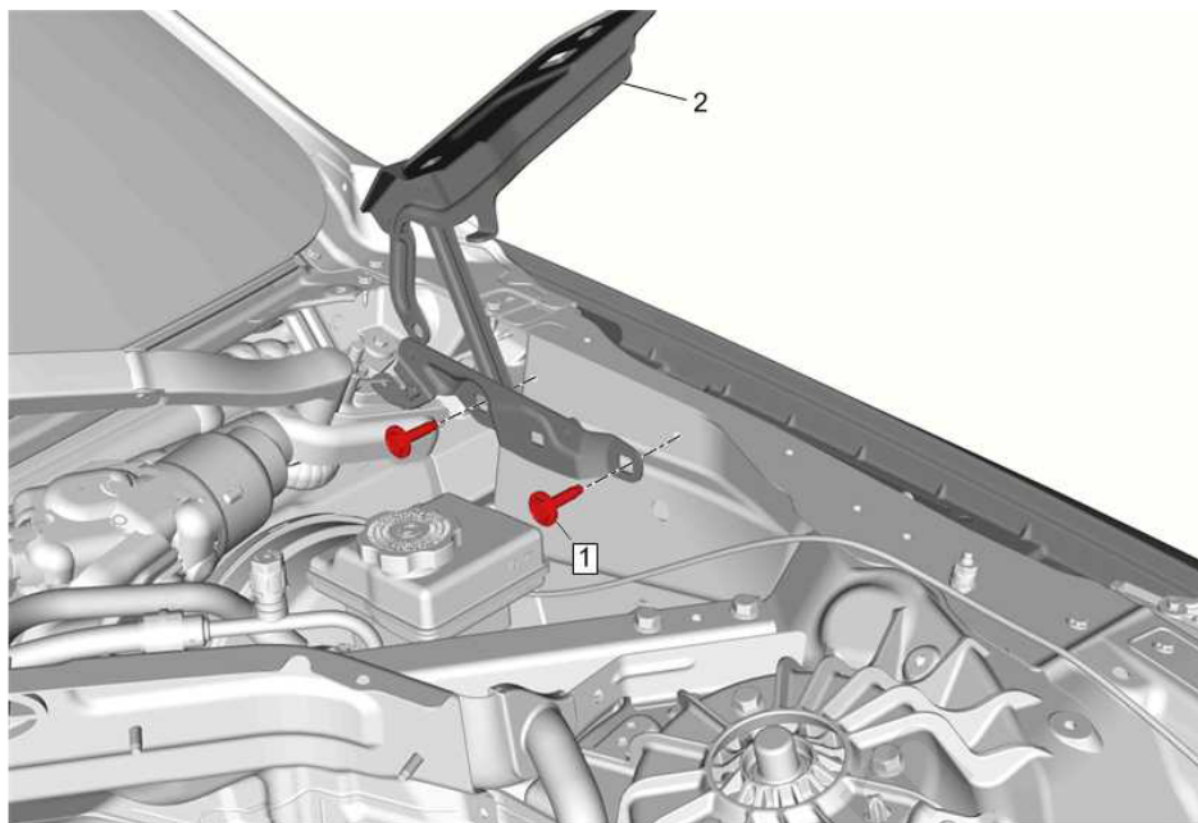


Fig. 17: Hood Hinge

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures <u>Hood Replacement</u> <u>Air Inlet Grille Panel Extension Replacement</u>	
1	Hood Hinge Bolt [2x] CAUTION: Refer to <u>Fastener Caution</u> . Tighten 22 N.m (16 lb ft)
2	Hood Hinge

REAR COMPARTMENT LID HINGE COVER REPLACEMENT (LEFT HAND)

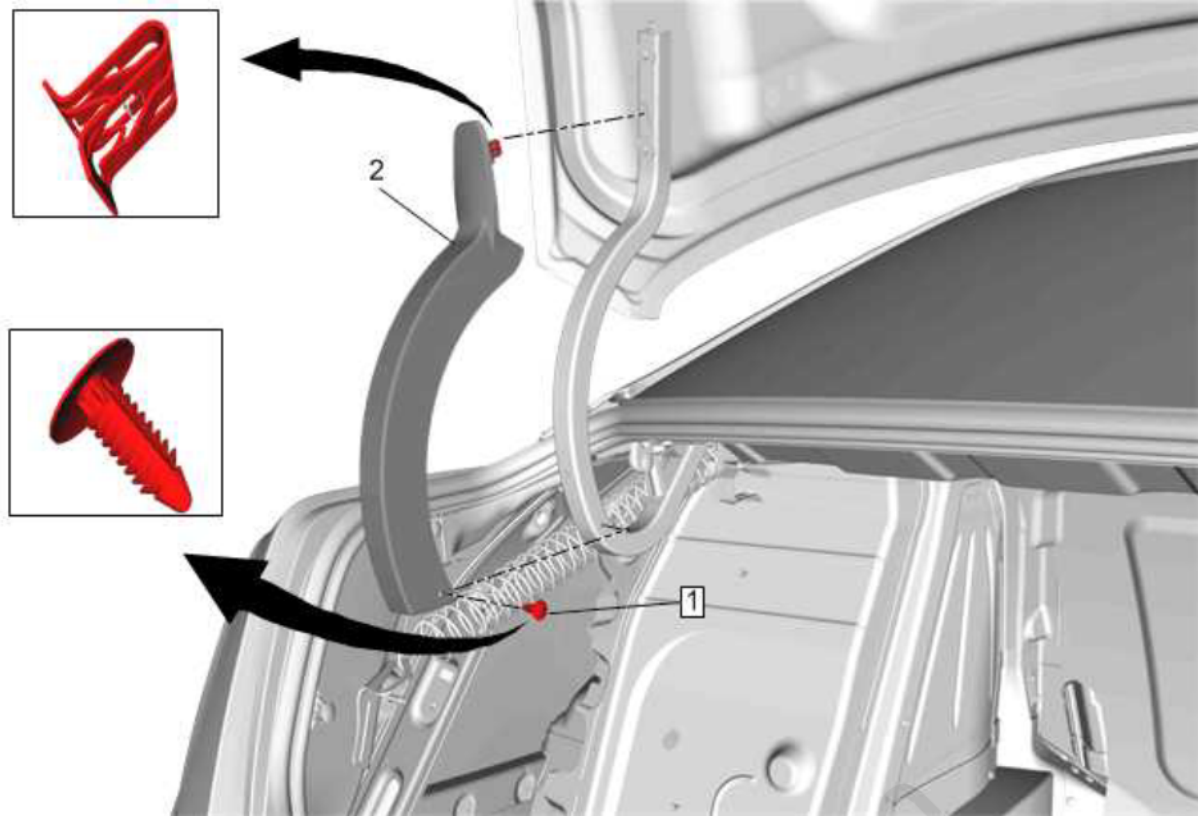


Fig. 18: Rear Compartment Lid Hinge Cover (Left Hand)

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure	
Rear Compartment Side Trim Replacement - Left Side (Without HP9) Rear Compartment Side Trim Replacement - Left Side (With HP9)	
1	Rear Compartment Lid Hinge Cover Retainer
2	Rear Compartment Lid Hinge Cover
Procedure	
Release the upper clip and remove rear compartment lid hinge cover.	

REAR COMPARTMENT LID HINGE COVER REPLACEMENT (RIGHT HAND)

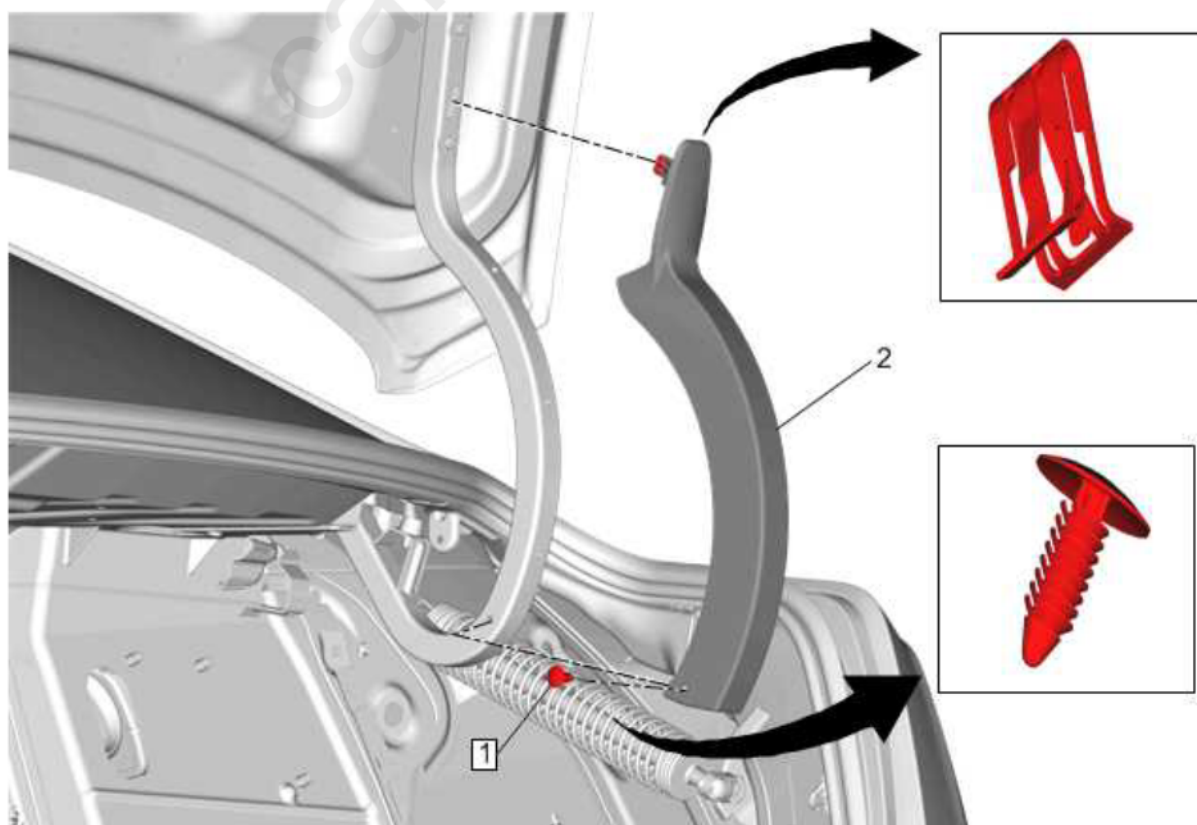


Fig. 19: Rear Compartment Lid Hinge Cover (Right Hand)
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure <u>Rear Compartment Side Trim Replacement - Right Side (Without HP9)</u> <u>Rear Compartment Side Trim Replacement - Right Side (With HP9)</u>	
1	Rear Compartment Lid Hinge Cover Retainer
2	Procedure Release the upper clip and remove rear compartment lid hinge cover.

REAR COMPARTMENT LID HINGE REPLACEMENT

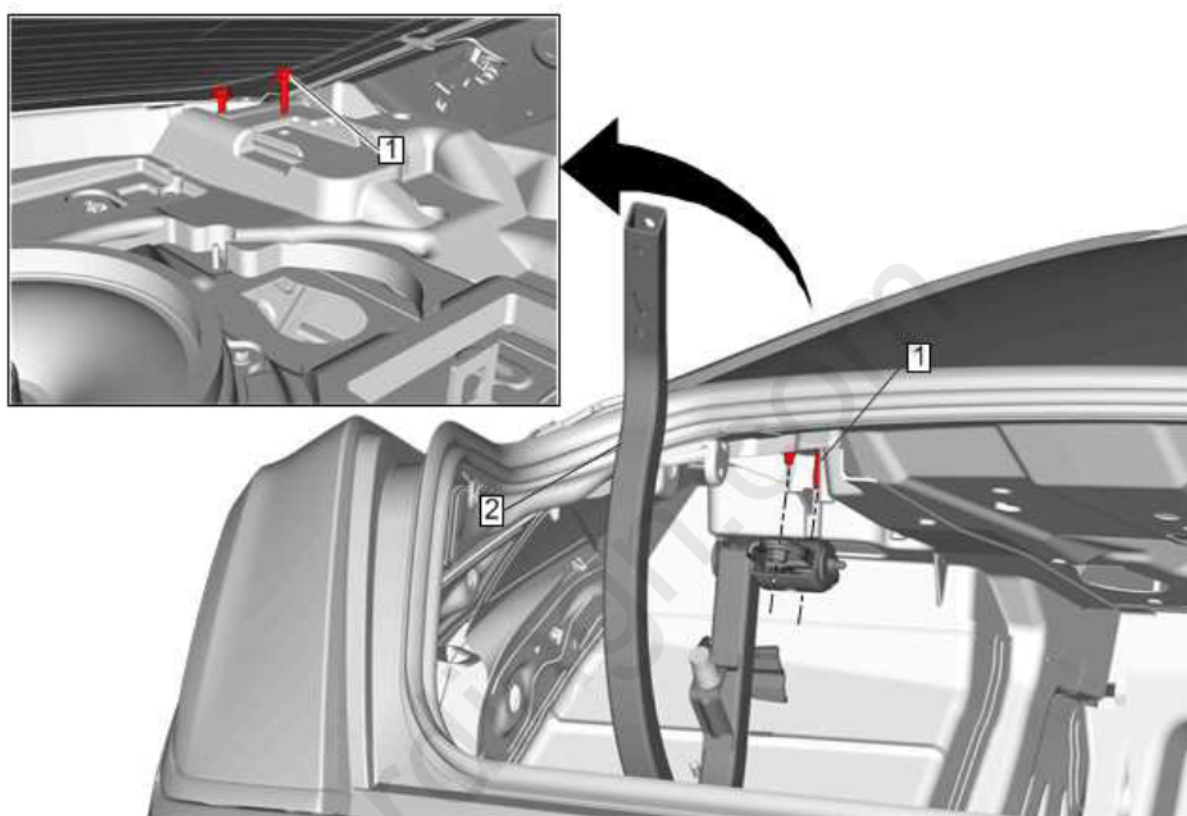


Fig. 20: Rear Compartment Lid Hinge
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure 1. <u>Rear Compartment Lid Replacement</u> 2. <u>Rear Window Panel Trim Replacement</u>	
1	Rear Compartment Lid Hinge Bolt [2x] CAUTION: Refer to <u>Fastener Caution</u> . Tighten 22 N.m (16 lb ft)
2	Rear Compartment Lid Hinge Procedure <u>Rear Compartment Lid Adjustment</u>

REAR COMPARTMENT LID HINGE SPRING REPLACEMENT

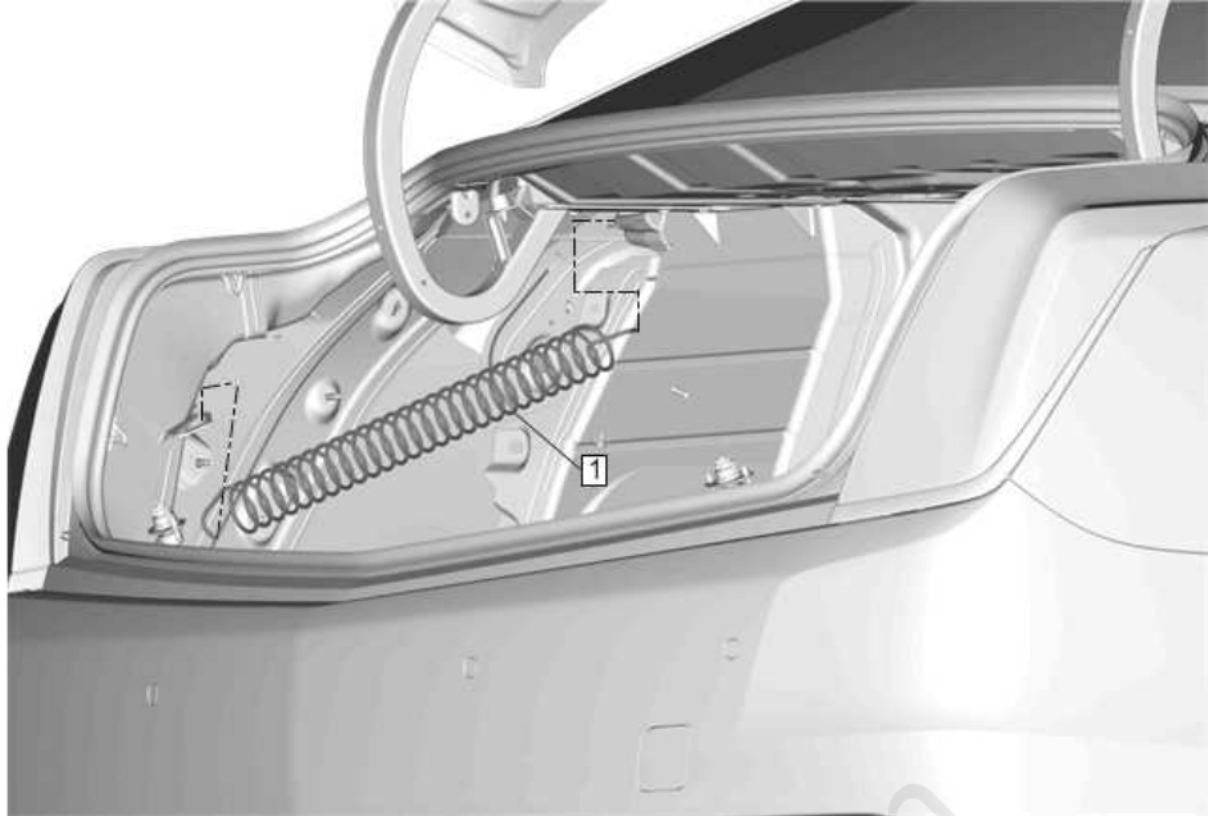


Fig. 21: Rear Compartment Lid Hinge Spring
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
WARNING: When a hood hold open device is being removed or installed, provide alternate support to avoid the possibility of damage to the vehicle or personal injury. WARNING: Refer to Eye Protection Warning . Preliminary Procedures Rear Compartment Side Trim Replacement - Left Side (Without HP9) Rear Compartment Side Trim Replacement - Left Side (With HP9)	
1	Rear Compartment Lid Hinge Spring Procedure Pull the rear compartment lid spring backwards and unhook the rear compartment lid spring from the rear compartment lid hinge spring bracket.

REAR SIDE DOOR UPPER HINGE AND LOWER HINGE REPLACEMENT

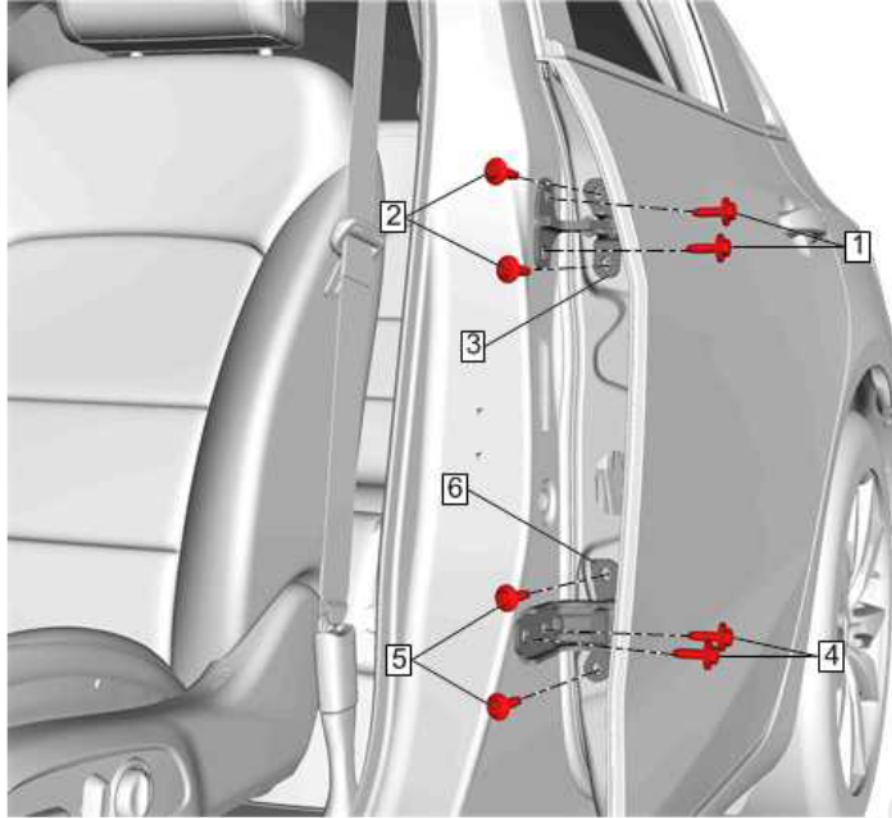


Fig. 22: Rear Side Door Upper Hinge and Lower Hinge

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures 1. Apply masking tape to the edges of the door. 2. Mark the location of the hinge before removing the bolts with a grease pencil.	
1	Rear Side Door Hinge Bolt to Body [2x] CAUTION: Refer to Fastener Caution . Procedure 1. Keep the door in the closed position. 2. Replace one hinge at a time. Tighten 32 N.m (24 lb ft)
2	Rear Side Door Hinge Bolt to Door [2x] Tighten 25 N.m (18 lb ft)
3	Rear Side Door Upper Hinge
4	Rear Side Door Hinge Bolt to Body [2x] Tighten 32 N.m (24 lb ft)
5	Rear Side Door Hinge Bolt to Door [2x] Tighten 25 N.m (18 lb ft)
6	Rear Side Door Lower Hinge Procedure Rear Side Door Adjustment

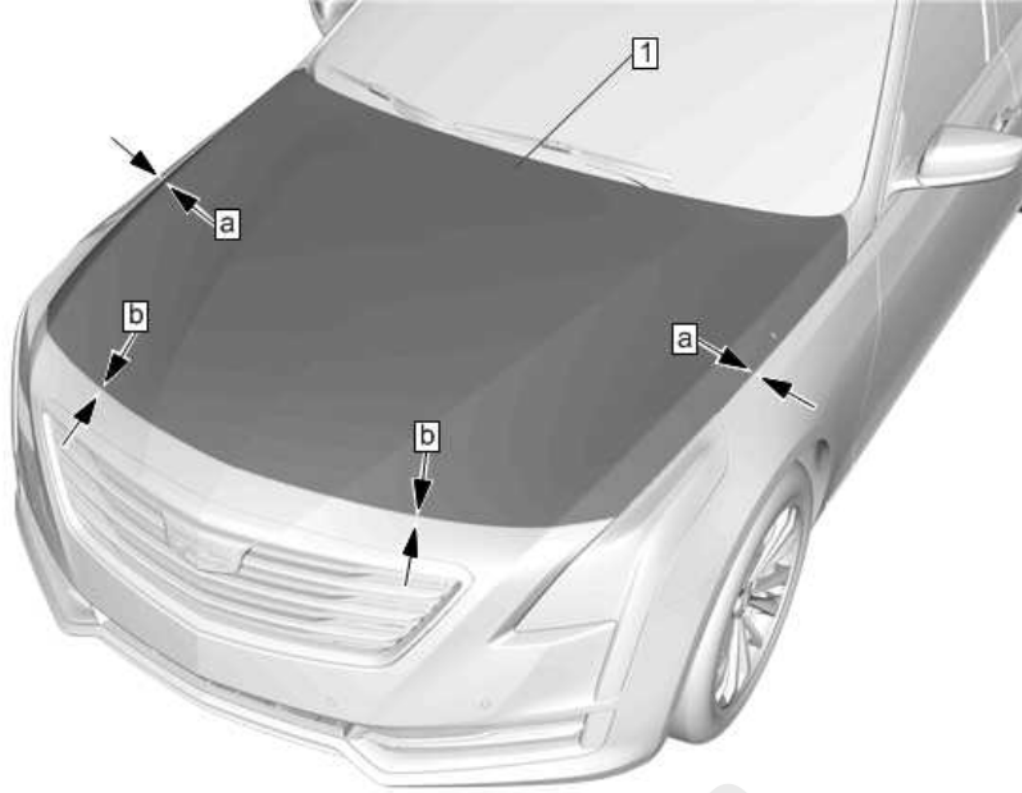


Fig. 23: Hood

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
1	Hood CAUTION: Refer to Fastener Caution . Procedure 1. Loosen the 4 hood hinge nuts. 2. Adjust the hood in order to obtain an even gap on both sides between the hood and the fenders, the front grille and headlamps. 3. Loosen and adjust the hood primary and secondary latch and the hood bumpers as necessary to obtain the adjustment. Adjustment: • Hood to front fender (a) 3.0 mm $\tilde{\Delta}$, $\hat{\Delta} \pm .75$ mm (0.12 in $\tilde{\Delta}$, $\hat{\Delta} \pm 0.03$ in) • Hood to fascia (b) 3.0 mm $\tilde{\Delta}$, $\hat{\Delta} \pm 1.0$ mm (0.12 in $\tilde{\Delta}$, $\hat{\Delta} \pm 0.04$ in) Tighten 22 N.m (16 lb ft)

HOOD REPLACEMENT

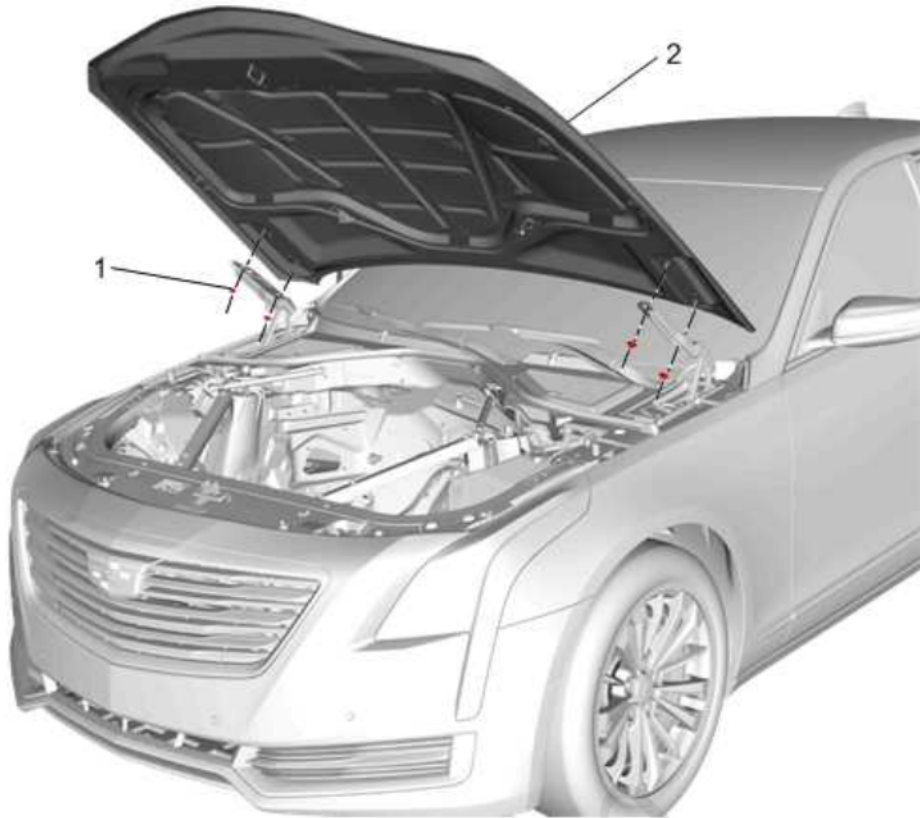


Fig. 24: Hood

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
WARNING: When a hood hold open device is being removed or installed, provide alternate support to avoid the possibility of damage to the vehicle or personal injury.	
Preliminary Procedure <u>Hood Strut Replacement</u>	
1	Hood Hinge Nut [4x] CAUTION: Refer to <u>Fastener Caution</u> . Tighten 22 N.m (16 lb ft)
2	Hood Procedure 1. With the aid of an assistant, remove the hood. 2. Transfer components as necessary. 3. Hood Adjust - <u>Hood Adjustment</u>

FRONT FENDER INSULATOR REPLACEMENT

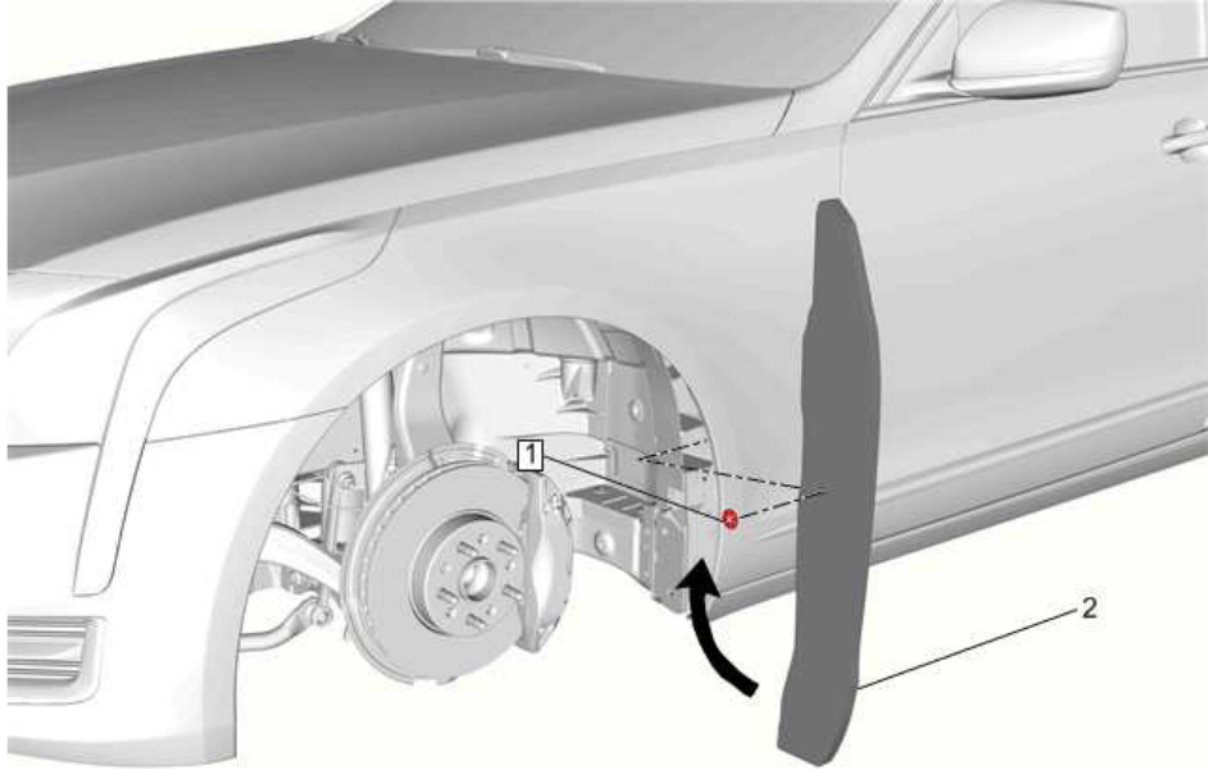


Fig. 25: Front Fender Insulator

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure	
Front Wheelhouse Liner Replacement	
1	Front Fender Insulator Retainer
2	Front Fender Insulator
	Procedure 1. Grasp the front fender insulator and pull from the rear of the fender. 2. Firmly press the fender insulator into the rear of the fender until fully seated.

HOOD INSULATOR REPLACEMENT

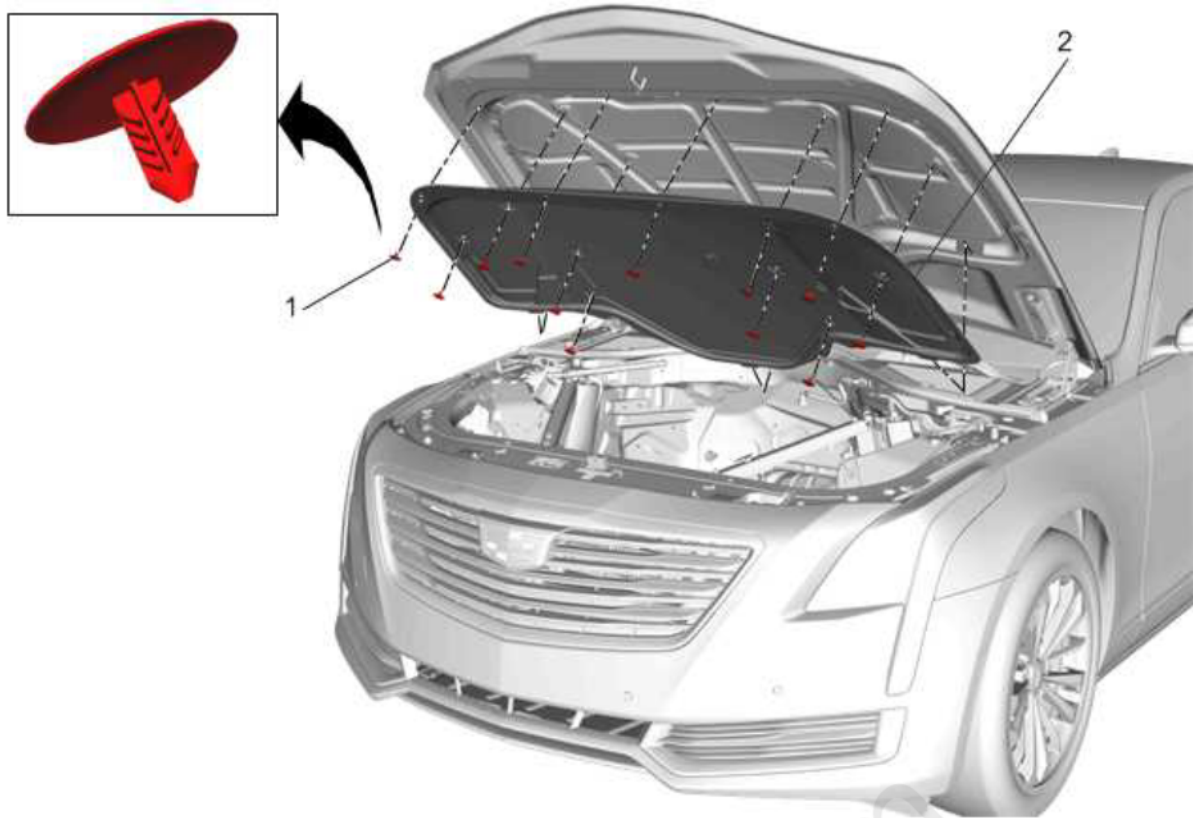


Fig. 26: Hood Insulator

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
1	Hood Insulator Retainer [12x]
2	Hood Insulator
Procedure Ensure the three lower integral tabs are secure to the hood.	

HOOD PRIMARY AND SECONDARY LATCH REPLACEMENT

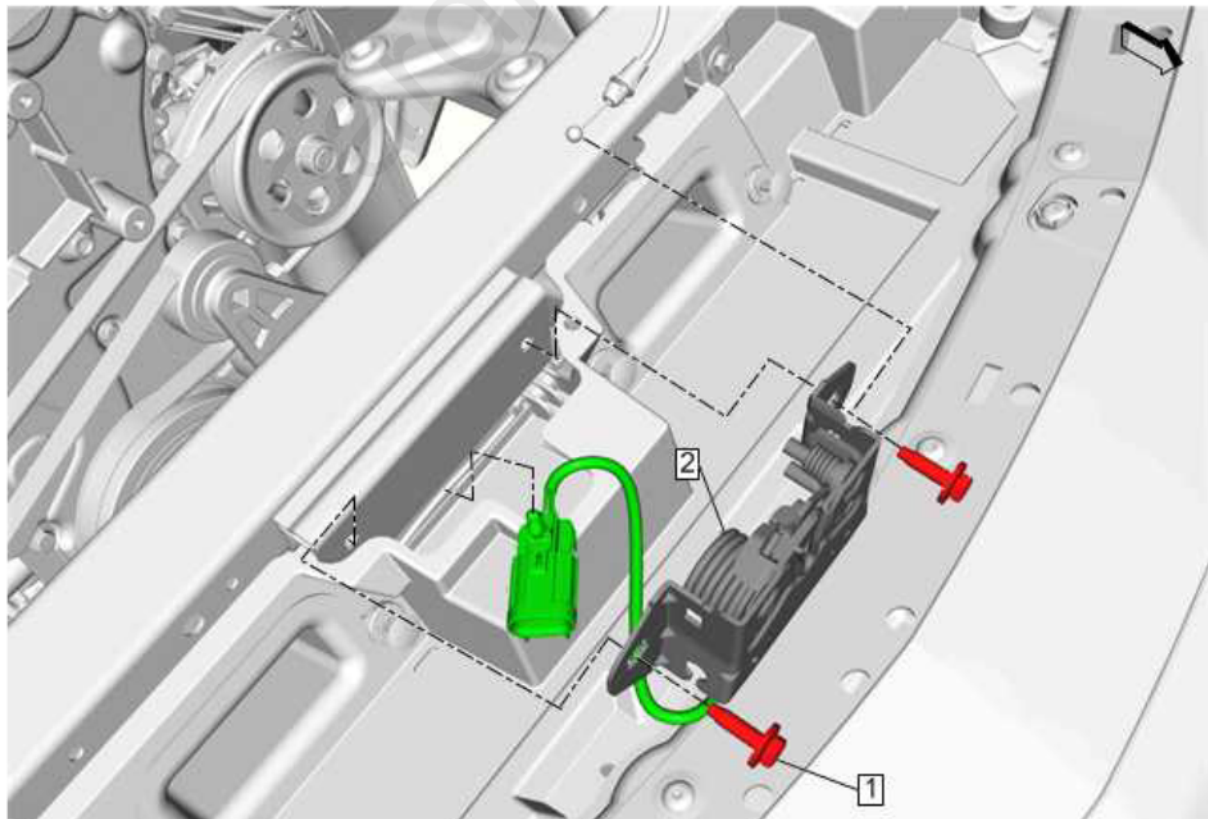


Fig. 27: Hood Primary and Secondary Latch

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
1. Front Compartment Front Sight Shield Replacement 2. Air Cleaner Assembly Replacement 3. Reposition the radiator air upper baffle and deflector. Refer to Radiator Air Upper Baffle and Deflector Replacement (LGW LTG) and/or Radiator Air Upper Baffle and Deflector Replacement (LGX)	
1	Hood Primary Latch Bolt [2x] CAUTION: Refer to Fastener Caution . Tighten 9 N.m (80 lb in)
2	Hood Primary Latch Procedure 1. Mark the position of the hood latch with a grease pencil. 2. Disconnect the release cable from the hood primary latch. 3. Disconnect the connector harness from the upper tie bar. 4. Align the hood primary latch if necessary.

REAR COMPARTMENT LID ADJUSTMENT

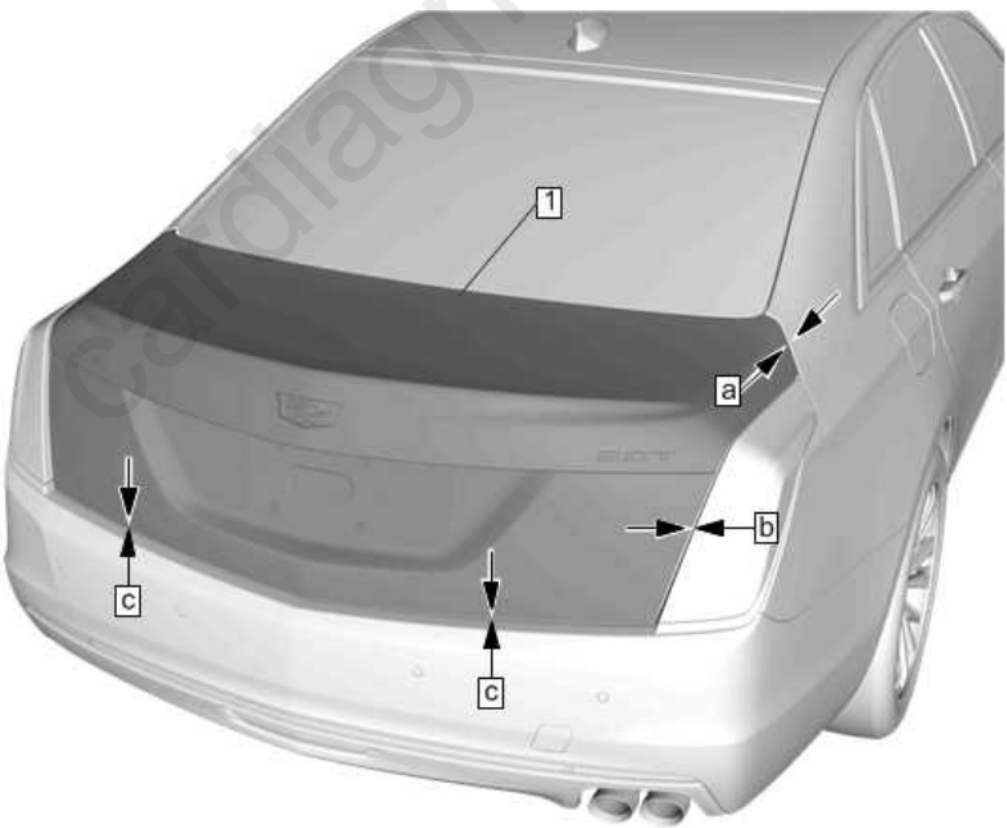


Fig. 28: Rear Compartment Lid
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name

Callout	Component Name
1	Rear Compartment Lid CAUTION: Refer to Fastener Caution Procedure - Loosen the rear compartment lid hinge bolts (Qty: 4) to perform adjustments (a) and (b). - Adjust the rear compartment lid in order to obtain an even gap between the rear compartment lid and the quarter outer panel, the rear tail lamp and the rear bumper fascia and so that the rear compartment lid is flush with the quarter outer panel, the rear tail lamp and the rear bumper fascia. Adjustments - Rear compartment lid to quarter outer panel (a) 3.0 mm $\tilde{A}, \hat{A} \pm 0.75$ mm (0.12 in $\tilde{A}, \hat{A} \pm 0.03$ in) - Tail lamp to rear compartment lid (b) 3 mm $\tilde{A}, \hat{A} \pm 1$ mm (0.12 in $\tilde{A}, \hat{A} \pm 0.04$ in) - Rear compartment lid to rear bumper fascia (c) 5.5 mm $\tilde{A}, \hat{A} \pm 1.5$ mm (0.22 in $\tilde{A}, \hat{A} \pm 0.06$ in) Tighten 22 N.m (16 lb ft)

REAR COMPARTMENT LID REPLACEMENT

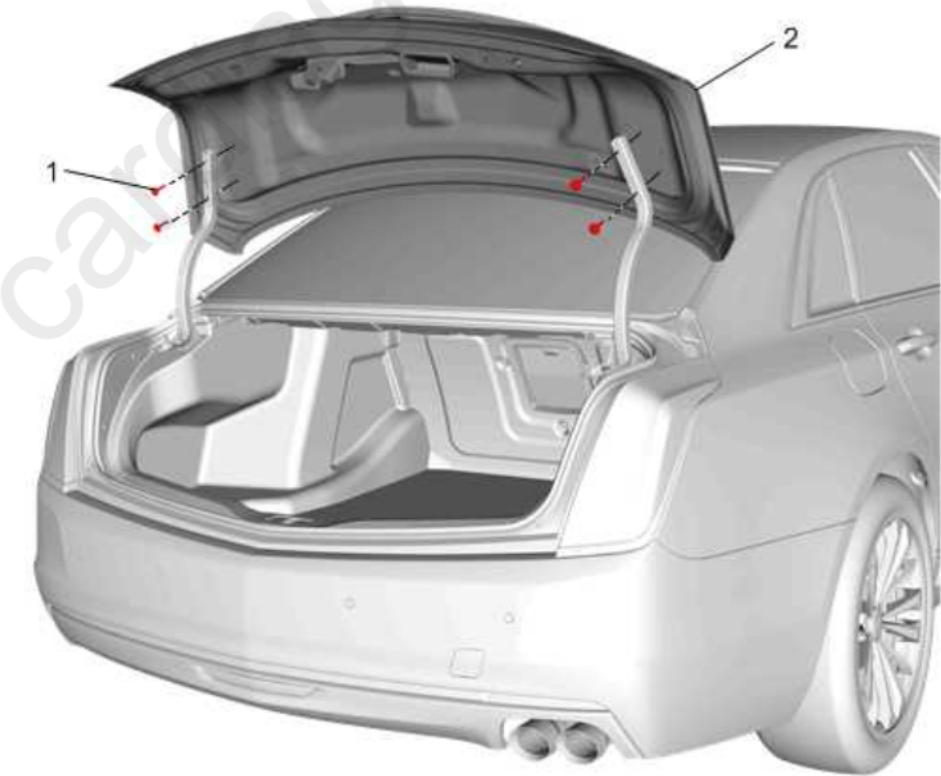


Fig. 29: Rear Compartment Lid
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name

Callout	Component Name
Preliminary Procedure Rear Compartment Lid Hinge Cover Replacement (Left Hand)Rear Compartment Lid Hinge Cover Replacement (Right Hand) Rear Compartment Lid Inner Panel Trim Replacement	
1	Rear Compartment Lid Bolt [4x] CAUTION: Refer to Fastener Caution . Tighten 9 N.m (80 lb in)
2	Rear Compartment Lid Procedure - Disconnect the electrical connector. - With the aid of an assistant, remove the rear compartment lid. - Transfer components as necessary. - Rear Compartment Lid Adjust - Rear Compartment Lid Adjustment

FRONT SIDE DOOR CHECK LINK REPLACEMENT

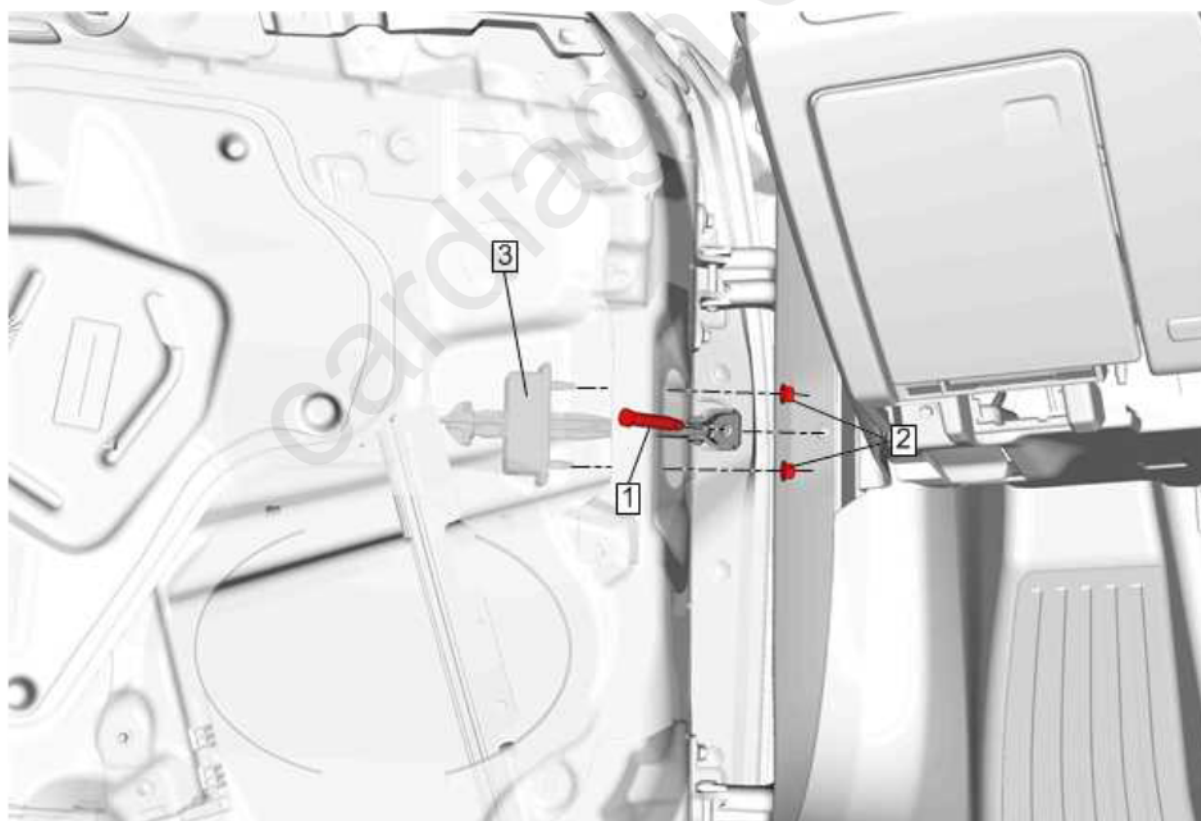


Fig. 30: Front Side Door Check Link

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name

Callout	Component Name
Preliminary Procedures 1. Place the door in the full open position. 2. Place the window in the full up position. 3. Radio Front Side Door Speaker Replacement 4. Front Side Door Check Link Cover Replacement	
1	Front Side Door Check Link Bolt CAUTION: Refer to Fastener Caution . Tighten 22 N.m (16 lb ft)
2	Front Side Door Check Link Nut [2x] Procedure Reposition grommet to access the rear side door check link nuts. Tighten 10 N.m (89 lb in)
3	Front Side Door Check Link

FRONT SIDE DOOR CHECK LINK COVER REPLACEMENT

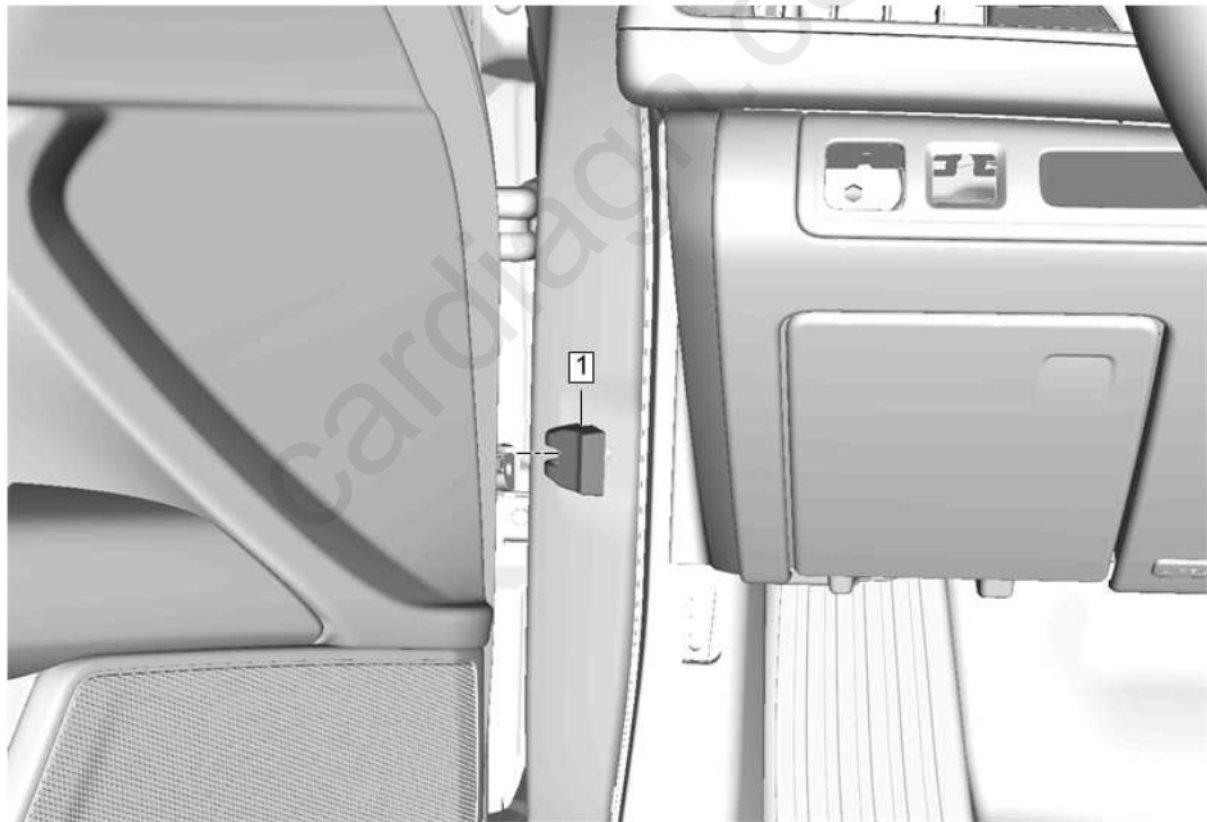


Fig. 31: Front Side Door Check Link Cover
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the front side door check link bolt. Refer to Front Side Door Check Link Replacement	
1	Front Side Door Check Link Cover Procedure Turn the front side door check link cover sideways over the bolt mounting area and slide off of the check link.

REAR SIDE DOOR CHECK LINK REPLACEMENT

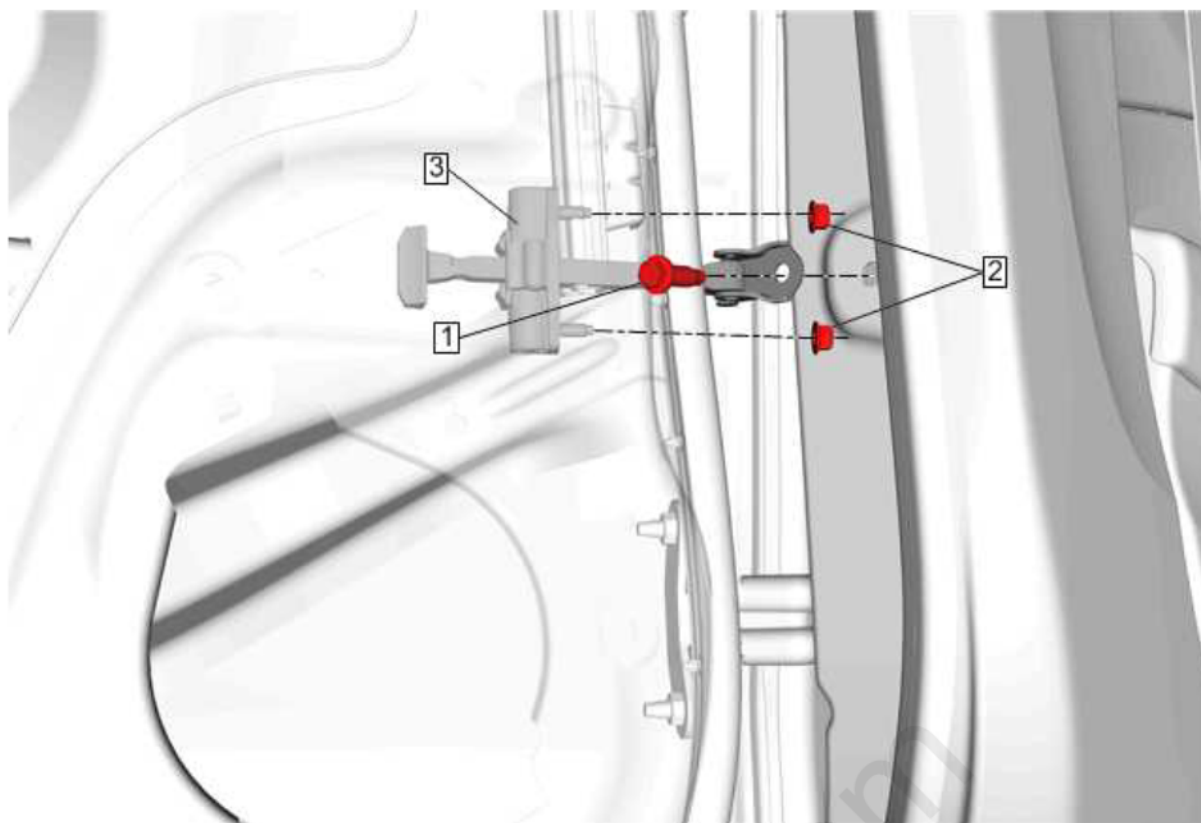


Fig. 32: Rear Side Door Check Link

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures 1. Place the door in the full open position. 2. Place the window in the full up position. 3. Radio Rear Side Door Speaker Replacement 4. Rear Side Door Check Link Cover Replacement	
1	Rear Side Door Check Link Bolt CAUTION: Refer to Fastener Caution . Tighten 22 N.m (16 lb ft)
2	Rear Side Door Check Link Nut [2x] Procedure Reposition grommet to access the rear side door check link nuts. Tighten 10 N.m (89 lb in)
3	Rear Side Door Check Link

REAR SIDE DOOR CHECK LINK COVER REPLACEMENT

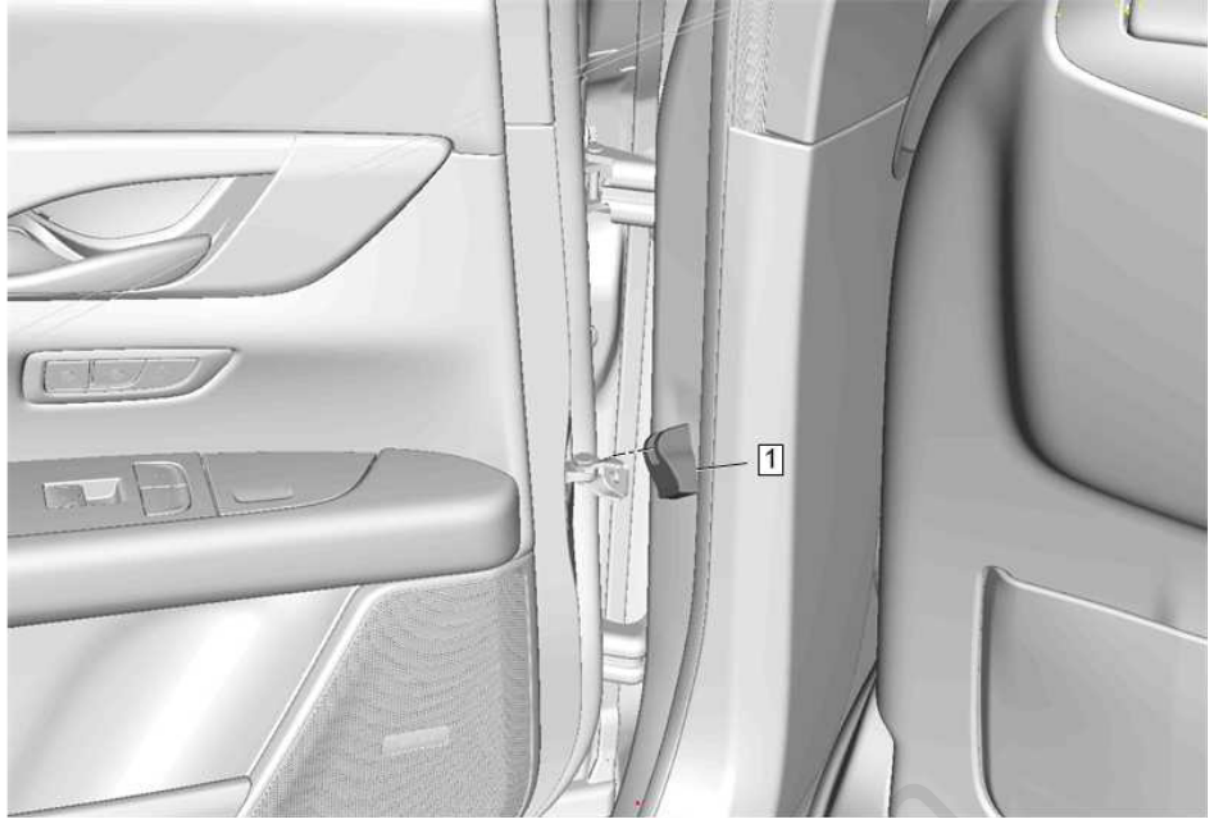


Fig. 33: Rear Side Door Check Link Cover
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the rear side door check link bolt. Refer to Rear Side Door Check Link Replacement	
1	Rear Side Door Check Link Cover Procedure Turn the rear side door check link cover sideways over the bolt mounting area and slide off of the check link.

ROOF RAIL FRONT ASSIST HANDLE BRACKET REPLACEMENT

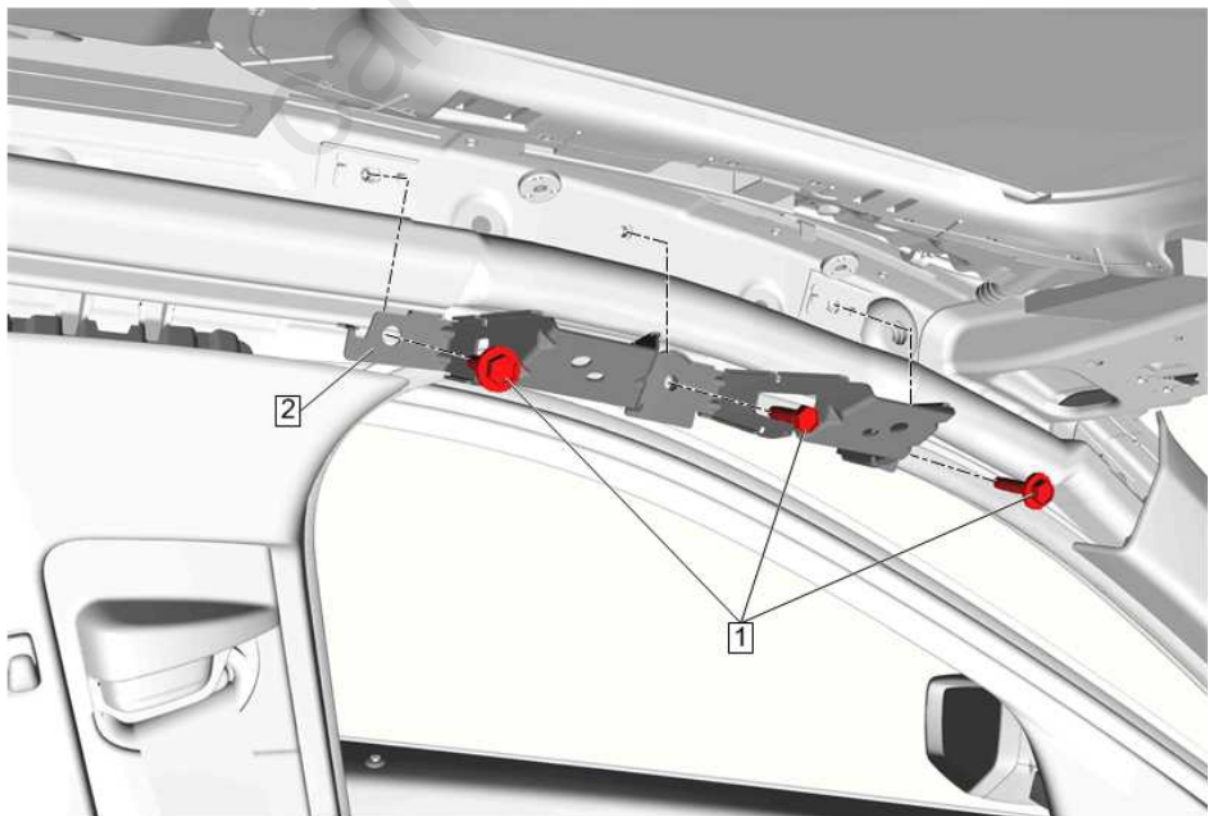


Fig. 34: Roof Rail Front Assist Handle Bracket
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures It is only necessary to lower the headliner. Only perform the steps in the headliner replacement procedure that will lower the headliner enough to gain access to the part. Refer to Headlining Trim Panel Replacement (Without C3U) and/or Headlining Trim Panel Replacement (With C3U)	
1	Roof Rail Assist Handle Bracket Screw [3x] CAUTION: Refer to Fastener Caution . Tighten 9 N.m (80 lb in)
2	Roof Rail Assist Handle Bracket

FUEL TANK FILLER DOOR REPLACEMENT

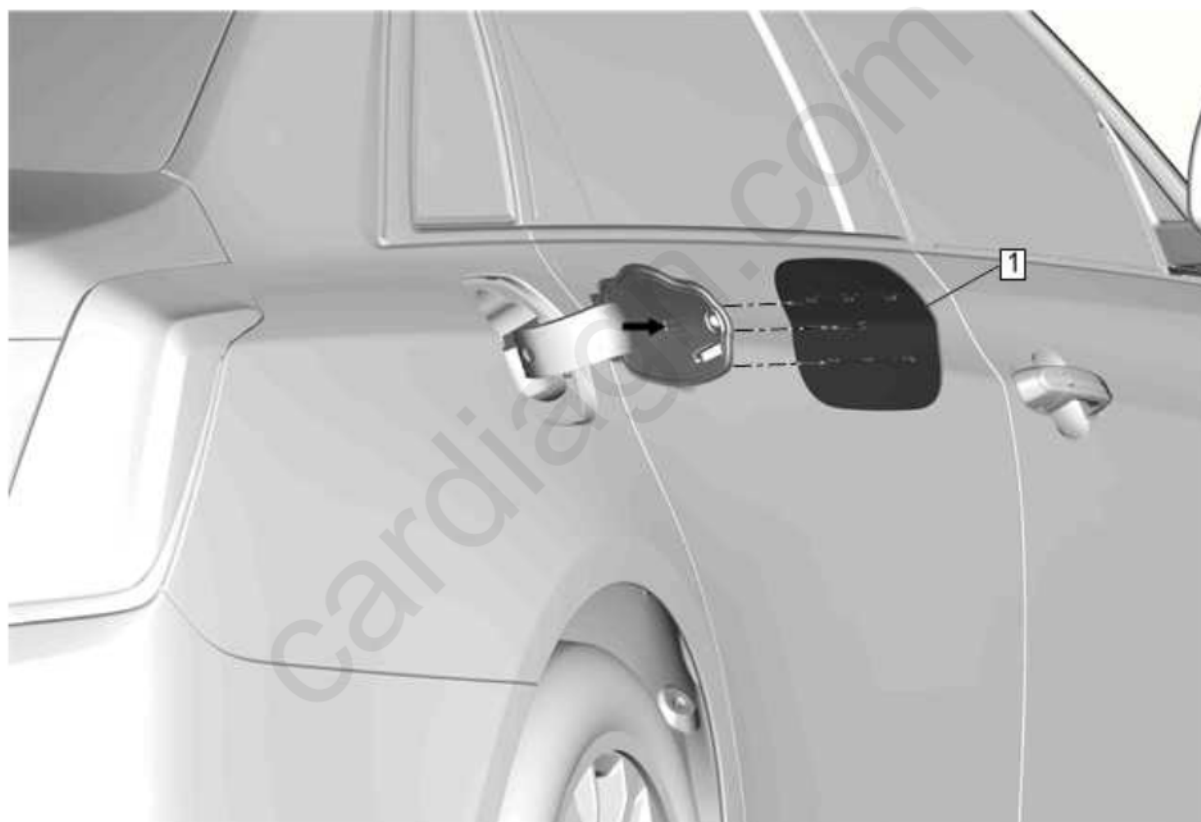


Fig. 35: Fuel Tank Filler Door
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
1	Fuel Tank Filler Door Procedure Position the fuel tank filler door to the full open position. Using light outward sliding pressure on the filler door, release the retainer on the fuel tank filler door from the hinge.

FUEL TANK FILLER PIPE HOUSING REPLACEMENT

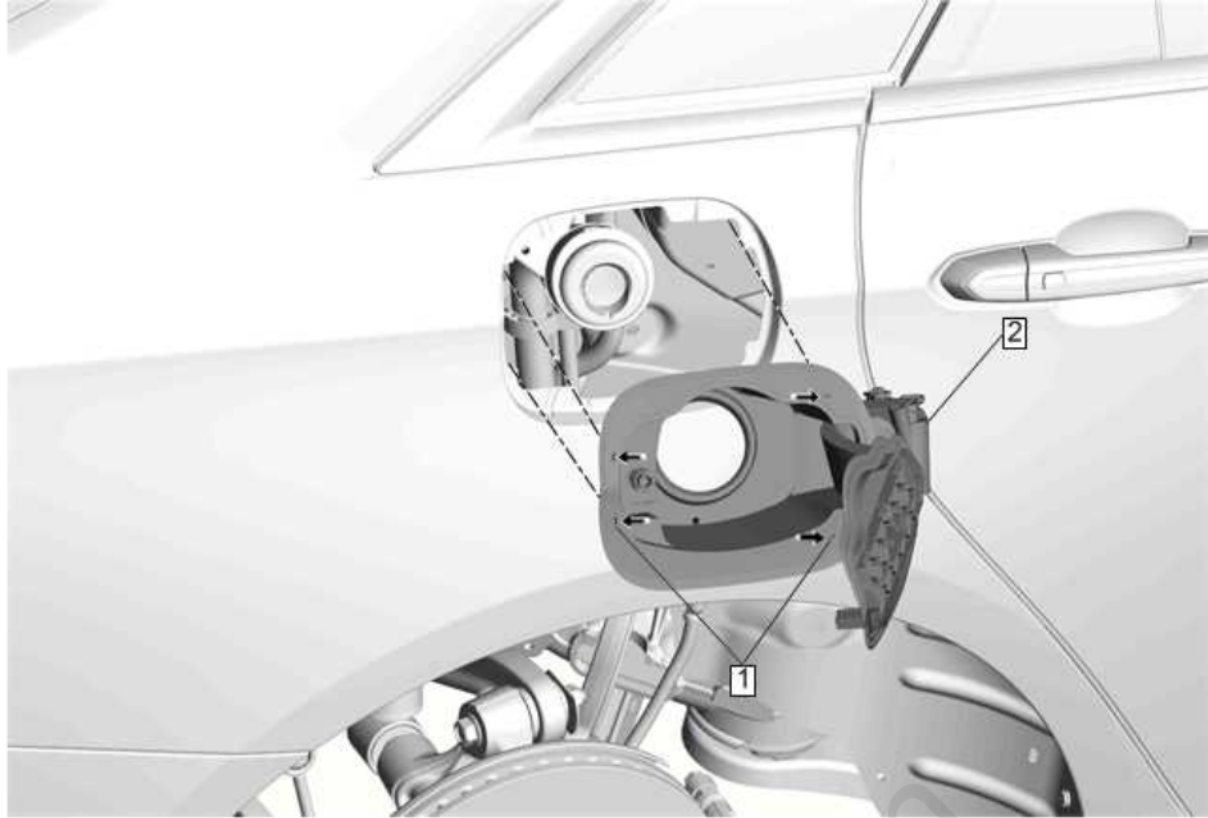


Fig. 36: Fuel Tank Filler Pipe Housing
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures Fuel Tank Filler Door Replacement.	
1	Fuel Tank Filler Pipe Housing Retainer [4x] Procedure 1. Using a flat-bladed tool that fits into the 4 depressions, break through the 4 depressions with light pressure and then pry the clips free to release the fuel tank filler pipe housing from the body side outer panel. 2. The fuel tank filler pipe housing once removed cannot be reused and must be replaced with a NEW fuel tank filler pipe housing.
2	Fuel Tank Filler Pipe Housing Procedure 1. Position the fuel tank filler pipe housing to the body side outer panel and the fuel filler pipe. 2. Press the fuel tank filler pipe housing to the body side outer panel until fully seated. 3. Ensure the fuel tank filler pipe housing seal is full seated to the filler pipe.

HOOD STRUT REPLACEMENT

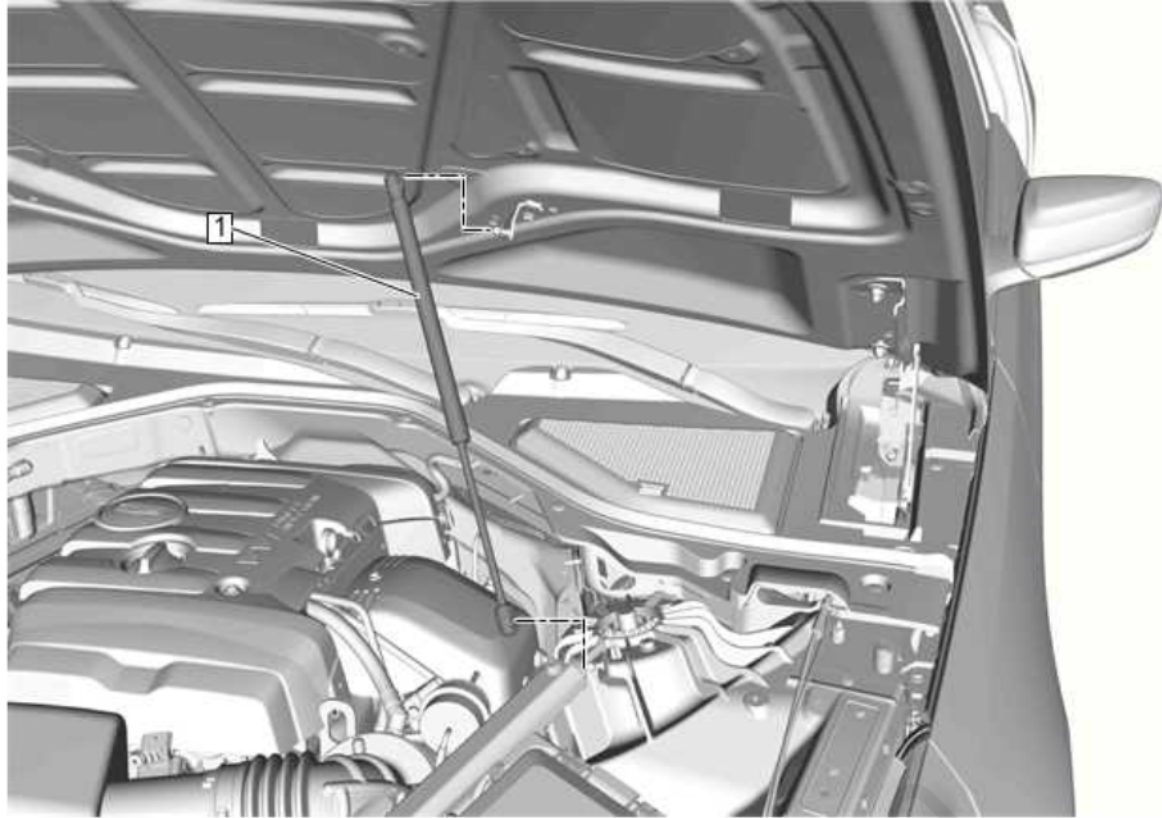


Fig. 37: Hood Strut

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
1	Hood Strut WARNING: When a hood hold open device is being removed or installed, provide alternate support to avoid the possibility of damage to the vehicle or personal injury. CAUTION: Apply pressure only at the end of the liftgate/hood assist rod that you are removing or attaching. Do NOT apply pressure to the middle of the rod because damage or bending will result. Procedure Remove the metal clip at the ends of the hood strut, then pull away from the stud.

HOOD FRONT EDGE WEATHERSTRIP REPLACEMENT

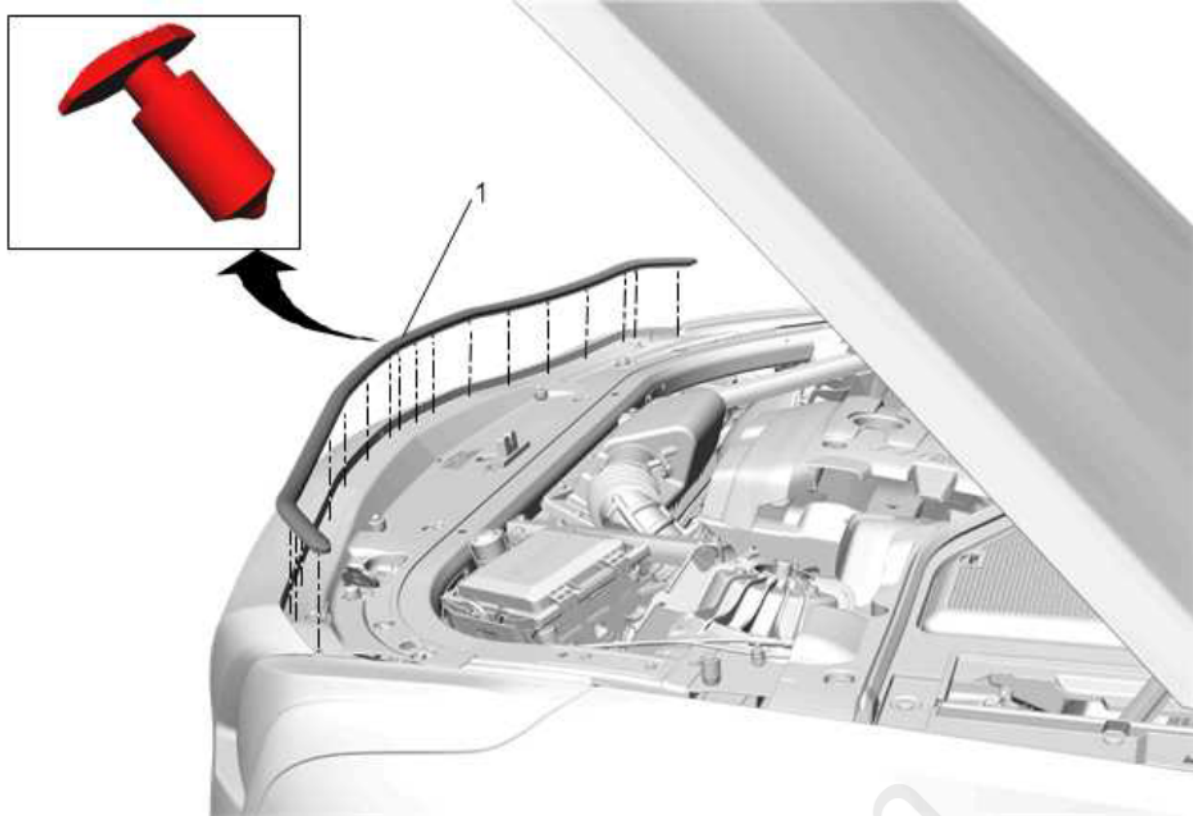


Fig. 38: Hood Front Edge Weatherstrip
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
1	Hood Front Edge Weatherstrip Procedure Using a trim type tool, release the integral retainers from the front compartment front sight shield.

HOOD REAR WEATHERSTRIP REPLACEMENT

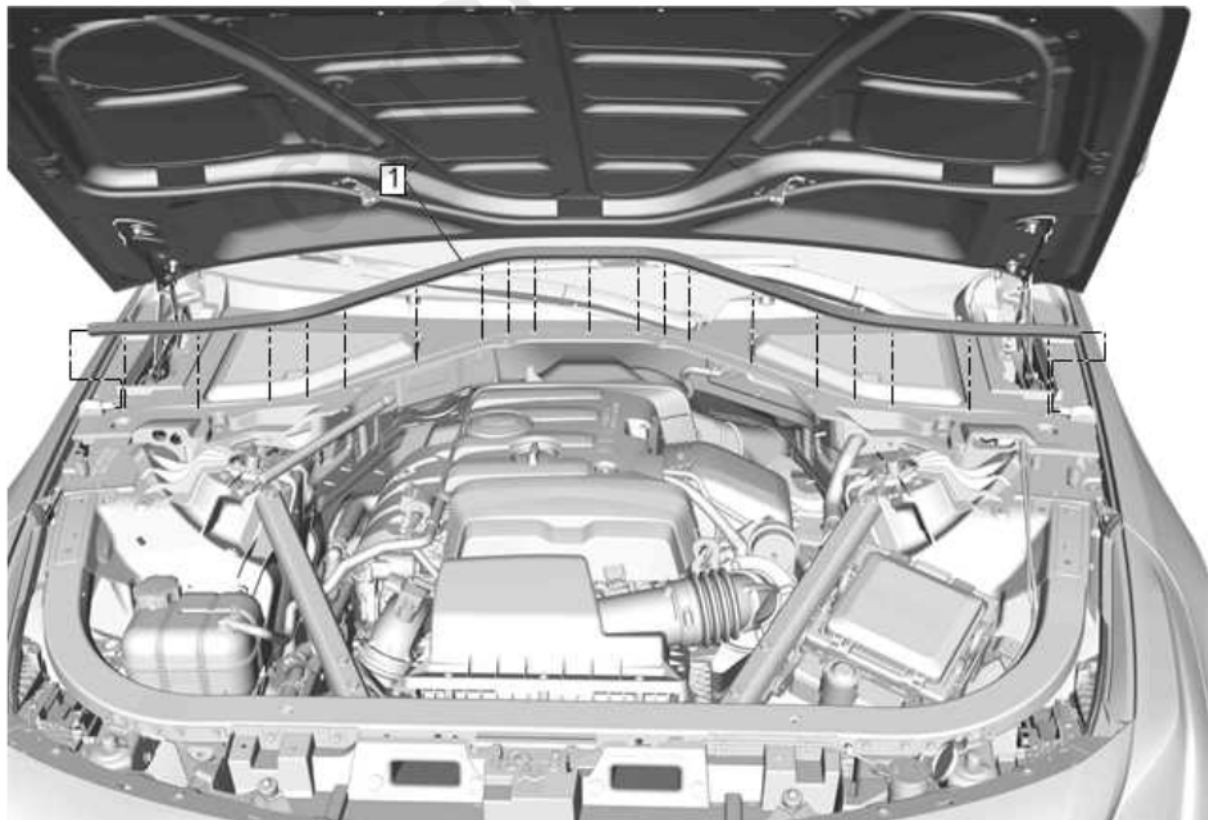


Fig. 39: Hood Rear Weatherstrip
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
1	Hood Rear Weatherstrip Procedure The hood rear weatherstrip is held in place with 19 plastic retainers that are part of the air inlet grille. Carefully pull the weatherstrip to the right/left to release form the retainers on the air inlet grille.

FRONT COMPARTMENT FRONT SIGHT SHIELD REPLACEMENT

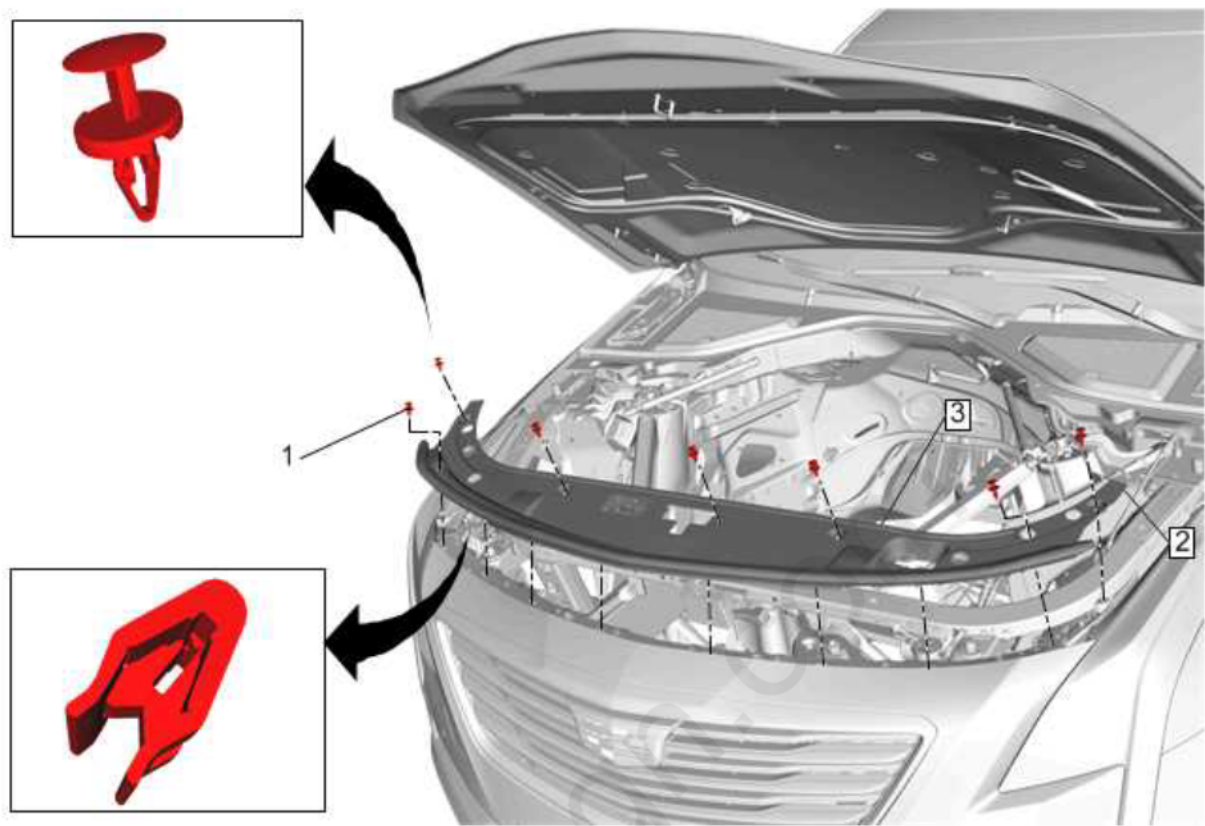


Fig. 40: Front Compartment Front Sight Shield
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
1	Front Compartment Front Sight Shield Retainer [7x]
2	Front Compartment Front Sight Shield Clip [6x] NOTE: Using a suitable tool, disengage the hidden clips along the front edge of the front compartment front sight shield.
3	Front Compartment Front Sight Shield

REAR SIDE DOOR LOWER AUXILIARY WEATHERSTRIP REPLACEMENT

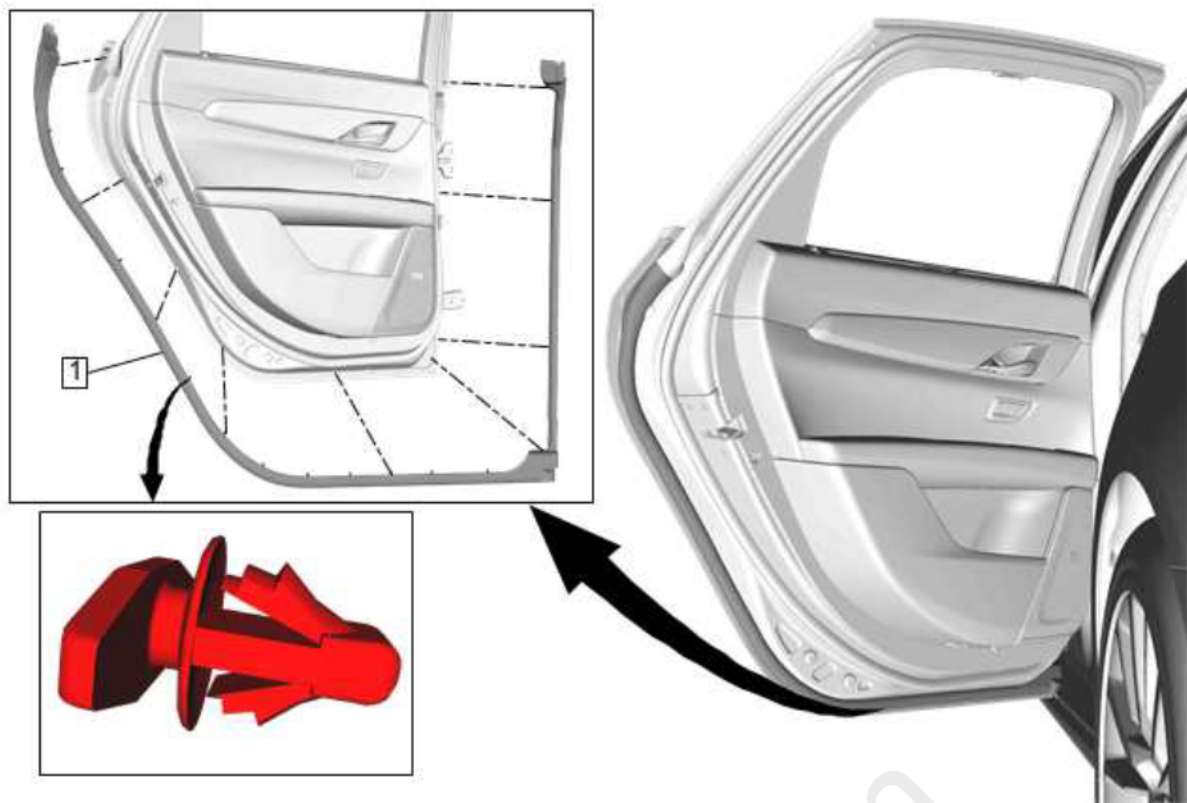


Fig. 41: Rear Side Door Lower Auxiliary Weatherstrip
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Open the rear side door.	
1	Rear Side Door Lower Auxiliary Weatherstrip Procedure Using the appropriate tool, remove the rear side door lower auxiliary weatherstrip from the rear side door panel.

FRONT SIDE DOOR FRONT AUXILIARY WEATHERSTRIP REPLACEMENT

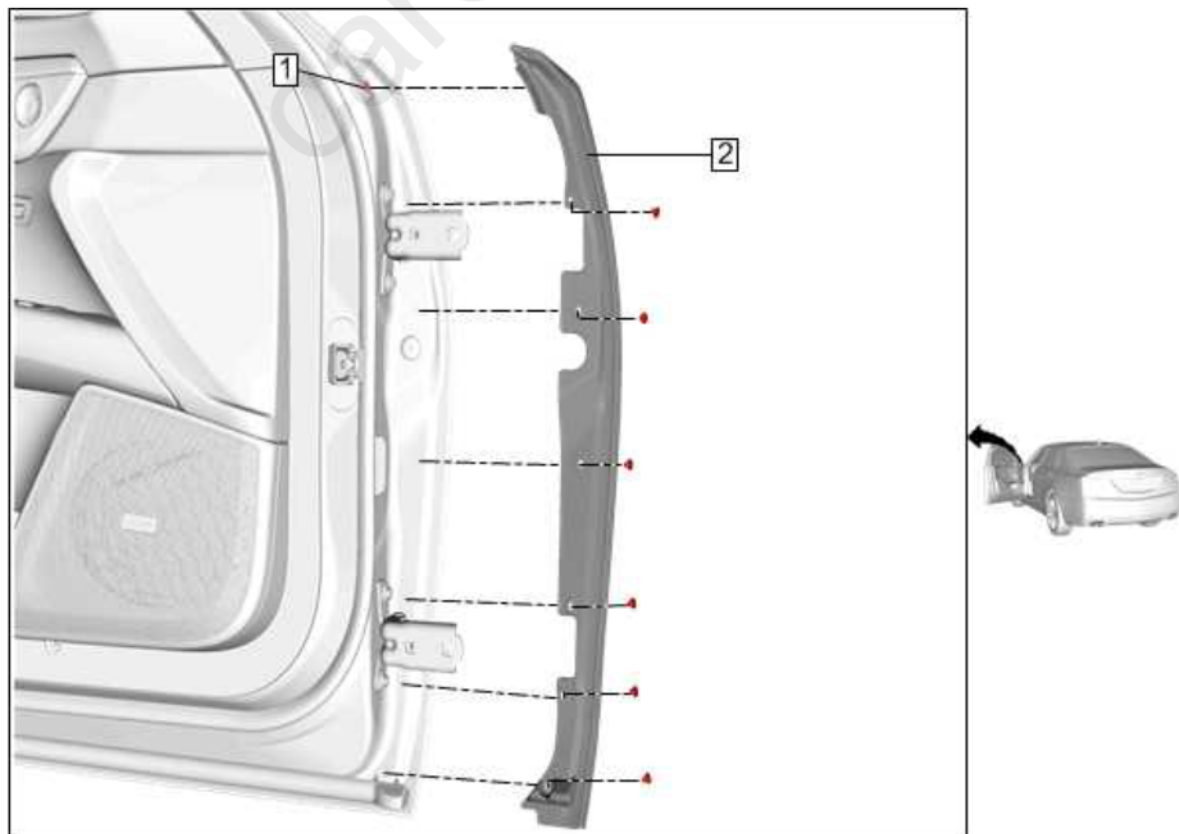


Fig. 42: Front Side Door Front Auxiliary Weatherstrip
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Reposition the front side door. DO NOT remove the door from the vehicle. Only do the steps necessary to gain access to the part. Refer to Front Side Door Replacement	
1	Front Side Door Front Auxiliary Weatherstrip Retainer [7x] Procedure Using the appropriate tool, remove the front side door front auxiliary weatherstrip retainers. NOTE: Upper and lower weatherstrip corners of the front side door will need to be released to service the front side door front auxiliary weatherstrip.
2	Front Side Door Front Auxiliary Weatherstrip

FRONT SIDE DOOR WEATHERSTRIP REPLACEMENT - DOOR SIDE



Fig. 43: Front Side Door Weatherstrip - Door Side
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Front Side Door Check Link Replacement	
1	Front Side Door Weatherstrip - Door Side Procedure 1. Using the appropriate tool, remove the weatherstrip retainers from around the door flange. 2. Carefully pull the window weatherstrip from the door flange.

FRONT SIDE DOOR WEATHERSTRIP REPLACEMENT - BODY SIDE



Fig. 44: Front Side Door Weatherstrip - Body Side
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures <u>1. Instrument Panel Outer Trim Cover Replacement</u> <u>2. Center Pillar Lower Trim Panel Replacement</u>	
1	Front Side Door Weatherstrip - Door Side Procedure - Using the appropriate tool, remove the weatherstrip retainers from around the door flange. - Carefully pull the window weatherstrip from the door flange.

FRONT SIDE DOOR LOWER AUXILIARY WEATHERSTRIP REPLACEMENT

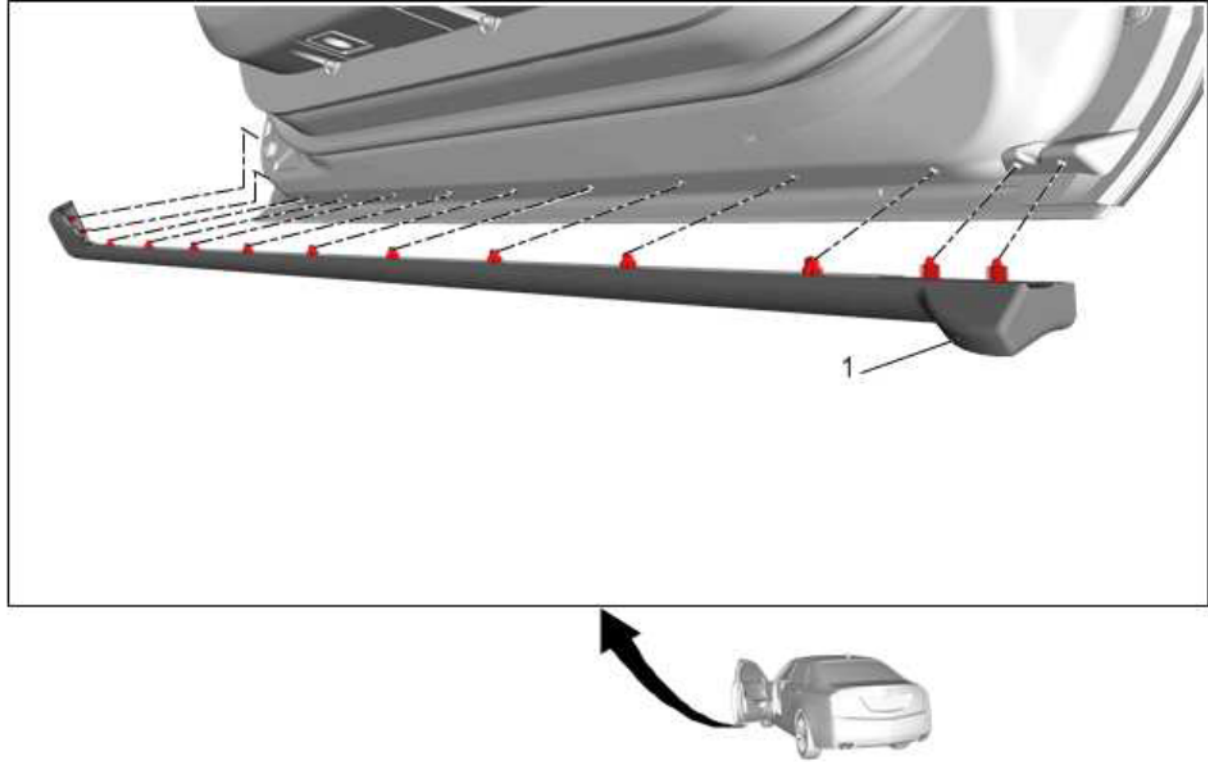


Fig. 45: Front Side Door Lower Auxiliary Weatherstrip

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Open the front side door.	
1	Front Side Door Lower Auxiliary Weatherstrip Procedure Using the appropriate tool, remove the front side door lower auxiliary weatherstrip from the front side door panel.

REAR COMPARTMENT LID WEATHERSTRIP REPLACEMENT

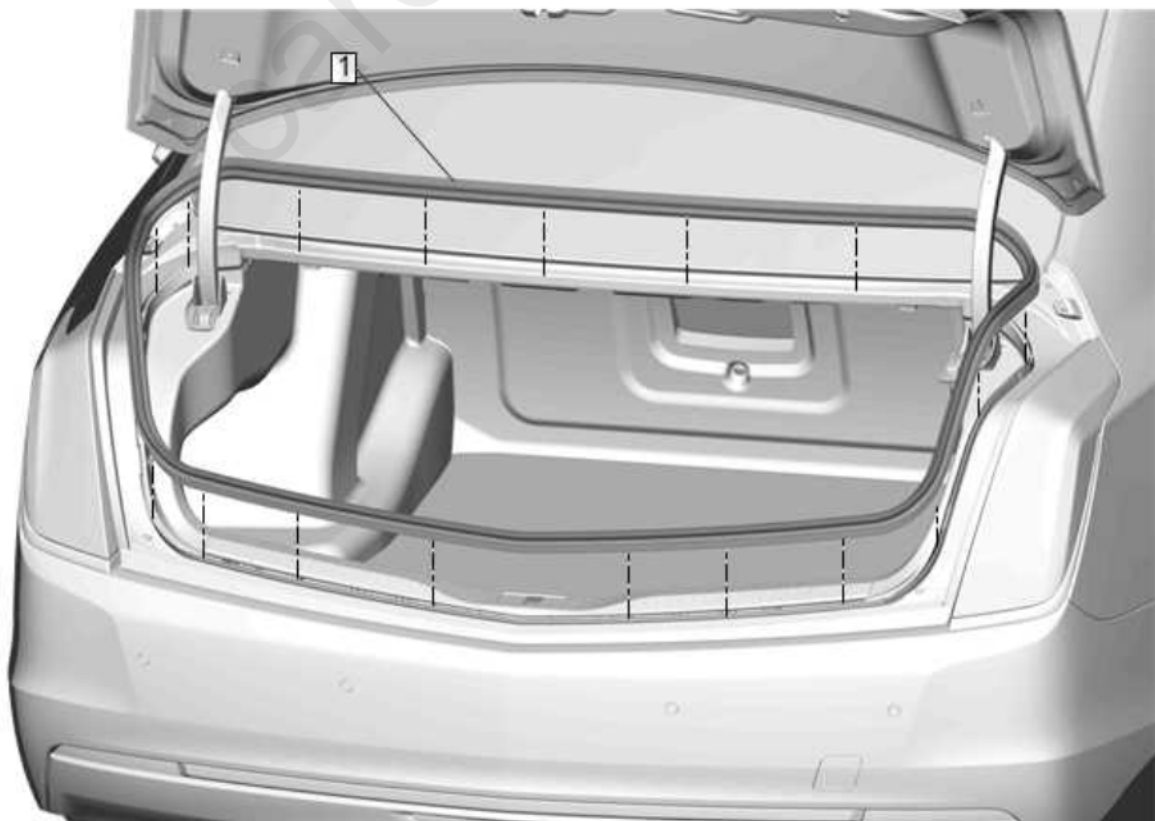


Fig. 46: Rear Compartment Lid Weatherstrip
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
1	Rear Compartment Lid Weatherstrip Procedure Clean the mounting surface using a mixture of 50 percent isopropyl alcohol and 50 percent water by volume or high-flash naphtha.

REAR SIDE DOOR WEATHERSTRIP REPLACEMENT - DOOR SIDE



Fig. 47: Rear Side Door Weatherstrip - Door Side
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Rear Side Door Check Link Replacement	
1	Rear Side Door Weatherstrip - Door Side Procedure 1. Using the appropriate tool, remove the weatherstrip retainers from around the door flange. 2. Carefully pull the window weatherstrip from the door flange.

REAR SIDE DOOR WEATHERSTRIP REPLACEMENT - BODY SIDE

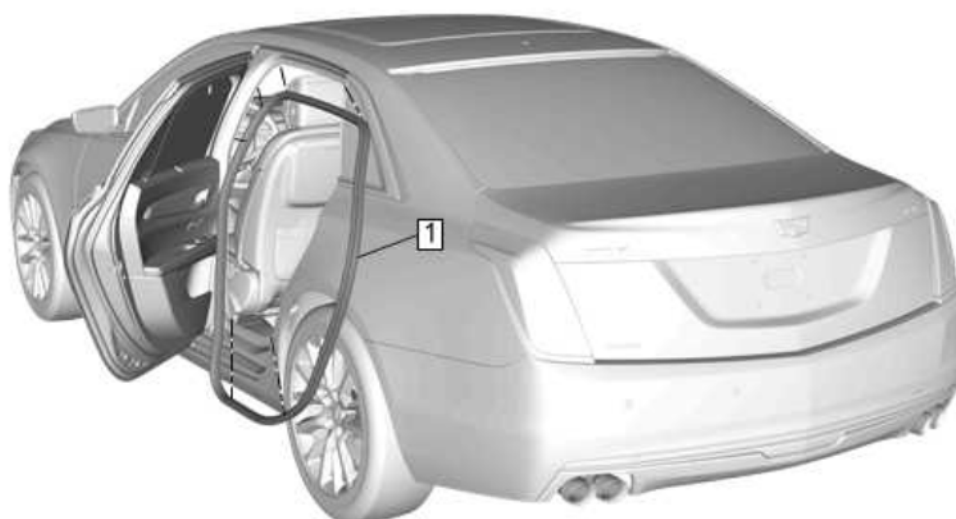


Fig. 48: Rear Side Door Weatherstrip - Body Side
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
1	Rear Side Door Weatherstrip - Body Side Procedure 1. Start at the front upper corner of the door opening and pull the weatherstrip away from the door opening flange. 2. Position the weatherstrip in the upper corner of the center pillar. 3. Working downward along the front edge, install the weatherstrip on the door opening flange ensuring that the carrier is fully seated in the corners. 4. Using a rubber mallet, ensure that the weatherstrip is seated on the entire door opening flange.

DESCRIPTION AND OPERATION

HOOD AJAR INDICATOR DESCRIPTION AND OPERATION

Hood Ajar Indicator System Components

- Body control module
- Engine control module (with KL9)
- Driver information center
- Hood ajar switch, part of the hood latch assembly

Hood Ajar Operation - Body Control Module

The BCM applies B+ to the hood ajar signal circuit and monitors the voltage to determine the position of the hood. The hood ajar switch contains a multiplexed resistor. This resistor will vary the voltage seen by the BCM by pulling down the applied voltage based on the position of the switch. The body control module uses the hood ajar input as a means to determine if unauthorized access has been gained to the underhood area during a theft attempt. The body control module will also disable remote vehicle starting (if equipped) when the hood is ajar.

The engine control module applies B+ to the hood ajar signal circuit and monitors the voltage to determine the position of the hood. The hood ajar switch contains a multiplexed resistor. This resistor will vary the voltage seen by the engine control module by pulling down the applied voltage based on the position of the switch. The engine control module monitors the hood ajar input as a disable condition for a 12 V stop/start event.

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