

2013 ACCESSORIES & EQUIPMENT

Vehicle Access - Malibu

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Front Side Door Handle Bracket Fastener	5 N.m	44 lb in
Front Side Door Inside Handle Bolt	2.5 N.m	22 lb in
Front Side Door Lock Cylinder Screw	5 N.m	44 lb in
Front Side Door Lock Fastener	10 N.m	89 lb in
Front Side Door Lock Striker Bolt	25 N.m	18 lb ft
Rear Compartment Lid Latch Bolt	9 N.m	80 lb in
Rear Compartment Lid Latch Striker Bolt	9 N.m	80 lb in
Rear Compartment Lid Lock Cylinder Bolt	3 N.m	26 lb in
Rear Side Door Handle Bracket Fastener	5 N.m	44 lb in
Rear Side Door Inside Handle Bolt	2.5 N.m	22 lb in
Rear Side Door Lock Cylinder Screw	5 N.m	44 lb in
Rear Side Door Lock Fastener	10 N.m	89 lb in
Rear Side Door Lock Striker Bolt	25 N.m	18 lb ft

SCHEMATIC WIRING DIAGRAMS

DOOR LOCK/INDICATOR WIRING SCHEMATICS

Indicators and Switches Wiring Schematics

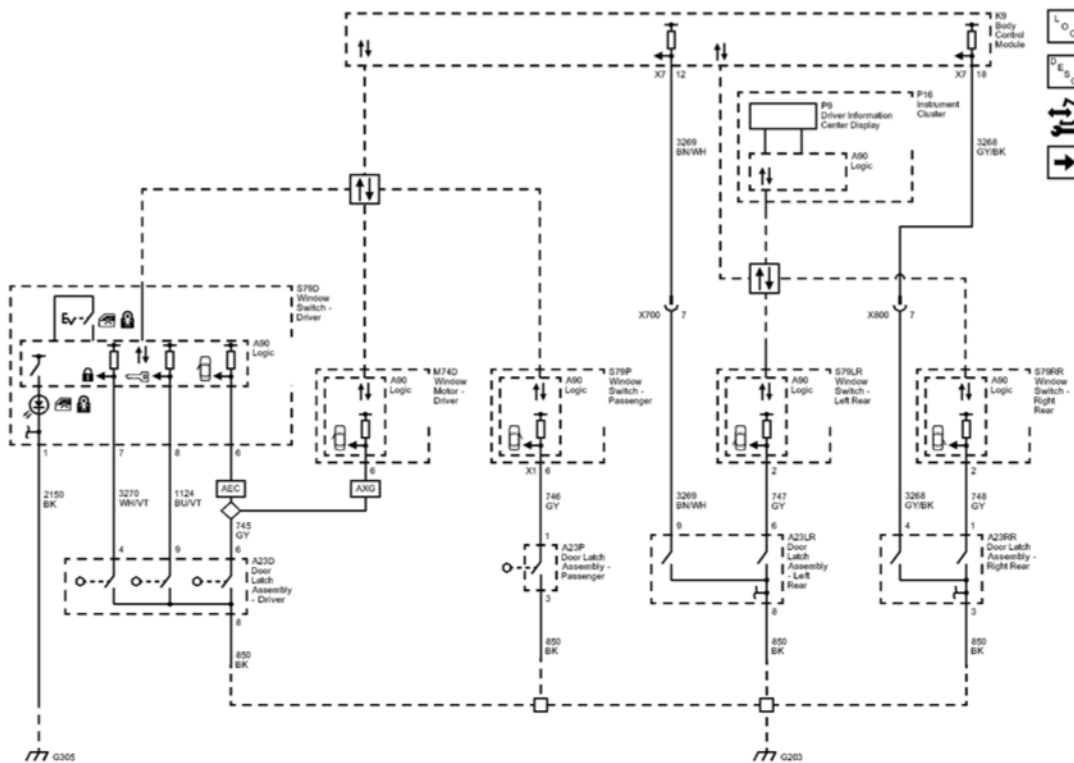


Fig. 1: Indicators and Switches Wiring Schematics
 Courtesy of GENERAL MOTORS COMPANY

Switches Wiring Schematics



Actuators (without ATH) Wiring Schematics

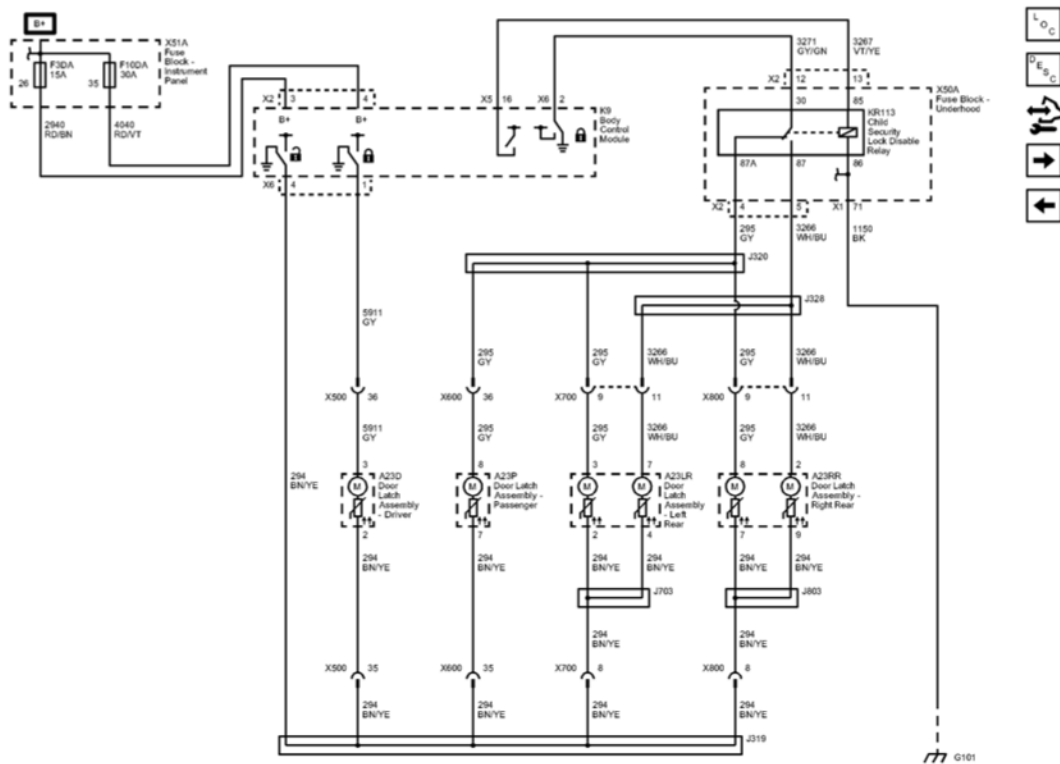


Fig. 3: Actuators (without ATH) Wiring Schematics
 Courtesy of GENERAL MOTORS COMPANY

Door Handle Switches (ATS) Wiring Schematics

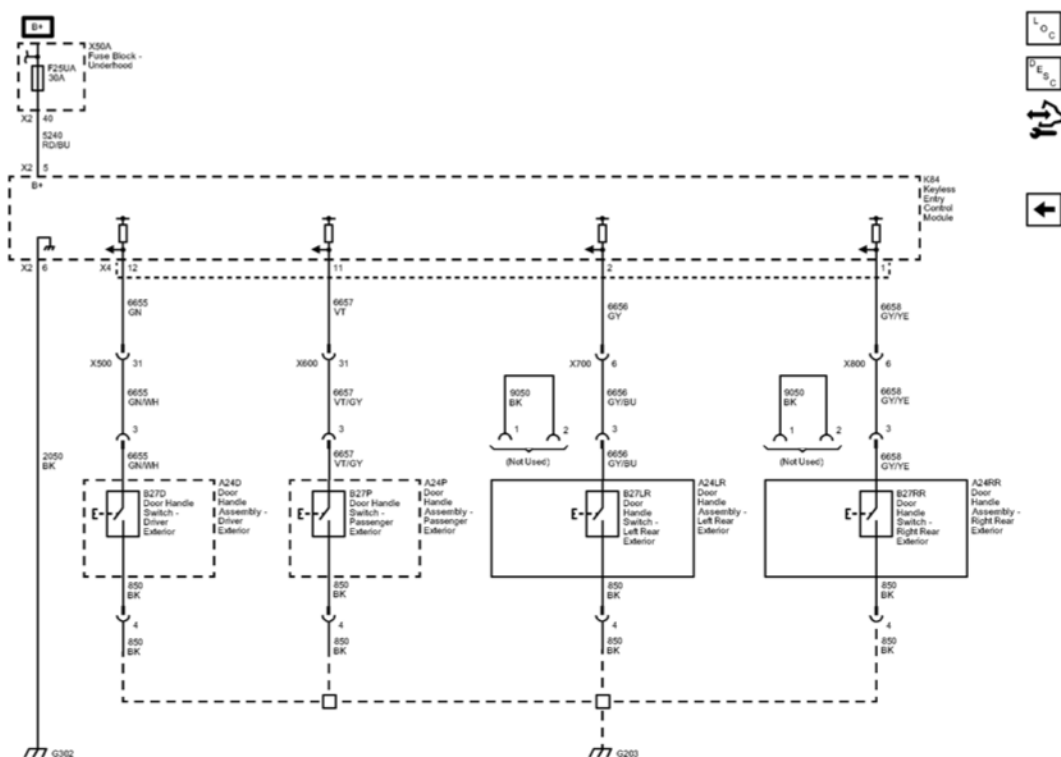


Fig. 4: Door Handle Switches (ATS) Wiring Schematics
 Courtesy of GENERAL MOTORS COMPANY

RELEASE SYSTEMS WIRING SCHEMATICS

Rear Compartment Wiring Schematics

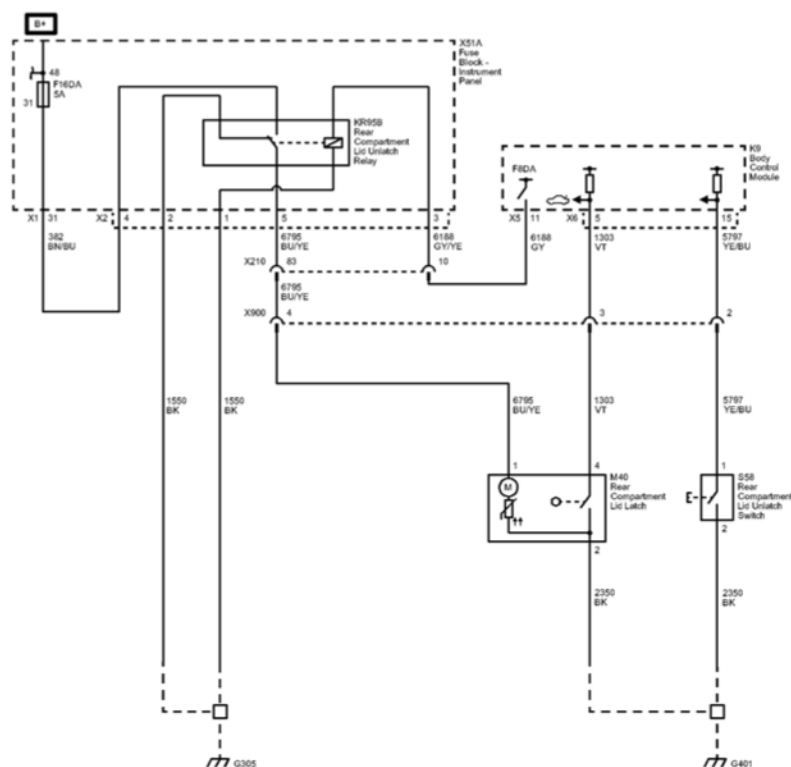


Fig. 5: Rear Compartment Wiring Schematics
Courtesy of GENERAL MOTORS COMPANY

DIAGNOSTIC INFORMATION AND PROCEDURES

DIAGNOSTIC CODE INDEX

DIAGNOSTIC CODE INDEX

DTC	Description
<u>DTC B1474 or B3849</u>	DTC B1474 02 Passenger Exterior Door Handle Switch Circuit Short to Ground DTC B3849 02 Driver Exterior Door Handle Switch Circuit Short to Ground
<u>DTC B1534 or B1535</u>	DTC B1534 02 Left Rear Door Handle Switch Circuit Short to Ground DTC B1535 02 Right Rear Door Handle Switch Circuit Short to Ground
<u>DTC B3265</u>	DTC B3265 02 Trunk Lid Unlatch Output Circuit Short to Ground
<u>DTC B3618</u>	DTC B3618 00 Exterior Liftgate Unlatch Switch Circuit Malfunction
<u>DTC B3930</u>	DTC B3930 02 Child Security Lock Motors Circuit Short to Ground

DTC B1474 OR B3849

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 B1474 02

Passenger Exterior Door Handle Switch Circuit Short to Ground

DTC B3849 02

Driver Exterior Door Handle Switch Circuit Short to Ground

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Driver Door Handle Switch Signal	B3849 02	1	1	-
Driver Door Handle Switch Ground	-	1	-	-
Passenger Door Handle Switch Signal	B1474 02	2	2	-
Passenger Door Handle Switch Ground	-	2	-	-
1. Driver Door Handle Switch Malfunction 2. Passenger Door Handle Switch Malfunction				

Circuit/System Description

The exterior door handle switch signal circuits provide inputs to the keyless entry control module when the exterior door handle switches are activated. These inputs allow the keyless entry control module to detect a door lock or a door unlock request. The keyless entry control module provides a 12 V signal to each exterior door handle switch via the door handle switch signal circuits. When a door handle switch is pressed, the switch closes and the voltage signals from the keyless entry control module are pulled to ground.

Conditions for Running the DTC

Battery voltage is between 9-16 V.

Conditions for Setting the DTC

B1474 02

The keyless entry control module detects the passenger exterior door handle switch signal circuit is shorted to ground or closed for greater than 180 seconds.

B3849 02

The keyless entry control module detects the driver exterior door handle switch signal circuit is shorted to ground or closed for more than 180 seconds.

Action Taken When the DTC Sets

The keyless entry control module will ignore input from the affected door switch and the doors will not lock or unlock when the affected door handle switch is pressed.

Conditions for Clearing the DTC

- The DTC will be current for as long as the fault is present.
- When the fault is no longer present, the DTC will be a history DTC.
- A history DTC will clear after 40 ignition cycles.

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Power Door Locks 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 Exterior Driver Door Handle Switch or the Exterior Passenger Door Handle Switch parameters changes between Active and Inactive when pressing and releasing the B27D Door Handle Switch-Driver Exterior or the B27P Door Handle Switch-Passenger Exterior.

- **If the parameter does not change**

Refer to Circuit/System Testing below.

- **If the parameter changes**

3. All OK.

Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the appropriate B27 Door Handle Switch-Exterior. 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 the scan tool Exterior Door Handle Switch parameter is Inactive.

- **If not Inactive**

1. Ignition OFF, disconnect the harness connector at the K84 Keyless Entry Control Module.
2. Test for infinite resistance between the signal circuit terminal 3 and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the K84 Keyless Entry Control Module.

- **If Inactive**

5. Install a 3 A fused jumper wire between the signal circuit terminal 3 and the ground circuit terminal 4.
6. Verify the scan tool Exterior Door Handle Switch parameter is Active.

- **If not Active**

1. Ignition OFF, remove the jumper wire, disconnect the harness connector at the K84 Keyless Entry Control Module, ignition ON.
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 ohms in the signal circuit end to end.

- If 2 ohms or greater, repair the open/high resistance in the circuit.
- If less than 2 ohms, replace the K84 Keyless Entry Control Module.

- **If Active**

7. Test or replace the B27 Door Handle Switch-Exterior.

Component Testing

1. Ignition OFF, disconnect the harness connector at the appropriate B27 Door Handle Switch-Exterior.
2. Test for infinite resistance between the signal terminal 3 and the ground terminal 4 with the switch in the open position.

- **If less than infinite resistance**

Replace the B27 Door Handle Switch-Exterior.

- **If infinite resistance**

3. Test for less than 5 ohms between the signal terminal 3 and the ground terminal 4 with the switch in the closed position.

- **If 5 ohms or greater**

Replace the B27 Door Handle Switch-Exterior.

- **If less than 5 ohms**

4. All OK

Repair Instructions

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

- **Front Side Door Outside Handle Replacement (Base), Front Side Door Outside Handle Replacement (Pass Key Entry ATH)**
- **Control Module References** for keyless entry control module replacement, programming and setup

DTC B1534 OR B1535

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 B1534 02

Left Rear Door Handle Switch Circuit Short to Ground

DTC B1535 02

Right Rear Door Handle Switch Circuit Short to Ground

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Left Rear Door Handle Switch Signal	B1534 02	1	1	-
Left Rear Door Handle Switch Ground	-	1	-	-
Right Rear Door Handle Switch Signal	B1535 02	2	2	-
Right Rear Door Handle Switch Ground	-	2	-	-
1. Left Rear Door Handle Switch Malfunction 2. Right Rear Door Handle Switch Malfunction				

Circuit/System Description

The exterior door handle switch signal circuits provide inputs to the keyless entry control module when the exterior door handle switches are activated. These inputs allow the keyless entry control module to detect a door lock or a door unlock request. The keyless entry control module provides a 12 V signal to each exterior door handle switch via the door handle switch signal circuits. When a door handle switch is pressed, the switch closes and the voltage signals from the keyless entry control module are pulled to ground.

Conditions for Running the DTC

Battery voltage is between 9-16 V.

Conditions for Setting the DTC

B1534 02

The keyless entry control module detects the left rear exterior door handle switch signal circuit is shorted to ground or closed for greater than 180 seconds.

B1535 02

The keyless entry control module detects the right rear exterior door handle switch signal circuit is shorted to ground or closed for greater than 180 seconds.

Action Taken When the DTC Sets

The keyless entry control module will ignore input from the affected door switch and the doors will not lock or unlock when the affected door handle switch is pressed.

Conditions for Clearing the DTC

- The DTC will be current for as long as the fault is present.
- When the fault is no longer present, the DTC will be a history DTC.
- A history DTC will clear after 40 ignition cycles.

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Power Door Locks 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 Exterior Left Rear Door Handle Switch or the Exterior Right Rear Door Handle Switch parameters changes between Active and Inactive when pressing and releasing B27LR Door Handle Switch-Left Rear Exterior or the B27RR Door Handle Switch-Right Rear Exterior.
 - **If the parameter does not change**

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

Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the appropriate B27 Door Handle Switch-Rear Exterior. 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 the scan tool Exterior Door Handle Switch parameter is Inactive.
 - **If not Inactive**
 1. Ignition OFF, disconnect the harness connector at the K84 Keyless Entry Control Module.
 2. Test for infinite resistance between the signal circuit terminal 3 and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the K84 Keyless Entry Control Module.
 - **If Inactive**
5. Install a 3 A fused jumper wire between the signal circuit terminal 3 and the ground circuit terminal 4.
6. Verify the scan tool Exterior Door Handle Switch parameter is Active.
 - **If not Active**
 1. Ignition OFF, remove the jumper wire, disconnect the harness connector at the K84 Keyless Entry Control Module, ignition ON.
 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 ohms in the signal circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.
 - If less than 2 ohms, replace the K84 Keyless Entry Control Module.
 - **If Active**
7. Test or replace the B27 Door Handle Switch-Rear Exterior.

Component Testing

1. Ignition OFF, disconnect the harness connector at the appropriate B27 Door Handle Switch-Rear Exterior.
2. Test for infinite resistance between the signal terminal 3 and the ground terminal 4 with the switch in the open position.
 - **If less than infinite resistance**

Replace the B27 Door Handle Switch-Rear Exterior.

- **If infinite resistance**

3. Test for less than 5 ohms between the signal terminal 3 and the ground terminal 4 with the switch in the closed position.

- **If 5 ohms or greater**

Replace the B27 Door Handle Switch-Rear Exterior.

- **If less than 5 ohms**

4. All OK

Repair Instructions

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

- **Rear Side Door Outside Handle Replacement**
- **Control Module References** for keyless entry control module replacement, programming and setup

DTC B3265

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 Descriptor

DTC B3265 02

Trunk Lid Unlatch Output Circuit Short to Ground

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Control	B3265 02	1	1	-
Ground	-	1	-	-
1. Rear Compartment Lid Release Inoperative				

Circuit/System Description

When the body control module (BCM) receives a request to open the trunk lid, the BCM will briefly apply B+ voltage to the rear compartment lid unlatch relay control circuit, which energizes the coil side of the rear compartment lid unlatch relay. The switch side of the rear compartment lid unlatch relay then closes, supplying B+ voltage to the rear compartment lid latch. The rear compartment lid latch then releases the trunk lid so that it

may be manually raised to an open position.

Conditions for Running the DTC

When the rear compartment lid unlatch relay is actively being requested by the BCM.

Conditions for Setting the DTC

The BCM detects a short to ground in the rear compartment lid unlatch relay control circuit.

Action Taken When the DTC Sets

The rear compartment lid latch will be inoperative.

Conditions for Clearing the DTC

- This DTC will be current for as long as the fault is present.
- When the fault is no longer present, the DTC will be a history DTC.
- A history DTC will clear after 50 ignition cycles.

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Luggage Compartment 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 operation of the rear compartment lid latch when commanding the Trunk Lid Unlatch with a scan tool.

- **If the rear compartment lid latch does not UNLATCH**

Refer to Circuit/System Testing below.

- **If the rear compartment lid latch does UNLATCH**

3. All OK.

Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the KR95B rear compartment lid unlatch relay. 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 2 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. Connect a test lamp between the control circuit terminal 1 and the ground circuit terminal 2.
4. Verify the test lamp briefly turns ON and OFF when commanding the Trunk Lid Unlatch with a scan tool.
 - **If the test lamp is always OFF**
 1. Ignition OFF, disconnect the harness connector at the K9 body control module.
 2. Test for infinite resistance between the 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 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 K9 body control module.
 - **If the test lamp is always ON**
 1. Ignition OFF, disconnect the harness connector at the K9 body control module, ignition ON.
 2. Test for less than 1 V between the control circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V, replace the K9 body control module.
 - **If the test lamp turns ON and OFF**
5. Test or replace the KR95B rear compartment lid unlatch relay.

Component Testing

Relay Test

1. Ignition OFF, disconnect the KR95B rear compartment lid unlatch relay.
2. Test for 60-200 ohms between terminals 1 and 2.

- **If less than 60 ohms or greater than 200 ohms**

Replace the KR95B rear compartment lid unlatch relay.

- **If between 60-200 ohms**

3. Test for infinite resistance between the terminals listed below:

- 4 and 2
- 4 and 5
- 4 and 1
- 5 and 1

- **If less than infinite resistance**

Replace the KR95B rear compartment lid unlatch relay.

- **If infinite resistance**

4. Install a 3 A fused jumper wire between relay terminal 1 and 12 V. Install a jumper wire between relay terminal 2 and ground.
5. Test for less than 2 ohms between terminals 3 and 5.

- **If 2 ohms or greater**

Replace the KR95B rear compartment lid unlatch relay.

- **If less than 2 ohms**

6. All OK

Repair Instructions

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

- **Relay Replacement (Within an Electrical Center)** , **Relay Replacement (Attached to Wire Harness)**
- **Control Module References** for BCM replacement, programming and setup

DTC B3618

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 Descriptor

DTC B3618 00

Exterior Liftgate Unlatch Switch Circuit Malfunction

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal	B3618 00	1	1	-
Ground	-	1	-	-
1. Exterior Rear Compartment Lid Release Switch Inoperative				

Circuit/System Description

When the ignition is ON, the body control module (BCM) supplies a 12 V signal to the rear compartment lid unlatch switch through the trunk release switch signal circuit. When the exterior rear compartment lid release switch is pressed, the voltage within the signal circuit is pulled low and in response, the BCM will energize the trunk release relay.

Conditions for Running the DTC

The system voltage is 9-16 V.

Conditions for Setting the DTC

The BCM detects a short to ground in the rear compartment lid release switch signal circuit for greater than 60 seconds

Action Taken When the DTC Sets

The BCM ignores the input from the rear compartment lid unlatch switch.

Conditions for Clearing the DTC

- This DTC will be current for as long as the fault is present.
- When the fault is no longer present, the DTC will be a history DTC.
- A history DTC will clear after 50 ignition cycles.

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Luggage Compartment 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 Trunk Lid/Liftgate Window Exterior Unlatch Switch parameter changes between Active and Inactive when pressing and releasing the rear compartment lid unlatch switch-exterior.
 - **If the parameter does not change**

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

Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the S58A rear compartment lid unlatch switch-exterior. 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 2 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 the scan tool Trunk Lid/Liftgate Window Exterior Unlatch Switch parameter is Inactive.
 - **If not Inactive**
 1. Ignition OFF, disconnect the harness connector at the K9 body control module.
 2. Test for infinite resistance between the signal circuit terminal 1 and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the K9 body control module.
 - **If Inactive**
5. Install a 3 A fused jumper wire between the signal circuit terminal 1 and the ground circuit terminal 2.
6. Verify the scan tool Trunk Lid/Liftgate Window Exterior Unlatch Switch parameter is Active.
 - **If not Active**
 1. Ignition OFF, disconnect the harness connector at the K9 body control module, ignition ON.
 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 ohms in the signal circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.
 - If less than 2 ohms, replace the K9 body control module.
 - **If Active**
7. Test or replace the S58A rear compartment lid unlatch switch-exterior.

Component Testing

1. Ignition OFF, disconnect the harness connector at the S58A rear compartment lid unlatch switch-exterior.
2. Test for infinite resistance between the signal terminal 1 and the ground terminal 2 with the switch in the open position.
 - **If less than infinite resistance**

Replace the S58A rear compartment lid unlatch switch-exterior.
 - **If infinite resistance**
3. Test for less than 3 ohms between the signal terminal 1 and the ground terminal 2 with the switch in the closed position.
 - **If 3 ohms or greater**

Replace the S58A rear compartment lid unlatch switch-exterior.
 - **If less than 3 ohms**
4. All OK

Repair Instructions

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

- **High Mount Stop Lamp Replacement**
- **Control Module References** for BCM replacement, programming and setup

DTC B3930

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 Descriptor

DTC B3930 02

Child Security Lock Motors Circuit Short to Ground

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Control	B3930 02	1	1	-
Ground	-	1	-	-
1. Child Security Door Lock Malfunction				

Circuit/System Description

The child door lockout switch is on the driver door lock/window switch and controls the function of the rear interior door handles as well as the function of the rear window switches. When the body control module receives a command from the window lockout switch, it will apply voltage to the door lock security relay coil, this will energize the relay and the contact within the relay will then direct the voltage to lock the left rear and right rear child locks and then isolate them from the normal door lock system to prevent the rear doors from being opened by using the interior rear door handles.

Conditions for Running the DTC

When the relay is being actively commanded by the body control module.

Conditions for Setting the DTC

The body control module detects a short to ground in the child security lock relay circuit.

Action Taken When the DTC Sets

- The interior rear door handles will always function or will always be disabled depending upon the state of

the rear door latch when the fault occurred.

- The body control module will command the lockout indicator to flash ON and OFF when the lockout switch is pressed.

Conditions for Clearing the DTC

- This DTC will be current for as long as the fault is present.
- When the fault is no longer present, the DTC will be a history DTC.
- A history DTC will clear after 50 ignition cycles.

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Power Door Locks 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 both interior rear door handles do not open the rear doors when commanding the Child Security Lock Motors ON with a scan tool.

- **If both interior door handles open the rear doors**

Refer to Circuit/System Testing below.

- **If both interior door handles do not open the rear doors**

3. Verify both interior rear door handles will open the rear doors when commanding the Child Security Lock Motors OFF with a scan tool.

- **If both interior door handles do not open the rear doors**

Refer to Circuit/System Testing below.

- **If both interior door handles open the rear doors**

4. All OK.

Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the X1 harness connector at the X50A Fuse Block-Underhood. 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 71 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 OFF, connect the X1 harness connector at the X50A Fuse Block-Underhood. Disconnect the X5 harness connector at the K9 Body Control Module, ignition ON.
4. Verify that a test lamp does not illuminate between the control circuit terminal 16 and ground.
 - **If the test lamp illuminates**
 1. Ignition OFF, remove the test lamp, disconnect the X2 harness connector at the X50A Fuse Block-Underhood.
 2. Test for less than 1 V between the K9 Body Control Module control circuit terminal 16 X5 and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V, replace the X50A Fuse Block-Underhood.
 - **If the test lamp is not illuminated**
5. Connect a 3A fused jumper wire between the control circuit terminal 16 and B+.
6. Listen as the KR113 Child Security Lock Disable Relay activates.
 - **If the KR113 Child Security Lock Disable Relay does not activate**
 1. Ignition OFF, remove the jumper wire, disconnect the X2 harness connector at the X50A Fuse Block-Underhood.
 2. Test for infinite resistance between the K9 Body Control Module control circuit terminal 16 X5 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 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 X50A Fuse Block-Underhood.
 - **If the KR113 Child Security Lock Disable Relay activates**
7. Replace the K9 Body Control Module.

Repair Instructions

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

- **Front Compartment Fuse Block Replacement**
- **Control Module References** for body control module replacement, programming and setup

SYMPTOMS - VEHICLE ACCESS

NOTE: 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 link
2. Review the system operation in order to familiarize yourself with the system functions. Refer to the following systems description:
 - **Door Ajar Indicator Description and Operation**
 - **Luggage Compartment Description and Operation**
 - **Power Door Locks Description and Operation**

Visual/Physical Inspection

- Inspect for aftermarket devices which may affect the operation of the system. Refer to **Checking Aftermarket Accessories** .
- Inspect the easily accessible or visible system components for obvious damage or conditions which may 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 a symptom diagnostic procedure from the following list in order to diagnose the symptom:

- **Door Ajar Indicator Malfunction**
- **Trunk Release Malfunction**

- Trunk Ajar Indicator Malfunction
- Power Door Lock Malfunction - DTC B3125, B3130, or B3135
- Power Door Lock Switch Malfunction - DTC B3140, B3145, B3150, or B3155
- Exterior Door Handle Switch Malfunction
- Power Door Child Lock Malfunction
- Door Will Not Open/Close, Door Binding, or Locks, Handles, or Cylinders Do Not Function

EXTERIOR DOOR HANDLE SWITCH 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 B1474 02

Passenger Exterior Door Handle Switch Circuit Short to Ground

DTC B1534 02

Left Rear Door Handle Switch Circuit Short to Ground

DTC B1535 02

Right Rear Door Handle Switch Circuit Short to Ground

DTC B3849 02

Driver Exterior Door Handle Switch Circuit Short to Ground

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Driver Door Handle Switch Signal	B3849 02	1	1	-
Driver Door Handle Switch Ground	-	1	-	-
Passenger Door Handle Switch Signal	B1474 02	2	2	-
Passenger Door Handle Switch Ground	-	2	-	-

Left Rear Door Handle Switch Signal	B1534 02	3	3	-
Left Rear Door Handle Switch Ground	-	3	-	-
Right Rear Door Handle Switch Signal	B1535 02	4	4	-
Right Rear Door Handle Switch Ground	-	4	-	-
1. Driver Door Handle Switch Malfunction 2. Passenger Door Handle Switch Malfunction 3. Left Rear Door Handle Switch Malfunction 4. Right Rear Door Handle Switch Malfunction				

Circuit/System Description

The exterior door handle switch signal circuits provide inputs to the keyless entry control module when the exterior door handle switches are activated. These inputs allow the keyless entry control module to detect a door lock or a door unlock request. The keyless entry control module provides a 12 V signal to each exterior door handle switch via the door handle switch signal circuits. When a door handle switch is pressed, the switch closes and the voltage signals from the keyless entry control module are pulled to ground.

Conditions for Running the DTC

Battery voltage is between 9-16 V.

Conditions for Setting the DTC

B1474 02

The keyless entry control module detects the passenger exterior door handle switch signal circuit is shorted to ground or closed for greater than 180 seconds.

B1534 02

The keyless entry control module detects the left rear exterior door handle switch signal circuit is shorted to ground or closed for more than 180 seconds.

B1535 02

The keyless entry control module detects the right rear exterior door handle switch signal circuit is shorted to ground or closed for more than 180 seconds.

B3849 02

The keyless entry control module detects the driver exterior door handle switch signal circuit is shorted to ground or closed for more than 180 seconds.

Action Taken When the DTC Sets

The keyless entry control module will ignore input from the affected door switch and the doors will not lock or unlock when the affected door handle switch is pressed.

Conditions for Clearing the DTC

- The DTC will be current for as long as the fault is present.
- When the fault is no longer present, the DTC will be a history DTC.
- A history DTC will clear after 40 ignition cycles.

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Power Door Locks 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 Exterior Driver Door Handle Switch, Exterior Passenger Door Handle Switch, Exterior Left Rear Door Handle Switch and Exterior Right Rear Door Handle Switch parameters changes between Active and Inactive when pressing and releasing each B27 Door Handle Switch-Exterior.
 - If the parameter does not change

Refer to Circuit/System Testing below.

- If the parameter changes
- 3. All OK.

Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the appropriate B27 Door Handle Switch-Exterior. 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 the scan tool Exterior Door Handle Switch parameter is Inactive.
 - If not Inactive
 1. Ignition OFF, disconnect the harness connector at the K84 Keyless Entry Control Module.
 2. Test for infinite resistance between the signal circuit terminal 3 and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the K84 Keyless Entry Control Module.
 - If Inactive
5. Install a 3 A fused jumper wire between the signal circuit terminal 3 and the ground circuit terminal 4.
6. Verify the scan tool Exterior Door Handle Switch parameter is Active.
 - If not Active
 1. Ignition OFF, remove the jumper wire, disconnect the harness connector at the K84 Keyless Entry Control Module, ignition ON.
 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 ohms in the signal circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.
 - If less than 2 ohms, replace the K84 Keyless Entry Control Module.
 - If Active
7. Test or replace the B27 Door Handle Switch-Exterior.

Component Testing

1. Ignition OFF, disconnect the harness connector at the appropriate B27 Door Handle Switch-Exterior.
2. Test for infinite resistance between the signal terminal 3 and the ground terminal 4 with the switch in the

open position.

- **If less than infinite resistance**

Replace the B27 Door Handle Switch-Exterior.

- **If infinite resistance**

3. Test for less than 5 ohms between the signal terminal 3 and the ground terminal 4 with the switch in the closed position.

- **If 5 ohms or greater**

Replace the B27 Door Handle Switch-Exterior.

- **If less than 5 ohms**

4. All OK

Repair Instructions

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

- **Front Side Door Outside Handle Replacement (Base), Front Side Door Outside Handle Replacement (Pass Key Entry ATH)**
- **Rear Side Door Outside Handle Replacement**
- **Control Module References** for keyless entry control module replacement, programming and setup

DOOR AJAR INDICATOR 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
Driver Door Ajar Switch Signal	1	2	2	-
Driver Door Latch Ground	-	2	-	-
Left Rear Door Ajar Switch Signal	1	4	4	-
Left Rear Door Latch Ground	-	4	-	-
Passenger Door Ajar Switch Signal	1	3	3	-

Passenger Door Latch Ground	-	3	-	-
Right Rear Door Ajar Switch Signal	1	5	5	-
Right Rear Door Latch Ground	-	5	-	-
1. Ajar Indicator Always Illuminated 2. Ajar Indicator Inoperative When Driver Door Is Open 3. Ajar Indicator Inoperative When Passenger Door Is Open 4. Ajar Indicator Inoperative When Left Rear Door Is Open 5. Ajar Indicator Inoperative When Right Rear Door Is Open				

Circuit/System Description

The passenger window switches each provide a 12 V signal to their respective door ajar switch signal circuits. The door ajar switches are integral to each door latch assembly. When a door is opened, the normally open door ajar switch closes. With the door ajar switch closed, ground is provided to the door ajar switch signal circuit and the voltage within the signal circuit drops. The window switches will detect the voltage drop and will send a serial data message to the body control module which will then send a message to the instrument panel cluster to command the door ajar message.

The driver window motor (AXG) or the driver window switch (AEC) provides a 12V signal to the driver door ajar switch signal circuit. The driver door ajar switch is integral to the driver door latch assembly. When the driver door is opened, the normally open door ajar switch closes. With the door ajar switch closed, ground is provided to the door ajar switch signal circuit and the voltage within the signal circuit drops. The driver window motor (AXG) or the driver window switch (AEC) will detect the voltage drop and will send a serial data message to the body control module which will then send a message to the instrument panel cluster to command the door ajar message.

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Door 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 Driver Door Ajar Switch parameter changes between Inactive and Active when opening and closing the driver door.
 - **If the parameter does not change**
Refer to Circuit/System Testing below - Driver Door Ajar Switch Malfunction.
 - **If the parameter changes**
3. Verify the scan tool Passenger Door Ajar Switch parameter changes between Inactive and Active when opening and closing the passenger door.
 - **If the parameter does not change**
Refer to Circuit/System Testing below - Passenger Door Ajar Switch Malfunction.
 - **If the parameter changes**
4. Verify the scan tool Left Rear Door Ajar Switch parameter changes between Inactive and Active when opening and closing the left rear door.
 - **If the parameter does not change**
Refer to Circuit/System Testing below - Passenger Door Ajar Switch Malfunction.
 - **If the parameter changes**
5. Verify the scan tool Right Rear Door Ajar Switch parameter changes between Inactive and Active when opening and closing the right rear door.
 - **If the parameter does not change**
Refer to Circuit/System Testing below - Passenger Door Ajar Switch Malfunction.
 - **If the parameter changes**
6. All OK.

Circuit/System Testing

Driver Door Ajar Switch Malfunction

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the A23D Door Latch

Assembly-Driver. 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 8 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 the scan tool Driver Door Ajar Switch parameter is Inactive.
 - **If not Inactive**
 1. Ignition OFF, disconnect the harness connector at the appropriate component listed below:
 - M74D Window Motor - Driver (AXG)
 - S79D Window Switch - Driver (AEC)
 2. Test for infinite resistance between the signal circuit terminal 6 and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the appropriate component.
 - **If Inactive**
5. Install a 3 A fused jumper wire between the signal circuit terminal 6 and the ground circuit terminal 8.
6. Verify the scan tool Driver Door Ajar Switch parameter is Active.
 - **If not Active**
 1. Ignition OFF, disconnect the harness connector at the appropriate component listed below, ignition ON.
 - M74D Window Motor - Driver (AXG)
 - S79D Window Switch - Driver (AEC)
 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 ohms in the signal circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.
 - If less than 2 ohms, replace the appropriate component
 - **If Active**
7. Test or replace the A23D Door Latch Assembly-Driver.

Passenger Door Ajar Switch Malfunction

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the appropriate passenger or rear A23 Door Latch Assembly. 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 listed below and ground:

- A23P Door Latch Assembly-Passenger - ground circuit terminal 3
- A23LR Door Latch Assembly-Left Rear - ground circuit terminal 8
- A23RR Door Latch Assembly-Right Rear - ground circuit terminal 8

○ **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 the appropriate scan tool Door Ajar Switch parameter is Inactive.

○ **If not Inactive**

1. Ignition OFF, disconnect the harness connector at the appropriate component listed below:
 - S79P Window Switch-Passenger
 - S79LR Window Switch-Left Rear
 - S79RR Window Switch-Right Rear
2. Test for infinite resistance between the signal circuit terminal listed below and ground.
 - A23P Door Latch Assembly-Passenger - signal circuit terminal 1
 - A23LR Door Latch Assembly-Left Rear - signal circuit terminal 6
 - A23RR Door Latch Assembly-Right Rear - signal circuit terminal 1
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the appropriate component.

○ **If Inactive**

5. Install a 3 A fused jumper wire between the signal circuit terminal listed below and ground.
 - A23P Door Latch Assembly-Passenger - signal circuit terminal 1
 - A23LR Door Latch Assembly-Left Rear - signal circuit terminal 6
 - A23RR Door Latch Assembly-Right Rear - signal circuit terminal 1

6. Verify the scan tool Door Ajar Switch parameter is Active.

○ **If not Active**

1. Ignition OFF, disconnect the harness connector at the appropriate component listed below, ignition ON.
 - S79P Window Switch-Passenger
 - S79LR Window Switch-Left Rear
 - S79RR Window Switch-Right Rear
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 ohms in the signal circuit end to end.

- If 2 ohms or greater, repair the open/high resistance in the circuit.
- If less than 2 ohms, replace the appropriate component.

- **If Active**

7. Test or replace the passenger or rear A23 Door Latch Assembly.

Component Testing

1. Ignition OFF, disconnect the harness connector at the appropriate A23 Door Latch Assembly.
2. Test for infinite resistance between the terminals listed below with the switch in the open position.
 - A23D Door Latch Assembly-Driver signal terminal 6 and ground terminal 8
 - A23LR Door Latch Assembly-Left Rear signal terminal 6 and ground terminal 8
 - A23RR Door Latch Assembly-Right Rear signal terminal 1 and ground terminal 3
 - A23P Door Latch Assembly-Passenger signal terminal 1 and ground terminal 3

- **If less than infinite resistance**

Replace the A23 Door Latch Assembly.

- **If infinite resistance**

3. Test for less than 5 ohms between the terminals listed below with the switch in the closed position.
 - A23D Door Latch Assembly-Driver signal terminal 6 and ground terminal 8
 - A23LR Door Latch Assembly-Left Rear signal terminal 6 and ground terminal 8
 - A23RR Door Latch Assembly-Right Rear signal terminal 1 and ground terminal 3
 - A23P Door Latch Assembly-Passenger signal terminal 1 and ground terminal 3

- **If 5 ohms or greater**

Replace the A23 Door Latch Assembly.

- **If less than 5 ohms**

4. All OK

Repair Instructions

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

- **Front Side Door Window and Multifunction Switch Replacement (Drivers Side Door)**
- **Rear Side Door Window Switch Replacement**
- **Front Side Door Window Switch Replacement (Passengers Side Door)**
- **Front Side Door Window Regulator Motor Replacement**

POWER DOOR LOCK MALFUNCTION - DTC B3125, B3130, OR B3135

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 B3125 02

Driver Door Only Unlock Circuit Short to Ground

DTC B3130 02

All Doors Unlock Circuit Short to Ground

DTC B3135 02

All Doors Lock Circuit Short to Ground

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
BCM B+	B3125 02, B3130 02, B3135 02	B3125 02, B3130 02, B3135 02	-	-
Door Latch Control	B3125 02, B3130 02, B3135 02	2	2	-
Driver Door Lock Motor Lock Control	B3125 02, B3130 02, B3135 02	1	1	-
Door Lock Actuator Unlock Control	B3125 02, B3130 02, B3135 02	1, 2	1, 2	-
1. Driver Door Unlock Malfunction 2. Passenger/Rear Door Lock Malfunction				

Circuit/System Description

The body control module (BCM) powers the reversible door latch assemblies by providing battery positive voltage and ground to the appropriate lock and unlock control circuits of the door latch assemblies. The lock and unlock control circuits of the rear doors and passenger door latch assemblies are all connected together. When the door latch assemblies are not active, all actuator lock and unlock control circuits are supplied a floating voltage door driver by the BCM. Transitioning of the lock actuators to the lock or unlocked position depends upon which control circuits receive voltage and which control circuits receive ground.

Conditions for Running the DTC

Ignition ON.

Conditions for Setting the DTC

B3125 02, B3130 02 and B3135 02

- A short to ground or an open/high resistance in the BCM B+ circuit.
- The BCM detects a short to ground on a door latch control circuit.

Action Taken When the DTC Sets

The power door locks will be inoperative.

Conditions for Clearing the DTC

- This DTC will be current for as long as the fault is present.
- When the fault is no longer present, the DTC will be a history DTC.
- A history DTC will clear after 50 ignition cycles.

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Power Door Locks 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 all vehicle doors LOCK and UNLOCK when commanding the All Doors Lock/Unlock with a scan tool.
 - **If only the driver door LOCK or UNLOCK functions do not work**
Refer to Circuit/System Testing below - Driver Door Lock Malfunction.
 - **If one or more, but not all, passenger door LOCK or UNLOCK functions do not work**
Refer to Circuit/System Testing below - Passenger Door Lock Malfunction.
 - **If all door LOCK and UNLOCK functions do not work**
Refer to Circuit/System Testing below - All Door Lock Inoperative.
 - **If the LOCK and UNLOCK function for all doors works**
3. All OK.

Circuit/System Testing

Driver Door Lock Malfunction

1. Ignition OFF, disconnect the harness connector at the A23D Door Latch Assembly-Driver. Ignition ON.

NOTE: Leaving the DMM connected between a control circuit and ground for greater than 20 seconds will cause the K9 Body Control Module to interpret the test as a system fault and will cause the voltage on the control circuit to drop to 0 V. If the voltage drops to 0 V, operate the door locks using the central door lock switch to restore the voltage for testing.

2. Test for greater than 7 V between the control circuit terminal 3 and ground.
 - **If 7 V or less**
 1. Ignition OFF, disconnect the X6 harness connector at the K9 Body Control Module.
 2. Test for infinite resistance between the 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 the control circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance on the circuit.
 - If less than 2 ohms, replace the K9 Body Control Module.
 - **If greater than 7 V**

NOTE: Leaving the DMM connected between a control circuit and ground for

greater than 20 seconds will cause the K9 Body Control Module to interpret the test as a system fault and will cause the voltage on the control circuit to drop to 0 V. If the voltage drops to 0 V, operate the door locks using the central door lock switch to restore the voltage for testing.

3. Test for greater than 7 V between the control circuit terminal 2 and ground.
 - **If 7 V or less**
 1. Ignition OFF, disconnect the X6 harness connector at the K9 Body Control Module.
 2. Test for infinite resistance between the 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 the control circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance on the circuit.
 - If less than 2 ohms, replace the K9 Body Control Module.
 - **If greater than 7 V**
4. Test or replace the A23D Door Latch Assembly-Driver.

Passenger Door Lock Malfunction

1. Ignition OFF, disconnect the harness connector at the appropriate passenger or rear A23 Door Latch Assembly. Ignition ON.

NOTE: Leaving the DMM connected between a control circuit and ground for greater than 20 seconds will cause the K9 Body Control Module to interpret the test as a system fault and will cause the voltage on the control circuit to drop to 0 V. If the voltage drops to 0 V, operate the door locks using the door lock switch to restore the voltage for testing.

2. Test for greater than 7 V between the control circuit terminal listed below and ground:
 - A23P Door Latch Assembly-Passenger - control circuit terminal 7
 - A23RR Door Latch Assembly-Right Rear - control circuit terminal 7
 - A23LR Door Latch Assembly-Left Rear - control circuit terminal 2
- **If 7 V or less**
 1. Ignition OFF, disconnect the X6 harness connector at the K9 Body Control Module.
 2. Test for infinite resistance between the 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 the control circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance on the circuit.
 - If less than 2 ohms, replace the K9 Body Control Module.
- **If greater than 7 V**

NOTE: Leaving the DMM connected between a control circuit and ground for greater than 20 seconds will cause the K9 Body Control Module to interpret the test as a system fault and will cause the voltage on the control circuit to drop to 0 V. If the voltage drops to 0 V, operate the door locks using the door lock switch to restore the voltage for testing.

3. Test for greater than 7 V between the control circuit terminal listed below and ground:
 - A23P Door Latch Assembly-Passenger - control circuit terminal 8
 - A23RR Door Latch Assembly-Right Rear - control circuit terminal 8
 - A23LR Door Latch Assembly-Left Rear - control circuit terminal 3
 - **If 7 V or less**
 1. Ignition OFF, disconnect the X2 harness connector at the X50A Fuse Block-Underhood.
 2. Disconnect the X6 harness connector at the K9 Body Control Module.
 3. Test for less than 2 ohms between the control circuit terminals listed below:
 - X50A Fuse Block-Underhood control circuit terminal 4 X2 and A23P Door Latch Assembly-Passenger control circuit terminal 8
 - X50A Fuse Block-Underhood control circuit terminal 12 X2 and K9 Body Control Module control circuit terminal 2 X6
 - If greater than 2 ohms, repair the open/high resistance on the circuit.
 4. Connect the X2 harness connector at the X50A Fuse Block-Underhood
 5. Test for less than 2 ohms between the A23P Door Latch Assembly-Passenger control circuit terminal 8 and the K9 Body Control Module control circuit terminal 2 X6
 - If greater than 2 ohms, replace the X50A Fuse Block-Underhood.
 6. Connect the X6 harness connector at the K9 Body Control Module
 7. Ignition ON, test for greater than 7 V between the A23P Door Latch Assembly-Passenger control circuit terminal 8 and ground
 - If 7 V or less, replace the K9 Body Control Module.
 - **If greater than 7 V**
 - 4. Test or replace the A23 Door Latch Assembly.

All Door Locks Inoperative

1. Ignition OFF, disconnect the X2 harness connector at the K9 Body Control Module, ignition ON.
2. Verify a test lamp illuminates between the B+ circuit terminal 4 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 B+ 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**

3. Ignition OFF.
4. Test for infinite resistance between the B+ circuit and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance
5. Disconnect the harness connector at each of the A23 Door Latch Assemblies.
6. 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 appropriate A23 Door Latch Assembly.
 - **If the test lamp illuminates**
3. Ignition OFF, connect the X2 harness connector at the K9 Body Control Module. Disconnect the harness connector at the A23D Door Latch Assembly-Driver, ignition ON.

NOTE: Leaving the DMM connected between a control circuit and ground for greater than 20 seconds will cause the K9 Body Control Module to interpret the test as a system fault and will cause the voltage on the control circuit to drop to 0 V. If the voltage drops to 0 V, operate the door locks using the central door lock switch to restore the voltage for testing.

4. Test for greater than 7 V between the control circuit terminal 2 and ground.
 - **If 7 V or less**
 1. Ignition OFF, disconnect the X6 harness connector at the K9 Body Control Module.
 2. Test for infinite resistance between the control circuit terminal listed below and ground:
 - Control circuit terminal 1 X6
 - Control circuit terminal 2 X6
 - Control circuit terminal 4 X6
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the K9 Body Control Module.
 - **If greater than 7 V**
5. Replace the K9 Body Control Module.

Component Testing

1. Ignition OFF, disconnect the harness connector at the appropriate A23 Door Latch Assembly.
2. Install a 25 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 A23 Door Latch Assembly should perform the LOCK and UNLOCK function.
 - **If the actuator does not perform the LOCK and UNLOCK function**

Replace the A23 Door Latch Assembly.

- **If the actuator performs the LOCK and UNLOCK function**

3. All OK

Repair Instructions

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

- **Fuse Block Replacement**
- **Front Side Door Lock Replacement**
- **Rear Side Door Lock Replacement**
- **Control Module References** for BCM replacement, setup and programming

POWER DOOR CHILD LOCK 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
Door Lock Security Relay Control	B3930 02	1	1	-
Door Lock Security Relay Ground	-	1	-	-
Left Rear Door Lock Status Signal	-	4	4	-
Left Rear Door Latch Control	B3125 02, B3130 02, B3135 02	2	2	-
Left Rear Door Latch Ground	-	4	-	-
Right Rear Door Lock Status Signal	-	4	4	-
Right Rear Door Latch Control	B3125 02, B3130 02, B3135 02	3	3	-
Right Rear Door Latch Ground	-	4	-	-
1. Both Rear Door Child Door Lockout Malfunction 2. Left Rear Door Child Door Lockout Malfunction 3. Right Rear Door Child Door Lockout Malfunction 4. Rear Windows Always Function From Local Rear Window Switches				

Circuit/System Description

The child door lockout switch is on the driver door lock/window switch and controls the child locks on the rear doors as well as the rear window switches. When the body control module receives a command from the window lockout switch, it will apply voltage to the door dead lock relay coil, this will energize the relay and the contact within the relay will then direct the voltage to lock the left rear and right rear child locks and then isolate them from the normal door lock system to prevent the rear doors from being opened by using the interior rear door handles.

The body control module monitors the voltage level of the rear lock status signal circuits to determine if the rear door latches have been locked out. A switch within the rear door latch will be open or closed depending upon the lockout status of the rear latch. If the rear latches are locked out, the switch will be open and the body control module will disable the functions of the rear window switches. If the latches have not been lockout, the switch will be closed, pulling the voltage within the signal circuit to 0 volts and the body control module will permit normal rear window switch functions.

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Power Door Locks 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 both interior rear door handles do not open the rear doors when commanding the Child Security Lock Motors ON with a scan tool.

- **If both interior rear door handles open the rear doors**

Refer to Security Lockout Inoperative below.

- **If a single interior rear door handle opens the rear door**

Refer to Single Door Security Lockout Malfunction below.

- **If both interior door handles do not open the rear doors**

3. Verify both interior rear door handles will open the rear doors when commanding the Child Security Lock Motors OFF with a scan tool.

- **If both interior rear door handles do not open the rear doors**

Refer to Security Lockout Inoperative below.

- **If a single interior rear door handle does not open the rear door**

Refer to Single Door Security Lockout Malfunction below.

- **If both interior door handles open the rear doors**

4. Verify both rear window switches do not open the rear windows when commanding the Child Security Lock Motors ON with a scan tool.

- **If a rear window switch continues to function**

Refer to Rear Window Lockout Inoperative below.

- **If the rear window switch is inoperative**

5. Verify the scan tool Child Security Lock/Window Lockout Switch parameter changes between On and Off when pressing the lockout switch on the S79D Window Switch - Driver.

- **If the parameter does not change**

Replace the S79D Window Switch - Driver.

- **If the parameter changes**

6. All OK.

Circuit/System Testing

Security Lockout Inoperative

1. Ignition OFF and all vehicle systems OFF, disconnect the X1 harness connector at the X50A Fuse Block-Underhood. 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 71 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 OFF, connect the X1 harness connector at the X50A Fuse Block-Underhood. Disconnect the X5 harness connector at the K9 Body Control Module, ignition ON.
4. Verify that a test lamp does not illuminate between the control circuit terminal 16 and ground.
 - **If the test lamp illuminates**
 1. Ignition OFF, disconnect the X2 harness connector at the X50A Fuse Block-Underhood.
 2. Test for less than 1 V between the K9 Body Control Module control circuit terminal 16 X5 and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V, replace the X50A Fuse Block-Underhood.
 - **If the test lamp is not illuminated**
5. Connect a 3A fused jumper wire between the control circuit terminal 16 and B+.
6. You should either hear or feel the KR114 Door Dead Lock Relay click as the relay activates.
 - **If the KR114 Door Dead Lock Relay does not activate**
 1. Ignition OFF, remove the jumper wire, disconnect the X2 harness connector at the X50A Fuse Block-Underhood.
 2. Test for infinite resistance between the K9 Body Control Module control circuit terminal 16 X5 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 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 X50A Fuse Block-Underhood.
 - **If the KR114 Door Dead Lock Relay activates**
7. Replace the K9 Body Control Module.

Single Door Security Lockout Malfunction

1. Ignition OFF, disconnect the harness connector at the appropriate A23 Door Latch Assembly-Rear. Ignition ON
2. Connect a test lamp between control circuit terminals listed below:
 - A23LR Door Latch Assembly-Left Rear - control circuit terminal 4 and control circuit terminal 7
 - A23RR Door Latch Assembly-Right Rear - control circuit terminal 2 and control circuit terminal 9
3. Verify the test lamp turns ON and OFF when commanding the Child Security Lock Motors ON and OFF with a scan tool.
 - **If the test lamp remains OFF during either of the commands**

1. Ignition OFF, remove the test lamp, disconnect the harness connector at the K9 Body Control 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 K9 Body Control Module.
 - **If the test lamp turns ON during each of the commands**
4. Test or replace the rear A23 Door Latch Assembly.

Rear Window Lockout Inoperative

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the appropriate A23 Door Latch Assembly-Rear. 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 listed below and ground:
 - A23LR Door Latch Assembly-Left Rear - ground circuit terminal 8
 - A23RR Door Latch Assembly-Right Rear - ground circuit terminal 3
 - **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 the scan tool Rear Child Security Lock Switch parameter is Inactive.
 - **If not Inactive**
 1. Ignition OFF, disconnect the harness connector at the K9 Body Control Module.
 2. Test for infinite resistance between the signal circuit terminal listed below and ground.
 - A23LR Door Latch Assembly-Left Rear - signal circuit terminal 9
 - A23RR Door Latch Assembly-Right Rear - signal circuit terminal 4
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the K9 Body Control Module.
 - **If Inactive**
5. Install a 3 A fused jumper wire between the signal and the ground circuit terminals listed below:
 - A23LR Door Latch Assembly-Left Rear - signal circuit terminal 9 and ground circuit terminal 8
 - A23LR Door Latch Assembly-Left Rear - signal circuit terminal 4 and ground circuit terminal 3
6. Verify the scan tool Rear Child Security Lock Switch parameter is Active.
 - **If not Active**
 1. Ignition OFF, remove the 3 A fused jumper wire, disconnect the harness connector at the K9 Body Control Module, ignition ON.
 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 ohms in the signal circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.
 - If less than 2 ohms, replace the K9 Body Control Module.
- **If Active**
- 7. Test or replace the A23 Door Latch Assembly-Rear.

Component Testing

Door Latch Test

1. Ignition OFF, disconnect the harness connector at the appropriate A23 Door Latch Assembly-Rear.
2. Install a 30 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 A23 Door Latch Assembly-Rear should perform the LOCK and UNLOCK functions.
 - **If the function does not perform the LOCK and UNLOCK function**

Replace the A23 Door Latch Assembly-Rear.

 - **If the function performs the LOCK and UNLOCK function**
3. All OK

Repair Instructions

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

- **Rear Side Door Lock Replacement**
- **Front Compartment Fuse Block Replacement**
- **Front Side Door Window and Multifunction Switch Replacement (Drivers Side Door)**
- **Control Module References** for Body Control Module replacement, programming and setup

POWER DOOR LOCK SWITCH MALFUNCTION - DTC B3140, B3145, B3150, OR B3155

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 B3140 00

Driver Door Unlock Switch Circuit

DTC B3150 00

Driver Front Door Lock Switch Circuit

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Central Door Lock Switch Lock Signal	B3150 00	1	1, 6	-
Central Door Lock Switch Unlock Signal	B3140 00	2	2, 7	-
Driver Door Lock Switch Lock Signal	4	4	4	-
Driver Door Lock Switch Unlock Signal	5	5	5	-
Driver Door Lock Switch Ground	-	3	-	-
Passenger Door Lock Switch Lock Signal	B3150 00	6	1, 6	-
Passenger Door Lock Switch Unlock Signal	B3140 00	7	2, 7	-
Passenger Door Lock Switch Ground	-	8	-	-
1. Central Door Lock Switch Lock Inoperative 2. Central Door Lock Switch Unlock Inoperative 3. Driver Door Lock Switch Inoperative 4. Driver Door Lock Switch Lock Inoperative 5. Driver Door Lock Switch Unlock Inoperative 6. Passenger Door Lock Switch Lock Inoperative 7. Passenger Door Lock Switch Unlock Inoperative 8. Passenger Door Lock Switch Inoperative				

Circuit/System Description

The body control module (BCM) supplies a 12 V signal to each of the door lock and door unlock signal circuits. When the door lock switches are in the open position, the voltage level in the signal circuit will be near 12 V. When any door lock switch is pressed to the lock or unlock position, the voltage level in the appropriate signal circuit will drop to 0 V and the BCM will detect the voltage drop and command the door latches to perform the requested lock or unlock command.

Conditions for Running the DTC

The system voltage is 9-16 V.

Conditions for Setting the DTC

B3140 00

The BCM detects short to ground in the unlock signal circuit for greater than 60 seconds.

B3150 00

The BCM detects a short to ground in the lock signal circuit for greater than 60 seconds.

Action Taken When the DTC Sets

B3140 00

The BCM will ignore the unlock signal and the doors will not unlock when using the central or passenger door unlock switches.

B3150 00

The BCM will ignore the lock signal and the doors will not lock when using the central or passenger door lock switches.

Conditions for Clearing the DTC

- The DTC will be current for as long as the fault is present.
- When the fault is no longer present, the DTC will be a history DTC.
- A history DTC will clear after 50 ignition cycles.

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Power Door Locks 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 door latches LOCK and UNLOCK when pushing the appropriate switch on the S13D Door Lock Switch-Driver.

- **If the door latches do not LOCK or UNLOCK**

Refer to Driver Door Lock Switch Malfunction below.

- **If the door latches LOCK or UNLOCK**

3. Verify the scan tool Central Door Lock Switch on Console parameter changes from Inactive to Lock and Unlock when pushing the appropriate switch on the S13P Door Lock Switch-Passenger.

- **If the value is always Inactive**

Refer to Passenger Door Lock Switch Malfunction below.

- **If the value changes from Inactive to Lock only**

Refer to Passenger Door Lock Switch Malfunction below.

- **If the value changes from Inactive to Unlock only**

Refer to Passenger Door Lock Switch Malfunction below.

- **If the value is always Lock or Unlock**

Refer to Lock and Unlock Circuit Test below.

- **If the parameter changes**

4. Verify the scan tool Central Door Lock Switch on Console parameter changes from Inactive to Lock and Unlock when pushing the appropriate switch on the central door lock switch.

- **If the value is always Inactive**

Refer to Central Door Lock Switch Malfunction below.

- **If the value changes from Inactive to Lock only**

Refer to Central Door Lock Switch Malfunction below.

- **If the value changes from Inactive to Unlock only**

Refer to Central Door Lock Switch Malfunction below.

- **If the value is always Lock or Unlock**

Refer to Lock and Unlock Circuit Test below.

- **If the parameter changes**

5. All OK.

Circuit/System Testing

Driver Door Lock Switch Malfunction

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the S13D Door Lock Switch-Driver. 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. Test for greater than 10 V between the signal circuit terminal 2 and ground.
 - **If 10 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.
 3. Test for less than 2 ohms in the signal circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.
 - If less than 2 ohms, replace the K9 Body Control Module.
 - **If greater than 10 V**
5. Test for greater than 10 V between the signal circuit terminal 3 and ground.
 - **If 10 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.
 3. Test for less than 2 ohms in the signal circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.

- If less than 2 ohms, replace the K9 Body Control Module.
 - **If greater than 10 V**
6. Test or replace the S13D Door Lock Switch-Driver.

Passenger Door Lock Switch Malfunction

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the S13P Door Lock Switch-Passenger. 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. Test for greater than 10 V between the signal circuit terminal 2 and ground.
 - **If 10 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.
 3. Test for less than 2 ohms in the signal circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.
 - If less than 2 ohms, replace the K9 Body Control Module.
 - **If greater than 10 V**
5. Test for greater than 10 V between the signal circuit terminal 3 and ground.
 - **If 10 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.
 3. Test for less than 2 ohms in the signal circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.
 - If less than 2 ohms, replace the K9 Body Control Module.
 - **If greater than 10 V**
6. Test or replace the S13P Door Lock Switch-Passenger.

Central Door Lock Switch Malfunction

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the S48C Multifunction Switch 1-Instrument Panel. 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 7 and ground.
 - o **If 10 ohms or greater**
 1. Ignition OFF.
 2. Test for less than 2 ohms in the ground circuit end to end.
 - o If 2 ohms or greater, repair the open/high resistance in the circuit.
 - o If less than 2 ohms, repair the open/high resistance in the ground connection.
 - o **If less than 10 ohms**
3. Ignition ON.
4. Test for greater than 10 V between the signal circuit terminal 11 and ground.
 - o **If 10 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.
 - o If less than infinite resistance, repair the short to ground on the circuit.
 3. Test for less than 2 ohms in the signal circuit end to end.
 - o If 2 ohms or greater, repair the open/high resistance in the circuit.
 - o If less than 2 ohms, replace the K9 Body Control Module.
 - o **If greater than 10 V**
5. Test for greater than 10 V between the signal circuit terminal 9 and ground.
 - o **If 10 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.
 - o If less than infinite resistance, repair the short to ground on the circuit.
 3. Test for less than 2 ohms in the signal circuit end to end.
 - o If 2 ohms or greater, repair the open/high resistance in the circuit.
 - o If less than 2 ohms, replace the K9 Body Control Module.
 - o **If greater than 10 V**
6. Test or replace the S48C Multifunction Switch 1-Instrument Panel.

Lock and Unlock Circuit Test

1. Ignition OFF, disconnect the harness connector at the S48C Multifunction Switch 1-Instrument Panel.
2. Disconnect the harness connector at the S13P Door Lock Switch-Passenger. Ignition ON
3. Verify the scan tool Central Door Lock Switch on Console parameter is Inactive.
 - o **If not Inactive**
 1. Ignition OFF, disconnect the harness connector at the K9 Body Control Module.
 2. Test for infinite resistance between the signal circuit terminal 22 at the K9 Body Control Module and ground.
 - o If less than infinite resistance, repair the short to ground on the circuit.
 3. Test for infinite resistance between the signal circuit terminal 27 at the K9 Body Control Module

and ground.

- If less than infinite resistance, repair the short to ground on the circuit.
- If infinite resistance, replace the K9 Body Control Module.

○ **If Inactive**

4. Connect the harness connector at the S13P Door Lock Switch-Passenger.
5. Verify the scan tool Central Door Lock Switch on Console parameter changes from Inactive to Lock and Unlock when pushing the appropriate switch on the S13P Door Lock Switch-Passenger.
 - **If the value is always Lock or Unlock**

Test or replace the S13P Door Lock Switch-Passenger.

○ **If the value changes from Inactive to Lock and Unlock**

6. Connect the harness connector at the S48C Multifunction Switch 1-Instrument Panel.
7. Verify the scan tool Central Door Lock Switch on Console parameter changes from Inactive to Lock and Unlock when pushing the appropriate switch on the central door lock switch.
 - **If the value is always Lock or Unlock**

Test or replace the S48C Multifunction Switch 1-Instrument Panel.

○ **If the value changes from Inactive to Lock and Unlock**

8. All OK.

Component Testing

Driver Door Lock Switch

1. Ignition OFF, disconnect the harness connector at the S13D Door Lock Switch-Driver.
2. Test for infinite resistance between the signal terminal 2 and the ground terminal 4 with the switch in the open position.

○ **If less than infinite resistance**

Replace the S13D Door Lock Switch-Driver.

○ **If infinite resistance**

3. Test for infinite resistance between the signal terminal 3 and the ground terminal 4 with the switch in the open position.

○ **If less than infinite resistance**

Replace the S13D Door Lock Switch-Driver

○ **If infinite resistance**

4. Test for less than 2 ohms between the signal terminal 2 and the ground terminal 4 with the switch in the Lock position.

- **If 2 ohms or greater**

Replace the S13D Door Lock Switch-Driver.

- **If less than 2 ohms**

5. Test for less than 2 ohms between the signal terminal 3 and the ground terminal 4 with the switch in the Unlock position.

- **If 2 ohms or greater**

Replace the S13D Door Lock Switch-Driver.

- **If less than 2 ohms**

6. All OK

Passenger Door Lock Switch

1. Ignition OFF, disconnect the harness connector at the S13P Door Lock Switch-Passenger.
2. Test for infinite resistance between the signal terminal 2 and the ground terminal 4 with the switch in the open position.

- **If less than infinite resistance**

Replace the S13P Door Lock Switch-Passenger.

- **If infinite resistance**

3. Test for infinite resistance between the signal terminal 3 and the ground terminal 4 with the switch in the open position.

- **If less than infinite resistance**

Replace the S13P Door Lock Switch-Passenger

- **If infinite resistance**

4. Test for less than 2 ohms between the signal terminal 2 and the ground terminal 4 with the switch in the Lock position.

- **If 2 ohms or greater**

Replace the S13P Door Lock Switch-Passenger.

- **If less than 2 ohms**

5. Test for less than 2 ohms between the signal terminal 3 and the ground terminal 4 with the switch in the Unlock position.

- **If 2 ohms or greater**

Replace the S13P Door Lock Switch-Passenger.

- If less than 2 ohms
6. All OK

Central Door Lock Switch

1. Ignition OFF, disconnect the harness connector at the S48C Multifunction Switch 1-Instrument Panel.
2. Test for infinite resistance between the signal terminal 9 and the ground terminal 7 with the switch in the open position.

- If less than infinite resistance

Replace the S48C Multifunction Switch 1-Instrument Panel.

- If infinite resistance

3. Test for infinite resistance between the signal terminal 3 and the ground terminal 4 with the switch in the open position.

- If less than infinite resistance

Replace the S48C Multifunction Switch 1-Instrument Panel

- If infinite resistance

4. Test for less than 2 ohms between the signal terminal 11 and the ground terminal 7 with the switch in the Lock position.

- If 2 ohms or greater

Replace the S48C Multifunction Switch 1-Instrument Panel.

- If less than 2 ohms

5. Test for less than 2 ohms between the signal terminal 9 and the ground terminal 7 with the switch in the Unlock position.

- If 2 ohms or greater

Replace the S48C Multifunction Switch 1-Instrument Panel.

- If less than 2 ohms

6. All OK

Repair Instructions

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

- **Door Lock Switch Replacement - Driver Side**
- **Door Lock Switch Replacement - Passenger Front**
- **Hazard Warning and Accessory Switch Replacement**
- **Control Module References** for BCM replacement, programming and setup

TRUNK RELEASE 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 Compartment Lid Unlatch Relay B+	2	2	-	-
Rear Compartment Lid Unlatch Relay Control	B3265 02	2	2	-
Rear Compartment Lid Unlatch Relay Ground	-	2	-	-
Rear Compartment Lid Unlatch Switch Signal	B3618 00	1	1	-
Rear Compartment Lid Unlatch Switch Ground	-	1	-	-
Rear Compartment Lid Latch Control	2	2	2	-
Rear Compartment Lid Latch Ground	-	2	-	-
1. Rear Compartment Lid Release Switch Malfunction 2. Rear Compartment Lid Release Malfunction				

Circuit/System Description

The body control module (BCM) supplies a 12 V reference voltage to the rear compartment lid unlatch switch through the release switch signal circuit. When the rear compartment lid unlatch switch is pressed, the release switch signal circuit is grounded through the rear compartment lid unlatch switch ground circuit and the reference voltage is pulled low within the BCM. In response, the BCM applies battery positive voltage to the rear compartment lid release relay control circuit, which energizes the coil side of the relay. The switch side of the rear compartment lid release relay then closes, supplying battery positive voltage through the relay and the rear compartment lid latch control circuit activating the latch so that the trunk lid may be manually raised to an open position.

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Luggage Compartment 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 Trunk Lid/Liftgate Window Exterior Unlatch Switch parameter changes between Active and Inactive when pressing and releasing the rear compartment lid unlatch switch-exterior.
 - **If the parameter does not change**

Refer to Trunk Release Switch Inoperative below
 - **If the parameter changes**
3. Verify the operation of the rear compartment lid latch when commanding the Trunk Lid Unlatch with a scan tool.
 - **If the rear compartment lid latch does not UNLATCH**

Refer to Release Actuator Inoperative below
 - **If the rear compartment lid latch does UNLATCH**
4. All OK.

Circuit/System Testing

Trunk Release Switch Inoperative

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the S58A rear compartment lid unlatch switch-exterior. 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 2 and ground.
 - o **If 10 ohms or greater**
 1. Ignition OFF.
 2. Test for less than 2 ohms in the ground circuit end to end.
 - o If 2 ohms or greater, repair the open/high resistance in the circuit.
 - o If less than 2 ohms, repair the open/high resistance in the ground connection.
 - o **If less than 10 ohms**
3. Ignition ON.
4. Verify the scan tool Trunk Lid/Liftgate Window Exterior Unlatch Switch parameter is Inactive.
 - o **If not Inactive**
 1. Ignition OFF, disconnect the harness connector at the K9 body control module.
 2. Test for infinite resistance between the signal circuit terminal 1 and ground.
 - o If less than infinite resistance, repair the short to ground on the circuit.
 - o If infinite resistance, replace the K9 body control module.
 - o **If Inactive**
5. Install a 3 A fused jumper wire between the signal circuit terminal 1 and the ground circuit terminal 2.
6. Verify the scan tool Trunk Lid/Liftgate Window Exterior Unlatch Switch parameter is Active.
 - o **If not Active**
 1. Ignition OFF, disconnect the harness connector at the K9 body control module, ignition ON.
 2. Test for less than 1 V between the signal circuit and ground.
 - o If 1 V or greater, repair the short to voltage on the circuit.
 - o If less than 1 V
 3. Test for less than 2 ohms in the signal circuit end to end.
 - o If 2 ohms or greater, repair the open/high resistance in the circuit.
 - o If less than 2 ohms, replace the K9 body control module.
 - o **If Active**
7. Test or replace the S58A rear compartment lid unlatch switch-exterior.

Release Actuator Inoperative

1. Ignition OFF and all vehicle systems OFF, disconnect the KR95B rear compartment lid unlatch relay. 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 2 and ground.
 - o **If 10 ohms or greater**
 1. Ignition OFF.
 2. Test for less than 2 ohms in the ground circuit end to end.
 - o If 2 ohms or greater, repair the open/high resistance in the circuit.
 - o If less than 2 ohms, repair the open/high resistance in the ground connection.
 - o **If less than 10 ohms**

3. Ignition ON.
4. Verify a test lamp illuminates between the B+ circuit terminal 5 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 B+ 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.
 2. Test for infinite resistance between the B+ circuit and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance,
 3. Disconnect the harness connector at the M40 rear compartment lid latch.
 4. Test for infinite resistance between the control circuit terminal 3 and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the KR95B rear compartment lid unlatch relay
 - **If the test lamp illuminates**
5. Connect a test lamp between the control circuit terminal 1 and the ground circuit terminal 2.
6. Verify the test lamp briefly turns ON when commanding the Trunk Lid Unlatch with a scan tool.
 - **If the test lamp is always OFF**
 1. Ignition OFF, disconnect the harness connector at the K9 body control module.
 2. Test for infinite resistance between the 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 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 K9 body control module.
 - **If the test lamp is always ON**
 1. Ignition OFF, disconnect the harness connector at the K9 body control module, ignition ON.
 2. Test for less than 1 V between the control circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V, replace the K9 body control module.
 - **If the test lamp turns ON and OFF**
7. Verify that a test lamp does not illuminate between the control circuit terminal 3 and ground.
 - **If the test lamp illuminates**

Repair the short to voltage on the control circuit

- **If the test lamp does not illuminate**
- 8. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the M40 rear compartment lid latch. It may take up to 2 minutes for all vehicle systems to power down.
- 9. Test for less than 10 ohms between the ground circuit terminal 2 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**
- 10. Connect the harness connector at the M40 rear compartment lid latch
- 11. Ignition ON, connect a 10 A fused jumper wire between the B+ circuit terminal 5 and the control circuit terminal 3.
- 12. Verify the M40 rear compartment lid latch is activated.
 - **If the M40 rear compartment lid latch does not activate**
 1. Ignition OFF, disconnect the harness connector at the M40 rear compartment lid latch.
 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 M40 rear compartment lid latch.
 - **If the M40 rear compartment lid latch activates**
- 13. Test or replace the KR95B rear compartment lid unlatch relay.

Component Testing

Rear Compartment Lid Latch

1. Ignition OFF, disconnect the harness connector at the M40 rear compartment lid latch.
2. Install a 10 A fused jumper wire between the control terminal 1 and 12 V. Install a jumper wire between the ground terminal 2 and ground.
3. Verify the M40 rear compartment lid latch activates
 - **If the M40 rear compartment lid latch does not activate.**

Replace the M40 rear compartment lid latch.
 - **If the M40 rear compartment lid latch does activate.**
4. All OK

Trunk Release Switch

1. Ignition OFF, disconnect the harness connector at the S58A rear compartment lid unlatch switch-exterior.
2. Test for infinite resistance between the signal terminal 1 and the ground terminal 2 with the switch in the

open position.

- **If less than infinite resistance**

Replace the S58A rear compartment lid unlatch switch-exterior.

- **If infinite resistance**

3. Test for less than 3 ohms between the signal terminal 1 and the ground terminal 2 with the switch in the closed position.

- **If 3 ohms or greater**

Replace the S58A rear compartment lid unlatch switch-exterior.

- **If less than 3 ohms**

4. All OK

Relay Test

1. Ignition OFF, disconnect the KR95B rear compartment lid unlatch relay.
2. Test for 60-200 ohms between terminals 1 and 2.

- **If less than 60 ohms or greater than 200 ohms**

Replace the KR95B rear compartment lid unlatch relay.

- **If between 60-200 ohms**

3. Test for infinite resistance between the terminals listed below:

- 4 and 2
- 4 and 5
- 4 and 1
- 5 and 1

- **If less than infinite resistance**

Replace the KR95B rear compartment lid unlatch relay.

- **If infinite resistance**

4. Install a 3 A fused jumper wire between relay terminal 1 and 12 V. Install a jumper wire between relay terminal 2 and ground.

5. Test for less than 2 ohms between terminals 5 and 3.

- **If 2 ohms or greater**

Replace the KR95B rear compartment lid unlatch relay.

- **If less than 2 ohms**

6. All OK

Repair Instructions

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

- **High Mount Stop Lamp Replacement**
- **Rear Compartment Lid Latch Replacement (With ATS, ATG)**
- **Relay Replacement (Within an Electrical Center)** , **Relay Replacement (Attached to Wire Harness)**
- **Control Module References** for BCM replacement, programming and setup

TRUNK AJAR INDICATOR 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
Signal	1	2	2	-
Ground	-	3	-	-
1. Trunk Ajar Message Always Illuminated 2. Trunk Ajar Message Inoperative 3. Trunk Release Inoperative				

Circuit/System Description

The Body Control Module (BCM) supplies a 12 V signal to the rear compartment lid ajar switch signal circuit. When the rear compartment lid latch releases the rear compartment lid, the rear compartment lid ajar switch, which is internal to the rear compartment lid latch, is supplied with ground which causes the trunk ajar switch signal circuit to be pulled low. The BCM interprets this and communicates via serial data to the driver information center which will display the Trunk Open message.

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Door 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 Rear Closure Ajar Switch parameter changes between Inactive and Active when opening and closing the trunk.
 - **If the parameter does not change**

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

Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the M40 Rear Compartment Lid Latch. 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 2 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 the scan tool Rear Closure Ajar Switch parameter is Inactive.
 - **If not Inactive**
 1. Ignition OFF, disconnect the harness connector at the K9 Body Control Module.
 2. Test for infinite resistance between the signal circuit terminal 4 and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.

- If infinite resistance, replace the K9 Body Control Module.
- **If Inactive**
- 5. Install a 3 A fused jumper wire between the signal circuit terminal 4 and the ground circuit terminal 2.
- 6. Verify the scan tool Rear Closure Ajar Switch parameter is Active.
 - **If not Active**
 - 1. Ignition OFF, remove the jumper wire, disconnect the harness connector at the K9 Body Control Module, ignition ON.
 - 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 ohms in the signal circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.
 - If less than 2 ohms, replace the K9 Body Control Module.
 - **If Active**
- 7. Test or replace the M40 Rear Compartment Lid Latch.

Component Testing

1. Ignition OFF, disconnect the harness connector at the M40 Rear Compartment Lid Latch.
2. Test for infinite resistance between the signal terminal 4 and the ground terminal 2 with the switch in the open position.
 - **If less than infinite resistance**
 - Replace the M40 Rear Compartment Lid Latch.
 - **If infinite resistance**
3. Test for less than 3 ohms between the signal terminal 4 and the ground terminal 2 with the switch in the closed position.
 - **If 3 ohms or greater**
 - Replace the M40 Rear Compartment Lid Latch.
 - **If less than 3 ohms**
4. All OK

Repair Instructions

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

- **Rear Compartment Lid Latch Replacement (With ATS, ATG)**
- **Control Module References** for BCM replacement, programming and setup

DOOR WILL NOT OPEN/CLOSE, DOOR BINDING, OR LOCKS, HANDLES, OR CYLINDERS DO NOT FUNCTION

Door Will Not Open/Close, Door Binding, or Locks, Handles, or Cylinders Do Not Function

Step	Action	Yes	No
DEFINITION: This diagnostic table is designed to address the mechanical diagnosis of the door latching system, which could include the inside and outside handles, latch rods/cables, latches, or latch cylinders.			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle
2	Were you sent here from a Vehicle Access Symptom Table?	Go to Step 3	Go to Symptoms - Vehicle Access
3	Does the door open with the outside handle?	Go to Step 4	Go to Step 10
4	Does the door open with the inside handle?	Go to Step 5	Go to Step 11
5	Does the manual latch knob latch and unlatch the latch smoothly without binding?	Go to Step 6	Go to Step 12
6	Does the door latch switch and/or the keyless entry transmitter latch and unlatch the door latch or door latches?	Go to Step 7	Go to Step 14
7	Is the outside key cylinder loose or does it rattle or fall out? (if equipped)	Go to Step 15	Go to Step 8
8	Does the outside key cylinder latch and unlatch the latch and function smoothly without binding? (if equipped)	Go to Step 9	Go to Step 16
9	Does the door bind, does it take excessive effort to open, or is it misaligned?	Go to Step 17	Go to Step 18
10	If the door will not open with the outside handle, or the handle is obstructed or loose, check the following: • For cold weather freezing, thaw as necessary. • Check the handle for foreign material. Remove material as necessary. • Check the handle grab bar for looseness or damage. Repair as necessary. • Check the handle for full travel. If the issue is not resolved, remove the trim panel as necessary to gain access to door hardware and check the following: • Check the handle chassis for loose fasteners, broken chassis inserts, loose or missing spring, or a loose, missing or bent rod lever. • Check for bent rod to the outside handle.		

	• Check that the handle grab bar engages the rod lever properly. • Check for interference of rod and handle to other components in the door. • Check that handle rod is securely attached at both latch and handle. • Check if rod is positioned properly in the clip on the latch. At rest position, the handle should be fully against the down stop and the latch lever should be at the bottom of its travel. Correct by opening clip, repositioning rod in clip and closing clip till it snaps, as necessary.		
	Did you find and correct the condition?	Go to Step 18	Go to Step 11
11	Door will not open with the inside handle: • Check the inside handle for foreign material. Remove material as necessary. • Check that the handle is secure. Correct as necessary. • If rear door, verify child security is not engaged. • Remove the trim panel as necessary to and check the inside handle rod/cable attachments at both the latch and handle. If the cable is kinked or pinched, correct as necessary.		
	Did you find and correct the condition?	Go to Step 18	Go to Step 12
12	The door will not or is difficult to unlatch with the inside manual latch knob: • For cold weather freezing, thaw as necessary • Check the latch knob for a loose condition. Repair or replace as necessary. Check the latch knob for binding or dragging using the following procedure: 1. Remove the latch knob. 2. If condition goes away, check for drag/interference of the latch knob against the inner belt seal, or the trim panel. Correct as required. If further action is required, remove the trim panel and check		

	the latch rod and latch knob for interference with the following: • Water deflector/paper • Side impact foam • Rod grommet in sheet metal • Glass run channel • Other rods or cables • Trim panel		
	Did you find and correct the condition?	Go to Step 18	Go to Step 13
13	With a manual lock, if the latch will not function properly do the following: 1. Function the lock/unlatch lever on the latch to unlatch the latch. Check for high internal resistance. 2. With the door open, manually close the latch with a screwdriver. 3. Check the latch for internal binding by actuating the latch with the inside door handle lever. 4. Manually close the latch with a screwdriver again. 5. Check the latch for internal binding by actuating the latch with the outside door handle lever.		
	Did you find and correct the condition?	Go to Step 18	Go to Step 14
14	If power locks are included in vehicle options and do not function with either the keyless entry transmitter or switch: 1. For cold weather freezing, thaw as necessary. 2. Remove trim pad as required and check the following: • Verify door harness has appropriate power connectors for switches and latch. • Check harness connector pins for corrosion. • Assure wire harness connectors are seated and locked properly at latch and switch. Remove and re-seat if required. • Check door harness for cuts/chafing/corrosion. Correct/replace as required. • Check for 12V at latch and door switch. Correct/proceed accordingly. • Check BCM for trouble codes. Correct/proceed accordingly.		

	3. If power locks still do not function do the following: 1. Remove latch from door cavity. 2. Connect latch to electrical connector outside the door. 3. Function power lock/unlatch switch in both latch and unlatch directions. Watch for lock/unlatch lever on latch to move completely from one position to the other. 4. If lever does not move, remove connector from old latch and attach to new latch outside of door cavity. 5. Verify new latch is functional, if so, attach rods and install new latch in door.		
	Did you find and correct the condition?	Go to Step 18	Go to Step 15
15	If the key cylinder is loose do the following: • Remove the trim if necessary. • Check that the retaining clip is properly seated. (if equipped) • Check that the fastener is properly torqued. (if equipped)		
	Did you find and correct the condition?	Go to Step 18	Go to Step 16
16	The outside key cylinder will not latch and unlatch the latch and function smoothly without binding: 1. For cold weather freezing, thaw as necessary 2. Remove trim if required. 3. Check that the key cylinder rod is securely attached both to the key cylinder pawl and the latch. 4. Check that key cylinder lever, rod and latch lever are free of interferences. Remove interferences as required. 5. Check that latch cylinder rod is routed properly. Re-route as required. 6. Remove rod from latch cylinder and actuate cylinder. Check for internal resistance. Lubricate latch cylinder as required 7. Verify Cylinder rotates with vehicle key. If not, code and replace cylinder to match vehicle key. See latch cylinder coding and replacing.		

	Did you find and correct the condition?	Go to Step 18	Go to Step 17
17	The door is difficult to open: • Check for interference with the fender, adjacent door, body opening or door striker and adjust as necessary. • Check for binding door hinges. Lubricate or align/adjust as necessary. • Check the door check link for binding. Lubricate as necessary. • Adjust the door as necessary. Did you find and correct the condition?	Go to Step 18	Go to the Door Adjustment procedure
18	Verify proper operation of the door closing system. • Outside handle • Inside handle • Manual lock/unlatch ◦ Outside key cylinder ◦ Inside latch knob ◦ Double pull handle • Power lock/unlatch ◦ Key fob ◦ Door switches • Door opening/closing effort Is the condition still present?	Go to Step 1	System OK

REPAIR INSTRUCTIONS

FRONT SIDE DOOR INSIDE HANDLE CABLE REPLACEMENT

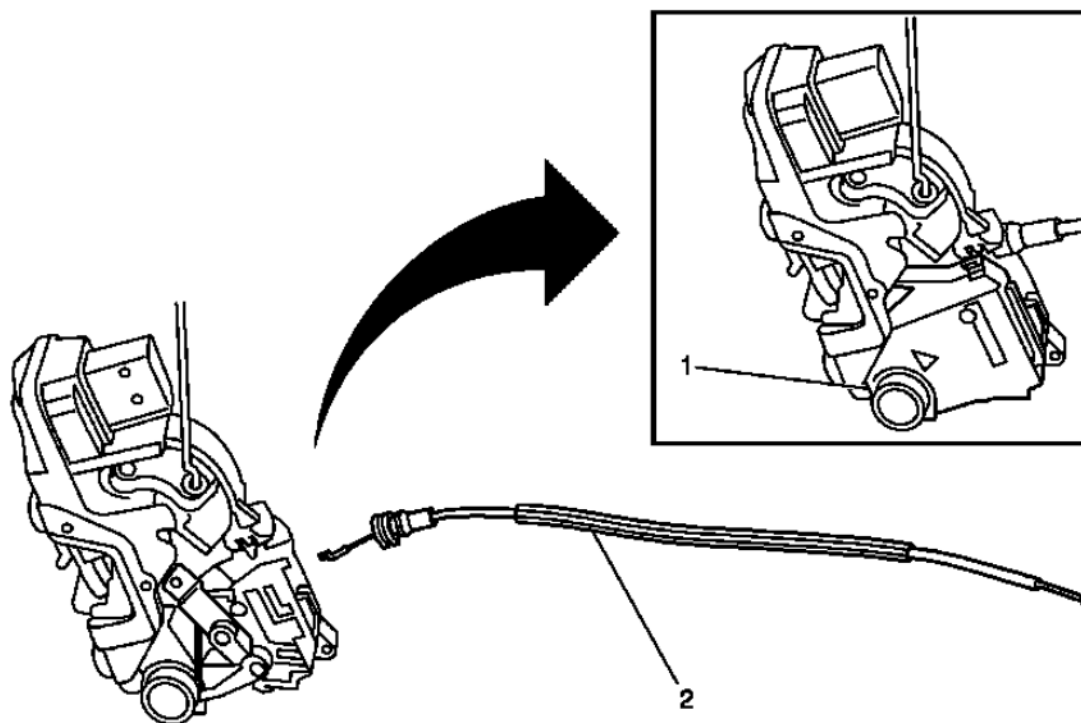


Fig. 6: Rear Side Door Inside Handle Cable & Cover
 Courtesy of GENERAL MOTORS COMPANY

Front Side Door Inside Handle Cable Replacement

Callout	Component Name
Preliminary Procedure Remove the front side door lock. Refer to Front Side Door Lock Replacement .	
1	Front Side Door Inside Handle Cable Cover TIP: Open the front side door inside handle cable cover to access and release the front side door inside handle cable.
2	Front Side Door Inside Handle Cable

REAR SIDE DOOR INSIDE HANDLE CABLE REPLACEMENT

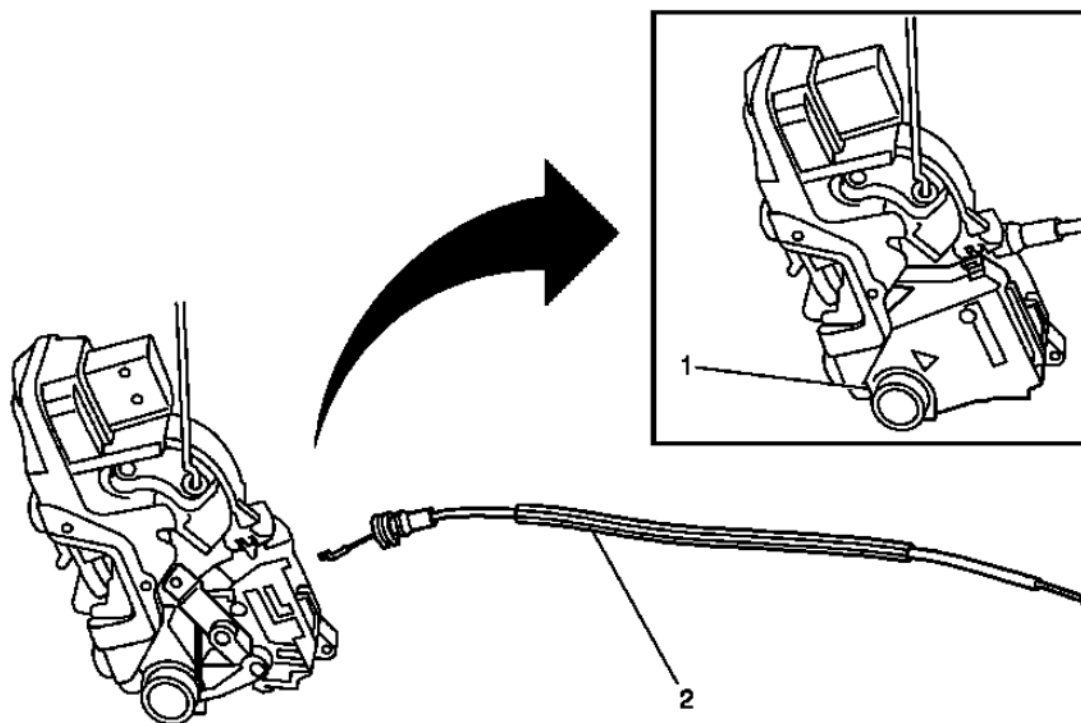


Fig. 7: Rear Side Door Inside Handle Cable & Cover
 Courtesy of GENERAL MOTORS COMPANY

Rear Side Door Inside Handle Cable Replacement

Callout	Component Name
Preliminary Procedure Remove the rear side door lock. Refer to Rear Side Door Lock Replacement .	
1	Rear Side Door Inside Handle Cable Cover NOTE: Open the rear side door inside handle cable cover to access and release the rear side door inside handle cable.
2	Rear Side Door Inside Handle Cable Procedure 1. Transfer components as necessary. 2. Inspect the locking system for proper operation before installing the door trim.

FRONT SIDE DOOR LOCK CYLINDER REPLACEMENT

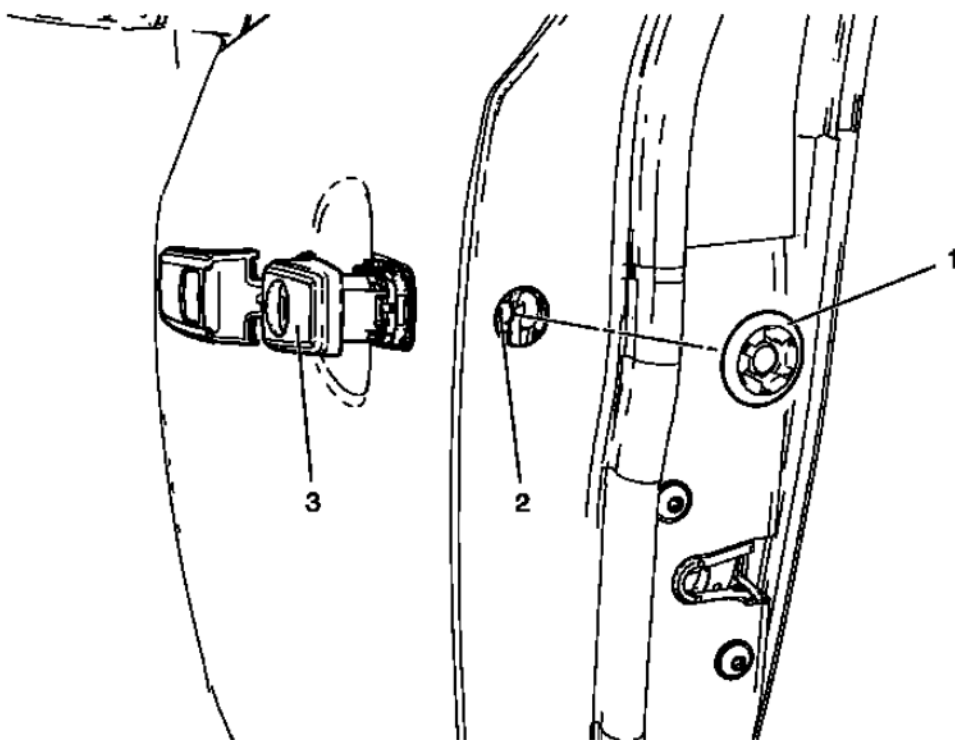


Fig. 8: Front Side Door Lock Cylinder, Bolt & Access Plug
 Courtesy of GENERAL MOTORS COMPANY

Front Side Door Lock Cylinder Replacement

Callout	Component Name
1	Front Side Door Lock Cylinder Screw Cover Procedure 1. Do Not remove the inside door trim. 2. Use a flat-bladed tool to remove the cylinder opening access cover.
2	Front Side Door Lock Cylinder Screw CAUTION: Refer to <u>Fastener Caution</u> Procedure 1. Do Not remove the lock cylinder screw completely from the housing. Unscrew the screw to a hard stop, remove the lock cylinder. 2. It is not necessary to remove the outside door handle or housing to replace the lock cylinder.

	Tighten 5 N.m (44 lb in)
3	Front Side Door Lock Cylinder Procedure 1. Pull the lock cylinder from the housing. 2. Remove the lock cylinder bezel from the cylinder. 3. Use a suitable tool to release the lock cylinder bezel. NOTE: Pull the outside handle to release the door lock cylinder.

REAR COMPARTMENT LID LOCK CYLINDER REPLACEMENT

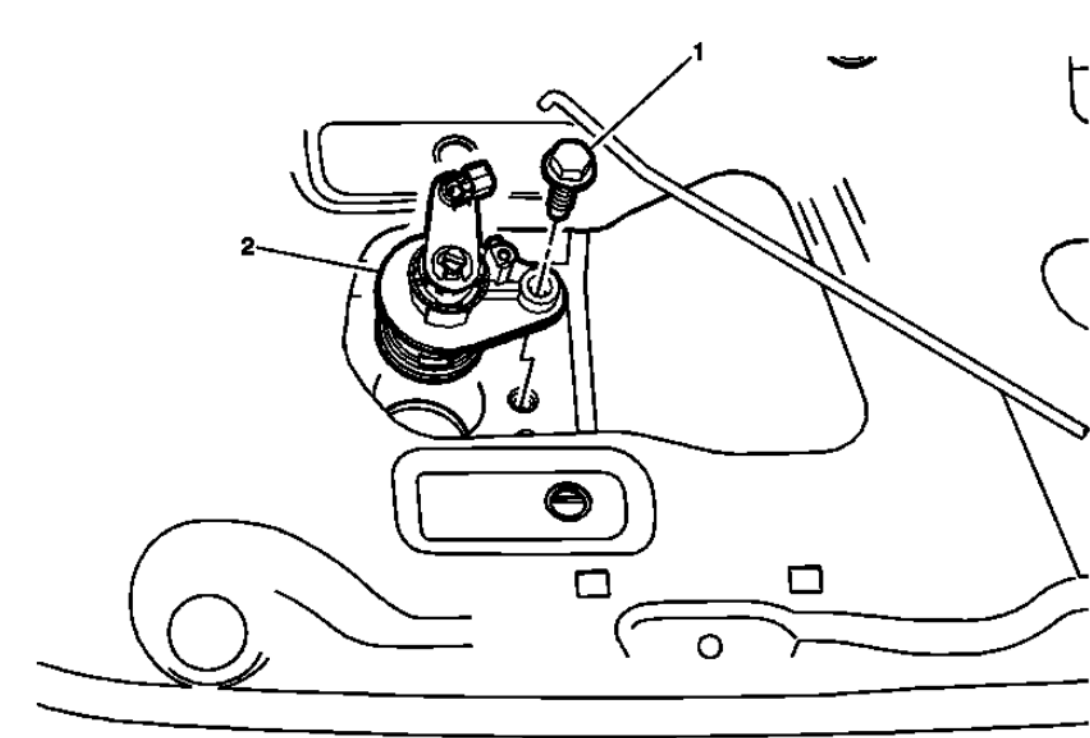


Fig. 9: Rear Compartment Lid Lock Cylinder
 Courtesy of GENERAL MOTORS COMPANY

Rear Compartment Lid Lock Cylinder Replacement

Callout	Component Name
Preliminary Procedure Remove the rear compartment lid inner panel trim. Refer to <u>Rear Compartment Lid Inner Panel Trim Replacement</u> .	

1	Rear Compartment Lid Lock Cylinder Bolt CAUTION: Refer to <u>Fastener Caution</u> . Tighten 3 N.m (26 lb in)
2	Rear Compartment Lid Lock Cylinder Procedure Disconnect the rear compartment lock cylinder lock rod.

FRONT SIDE DOOR OUTSIDE HANDLE REPLACEMENT (BASE)

Removal Procedure

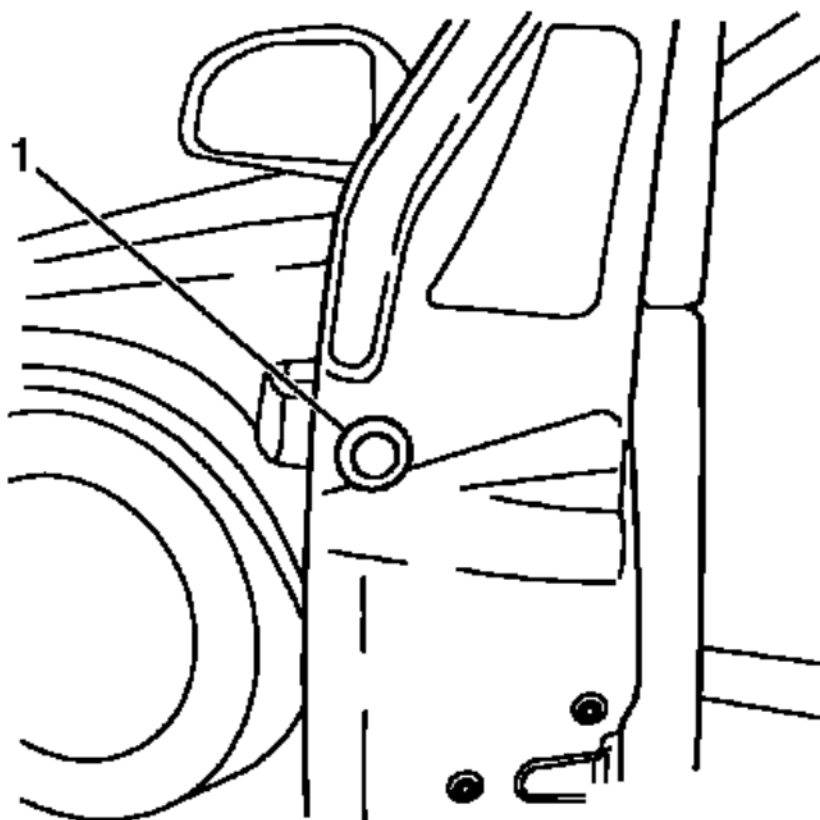


Fig. 10: Cover Cap

Courtesy of GENERAL MOTORS COMPANY

NOTE: USE HAND TOOL ONLY. Using a battery operated gun or power tool can BREAK the door handle bracket.

1. Remove the cover cap that conceals the screw (1) from the inside edge of the door.

Using a small flat-bladed tool, release the cover cap from the door.

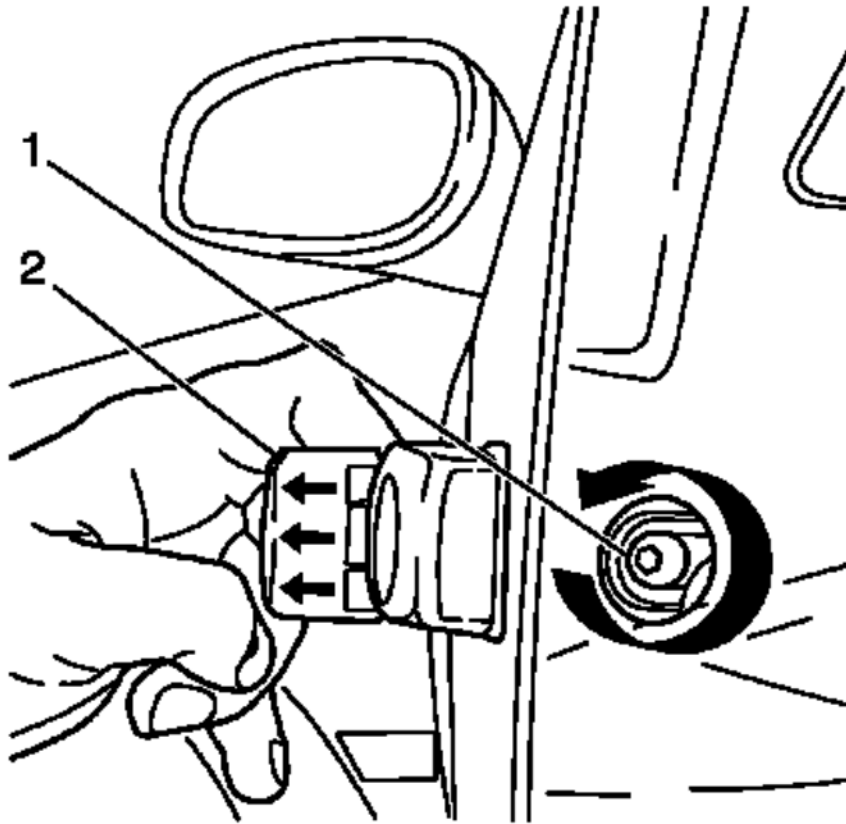


Fig. 11: Securing Door Outside Handle In Pulled Position
Courtesy of GENERAL MOTORS COMPANY

NOTE: The door outside handle (2) must now be secured in the pulled position.

2. Remove the door handle from the door.
 1. Pull the door handle (2) outwards and hold.

NOTE: USE HAND TOOL ONLY. DO NOT TURN THE SCREW PAST 12.5 ROTATIONS TOTAL, this will break the door handle bracket.

2. While holding handle (2) in the full open position, using a manual screwdriver loosen the screw (1) TEN full turns. The handle (2) will stay in the full open position without being held.



Fig. 12: Handle Cover

Courtesy of GENERAL MOTORS COMPANY

3. Remove the bezel with cylinder / cover and blank cylinder (1) from the door. If unable to remove the bezel, complete one full turn of the screw at a time until bezel can be released. DO NOT TURN MORE THAN 2.5 ROTATIONS.

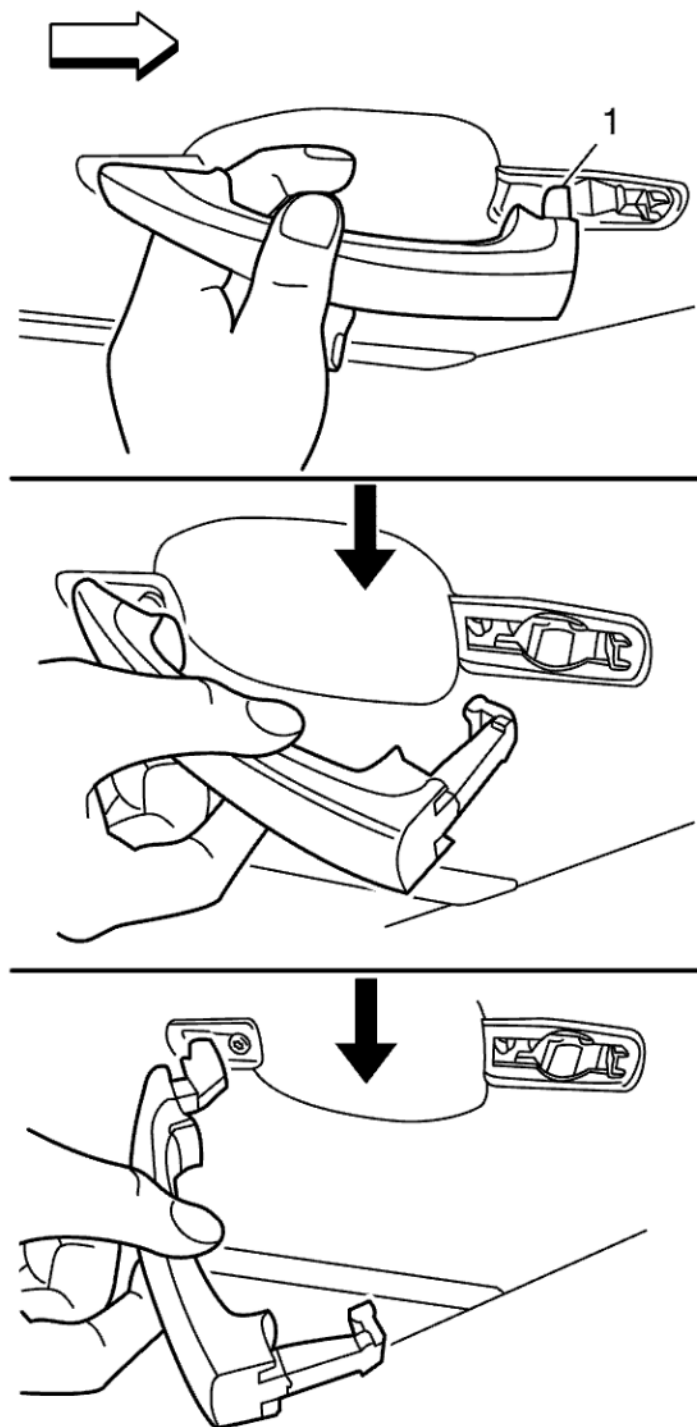


Fig. 13: Pulling Side Door Outside Handle To Rear
Courtesy of GENERAL MOTORS COMPANY

3. Remove the door handle (1) from the door as follows:
 1. Slide the door handle rearward releasing it from the door handle bracket.

2. Open the door handle fully.
3. Remove the door handle from the door.

Installation Procedure

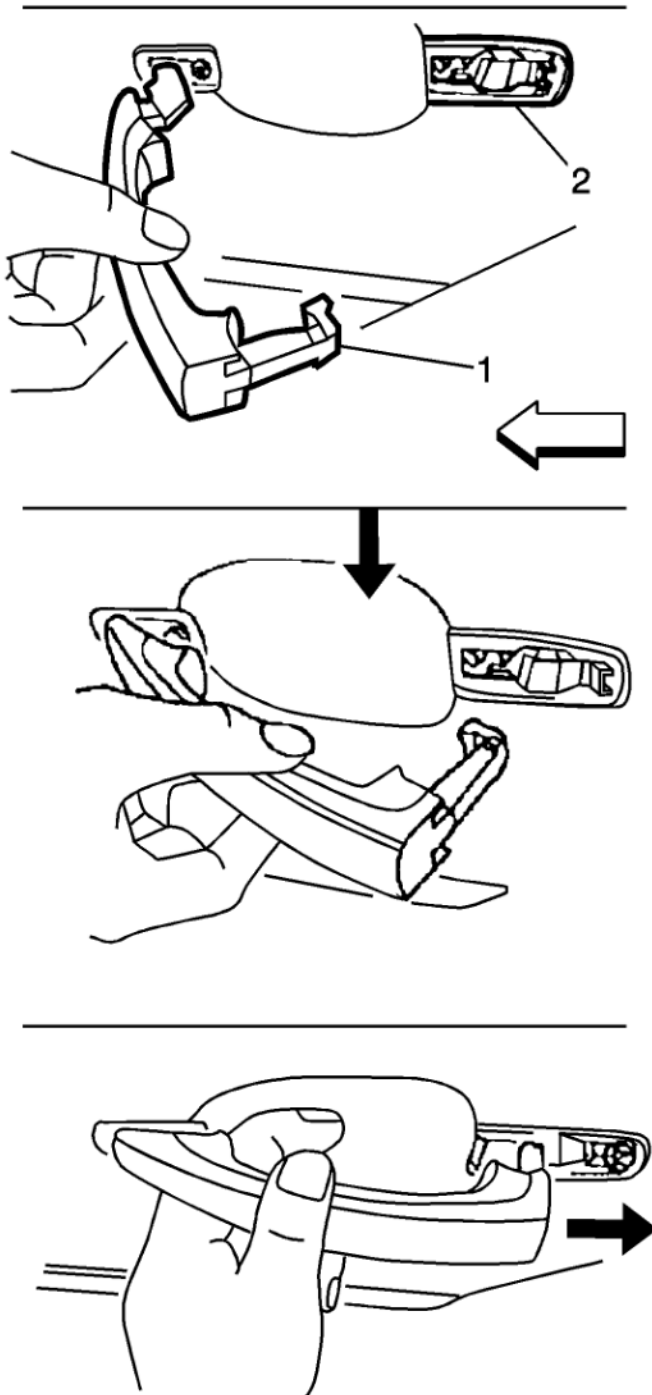


Fig. 14: Door Handle

Courtesy of GENERAL MOTORS COMPANY

1. Install the door handle (1) to the door (2) as follows:
 1. Insert the door handle into the door handle pocket.
 2. Slide the door handle forward securing it into the door handle bracket.



Fig. 15: Side Door Outside Handle

Courtesy of GENERAL MOTORS COMPANY

NOTE: Handle will snap back to flush condition, continue to turn the fastener in the clockwise (right) direction until proper torque is reached.

2. Install the bezel with cylinder / cover and blank cylinder (1) in the door.

Hold the bezel or cover flush to the door sheet metal and turn the cylinder clamp screw (2) until proper torque is reached.

3. Tighten the screw to 6 (53 lb in).

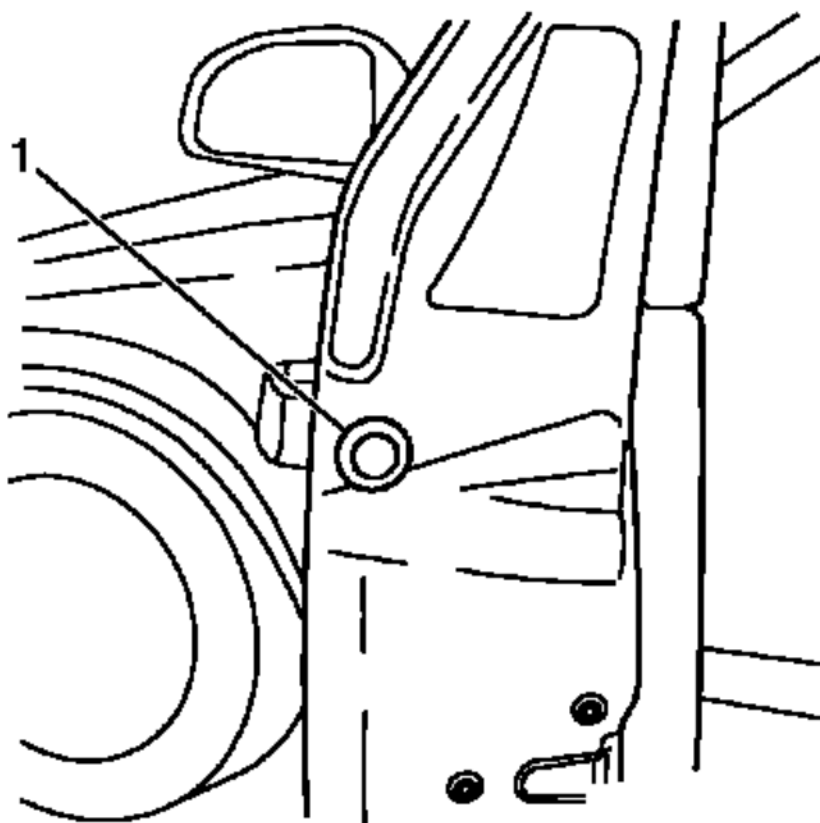


Fig. 16: Cover Cap

Courtesy of GENERAL MOTORS COMPANY

4. Install the cover cap that conceals the screw (1) to the inside edge of the door.
5. Ensure that the door lock system operates properly.

FRONT SIDE DOOR OUTSIDE HANDLE REPLACEMENT (PASS KEY ENTRY ATH)

Removal Procedure

NOTE: **USE HAND TOOL ONLY.** Using a battery operated gun or power tool can **BREAK** the door handle bracket.

1. Remove the front side door trim panel. Refer to [Front Side Door Trim Replacement](#) .
2. Remove the door water deflector.
3. Move the window to the full up position.
4. Disconnect the electrical connector from the door handle for the pass key entry (ATH).

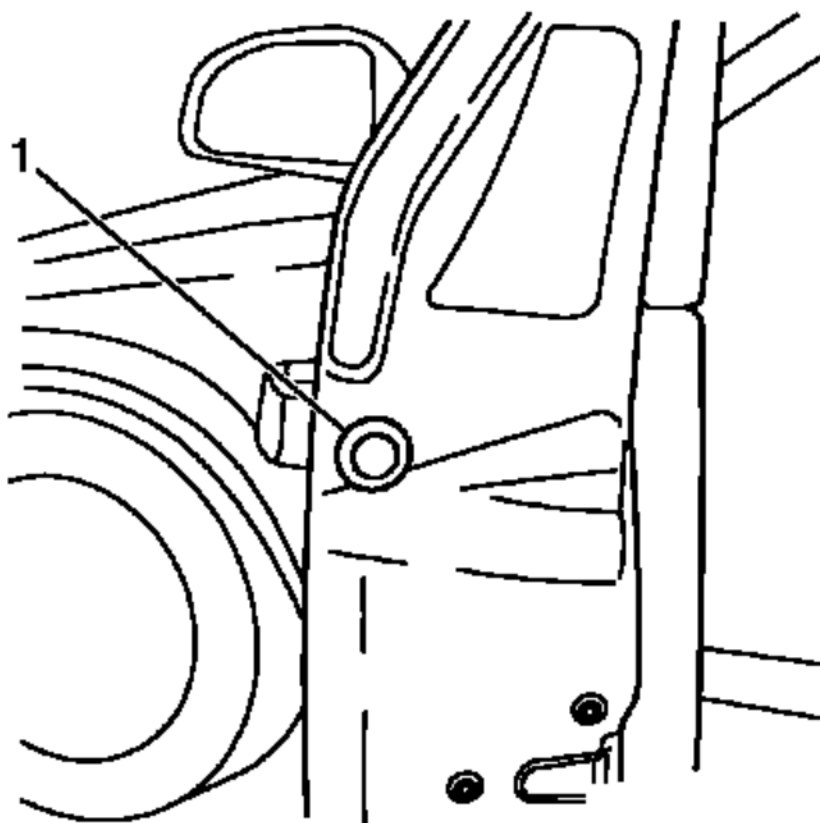


Fig. 17: Cover Cap

Courtesy of GENERAL MOTORS COMPANY

5. Remove the cover cap that conceals the screw (1) from the inside edge of the door.

Using a small flat-bladed tool, release the cover cap from the door.

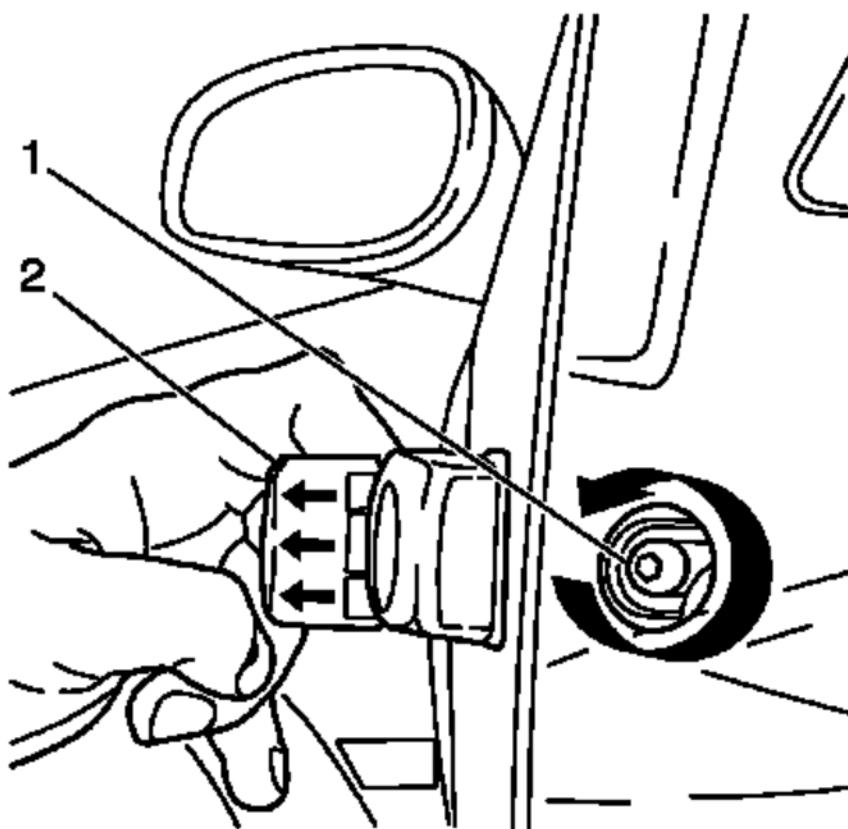


Fig. 18: Securing Door Outside Handle In Pulled Position
Courtesy of GENERAL MOTORS COMPANY

NOTE: The door outside handle (2) must now be secured in the pulled position.

6. Remove the door handle from the door.
 1. Pull the door handle (2) outwards and hold.

NOTE: USE HAND TOOL ONLY. DO NOT TURN THE SCREW PAST 12.5 ROTATIONS TOTAL, this will break the door handle bracket.

2. While holding handle (2) in the full open position, using a manual screwdriver loosen the screw (1) TEN full turns. The handle (2) will stay in the full open position without being held.



Fig. 19: Handle Cover

Courtesy of GENERAL MOTORS COMPANY

3. Remove the bezel with cylinder / cover and blank cylinder (1) from the door. If unable to remove the bezel, complete one full turn of the screw at a time until bezel can be released. DO NOT TURN MORE THAN 2.5 ROTATIONS.



Fig. 20: Handle Cover

Courtesy of GENERAL MOTORS COMPANY

7. Remove the bezel with cylinder / cover with blank cylinder (1) from the door.

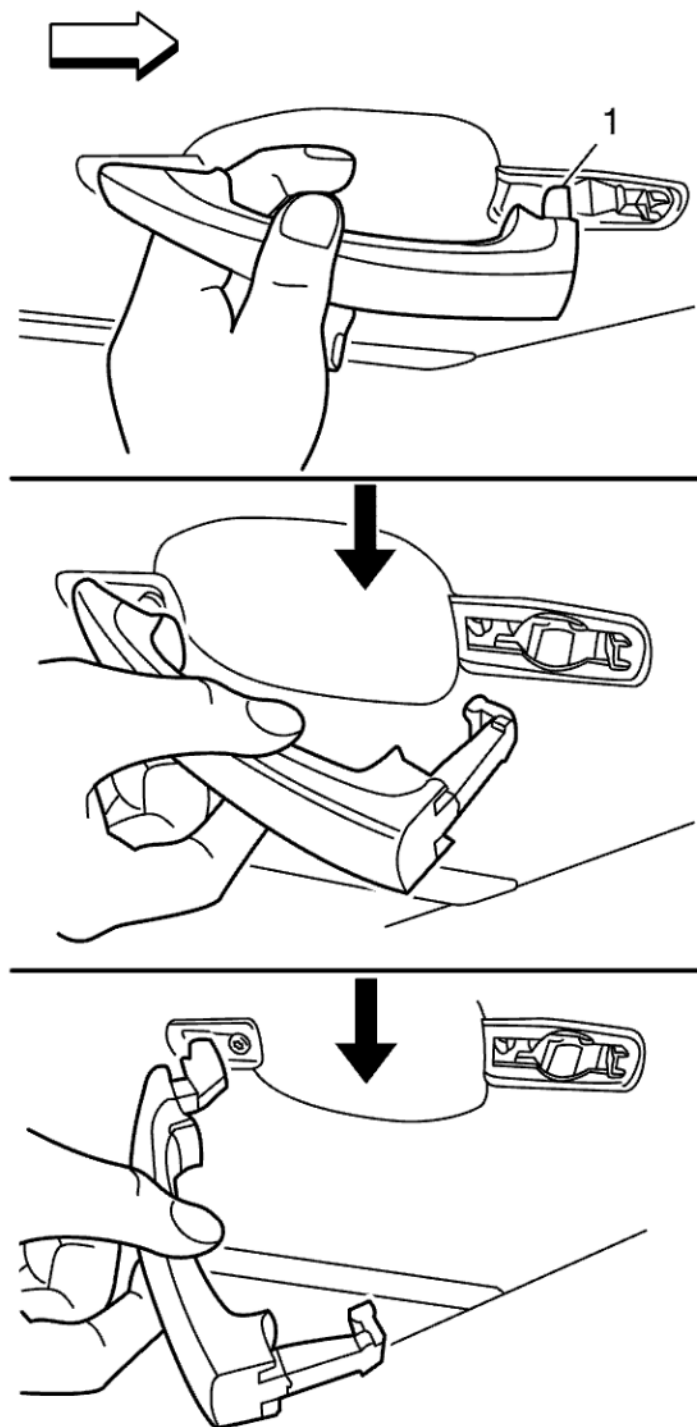


Fig. 21: Pulling Side Door Outside Handle To Rear
Courtesy of GENERAL MOTORS COMPANY

8. Remove the door handle (1) from the door as follows:
 1. Slide the door handle rearward releasing it from the door handle bracket.

2. Open the door handle fully.
3. Remove the door handle from the door.

Installation Procedure

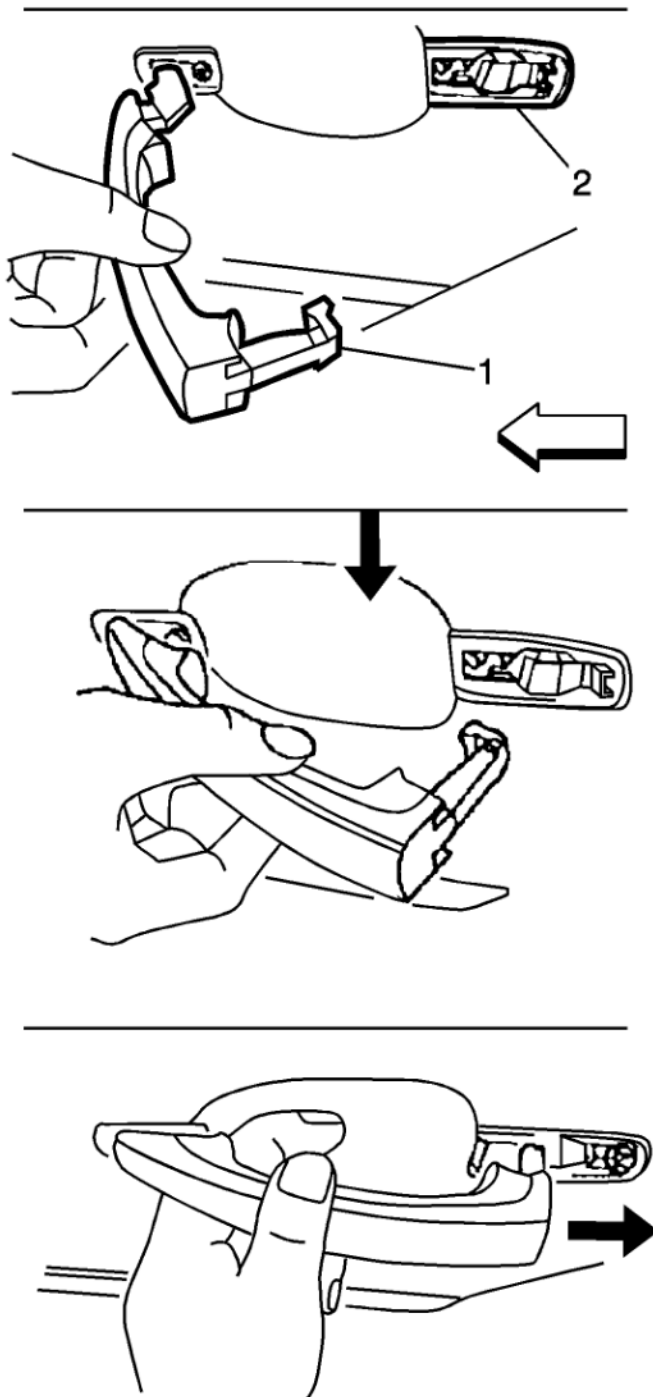


Fig. 22: Door Handle

Courtesy of GENERAL MOTORS COMPANY

1. Install the door handle (1) to the door (2) as follows:
 1. Insert the door handle into the door handle pocket.
 2. Slide the door handle forward securing it into the door handle bracket.



Fig. 23: Side Door Outside Handle

Courtesy of GENERAL MOTORS COMPANY

NOTE: Handle will snap back to flush condition, continue to turn the fastener in the clockwise (right) direction until proper torque is reached.

2. Install the bezel with cylinder / cover and blank cylinder (1) in the door.

Hold the bezel or cover flush to the door sheet metal and turn the cylinder clamp screw (2) until proper torque is reached.

3. Tighten the screw to 6 (53 lb in).

4. Connect the electrical connector to the door handle for the pass key entry (ATH).

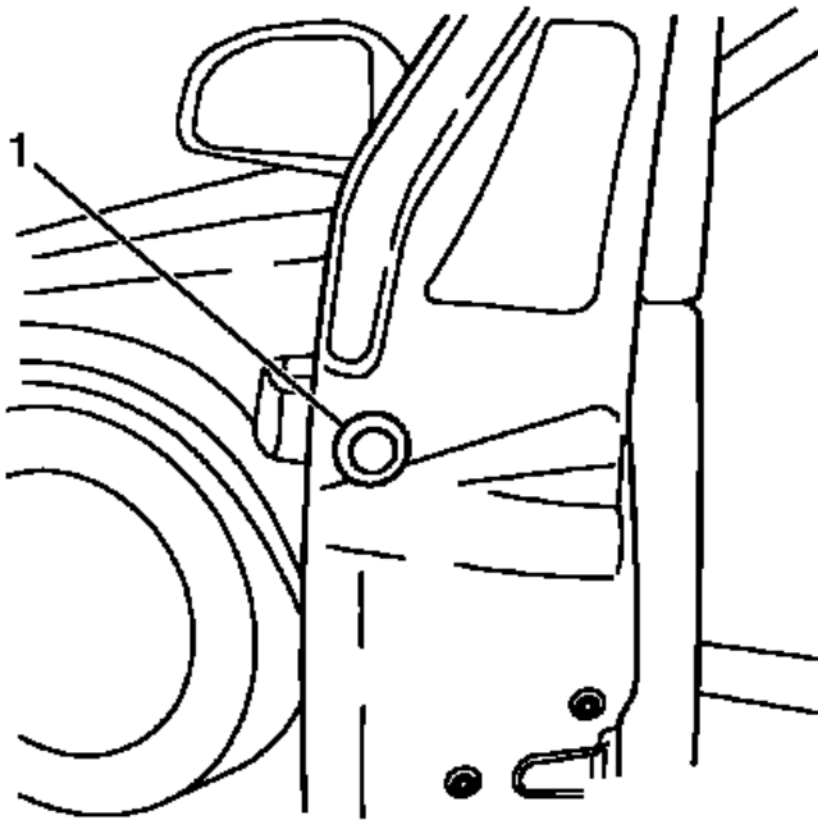


Fig. 24: Cover Cap

Courtesy of GENERAL MOTORS COMPANY

5. Install the cover cap that conceals the screw (1) to the inside edge of the door.
6. Vehicle with passive entry / passive start do the following:
 1. Close all doors on the vehicle.
 2. With the key fob, lock all the doors.
 3. Put key fob in pocket.
 4. Walk up to every door and open (Note: Each door should open, if door does not open then further diagnostic needs to be completed).
7. Install the door water deflector.
8. Install the front side door trim panel. Refer to **Front Side Door Trim Replacement** .

FRONT AND REAR SIDE DOOR OUTSIDE HANDLE ROD CLIP REPLACEMENT

Removal Procedure

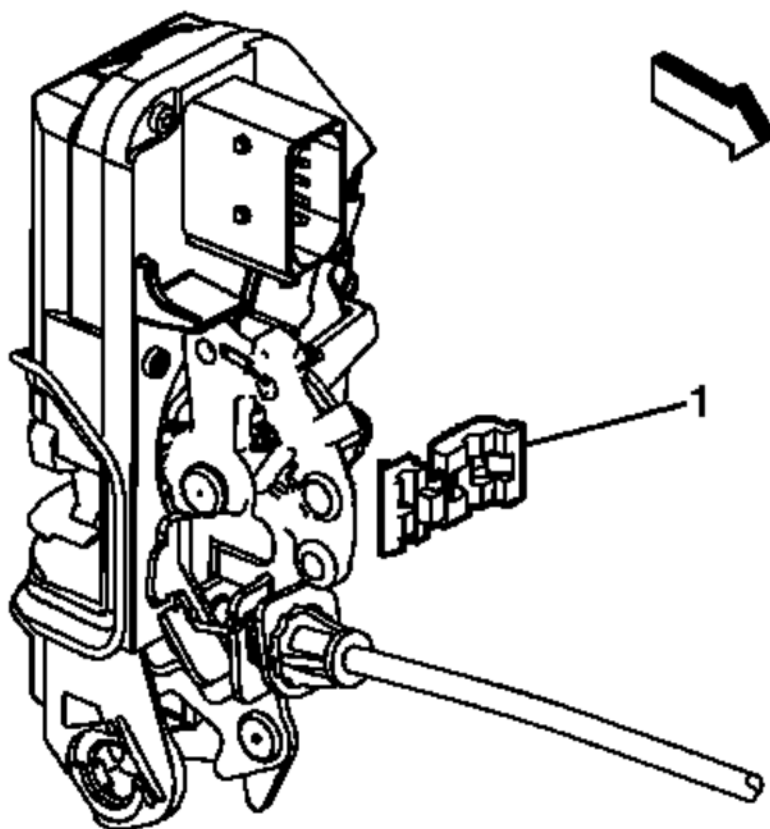


Fig. 25: Outside Door Handle Rod Clip
Courtesy of GENERAL MOTORS COMPANY

NOTE: It maybe necessary to remove the front or rear side door latch from some of the vehicles to access the rod clip, refer to the appropriate procedure in this sub-section.

1. Using the appropriate tool, open the outside door handle rod clip (1) on the latch.

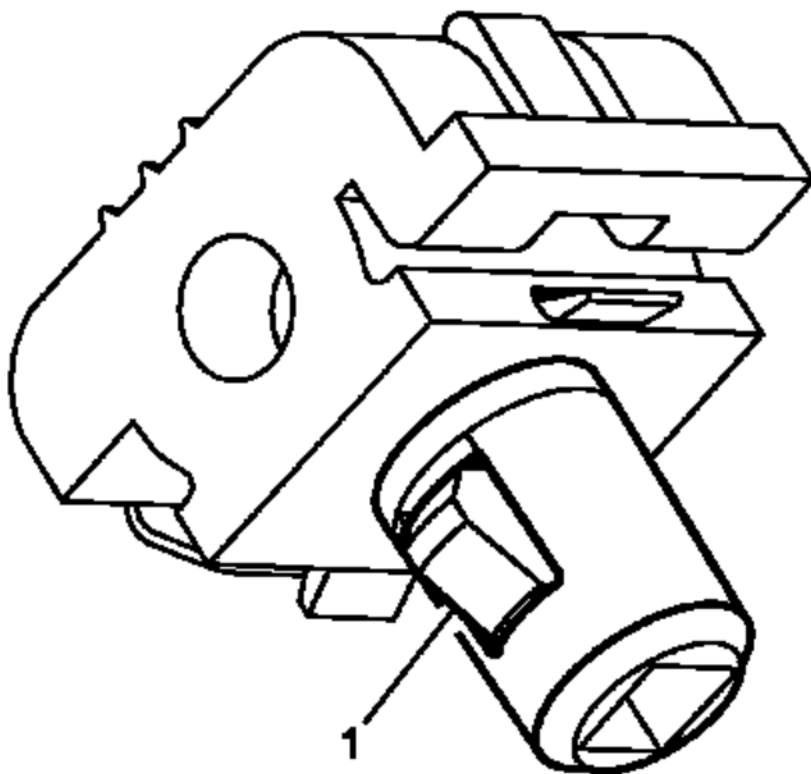


Fig. 26: Retaining Tabs

Courtesy of GENERAL MOTORS COMPANY

NOTE: The clip for the outside door handle rod is designed for one use only, a new clip Must be installed to the door latch to retain the outside handle rod.

NOTE: Use the appropriate tool to push in on the retaining tabs (1) located on each side of the old clip to remove.

2. Remove the old outside door handle rod clip from the door latch.

Installation Procedure

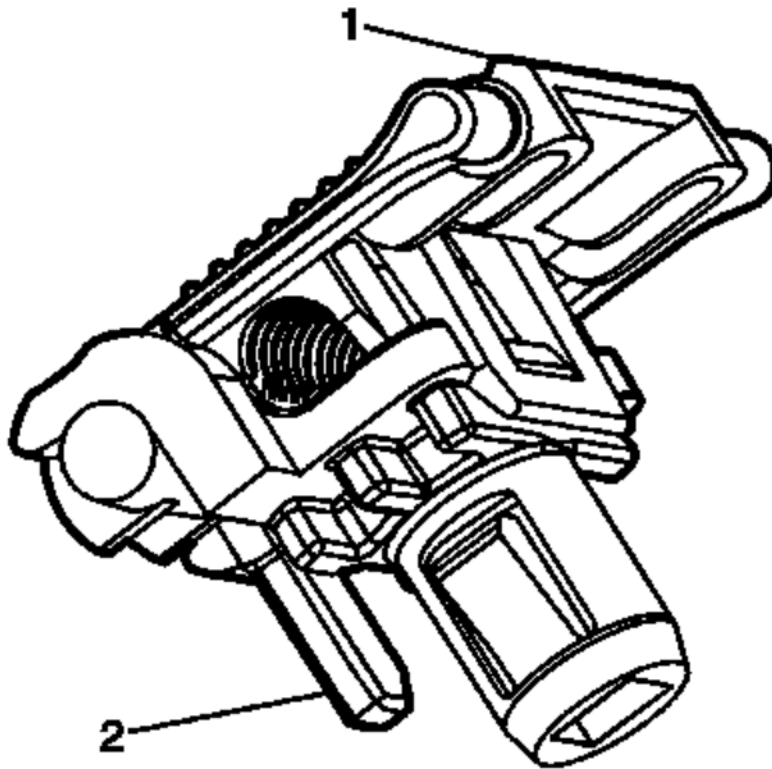


Fig. 27: Outside Door Handle Rod Clip
Courtesy of GENERAL MOTORS COMPANY

NOTE: When replacing the old designed outside door handle rod clip with the new designed clip (1) the anti rotation tab (2) will need to be removed.

NOTE: When installing the outside door handle rod to latch in order to prevent outside handle lever pre-load, the outside handle shall be fully secured to the door prior to securing integral latch clip to outside handle release rod. Push upward at the bottom the rod clip.

1. Install the new outside door handle rod clip (1) to the latch.
2. Verify the outside door handle will release the door latch.

FRONT SIDE DOOR OUTSIDE HANDLE BRACKET REPLACEMENT

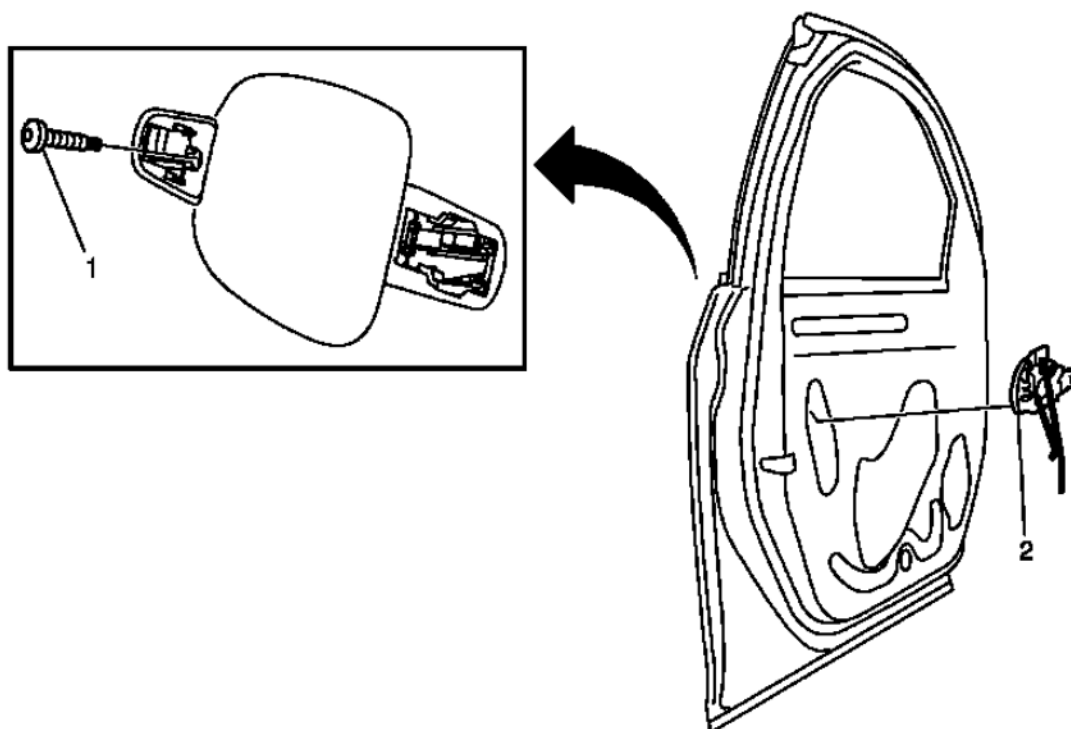


Fig. 28: Front Side Door Outside Handle Bracket (Base)
 Courtesy of GENERAL MOTORS COMPANY

Front Side Door Outside Handle Bracket Replacement

Callout	Component Name
Preliminary Procedures 1. Place the window in a service position. 2. Remove the front side door outside handle. Refer to <u>Front Side Door Outside Handle Replacement (Base)</u>, <u>Front Side Door Outside Handle Replacement (Pass Key Entry ATH)</u>. 3. Remove the front side door window rear channel. Refer to <u>Front Side Door Window Rear Channel Replacement</u>.	
1	Front Side Door Outside Handle Bracket Fastener CAUTION: Refer to <u>Fastener Caution</u> . Procedure 1. Remove the front side door water deflector. 2. Release the front side door outside handle rod mechanism at shift linkage lever - clip. 3. Release the front side door lock cylinder rod from the door lock. 4. Disconnect the electrical connectors if equipped.

	Tighten 5 N.m (44 lb in)
2	Front Side Door Outside Handle Bracket Procedure 1. Transfer components as necessary. 2. Ensure that the door locking system is working properly before installing the door trim NOTE: In order to prevent outside handle lever pre-load, latch, outside handle, handle bracket and cover/cap shall be fully secured to the door prior to securing integral latch clip to outside handle rod. Integral latch clip shall be in the full up position while securing to outside handle rod. Ensure that the locking system is working properly before installing the door trim.

REAR SIDE DOOR OUTSIDE HANDLE BRACKET REPLACEMENT

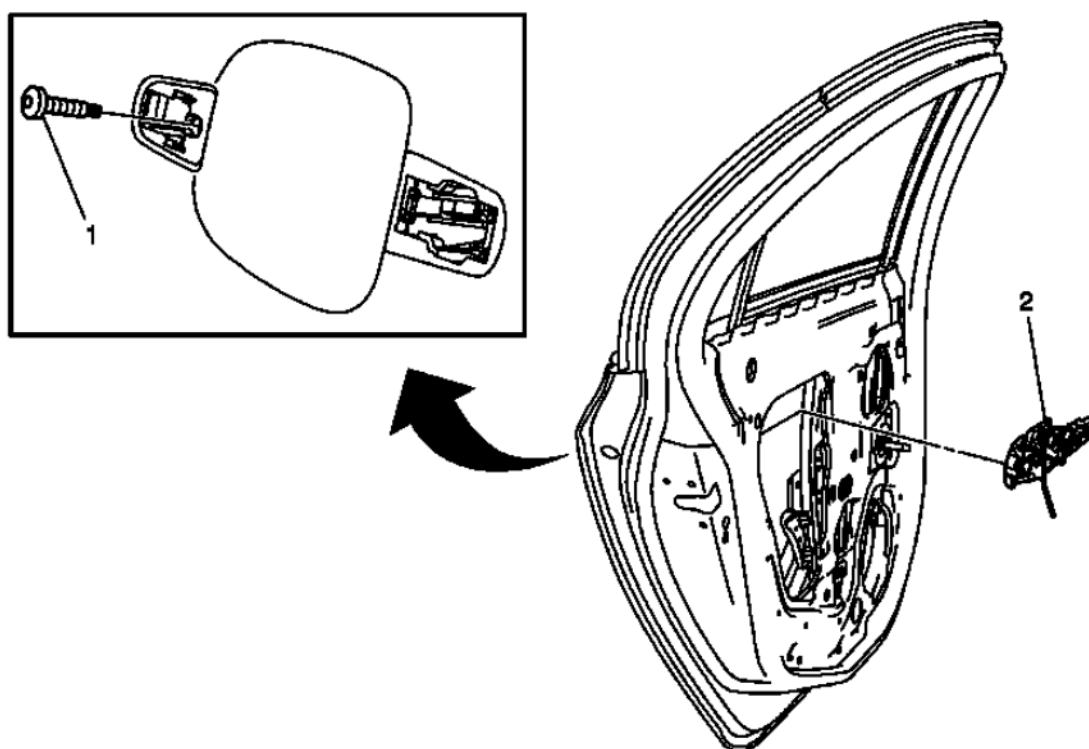


Fig. 29: Rear Side Door Outside Handle Housing
Courtesy of GENERAL MOTORS COMPANY

Rear Side Door Outside Handle Bracket Replacement

Callout	Component Name
Preliminary Procedures 1. Place the window in a service position. 2. Remove the rear side door rear channel. Refer to <u>Rear Side Door Window Rear Channel Replacement</u> . 3. Remove the rear side door outside handle. Refer to <u>Rear Side Door Outside Handle Replacement</u>.	
1	Rear Side Door Outside Handle Bracket Fastener CAUTION: Refer to <u>Fastener Caution</u> . Procedure Open the handle rod linkage lever clip, remove the rod with the bracket. Tighten 5 N.m (44 lb in)
2	Rear Side Door Outside Handle Bracket Procedure 1. Disconnect the electrical connectors if equipped. 2. Transfer components as necessary. 3. Inspect the locking system for proper operation before installing the door trim. NOTE: In order to prevent outside handle lever pre-load, latch, outside handle, handle bracket and cover/cap shall be fully secured to the door prior to securing integral latch clip to outside handle rod. Integral latch clip shall be in the full up position while securing to outside handle rod. Ensure that the locking system is working properly before installing the door trim.

REAR COMPARTMENT LID INSIDE HANDLE REPLACEMENT

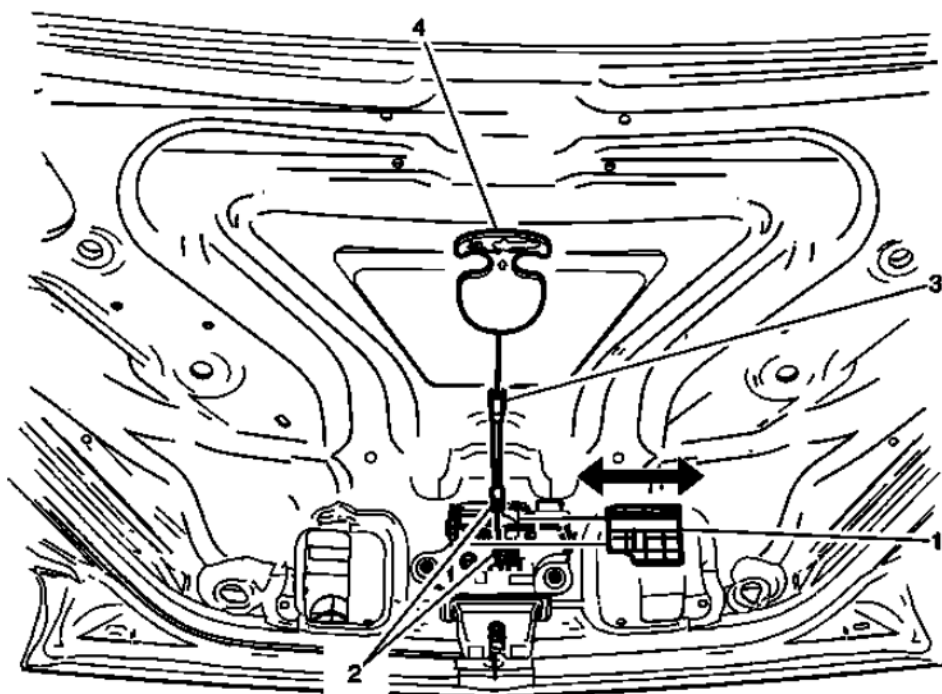


Fig. 30: Rear Compartment Lid Inside Handle & Components
 Courtesy of GENERAL MOTORS COMPANY

Rear Compartment Lid Inside Handle Replacement

Callout	Component Name
Preliminary Procedure Remove the rear compartment lid inner panel trim. Refer to <u>Rear Compartment Lid Inner Panel Trim Replacement</u> .	
1	Rear Compartment Lid Inside Latch Handle Access Cover Procedure Depress the retainers and slide the access cover to access the cable.
2	Rear Compartment Lid Inside Latch Handle Cable Procedure Disconnect the rear compartment lid inside latch handle cable from the latch.
3	Rear Compartment Lid Inside Latch Handle Cable Retainer Procedure Unclip the rear compartment lid inside latch handle cable clip from the rear compartment lid.
4	Rear Compartment Lid Inside Latch Handle

REAR SIDE DOOR OUTSIDE HANDLE REPLACEMENT

Removal Procedure

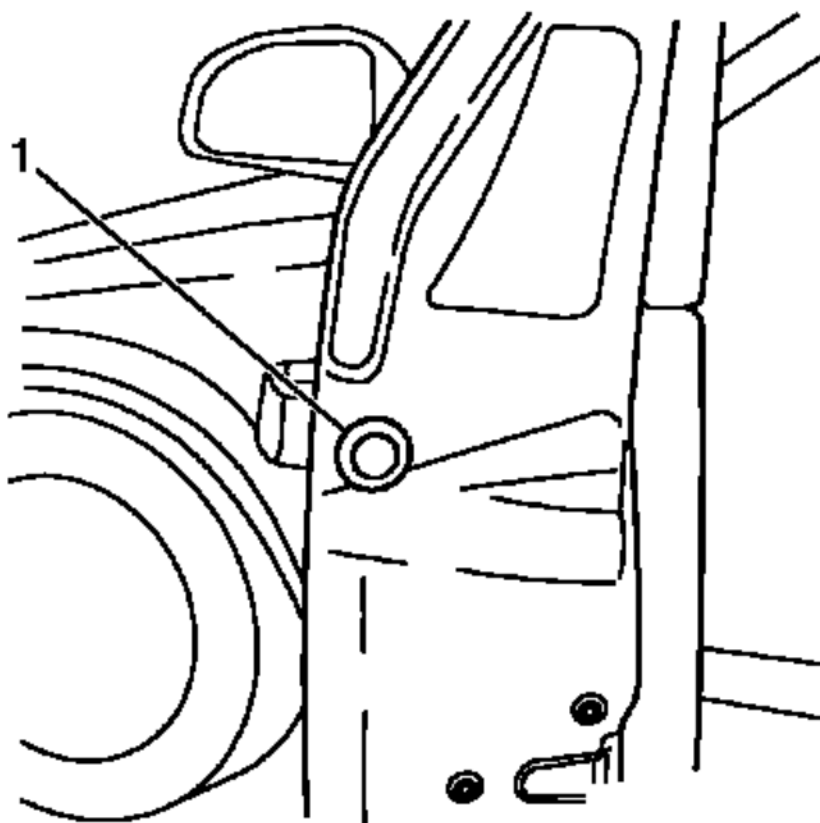


Fig. 31: Cover Cap

Courtesy of GENERAL MOTORS COMPANY

NOTE: **USE HAND TOOL ONLY.** Using a battery operated gun or power tool can **BREAK** the door handle bracket.

1. Remove cover cap (1) from the rear side door.

Using a small flat-bladed tool, release the cover cap from the rear side door.

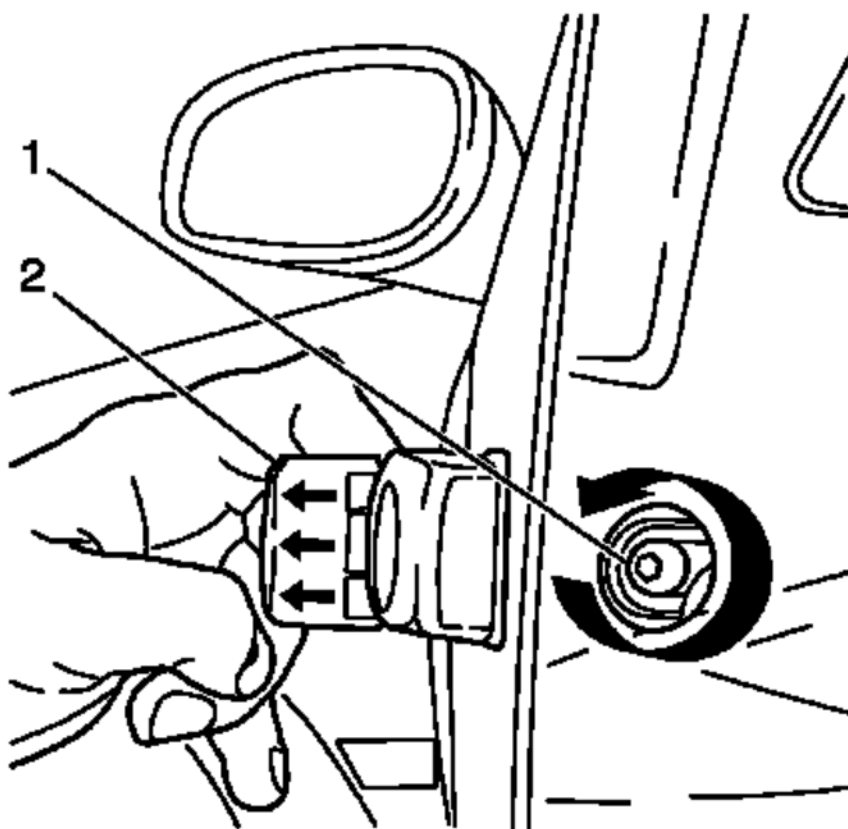


Fig. 32: Securing Door Outside Handle In Pulled Position
Courtesy of GENERAL MOTORS COMPANY

NOTE: The door outside handle (2) must now be secured in the pulled position.

2. Remove the door handle from the door.
 1. Pull the door handle (2) outwards and hold.

NOTE: USE HAND TOOL ONLY. DO NOT TURN THE SCREW PAST 12.5 ROTATIONS TOTAL, this will break the door handle bracket.

2. While holding handle (2) in the full open position, using a manual screwdriver loosen the screw (1) TEN full turns. The handle (2) will stay in the full open position without being held.



Fig. 33: Handle Cover

Courtesy of GENERAL MOTORS COMPANY

3. Remove the bezel with cylinder / cover and blank cylinder (1) from the door. If unable to remove the bezel, complete one full turn of the screw at a time until bezel can be released. DO NOT TURN MORE THAN 2.5 ROTATIONS.



Fig. 34: Handle Cover
Courtesy of GENERAL MOTORS COMPANY

3. Remove fixed rear handle part (1).

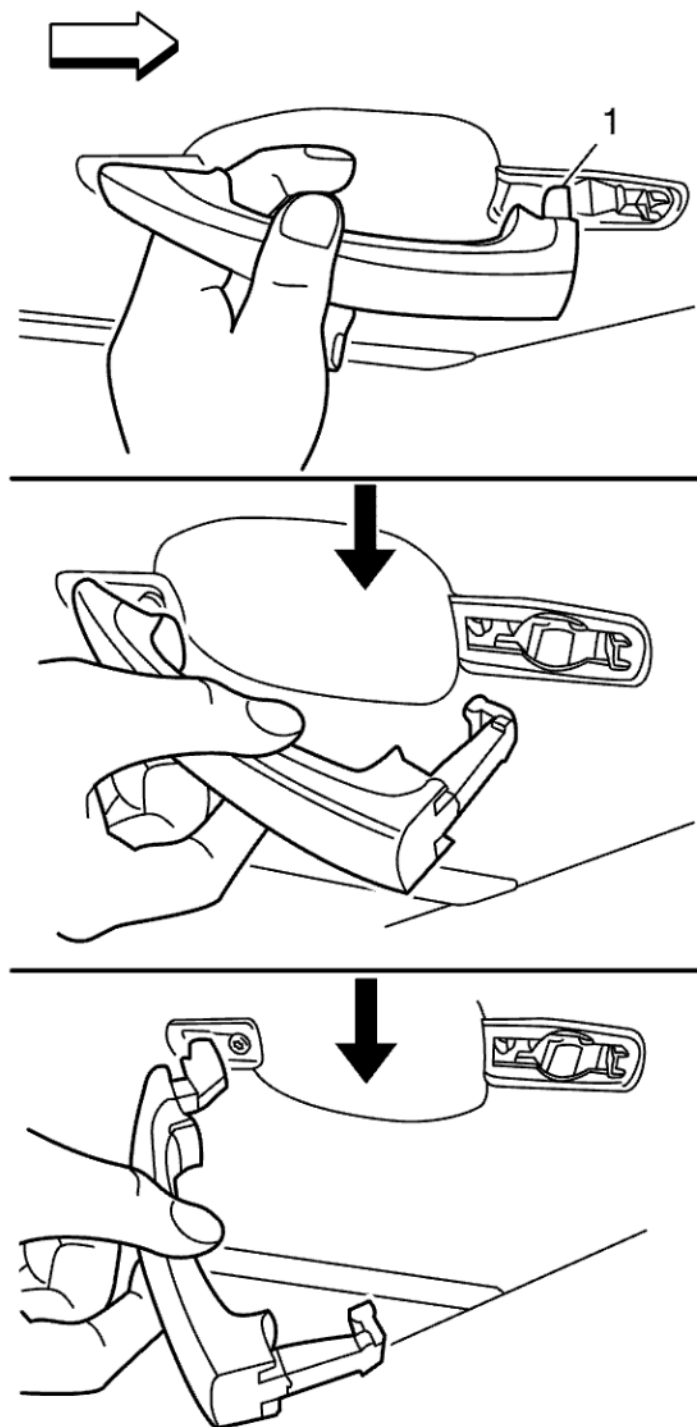


Fig. 35: Pulling Side Door Outside Handle To Rear
Courtesy of GENERAL MOTORS COMPANY

4. Pull the rear side door outside handle (1) to the rear and remove.

Installation Procedure



Fig. 36: Side Door Outside Handle
Courtesy of GENERAL MOTORS COMPANY

NOTE: Handle will snap back to flush condition, continue to turn the fastener in the clockwise (right) direction until proper torque is reached.

1. Install the bezel with cylinder / cover and blank cylinder (1) in the door.

Hold the bezel or cover flush to the door sheet metal and turn the cylinder clamp screw (2) until proper torque is reached.

2. Tighten the screw to 6 (53 lb in).

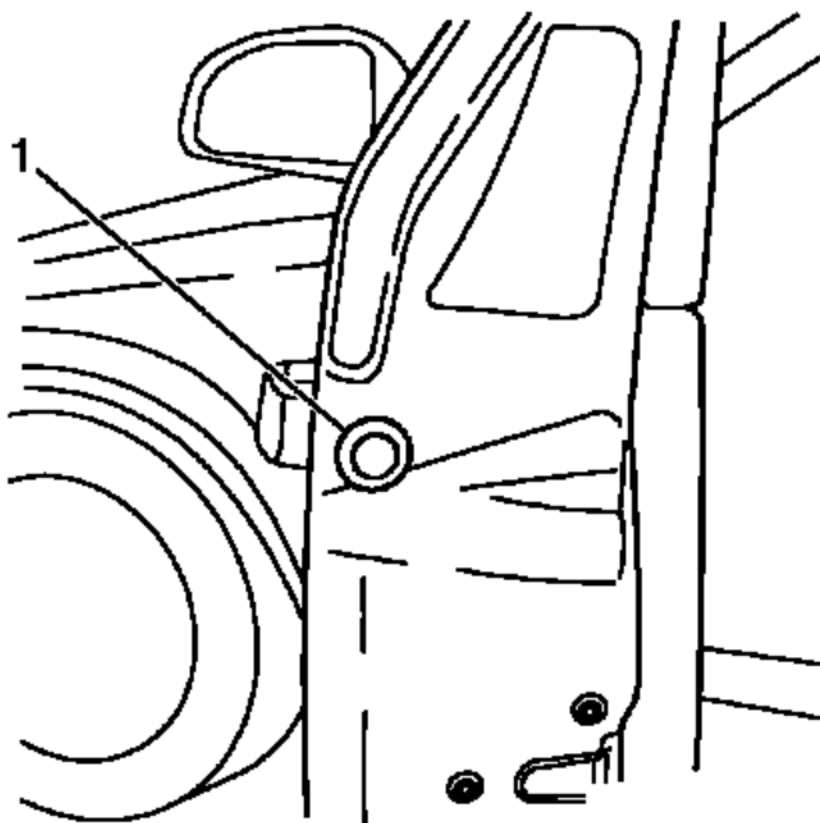


Fig. 37: Cover Cap

Courtesy of GENERAL MOTORS COMPANY

3. Install the cover cap (1) into the rear side door.

REAR COMPARTMENT LID LATCH REPLACEMENT (WITH ATS, ATG)

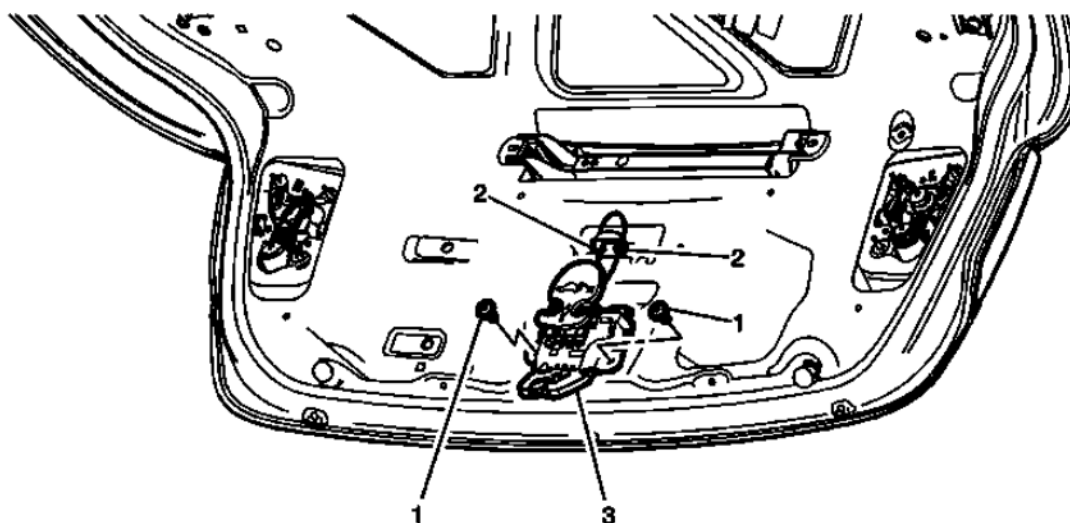


Fig. 38: Rear Compartment Lid Latch (With ATS, ATG)

Courtesy of GENERAL MOTORS COMPANY

Rear Compartment Lid Latch Replacement (With ATS, ATG)

Callout	Component Name
Preliminary Procedure Remove the rear compartment lid inner panel trim. Refer to <u>Rear Compartment Lid Inner Panel Trim Replacement</u> .	
1	Rear Compartment Lid Latch Fastener (Qty: 2) CAUTION: Refer to <u>Fastener Caution</u> . Tighten 9 N.m (80 lb in)
2	Lid Latch Cable Procedure Disconnect the rear compartment lid latch cable.
3	Rear Compartment Lid Latch Procedure 1. Disconnect the electrical connector. 2. Slide the lid latch to the left side and then remove.

REAR SIDE DOOR LOCK CYLINDER OPENING COVER REPLACEMENT

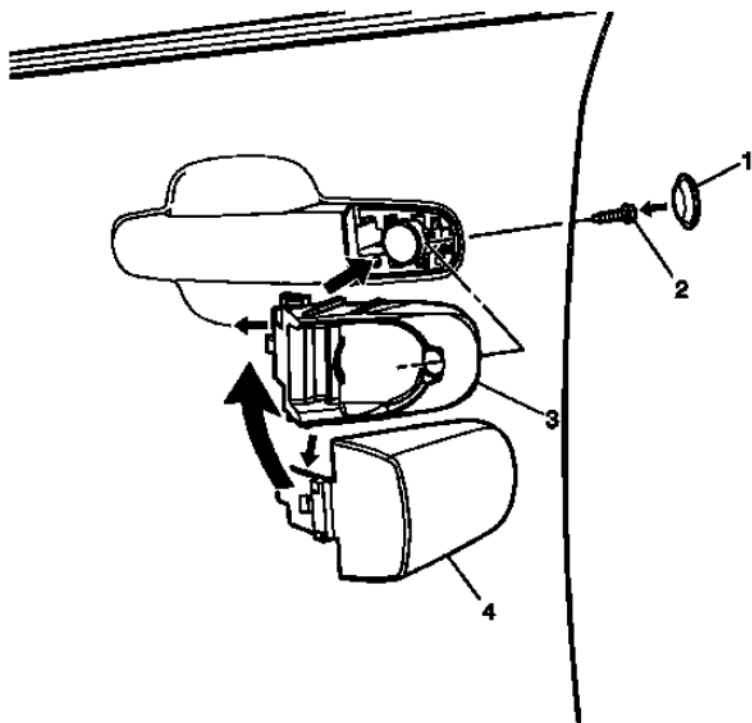


Fig. 39: Rear Side Door Lock Cylinder Opening Cover
 Courtesy of GENERAL MOTORS COMPANY

Rear Side Door Lock Cylinder Opening Cover Replacement

Callout	Component Name
1	Rear Side Door Lock Cylinder Screw Cover Procedure 1. Do Not remove the inside door trim. 2. Use a flat-bladed tool to remove the cylinder opening access plug. TIP: The rear door doesn't have a lock cylinder it is refer to as a core and opening cover.
	Rear Side Door Lock Cylinder Screw CAUTION: Refer to <u>Fastener Caution</u> Procedure

2	1. Do Not remove the lock cylinder screw completely from the housing. Unscrew the screw to a hard stop, remove the lock cylinder. 2. It is not necessary to remove the outside door handle or housing to replace the lock cylinder. Tighten 5 N.m (44 lb in)
3	Rear Side Door Outside Lock Core and Opening Cover
4	Rear Side Door Outside Lock Core Cover Procedure Use a flat-bladed tool to remove the cover from the lock cylinder core. NOTE: Inspect the door lock system for proper operation before installing the door trim.

FRONT SIDE DOOR LOCK CYLINDER BEZEL REPLACEMENT

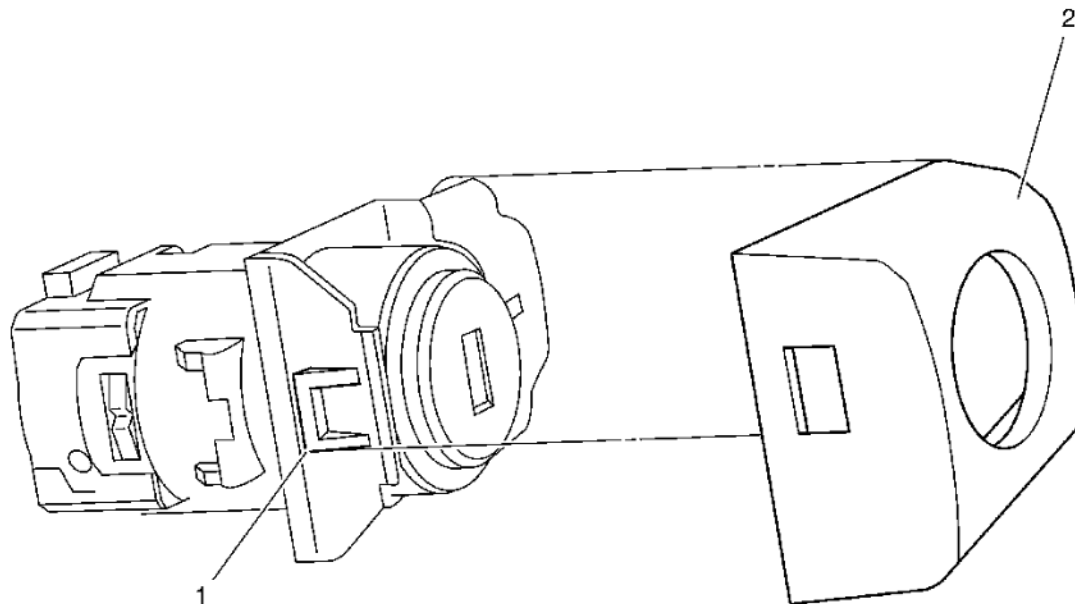


Fig. 40: Front Side Door Lock Cylinder Opening Cover Bezel
Courtesy of GENERAL MOTORS COMPANY

Front Side Door Lock Cylinder Bezel Replacement

Callout	Component Name
Preliminary Procedure Remove the front side door lock cylinder. Refer to Front Side Door Lock Cylinder Replacement .	
1	Front Side Door Lock Cylinder Bezel Retainer Procedure Use a suitable tool to release the front side door lock cylinder bezel.
2	Front Side Door Lock Cylinder Bezel NOTE: Inspect the door lock system for proper operation before installing the door trim.

FRONT SIDE DOOR LOCK REPLACEMENT

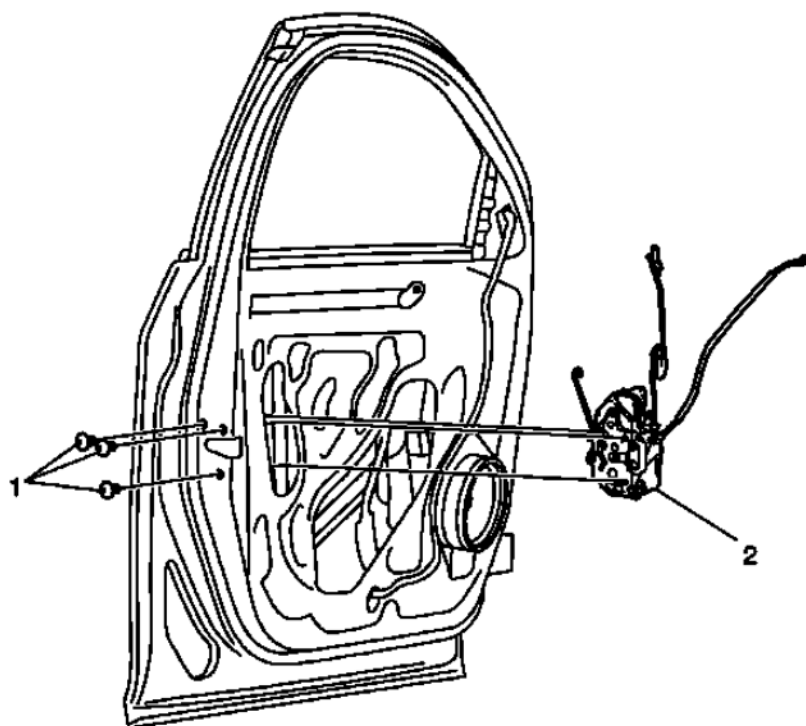


Fig. 41: Front Side Door Lock & Fasteners
Courtesy of GENERAL MOTORS COMPANY

Front Side Door Lock Replacement

Callout	Component Name
Preliminary Procedures 1. Place the door window in the full up position. 2. Remove the front side door window rear channel. Refer to Front Side Door Window Rear Channel Replacement.	

1	Front Side Door Lock Fastener (Qty: 3) CAUTION: Refer to <u>Fastener Caution</u> . Procedure 1. Disconnect both linkage lever clip and lock cylinder rod. 2. Disconnect the door lock electrical connector. Tighten 10 N.m (89 lb in)
2	Front Side Door Lock Procedure Install the front side door outside handle rod. Refer to <u>Front Side Door Outside Handle Rod Adjustment</u>. NOTE: In order to prevent outside handle lever pre-load, latch, outside handle, handle bracket and cover/cap shall be fully secured to the door prior to securing integral latch clip to outside handle rod. Integral latch clip shall be in the full up position while securing to outside handle rod. Ensure that the locking system is working properly before installing the door trim.

REAR SIDE DOOR LOCK REPLACEMENT

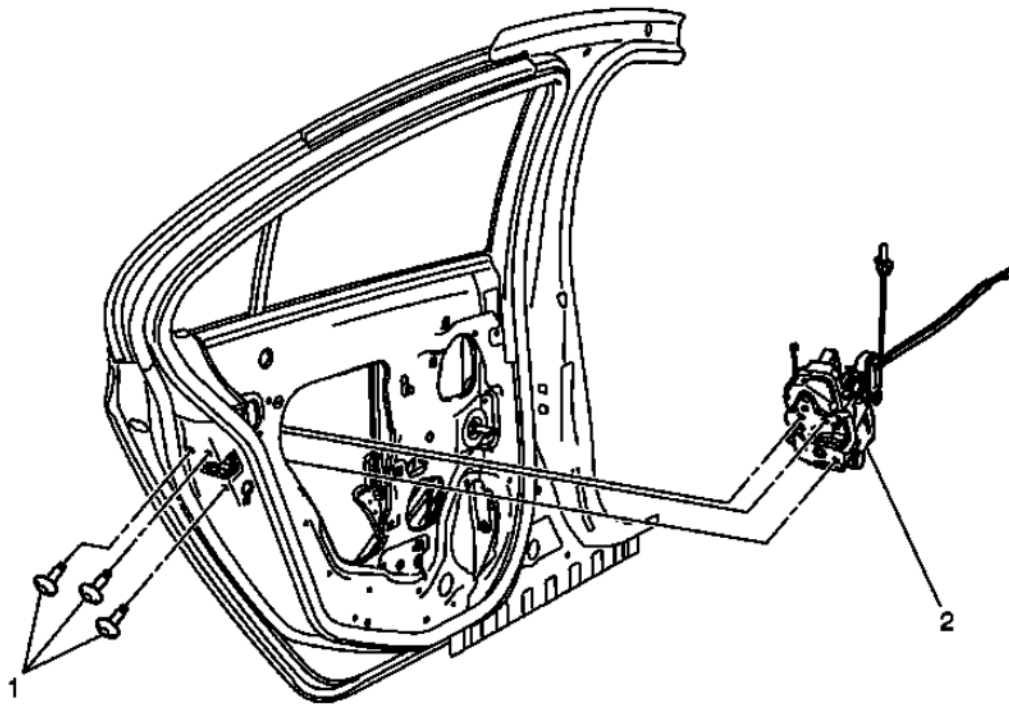


Fig. 42: Rear Side Door Lock & Fasteners
 Courtesy of GENERAL MOTORS COMPANY

Rear Side Door Lock Replacement

Callout	Component Name
Preliminary Procedure Remove the rear side door rear channel. Refer to <u>Rear Side Door Window Rear Channel Replacement</u> .	
1	Rear Side Door Lock Fastener (Qty: 3) CAUTION: Refer to <u>Fastener Caution</u> . Procedure 1. Release the shift linkage lever clip and lock cylinder rod. 2. Disconnect the door lock electrical connector. Tighten 10 N.m (89 lb in)
	Rear Side Door Lock Procedure Install the rear side door outside handle rod. Refer to <u>Rear Side Door Outside Handle Rod Adjustment</u> .

2

NOTE:

In order to prevent outside handle lever pre-load, latch, outside handle, handle bracket and cover/cap shall be fully secured to the door prior to securing integral latch clip to outside handle rod. Integral latch clip shall be in the full up position while securing to outside handle rod. Ensure that the locking system is working properly before installing the door trim.

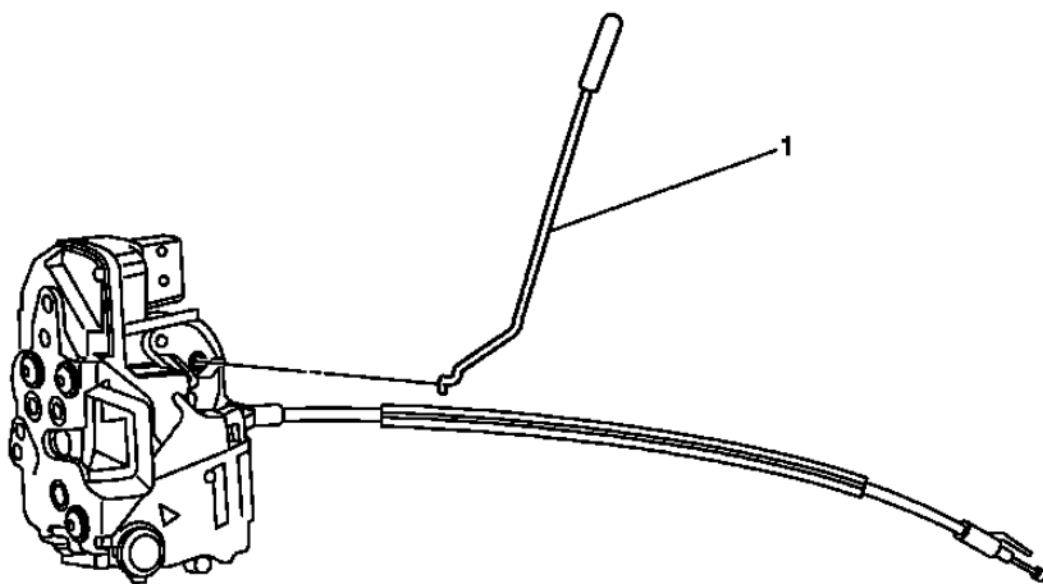
FRONT SIDE DOOR LOCKING ROD REPLACEMENT

Fig. 43: Rear Side Door Locking Rod

Courtesy of GENERAL MOTORS COMPANY

Front Side Door Locking Rod Replacement

Callout	Component Name
Preliminary Procedure Remove the front side door lock. Refer to Front Side Door Lock Replacement .	
1	Front Side Door Locking Rod Procedure Open the cover on the retaining clip, unhook the lock rod from the lock assembly. NOTE: Inspect the door lock system for proper operation before

installing the door trim.

FRONT SIDE DOOR LOCK CYLINDER ROD REPLACEMENT

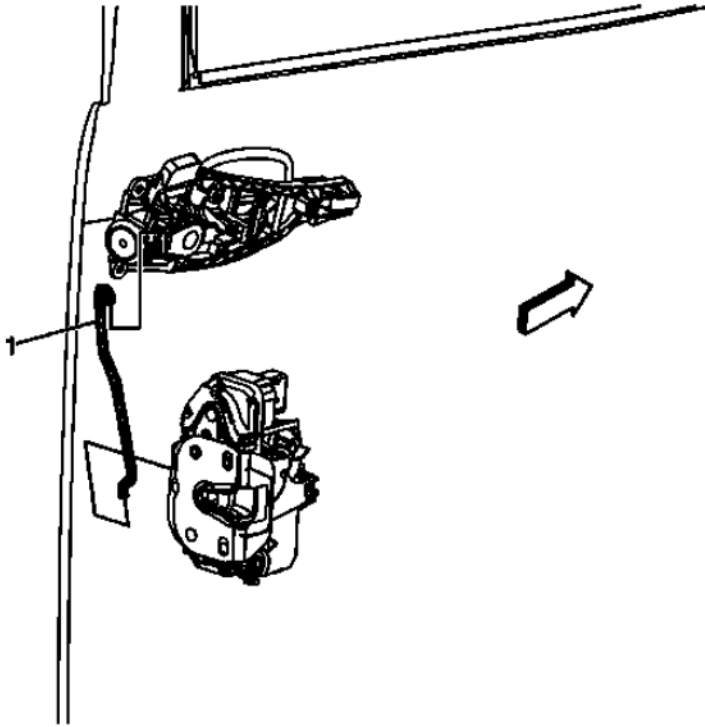


Fig. 44: Front Side Door Lock Cylinder Rod
Courtesy of GENERAL MOTORS COMPANY

Front Side Door Lock Cylinder Rod Replacement

Callout	Component Name
Preliminary Procedure Remove the front side door window rear channel. Refer to Front Side Door Window Rear Channel Replacement .	
1	Front Side Door Lock Cylinder Rod Procedure Unhook the lock rod from the lock assembly and the front side door outside handle bracket. NOTE: Inspect the door lock system for proper operation before installing the door trim.

FRONT SIDE DOOR OUTSIDE HANDLE ROD ADJUSTMENT

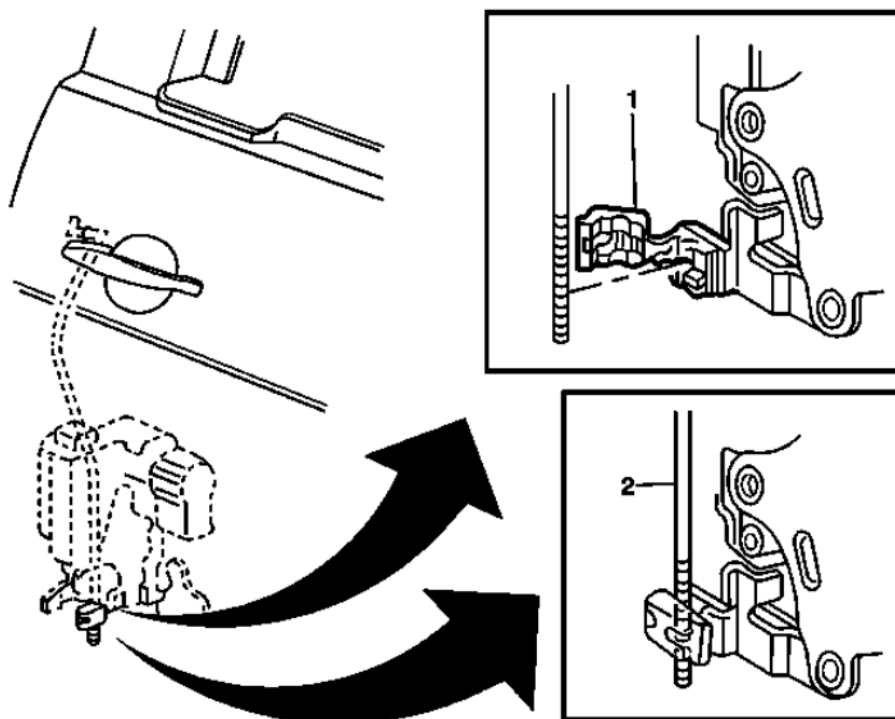


Fig. 45: Rear Side Door Outside Handle Rod
 Courtesy of GENERAL MOTORS COMPANY

Front Side Door Outside Handle Rod Adjustment

Callout	Component Name
Preliminary Procedure Remove the front side door trim. Refer to Front Side Door Trim Replacement .	
1	Front Side Door Outside Handle Rod Retainer Procedure 1. Remove the front side door water deflector. 2. Use a flat-head tool to open the retainer from the threaded rod connecting the lock to the outside handle.
2	Front Side Door Outside Handle Rod Procedure 1. Position the front side door outside handle rod in the retainer in order to eliminate any free play in the outside door handle. 2. Adjust the travel of the handle by removing the threaded rod from the retainer. 3. Install the retainer cover closed over the threaded front side door outside handle rod.

4. Inspect the door locking system for proper operation before installing the door trim.

NOTE:

In order to prevent outside handle lever pre-load, latch, outside handle, handle bracket and cover/cap shall be fully secured to the door prior to securing integral latch clip to outside handle rod. Integral latch clip shall be in the full up position while securing to outside handle rod. Ensure that the locking system is working properly before installing the door trim.

FRONT SIDE DOOR OUTSIDE HANDLE ROD REPLACEMENT

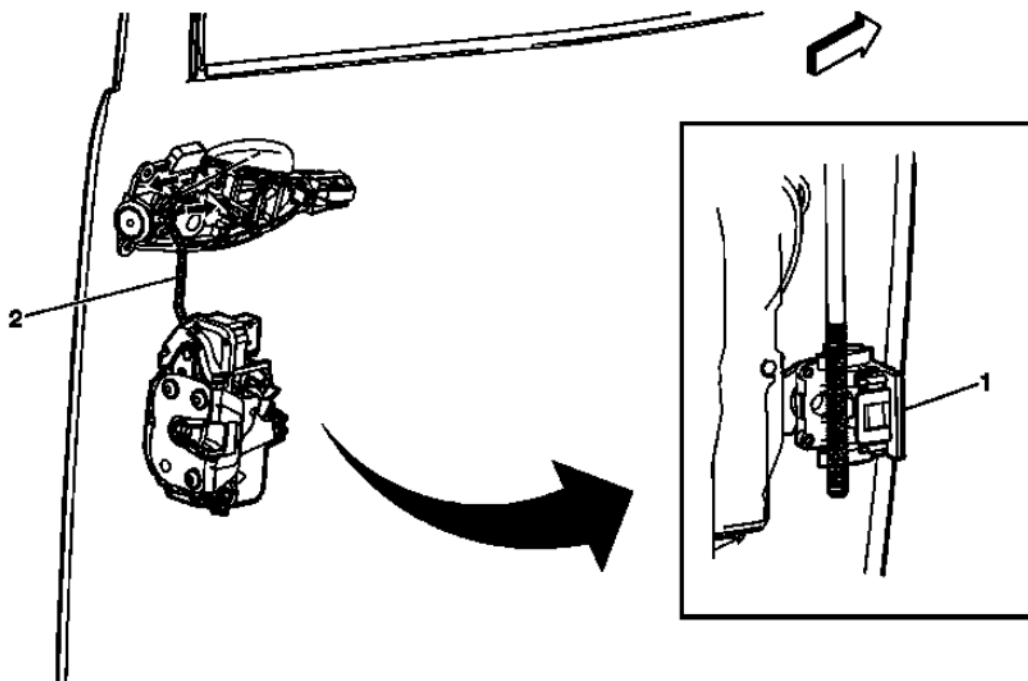


Fig. 46: Front Side Door Outside Handle Rod
Courtesy of GENERAL MOTORS COMPANY

Front Side Door Outside Handle Rod Replacement

Callout	Component Name
Preliminary Procedures	
Remove the front side door trim. Refer to Front Side Door Trim Replacement .	
1	Front Side Door Outside Handle Rod Clip
Procedure	
1. Remove the water deflector.	

	2. Use a flat-head tool to open the retainer from the threaded rod connecting the lock to the outside handle.
2	Front Side Door Outside Handle Rod Procedure 1. Unhook / Hook in the front side door outside handle rod from the front side door outside handle bracket. 2. Position the front side door outside handle rod in the retainer in order to eliminate any free play in the outside door handle. 3. Adjust the travel of the handle by removing the threaded rod from the retainer. 4. Install the retainer cover closed over the threaded front side door outside handle rod. 5. Inspect the door locking system for proper operation before installing the door trim. NOTE: In order to prevent outside handle lever pre-load, latch, outside handle, handle bracket and cover/cap shall be fully secured to the door prior to securing integral latch clip to outside handle rod. Integral latch clip shall be in the full up position while securing to outside handle rod. Ensure that the locking system is working properly before installing the door trim.

REAR SIDE DOOR LOCKING ROD REPLACEMENT

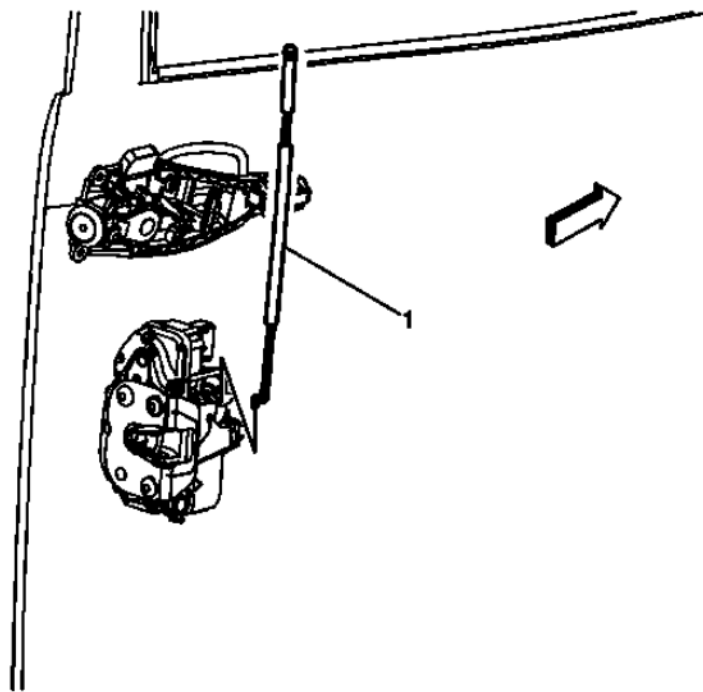


Fig. 47: Rear Side Door Locking Rod
 Courtesy of GENERAL MOTORS COMPANY

Rear Side Door Locking Rod Replacement

Callout	Component Name
Preliminary Procedures Remove the rear side door lock Refer to <u>Rear Side Door Lock Replacement</u> .	
1	Rear Side Door Lock Cylinder Rod Procedure Inspect the door for proper operation before installing the in side door trim.

REAR SIDE DOOR OUTSIDE HANDLE ROD ADJUSTMENT

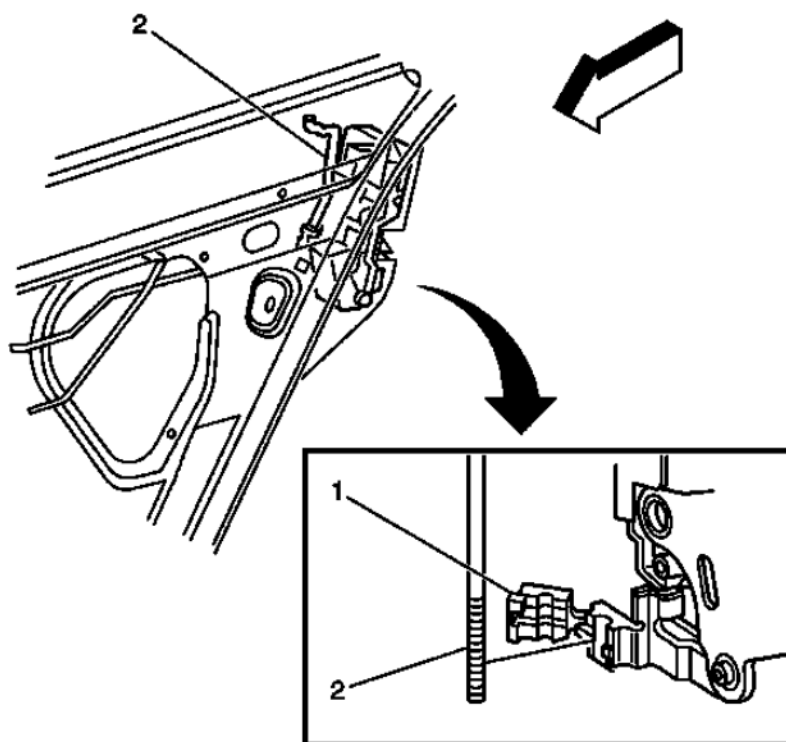


Fig. 48: Rear Side Door Outside Handle Rod & Retainers
 Courtesy of GENERAL MOTORS COMPANY

Rear Side Door Outside Handle Rod Adjustment

Callout	Component Name
Preliminary Procedures Remove the rear side door trim. Refer to Rear Side Door Trim Replacement .	
1	Rear Side Door Outside Handle Rod Retainer Procedure 1. Remove the front side door water deflector. 2. Use a flat-head tool to open the retainer from the threaded rod connecting the lock to the outside handle.
2	Rear Side Door Outside Handle Rod Procedure 1. Position the front side door outside handle rod in the retainer in order to eliminate any free play in the outside door handle. 2. Adjust the travel of the handle by removing the threaded rod from the retainer. 3. Install the retainer cover closed over the threaded front side door outside handle rod.

4. Inspect the door locking system for proper operation before installing the door trim.

NOTE:

In order to prevent outside handle lever pre-load, latch, outside handle, handle bracket and cover/cap shall be fully secured to the door prior to securing integral latch clip to outside handle rod. Integral latch clip shall be in the full up position while securing to outside handle rod. Ensure that the locking system is working properly before installing the door trim.

REAR SIDE DOOR OUTSIDE HANDLE ROD REPLACEMENT

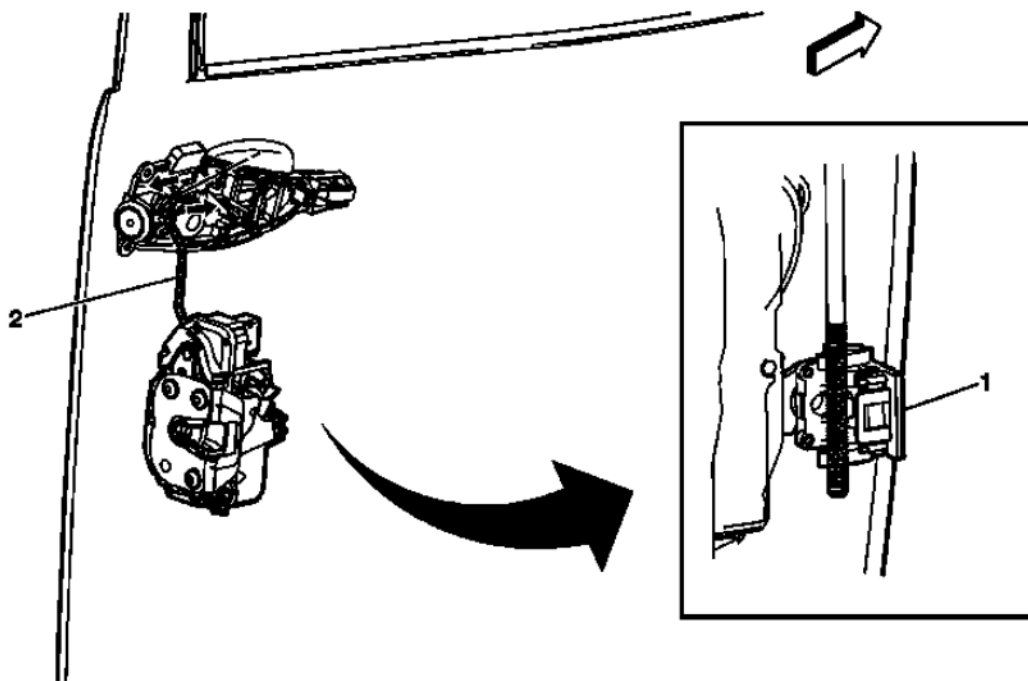


Fig. 49: Rear Side Door Outside Handle Rod
Courtesy of GENERAL MOTORS COMPANY

Rear Side Door Outside Handle Rod Replacement

Callout	Component Name
Preliminary Procedures	
Remove the rear side door trim. Refer to Rear Side Door Trim Replacement .	
1	Rear Side Door Outside Handle Rod Clip
Procedure	
1. Remove the water deflector.	

	2. Use a flat-head tool to open the retainer from the threaded rod connecting the lock to the outside handle.
2	Rear Side Door Outside Handle Rod Procedure 1. Position the rear side door outside handle rod in the retainer in order to eliminate any free play in the outside door handle. 2. Adjust the travel of the handle by removing the threaded rod from the retainer. 3. Install the retainer cover closed over the threaded rear side door outside handle rod. 4. Inspect the door locking system for proper operation before installing the door trim. NOTE: In order to prevent outside handle lever pre-load, latch, outside handle, handle bracket and cover/cap shall be fully secured to the door prior to securing integral latch clip to outside handle rod. Integral latch clip shall be in the full up position while securing to outside handle rod. Ensure that the locking system is working properly before installing the door trim.

REAR COMPARTMENT LID HINGE SPRING REPLACEMENT

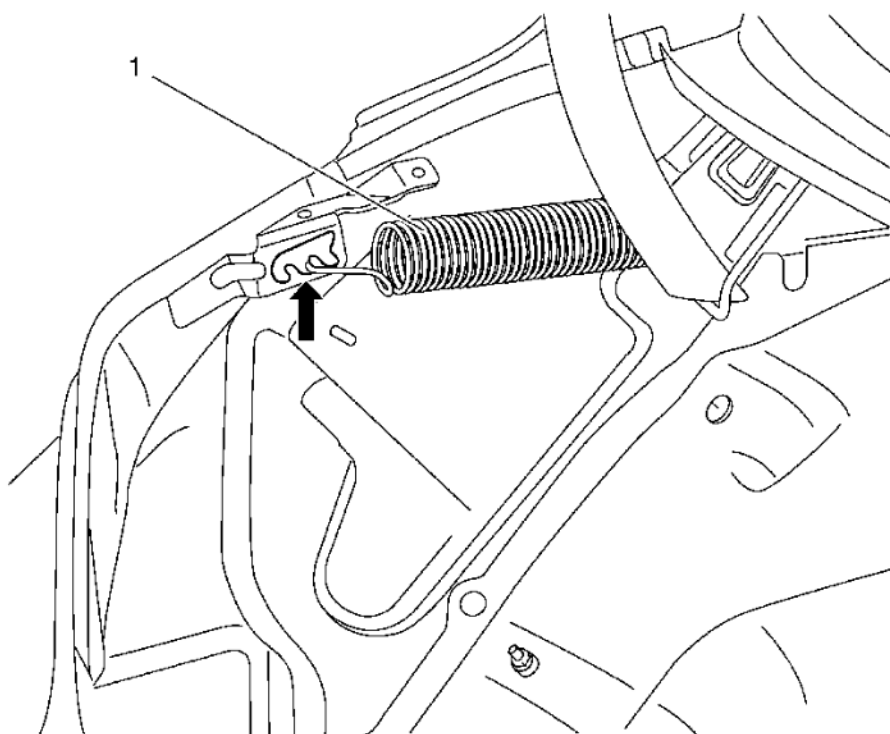


Fig. 50: Rear Compartment Lid Hinge Spring
 Courtesy of GENERAL MOTORS COMPANY

Rear Compartment Lid Hinge Spring Replacement

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 <u>Eye Protection Warning</u> .	
Preliminary Procedure Remove the right or left rear compartment side trim panel as required. Refer to <u>Rear Compartment Side Trim Panel Replacement (without HP6)</u> , <u>Rear Compartment Side Trim Panel Replacement (HP6, Left Side)</u> , <u>Rear Compartment Side Trim Panel Replacement (HP6, Right Side)</u> .	
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. NOTE: The springs can be placed in two different positions adjusting the tension for a quicker or slower opening speed.

FRONT SIDE DOOR LOCK STRIKER ADJUSTMENT

To determine if striker adjustment is required, proceed as follows:

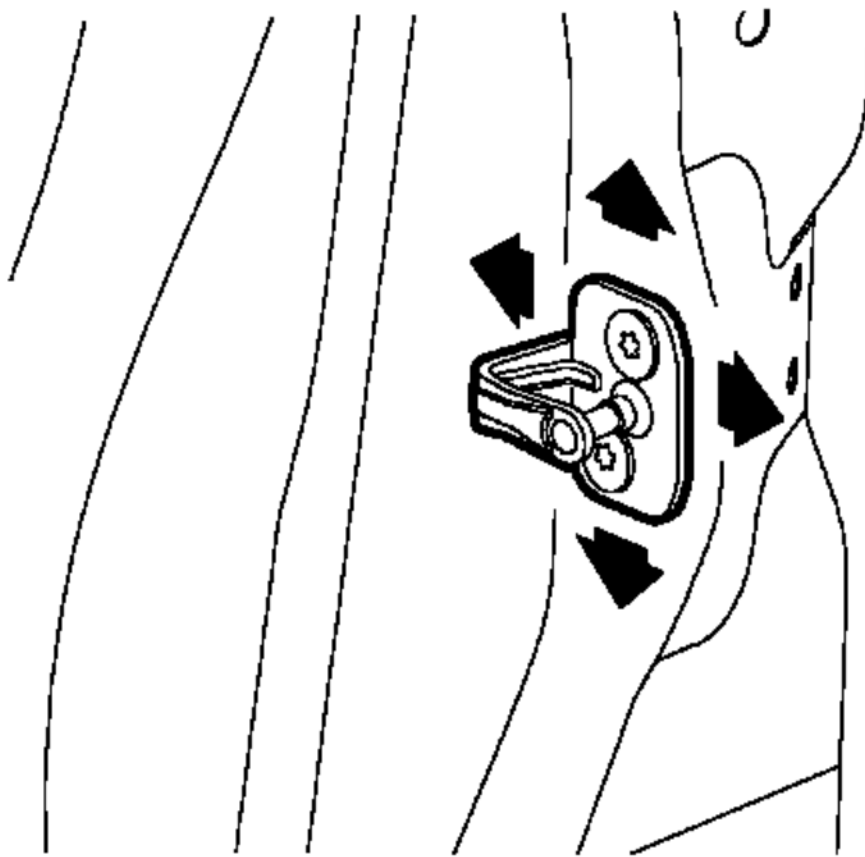


Fig. 51: View Of Door Striker

Courtesy of GENERAL MOTORS COMPANY

1. Ensure the door is properly aligned within the door opening before proceeding with the striker adjustment.
2. Close the door onto the striker and note if the door drags on the striker causing the door to move upward or downward upon contact with the striker. Also note the closing effort to fully engage the latch.
3. Using a grease pencil, mark around the striker for reference of the original position. Loosen the striker.
4. Move the striker to eliminate drag on the striker and door latch and to achieve the proper door position within the door opening. Start with the up/down position, then position the striker to achieve proper alignment to the door opening. Set the in/out adjustment for the proper door seal engagement making sure the door closing efforts are correct.

CAUTION: Refer to Fastener Caution .

5. Tighten the striker bolts. Tighten the door striker bolts to 24 N.m (18 lb ft).

FRONT SIDE DOOR LOCK STRIKER REPLACEMENT

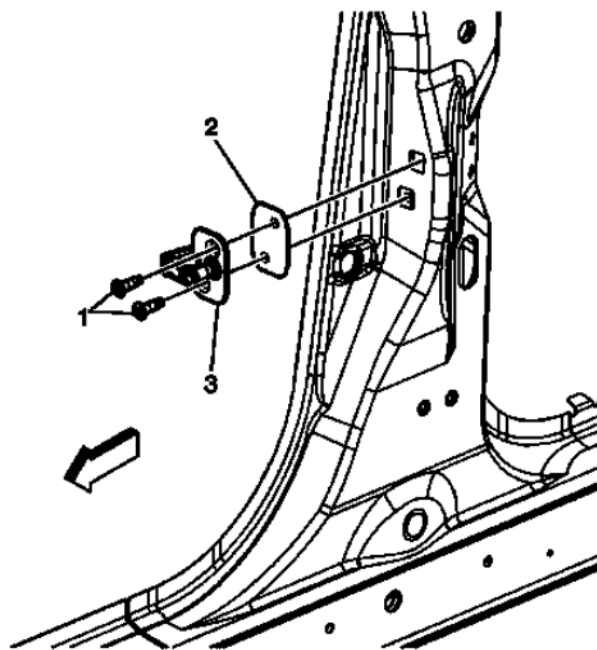


Fig. 52: Identifying Front Side Door Lock Striker
 Courtesy of GENERAL MOTORS COMPANY

Front Side Door Lock Striker Replacement

Callout	Component Name
1	Front Side Door Lock Striker Bolt (Qty: 2) CAUTION: Refer to <u>Fastener Caution</u> . Procedure Remove the striker cover if equipped. Tighten 25 N.m (18 lb ft)
2	Front Side Door Lock Striker Spacer Procedure Ensure that the door lock striker spacer is installed if equipped.
3	Front Side Door Lock Striker Procedure Ensure proper alignment after installation. Refer to <u>Front Side Door Lock Striker Adjustment</u> .

REAR COMPARTMENT LID LATCH STRIKER REPLACEMENT

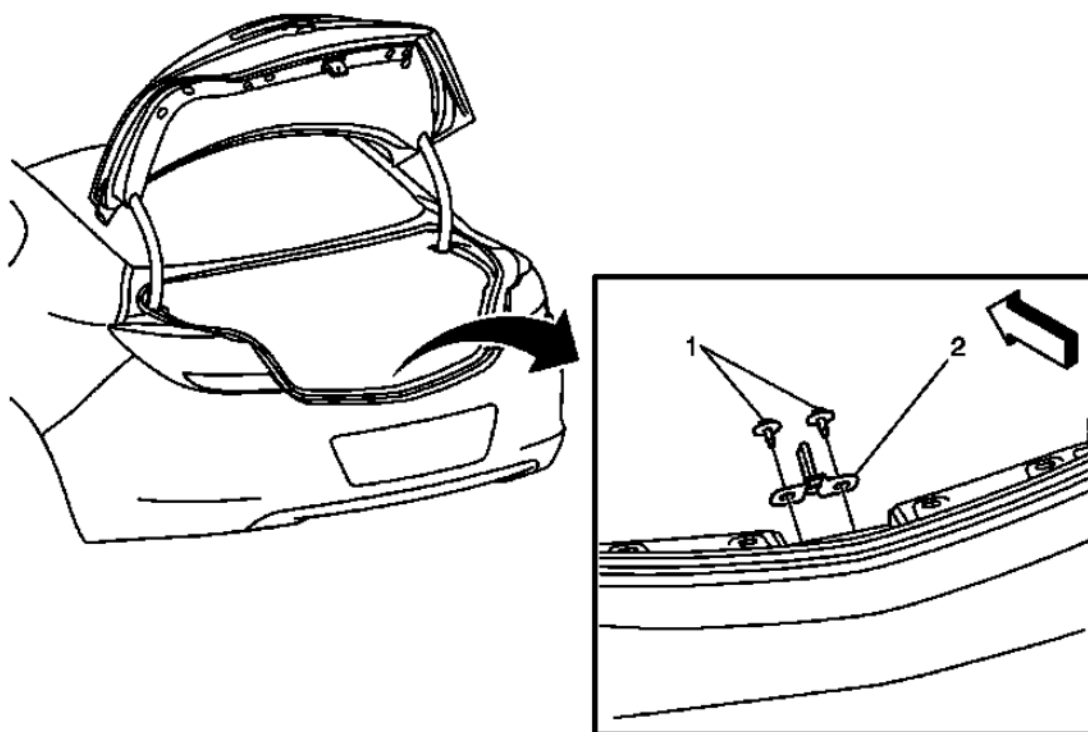


Fig. 53: Rear Compartment Lid Latch Striker
Courtesy of GENERAL MOTORS COMPANY

Rear Compartment Lid Latch Striker Replacement

Callout	Component Name
Preliminary Procedure Remove the rear end trim finish panel. Refer to Rear End Trim Finish Panel Replacement .	
1	Rear Compartment Lid Latch Striker Fastener (Qty: 2) CAUTION: Refer to Fastener Caution . Procedure Use a grease pencil to outline the striker before removing the fasteners. Tighten 9 N.m (80 lb in)
2	Rear Compartment Lid Latch Striker Procedure Adjust the rear compartment lid latch striker after replacing, if needed.

REAR SIDE DOOR LOCK STRIKER ADJUSTMENT

To determine if striker adjustment is required, proceed as follows:

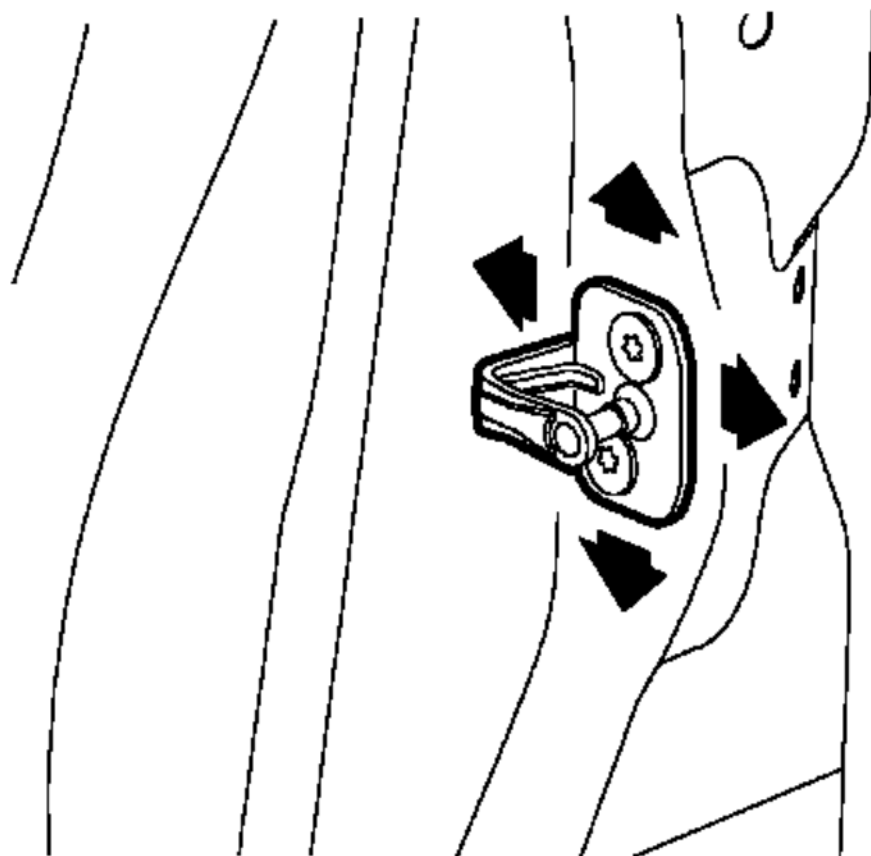


Fig. 54: View Of Door Striker

Courtesy of GENERAL MOTORS COMPANY

1. Ensure the door is properly aligned within the door opening before proceeding with the striker adjustment.
2. Close the door onto the striker and note if the door drags on the striker causing the door to move upward or downward upon contact with the striker. Also note the closing effort to fully engage the latch.
3. Using a grease pencil, mark around the striker for reference of the original position. Loosen the striker.
4. Move the striker to eliminate drag on the striker and door latch and to achieve the proper door position within the door opening. Start with the up/down position, then position the striker to achieve proper alignment to the door opening. Set the in/out adjustment for the proper door seal engagement making sure the door closing efforts are correct.

CAUTION: Refer to Fastener Caution .

5. Tighten the striker bolts. Tighten the door striker bolts to 24 N.m (18 lb ft).

REAR SIDE DOOR LOCK STRIKER REPLACEMENT

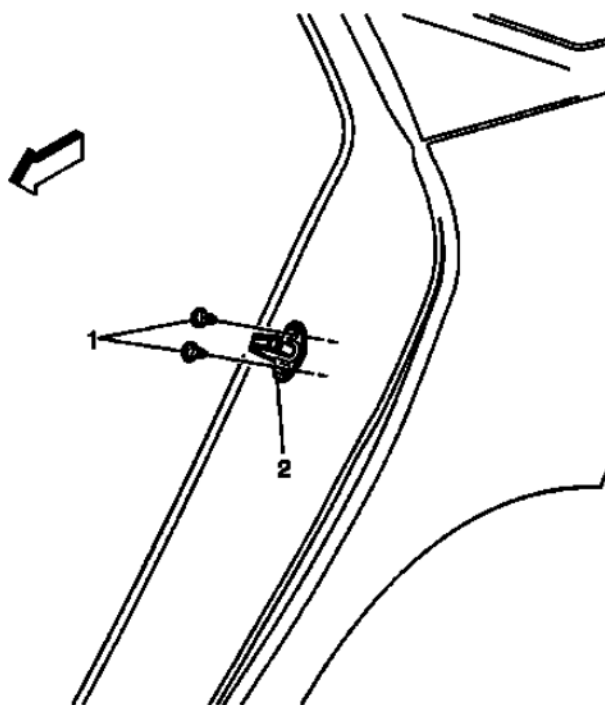


Fig. 55: Rear Side Door Lock Striker
 Courtesy of GENERAL MOTORS COMPANY

Rear Side Door Lock Striker Replacement

Callout	Component Name
1	Rear Side Door Lock Striker Bolt (Qty: 2) CAUTION: Refer to <u>Fastener Caution</u> . Procedure Remove the striker cover if equipped. Tighten 25 N.m (18 lb ft)
2	Rear Side Door Lock Striker Procedure 1. Ensure that the door lock striker spacer is installed if equipped. 2. Ensure proper alignment after installation. Refer to <u>Rear Side Door Lock Striker Adjustment</u>.

DOOR LOCK SWITCH REPLACEMENT - DRIVER SIDE

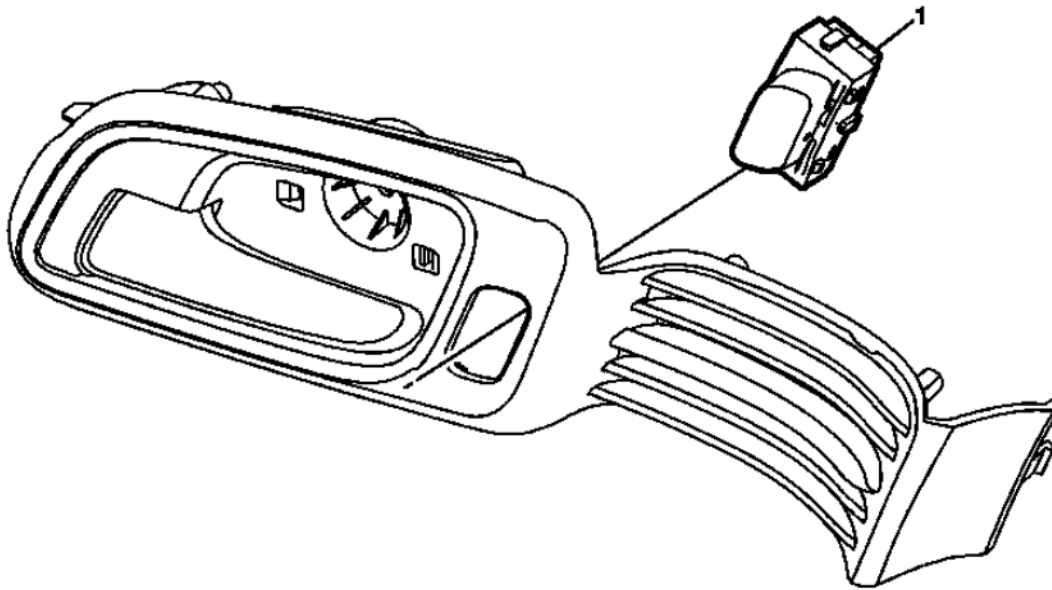


Fig. 56: Door Lock Switch - Driver Side
 Courtesy of GENERAL MOTORS COMPANY

Door Lock Switch Replacement - Driver Side

Callout	Component Name
Preliminary Procedure Remove the front side door inside handle bezel. Refer to <u>Front Side Door Inside Handle Bezel Replacement</u> .	
1	Door Lock Switch Assembly Procedure 1. Using a plastic pry tool, gently pry on the sides to release the switch. 2. Disconnect the electrical connectors. 3. Refer to <u>Control Module References</u> for programming and set up procedures.

DOOR LOCK SWITCH REPLACEMENT - PASSENGER FRONT

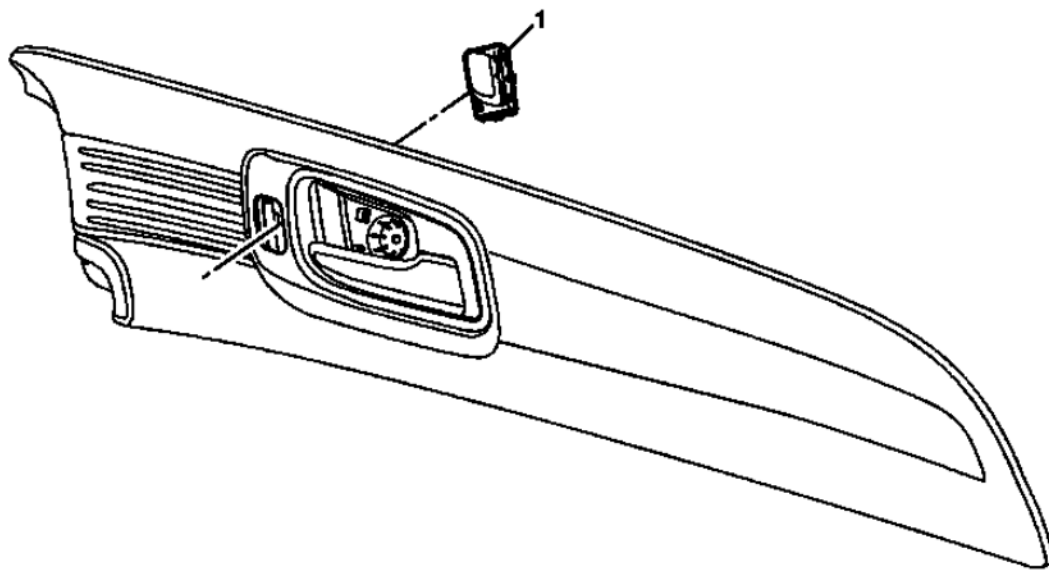


Fig. 57: Door Lock Switch - Passenger Front
 Courtesy of GENERAL MOTORS COMPANY

Door Lock Switch Replacement - Passenger Front

Callout	Component Name
Preliminary Procedure Remove the front side door inside handle bezel. Refer to Front Side Door Inside Handle Bezel Replacement .	
1	Door Lock Switch Assembly Procedure 1. Using a plastic pry tool, gently pry on the sides to release the switch. 2. Disconnect the electrical connectors. 3. Refer to Control Module References for programming and set up procedures.

DESCRIPTION AND OPERATION

DOOR AJAR INDICATOR DESCRIPTION AND OPERATION

Door Ajar Indicator System Components

The door ajar indicator system consists of the following components:

- Body control module
- Instrument cluster
- Driver door latch
- Passenger door latch
- Left rear door latch
- Right rear door latch
- Driver window motor (AXG)
- Driver window switch (AEC)
- Passenger window switch (AED)
- Left rear window switch (AEQ)
- Right rear window switch (AEQ)

Door Ajar System

Depending upon if the vehicle is equipped with express up/down power windows, express down only power windows affects how the driver and passenger door ajar signal circuits are configured and monitored.

Driver Door Ajar (AXG)

The driver window motor will provide a 12V signal to the driver door ajar switch within the door latch to indicate the status of the door. When the driver door is open, the contact within the ajar switch closes providing a ground path for the signal circuit. The driver window motor will detect the voltage drop in the ajar signal circuit and will send a serial data message to the body control module. The body control module will then send a message to the instrument cluster which will illuminate the door ajar icon.

Driver, Passenger and Rear Doors Ajar (AEC, AED and AEQ)

The driver, passenger and rear window switches provide a 12V signal to the respective door ajar switch within the door latch to indicate the status of the door. When the door is open, the contact within the ajar switch closes providing a ground path for the signal circuit. The window switch will detect the voltage drop in the ajar signal circuit and will send a serial data message to the body control module. The body control module will then send a message to the instrument cluster which will illuminate the door ajar icon.

LUGGAGE COMPARTMENT DESCRIPTION AND OPERATION

Rear Compartment Lid Release System Components

- Body control module (BCM)
- Rear compartment lid release switch-exterior
- Rear compartment lid latch
- Compartment lid release relay

Rear Compartment Lid Release Operation

When the rear compartment lid release switch is pressed, the trunk release switch signal circuit is switched to ground. The BCM responds by applying battery voltage to the relay control circuit which energizes the relay. The relay is supplied with battery voltage at all times from the F16 fuse. With the relay coil energized, the relay switch contacts close allowing battery voltage to flow to the rear compartment lid latch causing the rear compartment lid to release. The rear compartment lid release switch is permanently grounded to a fixed body ground.

POWER DOOR LATCH DESCRIPTION AND OPERATION

Keyless Entry Control Module

The keyless entry control module is a multi-function module which performs the following keyless entry system functions:

- Activating vehicle antennas for passive keyless entry functions
- Activating vehicle antennas for keyless start functions
- Backup control for the ECM accessory wakeup and the run/crank relay
- If equipped, controls the electronic steering column lock
- Receiver of the door handle switch inputs and the lock sensor inputs and door open switch (not the door ajar switch)
- Control the door unlatch motors
- Ignition mode switch monitoring

Body Control Module (BCM)

The BCM is a multi-function module that performs the following functions:

- Receive and authenticate active transmitter and keyless start signals from the remote control door lock receiver
- Determines the functionality requested by the transmitter signal
- Performs the function requested by the transmitter signal

Unlock Driver Door Only - Active

Momentarily press the transmitter UNLOCK button to perform the following functions:

- Unlock only the driver door
- Illuminate the interior lamps for a determined length of time or until the ignition mode switch is pressed
- Flash the exterior lights, if enable through personalization
- Disarm the content theft deterrent system
- Deactivate the content theft deterrent system when in the alarm mode

Unlock All Doors - Second Operation - Active

- Momentarily press the transmitter UNLOCK button a second time, within 5 seconds of the first press, to

perform the following function:

- Unlock the remaining doors and rear compartment

Unlock Driver Door Only - Passive

If enabled through personalization, approach the driver door with a valid keyless entry transmitter and touch the lock sensor on the front door handle to perform the following functions:

- Unlock and open only the driver door when door handle is operated
- Disarm the content theft deterrent system, if equipped
- Deactivate the content theft deterrent system when in the alarm mode

Unlock All Doors - Passive

Approach any non driver door (front or rear) or, if enabled through personalization, the driver door with a valid keyless entry transmitter and touch the lock sensor on the front door handle to perform the following functions:

- Unlock all vehicle doors and rear compartment
- Disarm the content theft deterrent system, if equipped
- Deactivate the content theft deterrent system when in the alarm mode

Lock All Doors - Active

Press the transmitter LOCK button to perform the following functions:

- Lock all vehicle doors
- Immediately turn off the interior lamps
- Flash the exterior lights, if enabled through personalization
- Chirp the horn, if enabled through personalization
- Arm the content theft deterrent system

Lock All Doors - Passive

Exit the vehicle (with vehicle off) with the keyless entry transmitter to automatically perform the following functions, if equipped.

- Lock all vehicle doors and rear compartment after a delay
- Flash the exterior lights, if enabled through personalization
- Chirp horn, if enabled through personalization
- Arm the content theft deterrent system

When all doors are closed, they can also be locked from the exterior by touching the lock sensor on the outside of a front door handle while having a valid transmitter in range. This function is only active for several minutes after all doors are closed to save battery life.

If more than one keyless entry transmitter is within a vehicle and the keyless entry system detects that one or more transmitters have been left in the vehicle after vehicle is locked, any transmitter left within the vehicle will be temporarily deactivated until:

- A button on the deactivated transmitter is pressed (will only activate the transmitter whose button is pressed)
- A passive unlock of vehicle occurs
- Change in power mode occurs

Rear Compartment Release - Passive

Approach the rear of the vehicle with a valid keyless entry transmitter. Press the trunk release touch pad. The trunk will open.

POWER DOOR LOCKS DESCRIPTION AND OPERATION

Door Lock System Components

The power door lock system consists of the following components:

- Driver door lock switch
- Passenger door lock switch
- Rear window/door lockout switch, located on the driver window switch
- Body control module (BCM)
- Driver door latch
- Passenger door latch
- Left rear door latch
- Right rear door latch
- Door lock security PCB relay

Door Lock and Unlock Operation

When a door lock switch is activated in the lock or unlock position, the BCM will receive a ground signal on either the door lock switch lock or unlock signal circuits.

The BCM, upon receipt of a lock switch lock or unlock signal, will supply battery voltage to the door lock actuator lock or unlock control circuits. Since the opposite side of the lock actuator is connected to ground through the other lock actuator control circuit, the doors will then lock or unlock as commanded.

The following three circuits are used to operate the lock:

- Driver door unlock
- Passenger door unlock
- All door lock

The driver door lock actuator is isolated so it can be unlocked by itself using the keyless entry transmitter.

Rear Window and Rear Door Lockout Operation

The operator has the option to disable the interior rear door handles to prevent the unauthorized opening of the rear door doors while still retaining normal driver and passenger door handle functions. The driver door window switch has a lockout switch that will disable the interior rear door handles and the local rear window switches. When the lockout switch is pressed, the BCM will command the child lockout latches and will also send a disable command to the local rear window switches. The driver and passenger doors will still function normally by pressing a door lock switch which will unlock the doors but the child lockout latches will continue to disable the interior rear door handles.

Pressing the lockout switch again will signal a command to the BCM to unlatch the rear doors, restore normal interior rear door handle functions and restore normal function of the rear window switches

If the lockout indicator flashes while commanding the lockout system, indicates that the BCM has detected a fault in the system and that one or both interior rear door handles are not locked out and/or the local rear window switches are not locked out.