ACCESSORIES & EQUIPMENT

Vehicle Access - Description and Operation - Escalade, Suburban, Tahoe, Yukon

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 (BCM)
- Instrument cluster
- Driver door latch
- Passenger door latch
- Left rear door latch
- Right rear door latch
- Driver window motor
- Passenger window switch
- Left rear window switch
- Right rear window switch

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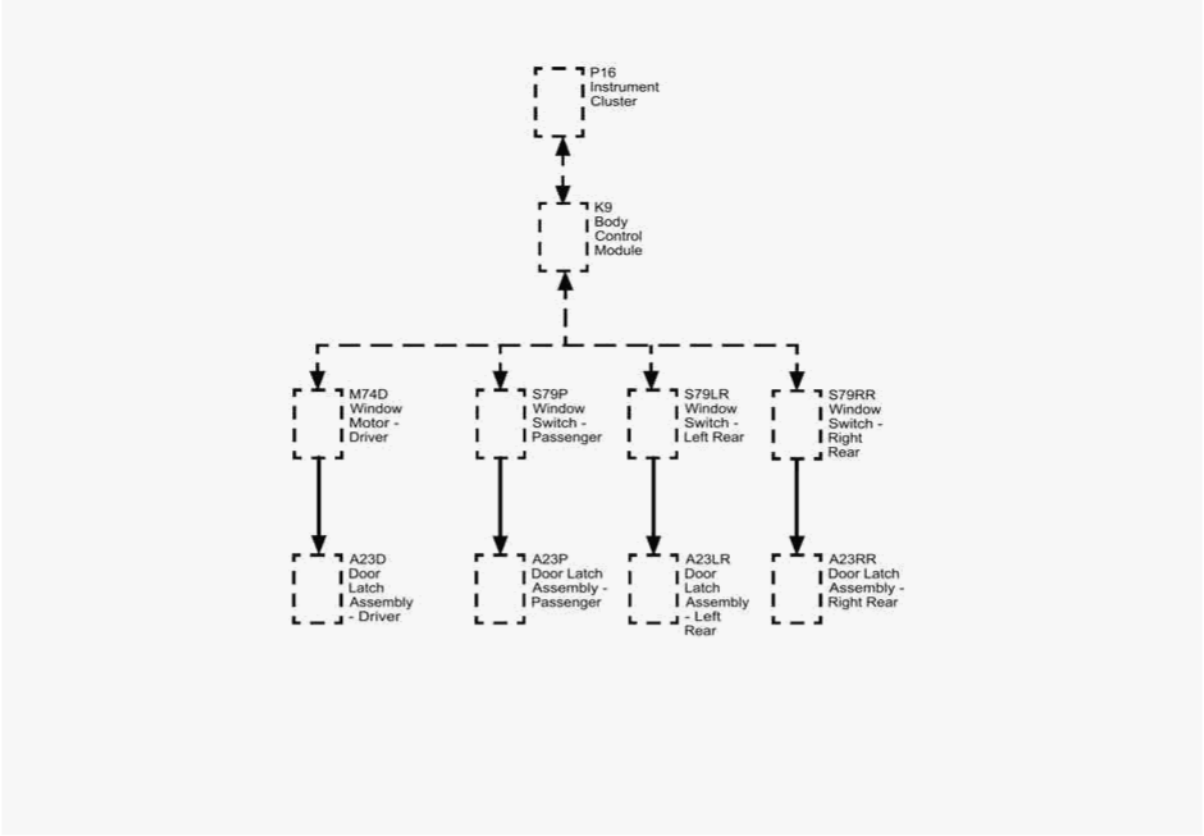


Fig. 1: Door Ajar System Block Diagram
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
P16	P16 Instrument Cluster
M74D	M74D Window Motor - Driver
S79P	S79P Window Switch - Passenger
S79LR	S79LR Window Switch - Left Rear
S79RR	S79RR Window Switch - Right Rear
A23D	A23D Door Latch Assembly - Driver
A23P	A23P Door Latch Assembly - Passenger
A23LR	A23LR Door Latch Assembly - Left Rear
A23RR	A23RR Door Latch Assembly - Right Rear

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Callout	Component Name
K9	K9 Body Control Module

Driver Door Ajar

The driver window motor 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 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

Passenger Door Ajar

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.

FUEL FILL DOOR DESCRIPTION AND OPERATION

Fuel Door Release System Components

- Body control module (BCM)
- Fuel door release actuator

The locking and unlocking of the fuel door is a function of the power door lock system. The fuel door release actuator is supplied by the door lock control circuit and the driver door unlock control circuit. 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 driver door latch assembly and the fuel door release actuator will then lock or unlock as commanded.

LIFTGATE AJAR INDICATOR DESCRIPTION AND OPERATION

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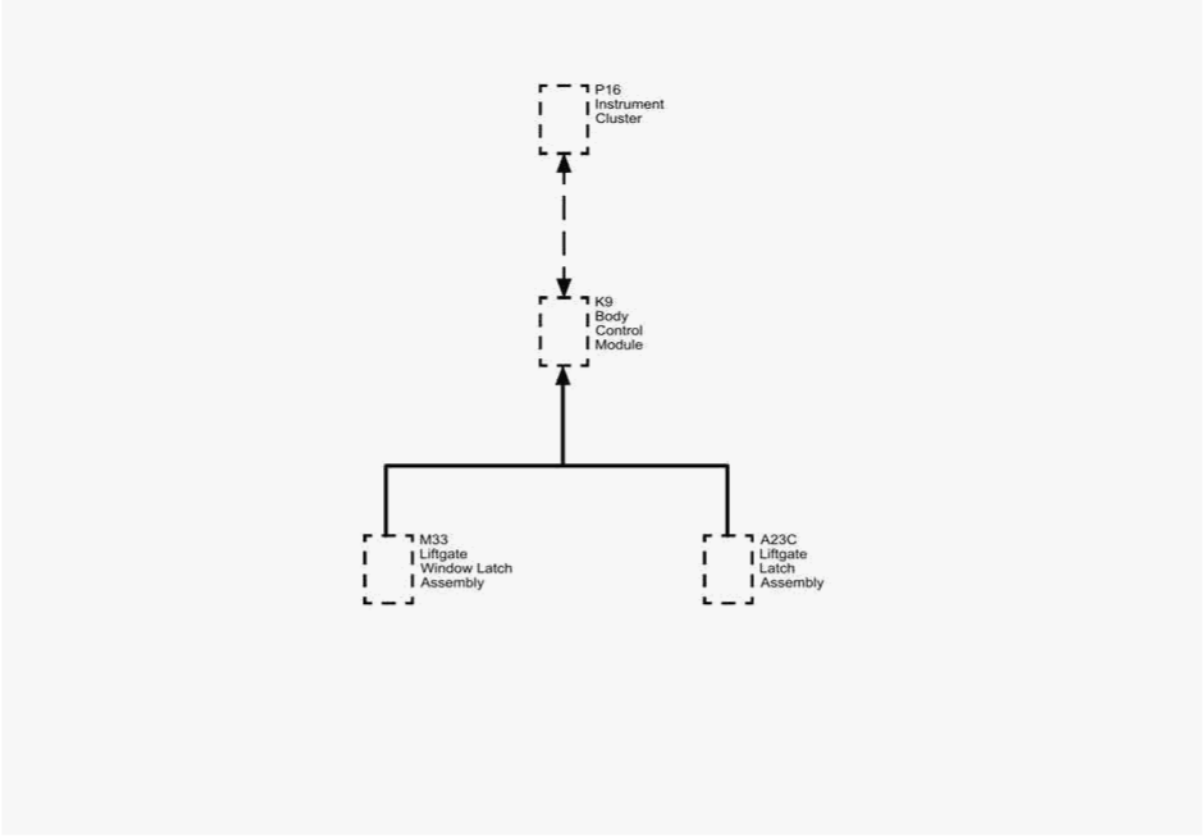


Fig. 2: Liftgate Ajar Indicator Block Diagram
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
P16	P16 Instrument Cluster
K9	K9 Body Control Module
M33	M33 Liftgate Window Latch Assembly
A23C	A23C Liftgate Latch Assembly

Manual Liftgate

The body control module supplies a 12V signal to the liftgate/liftglass ajar signal circuit. The liftgate and liftglass ajar switches are normally open when the liftgate or liftglass is fully closed. When the liftgate or liftglass is opened, the ajar switch contacts close providing a path to ground. The instrument cluster receives a serial data message from the body control module indicating the liftgate ajar status and the driver information center will

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display the REAR ACCESS OPEN message.

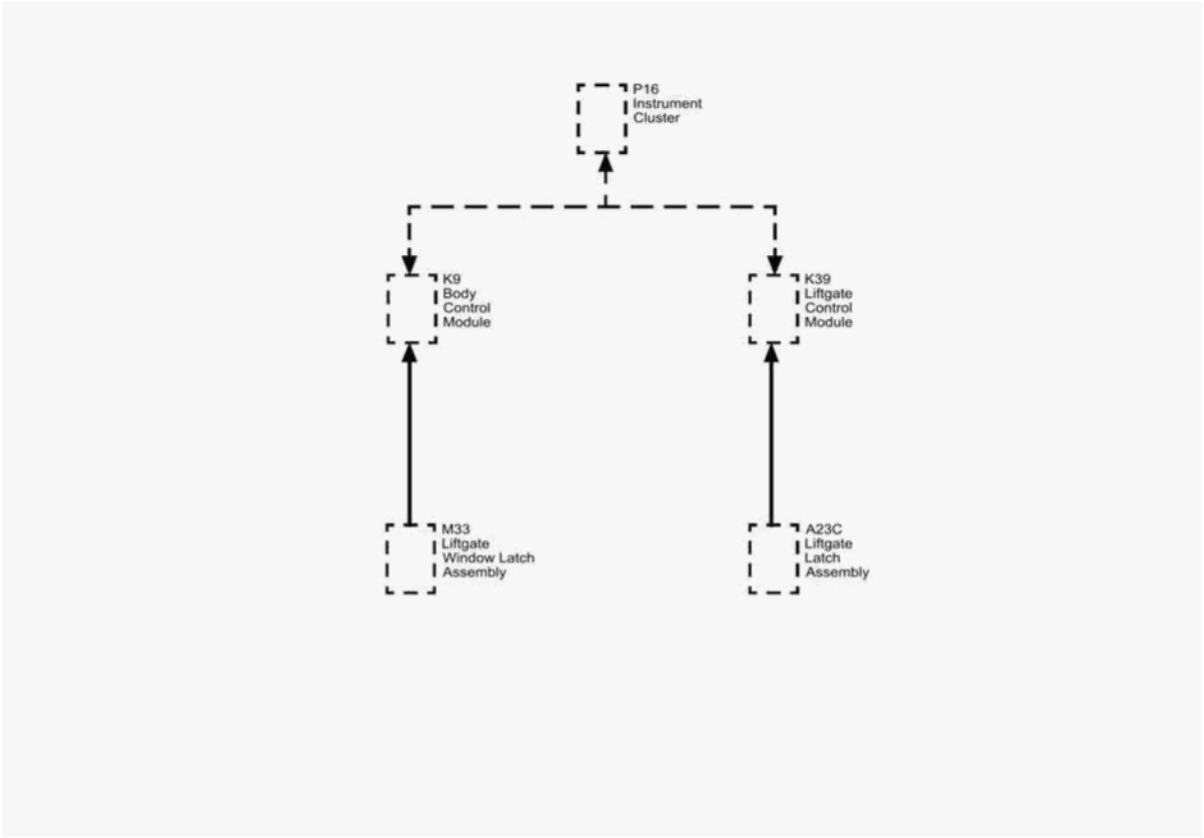


Fig. 3: Manual Liftgate Block Diagram
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
P16	P16 Instrument Cluster
K9	K9 Body Control Module
K39	K39 Liftgate Control Module
M33	M33 Liftgate Window Latch Assembly
A23C	A23C Liftgate Latch Assembly

Power Liftgate

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The driver information center illuminates the Rear Access Open message when the liftgate module detects the liftgate ratchet and the liftgate sector switches are closed to ground indicating the liftgate is open. The instrument cluster receives a serial data message from the liftgate module indicating the liftgate ajar status.

The body control module supplies a 12V signal to the liftglass ajar circuit. The liftglass ajar switch is normally open when the liftglass is fully closed. When the liftglass is opened, the ajar switch contacts close providing a path to ground. The instrument cluster receives a serial data message from the body control module indicating the liftgate ajar status and the driver information center will display the REAR ACCESS OPEN message.

LIFTGATE DESCRIPTION AND OPERATION

System Description

The power liftgate system consists of the following components:

- Liftgate control module
- Liftgate position sensor (part of the power assist actuator)
- Interior liftgate rotary switch
- Liftgate handle switch
- Liftgate close switch
- Liftgate latch assembly
- Liftgate power assist actuator
- Left and right liftgate object sensors
- Hands free liftgate sensor control module
- Upper and lower liftgate hands free sensors
- Keyless entry transmitter
- Remote control door lock receiver

Operation

The power liftgate can be commanded to power open and power close by the following methods:

- An open or close command from the interior liftgate rotary switch
- An open command from the liftgate handle switch
- A close command from the liftgate close switch

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- An open or close request by a signal from the keyless entry transmitter to the remote control door lock receiver
- The kicking motion of a foot and lower leg under the rear fascia - Sensor location may vary depending upon make and model, refer to owner's manual for the location of the sensors

The liftgate control module will respond to a request by commanding the liftgate latch to release the liftgate and activate the liftgate motor in the liftgate power assist actuator and raise the liftgate to the open position or to lower and cinch the liftgate closed.

Power Latch

The liftgate control module continuously monitors power liftgate operation and calculates its location and direction of travel from an liftgate position sensor (part of the power assist actuator). One input returns the position of the liftgate relative to the x-axis and y-axis. The liftgate control module then uses these 2 inputs together to calculate its angle relative to the liftgate. The interior liftgate rotary switch contains resistors which will incrementally drop the voltage level in the signal circuit as the switch rotated from the OFF position to the 3/4 position or the MAX position, the liftgate control module will detect the change in voltage and will monitor the x-axis and y-axis as the liftgate is in motion to stop the liftgate parallel to the vehicle roof if the rotary switch is in the 3/4 setting or to open fully if the rotary switch is in the MAX setting.

The liftgate latch assembly is a bi-directional motor and latch or unlatch operation is the result of the direction of the motor rotation. The liftgate control module controls the liftgate latch assembly through the control circuits by supplying power and ground in the appropriate polarity. The motor control circuits are monitored by the liftgate control module prior to activation for a high or low condition and during motor operation for an insufficient current flow condition. The ratchet, pawl, and sector switches are part of the liftgate latch assembly and are used by the liftgate control module to determine the state of the latch during the process of latching or unlatching. Each of the latch switch signal circuits are supplied battery voltage and monitored within the liftgate control module. The latch switches share a common low reference circuit from the liftgate control module and when the switch contacts close the signal circuit goes low and the liftgate control module determines the switch to be active.

The liftgate handle switch and liftgate close switch signal circuit are each supplied battery voltage by the liftgate control module. The switches share a common low reference circuit from the liftgate control module and when the switch is pressed the contacts close and the appropriate signal circuit goes low, the liftgate control module will detect the voltage drop and will command the liftgate to release and power open or to power close.

For vehicles without the optional passive keyless entry, when the liftgate handle switch is pressed, the liftgate control module will check the status of the vehicle door locks by sending a serial data message to the body control module requesting the door lock status. If the vehicle doors are locked, the liftgate control module will ignore the signal from the liftgate handle switch. If the vehicle doors are unlocked, the liftgate control module will permit the liftgate to unlatch and power open when the liftgate handle switch is pressed.

For vehicles with the optional passive keyless entry system, the keyless entry control module monitors the proximity of the keyless entry transmitter. If the liftgate handle switch is pressed and the keyless entry transmitter is within range, the keyless entry control module will send a serial data message to the liftgate control module indicating the presence of the keyless entry transmitter and the liftgate control module will permit the liftgate to unlatch and power open. If the doors are locked and the keyless entry transmitter is not within range, the liftgate control module will ignore the

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signal from the liftgate handle switch.

Liftgate Hands Free Sensor

The sensors are located behind the rear fascia (location may vary depending upon make and model, refer to owner's manual for the location of the sensors) and is designed to detect the motion of the operator's foot by way of a kicking motion. When the keyless entry transmitter is within 3 feet (1 meter) of the liftgate and the operator kicks his or her foot under the rear fascia, the sensors will detect the motion of the foot and the lower leg and if the procedure has been performed correctly the hands free liftgate sensor control module will send a serial data message to the liftgate control module. The tail lamps will then flash to indicate that the command has been received and the liftgate will power open or power close.

Object Detection

The power liftgate system uses an object detection method which consists of object sensors fixed to both sides of the liftgate near the seal area. The object sensors consist of an internal fixed resistor and normally open switch contacts which when closed will bypass the resistor. The signal circuit is supplied 5 V through a resistor and monitored within the liftgate control module, and during normal power liftgate operation the signal circuit should remain a fixed value. When an object presses one of the sensors the contacts close and the resistor is bypassed causing the signal circuit voltage at the module to go low. If the liftgate is being power closed at that time, the liftgate control module will command the power liftgate to reverse direction. All power close liftgate operations will be suspended until the obstruction pressing on the object sensor is removed

Manual Liftgate Operation

The operator has the option to disable the power liftgate operations by selecting the "OFF" position on the interior liftgate rotary switch. The releasing and cinching for the liftgate latch will function normally, however, the operator must manually pull the liftgate open and push the liftgate closed. All power liftgate operations will be suspended for as long as the liftgate rotary switch is in the "OFF" position.

POWER DOOR LOCKS DESCRIPTION AND OPERATION

Door Lock System Components

The power door lock system consists of the following components:

- Driver door lock switch
- Driver door key cylinder switch (Part of the driver door latch assembly)
- Child door lockout switch (Part of the driver window switch)
- Passenger door lock switch
- Front door lock actuators
- Rear door lock actuators

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- Body control module (BCM)
- Keyless entry control module
- Exterior door handle switches
- Right instrument panel fuse block (Contains child security lock disable PCB relay and/or door dead lock PCB relay)

Door Lock System Controls

The power door lock system can be controlled by any of the following:

- A door lock switch LOCK or UNLOCK activation
- A key cylinder switch unlock activation
- A keyless entry transmitter activation
- Pressing the driver door lock plunger flush with the door panel will lock all doors

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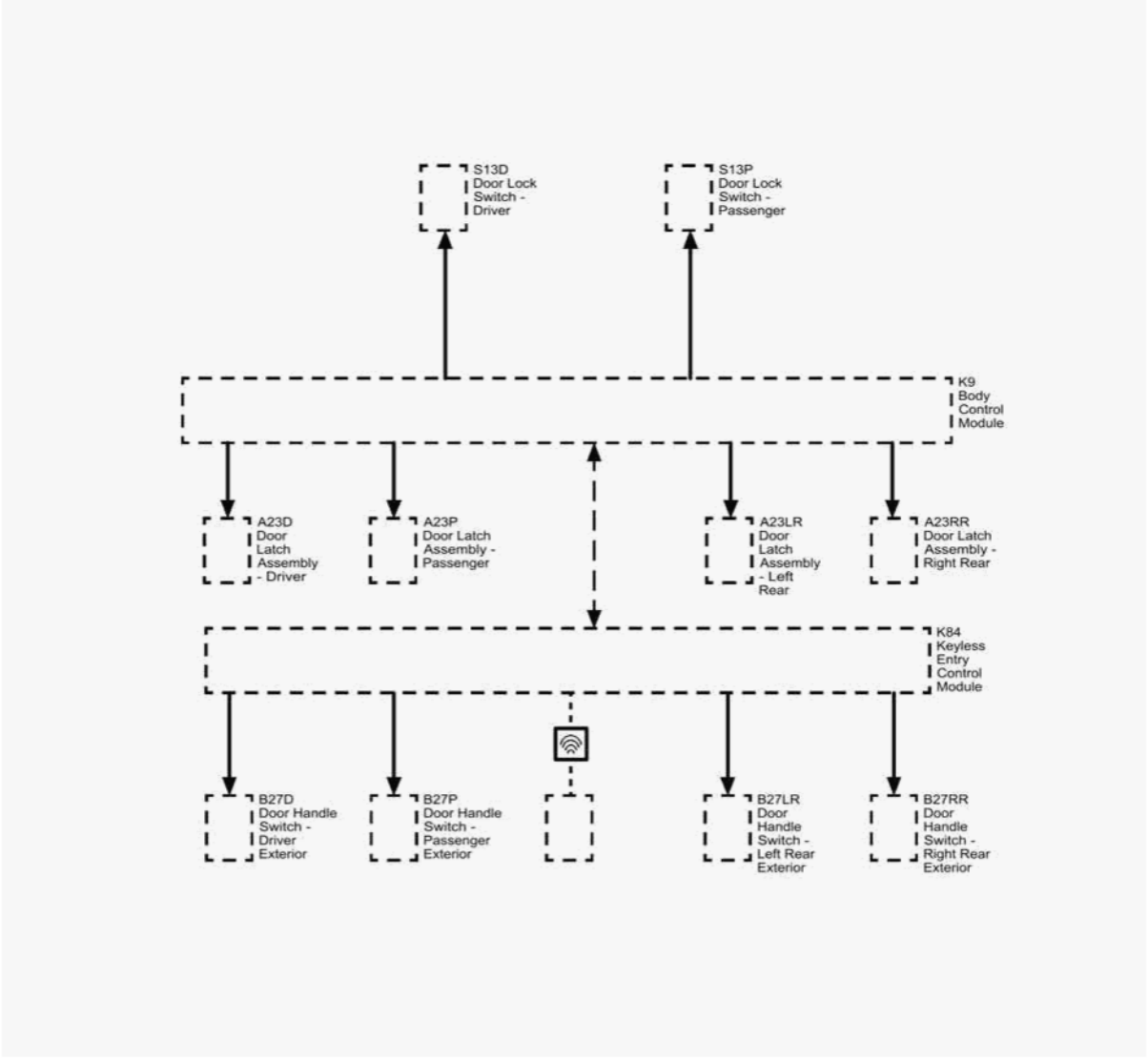


Fig. 4: Power Door Locks Block Diagram

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
S13D	S13D Door Lock Switch - Driver
S13P	S13P Door Lock Switch - Passenger
K9	K9 Body Control Module

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Callout	Component Name
A23RR	A23RR Door Latch Assembly - Right Rear
A23LR	A23LR Door Latch Assembly - Left Rear
A23P	A23P Door Latch Assembly - Passenger
A23D	A23D Door Latch Assembly - Driver
K84	K84 Keyless Entry Control Module
B27RR	B27RR Door Handle Switch - Right Rear Exterior
B27LR	B27LR Door Handle Switch - Left Rear Exterior
B27P	B27P Door Handle Switch - Passenger Exterior
B27D	B27D Door Handle Switch - Driver Exterior

Door Lock Operation

When the doors have been locked, the passengers inside the vehicle can still open the doors by using the interior door handle (except vehicles with the child locks engaged or dead locks engaged). Pulling the interior door handle the first time will unlock the door and pulling the interior door handle a second time will unlatch the door.

The BCM supplies a 12 volt signal to the lock and unlock signal circuits of the driver and passenger door lock switches. When the appropriate switch is pressed, a contact within the door lock switch closes providing a ground path for the signal circuit. The BCM will detect the voltage drop in the signal and will command the doors to perform the lock or unlock functions.

The driver door latch contains 2 internal switches and 2 signal circuits that are monitored by the BCM. One switch is controlled by the driver key cylinder switch, when the key is turned to the unlock position, a switch will close and the BCM will command the remaining doors to UNLOCK. The other switch is controlled by the driver door lock plunger, pressing the plunger flush with the door panel will close the switch, the switch will close and the BCM will command the remaining doors to LOCK

The BCM may also receive a LOCK or UNLOCK command from the keyless entry control module, refer to **Keyless Entry System Description and Operation (Without ATH)** **Keyless Entry System Description and Operation (With ATH)** for information on the keyless entry system

The BCM, upon receipt of a lock switch lock or unlock signal, will supply 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

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- Passenger doors unlock
- All doors lock

Passive Door Lock/Unlock Operation

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 signal within the signal circuit is pulled to ground. The keyless entry control module will detect the voltage drop and a low frequency antenna will transmit a challenge to the keyless entry transmitter. If the challenge is met, the keyless entry transmitter will respond, and the keyless entry control module will send a serial data message to the body control module to command the door(s) to be locked or unlocked

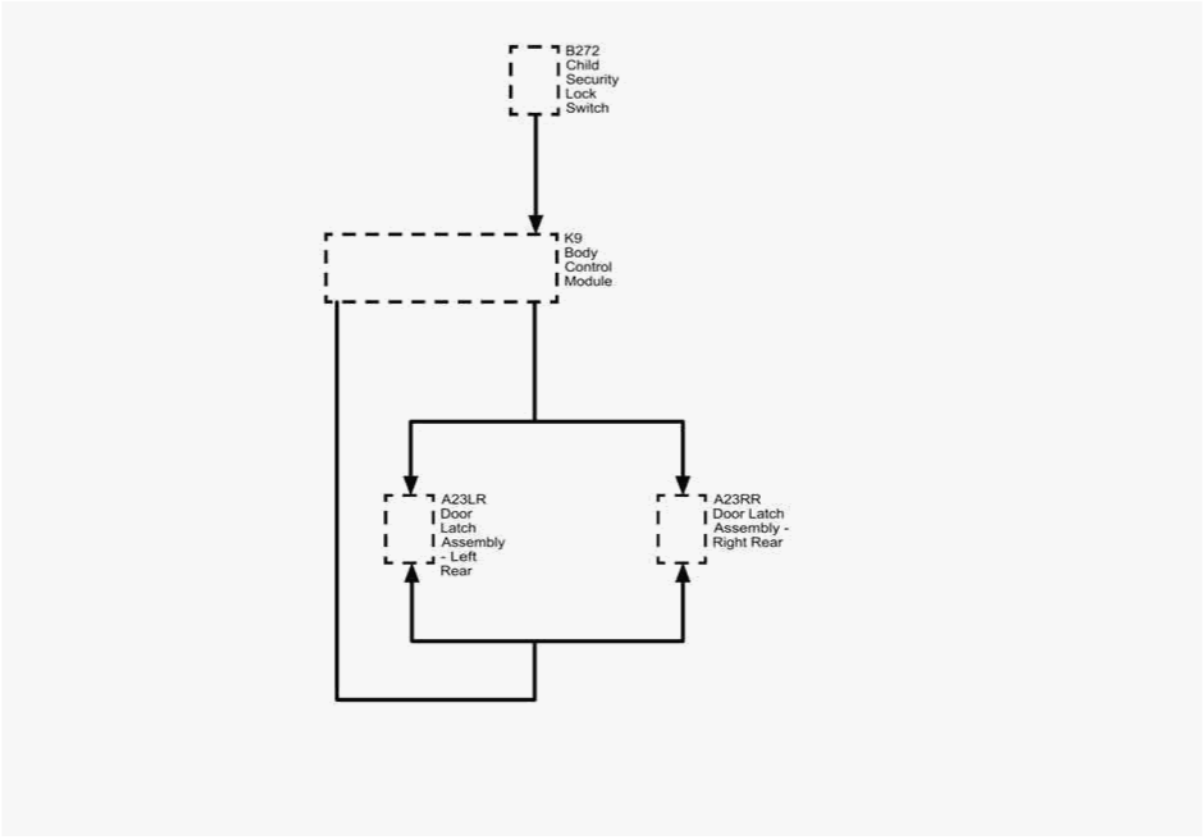


Fig. 5: Power Door Child Lock Block Diagram
Courtesy of GENERAL MOTORS COMPANY

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Callout	Component Name
B272	Child Security Lock Switch
K9	K9 Body Control Module
A23RR	A23RR Door Latch Assembly - Right Rear
A23LR	A23LR Door Latch Assembly - Left Rear

Child Security Lockout System Operation

The child door lockout switch on the driver window switch controls the child locks on the rear doors. The lockout switch is an input to the body control module and the body control module controls the door lock security relay. When the body control module receives a command from the child door lockout switch, it will apply voltage to the child security lock disable relay coil, this will energize the relay and the contact within the relay will then direct the voltage to activate 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. An indicator will also illuminate to alert the driver that the child lockout system has been activated. Pushing the switch again will return normal function to the rear interior door handles and the indicator will go out.

The body control module monitors the voltage level of the child security motor status signal circuit, when the child locks have been activated, the contacts of the child security motor status switch (internal to the rear door latch) will close providing a ground path for the signal circuit pulling the voltage low. It is in this manner that the body control module is able to determine if the rear door latch has been successfully been locked out.

The body control module monitors the status of the child security lockout system, when the body control module detects a fault in the system, it will command the child lockout indicator to flash ON and OFF for 30 seconds to alert the driver that the child security lockout system may not be functioning properly.

The body control module will command the child lockout indicator to flash ON and OFF for the following reasons:

- An open/high resistance in either child security motor status signal circuit
- The body control module detects that one or both rear door latches have not activated and are not locked out
- The body control module detects a short to ground or an open/high resistance in the child security lock disable relay control circuit
- A malfunctioning child security lock disable relay
- An open/high resistance in the child security lock motor control circuit

Power Door Lock Deadlock Operation

Some vehicles may be equipped with the deadlock security feature which includes an additional reversible deadlock motor contained within each door latch assembly. Each deadlock motor is wired to the BCM through 2 control circuits; the door lock deadlock control circuit and the door lock actuator unlock control circuit. To lock the door with deadlock, the door locks are activated by momentarily applying voltage to the door lock

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deadlock control circuits, and ground to the door lock actuator unlock control circuits. Ground to the deadlock actuators is provided through the door lock actuator unlock control circuits. Once the doors are locked with deadlock, the mechanical lock/unlock linkage within the door lock actuator is physically disconnected so that the door can not be manually unlocked and disables the functions of the interior door handles. If the content theft feature is armed at the same time, the interior door lock switches will not operate the locks.

To restore the interior door handle functions, the BCM unlocks the doors by momentarily applying ground to the deadlock motor unlock control circuit. This energizes the rear door unlock relay coil causing voltage to flow through the switch contacts to the door lock and deadlock motors. Ground for both motors is supplied through the door lock motor lock circuit through the normally closed contacts of the lock relay to ground.

REAR HATCH/GATE DESCRIPTION AND OPERATION

Liftgate Release System Components

- Body control module (BCM)
- Liftgate unlatch switch
- Liftgate window unlatch switch
- Liftgate latch assembly
- Liftgate window latch assembly
- Liftgate window unlatch relay
- Liftgate unlatch relay

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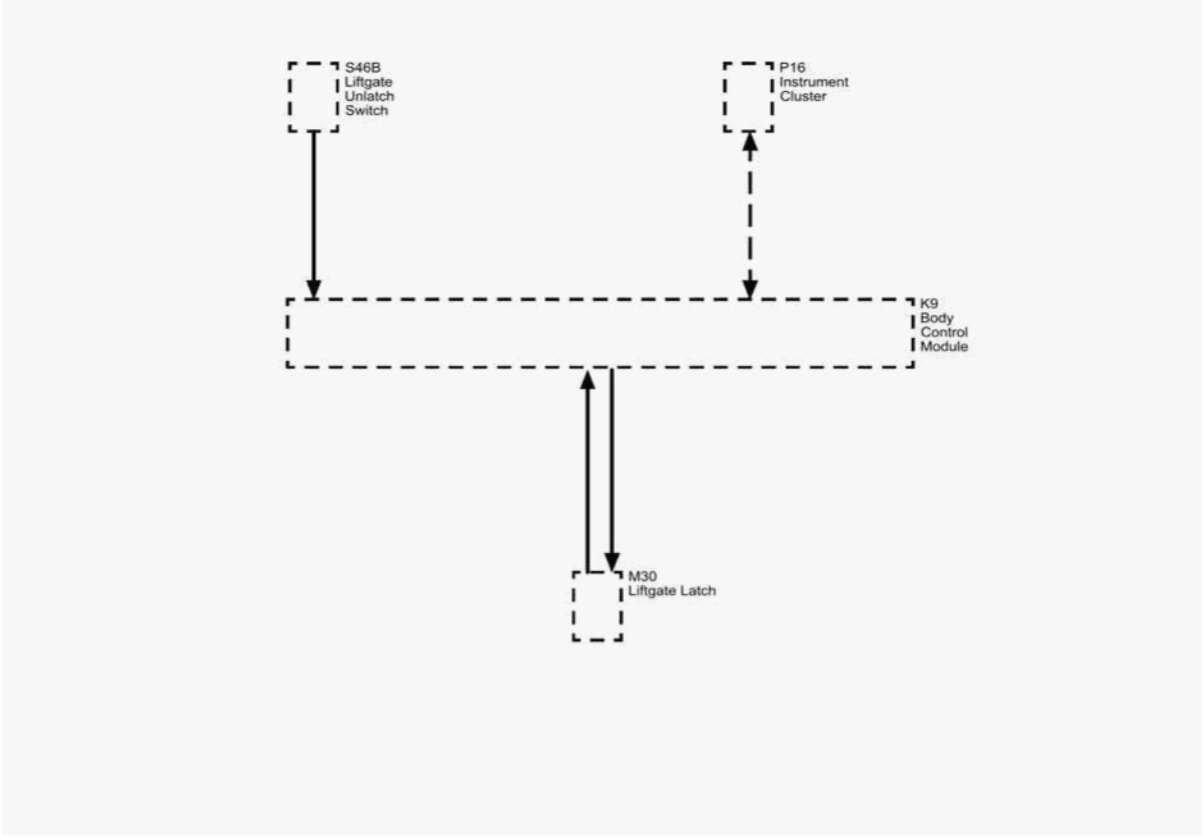


Fig. 6: Liftgate Release Block Diagram
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
P16	P16 Instrument Cluster
K9	K9 Body Control Module
M30	M30 Liftgate Latch
S46B	S46B Liftgate Unlatch Switch

Liftgate Release Operation

Liftgate Unlatch Switch

The BCM monitors supplies a 12 V signal to the liftgate unlatch switch so that when the switch is pressed, the voltage within the signal circuit is

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pulled low and in response, the BCM will detect the voltage drop and check the status of the door lock system. If the doors are locked, the BCM will ignore the request, if the All Doors Unlocked has been commanded, the BCM will recognize the request and command the liftgate to release.

Liftgate Latch

When BCM receives a liftgate release command from the liftgate unlatch switch, the BCM applies voltage and ground to the liftgate unlatch relay control circuit, which energizes the coil side of the relay. The switch side of the release relay then momentarily closes, supplying a brief pulse of battery positive voltage to the liftgate latch. The liftgate latch is continuously grounded and when it receives the voltage pulse, it will become energized and the latch will activate releasing the liftgate so that it may be manually raised to an open position.

Keyless Entry Transmitter

The BCM may also get a rear compartment release command from the remote keyless entry module. When the liftgate button is pressed on the keyless entry transmitter, a liftgate release request is sent to the remote keyless entry module, the remote keyless entry module will then send a serial data message to the BCM to command the release of the liftgate.

Liftgate Window

Liftgate Window Unlatch Switch

The BCM monitors supplies a 12 V signal to the liftgate window unlatch switch so that when the switch is pressed, the voltage within the signal circuit is pulled low and in response, the BCM will detect the voltage drop and check the status of the door lock system. If the doors are locked, the BCM will ignore the request, if the All Doors Unlocked has been commanded, the BCM will recognize the request and command the liftgate window to release.

Liftgate Window Latch

When BCM receives a liftgate window release command from the liftgate window unlatch switch, the BCM applies voltage to the liftgate window unlatch relay control circuit, which energizes the coil side of the relay. The switch side of the liftgate window unlatch relay then momentarily closes, supplying a brief pulse of battery positive voltage to the liftgate window latch. The liftgate window latch is continuously grounded and when it receives the voltage pulse, it will become energized and the latch will activate releasing the liftgate window so that it may be manually raised to an open position.

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ACCESSORIES & EQUIPMENT

Vehicle Access - Diagnostic Information and Procedures - Escalade, Suburban, Tahoe, Yukon

DIAGNOSTIC INFORMATION AND PROCEDURES

DTC B1474 OR B3849: PASSENGER EXTERIOR DOOR HANDLE SWITCH CIRCUIT SHORT TO GROUND/DRIVER EXTERIOR DOOR HANDLE SWITCH CIRCUIT SHORT TO GROUND

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.
- Refer to **Diagnostic Procedure Instructions** to provide 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				

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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

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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 A24D Door Handle Assembly-Driver Exterior or the A24P Door Handle Assembly-Passenger Exterior.
   - **If the parameter does not change**

     Refer to Circuit/System Testing.

   - **If the parameter changes**
3. All OK.

Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the appropriate A24 Door Handle Assembly-Exterior. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 5 and ground.

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- **If 10 Ω or greater**

1. Ignition OFF.
2. Test for less than 2 Ω in the ground circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, repair the open/high resistance in the ground connection.

- **If less than 10 Ω**

3. Ignition ON.
4. 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 1 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 1 and the ground circuit terminal 5.
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 Ω in the signal circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, replace the K84 Keyless Entry Control Module.

- **If Active**

7. Test or replace the A24 Door Handle Assembly-Exterior.

Component Testing

1. Ignition OFF, disconnect the harness connector at the appropriate A24 Door Handle Assembly-Exterior.

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2. Test for infinite resistance between the signal terminal 1 and the ground terminal 5 with the switch in the open position.
    - **If less than infinite resistance**

      Replace the A24 Door Handle Assembly-Exterior.

    - **If infinite resistance**
3. Test for less than 5 Ω between the signal terminal 1 and the ground terminal 5 with the switch in the closed position.
    - **If 5 Ω or greater**

      Replace the A24 Door Handle Assembly-Exterior.

    - **If less than 5 Ω**
4. All OK

Repair Instructions

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

- Refer to **Front Side Door Outside Handle Replacement (without ATH)** **Front Side Door Outside Handle Replacement (with ATH)**
- Refer to **Control Module References** for keyless entry control module replacement, programming and setup

DTC B1534 OR B1535: LEFT REAR DOOR HANDLE SWITCH CIRCUIT SHORT TO GROUND/RIGHT REAR DOOR HANDLE SWITCH CIRCUIT SHORT TO GROUND

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.
- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

DTC Descriptors

DTC B1534 02

Left Rear Door Handle Switch Circuit Short to Ground

DTC B1535 02

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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

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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

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Active and Inactive when pressing and releasing A24LR Door Handle Assembly-Left Rear Exterior or the A24RR Door Handle Assembly-Right Rear Exterior.

- **If the parameter does not change**

  Refer to Circuit/System Testing.

- **If the parameter changes**

3. All OK.

Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the appropriate A24 Door Handle Assembly-Rear Exterior. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 5 and ground.
   - **If 10 Ω or greater**
   1. Ignition OFF.
   2. Test for less than 2 Ω in the ground circuit end to end.
      - If 2 Ω or greater, repair the open/high resistance in the circuit.
      - If less than 2 Ω, repair the open/high resistance in the ground connection.
   - **If less than 10 Ω**
3. Ignition ON.
4. 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 1 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 1 and the ground circuit terminal 5.
6. Verify the scan tool Exterior Door Handle Switch parameter is Active.
   - **If not Active**

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

- **If Active**

7. Test or replace the A24 Door Handle Assembly-Rear Exterior.

Component Testing

1. Ignition OFF, disconnect the harness connector at the appropriate A24 Door Handle Assembly-Rear Exterior.
2. Test for infinite resistance between the signal terminal 1 and the ground terminal 5 with the switch in the open position.
    - **If less than infinite resistance**

      Replace the A24 Door Handle Assembly-Rear Exterior.

    - **If infinite resistance**
3. Test for less than 5 Ω between the signal terminal 1 and the ground terminal 4 with the switch in the closed position.
    - **If 5 Ω or greater**

      Replace the A24 Door Handle Assembly-Rear Exterior.

    - **If less than 5 Ω**
4. All OK

Repair Instructions

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

- Refer to **Rear Side Door Outside Handle Replacement (without ATH)** **Rear Side Door Outside Handle Replacement (with ATH)**
- Refer to **Control Module References** for keyless entry control module replacement, programming and setup

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DTC B153E: LIFTGATE POSITION SENSOR SIGNAL CIRCUIT PERFORMANCE

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.
- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

DTC Descriptor

DTC B153E

Liftgate Position Sensor Signal Circuit Performance

For symptom byte information refer to: **Symptom Byte List**

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Liftgate Position Sensor 12 V Reference Voltage	B153E 02	B153E 04	-	-
Liftgate Position Sensor 1 Signal	B153E 02, B153E 08	B153E 04, B153E 08	B153E 01, B153E 08	B153E 08
Liftgate Position Sensor 2 Signal	B153E 02, B153E 08	B153E 04, B153E 08	B153E 01, B153E 08	B153E 08
Liftgate Position Sensor Low Reference	-	B153E 04	-	-

Circuit/System Description

The liftgate control module continuously monitors power liftgate operation and calculates its location and direction of travel using 2 Hall effect sensors that are part of the liftgate motor. The Hall effect sensors are 12 V 3-wire sensors and are supplied with a 12 V reference, ground and signal circuits from the liftgate control module. The Hall effect sensor signal circuits are referenced from voltage within the liftgate control module and pulsed low by the Hall effect sensors.

Conditions for Running the DTC

When the liftgate system is being actively commanded by the liftgate control module.

Conditions for Setting the DTC

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B153E 01

The liftgate control module detects a short to battery in the liftgate position sensor 1 or the liftgate position sensor 2 signal circuit

B153E 02

The liftgate control module detects a short to ground in the liftgate position sensor 1, the liftgate position sensor 2 signal circuit or the 12 V reference circuit

B153E 04

The liftgate control module detects an open/high resistance in the liftgate position sensor 1, the liftgate position sensor 2 signal circuit, the 12 V reference circuit or the low reference circuit

B153E 08

The liftgate control module detects inconsistent signals from the liftgate position sensor 1 and liftgate position sensor 2 signal circuit

Action Taken When the DTC Sets

The power liftgate will open and close erratically.

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

Liftgate Schematics

Connector End View Reference

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Description and Operation

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Liftgate 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.

NOTE: **Refer to Liftgate System Diagnosis for a guide to power liftgate functions and failure modes to determine the course of action when the power liftgate malfunctions**

2. Verify the liftgate will release and smoothly power open and close when commanding Liftgate Open/Close with a scan tool.
   - **If the liftgate releases but performs an erratic power open/close motion**

     Refer to Circuit/System Testing

   - **If the liftgate does smoothly power open and close**
3. All OK.

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the M31 Liftgate Motor.
2. Test for less than 20 Ω between the low reference circuit terminal 3 and ground.
   - **If 20 Ω or greater**
   1. Ignition OFF.
   2. Test for less than 2 Ω in the low reference circuit end to end.
      - If 2 Ω or greater, repair the open/high resistance in the circuit.

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- If less than 2 Ω, replace the K39 Liftgate Control Module.

- **If less than 20 Ω**

3. Test for greater than 11 V between the 12 V reference circuit terminal 2 and ground.

- **If 11 V or less**

1. Ignition OFF, disconnect the X3 harness connector at the K39 Liftgate Control Module.
2. Test for infinite resistance between the 12 V reference circuit and ground.
    - If less than infinite resistance, repair the short to ground on the circuit.
    - If infinite resistance
3. Test for less than 2 Ω in the 12 V reference circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, replace the K39 Liftgate Control Module.

- **If greater than 11 V**

4. Test for greater than 11 V between the Position Sensor Signal 1 circuit terminal 7 and ground.

- **If 11 V or less**

1. Ignition OFF, disconnect the X3 harness connector at the K39 Liftgate Control Module.
2. Test for infinite resistance between the Position Sensor Signal 1 circuit and ground.
    - If less than infinite resistance, repair the short to ground on the circuit.
    - If infinite resistance
3. Test for less than 2 Ω in the Position Sensor Signal 1 circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, replace the K39 Liftgate Control Module.

- **If greater than 11 V**

5. Test for greater than 11 V between the Position Sensor Signal 2 circuit terminal 8 and ground.

- **If 11 V or less**

1. Ignition OFF, disconnect the X3 harness connector at the K39 Liftgate Control Module.
2. Test for infinite resistance between the Position Sensor Signal 2 circuit and ground.
    - If less than infinite resistance, repair the short to ground on the circuit.
    - If infinite resistance
3. Test for less than 2 Ω in the Position Sensor Signal 2 circuit end to end.

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- If 2 Ω or greater, repair the open/high resistance in the circuit.
- If less than 2 Ω, replace the K39 Liftgate Control Module.

- **If greater than 11 V**

6. Replace the M31 Liftgate Motor.

Repair Instructions

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

- Refer to **Liftgate Power Assist Actuator Replacement (Chevrolet, GMC)** **Liftgate Power Assist Actuator Replacement (Cadillac)**
- Refer to **Control Module References** for the liftgate control module replacement, setup and programming

DTC B2495 OR B24A0: LIFTGATE LATCH CONTROL CIRCUIT/POWER LIFTGATE LATCH RELEASE MOTOR CIRCUIT

Diagnostic Instructions

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

DTC Descriptors

DTC B2495

Liftgate Latch Control Circuit

DTC B24A0

Power Liftgate Latch Release Motor Circuit

For symptom byte information refer to: **Symptom Byte List**

Diagnostic Fault Information

Circuit	Short to Ground	Open	High Resistance	Short to Voltage	Signal Performance
Liftgate Latch Release Control	B24A0 02	B24A0 05	B24A0 08	B24A0 01	-

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Circuit	Short to Ground	Open	High Resistance	Short to Voltage	Signal Performance
Cinch Latch Motor Open Control	B2495 02	B2495 04, B24A0 05	B2495 04, B24A0 05	B2495 01	-
Cinch Latch Motor Close Control	B2495 02	B2495 04, B24A0 05	B2495 04, B24A0 05	B2495 01	-

Circuit/System Description

The liftgate control module controls the liftgate release motor by supplying 12V to the release control circuit. The motor control circuits are monitored by the liftgate control module prior to activation for a high or low condition and during motor operation for an insufficient current flow condition.

The ratchet, pawl, and sector switches are part of the liftgate latch assembly and are used by the liftgate control module to determine the state of the latch during the process of latching or unlatching. The ratchet and pawl switches will be inactive when the primary and secondary latches are latched, and the sector switch will be active during the power cinch function. Each of the latch switch signal circuits are supplied battery voltage through a resistor and monitored within the liftgate control module. When the switch contacts close the signal circuit goes low and the liftgate control module determines the switch to be active.

The latch motor is a bi-directional motor and cinch or unlatch operation is the result of the direction of the motor rotation. The liftgate control module controls the latch motor through the control circuits by supplying power and ground in the appropriate polarity. The motor control circuits are monitored by the liftgate control module prior to activation for a high or low condition and during motor operation for an insufficient current flow condition.

Conditions for Running the DTC

The system voltage is 9-16 V.

Conditions for Setting the DTC

B2495 01

The liftgate control module detects a short to battery in the liftgate latch motor cinch control circuit.

B2495 02

The liftgate control module detects a short to ground in the liftgate latch motor cinch control circuit.

B2495 04, B24A0 05

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The liftgate control module detects an open/high resistance in the liftgate latch motor cinch control circuit when cinching the liftgate to the closed position.

B24A0 01

The liftgate control module detects a short to battery in the liftgate latch motor release control circuit while commanding the liftgate latch to release.

B24A0 02

The liftgate control module detects a short to ground in the liftgate latch motor release control circuit while commanding the liftgate latch to release.

B24A0 08

The liftgate control module detects high resistance in the liftgate latch motor release control circuit while commanding the liftgate latch to release.

Action Taken When the DTC Sets

B24A0 01, B24A0 02, B24A0 08

The liftgate will not release and will be inoperative in the power and manual modes.

B2495 01, B2495 02, B2495 04, B24A0 05

- Manual Mode: Liftgate will not cinch closed.
- Power Mode: The liftgate will not release and will be inoperative.

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.

Diagnostic Aids

- If the liftgate will not release from the closed position, refer to **Opening the Liftgate Without Electrical Power (TB4)** **Opening the Liftgate Without Electrical Power (TB5/TC2)** for the appropriate procedure.
- Whenever the liftgate control module loses power or is disconnected, the ignition must be cycled OFF then ON in order to reactivate the liftgate control module.

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Reference Information

Schematic Reference

Liftgate Schematics

Connector End View Reference

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Description and Operation

Liftgate Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Ignition ON.

   NOTE: **Refer to Liftgate System Diagnosis for a guide to power liftgate functions and failure modes to determine the course of action when the power liftgate malfunctions**

2. Verify the A23C Liftgate Latch Assembly releases the liftgate when pressing the S46 Liftgate Handle Switch.
   - **If the A23C Liftgate Latch Assembly does not release**

     Refer to Circuit/System Testing - Liftgate Release Inoperative.

   - **If the A23C Liftgate Latch Assembly does release**

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3. Verify the A23C Liftgate Latch Assembly cinches the liftgate to the fully closed position while gently pushing the liftgate closed.
    - **If the A23C Liftgate Latch Assembly does not cinch**

      Refer to Circuit/System Testing - Liftgate Cinch Inoperative.

    - **If the A23C Liftgate Latch Assembly cinch works**
4. All OK.

Circuit/System Testing

Liftgate Release Inoperative

1. Ignition OFF, disconnect the X3 harness connector at the K39 Liftgate Control Module. Ignition ON.
2. Test for less than 1 V between the control circuit terminal 13 and ground.
    - **If 1 V or greater**
    1. Ignition OFF, disconnect the harness connector at the A23C Liftgate Latch Assembly, 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, test or replace the A23C Liftgate Latch Assembly.
    - **If less than 1 V**
3. Ignition ON, manually move the latch to cinched position, install a 30 A fused jumper wire between the control circuit terminal 13 and 12 V, the A23C Liftgate Latch Assembly should perform the release function.
    - **If the A23C Liftgate Latch Assembly does not release**
    1. Ignition OFF, disconnect the harness connector at the A23C Liftgate Latch Assembly.
    2. Test for infinite resistance 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 Ω in the control circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the A23C Liftgate Latch Assembly.
    - **If the A23C Liftgate Latch Assembly releases**
4. Replace the K39 Liftgate Control Module.

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Liftgate Cinch Inoperative

1. Ignition OFF, disconnect the X2 harness connector at the K39 Liftgate Control Module.
2. Test for less than 1 V between the control circuit terminals listed below and ground:
    - Control circuit terminal 1 X2
    - Control circuit terminal 2 X2
    - **If 1 V or greater**
    1. Ignition OFF, disconnect the harness connector at the A23C Liftgate Latch Assembly. 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**
3. Test for infinite resistance between the control circuit terminals listed below and ground:
    - Control circuit terminal 1 X2
    - Control circuit terminal 2 X2
    - **If less than infinite resistance**
    1. Ignition OFF, disconnect the harness connector at the A23C Liftgate Latch Assembly.
    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, replace the A23C Liftgate Latch Assembly.
    - **If infinite resistance**
4. Test for less than 10 Ω between the control circuit terminal 1 and the control circuit terminal 2.
    - **If 10 Ω or greater**
    1. Ignition OFF, disconnect the harness connector at the A23C Liftgate Latch Assembly.
    2. Test for less than 2 Ω between the K39 Liftgate Control Module control circuit terminal 1 and the A23C Liftgate Latch Assembly control circuit terminal 7.
        - If 2 Ω or greater, repair the open/high resistance on the circuit.
    3. Test for less than 2 Ω between the K39 Liftgate Control Module control circuit terminal 2 and the A23C Liftgate Latch Assembly control circuit terminal 8.
        - If 2 Ω or greater, repair the open/high resistance on the circuit.

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- If less than 2 Ω, replace the A23C Liftgate Latch Assembly.
- **If less than 10 Ω**

5. Replace the K39 Liftgate Control Module.

Repair Instructions

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

- Refer to **Liftgate Latch Replacement (Chevrolet, GMC)** **Liftgate Latch Replacement (Cadillac)**
- Refer to **Control Module References** for liftgate control module replacement, setup and programming

DTC B252C: CHILD SECURITY LOCK SWITCH CIRCUIT

Diagnostic Instructions

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

DTC Descriptor

DTC B252C 00

Child Security Lock Switch Circuit

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal	B252C 00	1	1	-
Ground	-	1	-	-
1. Child Security Lockout Malfunction				

Circuit/System Description

The body control module (BCM) monitors the voltage level in the child security door lockout switch signal circuit, when the switch is in the open position the voltage in the signal circuit will be equal to the B+ voltage level. When the child security door lockout switch is pressed, voltage within

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the signal circuit drops and the BCM will detect the voltage drop and will energize the door lock relay to disable the interior rear door handles.

Conditions for Running the DTC

The system voltage is 9-16 V.

Conditions for Setting the DTC

The BCM has detected a short to ground on the child security lockout switch signal circuit for greater than 60 seconds.

Action Taken When the DTC Sets

- The interior rear door handles will always be disabled or will not lockout depending upon the latch states when the fault occurred
- The BCM will ignore the input from the lockout switch.

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

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Description and Operation

Power Door Locks Description and Operation

Electrical Information Reference

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- **Connector Repairs**

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- **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 Left Rear Child Security Lock Switch and Right Rear Child Security Lock Switch parameters change between Inactive and Active when pressing and depressing the child security lockout switch.
    - **If the parameter does not change**

      Refer to Circuit/System Testing.

    - **If the parameter changes**
3. All OK.

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the S79D Window Switch-Driver. Ignition ON
2. Test for greater than 10 V between the signal circuit terminal 10 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 Ω in the signal circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the K9 Body Control Module.
    - **If greater than 10 V**
3. Test or replace the S79D Window Switch-Driver.

Repair Instructions

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

- Refer to **Front Side Door Window Control Switch Replacement (Chevrolet, GMC)** **Front Side Door Window Control Switch Replacement (Cadillac)**
- Refer to **Control Module References** for the BCM replacement, programming and setup

DTC B252E: CHILD SECURITY LOCK SWITCH INDICATOR CIRCUIT

Diagnostic Instructions

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

DTC Descriptor

DTC B252E

Child Security Lock Switch Indicator Circuit

For symptom byte information refer to: **Symptom Byte List**

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Control	B252E 02	B252E 04	B252E 01	-

Circuit/System Description

The body control module (BCM) will provide a ground for the child door lock indicator control circuit when the BCM receives a child door lockout command. The indicator will illuminate to indicate that the interior rear door handles have been disabled.

Conditions for Running the DTC

The system voltage is 9-16 V.

Conditions for Setting the DTC

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B252E 01

The BCM has detected a short to voltage on the child security lockout indicator control circuit for greater than 60 seconds

B252E 02

The BCM has detected a short to ground on the child security lockout indicator control circuit for greater than 60 seconds

B252E 04

The BCM has detected an open/high resistance on the child security lockout indicator control circuit for greater than 60 seconds

Action Taken When the DTC Sets

B252E 01

The child lockout system will function normally but the child security lockout indicator will be continuously illuminated

B252E 02

The child lockout system will function normally but the child security lockout indicator will be inoperative

B252E 04

The child lockout system will function normally but the child security lockout indicator will be inoperative

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

Interior Lights Dimming Schematics

Connector End View Reference

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- **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 child lockout indicator turns ON and OFF when commanding the Child Security Lock Indicator Command Active and Inactive with a scan tool.
   - **If the child lockout indicator is always ON or always OFF**

     Refer to Circuit/System Testing.

   - **If the child lockout indicator flashes ON and OFF**

     Refer to **Power Door Child Lock Malfunction**

   - **If the child lockout indicator turns ON and turns OFF**
3. All OK.

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the S79D Window Switch-Driver. Ignition ON
2. Connect a test lamp between the control circuit terminal 12 and B+.

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3. Verify the test lamp turns ON and OFF when Child Security Lock Indicator Command Active and Inactive with a scan tool.
    - **If the test lamp is always OFF**
    1. Ignition OFF, remove the test lamp, 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
    3. Ignition OFF.
    4. Test for less than 2 Ω in the control circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the K9 Body Control Module.
    - **If the test lamp is always ON**
    1. Ignition OFF, remove the test lamp, 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, replace the K9 Body Control Module.
    - **If the test lamp turns ON and OFF**
4. Test or replace the S79D Window Switch-Driver.

Repair Instructions

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

- Refer to **Front Side Door Window Control Switch Replacement (Chevrolet, GMC)** **Front Side Door Window Control Switch Replacement (Cadillac)**
- Refer to **Control Module References** for the BCM replacement, programming and setup

DTC B297B OR B297C: DOOR OPEN SWITCH SIGNAL - DOOR AJAR SWITCH SIGNAL NOT PLAUSIBLE/DRIVER DOOR OPEN SWITCH CIRCUIT NOT PLAUSIBLE

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.

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- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

DTC Descriptors

DTC B2A00 00

Door Open Switch Signal - Door Ajar Switch Signal Not Plausible

DTC B297B 5A

Driver Door Open Switch Circuit Not Plausible

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal	B2A00 00, B297B 5A	B2A00 00, B297B 5A	B2A00 00, B297B 5A	-
Ground	-	1	-	-
1. Ajar Indicator Inoperative				

Circuit/System Description

The keyless entry control module provides a 12V signal to the driver door open switch signal circuit. The driver window motor provides a 12V signal to the driver door ajar switch signal circuit. The door open switches and the door ajar switches are integral to the driver door latch assembly.

The door open switch and the door ajar switch contacts will be open with the door is fully closed, the door switches within the door latch are designed so that the when the door is ajar, the contact in the door ajar switch closes, the voltage is pulled low and the window motor will then send a serial data message to the BCM indicating that the door is ajar. When the door is opened further, the contact in the door open switch will then close providing a ground for the door open signal circuit, the keyless entry control module will then detect that the door is open.

Conditions for Running the DTC

Battery voltage is between 9-16 V.

Conditions for Setting the DTC

B2A00 00

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- The chassis control module detects the driver door open switch is Active while receiving a serial data message from the body control module that the driver door ajar switch is Inactive.
- The condition must be present for greater than 30 seconds

B297B 5A

- The keyless entry control module detects the driver door open switch is Active while receiving a serial data message from the body control module that the driver door ajar switch is Inactive.
- The condition must be present for greater than 30 seconds

Action Taken When the DTC Sets

B2A00 00, B297B 5A

The driver information center will display the Service Driver Door Switch message

Conditions for Clearing the DTC

- The DTC will be current for as long as the fault is present.
- When the keyless entry control module receives a serial data message from the BCM that the door is ajar before the keyless entry control module detects the door open switch is active, then the DTC will be a history DTC.
- A history DTC will clear after 50 ignition cycles.

Reference Information

Schematic Reference

- **Door Lock/Indicator Schematics**
- **Column Lock Schematics**

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Steering Wheel and Column Description and Operation

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Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Ignition ON.
2. Verify the scan tool Body Control Module 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 **Door Ajar Indicator Malfunction**

   - **If the parameter changes**
3. Verify the scan tool Keyless Entry Control Module 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

   - **If the parameter changes**
4. All OK.

Circuit/System Testing

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 Ω between the ground circuit terminal 3 and ground.
   - **If 10 Ω or greater**

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1. Ignition OFF.
2. Test for less than 2 Ω in the ground circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, repair the open/high resistance in the ground connection.
- **If less than 10 Ω**

3. Ignition ON.
4. Test for greater than 10 V between the signal circuit terminal 2 and ground.
    - **If 10 V or less**

    1. Ignition OFF, disconnect the harness connector at the K84 Keyless Entry Control Module
    2. Test for infinite resistance between the signal circuit and ground.
        - If less than infinite resistance, repair the short to ground on the circuit.
        - If infinite resistance
    3. Test for less than 2 Ω in the control circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance on the circuit.
        - If less than 2 Ω, replace the K84 Keyless Entry Control Module
    - **If greater than 10 V**

5. Test or replace the A23D Door Latch Assembly-Driver.

Component Testing

Static Test

1. Ignition OFF, disconnect the harness connector at the A23D Door Latch Assembly-Driver.
2. With the door in the closed position, test for infinite resistance between the signal terminal 2 and the ground terminal 3.
    - If not the specified value, replace the A23D Door Latch Assembly-Driver.
3. With the door in the open position, test for less than 5 Ω between the signal terminal 2 and the ground terminal 3.
    - If greater than the specified range, replace the A23D Door Latch Assembly-Driver.

Repair Instructions

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

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- Refer to **Front Side Door Latch Replacement**
- Refer to **Control Module References** for keyless entry control module replacement, programming and setup

DTC B3125, B3130, OR B3135: DRIVER DOOR ONLY UNLOCK CIRCUIT/ALL DOORS UNLOCK CIRCUIT/ALL DOORS LOCK CIRCUIT/ALL DOOR DEAD LOCK CIRCUIT (WITH UTT)

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.
- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

DTC Descriptors

DTC B3125

Driver Door Only Unlock Circuit

DTC B3130

All Doors Unlock Circuit

DTC B3135

All Doors Lock Circuit

DTC B3797

All Door Dead Lock Circuit

For symptom byte information refer to: **Symptom Byte List**

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
BCM B+	B3125 02, B3130 02, B3135 02	B3125 02, B3130 02, B3135 02	-	-

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Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Door Dead Lock Relay Control	B3797 02	1	1	-
Right Instrument Panel Fuse Block Ground	-	1	-	-
Door Lock Actuator Unlock Control	B3125 02, B3130 02, B3135 02	B3125 04, B3130 04, B3135 04	B3125 01, B3130 01, B3135 01	-
Doors Lock Control	B3125 02, B3130 02, B3135 02	B3125 04, B3130 04, B3135 04	B3125 01, B3130 01, B3135 01	-
Door Lock Actuator Lock Control	B3125 02, B3130 02, B3135 02	B3125 04, B3130 04, B3135 04	B3125 01, B3130 01, B3135 01	-
1. Door Dead 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 used by the BCM to perform diagnostic functions on the circuits. Transitioning of the lock actuators to the lock or unlocked position depends upon which control circuits receive voltage and which control circuits receive ground.

The 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.

The body control module monitors the position of the driver door lock plunger (located on the top of the driver door panel) through the driver door lock status signal circuit. The driver door lock plunger is connected to the driver door latch by a connecting rod. When the driver door lock plunger is pushed down, the switch within the driver door latch will close pulling the signal circuit to ground. The BCM will detect the voltage drop and will command all doors to lock.

Door latch assemblies each contain a reversible dead lock motor, each dead lock motor is controlled by 2 circuits; the dead lock control circuit and the dead lock unlock control circuit. To dead lock a door, the body control module (BCM) locks the door by momentarily energizing the door lock security relay. To complete the dead locking, the BCM momentarily applies voltage to the dead lock control circuit and ground to the door lock relay control circuit and the door latches will then dead lock.

To restore the interior door handle functions, the BCM uses the same circuit as the normal door unlocking system and the dead locks will unlatch

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with the rest of the door locks.

Conditions for Running the DTC

Ignition ON

Conditions for Setting the DTC

B3125 01, B3130 01, B3135 01

The BCM detects a short to battery on a door latch control circuit.

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.

B3125 04, B3130 04, B3135 04

The BCM detects an open/high resistance on a door latch control circuit.

B3797 02

The BCM detects a short to ground in the door lock relay control circuit.

Action Taken When the DTC Sets

B3125 01, B3125 02, B3125 04, B3130 01, B3130 02, B3130 04, B3135 01, B3135 02, B3135 04

All the power door lock functions will be inoperative.

B3797 02

The dead locks will always be engaged or will never engage depending upon the door latch states when the fault occurred.

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.

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- A history DTC will clear after 50 ignition cycles.

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Body Control System 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 Driver Door Lock Switch parameter changes from Inactive to Lock and Unlock when pushing the appropriate switch on the S13D Door Lock Switch-Driver.
    - **If the parameter does not change**

      Refer to **Power Door Locks Malfunction**.

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- **If the parameter changes**

3. Verify the scan tool Passenger Door Lock Switch parameter changes from Inactive to Lock and Unlock when pushing the appropriate switch on the S13P Door Lock Switch-Passenger.
   - **If the parameter does not change**

     Refer to **Power Door Locks Malfunction**.

   - **If the parameter changes**
4. Verify all vehicle doors lock and unlock when commanding the All Doors Lock/Unlock with a scan tool.
   - **If only the driver door does not lock and unlock**

     Refer to Circuit/System Testing - Driver Door Lock Malfunction.

   - **If one or more passenger doors do not lock and unlock**

     Refer to Circuit/System Testing - Passenger Door Lock Malfunction.

   - **If all doors do not lock and unlock**

     Refer to Circuit/System Testing - All Door Lock Inoperative.

   - **If all doors lock and unlock**
5. Verify the dead locks lock and unlock when commanding the Door Dead Lock to Lock and Unlock with a scan tool.
   - **If the dead locks do not lock and unlock**

     Refer to Circuit System Testing - Dead Lock Malfunction.

   - **If the dead locks lock and unlock**
6. 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.

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NOTE: **Leaving the DMM connected between a control circuit and ground for greater than 20 s may 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 3 V between the control circuit terminal 7 and ground:
   - **If 3 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 Ω in the control circuit end to end.
      - If 2 Ω or greater, repair the open/high resistance on the circuit.
      - If less than 2 Ω, replace the K9 Body Control Module.
   - **If greater than 3 V**

NOTE: **Leaving the DMM connected between a control circuit and ground for greater than 20 s may 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 3 V between the control circuit terminal 8 and ground.
   - **If 3 V or less**
   1. Ignition OFF, disconnect the X6 harness connector at the K9 Body Control Module, ignition ON.
   2. Test for infinite resistance between the control circuit control circuit and ground.
      - If less than infinite resistance, repair the short to ground on the circuit. If the circuit tests normal, test or replace the X51R Fuse Block - Instrument Panel Right.
      - If infinite resistance
   3. Test for less than 2 Ω in the control circuit end to end.
      - If 2 Ω or greater, repair the open/high resistance on the circuit. If the circuit tests normal, test or replace the X51R Fuse Block - Instrument Panel Right.
      - If less than 2 Ω, replace the K9 Body Control Module.

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- **If greater than 3 V**

NOTE: **When using the MIN MAX function, autorange on the DMM may not function properly. To ensure accurate test results, turn off autorange and manually set the DMM range to 00.00 V.**

4. Install a DMM between the control circuit terminal 7 and the control circuit terminal 8. Set the DMM to capture DC voltage using the MIN MAX function. Turn off autorange and manually set the DMM range to 00.00 V.
5. Lock and unlock the vehicle doors using the S13D Door Lock Switch-Driver.
6. Verify the MAX voltage captured by the DMM is greater than 10 V.
   - **If 10 V or less**

     Replace the K9 Body Control Module.

   - **If greater than 10 V**
7. 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.

NOTE: **Leaving the DMM connected between a control circuit and ground for greater than 20 s may 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 3 V between the control circuit terminal listed below and ground:
   - A23P Door Latch Assembly-Passenger - control circuit terminal 8
   - A23P Door Latch Assembly-Passenger - control circuit terminal 9
   - A23RR Door Latch Assembly-Right Rear - control circuit terminal 8
   - A23RR Door Latch Assembly-Right Rear - control circuit terminal 9
   - A23LR Door Latch Assembly-Left Rear - control circuit terminal 7
   - A23LR Door Latch Assembly-Left Rear - control circuit terminal 8
   - **If 3 V or less**
   1. Ignition OFF, disconnect the X6 harness connector at the K9 Body Control Module.

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

- **If greater than 3 V**

NOTE: **When using the MIN MAX function, autorange on the DMM may not function properly. To ensure accurate test results, turn off autorange and manually set the DMM range to 00.00 V.**

3. Install a DMM between the control circuits listed below. Set the DMM to capture DC voltage using the MIN MAX function. Turn off autorange and manually set the DMM range to 00.00 V.
    - A23P Door Latch Assembly-Passenger - control circuit terminal 8 and control circuit terminal 9
    - A23RR Door Latch Assembly-Right Rear - control circuit terminal 8 and control circuit terminal 9
    - A23LR Door Latch Assembly-Left Rear - control circuit terminal 7 and control circuit terminal 8
4. Lock and unlock the vehicle doors using the S13D Door Lock Switch-Driver.
5. Verify the MAX voltage captured by the DMM is greater than 10 V.
    - **If 10 V or less**

      Replace the K9 Body Control Module.

    - **If greater than 10 V**
6. 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 Ω in the B+ circuit end to end.

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- If 2 Ω or greater, repair the open/high resistance in the circuit.
- If less than 2 Ω, 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 and disconnect the X6 harness connector at the K9 Body Control Module. Disconnect the X1 harness connector at the X51R Fuse Block-Instrument Panel Right, ignition ON.
4. Test for less than 1 V between the control circuit terminals listed below and ground:
    - K9 Body Control Module control circuit terminal 4 X6
    - X51R Fuse Block-Instrument Panel Right control circuit terminal 1 X1
    - X51R Fuse Block-Instrument Panel Right control circuit terminal 2 X1
    - X51R Fuse Block-Instrument Panel Right control circuit terminal 30 X1
    - X51R Fuse Block-Instrument Panel Right control circuit terminal 40 X1
    - **If 1 V or greater**

    1. Ignition OFF, disconnect the harness connector at the A23D Door Latch Assembly - Driver, A23P Door Latch Assembly - Passenger, A23LR Door Latch Assembly - Left Rear, and A23RR Door Latch Assembly - Right Rear, 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**

5. Test for infinite resistance between the control circuit terminals listed below and ground:
    - K9 Body Control Module control circuit terminal 4 X6
    - X51R Fuse Block-Instrument Panel Right control circuit terminal 1 X1

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- X51R Fuse Block-Instrument Panel Right control circuit terminal 2 X1
- X51R Fuse Block-Instrument Panel Right control circuit terminal 30 X1
- X51R Fuse Block-Instrument Panel Right control circuit terminal 40 X1
- **If less than infinite resistance**

1. Ignition OFF, disconnect the harness connector at the A23D Door Latch Assembly - Driver, A23P Door Latch Assembly - Passenger, A23LR Door Latch Assembly - Left Rear, and A23RR Door Latch Assembly - Right Rear.
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**

6. Ignition OFF, connect the X1 harness connector at the X51R Fuse Block-Instrument Panel Right, ignition ON.
7. Test for less than 1 V between the K9 Body Control Module control circuit terminals listed below and ground:
    - K9 Body Control Module control circuit terminal 1 X6
    - K9 Body Control Module control circuit terminal 2 X6
    - **If 1 V or greater**

    1. Ignition OFF, disconnect the X1 harness connector at the X51R Fuse Block-Instrument Panel Right, 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 the circuit tests normal, test or replace the X51R Fuse Block-Instrument Panel Right.

    - **If less than 1 V**

8. Test for infinite resistance between the control circuit terminals listed below and ground:
    - K9 Body Control Module control circuit terminal 1 X6
    - K9 Body Control Module control circuit terminal 2 X6
    - **If less than infinite resistance**

    1. Ignition OFF, disconnect the X1 harness connector at the X51R Fuse Block-Instrument Panel Right.
    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 the circuit tests normal, test or replace the X51R Fuse Block-Instrument Panel Right.

    - **If infinite resistance**

9. Test or replace the K9 Body Control Module.

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Dead Lock Malfunction

1. Ignition OFF and all vehicle systems OFF, disconnect the X2 harness connector at the X51R Fuse Block - Instrument Panel Right. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 22 and ground.
    - **If 10 Ω or greater**
    1. Ignition OFF.
    2. Test for less than 2 Ω in the ground circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, repair the open/high resistance in the ground connection.
    - **If less than 10 Ω**
3. Ignition OFF, connect the X2 harness connector at the X51R Fuse Block - Instrument Panel Right. Disconnect the X7 harness connector at the K9 Body Control Module, ignition ON.
4. Test for less than 1 V between the control circuit terminal 10 and ground.
    - **If great that 1 V**
    1. Ignition OFF, remove the test lamp, disconnect the X2 harness connector at the X51R Fuse Block - Instrument Panel Right.
    2. Test for less than 1 V between the K9 Body Control Module control circuit terminal 10 X7 and ground.
        - If 1 V or greater, repair the short to voltage on the circuit.
        - If less than 1 V, replace the X51R Fuse Block - Instrument Panel Right.
    - **If less than 1 V**
5. Connect a 3 A fused jumper wire between the control circuit terminal 10 and B+.
6. Verify the KR114 Door Dead Lock Relay activates. Listen as the KR114 Door Dead Lock Relay clicks within the X51R Fuse Block - Instrument Panel Right.
    - **If the KR114 Door Dead Lock Relay does not activate**
    1. Ignition OFF, remove the jumper wire, disconnect the X1 harness connector at the X51R Fuse Block - Instrument Panel Right.
    2. Test for infinite resistance between the K9 Body Control Module control circuit terminal 10 X7 and ground.
        - If less than Infinite resistance, repair the short to ground on the circuit.
        - If infinite resistance
    3. Test for less than 2 Ω in the control circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.

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- If less than 2 Ω, replace the X51R Fuse Block - Instrument Panel Right.

- **If the KR114 Door Dead Lock Relay activates**

7. Connect the X7 harness connector at the K9 Body Control Module and disconnect the harness connector at the appropriate A23 Door Latch Assembly.

NOTE: **Leaving the DMM connected between a control circuit and ground for greater than 20 s may 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.**

8. Test for greater than 3 V between the control circuit terminal listed below and ground:
   - A23D Door Latch Assembly-Driver - control circuit terminal 8
   - A23D Door Latch Assembly-Driver - control circuit terminal 6
   - A23P Door Latch Assembly-Passenger - control circuit terminal 8
   - A23P Door Latch Assembly-Passenger - control circuit terminal 10
   - A23LR Door Latch Assembly-Left Rear - control circuit terminal 8
   - A23LR Door Latch Assembly-Left Rear - control circuit terminal 6
   - A23RR Door Latch Assembly-Right Rear - control circuit terminal 8
   - A23RR Door Latch Assembly-Right Rear - control circuit terminal 10
   - **If 3 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 Ω in the control circuit end to end.
      - If 2 Ω or greater, repair the open/high resistance on the circuit.
      - If less than 2 Ω, replace the K9 Body Control Module.
   - **If greater than 3 V**
9. Test or replace the A23 Door Latch Assembly.

Component Testing

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Door Latch Assembly

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.

- Refer to **Instrument Panel Wiring Harness Junction Block Replacement**
- Refer to **Rear Side Door Latch Replacement**
- Refer to **Front Side Door Latch Replacement**
- Refer to **Control Module References** for BCM replacement, programming and setup

DTC B3125, B3130, OR B3135: DRIVER DOOR ONLY UNLOCK CIRCUIT/ALL DOORS UNLOCK CIRCUIT/ALL DOORS LOCK CIRCUIT (WITHOUT UTT)

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.
- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

DTC Descriptors

DTC B3125

Driver Door Only Unlock Circuit

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DTC B3130

All Doors Unlock Circuit

DTC B3135

All Doors Lock Circuit

For symptom byte information refer to: **Symptom Byte List**

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
BCM B+	B3125 02, B3130 02, B3135 02	B3125 02, B3130 02, B3135 02	-	-
Door Lock/Unlock Control	B3125 02, B3130 02, B3135 02	2, 3, 4	B3125 01, B3130 01, B3135 01	-
Door Lock Control	B3125 02, B3130 02, B3135 02	1	B3125 01, B3130 01, B3135 01	-
Driver Door Latch Unlock Control	B3125 02, B3130 02, B3135 02	1	B3125 01, B3130 01, B3135 01	-
Left Rear Door Latch Lock Control	B3125 02, B3130 02, B3135 02	3	B3125 01, B3130 01, B3135 01	-
Left Rear Door Latch Unlock Control	B3125 02, B3130 02, B3135 02	3	B3125 01, B3130 01, B3135 01	-
Passenger Door Latch Lock Control	B3125 02, B3130 02, B3135 02	2	B3125 01, B3130 01, B3135 01	-
Passenger Door Latch Unlock Control	B3125 02, B3130 02, B3135 02	2	B3125 01, B3130 01, B3135 01	-
Right Rear Door Latch Lock Control	B3125 02, B3130 02, B3135 02	4	B3125 01, B3130 01, B3135 01	-
Right Rear Door Latch Unlock Control	B3125 02, B3130 02, B3135 02	4	B3125 01, B3130 01, B3135 01	-

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Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
1. Driver Door Lock Malfunction 2. Passenger Door Lock Malfunction 3. Left Rear Door Lock Malfunction 4. Right 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 used by the BCM to perform diagnostic functions on the circuits. Transitioning of the lock actuators to the lock or unlocked position depends upon which control circuits receive voltage and which control circuits receive ground.

The instrument panel right fuse block contains a PCB relay which controls the functions of the electronic child locks which is part of the rear door latch assemblies. When the relay is in it's inactive state and the BCM commands the latches to LOCK and UNLOCK, voltage will pass through the relay contacts for normal LOCK and UNLOCK functions of the passenger, left rear and right rear door latch assemblies

Conditions for Running the DTC

When the output is actively being requested by the BCM.

Conditions for Setting the DTC

B3125 01, B3130 01, B3135 01

The BCM detects a short to battery on a door latch control circuit.

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.

B3125 04, B3130 04, B3135 04

The BCM detects an open/high resistance on a door latch control circuit.

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Action Taken When the DTC Sets

The power door locks will be inoperative.

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**
- **Body Control System 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

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1. Ignition ON.
2. Verify all vehicle doors LOCK and UNLOCK when commanding the All Doors Lock/Unlock to Lock and Unlock with a scan tool.
    - **If only the driver door LOCK or UNLOCK functions do not work**

      Refer to Circuit/System Testing - 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 - Passenger Door Lock Malfunction.

    - **If all door LOCK and UNLOCK functions do not work**

      Refer to Circuit/System Testing - 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 X6 harness connector at the K9 Body Control Module, ignition ON.
2. Test for less than 1 V between the control circuit terminal 1 and ground.
    - **If 1 V or greater**
    1. Ignition OFF, disconnect the harness connector at the A23D Door Latch Assembly - Driver, 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**
3. Ignition OFF, connect the X6 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 s may 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.**

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4. Test for greater than 3 V between the control circuit terminals listed below and ground:
    - Control circuit terminal 7
    - Control circuit terminal 8
    - **If 3 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 Ω in the control circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance on the circuit.
        - If less than 2 Ω, replace the K9 Body Control Module.
    - **If greater than 3 V**

NOTE: **When using the MIN MAX function, autorange on the DMM may not function properly. To ensure accurate test results, turn off autorange and manually set the DMM range to 00.00 V.**

5. Install a DMM between the control circuit terminal 7 and control circuit terminal 8. Set the DMM to capture DC voltage using the MIN MAX function. Turn off autorange and manually set the DMM range to 00.00 V.
6. Lock and unlock the vehicle doors using the S13D Door Lock Switch-Driver.
7. Verify the MAX voltage captured by the DMM is greater than 10 V.
    - **If 10 V or less**

      Replace the K9 Body Control Module.

    - **If greater than 10 V**
8. Test or replace the A23D Door Latch Assembly-Driver.

Passenger Door Lock Malfunction

1. Ignition OFF, disconnect the X6 harness connector at the K9 Body Control Module, ignition ON.
2. Test for less than 1 V between the control circuit terminal 4 and ground.
    - **If 1 V or greater**

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1. Ignition OFF, disconnect the harness connector at the A23P Door Latch Assembly - Passenger, A23LR Door Latch Assembly - Left Rear, and A23RR Door Latch Assembly - Right Rear, 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**

3. Ignition OFF, connect the X6 harness connector at the K9 Body Control Module. Disconnect the harness connector at the appropriate passenger or rear A23 Door Latch Assembly.

NOTE: **Leaving the DMM connected between a control circuit and ground for greater than 20 s may 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.**

4. Test for greater than 3 V between the control circuit terminal listed below and ground:
    - A23P Door Latch Assembly-Passenger - control circuit terminal 8
    - A23P Door Latch Assembly-Passenger - control circuit terminal 9
    - A23RR Door Latch Assembly-Right Rear - control circuit terminal 8
    - A23RR Door Latch Assembly-Right Rear - control circuit terminal 9
    - A23LR Door Latch Assembly-Left Rear - control circuit terminal 7
    - A23LR Door Latch Assembly-Left Rear - control circuit terminal 8
    - **If 3 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 Ω in the control circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance on the circuit.
        - If less than 2 Ω, replace the K9 Body Control Module.
    - **If greater than 3 V**

NOTE: **When using the MIN MAX function, autorange on the DMM may not function properly. To ensure accurate**

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test results, turn off autorange and manually set the DMM range to 00.00 V.

5. Install a DMM between the control circuits listed below. Set the DMM to capture DC voltage using the MIN MAX function. Turn off autorange and manually set the DMM range to 00.00 V.
    - A23P Door Latch Assembly-Passenger - control circuit terminal 8 and control circuit terminal 9
    - A23RR Door Latch Assembly-Right Rear - control circuit terminal 8 and control circuit terminal 9
    - A23LR Door Latch Assembly-Left Rear - control circuit terminal 7 and control circuit terminal 8
6. Lock and unlock the vehicle doors using the S13D Door Lock Switch-Driver.
7. Verify the MAX voltage captured by the DMM is greater than 10 V.
    - **If 10 V or less**

      Replace the K9 Body Control Module.

    - **If greater than 10 V**
8. Test or replace the A23 Door Latch Assembly.

All Door Locks Inoperative

1. Ignition OFF and all vehicle systems OFF, disconnect the X6 harness connector at the K9 Body Control Module. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 3 and ground.
    - **If 10 Ω or greater**
    1. Ignition OFF.
    2. Test for less than 2 Ω in the ground circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, repair the open/high resistance in the ground connection.
    - **If less than 10 Ω**
3. Disconnect the X2 harness connector at the K9 Body Control Module, ignition ON.
4. 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.

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2. Test for less than 2 Ω in the B+ circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, 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**

5. Ignition OFF, connect the X2 harness connector at the K9 Body Control Module and disconnect the X1 harness connector at the X51R Fuse Block - Instrument Panel Right, ignition ON.
6. Test for less than 1 V between the control circuit terminals listed below and ground:
    - K9 Body Control Module control circuit terminal 4 X6
    - X51R Fuse Block - Instrument Panel Right control circuit terminal 1 X1
    - X51R Fuse Block - Instrument Panel Right control circuit terminal 2 X1
    - X51R Fuse Block - Instrument Panel Right control circuit terminal 30 X1
    - X51R Fuse Block - Instrument Panel Right control circuit terminal 40 X1
    - **If 1 V or greater**

    1. Ignition OFF, disconnect the harness connector at the A23D Door Latch Assembly - Driver, A23P Door Latch Assembly - Passenger, A23LR Door Latch Assembly - Left Rear, and A23RR Door Latch Assembly - Right Rear, 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**

7. Test for infinite resistance between the control circuit terminals listed below and ground:
    - K9 Body Control Module control circuit terminal 4 X6

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- X51R Fuse Block - Instrument Panel Right control circuit terminal 1 X1
- X51R Fuse Block - Instrument Panel Right control circuit terminal 2 X1
- X51R Fuse Block - Instrument Panel Right control circuit terminal 30 X1
- X51R Fuse Block - Instrument Panel Right control circuit terminal 40 X1
- **If less than infinite resistance**

1. Ignition OFF, disconnect the harness connector at the A23D Door Latch Assembly - Driver, A23P Door Latch Assembly - Passenger, A23LR Door Latch Assembly - Left Rear, and A23RR Door Latch Assembly - Right Rear.
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**

8. Ignition OFF, connect the X2 and X3 harness connectors at the X51R Fuse Block - Instrument Panel Right, ignition ON.
9. Test for less than 1 V between the K9 Body Control Module control circuit terminal listed below and ground:
    - K9 Body Control Module control circuit terminal 1 X6
    - K9 Body Control Module control circuit terminal 2 X6
    - **If 1 V or greater**

    1. Ignition OFF, disconnect the X2 harness connector at the X51R Fuse Block - Instrument Panel Right, 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 the circuit tests normal, test or replace the X51R Fuse Block - Instrument Panel Right.

    - **If less than 1 V**

10. Test for infinite resistance between the control circuit terminal listed below and ground:
    - K9 Body Control Module control circuit terminal 1 X6
    - K9 Body Control Module control circuit terminal 2 X6
    - **If less than infinite resistance**

    1. Ignition OFF, disconnect the X2 harness connector at the X51R Fuse Block - Instrument Panel Right.
    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 the circuit tests normal, test or replace the X51R Fuse Block - Instrument Panel Right.

    - **If infinite resistance**

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11. Test or 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.

- Refer to **Front Side Door Latch Replacement**
- Refer to **Rear Side Door Latch Replacement**
- Refer to **Instrument Panel Wiring Harness Junction Block Replacement**
- Refer to **Control Module References** for body control module replacement, programming and setup

DTC B3140, B3145, B3150, OR B3155: DRIVER DOOR UNLOCK SWITCH CIRCUIT/PASSENGER DOOR UNLOCK SWITCH CIRCUIT/DRIVER DOOR LOCK SWITCH CIRCUIT/PASSENGER DOOR LOCK SWITCH CIRCUIT

Diagnostic Instructions

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

DTC Descriptors

DTC B3140 00

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Driver Door Unlock Switch Circuit

DTC B3145 00

Passenger Door Unlock Switch Circuit

DTC B3150 00

Driver Door Lock Switch Circuit

DTC B3155 00

Passenger Door Lock Switch Circuit

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Driver Door Lock Switch Lock Signal	B3150 00	2	2	-
Driver Door Lock Switch Unlock Signal	B3140 00	3	3	-
Driver Door Lock Switch Ground	-	1	-	-
Passenger Door Lock Switch Lock Signal	B3155 00	4	4	-
Passenger Door Lock Switch Unlock Signal	B3145 00	5	5	-
Passenger Door Lock Switch Ground	-	6	-	-
1. Driver Door Lock Switch Inoperative 2. Driver Door Lock Switch Lock Inoperative 3. Driver Door Lock Switch Unlock Inoperative 4. Passenger Door Lock Switch Lock Inoperative 5. Passenger Door Lock Switch Unlock Inoperative 6. Passenger Door Lock Switch Inoperative				

Circuit/System Description

The body control module (BCM) monitors the voltage level of the door lock and door unlock signal circuits. When the driver door lock switch is in the open position, the voltage level in the signal circuit will be near 12 V. When the driver 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.

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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 driver unlock signal circuit for greater than 60 seconds.

B3145 00

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

B3150 00

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

B3155 00

The BCM detects a short to ground in the passenger 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 driver door unlock switch.

B3145 00

The BCM will ignore the unlock signal and the doors will not unlock when using the passenger door unlock switch.

B3150 00

The BCM will ignore the lock signal and the doors will not lock when using the driver door lock switch.

B3155 00

The BCM will ignore the lock signal and the doors will not lock when using the passenger door lock switch.

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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 the scan tool Driver Door Lock Switch parameter changes from Inactive to Lock and Unlock when pressing the S13D Door Lock Switch-Driver.
    - **If the parameter does not change**

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Refer to Circuit/System Testing - Driver Door Lock Switch Malfunction.

- **If the parameter changes**

3. Verify the scan tool Passenger Door Lock Switch parameter changes from Inactive to Lock and Unlock when pressing the S13P Door Lock Switch-Passenger.
   - **If the parameter does not change**

     Refer to Circuit/System Testing - Passenger Door Lock Switch Malfunction.

   - **If the parameter changes**
4. 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 Ω between the ground circuit terminal 4 and ground.
   - **If 10 Ω or greater**
   1. Ignition OFF.
   2. Test for less than 2 Ω in the ground circuit end to end.
      - If 2 Ω or greater, repair the open/high resistance in the circuit.
      - If less than 2 Ω, repair the open/high resistance in the ground connection.
   - **If less than 10 Ω**
3. Ignition ON.
4. Verify the scan tool Driver Door 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 3 and ground.
      - If less than infinite resistance, repair the short to ground on the circuit.
   3. Test for infinite resistance between the signal circuit terminal 2 and ground.

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- 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 3 and the ground circuit terminal 4.
6. Verify the scan tool Driver Door Lock Switch parameter is Unlock.
    - **If not Unlock**
    1. Ignition OFF, remove the 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 Ω in the signal circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the K9 Body Control Module.
    - **If Unlock**
7. Install a 3 A fused jumper wire between the signal circuit terminal 2 and the ground circuit terminal 4.
8. Verify the scan tool Driver Door Lock Switch parameter is Lock.
    - **If not Lock**
    1. Ignition OFF, remove the 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 Ω in the signal circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the K9 Body Control Module.
    - **If Lock**
9. 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

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minutes for all vehicle systems to power down.

2. Test for less than 10 Ω between the ground circuit terminal 4 and ground.
    - **If 10 Ω or greater**
    1. Ignition OFF.
    2. Test for less than 2 Ω in the ground circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, repair the open/high resistance in the ground connection.
    - **If less than 10 Ω**
3. Ignition ON.
4. Verify the scan tool Passenger Door 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 3 and ground.
        - If less than infinite resistance, repair the short to ground on the circuit.
    3. Test for infinite resistance between the signal circuit terminal 2 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 3 and the ground circuit terminal 4.
6. Verify the scan tool Passenger Door Lock Switch parameter is Unlock.
    - **If not Unlock**
    1. Ignition OFF, remove the 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 Ω in the signal circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the K9 Body Control Module.
    - **If Unlock**

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7. Install a 3 A fused jumper wire between the signal circuit terminal 2 and the ground circuit terminal 4.
8. Verify the scan tool Passenger Door Lock Switch parameter is Lock.
    - **If not Lock**
    1. Ignition OFF, remove the 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 Ω in the signal circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the K9 Body Control Module.
    - **If Lock**
9. Test or replace the S13P Door Lock Switch-Passenger.

Component Testing

Door Lock Switch

1. Ignition OFF, disconnect the harness connector at the appropriate S13 Door Lock Switch.
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 S13 Door Lock Switch.

    - **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 S13 Door Lock Switch

    - **If infinite resistance**
4. Test for less than 2 Ω between the signal terminal 2 and the ground terminal 4 with the switch in the Lock position.
    - **If 2 Ω or greater**

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Replace the S13 Door Lock Switch.

- **If less than 2 Ω**

5. Test for less than 2 Ω between the signal terminal 3 and the ground terminal 4 with the switch in the Unlock position.
   - **If 2 Ω or greater**

     Replace the S13 Door Lock Switch.

   - **If less than 2 Ω**
6. All OK

Repair Instructions

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

- Refer to **Door Lock Switch Replacement - Driver Side (Chevrolet, GMC)** **Door Lock Switch Replacement - Driver Side (Cadillac)**
- Refer to **Door Lock Switch Replacement - Passenger Front (Chevrolet, GMC)** **Door Lock Switch Replacement - Passenger Front (Cadillac)**
- Refer to **Control Module References** for BCM replacement, programming and setup

DTC B323A-B323C: UPPER HANDS FREE SENSOR SIGNAL INVALID/LOWER HANDS FREE SENSOR SIGNAL INVALID/HANDS FREE LIFTGATE SENSOR MODULE INTERNAL HARDWARE FAILURE/HANDS FREE LIFTGATE SENSOR MODULE INVALID CALIBRATION SET

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.
- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

DTC Descriptors

DTC B323A 08

Upper Hands Free Sensor Signal Invalid

DTC B323B 08

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Lower Hands Free Sensor Signal Invalid

DTC B323C 39

Hands Free Liftgate Sensor Module Internal Hardware Failure

DTC B323C 42

Hands Free Liftgate Sensor Module Invalid Calibration Set

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Liftgate Hands-Free Control Module B+	U1510 00	U1510 00	-	-
Upper Hands Free Sensor Signal	B232A 08	B232A 08	B232A 08	B232A 08
Lower Hands Free Sensor Signal	B232A 08	B232A 08	B232A 08	B232B 08
Liftgate Hands-Free Control Module Ground	-	U1510 00	-	-

Circuit/System Description

The power liftgate has a feature that detects the motion of a foot under the rear fascia, this allows the operator to open the liftgate when his or her hands are full of packages. As an indicator that the action has been properly preformed, the liftgate hands-free sensor control module will send a serial data message to the liftgate control module to command the liftgate to release and power open and the liftgate control module will send a serial data message to the body control module to command the tail lights to flash 3 times

Conditions for Running the DTC

Battery voltage is between 9-16 V.

Conditions for Setting the DTC

B323A 08

- The liftgate control module has received a serial data message that an invalid signal from the upper hands free sensor has been detected by the hands-free liftgate sensor control module.
- The condition must be present for greater than 30 seconds

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B323B 08

- The liftgate control module has received a serial data message that an invalid signal from the lower hands free sensor has been detected by the hands-free liftgate sensor control module.
- The condition must be present for greater than 30 seconds.

B323C 39

An internal malfunction has been detected by the liftgate control module

B323C 42

The liftgate control module detects the calibration files in the hands-free liftgate sensor control module does not match the calibration files contained within the liftgate control module.

Action Taken When the DTC Sets

The hands-free feature will be inoperative

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.

Diagnostic Aids

The hands-free function will only be allowed if certain operating criteria are met. Any of the following may cause the hands-free system not to function:

- The keyless entry transmitter is not within range
- The kicking motion is incorrectly preformed
- The interior liftgate control switch has not been set to the 3/4 or Max position
- A loose or misaligned hands-free sensor

Reference Information

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Schematic Reference

Liftgate Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Liftgate 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.

   NOTE: The keyless entry transmitter must be within 1 meter (3 feet) of the liftgate

2. Verify the tail lights flash 3 times and the power liftgate opens while performing a kicking motion behind and under the rear fascia.
   - **If the tail lamps flash but the liftgate does not open**

     Refer to **Liftgate System Diagnosis**

   - **If the tail lamps do not flash**

     Refer to Circuit/System Testing.

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- **If the tail lamps flash and the liftgate does open**

3. All OK.

Circuit/System Testing

1. Ignition OFF, disconnect the X2 harness connector at the K171 Hands-Free Liftgate Sensor Control Module.
2. Test for 0.3-0.8 Ω between the B275A Hands-Free Liftgate Sensor-Upper signal circuit terminal 1 and the signal circuit terminal 2.
   - **If less than 0.3 Ω or greater than 0.8 Ω**
   - Replace the B275A Hands-Free Liftgate Sensor-Upper
   - **If between 0.3-0.8 Ω**
3. Ignition OFF, disconnect the X3 harness connector at the K171 Hands-Free Liftgate Sensor Control Module.
4. Test for 0.3-0.8 Ω between the B275B Hands-Free Liftgate Sensor-Lower signal circuit terminal 1 and the signal circuit terminal 2.
   - **If less than 0.3 Ω or greater than 0.8 Ω**
   - Replace the B275B Hands-Free Liftgate Sensor-Lower
   - **If between 0.3-0.8 Ω**
5. Replace the K171 Hands-Free Liftgate Sensor Control Module.

Repair Instructions

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

- Refer to **Rear Closure Hands Free Sensor Replacement (GMC)** **Rear Closure Hands Free Sensor Replacement (Cadillac)** **Rear Closure Hands Free Sensor Replacement (Chevrolet)**
- Refer to **Control Module References** for liftgate hands-free sensor control module replacement, programming and setup

DTC B324A OR B3245: REAR CARGO DOOR UNLOCK MOTOR CIRCUIT/REAR CARGO DOOR LOCK ACTUATOR CIRCUIT

Diagnostic Instructions

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

DTC Descriptors

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DTC B324A

Rear Cargo Door Unlock Motor Circuit

DTC B3245

Rear Cargo Door Lock Actuator Circuit

For symptom byte information refer to: **Symptom Byte List**

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Control	B3245 02	1	B324A 01	-
1. Liftgate Release Malfunction				

Circuit/System Description

When the body control module (BCM) receives a liftgate release command, it will provide voltage to one side of the relay and ground to the other side of the relay. This will energize the relay causing the switch side of the relay to close and will then provide B+ voltage to the liftgate latch assembly.

Conditions for Running the DTC

- The system voltage is 9-16 V.
- When the relay is actively commanded by the BCM.

Conditions for Setting the DTC

B324A 01

The BCM detects a short to voltage in the liftgate unlatch relay control circuit.

B3245 02

The BCM detects a short to ground in the liftgate unlatch relay control circuit.

Action Taken When the DTC Sets

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The liftgate latch will be inoperative.

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.

Diagnostic Aids

If the liftgate will not release from the closed position, refer to **Opening the Liftgate Without Electrical Power (TB4)** **Opening the Liftgate Without Electrical Power (TB5/TC2)** for the appropriate procedure

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

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

Scan Tool Reference

Control Module References for scan tool information

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Circuit/System Verification

1. Ignition ON.

NOTE: **Verify all doors have been commanded UNLOCK with a scan tool prior to commanding the liftgate to unlatch**

2. Verify the A23C Liftgate Latch Assembly activates when commanding the Liftgate Unlatch with a scan tool.
   - **If the A23C Liftgate Latch Assembly does not UNLATCH**

     Refer to Circuit/System Testing.

   - **If the A23C Liftgate Latch Assembly does UNLATCH**
3. All OK.

Circuit/System Testing

1. Ignition OFF, disconnect the KR95A Liftgate Unlatch Relay. Ignition ON.
2. Connect a test lamp between the control circuit terminal 20 and ground.
3. Verify the test lamp illuminates when commanding the Trunk Lid Unlatch with a scan tool.
   - **If the test lamp is always OFF**
   1. Ignition OFF, remove the test lamp, 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 Ω in the control circuit end to end.
      - If 2 Ω or greater, repair the open/high resistance in the circuit.
      - If less than 2 Ω, replace the K9 Body Control Module.
   - **If the test lamp is always ON**
   1. Ignition OFF, remove the test lamp, 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.

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- **If the test lamp turns ON and OFF**

4. Connect a test lamp between the control circuit terminal 26 and B+.
5. Verify the test lamp illuminates when commanding the Trunk Lid Unlatch with a scan tool.
    - **If the test lamp is always OFF**
    1. Ignition OFF, remove the test lamp, 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
    3. Ignition OFF.
    4. Test for less than 2 Ω in the control circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the K9 Body Control Module.
    - **If the test lamp is always ON**
    1. Ignition OFF, remove the test lamp, 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, replace the K9 Body Control Module.
    - **If the test lamp turns ON and OFF**
6. Test or replace the KR95A Liftgate Unlatch Relay.

Component Testing

Relay Test

1. Ignition OFF, disconnect the KR95A Liftgate Unlatch Relay.
2. Test for 60-180 Ω between terminals 86 and 85.
    - **If less than 60 Ω or greater than 180 Ω**

      Replace the KR95A Liftgate Unlatch Relay.

    - **If between 60-180 Ω**

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3. Test for infinite resistance between the terminals listed below:
    - 86 and 30
    - 86 and 87
    - 85 and 30
    - 85 and 87
    - **If less than infinite resistance**

      Replace the KR95A Liftgate Unlatch Relay.

    - **If infinite resistance**
4. Install a 3 A fused jumper wire between relay terminal 86 and 12 V. Install a jumper wire between relay terminal 85 and ground.
5. Test for less than 2 Ω between terminals 30 and 87.
    - **If 2 Ω or greater**

      Replace the KR95A Liftgate Unlatch Relay.

    - **If less than 2 Ω**
6. All OK

Repair Instructions

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

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

DTC B3265: TRUNK LID UNLATCH OUTPUT CIRCUIT

Diagnostic Instructions

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

DTC Descriptor

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DTC B3265

Trunk Lid Unlatch Output Circuit

For symptom byte information, refer to **Symptom Byte List** .

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
BCM B+ Terminal 4 X1	B3265 01, B3265 04	B3265 01, B3265 04	-	-
Control	B3265 02	B3265 04	B3265 01	-
Ground	-	B3265 04	-	-

Circuit/System Description

When the body control module receives a liftgate window release command, it will provide voltage to one side of the relay and ground to the other side of the relay. This will energize the relay causing the switch side of the relay to close and will then provide B+ voltage to the liftgate window latch.

Conditions for Running the DTC

When the relay is actively commanded by the body control module

Conditions for Setting the DTC

B3265 01

The body control module detects a short to voltage on the liftgate window unlatch relay control circuit. A short to ground or an open/high resistance in the BCM B+ circuit

B3265 02

The body control module detects a short to ground on the liftgate window unlatch relay control circuit.

B3265 04

The body control module detects an open/high resistance on the liftgate window unlatch relay control circuit. A short to ground or an open/high resistance in the BCM B+ circuit

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Action Taken When the DTC Sets

The body control module will command the liftgate window to release, but the liftgate window latch will not operate.

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

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- **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.

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2. Verify the M33 Liftgate Window Latch Assembly activates when pressing the S141 Liftgate Window Unlatch Switch.
    - **If the M33 Liftgate Window Latch does not UNLATCH**

      Refer to Circuit/System Testing.

    - **If the M33 Liftgate Window Latch does UNLATCH**
3. All OK.

Circuit/System Testing

1. Ignition OFF, disconnect the X1 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 Ω in the B+ circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, 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, replace the K9 Body Control Module.
    - **If the test lamp illuminates**
3. Ignition OFF and all vehicle systems OFF, disconnect the KR162 Liftgate Window Unlatch Relay. It may take up to 2 minutes for all vehicle systems to power down.
4. Test for less than 10 Ω between the ground circuit terminal 16 and ground.
    - **If 10 Ω or greater**
    1. Ignition OFF.
    2. Test for less than 2 Ω in the ground circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, repair the open/high resistance in the ground connection.

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- **If less than 10 Ω**

5. Connect a test lamp between the control circuit terminal 6 and the ground circuit terminal 16. Ignition ON.
6. Verify the test lamp briefly turns ON and OFF when pressing the S141 Liftgate Window Unlatch Switch.
    - **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 Ω in the control circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the K9 Body Control Module.
    - **If 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. Test or replace the KR162 Liftgate Window Unlatch Relay.

Component Testing

Relay Test

1. Ignition OFF, disconnect the KR162 Liftgate Window Unlatch Relay.
2. Test for 60-180 Ω between terminals 86 and 85.
    - **If less than 60 Ω or greater than 180 Ω**

      Replace the KR162 Liftgate Window Unlatch Relay.

    - **If between 60-180 Ω**
3. Test for infinite resistance between the terminals listed below:

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- 86 and 30
- 86 and 87
- 85 and 30
- 85 and 87
- **If less than infinite resistance**

  Replace the KR162 Liftgate Window Unlatch Relay.

- **If infinite resistance**

4. Install a 3 A fused jumper wire between relay terminal 86 and 12 V. Install a jumper wire between relay terminal 85 and ground.
5. Test for less than 2 Ω between terminals 30 and 87.
   - **If 2 Ω or greater**

     Replace the KR162 Liftgate Window Unlatch Relay.

   - **If less than 2 Ω**
6. All OK

Repair Instructions

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

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

DTC B3618: EXTERIOR LIFTGATE UNLATCH SWITCH CIRCUIT 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.
- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

DTC Descriptor

DTC B3618 00

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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. Liftgate Unlatch Switch Malfunction				

Circuit/System Description

The body control module (BCM) supplies a signal to the liftgate window unlatch switch through the liftgate window unlatch signal circuit. When the liftgate window unlatch switch is pressed, the voltage within the signal circuit is pulled low and in response, the BCM will energize the liftgate window unlatch 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 liftgate window unlatch switch signal circuit for greater than 60 seconds

Action Taken When the DTC Sets

The BCM ignores the input from the liftgate window 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

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Connector End View Reference

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- **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 Liftgate Window Unlatch Switch parameter changes between Active and Inactive when pressing and releasing the S141 Liftgate Window Unlatch Switch.
   - **If the parameter does not change**

     Refer to Circuit/System Testing

   - **If the parameter changes**
3. All OK.

Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the S141 Liftgate Window Unlatch Switch. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 1 and ground.

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- **If 10 Ω or greater**

1. Ignition OFF.
2. Test for less than 2 Ω in the ground circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, repair the open/high resistance in the ground connection.

- **If less than 10 Ω**

3. Ignition ON.
4. Verify the scan tool Exterior Liftgate Window 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 2 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 2 and the ground circuit terminal 1.
6. Verify the scan tool Exterior Liftgate Window Unlatch 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 Ω in the signal circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, replace the K9 Body Control Module.

- **If Active**

7. Test or replace the S141 Liftgate Window Unlatch Switch.

Component Testing

1. Ignition OFF, disconnect the harness connector at the S141 Liftgate Window Unlatch Switch.

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2. Test for infinite resistance between the signal terminal 2 and the ground terminal 1 with the switch in the open position.
    - **If less than infinite resistance**

      Replace the S141 Liftgate Window Unlatch Switch.

    - **If infinite resistance**
3. Test for less than 3 Ω between the signal terminal 2 and the ground terminal 1 with the switch in the closed position.
    - **If 3 Ω or greater**

      Replace the S141 Liftgate Window Unlatch Switch.

    - **If less than 3 Ω**
4. All OK

Repair Instructions

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

- Refer to **Rear Compartment Lid Release Switch Replacement (Chevrolet, GMC)** **Rear Compartment Lid Release Switch Replacement (Cadillac)**
- Refer to **Control Module References** for BCM replacement, programming and setup

DTC B3797: ALL DOOR DEAD LOCK CIRCUIT

Diagnostic Instructions

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

DTC Descriptor

DTC B3797

All Door Dead Lock Circuit

For symptom byte information refer to: **Symptom Byte List**

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Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Relay Control	B3797 02	B3797 04	B3797 01	-
Right Instrument Panel Fuse Block Ground	-	B3797 04	-	-

Circuit/System Description

Door latch assemblies each contain a reversible dead lock motor, each dead lock motor is controlled by 2 circuits; the dead lock control circuit and the dead lock unlock control circuit. To dead lock a door, the body control module (BCM) locks the door by momentarily energizing the door lock security PCB relay. To complete the dead locking, the BCM momentarily applies voltage to the dead lock control circuit and ground to the door lock relay control circuit and the door latches will then dead lock.

To restore interior door handle functions, the BCM uses the same circuit as the normal door unlocking system and the dead locks will unlatch with the rest of the door locks.

Conditions for Running the DTC

When the BCM commands the door dead lock.

Conditions for Setting the DTC

B3797 01

The body control module detects a short to battery on a relay control circuit for 1 second or greater.

B3797 02

The body control module detects a short to ground on a relay control circuit for 1 second or greater.

B3797 04

The body control module detects an open/high resistance a relay control circuit or in the right instrument panel fuse block ground circuit for 1 second or greater.

Action Taken When the DTC Sets

The interior door handles will always be locked out or never locked out depending upon the status of the door latches when the fault occurred.

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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

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

Scan Tool Reference

Control Module References

Circuit/System Verification

1. Ignition ON.
2. Verify the interior door handles do not open the doors when commanding the Door Dead Lock to Lock with a scan tool.
    - **If all interior door handles open the doors**

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Refer to Circuit/System Testing

- **If all interior door handles do not open the doors**

3. Verify the interior door handles will open the doors when commanding the Door Dead Lock to Unlock with a scan tool.
   - **If all interior door handles do not open the doors**

     Refer to Circuit/System Testing

   - **If all interior door handles open the doors**
4. All OK.

Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the X2 harness connector at the X51R Fuse Block-Instrument Panel Right. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 22 and ground.
   - **If 10 Ω or greater**
   1. Ignition OFF.
   2. Test for less than 2 Ω in the ground circuit end to end.
      - If 2 Ω or greater, repair the open/high resistance in the circuit.
      - If less than 2 Ω, repair the open/high resistance in the ground connection.
   - **If less than 10 Ω**
3. Ignition OFF, connect the X2 harness connector at the X51R Fuse Block-Instrument Panel Right. Disconnect the X7 harness connector at the K9 Body Control Module, ignition ON.
4. Verify that a test lamp does not illuminate between the control circuit terminal 10 and ground.
   - **If the test lamp illuminates**
   1. Ignition OFF, remove the test lamp, disconnect the X1 harness connector at the X51R Fuse Block-Instrument Panel Right.
   2. Test for less than 1 V between the K9 Body Control Module control circuit terminal 10 X7 and ground.
      - If 1 V or greater, repair the short to voltage on the circuit.
      - If less than 1 V, replace the X51R Fuse Block-Instrument Panel Right.
   - **If the test lamp is not illuminated**
5. Connect a 3A fused jumper wire between the control circuit terminal 10 and B+.

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6. Listen as the KR114 Door Dead Lock Relay activates.
    - **If the KR114 Door Dead Lock Relay does not activate**
    1. Ignition OFF, remove the jumper wire, disconnect the X1 harness connector at the X51R Fuse Block-Instrument Panel Right.
    2. Test for infinite resistance between the K9 Body Control Module control circuit terminal 10 X7 and ground.
        - If less than Infinite resistance, repair the short to ground on the circuit.
        - If infinite resistance
    3. Test for less than 2 Ω in the control circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the X51R Fuse Block-Instrument Panel Right.
    - **If the KR114 Door Dead Lock Relay activates**
7. Replace the K9 Body Control Module.

Repair Instructions

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

- Refer to **Instrument Panel Wiring Harness Junction Block Replacement**
- Refer to **Control Module References** for BCM replacement, setup, and programming

DTC B384C: KEYLESS ENTRY OUTPUT SIGNAL CIRCUIT

Diagnostic Instructions

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

DTC Descriptors

DTC B384C

Keyless Entry Output Signal Circuit

For symptom byte information refer to: **Symptom Byte List**

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Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Liftgate Release Signal	B2494 02, B384C 06	1	1	-
Liftgate Handle Switch Low Reference	-	1	-	-
1. Liftgate will not release with the liftgate handle				

Circuit/System Description

The keyless entry control module will detect the keyless entry transmitter when the liftgate unlatch handle is pulled and the transmitter is within 1 meter (3 feet) of the liftgate, the keyless entry control module will send the release enable signal to liftgate control module.

Conditions for Running the DTC

The system voltage is 9-16 V.

Conditions for Setting the DTC

B384C 06

This DTC will set as a history code by the liftgate control module when the liftgate handle switch signal circuit is active for greater than 25 seconds

Action Taken When the DTC Sets

The liftgate handle will be inoperative

Conditions for Clearing the DTC

This history DTC will clear after the fault that caused B2494 02 to set has been corrected

Diagnostic Aids

DTC B384C is a code that was enabled on early build vehicles only and will be disabled on later build vehicles

Reference Information

Schematic Reference

Liftgate Schematics

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Connector End View Reference

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Liftgate Description and Operation

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- **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 DTC B2494 02 is not set.
    - **If the DTC is set**

      Refer to **Liftgate Handle Switch Malfunction - DTC B2494 (Without TB5)Liftgate Handle Switch Malfunction - DTC B2494 (With TB5)**

    - **If the DTC is not set**
3. All OK.

DTC B3930: CHILD SECURITY LOCK MOTORS CIRCUIT

Diagnostic Instructions

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

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- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

DTC Descriptors

DTC B3930

Child Security Lock Motors Circuit

For symptom byte information refer to: **Symptom Byte List**

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Control	B3930 02	B3930 04	B3930 01	-
Ground	-	B3930 04	-	-

Circuit/System Description

The body control module (BCM) controls the child security lock relay when it receives a command to lockout the rear doors. The relay will apply voltage to both child security circuits at the rear door latches to disable the interior door handles.

Conditions for Running the DTC

The system voltage is 9-16 V.

Conditions for Setting the DTC

B3930 01

The BCM detects a short to voltage on the child security lock disable relay control circuit.

B3930 02

The BCM detects a short to ground on the child security lock disable relay control circuit

B3930 04

The BCM detects an open/high resistance on the child security lock disable relay control circuit or an open/high resistance in the rear fuse block

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ground circuit.

Action Taken When the DTC Sets

B3930 01

The interior rear door handles will always be inoperative.

B3930 02 or B3930 04

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 and the BCM will command the lockout indicator to flash ON and OFF for 30 seconds to indicate a fault in the system

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

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- **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.

   - **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.

   - **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 X2 harness connector at the X51R Fuse Block-Instrument Panel Right. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 22 and ground.
   - **If 10 Ω or greater**
   1. Ignition OFF.
   2. Test for less than 2 Ω in the ground circuit end to end.
      - If 2 Ω or greater, repair the open/high resistance in the circuit.
      - If less than 2 Ω, repair the open/high resistance in the ground connection.
   - **If less than 10 Ω**
3. Ignition OFF, connect the X2 harness connector at the X51R Fuse Block-Instrument Panel Right. Disconnect the X5 harness connector at the

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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 X1 harness connector at the X51R Fuse Block-Instrument Panel Right.
    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 X51R Fuse Block-Instrument Panel Right.
    - **If the test lamp is not illuminated**
5. Connect a 3A fused jumper wire between the control circuit terminal 16 and B+.
6. Listen for an audible click from the X51R Fuse Block-Instrument Panel Right 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 X1 harness connector at the X51R Fuse Block-Instrument Panel Right.
    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 Ω in the control circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the X51R Fuse Block-Instrument Panel Right.
    - **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.

- Refer to **Instrument Panel Wiring Harness Junction Block Replacement**
- Refer to **Control Module References** for the BCM replacement, programming and setup

SYMPTOMS - VEHICLE ACCESS

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

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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 system descriptions:
   - **Door Ajar Indicator Description and Operation**
   - **Fuel Fill Door Description and Operation**
   - **Rear Hatch/Gate Description and Operation**
   - **Liftgate Description and Operation**
   - **Power Door Locks Description and Operation**
   - **Liftgate Ajar Indicator Description and Operation**

Visual/Physical Inspection

- Inspect for aftermarket devices which could 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 could cause the symptom.

Intermittent

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

Symptom List

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

- **Exterior Door Handle Switch Malfunction**
- **Fuel Filler Door Release Malfunction**
- **Liftgate System Diagnosis**
- **Liftgate Release Malfunction (Without TB5)**
- **Liftgate/Liftgate Window Ajar Indicator Malfunction (Without TB5)Liftgate/Liftgate Window Ajar Indicator Malfunction (With TB5)**
- **Door Ajar Indicator Malfunction**
- **Power Door Child Lock Malfunction**

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- Power Door Dead Lock Malfunction
- Power Door Lock Key Cylinder Switches Malfunction
- Power Door Locks Malfunction

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.
- Refer to Diagnostic Procedure Instructions to provide an overview of each diagnostic category.

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.

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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 A24 Door Handle Assembly-Exterior.
   - **If the parameter does not change**

     Refer to Circuit/System Testing.

   - **If the parameter changes**
3. All OK.

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Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the appropriate A24 Door Handle Switch-Exterior. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 5 and ground.
    - **If 10 Ω or greater**
    1. Ignition OFF.
    2. Test for less than 2 Ω in the ground circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, repair the open/high resistance in the ground connection.
    - **If less than 10 Ω**
3. Ignition ON.
4. 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 1 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 1 and the ground circuit terminal 5.
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 Ω in the signal circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the K84 Keyless Entry Control Module.

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- **If Active**

7. Test or replace the A24 Door Handle Assembly-Exterior.

Component Testing

1. Ignition OFF, disconnect the harness connector at the appropriate A24 Door Handle Assembly-Exterior.
2. Test for infinite resistance between the signal terminal 1 and the ground terminal 5 with the switch in the open position.
   - **If less than infinite resistance**

     Replace the A24 Door Handle Assembly-Exterior.

   - **If infinite resistance**
3. Test for less than 5 Ω between the signal terminal 1 and the ground terminal 5 with the switch in the closed position.
   - **If 5 Ω or greater**

     Replace the A24 Door Handle Assembly-Exterior.

   - **If less than 5 Ω**
4. All OK

Repair Instructions

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

- Refer to **Front Side Door Outside Handle Replacement (without ATH)** **Front Side Door Outside Handle Replacement (with ATH)**
- Refer to **Rear Side Door Outside Handle Replacement (without ATH)** **Rear Side Door Outside Handle Replacement (with ATH)**
- Refer to **Control Module References** for keyless entry control module replacement, programming and setup

FUEL FILLER DOOR 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.
- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

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Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Control Terminal 1	B3125 02, B3130 02, B3135 02	1	B3125 01, B3130 01, B3135 01	-
Control Terminal 2	B3125 02, B3130 02, B3135 02	1	B3125 01, B3130 01, B3135 01	-
1. Fuel Door Release Inoperative				

Circuit/System Description

The locking and unlocking of the fuel door is a function of the power door lock system. The fuel fill door unlatch actuator shares the circuit with the driver door latch lock and unlock control circuits. The body control module (BCM), upon receipt of a lock switch lock or unlock signal, will switch the driver door latch, as well as a fuel fill door unlatch actuator control circuits to B+ voltage. The opposing side of the driver door latch and fuel fill door unlatch actuator is connected to ground provided by the BCM through the other the door latch control circuits, along with the fuel fill door unlatch actuator, will lock or unlock as commanded.

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Fuel Fill Door Description and Operation

Electrical Information Reference

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

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- **Wiring Repairs**

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Ignition ON.
2. Verify the M27 Fuel Fill Door Unlatch Actuator does not release the fuel filler door when commanding the All Doors Lock/Unlock to Lock with a scan tool.
   - **If the M27 Fuel Fill Door Unlatch Actuator releases the fuel filler door**

     Refer to Circuit/System Testing.

   - **If the M27 Fuel Fill Door Unlatch Actuator does not release the fuel filler door**
3. Verify the M27 Fuel Fill Door Unlatch Actuator releases the fuel filler door when commanding the All Doors Lock/Unlock to Unlock with a scan tool.
   - **If the M27 Fuel Fill Door Unlatch Actuator does not release the fuel filler door**

     Refer to Circuit/System Testing.

   - **If the M27 Fuel Fill Door Unlatch Actuator releases the fuel filler door**
4. All OK.

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the M27 Fuel Fill Door Unlatch Actuator.
2. Connect a test lamp between the control circuit terminal 1 and control circuit terminal 2, ignition ON.
3. Verify the test lamp turns ON when commanding the All Doors Lock/Unlock to LOCK and UNLOCK 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, refer to **Power Door Locks Malfunction**.

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3. Test for less than 2 Ω in each control circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, refer to **Power Door Locks Malfunction**.
- **If the test lamp turns ON during each of the commands**

4. Test or replace the M27 Fuel Fill Door Unlatch Actuator.

Component Testing

Door Latch Assembly

1. Ignition OFF, disconnect the harness connector at the M27 Fuel Fill Door Unlatch Actuator.
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 M27 Fuel Fill Door Unlatch Actuator should perform the LOCK and UNLOCK function.
    - **If the actuator does not perform the LOCK and UNLOCK function**

      Replace the M27 Fuel Fill Door Unlatch Actuator.

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

Repair Instructions

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

Refer to **Fuel Tank Filler Pipe Housing Replacement**

LIFTGATE SYSTEM DIAGNOSIS

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.
- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

Circuit/System Description

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The power liftgate system is a standard liftgate that has an added electric motor, a spindle drive arm, an electric latch/cinch system and an optional handsfree liftgate release system. The liftgate can be either manually or power opened and closed. Power opening or closing of the liftgate can be done through the interior liftgate switch, pushing either the open or close switch at the liftgate, pressing open or close buttons on the keyless entry transmitter or the motion of a foot under the rear fascia. The powered liftgate function can be disabled using the interior liftgate on/off control switch.

Diagnostic Aids

Check the calibration software installed on the liftgate control module prior to performing extensive diagnostics, vehicles with the handsfree liftgate control option (TC2) require specific calibration software. Incorrect calibration software may cause the power liftgate system to become inoperative without setting any DTCs

If the liftgate will not release from the closed position, refer to **Opening the Liftgate Without Electrical Power (TB4)** **Opening the Liftgate Without Electrical Power (TB5/TC2)** for the appropriate procedure

Power liftgate function will only be allowed if certain operating criteria are met. Any of the following may cause the power liftgate not to function:

- Vehicle is not in park
- System voltage is below 10.5 V
- Engine is cranking
- The vehicle doors are locked
- A liftgate control module DTC is set
- Liftgate motor excess current is detected which may be caused by a misaligned liftgate striker
- Interior trim and/or liftgate wedge/bumper misalignment

Whenever the liftgate control module loses power or is disconnected, the ignition must be cycled OFF then ON in order to reactivate the liftgate control module.

Reference Information

Schematic Reference

Liftgate Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

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Description and Operation

Liftgate 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 K39 Liftgate Control Module is programmed with the latest and correct software.
    - **If the software is not the latest or is not the correct software**

      Refer to **Control Module References** for liftgate control module replacement, programming and setup.

    - **If the software is the latest**
3. Verify the K39 Liftgate Control Module does not have any current DTCs set.
    - **If the K39 Liftgate Control Module has current DTCs set**

      Refer to **Diagnostic Trouble Code (DTC) List - Vehicle**

    - **If the K39 Liftgate Control Module does not have any current DTCs set**
4. Verify DTC B2494 or B153F is not set as a history DTC.
    - **DTC B2494 is set only as history**

      Refer to **Liftgate Release Switch Replacement (Exterior)** **Liftgate Release Switch Replacement (Interior)**

    - **DTC B153F is set only as history**

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Refer to **Liftgate Side Sensor Replacement**

- **If the K39 Liftgate Control Module does not have any history DTCs set**

5. Verify the scan tool Liftgate Mode Switch parameter changes from Off to 3/4 to Maximum while rotating the S45B Liftgate Control Switch-Interior.
   - **If the parameter does not change**

     Refer to **Liftgate Interior Release Open/Close Switch Malfunction - DTC B396C or B396D**.

   - **If the parameter changes**
6. Verify the scan tool Liftgate Front Control Switch parameter changes between Inactive and Active when pressing the S45B Liftgate Control Switch-Interior.
   - **If the parameter does not change**

     Refer to **Liftgate Interior Release Open/Close Switch Malfunction - DTC B396C or B396D**.

   - **If the parameter changes**
7. Liftgate Closed, verify the scan tool Liftgate Latch Pawl Switch, Liftgate Latch Ratchet Switch, and Liftgate Latch Sector Switch parameters are as listed below:
   - Liftgate Latch Pawl Switch parameter Close
   - Liftgate Latch Ratchet Switch parameter Close
   - Liftgate Latch Sector Switch parameter Inactive
   - **If any of the parameters are not as listed**

     Refer to **Liftgate Latch Switches Malfunction - DTC B153A**.

   - **If the parameters are as listed**
8. Verify the scan tool Liftgate Handle Switch parameter changes between Active and Inactive when pressing the S46 Liftgate Handle Switch.
   - **If the parameter does not change**

     Refer to **Liftgate Handle Switch Malfunction - DTC B2494 (Without TB5)Liftgate Handle Switch Malfunction - DTC B2494 (With TB5)**.

   - **If the parameter changes**

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9. Verify the liftgate will release and smoothly power open when commanding Liftgate Open with a scan tool.
    - **If the liftgate does not release**

      Refer to **Liftgate Latch Release/Cinch Malfunction**

    - **If the liftgate releases but does not open**

      Refer to **Power Liftgate Malfunction**

    - **If the liftgate releases but performs an erratic power open/close motion**

      Refer to **Power Liftgate Malfunction**

    - **If the liftgate smoothly opens**
10. Liftgate Open, verify the scan tool Liftgate Secondary Obstacle Detection parameter is between 3V-3.5V.
    - **If not between 3V-3.5V**

      Refer to **Liftgate Object Sensor Malfunction - DTC B153F**.

    - **If between 3V-3.5V**
11. Liftgate Open, verify the scan tool Liftgate Latch Pawl Switch, Liftgate Latch Ratchet Switch, and Liftgate Latch Sector Switch parameters are as listed below
    - Liftgate Latch Pawl Switch parameter Open
    - Liftgate Latch Ratchet Switch parameter Open
    - Liftgate Latch Sector Switch parameter Inactive
    - **If any of the parameter are not as listed**

      Refer to **Liftgate Latch Switches Malfunction - DTC B153A**.

    - **If the parameters are as listed**
12. Verify the scan tool Liftgate Rear Close Switch parameter changes between Active and Inactive when pressing the B70 Liftgate Close Switch.
    - **If the parameter does not change**

      Refer to **Liftgate Close Switch Malfunction - DTC B396E**.

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- **If the parameter changes**

13. Verify the liftgate will smoothly power close when commanding Liftgate Close with a scan tool.
    - **If the liftgate does not power close and sets DTC B396A**

      Refer to **Liftgate Motor Power Open/Close Malfunction - DTC B396A**

    - **If the liftgate performs an erratic open/close motion and does not set a DTC**

      Refer to **Power Liftgate Malfunction**

    - **If the liftgate smoothly power closes**

NOTE: **Refer to the owner's manual for the location of the kick sensors prior to performing the kicking motion**

14. If equipped, liftgate Closed, with the keyless entry transmitter within 3 feet (1 meter) of the liftgate, activate the handsfree liftgate release system with a kicking motion of a foot under the rear fascia. The tail lamps will flash 3 times if the liftgate handsfree sensors detect the motion.
    - **If the tail lamps do not flash**

      Refer to **Liftgate Handsfree Sensor Malfunction**

15. All OK.

DTC B396E: LIFTGATE CLOSE SWITCH MALFUNCTION

Diagnostic Instructions

- Perform the Diagnostic System Check prior to using this diagnostic procedure: **Diagnostic System Check - Vehicle**
- Review the description of Strategy Based Diagnosis: **Strategy Based Diagnosis**
- An overview of each diagnostic category can be found here: **Diagnostic Procedure Instructions**

DTC Descriptor

NOTE: **This procedure may also diagnose malfunctions that are not detected by a DTC.**

DTC B396E 02

Rear Liftgate Actuator Switch Circuit - Short to Ground

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Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal	B396E 02	1	1	-
Low Reference	-	1	-	-
1. Liftgate Close Switch Disabled				

Typical Scan Tool Data

Liftgate Rear Close Switch

Circuit	Short to Ground	Open	Short to Voltage
Operating Conditions: Ignition On/Vehicle In Service Mode **Parameter Normal Range:** Inactive/Active • Inactive - Switch Not Pressed • Active - Switch Pressed			
Signal	Active	Inactive	Inactive
Low Reference	-	Inactive	-

Circuit/System Description

Circuit	Description
Signal	The control module input circuit has an internal resistance connected to 12 V.
Low Reference	Grounded through the control module.

Component	Description
B70 Liftgate Close Switch	When the switch is activated, the signal circuit to the control module is grounded.
K39 Liftgate Control Module	The control module K39 controls the liftgate motor function depending on inputs from a variety of sensors, switches and serial data information from other control modules.

Conditions for Running the DTC

Ignition On/Vehicle In Service Mode

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Conditions for Setting the DTC

Signal circuit = Short to Ground For greater than 60 s

Actions Taken When the DTC Sets

B70 Liftgate Close Switch = Disabled

Conditions for Clearing the DTC

- A current DTC will clear when the diagnostic runs and passes.
- A history DTC will clear after 50 consecutive malfunction-free ignition cycles.

Reference Information

Schematic Reference

Liftgate Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Liftgate 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

Circuit/System Verification

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1. Ignition On/Vehicle In Service Mode
2. Verify the scan tool parameter: Liftgate Rear Close Switch = Inactive
   - **If not the specified state**

     Refer to: Circuit/System Testing

   - **If the specified state**
3. Operate the component: B70 Liftgate Close Switch Pressed

   Verify the scan tool parameter: Liftgate Rear Close Switch = Active

   - **If not the specified state**

     Refer to: Circuit/System Testing

   - **If the specified state**
4. All OK.

Circuit/System Testing

NOTE: **It may take up to 2 min for all vehicle systems to power down before an accurate ground or low reference circuit continuity test can be performed.**

1. Ignition/Vehicle & All vehicle systems Off
2. Disconnect the electrical connector: B70 Liftgate Close Switch
3. Test for less than 10 Ω between the test points: Low Reference terminal 2 & Ground
   - **If 10 Ω or greater**
   1. Disconnect the electrical connector: K39 Liftgate Control Module
   2. Test for less than 2 Ω between the test points: Low Reference terminal 2 @ Component harness & Terminal 16 X1 @ Control module harness
      - If 2 Ω or greater, Repair the open/high resistance in the circuit.
      - If less than 2 Ω, Replace the component: K39 Liftgate Control Module
   - **If less than 10 Ω**
4. Ignition On/Vehicle In Service Mode

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5. Verify the scan tool parameter: Liftgate Rear Close Switch = Inactive
    - **If not the specified state**
    1. Ignition/Vehicle Off
    2. Disconnect the electrical connector: K39 Liftgate Control Module
    3. Test for infinite resistance between the test points: Signal circuit terminal 1 @ Component harness & Ground
        - If less than infinite resistance, Repair the short to ground on the circuit.
        - If infinite resistance, Replace the component: K39 Liftgate Control Module
    - **If the specified state**
6. Connect a 3A fused jumper wire between the test points: Signal circuit terminal 1 & Low Reference terminal 2
7. Verify the scan tool parameter: Liftgate Rear Close Switch = Active
    - **If not the specified state**
    1. Ignition/Vehicle Off & Remove Jumper wire
    2. Disconnect the electrical connector: K39 Liftgate Control Module
    3. Ignition On/Vehicle In Service Mode
    4. Test for less than 1 V between the test points: Signal circuit terminal 1 @ Component harness & Ground
        - If 1 V or greater, Repair the short to voltage on the circuit.
        - If less than 1 V
    5. Ignition/Vehicle Off
    6. Test for less than 2 Ω between the test points: Signal circuit terminal 1 @ Component harness & Terminal 3 X1 @ Control module harness
        - If 2 Ω or greater, Repair the open/high resistance in the circuit.
        - If less than 2 Ω, Replace the component: K39 Liftgate Control Module
    - **If the specified state**
8. Test or replace the component: S46 Liftgate Handle Switch

Component Testing

1. Ignition/Vehicle Off
2. Disconnect the electrical connector: B70 Liftgate Close Switch
3. Test for infinite resistance between the test points: Signal terminal 1 & Low Reference terminal 2 - Switch Not Pressed

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- **If less than infinite resistance**

  Replace the component: B70 Liftgate Close Switch

- **If infinite resistance**

4. Test for less than 3 Ω between the test points: Signal terminal 1 & Low Reference terminal 2 - Switch Pressed
   - **If 3 Ω or greater**

     Replace the component: B70 Liftgate Close Switch

   - **If less than 3 Ω**
5. All OK.

Repair Instructions

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

- Refer to **Liftgate Close Switch Replacement**
- For control module replacement, programming, and setup refer to: **Control Module References**

DTC B1019: LIFTGATE CONTROL MODULE

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.
- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

DTC Descriptor

DTC B1019 00

System Configuration Error

Circuit/System Description

When calibrating the liftgate position, the liftgate control module is placed in a functional state to learn the liftgate travel limits. DTC B1019 00 will set automatically as an indicator that the system is in learn mode and not as a fault indicator. Once the travel limits are learned by the liftgate control

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module, the liftgate control module will exit calibration mode and DTC B1019 00 become a history code.

Conditions for Running the DTC

The system voltage is 9-18 V.

Conditions for Setting the DTC

Whenever the liftgate control module is replaced or in learn mode.

Action Taken When the DTC Sets

The power liftgate system will be disabled.

Conditions for Clearing the DTC

- The DTC will be current until the liftgate calibration procedure has been completed.
- When the calibration procedure has been completed the DTC will be a history DTC.

Diagnostic Aids

Setting B1019 00 is normal after flashing the liftgate control module. This DTC will be current after flashing and the DTC will go to history after learning. This is a normal behavior by design and is not necessary to replace the liftgate control module.

Reference Information

Schematic Reference

Liftgate Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Liftgate Description and Operation

Electrical Information Reference

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- 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 Testing

Perform the Liftgate Calibration . The K39 liftgate control module should learn the travel limits, exit the calibration mode, and B1019 00 will become a history code.

Repair Instructions

Perform the Diagnostic Repair Verification after completing the diagnostic procedure.

Refer to Control Module References for liftgate control module replacement, setup and programming

DTC B2494 : LIFTGATE HANDLE SWITCH MALFUNCTION - (WITHOUT TB5)

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.
- Refer to Diagnostic Procedure Instructions to provide an overview of each diagnostic category.

DTC Descriptor

DTC B2494 00

Liftgate Handle Switch Circuit

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance

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Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal	B2494 00	1	1	-
Ground	-	1	-	-
1. Liftgate Release Switch Malfunction				

Circuit/System Description

The BCM supplies a 12V signal to the signal circuit of the exterior liftgate handle switch and when the release switch is activated the signal circuit voltage goes low. The BCM controls the liftgate release actuator through the liftgate latch release relay. When the release switch signal is activated, the BCM enables the liftgate latch release relay by applying battery voltage to the liftgate latch release relay supply circuit and the relay is energized when the BCM grounds the liftgate latch release relay control circuit. When the relay is energized battery voltage is supplied to the liftgate release actuator through the liftgate release actuator control circuit.

Conditions for Running the DTC

The system voltage is 9-18 V.

Conditions for Setting the DTC

The liftgate release switch signal circuit is active for greater than 30 seconds.

Action Taken When the DTC Sets

The BCM will ignore the signal from the exterior liftgate handle switch.

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

Release Systems Schematics

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Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Rear Hatch/Gate Description and Operation

Electrical Information Reference

- **Testing for Intermittent Conditions and Poor Connections**
- **Circuit Testing**
- **Wiring Repairs**
- **Connector 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 Inactive and Active when pressing the S46B Liftgate Unlatch Switch.
   - **If the parameter does not change**

     Refer to Circuit/System Testing

   - **If the parameter changes**
3. All OK.

Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the S46B Liftgate Unlatch Switch. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 2 and ground.

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- **If 10 Ω or greater**

1. Ignition OFF.
2. Test for less than 2 Ω in the ground circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, repair the open/high resistance in the ground connection.

- **If less than 10 Ω**

3. Ignition ON.
4. 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, 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 Ω in the signal circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, replace the K9 Body Control Module.

- **If Active**

7. Test or replace the S46B Liftgate Unlatch Switch.

Component Testing

1. Ignition OFF, disconnect the harness connector at the S46B Liftgate Unlatch Switch.

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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 S46B Liftgate Unlatch Switch.

    - **If infinite resistance**
3. Test for less than 3 Ω between the signal terminal 1 and the ground terminal 2 with the switch in the closed position.
    - **If 3 Ω or greater**

      Replace the S46B Liftgate Unlatch Switch.

    - **If less than 3 Ω**
4. All OK

Repair Instructions

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

- Refer to **Liftgate Release Switch Replacement (Exterior)** **Liftgate Release Switch Replacement (Interior)**
- Refer to **Control Module References** for BCM replacement, setup and programming

DTC B2494: LIFTGATE HANDLE SWITCH MALFUNCTION - (WITH TB5)

Diagnostic Instructions

- Perform the Diagnostic System Check prior to using this diagnostic procedure: **Diagnostic System Check - Vehicle**
- Review the description of Strategy Based Diagnosis: **Strategy Based Diagnosis**
- An overview of each diagnostic category can be found here: **Diagnostic Procedure Instructions**

DTC Descriptor

NOTE: **This procedure may also diagnose malfunctions that are not detected by a DTC.**

DTC B2494 02

Liftgate Handle Switch Circuit Short to Ground

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Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal	B2494 02	1	1	-
Low Reference	-	1	-	-
1. Liftgate Unlatch Switch Disabled				

Typical Scan Tool Data

Liftgate Handle Switch

Circuit	Short to Ground	Open	Short to Voltage
Operating Conditions: Ignition On/Vehicle In Service Mode **Parameter Normal Range:** Inactive/Active • Inactive - Switch Not Pressed • Active - Switch Pressed			
Signal	Active	Inactive	Inactive
Low Reference	-	Inactive	-

Circuit/System Description

Circuit	Description
Signal	The control module input circuit has an internal resistance connected to 12 V.
Low Reference	Grounded through the control module.

Component	Description
S46 Liftgate Handle Switch	When the switch is activated, the signal circuit to the control module is grounded.
K39 Liftgate Control Module	The control module K39 controls the liftgate motor function depending on inputs from a variety of sensors, switches and serial data information from other control modules.

Conditions for Running the DTC

Ignition On/Vehicle In Service Mode

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Conditions for Setting the DTC

Signal circuit = Short to Ground For greater than 60 s

Actions Taken When the DTC Sets

S46 Liftgate Handle Switch = Disabled

Conditions for Clearing the DTC

- A current DTC will clear when the diagnostic runs and passes.
- A history DTC will clear after 50 consecutive malfunction-free ignition cycles.

Reference Information

Schematic Reference

Liftgate Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Liftgate Description and Operation

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

Scan Tool Reference

Control Module References

Circuit/System Verification

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1. Ignition On/Vehicle In Service Mode
2. Verify the scan tool parameter: Liftgate Handle Switch = Inactive
   - **If not the specified state**

     Refer to: Circuit/System Testing

   - **If the specified state**
3. Operate the component: S46 Liftgate Handle Switch Pressed

   Verify the scan tool parameter: Liftgate Handle Switch = Active

   - **If not the specified state**

     Refer to: Circuit/System Testing

   - **If the specified state**
4. All OK.

Circuit/System Testing

NOTE: **It may take up to 2 min for all vehicle systems to power down before an accurate ground or low reference circuit continuity test can be performed.**

1. Ignition/Vehicle & All vehicle systems Off
2. Disconnect the electrical connector: S46 Liftgate Handle Switch
3. Test for less than 10 Ω between the test points: Low Reference circuit terminal 1 & Ground
   - **If 10 Ω or greater**
   1. Disconnect the electrical connector: K39 Liftgate Control Module
   2. Test for less than 2 Ω between the test points: Low Reference circuit terminal 1 @ Component harness & Terminal 16 X1 @ Control module harness
      - If 2 Ω or greater, Repair the open/high resistance in the circuit.
      - If less than 2 Ω, Replace the component: K39 Liftgate Control Module
   - **If less than 10 Ω**
4. Ignition On/Vehicle In Service Mode

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5. Verify the scan tool parameter: Liftgate Handle Switch = Inactive
    - **If not the specified state**
    1. Ignition/Vehicle Off
    2. Disconnect the electrical connector: K39 Liftgate Control Module
    3. Test for infinite resistance between the test points: Signal circuit terminal 2 @ Component harness & Ground
        - If less than infinite resistance, Repair the short to ground on the circuit.
        - If infinite resistance, Replace the component: K39 Liftgate Control Module
    - **If the specified state**
6. Connect a 3A fused jumper wire between the test points: Signal circuit terminal 2 & Low Reference circuit terminal 1
7. Verify the scan tool parameter: Liftgate Handle Switch = Active
    - **If not the specified state**
    1. Ignition/Vehicle Off & Remove Jumper wire(s)
    2. Disconnect the electrical connector: K39 Liftgate Control Module
    3. Ignition On/Vehicle In Service Mode
    4. Test for less than 1 V between the test points: Signal circuit terminal 2 @ Component harness & Ground
        - If 1 V or greater, Repair the short to voltage on the circuit.
        - If less than 1 V
    5. Ignition/Vehicle Off
    6. Test for less than 2 Ω between the test points: Signal circuit terminal 2 @ Component harness & Terminal 14 X1 @ Control module harness
        - If 2 Ω or greater, Repair the open/high resistance in the circuit.
        - If less than 2 Ω, Replace the component: K39 Liftgate Control Module
    - **If the specified state**
8. Test or replace the component: S46 Liftgate Handle Switch

Component Testing

1. Ignition/Vehicle Off
2. Disconnect the electrical connector: S46 Liftgate Handle Switch
3. Test for infinite resistance between the test points: Signal terminal 2 & Low Reference terminal 1 - Switch Not Pressed

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- **If less than infinite resistance**

  Replace the component: S46 Liftgate Handle Switch

- **If infinite resistance**

4. Test for less than 3 Ω between the test points: Signal terminal 2 & Low Reference terminal 1 - Switch Pressed
   - **If 3 Ω or greater**

     Replace the component: S46 Liftgate Handle Switch

   - **If less than 3 Ω**
5. All OK.

Repair Instructions

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

- Refer to **Liftgate Release Switch Replacement (Exterior)** **Liftgate Release Switch Replacement (Interior)**
- For control module replacement, programming, and setup refer to: **Control Module References**

LIFTGATE HANDSFREE SENSOR 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.
- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

DTC Descriptors

DTC B323A 08

Upper Hands Free Sensor Signal Invalid

DTC B323B 08

Lower Hands Free Sensor Signal Invalid

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DTC B323C 39

Hands Free Liftgate Sensor Module Internal Hardware Failure

DTC B323C 42

Hands Free Liftgate Sensor Module Invalid Calibration Set

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Liftgate Hands-Free Control Module B+	U1510 00	U1510 00	-	-
Upper Hands Free Sensor Signal	B232A 08	B232A 08	B232A 08	B232A 08
Lower Hands Free Sensor Signal	B232A 08	B232A 08	B232A 08	B232B 08
Liftgate Hands-Free Control Module Ground	-	U1510 00	-	-

Circuit/System Description

The power liftgate has a feature that detects the motion of a foot under the rear fascia, this allows the operator to open the liftgate when his or her hands are full of packages. As an indicator that the action has been properly preformed, the liftgate hands-free sensor control module will send a serial data message to the liftgate control module to command the liftgate to release and power open and the liftgate control module will send a serial data message to the body control module to command the tail lights to flash 3 times

Conditions for Running the DTC

Battery voltage is between 9-16 V.

Conditions for Setting the DTC

B323A 08

- The liftgate control module has received a serial data message that an invalid signal from the upper hands free sensor has been detected by the hands-free liftgate sensor control module.
- The condition must be present for greater than 30 seconds

B323B 08

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- The liftgate control module has received a serial data message that an invalid signal from the lower hands free sensor has been detected by the hands-free liftgate sensor control module.
- The condition must be present for greater than 30 seconds.

B323C 39

An internal malfunction has been detected by the liftgate control module

B323C 42

The liftgate control module detects the calibration files in the hands-free liftgate sensor control module does not match the calibration files contained within the liftgate control module.

Action Taken When the DTC Sets

The hands-free feature will be inoperative

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.

Diagnostic Aids

The hands-free function will only be allowed if certain operating criteria are met. Any of the following may cause the hands-free system not to function:

- The keyless entry transmitter is not within range
- The kicking motion is incorrectly preformed
- The interior liftgate control switch has not been set to the 3/4 or Max position
- A loose or misaligned hands-free sensor

Reference Information

Schematic Reference

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Liftgate Schematics

Connector End View Reference

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Description and Operation

Liftgate 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.

   NOTE: **The keyless entry transmitter must be within 1 meter (3 feet) of the liftgate**

2. Verify the tail lights flash 3 times and the power liftgate opens while performing a kicking motion behind and under the rear fascia.
   - **If the tail lamps flash but the liftgate does not open**

     Refer to **Liftgate System Diagnosis**

   - **If the tail lamps do not flash**

     Refer to Circuit/System Testing.

   - **If the tail lamps flash and the liftgate does open**

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3. All OK.

Circuit/System Testing

1. Ignition OFF, disconnect the X2 harness connector at the K171 Hands-Free Liftgate Sensor Control Module.
2. Test for 0.3-0.8 Ω between the B275A Hands-Free Liftgate Sensor-Upper signal circuit terminal 1 and the signal circuit terminal 2.
    - **If less than 0.3 Ω or greater than 0.8 Ω**
    - Replace the B275A Hands-Free Liftgate Sensor-Upper
    - **If between 0.3-0.8 Ω**
3. Ignition OFF, disconnect the X3 harness connector at the K171 Hands-Free Liftgate Sensor Control Module.
4. Test for 0.3-0.8 Ω between the B275B Hands-Free Liftgate Sensor-Lower signal circuit terminal 1 and the signal circuit terminal 2.
    - **If less than 0.3 Ω or greater than 0.8 Ω**
    - Replace the B275B Hands-Free Liftgate Sensor-Lower
    - **If between 0.3-0.8 Ω**
5. Replace the K171 Hands-Free Liftgate Sensor Control Module.

Repair Instructions

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

- Refer to **Rear Closure Hands Free Sensor Replacement (GMC)** **Rear Closure Hands Free Sensor Replacement (Cadillac)** **Rear Closure Hands Free Sensor Replacement (Chevrolet)**
- Refer to **Control Module References** for liftgate hands-free sensor control module replacement, programming and setup

DTC B396C OR B396D: LIFTGATE INTERIOR RELEASE OPEN/CLOSE 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.
- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

DTC Descriptors

DTC B396C 08

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Liftgate Mode Switch Circuit Performance Signal Invalid

DTC B396D 02

Front Liftgate Actuator Switch Circuit Short To Ground

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Off/ 3/4 Open/Max Signal	B396C 08	B396C 08	B396C 08	-
Open/Close Signal	B396D 02	1	1	-
Ground	-	2	-	-
1. The interior switch will not open/close the power liftgate 2. The liftgate works only in the full open mode using the liftgate handle				

Circuit/System Description

The interior liftgate rotary control switch contains 3 resistors which are in series for the liftgate mode, depending upon which position is selected will determine which combination of resistors are used. The liftgate module monitors the voltage level in the liftgate mode signal circuit, as each mode is selected, the voltage within the signal circuit incrementally drops. It is this method the liftgate module will determine if mode switch is in the manual mode, garage mode or the maximum open mode.

The interior liftgate control switch has of a push button switch to command the liftgate to open and close. The liftgate module monitors the voltage level on the open/close signal circuit, when the switch is not being pressed the voltage level is at the system voltage. When the switch is pressed a contact within the interior liftgate control switch closes providing a ground path for the signal circuit causing the voltage level to drop to near zero volts. The liftgate module will detect the voltage drop and will then command the liftgate to open or close depending upon the current state of the liftgate at the time the switch is pressed.

Conditions for Running the DTC

The system voltage is 9-16 V.

Conditions for Setting the DTC

B396C 08

The liftgate control module detects an out of range condition in the mode switch signal circuit.

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B396D 02

The liftgate control module detects a short to ground in the rear liftgate open/close switch signal circuit for greater than 60 seconds.

Action Taken When the DTC Sets

B396C 08

The manual mode function and the garage mode function will be inoperative.

B396D 02

The liftgate module will ignore the switch input from the interior liftgate control switch and the liftgate operations will only be available from the liftgate switches located on the liftgate panel or by an open or close request from the remote control keyless entry module.

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

Liftgate Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Liftgate Description and Operation

Electrical Information Reference

- **Testing for Intermittent Conditions and Poor Connections**
- **Circuit Testing**

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- **Wiring Repairs**
- **Connector Repairs**

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Ignition ON.
2. Verify the scan tool Liftgate Front Control Switch parameter changes between Inactive and Active when pressing the S45B Liftgate Control Switch-Interior.
   - **If the parameter does not change**

     Refer to Circuit/System Testing - Open/Close Switch Circuit Test.

   - **If the parameter changes**
3. Verify the scan tool Liftgate Mode Switch is between 125 counts and 350 counts and changes to 245 counts while rotating the S45B Liftgate Control Switch-Interior.
   - **If not between 125 counts and 350 counts or does not change**

     Refer to Circuit/System Testing - OFF/ 3/4 position/MAX Switch Circuit Test.

   - **If between 125 counts and 350 counts and changes**
4. All OK.

Circuit/System Testing

Open/Close Switch Circuit Test

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the S45B Liftgate Control Switch-Interior. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 1 and ground.
   - **If 10 Ω or greater**
   1. Ignition OFF.
   2. Test for less than 2 Ω in the ground circuit end to end.

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

- **If less than 10 Ω**

3. Ignition ON.
4. Verify the scan tool Liftgate Front Control Switch parameter is Inactive.
    - **If not Inactive**
    1. Ignition OFF, disconnect the harness connector at the K39 Liftgate 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 K39 Liftgate Control Module.
    - **If Inactive**
5. Install a 3 A fused jumper wire between the signal circuit terminal 4 and the ground circuit terminal 1.
6. Verify the scan tool Liftgate Front Control Switch parameter is Active.
    - **If not Active**
    1. Ignition OFF, disconnect the harness connector at the K39 Liftgate 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 Ω in the signal circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the K39 Liftgate Control Module.
    - **If Active**
7. Test or replace the S45B Liftgate Control Switch-Interior.

OFF/ 3/4 position/MAX Switch Circuit Test

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the S45B Liftgate Control Switch-Interior, ignition ON.
2. Verify the scan tool Liftgate Mode Switch parameter is greater than 300 counts.
    - **If 300 counts or less**
    1. Ignition OFF, disconnect the harness connector at the K39 Liftgate Control Module.

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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 K39 Liftgate Control Module
- **If greater than 300 counts**

3. Install a 3 A fused jumper wire between the signal circuit terminal 3 and the ground circuit terminal 1.
4. Verify the scan tool Liftgate Mode Switch parameter is less than 5 counts.
    - **If 5 counts or greater**
    1. Ignition OFF, disconnect the harness connector at the K39 Liftgate Control Module.
    2. Test for less than 2 Ω in the signal circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the K39 Liftgate Control Module
    - **If less than 5 counts**
5. Test or replace the S45B Liftgate Control Switch-Interior.

Component Testing

1. Ignition OFF, disconnect the harness connector at the S45B Liftgate Control Switch-Interior.
2. Test for infinite resistance between the signal terminal 4 and the ground terminal 1 with the switch in the open position.
    - **If less than infinite resistance**

      Replace the S45B Liftgate Control Switch-Interior.

    - **If infinite resistance**
3. Test for less than 3 Ω between the signal terminal 4 and the ground terminal 1 with the switch in the closed position.
    - **If 3 Ω or greater**

      Replace the S45B Liftgate Control Switch-Interior.

    - **If less than 3 Ω**
4. All OK

Repair Instructions

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

- Refer to **Liftgate Release Switch Replacement (Exterior)** **Liftgate Release Switch Replacement (Interior)**
- Refer to **Control Module References** for the liftgate control module replacement, setup and programming

LIFTGATE LATCH RELEASE/CINCH 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.
- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

DTC Descriptors

DTC B2495

Liftgate Latch Control Circuit

DTC B24A0

Power Liftgate Latch Release Motor Circuit

For symptom byte information refer to: **Symptom Byte List**

Diagnostic Fault Information

Circuit	Short to Ground	Open	High Resistance	Short to Voltage	Signal Performance
Liftgate Latch Release Control	B24A0 02	B24A0 05	B24A0 08	B24A0 01	-
Cinch Latch Motor Open Control	B2495 02	B2495 04, B24A0 05	B2495 04, B24A0 05	B2495 01	-
Cinch Latch Motor Close Control	B2495 02	B2495 04, B24A0 05	B2495 04, B24A0 05	B2495 01	-

Circuit/System Description

The liftgate control module controls the liftgate release motor by supplying 12V to the release control circuit. The motor control circuits are monitored by the liftgate control module prior to activation for a high or low condition and during motor operation for an insufficient current flow

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condition.

The ratchet, pawl, and sector switches are part of the liftgate latch assembly and are used by the liftgate control module to determine the state of the latch during the process of latching or unlatching. The ratchet and pawl switches will be inactive when the primary and secondary latches are latched, and the sector switch will be active during the power cinch function. Each of the latch switch signal circuits are supplied battery voltage through a resistor and monitored within the liftgate control module. When the switch contacts close the signal circuit goes low and the liftgate control module determines the switch to be active.

The latch motor is a bi-directional motor and cinch or unlatch operation is the result of the direction of the motor rotation. The liftgate control module controls the latch motor through the control circuits by supplying power and ground in the appropriate polarity. The motor control circuits are monitored by the liftgate control module prior to activation for a high or low condition and during motor operation for an insufficient current flow condition.

Conditions for Running the DTC

The system voltage is 9-16 V.

Conditions for Setting the DTC

B2495 01

The liftgate control module detects a short to battery in the liftgate latch motor cinch control circuit.

B2495 02

The liftgate control module detects a short to ground in the liftgate latch motor cinch control circuit.

B2495 04, B24A0 05

The liftgate control module detects an open/high resistance in the liftgate latch motor cinch control circuit when cinching the liftgate to the closed position.

B24A0 01

The liftgate control module detects a short to battery in the liftgate latch motor release control circuit while commanding the liftgate latch to release.

B24A0 02

The liftgate control module detects a short to ground in the liftgate latch motor release control circuit while commanding the liftgate latch to release.

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B24A0 08

The liftgate control module detects high resistance in the liftgate latch motor release control circuit while commanding the liftgate latch to release.

Action Taken When the DTC Sets

B24A0 01, B24A0 02, B24A0 08

The liftgate will not release and will be inoperative in the power and manual modes.

B2495 01, B2495 02, B2495 04, B24A0 05

- Manual Mode: Liftgate will not cinch closed.
- Power Mode: The liftgate will not release and will be inoperative.

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.

Diagnostic Aids

- If the liftgate will not release from the closed position, refer to **Opening the Liftgate Without Electrical Power (TB4)** **Opening the Liftgate Without Electrical Power (TB5/TC2)** for the appropriate procedure.
- Whenever the liftgate control module loses power or is disconnected, the ignition must be cycled OFF then ON in order to reactivate the liftgate control module.

Reference Information

Schematic Reference

Liftgate Schematics

Connector End View Reference

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- **Circuit Testing**
- **Wiring Repairs**
- **Connector Repairs**

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Ignition ON.

   NOTE: **Refer to Liftgate System Diagnosis for a guide to power liftgate functions and failure modes to determine the course of action when the power liftgate malfunctions**

2. Verify the A23C Liftgate Latch Assembly releases the liftgate when pressing the S46 Liftgate Handle Switch.
   - **If the A23C Liftgate Latch Assembly does not release**

     Refer to Circuit/System Testing - Liftgate Release Inoperative.

   - **If the A23C Liftgate Latch Assembly does release**
3. Verify the A23C Liftgate Latch Assembly cinches the liftgate to the fully closed position while gently pushing the liftgate closed.
   - **If the A23C Liftgate Latch Assembly does not cinch**

     Refer to Circuit/System Testing - Liftgate Cinch Inoperative.

   - **If the A23C Liftgate Latch Assembly cinch works**
4. All OK.

Circuit/System Testing

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Liftgate Release Inoperative

1. Ignition OFF, disconnect the X3 harness connector at the K39 Liftgate Control Module. Ignition ON.
2. Test for less than 1 V between the control circuit terminal 13 and ground.
    - **If 1 V or greater**
    1. Ignition OFF, disconnect the harness connector at the A23C Liftgate Latch Assembly, 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, test or replace the A23C Liftgate Latch Assembly.
    - **If less than 1 V**
3. Ignition ON, manually move the latch to cinched position, install a 30 A fused jumper wire between the control circuit terminal 13 and 12 V, the A23C Liftgate Latch Assembly should perform the release function.
    - **If the A23C Liftgate Latch Assembly does not release**
    1. Ignition OFF, disconnect the harness connector at the A23C Liftgate Latch Assembly.
    2. Test for infinite resistance 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 Ω in the control circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the A23C Liftgate Latch Assembly.
    - **If the A23C Liftgate Latch Assembly releases**
4. Replace the K39 Liftgate Control Module.

Liftgate Cinch Inoperative

1. Ignition OFF, disconnect the X2 harness connector at the K39 Liftgate Control Module.
2. Test for less than 1 V between the control circuit terminals listed below and ground:
    - Control circuit terminal 1 X2
    - Control circuit terminal 2 X2
    - **If 1 V or greater**

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1. Ignition OFF, disconnect the harness connector at the A23C Liftgate Latch Assembly. 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**

3. Test for infinite resistance between the control circuit terminals listed below and ground:
    - Control circuit terminal 1 X2
    - Control circuit terminal 2 X2
- **If less than infinite resistance**

1. Ignition OFF, disconnect the harness connector at the A23C Liftgate Latch Assembly.
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, replace the A23C Liftgate Latch Assembly.
- **If infinite resistance**

4. Test for less than 10 Ω between the control circuit terminal 1 and the control circuit terminal 2.
    - **If 10 Ω or greater**

1. Ignition OFF, disconnect the harness connector at the A23C Liftgate Latch Assembly.
2. Test for less than 2 Ω between the K39 Liftgate Control Module control circuit terminal 1 and the A23C Liftgate Latch Assembly control circuit terminal 7.
    - If 2 Ω or greater, repair the open/high resistance on the circuit.
3. Test for less than 2 Ω between the K39 Liftgate Control Module control circuit terminal 2 and the A23C Liftgate Latch Assembly control circuit terminal 8.
    - If 2 Ω or greater, repair the open/high resistance on the circuit.
    - If less than 2 Ω, replace the A23C Liftgate Latch Assembly.
- **If less than 10 Ω**

5. Replace the K39 Liftgate Control Module.

Repair Instructions

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

- Refer to **Liftgate Latch Replacement (Chevrolet, GMC)** **Liftgate Latch Replacement (Cadillac)**

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- Refer to **Control Module References** for liftgate control module replacement, setup and programming

DTC B153A: LIFTGATE LATCH SWITCHES 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.
- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

DTC Descriptor

DTC B153A 08

Power Liftgate Latch Switches Signal Invalid

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Liftgate Latch Pawl Switch Signal	B153A 08	B153A 08	-	-
Liftgate Latch Ratchet Switch Signal	B153A 08	B153A 08	-	-
Liftgate Latch Sector Switch Signal	B153A 08	B153A 08	-	-
Liftgate Unlatch Switch Signal	1	1	-	-
Liftgate Latch Low Reference	-	B153A 08, B24A0 05	-	-
1. Liftgate will not power open or power close				

Circuit/System Description

The unlatch, ratchet, pawl, and sector switches are part of the liftgate latch assembly and are used by the liftgate control module to determine the state of the latch during the process of cinching or unlatching. The ratchet and pawl switches will be inactive when the primary and secondary latches are latched, and the sector switch will be active during the power cinch function. Each of the latch switch signal circuits are supplied signal through a resistor and monitored within the liftgate control module. The latch switches share a common low reference circuit from the liftgate control module and when the switch contacts close the signal circuit goes low and the liftgate control module determines the switch to be active.

Conditions for Running the DTC

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The system voltage is 9-16 V.

Conditions for Setting the DTC

A short to ground or open/high resistance in the B+ circuit or an open/high resistance in the ground circuit for the liftgate control module.

An open/high resistance in the ratchet, pawl, and/or the sector signal circuit, an open/high resistance in the liftgate latch low reference circuit, or any incorrect combination of signals from the following switch inputs:

- Ratchet switch
- Sector switch
- Pawl switch

Action Taken When the DTC Sets

- When the liftgate handle switch is pressed, the tail lights will flash, but the liftgate may not unlatch
- The liftgate may unlatch, but the liftgate will not power open or power close.

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.

Diagnostic Aids

- If the liftgate will not release from the closed position, refer to **Opening the Liftgate Without Electrical Power (TB4)** **Opening the Liftgate Without Electrical Power (TB5/TC2)** for the appropriate procedure
- Whenever the liftgate control module loses power or is disconnected, the ignition must be cycled OFF then ON in order to reactivate the liftgate control module.
- DTC B153A may be set when the vehicle is driven while the liftgate is open, as when the owner transports a large package in the rear of the vehicle. The DTC will become history after the liftgate is closed and does not affect normal liftgate operation

Reference Information

Schematic Reference

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Liftgate Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Liftgate Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Ignition ON.

   NOTE: **Refer to Liftgate System Diagnosis for a guide to power liftgate functions and failure modes to determine the course of action when the power liftgate malfunctions**

2. Verify the A23C Liftgate Latch Assembly activates and releases the liftgate when pressing the S46 Liftgate Handle Switch.
   - **If the A23C Liftgate Latch Assembly does not release the liftgate**

     Refer to Circuit/System Testing.

   - **If the A23C Liftgate Latch Assembly does release the liftgate**
3. Verify the scan tool Liftgate Latch Pawl Switch parameter changes between Open and Closed when opening and closing the liftgate
   - **If the parameter does not change**

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Refer to Circuit/System Testing.

- **If the parameter changes**

4. Verify the scan tool Liftgate Latch Ratchet Switch parameter changes between Open and Closed when opening and closing the liftgate
   - **If the parameter does not change**

     Refer to Circuit/System Testing.

   - **If the parameter changes**
5. Gently close the liftgate and verify the scan tool Liftgate Latch Sector Switch parameter changes from Inactive to Active to Inactive while the liftgate is being automatically cinched closed
   - **If the parameter does not change**

     Refer to Circuit/System Testing.

   - **If the parameter changes**
6. All OK.

Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the X2 harness connector at the K39 Liftgate Control Module. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 6 and ground.
   - **If 10 Ω or greater**
   1. Ignition OFF.
   2. Test for less than 2 Ω in the ground circuit end to end.
      - If 2 Ω or greater, repair the open/high resistance in the circuit.
      - If less than 2 Ω, repair the open/high resistance in the ground connection.
   - **If less than 10 Ω**
3. Ignition ON.
4. Verify a test lamp illuminates between the B+ circuit terminal 3 and ground.
   - **If the test lamp does not illuminate and the circuit fuse is good**
   1. Ignition OFF.

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2. Test for less than 2 Ω in the B+ circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, 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, replace the K39 Liftgate Control Module.

- **If the test lamp illuminates**

5. Ignition OFF and all vehicle systems OFF, connect the X2 harness connector at the K39 Liftgate Control Module. Disconnect the harness connector at the A23C Liftgate Latch Assembly. It may take up to 2 minutes for all vehicle systems to power down.
6. Test for less than 10 Ω between the low reference circuit terminal 6 and ground.

- **If 10 Ω or greater**

1. Disconnect the harness connector at the K39 Liftgate Control Module.
2. Test for less than 2 Ω in the low reference circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, replace the K39 Liftgate Control Module.

- **If less than 10 Ω**

7. Ignition ON.
8. Verify the scan tool Liftgate Latch Pawl Switch parameter is Closed.

- **If not Closed**

1. Ignition OFF, disconnect the harness connector at the K39 Liftgate 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 K39 Liftgate Control Module.

- **If Closed**

9. Install a 3 A fused jumper wire between the signal circuit terminal 1 and the low reference circuit terminal 6.
10. Verify the scan tool Liftgate Latch Pawl Switch parameter is Open

- **If not Open**

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1. Ignition OFF, remove the 3 A fused jumper wire, disconnect the harness connector at the K39 Liftgate 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 Ω in the signal circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, replace the K39 Liftgate Control Module.

- **If Open**

11. Verify the scan tool Liftgate Latch Ratchet Switch parameter is Closed.

- **If not Closed**

1. Ignition OFF, disconnect the harness connector at the K39 Liftgate Control Module.
2. Test for infinite resistance between the signal circuit terminal 5 and ground.
    - If less than infinite resistance, repair the short to ground on the circuit.
    - If infinite resistance, replace the K39 Liftgate Control Module.

- **If Closed**

12. Install a 3 A fused jumper wire between the signal circuit terminal 5 and the low reference circuit terminal 6.
13. Verify the scan tool Liftgate Latch Ratchet Switch parameter is Open

- **If not Open**

1. Ignition OFF, remove the 3 A fused jumper wire, disconnect the harness connector at the K39 Liftgate 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 Ω in the signal circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, replace the K39 Liftgate Control Module.

- **If Open**

14. Verify the scan tool Liftgate Latch Sector Switch parameter is Inactive.

- **If not Inactive**

1. Ignition OFF, disconnect the harness connector at the K39 Liftgate Control Module.

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2. Test for infinite resistance between the signal circuit terminal 2 and ground.
    - If less than infinite resistance, repair the short to ground on the circuit.
    - If infinite resistance, replace the K39 Liftgate Control Module.
- **If Inactive**

15. Install a 3 A fused jumper wire between the signal circuit terminal 2 and the low reference circuit terminal 6.
16. Verify the scan tool Liftgate Latch Sector Switch parameter is Active
    - **If not Active**
    1. Ignition OFF, remove the 3 A fused jumper wire, disconnect the harness connector at the K39 Liftgate 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 Ω in the signal circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the K39 Liftgate Control Module.
    - **If Active**
17. Verify the scan tool Body Control Module Rear Closure Ajar Switch parameter is Inactive
    - **If not Inactive**
    1. Ignition OFF, disconnect the harness connector at the K39 Liftgate 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 K39 Liftgate Control Module.
    - **If Inactive**
18. Install a 3 A fused jumper wire between the signal circuit terminal 3 and the low reference circuit terminal 6.
19. Verify the scan tool Body Control Module Rear Closure Ajar Switch parameter is Active
    - **If not Active**
    1. Ignition OFF, remove the 3 A fused jumper wire, disconnect the harness connector at the K39 Liftgate 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

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3. Test for less than 2 Ω in the signal circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, replace the K39 Liftgate Control Module.
- **If Active**

20. Test or replace the A23C Liftgate Latch Assembly.

Repair Instructions

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

- Refer to **Liftgate Latch Replacement (Chevrolet, GMC)** **Liftgate Latch Replacement (Cadillac)**
- Refer to **Control Module References** for the liftgate control module replacement, setup and programming

DTC B153F: LIFTGATE OBJECT SENSOR 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.
- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

DTC Descriptors

DTC B153F 02

Liftgate Object Sensor Signal Circuit Short to Ground

DTC B153F 05

Liftgate Object Sensor Signal Circuit Short to Battery or Open

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal	B153F 02	B153F 05	B153F 05	-
Left/Right Object Sensor Signal	B153F 02	B153F 05	B153F 05	-

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Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Low Reference	-	B153F 05	B153F 05	-

Circuit/System Description

The liftgate object sensors are pressure sensitive touch tapes located on either side of the upper inside edge of the liftgate panel. The two liftgate object sensors are placed in series between the liftgate object sensor signal circuit and the liftgate object low reference circuit. Each object sensor has a resistor as well as a switch. The resistors enable the liftgate control module to perform diagnostic functions on the circuits. When both liftgate object sensors are not pressed, the 5 volt reference voltage supplied by the liftgate control module passes through the resistors and the liftgate control module detects approximately 3.3 volts. Pressing a liftgate object sensor will cause the voltage to drop to approximately to 2.5 volts indicating an obstruction is present. If the liftgate is in the open position, the liftgate control module will prohibit liftgate movement. If the obstruction occurs during the power close function, the liftgate control module will command the liftgate to reverse direction.

Conditions for Running the DTC

The system voltage is 9-16 V.

Conditions for Setting the DTC

B153F 02

The liftgate control module detects a short to ground in the liftgate object sensor signal circuit.

B153F 05

The liftgate control module detects a short to battery or an open/high resistance in the liftgate object sensor signal or an open/high resistance in the low reference circuit.

Action Taken When the DTC Sets

The liftgate control module will prevent any movement of the liftgate while attempting to command the liftgate to power close.

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.

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Diagnostic Aids

- Whenever the liftgate control module loses power or is disconnected, the ignition must be cycled OFF then ON in order to reactivate the liftgate control module.
- If the liftgate mode switch is in the Off position, the liftgate will only open and close manually. Before testing the liftgate for power open and power close functions, verify that the liftgate mode switch is in the 3/4 or MAX position.

Reference Information

Schematic Reference

Liftgate Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Liftgate Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Ignition ON.
2. Verify the scan tool Liftgate Secondary Obstacle Detection parameter is between 3V-3.5V.
    - **If not between 3V-3.5V**

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Refer to Circuit/System Testing.

- **If between 3V-3.5V**

3. Verify the scan tool Liftgate Secondary Obstacle Detection parameter is between 3V-3.5V and changes to 2.25-2.75V as the B71R Liftgate Object Sensor - Right is pressed.
   - **If not between 2.25-2.75V or does not change**

     Test or replace the B71R Liftgate Object Sensor - Right.

   - **If between 2.25-2.75V and changes**
4. Verify the scan tool Liftgate Secondary Obstacle Detection parameter is between 3V-3.5V and changes to 2.25-2.75V as the B71L Liftgate Object Sensor - Left is pressed.
   - **If not between 2.25-2.75V or does not change**

     Test or replace the B71L Liftgate Object Sensor - Left.

   - **If between 2.25-2.75V and changes**
5. All OK.

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the B71R Liftgate Object Sensor - Right. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 30 Ω between the low reference circuit terminal 2 and ground.
   - **If 30 Ω or greater**
   1. Ignition OFF.
   2. Test for less than 2 Ω in the low reference circuit end to end.
      - If 2 Ω or greater, repair the open/high resistance in the circuit.
   - **If less than 30 Ω**
3. Disconnect the harness connector at the B71L Liftgate Object Sensor - Left.
4. Ignition ON, test for 4.8-5.2 V between the 5 V reference circuit terminal 1 and ground.
   - **If less than 4.8 V**
   1. Ignition OFF, disconnect the harness connector at the K39 Liftgate Control Module.

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2. Test for infinite resistance between the 5 V reference circuit and ground
    - If less than infinite resistance, repair the short to ground on the circuit.
    - If infinite resistance
3. Test for less than 2 Ω in the 5 V reference circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, replace the K39 Liftgate Control Module.

- **If greater than 5.2 V**

1. Ignition OFF, disconnect the harness connector at the K39 Liftgate Control Module, Ignition ON.
2. Test for less than 1 V between the 5 V reference circuit and ground.
    - If 1 V or greater, repair the short to voltage on the circuit.
    - If less than 1 V, replace the K39 Liftgate Control Module.

- **If between 4.8-5.2 V**

5. Test or replace the B71 Liftgate Object Sensors.

Component Testing

1. Ignition OFF, disconnect the harness connector at the appropriate B71 Liftgate Object Sensor.
2. Test for 8k-12k Ω between the signal terminal 1 and the low reference circuit terminal 2.
    - **If not between 8k-12k Ω**

      Replace the B71 Liftgate Object Sensor.

    - **If between 8k-12k Ω**
3. All OK

Repair Instructions

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

- Refer to **Liftgate Side Sensor Replacement**
- Refer to **Control Module References** for liftgate control module replacement, setup and programming

DTC B396A: LIFTGATE MOTOR POWER OPEN/CLOSE MALFUNCTION

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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.
- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

DTC Descriptors

DTC B396A

Left Liftgate Motor (spindle) Control Circuit

For symptom byte information refer to: **Symptom Byte List**

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Liftgate Motor Close Control	B396A 02	B396A 04	B396A 01	-
Liftgate Motor Open Control	B396A 02	B396A 04	B396A 01	-

Circuit/System Description

The liftgate motor is a bi-directional motor and open or close operation is the result of the direction of the motor rotation. The liftgate control module controls the liftgate motor through the control circuits by supplying power and ground in the appropriate polarity. The motor control circuits are monitored by the liftgate control module prior to activation for a high or low condition and during motor operation for any irregular current flow conditions.

Conditions for Running the DTC

- The system voltage is 9-16 V.
- Power open or close function is initiated.

Conditions for Setting the DTC

B396A 01

The liftgate control module detects a short to battery in the liftgate motor control circuits.

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B396A 02

The liftgate control module detects a short to ground in the liftgate motor control circuits.

B396A 04

The liftgate control module detects an open/high resistance in the liftgate motor control circuits.

Action Taken When the DTC Sets

The liftgate will release but will not power open or power close

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.

Diagnostic Aids

Whenever the liftgate control module loses power or is disconnected, the ignition must be cycled OFF then ON in order to reactivate the liftgate control module.

In some circumstances high or low control circuit faults may cause the liftgate control module to react as if the liftgate has encountered an object in its travel and reverse direction.

Reference Information

Schematic Reference

Liftgate Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

INLINE HARNESS CONNECTOR END VIEWS - INDEX

Description and Operation

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Liftgate 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.

   NOTE: Verify all doors have been commanded UNLOCK with a scan tool prior to commanding the liftgate to unlatch

2. Verify the liftgate will power OPEN and CLOSE when commanding the Liftgate Open/Close with a scan tool.
   - **If the liftgate does not power OPEN or CLOSE**

     Refer to Circuit/System Testing

   - **If the liftgate does power OPEN and CLOSE**
3. All OK.

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the M31 Liftgate Motor.
2. Connect a test lamp between the control circuit terminal 1 and control circuit terminal 4, ignition ON.
3. Liftgate closed and latched, verify the test lamp turns ON and OFF when pressing the S46 Liftgate Handle Switch.
   - **If the test lamp remains OFF**

   NOTE: The liftgate must be opened and allowed to cinch closed each time this test is performed, repeating this

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test without opening and closing the liftgate will result in a misdiagnosis and replacement of a functional K39 Liftgate Control Module

4. Open and completely close the liftgate, verify the test lamp turns ON and OFF when pressing the S46 Liftgate Handle Switch.
   - **If the test lamp remains OFF**
   1. Ignition OFF, remove the test lamp, disconnect the X3 harness connector at the K39 Liftgate 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
   3. Test for less than 2 Ω in the control circuits end to end.
      - If 2 Ω or greater, repair the open/high resistance in the circuit.
      - If less than 2 Ω, replace the K39 Liftgate Control Module.
   - **If the test lamp is always ON**
   1. Ignition OFF, remove the test lamp, disconnect the X3 harness connector at the K39 Liftgate Control Module, ignition ON.
   2. Test for less than 1 V between each control circuit and ground.
      - If 1 V or greater, repair the short to voltage on the circuit.
      - If less than 1 V, replace the K39 Liftgate Control Module
   - **If the test lamp turns ON and Off**
5. Replace the M31 Liftgate Motor.

Repair Instructions

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

- Refer to **Liftgate Power Assist Actuator Replacement (Chevrolet, GMC)** **Liftgate Power Assist Actuator Replacement (Cadillac)**
- Refer to **Control Module References** for the liftgate control module replacement, programming and setup

LIFTGATE RELEASE MALFUNCTION (WITHOUT TB5)

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.

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- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Liftgate Relay Switch B+	2	2	-	-
Liftgate Unlatch Switch Signal	B2494 00	1	1	-
Liftgate Relay Control Low	-	2	-	-
Liftgate Relay Control High	B3245 02	2	B324A 01	-
Liftgate Latch Ground	-	2	-	-
Liftgate Unlatch Switch Ground	-	1	-	-
1. Liftgate Release Switch Malfunction 2. Liftgate Release Malfunction				

Circuit/System Description

The liftgate unlatch switch is an input to the body control module (BCM). The BCM supplies a 12 V signal to the liftgate unlatch switch and when the switch is pressed, signal circuit voltage goes low. When the BCM receives a liftgate release signal, the BCM will supply voltage and ground to the liftgate release relay coil, energizing the relay. When the relay is energized, battery voltage flows through the closed contacts of the relay to the liftgate latch assembly which activates allowing for the liftgate to be raised to the open position.

Diagnostic Aids

- If the liftgate will not release from the closed position, refer to **Opening the Liftgate Without Electrical Power (TB4)** **Opening the Liftgate Without Electrical Power (TB5/TC2)** for the appropriate procedure.
- An intermittent short to ground in the liftgate unlatch switch signal circuit may cause the BCM to command the liftgate to open if the vehicle is in park and the doors are unlocked. If the vehicle has a history of the liftgate opening unexpectedly, inspect the point where the wires enter the liftgate unlatch switch for corrosion or evidence of water intrusion.

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

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COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Rear Hatch/Gate 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 S46B Liftgate Unlatch Switch.
   - **If the parameter does not change**

     Refer to Circuit/System Testing - Liftgate Release Switch Inoperative.

   - **If the parameter changes**

   NOTE: **Verify all doors have been commanded UNLOCK with a scan tool prior to commanding the liftgate to unlatch.**

3. Verify the A23C Liftgate Latch Assembly functions when commanding the Liftgate Unlatch with a scan tool.
   - **If the If the A23C Liftgate Latch Assembly does not UNLATCH**

     Refer to Circuit/System Testing - Liftgate Latch Inoperative.

   - **If the If the A23C Liftgate Latch Assembly does UNLATCH**

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4. All OK.

Circuit/System Testing

Liftgate Release Switch Inoperative

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the S46B Liftgate Unlatch Switch. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 2 and ground.
    - **If 10 Ω or greater**
    1. Ignition OFF.
    2. Test for less than 2 Ω in the ground circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, repair the open/high resistance in the ground connection.
    - **If less than 10 Ω**
3. Ignition ON.
4. 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, 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 Ω in the signal circuit end to end.

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

- **If Active**

7. Test or replace the S46B Liftgate Unlatch Switch.

Liftgate Latch Inoperative

1. Ignition OFF, disconnect the KR95A Liftgate Unlatch Relay. Ignition ON
2. Verify a test lamp illuminates between the B+ circuit terminal 21 and ground.
   - **If the test lamp does not illuminate and the circuit fuse is good**
   1. Ignition OFF.
   2. Test for less than 2 Ω in the B+ circuit end to end.
      - If 2 Ω or greater, repair the open/high resistance in the circuit.
      - If less than 2 Ω, 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 A23C Liftgate Latch Assembly.
   4. Test for infinite resistance between the control circuit terminal 25 and ground.
      - If less than infinite resistance, repair the short to ground on the circuit.
      - If infinite resistance, replace the KR95A Liftgate Unlatch Relay
   - **If the test lamp illuminates**
3. Connect a test lamp between the control circuit terminal 20 and ground.
4. Ignition ON, verify the test lamp turns ON and OFF when pressing and releasing the S46B Liftgate Unlatch Switch.
   - **If the test lamp is always OFF**
   1. Ignition OFF, remove the test lamp, 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.

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- If infinite resistance

3. Test for less than 2 Ω in the control circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, replace the K9 Body Control Module.

- **If the test lamp is always ON**

1. Ignition OFF, remove the test lamp, 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. Connect a test lamp between the control circuit terminal 26 and B+.
6. Verify the test lamp turns ON and OFF when pressing and releasing S46B Liftgate Unlatch Switch.

- **If the test lamp is always OFF**

1. Ignition OFF, remove the test lamp, 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
3. Ignition OFF.
4. Test for less than 2 Ω in the control circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, replace the K9 Body Control Module.

- **If the test lamp is always ON**

1. Ignition OFF, remove the test lamp, 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, 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 25 and ground.

- **If the test lamp illuminates**

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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 A23C Liftgate Latch Assembly. It may take up to 2 minutes for all vehicle systems to power down.
9. Test for less than 10 Ω between the ground circuit terminal 3 and ground.
    - **If 10 Ω or greater**
    1. Ignition OFF.
    2. Test for less than 2 Ω in the ground circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, repair the open/high resistance in the ground connection.
    - **If less than 10 Ω**
10. Connect the harness connector at the A23C Liftgate Latch Assembly.
11. Ignition ON, connect a 10 A fused jumper wire between the B+ circuit terminal 21 and the control circuit terminal 25.
12. Verify the A23C Liftgate Latch Assembly is activated.
    - **If the A23C Liftgate Latch Assembly does not activate**
    1. Ignition OFF, disconnect the harness connector at the A23C Liftgate Latch Assembly.
    2. Test for less than 2 Ω in the control circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the A23C Liftgate Latch Assembly.
    - **If the A23C Liftgate Latch Assembly activates**
13. Test or replace the KR95A Liftgate Unlatch Relay.

Component Testing

Liftgate Latch

1. Ignition OFF, disconnect the harness connector at the A23C Liftgate Latch Assembly.
2. Install a 10 A fused jumper wire between the control terminal 1 and 12 V. Install a jumper wire between the ground terminal 3 and ground.
3. Verify the A23C Liftgate Latch Assembly activates
    - **If the A23C Liftgate Latch Assembly does not activate.**

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Replace the A23C Liftgate Latch Assembly.

- **If the A23C Liftgate Latch Assembly does activate.**

4. All OK

Liftgate Release Switch

1. Ignition OFF, disconnect the harness connector at the S46B Liftgate Unlatch Switch.
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 S46B Liftgate Unlatch Switch.

   - **If infinite resistance**
3. Test for less than 3 Ω between the signal terminal 1 and the ground terminal 2 with the switch in the closed position.
   - **If 3 Ω or greater**

     Replace the S46B Liftgate Unlatch Switch.

   - **If less than 3 Ω**
4. All OK

Relay Test

1. Ignition OFF, disconnect the KR95A Liftgate Unlatch Relay.
2. Test for 60-180 Ω between terminals 86 and 85.
   - **If less than 60 Ω or greater than 180 Ω**

     Replace the KR95A Liftgate Unlatch Relay.

   - **If between 60-180 Ω**
3. Test for infinite resistance between the terminals listed below:
   - 86 and 30
   - 86 and 87
   - 85 and 30

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- 85 and 87
- **If less than infinite resistance**

  Replace the KR95A Liftgate Unlatch Relay.

- **If infinite resistance**

4. Install a 3 A fused jumper wire between relay terminal 86 and 12 V. Install a jumper wire between relay terminal 85 and ground.
5. Test for less than 2 Ω between terminals 30 and 87.
   - **If 2 Ω or greater**

     Replace the KR95A Liftgate Unlatch Relay.

   - **If less than 2 Ω**
6. All OK

Repair Instructions

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

- Refer to **Liftgate Release Switch Replacement (Exterior)** **Liftgate Release Switch Replacement (Interior)**
- Refer to **Liftgate Latch Replacement (Chevrolet, GMC)** **Liftgate Latch Replacement (Cadillac)**
- Refer to **Relay Replacement (Attached to Wire Harness)** **Relay Replacement (Within an Electrical Center)**
- Refer to **Control Module References** for body control module replacement, setup and programming

LIFTGATE/LIFTGATE WINDOW AJAR INDICATOR MALFUNCTION (WITHOUT TB5)

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.
- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance

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Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Liftgate Ajar Switch Signal	1	2	2	-
Liftgate Window Unlatch Latch Actuator Ground	-	3	-	-
Liftgate Latch Assembly Ground	-	4	-	-
1. Rear Access Open Message Always ON 2. Rear Access Open Message Always OFF 3. Rear Access Open Message Inoperative When Liftglass Is Open 4. Rear Access Open Message Inoperative When Liftgate Is Open				

Circuit/System Description

The body control module supplies a 12V signal to 2 ajar switches to indicate the status of the liftgate. The liftgate ajar switches are normally open when the liftgate and liftglass are fully closed. When the liftgate or liftglass is opened, the ajar switch contacts close providing a path to ground. The instrument cluster receives a serial data message from the body control module indicating the liftgate ajar status and the driver information center will display the REAR ACCESS OPEN message.

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Liftgate Ajar Indicator Description and Operation

Electrical Information Reference

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

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- **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 liftgate window and the liftgate.
    - **If the parameter is always Active**

      Refer to Circuit/System Testing - Ajar Switches Malfunction.

    - **If the parameter is always Inactive when opening the liftgate window**

      Refer to Circuit/System Testing - Liftgate Window Ajar Switch Inoperative.

    - **If the parameter is always Inactive when opening the liftgate**

      Refer to Circuit/System Testing - Liftgate Ajar Switch Inoperative.

    - **If the parameter changes**
3. All OK.

Circuit/System Testing

Ajar Switches Malfunction

1. Ignition OFF, disconnect the harness connector at the A23C Liftgate Latch Assembly and the M34 Liftgate Window Unlatch Actuator. Ignition ON.
2. Verify the scan tool Rear Closure Ajar Switch parameter is Inactive.
    - **If not Inactive**
    1. Ignition OFF, disconnect the X6 harness connector at the K9 Body Control Module.
    2. Test for infinite resistance between the K9 Body Control Module signal circuit terminal 5 and ground.

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

- **If Inactive**

3. Ignition OFF, connect the harness connector at the A23C Liftgate Latch Assembly. Ignition ON.
4. Verify the scan tool Rear Closure Ajar Switch parameter changes between Inactive and Active when opening and closing the liftgate.
   - **If the parameter is always Active**
   - Test or replace the A23C Liftgate Latch Assembly.
   - **If the parameter changes**
5. Ignition OFF, connect the harness connector at the M34 Liftgate Window Unlatch Actuator. Ignition ON.
6. Verify the scan tool Rear Closure Ajar Switch parameter changes between Inactive and Active when opening and closing the liftgate window
   - **If the parameter is always Active**
   - Test or replace the M34 Liftgate Window Unlatch Actuator.
   - **If the parameter changes**
7. All OK

Liftgate Window Ajar Switch Inoperative

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the M34 Liftgate Window Unlatch Actuator. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 3 and ground.
   - **If 10 Ω or greater**
   1. Vehicle OFF.
   2. Test for less than 2 Ω in the ground circuit end to end.
      - If 2 Ω or greater, repair the open/high resistance in the circuit.
      - If less than 2 Ω, repair the open/high resistance in the ground connection.
   - **If less than 10 Ω**
3. Ignition ON.
4. Install a 3 A fused jumper wire between the signal circuit terminal 4 and the ground circuit terminal 3.
5. Verify the scan tool Rear Closure Ajar Sw parameter is Active.
   - **If not Active**

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

- **If Active**

6. Test or replace the M34 Liftgate Window Unlatch Actuator.

Liftgate Ajar Switch Inoperative

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the A23C Liftgate Latch Assembly. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 3 and ground.
    - **If 10 Ω or greater**
    1. Vehicle OFF.
    2. Test for less than 2 Ω in the ground circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, repair the open/high resistance in the ground connection.
    - **If less than 10 Ω**
3. Ignition ON.
4. Install a 3 A fused jumper wire between the signal circuit terminal 4 and the ground circuit terminal 3.
5. Verify the scan tool Rear Closure Ajar Sw 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 Ω in the signal circuit end to end.

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

- **If Active**

6. Test or replace the A23C Liftgate Latch Assembly.

Component Testing

Liftgate Ajar Switch

1. Ignition OFF, disconnect the harness connector at the A23C Liftgate Latch Assembly.
2. Test for infinite resistance between the signal terminal 4 and the ground terminal 3 with the switch in the open position.
   - **If less than infinite resistance**

     Replace the A23C Liftgate Latch Assembly.

   - **If infinite resistance**
3. Test for less than 3 Ω between the signal terminal 4 and the ground terminal 3 with the switch in the closed position.
   - **If 3 Ω or greater**

     Replace the A23C Liftgate Latch Assembly.

   - **If less than 3 Ω**
4. All OK

Liftglass Ajar Switch

1. Ignition OFF, disconnect the harness connector at the M34 Liftgate Window Unlatch Actuator.
2. Test for infinite resistance between the signal terminal 4 and the ground terminal 3 with the switch in the open position.
   - **If less than infinite resistance**

     Replace the M34 Liftgate Window Unlatch Actuator.

   - **If infinite resistance**
3. Test for less than 3 Ω between the signal terminal 4 and the ground terminal 3 with the switch in the closed position.
   - **If 3 Ω or greater**

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Replace the M34 Liftgate Window Unlatch Actuator.

- **If less than 3 Ω**

4. All OK

Repair Instructions

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

- Refer to **Liftgate Window Latch Replacement (Chevrolet, GMC)** **Liftgate Window Latch Replacement (Cadillac)**
- Refer to **Liftgate Latch Replacement (Chevrolet, GMC)** **Liftgate Latch Replacement (Cadillac)**
- Refer to **Control Module References** for BCM replacement, programming, and setup.

LIFTGATE/LIFTGATE WINDOW AJAR INDICATOR MALFUNCTION (WITH TB5)

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.
- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Liftgate Latch Ratchet Switch Signal	B153A 08	B153A 08	B153A 08	-
Liftgate Latch Sector Switch Signal	B153A 08	B153A 08	B153A 08	-
Liftglass Ajar Switch Signal	1	2	2	-
Liftgate Window Unlatch Latch Actuator Ground	-	2	-	-
1. Rear Access Open Message Always ON 2. Rear Access Open Message Always OFF				

Circuit/System Description

The body control module supplies a 12V signal to the liftglass ajar circuit. The liftglass ajar switch is normally open when the liftglass is fully closed.

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When the liftglass is opened, the ajar switch contacts close providing a path to ground. The instrument cluster receives a serial data message from the body control module indicating the liftgate ajar status and the driver information center will display the REAR ACCESS OPEN message.

The driver information center illuminates the Rear Access Open message when the liftgate module detects the liftgate ratchet and the liftgate sector switches are closed to ground indicating the liftgate is open. The instrument cluster receives a serial data message from the liftgate module indicating the liftgate ajar status.

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Liftgate 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 Liftgate Latch Ratchet Switch parameter changes between Open and Closed when opening and closing the liftgate.
    - **If the parameter does not change**

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Refer to **Liftgate Latch Switches Malfunction - DTC B153A**.

- **If the parameter changes**

3. Verify the scan tool Liftgate Latch Sector Switch parameter changes from Inactive to Active when opening and closing the liftgate.
   - **If the parameter does not change**

     Refer to **Liftgate Latch Switches Malfunction - DTC B153A**.

   - **If the parameter changes**
4. Verify the scan tool Rear Closure Ajar Switch parameter changes between Inactive and Active when opening and closing the liftgate window.
   - **If the parameter does not change**

     Refer to Circuit/System Testing.

   - **If the parameter changes**
5. All OK.

Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the M34 Liftgate Window Unlatch Actuator. It may take up to 2 min for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 3 and ground.
   - **If 10 Ω or greater**
   1. Ignition OFF.
   2. Test for less than 2 Ω in the ground circuit end to end.
      - If 2 Ω or greater, repair the open/high resistance in the circuit.
      - If less than 2 Ω, repair the open/high resistance in the ground connection.
   - **If less than 10 Ω**
3. Ignition ON.
4. 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.

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- 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 3.
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 K39 Liftgate 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 Ω in the signal circuit end to end.
      - If 2 Ω or greater, repair the open/high resistance in the circuit.
      - If less than 2 Ω, replace the K9 Body Control Module.
   - **If Active**
7. Test or replace the M34 Liftgate Window Unlatch Actuator.

Component Testing

Liftglass Ajar Switch

1. Ignition OFF, disconnect the harness connector at the M34 Liftgate Window Unlatch Actuator.
2. Test for infinite resistance between the signal terminal 4 and the ground terminal 3 with the switch in the open position.
   - **If less than infinite resistance**

     Replace the M34 Liftgate Window Unlatch Actuator.

   - **If infinite resistance**
3. Test for less than 3 Ω between the signal terminal 4 and the ground terminal 3 with the switch in the closed position.
   - **If 3 Ω or greater**

     Replace the M34 Liftgate Window Unlatch Actuator.

   - **If less than 3 Ω**

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4. All OK

Repair Instructions

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

- Refer to **Liftgate Window Latch Replacement (Chevrolet, GMC)** **Liftgate Window Latch Replacement (Cadillac)**
- Refer to **Control Module References** for the body 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.
- Refer to **Diagnostic Procedure Instructions** to provide 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	-
Left Rear Door Ajar Switch Signal	1	4	4	-
Right Front Door Ajar Switch Signal	1	3	3	-
Right Rear Door Ajar Switch Signal	1	5	5	-
Driver Door Latch Ground	-	2	-	-
Passenger Door Latch Ground	-	3	-	-
Left Rear Door Latch Ground	-	4	-	-
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

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Depending upon the vehicle power window options, the window motors or the window switches will provide the ajar switches with a 12V signal. With the door ajar switch closed, ground is provided to the door ajar switch signal circuit, the window motor and/or window switch will detect the voltage drop and will send a serial data message to the BCM and the BCM will send serial data message to the instrument panel cluster to display the door ajar icon.

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 - Driver Door Ajar Switch Malfunction.

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- **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 - 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 - Left Rear 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 - Right Rear 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 Ω between the ground circuit terminal 3 and ground.
   - **If 10 Ω or greater**

   1. Ignition OFF.
   2. Test for less than 2 Ω in the ground circuit end to end.
      - If 2 Ω or greater, repair the open/high resistance in the circuit.
      - If less than 2 Ω, repair the open/high resistance in the ground connection.

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- **If less than 10 Ω**

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 M74D Window Motor-Driver.
    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 M74D Window Motor-Driver.
    - **If Inactive**
5. Install a 3 A fused jumper wire between the signal circuit terminal 1 and the ground circuit terminal 3.
6. Verify the scan tool Driver Door Ajar Switch parameter is Active.
    - **If not Active**
    1. Ignition OFF, disconnect the harness connector at the M74D Window Motor-Driver, 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 Ω in the signal circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the M74D Window Motor-Driver.
    - **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 A23P Door Latch Assembly - Passenger. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 3 and ground.
    - **If 10 Ω or greater**
    1. Ignition OFF.
    2. Test for less than 2 Ω in the ground circuit end to end.

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

- **If less than 10 Ω**

3. Ignition ON.
4. Verify the scan tool Passenger Door Ajar Switch parameter is Inactive.
   - **If not Inactive**
   1. Ignition OFF, disconnect the harness connector at the M74P Window Motor-Passenger.
   2. Test for infinite resistance between the signal circuit terminal 5 and ground.
      - If less than infinite resistance, repair the short to ground on the circuit.
      - If infinite resistance, replace the M74P Window Motor-Passenger.
   - **If Inactive**
5. Install a 3 A fused jumper wire between the signal circuit terminal 5 and the ground circuit terminal 3.
6. Verify the scan tool Passenger Door Ajar Switch parameter is Active.
   - **If not Active**
   1. Ignition OFF, disconnect the harness connector at the M74P Window Motor-Passenger, 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 Ω in the signal circuit end to end.
      - If 2 Ω or greater, repair the open/high resistance in the circuit.
      - If less than 2 Ω, replace the M74P Window Motor-Passenger.
   - **If Active**
7. Test or replace the A23P Door Latch Assembly - Passenger.

Left Rear Door Ajar Switch Malfunction

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the A23LR Door Latch Assembly - Left Rear. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 3 and ground.
   - **If 10 Ω or greater**

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1. Ignition OFF.
2. Test for less than 2 Ω in the ground circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, repair the open/high resistance in the ground connection.

- **If less than 10 Ω**

3. Ignition ON.
4. Verify the scan tool Left Rear Door Ajar Switch parameter is Inactive.

- **If not Inactive**

1. Ignition OFF, disconnect the harness connector at the S79LR Window Switch - Left Rear.
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 S79LR Window Switch - Left Rear.

- **If Inactive**

5. Install a 3 A fused jumper wire between the signal circuit terminal 1 and the ground circuit terminal 3.
6. Verify the scan tool Left Rear Door Ajar Switch parameter is Active.

- **If not Active**

1. Ignition OFF, disconnect the harness connector at the S79LR Window Switch - Left Rear, 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 Ω in the signal circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, replace the S79LR Window Switch - Left Rear.

- **If Active**

7. Test or replace the A23LR Door Latch Assembly - Left Rear.

Right Rear Door Ajar Switch Malfunction

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the A23RR Door Latch Assembly - Right Rear. It may take up to 2 minutes for all vehicle systems to power down.

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2. Test for less than 10 Ω between the ground circuit terminal 3 and ground.
    - **If 10 Ω or greater**
    1. Ignition OFF.
    2. Test for less than 2 Ω in the ground circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, repair the open/high resistance in the ground connection.
    - **If less than 10 Ω**
3. Ignition ON.
4. Verify the scan tool Right Rear Door Ajar Switch parameter is Inactive.
    - **If not Inactive**
    1. Ignition OFF, disconnect the harness connector at the S79RR Window Switch - Right Rear.
    2. Test for infinite resistance between the signal circuit terminal 5 and ground.
        - If less than infinite resistance, repair the short to ground on the circuit.
        - If infinite resistance, replace the S79RR Window Switch - Right Rear.
    - **If Inactive**
5. Install a 3 A fused jumper wire between the signal circuit terminal 5 and the ground circuit terminal 3.
6. Verify the scan tool Right Door Ajar Switch parameter is Active.
    - **If not Active**
    1. Ignition OFF, disconnect the harness connector at the S79RR Window Switch - Right Rear, 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 Ω in the signal circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the S79RR Window Switch - Right Rear.
    - **If Active**
7. Test or replace the A23RR Door Latch Assembly - Right Rear.

Component Testing

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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 1 and ground terminal 3
    - A23LR Door Latch Assembly - Left Rear signal terminal 1 and ground terminal 3
    - A23RR Door Latch Assembly - Right Rear signal terminal 5 and ground terminal 3
    - A23P Door Latch Assembly - Passenger signal terminal 5 and ground terminal 3
    - **If less than infinite resistance**

      Replace the A23 Door Latch Assembly.

    - **If infinite resistance**
3. Test for less than 5 Ω between the terminals listed below with the switch in the closed position.
    - A23D Door Latch Assembly - Driver signal terminal 1 and ground terminal 3
    - A23LR Door Latch Assembly - Left Rear signal terminal 1 and ground terminal 3
    - A23RR Door Latch Assembly - Right Rear signal terminal 5 and ground terminal 3
    - A23P Door Latch Assembly - Passenger signal terminal 5 and ground terminal 3
    - **If 5 Ω or greater**

      Replace the A23 Door Latch Assembly.

    - **If less than 5 Ω**
4. All OK

Repair Instructions

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

- Refer to **Front Side Door Latch Replacement**
- Refer to **Rear Side Door Latch Replacement**
- Refer to **Rear Side Door Window Switch Replacement (Chevrolet, GMC)** **Rear Side Door Window Switch Replacement (Cadillac)**
- Refer to **Front Side Door Window Regulator Motor Replacement**

POWER DOOR CHILD LOCK MALFUNCTION

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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.
- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
BCM B+	1	1	-	-
Child Security Door Lock Signal	B252C 00	2	2	-
Child Lockout Indicator Dimming Control	3	3	3	-
Child Lockout Indicator Control	3	3	3	-
Left Rear Door Latch Lock Signal	1	1	1	-
Right Rear Door Latch Lock Signal	1	1	1	-
Child Security Lock Relay Control	B3930 02	B3930 04	B3930 01	-
Left Rear Child Lock Control	B3125 02, B3130 02, B3135 02	1	B3125 01, B3130 01, B3135 01	-
Right Rear Child Lock Control	B3125 02, B3130 02, B3135 02	1	B3125 01, B3130 01, B3135 01	-
Right Instrument Panel Fuse Block Ground	-	B3930 04	-	-
1. Child Door Lock Malfunction 2. Child Door Lock Switch Malfunction 3. Child Door Lock Indicator Malfunction				

Circuit/System Description

The child door lockout switch on the driver door lock/window switch controls the child locks on the rear doors. The lockout switch is an input to the body control module and the body control module controls the child security relay. When the body control module receives a command from the child door lockout switch, it will apply voltage to the child 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.

The body control module will provide a ground for the child door lock indicator control circuit when the body control module receives a child door

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lockout command. The indicator will illuminate to indicate that the interior rear door handles have been disabled or the body control module will command the child lockout indicator to flash ON and OFF to indicate a fault in the child door lockout system.

Reference Information

Schematic Reference

- **Door Lock/Indicator Schematics**
- **Body Control System Schematics**
- **Interior Lights Dimming Schematics**

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Power Door Locks Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Ignition ON.
2. Verify the scan tool Left Rear Child Security Lock Switch and Right Rear Child Security Lock Switch parameters changes between Active and Inactive when pressing the child door lockout switch.
    - **If both the parameters Left Rear Child Security Lock Switch and Right Rear Child Security Lock Switch do not change**

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Refer to Circuit/System Testing - Lockout Switch Inoperative.

- **If only the Left Rear Child Security Lock Switch or the Right Rear Child Security Lock Switch parameter only does not change**

  Refer to Circuit/System Testing - Security Lockout Status Malfunction.

- **If the parameter changes**

3. Verify the child lockout indicator turns ON and OFF when commanding the Child Security Lock Indicator Command Active and Inactive with a scan tool.
   - **If the child lockout indicator is always ON or always OFF**

     Refer to Circuit/System Testing - Child Lockout Indicator Malfunction.

   - **If the child lockout indicator flashes ON and OFF**

     Refer to Circuit/System Testing - Security Lockout Malfunction.

   - **If the child lockout indicator turns ON and turns OFF**
4. 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 the interior rear door handles open the rear doors**

     Refer to Circuit/System Testing - Security Lockout Malfunction.

   - **If both interior door handles do not open the rear doors**
5. Verify both interior rear door handles will open the rear doors when commanding the Child Security Lock Motors OFF with a scan tool.
   - **If the interior rear door handles do not open the rear doors**

     Refer to Circuit/System Testing - Security Lockout Malfunction.

   - **If both interior door handles open the rear doors**
6. All OK.

Circuit/System Testing

Lockout Switch Inoperative

1. Ignition OFF, disconnect the harness connector at the S79D Window Switch-Driver. Ignition ON

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2. Test for greater than 10 V between the signal circuit terminal 10 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 Ω in the signal circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the K9 Body Control Module.
    - **If greater than 10 V**
3. Test or replace the S79D Window Switch-Driver.

Lockout Indicator Malfunction

1. Ignition OFF, disconnect the harness connector at the S79D Window Switch-Driver. Ignition ON.
2. Test for greater than 1.5 V and less than 6 V between the control circuit terminal 11 and ground while operating the dimmer switch from the minimum to the maximum positions
    - **If 1.5 V or less**
    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.
    3. Test for less than 2 Ω in the signal circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the K9 Body Control Module.
    - **If 6 V or greater**
    1. Ignition OFF, disconnect the harness connector at the K9 Body Control Module.
    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 greater than 1.5 V and less than 6 V**
3. Connect a test lamp between the control circuit terminal 12 and B+. Ignition ON

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4. Verify the test lamp turns ON and OFF when commanding the Child Security Lock Indicator Command Active and Inactive with a scan tool.
    - **If the test lamp is always OFF**
    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
    3. Ignition OFF.
    4. Test for less than 2 Ω in the control circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the K9 Body Control Module.
    - **If the test lamp is always ON**
    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, replace the K9 Body Control Module.
    - **If the test lamp turns ON and OFF**
5. Test or replace the S79D Window Switch-Driver.

Security Lockout Status Malfunction

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 Ω between the ground circuit terminal 3 and ground.
    - **If 10 Ω or greater**
    1. Ignition OFF.
    2. Test for less than 2 Ω in the ground circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, repair the open/high resistance in the ground connection.
    - **If less than 10 Ω**
3. Ignition ON.

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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 2
        - 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 2 and ground circuit terminal 3
    - A23RR Door Latch Assembly-Right 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 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 Ω in the signal circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the K9 Body Control Module.
    - **If Active**
7. Test or replace the A23 Door Latch Assembly-Rear.

Security Lockout Malfunction

1. Ignition OFF and all vehicle systems OFF, disconnect the X2 harness connector at the X51R Fuse Block-Instrument Panel Right. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 22 and ground.
    - **If 10 Ω or greater**

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1. Ignition OFF.
2. Test for less than 2 Ω in the ground circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, repair the open/high resistance in the ground connection.

- **If less than 10 Ω**

3. Ignition OFF, connect the X2 harness connector at the X51R Fuse Block-Instrument Panel Right. Disconnect the X5 harness connector at the K9 Body Control Module, ignition ON.
4. Test for less than 1 V between the control circuit terminal 16 and ground.

- **If greater than 1 V**

1. Ignition OFF, disconnect the X1 harness connector at the X51R Fuse Block-Instrument Panel Right.
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 X51R Fuse Block-Instrument Panel Right.

- **If less than 1 V**

5. Connect a 3 A fused jumper wire between the control circuit terminal 16 and B+.
6. Verify the KR113 Child Security Lock Disable Relay activates. Listen as the KR113 Child Security Lock Disable Relay clicks within the X51R Fuse Block-Instrument Panel Right.

- **If the KR113 Child Security Lock Disable Relay does not activate**

1. Ignition OFF, remove the jumper wire, disconnect the X1 harness connector at the X51R Fuse Block-Instrument Panel Right.
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 Ω in the control circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, replace the X51R Fuse Block-Instrument Panel Right.

- **If the KR113 Child Security Lock Disable Relay activates**

7. Ignition OFF, connect the X5 harness connector at the K9 Body Control Module and disconnect the harness connector at the appropriate A23 Door Latch Assembly-Rear. Ignition ON
8. Connect a test lamp between the control circuit terminals listed below:

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- A23LR Door Latch Assembly-Left Rear - control circuit terminal 9 and control circuit terminal 8
- A23RR Door Latch Assembly-Right Rear - control circuit terminal 7 and control circuit terminal 8

9. Verify the test lamp illuminates while commanding the Child Security Lock Motors On and Off with a scan tool.
   - **If the test lamp does not illuminate**
   1. Ignition OFF, remove the test lamp, disconnect the X1 harness connector at the X51R Fuse Block-Instrument Panel Right.
   2. Test for less than 2 Ω between the control circuit terminals listed below:
      - X51R Fuse Block-Instrument Panel Right control circuit terminal 2 and A23LR Door Latch Assembly-Left Rear - control circuit terminal 9
      - X51R Fuse Block-Instrument Panel Right control circuit terminal 2 and A23RR Door Latch Assembly-Right Rear - control circuit terminal 7
      - If 2 Ω or greater, repair the open/high resistance on the circuit.
   - **If the test lamp illuminates**
10. 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.

- Refer to **Rear Side Door Latch Replacement**

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- Refer to **Front Side Door Window Control Switch Replacement (Chevrolet, GMC)** **Front Side Door Window Control Switch Replacement (Cadillac)**
- Refer to **Instrument Panel Wiring Harness Junction Block Replacement**
- Refer to **Control Module References** for the BCM replacement, programming and setup

POWER DOOR DEAD 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.
- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Driver Door Dead Lock Control	B3125 02, B3130 02, B3135 02	1	1	-
Door Lock Relay Control	B3797 02	5	5	-
Left Rear Door Dead Lock Control	B3125 02, B3130 02, B3135 02	3	3	-
Passenger Door Dead Lock Control	B3125 02, B3130 02, B3135 02	2	2	-
Right Rear Door Dead Lock Control	B3125 02, B3130 02, B3135 02	4	4	-
1. Driver Door Latch Dead Lock Inoperative 2. Passenger Door Latch Dead Lock Inoperative 3. Left Rear Door Latch Dead Lock Inoperative 4. Right Rear Door Latch Dead Lock Inoperative 5. All Door Latch Dead Lock Inoperative				

Circuit/System Description

Door latch assemblies each contain a reversible dead lock motor, each dead lock motor is controlled by 2 circuits; the dead lock control circuit and

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the dead lock unlock control circuit. To dead lock a door, the body control module (BCM) locks the door by momentarily energizing the door lock security relay. To complete the dead locking, the BCM momentarily applies voltage to the dead lock control circuit and ground to the door lock relay control circuit and the door latches will then dead lock.

To restore the interior door handle functions, the BCM uses the same circuit as the normal door unlocking system and the dead locks will unlatch with the rest of the door locks.

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 interior door handles do not open the doors when commanding the Door Dead Lock to Lock with a scan tool.
    - **If all interior door handles open the doors**

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Refer to Circuit/System Testing - Security Lockout Inoperative.

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

  Refer to Circuit/System Testing - Single Door Security Lockout Malfunction.

- **If all interior door handles do not open the doors**

3. Verify the interior door handles will open the doors when commanding the Door Dead Lock to Unlock with a scan tool.
   - **If all interior door handles do not open the doors**

     Refer to Circuit/System Testing - Security Lockout Inoperative.

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

     Refer to Circuit/System Testing - Single Door Security Lockout Malfunction.

   - **If all interior door handles open the doors**
4. All OK.

Circuit/System Testing

Security Lockout Inoperative

1. Ignition OFF and all vehicle systems OFF, disconnect the X2 harness connector at the X51R Fuse Block-Instrument Panel Right. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 22 and ground.
   - **If 10 Ω or greater**
   1. Ignition OFF.
   2. Test for less than 2 Ω in the ground circuit end to end.
      - If 2 Ω or greater, repair the open/high resistance in the circuit.
      - If less than 2 Ω, repair the open/high resistance in the ground connection.
   - **If less than 10 Ω**
3. Ignition OFF, connect the X2 harness connector at the X51R Fuse Block-Instrument Panel Right. Disconnect the X7 harness connector at the K9 Body Control Module, ignition ON.
4. Verify that a test lamp does not illuminate between the control circuit terminal 10 and ground.

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- **If the test lamp illuminates**

1. Ignition OFF, remove the test lamp, disconnect the X2 harness connector at the X51R Fuse Block-Instrument Panel Right.
2. Test for less than 1 V between the K9 Body Control Module control circuit terminal 10 X7 and ground.
    - If 1 V or greater, repair the short to voltage on the circuit.
    - If less than 1 V, replace the X51R Fuse Block-Instrument Panel Right.

- **If the test lamp is not illuminated**

5. Connect a 3A fused jumper wire between the control circuit terminal 10 and B+.
6. Listen as the KR114 Door Dead Lock 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 X51R Fuse Block-Instrument Panel Right.
    2. Test for infinite resistance between the K9 Body Control Module control circuit terminal 10 X7 and ground.
        - If less than Infinite resistance, repair the short to ground on the circuit.
        - If infinite resistance
    3. Test for less than 2 Ω in the control circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the X51R Fuse Block-Instrument Panel Right.

    - **If the KR114 Door Dead Lock Relay activates**

7. Replace the K9 Body Control Module.

Single Door Security Lockout Malfunction

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the appropriate A23 Door Latch Assembly.
2. Connect a test lamp between control circuit terminals listed below, ignition ON.
    - A23D Door Latch Assembly-Driver - control circuit terminal 8 and control circuit terminal 6
    - A23P Door Latch Assembly-Passenger - control circuit terminal 8 and control circuit terminal 10
    - A23LR Door Latch Assembly-Left Rear - control circuit terminal 8 and control circuit terminal 6
    - A23RR Door Latch Assembly-Right Rear - control circuit terminal 8 and control circuit terminal 10
3. Verify the test lamp turns ON and OFF when commanding the Door Dead Lock to Lock and Unlock 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.

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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 A23 Door Latch Assembly.

Component Testing

Door Latch Assembly

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.

- Refer to **Instrument Panel Wiring Harness Junction Block Replacement**
- Refer to **Front Side Door Latch Replacement**
- Refer to **Rear Side Door Latch Replacement**
- Refer to **Control Module References** for BCM replacement, programming and setup

POWER DOOR LOCK KEY CYLINDER SWITCHES 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.

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- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal	1	1	1	-
Ground	-	1	-	-
1. Key Cylinder Switch Inoperative				

Circuit/System Description

The driver window switch monitors the voltage level of the driver door lock motor status signal circuit. When the key is inserted into the driver door key cylinder and turned to the Lock position, a switch within the driver door latch closes causing the voltage to drop within the driver door lock motor status signal circuit. The driver window switch will detect the drop in voltage and will send a serial data message to the BCM commanding all the doors to LOCK.

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

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

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Circuit/System Verification

1. Command all doors to UNLOCK by using the S13D Door Lock Switch - Driver.
2. Verify the passenger, left rear and right rear doors LOCK when inserting the key into the door lock key cylinder and turning the key to the Lock position.
    - **If the doors do not LOCK**

      Refer to Circuit/System Testing.

    - **If the doors LOCK**
3. All OK.

Circuit/System Testing

1. Ignition 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 Ω between the ground circuit terminal 3 and ground.
    - **If 10 Ω or greater**
    1. Ignition OFF.
    2. Test for less than 2 Ω in the ground circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, repair the open/high resistance in the ground connection.
    - **If less than 10 Ω**
3. Ignition ON.
4. Test for greater than 10 V between the signal circuit terminal 4 and ground.
    - **If 10 V or less**
    1. Ignition OFF, disconnect the harness connector at the S79D Window Switch-Driver.
    2. Test for infinite resistance between the signal circuit and ground.
        - If less than infinite resistance, repair the short to ground on the circuit.
        - If infinite resistance
    3. Test for less than 2 Ω in the control circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance on the circuit.

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- If less than 2 Ω, replace the S79D Window Switch-Driver.
- **If greater than 10 V**

5. Test or replace the A23D Door Latch Assembly-Driver.

Component Testing

1. Ignition OFF, disconnect the harness connector at the A23D Door Latch Assembly-Driver.
2. Test for infinite resistance between the signal terminal 4 and the ground terminal 3 with the switch in the open position.
   - **If less than infinite resistance**

     Replace the A23D Door Latch Assembly-Driver.

   - **If infinite resistance**
3. Test for less than 2 Ω between the signal terminal 4 and the ground terminal 3 with the switch in the closed position.
   - **If 2 Ω or greater**

     Replace the A23D Door Latch Assembly-Driver.

   - **If less than 2 Ω**
4. All OK

Repair Instructions

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

- Refer to **Front Side Door Window Control Switch Replacement (Chevrolet, GMC)** **Front Side Door Window Control Switch Replacement (Cadillac)**
- Refer to **Front Side Door Latch Replacement**

POWER DOOR LOCKS 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.
- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

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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	-	-
BCM Ground	-	7	-	-
Driver Door Lock Switch Lock Signal	B3150 00	3	3	-
Driver Door Lock Switch Unlock Signal	B3140 00	2	2	-
Driver Door Lock Switch Ground	-	1	-	-
Passenger Door Lock Switch Lock Signal	B3155 00	4	4	-
Passenger Door Lock Switch Unlock Signal	B3145 00	5	5	-
Passenger Door Lock Switch Ground	-	6	-	-
Driver Door Unlock Control	B3125 02, B3130 02, B3135 02	B3125 04, B3130 04, B3135 04	B3125 01, B3130 01, B3135 01	-
Doors Lock Control	B3125 02, B3130 02, B3135 02	B3125 04, B3130 04, B3135 04	B3125 01, B3130 01, B3135 01	-
Passenger Doors Unlock Control	B3125 02, B3130 02, B3135 02	B3125 04, B3130 04, B3135 04	B3125 01, B3130 01, B3135 01	-

1. Driver Door Lock Switch Inoperative
2. Driver Door Lock Switch Lock Inoperative
3. Driver Door Lock Switch Unlock Inoperative
4. Passenger Door Lock Switch Lock Inoperative
5. Passenger Door Lock Switch Unlock Inoperative
6. Passenger Door Lock Switch Inoperative
7. All Power Door Locks Inoperative

Circuit/System Description

The body control module 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 used by the BCM to perform diagnostic functions on the circuits. Transitioning of the lock actuators to the lock or unlocked position depends upon which control circuits receive voltage and which control circuits receive ground.

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The body control module 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 body control module will detect the voltage drop and command the door latches to perform the requested lock or unlock command.

Diagnostic Aids

Verify the smooth and consistent mechanical operation of each part of the door latch system prior to performing extensive electrical diagnostics

Any door that does not function smoothly or consistently, refer to **Door Will Not Open/Close, Door Binding, or Locks, Handles, or Cylinders Do Not Function**.

Reference Information

Schematic Reference

- **Door Lock/Indicator Schematics**
- **Body Control System 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

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Circuit/System Verification

1. Ignition ON.
2. Verify the scan tool Driver Door Lock Switch parameter changes from Inactive to Lock and Unlock when pushing the appropriate switch on the S13D Door Lock Switch-Driver.
    - **If the parameter does not change**

      Refer to Circuit/System Testing - Driver Door Lock Switch Malfunction.

    - **If the parameter changes**
3. Verify the scan tool Passenger Door Lock Switch parameter changes from Inactive to Lock and Unlock when pushing the appropriate switch on the S13P Door Lock Switch-Passenger.
    - **If the parameter does not change**

      Refer to Circuit/System Testing - Passenger Door Lock Switch Malfunction.

    - **If the parameter changes**
4. Verify all vehicle doors LOCK and UNLOCK when commanding the All Doors Lock/Unlock to Lock and Unlock with a scan tool.
    - **If the driver door does not LOCK or UNLOCK**

      Refer to Circuit/System Testing - Driver Door Lock Malfunction.

    - **If one or more passenger doors do not LOCK or UNLOCK**

      Refer to Circuit/System Testing - Passenger Door Lock Malfunction.

    - **If all doors do not LOCK and UNLOCK**

      Refer to Circuit/System Testing - All Door Lock Inoperative.

    - **If the LOCK and UNLOCK function for all doors works**
5. Command all doors to UNLOCK with a scan tool.
6. Verify the passenger, left rear and right rear doors LOCK when pressing the driver door lock plunger down flush with the driver door panel.
    - **If the passenger, left rear and right rear doors do not LOCK**

      Refer to Circuit/System Testing - Driver Door Lock Plunger Malfunction.

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- **If the passenger, left rear and right rear doors do LOCK**

7. 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 Ω between the ground circuit terminal 4 and ground.
    - **If 10 Ω or greater**
    1. Ignition OFF.
    2. Test for less than 2 Ω in the ground circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, repair the open/high resistance in the ground connection.
    - **If less than 10 Ω**
3. Ignition ON.
4. Verify the scan tool Driver Door 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 2 and ground.
        - If less than infinite resistance, repair the short to ground on the circuit.
    3. 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 K9 Body Control Module.
    - **If Inactive**
5. Install a 3 A fused jumper wire between the signal circuit terminal 2 and the ground circuit terminal 4.
6. Verify the scan tool Driver Door Lock Switch parameter is Lock.
    - **If not Lock**
    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.

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- If 1 V or greater, repair the short to voltage on the circuit.
- If less than 1 V

3. Test for less than 2 Ω in the signal circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, replace the K9 Body Control Module.

- **If Lock**

7. Install a 3 A fused jumper wire between the signal circuit terminal 3 and the ground circuit terminal 4.
8. Verify the scan tool Driver Door Lock Switch parameter is Unlock.
    - **If not Unlock**

    1. Ignition OFF, 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 Ω in the signal circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the K9 Body Control Module.

    - **If Unlock**

9. 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 Ω between the ground circuit terminal 4 and ground.
    - **If 10 Ω or greater**

    1. Ignition OFF.
    2. Test for less than 2 Ω in the ground circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, repair the open/high resistance in the ground connection.

    - **If less than 10 Ω**

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3. Ignition ON.
4. Verify the scan tool Passenger Door 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 2 and ground.
        - If less than infinite resistance, repair the short to ground on the circuit.
    3. 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 K9 Body 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 Passenger Door Lock Switch parameter is Unlock.
    - **If not Unlock**
    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 Ω in the signal circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the K9 Body Control Module.
    - **If Unlock**
7. Install a 3 A fused jumper wire between the signal circuit terminal 2 and the ground circuit terminal 4.
8. Verify the scan tool Passenger Door Lock Switch parameter is Lock.
    - **If not Lock**
    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 Ω in the signal circuit end to end.

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

- **If Lock**

9. Test or replace the S13P Door Lock Switch-Passenger.

Driver Door Lock Malfunction

1. Ignition OFF, disconnect the X6 harness connector at the K9 Body Control Module, ignition ON.
2. Test for less than 1 V between the control circuit terminal 1 and ground.
   - **If 1 V or greater**
   1. Ignition OFF, disconnect the harness connector at the A23D Door Latch Assembly - Driver, 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**
3. Ignition OFF, connect the X6 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 s may 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.**

4. Test for greater than 3 V between the control circuit terminals listed below and ground:
   - Control circuit terminal 7
   - Control circuit terminal 8
   - **If 3 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 Ω in the control circuit end to end.

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

- **If greater than 3 V**

NOTE: **When using the MIN MAX function, autorange on the DMM may not function properly. To ensure accurate test results, turn off autorange and manually set the DMM range to 00.00 V.**

5. Install a DMM between the control circuit terminal 7 and control circuit terminal 8. Set the DMM to capture DC voltage using the MIN MAX function. Turn off autorange and manually set the DMM range to 00.00 V.
6. Command the All Doors Lock/Unlock with a scan tool.
7. Verify the MAX voltage captured by the DMM is greater than 10 V.
   - **If 10 V or less**

     Replace the K9 Body Control Module.

   - **If greater than 10 V**
8. Test or replace the A23D Door Latch Assembly-Driver.

Passenger Door Lock Malfunction

1. Ignition OFF, disconnect the X6 harness connector at the K9 Body Control Module, ignition ON.
2. Test for less than 1 V between the control circuit terminal 2 and ground.
   - **If 1 V or greater**
   1. Ignition OFF, disconnect the harness connector at the A23P Door Latch Assembly - Passenger, A23LR Door Latch Assembly - Left Rear, and A23RR Door Latch Assembly - Right Rear, 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**
3. Ignition OFF, connect the X6 harness connector at the K9 Body Control Module. Disconnect the harness connector at the appropriate passenger or rear A23 Door Latch Assembly.

NOTE: **Leaving the DMM connected between a control circuit and ground for greater than 20 s may cause the K9 Body Control Module to interpret the test as a system fault and will cause the voltage on the control**

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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.

4. Test for greater than 3 V between the control circuit terminal listed below and ground:
    - A23P Door Latch Assembly-Passenger - control circuit terminal 8
    - A23P Door Latch Assembly-Passenger - control circuit terminal 9
    - A23RR Door Latch Assembly-Right Rear - control circuit terminal 8
    - A23RR Door Latch Assembly-Right Rear - control circuit terminal 9
    - A23LR Door Latch Assembly-Left Rear - control circuit terminal 7
    - A23LR Door Latch Assembly-Left Rear - control circuit terminal 8
    - **If 3 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 Ω in the control circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance on the circuit.
        - If less than 2 Ω, replace the K9 Body Control Module.

    - **If greater than 3 V**

NOTE: **When using the MIN MAX function, autorange on the DMM may not function properly. To ensure accurate test results, turn off autorange and manually set the DMM range to 00.00 V.**

5. Install a DMM between the control circuits listed below. Set the DMM to capture DC voltage using the MIN MAX function. Turn off autorange and manually set the DMM range to 00.00 V.
    - A23P Door Latch Assembly-Passenger - control circuit terminal 8 and control circuit terminal 9
    - A23RR Door Latch Assembly-Right Rear - control circuit terminal 8 and control circuit terminal 9
    - A23LR Door Latch Assembly-Left Rear - control circuit terminal 7 and control circuit terminal 8
6. Command the All Doors Lock/Unlock with a scan tool.
7. Verify the MAX voltage captured by the DMM is greater than 10 V.

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- **If 10 V or less**

  Replace the K9 Body Control Module.

- **If greater than 10 V**

8. Test or replace the A23 Door Latch Assembly.

All Door Locks Inoperative

1. Ignition OFF and all vehicle systems OFF, disconnect the X2 harness connector and X6 harness connector at the K9 Body Control Module. It may take up to 2 minutes for all vehicle systems to power down
2. Test for less than 10 Ω between the ground circuit terminal 3 X6 and ground
   - **If 10 Ω or greater**
   1. Ignition OFF.
   2. Test for less than 2 Ω in the ground circuit end to end.
      - If 2 Ω or greater, repair the open/high resistance in the circuit.
      - If less than 2 Ω, repair the open/high resistance in the ground connection.
   - **If less than 10 Ω**
3. Ignition ON.
4. Verify a test lamp illuminates between the B+ circuit terminal 4 X2 and ground.
   - **If the test lamp does not illuminate and the circuit fuse is good**
   1. Ignition OFF.
   2. Test for less than 2 Ω in the B+ circuit end to end.
      - If 2 Ω or greater, repair the open/high resistance in the circuit.
      - If less than 2 Ω, 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.

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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**

5. Ignition OFF, connect the X2 harness connector at the K9 Body Control Module. Disconnect the X1 harness connector at the X51R Fuse Block-Instrument Panel Right, ignition ON.
6. Test for less than 1 V between the control circuit terminals listed below and ground:
    - K9 Body Control Module control circuit terminal 4 X6
    - X51R Fuse Block-Instrument Panel Right control circuit terminal 1 X1
    - X51R Fuse Block-Instrument Panel Right control circuit terminal 2 X1
    - X51R Fuse Block-Instrument Panel Right control circuit terminal 30 X1
    - X51R Fuse Block-Instrument Panel Right control circuit terminal 40 X1
    - **If 1 V or greater**
    1. Ignition OFF, disconnect the harness connector at the A23D Door Latch Assembly - Driver, A23P Door Latch Assembly - Passenger, A23LR Door Latch Assembly - Left Rear, and A23RR Door Latch Assembly - Right Rear, 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**
7. Test for infinite resistance between the control circuit terminals listed below and ground:
    - K9 Body Control Module control circuit terminal 4 X6
    - X51R Fuse Block-Instrument Panel Right control circuit terminal 1 X1
    - X51R Fuse Block-Instrument Panel Right control circuit terminal 2 X1
    - X51R Fuse Block-Instrument Panel Right control circuit terminal 30 X1
    - X51R Fuse Block-Instrument Panel Right control circuit terminal 40 X1
    - **If less than infinite resistance**
    1. Ignition OFF, disconnect the harness connector at the A23D Door Latch Assembly - Driver, A23P Door Latch Assembly - Passenger, A23LR Door Latch Assembly - Left Rear, and A23RR Door Latch Assembly - Right Rear.
    2. Test for infinite resistance between the control circuit and ground.
        - If less than infinite resistance, repair the short to ground on the circuit.

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- **If infinite resistance**

8. Ignition OFF, connect the X1 harness connector at the X51R Fuse Block-Instrument Panel Right, ignition ON.
9. Test for less than 1 V between the K9 Body Control Module control circuit terminals listed below and ground:
    - K9 Body Control Module control circuit terminal 1 X6
    - K9 Body Control Module control circuit terminal 2 X6
    - **If 1 V or greater**
    1. Ignition OFF, disconnect the X1 harness connector at the X51R Fuse Block-Instrument Panel Right, 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 the circuit tests normal, test or replace the X51R Fuse Block-Instrument Panel Right.
    - **If less than 1 V**
10. Test for infinite resistance between the control circuit terminals listed below and ground:
    - K9 Body Control Module control circuit terminal 1 X6
    - K9 Body Control Module control circuit terminal 2 X6
    - **If less than infinite resistance**
    1. Ignition OFF, disconnect the X1 harness connector at the X51R Fuse Block-Instrument Panel Right.
    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 the circuit tests normal, test or replace the X51R Fuse Block-Instrument Panel Right.
    - **If infinite resistance**
11. Test or replace the K9 Body Control Module.

Driver Door Lock Plunger 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 Ω between the ground circuit terminal 3 and ground.
    - **If 10 Ω or greater**
    1. Ignition OFF.
    2. Test for less than 2 Ω in the ground circuit end to end.

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

- **If less than 10 Ω**

3. Ignition ON.
4. Test for greater than 10 V between the signal circuit terminal 4 and ground.
   - **If 10 V or less**
   1. Ignition OFF, disconnect the harness connector at the S79D Window Switch-Driver, ignition ON.
   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 Ω in the signal circuit end to end.
      - If 2 Ω or greater, repair the open/high resistance in the circuit.
      - If less than 2 Ω, replace the S79D Window Switch-Driver.
   - **If greater than 10 V**
5. Test or replace the A23D Door Latch Assembly-Driver.

Component Testing

Door Lock Switch

1. Ignition OFF, disconnect the harness connector at the appropriate S13 Door Lock Switch.
2. Test for infinite resistance between the signal terminal 2 and the ground terminal 4 with the switch in the center position.
   - **If less than infinite resistance**

     Replace the S13 Door Lock Switch.

   - **If infinite resistance**
3. Test for infinite resistance between the signal terminal 3 and the ground terminal 4 with the switch in the center position.
   - **If less than infinite resistance**

     Replace the S13 Door Lock Switch

   - **If infinite resistance**
4. Test for less than 2 Ω between the signal terminal 2 and the ground terminal 4 with the switch in the Lock position.

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- **If 2 Ω or greater**

  Replace the S13 Door Lock Switch.

- **If less than 2 Ω**

5. Test for less than 2 Ω between the signal terminal 3 and the ground terminal 4 with the switch in the Unlock position.
   - **If 2 Ω or greater**

     Replace the S13 Door Lock Switch.

   - **If less than 2 Ω**
6. All OK

Door Latch Test

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.

- Refer to **Door Lock Switch Replacement - Driver Side (Chevrolet, GMC)** **Door Lock Switch Replacement - Driver Side (Cadillac)**
- Refer to **Door Lock Switch Replacement - Passenger Front (Chevrolet, GMC)** **Door Lock Switch Replacement - Passenger Front (Cadillac)**
- Refer to **Front Side Door Latch Replacement**
- Refer to **Rear Side Door Latch Replacement**

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- Refer to **Control Module References** for BCM replacement, programming and setup

POWER LIFTGATE 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.
- Refer to **Diagnostic Procedure Instructions** to provide an overview of each diagnostic category.

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Liftgate Control Module B+ Terminal 4 X2	U0230 00	U0230 00	-	-
Liftgate Control Module B+ Terminal 3 X2	1	1	-	-
Liftgate Motor Open Control	B396A 02	B396A 04	B396A 01	-
Liftgate Motor Close Control	B396A 02	B396A 04	B396A 01	-
Liftgate Position Sensor 12 V Reference Voltage	B153E 02	B153E 04	-	-
Liftgate Position Sensor 1 Signal	B153E 02, B153E 08	B153E 04, B153E 08	B153E 01, B153E 08	-
Liftgate Position Sensor 2 Signal	B153E 02, B153E 08	B153E 04, B153E 08	B153E 01, B153E 08	-
Liftgate Position Sensor Low Reference	-	B153E 04	-	-
Liftgate Latch Pawl Switch Signal	B153A 08	B153A 08	B153A 08	-
Liftgate Unlatch Switch Signal	3	2	-	-
Liftgate Latch Sector Switch Signal	B153A 08	B153A 08	B153A 08	-
Liftgate Latch Ratchet Switch Signal	B153A 08	B153A 08	B153A 08	-
Liftgate Latch Low Reference	-	B24A0 05, B153A 08	-	-
1. No Communication, Liftgate Will Not Unlatch/Open 2. Liftgate Will Unlatch But Will Not Power Open Or Power Close 3. Liftgate Will Unlatch But Will Not Power Open				

Circuit/System Description

The unlatch, ratchet, pawl, and sector switches are part of the liftgate latch assembly and are used by the liftgate control module to determine the state of the latch during the process of cinching or unlatching. The ratchet and pawl switches will be inactive when the primary and secondary latches are

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latched, and the sector switch will be active during the power cinch function. Each of the latch switch signal circuits are supplied signal through a resistor and monitored within the liftgate control module. The latch switches share a common low reference circuit from the liftgate control module and when the switch contacts close, the signal circuit goes low and the liftgate control module determines the switch to be active.

The liftgate control module continuously monitors power liftgate operation and calculates its location and direction of travel using 2 Hall effect sensors that are part of the liftgate motor. The Hall effect sensors are 12 V 3-wire sensors and are supplied with a 12 V reference, ground and signal circuits from the liftgate control module. The Hall effect sensor signal circuits are referenced from voltage within the liftgate control module and pulsed low by the Hall effect sensors.

Diagnostic Aids

Whenever the liftgate control module loses power or is disconnected, the ignition must be cycled OFF then ON in order to reactivate the liftgate control module.

Check the calibration software installed on the liftgate control module prior to performing extensive diagnostics, vehicles with the handsfree liftgate control option (TC2) require specific calibration software. Incorrect calibration software may cause the power liftgate system to become inoperative without setting any DTCs

Reference Information

Schematic Reference

Liftgate Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Liftgate Description and Operation

Electrical Information Reference

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

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Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Ignition ON.

   NOTE: **Refer to Liftgate System Diagnosis for a guide to power liftgate functions and failure modes to determine the course of action when the power liftgate malfunctions**

2. Verify no other DTCs are set.
   - **If other DTCs are set**

     Refer to **Diagnostic Trouble Code (DTC) List - Vehicle**

   - **If no other DTCs are set**
3. Verify the correct calibration software has been programmed into the K39 Liftgate Control Module.
   - **If the software is not the correct calibration software**

     Refer to **Control Module References** for liftgate control module programming and setup.

   - **If the calibration software is correct**
4. Verify the liftgate will release and smoothly power open when commanding Liftgate Open with a scan tool.
   - **If the A23C Liftgate Latch Assembly does not release**

     Refer to **Liftgate Latch Release/Cinch Malfunction**

   - **If the liftgate releases but does not open**

     Refer to Circuit/System Testing - Liftgate Power Open/Close Malfunction

   - **If the liftgate releases but performs an erratic power open/close motion**

     Refer to Circuit/System Testing - Liftgate Erratic Operation

   - **If the A23C Liftgate Latch Assembly releases**

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5. Verify the liftgate will smoothly power close when commanding Liftgate Close with a scan tool.
    - **If the liftgate does not power close**

      Refer to Circuit/System Testing - Liftgate Power Open/Close Malfunction

    - **If the liftgate performs an erratic open/close motion**

      Refer to Circuit/System Testing - Liftgate Erratic Operation

    - **If the liftgate does smoothly power close**
6. All OK.

Circuit/System Testing

Liftgate Power Open/Close Malfunction

NOTE: **Perform Circuit/System Verification prior to performing test**

1. Ignition OFF, disconnect the X2 harness connector at the K39 Liftgate Control Module. Ignition ON
2. Verify a test lamp illuminates between the B+ circuit terminal 3 and ground.
    - **If the test lamp does not illuminate and the circuit fuse is good**
    1. Ignition OFF.
    2. Test for less than 2 Ω in the B+ circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, 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, replace the K39 Liftgate Control Module
    - **If the test lamp illuminates**
3. Ignition OFF, connect the X2 harness connector at the K39 Liftgate Control Module and disconnect the harness connector at the A23C Liftgate Latch Assembly. Ignition ON

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4. Verify the scan tool Liftgate Latch Pawl Switch parameter is Closed.
    - **If not Closed**
    1. Ignition OFF, disconnect the harness connector at the K39 Liftgate 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 K39 Liftgate Control Module.
    - **If Closed**
5. Install a 3 A fused jumper wire between the signal circuit terminal 1 and the low reference circuit terminal 6.
6. Verify the scan tool Liftgate Latch Pawl Switch parameter is Open
    - **If not Open**
    1. Ignition OFF, disconnect the harness connector at the K39 Liftgate 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 Ω in the signal circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the K39 Liftgate Control Module.
    - **If Open**
7. Verify the scan tool Liftgate Latch Ratchet Switch parameter is Closed.
    - **If not Closed**
    1. Ignition OFF, disconnect the harness connector at the K39 Liftgate Control Module.
    2. Test for infinite resistance between the signal circuit terminal 5 and ground.
        - If less than infinite resistance, repair the short to ground on the circuit.
        - If infinite resistance, replace the K39 Liftgate Control Module.
    - **If Closed**
8. Install a 3 A fused jumper wire between the signal circuit terminal 5 and the low reference circuit terminal 6.
9. Verify the scan tool Liftgate Latch Ratchet Switch parameter is Open
    - **If not Open**
    1. Ignition OFF, disconnect the harness connector at the K39 Liftgate Control Module, ignition ON.

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2. Test for less than 1 V between the signal circuit and ground.
    - If 1 V or greater, repair the short to voltage on the circuit.
    - If less than 1 V
3. Test for less than 2 Ω in the signal circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, replace the K39 Liftgate Control Module.

- **If Open**

10. Verify the scan tool Liftgate Latch Sector Switch parameter is Inactive.

- **If not Inactive**

1. Ignition OFF, disconnect the harness connector at the K39 Liftgate Control Module.
2. Test for infinite resistance between the signal circuit 2 and ground.
    - If less than infinite resistance, repair the short to ground on the circuit.
    - If infinite resistance, replace the K39 Liftgate Control Module.

- **If Inactive**

11. Install a 3 A fused jumper wire between the signal circuit terminal 2 and the low reference circuit terminal 6.
12. Verify the scan tool Liftgate Latch Sector Switch parameter is Active

- **If not Active**

1. Ignition OFF, disconnect the harness connector at the K39 Liftgate 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 Ω in the signal circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, replace the K39 Liftgate Control Module.

- **If Active**

13. Verify the driver information center Rear Access Open message is not displayed.

- **If Rear Access Open message is displayed**

1. Ignition OFF, disconnect the harness connector at the K39 Liftgate Control Module.
2. Test for infinite resistance between the signal circuit terminal 3 and ground.

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- If less than infinite resistance, repair the short to ground on the circuit.
- If infinite resistance, replace the K39 Liftgate Control Module.

- **If driver information center Rear Access Open message is not displayed**

14. Install a 3 A fused jumper wire between the signal circuit terminal 3 and the low reference circuit terminal 6.
15. Verify the driver information center Rear Access Open message is displayed
    - **If driver information center Rear Access Open message is not displayed**
    1. Ignition OFF, disconnect the harness connector at the K39 Liftgate 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 Ω in the signal circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the K39 Liftgate Control Module.
    - **If the driver information center Rear Access Open message is displayed**
16. Test or replace the A23C Liftgate Latch Assembly.

Liftgate Erratic Operation

NOTE: **Perform Circuit/System Verification prior to performing test**

1. Ignition OFF, disconnect the harness connector at the M31 Liftgate Motor.
2. Test for less than 20 Ω between the low reference circuit terminal 3 and ground.
    - **If 20 Ω or greater**
    1. Ignition OFF.
    2. Test for less than 2 Ω in the low reference circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the K39 Liftgate Control Module.
    - **If less than 20 Ω**
3. Test for greater than 11 V between the 12 V reference circuit terminal 2 and ground.
    - **If 11 V or less**

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1. Ignition OFF, disconnect the X3 harness connector at the K39 Liftgate Control Module.
2. Test for infinite resistance between the 12 V reference circuit and ground.
    - If less than infinite resistance, repair the short to ground on the circuit.
    - If infinite resistance
3. Test for less than 2 Ω in the 12 V reference circuit end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, replace the K39 Liftgate Control Module.

- **If greater than 11 V**

4. Test for greater than 11 V between the Position Sensor Signal 1 circuit terminal 7 and ground.

- **If 11 V or less**

1. Ignition OFF, disconnect the X3 harness connector at the K39 Liftgate Control Module.
2. Test for infinite resistance between the Position Sensor Signal 1 circuit terminal 7 and ground.
    - If less than infinite resistance, repair the short to ground on the circuit.
    - If infinite resistance
3. Test for less than 2 Ω in the Position Sensor Signal 1 circuit terminal 7 end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, replace the K39 Liftgate Control Module.

- **If greater than 11 V**

5. Test for greater than 11 V between the Position Sensor Signal 2 circuit terminal 8 and ground.

- **If 11 V or less**

1. Ignition OFF, disconnect the X3 harness connector at the K39 Liftgate Control Module.
2. Test for infinite resistance between the Position Sensor Signal 2 circuit terminal 8 and ground.
    - If less than infinite resistance, repair the short to ground on the circuit.
    - If infinite resistance
3. Test for less than 2 Ω in the Position Sensor Signal 2 circuit terminal 8 end to end.
    - If 2 Ω or greater, repair the open/high resistance in the circuit.
    - If less than 2 Ω, replace the K39 Liftgate Control Module.

- **If greater than 11 V**

6. Replace the M31 Liftgate Motor.

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Repair Instructions

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

- Refer to **Liftgate Latch Replacement (Chevrolet, GMC)** **Liftgate Latch Replacement (Cadillac)**
- Refer to **Liftgate Power Assist Actuator Replacement (Chevrolet, GMC)** **Liftgate Power Assist Actuator Replacement (Cadillac)**
- Refer to **Control Module References** for the liftgate control module replacement, setup and programming

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	Go to **Step 18**	Go to **Step 11**

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Step	Action	Yes	No
	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?		
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.	Go to **Step 18**	Go to **Step 12**

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Step	Action	Yes	No
	Did you find and correct the condition?		
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.	Go to **Step 18**	Go to **Step 14**

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Step	Action	Yes	No
	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?		
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	Go to **Step 18**	Go to **Step 15**

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Step	Action	Yes	No
	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?		
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**

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Step	Action	Yes	No
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 **Front Side Door Adjustment** or Go to **Rear Side Door Adjustment**
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

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ACCESSORIES & EQUIPMENT

Vehicle Access - Repair Instructions - Escalade, Suburban, Tahoe, Yukon

REPAIR INSTRUCTIONS

FRONT SIDE DOOR INSIDE HANDLE CABLE REPLACEMENT

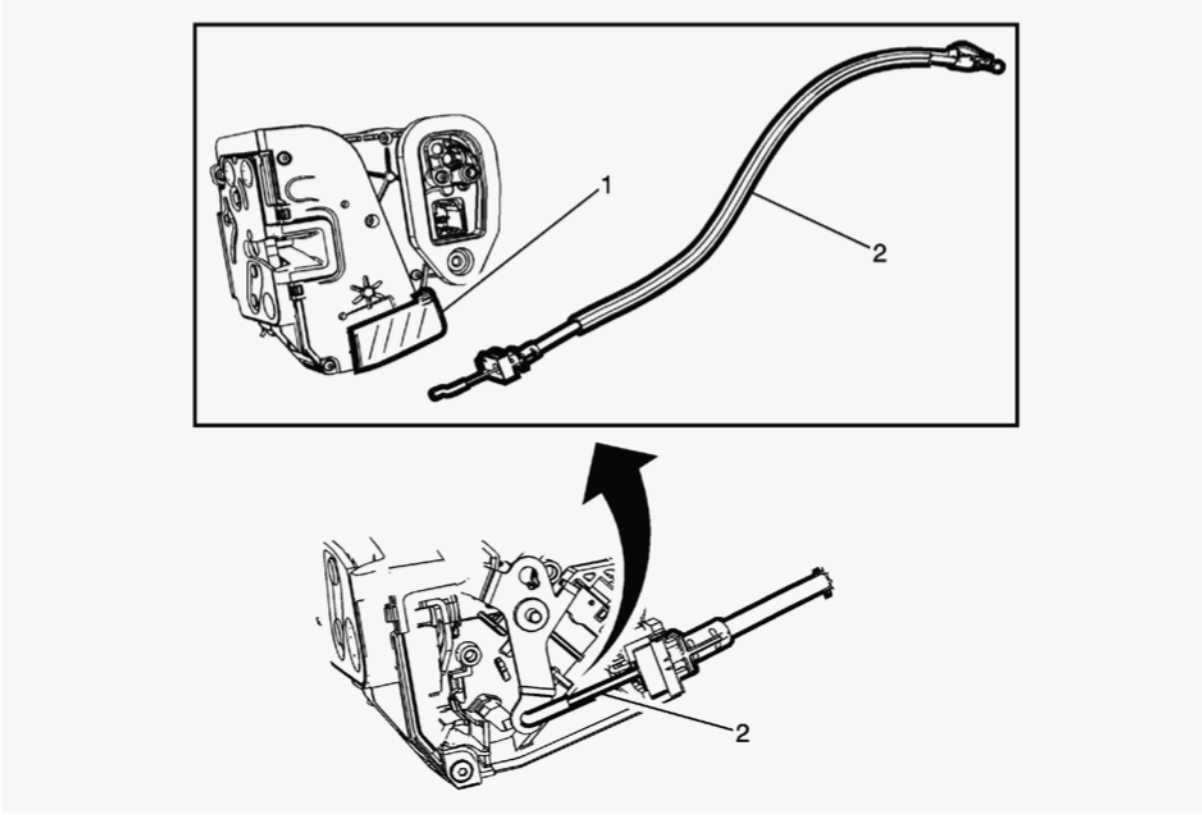


Fig. 1: Front Side Door Inside Handle Cable
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure	
Remove the front side door latch and handle bracket assembly from the door. Refer to **Front Side Door Latch Replacement**.	

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Callout	Component Name
1	Front Side Door Inside Handle Cable Access Cover **Procedure** 1. Use a suitable tool, open the access cover to view the cable end. 2. Release the cable end from the latch assembly.
2	Front Side Door Inside Handle Cable **NOTE:** **Ensure that the door lock system operates properly before installing the trim.**

REAR SIDE DOOR INSIDE HANDLE CABLE REPLACEMENT

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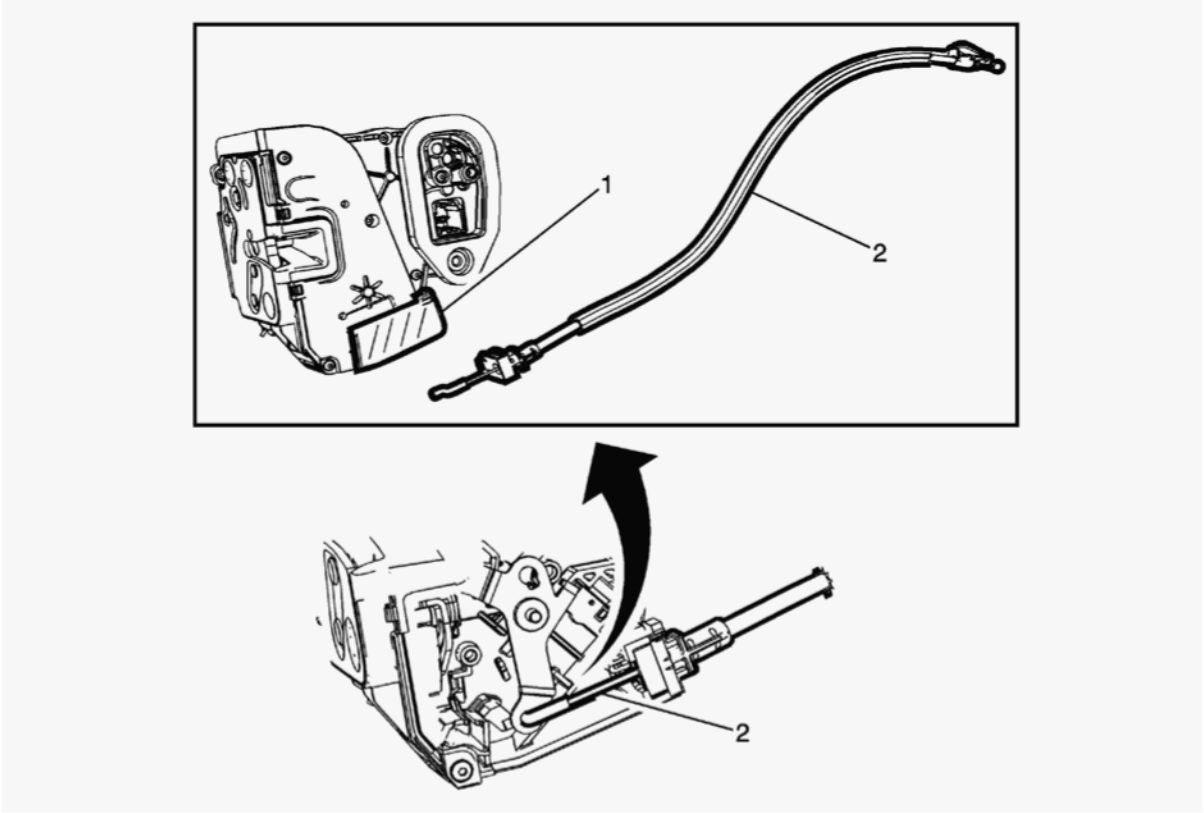


Fig. 2: Rear Side Door Inside Handle Cable
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the rear side door latch and handle bracket assembly from the door. Refer to **Rear Side Door Latch Replacement**.	
1	Rear Side Door Inside Handle Cable Cover **Procedure** 1. Use a suitable tool, open the access cover to view the cable end. 2. Release the cable end from the latch assembly.

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Callout	Component Name
2	Rear Side Door Inside Handle Cable **NOTE:** **Ensure that the door lock system operates properly before installing the trim.**

FRONT SIDE DOOR LOCK CYLINDER REPLACEMENT

Removal Procedure

NOTE: **When performing this procedure the latch and handle bracket assembly Must be removed from the vehicle to replace the door lock cylinder assembly.**

1. Remove the front side door latch and door outside handle bracket assembly as one from the door. Refer to **Front Side Door Latch Replacement**.

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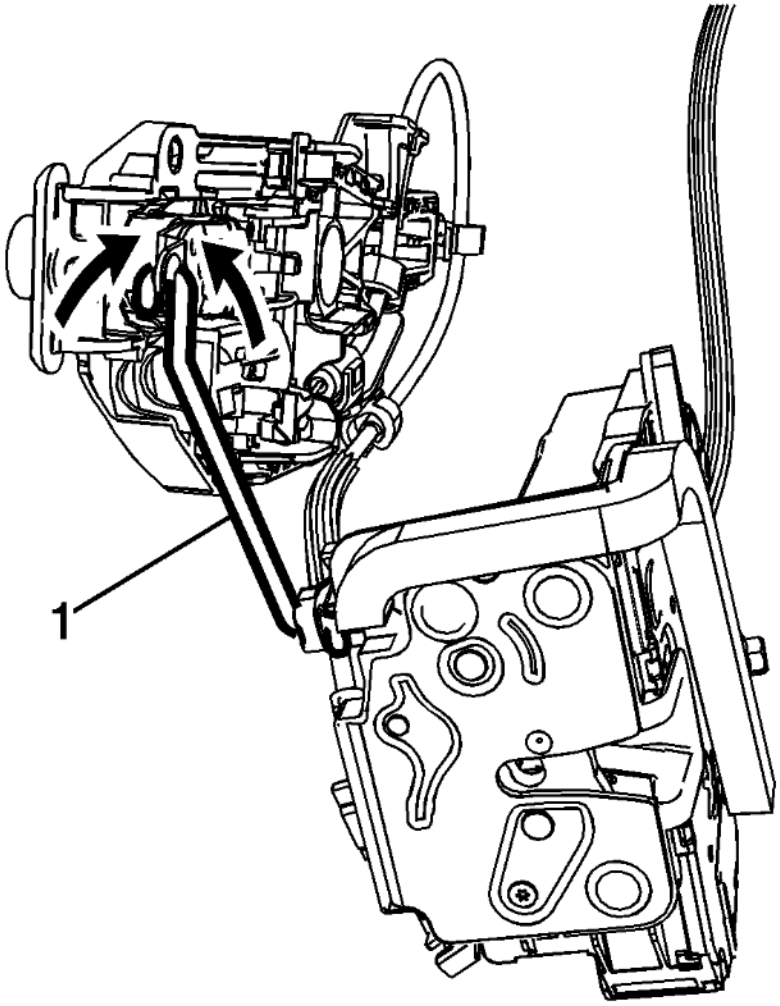


Fig. 3: Front Side Door Lock Cylinder Rod
Courtesy of GENERAL MOTORS COMPANY

NOTE: **Its not necessary to disconnect the inside or outside handle cables to replace the door lock cylinder.**

2. Disconnect the front side door lock cylinder rod (1) from the lock cylinder.
3. Loosen the front side door outside handle lock cylinder screw.

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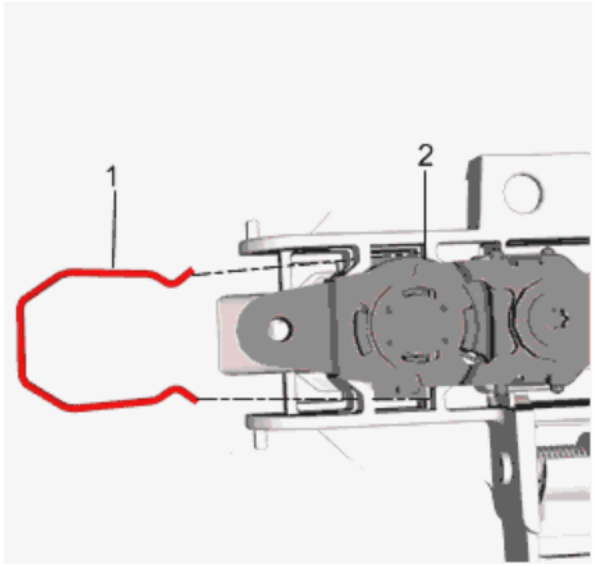
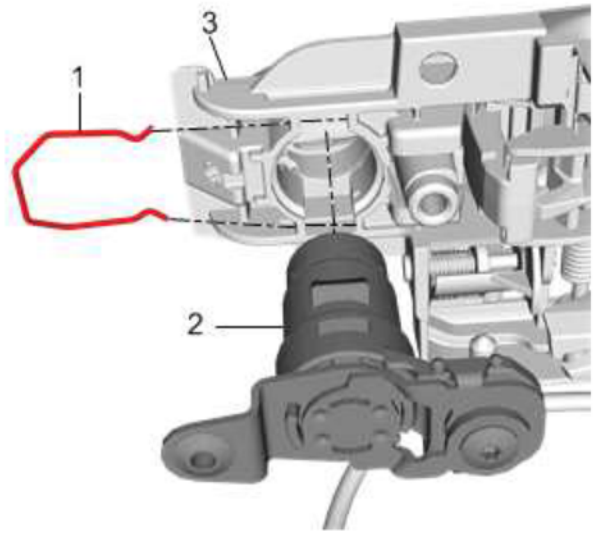


Fig. 4: Lock Cylinder Retainer
Courtesy of GENERAL MOTORS COMPANY

4. From the back side of the outside handle bracket, use a suitable tool, push outward on the lock cylinder retainer (1) releasing the retainer from the lock cylinder (2).



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Fig. 5: Lock Cylinder Retainer
Courtesy of GENERAL MOTORS COMPANY

5. With the lock cylinder retainer (1) removed, pull the lock cylinder (2) rearward releasing it from the handle bracket (3).

Installation Procedure

1. If replacing with a NEW lock cylinder, code the NEW lock cylinder. Refer to **Front Side Door Lock Cylinder Coding** .

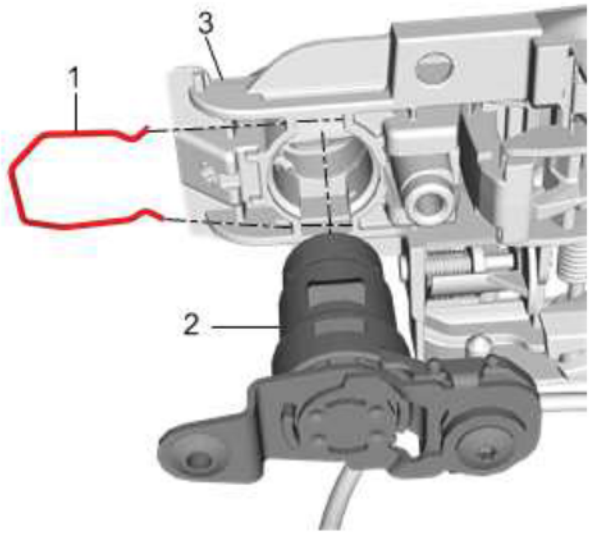


Fig. 6: Lock Cylinder Retainer
Courtesy of GENERAL MOTORS COMPANY

NOTE: **Ensure that the door lock cylinder is engage all the way into the side door handle locator tabs. Insert the key into the door lock cylinder, turn left to right checking for binding before install the assembly to the vehicle.**

2. Install the lock cylinder retainer (1) to the front side door outside handle bracket assembly (3).
3. Install the door lock cylinder (2) in the front side door outside handle bracket, push forward locking the lock cylinder (2) into the lock cylinder retainer.

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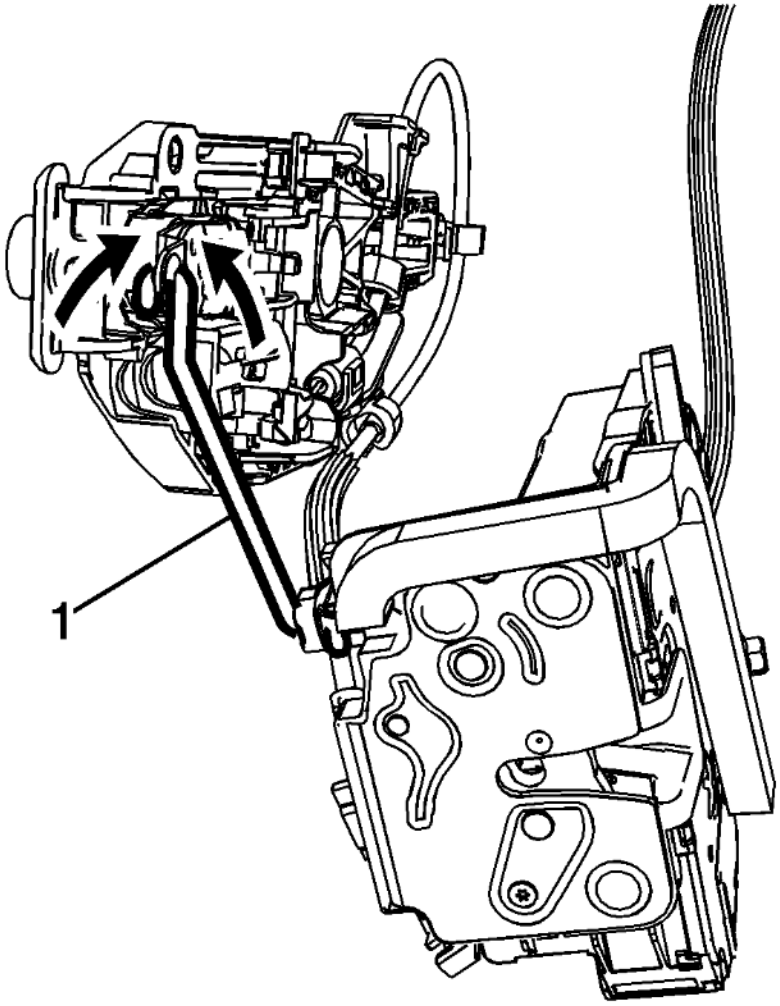


Fig. 7: Front Side Door Lock Cylinder Rod
Courtesy of GENERAL MOTORS COMPANY

4. Connect the door lock cylinder rod (1) to the lock cylinder.
5. Install the front side door latch and handle bracket assembly as one in the vehicle. Refer to **Front Side Door Latch Replacement**.
6. Ensure that the door lock system operates properly before installing the trim.

FRONT SIDE DOOR LOCK CYLINDER SWITCH BRACKET REPLACEMENT

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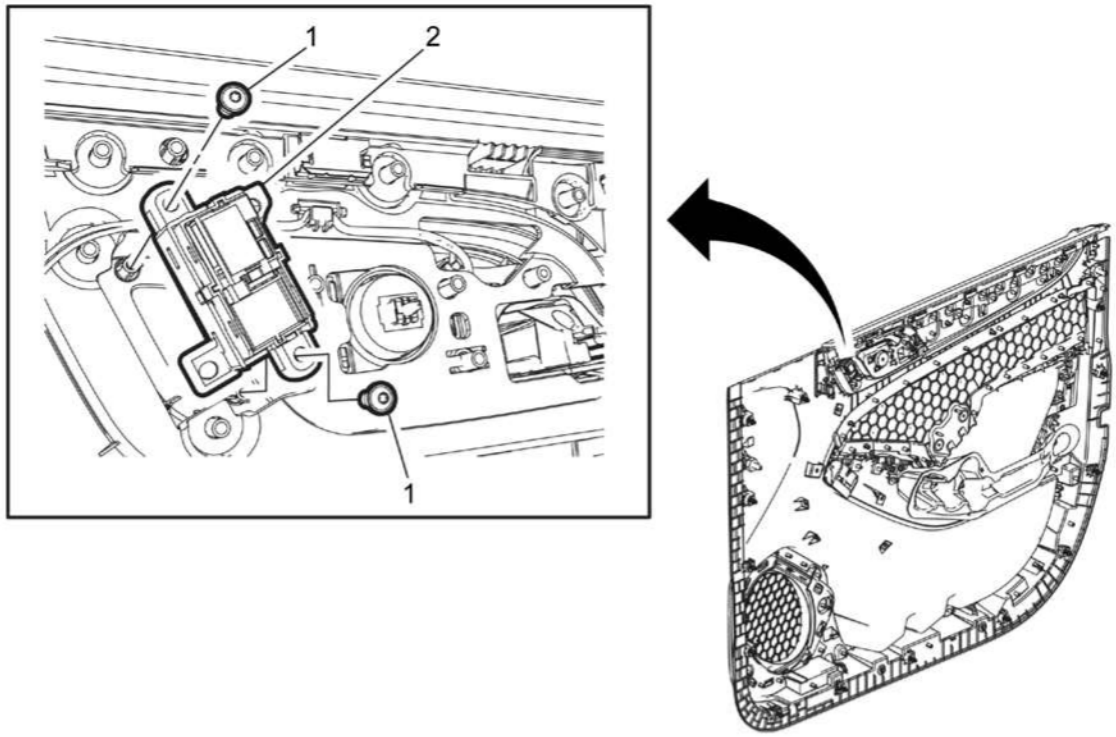


Fig. 8: Front Side Door Lock Cylinder Switch Bracket
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the front side door trim. Refer to **Front Side Door Trim Replacement** .	
1	Front Side Door Lock Cylinder Switch Bracket Fastener (Qty: 2) **CAUTION:** **Refer to** **Fastener** **Caution** .

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Callout	Component Name
	Tighten 2 N.m (18 lb in)
2	Front Side Door Lock Cylinder Switch Bracket **Procedure** 1. Disconnect the electrical connector 2. Transfer parts as necessary.

LIFTGATE CALIBRATION

Liftgate Relearn

NOTE: **To ensure proper relearning of the liftgate, the liftgate assembly must be at room temperature during the relearn process.**

NOTE: **DTC B1019 00 will set automatically as an indicator that the system is in learn mode and not as a fault indicator. Once the travel limits are learned by the liftgate module, the liftgate module will exit learn mode and DTC B1019 00 become a history code.**

If any portion of the power liftgate assembly is replaced, repaired or disassembled, perform the following liftgate relearn procedure:

1. Connect the scan tool to the vehicle.
2. Select Module Diagnosis:
3. Select Liftgate Control Module:
4. Select Configuration/Reset Functions:
5. Select Liftgate Maximum Open Position Learn:
6. Press "Enter" and follow the on screen instructions:

Garage Height Calibration

If any portion of the power liftgate assembly is replaced, repaired or disassembled, perform the following liftgate relearn procedure:

1. Ensure that the rotary switch on the overhead console or driver door panel is set to 3/4.

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2. Press the liftgate handle switch and allow the liftgate to power open.
3. Stop movement at the desired height by pressing any operation switch.
4. If required, manually move the stopped liftgate to the desired position.

NOTE: **The opening height of the liftgate should be positioned approximately parallel with the roof, the liftgate control module will reject the setting if the liftgate is positioned too low.**

5. Press and hold the liftgate close switch for at least 3 seconds. The tail lights will flash if the setting has been successfully programmed.
6. Close the liftgate completely using one of the following switches:
   - The rotary switch on the overhead console or driver door panel
   - The liftgate close switch on the liftgate
   - The remote control switch on the keyless entry transmitter

OPENING THE LIFTGATE WITHOUT ELECTRICAL POWER (TB4)

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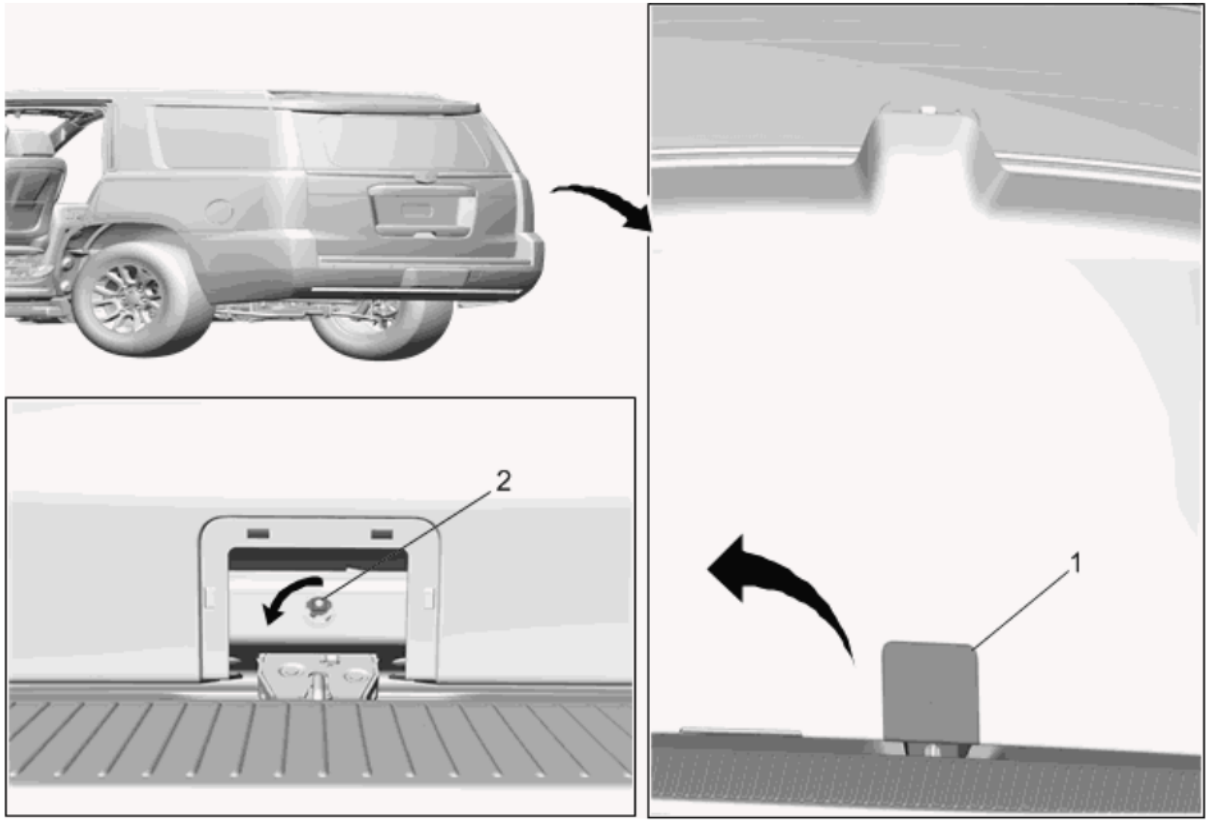


Fig. 9: Opening Liftgate Without Electrical Power (TB4)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
1	Liftgate Latch Cover. **Procedure** Bend the latch cover back to gain access to the latch. **NOTE:** **Damage will occur to the cover and will have to be replaced.**

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Callout	Component Name
2	Liftgate Latch **Procedure** Insert a flat bladed service type tool into the square hole and turn it counterclockwise (arrow) until the primary latch releases. **NOTE:** **Rotation to release latch should be approximately 30 degrees. Excessive rotation can cause damage to the latch.**

OPENING THE LIFTGATE WITHOUT ELECTRICAL POWER (TB5/TC2)

Removal Procedure



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Fig. 10: Rear Compartment
Courtesy of GENERAL MOTORS COMPANY

1. Gain access to the rear compartment.

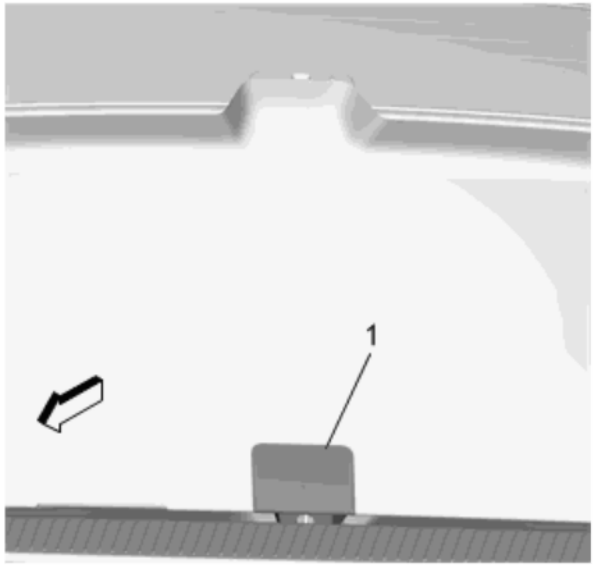


Fig. 11: Latch Cover
Courtesy of GENERAL MOTORS COMPANY

NOTE: **Damage will occur to the cover and will have to be replaced.**

2. Bend the latch cover (1) back to access the rear latch.

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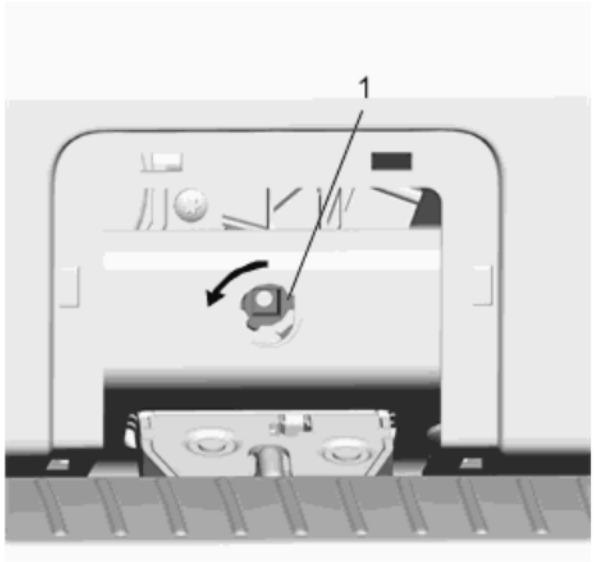


Fig. 12: Square Hole
Courtesy of GENERAL MOTORS COMPANY

NOTE: **Gate may not open this point, continue to next step.**

NOTE: **Rotation to release latch should be approximately 30 degrees. Excessive rotation can cause damage to the latch.**

3. Insert a flat bladed service type tool into the square hole (1) and turn it counterclockwise (arrow) until the primary latch releases.

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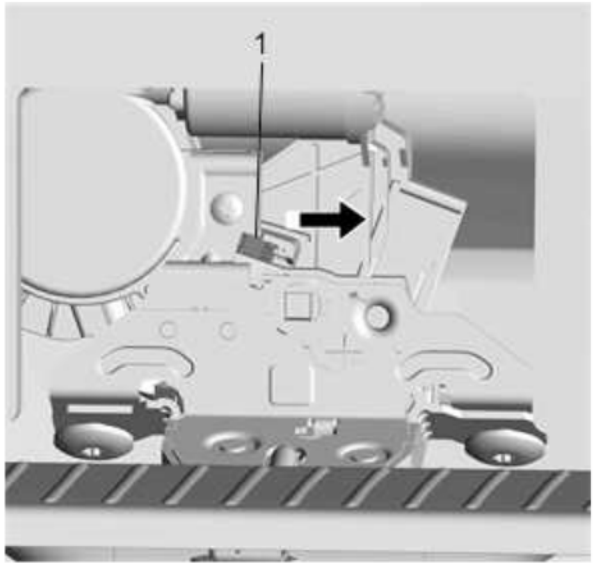


Fig. 13: Plastic Lever
Courtesy of GENERAL MOTORS COMPANY

NOTE: **The latch does not need to be restaged. Also the liftgate inner reinforcement panel has been removed to show the white lever clearly.**

4. To disengage the gear train of the latch, use a small flat blade tool to push the white plastic lever (1) all the way to the right (arrow) and at the same time pushing on the liftgate to release the secondary latch.

FRONT SIDE DOOR INSIDE HANDLE REPLACEMENT (CADILLAC)

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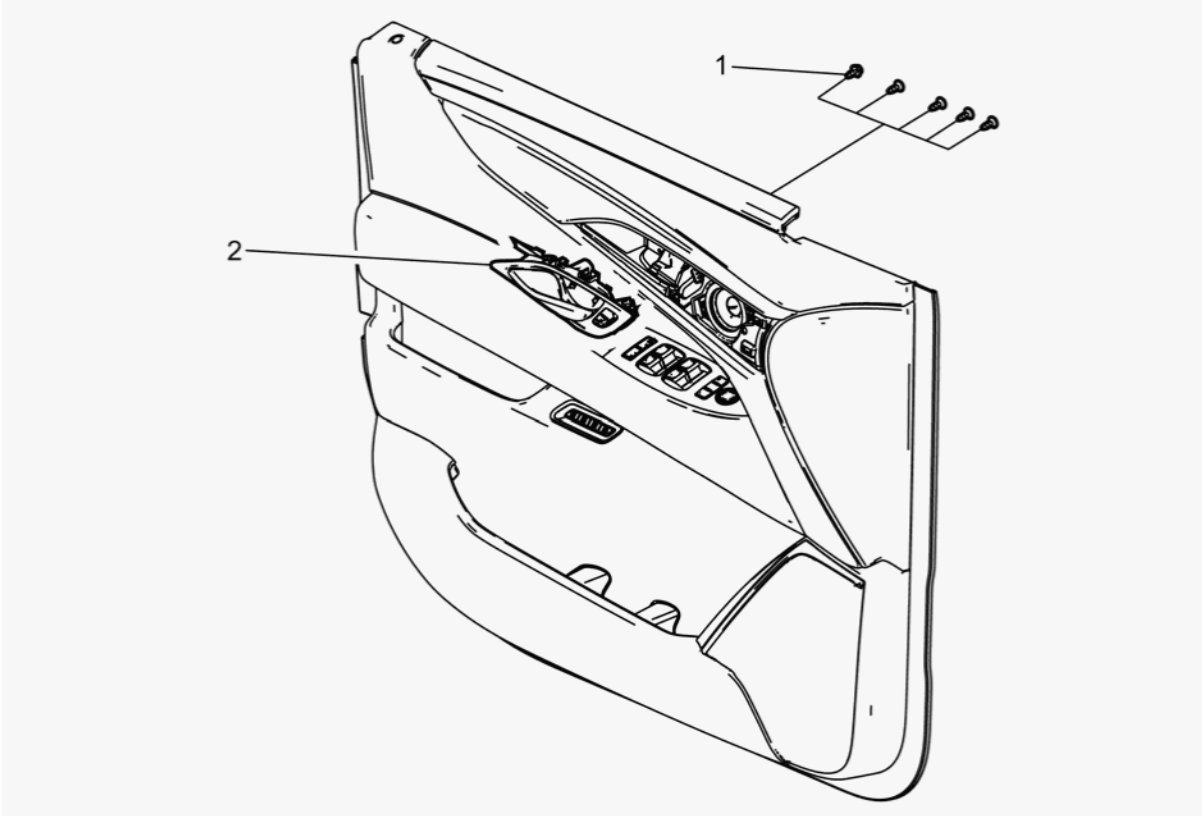


Fig. 14: Front Side Door Inside Handle (Cadillac)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures 1. Remove the front side door trim. Refer to **Front Side Door Trim Replacement** . 2. Remove the radio front side door upper speaker grille. Refer to **Radio Front Side Door Upper Speaker Grille Replacement (Cadillac)** .	
1	Front Side Door Inside Handle Fastener (Qty: 5) **CAUTION:**

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Callout	Component Name
	Refer to Fastener Caution . **NOTE:** **The five screws are located on the backside of the trim panel.** **Tighten** 1.4 N.m (12 lb in)
2	Front Side Door Inside Handle Assembly **Procedure** 1. Disconnect the front side door inside handle illumination lamp connector and harness retainer. 2. Disconnect the front side door lock switch electrical connector. 3. Remove the handle and bezel as an assembly from the door trim panel. 4. Transfer the handle illumination lamp, door lock switch and the bezel to the new handle.

FRONT SIDE DOOR OUTSIDE HANDLE REPLACEMENT (WITHOUT ATH)

Special Tools

BO 51363 Door Handle Spring Retainer

For equivalent regional tools, refer to **Special Tools** .

Removal Procedure

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NOTE: **When removing the door lock cylinder screw Do Not go past the hard stop.**

1. Loosen screw for lock cylinder bezel. Refer to **Front Side Door Lock Cylinder Bezel Replacement (without UTT)**.

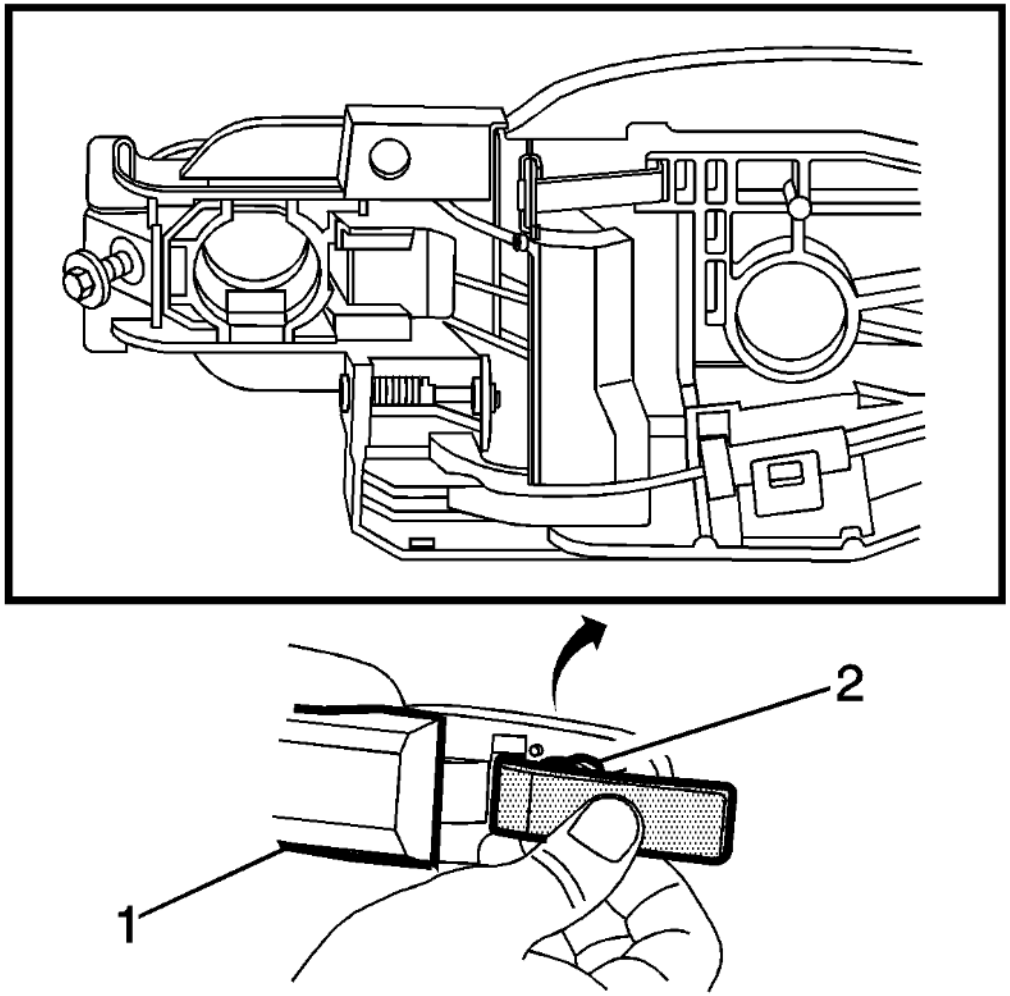


Fig. 15: Door Handle Spring Retainer
Courtesy of GENERAL MOTORS COMPANY

2. Pull front side door outside handle (1) outward and insert **BO-51363** Door Handle Spring Retainer over the lock cylinder (2) and under door

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handle (1).

3. Press rear part of **BO-51363** Door Handle Spring Retainer towards the door (3). The front side door outside handle (1) should now be held in the extended position.
4. Release pressure on **BO-51363** Door Handle Spring Retainer which allows front side door outside handle (1) to slightly retract.

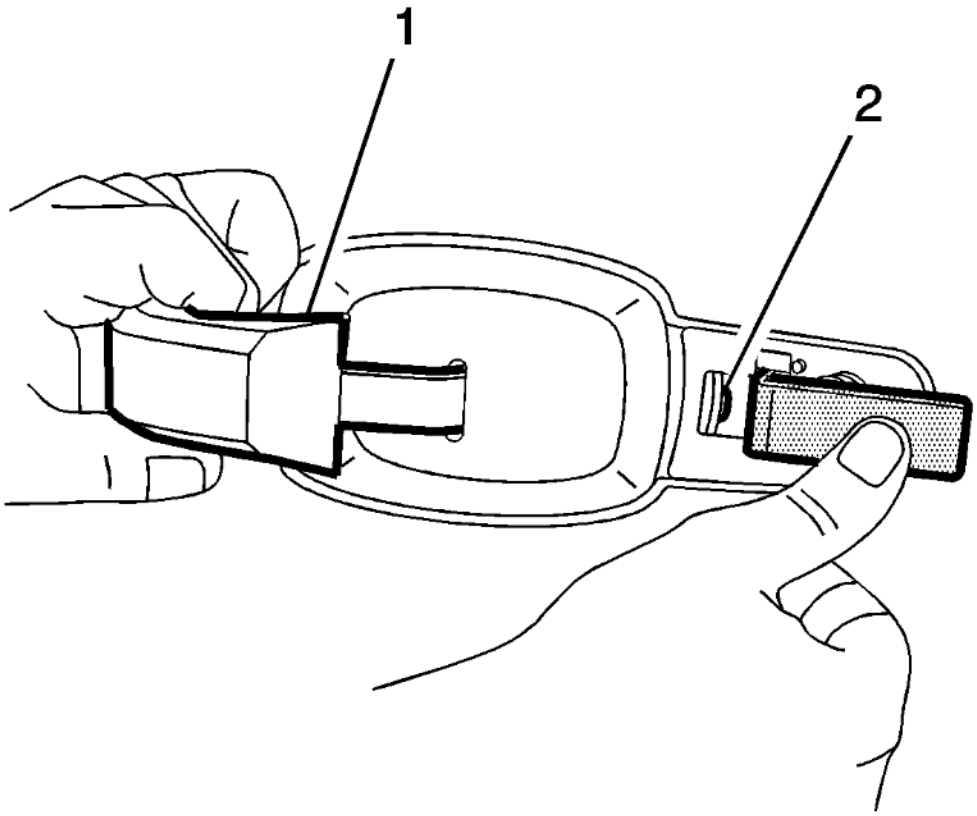


Fig. 16: Front Side Door Outside Handle & Mechanism
Courtesy of GENERAL MOTORS COMPANY

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5. Slide front side door outside handle (1) rearward and then pull outward releasing outside door handle from front side door handle mechanism (2).

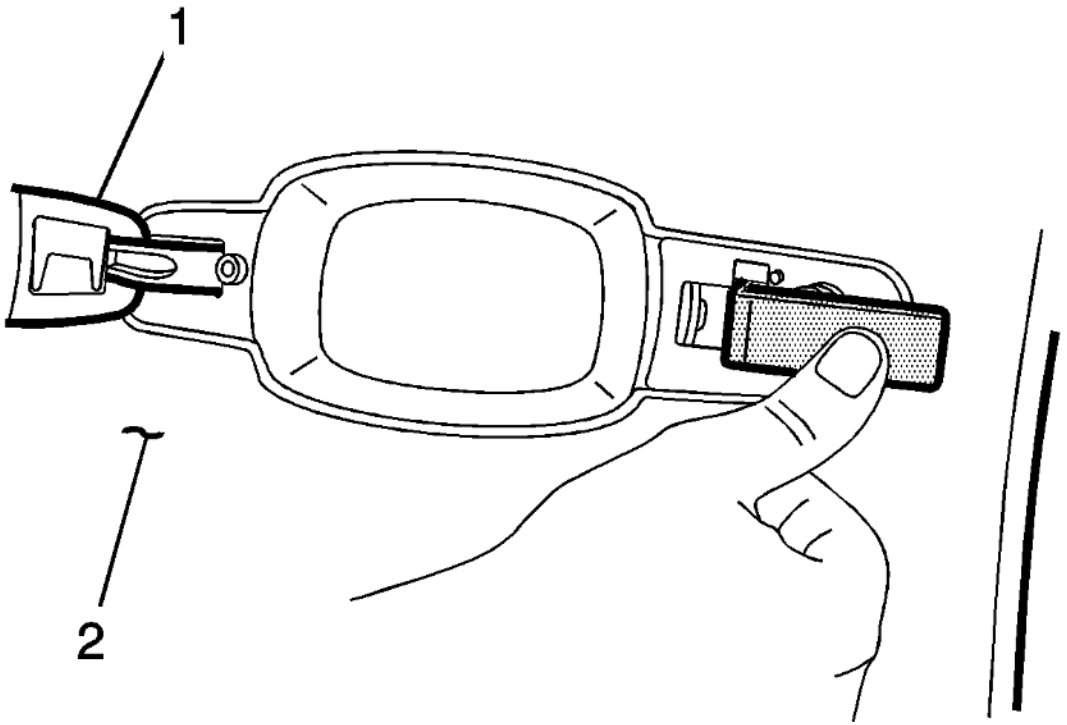


Fig. 17: Front Side Door Outside Handle At 90Degrees
Courtesy of GENERAL MOTORS COMPANY

6. Pull front side door outside handle (1) forward until door handle is approximately at a 90 degree angle to door (2).

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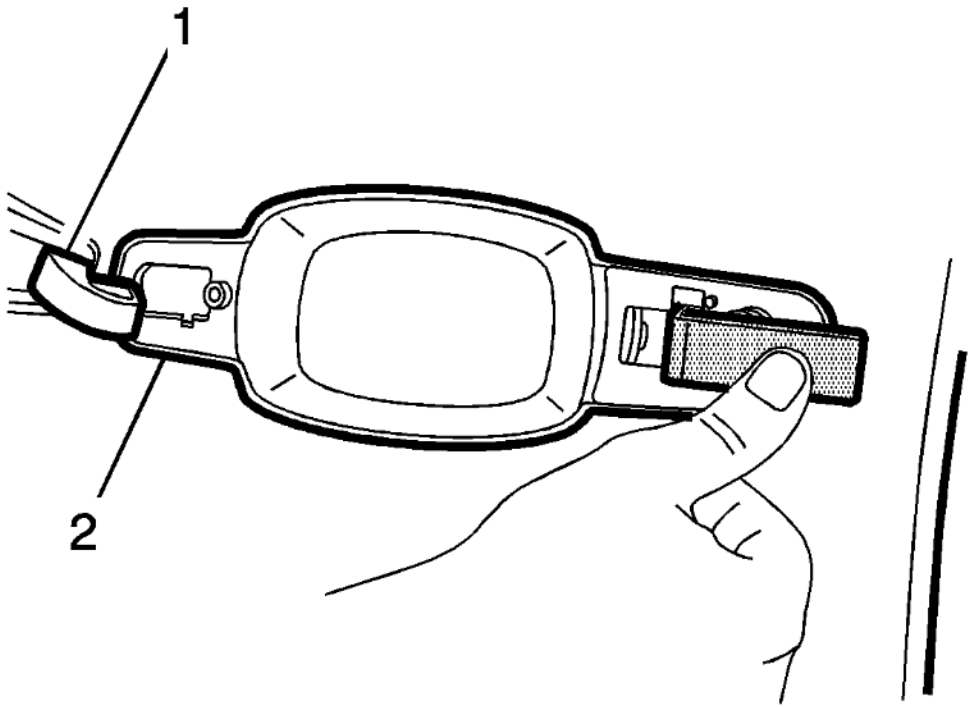


Fig. 18: Front Side Door Outside Handle
Courtesy of GENERAL MOTORS COMPANY

7. Gentle pull front side door outside handle (1) outward and remove from door (2).

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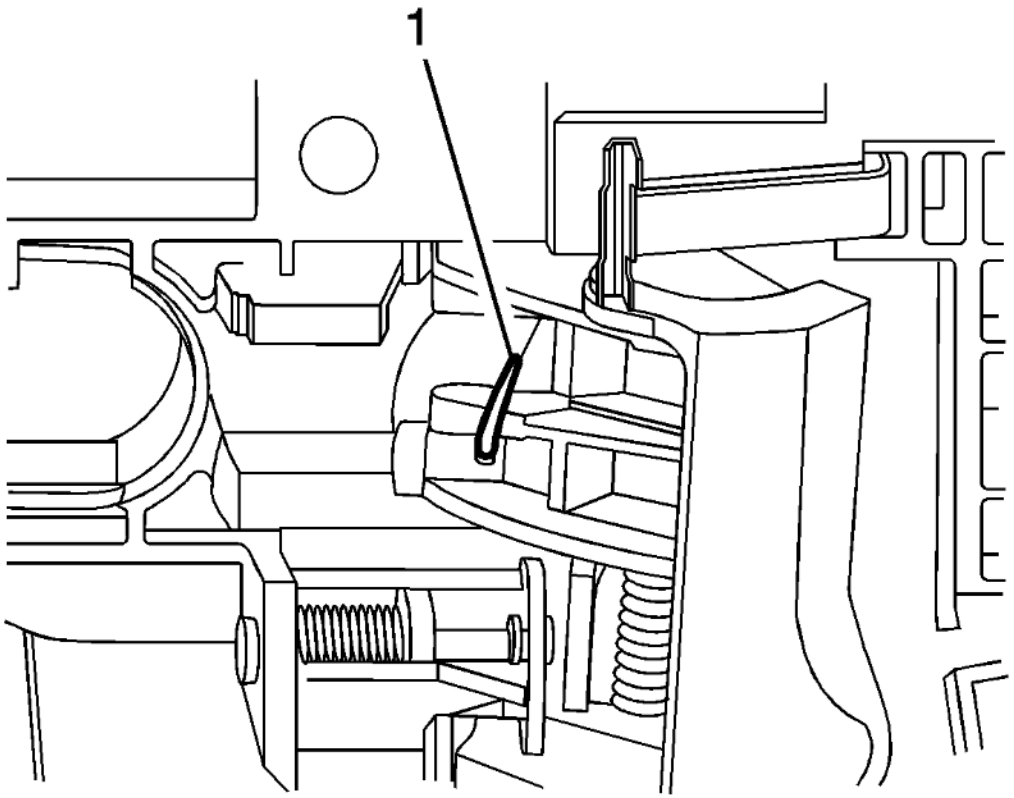


Fig. 19: Door Handle Mechanism
Courtesy of GENERAL MOTORS COMPANY

NOTE:

- **It is NOT necessary to remove the door panel if the BO-51363 Door Handle Spring Retainer slips off of the door handle mechanism.**
- **DO NOT hook the outer parts of the door handle mechanism. The hooked pick tool or equivalent tool could slip off and damage the front door.**

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8. If **BO-51363** Door Handle Spring Retainer slips off of door handle mechanism (1) during repair, use a hooked pick tool or equivalent to access the handle mechanism.

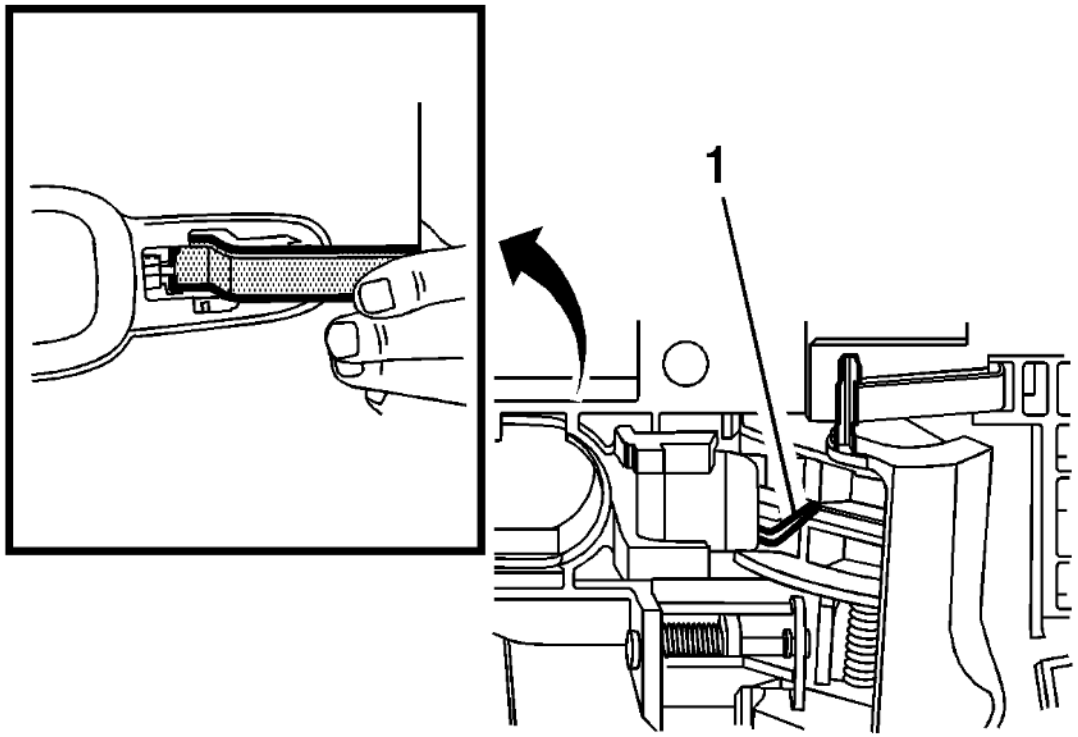


Fig. 20: Door Handle Spring Retainer & Mechanism
Courtesy of GENERAL MOTORS COMPANY

9. Pull door handle mechanism (1) outward to the open position and reinstall **BO-51363** Door Handle Spring Retainer into door handle mechanism (1). The hooked pick tool or equivalent tool can then be removed.

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Installation Procedure

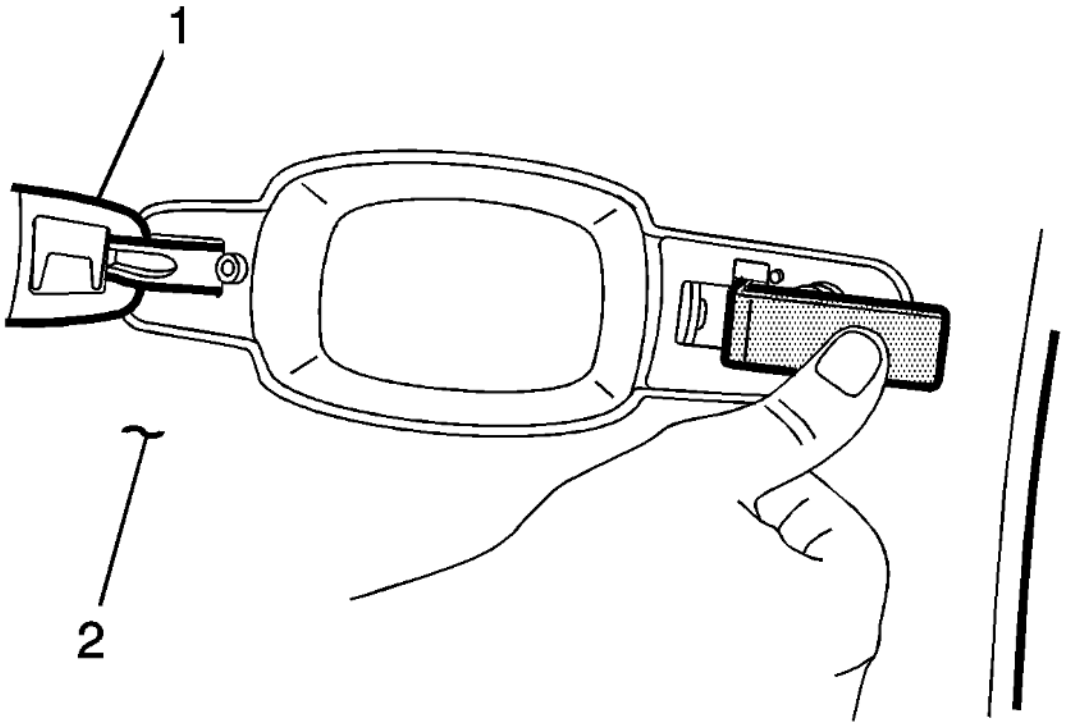


Fig. 21: Front Side Door Outside Handle At 90Degrees
Courtesy of GENERAL MOTORS COMPANY

1. While holding **BO-51363** Door Handle Spring Retainer in place, install front side door outside handle (1) into door (2) at approximately a 90 degree angle to door.

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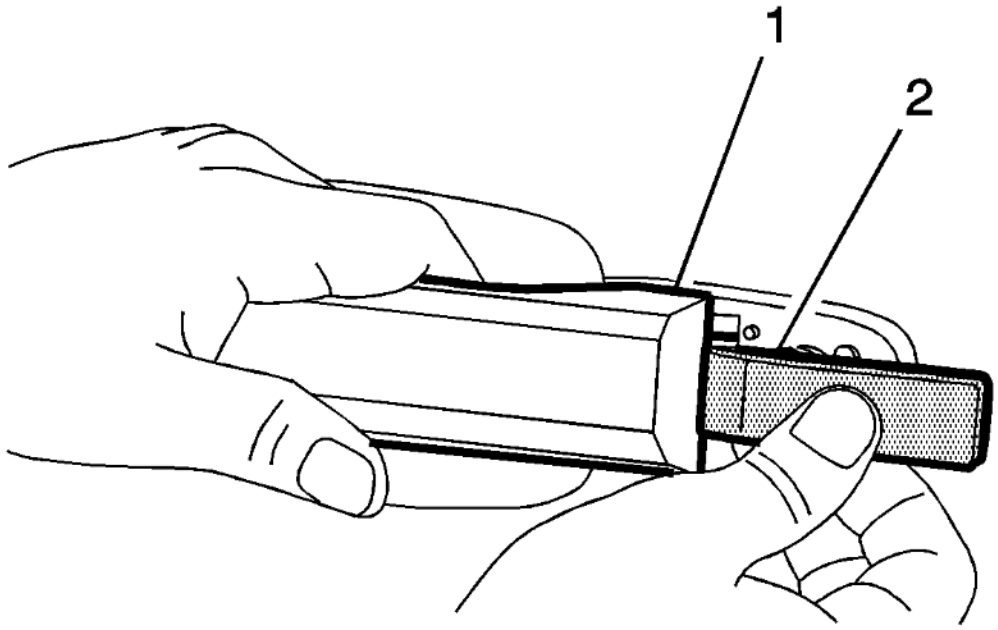


Fig. 22: Front Side Door Outside Handle & Mechanism
Courtesy of GENERAL MOTORS COMPANY

2. Rotate front side door outside handle (1) rearward into front side door handle mechanism (2).

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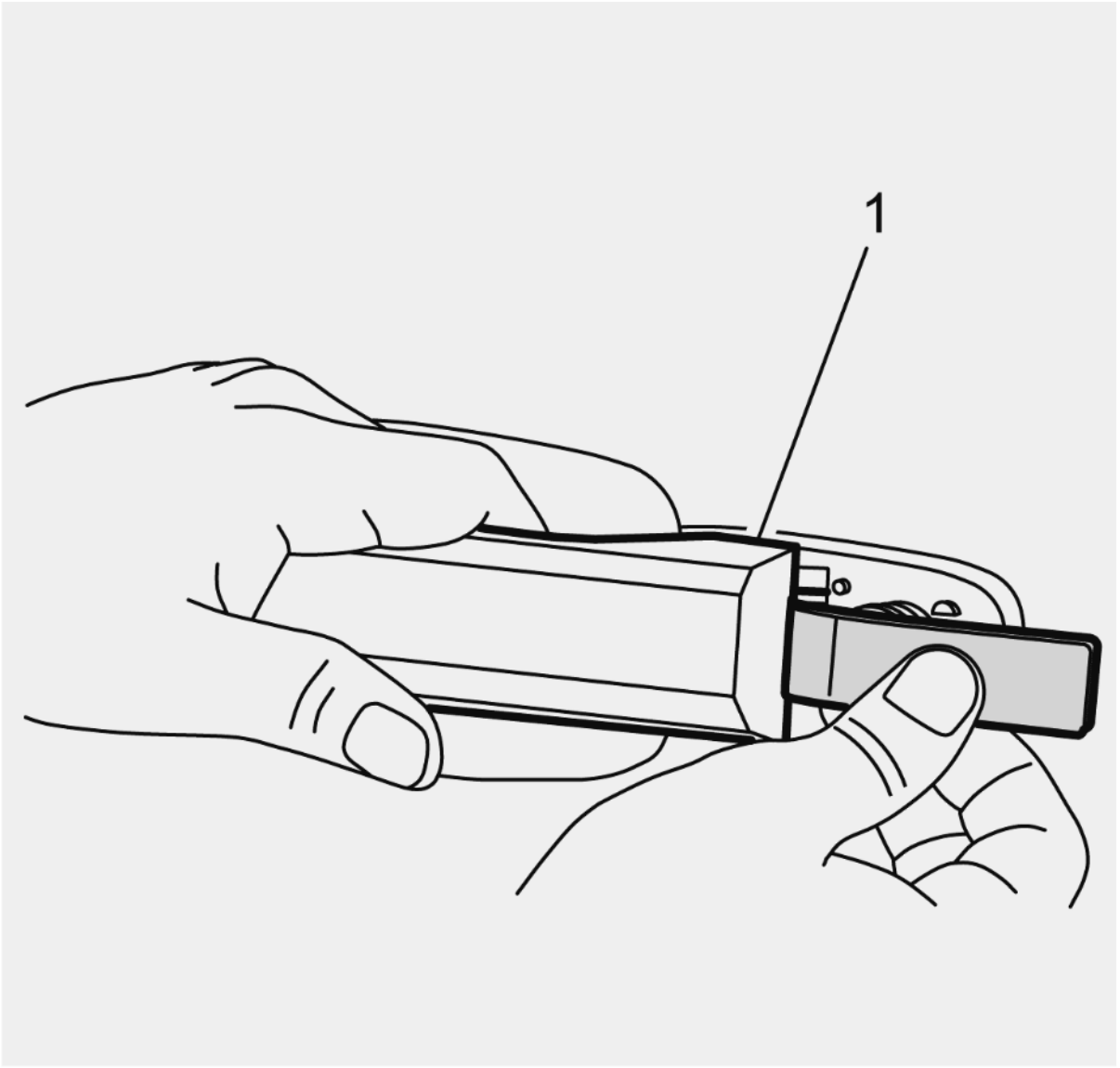


Fig. 23: Front Side Door Outside Handle
Courtesy of GENERAL MOTORS COMPANY

3. Slide front side door outside handle (1) forward to lock into position.

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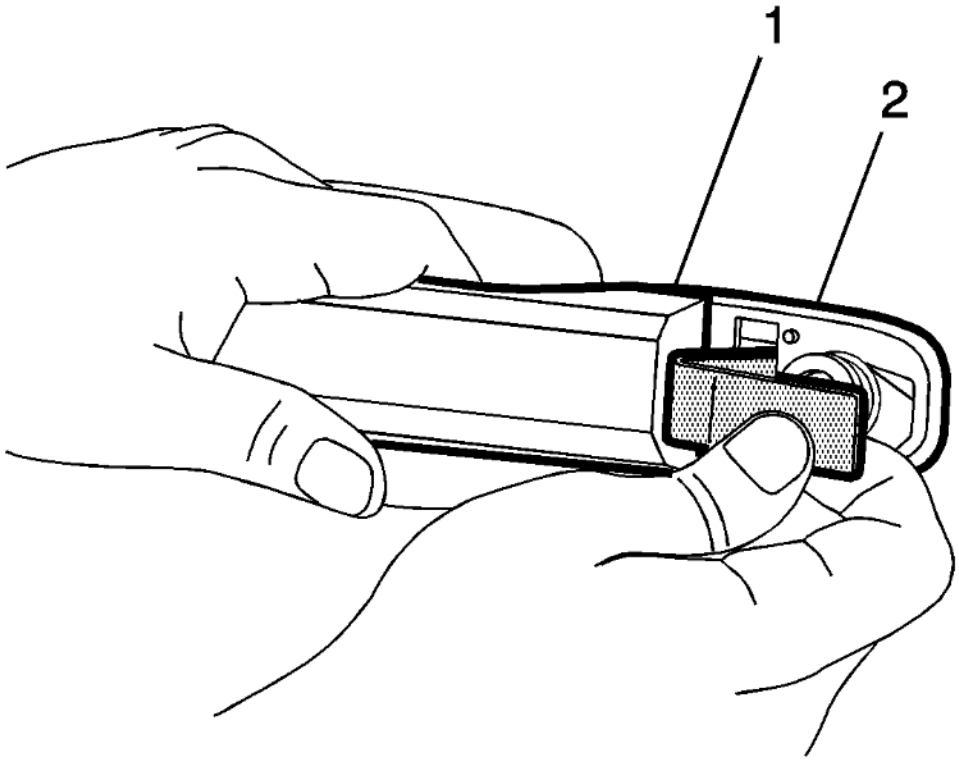


Fig. 24: Front Side Door Outside Handle & Spring Retainer
Courtesy of GENERAL MOTORS COMPANY

4. Release pressure on **BO-51363** Door Handle Spring Retainer. Pull front side door outside handle (1) outward and remove **BO-51363** Door Handle Spring Retainer from door (2).

NOTE: **When installing the door lock cylinder screw Do Not go past the hard stop.**

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5. Tighten screw for lock cylinder bezel. Refer to **Front Side Door Lock Cylinder Bezel Replacement (without UTT)**.
6. Ensure that the door lock system operates properly.

FRONT SIDE DOOR OUTSIDE HANDLE REPLACEMENT (WITH ATH)

Removal Procedure

1. Remove the front side door pull handle bracket. Refer to **Front Side Door Pull Handle Bracket Replacement** .
2. Remove the front side door water deflector.

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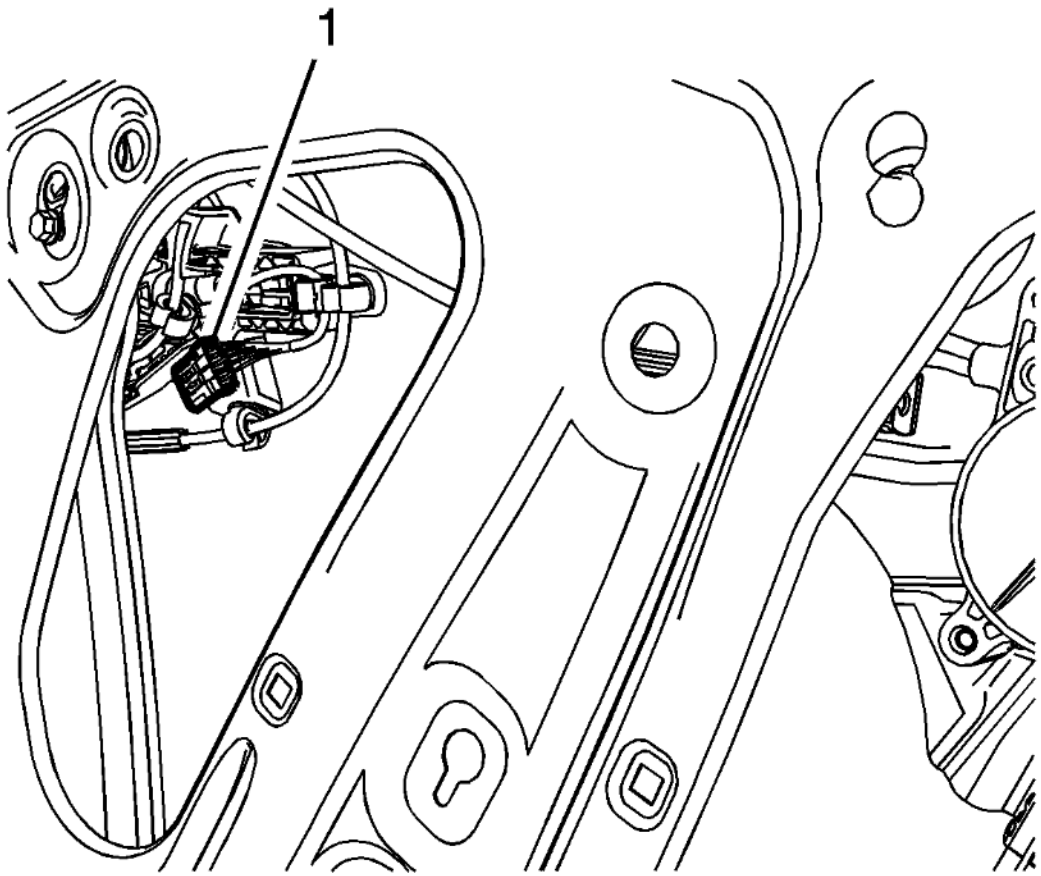


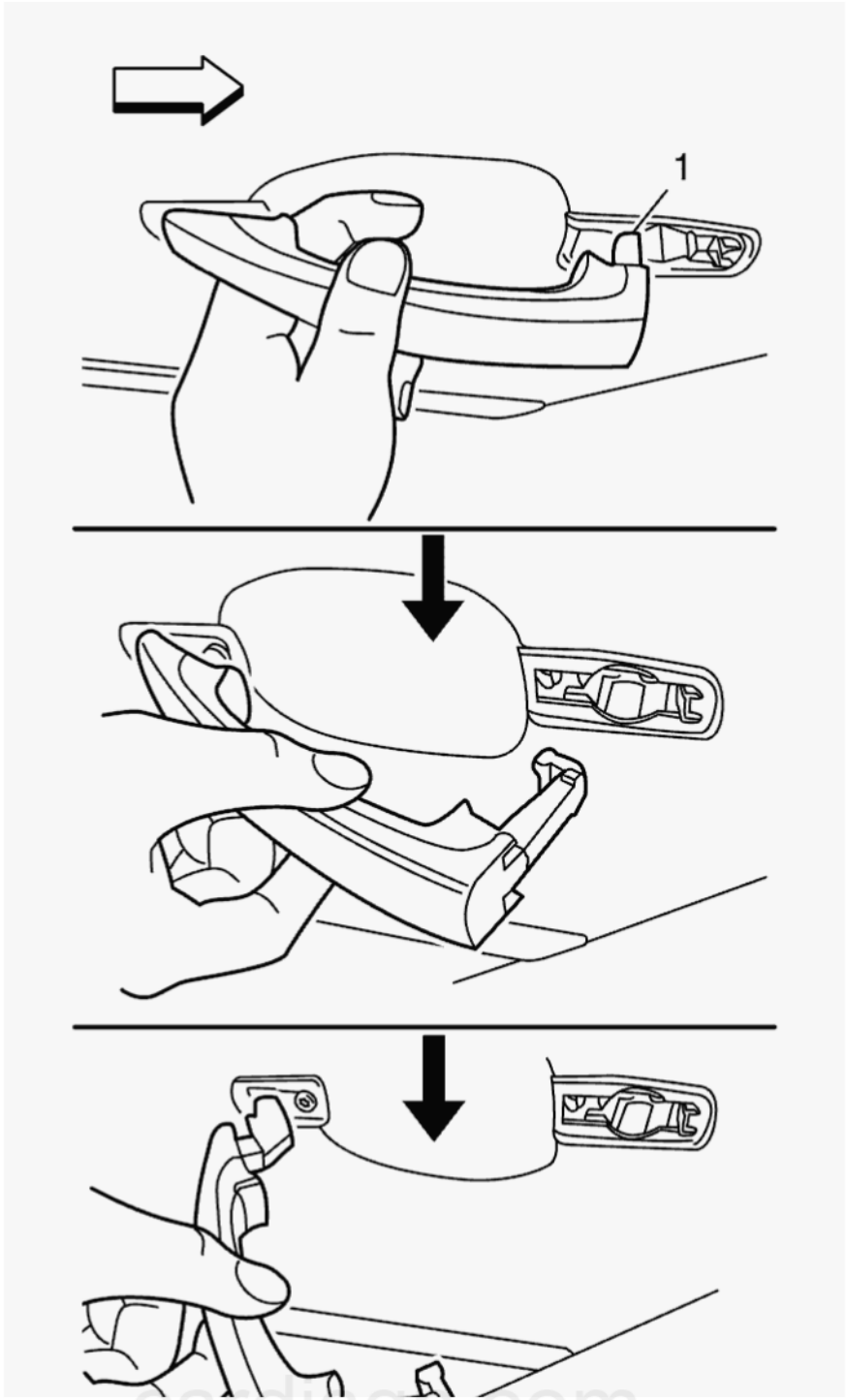
Fig. 25: Luminous Reflecting Light Electrical Connector
Courtesy of GENERAL MOTORS COMPANY

3. Disconnect the electrical connector (1) from the front side door outside handle bracket for the luminous reflecting light.

NOTE: **When removing the door lock cylinder screw Do Not go past the hard stop.**

4. Loosen the screw for the lock cylinder bezel. Refer to **Front Side Door Lock Cylinder Bezel Replacement (with UTT)**.

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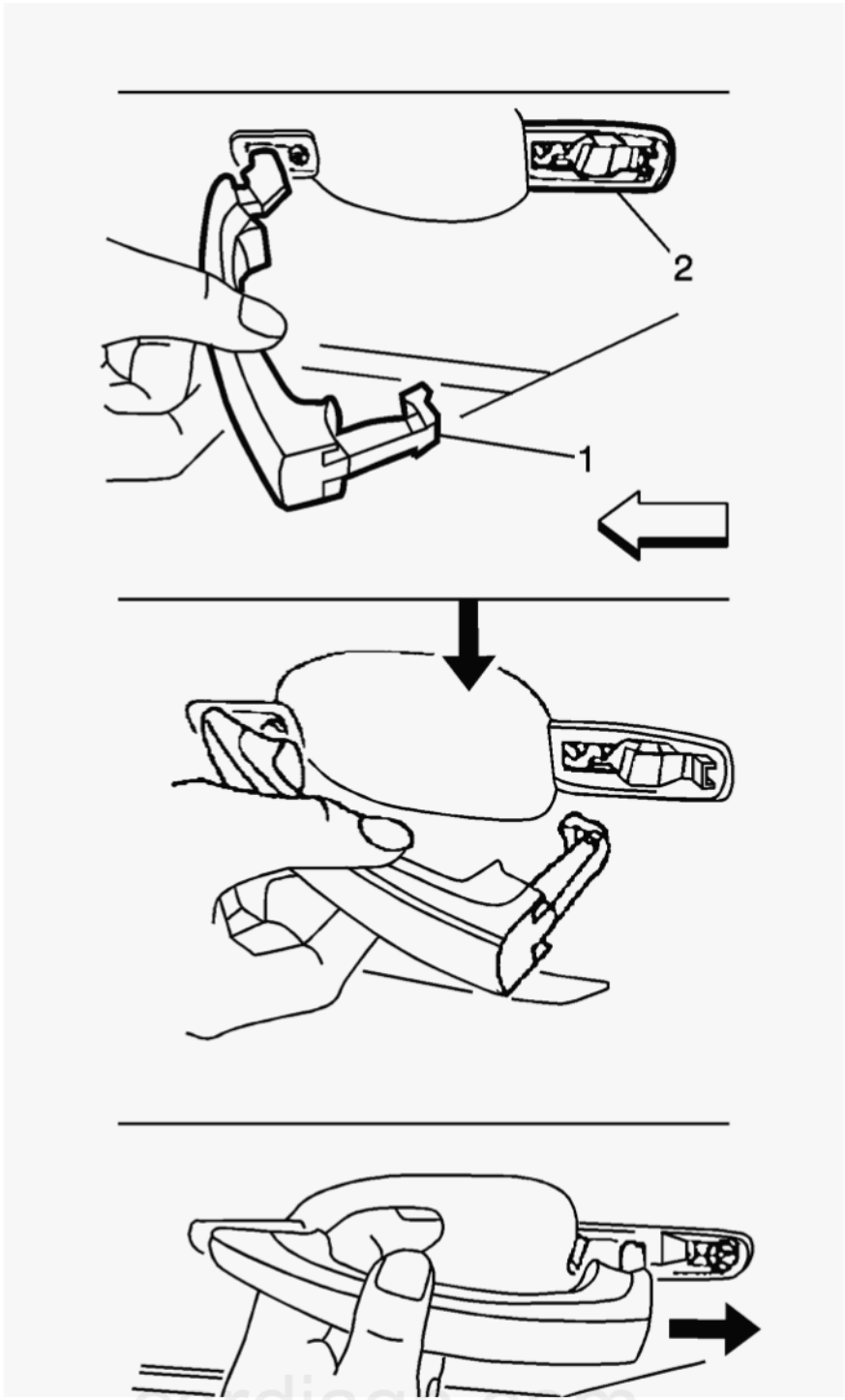
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Fig. 26: Pulling Side Door Outside Handle To Rear
Courtesy of GENERAL MOTORS COMPANY

5. Remove the front side door outside handle (1) from the door as follows:
    1. Open the door handle fully.
    2. Slide the door handle rearward releasing the handle from the door handle bracket.
    3. Remove the front side door outside handle and connector from the door.

Installation Procedure

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Fig. 27: Door Handle
Courtesy of GENERAL MOTORS COMPANY

NOTE: The front side door outside handle can Not be install until the counter balance (1) and handle is reset.

1. Install the front side door outside handle (1) to the door (2).
2. Insert the front side door handle into the door handle pocket.
3. Slide the front side door handle forward securing it into the door handle bracket.

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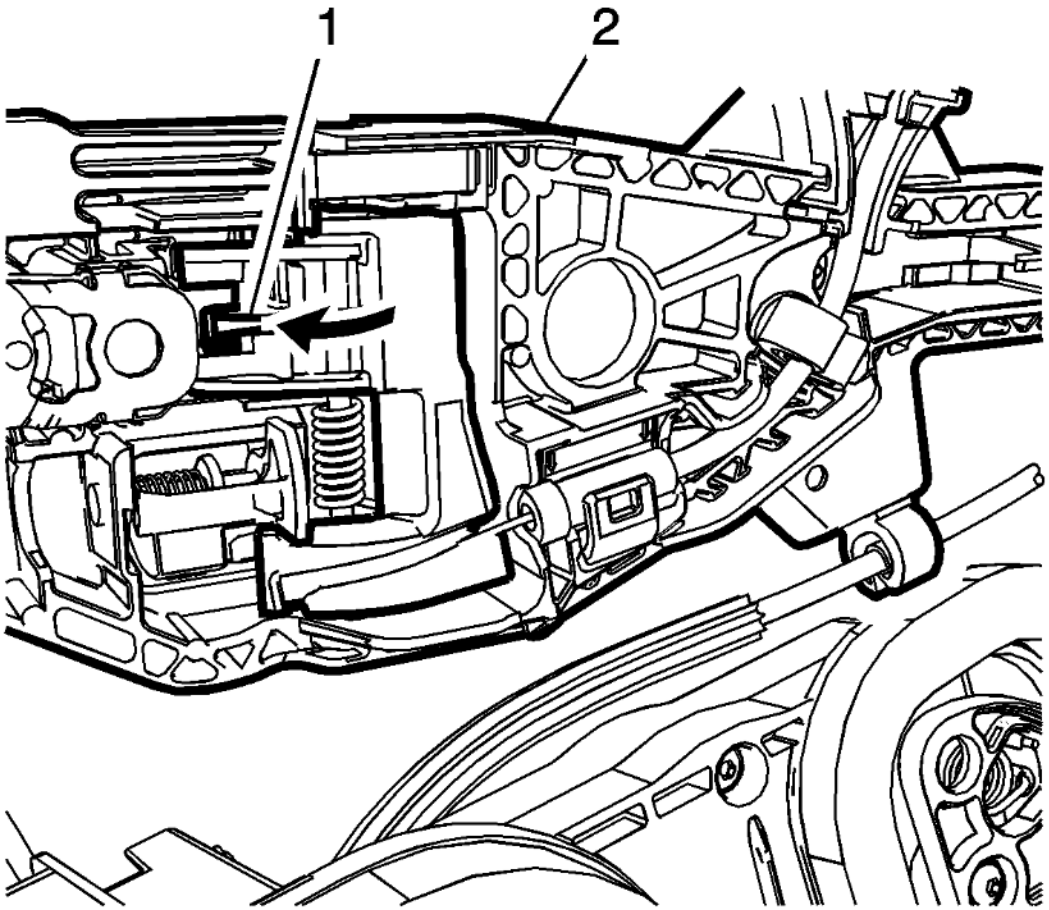


Fig. 28: Door Handle Bracket Housing Counterbalance Lever
Courtesy of GENERAL MOTORS COMPANY

4. From inside the door, push outward on the door handle bracket housing counterbalance lever (1) at the same time. Slide the outside door handle toward the lock cylinder then forward engaging the handle to the housing counterbalance.
5. Install the screw to the lock cylinder bezel. Refer to **Front Side Door Lock Cylinder Bezel Replacement (with UTT)**.

   Hold the lock cylinder bezel flush to the door sheet and turn the lock cylinder screw to a mechanical hard stop.

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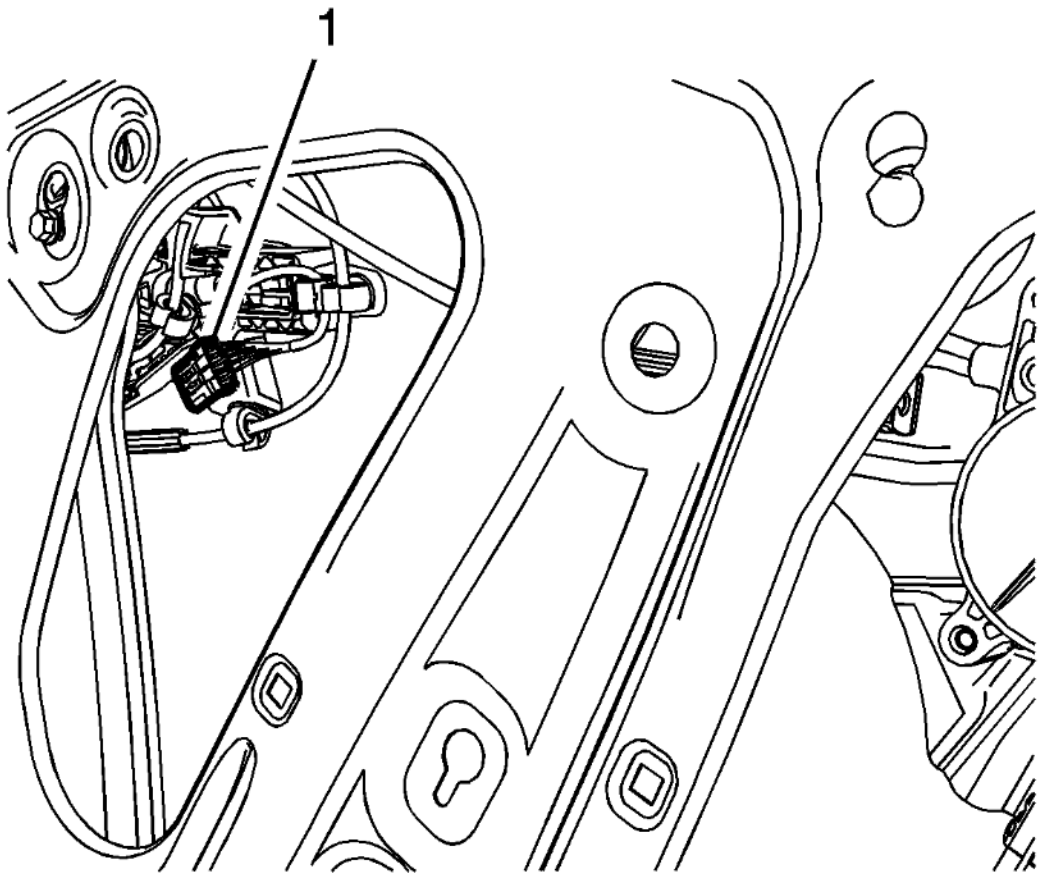


Fig. 29: Luminous Reflecting Light Electrical Connector
Courtesy of GENERAL MOTORS COMPANY

6. Connect the electrical connector (1) to the front side door outside handle bracket for the luminous reflecting light.
7. Ensure that the door lock system operates properly before installing the trim.
8. Install the front side door water deflector.
9. Install the front side door pull handle bracket. Refer to **Front Side Door Pull Handle Bracket Replacement** .

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FRONT SIDE DOOR OUTSIDE HANDLE BRACKET REPLACEMENT

Removal Procedure

1. Remove the front side door outside handle. Refer to **Front Side Door Outside Handle Replacement (without ATH)Front Side Door Outside Handle Replacement (with ATH)**.

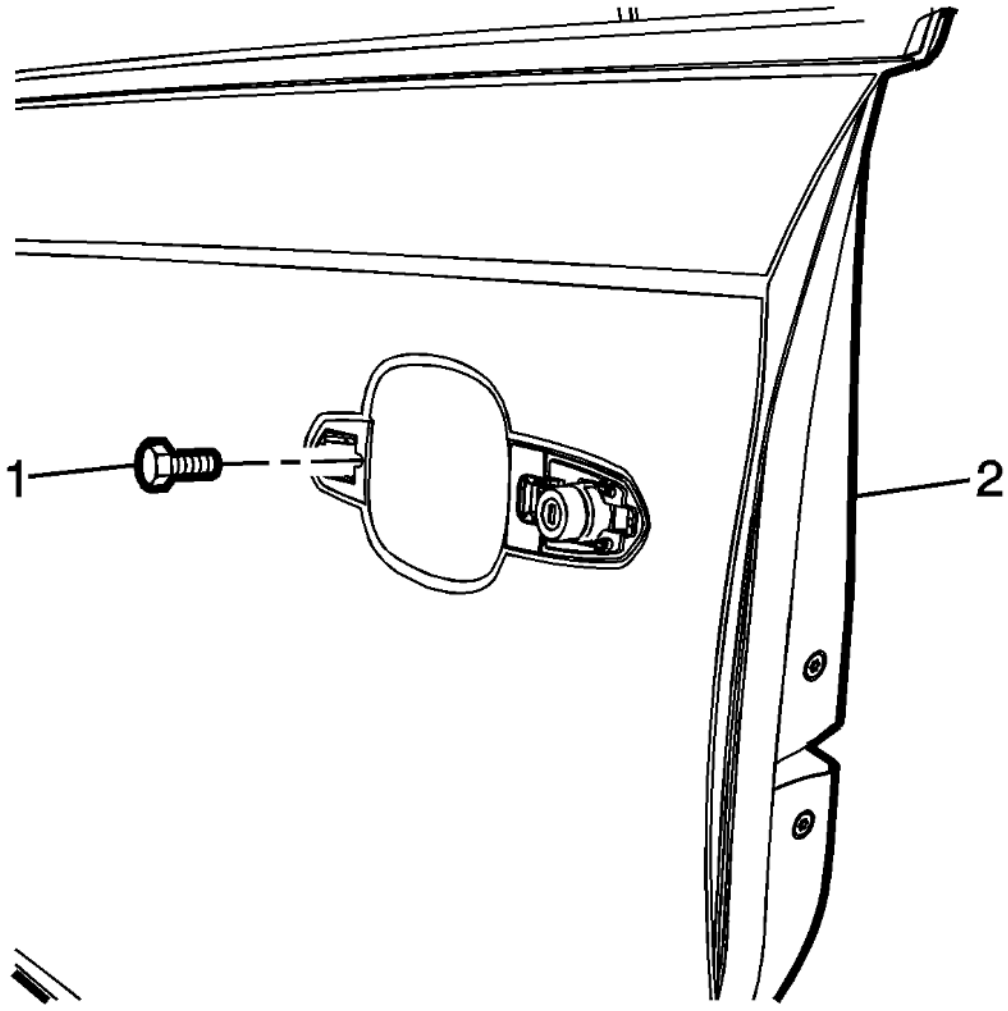


Fig. 30: Front Side Door Outside Bracket & Screws
Courtesy of GENERAL MOTORS COMPANY

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2. Loosen the front side door outside handle bracket screw (1) from the door (2).

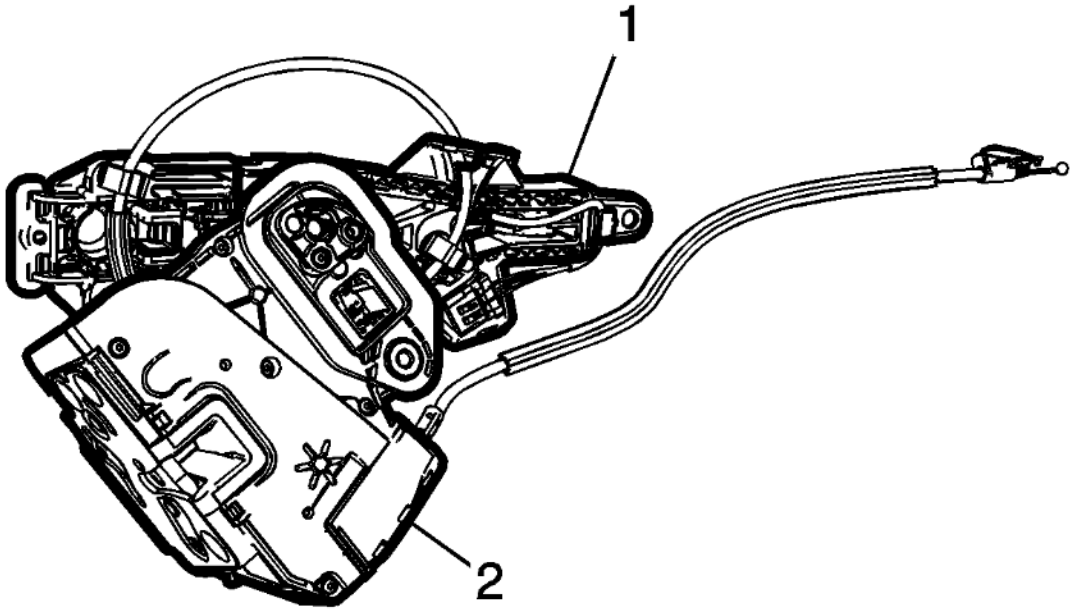


Fig. 31: Door Outside Handle Bracket & Latch
Courtesy of GENERAL MOTORS COMPANY

3. Remove the door outside handle bracket (1) and the front side door latch (2) assembly from the vehicle as one. Refer to **Front Side Door Latch Replacement**.
4. Remove the front side door lock rod from the cylinder.

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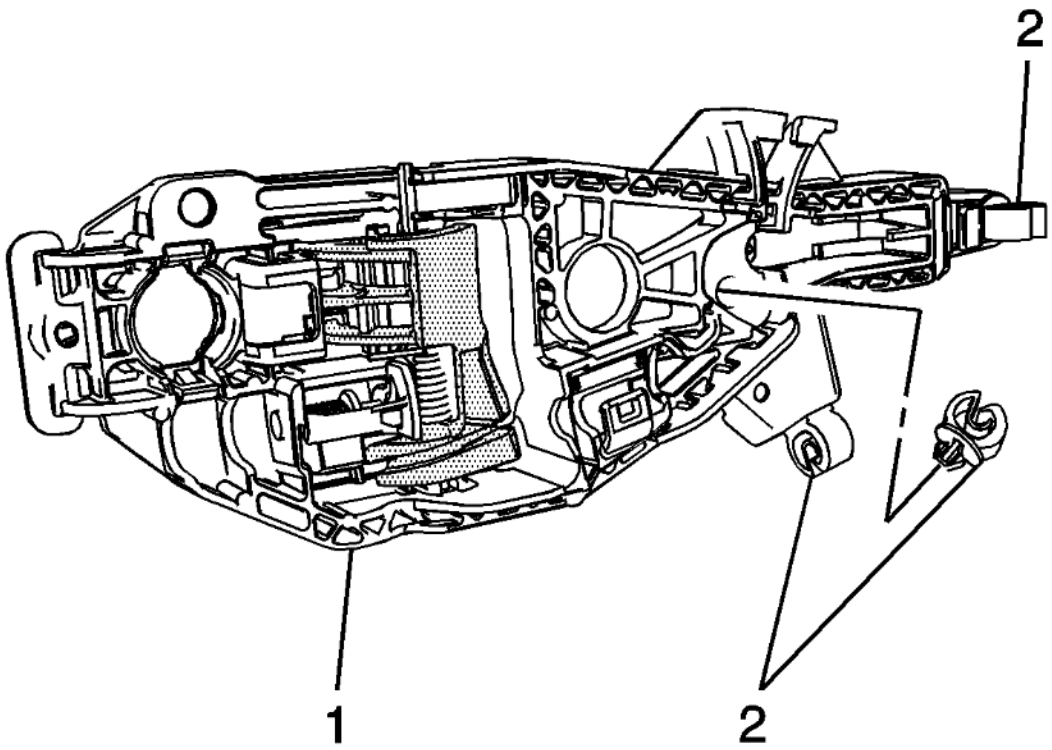


Fig. 32: Door Outside Handle Bracket & Cable Retainers
Courtesy of GENERAL MOTORS COMPANY

5. Remove the front side door outside handle bracket cable retainers (2) from the bracket (1).
6. Remove the front side door outside handle cable from the latch. Refer to **Front Side Door Outside Handle Cable Replacement**.
7. Remove the front side door lock cylinder from the handle bracket. Refer to **Front Side Door Lock Cylinder Replacement**.

Installation Procedure

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1. Install the front side door lock cylinder from the handle bracket. Refer to **Front Side Door Lock Cylinder Replacement**.

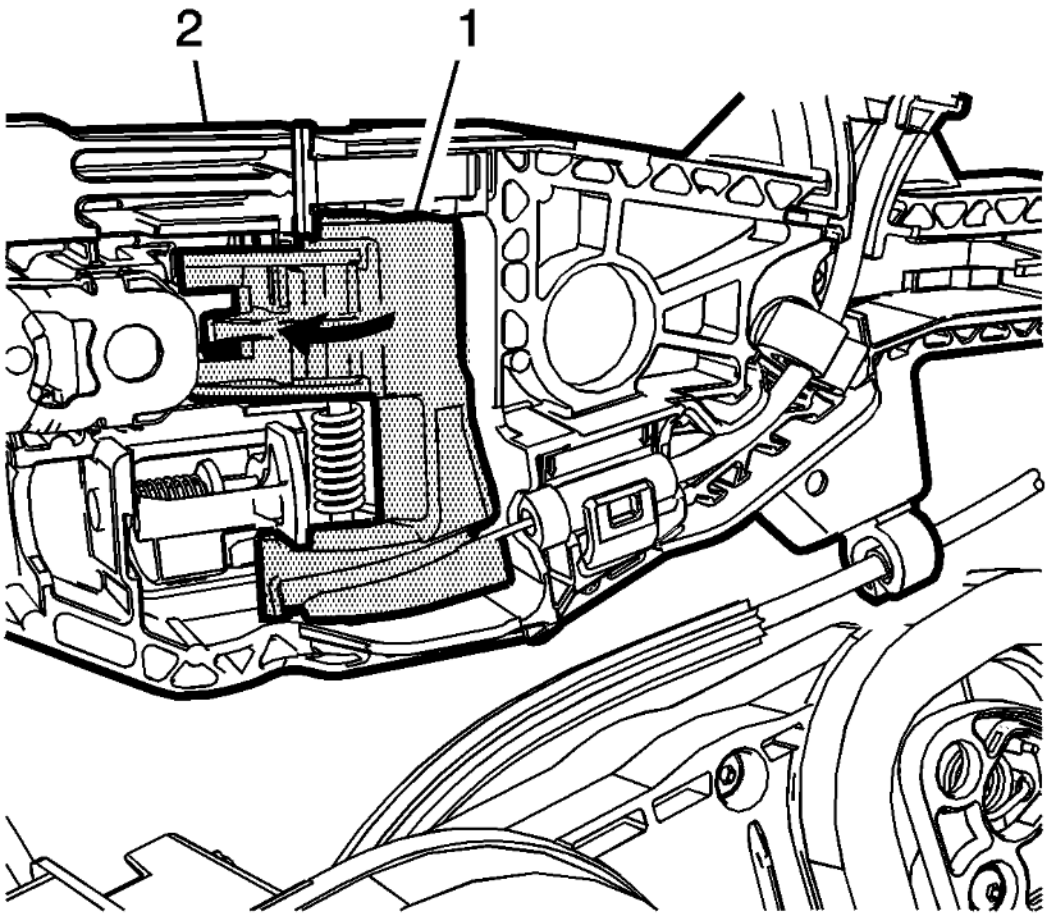


Fig. 33: Front Side Door Outside Bracket Counter Balance & Wire Harness Retainers
Courtesy of GENERAL MOTORS COMPANY

NOTE: **Ensure that the counter balance is reset and locked in the detent of the handle bracket. The counter balance can't Not be reset after the latch and handle bracket has been reinstalled in the door.**

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2. Reset the front side door outside handle bracket (2) counter balance (1) as follows:
    1. The outside door handle can Not be install until the counter balance (1) is reset.
    2. Grasp the front side door outside handle bracket (2) with one hand.
    3. From the back side of the counter balance (1), push forward on the counter balance until it locks into the detent of the handle bracket.
3. Install the front side door lock cylinder to the handle bracket. Refer to **Front Side Door Lock Cylinder Replacement**.
4. Install the front side door lock rod to the lock cylinder.

NOTE: **It may be necessary to transfer the wire harness retainers (2) from the old handle bracket.**

5. Install the front side door outside handle cable to the bracket retainers. Refer to **Front Side Door Outside Handle Cable Replacement**.

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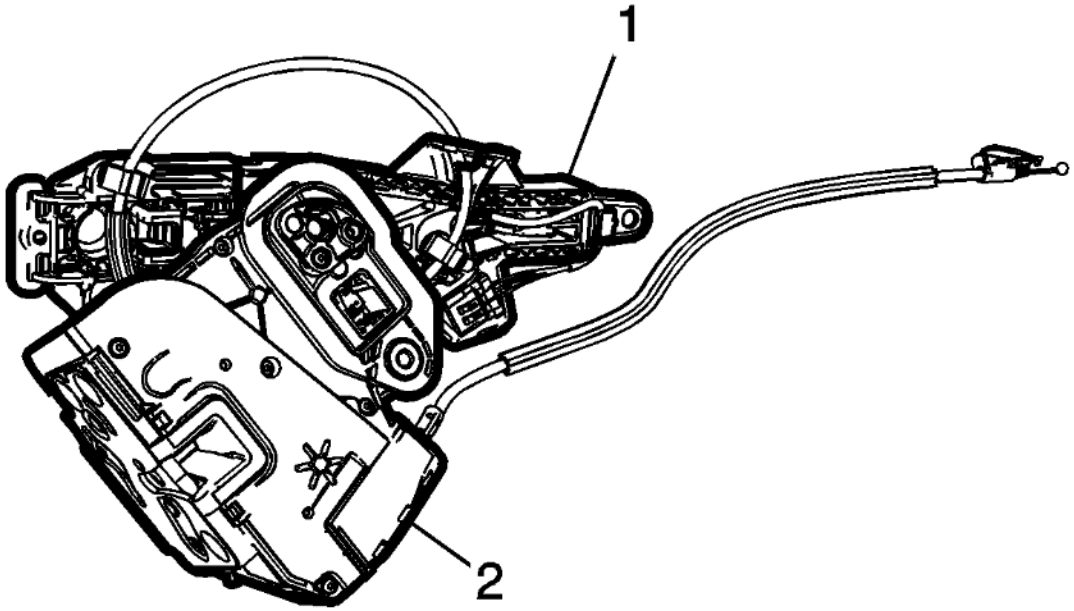


Fig. 34: Door Outside Handle Bracket & Latch
Courtesy of GENERAL MOTORS COMPANY

NOTE: **Bracket should be slid full rearward prior to tightening bracket screw.**

6. Install the outside handle bracket (1) and the front side door latch (2) assembly to the vehicle. Refer to **Front Side Door Latch Replacement**.

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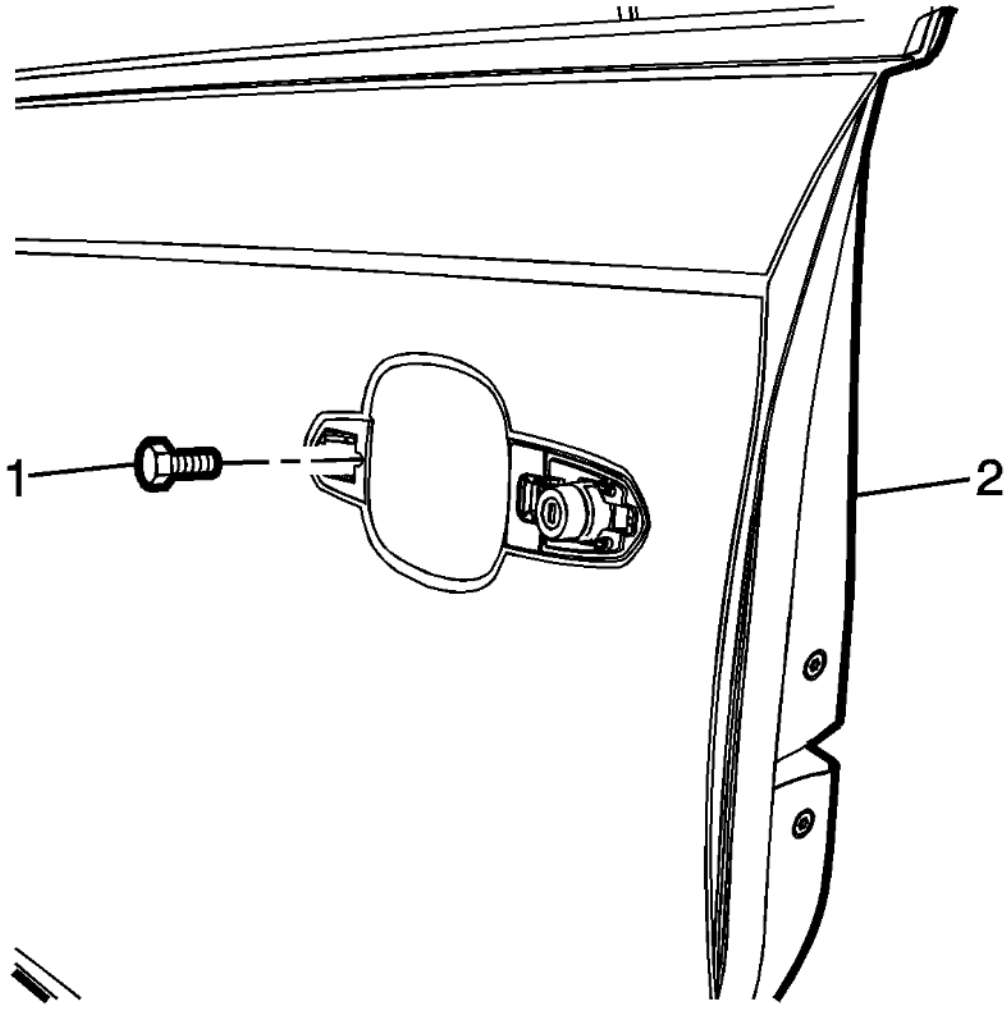


Fig. 35: Front Side Door Outside Bracket & Screws
Courtesy of GENERAL MOTORS COMPANY

CAUTION: Refer to Fastener Caution .

7. Install the front side door outside handle bracket screw (1) to the door (2) and tighten to 3.5 N.m (31 lb in).
8. Install the front side door outside handle. Refer to **Front Side Door Outside Handle Replacement (without ATH)Front Side Door Outside Handle Replacement (with ATH)**.

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9. Ensure that the door lock system operates properly before installing the trim.

FRONT SIDE DOOR OUTSIDE HANDLE CABLE REPLACEMENT

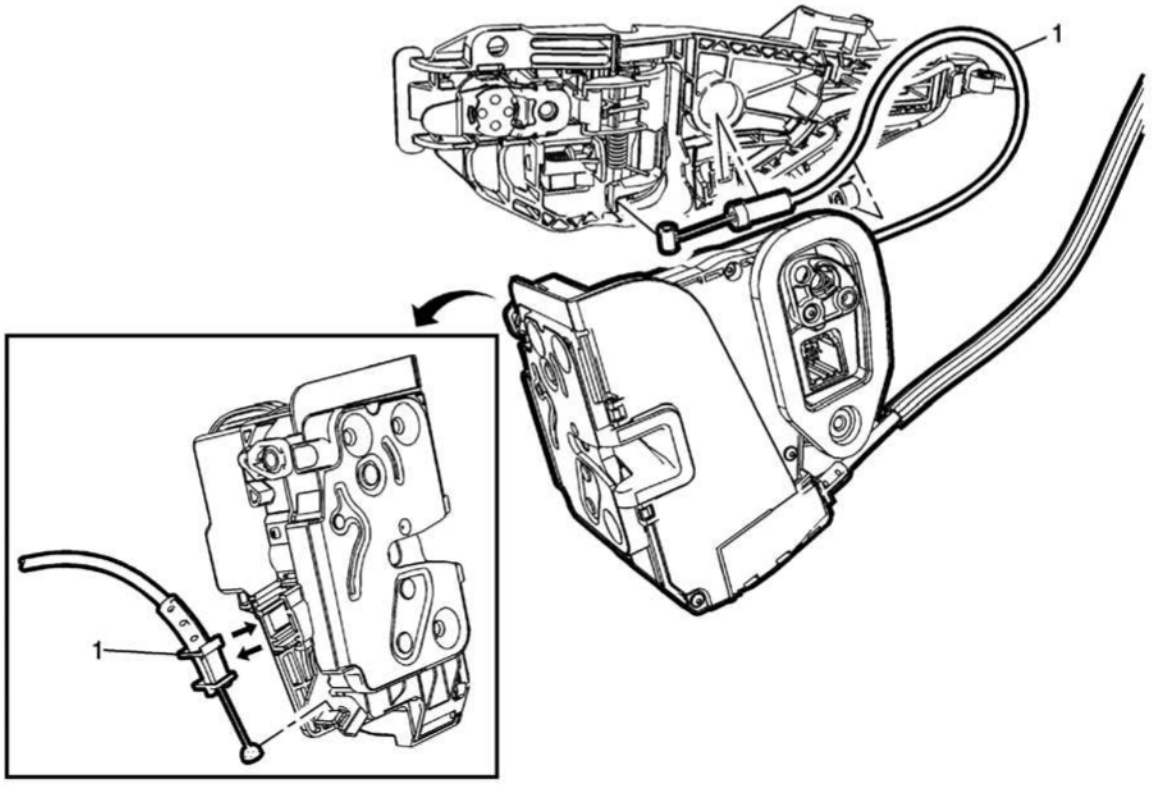


Fig. 36: Front Side Door Outside Handle Cable
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the front side door latch and handle bracket assembly from the door. Refer to **Front Side Door Latch Replacement**.	
1	Front Side Door Outside Handle Cable **Procedure** 1. Remove the front side door outside handle cable from the retainers.

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Callout	Component Name
	2. Release the cable from the back of the latch assembly. 3. Remove the front side door outside handle cable from the front side door outside handle bracket. **NOTE:** **Ensure that the door lock system operates properly before installing the trim.**

REAR SIDE DOOR OUTSIDE HANDLE BRACKET REPLACEMENT

Removal Procedure

1. Remove the rear side door outside handle. Refer to **Rear Side Door Outside Handle Replacement (without ATH)Rear Side Door Outside Handle Replacement (with ATH)**.

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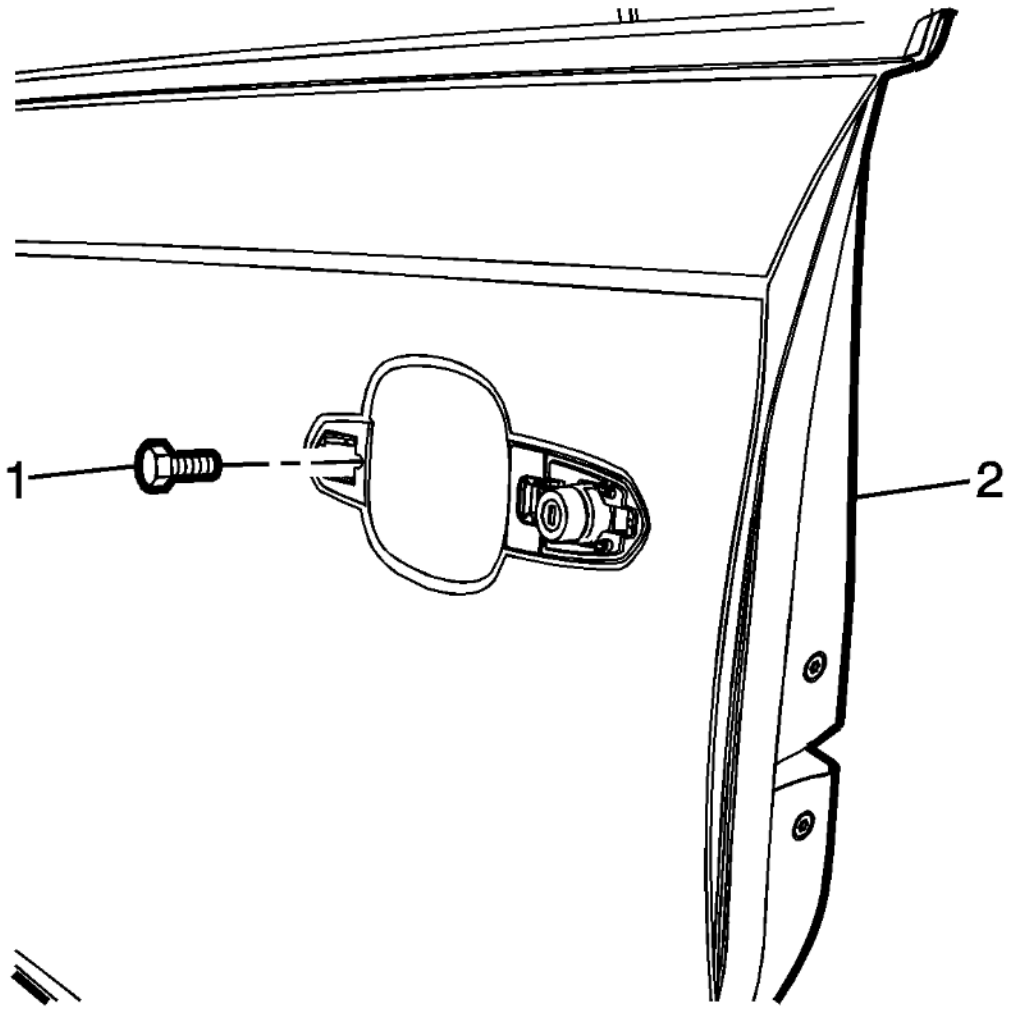


Fig. 37: Front Side Door Outside Bracket & Screws
Courtesy of GENERAL MOTORS COMPANY

2. Loosen the screw (1) that retains the rear side door outside bracket to the door (2).

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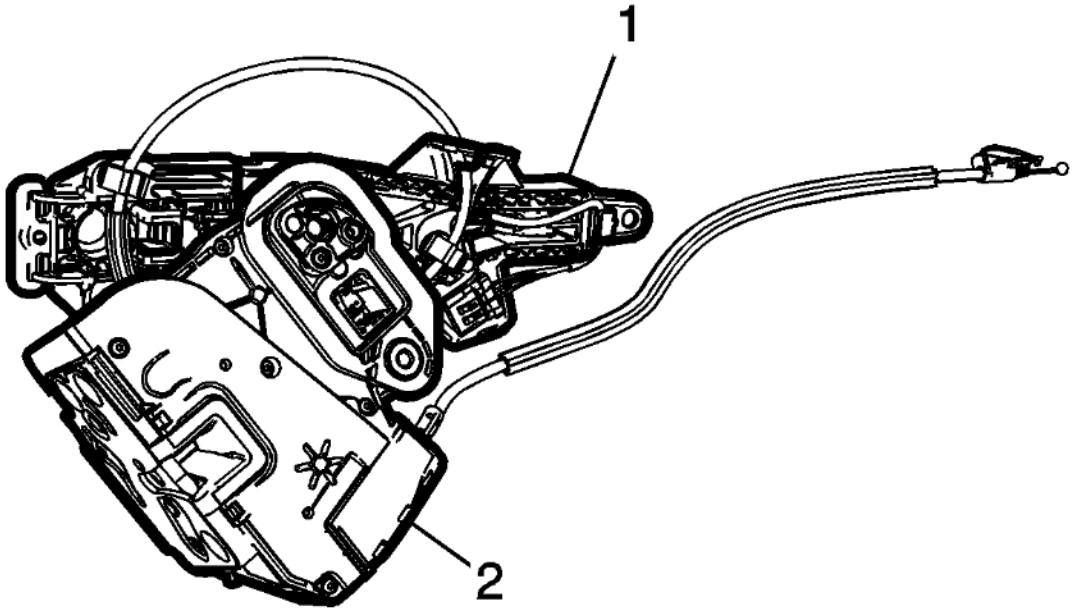


Fig. 38: Door Outside Handle Bracket & Latch
Courtesy of GENERAL MOTORS COMPANY

3. Remove the outside handle bracket (1) and the rear side door latch (2) assembly from the vehicle as one. Refer to **Rear Side Door Latch Replacement**.

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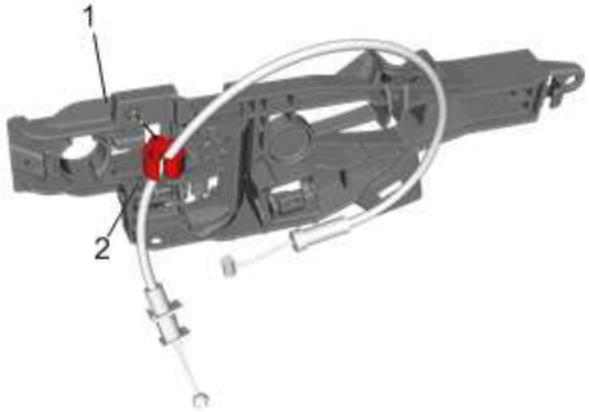


Fig. 39: Bracket And Retainer
Courtesy of GENERAL MOTORS COMPANY

4. Remove the rear side door outside handle cable from the bracket (1) and retainer (2).
5. Remove the rear side door outside handle cable. Refer to **Rear Side Door Outside Handle Cable Replacement**.

Installation Procedure

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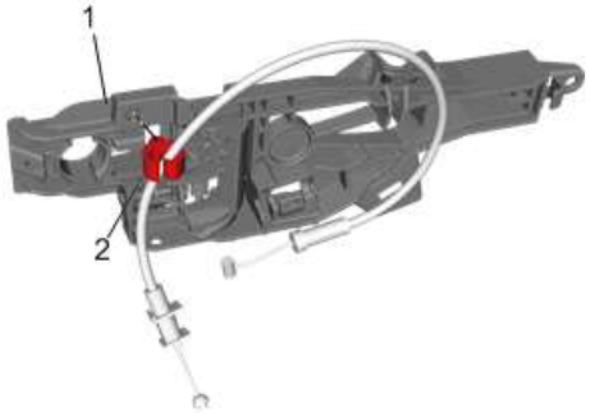


Fig. 40: Bracket And Retainer
Courtesy of GENERAL MOTORS COMPANY

1. Transfer the rear side door outside handle bracket cable retainer (2) to the new bracket.
2. Install the rear side door outside handle cable. Refer to **Rear Side Door Outside Handle Cable Replacement**.

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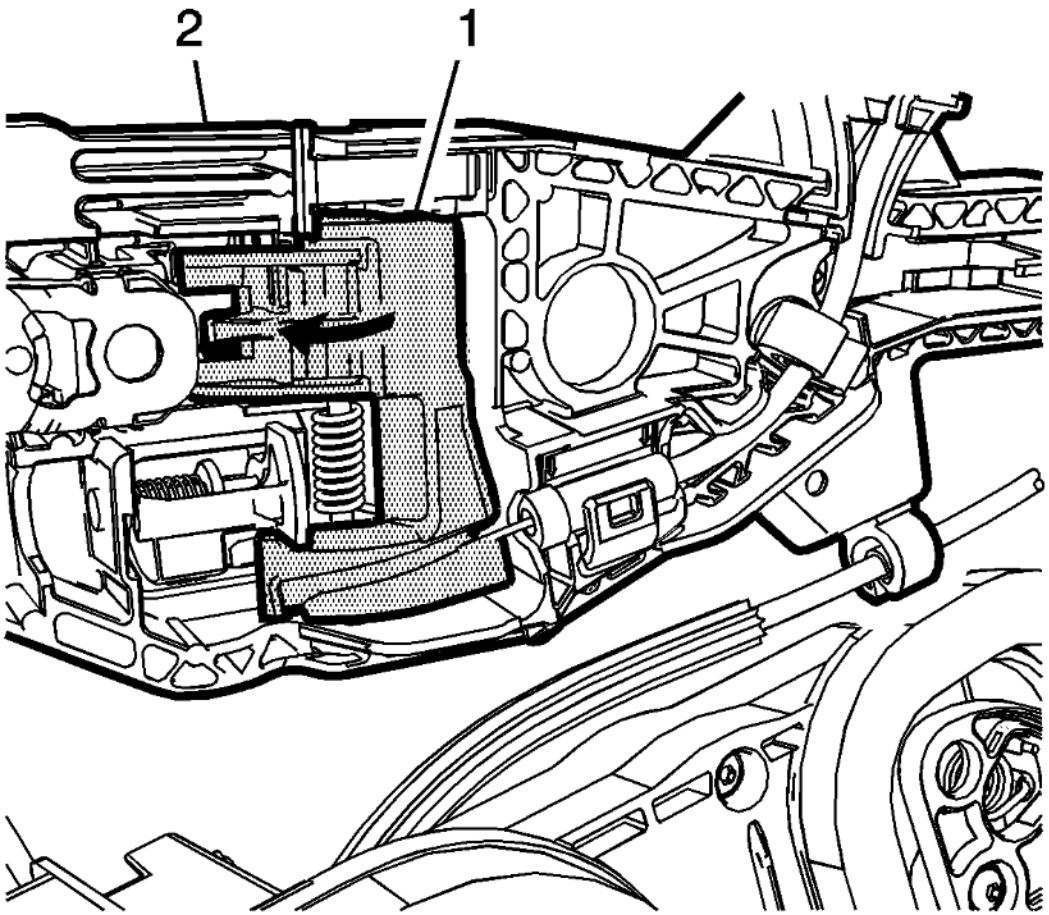


Fig. 41: Front Side Door Outside Bracket Counter Balance & Wire Harness Retainers
Courtesy of GENERAL MOTORS COMPANY

NOTE: **Ensure that the counter balance is reset and locked in the detent of the handle bracket. The counter balance can't Not be reset after the latch and handle bracket has been reinstalled in the door.**

3. Set the rear side door outside handle bracket counter balance (1) as follows:
    1. The outside door handle can Not be install until the counter balance (1) is reset.

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2. Grasp the rear side door outside handle bracket (2) with one hand.
3. From the back side of the counter balance (1), push forward until the counter balance locks into the detent of the handle bracket.

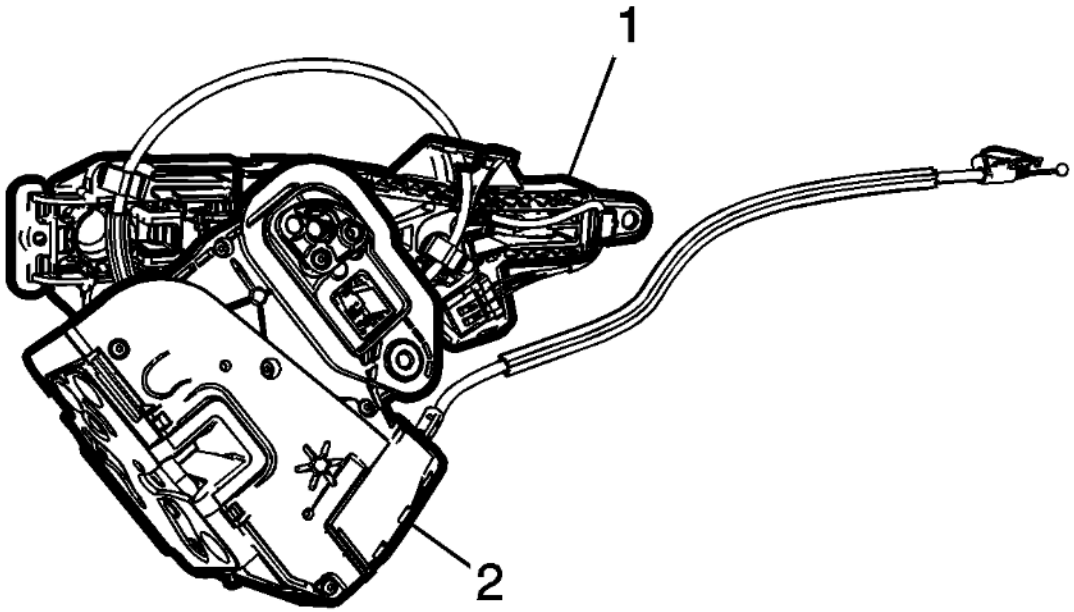


Fig. 42: Door Outside Handle Bracket & Latch
Courtesy of GENERAL MOTORS COMPANY

NOTE: **Bracket should be slid full rearward prior to tightening bracket screw.**

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4. Install the outside handle bracket (1) and the rear side door latch (2) assembly in the vehicle as one. Refer to **Rear Side Door Latch Replacement**.

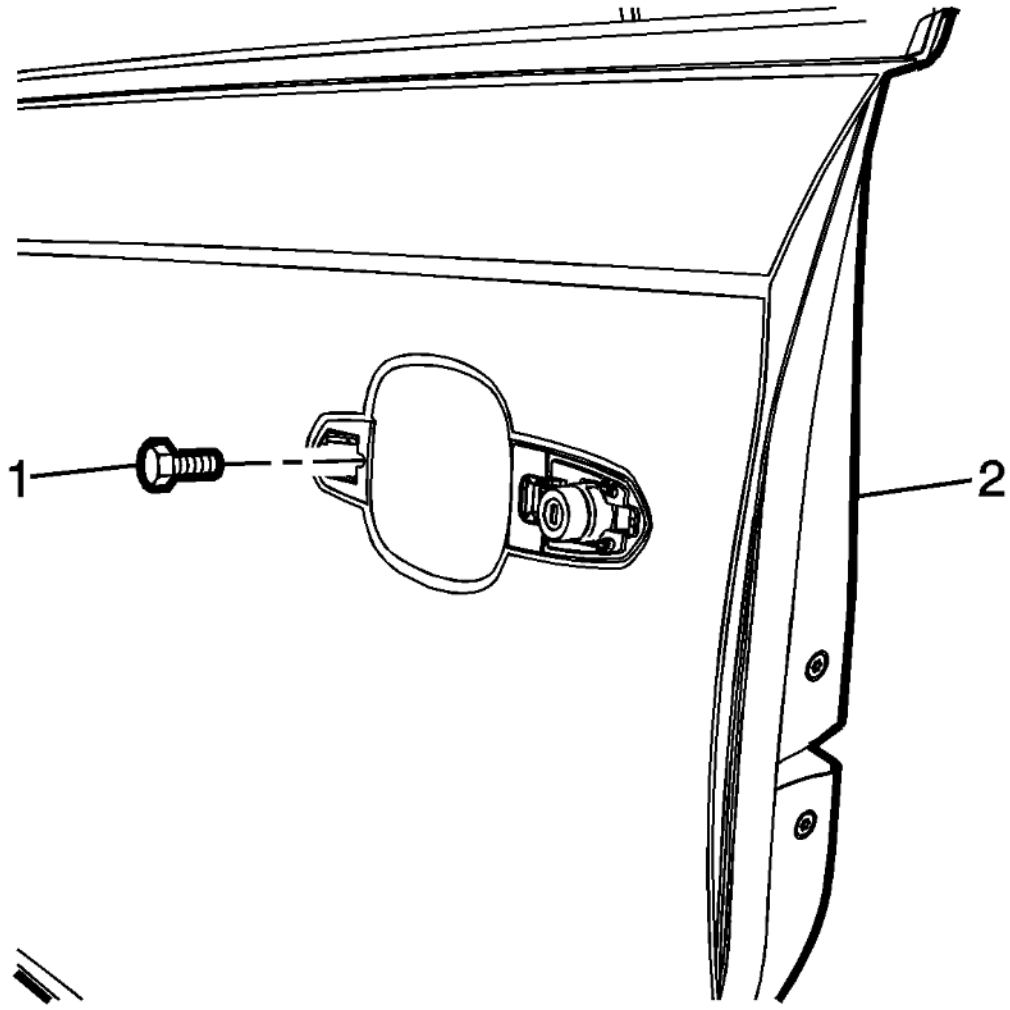


Fig. 43: Front Side Door Outside Bracket & Screws
Courtesy of GENERAL MOTORS COMPANY

CAUTION: **Refer to Fastener Caution .**

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5. Install the rear side door outside handle bracket screw to the door (2) and tighten to 3.5 N.m (31 lb in).
6. Install the rear side door outside handle. Refer to **Rear Side Door Outside Handle Replacement (without ATH)Rear Side Door Outside Handle Replacement (with ATH)**.
7. Ensure that the door lock system operates properly before installing the trim.

LIFTGATE LATCH REPLACEMENT (CHEVROLET, GMC)

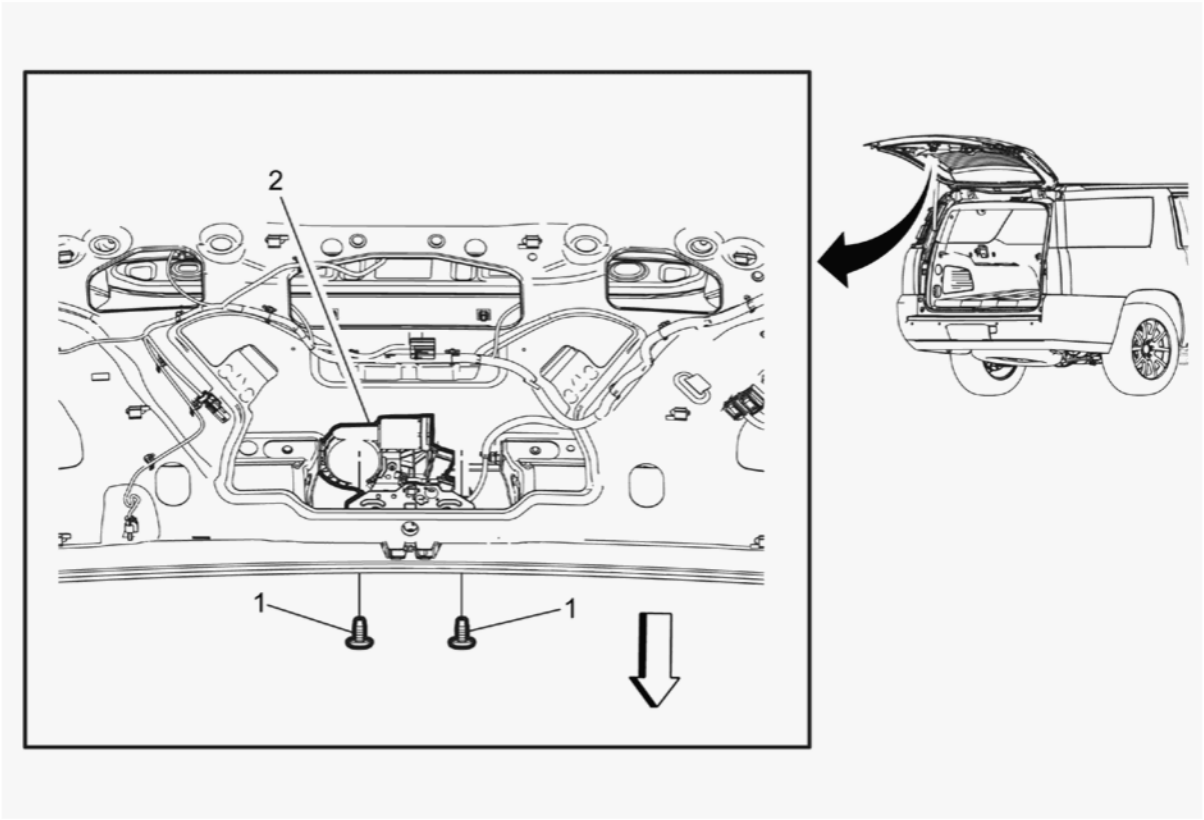


Fig. 44: Liftgate Latch (Chevrolet, GMC)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the liftgate trim panel. Refer to **Liftgate Trim Finish Panel Replacement** .	

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Callout	Component Name
1	Liftgate Latch Screw (Qty: 2) **CAUTION:** **Refer to** **Fastener Caution .** **Tighten** 22 N.m (16 lb ft)
2	Liftgate Latch Assembly **Procedure** 1. Disconnect the electrical connector.

LIFTGATE LATCH REPLACEMENT (CADILLAC)

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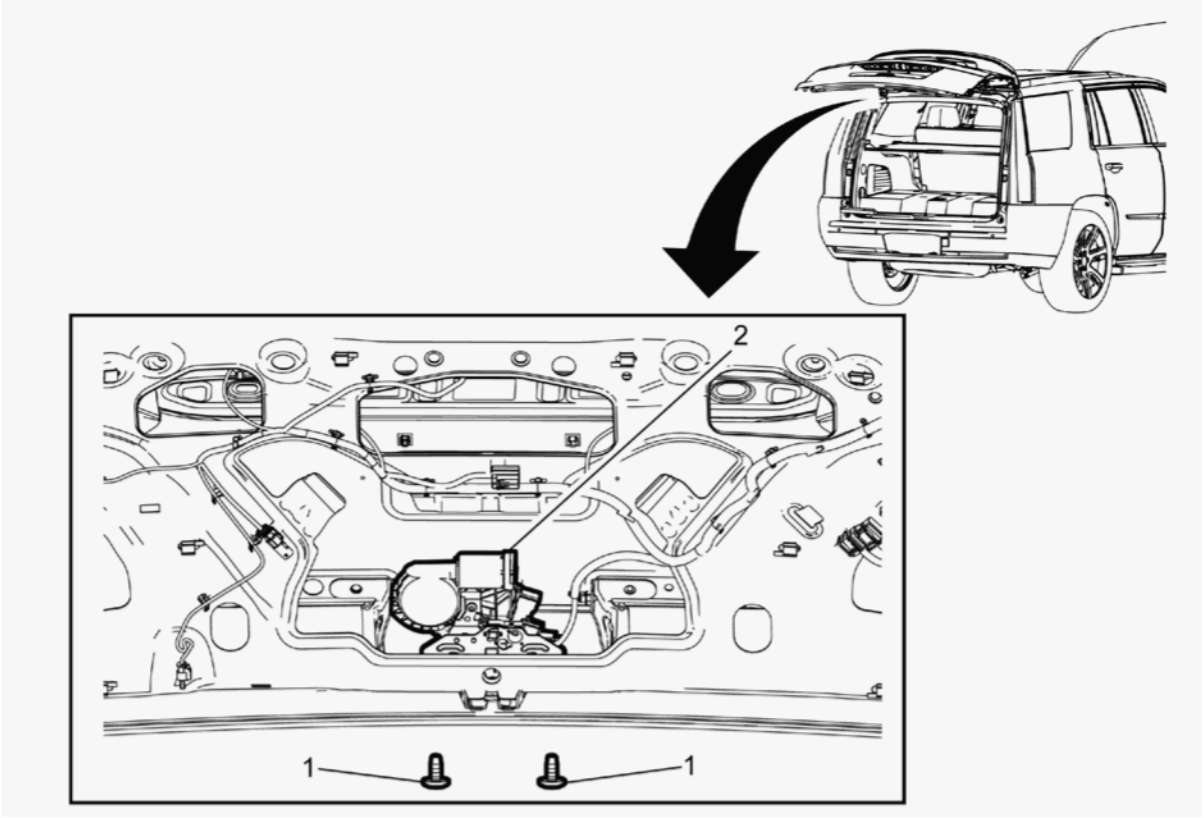


Fig. 45: Liftgate Latch (Cadillac)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the liftgate trim panel. Refer to **Liftgate Trim Finish Panel Replacement** .	
1	Liftgate Latch Screw (Qty: 2) **CAUTION:** **Refer to Fastener Caution .**

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Callout	Component Name
	Tighten 22 N.m (16 lb ft)
2	Liftgate Latch Assembly **Procedure** 1. Disconnect the electrical connector.

LIFTGATE LATCH COVER REPLACEMENT

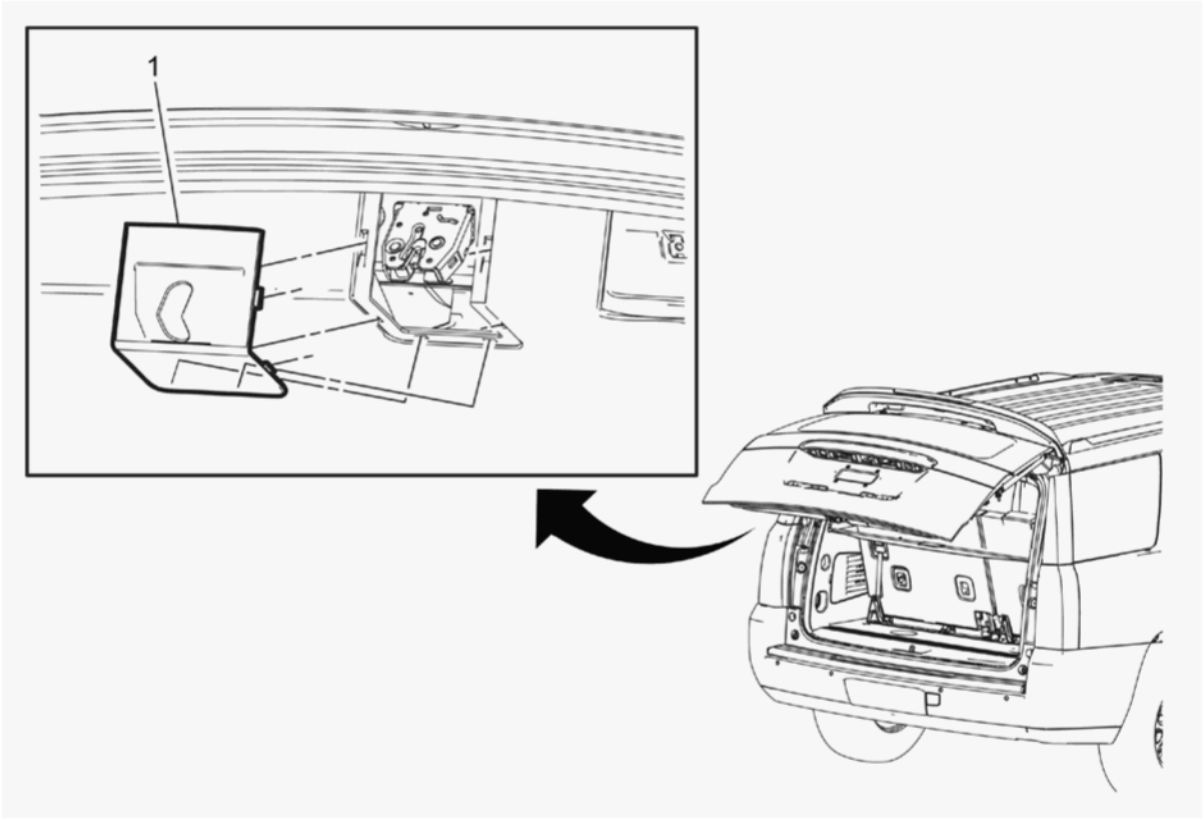


Fig. 46: Liftgate Latch Cover
Courtesy of GENERAL MOTORS COMPANY

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Callout	Component Name
1	Liftgate Latch Cover **Procedure** Use a small flat-bladed tool to pull and release the liftgate latch cover from the liftgate latch assembly.

REAR SIDE DOOR INSIDE HANDLE REPLACEMENT (CADILLAC)

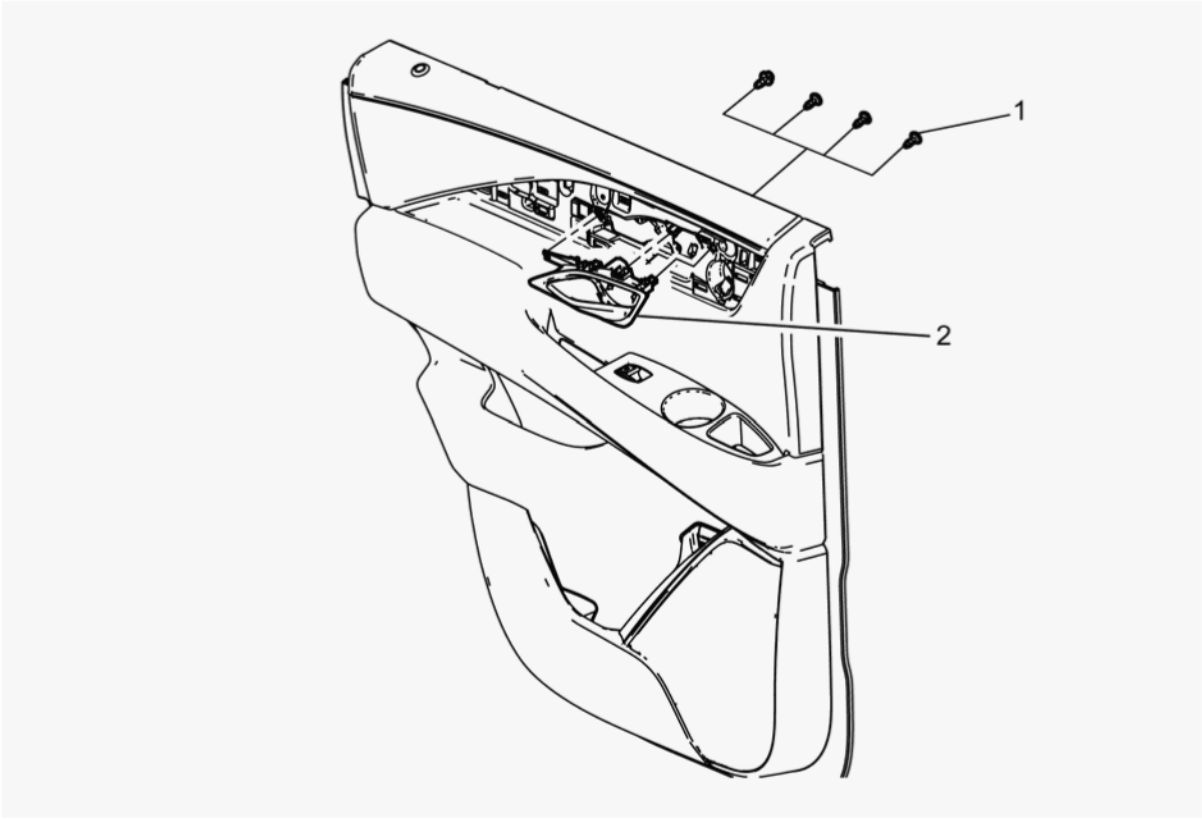


Fig. 47: Rear Side Door Inside Handle (Cadillac)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures 1. Remove the rear side door trim. Refer to **Rear Side Door Trim Replacement (Cadillac)** .	

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Callout	Component Name
2. Remove the radio rear speaker grille. Refer to **Radio Rear Speaker Grille Replacement (Cadillac)** .	
1	Rear Side Door Inside Handle Rear Fastener (Qty: 4) **CAUTION:** **Refer to Fastener Caution .** **NOTE:** **The four screws are located on the backside of the trim panel.** **Tighten** 1.4 N.m (12 lb in)
2	Rear Side Door Inside Handle Assembly **Procedure** 1. Disconnect the rear side door inside handle illumination lamp connector and harness retainer. 2. Remove the handle and bezel as an assembly from the door trim panel. 3. Transfer the handle illumination lamp and the bezel to the new handle.

REAR SIDE DOOR OUTSIDE HANDLE REPLACEMENT (WITHOUT ATH)

Special Tools

BO 51363 Door Handle Spring Retainer

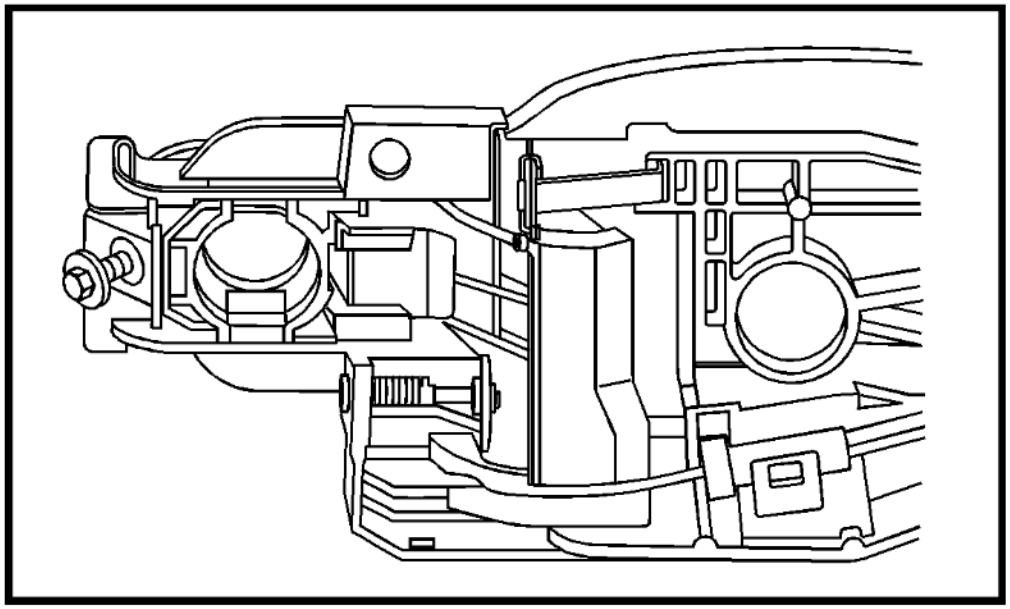
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For equivalent regional tools, refer to **Special Tools** .

Removal Procedure

NOTE: **When removing the door lock cylinder screw Do Not go past the hard stop.**

1. Loosen screw for rear side door lock cylinder cover. Refer to **Rear Side Door Lock Cylinder Opening Cover Replacement (Short Wheelbase)Rear Side Door Lock Cylinder Opening Cover Replacement (Long Wheelbase)**.



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Fig. 48: Door Handle Spring Retainer
Courtesy of GENERAL MOTORS COMPANY

2. Pull rear side door outside handle (1) outward and insert **BO-51363** Door Handle Spring Retainer over lock cylinder (2) and under door handle (1).
3. Press rear part of **BO-51363** Door Handle Spring Retainer towards door (3). The rear side door outside handle (1) should now be held in the extended position.
4. Release pressure on **BO-51363** Door Handle Spring Retainer which allows rear side door outside handle (1) to slightly retract.

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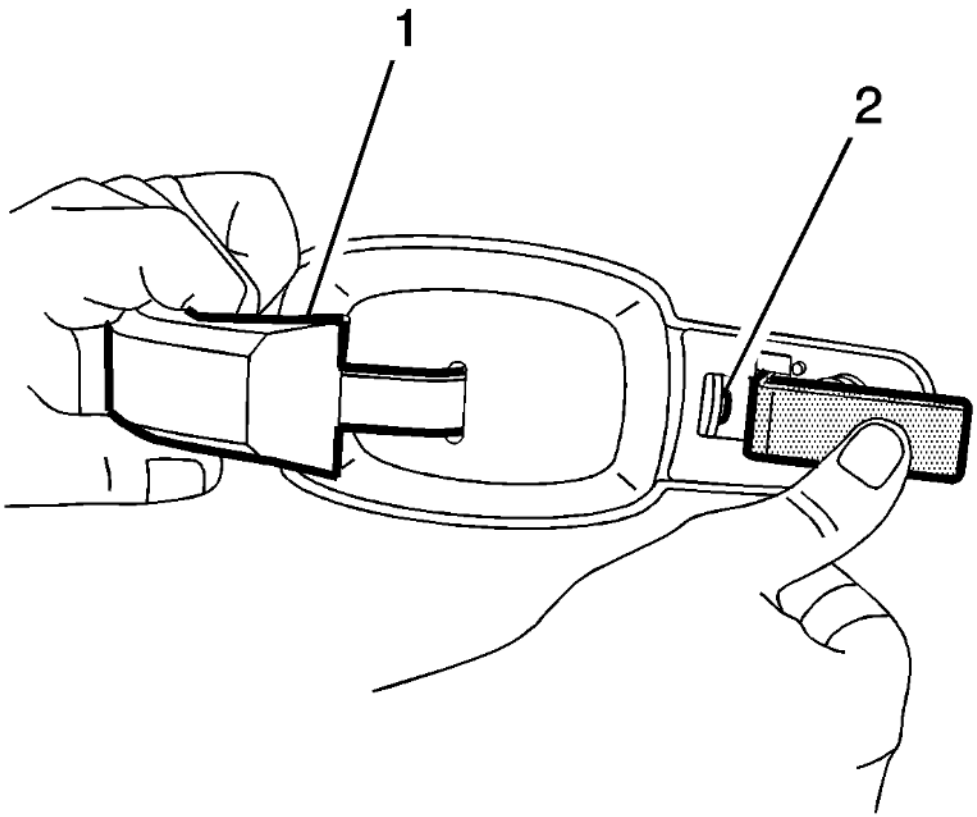


Fig. 49: Front Side Door Outside Handle & Mechanism
Courtesy of GENERAL MOTORS COMPANY

5. Slide rear side door outside handle (1) rearward and then pull outward releasing outside handle from rear side door handle mechanism (2).

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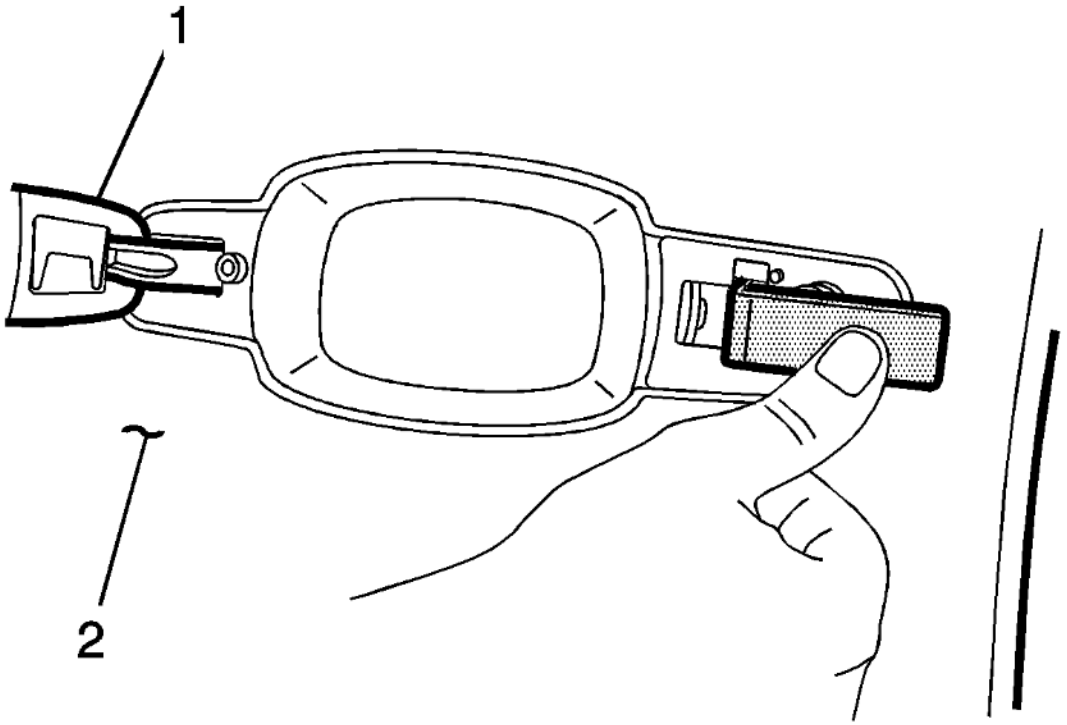


Fig. 50: Front Side Door Outside Handle At 90Degrees
Courtesy of GENERAL MOTORS COMPANY

6. Pull rear side door outside handle (1) forward until handle is approximately at a 90 degree angle with door (2).

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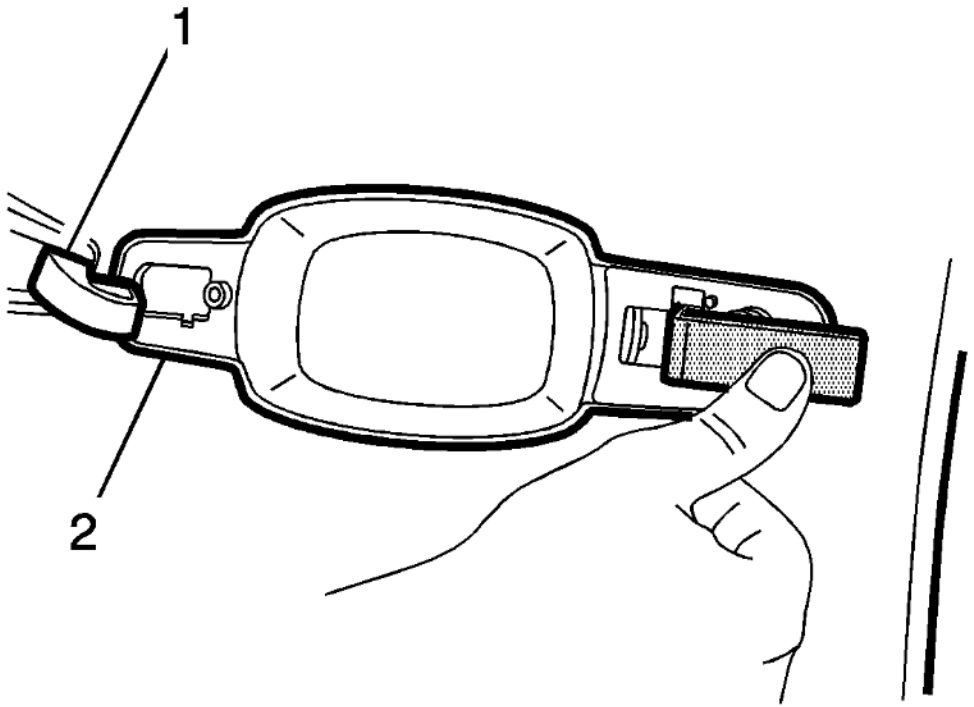


Fig. 51: Front Side Door Outside Handle
Courtesy of GENERAL MOTORS COMPANY

7. Gentle pull rear side door outside handle (1) outward to remove from door (2).

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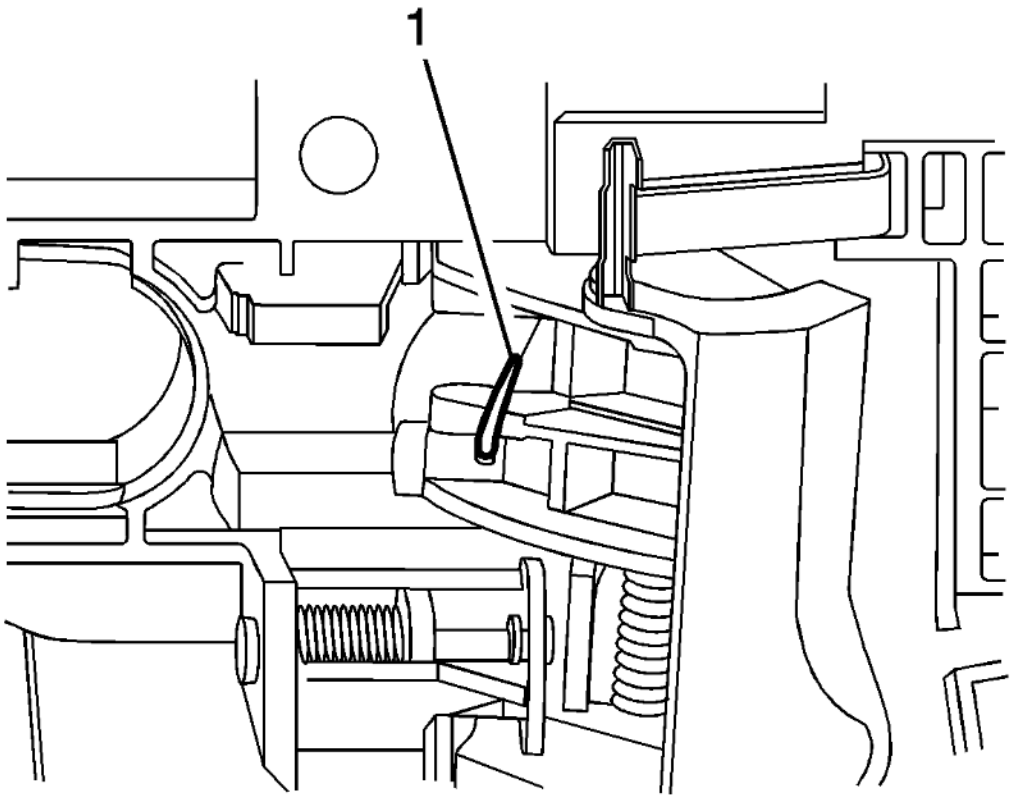


Fig. 52: Door Handle Mechanism
Courtesy of GENERAL MOTORS COMPANY

NOTE:

- **It is NOT necessary to remove the door panel if the BO-51363 Door Handle Spring Retainer slips off of the door handle mechanism.**
- **DO NOT hook outer parts of the door handle mechanism. The hooked pick tool or equivalent tool could slip off and damage the rear door.**

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8. If **BO-51363** Door Handle Spring Retainer slips off of door handle mechanism (1) during the repair, use a hooked pick tool or equivalent to access the handle mechanism. The hook tool can be inserted in the center area of the handle bracket to reset the mechanism.

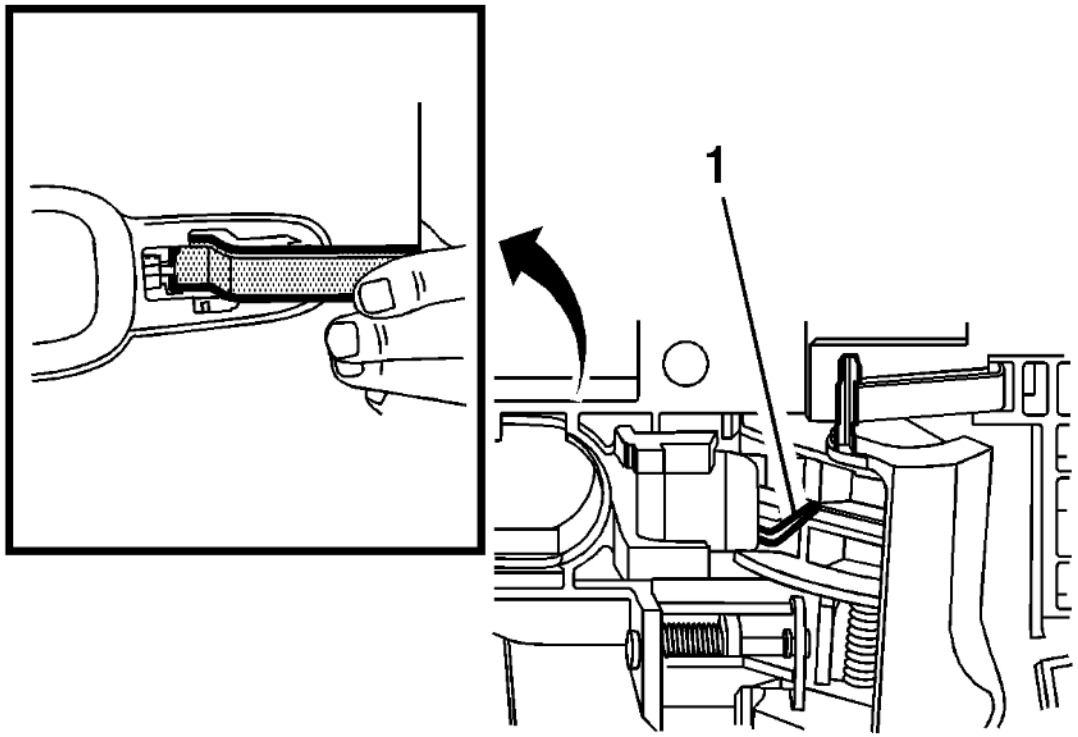


Fig. 53: Door Handle Spring Retainer & Mechanism
Courtesy of GENERAL MOTORS COMPANY

9. Pull door handle mechanism (1) outward to open position and reinstall **BO-51363** Door Handle Spring Retainer into door handle mechanism (1). The hooked pick tool or equivalent tool can then be removed.

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Installation Procedure

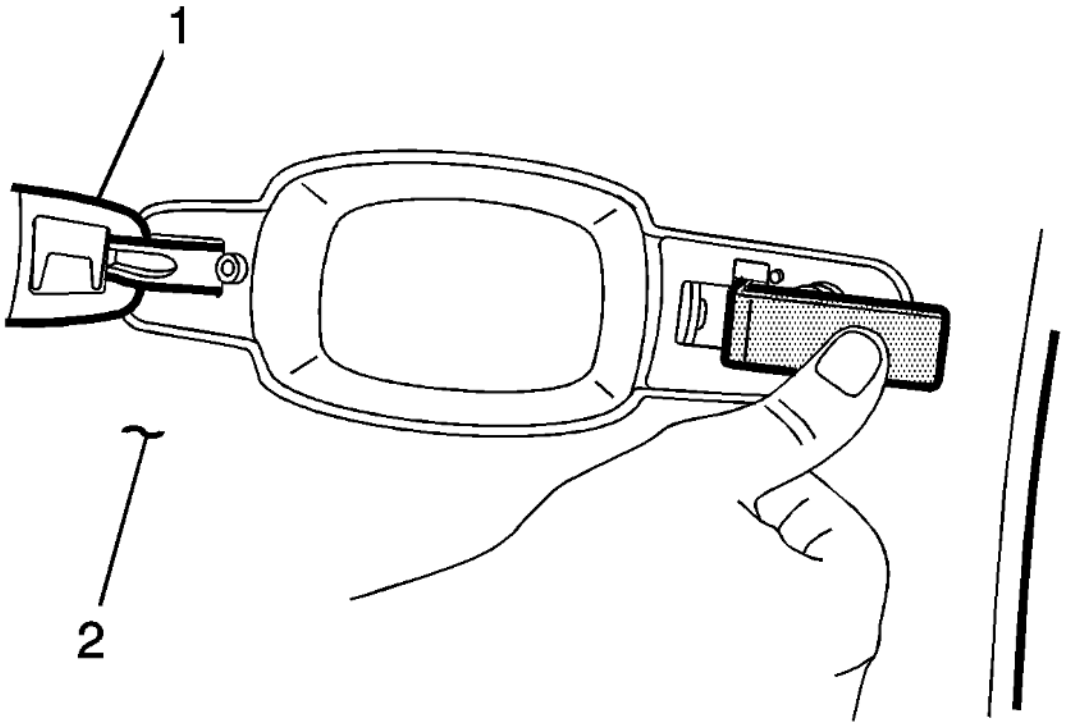


Fig. 54: Front Side Door Outside Handle At 90Degrees
Courtesy of GENERAL MOTORS COMPANY

1. While holding **BO-51363** Door Handle Spring Retainer in place, install rear side door outside handle (1) into door (2) at approximately a 90 degree angle to door (2).

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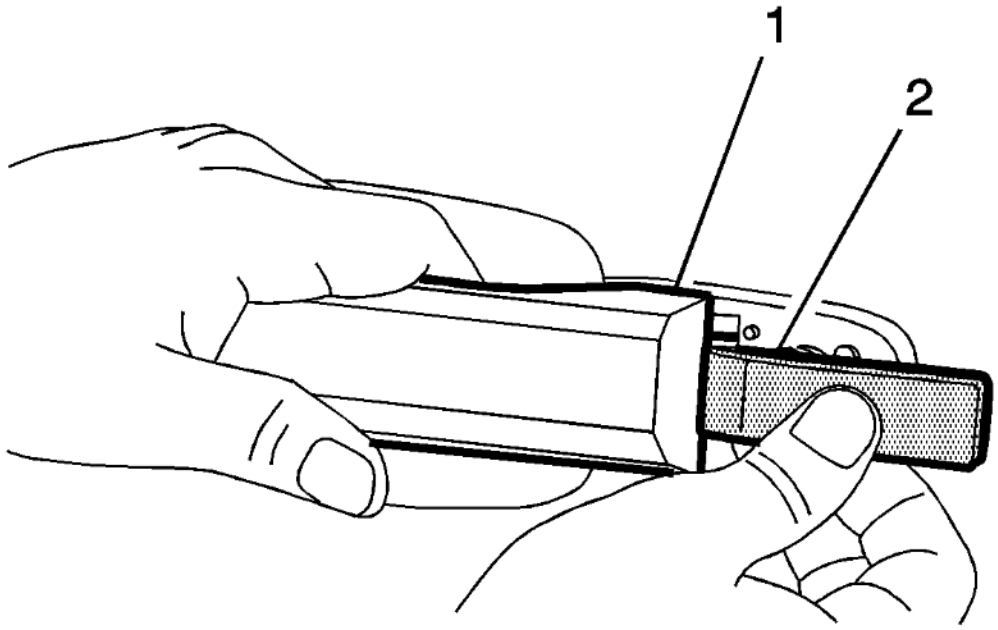


Fig. 55: Front Side Door Outside Handle & Mechanism
Courtesy of GENERAL MOTORS COMPANY

2. Rotate rear side door outside handle (1) rearward into rear side door handle mechanism (2).

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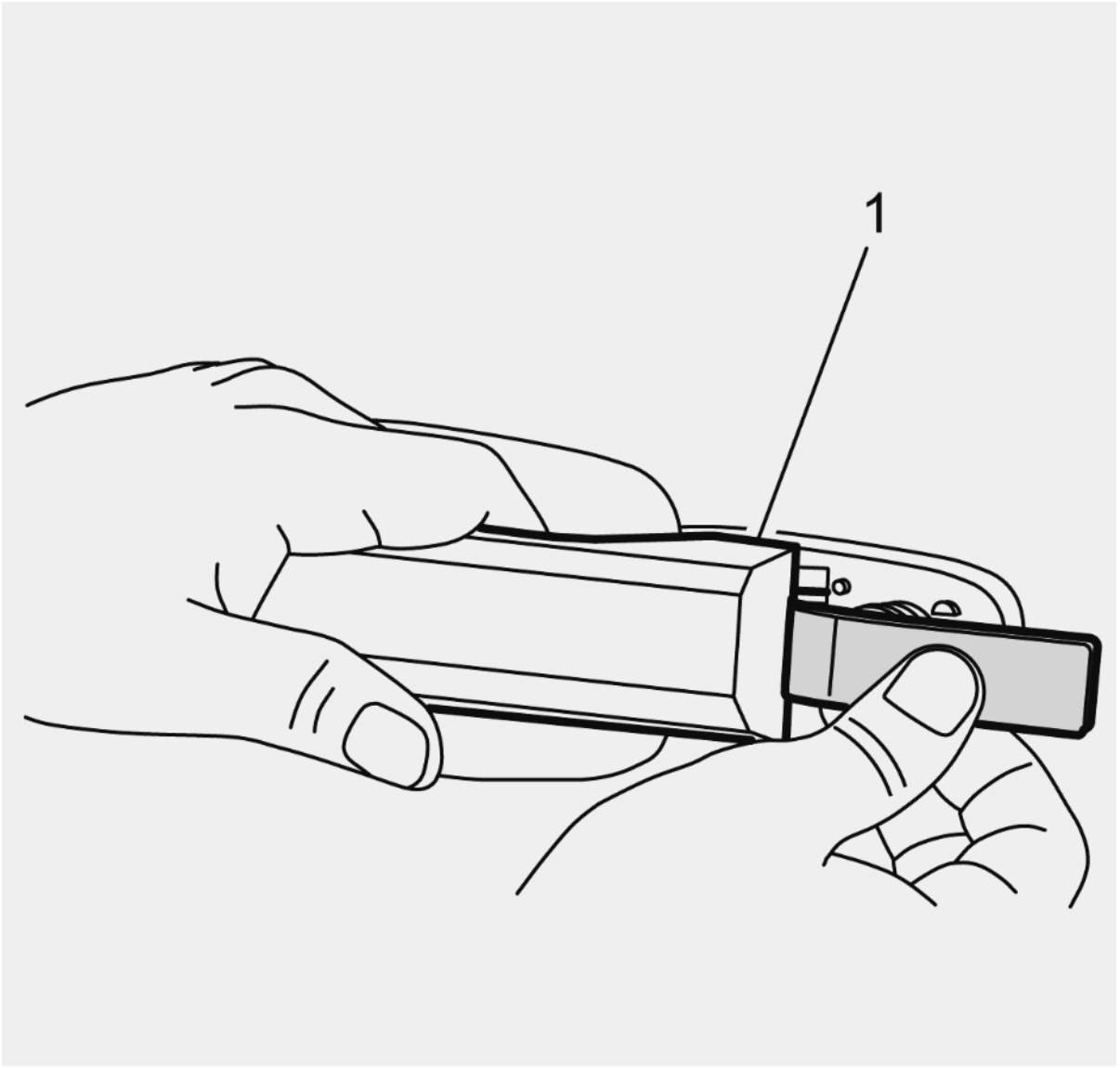


Fig. 56: Front Side Door Outside Handle
Courtesy of GENERAL MOTORS COMPANY

3. Slide rear side door outside handle (1) forward to lock into position.

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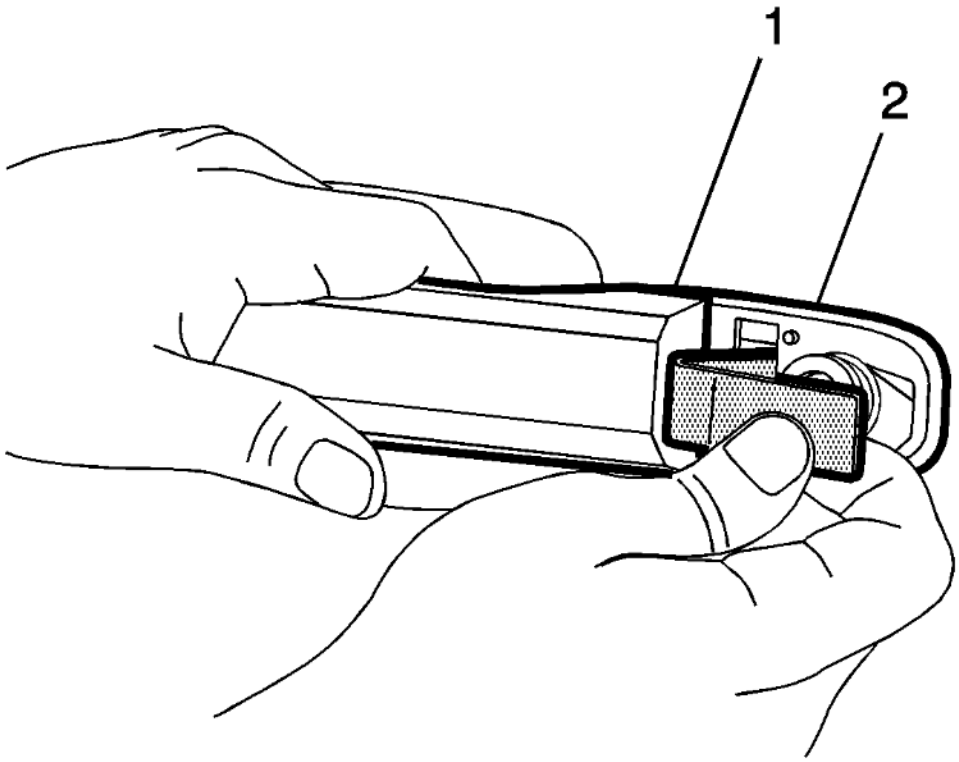


Fig. 57: Front Side Door Outside Handle & Spring Retainer
Courtesy of GENERAL MOTORS COMPANY

4. Release pressure on **BO-51363** Door Handle Spring Retainer. Pull rear side door outside handle (1) outward and remove the **BO-51363** Door Handle Spring Retainer from door (2).

NOTE: **When installing the door lock cylinder screw Do Not go past the hard stop.**

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5. Install screw to rear side door lock cylinder cover. Refer to **Rear Side Door Lock Cylinder Opening Cover Replacement (Short Wheelbase)Rear Side Door Lock Cylinder Opening Cover Replacement (Long Wheelbase)**.
6. Ensure that door lock system operates properly.

REAR SIDE DOOR OUTSIDE HANDLE REPLACEMENT (WITH ATH)

Removal Procedure

1. Remove the rear side door pull handle bracket. Refer to **Rear Side Door Pull Handle Bracket Replacement** .
2. Remove the rear side door water deflector.
3. Remove the rear side door window rear channel. Refer to **Rear Side Door Window Rear Channel Replacement (Short Wheelbase)** **Rear Side Door Window Rear Channel Replacement (Long Wheelbase)** .

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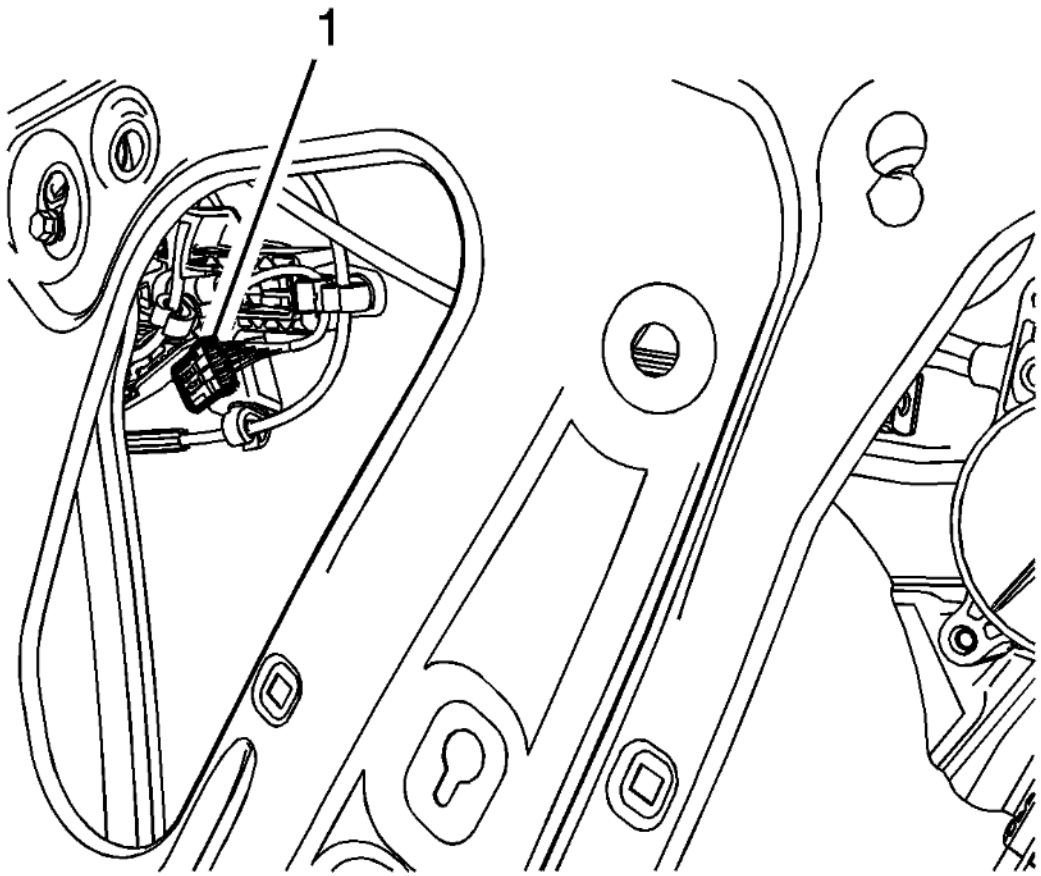


Fig. 58: Luminous Reflecting Light Electrical Connector
Courtesy of GENERAL MOTORS COMPANY

4. Disconnect the electrical connector (1) from the rear side door outside handle bracket for the luminous reflecting light.

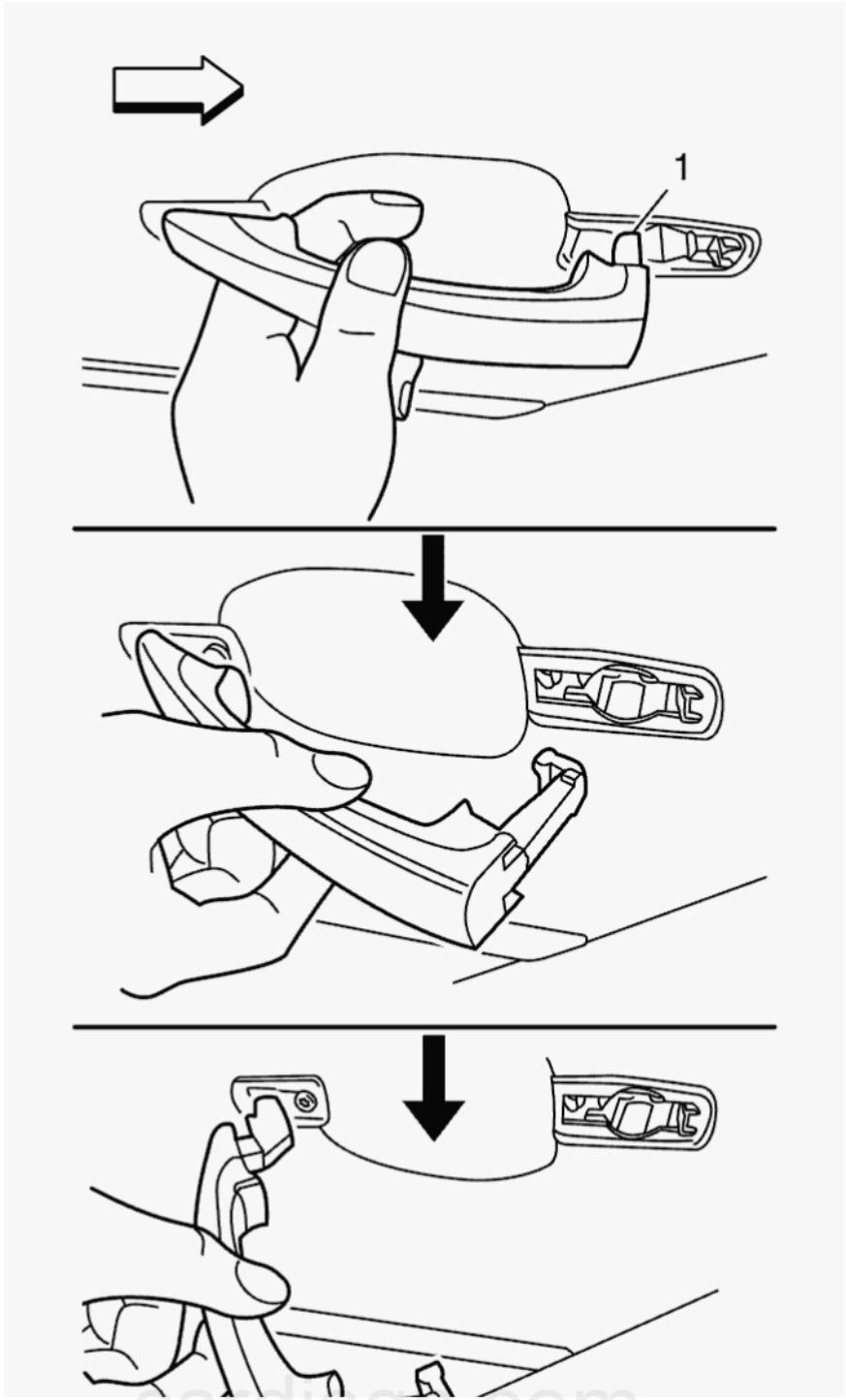
NOTE: **When removing the door lock cylinder screw Do Not go past the hard stop.**

5. Loosen the screw for the rear side door lock cylinder cover. Refer to **Rear Side Door Lock Cylinder Opening Cover Replacement (Short**

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Wheelbase)Rear Side Door Lock Cylinder Opening Cover Replacement (Long Wheelbase).

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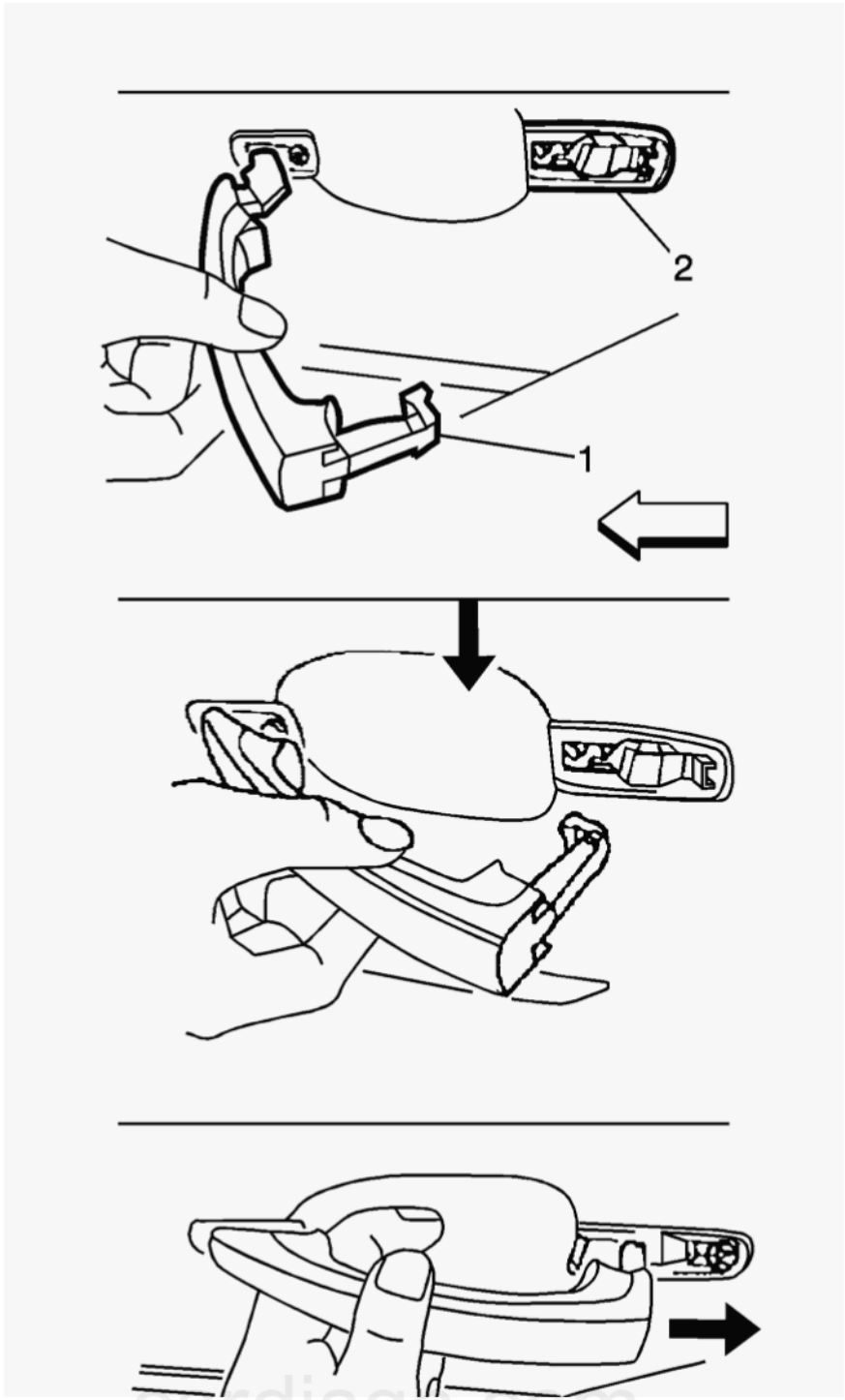
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Fig. 59: Pulling Side Door Outside Handle To Rear
Courtesy of GENERAL MOTORS COMPANY

6. Remove the rear side door outside handle (1) from the door as follows:
    1. Open the door handle fully.
    2. Slide the door handle rearward releasing the handle from the door handle bracket.
    3. Remove the rear side door outside handle and connector from the door.

Installation Procedure

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Fig. 60: Door Handle
Courtesy of GENERAL MOTORS COMPANY

NOTE: The rear side door outside handle can Not be install until the counter balance (1) and handle is reset.

1. Install the rear side door outside handle (1) to the door (2).
2. Insert the rear side door handle into the door handle pocket.
3. Slide the rear side door handle forward securing it into the door handle bracket.

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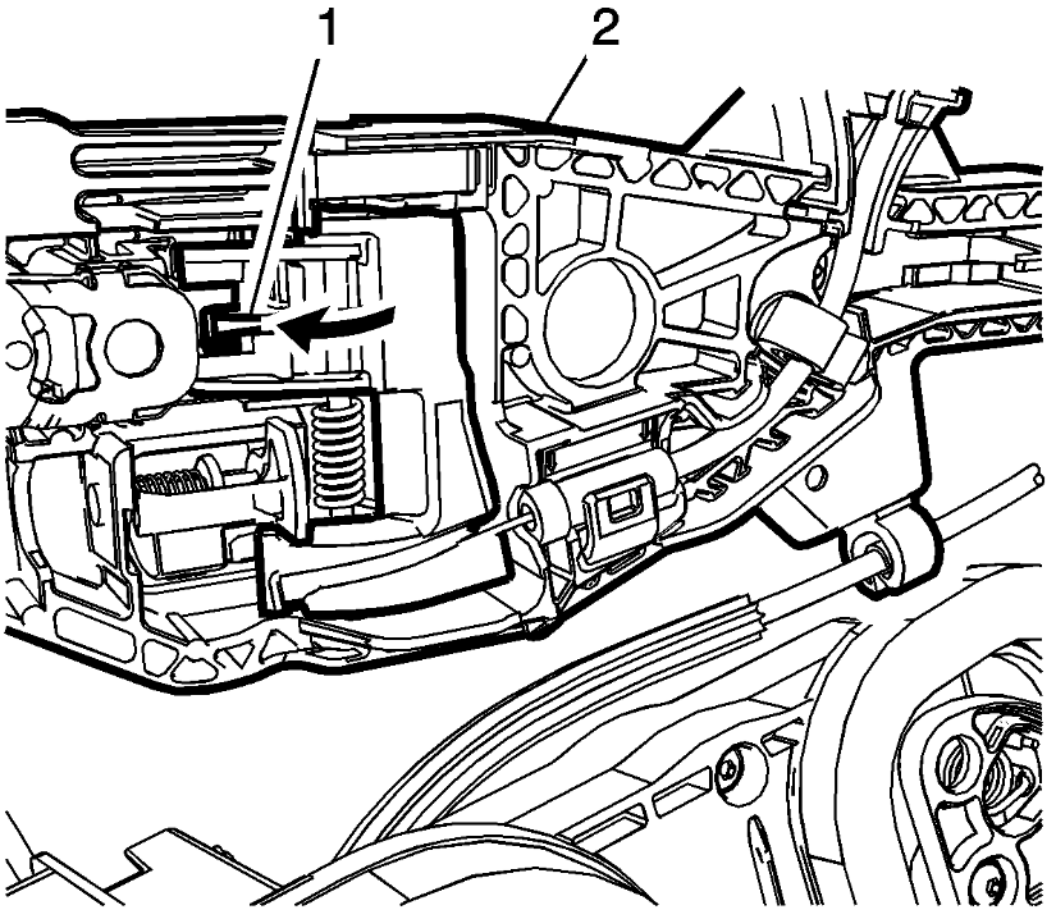


Fig. 61: Door Handle Bracket Housing Counterbalance Lever
Courtesy of GENERAL MOTORS COMPANY

4. From inside the door, push outward on the door handle bracket housing counterbalance lever (1) at the same time. Slide the outside door handle toward the lock cylinder then forward engaging the handle to the housing counterbalance.
5. Install the screw to the rear side door lock cylinder cover. Refer to **Rear Side Door Lock Cylinder Opening Cover Replacement (Short Wheelbase)Rear Side Door Lock Cylinder Opening Cover Replacement (Long Wheelbase)**.

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Hold the lock cylinder bezel flush to the door sheet and turn the lock cylinder screw to a mechanical hard stop.

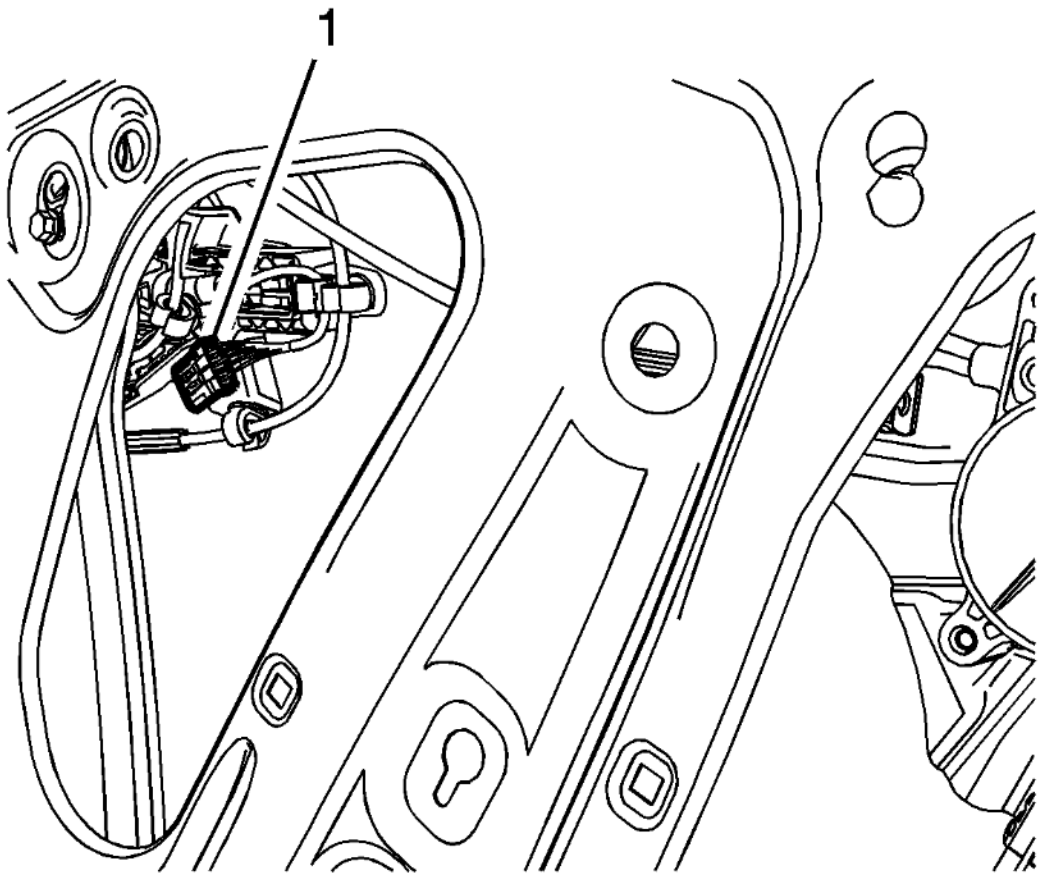


Fig. 62: Luminous Reflecting Light Electrical Connector
Courtesy of GENERAL MOTORS COMPANY

6. Connect the electrical connector (1) to the rear side door outside handle bracket for the luminous reflecting light.
7. Ensure that the door lock system operates properly before installing the trim.
8. Install the rear side door window rear channel. Refer to **Rear Side Door Window Rear Channel Replacement (Short Wheelbase)** **Rear Side**

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Door Window Rear Channel Replacement (Long Wheelbase) .

9. Install the rear side door water deflector.
10. Install the rear side door pull handle bracket. Refer to Rear Side Door Pull Handle Bracket Replacement .

REAR SIDE DOOR OUTSIDE HANDLE CABLE REPLACEMENT

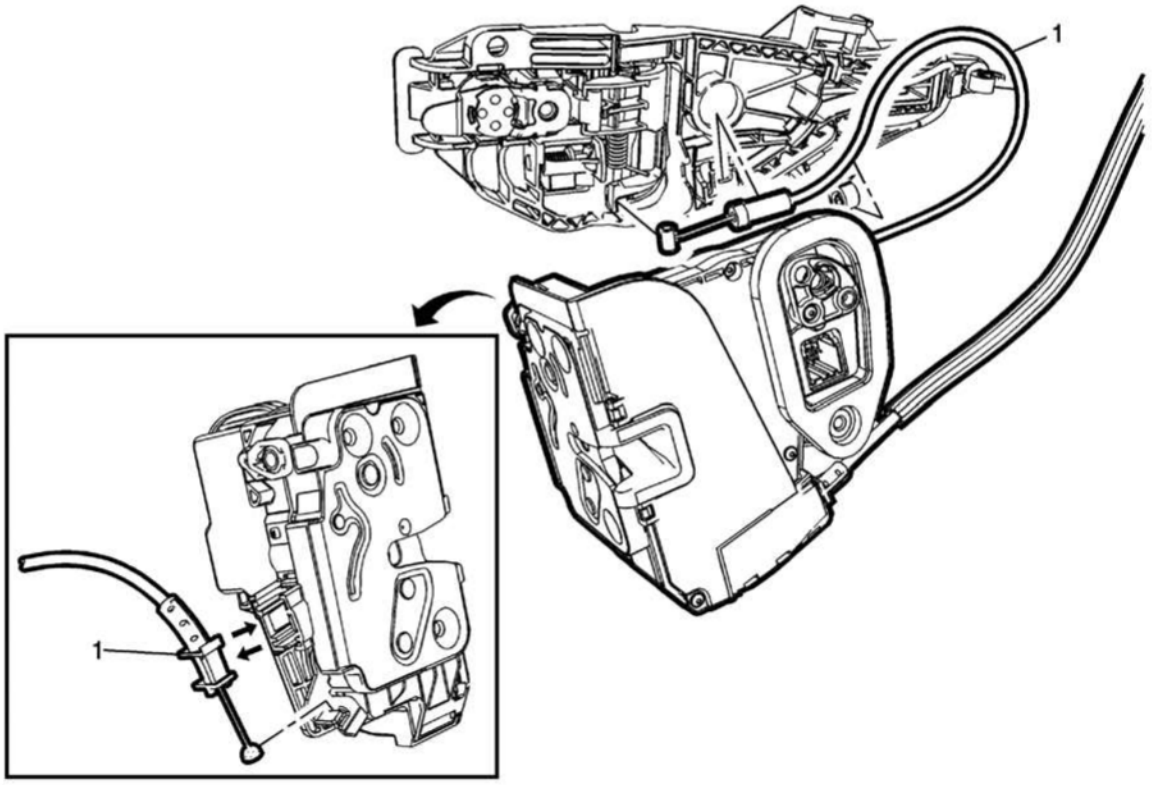


Fig. 63: Side Door Outside Handle Cable
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the rear side door latch and handle bracket assembly from the door. Refer to Rear Side Door Latch Replacement.	
1	Rear Side Door Outside Handle Cable

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Callout	Component Name
	Procedure 1. Remove the rear side door outside handle cable from the retainers. Do not remove the inside door handle cable from the latch. 2. Release the cable from the back of the latch assembly. 3. Unhook the cable from the handle bracket. **NOTE:** **Ensure that the door lock system operates properly before installing the trim.**

FRONT SIDE DOOR LATCH REPLACEMENT

Removal Procedure

1. Remove the front side door pull handle bracket. Refer to Refer to **Front Side Door Pull Handle Bracket Replacement** .
2. Remove the front side door water deflector.

NOTE: **Disconnect the window from the window regulator, place the window in the full up position, use masking tape to tape the window to the upper door frame.**

3. Position the front side door window regulator rear rail to access and remove the door latch and handle bracket assembly. Refer to **Front Side Door Window Regulator Replacement** .
4. Remove the front side door window channel retainer. Refer to **Front Side Door Window Channel Retainer Replacement** .
5. Remove the front side door outside handle. Refer to **Front Side Door Outside Handle Replacement (without ATH)Front Side Door Outside Handle Replacement (with ATH)**.
6. Remove the front side door outside handle bracket screw. Refer to **Front Side Door Outside Handle Bracket Replacement**.

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7. Remove the front side door locking rod knob. Refer to **Front Side Door Locking Rod Knob Replacement**.
8. Disconnect the front side door latch electrical connector.

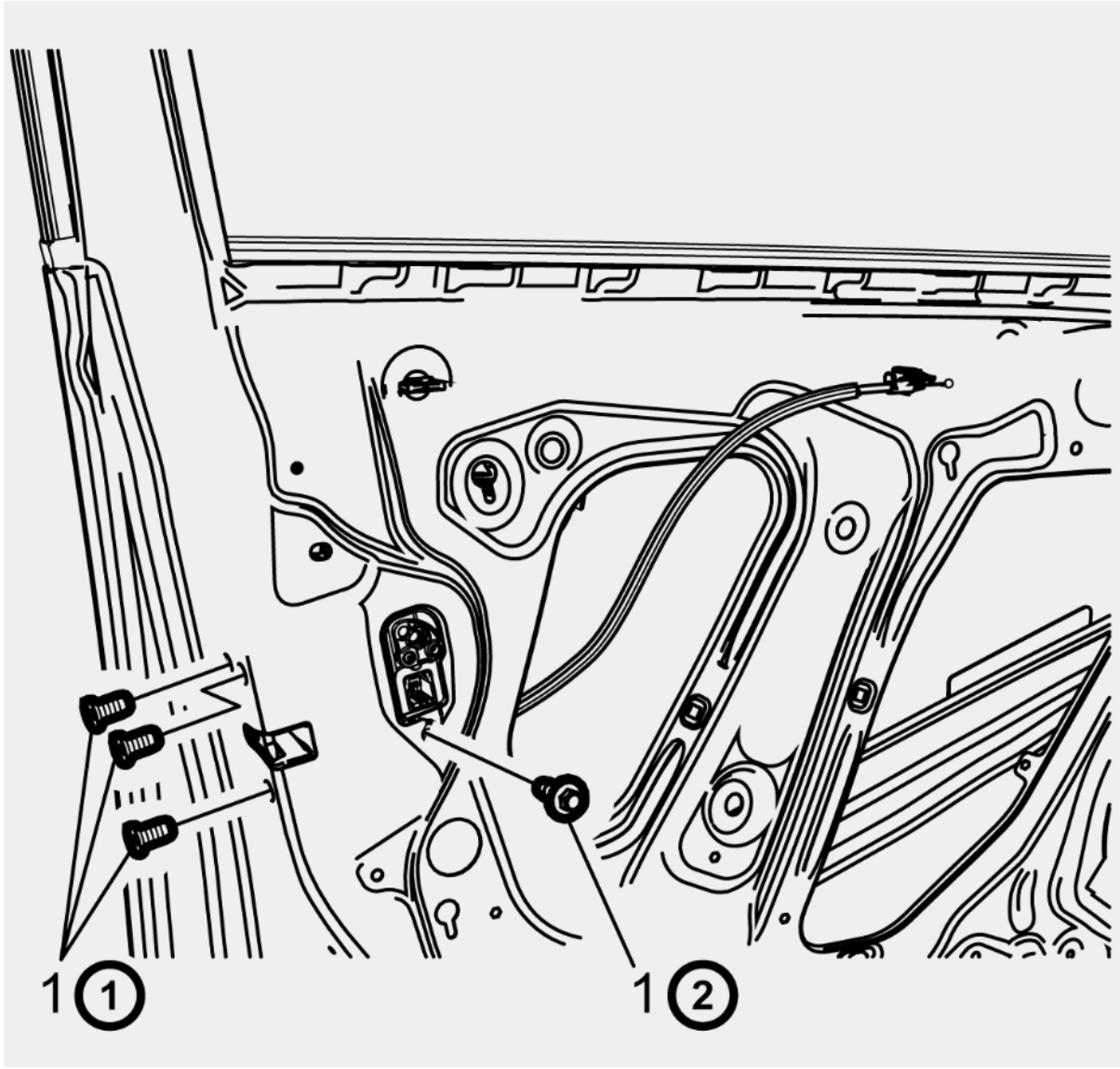


Fig. 64: Side Door Latch & Bolts
Courtesy of GENERAL MOTORS COMPANY

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9. Remove the four bolts (1) from the front side door latch.

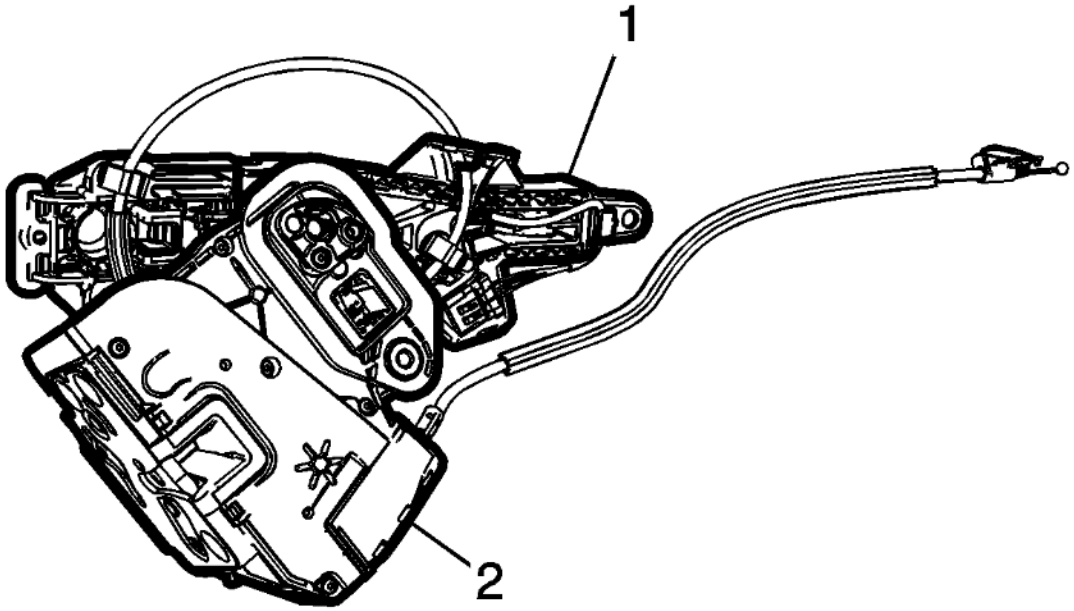


Fig. 65: Door Outside Handle Bracket & Latch
Courtesy of GENERAL MOTORS COMPANY

10. Remove the outside handle bracket (1) and the front side door latch (2) as assembly from the vehicle.

Installation Procedure

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1. Transfer the front side door inside handle cable. Refer to **Front Side Door Inside Handle Cable Replacement**.
2. Transfer the front side door outside handle cable. Refer to **Front Side Door Outside Handle Cable Replacement**.
3. Transfer the front side door lock cylinder rod.

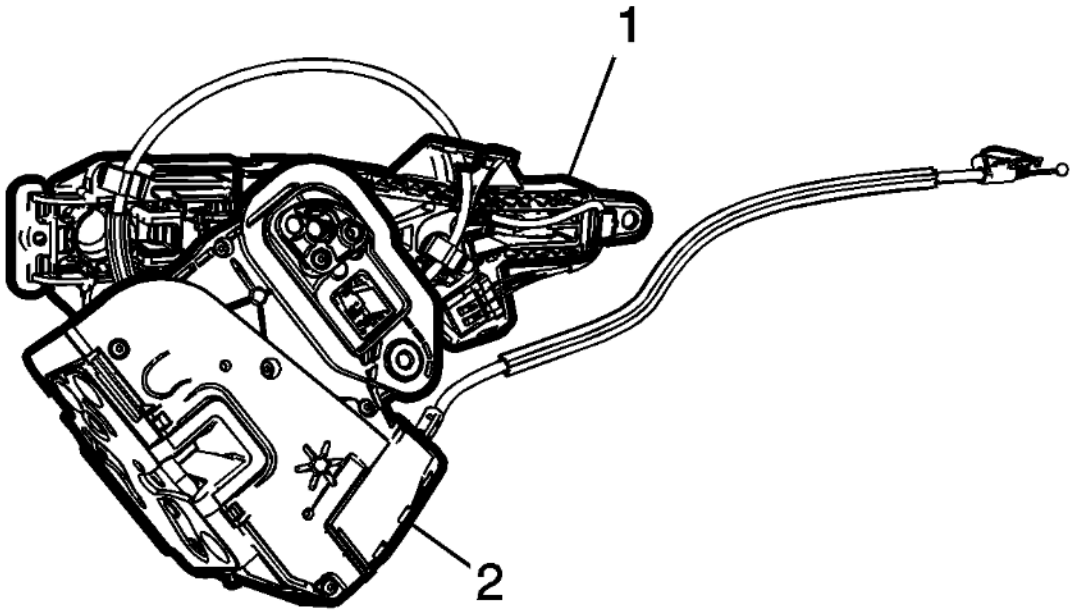


Fig. 66: Door Outside Handle Bracket & Latch
Courtesy of GENERAL MOTORS COMPANY

4. Install the outside handle bracket (1) and the front side door latch (2) assembly to the vehicle.

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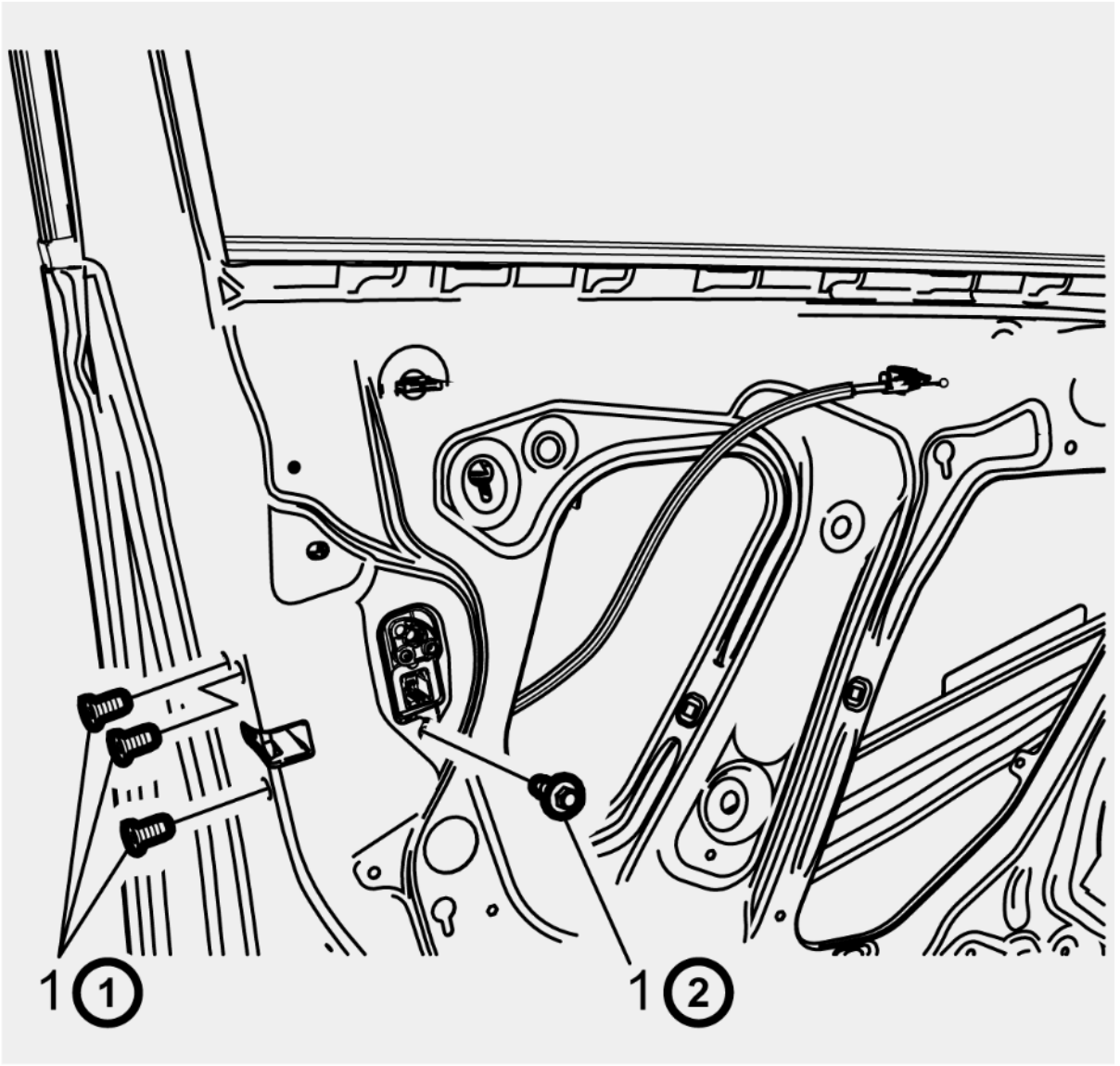


Fig. 67: Side Door Latch & Bolts
Courtesy of GENERAL MOTORS COMPANY

CAUTION: Refer to Fastener Caution .

NOTE: Install and torque the four latch bolts in proper sequence to prevent damage to the latch mechanism.

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5. Install the four bolts (1) to the front side door latch and tighten to 9 N.m (80 lb in).
6. Install the front side door outside handle bracket screw. Refer to **Front Side Door Outside Handle Bracket Replacement**.
7. Install the front side door outside handle. Refer to **Front Side Door Outside Handle Replacement (without ATH)Front Side Door Outside Handle Replacement (with ATH)**.
8. Install the front side door window channel retainer. Refer to **Front Side Door Window Channel Retainer Replacement** .
9. Install the front side door locking rod knob. Refer to **Front Side Door Locking Rod Knob Replacement**.
10. Connect the electrical connector to the latch.
11. Position the window to the window regulator and reinstall the rear rail to the door. Refer to **Front Side Door Window Regulator Replacement** .
12. Remove the tape from the front side door window and frame.
13. Inspect the door latch and outside handle for proper operation before install the door trim.
14. Install the front side door water deflector.
15. Install the front side door pull handle bracket. Refer to Refer to **Front Side Door Pull Handle Bracket Replacement** .

REAR SIDE DOOR LATCH REPLACEMENT

Removal Procedure

1. Remove the rear side door pull handle bracket. Refer to **Rear Side Door Pull Handle Bracket Replacement** .
2. Remove the water deflector.
3. Position the rear side door window to access and remove the door latch and handle bracket.
4. Remove the rear side door locking rod. Refer to **Rear Side Door Locking Rod Knob Replacement (Short Wheelbase)Rear Side Door Locking Rod Knob Replacement (Long Wheelbase)**.
5. Remove the rear side door window rear channel. Refer to **Rear Side Door Window Rear Channel Replacement (Short Wheelbase) Rear Side Door Window Rear Channel Replacement (Long Wheelbase)** .
6. Disconnect the rear side door latch electrical connector.
7. Remove the rear side door outside handle. Refer to **Rear Side Door Outside Handle Replacement (without ATH)Rear Side Door Outside Handle Replacement (with ATH)**.
8. Remove the rear side door outside handle bracket screw. Refer to **Rear Side Door Outside Handle Bracket Replacement**.

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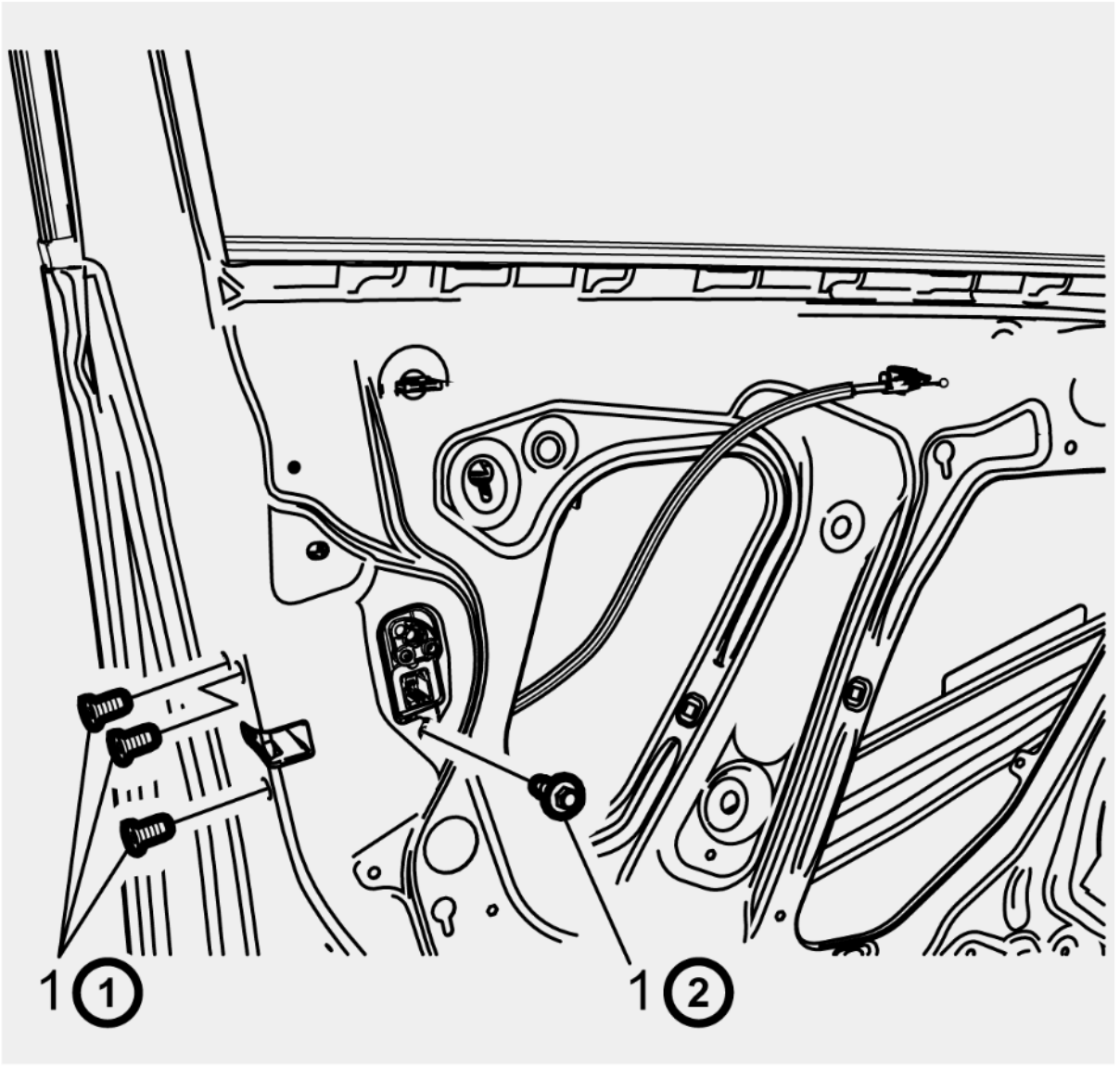


Fig. 68: Side Door Latch & Bolts
Courtesy of GENERAL MOTORS COMPANY

9. Remove the four bolts (1) from the rear side door latch.

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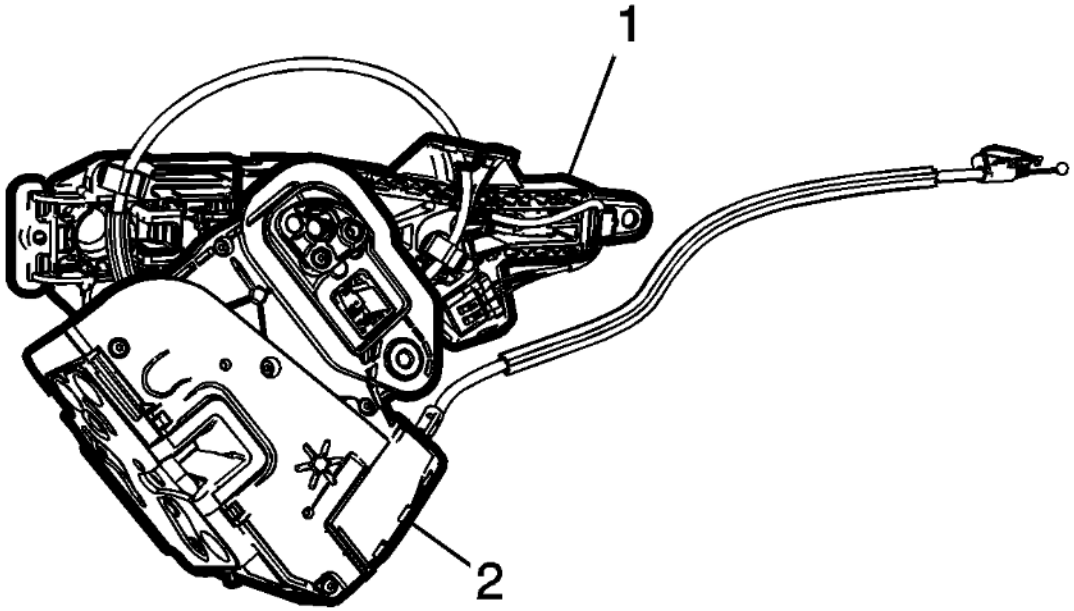


Fig. 69: Door Outside Handle Bracket & Latch
Courtesy of GENERAL MOTORS COMPANY

10. Remove the outside handle bracket (1) and the rear side door latch (2) assembly from the vehicle.

Installation Procedure

1. Transfer the rear side door inside handle cable. Refer to **Rear Side Door Inside Handle Cable Replacement**.

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2. Transfer the rear side door outside handle cable. Refer to **Rear Side Door Outside Handle Cable Replacement**.
3. Place the window in the full up position.

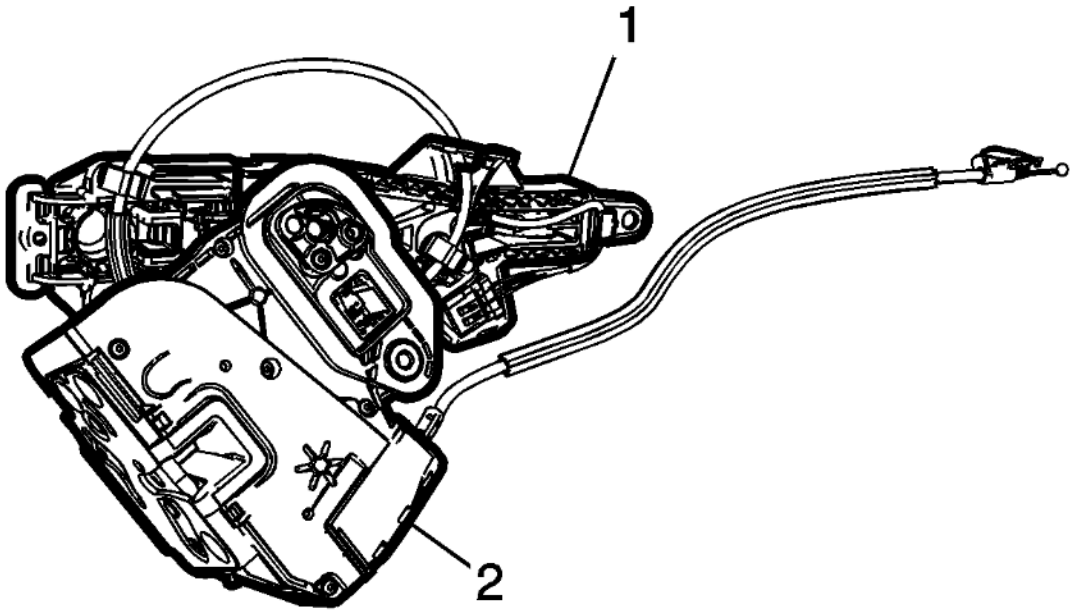


Fig. 70: Door Outside Handle Bracket & Latch
Courtesy of GENERAL MOTORS COMPANY

4. Install the outside handle bracket (1) and the rear side door latch (2) assembly in the vehicle.

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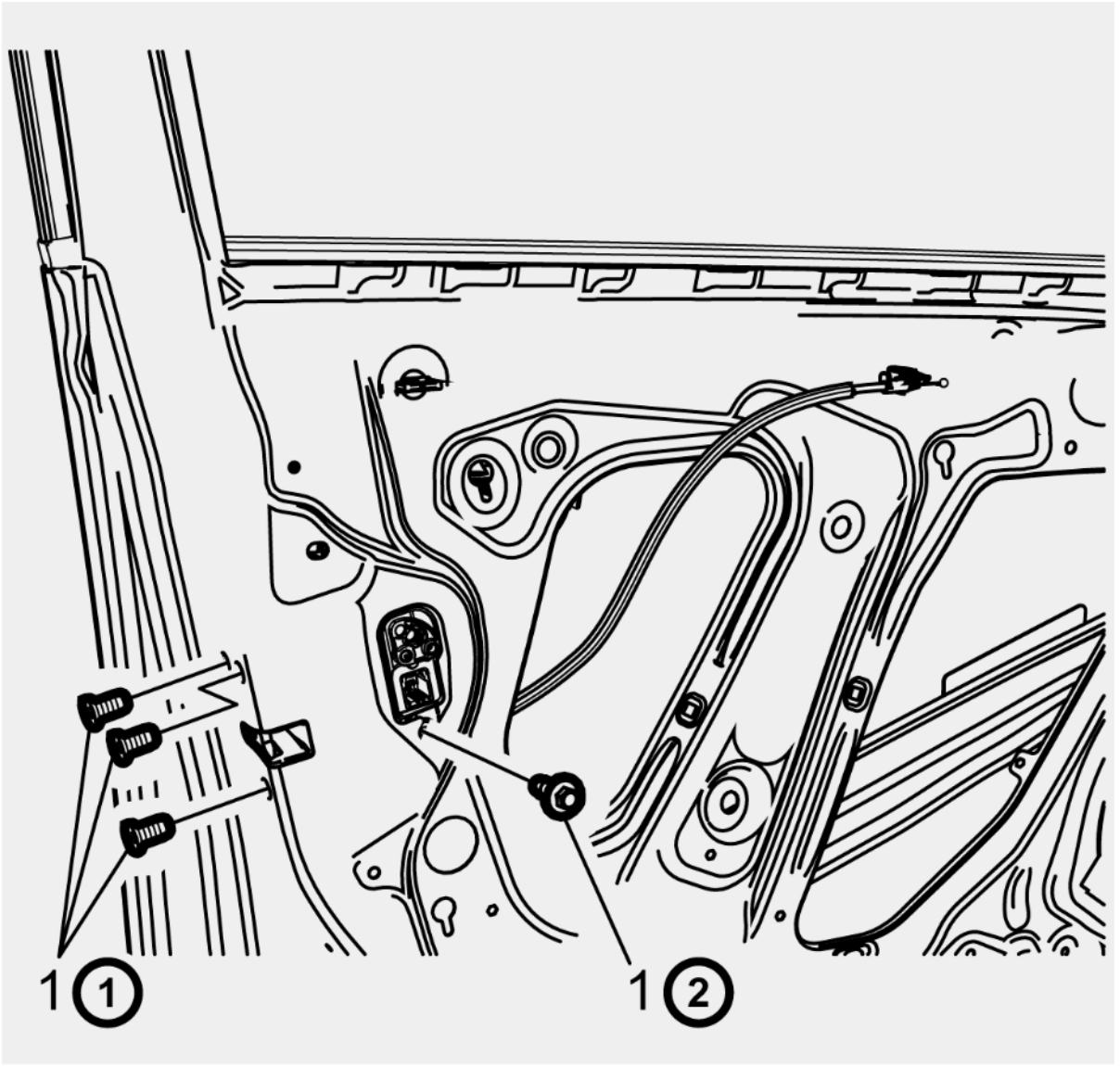


Fig. 71: Side Door Latch & Bolts
Courtesy of GENERAL MOTORS COMPANY

CAUTION: Refer to Fastener Caution .

NOTE: Install and torque the four latch bolts in proper sequence to prevent damage to the latch mechanism.

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5. Install four bolts (1) to the rear side door latch and tighten to 9 N.m (80 lb in).
6. Install the rear side door outside handle bracket screw. Refer to **Rear Side Door Outside Handle Bracket Replacement**.
7. Install the rear side door outside handle. Refer to **Rear Side Door Outside Handle Replacement (without ATH)Rear Side Door Outside Handle Replacement (with ATH)**.
8. Install the rear side door window rear channel. Refer to **Rear Side Door Window Rear Channel Replacement (Short Wheelbase)** **Rear Side Door Window Rear Channel Replacement (Long Wheelbase)** .
9. Connect the rear side door latch electrical connector.
10. Install the rear side door locking rod. Refer to **Rear Side Door Locking Rod Knob Replacement (Short Wheelbase)Rear Side Door Locking Rod Knob Replacement (Long Wheelbase)**.
11. Inspect the door latch and the outside handle for proper operation before install the door trim.
12. Install the water deflector.
13. Install the rear side door pull handle bracket. Refer to **Rear Side Door Pull Handle Bracket Replacement** .

REAR SIDE DOOR LOCK CYLINDER OPENING COVER REPLACEMENT (SHORT WHEELBASE)

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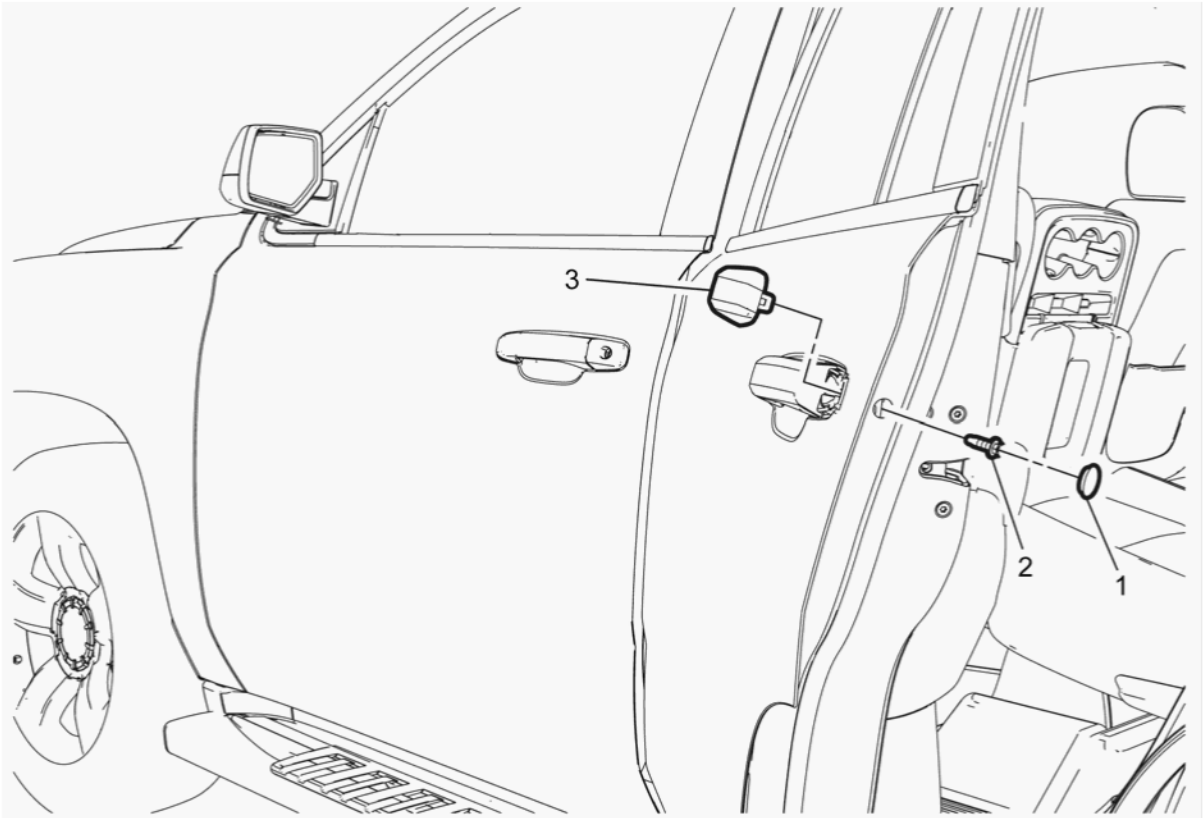


Fig. 72: Rear Side Door Lock Cylinder Opening Cover (Short Wheelbase)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
1	Rear Side Door Access Hole Cover **NOTE:** **Do not remove the door trim panel to do this procedure, using a plastic flat-bladed**

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Callout	Component Name
	tool, remove the cover that conceals the screw for the lock cylinder/blank.
2	Rear Side Door Lock Cylinder/Blank Screw **CAUTION:** **Refer to Fastener Caution .** **NOTE:** **When removing the lock cylinder/blank, Do Not unscrew the screw past the hard stop.** **Tighten** 3.5 N.m (31 lb in)
3	Rear Side Door Lock Cylinder Opening Cover **Procedure** Pull the rear side door handle outward and remove the lock cylinder opening cover. **NOTE:** **Ensure that the door lock system**

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Callout	Component Name
	operates properly before installing the door trim.

REAR SIDE DOOR LOCK CYLINDER OPENING COVER REPLACEMENT (LONG WHEELBASE)

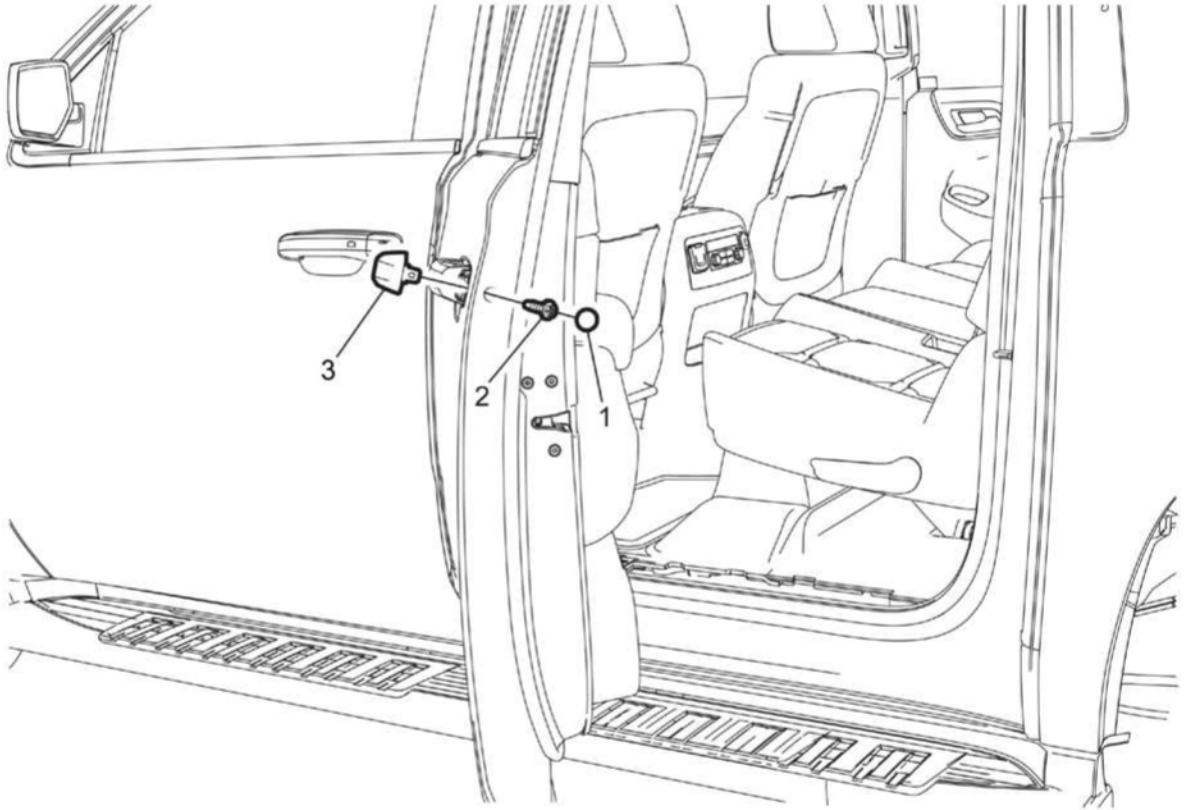


Fig. 73: Rear Side Door Lock Cylinder Opening Cover (Long Wheelbase)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
1	Rear Side Door Access Hole Cover

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Callout	Component Name
	NOTE: **Do not remove the door trim panel to do this procedure, using a plastic flat-bladed tool, remove the cover that conceals the screw for the lock cylinder/blank.**
2	Rear Side Door Lock Cylinder/Blank Screw **CAUTION:** **Refer to Fastener Caution .** **NOTE:** **When removing the lock cylinder/blank, Do Not unscrew the screw past the hard stop.** **Tighten** 3.5 N.m (31 lb in)

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Callout	Component Name
3	Rear Side Door Lock Cylinder Opening Cover **Procedure** Pull the rear side door handle outward and remove the lock cylinder opening cover. **NOTE:** **Ensure that the door lock system operates properly before installing the door trim.**

FRONT SIDE DOOR LOCK CYLINDER BEZEL REPLACEMENT (WITHOUT UTT)

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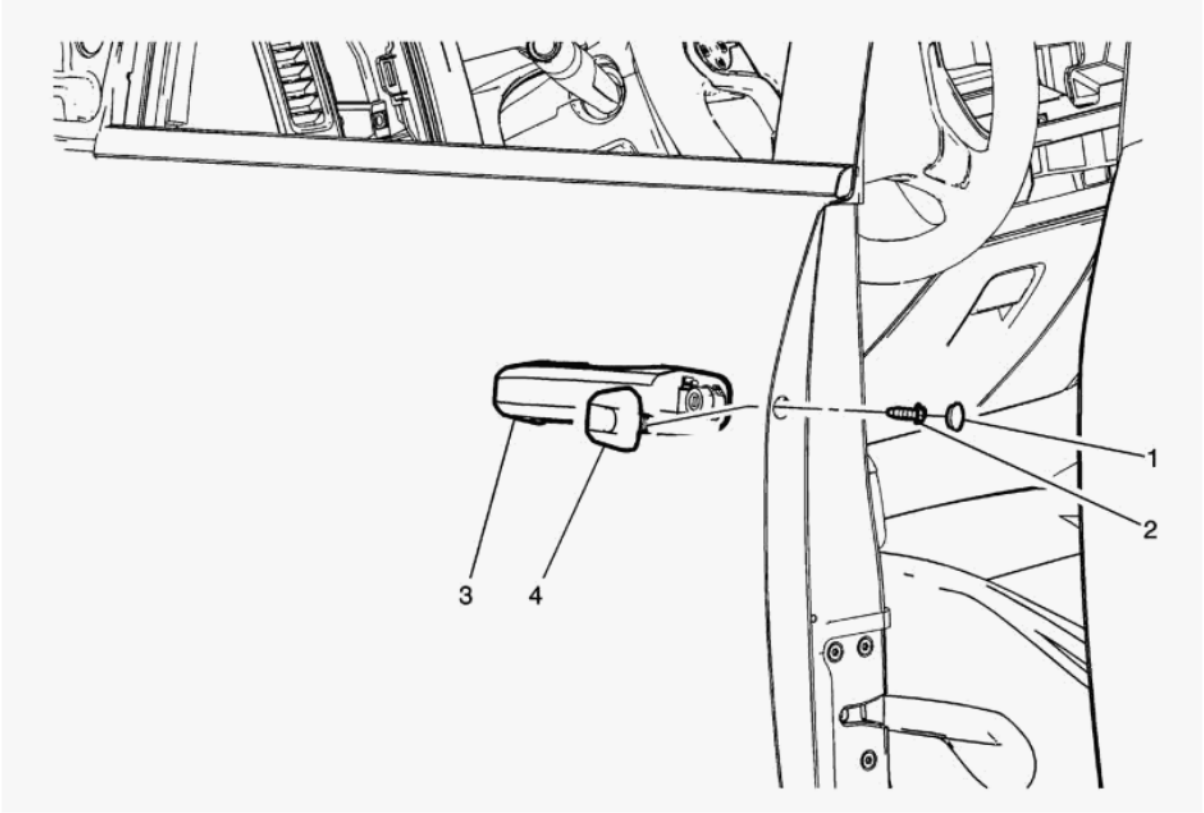


Fig. 74: Front Side Door Lock Cylinder Bezel
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
1	Front Side Door Access Hole Cover **Procedure** Using the appropriate tool, remove the cover that conceals the screw from the inside of the door opening. **NOTE:** **Do not remove the door trim panel to do this**

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Callout	Component Name
	procedure.
2	Front Side Door Outside Handle Lock Cylinder Screw **CAUTION:** **Refer to Fastener Caution .** **NOTE:** **When removing the lock cylinder/blank, Do Not completely unscrew the screw from the handle bracket (only far enough to remove lock cylinder bezel from the handle bracket).** **Tighten** 3.5 N.m (31 lb in)
3	Front Side Door Lock Cylinder Bezel Retainer
4	Front Side Door Lock Cylinder Bezel **Procedure** Pull the front side door handle outward and remove the lock cylinder bezel.

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Callout	Component Name
	NOTE:

Ensure that the door lock system operates properly before installing trim.

FRONT SIDE DOOR LOCK CYLINDER BEZEL REPLACEMENT (WITH UTT)

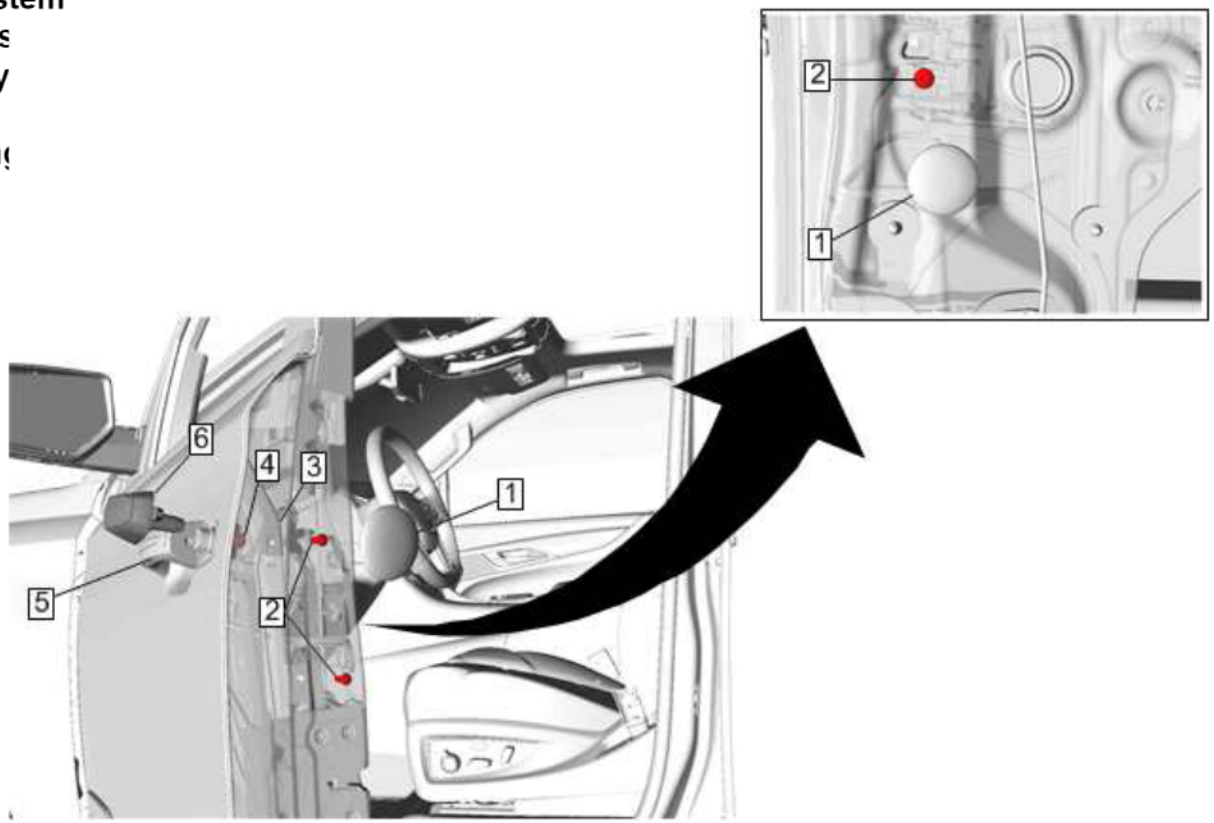


Fig. 75: Front Side Door Lock Cylinder Bezel (with UTT)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures 1. **Front Side Door Trim Replacement** 2. **Front Side Door Weatherstrip Replacement - Door Side** 3. Remove Water Deflector	

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ACCESSORY AND LIFTGATE CONTROL MODULE REPLACEMENT

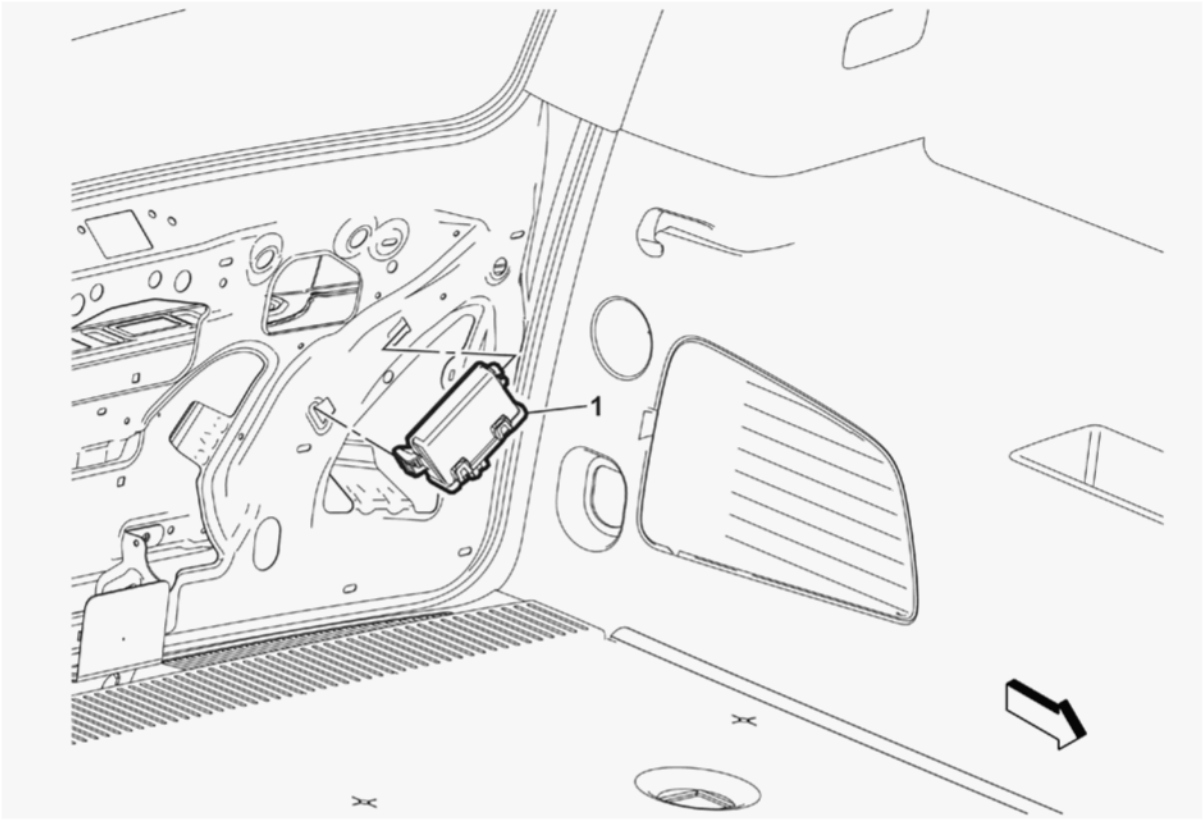


Fig. 76: Accessory and Liftgate Control Module
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the liftgate trim finish panel. Refer to **Liftgate Trim Finish Panel Replacement** .	
1	Accessory and Liftgate Control Module **Procedure** 1. Disconnect the electrical connectors. 2. Push in tabs to release module from the liftgate inner panel.

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Callout	Component Name
	3. Reprogram the control module if replaced. Refer to **Control Module References** .

REAR CLOSURE HANDS FREE MODULE REPLACEMENT (CADILLAC)

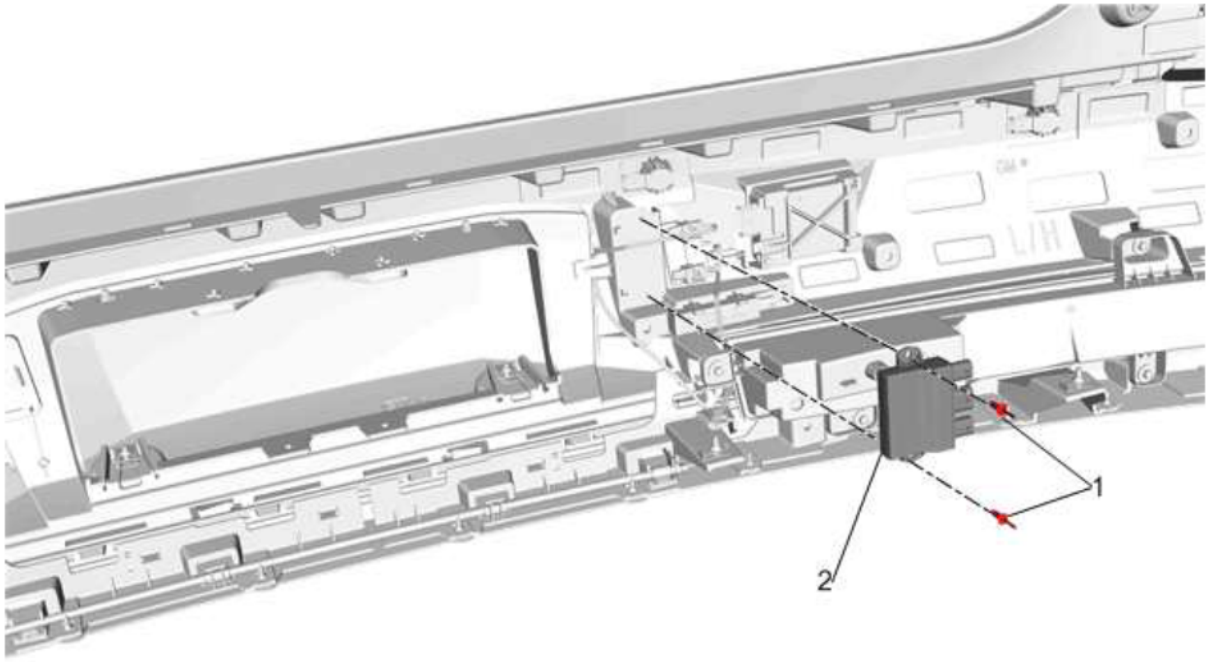


Fig. 77: Rear Closure Hands Free Module (Cadillac)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
WARNING: Refer to **Eye Protection Warning** .	

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Callout	Component Name
Preliminary Procedure 1. Remove the rear fascia. Refer to **Rear Bumper Fascia Replacement (Cadillac)** 2. Place the bumper fascia face down on a clean protected surface.	
1	Rear Closure Hands Free Module Rivet (Qty: 2)
2	Rear Closure Hands Free Module **Procedure** Disconnect the electrical connectors.

REAR CLOSURE HANDS FREE MODULE REPLACEMENT (CHEVROLET)

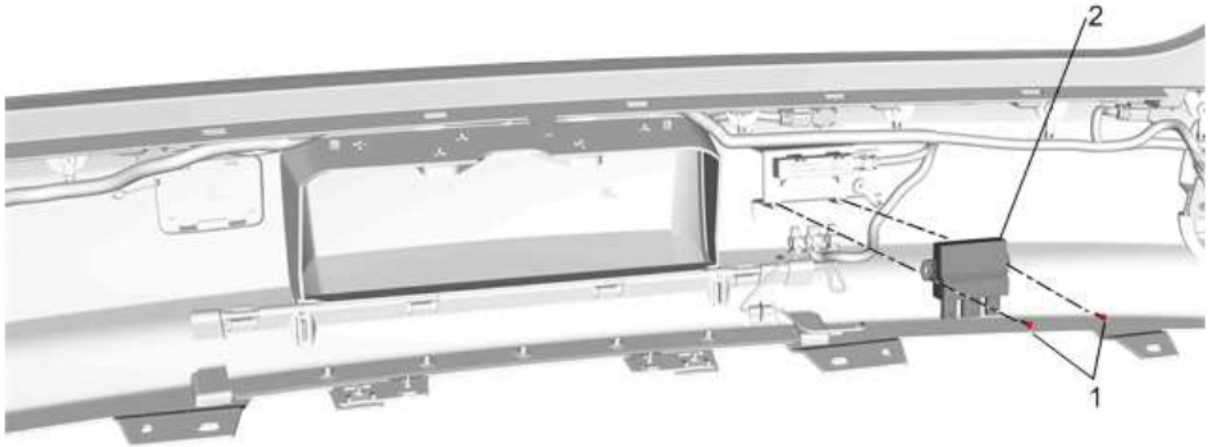


Fig. 78: Rear Closure Hands Free Module (Chevrolet)

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Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure 1. Remove the rear fascia. Refer to **Rear Bumper Fascia Replacement (Chevrolet, GMC)** 2. Place the bumper fascia face down on a clean protected surface.	
1	Rear Closure Hands Free Module Bolt (Qty 2) **CAUTION:** **Refer to Fastener Caution .** **Tighten** 2.5 N.m (22 lb in)
2	Rear Closure Hands Free Module **Procedure** Disconnect the electrical connectors.

REAR CLOSURE HANDS FREE SENSOR REPLACEMENT (GMC)

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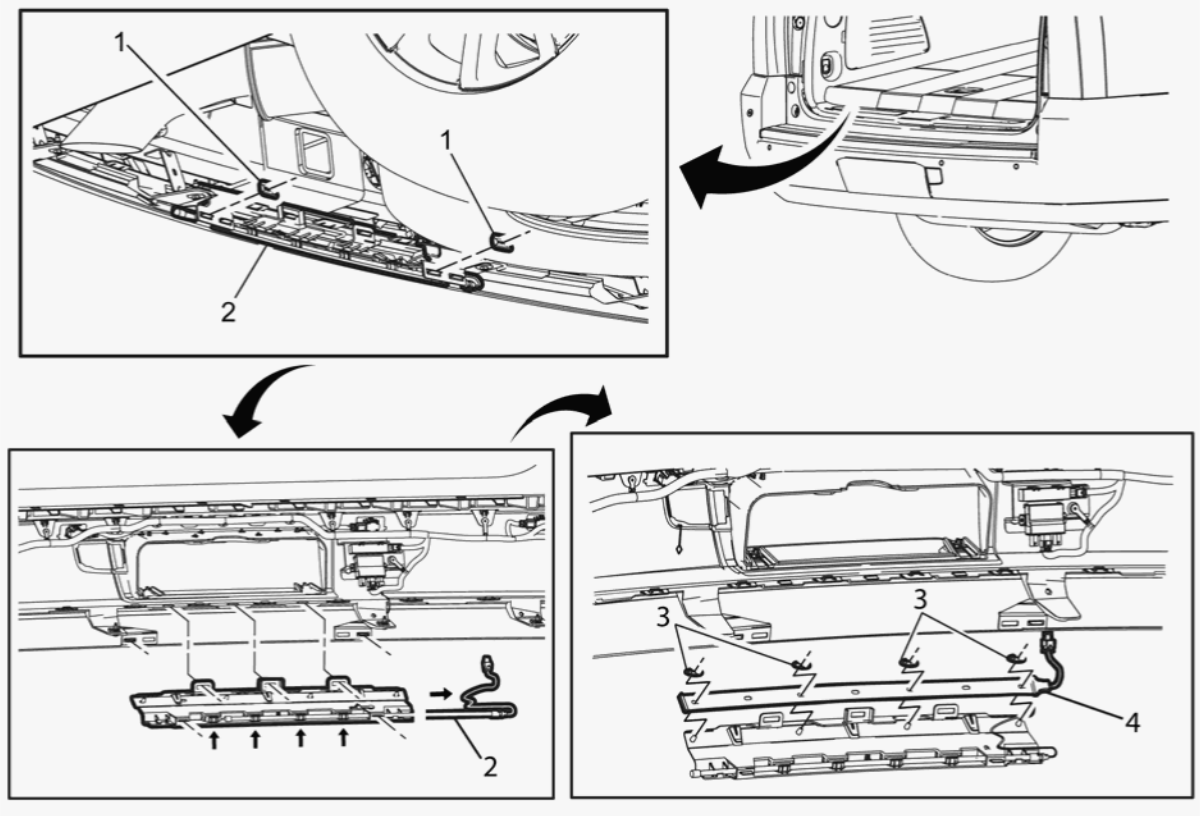


Fig. 79: Rear Closure Hands Free Sensor (GMC)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle**	
1	Rear Closure Hands Free Sensor Speed / Alligator Clips (Qty: 2)
2	Rear Closure Hands Free Sensor - Lower **Procedure** 1. Disengage and lower fascia 2 slots from upper fascia. 2. Disengage the rear tabs of the sensor bracket from the fascia and remove. 3. Disengage the wire at the connector, disengage opposite end, then pull back on each tab, and apply slight force on

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Callout	Component Name
	sensor to push the sensor out of the tabs (arrow location). Then slide sensor tube towards wire located side.
3	Rear Closure Hands Free Sensor Nut - Upper (Qty: 4) **CAUTION:** **Refer to** **Fastener Caution** . **Procedure** Push on to secure
4	Rear Closure Hands Free Sensor - Upper **Procedure** Disconnect the electrical connector

REAR CLOSURE HANDS FREE SENSOR REPLACEMENT (CADILLAC)

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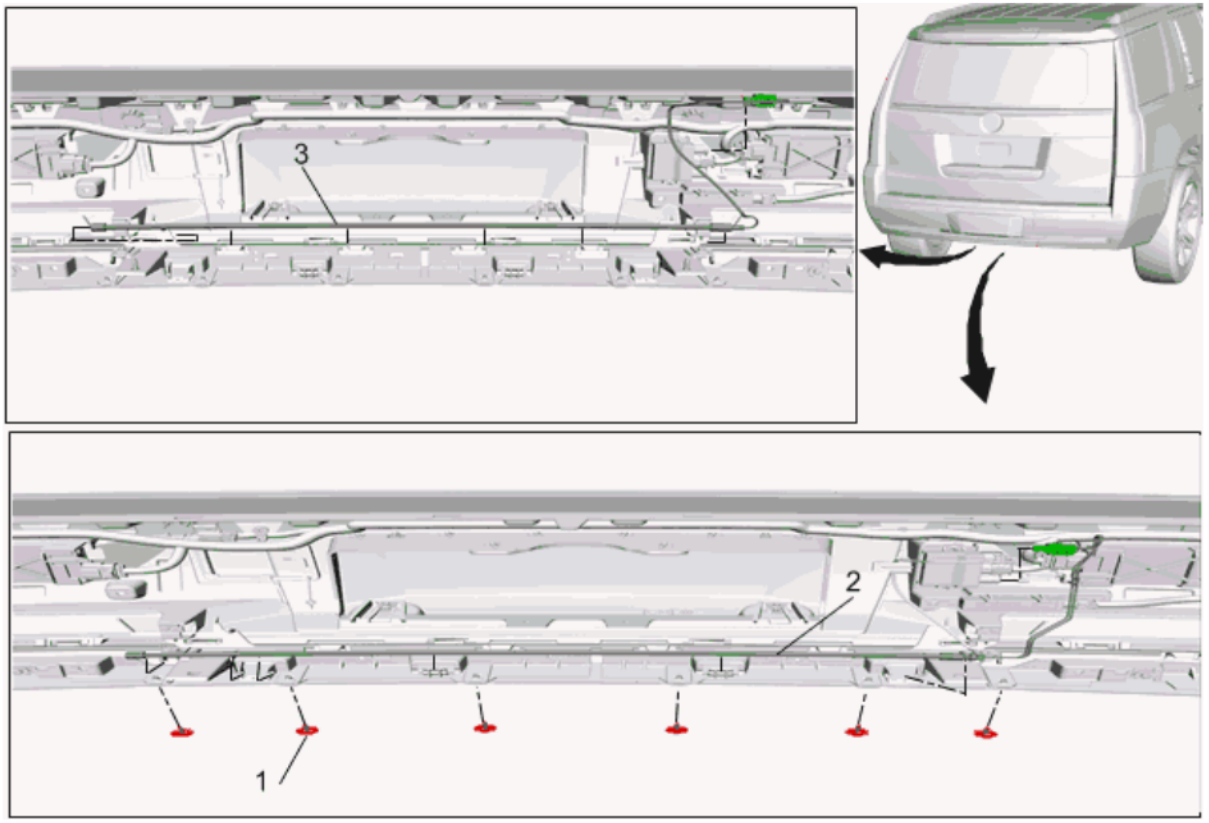


Fig. 80: Rear Closure Hands Free Sensor (Cadillac)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure 1. Remove the rear fascia. Refer to **Rear Bumper Fascia Replacement (Cadillac)** 2. Place the bumper fascia face down on a clean protected surface. 3. Remove the left rear fog lamp. Refer to **Rear Fog Lamp Replacement** **Rear Fog Lamp Replacement (Cadillac)**	
1	Rear Bumper Fascia Lower Screw (Qty: 6) **CAUTION:**

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Callout	Component Name
	Refer to Fastener Caution . **Tighten** 2.5 N.m (22 lb in)
2	Rear Closure Hands Free Sensor - Lower **Procedure** Disengage the wire at the connector, disengage opposite end, then pull back on each tab, and apply slight force on sensor to push the sensor out of the tabs and remove.
3	Rear Closure Hands Free Sensor - Uppper **Procedure** 1. Disconnect the electrical connector. 2. Reposition the upper fascia center structure for access to the upper sensor. 3. Remove the sensor out from between the rear bumper fascia and the rear bumper fascia structure.

REAR CLOSURE HANDS FREE SENSOR REPLACEMENT (CHEVROLET)

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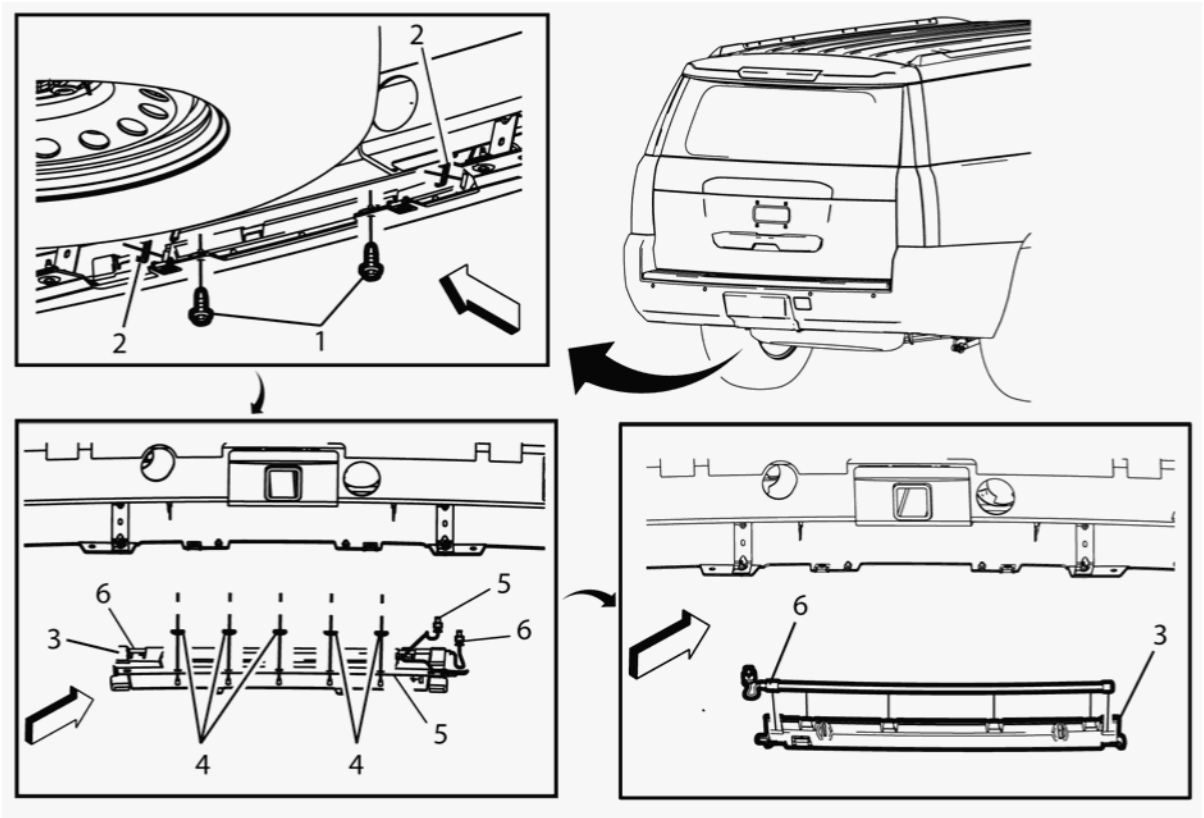


Fig. 81: Rear Closure Hands Free Sensor (Chevrolet)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle**	
1	Rear Closure Hands Free Sensor Bolt (Qty 2) **CAUTION:** **Refer to Fastener Caution .**

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Callout	Component Name
	Tighten 2.5 N.m (22 lb in)
2	Rear Closure Hands Free Sensor Speed / Alligator Clips (Qty: 2)
3	Rear Closure Hands Free Sensor Bracket
4	Rear Closure Hands Free Sensor Nut - Lower (Qty: 5) **Procedure** Push on to secure.
5	Rear Closure Hands Free Sensor - Lower **Procedure** Disconnect the electrical connector and remove.
6	Rear Closure Hands Free Sensor - Upper **Procedure** Disengage the wire connector, disengage opposite end, then pull back on each tab, and apply slight force on sensor to push the sensor out of the four tabs and remove.

FRONT SIDE DOOR LOCKING ROD CLIP REPLACEMENT

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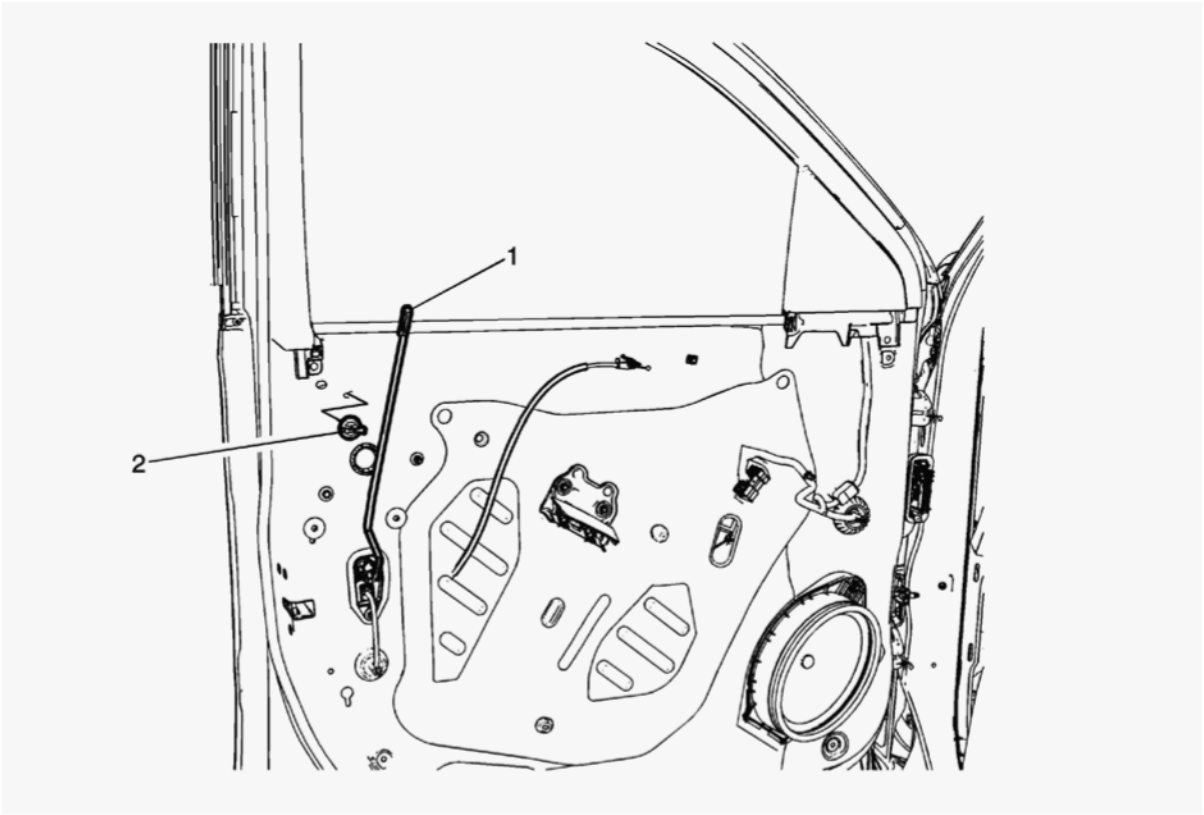


Fig. 82: Front Side Door Locking Rod Clip
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the front side door trim. Refer to **Front Side Door Trim Replacement** .	
1	Front Side Door Locking Rod Knob **Procedure** Separate the front side door locking rod knob from the clip and move to the side.
2	Front Side Door Locking Rod Clip **Procedure** Turn the front side door locking rod clip 180 degrees and pull from the door. **NOTE:**

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Callout	Component Name
	Inspect the front side door lock for proper operating before installing the door trim.

FRONT SIDE DOOR LOCKING ROD KNOB REPLACEMENT

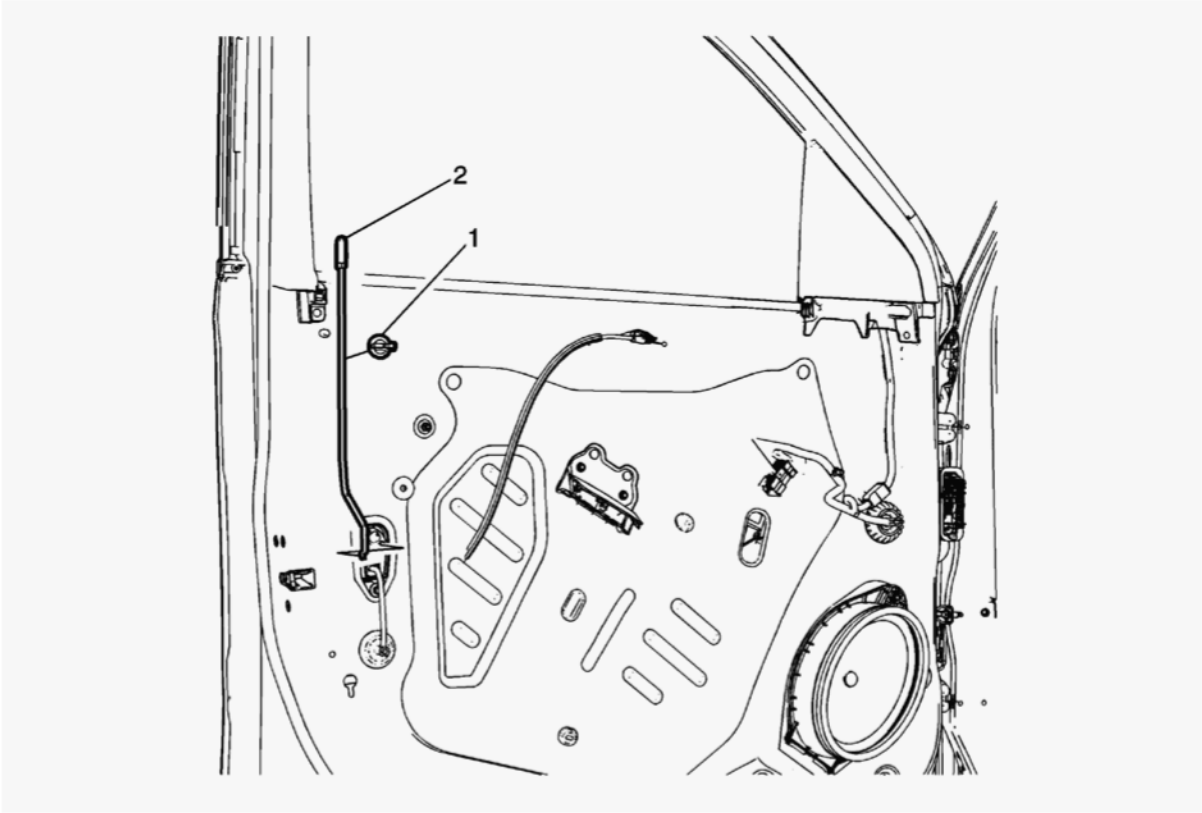


Fig. 83: Front Side Door Locking Rod Knob
Courtesy of GENERAL MOTORS COMPANY

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Callout	Component Name
Preliminary Procedure Remove the front side door trim. Refer to **Front Side Door Trim Replacement** .	
1	Front Side Door Locking Rod Clip **Procedure** Release the locking rod from the clip.
2	Front Side Door Locking Rod **Procedure** Turn the locking rod downward, pull outward while turning, releasing it from the latch. **NOTE:** **Ensure that the door lock system operates properly before installing the trim.**

FRONT SIDE DOOR LOCK CYLINDER ROD REPLACEMENT

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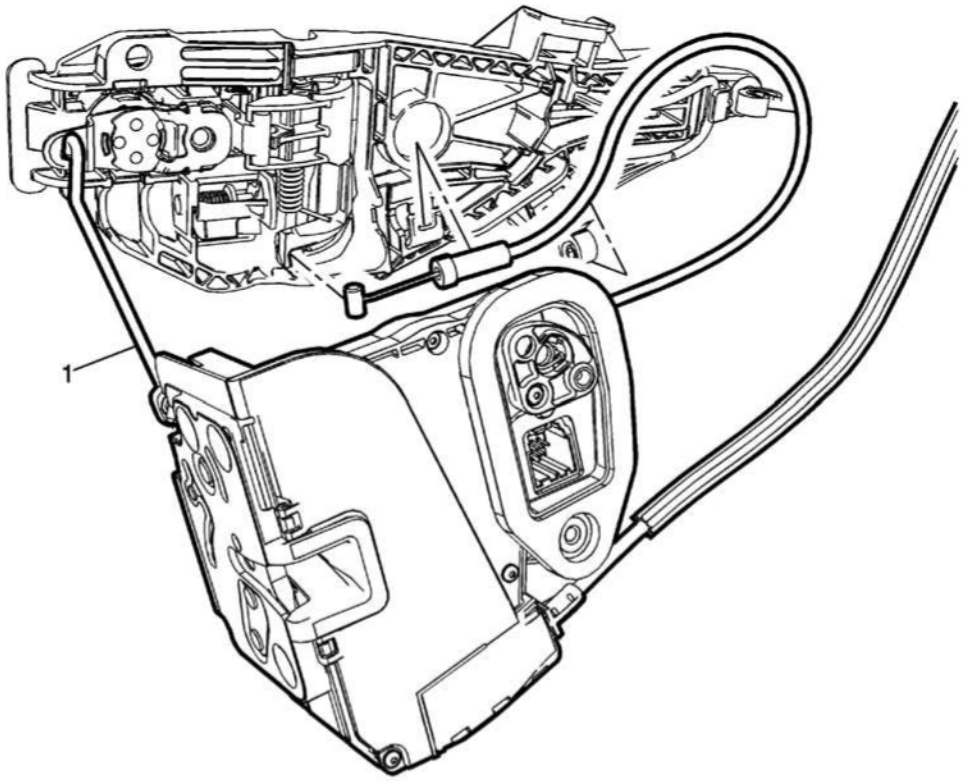


Fig. 84: Front Side Door Lock Cylinder Rod
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the front side door latch and handle bracket assembly from the door. Refer to **Front Side Door Latch Replacement**.	
1	Front Side Door Lock Cylinder Rod **Procedure** 1. Remove the front side door lock cylinder rod from the lock cylinder by turning the housing bracket clockwise. 2. Release the lock cylinder rod from the latch only, do not remove the handle cables from the latch. **NOTE:**

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Callout	Component Name
	Ensure that the door lock system operates properly before installing the trim.

LIFTGATE POWER ASSIST ACTUATOR REPLACEMENT (CHEVROLET, GMC)

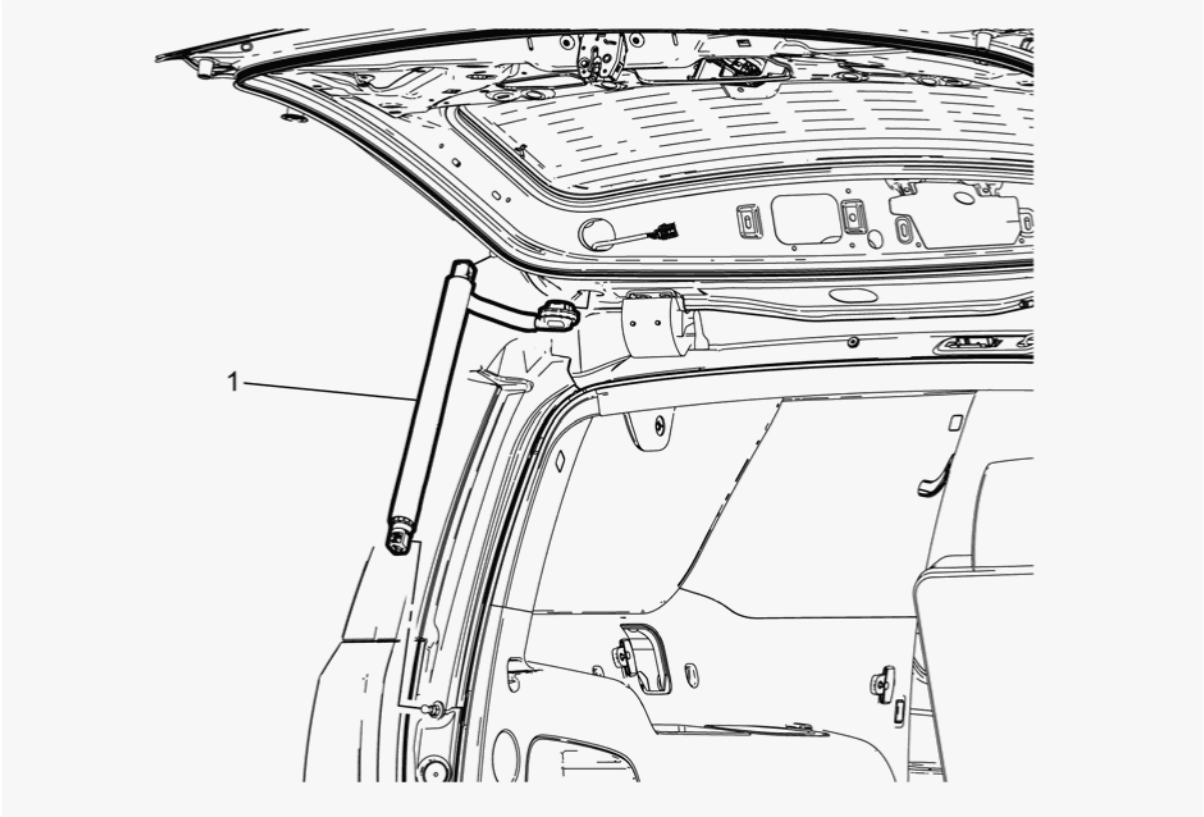


Fig. 85: Liftgate Power Assist Actuator (Chevrolet, GMC)
Courtesy of GENERAL MOTORS COMPANY

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Callout	Component Name
Preliminary Procedure Remove the liftgate upper trim finish panel. Refer to **Liftgate Upper Trim Finish Panel Replacement** .	
1	Liftgate Power Assist Actuator **WARNING:** **When a lift gate hold open device is being removed or installed, provide alternate support to avoid the possibility of damage to the vehicle or personal injury.** **Procedure** 1. Disconnect the electrical connector under the liftgate upper trim panel. 2. Disconnect the pass through grommet. 3. Release the strut retainers/clips using a small flat bladed tool to retract clip slightly while removing lock tabs. 4. Ensure the retainer/clip is fully seated when rod is reinstalled. If clip cannot be fully seated, a new rod should be installed. 5. If any portion of the power liftgate assembly is replaced, repaired or disassembled, perform the following liftgate calibration procedure. **Liftgate Calibration**

LIFTGATE POWER ASSIST ACTUATOR REPLACEMENT (CADILLAC)

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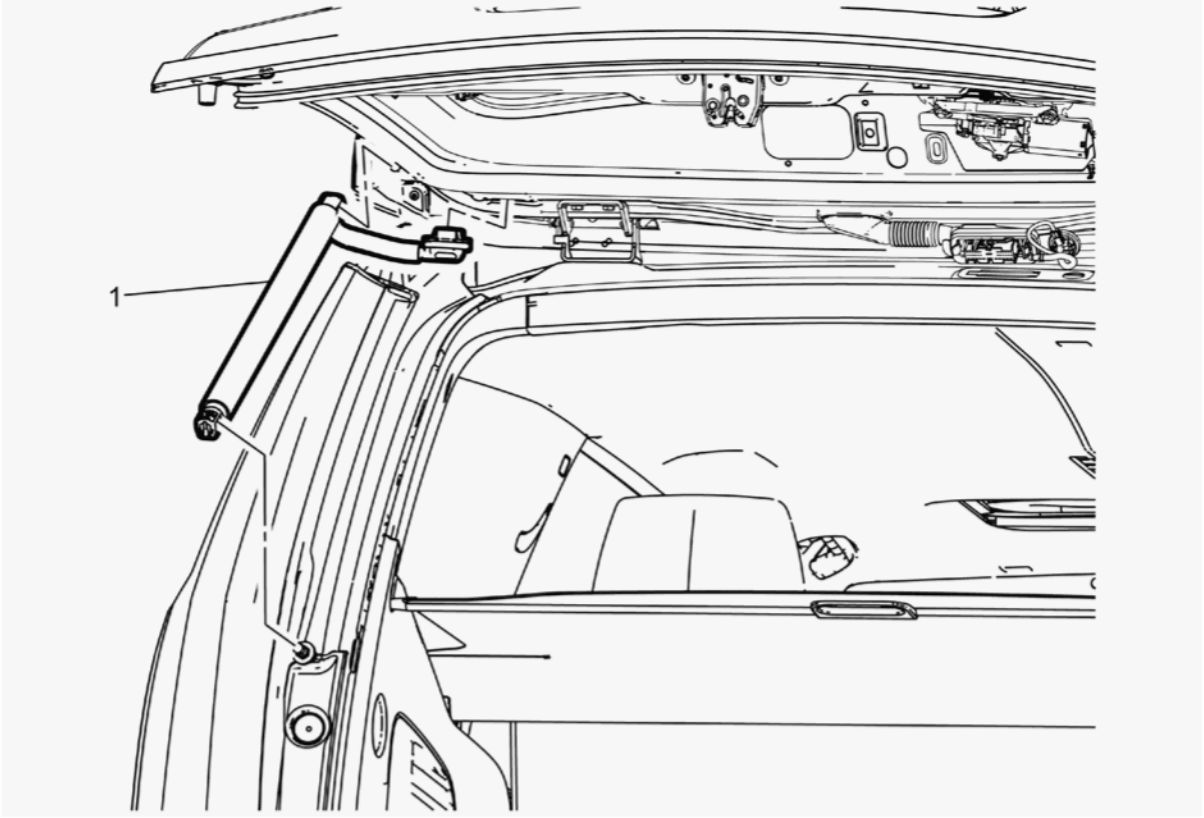


Fig. 86: Liftgate Power Assist Actuator (Cadillac)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the liftgate upper trim finish panel. Refer to **Liftgate Upper Trim Finish Panel Replacement** .	
1	Liftgate Power Assist Actuator **WARNING:** **When a lift gate hold open device is being removed or**

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Callout	Component Name
	installed, provide alternate support to avoid the possibility of damage to the vehicle or personal injury. **Procedure** 1. Disconnect the electrical connector under the liftgate upper trim panel. 2. Disconnect the pass through grommet. 3. Release the strut retainers/clips using a small flat bladed tool to retract clip slightly while removing lock tabs. 4. Ensure the retainer/clip is fully seated when rod is reinstalled. If clip cannot be fully seated, a new rod should be installed. 5. If any portion of the power liftgate assembly is replaced, repaired or disassembled, perform the following liftgate calibration procedure. **Liftgate Calibration**

REAR SIDE DOOR LOCKING ROD KNOB REPLACEMENT (SHORT WHEELBASE)

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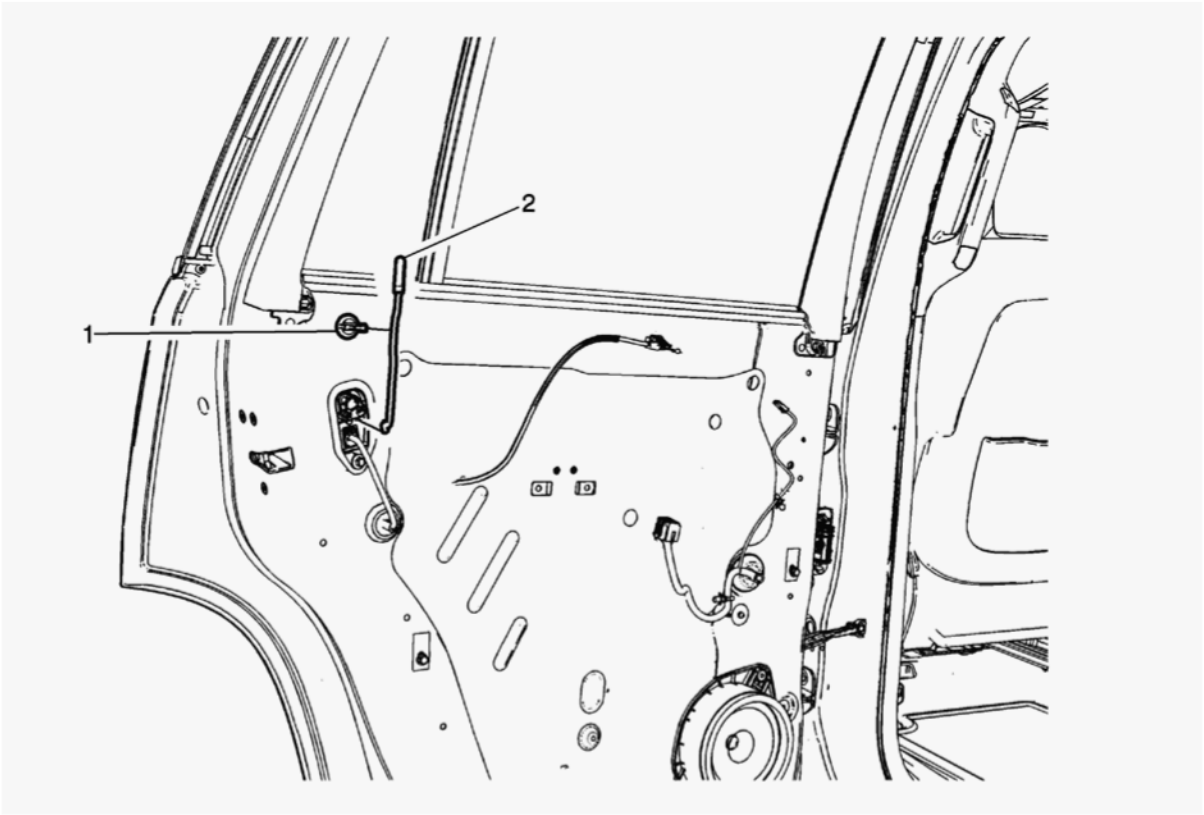


Fig. 87: Rear Side Door Locking Rod Knob (Short Wheelbase)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the rear side door trim. Refer to **Rear Side Door Trim Replacement (Chevrolet, GMC)** **Rear Side Door Trim Replacement (Cadillac)** .	
1	Rear Side Door Locking Rod Knob Clip **Procedure** Release the locking rod knob from the clip. **NOTE:** **Ensure that the door**

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Callout	Component Name
	lock system operates properly before installing the trim.
2	Rear Side Door Locking Rod Knob **Procedure** Turn the locking rod downward, pull outward and turn while releasing it from the latch.

REAR SIDE DOOR LOCKING ROD KNOB REPLACEMENT (LONG WHEELBASE)

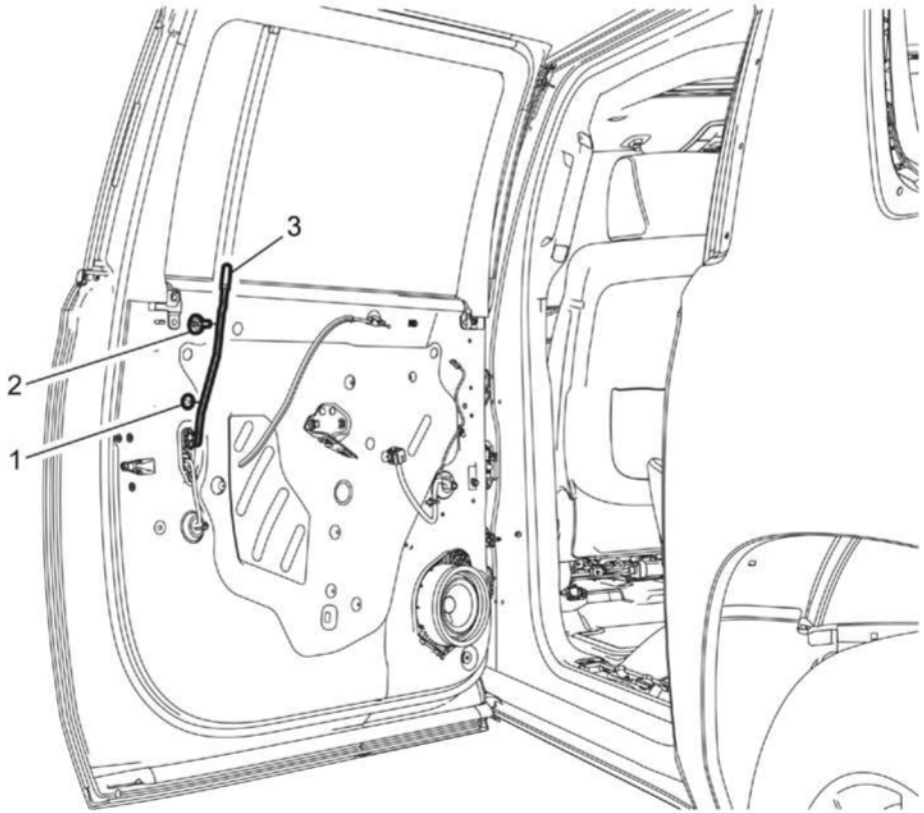


Fig. 88: Rear Side Door Locking Rod Knob (Long Wheelbase)

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Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the rear side door trim. Refer to **Rear Side Door Trim Replacement (Chevrolet, GMC)** **Rear Side Door Trim Replacement (Cadillac)** .	
1	Rear Side Door Locking Rod Knob Retainer
2	Rear Side Door Locking Rod Knob Clip **Procedure** Release the locking rod knob from the clip. **NOTE:** **Ensure that the door lock system operates properly before installing the trim.**
3	Rear Side Door Locking Rod Knob **Procedure** Turn the locking rod downward, pull outward and turn while releasing it from the latch.

REAR SIDE DOOR LOCKING ROD CLIP REPLACEMENT (SHORT WHEELBASE)

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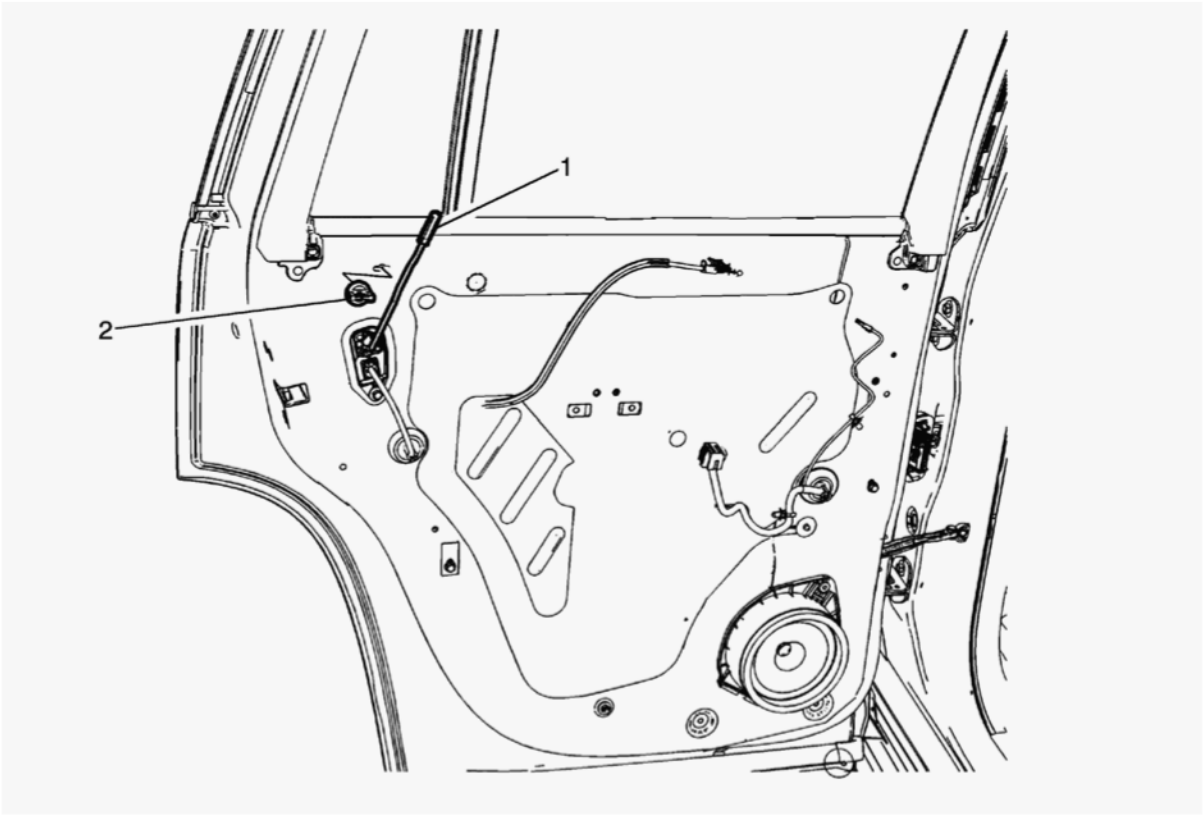


Fig. 89: Rear Side Door Locking Rod Clip (Short Wheelbase)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the rear side door trim. Refer to **Rear Side Door Trim Replacement (Chevrolet, GMC)** **Rear Side Door Trim Replacement (Cadillac)** .	
1	Rear Side Door Locking Rod Knob **Procedure** Separate the rear side door locking rod knob from the clip and move to the side.
2	Rear Side Door Locking Rod Clip **Procedure** Turn the rear side door locking rod clip 180 degrees and pull from the door.

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Callout	Component Name
	NOTE:

Inspect the rear side door lock for proper operatin before installin door trin

REAR SIDE DOOR LOCKING ROD CLIP REPLACEMENT (LONG WHEELBASE)

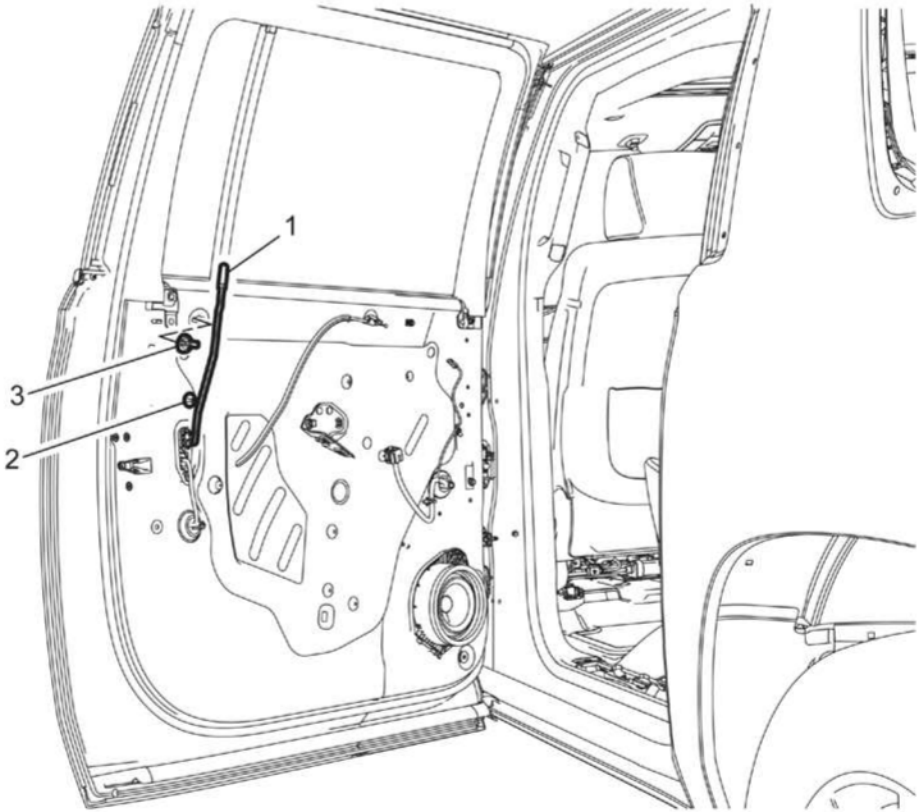


Fig. 90: Rear Side Door Locking Rod Clip (Long Wheelbase)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the rear side door trim. Refer to Rear Side Door Trim Replacement (Chevrolet, GMC) Rear Side Door Trim Replacement (Cadillac) .	
1	Rear Side Door Locking Rod Knob

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Callout	Component Name
	Procedures 1. Pull the rear side door locking rod knob from the clip and retainer. 2. Move the locking rod knob to the side to gain access to the clip.
2	Rear Side Door Locking Rod Retainer
3	Rear Side Door Locking Rod Clip **Procedure** Turn the rear side door locking rod clip 180 degrees and pull from the door. **NOTE:** **Inspect the rear side door lock for proper operating before installing the door trim.**

LIFTGATE SIDE SENSOR REPLACEMENT

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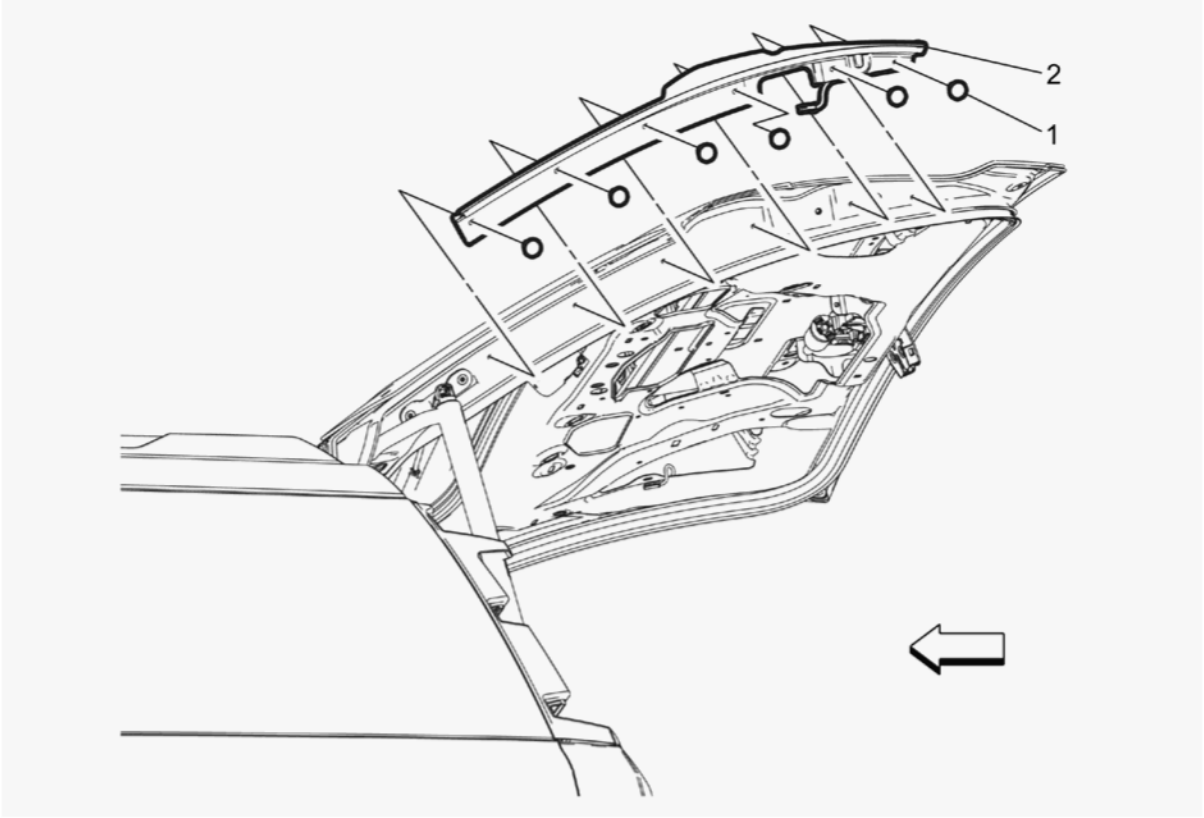


Fig. 91: Liftgate Side Sensor
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures 1. Remove the liftgate trim finish panel. Refer to **Liftgate Trim Finish Panel Replacement** 2. Disconnect the electrical connector.	
1	Liftgate Side Sensor Retainers (Qty: 6) **NOTE:** **The retainers are**

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Callout	Component Name
	ONE time use ONLY. They must be replaced after being removed.
2	Liftgate Side Sensor

FRONT SIDE DOOR LATCH STRIKER COVER REPLACEMENT

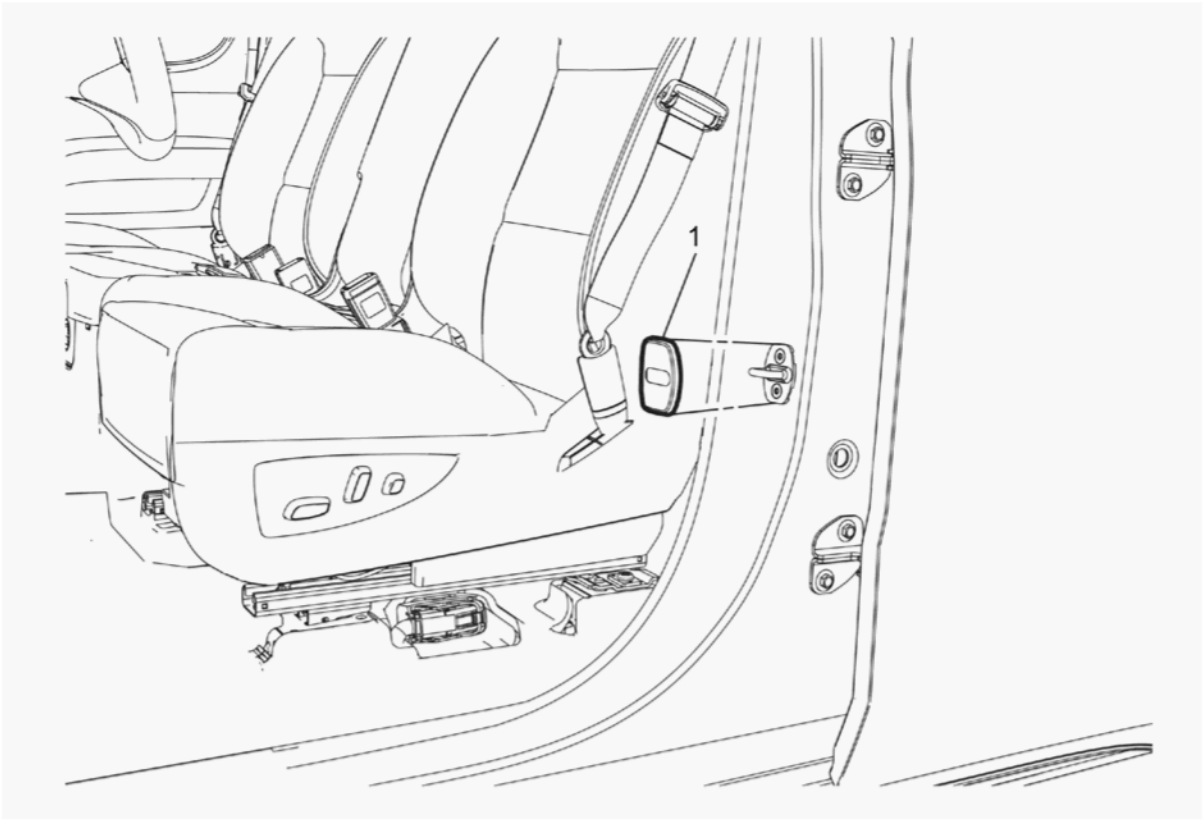


Fig. 92: Front Side Door Latch Striker Cover
Courtesy of GENERAL MOTORS COMPANY

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Callout	Component Name
Preliminary Procedure Open the front side door to the full open position.	
1	Front Side Door Latch Striker Cover **Procedure** Using a suitable tool, place the tool between the cover and the striker pressing outward on the tabs while releasing the cover from the striker.

FRONT SIDE DOOR LOCK STRIKER ADJUSTMENT

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

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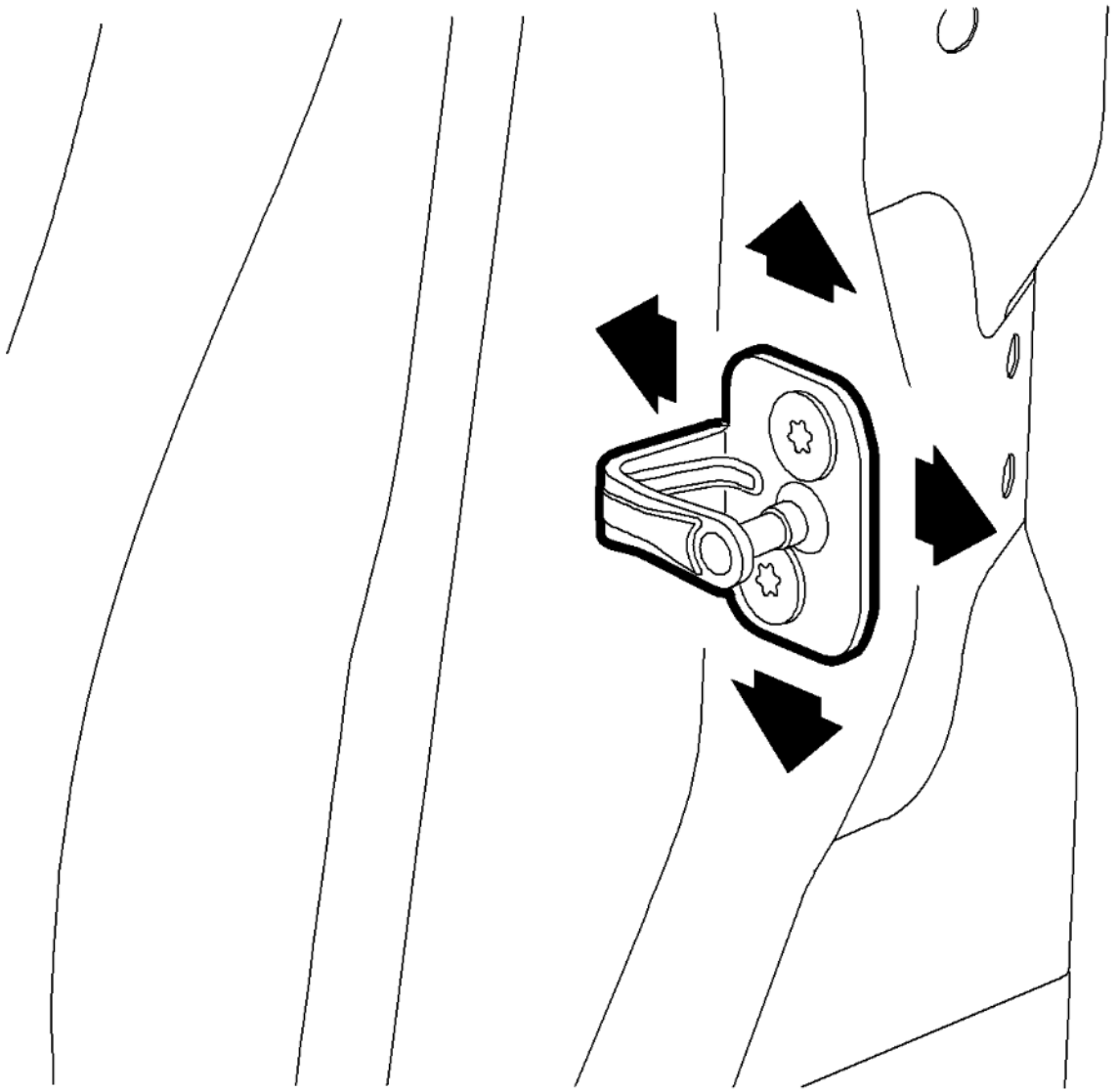


Fig. 93: View Of Door Striker
Courtesy of GENERAL MOTORS COMPANY

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 lock.

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3. Remove the front side door latch striker cover, if equipped. Refer to **Front Side Door Latch Striker Cover Replacement**.
4. Using a grease pencil, mark around the striker for reference of the original position. Loosen the striker.
5. Move the striker to eliminate drag on the striker and door lock 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 .**

6. Tighten the striker bolts. Tighten the front side door striker screws to 25 N.m (18 lb ft).

FRONT SIDE DOOR LOCK STRIKER REPLACEMENT

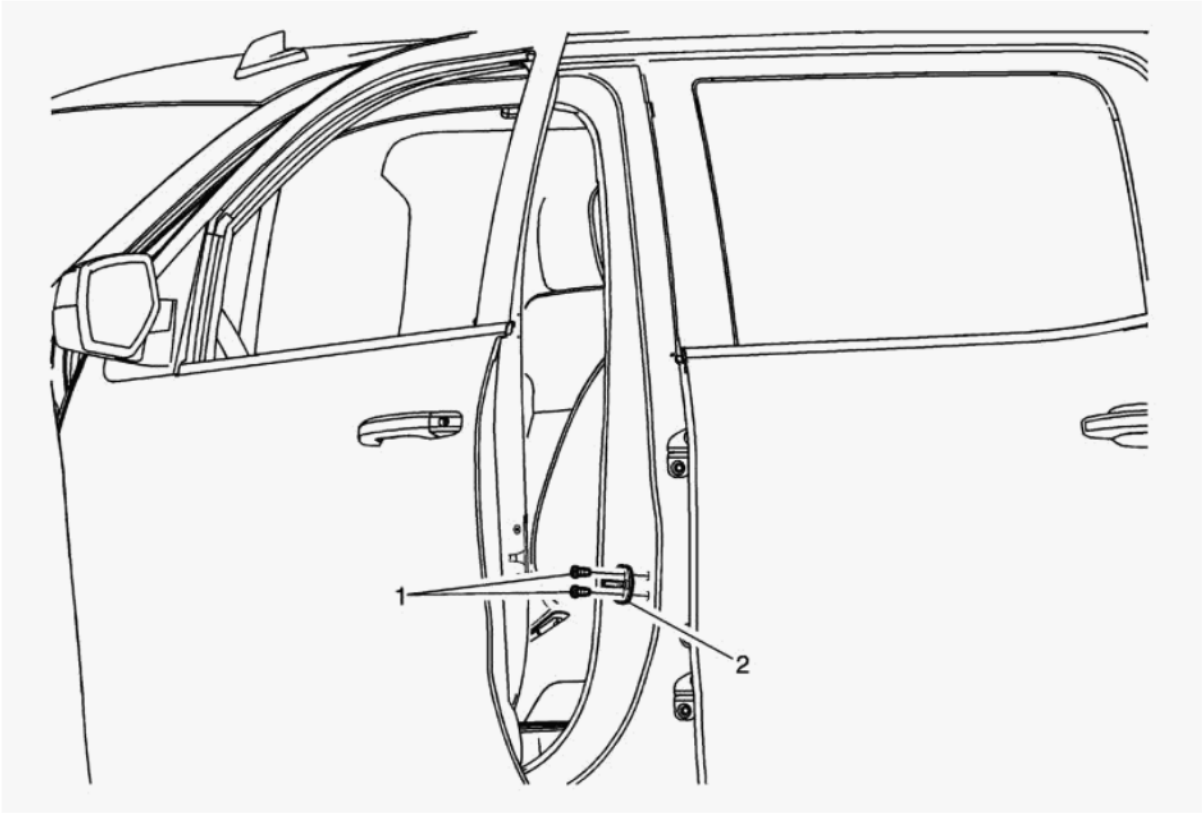


Fig. 94: Front Side Door Lock Striker
Courtesy of GENERAL MOTORS COMPANY

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Callout	Component Name
Preliminary Procedure Remove the front side door latch striker cover. Refer to **Front Side Door Latch Striker Cover Replacement**.	
1	Front Side Door Lock Striker Bolt (Qty: 2) **CAUTION:** **Refer to Fastener Caution .** **Tighten** 25 N.m (18 lb ft)
2	Front Side Door Lock Striker **Procedure** Ensure the alignment of the striker. Refer to **Front Side Door Lock Striker Adjustment**. **NOTE:** **Inspect the door for proper operation.**

LIFTGATE LATCH STRIKER REPLACEMENT (CHEVROLET, GMC)

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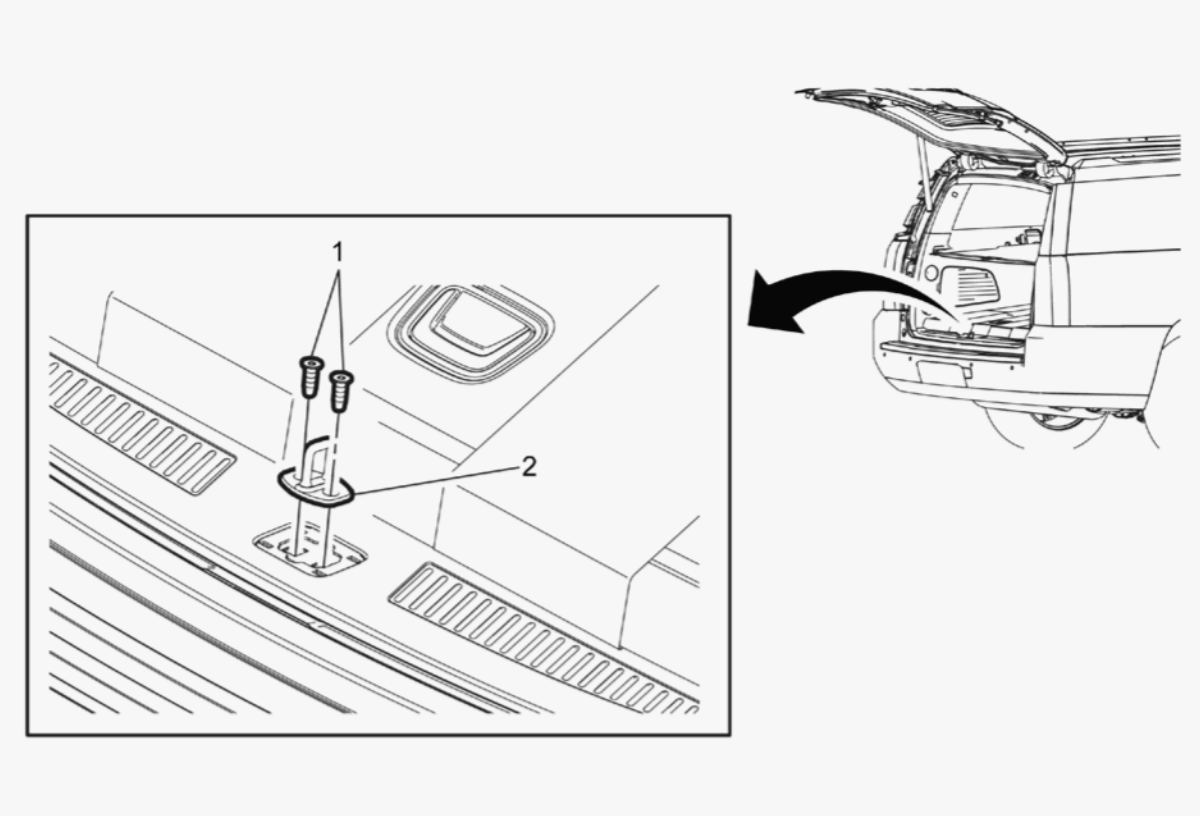


Fig. 95: Liftgate Latch Striker (Chevrolet, GMC)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures Remove liftgate sill garnish molding. Refer to **Liftgate Sill Garnish Molding Replacement**	
1	Liftgate Latch Striker Bolt (Qty: 2) **CAUTION:** **Refer to** **Fastener** **Caution** .

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Callout	Component Name
	Tighten 22 N.m (16 lb ft)
2	Liftgate Latch Striker **Procedure** Mark the location of the striker with a grease pencil to ensure proper alignment during installation.

LIFTGATE LATCH STRIKER REPLACEMENT (CADILLAC)

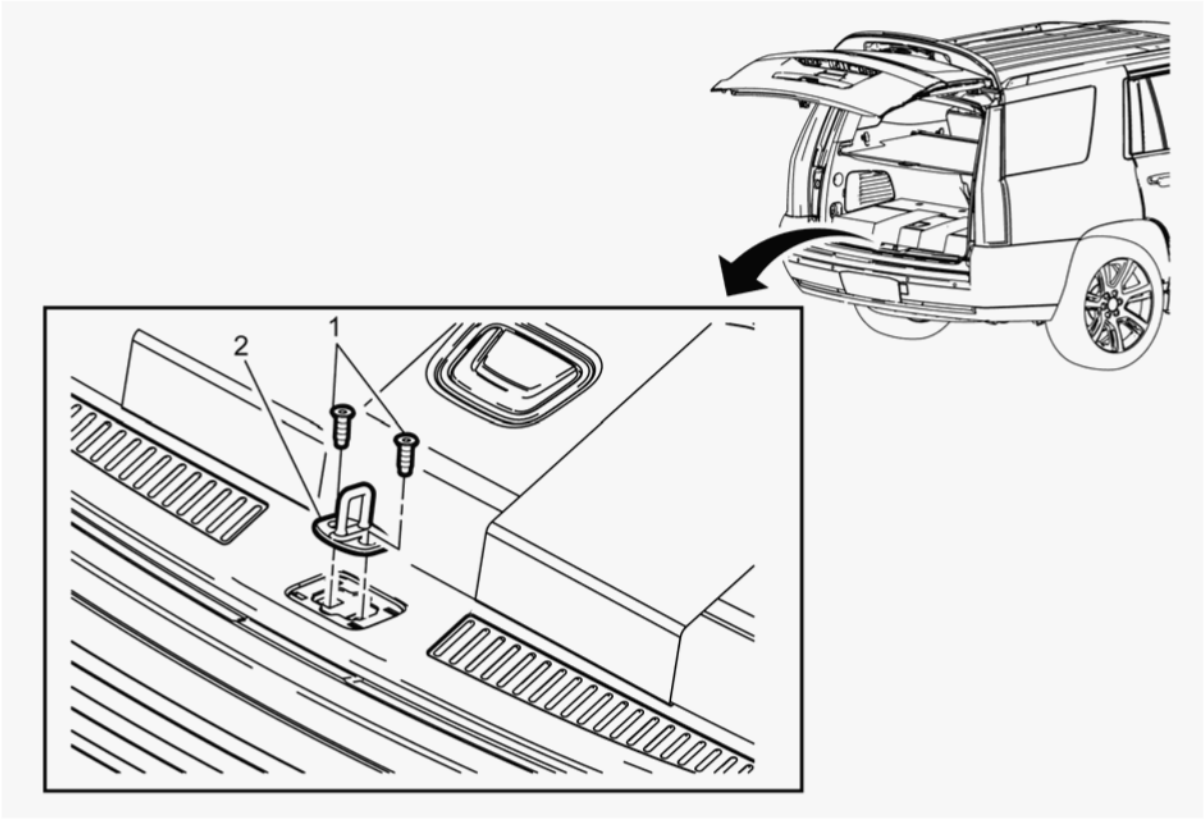


Fig. 96: Liftgate Latch Striker (Cadillac)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures	

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Callout	Component Name
Remove liftgate sill garnish molding. Refer to **Liftgate Sill Garnish Molding Replacement**	
1	Liftgate Latch Striker Bolt (Qty: 2) **CAUTION:** **Refer to** **Fastener** **Caution** . **Tighten** 22 N.m (16 lb ft)
2	Liftgate Latch Striker **Procedure** Mark the location of the striker with a grease pencil to ensure proper alignment during installation.

REAR SIDE DOOR LOCK STRIKER ADJUSTMENT

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

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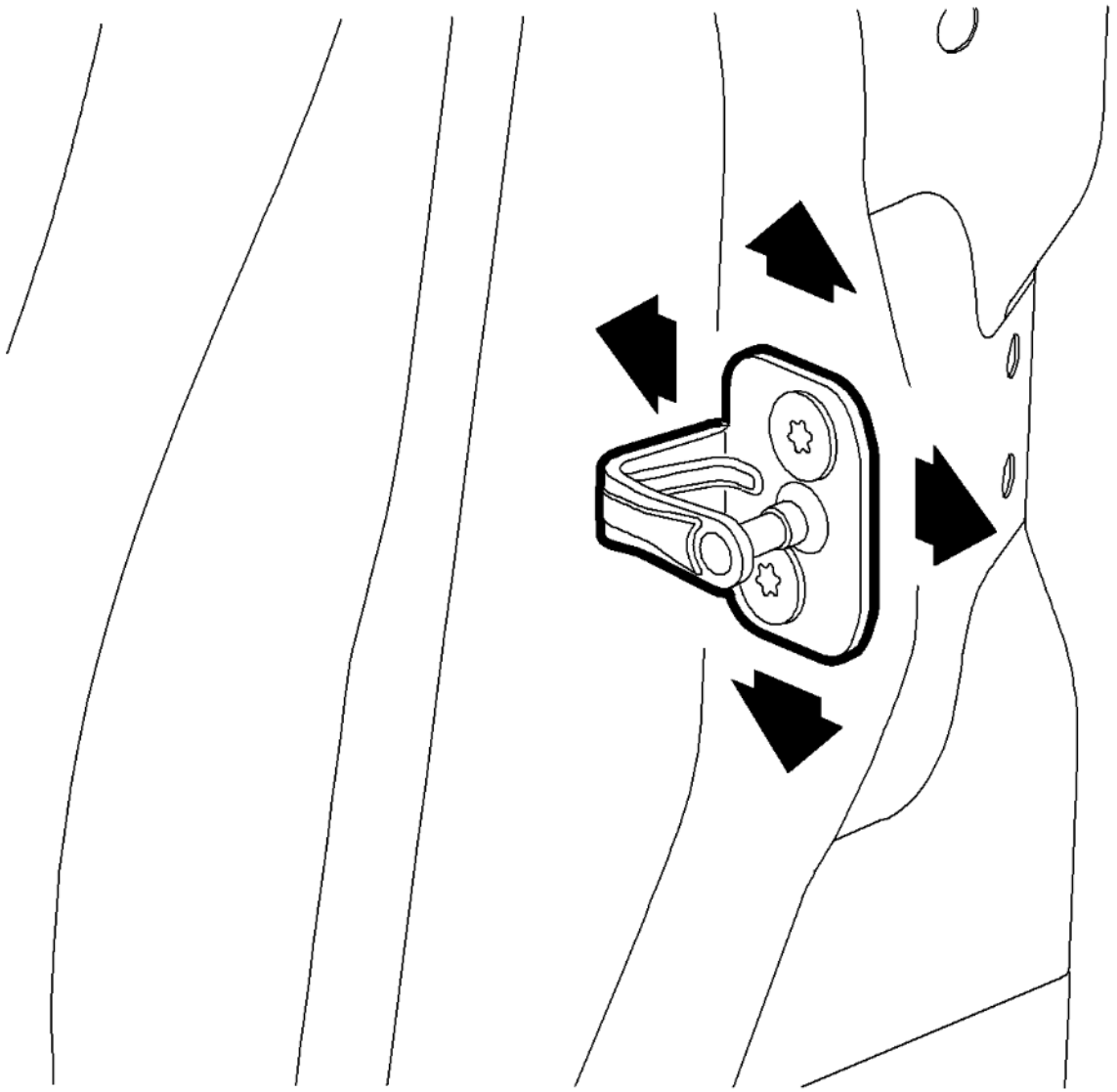


Fig. 97: View Of Door Striker
Courtesy of GENERAL MOTORS COMPANY

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 lock.

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3. Remove the rear side door latch striker cover, if equipped. Refer to **Rear Side Door Lock Striker Cover Replacement (Short Wheelbase)Rear Side Door Lock Striker Cover Replacement (Long Wheelbase)**.
4. Using a grease pencil, mark around the striker for reference of the original position. Loosen the striker.
5. Move the striker to eliminate drag on the striker and door lock 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 .**

6. Tighten the striker bolts. Tighten the rear side door striker bolts to 25 N.m (18 lb ft).

REAR SIDE DOOR LOCK STRIKER REPLACEMENT (SHORT WHEELBASE)

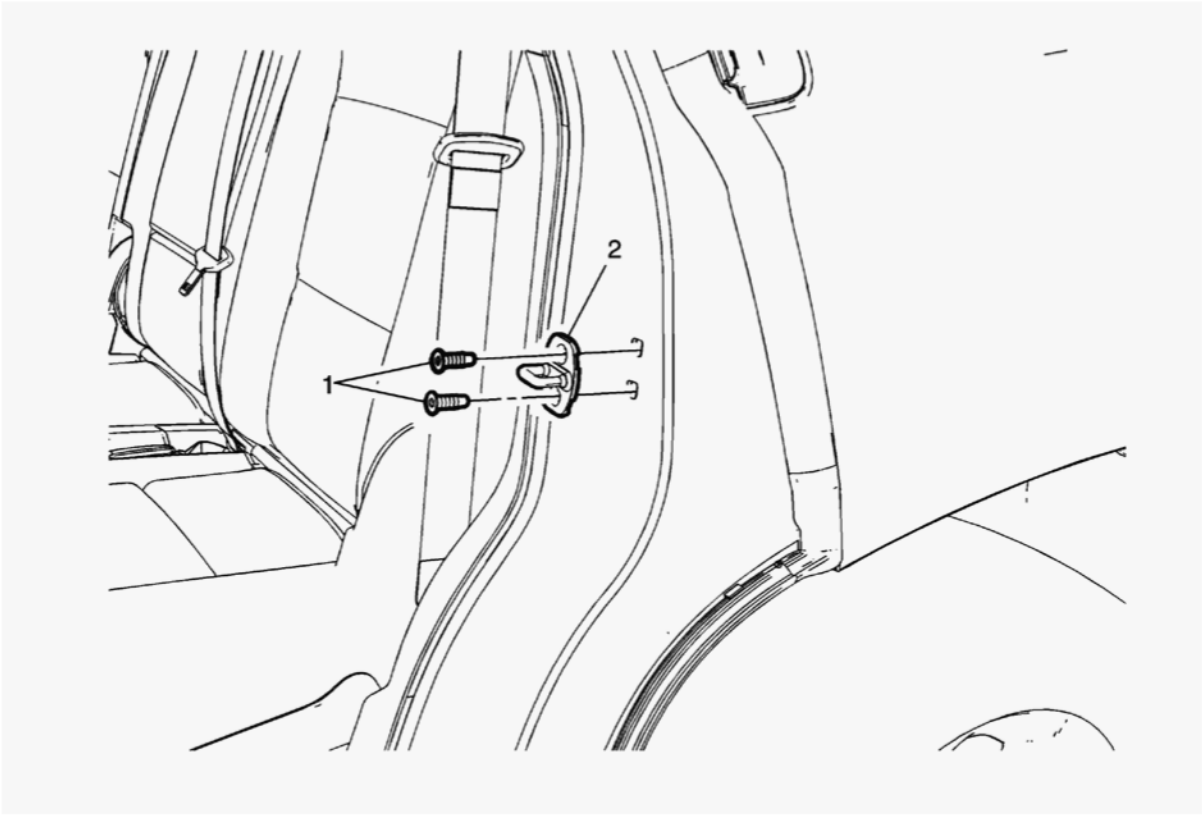


Fig. 98: Rear Side Door Lock Striker (Short Wheelbase)

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Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the rear side door lock striker cover. Refer to **Rear Side Door Lock Striker Cover Replacement (Short Wheelbase)**.	
1	Rear Side Door Lock Striker Bolt (Qty: 2) **CAUTION:** **Refer to Fastener Caution .** **Tighten** 25 N.m (18 lb ft)
2	Rear Side Door Lock Striker **Procedure** Ensure proper alignment after installation. Refer to **Rear Side Door Lock Striker Adjustment**. **NOTE:** **Inspect the door for proper operation.**

REAR SIDE DOOR LOCK STRIKER REPLACEMENT (LONG WHEELBASE)

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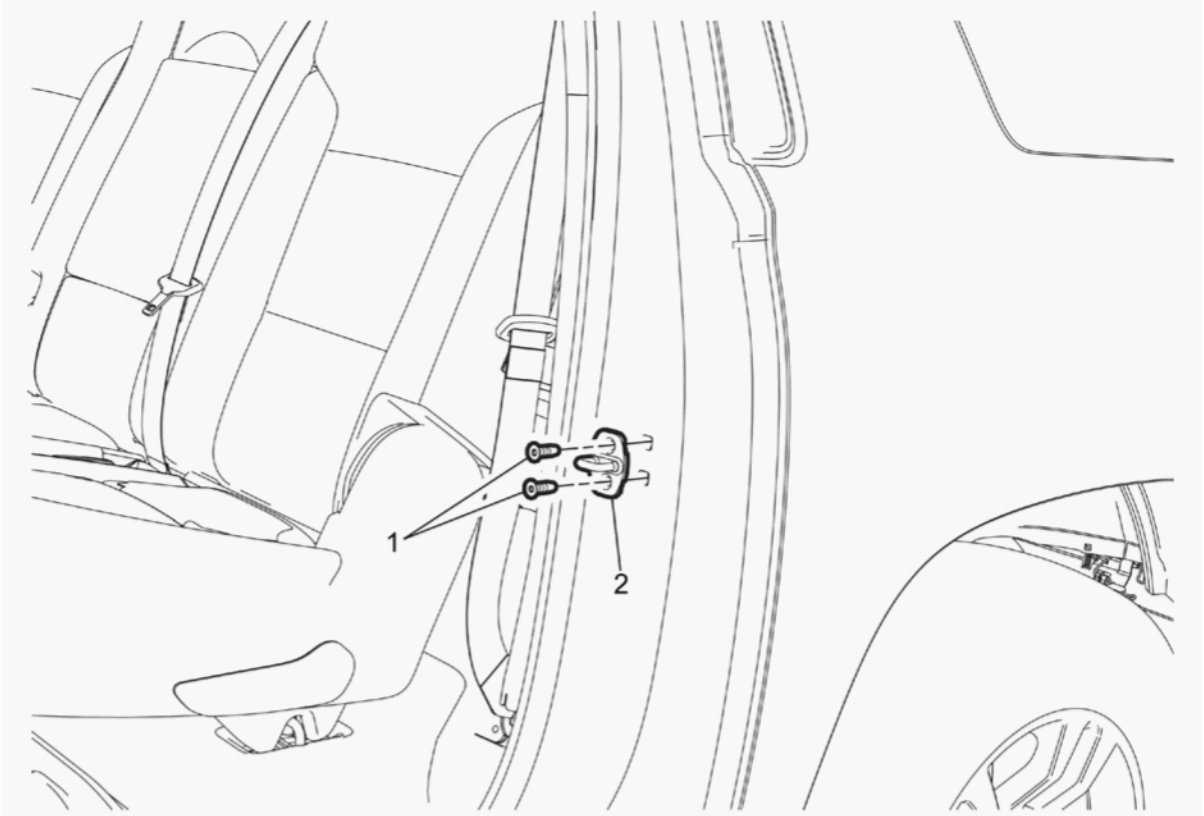


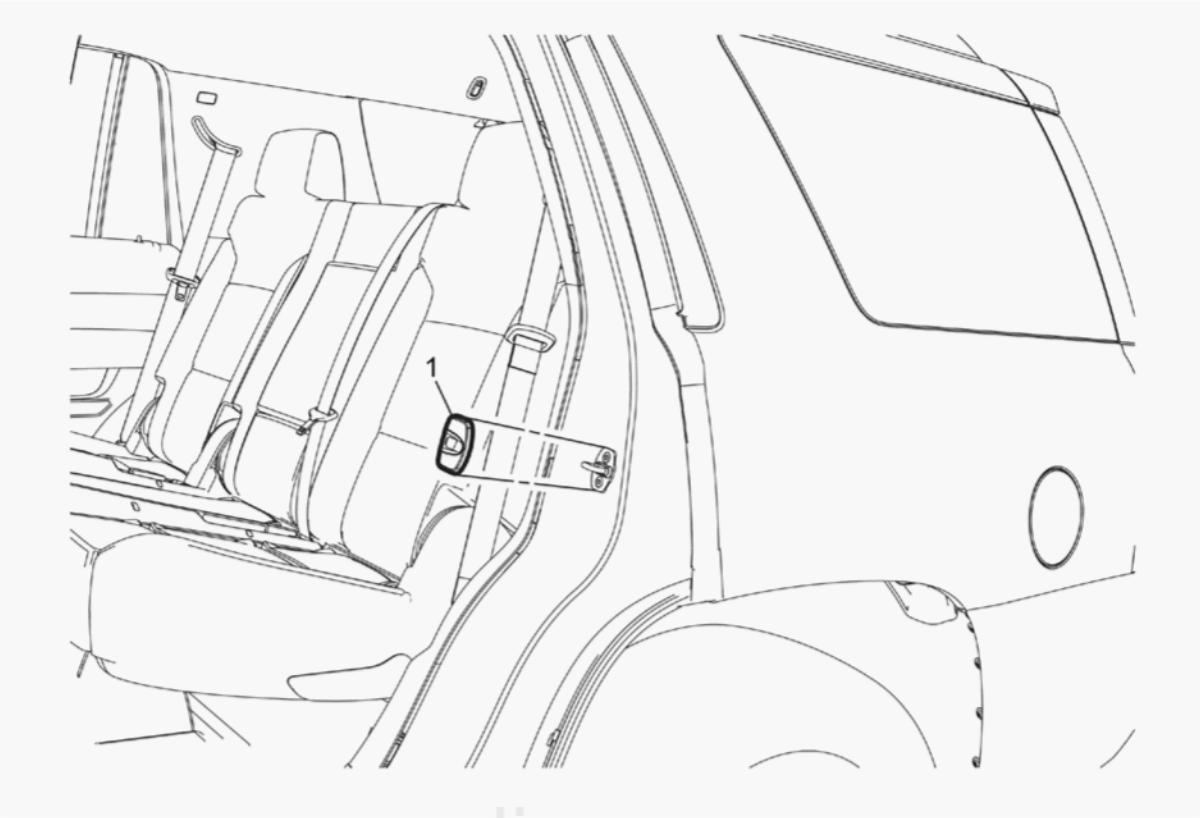
Fig. 99: Rear Side Door Lock Striker (Long Wheelbase)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the rear side door lock striker cover. Refer to **Rear Side Door Lock Striker Cover Replacement (Long Wheelbase)**.	
1	Rear Side Door Lock Striker Bolt (Qty: 2) **CAUTION:** **Refer to** **Fastener** **Caution** .

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Callout	Component Name
	Tighten 25 N.m (18 lb ft)
2	Rear Side Door Lock Striker **Procedure** Ensure proper alignment after installation. Refer to **Rear Side Door Lock Striker Adjustment**. **NOTE:** **Inspect the door for proper operation.**

REAR SIDE DOOR LOCK STRIKER COVER REPLACEMENT (SHORT WHEELBASE)



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Fig. 100: Rear Side Door Lock Striker Cover (Short Wheelbase)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Open the rear side door to the full open position.	
1	Rear Side Door Lock Striker Cover **Procedure** Using a suitable tool, place the tool between the cover and the striker pressing outward on the tabs while releasing the cover from the striker.

REAR SIDE DOOR LOCK STRIKER COVER REPLACEMENT (LONG WHEELBASE)

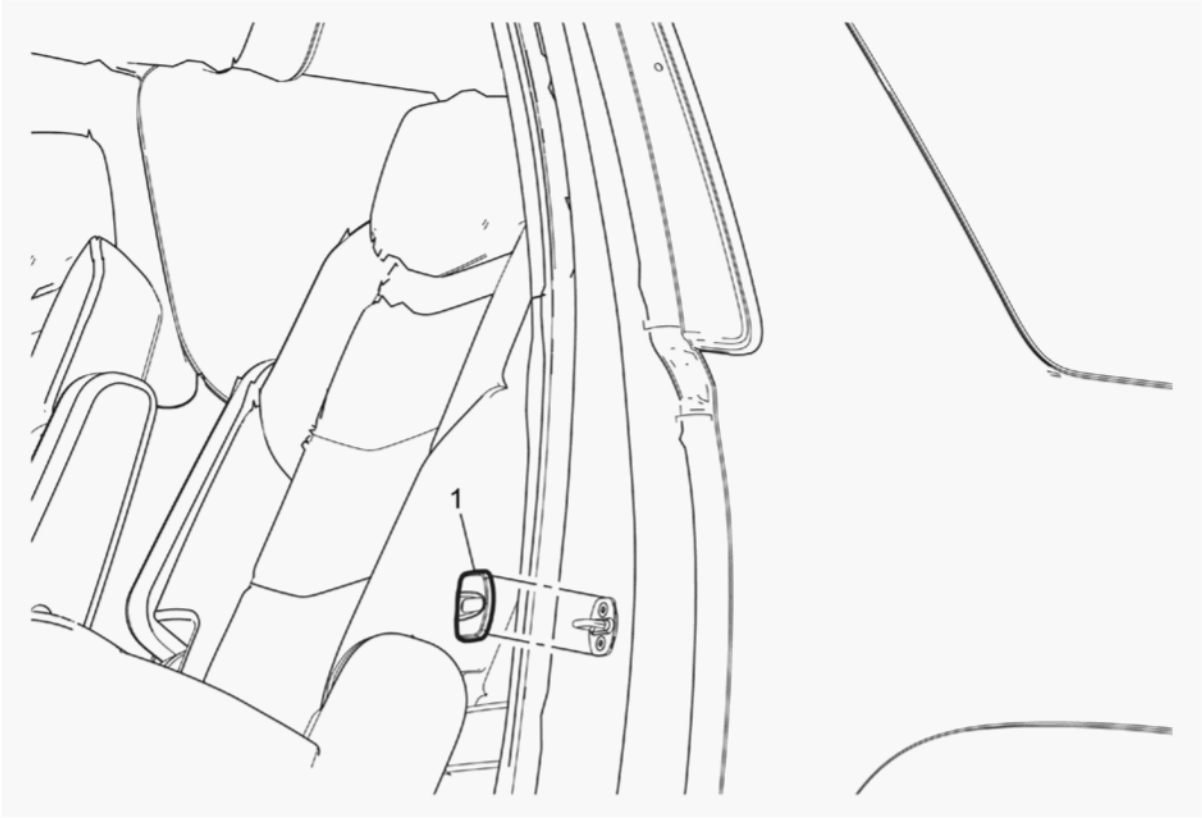


Fig. 101: Rear Side Door Lock Striker Cover (Long Wheelbase)

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Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Open the rear side door to the full open position.	
1	Rear Side Door Lock Striker Cover **Procedure** Using a suitable tool, place the tool between the cover and the striker pressing outward on the tabs while releasing the cover from the striker.

LIFTGATE RELEASE SWITCH REPLACEMENT (EXTERIOR)

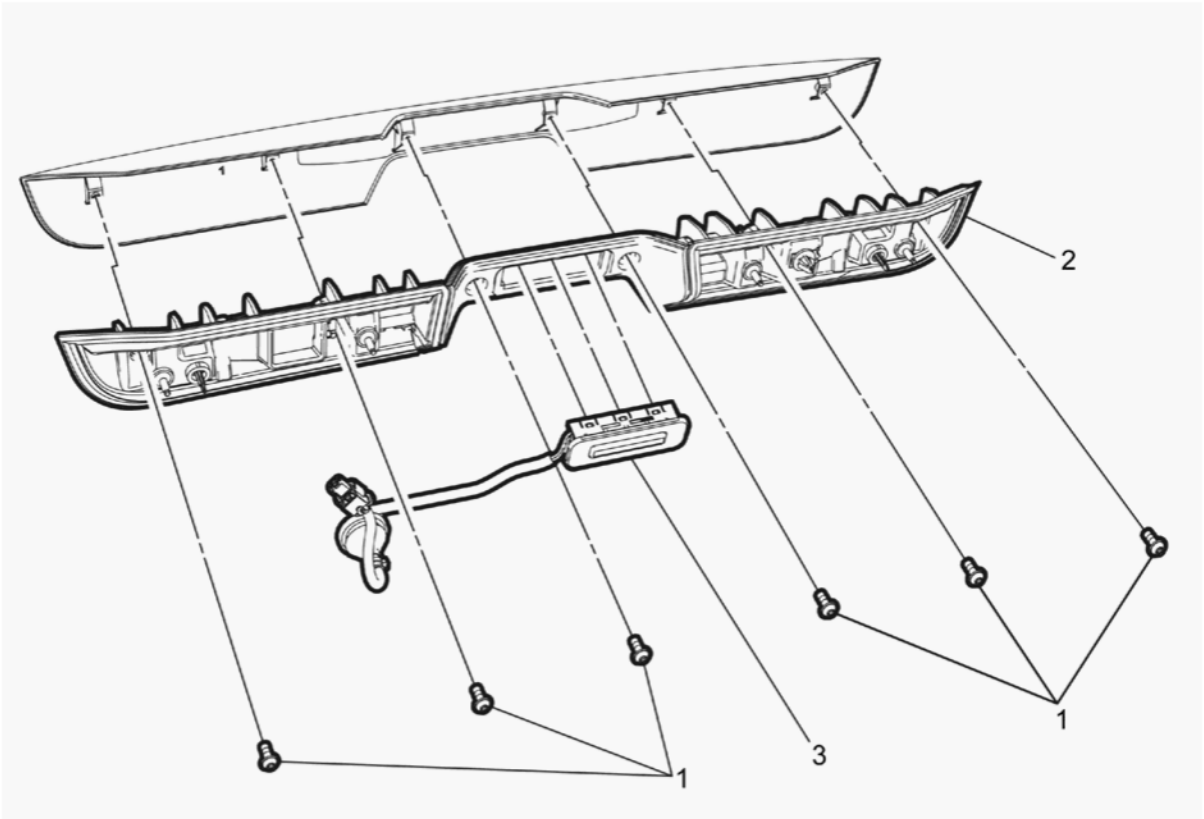


Fig. 102: Liftgate Release Switch (Exterior)
Courtesy of GENERAL MOTORS COMPANY

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Callout	Component Name
Preliminary Procedure Remove rear closure fixed handle applique. Refer to **Rear Closure Fixed Handle Applique Replacement**.	
1	Rear Closure Fixed Handle Applique Screw (Qty: 6) **CAUTION:** **Refer to Fastener Caution .** **Tighten** 2 N.m (18 lb in)
2	Rear Closure Fixed Handle Applique Bracket
3	Liftgate Release Switch **Procedure** 1. Release the retainer tabs on the liftgate release switch from the rear closure fixed handle applique bracket. 2. Release the harness and grommet from the rear closure fixed handle applique bracket. 3. Pull the liftgate release switch through the opening on the rear closure fixed handle applique bracket.

LIFTGATE RELEASE SWITCH REPLACEMENT (INTERIOR)

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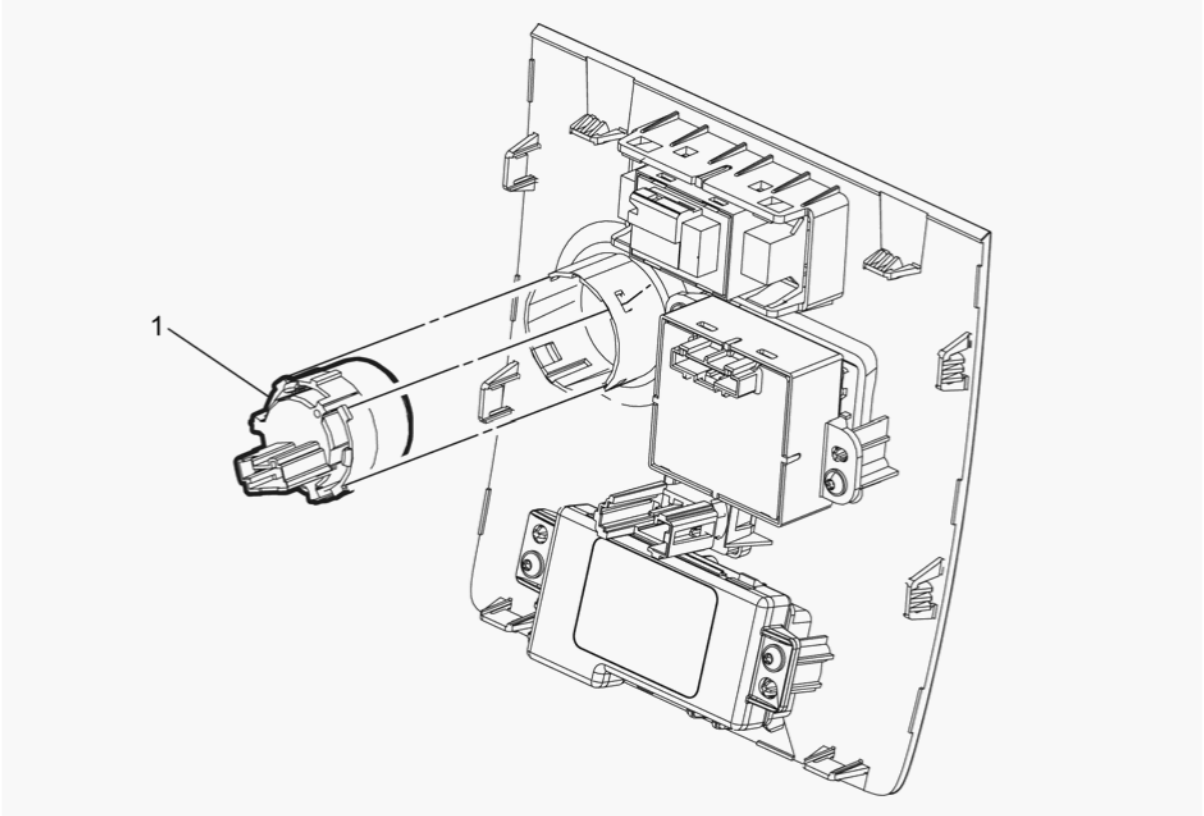


Fig. 103: Liftgate Release Switch (Interior)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the roof console opening trim plate. Refer to **Roof Console Opening Trim Plate Replacement** .	
1	Liftgate Release Switch **Procedure** Release the tabs and remove the switch.

LIFTGATE CLOSE SWITCH REPLACEMENT

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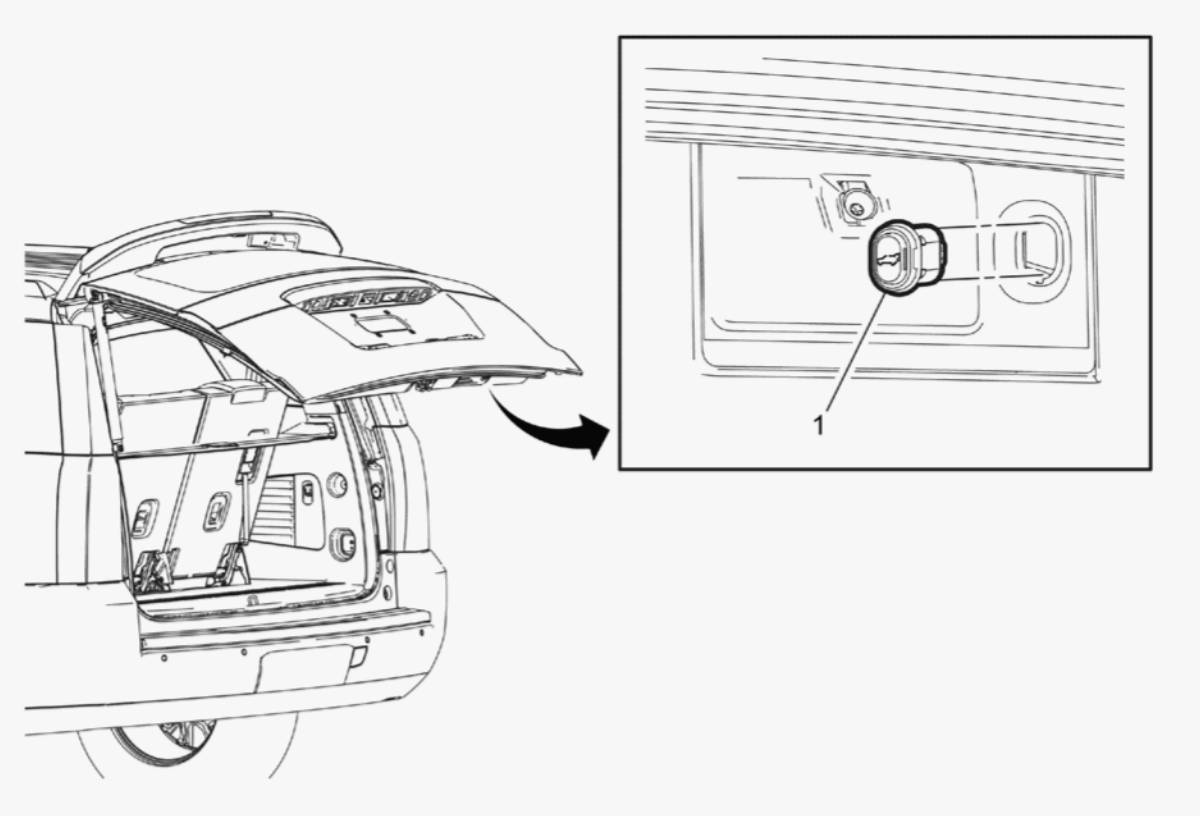


Fig. 104: Liftgate Close Switch
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the liftgate trim finish panel pull cup. Refer to **Liftgate Trim Finish Panel Pull Cup Replacement** .	
1	Liftgate Close Switch **Procedure** Using the appropriate tool, depress the tabs on the switch to remove.

DOOR LOCK SWITCH REPLACEMENT - DRIVER SIDE (CHEVROLET, GMC)

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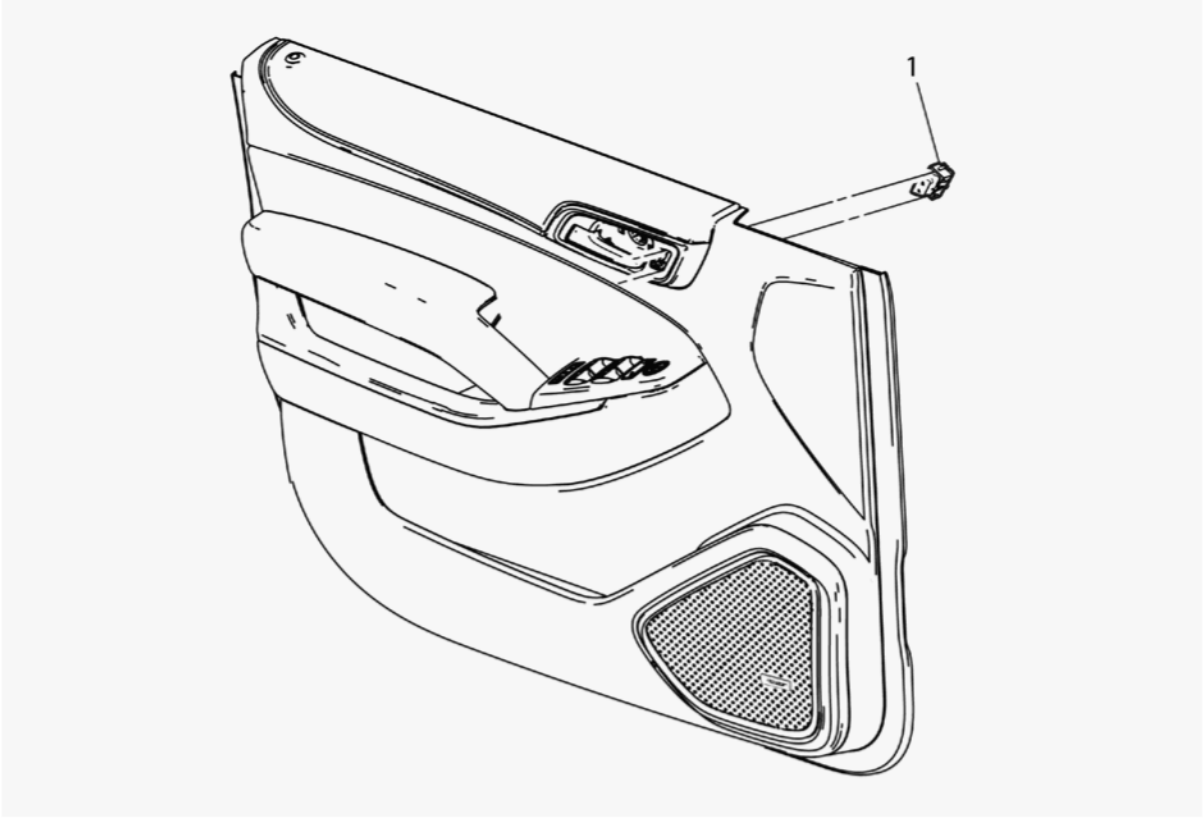


Fig. 105: Door Lock Switch - Driver Side (Chevrolet, GMC)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the front side door trim. Refer to **Front Side Door Trim Replacement** .	
1	Door Lock Switch Driver Side 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, if required.

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DOOR LOCK SWITCH REPLACEMENT - DRIVER SIDE (CADILLAC)

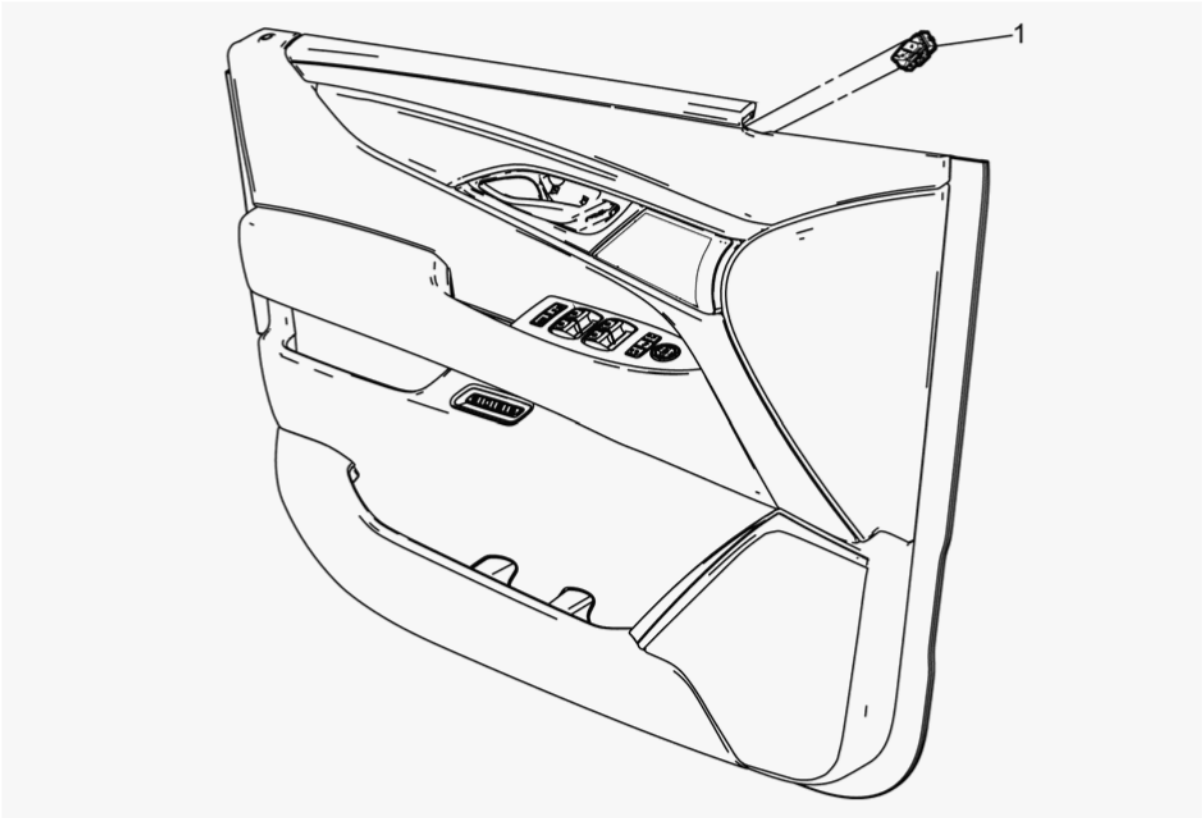


Fig. 106: Door Lock Switch - Driver Side (Cadillac)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the front side door trim. Refer to **Front Side Door Trim Replacement** .	
1	Door Lock Switch Driver Side Assembly **Procedure** 1. Using a plastic pry tool, gently pry on the sides to release the switch. 2. Disconnect the electrical connectors.

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Callout	Component Name
	3. Refer to **Control Module References** for programming and set up procedures, if required.

DOOR LOCK SWITCH REPLACEMENT - PASSENGER FRONT (CHEVROLET, GMC)

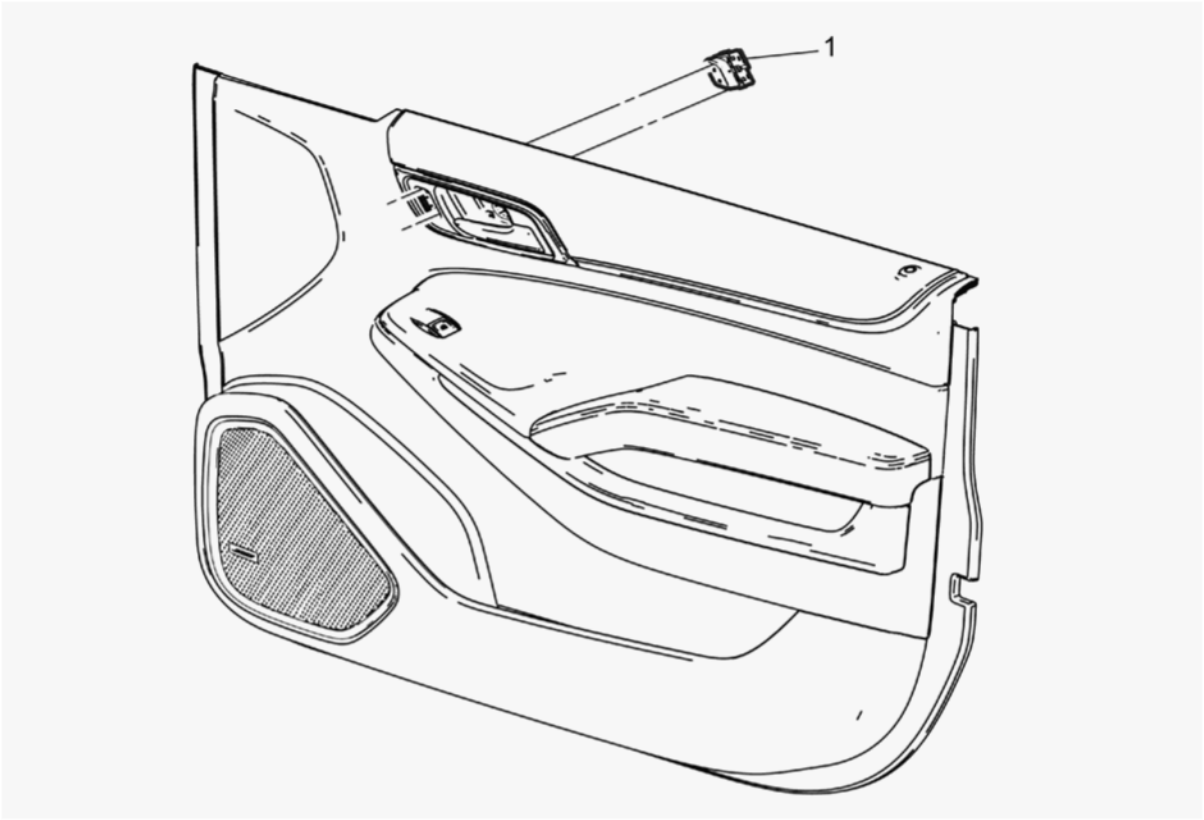


Fig. 107: Door Lock Switch - Passenger Front (Chevrolet, GMC)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the front side door trim. Refer to **Front Side Door Trim Replacement** .	
1	Door Lock Switch Passenger Front Assembly

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Callout	Component Name
	Procedure 1. Using a plastic pry tool, gently pry on the sides to release the switch. 2. Disconnect the electrical connector. 3. Refer to **Control Module References** for programming and set up procedures, if required.

DOOR LOCK SWITCH REPLACEMENT - PASSENGER FRONT (CADILLAC)

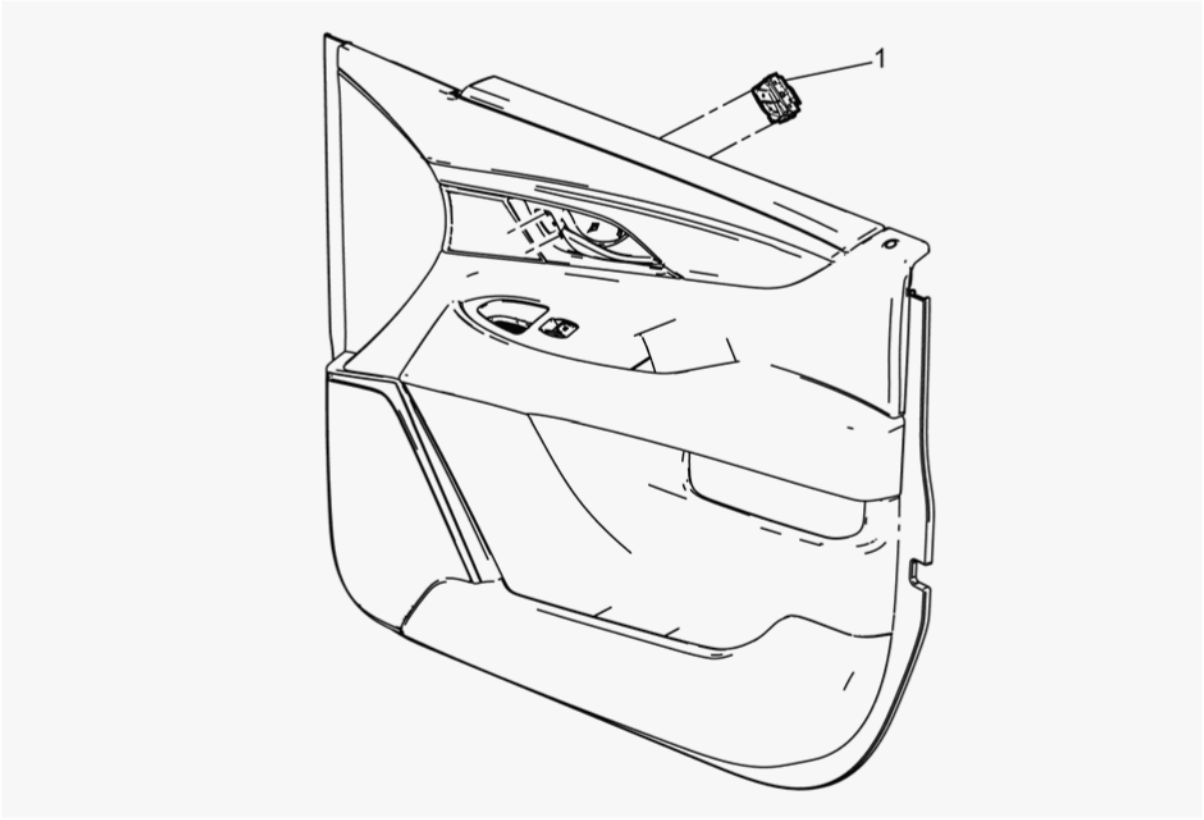


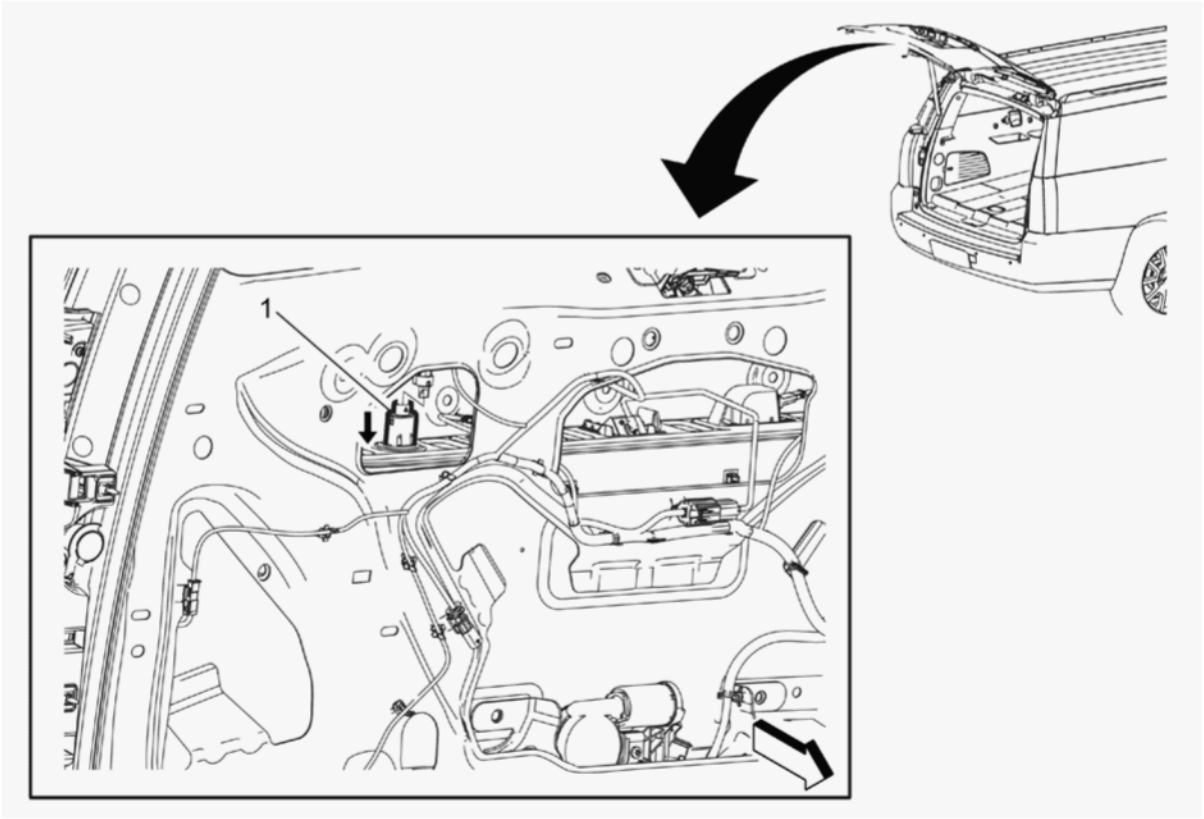
Fig. 108: Door Lock Switch - Passenger Front (Cadillac)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name

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Callout	Component Name
Preliminary Procedure Remove the front side door trim. Refer to **Front Side Door Trim Replacement** .	
1	Door Lock Switch Passenger Front Assembly **Procedure** 1. Using a plastic pry tool, gently pry on the sides to release the switch. 2. Disconnect the electrical connector. 3. Refer to **Control Module References** for programming and set up procedures, if required.

REAR COMPARTMENT LID RELEASE SWITCH REPLACEMENT (CHEVROLET, GMC)



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Fig. 109: Rear Compartment Lid Release Switch (Chevrolet, GMC)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the liftgate trim panel. Refer to **Liftgate Trim Finish Panel Replacement** .	
1	Rear Compartment Lid Release Switch **Procedure** 1. Disconnect the electrical connector. 2. Press in the retainers on the sides and press the rear compartment lid release switch out from the liftgate.

REAR COMPARTMENT LID RELEASE SWITCH REPLACEMENT (CADILLAC)

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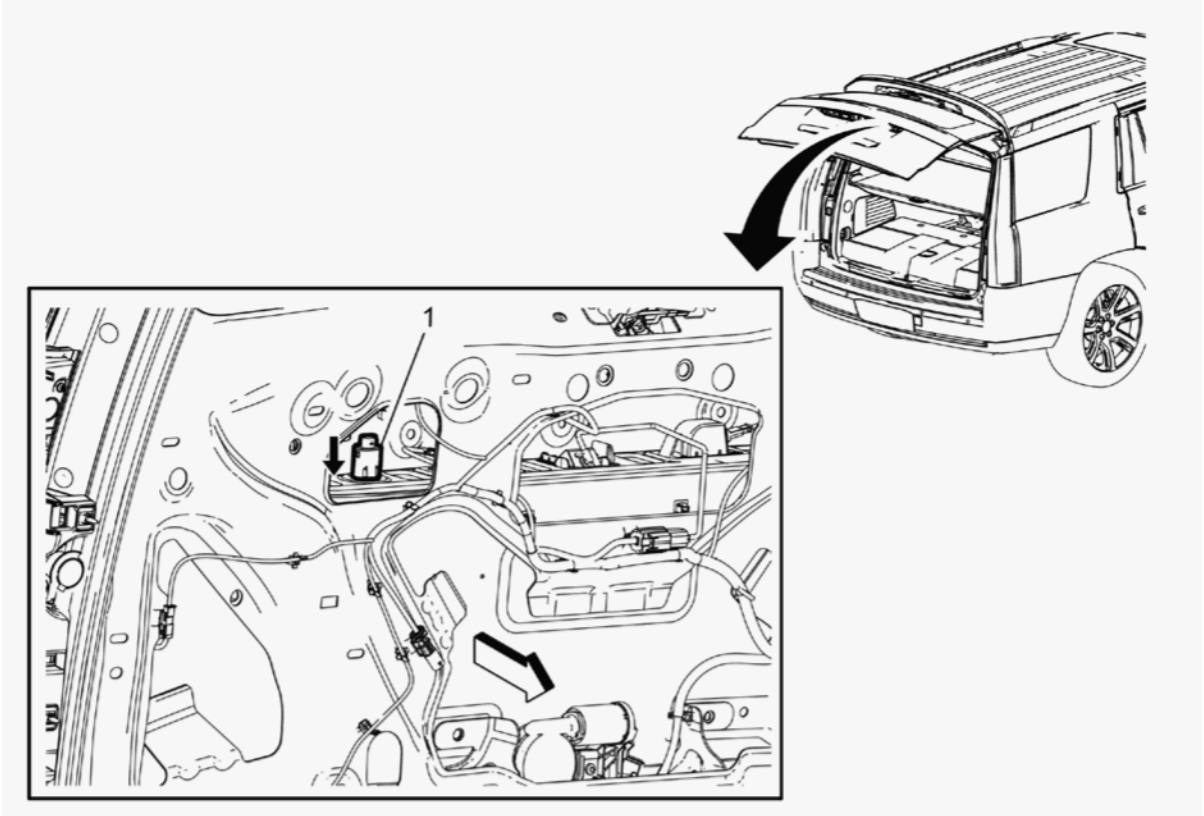


Fig. 110: Rear Compartment Lid Release Switch (Cadillac)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the liftgate trim panel. Refer to **Liftgate Trim Finish Panel Replacement** .	
1	Rear Compartment Lid Release Switch **Procedure** 1. Disconnect the electrical connector. 2. Press in the retainers on the sides and press the rear compartment lid release switch out from the liftgate.

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REAR CLOSURE FIXED HANDLE APPLIQUE REPLACEMENT

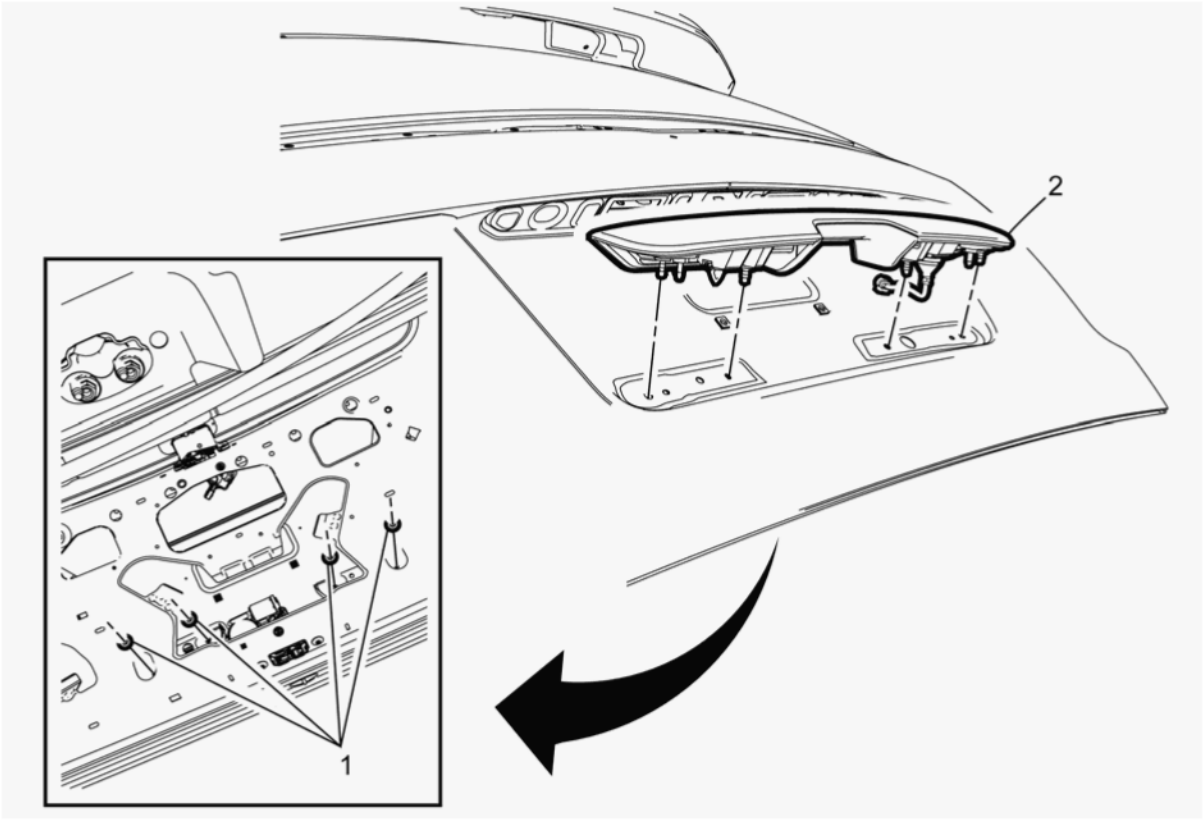


Fig. 111: Rear Closure Fixed Handle Applique
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Remove the liftgate trim finish panel. Refer to **Liftgate Trim Finish Panel Replacement** .	

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Callout	Component Name
1	Rear Closure Fixed Handle Applique Nut (Qty: 4) **CAUTION:** **Refer to Fastener Caution .** **Tighten** 4.7 N.m (42 lb in)
2	Rear Closure Fixed Handle Applique **Procedures** 1. Disconnect the electrical connector. 2. Using the appropriate tool, remove the applique from the liftgate. 3. Release the grommet and guide the connector through the liftgate. 4. Transfer all necessary components. 5. Position the applique to the rear compartment lid and press inner retainers into place.

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ACCESSORIES & EQUIPMENT

Vehicle Access - Special Tools and Equipment - Special Tools - Escalade, Suburban, Tahoe, Yukon

SPECIAL TOOLS AND EQUIPMENT

SPECIAL TOOLS

Illustration	Tool Number/Description

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Illustration	Tool Number/Description
	BO-51363 Door Handle Spring Retainer

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ACCESSORIES & EQUIPMENT

Vehicle Access - Specifications - Fastener Specifications - Escalade, Suburban, Tahoe, Yukon

SPECIFICATIONS

FASTENER SPECIFICATIONS

Application	Specification	
	Metric	English
Front Side Door Inside Handle Fastener	1.4 N.m	12 lb in
Front Side Door Latch Bolts	9 N.m	80 lb in
Front Side Door Lock Cylinder Switch Fastener	2 N.m	18 lb in
Front Side Door Outside Handle Bracket Screw	3.5 N.m	31 lb in
Front Side Door Outside Handle Lock Cylinder Screw	3.5 N.m	31 lb in
Front Side Door Striker Bolts	25 N.m	18 lb ft
Liftgate Latch Screws	22 N.m	16 lb ft
Liftgate Latch Striker Bolts	22 N.m	16 lb ft
Rear Closure Fixed Handle Applique Nuts	4.7 N.m	42 lb in
Rear Closure Fixed Handle Applique Screws	2 N.m	18 lb in
Rear Side Door Inside Handle Fastener	1.4 N.m	12 lb in
Rear Side Door Latch Bolts	9 N.m	80 lb in
Rear Side Door Lock Cylinder/Blank Screw	3.5 N.m	31 lb in
Rear Side Door Outside Handle Bracket Screw	3.5 N.m	31 lb in
Rear Side Door Striker Bolts	25 N.m	18 lb ft

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