

Door Ajar Indicator Description and Operation

Door Ajar Indicator System Components

The door ajar indicator system consists of the following components:

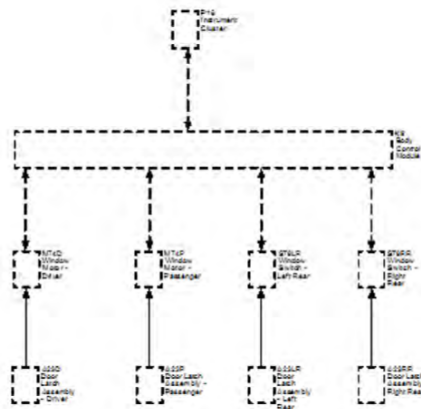
- Body control module (BCM)
- Instrument cluster
- Driver door latch
- Passenger door latch
- Left rear door latch
- Right rear door latch
- Driver window motor (AXG)
- Driver window switch (AEC)
- Passenger window motor (AEF)
- Passenger window switch (AED)
- Left rear window switch
- Right rear window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

Door Ajar System (Standard and Optional)

It is the power window system that monitors the status of the door ajar switches and either the power window motors or the power window switches will report the status of the door ajar switches to the body control module depending upon how the vehicle is configured.

Door Ajar Indicator Block Diagram

cardiagn.com



(DA) Serial Data

(DA) Serial Data

(DA) Serial Data

(DA) Serial Data

(DA) Serial Data

(HW) Hard-Wired

(HW) Hard-Wired

(HW) Hard-Wired

(HW) Hard-Wired

(P16) P16 Instrument Cluster

(K9) K9 Body Control Module

(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

(M74D) M74D Window Motor - Driver

(M74P) M74P Window Motor - Passenger

(S79LR) S79LR Window Switch - Left Rear

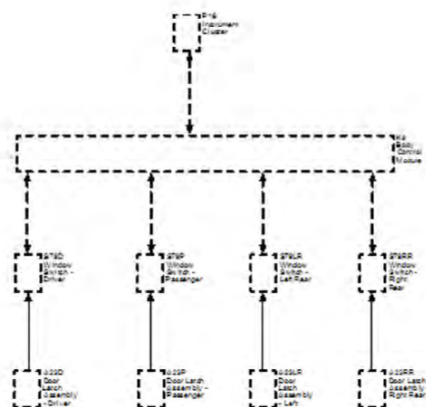
(S79RR) S79RR Window Switch - Right Rear

Driver and Passenger Door Ajar (With AXG and AER Power Windows)

The driver and passenger window motors 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 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 cluster to command the door ajar message

Door Ajar Indicator Block Diagram



(DA) Serial Data

(DA) Serial Data

(DA) Serial Data

(DA) Serial Data

(DA) Serial Data

(HW) Hard-Wired

(HW) Hard-Wired

(HW) Hard-Wired

(HW) Hard-Wired

(P16) P16 Instrument Cluster

(K9) K9 Body Control Module

(S79RR) S79RR Window Switch – Right Rear

(S79LR) S79LR Window Switch – Left Rear

(S79P) S79P Window Switch – Passenger

(S79D) S79D Window Switch – Driver

(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

Driver and Passenger Door Ajar (With AEC and AED Power Windows)

The driver and 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 driver or passenger 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.

Rear Door Ajar

The rear window switches each provide a 12 V signal to their respective rear door ajar switch signal circuits. The door ajar switches are integral to each rear door latch assembly. When a rear 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 rear 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.

cardiagn.com

Liftgate Ajar Indicator Description and Operation

[Rear Access Open Message](#)

The liftgate control module detects the liftgate ratchet switch is closed to ground indicating the liftgate is open. The instrument panel cluster receives a serial data message from the liftgate control module indicating the liftgate ajar status and the driver information center displays the Rear Access Open message.

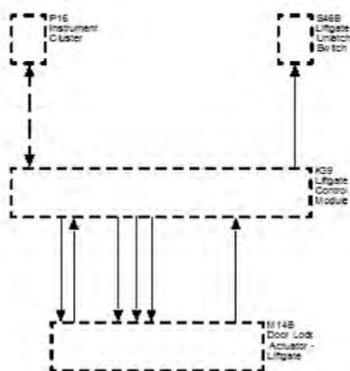
cardiagn.com

Liftgate Description and Operation

Liftgate System Components

- Liftgate door lock actuator
- Liftgate control module
- Liftgate unlatch switch
- 30 amp fuse
- 10 amp mini-fuse

Manual Liftgate Release Block Diagram



cardiagn.com

- (DA) Serial Data
- (HW) Hard-Wired
- (HW) Hard-Wired
- (HW) Hard-Wired
- (HW) Hard-Wired
- (HW) Hard-Wired
- (HW) Hard-Wired
- (HW) Hard-Wired
- (P16) P16 Instrument Cluster
- (S46B) S46B Liftgate Unlatch Switch
- (K39) K39 Liftgate Control Module
- (M14B) M14B Door Lock Actuator - Liftgate

© 2014 General Motors. All rights reserved.

Liftgate System Controls

Located in the liftgate handle is the liftgate unlatch switch. The liftgate control module provides a 12V signal to the liftgate unlatch switch, pressing the switch provides a ground path to the signal circuit. The liftgate control module will detect the voltage drop and will command the liftgate door lock actuator to release.

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

- Vehicle is not in park.
- Vehicle doors are locked.

Liftgate System Description

Liftgate Release Operation

When liftgate control module receives a release command from the liftgate release switch, the liftgate control module applies brief pulse of voltage to the liftgate door lock actuator. The liftgate door lock actuator is continuously grounded and when it receives the voltage pulse, it will become energized and the latch will activate releasing the liftgate so it may be manually raised to an open position.

Liftgate Cinching Latch

The liftgate control module controls the latch motor through the control circuits by supplying power and ground. The motor control circuits are monitored by the liftgate 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 latch motor assembly and are used by the liftgate control module to determine the state of the latch during the process of latching or unlatching.

Liftgate Ajar Indicator

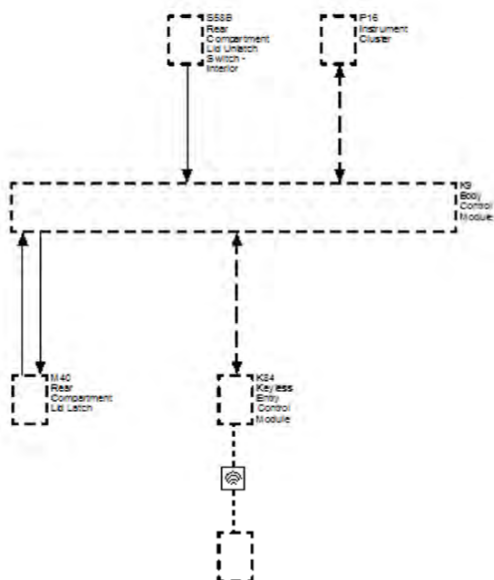
The driver information center (DIC) illuminates the Rear Access Open message when the liftgate module detects the liftgate ratchet and the liftgate sector switches are closed to ground indicating the liftgate is open. The instrument panel cluster receives a serial data message from the liftgate control module indicating the liftgate ajar status. If this message is displayed and the vehicle speed is greater than 4.8 km/h (3 mph), a chime will sound.

Luggage Compartment Description and Operation

Rear Compartment Lid Release System Components

- Body control module (BCM)
- Interior rear compartment lid unlatch switch
- Rear compartment lid latch
- Rear body fuse block (contains PCB relay)

Trunk Release Block Diagram



(HW) Hard-Wired

(DA) Serial Data

(HW) Hard-Wired

(HW) Hard-Wired

(DA) Serial Data

(WL) Wireless

(P16) P16 Instrument Cluster

© 2014 General Motors. All rights reserved.

- (K9) K9 Body Control Module
- (S58B) S58B Rear Compartment Lid Unlatch Switch – Interior
- (K84) K84 Keyless Entry Control Module
- (M40) M40 Rear Compartment Lid Latch

Rear Compartment Lid Release Operation

interior rear compartment lid unlatch switch

The BCM monitors a voltage signal to the interior rear compartment lid 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 will provide voltage to the rear compartment lid relay.

Rear Compartment Lid Latch

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

Keyless Entry Transmitter

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

Trunk Open Message

The body control module monitors the voltage level of the trunk ajar signal circuit which is normally at the system voltage when the trunk lid is closed. When the trunk lid is ajar or open, a switch within the latch assembly closes providing a path to ground for the trunk ajar signal circuit. The voltage within the signal circuit will then drop to 0 volts, the BCM will then detect the voltage drop and will send a serial data message to the instrument cluster. The instrument cluster will then display the Trunk Open message.

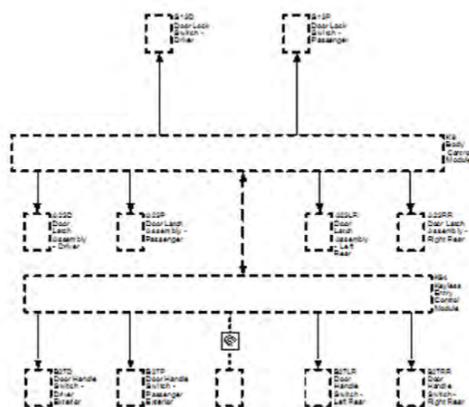
Power Door Locks Description and Operation

Door Lock System Components

The power door lock system consists of the following components:

- Driver door lock switch
- Passenger door lock switch
- Key cylinder switch
- Body control module (BCM)
- Driver door latch
- Passenger door latch
- Left rear door latch
- Right rear door latch
- Exterior door handle switches
- Keyless entry control module

Power Door Locks Block Diagram



- (HW) Hard-Wired
- (HW) Hard-Wired
- (HW) Hard-Wired
- (HW) Hard-Wired
- (HW) Hard-Wired

(HW) Hard-Wired
 (DA) Serial Data
 (HW) Hard-Wired
 (HW) Hard-Wired
 (HW) Hard-Wired
 (HW) Hard-Wired
 (WL) Wireless
 (S13D) S13D Door Lock Switch – Driver
 (S13P) S13P Door Lock Switch – Passenger
 (K9) K9 Body Control Module
 (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 and Unlock Operation

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

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

The following three circuits are used to operate the lock:

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

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

Key Cylinder Switch

The driver window switch monitors the voltage level of the key switch unlock signal circuit. When the key is inserted into the driver door key cylinder and turned to the Unlock position, a switch within the driver door latch closes causing the voltage to drop within the key switch unlock 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 unlock.

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

Tonneau Cover Description and Operation

[Tonneau Cover Release Components](#)

The tonneau cover release system consists of the following components:

- Tonneau latch assembly (HSV and HSPO)
- Interior rear compartment lid unlatch switch (HSPO only)
- Rear compartment lid unlatch relay (HSPO only)
- 15A Fuse
- Body control module (BCM)

[Tonneau Cover Release Operation \(HSPO only\)](#)

Rear Compartment Lid Unlatch Switch

The BCM monitors a voltage signal to the interior rear compartment lid release 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 vehicle doors are locked, the BCM will ignore the command, if the vehicle doors have been unlocked, the BCM will recognize the request and will provide voltage to the rear compartment lid unlatch relay.

Tonneau Latch Assembly

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

Keyless Entry Transmitter

The BCM may also get a rear compartment lid release command from the remote keyless entry module. When the trunk button is pressed on the keyless entry transmitter, a rear compartment lid 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 tonneau cover.

[Tonneau Cover Release Operation \(HSV only\)](#)

The locking and unlocking of the tonneau cover is a function of the power door lock system. The tonneau latch assembly 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 tonneau latch assembly lock or unlock control circuits. Since the opposite side of the tonneau latch assembly is connected to ground through the other lock actuator control circuit, the driver door latch assembly and the tonneau latch assembly will then lock or unlock as commanded.

[Tonneau Open Message](#)

The body control module (BCM) monitors the voltage level of the ajar signal circuit which is normally at the system voltage when the tonneau cover is closed. When the tonneau cover is ajar or open, a switch within the latch assembly closes providing a path to ground for the ajar signal circuit. The voltage within the signal circuit will then drop to 0 volts, the BCM will then detect the voltage drop and will send a serial data message to the instrument cluster. The instrument cluster will then display the Tonneau Open message.

© 2014 General Motors. All rights reserved.

DTC B1474 or B3849

Diagnostic Instructions

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

DTC Descriptors

DTC B1474 02

Passenger Exterior Door Handle Switch Circuit Short to Ground

DTC B3849 02

Driver Exterior Door Handle Switch Circuit Short to Ground

Diagnostic Fault Information

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

Circuit/System Description

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

Conditions for Running the DTC

Battery voltage is between 9–16 V.

Conditions for Setting the DTC

B1474 02

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

B3849 02

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

Action Taken When the DTC Sets

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

Conditions for Clearing the DTC

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

Reference Information**Schematic Reference**

[Door Lock/Indicator Schematics](#)

Connector End View Reference

[Component Connector End Views](#)

Description and Operation

[Power Door Locks Description and Operation](#)

Electrical Information Reference

- [Circuit Testing](#)
- [Connector Repairs](#)
- [Testing for Intermittent Conditions and Poor Connections](#)
- [Wiring Repairs](#)

Scan Tool Reference

[Control Module References](#) for scan tool information

Circuit/System Verification

1. Ignition ON.
2. Verify the scan tool Exterior Driver Door Handle Switch or the Exterior Passenger Door Handle Switch parameters changes between Active and Inactive when pressing and releasing the B27D Door Handle Switch-Driver Exterior or the B27P Door Handle Switch-Passenger Exterior.
 - ⇒ **If the parameter does not change**
Refer to Circuit/System Testing.
 - ↓ **If the parameter changes**
3. All OK.

Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the appropriate B27 Door Handle Switch-Exterior. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 4 and ground.
 - ⇒ **If 10 Ω or greater**
 - 2.1. Ignition OFF.

2.2. Test for less than $2\ \Omega$ in the ground circuit end to end.

⇒ If $2\ \Omega$ or greater, repair the open/high resistance in the circuit.

⇒ If less than $2\ \Omega$, repair the open/high resistance in the ground connection.

↓ **If less than $10\ \Omega$**

3. Ignition ON.

4. Verify the scan tool Exterior Door Handle Switch parameter is Inactive.

⇒ **If not Inactive**

4.1. Ignition OFF, disconnect the harness connector at the K84 Keyless Entry Control Module.

4.2. Test for infinite resistance between the signal circuit terminal 3 and ground.

⇒ If less than infinite resistance, repair the short to ground on the circuit.

⇒ If infinite resistance, replace the K84 Keyless Entry Control Module.

↓ **If Inactive**

5. Install a 3 A fused jumper wire between the signal circuit terminal 3 and the ground circuit terminal 4.

6. Verify the scan tool Exterior Door Handle Switch parameter is Active.

⇒ **If not Active**

6.1. Ignition OFF, remove the jumper wire, disconnect the harness connector at the K84 Keyless Entry Control Module, ignition ON.

6.2. 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

6.3. Test for less than $2\ \Omega$ in the signal circuit end to end.

⇒ If $2\ \Omega$ or greater, repair the open/high resistance in the circuit.

⇒ If less than $2\ \Omega$, replace the K84 Keyless Entry Control Module.

↓ **If Active**

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

Component Testing

1. Ignition OFF, disconnect the harness connector at the appropriate B27 Door Handle Switch-Exterior.

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

⇒ **If less than infinite resistance**

Replace the B27 Door Handle Switch-Exterior.

↓ **If infinite resistance**

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

⇒ **If $5\ \Omega$ or greater**

Replace the B27 Door Handle Switch-Exterior.

↓ **If less than $5\ \Omega$**

4. All OK

Repair Instructions

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

- [Front Side Door Outside Handle Replacement](#)

- [Control Module References](#) for keyless entry control module replacement, programming and setup

DTC B1534 or B1535

Diagnostic Instructions

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

DTC Descriptors

DTC B1534 02

Left Rear Door Handle Switch Circuit Short to Ground

DTC B1535 02

Right Rear Door Handle Switch Circuit Short to Ground

Diagnostic Fault Information

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

Circuit/System Description

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

Conditions for Running the DTC

Battery voltage is between 9–16 V.

Conditions for Setting the DTC

B1534 02

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

© 2014 General Motors. All rights reserved.

B1535 02

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

Action Taken When the DTC Sets

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

Conditions for Clearing the DTC

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

Reference Information**Schematic Reference**

[Door Lock/Indicator Schematics](#)

Connector End View Reference

[Component Connector End Views](#)

Description and Operation

[Power Door Locks Description and Operation](#)

Electrical Information Reference

- [Circuit Testing](#)
- [Connector Repairs](#)
- [Testing for Intermittent Conditions and Poor Connections](#)
- [Wiring Repairs](#)

Scan Tool Reference

[Control Module References](#) for scan tool information

Circuit/System Verification

1. Ignition ON.
2. Verify the scan tool Exterior Left Rear Door Handle Switch or the Exterior Right Rear Door Handle Switch parameters changes between Active and Inactive when pressing and releasing B27LR Door Handle Switch-Left Rear Exterior or the B27RR Door Handle Switch-Right Rear Exterior.
 - ⇒ **If the parameter does not change**
Refer to Circuit/System Testing.
 - ↓ **If the parameter changes**
3. All OK.

Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the appropriate B27 Door Handle Switch-Rear Exterior. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal listed below and ground:
 - B27RR Door Handle Switch-Right Rear Exterior — ground circuit terminal 2
 - B27LR Door Handle Switch-Left Rear Exterior — ground circuit terminal 4

⇒ **If 10 Ω or greater**

- 2.1. Ignition OFF.
- 2.2. 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**

- 4.1. Ignition OFF, disconnect the harness connector at the K84 Keyless Entry Control Module.
- 4.2. Test for infinite resistance between the signal circuit terminal listed below and ground:
 - B27RR Door Handle Switch-Right Rear Exterior — signal circuit terminal 1
 - B27LR Door Handle Switch-Left Rear Exterior — signal circuit terminal 3
 - ⇒ 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 listed below and ground:
 - B27RR Door Handle Switch-Right Rear Exterior — signal circuit terminal 1
 - B27LR Door Handle Switch-Left Rear Exterior — signal circuit terminal 3
6. Verify the scan tool Exterior Door Handle Switch parameter is Active.

⇒ **If not Active**

- 6.1. Ignition OFF, remove the jumper wire, disconnect the harness connector at the K84 Keyless Entry Control Module, ignition ON.
- 6.2. 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
- 6.3. 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 B27 Door Handle Switch-Rear Exterior.

Component Testing

1. Ignition OFF, disconnect the harness connector at the appropriate B27 Door Handle Switch-Rear Exterior.
 2. Test for infinite resistance between the signal terminal and the ground terminal listed below with the switch in the open position.
 - B27RR Door Handle Switch-Right Rear Exterior — signal terminal 1 and ground terminal 2
 - B27LR Door Handle Switch-Left Rear Exterior — signal terminal 3 and ground terminal 4
- ⇒ **If less than infinite resistance**
Replace the B27 Door Handle Switch-Rear Exterior.
- ⇓ **If infinite resistance**
3. Test for less than 5 Ω between the signal terminal and the ground terminal listed below with the switch in the closed position.

- B27RR Door Handle Switch-Right Rear Exterior — signal terminal 1 and ground terminal 2
- B27LR Door Handle Switch-Left Rear Exterior — signal terminal 3 and ground terminal 4

⇒ **If 5 Ω or greater**

Replace the B27 Door Handle Switch-Rear Exterior.

↓ **If less than 5 Ω**

4. All OK

Repair Instructions

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

- [Rear Side Door Outside Handle Replacement](#)
- [Control Module References](#) for keyless entry control module replacement, programming and setup

DTC B2500

Diagnostic Instructions

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

DTC Descriptor

DTC B2500 00

Driver Exterior Unlock Switch Circuit

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal	B2500 00	1	1	—
Ground	—	1	—	—
1. Key Cylinder Switch Inoperative				

Circuit/System Description

The driver window switch monitors the voltage level of the key switch unlock signal circuit. When the key is inserted into the driver door key cylinder and turned to the Unlock position, a switch within the driver door latch closes causing the voltage to drop within the key switch unlock 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 unlock.

Conditions for Running the DTC

The system voltage is 9–16 V

Conditions for Setting the DTC

The BCM detects a short to ground on the driver door key switch signal circuit.

Action Taken When the DTC Sets

The BCM will ignore the unlock command from the key cylinder 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

[Door Lock/Indicator Schematics](#)

Connector End View Reference

© 2014 General Motors. All rights reserved.

[Component Connector End Views](#)**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 Key Unlock Switch parameter changes between Inactive and Active when inserting the key into the door lock key cylinder and turning the key to the unlock position.
 - ⇒ **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 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 listed below and ground.
 - A23D Door Latch Assembly-Driver (Left hand drive) — ground circuit terminal 8
 - A23D Door Latch Assembly-Driver (Right hand drive) — ground circuit terminal 3
 - ⇒ **If 10 Ω or greater**
 - 2.1. Ignition OFF.
 - 2.2. 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 Key Unlock Switch parameter is Inactive.
 - ⇒ **If not Inactive**
 - 4.1. Ignition OFF, disconnect the harness connector at the S79D Window Switch-Driver.
 - 4.2. Test for infinite resistance between the signal circuit terminal listed below and ground.
 - A23D Door Latch Assembly-Driver (Left hand drive) — signal circuit terminal 9
 - A23D Door Latch Assembly-Driver (Right hand drive) — signal circuit terminal 4
 - ⇒ If less than infinite resistance, repair the short to ground on the circuit.
 - ⇒ If infinite resistance, replace the S79D Window Switch-Driver.
 - ↓ **If Inactive**
5. Install a 3 A fused jumper wire between the signal circuit terminal listed below and ground.
 - A23D Door Latch Assembly-Driver (Left hand drive) — signal circuit terminal 9

- A23D Door Latch Assembly-Driver (Right hand drive) — signal circuit terminal 4

6. Verify the scan tool Driver Door Key Unlock Switch parameter is Active.

⇒ **If not Active**

- 6.1. Ignition OFF, remove the fused jumper wire, disconnect the harness connector at the S79D Window Switch-Driver, Ignition ON.
- 6.2. 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
- 6.3. 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 Active**

7. 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 terminals listed below with the switch in the open position.
 - A23D Door Latch Assembly-Driver (Left hand drive) — signal terminal 9 and ground terminal 8
 - A23D Door Latch Assembly-Driver (Right hand drive) — signal terminal 4 and ground terminal 3

⇒ **If less than infinite resistance**

Replace the A23D Door Latch Assembly-Driver.

⇓ **If infinite resistance**

3. Test for less than 3 Ω between the terminals listed below with the switch in the closed position.
 - A23D Door Latch Assembly-Driver (Left hand drive) — signal terminal 9 and ground terminal 8
 - A23D Door Latch Assembly-Driver (Right hand drive) — signal terminal 4 and ground terminal 3

⇒ **If 3 Ω or greater**

Replace the A23D Door Latch Assembly-Driver.

⇓ **If less than 3 Ω**

4. All OK

Repair Instructions

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

- [Front Side Door Window Control Switch Replacement](#)
- [Front Side Door Latch Replacement](#)

DTC B2730

Diagnostic Instructions

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

DTC Descriptor

DTC B2730 00

Interior Trunk Lid Unlatch Switch Circuit Malfunction

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal	B2730 00	1	1	—
Ground	—	1	—	—
1. Interior Rear Compartment Lid Release Switch Inoperative				

Circuit/System Description

When the ignition is ON, the Body Control Module supplies a 12 V signal to the rear compartment lid unlatch switch through the trunk release switch signal circuit. When the interior rear compartment lid release switch is pressed, the voltage within the signal circuit is pulled low and in response, the Body Control Module will energize the trunk release relay.

Conditions for Running the DTC

The system voltage is 9–16 V.

Conditions for Setting the DTC

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

Action Taken When the DTC Sets

The Body Control Module ignores the input from the interior rear compartment lid unlatch switch.

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

[Release Systems Schematics](#)

Connector End View Reference

© 2014 General Motors. All rights reserved.

[Component Connector End Views](#)**Description and Operation**[Luggage Compartment Description and Operation](#)**Electrical Information Reference**

- [Circuit Testing](#)
- [Connector Repairs](#)
- [Testing for Intermittent Conditions and Poor Connections](#)
- [Wiring Repairs](#)

Scan Tool Reference

[Control Module References](#) for scan tool information

[Circuit/System Verification](#)

1. Ignition ON.
2. Verify the scan tool Interior Trunk Lid/Liftgate Window Unlatch Switch parameter changes between Inactive and Active when pressing the S58B Rear Compartment Lid Unlatch Switch-Interior.
⇒ **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 S58B Rear Compartment Lid Unlatch 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 2 and ground.
⇒ **If 10 Ω or greater**
 - 2.1. Ignition OFF.
 - 2.2. 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 Interior Trunk Lid/Liftgate Window Unlatch Switch parameter is Inactive.
⇒ **If not Inactive**
 - 4.1. Ignition OFF, disconnect the harness connector at the K9 Body Control Module.
 - 4.2. 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 Interior Trunk Lid/Liftgate Window Unlatch Switch parameter is Active.
⇒ **If not Active**

- 6.1. Ignition OFF, remove the jumper wire, disconnect the harness connector at the K9 Body Control Module, ignition ON.
- 6.2. 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
- 6.3. 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 S58B Rear Compartment Lid Unlatch Switch-Interior.

Component Testing

1. Ignition OFF, disconnect the harness connector at the S58B Rear Compartment Lid Unlatch Switch-Interior.
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 S58B Rear Compartment Lid Unlatch Switch-Interior.
 - ⇓ **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 S58B Rear Compartment Lid Unlatch Switch-Interior.
 - ⇓ **If less than 3 Ω**
4. All OK

Repair Instructions

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

- [Rear Compartment Lid Release Switch Replacement](#)
- [Control Module References](#) for Body Control Module replacement, programming and setup

DTC B297B or B297C

Diagnostic Instructions

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

DTC Descriptors

DTC B297B 5A

Driver Door Open Switch Circuit Not Plausible

DTC B297C 5A

Passenger Door Open Switch Circuit Not Plausible

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Driver Door Open Switch Signal	B297B 5A	B297B 5A	B297B 5A	—
Passenger Door Open Switch Signal	B297C 5A	B297C 5A	B297C 5A	—
Driver Door Latch Ground	—	1	—	—
Passenger Door Latch Ground	—	1	—	—
1. Ajar Indicator Malfunction				

Circuit/System Description

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

B297B 5A

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

B297C 5A

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

Action Taken When the DTC Sets**B297B 5A or B297C 5A**

The driver information center will display the message: Service Steering Column Lock.

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**

[Remote Function Schematics](#)

Connector End View Reference

[Component Connector End Views](#)

Description and Operation

[Steering Wheel and Column 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 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. Verify the scan tool Body Control Module 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 [Door Ajar Indicator Malfunction](#)

↓ **If the parameter changes**

5. Verify the scan tool Keyless Entry Control Module 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

↓ **If the parameter changes**

6. All OK.

Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the appropriate A23 Door 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 listed below and ground:
 - A23D Door Latch Assembly-Driver (Left hand drive) — ground circuit terminal 8
 - A23D Door Latch Assembly-Driver (Right hand drive) — ground circuit terminal 3
 - A23P Door Latch Assembly-Passenger (Left hand drive) — ground circuit terminal 3
 - A23P Door Latch Assembly-Passenger (Right hand drive) — ground circuit terminal 8

⇒ **If 10 Ω or greater**

2.1. Ignition OFF.

2.2. 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 Door Ajar Switch parameter is Inactive.

⇒ **If not Inactive**

- 4.1. Ignition OFF, disconnect the harness connector at the K84 Keyless Entry Control Module.

- 4.2. Test for infinite resistance between the signal circuit terminal listed below and ground.

- A23D Door Latch Assembly-Driver (Left hand drive) — signal circuit terminal 2
- A23D Door Latch Assembly-Driver (Right hand drive) — signal circuit terminal 7
- A23P Door Latch Assembly-Passenger (Left hand drive) — signal circuit terminal 7
- A23P Door Latch Assembly-Passenger (Right hand drive) — signal circuit terminal 2

⇒ 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 circuit terminals listed below and ground .
 - A23D Door Latch Assembly-Driver (Left hand drive) — signal circuit terminal 2
 - A23D Door Latch Assembly-Driver (Right hand drive) — signal circuit terminal 7

- A23P Door Latch Assembly-Passenger (Left hand drive) — signal circuit terminal 7
- A23P Door Latch Assembly-Passenger (Right hand drive) — signal circuit terminal 2

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

⇒ **If not Active**

6.1. Ignition OFF, remove the fused jumper wire, disconnect the harness connector at the K84 Keyless Entry Control Module, ignition ON.

6.2. 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

6.3. 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 A23 Door Latch Assembly.

Component Testing

Static Test

1. Ignition OFF, disconnect the harness connector at the appropriate A23 Door Latch Assembly.
2. With the door in the closed position, test for infinite resistance between the signal and the ground terminals listed below:
 - A23D Door Latch Assembly-Driver (Left hand drive) — signal terminal 7 and ground terminal 8
 - A23D Door Latch Assembly-Driver (Right hand drive— signal terminal 2 and ground terminal 3
 - A23P Door Latch Assembly-Passenger (Left hand drive— signal terminal 2 and ground terminal 3
 - A23P Door Latch Assembly-Passenger (Right hand drive) — signal terminal 7 and ground terminal 8

⇒ If not the specified value, replace the A23 Door Latch Assembly.
3. With the door in the open position, test for less than 5 Ω between the signal and the ground terminals listed below:
 - A23D Door Latch Assembly-Driver (Left hand drive) — signal terminal 7 and ground terminal 8
 - A23D Door Latch Assembly-Driver (Right hand drive— signal terminal 2 and ground terminal 3
 - A23P Door Latch Assembly-Passenger (Left hand drive— signal terminal 2 and ground terminal 3
 - A23P Door Latch Assembly-Passenger (Right hand drive) — signal terminal 7 and ground terminal 8

⇒ If greater than the specified range, replace the A23 Door Latch Assembly.

Repair Instructions

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

- [Front Side Door Latch Replacement](#)
- [Control Module References](#) for keyless entry control module replacement, programming and setup

DTC B3125, B3130, or B3135 (All Except Ute)

Diagnostic Instructions

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

DTC Descriptors

DTC B3125

Driver Door Only Unlock Circuit

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 Latch Control	B3125 02, B3130 02, B3135 02	B3125 04, B3130 04, B3135 04	B3125 01, B3130 01, B3135 01	—
Driver Door Lock Motor Lock Control	B3125 02, B3130 02, B3135 02	B3125 04, B3130 04, B3135 04	B3125 01, B3130 01, B3135 01	—
Door Lock Actuator Unlock Control	B3125 02, B3130 02, B3135 02	B3125 04, B3130 04, B3135 04	B3125 01, B3130 01, B3135 01	—

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.

Conditions for Running the DTC

© 2014 General Motors. All rights reserved.

When the ignition is 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.

Action Taken When the DTC Sets

All the power door locks will be inoperative.

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

- [Door Lock/Indicator Schematics](#)
- [Body Control System Schematics](#)

Connector End View Reference

[Component Connector End Views](#)

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 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**

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**

2.1. Ignition OFF, disconnect the harness connector at the A23D Door Latch Assembly – Driver and the M27 Fuel Door Unlatch Actuator, ignition ON.

2.2. 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 terminal listed below and ground:

- A23D Door Latch Assembly–Driver (RHD) — control circuit terminal 8
- A23D Door Latch Assembly–Driver (RHD) — control circuit terminal 7
- A23D Door Latch Assembly–Driver (LHD) — control circuit terminal 3
- A23D Door Latch Assembly–Driver (LHD) — control circuit terminal 2

⇒ **If 3 V or less**

4.1. Ignition OFF, disconnect the X6 harness connector at the K9 Body Control Module.

4.2. 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

4.3. 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 terminals 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.

- A23D Door Latch Assembly–Driver (RHD) – control circuit terminal 7 and control circuit terminal 8
- A23D Door Latch Assembly–Driver (LHD) – control circuit terminal 2 and control circuit terminal 3

6. Lock and unlock the vehicle doors using the door lock switch.

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 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 central 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 (LHD) — control circuit terminal 8
- A23P Door Latch Assembly-Passenger (RHD) — control circuit terminal 3
- A23P Door Latch Assembly-Passenger (LHD) — control circuit terminal 7
- A23P Door Latch Assembly-Passenger (RHD) — control circuit terminal 2
- A23RR Door Latch Assembly-Right Rear — control circuit terminal 8
- A23RR Door Latch Assembly-Right Rear — control circuit terminal 7
- A23LR Door Latch Assembly-Left Rear — control circuit terminal 3
- A23LR Door Latch Assembly-Left Rear — control circuit terminal 2

⇒ **If 3 V or less**

2.1. Ignition OFF, disconnect the X6 harness connector at the K9 Body Control Module.

2.2. 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

2.3. 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 circuit terminals 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 (LHD) – control circuit terminal 7 and control circuit terminal 8
- A23P Door Latch Assembly-Passenger (RHD) – control circuit terminal 2 and control circuit terminal 3
- A23RR Door Latch Assembly-Right Rear – control circuit terminal 7 and control circuit terminal 8
- A23LR Door Latch Assembly-Left Rear – control circuit terminal 2 and control circuit terminal 3

4. Lock and unlock the vehicle doors using the central door lock switch.

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 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**

2.1. Ignition OFF.

2.2. 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**

4.1. Ignition OFF.

4.2. 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**

4.1. Ignition OFF.

4.2. 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**

4.3. Disconnect the harness connector at each of the A23 Door Latch Assemblies.

4.4. 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, ignition ON.

6. Test for less than 1 V between the control circuit terminals listed below and ground:

- Control circuit terminal 1 X6
- Control circuit terminal 2 X6
- Control circuit terminal 4 X6

⇒ **If 1 V or greater**

6.1. Ignition OFF, disconnect the harness connector at the A23D Door Latch Assembly – Driver, A23P Door Latch Assembly – Passenger, A23LR Door Latch Assembly – Left Rear, A23RR Door Latch Assembly – Right Rear, and M27 Fuel Door Unlatch Actuator, ignition ON.

6.2. 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:

- Control circuit terminal 1 X6
- Control circuit terminal 2 X6
- Control circuit terminal 4 X6

⇒ **If less than infinite resistance**

- 7.1. Ignition OFF, disconnect the harness connector at the A23D Door Latch Assembly – Driver, A23P Door Latch Assembly – Passenger, A23LR Door Latch Assembly – Left Rear, A23RR Door Latch Assembly – Right Rear, and M27 Fuel Door Unlatch Actuator.

7.2. 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. Test for less than 10 Ω between the control circuit terminal 1 and the control circuit terminal 4.

⇒ **If 10 Ω or greater**

- 8.1. Ignition OFF, disconnect the harness connector at the A23D Door Latch Assembly – Driver.

- 8.2. Test for less than 2 Ω between the K9 Body Control Module control circuit terminal 4 and the A23D Door Latch Assembly – Driver control circuit terminal 2 (LHD) or 7 (RHD).

⇒ If 2 Ω or greater, repair the open/high resistance on the circuit.

⇓ **If less than 10 Ω**

9. 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.

- [Front Side Door Latch Replacement](#)
- [Rear Side Door Latch Replacement](#)
- [Control Module References](#) for BCM replacement, programming and setup

DTC B3125, B3130, or B3135 (Ute Only)

Diagnostic Instructions

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

DTC Descriptors

DTC B3125

Driver Door Only Unlock Circuit

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 Latch Control	B3125 02, B3130 02, B3135 02	B3125 04, B3130 04, B3135 04	B3125 01, B3130 01, B3135 01	—
Driver Door Lock Motor Lock Control	B3125 02, B3130 02, B3135 02	B3125 04, B3130 04, B3135 04	B3125 01, B3130 01, B3135 01	—
Door Lock Actuator Unlock Control	B3125 02, B3130 02, B3135 02	B3125 04, B3130 04, B3135 04	B3125 01, B3130 01, B3135 01	—

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 control circuits of the driver 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.

Conditions for Running the DTC

© 2014 General Motors. All rights reserved.

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

Action Taken When the DTC Sets

Both power door locks will be inoperative.

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

- [Door Lock/Indicator Schematics](#)
- [Body Control System Schematics](#)

Connector End View Reference

[Component Connector End Views](#)

Description and Operation

[Power Door Locks Description and Operation](#)

Electrical Information Reference

- [Circuit Testing](#)
- [Connector Repairs](#)
- [Testing for Intermittent Conditions and Poor Connections](#)
- [Wiring Repairs](#)

Scan Tool Reference

[Control Module References](#) for scan tool information

Circuit/System Verification

1. Ignition ON.
2. Verify both vehicle doors LOCK and UNLOCK when commanding the All Doors Lock/Unlock with a scan tool.
 - ⇒ **If only the driver door LOCK or UNLOCK functions do not work**
Refer to Circuit/System Testing – Driver Door Lock Malfunction.
 - ⇒ **If the passenger door LOCK or UNLOCK functions do not work**
Refer to Circuit/System Testing – Passenger Door Lock Malfunction.

- ⇒ **If both door LOCK and UNLOCK functions do not work**
Refer to Circuit/System Testing – Both Door Lock Inoperative.
- ⇓ **If the LOCK and UNLOCK function for both 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**
 - 2.1. Ignition OFF, disconnect the harness connector at the A23D Door Latch Assembly – Driver, ignition ON.
 - 2.2. 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 terminal listed below and ground:
 - A23D Door Latch Assembly–Driver (RHD) — control circuit terminal 8
 - A23D Door Latch Assembly–Driver (RHD) — control circuit terminal 7
 - A23D Door Latch Assembly–Driver (LHD) — control circuit terminal 3
 - A23D Door Latch Assembly–Driver (LHD) — control circuit terminal 2
- ⇒ **If 3 V or less**
 - 4.1. Ignition OFF, disconnect the X6 harness connector at the K9 Body Control Module.
 - 4.2. 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
 - 4.3. 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 terminals 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.
 - A23D Door Latch Assembly–Driver (RHD) – control circuit terminal 7 and control circuit terminal 8
 - A23D Door Latch Assembly–Driver (LHD) – control circuit terminal 2 and control circuit terminal 3
6. Lock and unlock the vehicle doors using the door lock switch.
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 harness connector at the A23P Door Latch Assembly-Passenger.

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 central 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 (LHD) — control circuit terminal 8
- A23P Door Latch Assembly-Passenger (RHD) — control circuit terminal 3
- A23P Door Latch Assembly-Passenger (LHD) — control circuit terminal 7
- A23P Door Latch Assembly-Passenger (RHD) — control circuit terminal 2

⇒ **If 3 V or less**

2.1. Ignition OFF, disconnect the X6 harness connector at the K9 Body Control Module.

2.2. 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

2.3. 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 circuit terminals 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 (LHD) – control circuit terminal 7 and control circuit terminal 8
- A23P Door Latch Assembly-Passenger (RHD) – control circuit terminal 2 and control circuit terminal 3

4. Lock and unlock the vehicle doors using the central door lock switch.

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 A23P Door Latch Assembly-Passenger.

Both 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**

2.1. Ignition OFF.

2.2. 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**

- 4.1. Ignition OFF.
- 4.2. 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**

- 4.1. Ignition OFF.
- 4.2. 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
- 4.3. Disconnect the harness connector at each of the A23 Door Latch Assemblies.
- 4.4. 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, ignition ON.
6. Test for less than 1 V between the control circuit terminals listed below and ground:
 - Control circuit terminal 1 X6
 - Control circuit terminal 2 X6
 - Control circuit terminal 4 X6

⇒ **If 1 V or greater**

- 6.1. Ignition OFF, disconnect the harness connector at the A23D Door Latch Assembly – Driver and A23P Door Latch Assembly – Passenger, ignition ON.
- 6.2. 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:
 - Control circuit terminal 1 X6
 - Control circuit terminal 2 X6
 - Control circuit terminal 4 X6

⇒ **If less than infinite resistance**

- 7.1. Ignition OFF, disconnect the harness connector at the A23D Door Latch Assembly – Driver and A23P Door Latch Assembly – Passenger.
- 7.2. 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. Test for less than 10 Ω between the control circuit terminal 1 and the control circuit terminal 4.

⇒ **If 10 Ω or greater**

- 8.1. Ignition OFF, disconnect the harness connector at the A23D Door Latch Assembly – Driver.

- 8.2. Test for less than $2\ \Omega$ between the K9 Body Control Module control circuit terminal 4 and the A23D Door Latch Assembly – Driver control circuit terminal 2 (LHD) or 7 (RHD).

⇒ If $2\ \Omega$ or greater, repair the open/high resistance on the circuit.

↓ **If less than $10\ \Omega$**

9. 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.

- [Front Side Door Latch Replacement](#)
- [Control Module References](#) for BCM replacement, programming and setup

DTC B3140, B3145, B3150, or B3155

Diagnostic Instructions

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

DTC Descriptors

DTC B3140 00

Driver Door Unlock Switch Circuit

DTC B3145 00

Passenger Door Unlock Switch Circuit

DTC B3150 00

Driver Front Door Lock Switch Circuit

DTC B3155 00

Passenger Front 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.

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 lock 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.

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](#)

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**
Refer to Circuit/System Testing .
⇓ **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 .
⇓ **If the parameter changes**
4. All OK.

Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the appropriate S13 Door Lock 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 4 and ground.
⇒ **If 10 Ω or greater**
 - 2.1. Ignition OFF.
 - 2.2. 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 Door Lock Switch parameter is Inactive.
⇒ **If not Inactive**
 - 4.1. Ignition OFF, disconnect the harness connector at the K9 Body Control Module.
 - 4.2. 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.
 - 4.3. 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 Door Lock Switch parameter is Unlock.

⇒ **If not Unlock**

6.1. Ignition OFF, remove the fused jumper wire, disconnect the harness connector at the K9 Body Control Module, ignition ON.

6.2. 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

6.3. 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 Door Lock Switch parameter is Lock.

⇒ **If not Lock**

8.1. Ignition OFF, remove the fused jumper wire, disconnect the harness connector at the K9 Body Control Module, ignition ON.

8.2. 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

8.3. 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 S13 Door Lock Switch.

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**

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.

- [Door Lock Switch Replacement - Driver Side](#)
- [Door Lock Switch Replacement - Passenger Front](#)
- [Control Module References](#) for BCM replacement, programming and setup

DTC B3265

Diagnostic Instructions

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

DTC Descriptor

DTC B3265

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
Control	B3265 02	B3265 04	B3265 01	—
Ground	—	B3265 04	—	—

Circuit/System Description

The body control module applies battery positive voltage to the rear compartment lid unlatch relay control circuit which energizes the coil side of the relay. The switch side of the relay then closes, supplying battery positive voltage to the control circuit of the rear compartment lid latch. The rear compartment lid latch then releases the rear compartment lid so that it may be manually raised to an open position.

Conditions for Running the DTC

When the rear compartment lid latch release is actively being requested by the body control module.

Conditions for Setting the DTC

B3265 01

The body control module detects a short to voltage on the rear compartment lid release relay control circuit.

B3265 02

The body control module detects a short to ground on the rear compartment lid release relay control circuit.

B3265 04

The body control module detects an open/high resistance on the rear compartment lid release relay control circuit or an open/high resistance on the relay ground circuit.

Action Taken When the DTC Sets

The body control module will command the rear compartment lid unlatch relay, but the rear compartment latch will not operate.

© 2014 General Motors. All rights reserved.

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

[Release Systems Schematics](#)

Connector End View Reference

[Component Connector End Views](#)

Description and Operation

[Luggage Compartment Description and Operation](#)

Electrical Information Reference

- [Circuit Testing](#)
- [Connector Repairs](#)
- [Testing for Intermittent Conditions and Poor Connections](#)
- [Wiring Repairs](#)

Scan Tool Reference

[Control Module References](#) for scan tool information

Circuit/System Verification

1. Ignition ON.
2. Verify the M40 Rear Compartment Lid Latch functions when commanding the Rear Body Unlatch with a scan tool.
⇒ **If the M40 Rear Compartment Lid Latch does not function**
Refer to Circuit/System Testing.
⇓ **If the M40 Rear Compartment Lid Latch does function**
3. All OK.

Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the X1 harness connector at the X53A Fuse Block-Rear Body. 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 12 and ground.
⇒ **If 10 Ω or greater**
 - 2.1. Ignition OFF.
 - 2.2. 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. Connect the X1 harness connector and disconnect the X3 harness connector at the X53A Fuse Block-Rear Body.
4. Connect a test lamp between the control circuit terminal 21 and ground, ignition ON.
5. Verify the test lamp turns ON when commanding the Rear Body Unlatch with a scan tool.
⇒ **If the test lamp is always OFF**

- 5.1. Ignition OFF, remove the test lamp, disconnect the harness connector at the K9 Body Control Module.
- 5.2. 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
- 5.3. 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**
 - 5.1. Ignition OFF, remove the test lamp, disconnect the harness connector at the K9 Body Control Module, ignition ON
 - 5.2. 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**
6. Test or replace the X53A Fuse Block-Rear Body.

Repair Instructions

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

- [Body Wiring Harness Junction Block Replacement](#)
- [Control Module References](#) for body control module replacement, programming and setup

Symptoms - Vehicle Access

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

1. Perform the [Diagnostic System Check - Vehicle](#), before using the symptom tables in order to verify that all of the following are true:
 - There are no DTCs set.
 - The control module can communicate via GMLAN serial data.
2. Review the system description and operation in order to familiarize yourself with the system functions. Refer to the following:
 - [Door Ajar Indicator Description and Operation](#)
 - [Fuel Fill Door Description and Operation](#)
 - [Liftgate Ajar Indicator Description and Operation](#)
 - [Liftgate Description and Operation](#)
 - [Luggage Compartment Description and Operation](#)
 - [Power Door Locks Description and Operation](#)
 - [Tonneau Cover Description and Operation](#)

Visual/Physical Inspection

- Inspect for aftermarket devices which could affect the operation of the power door locks, liftgate release or the rear compartment lid release. 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 Handle Switch Malfunction - DTC B2494](#)
- [Liftgate Latch Release/Cinch Malfunction - DTC B2495](#)
- [Liftgate Latch Switches Malfunction - DTC B153A](#)
- [Liftgate Ajar Indicator Malfunction](#)
- [Door Ajar Indicator Malfunction](#)
- [Power Door Lock Key Cylinder Switches Malfunction](#)
- [Power Door Locks Malfunction](#)
- [Tonneau Ajar Indicator Malfunction](#)
- [Tonneau Cover Release Malfunction](#)
- [Trunk Release Malfunction](#)
- [Trunk Ajar Indicator 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.
- [Diagnostic Procedure Instructions](#) provides an overview of each diagnostic category.

DTC Descriptors

DTC B1474 02

Passenger Exterior Door Handle Switch Circuit Short to Ground

DTC B1534 02

Left Rear Door Handle Switch Circuit Short to Ground

DTC B1535 02

Right Rear Door Handle Switch Circuit Short to Ground

DTC B3849 02

Driver Exterior Door Handle Switch Circuit Short to Ground

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Driver Door Handle Switch Signal	B3849 02	1	1	—
Driver Door Handle Switch Ground	—	1	—	—
Passenger Door Handle Switch Signal	B1474 02	2	2	—
Passenger Door Handle Switch Ground	—	2	—	—
Left Rear Door Handle Switch Signal	B1534 02	3	3	—
Left Rear Door Handle Switch Ground	—	3	—	—
Right Rear Door Handle Switch Signal	B1535 02	4	4	—
Right Rear Door Handle Switch Ground	—	4	—	—
1. Driver Door Handle Switch Malfunction 2. Passenger Door Handle Switch Malfunction © 2014 General Motors. All rights reserved.				

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
3. Left Rear Door Handle Switch Malfunction 4. Right Rear Door Handle Switch Malfunction				

Circuit/System Description

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

Conditions for Running the DTC

Battery voltage is between 9–16 V.

Conditions for Setting the DTC

B1474 02

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

B1534 02

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

B1535 02

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

B3849 02

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

Action Taken When the DTC Sets

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

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

[Door Lock/Indicator Schematics](#)

Connector End View Reference

[Component Connector End Views](#)

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 appropriate scan tool Exterior Door Handle Switch parameters changes between Active and Inactive when pressing and releasing the driver, passenger, left rear and right rear B27 Door Handle Switch-Exterior.
 - ⇒ **If a 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 B27 Door Handle Switch-Exterior. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal listed below and ground:
 - B27D Door Handle Switch-Driver Exterior — ground circuit terminal 2
 - B27P Door Handle Switch-Passenger Exterior — ground circuit terminal 2
 - B27RR Door Handle Switch-Right Rear Exterior — ground circuit terminal 2
 - B27LR Door Handle Switch-Left Rear Exterior — ground circuit terminal 4
 - ⇒ **If 10 Ω or greater**
 - 2.1. Ignition OFF.
 - 2.2. 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**
 - 4.1. Ignition OFF, disconnect the harness connector at the K84 Keyless Entry Control Module.
 - 4.2. Test for infinite resistance between the signal circuit terminal listed below and ground:
 - B27D Door Handle Switch-Driver Exterior — signal circuit terminal 3
 - B27LR Door Handle Switch-Left Rear Exterior — signal circuit terminal 3
 - B27P Door Handle Switch-Passenger Exterior — signal circuit terminal 1
 - B27RR Door Handle Switch-Right Rear Exterior — signal circuit terminal 1
 - ⇒ 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 listed below and ground:

- B27D Door Handle Switch-Driver Exterior — signal circuit terminal 3
- B27LR Door Handle Switch-Left Rear Exterior — signal circuit terminal 3
- B27P Door Handle Switch-Passenger Exterior — signal circuit terminal 1
- B27RR Door Handle Switch-Right Rear Exterior — signal circuit terminal 1

6. Verify the scan tool Exterior Door Handle Switch parameter is Active.

⇒ **If not Active**

6.1. Ignition OFF, remove the jumper wire, disconnect the harness connector at the K84 Keyless Entry Control Module, ignition ON.

6.2. 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

6.3. 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 B27 Door Handle Switch-Exterior.

Component Testing

1. Ignition OFF, disconnect the harness connector at the appropriate B27 Door Handle Switch-Exterior.

2. Test for infinite resistance between the signal terminal and the ground terminal listed below with the switch in the open position.

- B27D Door Handle Switch-Driver Exterior — signal terminal 3 and ground terminal 2
- B27LR Door Handle Switch-Left Rear Exterior — signal terminal 3 and ground terminal 4
- B27P Door Handle Switch-Passenger Exterior — signal terminal 1 and ground terminal 2
- B27RR Door Handle Switch-Right Rear Exterior — signal terminal 1 and ground terminal 2

⇒ **If less than infinite resistance**

Replace the B27 Door Handle Switch- Exterior.

⇓ **If infinite resistance**

3. Test for less than 5 Ω between the signal terminal and the ground terminal listed below with the switch in the closed position.

- B27D Door Handle Switch-Driver Exterior — signal terminal 3 and ground terminal 2
- B27LR Door Handle Switch-Left Rear Exterior — signal terminal 3 and ground terminal 4
- B27P Door Handle Switch-Passenger Exterior — signal terminal 1 and ground terminal 2
- B27RR Door Handle Switch-Right Rear Exterior — signal terminal 1 and ground terminal 2

⇒ **If 5 Ω or greater**

Replace the B27 Door Handle Switch- Exterior.

⇓ **If less than 5 Ω**

4. All OK

Repair Instructions

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

- [Front Side Door Outside Handle Replacement](#)
- [Rear Side Door Outside Handle Replacement](#)
- [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.
- [Diagnostic Procedure Instructions](#) provides an overview of each diagnostic category.

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
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 door unlatch actuator shares the circuit with the door latch unlock control circuit. The body control module (BCM), upon receipt of a lock switch lock or unlock signal, will switch the appropriate door latch, as well as a fuel filler door unlatch actuator control circuits to B+ voltage. The opposing side of the door latch and fuel filler door unlatch actuator is connected to ground provided by the BCM through the other the door latch control circuits, along with the fuel filler 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](#)

Description and Operation

[Fuel Fill Door 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

© 2014 General Motors. All rights reserved.

Circuit/System Verification

1. Ignition ON.
2. Verify the M27 Fuel 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 Door Unlatch Actuator releases the fuel filler door**
Refer to Circuit/System Testing.
⇓ **If the fuel door unlatch actuator does not release the fuel filler door**
3. Verify the M27 Fuel 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 Door Unlatch Actuator does not release the fuel filler door**
Refer to Circuit/System Testing.
⇓ **If the M27 Fuel 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 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 with a scan tool.
⇒ **If the test lamp remains OFF during either of the commands**
 - 3.1. Ignition OFF, remove the test lamp, disconnect the harness connector at the K9 Body Control Module.
 - 3.2. Test for infinite resistance between each control circuit and ground.
⇒ If less than infinite resistance, repair the short to ground on the circuit.
 - 3.3. 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 the test lamp turns ON during each of the commands**
4. Test or replace the M27 Fuel Door Unlatch Actuator.

Component Testing

Fuel Door Latch Assembly

1. Ignition OFF, disconnect the harness connector at the M27 Fuel 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 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 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.

Fuel Tank Filler Door Latch Replacement

Liftgate Handle Switch Malfunction - DTC B2494

Diagnostic Instructions

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

DTC Descriptor

DTC B2494 02

Liftgate Handle Switch Circuit Short to Ground

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal	B2494 02	1	1	—
Low Reference	—	1	1	—
1. Liftgate will not release with the liftgate handle				

Circuit/System Description

The power liftgate handle switch circuit provides a single input to the liftgate control module. The liftgate handle switch is supplied a signal voltage, when the switch contact closes and the voltage drops, the liftgate control module detects the voltage drop and commands the liftgate to release.

Conditions for Running the DTC

The system voltage is 9–16 V.

Conditions for Setting the DTC

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

Action Taken When the DTC Sets

The liftgate control module will ignore the signal from the liftgate handle switch. Normal power liftgate operation will be available by a request from the remote 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

[Release Systems Schematics](#)

Connector End View Reference

© 2014 General Motors. All rights reserved.

[Component Connector End Views](#)**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 Handle Switch parameter changes between Inactive to Active when pressing the S46 Liftgate Handle 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 S46 Liftgate Handle Switch. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the low reference circuit terminal 1 and ground.
⇒ **If 10 Ω or greater**
 - 2.1. Ignition OFF.
 - 2.2. 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 , replace the K39 Liftgate Control Module.
⇓ **If less than 10 Ω**
3. Ignition ON.
4. Verify the scan tool Liftgate Handle Switch parameter is Inactive.
⇒ **If not Inactive**
 - 4.1. Ignition OFF, disconnect the harness connector at the K39 Liftgate Control Module.
 - 4.2. 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**
5. Install a 3 A fused jumper wire between the signal circuit terminal 2 and the low reference circuit terminal 1.
6. Verify the scan tool Liftgate Handle Switch parameter is Active.
⇒ **If not Active**
 - 6.1. Ignition OFF, remove the 3 A fused jumper wire, disconnect the harness connector at the K39 Liftgate Control Module, ignition ON.
 - 6.2. 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

6.3. 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 S46 liftgate handle switch.

Component Testing

1. Ignition OFF, disconnect the harness connector at the S46 Liftgate Handle Switch.

2. Test for infinite resistance between the signal terminal 2 and the low reference terminal 1 with the switch in the open position.

⇒ **If less than infinite resistance**

Replace the S46 Liftgate Handle Switch.

⇓ **If infinite resistance**

3. Test for less than 3 Ω between the signal terminal 2 and the low reference terminal 1 with the switch in the closed position.

⇒ **If 3 Ω or greater**

Replace the S46 Liftgate Handle Switch.

⇓ **If less than 3 Ω**

4. All OK

Repair Instructions

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

- [Liftgate Applique Replacement](#)
- [Control Module References](#) for liftgate control module replacement, programming and setup

Liftgate Latch Release/Cinch Malfunction - DTC B2495

Diagnostic Instructions

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

DTC Descriptors

DTC B2495

Liftgate Latch 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 Latch Release Control	1	1	1	1	—
Cinch Latch Motor Open Control	B2495 02	B2495 04	B2495 04	B2495 01	—
Cinch Latch Motor Close Control	B2495 02	B2495 04	B2495 04	B2495 01	—
1. Liftgate Will Not Cinch Closed					

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 door lock actuator 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.

© 2014 General Motors. All rights reserved.

[Conditions for Setting the DTC](#)

B2495 01

The liftgate control module detects a short to voltage 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

The liftgate control module detects an open/high resistance in the liftgate latch motor cinch control circuit.

[Action Taken When the DTC Sets](#)

Liftgate latches but will not cinch closed or liftgate will not open.

[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](#)

Connector End View Reference

[Component Connector End Views](#)

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

2. Verify the M14B Door Lock Actuator-Liftgate releases the liftgate when pressing the S46 Liftgate Handle Switch.

⇒ **If the M14B Door Lock Actuator-Liftgate does not release**

Refer to Circuit/System Testing — Liftgate Release Inoperative

⇓ **If the M14B Door Lock Actuator-Liftgate does release**

3. Verify the M14B Door Lock Actuator-Liftgate cinches the liftgate to the fully closed position while gently pushing the liftgate closed.
 - ⇒ **If the M14B Door Lock Actuator-Liftgate does not cinch**
Refer to Circuit/System Testing — Liftgate Cinch Inoperative
 - ⇓ **If the M14B Door Lock Actuator-Liftgate cinch works**
4. All OK.

Circuit/System Testing

Liftgate Release Inoperative

1. Ignition OFF, disconnect the X1 harness connector at the K39 Liftgate Control Module.
Ignition ON
2. Test for less than 1 V between the control circuit terminal 9 and ground.
 - ⇒ **If 1 V or greater**
 - 2.1. Ignition OFF, disconnect the harness connector at the M14B Door Lock Actuator-Liftgate, ignition ON.
 - 2.2. 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 M14B Door Lock Actuator-Liftgate.
 - ⇓ **If less than 1 V**
3. Ignition ON, manually move latch to cinched position, install a 30 A fused jumper wire between the control circuit terminal 9 and 12 V, the M14B Door Lock Actuator-Liftgate should perform the release function.
 - ⇒ **If the M14B Door Lock Actuator-Liftgate does not release**
 - 3.1. Ignition OFF, disconnect the harness connector at the M14B Door Lock Actuator-Liftgate.
 - 3.2. 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
 - 3.3. 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 M14B Door Lock Actuator-Liftgate.
 - ⇓ **If the M14B Door Lock Actuator-Liftgate 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**
 - 2.1. Ignition OFF, disconnect the harness connector at the A23C Liftgate Latch Assembly.
ignition ON.
 - 2.2. 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**

- 3.1. Ignition OFF, disconnect the harness connector at the A23C Liftgate Latch Assembly.
- 3.2. 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**

- 4.1. Ignition OFF, disconnect the harness connector at the A23C Liftgate Latch Assembly.
- 4.2. 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 8.
 - ⇒ If 2 Ω or greater, repair the open/high resistance on the circuit.
- 4.3. 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 7.
 - ⇒ 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.

- [Liftgate Latch Replacement](#)
- [Control Module References](#) for liftgate control module replacement, programming and setup

Liftgate Latch Switches Malfunction - DTC B153A

Diagnostic Instructions

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

DTC Descriptor

DTC B153A 08

Power Liftgate Latch Switches Signal Invalid

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Liftgate Control Module B+	B153A 08	B153A 08	—	—
Liftgate Control Module Ground	—	B153A 08	—	—
Liftgate Latch Pawl Switch Signal	B153A 08	B153A 08	—	—
Liftgate Ajar Switch Signal	B153A 08	B153A 08	—	—
Liftgate Latch Sector Switch Signal	B153A 08	B153A 08	—	—
Liftgate Unlatch Switch Signal	—	1	—	—
Liftgate Latch Ground	—	B153A 08	—	—
1. Liftgate will not cinch close				

Circuit/System Description

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 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 ground 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

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

The liftgate control module will command the liftgate latch to release, but the liftgate will not open

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](#)

Connector End View Reference

[Component Connector End Views](#)

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: 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 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**

Refer to Circuit/System Testing.

⇓ **If the parameter changes**

4. Verify the scan tool Liftgate Ajar 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. Liftgate open, 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 harness connector at 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**
 - 2.1. Ignition OFF.
 - 2.2. 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**
 - 4.1. Ignition OFF.
 - 4.2. 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**
 - 4.1. Ignition OFF.
 - 4.2. 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 ground circuit terminal 6 and ground.
 - ⇒ **If 10 Ω or greater**
 - 6.1. Ignition OFF.
 - 6.2. 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**

7. Ignition ON.
8. Test for greater than 10 V between the signal circuit terminal 3 and ground
 - ⇒ **If less than 10 V**
 - 8.1. Ignition OFF, disconnect the harness connector at the K39 Liftgate Control Module.
 - 8.2. Test for infinite resistance between the signal circuit 3 and ground.
 - ⇒ If less than infinite resistance, repair the short to ground on the circuit.
 - ⇓ If infinite resistance
 - 8.3. Test for less than 2 Ω in the signal circuit end to end.
 - ⇒ If 2 Ω or greater, repair the open/high resistance on the circuit.
 - ⇒ If less than 2 Ω , replace the K39 Liftgate Control Module.
 - ⇓ **If greater than 10 V**
9. Verify the scan tool Liftgate Latch Pawl Switch parameter is Closed.
 - ⇒ **If not Closed**
 - 9.1. Ignition OFF, disconnect the harness connector at the K39 Liftgate Control Module.
 - 9.2. 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**
10. Install a 3 A fused jumper wire between the signal circuit terminal 1 and the ground circuit terminal 6.
11. Verify the scan tool Liftgate Latch Pawl Switch parameter is Open
 - ⇒ **If not Open**
 - 11.1. Ignition OFF, disconnect the harness connector at the K39 Liftgate Control Module, ignition ON.
 - 11.2. 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
 - 11.3. 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**
12. Verify the scan tool Liftgate Ajar Switch parameter is Closed.
 - ⇒ **If not Closed**
 - 12.1. Ignition OFF, disconnect the harness connector at the K39 Liftgate Control Module.
 - 12.2. 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**
13. Install a 3 A fused jumper wire between the signal circuit terminal 5 and the ground circuit terminal 6.
14. Verify the scan tool Liftgate Ajar Switch parameter is Open
 - ⇒ **If not Open**
 - 14.1. Ignition OFF, disconnect the harness connector at the K39 Liftgate Control Module, ignition ON.
 - 14.2. 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

14.3. 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**

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

⇒ **If not Inactive**

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

15.2. Test for infinite resistance between the signal circuit and ground.

⇒ If less than infinite resistance, repair the short to ground on the circuit.

⇒ If infinite resistance, replace the K39 Liftgate Control Module.

⇓ **If Inactive**

16. Install a 3 A fused jumper wire between the signal circuit terminal 2 and the ground circuit terminal 6.

17. Verify the scan tool Liftgate Latch Sector Switch parameter is Active

⇒ **If not Active**

17.1. Ignition OFF, disconnect the harness connector at the K39 Liftgate Control Module, ignition ON.

17.2. 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

17.3. 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**

18. Test or replace the A23C Liftgate Latch Assembly.

Repair Instructions

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

- [Liftgate Latch Replacement](#)
- [Control Module References](#) for the liftgate control module replacement, programming and setup

Liftgate Release Malfunction

Diagnostic Instructions

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

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Liftgate Module B+	B153A 08	B153A 08	—	—
Liftgate Release Signal	B2494 02	1	1	—
Pawl Switch Signal	B153A 00	B153A 08	B153A 00	—
Ratchet Switch Signal	B153A 08	B153A 08	B153A 08	—
Sector Switch Signal	B153A 08	B153A 08	B153A 08	—
Liftgate Latch Cinch Control	B2495 02	B2495 04	B2495 01	—
Liftgate Latch Ground	B2495 02	B2495 04	—	—
Liftgate Handle Switch Low Reference	—	1	—	—
Liftgate Module Ground	—	B153A 08	—	—
1. Liftgate will not release with the liftgate handle				

Circuit/System Description

The latch assembly contains two motors for the cinch and unlatch operation. The liftgate control module controls the cinch motor and 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.

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. 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.

Diagnostic Aids

Note: Before testing can be performed the liftgate must be opened.

© 2014 General Motors. All rights reserved.

Reference Information

Schematic Reference

[Release Systems Schematics](#)

Connector End View Reference

[Component Connector End Views](#)

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 and all doors unlocked.
2. Verify the scan tool Liftgate Handle Switch parameter changes between Inactive to Active when pressing the S46B Liftgate Unlatch Switch.
 - ⇒ **If the parameter is No Communication**
Refer to Circuit/System Testing — Liftgate System Inoperative.
 - ⇒ **If the parameter does not change**
Refer to Circuit/System Testing — Liftgate Release Switch Malfunction.
 - ↓ **If the parameter changes**
3. Verify the M14B Door Lock Actuator-Liftgate releases allowing the liftgate to be pulled open when pressing the S46B Liftgate Unlatch Switch.
 - ⇒ **If the liftgate does not open**
Refer to Circuit/System Testing — Liftgate Release Inoperative
 - ↓ **If the liftgate opens**
4. 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**
Refer to Circuit/System Testing — Liftgate Latch Switches Malfunction
 - ↓ **If the parameter changes**
5. 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 — Liftgate Latch Switches Malfunction
 - ↓ **If the parameter changes**
6. Liftgate open, 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 — Liftgate Latch Switches Malfunction
 - ↓ **If the parameter changes**

7. Verify the M14B Door Lock Actuator-Liftgate cinches the liftgate to the fully closed position while gently pushing the liftgate closed.

⇒ **If the M14B Door Lock Actuator-Liftgate does not cinch**

Refer to Circuit/System Testing — Liftgate Cinch Inoperative

⇓ **If the M14B Door Lock Actuator-Liftgate cinch works**

8. All OK.

Circuit/System Testing

Liftgate System Inoperative

1. Ignition OFF and all vehicle systems OFF, disconnect the X1 and 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 X2 and ground.

⇒ **If 10 Ω or greater**

2.1. Ignition OFF.

2.2. 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 listed below and ground.

◦ B+ circuit terminal 3 X2

◦ B+ circuit terminal 4 X2

⇒ **If the test lamp does not illuminate and the circuit fuse is good**

4.1. Ignition OFF.

4.2. 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**

4.1. Ignition OFF.

4.2. 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. Test or replace the K39 Liftgate Control Module.

Liftgate Release Switch Malfunction

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 low reference circuit terminal 1 and ground.

⇒ **If 10 Ω or greater**

2.1. Ignition OFF.

2.2. 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 , replace the K39 Liftgate Control Module

⇓ **If less than 10 Ω**

3. Ignition ON.
4. Verify the scan tool Liftgate Handle Switch parameter is Inactive.
 - ⇒ **If not Inactive**
 - 4.1. Ignition OFF, disconnect the X1 harness connector at the K39 Liftgate Control Module.
 - 4.2. 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**
5. Install a 3 A fused jumper wire between the signal circuit terminal 2 and the low reference circuit terminal 1.
6. Verify the scan tool Liftgate Handle Switch parameter is Active.
 - ⇒ **If not Active**
 - 6.1. Ignition OFF, disconnect the X1 harness connector at the K39 Liftgate Control Module, ignition ON.
 - 6.2. 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
 - 6.3. 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 S46B Liftgate Unlatch Switch.

Liftgate Release Inoperative

1. Ignition OFF, disconnect the X1 harness connector at the K39 Liftgate Control Module. Ignition ON
2. Test for less than 1 V between the control circuit terminal 9 and ground.
 - ⇒ **If 1 V or greater**
 - 2.1. Ignition OFF, disconnect the harness connector at the M14B Door Lock Actuator-Liftgate, ignition ON.
 - 2.2. 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 M14B Door Lock Actuator-Liftgate.
 - ↓ **If less than 1 V**
3. Ignition ON, manually move latch to cinched position, install a 30 A fused jumper wire between the control circuit terminal 9 and 12 V, the M14B Door Lock Actuator-Liftgate should perform the release function.
 - ⇒ **If the M14B Door Lock Actuator-Liftgate does not release**
 - 3.1. Ignition OFF, disconnect the harness connector at the M14B Door Lock Actuator-Liftgate.
 - 3.2. 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
 - 3.3. 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 M14B Door Lock Actuator-Liftgate.
 - ↓ **If the M14B Door Lock Actuator-Liftgate releases**

4. Replace the K39 Liftgate Control Module.

Liftgate Latch Switches Malfunction

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the M14B Door Lock Actuator-Liftgate. 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**

- 2.1. Ignition OFF.
- 2.2. 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 Liftgate Latch Pawl Switch parameter is Closed.

⇒ **If not Closed**

- 4.1. Ignition OFF, disconnect the X1 harness connector at the K39 Liftgate Control Module.
- 4.2. 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 ground circuit terminal 6.

6. Verify the scan tool Liftgate Latch Pawl Switch parameter is Open

⇒ **If not Open**

- 6.1. Ignition OFF, remove the 3 A fused jumper wire, disconnect the X1 harness connector at the K39 Liftgate Control Module, ignition ON.
- 6.2. Test for less than 1 V between the signal circuit terminal 1 and ground.
 - ⇒ If 1 V or greater, repair the short to voltage on the circuit.
 - ⇓ If less than 1 V
- 6.3. 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**

- 7.1. Ignition OFF, disconnect the X1 harness connector at the K39 Liftgate Control Module.
- 7.2. 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 ground circuit terminal 6.

9. Verify the scan tool Liftgate Latch Ratchet Switch parameter is Open

⇒ **If not Open**

- 9.1. Ignition OFF, remove the 3 A fused jumper wire, disconnect the X1 harness connector at the K39 Liftgate Control Module, ignition ON.

9.2. Test for less than 1 V between the signal circuit terminal 5 and ground.

⇒ If 1 V or greater, repair the short to voltage on the circuit.

⇓ If less than 1 V

9.3. 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**

10.1. Ignition OFF, disconnect the X1 harness connector at the K39 Liftgate Control Module.

10.2. 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**

11. Install a 3 A fused jumper wire between the signal circuit terminal 2 and the ground circuit terminal 6.

12. Verify the scan tool Liftgate Latch Sector Switch parameter is Active

⇒ **If not Active**

12.1. Ignition OFF, remove the 3 A fused jumper wire, disconnect the X1 harness connector at the K39 Liftgate Control Module, ignition ON.

12.2. Test for less than 1 V between the signal circuit terminal 2 and ground.

⇒ If 1 V or greater, repair the short to voltage on the circuit.

⇓ If less than 1 V

12.3. 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. Test for greater than 10 V between the signal circuit terminal 3 and ground circuit terminal 6.

⇒ **If less than 10 V**

13.1. Ignition OFF, disconnect the X1 harness connector at the K39 Liftgate Control Module.

13.2. 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

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

⇒ If 2 Ω or greater, repair the open/high resistance on the circuit.

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

⇓ **If greater than 10 V**

14. Test or replace the M14B Door Lock Actuator-Liftgate.

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**

- 2.1. Ignition OFF, disconnect the harness connector at the A23C Liftgate Latch Assembly. ignition ON.
- 2.2. 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**

- 3.1. Ignition OFF, disconnect the harness connector at the A23C Liftgate Latch Assembly.
- 3.2. 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**

- 4.1. Ignition OFF, disconnect the harness connector at the A23C Liftgate Latch Assembly.
- 4.2. 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 8.
 - ⇒ If 2 Ω or greater, repair the open/high resistance on the circuit.
- 4.3. 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 7.
 - ⇒ 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.

Component Testing

1. Ignition OFF, disconnect the harness connector at the S46B Liftgate Unlatch Switch.
2. Test for infinite resistance between the signal terminal 2 and the low reference terminal 1 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 2 and the low reference terminal 1 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.

- [Liftgate Latch Replacement](#)
- [Liftgate Applique Replacement](#)

- [Control Module References](#) for liftgate control module replacement, programming and setup

Liftgate Ajar Indicator Malfunction

Diagnostic Instructions

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

Circuit/System Description

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 panel cluster receives a serial data message from the liftgate module indicating the liftgate ajar status.

Diagnostic Aids

For the Rear Access Open message to malfunction would require a fault in both the ratchet and sector signal circuits. This kind of failure would result in the liftgate to become inoperative.

Reference Information

Schematic Reference

[Release Systems Schematics](#)

Connector End View Reference

[Component Connector End Views](#)

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 and all doors unlocked.
2. Verify the A23C Liftgate Latch Assembly releases allowing the liftgate to be pulled open when pressing the S46 Liftgate Handle Switch.
⇒ **If the liftgate does not open**
Refer to [Liftgate Release Malfunction](#).
⇓ **If the liftgate opens**
3. All OK.

Door Ajar Indicator Malfunction

Diagnostic Instructions

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

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Driver Door Ajar Switch Signal	1	2	2	—
Driver Door Latch Ground	—	2	—	—
Left Rear Door Ajar Switch Signal	1	4	4	—
Left Rear Door Latch Ground	—	4	—	—
Passenger Door Ajar Switch Signal	1	3	3	—
Passenger Door Latch Ground	—	3	—	—
Right Rear Door Ajar Switch Signal	1	5	5	—
Right Rear Door Latch Ground	—	5	—	—
1. Ajar Indicator Always Illuminated 2. Ajar Indicator Inoperative When Driver Door Is Open 3. Ajar Indicator Inoperative When Passenger Door Is Open 4. Ajar Indicator Inoperative When Left Rear Door Is Open 5. Ajar Indicator Inoperative When Right Rear Door Is Open				

Circuit/System Description

The driver, passenger, left rear and right rear 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 cluster to command the door ajar message.

Reference Information

Schematic Reference

[Door Lock/Indicator Schematics](#)

Connector End View Reference

© 2014 General Motors. All rights reserved.

[Component Connector End Views](#)**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 appropriate scan tool Door Ajar Switch parameter changes between Inactive and Active when opening and closing the driver door, the passenger door, the left rear door and right rear door.
 - ⇒ **If any parameter does not change**
Refer to Circuit/System Testing
 - ⇓ **If all the parameters change**
3. All OK.

[Circuit/System Testing](#)

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the appropriate A23 Door 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 listed below and ground.
 - A23D Door Latch Assembly-Driver (Left hand drive) — ground circuit terminal 8
 - A23D Door Latch Assembly-Driver (Right hand drive) — ground circuit terminal 3
 - A23P Door Latch Assembly-Passenger (Left hand drive) — ground circuit terminal 3
 - A23P Door Latch Assembly-Passenger (Right hand drive) — ground circuit terminal 8
 - A23LR Door Latch Assembly-Left Rear — ground circuit terminal 8
 - A23RR Door Latch Assembly-Right Rear — ground circuit terminal 3
 - ⇒ **If 10 Ω or greater**
 - 2.1. Ignition OFF.
 - 2.2. 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 appropriate scan tool Door Ajar Switch parameter is Inactive.
 - ⇒ **If not Inactive**
 - 4.1. Ignition OFF, disconnect the harness connector at the appropriate S79 window switch.
 - 4.2. Test for infinite resistance between the signal circuit terminal listed below and ground.
 - A23D Door Latch Assembly-Driver (Left hand drive) — signal circuit terminal 6
 - A23D Door Latch Assembly-Driver (Right hand drive) — signal circuit terminal 1

- A23P Door Latch Assembly-Passenger (Left hand drive) — signal circuit terminal 1
- A23P Door Latch Assembly-Passenger (Right hand drive) — signal circuit terminal 6
- A23LR Door Latch Assembly-Left Rear — signal circuit terminal 6
- A23RR Door Latch Assembly-Right Rear — signal circuit terminal 1

⇒ If less than infinite resistance, repair the short to ground on the circuit.

⇒ If infinite resistance, replace the S79 window switch.

↓ **If Inactive**

5. Install a 3 A fused jumper wire between the signal circuit terminal listed below and ground.

- A23D Door Latch Assembly-Driver (Left hand drive) — signal circuit terminal 6
- A23D Door Latch Assembly-Driver (Right hand drive) — signal circuit terminal 1
- A23P Door Latch Assembly-Passenger (Left hand drive) — signal circuit terminal 1
- A23P Door Latch Assembly-Passenger (Right hand drive) — signal circuit terminal 6
- A23LR Door Latch Assembly-Left Rear — signal circuit terminal 6
- A23RR Door Latch Assembly-Right Rear — signal circuit terminal 1

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

⇒ **If not Active**

6.1. Ignition OFF, remove the 3 A fused jumper wire, disconnect the harness connector at the S79 window switch, ignition ON.

6.2. 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

6.3. 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 S79 window switch.

↓ **If Active**

7. Test or replace the A23 Door Latch Assembly.

Component Testing

1. Ignition OFF, disconnect the harness connector at the appropriate A23 Door Latch Assembly.

2. Test for infinite resistance between the terminals listed below with the switch in the open position.

- A23D Door Latch Assembly-Driver (Left hand drive) — signal terminal 6 and ground terminal 8
- A23D Door Latch Assembly-Driver (Right hand drive) — signal terminal 1 and ground terminal 3
- A23P Door Latch Assembly-Passenger (Right hand drive) — signal terminal 6 and ground terminal 8
- A23P Door Latch Assembly-Passenger (Left hand drive) — signal terminal 1 and ground terminal 3
- A23LR Door Latch Assembly-Left Rear — signal terminal 6 and ground terminal 8
- A23RR Door Latch Assembly-Right Rear — signal terminal 1 and ground terminal 3

⇒ **If less than infinite resistance**

Replace the A23 Door Latch Assembly.

↓ **If infinite resistance**

3. Test for less than 3 Ω between the terminals listed below with the switch in the closed position.

- A23D Door Latch Assembly-Driver (Left hand drive) — signal terminal 6 and ground terminal 8
- A23D Door Latch Assembly-Driver (Right hand drive) — signal terminal 1 and ground terminal 3
- A23P Door Latch Assembly-Passenger (Right hand drive) — signal terminal 6 and ground terminal 8
- A23P Door Latch Assembly-Passenger (Left hand drive) — signal terminal 1 and ground terminal 3
- A23LR Door Latch Assembly-Left Rear — signal terminal 6 and ground terminal 8
- A23RR Door Latch Assembly-Right Rear — signal terminal 1 and ground terminal 3

⇒ **If 3 Ω or greater**

Replace the A23 Door Latch Assembly.

⇓ **If less than 3 Ω**

4. All OK

Repair Instructions

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

- [Front Side Door Latch Replacement](#)
- [Rear Side Door Latch Replacement](#)
- [Front Side Door Window Control Switch Replacement](#)
- [Rear Side Door Window Switch Replacement](#)

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.
- [Diagnostic Procedure Instructions](#) provides an overview of each diagnostic category.

DTC Descriptor

DTC B2500 00

Driver Exterior Unlock Switch Circuit

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal	B2500 00	1	1	—
Ground	—	1	—	—
1. Key Cylinder Switch Inoperative				

Circuit/System Description

The driver window switch monitors the voltage level of the key switch unlock signal circuit. When the key is inserted into the driver door key cylinder and turned to the Unlock position, a switch within the driver door latch closes causing the voltage to drop within the key switch unlock 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 unlock.

Conditions for Running the DTC

The system voltage is 9–16 V

Conditions for Setting the DTC

The BCM detects a short to ground on the driver door key switch signal circuit.

Action Taken When the DTC Sets

The BCM will ignore the unlock command from the key cylinder 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

[Door Lock/Indicator Schematics](#)

Connector End View Reference

© 2014 General Motors. All rights reserved.

[Component Connector End Views](#)**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 Key Unlock Switch parameter changes between Inactive and Active when inserting the key into the door lock key cylinder and turning the key to the unlock position.
 - ⇒ **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 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 listed below and ground.
 - A23D Door Latch Assembly-Driver (Left hand drive) — ground circuit terminal 8
 - A23D Door Latch Assembly-Driver (Right hand drive) — ground circuit terminal 3
 - ⇒ **If 10 Ω or greater**
 - 2.1. Ignition OFF.
 - 2.2. 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 Key Unlock Switch parameter is Inactive.
 - ⇒ **If not Inactive**
 - 4.1. Ignition OFF, disconnect the harness connector at the S79D Window Switch-Driver.
 - 4.2. Test for infinite resistance between the signal circuit terminal listed below and ground.
 - A23D Door Latch Assembly-Driver (Left hand drive) — signal circuit terminal 9
 - A23D Door Latch Assembly-Driver (Right hand drive) — signal circuit terminal 4
 - ⇒ If less than infinite resistance, repair the short to ground on the circuit.
 - ⇒ If infinite resistance, replace the S79D Window Switch-Driver.
 - ↓ **If Inactive**
5. Install a 3 A fused jumper wire between the signal circuit terminal listed below and ground.
 - A23D Door Latch Assembly-Driver (Left hand drive) — signal circuit terminal 9

- A23D Door Latch Assembly-Driver (Right hand drive) — signal circuit terminal 4

6. Verify the scan tool Driver Door Key Unlock Switch parameter is Active.

⇒ **If not Active**

- 6.1. Ignition OFF, remove the fused jumper wire, disconnect the harness connector at the S79D Window Switch-Driver, Ignition ON.
- 6.2. 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
- 6.3. 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 Active**

7. 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 terminals listed below with the switch in the open position.
 - A23D Door Latch Assembly-Driver (Left hand drive) — signal terminal 9 and ground terminal 8
 - A23D Door Latch Assembly-Driver (Right hand drive) — signal terminal 4 and ground terminal 3

⇒ **If less than infinite resistance**

Replace the A23D Door Latch Assembly-Driver.

⇓ **If infinite resistance**

3. Test for less than 3 Ω between the terminals listed below with the switch in the closed position.
 - A23D Door Latch Assembly-Driver (Left hand drive) — signal terminal 9 and ground terminal 8
 - A23D Door Latch Assembly-Driver (Right hand drive) — signal terminal 4 and ground terminal 3

⇒ **If 3 Ω or greater**

Replace the A23D Door Latch Assembly-Driver.

⇓ **If less than 3 Ω**

4. All OK

Repair Instructions

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

- [Front Side Door Window Control Switch Replacement](#)
- [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.
- [Diagnostic Procedure Instructions](#) provides an overview of each diagnostic category.

Diagnostic Fault Information

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

© 2014 General Motors. All rights reserved.

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
6. Passenger Door Lock Switch Inoperative 7. All Door Latches Inoperative				

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 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](#)

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 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 — 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 — Door Lock Switch 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. All OK.

Circuit/System Testing

Door Lock Switch Malfunction

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the appropriate S13 Door Lock 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 4 and ground.

⇒ **If 10 Ω or greater**

- 2.1. Ignition OFF.

- 2.2. 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 Door Lock Switch parameter is Inactive.

⇒ **If not Inactive**

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

- 4.2. Test for infinite resistance between the signal circuit terminals listed below and ground.

- Signal circuit terminal 2

- Signal circuit terminal 3

⇒ 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 ground.

6. Verify the scan tool Door Lock Switch parameter is Unlock.

⇒ **If not Unlock**

- 6.1. Ignition OFF, remove the 3 A fused jumper wire, disconnect the harness connector at the K9 Body Control Module, ignition ON.

- 6.2. 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
- 6.3. 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 ground.
- 8. Verify the scan tool Door Lock Switch parameter is Lock.

⇒ **If not Lock**

- 8.1. Ignition OFF, remove the 3 A fused jumper wire, disconnect the harness connector at the K9 Body Control Module, ignition ON.
- 8.2. 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
- 8.3. 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 S13 Door Lock Switch.

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**

- 2.1. Ignition OFF, disconnect the harness connector at the A23D Door Latch Assembly – Driver and the M27 Fuel Door Unlatch Actuator, ignition ON.
- 2.2. 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 terminal listed below and ground:
 - A23D Door Latch Assembly–Driver (RHD) — control circuit terminal 8
 - A23D Door Latch Assembly–Driver (RHD) — control circuit terminal 7
 - A23D Door Latch Assembly–Driver (LHD) — control circuit terminal 3
 - A23D Door Latch Assembly–Driver (LHD) — control circuit terminal 2

⇒ **If 3 V or less**

- 4.1. Ignition OFF, disconnect the X6 harness connector at the K9 Body Control Module.
- 4.2. 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

4.3. Test for less than $2\ \Omega$ in the control circuit end to end.

⇒ If $2\ \Omega$ or greater, repair the open/high resistance on the circuit.

⇒ If less than $2\ \Omega$, 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 terminals 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.

- A23D Door Latch Assembly–Driver (RHD) – control circuit terminal 7 and control circuit terminal 8
- A23D Door Latch Assembly–Driver (LHD) – control circuit terminal 2 and control circuit terminal 3

6. Lock and unlock the vehicle doors using the door lock switch.

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 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 central 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 (LHD) — control circuit terminal 8
- A23P Door Latch Assembly–Passenger (RHD) — control circuit terminal 3
- A23P Door Latch Assembly–Passenger (LHD) — control circuit terminal 7
- A23P Door Latch Assembly–Passenger (RHD) — control circuit terminal 2
- A23RR Door Latch Assembly–Right Rear — control circuit terminal 8
- A23RR Door Latch Assembly–Right Rear — control circuit terminal 7
- A23LR Door Latch Assembly–Left Rear — control circuit terminal 3
- A23LR Door Latch Assembly–Left Rear — control circuit terminal 2

⇒ **If 3 V or less**

2.1. Ignition OFF, disconnect the X6 harness connector at the K9 Body Control Module.

2.2. 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

2.3. Test for less than $2\ \Omega$ in the control circuit end to end.

⇒ If $2\ \Omega$ or greater, repair the open/high resistance on the circuit.

⇒ If less than $2\ \Omega$, 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 circuit terminals 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 (LHD) – control circuit terminal 7 and control circuit terminal 8
 - A23P Door Latch Assembly-Passenger (RHD) – control circuit terminal 2 and control circuit terminal 3
 - A23RR Door Latch Assembly-Right Rear – control circuit terminal 7 and control circuit terminal 8
 - A23LR Door Latch Assembly-Left Rear – control circuit terminal 2 and control circuit terminal 3
4. Lock and unlock the vehicle doors using the central door lock switch.
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 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**
 - 2.1. Ignition OFF.
 - 2.2. 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**
 - 4.1. Ignition OFF.
 - 4.2. 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**
 - 4.1. Ignition OFF.
 - 4.2. 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
 - 4.3. Disconnect the harness connector at each of the A23 Door Latch Assemblies.
 - 4.4. 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, ignition ON.

6. Test for less than 1 V between the control circuit terminals listed below and ground:

- Control circuit terminal 1 X6
- Control circuit terminal 2 X6
- Control circuit terminal 4 X6

⇒ **If 1 V or greater**

6.1. Ignition OFF, disconnect the harness connector at the A23D Door Latch Assembly – Driver, A23P Door Latch Assembly – Passenger, A23LR Door Latch Assembly – Left Rear, A23RR Door Latch Assembly – Right Rear, and M27 Fuel Door Unlatch Actuator, ignition ON.

6.2. 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:

- Control circuit terminal 1 X6
- Control circuit terminal 2 X6
- Control circuit terminal 4 X6

⇒ **If less than infinite resistance**

7.1. Ignition OFF, disconnect the harness connector at the A23D Door Latch Assembly – Driver, A23P Door Latch Assembly – Passenger, A23LR Door Latch Assembly – Left Rear, A23RR Door Latch Assembly – Right Rear, and M27 Fuel Door Unlatch Actuator.

7.2. 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. Test for less than 10 Ω between the control circuit terminal 1 and the control circuit terminal 4.

⇒ **If 10 Ω or greater**

8.1. Ignition OFF, disconnect the harness connector at the A23D Door Latch Assembly – Driver.

8.2. Test for less than 2 Ω between the K9 Body Control Module control circuit terminal 4 and the A23D Door Latch Assembly – Driver control circuit terminal 2 (LHD) or 7 (RHD).

⇒ If 2 Ω or greater, repair the open/high resistance on the circuit.

↓ **If less than 10 Ω**

9. Test or replace the K9 Body Control Module.

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 and the ground terminal listed below with the switch in the inactive position.

- Signal terminal 2 and ground terminal 4
- Signal terminal 3 and ground terminal 4

⇒ **If less than infinite resistance**

Replace the S13 Door Lock Switch.

↓ **If infinite resistance**

3. 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**

Replace the S13 Door Lock Switch.

⇓ **If less than 2 Ω**

4. 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**

5. 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.

- [Door Lock Switch Replacement - Driver Side](#)
- [Door Lock Switch Replacement - Passenger Front](#)
- [Front Side Door Latch Replacement](#)
- [Rear Side Door Latch Replacement](#)
- [Control Module References](#) for BCM replacement, programming and setup

Tonneau Ajar Indicator Malfunction

Diagnostic Instructions

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

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal	1	2	2	—
Ground	—	3	—	—
1. Tonneau Ajar Message Always Illuminated 2. Tonneau Ajar Message Inoperative 3. Tonneau Release Inoperative				

Circuit/System Description

The body control module (BCM) supplies a 12 V signal to the tonneau cover ajar switch signal circuit. When the tonneau cover latch releases the tonneau cover, the ajar switch, which is internal to the tonneau cover latch, is supplied with ground which causes the ajar switch signal circuit to be pulled low. The BCM interprets this and communicates via serial data to the driver information center which will display the Tonneau Open message.

Reference Information

Schematic Reference

[Release Systems Schematics](#)

Connector End View Reference

[Component Connector End Views](#)

Description and Operation

[Tonneau Cover Description and Operation](#)

Electrical Information Reference

- [Circuit Testing](#)
- [Connector Repairs](#)
- [Testing for Intermittent Conditions and Poor Connections](#)
- [Wiring Repairs](#)

Scan Tool Reference

[Control Module References](#) for scan tool information

Circuit/System Verification

1. Ignition ON.

2. Verify the scan tool Rear Closure Ajar Switch parameter changes between Inactive and Active when opening and closing the tonneau cover.

⇒ **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 A23F Tonneau 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 4 and ground.

⇒ **If 10 Ω or greater**

2.1. Ignition OFF.

2.2. 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**

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

4.2. 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 4.

6. Verify the scan tool Rear Closure Ajar Switch parameter is Active.

⇒ **If not Active**

6.1. Ignition OFF, remove the jumper wire, disconnect the harness connector at the K9 Body Control Module, ignition ON.

6.2. 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

6.3. 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 A23F Tonneau Latch Assembly.

Component Testing

1. Ignition OFF, disconnect the harness connector at the A23F Tonneau Latch Assembly.
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 A23F Tonneau Latch Assembly.

↓ **If infinite resistance**

3. Test for less than 3 Ω between the signal terminal 2 and the ground terminal 4 with the switch in the closed position.

⇒ **If 3 Ω or greater**

Replace the A23F Tonneau Latch Assembly.

↓ **If less than 3 Ω**

4. All OK

Repair Instructions

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

[Control Module References](#) for BCM replacement, programming and setup.

Tonneau Cover Release Malfunction (HSV)

Diagnostic Instructions

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

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Rear Compartment Lid Unlatch Relay B+	2	2	—	—
Rear Compartment Lid Unlatch Relay Ground	—	B3265 04	—	—
Rear Compartment Lid Unlatch Relay Control	B3265 02	B3265 04	B3265 01	—
Rear Closure Handle Switch Open Signal	B2730 00	1	1	—
Rear Compartment Lid Unlatch Switch Ground	—	1	—	—
Tonneau Latch Assembly Control	2	2	2	—
Tonneau Latch Assembly Ground	—	2	—	—
1. Rear Compartment Lid Release Switch Malfunction 2. Rear Compartment Lid Release Malfunction				

Circuit/System Description

The tonneau cover can be released by operating the rear compartment lid release switch, the gear selector must be in Park and all doors must be unlocked for the tonneau cover latch to release.

The body control module (BCM) monitors the signal circuit to the rear compartment lid release switch. When the rear compartment lid release switch is pressed, the tonneau release signal is pulled low within the BCM. In response, the BCM applies ground to the relay control circuit, which energizes the coil side of the relay. The switch side of the relay then closes, supplying battery positive voltage through the relay and the control circuit to the tonneau latch. The tonneau latch then releases the tonneau cover so that it may be manually raised to an open position.

Reference Information

Schematic Reference

[Release Systems Schematics](#)

Connector End View Reference

© 2014 General Motors. All rights reserved.

[Component Connector End Views](#)**Description and Operation**[Tonneau Cover 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 Interior Trunk Lid/Liftgate Window Unlatch Switch parameter changes between Active and Inactive when pressing and releasing the S58B Rear Compartment Lid Unlatch Switch-Interior.
⇒ **If the parameter does not change**
Refer to Circuit/System Testing — Release Switch Inoperative
⇓ **If the parameter changes**
3. Verify the A23F Tonneau Latch Assembly functions when commanding the Rear Body Closure Unlatch with a scan tool.
⇒ **If the A23F Tonneau Latch Assembly does not function**
Refer to Circuit/System Testing — Tonneau Latch Assembly Inoperative
⇓ **If the A23F Tonneau Latch Assembly does function**
4. All OK.

[Circuit/System Testing](#)**Release Switch Inoperative**

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the S58B Rear Compartment Lid Unlatch 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 2 and ground.
⇒ **If 10 Ω or greater**
 - 2.1. Ignition OFF.
 - 2.2. 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 Interior Trunk Lid/Liftgate Window Unlatch Switch parameter is Inactive.
⇒ **If not Inactive**
 - 4.1. Ignition OFF, disconnect the harness connector at the K9 Body Control Module.
 - 4.2. 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 Interior Trunk Lid/Liftgate Window Unlatch Switch parameter is Active.

⇒ **If not Active**

- 6.1. Ignition OFF, remove the 3 A fused jumper wire, disconnect the harness connector at the K9 Body Control Module, ignition ON.
- 6.2. 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
- 6.3. 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 S58B Rear Compartment Lid Unlatch Switch-Interior.

Tonneau Latch Assembly Inoperative

1. Ignition OFF and all vehicle systems OFF, disconnect the KR95B Rear Compartment Lid Unlatch Relay. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 86 and ground.

⇒ **If 10 Ω or greater**

- 2.1. Ignition OFF.
- 2.2. 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 87 and ground.

⇒ **If the test lamp does not illuminate and the circuit fuse is good**

- 4.1. Ignition OFF.
- 4.2. 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**

- 4.1. Ignition OFF.
- 4.2. 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
- 4.3. Disconnect the harness connector at the A23F Tonneau Latch Assembly.
- 4.4. Test for infinite resistance between the control circuit terminal 30 and ground.
 - ⇒ If less than infinite resistance, repair the short to ground on the circuit.
 - ⇒ If infinite resistance, replace the KR95B Rear Compartment Lid Unlatch Relay.

↓ **If the test lamp illuminates**

5. Connect a test lamp between the control circuit terminal 85 and the ground circuit terminal 86.
6. Verify the test lamp turns ON and OFF while commanding the Rear Body Closure Unlatch with a scan tool.

⇒ **If the test lamp is always OFF**

- 6.1. Ignition OFF, remove the test lamp, disconnect the harness connector at the K9 Body Control Module.
- 6.2. 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
- 6.3. 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**

- 6.1. Ignition OFF, remove the test lamp, disconnect the harness connector at the K9 Body Control Module, ignition ON.
- 6.2. Test for less than 1 V between the control circuit and ground.
 - ⇒ If 1 V or greater, repair the short to voltage on the circuit.
 - ⇒ If less than 1 V, replace the K9 Body Control Module.

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

7. Verify that a test lamp does not illuminate between the control circuit terminal 30 and ground.

⇒ **If the test lamp illuminates**

Repair the short to voltage on the control circuit

⇓ **If the test lamp does not illuminate**

8. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the A23F Tonneau 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 4 and ground.

⇒ **If 10 Ω or greater**

- 9.1. Ignition OFF.
- 9.2. 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 A23F Tonneau Latch Assembly.
11. Ignition ON, connect a 15 A fused jumper wire between the B+ circuit terminal 87 and the control circuit terminal 30.
12. Verify the A23F Tonneau Latch Assembly is activated.

⇒ **If the A23F Tonneau Latch Assembly does not activate**

- 12.1. Ignition OFF, remove the 15 A fused jumper wire, disconnect the harness connector at the A23F Tonneau Latch Assembly.
- 12.2. 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 A23F Tonneau Latch Assembly.

⇓ **If the A23F Tonneau Latch Assembly activates**

13. Test or replace the KR95B Rear Compartment Lid Unlatch Relay.

Component Testing**Tonneau Latch Assembly**

1. Ignition OFF, disconnect the harness connector at the A23F Tonneau Latch Assembly.

2. Install a 15 A fused jumper wire between the control terminal 3 and 12 V. Install a jumper wire between the ground terminal 4 and ground.
3. Verify the A23F Tonneau Latch Assembly activates.
 - ⇒ **If the A23F Tonneau Latch Assembly does not activate.**
Replace the A23F Tonneau Latch Assembly.
 - ⇓ **If the A23F Tonneau Latch Assembly does activate.**
4. All OK

Release Switch

1. Ignition OFF, disconnect the harness connector at the S58B Rear Compartment Lid Unlatch Switch-Interior.
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 S58B Rear Compartment Lid Unlatch Switch-Interior.
 - ⇓ **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 S58B Rear Compartment Lid Unlatch Switch-Interior.
 - ⇓ **If less than 3 Ω**
4. All OK

Relay Test

1. Ignition OFF, disconnect the KR95B Rear Compartment Lid Unlatch Relay.
2. Test for 60–200 Ω between terminals 86 and 85.
 - ⇒ **If less than 60 Ω or greater than 200 Ω**
Replace the KR95B Rear Compartment Lid Unlatch Relay.
 - ⇓ **If between 60–200 Ω**
3. Test for infinite resistance between the terminals listed below:
 - 87 and 30
 - 87 and 86
 - 87 and 85
 - 86 and 30
 - ⇒ **If less than infinite resistance**
Replace the KR95B Rear Compartment Lid Unlatch Relay.
 - ⇓ **If infinite resistance**
4. Install a 3 A fused jumper wire between relay terminal 86 and 12 V. Install a jumper wire between relay terminal 85 and ground.
5. Test for less than 2 Ω between terminals 87 and 30.
 - ⇒ **If 2 Ω or greater**
Replace the KR95B Rear Compartment Lid Unlatch Relay.
 - ⇓ **If less than 2 Ω**
6. All OK

Repair Instructions

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

- [Relay Replacement](#)

- [Rear Compartment Lid Release Switch Replacement](#)
- [Control Module References](#) for BCM replacement, setup and programming

Tonneau Cover Release Malfunction (Holden Genuine Accessory)

Diagnostic Instructions

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

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
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. Tonneau Cover Release Inoperative				

Circuit/System Description

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

Reference Information

Schematic Reference

[Release Systems Schematics](#)

Connector End View Reference

[Component Connector End Views](#)

Description and Operation

[Tonneau Cover Description and Operation](#)

Electrical Information Reference

- [Circuit Testing](#)
- [Connector Repairs](#)
- [Testing for Intermittent Conditions and Poor Connections](#)
- [Wiring Repairs](#)

Scan Tool Reference

© 2014 General Motors. All rights reserved.

[Control Module References](#) for scan tool information

[Circuit/System Verification](#)

1. Ignition ON.
2. Verify the M23F Tonneau Latch Assembly does not release the tonneau cover when commanding the All Doors Lock/Unlock to Lock with a scan tool.
 - ⇒ **If the M23F Tonneau Latch Assembly releases the tonneau cover**
Refer to Circuit/System Testing.
 - ⇓ **If the Tonneau Latch Assembly does not release the tonneau cover**
3. Verify the M23F Tonneau Latch Assembly releases the tonneau cover when commanding the All Doors Lock/Unlock to Unlock with a scan tool.
 - ⇒ **If the M23F Tonneau Latch Assembly does not release the tonneau cover**
Refer to Circuit/System Testing.
 - ⇓ **If the M23F Tonneau Latch Assembly releases the tonneau cover**
4. All OK.

[Circuit/System Testing](#)

1. Ignition OFF, disconnect the harness connector at the M23F Tonneau Latch Assembly.
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 with a scan tool.
 - ⇒ **If the test lamp remains OFF during either of the commands**
 - 3.1. Ignition OFF, remove the test lamp, disconnect the harness connector at the K9 Body Control Module.
 - 3.2. Test for infinite resistance between each control circuit and ground.
 - ⇒ If less than infinite resistance, repair the short to ground on the circuit.
 - 3.3. 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 the test lamp turns ON during each of the commands**
4. Test or replace the M23F Tonneau Latch Assembly.

[Component Testing](#)

Tonneau Latch Assembly

1. Ignition OFF, disconnect the harness connector at the M23F Tonneau 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 M23F Tonneau Latch Assembly should perform the LOCK and UNLOCK function.
 - ⇒ **If the actuator does not perform the LOCK and UNLOCK function**
Replace the M23F Tonneau 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.

Trunk Release Malfunction

Diagnostic Instructions

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

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Rear Body Fuse Block B+	2	2	—	—
Rear Compartment Lid Unlatch Relay Control	B3265 02	B3265 04	B3265 01	—
Rear Body Fuse Block Ground	—	B3265 04	—	—
Interior Rear Compartment Lid Unlatch Switch Ground	—	1	—	—
Interior Rear Compartment Lid Unlatch Switch Signal	B2730 00	1	1	—
Rear Compartment Lid Latch Control	2	2	2	—
Rear Compartment Lid Latch Ground	—	2	—	—
1. Interior Rear Compartment Lid Release Switch Inoperative 2. Rear Compartment Lid Release Inoperative				

Circuit/System Description

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

Reference Information

Schematic Reference

[Release Systems Schematics](#)

Connector End View Reference

[Component Connector End Views](#)

© 2014 General Motors. All rights reserved.

Description and Operation

[Luggage Compartment Description and Operation](#)

Electrical Information Reference

- [Circuit Testing](#)
- [Connector Repairs](#)
- [Testing for Intermittent Conditions and Poor Connections](#)
- [Wiring Repairs](#)

Scan Tool Reference

[Control Module References](#) for scan tool information

[Circuit/System Verification](#)

1. Ignition ON.
2. Verify the scan tool Interior Trunk Lid/Liftgate Window Unlatch Switch parameter changes between Inactive and Active when pressing the S58B Rear Compartment Lid Unlatch Switch-Interior.
 - ⇒ **If the parameter does not change**
Refer to Circuit/System Testing — Interior Trunk Release Switch Inoperative
 - ⇓ **If the parameter changes**
3. Verify the M40 Rear Compartment Lid Latch functions when commanding the Trunk Lid Unlatch with a scan tool.
 - ⇒ **If the M40 Rear Compartment Lid Latch does not function**
Refer to Circuit/System Testing — Release Actuator Inoperative
 - ⇓ **If the M40 Rear Compartment Lid Latch does function**
4. All OK.

[Circuit/System Testing](#)

Interior Trunk Release Switch Inoperative

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the S58B Rear Compartment Lid Unlatch 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 2 and ground.
 - ⇒ **If 10 Ω or greater**
 - 2.1. Ignition OFF.
 - 2.2. 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 Interior Trunk Lid/Liftgate Window Unlatch Switch parameter is Inactive.
 - ⇒ **If not Inactive**
 - 4.1. Ignition OFF, disconnect the harness connector at the K9 Body Control Module.
 - 4.2. 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 Interior Trunk Lid/Liftgate Window Unlatch Switch parameter is Active.
⇒ **If not Active**
 - 6.1. Ignition OFF, remove the jumper wire, disconnect the harness connector at the K9 Body Control Module, ignition ON.
 - 6.2. 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
 - 6.3. 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 S58B Rear Compartment Lid Unlatch Switch-Interior.

Release Actuator Inoperative

1. Ignition OFF, and all vehicle systems OFF. Disconnect the harness connector at the M40 Rear Compartment Lid Latch. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 4 and ground.
⇒ **If 10 Ω or greater**
 - 2.1. Ignition OFF.
 - 2.2. 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. Connect a test lamp between the control circuit terminal 3 and ground, ignition ON.
4. Verify the test lamp does not turn ON and OFF when commanding the Trunk Lid Unlatch with a scan tool.
⇒ **If the test lamp turns ON and OFF**
Test or replace the M40 Rear Compartment Lid Latch.
- ⇓ **If the test lamp does not turn ON and OFF**
5. Ignition OFF, connect the harness connector at the M40 Rear Compartment Lid Latch. Disconnect the X3 harness connector at the X53A Fuse Block-Rear Body. It may take up to 2 minutes for all vehicle systems to power down.
6. Test for less than 10 Ω between the ground circuit terminal 22 and ground.
⇒ **If 10 Ω or greater**
 - 6.1. Ignition OFF.
 - 6.2. 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**
7. Ignition ON
8. Verify the M40 Rear Compartment Lid Latch is not activated.
⇒ **If the M40 Rear Compartment Lid Latch is activated**
 - 8.1. Ignition OFF, disconnect the harness connector at the M40 Rear Compartment Lid Latch, ignition ON.
 - 8.2. Test for less than 1 V between the control circuit terminal 3 and ground.

- ⇒ If 1 V or greater, repair the short to voltage on the circuit.
- ⇒ If less than 1 V, test or replace the M40 Rear Compartment Lid Latch.

⇓ **If the M40 Rear Compartment Lid Latch is not activated**

9. Connect a 10 A fused jumper wire between the control circuit terminal 22 and B+.
10. Verify the M40 Rear Compartment Lid Latch activates.

⇒ **If the M40 Rear Compartment Lid Latch does not activate**

- 10.1. Ignition OFF, remove the jumper wire, disconnect the harness connector at the M40 Rear Compartment Lid Latch, ignition ON.
- 10.2. 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
- 10.3. 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 , test or replace the M40 Rear Compartment Lid Latch.

⇓ **If the M40 Rear Compartment Lid Latch activates**

11. Ignition OFF, connect the X3 harness connector at the X53A Fuse Block-Rear Body. Disconnect the X4 harness connector at the K9 Body Control Module, ignition ON.
12. Verify the M40 Rear Compartment Lid Latch is not activated.

⇒ **If the M40 Rear Compartment Lid Latch is activated**

- 12.1. Ignition OFF, disconnect the X3 harness connector at the X53A Fuse Block-Rear Body.
- 12.2. Test for less than 1 V between the K9 Body Control Module control circuit terminal 8 X4 and ground.
 - ⇒ If 1 V or greater, repair the short to voltage on the circuit.
 - ⇒ If less than 1 V, replace the X53A Fuse Block-Rear Body.

⇓ **If the M40 Rear Compartment Lid Latch is not activated**

13. Connect a 3 A fused jumper wire between the control circuit terminal 8 and B+.
14. Verify the M40 Rear Compartment Lid Latch activates.

⇒ **If the M40 Rear Compartment Lid Latch does not activate**

- 14.1. Ignition OFF, remove the jumper wire, disconnect the X4 harness connector at the X53A Fuse Block-Rear Body, ignition ON.
- 14.2. Test for infinite resistance between the K9 Body Control Module control circuit terminal 8 X4 and ground.
 - ⇒ If less than Infinite resistance, repair the short to ground on the circuit.
 - ⇓ If infinite resistance
- 14.3. 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 X53A Fuse Block-Rear Body.

⇓ **If the M40 Rear Compartment Lid Latch activates**

15. Replace the K9 Body Control Module.

Component Testing

Rear Compartment Lid Latch

1. Ignition OFF, disconnect the harness connector at the M40 Rear Compartment Lid Latch.
2. Install a 10 A fused jumper wire between the control terminal 3 and 12 V. Install a jumper wire between the ground terminal 4 and ground.
3. Verify the M40 Rear Compartment Lid Latch activates.

⇒ **If the M40 Rear Compartment Lid Latch does not activate.**

Replace the M40 Rear Compartment Lid Latch.

⇓ **If the M40 Rear Compartment Lid Latch does activate.**

4. All OK

Interior Trunk Release Switch

1. Ignition OFF, disconnect the harness connector at the S58B Rear Compartment Lid Unlatch Switch-Interior.

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 S58B Rear Compartment Lid Unlatch Switch-Interior.

⇓ **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 S58B Rear Compartment Lid Unlatch Switch-Interior.

⇓ **If less than 3 Ω**

4. All OK

Repair Instructions

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

- [Rear Compartment Lid Latch Replacement](#)
- [Rear Compartment Lid Release Switch Replacement](#)
- [Body Wiring Harness Junction Block Replacement](#)
- [Control Module References](#) for body control module replacement, programming and setup

Trunk Ajar Indicator Malfunction

Diagnostic Instructions

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

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal	1	2	2	—
Ground	—	3	—	—
1. Trunk Ajar Message Always Illuminated 2. Trunk Ajar Message Inoperative 3. Trunk Release Inoperative				

Circuit/System Description

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

Reference Information

Schematic Reference

[Release Systems Schematics](#)

Connector End View Reference

[Component Connector End Views](#)

Description and Operation

[Door Ajar Indicator Description and Operation](#)

Electrical Information Reference

- [Circuit Testing](#)
- [Connector Repairs](#)
- [Testing for Intermittent Conditions and Poor Connections](#)
- [Wiring Repairs](#)

Scan Tool Reference

[Control Module References](#) for scan tool information

Circuit/System Verification

1. Ignition ON.
2. Verify the scan tool Rear Closure Ajar Switch parameter changes between Inactive and Active when opening and closing the trunk.
 - ⇒ **If the parameter does not change**
Refer to Circuit/System Testing.
 - ⇓ **If the parameter changes**
3. All OK.

Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the M40 Rear Compartment Lid Latch. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 4 and ground.
 - ⇒ **If 10 Ω or greater**
 - 2.1. Ignition OFF.
 - 2.2. 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**
 - 4.1. Ignition OFF, disconnect the harness connector at the K9 Body Control Module.
 - 4.2. 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 4.
6. Verify the scan tool Rear Closure Ajar Switch parameter is Active.
 - ⇒ **If not Active**
 - 6.1. Ignition OFF, remove the jumper wire, disconnect the harness connector at the K9 Body Control Module, ignition ON.
 - 6.2. 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
 - 6.3. 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 M40 Rear Compartment Lid Latch.

Component Testing

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

Replace the M40 Rear Compartment Lid Latch.

↓ **If infinite resistance**

3. Test for less than 3 Ω between the signal terminal 2 and the ground terminal 4 with the switch in the closed position.

⇒ **If 3 Ω or greater**

Replace the M40 Rear Compartment Lid Latch.

↓ **If less than 3 Ω**

4. All OK

Repair Instructions

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

- [Rear Compartment Lid Latch Replacement](#)
- [Control Module References](#) for BCM replacement, programming and setup

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

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

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

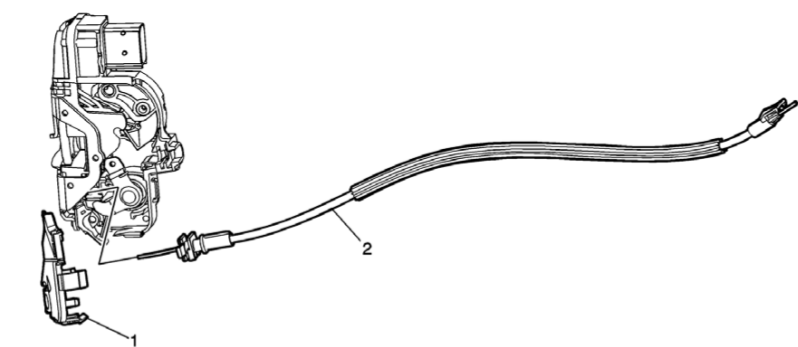
Step	Action	Yes	No
	If the issue is not resolved, remove the trim panel as necessary to gain access to door hardware and check the following: • Check the handle chassis for loose fasteners, broken chassis inserts, loose or missing spring, or a loose, missing or bent rod lever. • Check for bent rod to 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. Did you find and correct the condition?	Go to Step 18	Go to Step 12
12	The door will not or is difficult to unlatch with the inside manual latch knob: • For cold weather freezing, thaw as necessary • Check the latch knob for a loose condition. Repair or replace as necessary. Check the latch knob for binding or dragging using the following procedure: 1. Remove the latch knob. 2. If condition goes away, check for drag/interference of the latch knob against the inner belt seal, or the trim panel. Correct as required.	Go to Step 18	Go to Step 13

Step	Action	Yes	No
	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?		
13	With a manual lock, if the latch will not function properly do the following: 1. Function the lock/unlatch lever on the latch to unlatch the latch. Check for high internal resistance. 2. With the door open, manually close the latch with a screwdriver. 3. Check the latch for internal binding by actuating the latch with the inside door handle lever. 4. Manually close the latch with a screwdriver again. 5. Check the latch for internal binding by actuating the latch with the outside door handle lever. Did you find and correct the condition?	Go to Step 18	Go to Step 14
14	If power locks are included in vehicle options and do not function with either the keyless entry transmitter or switch: 1. For cold weather freezing, thaw as necessary. 2. Remove trim pad as required and check the following: ◦ Verify door harness has appropriate power connectors for switches and latch. ◦ Check harness connector pins for corrosion. ◦ Assure wire harness connectors are seated and locked properly at latch and switch. Remove and re-seat if required. ◦ Check door harness for cuts/chafing/corrosion. Correct/replace as required. ◦ Check for 12V at latch and door switch. Correct/proceed accordingly.	Go to Step 18	Go to Step 15

Step	Action	Yes	No
	◦ Check BCM for trouble codes. Correct/proceed accordingly. 3. If power locks still do not function do the following: 3.1. Remove latch from door cavity. 3.2. Connect latch to electrical connector outside the door. 3.3. 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. 3.4. If lever does not move, remove connector from old latch and attach to new latch outside of door cavity. 3.5. 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

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 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

Front Side Door Inside Handle Cable Replacement

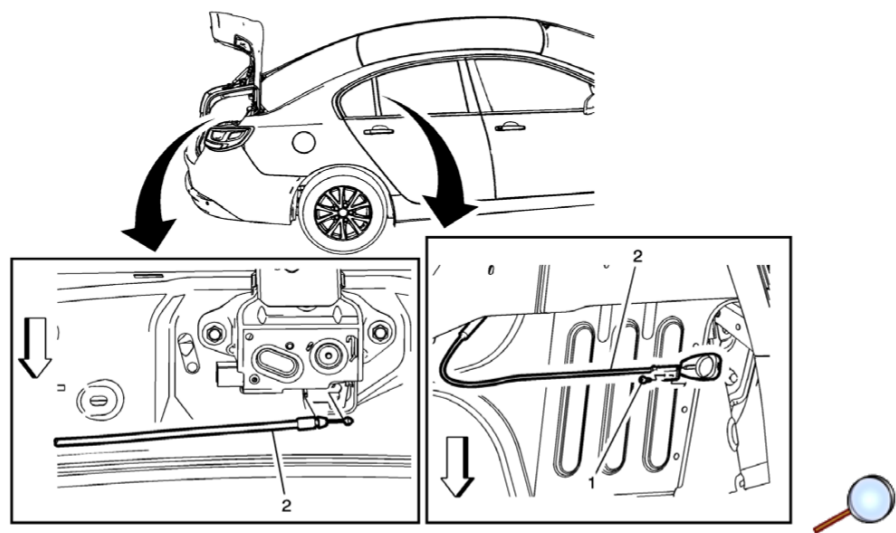


Front Side Door Inside Handle Cable Replacement

Callout	Component Name
Preliminary Procedure Remove the front side door latch. Refer to Front Side Door Latch Replacement .	
1	Front Side Door Inside Handle Cable Cover Note: Open the inside handle cable cover to access the release.
2	Front Side Door Inside Handle Cable Note: Inspect the door for proper operation.

cardiagn.com

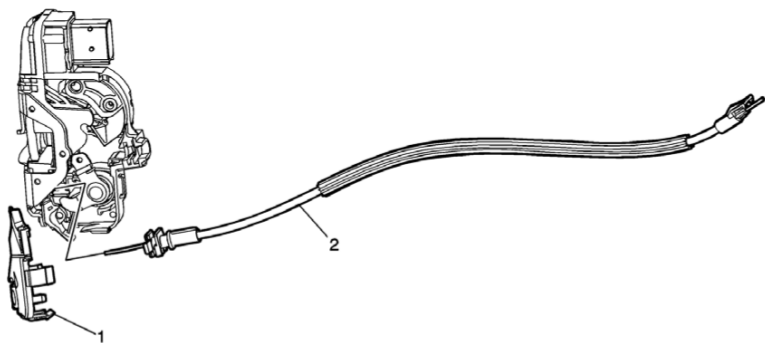
Rear Compartment Lid Latch Release Cable Replacement



Rear Compartment Lid Latch Release Cable Replacement

Callout	Component Name
Preliminary Procedure 1. Remove the right hand rear seat back cushion. Refer to Rear Seat Back Cushion Removal and Installation . 2. Remove the rear compartment side trim panel left hand side. Refer to Rear Compartment Side Trim Panel Replacement . Fold down the center rear seat back cushion.	
1	Rear Compartment Lid Latch Release Cable Bolt. Caution: Refer to Fastener Caution .
2	Rear Compartment Lid Latch Release Cable Procedure Disconnect the rear compartment lid latch release cable from the rear compartment lid latch.

Rear Side Door Inside Handle Cable Replacement



Rear Side Door Inside Handle Cable Replacement

Callout	Component Name
Preliminary Procedure Remove the rear side door latch. Refer to Rear Side Door Latch Replacement .	
1	Rear Side Door Inside Handle Cable Cover Note: Open the inside handle cable cover to access the release.
2	Rear Side Door Inside Handle Cable Note: Inspect the door for proper operation before installing the door trim.

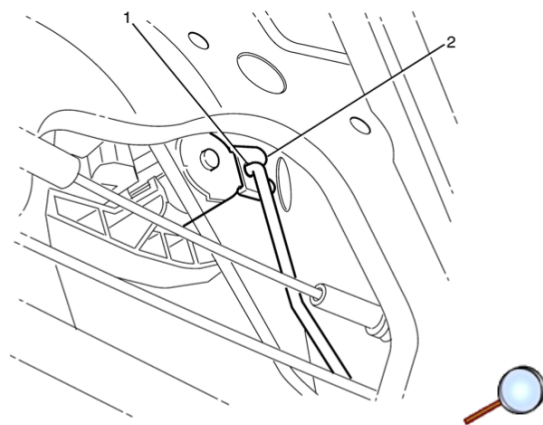
cardiagn.com

Front Side Door Lock Cylinder Replacement

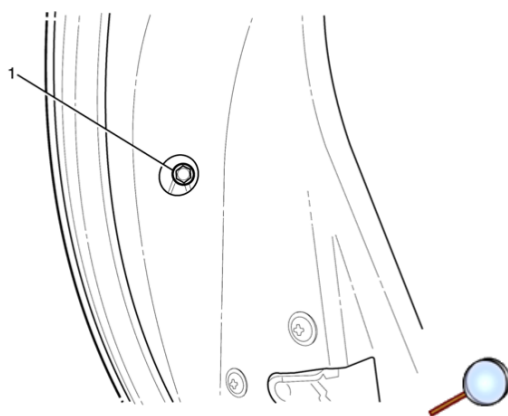
Removal Procedure

Note: Do not attempt repairs in order to correct lock cylinder discrepancies. Replace the lock cylinder.

1. Remove the door trim. Refer to [Front Side Door Trim Replacement](#).
2. Remove the water deflector.

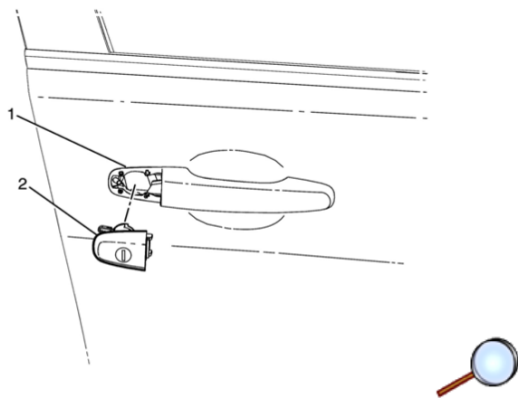


3. Remove the lock actuating rod (1) from the lock cylinder (2).



Note: Remove the rubber blanking grommet to expose lock cylinder retaining bolt (1).

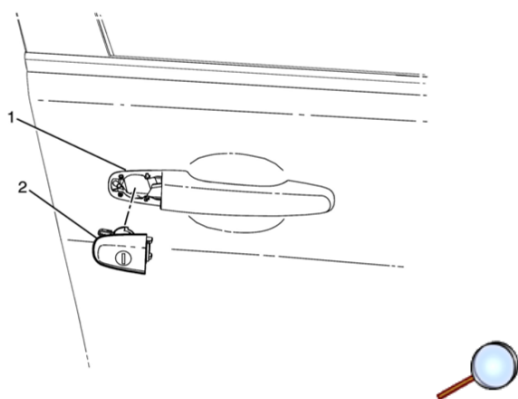
4. Remove the lock cylinder to outside door handle retaining bolt (1).



Note: RHD vehicle shown, LHD vehicle similar.

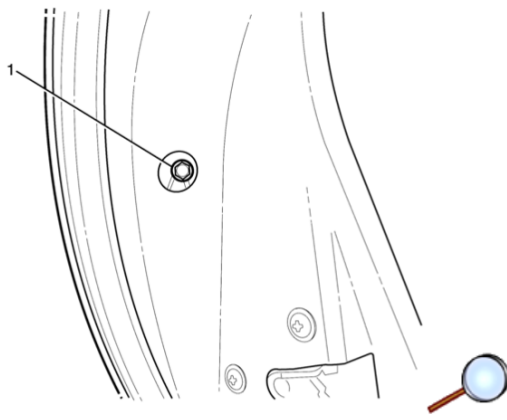
5. Remove the lock cylinder (2) from the outside door handle (1).

Installation Procedure



Note: RHD vehicle shown, LHD vehicle similar.

1. Position the lock cylinder (2) to the outside door handle (1).



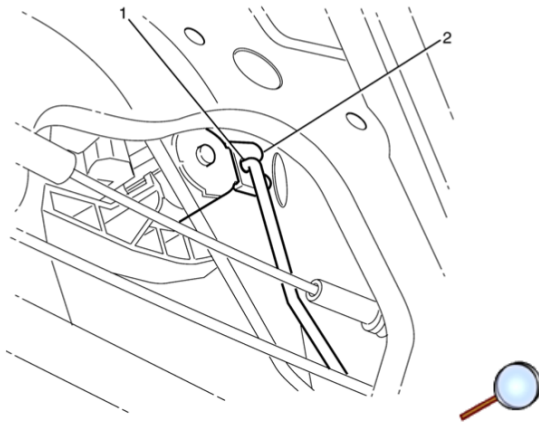
Caution: Refer to [Fastener Caution](#).

2. Install the lock cylinder to outside door handle retaining bolt (1).

Tighten

Tighten the bolt to 9 N•m (80 lb in).

3. Install the rubber blanking grommet to the door.



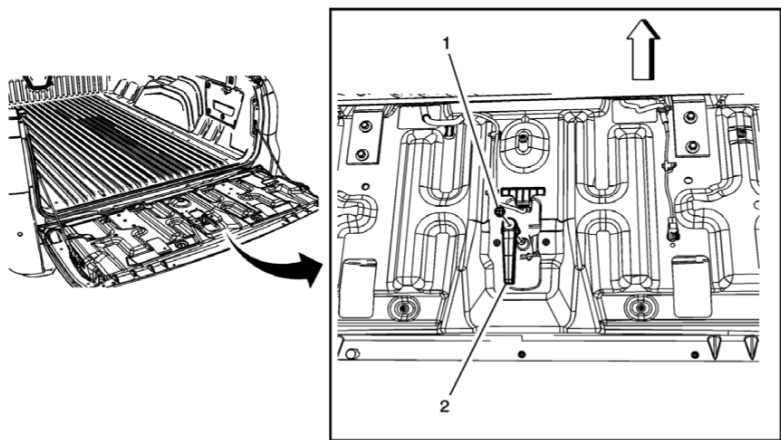
Note: The lock actuating rod (1) pushes into the lock cylinder retaining clip (2).

4. Install the lock actuating rod (1) to the lock cylinder retaining clip (2) (if fitted).

Note: Firmly press the water deflector where adhesive is applied to make sure water tight bond.

5. Install the water deflector.
6. Install the door trim . Refer to [Front Side Door Trim Replacement](#).

Endgate Handle Replacement



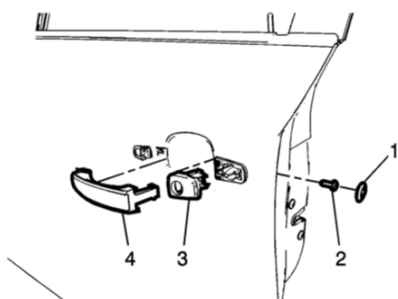
Endgate Handle Replacement

Callout	Component Name
Preliminary Procedure Remove the pickup box endgate liner. Refer to Pickup Box Endgate Liner Replacement .	
1	Pickup Box Endgate Latch Handle Bolt Caution: Refer to Fastener Caution .
2	Endgate Latch Handle

cardiagn.com

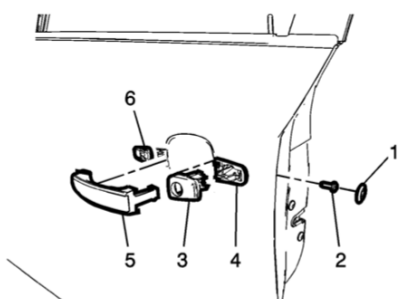
Front Side Door Outside Handle Replacement (without passive entry passive start)

Removal Procedure



1. Using the appropriate tool, remove the front side door handle access hole plug (1).
2. Pull outwards on the front side door handle (4) and turn the front side door outside handle bolt (2) counter-clockwise until the front side door outside handle cap or lock (3) can be removed.
3. Pull the outside handle (4) rearward to release it from the inside handle housing.

Installation Procedure



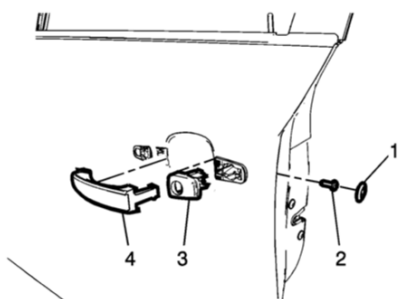
1. Inspect cap gasket (4) handle gasket (6) before assembly.
2. Insert the front side door handle (5) into the door front first, then slide forward to engage the inside handle housing.

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

3. Insert the front side door outside handle cap or lock (3) and then turn the front side door outside handle bolt (2) clockwise until handle snaps into place and tighten to 3 N·m (27 lb in).
4. Refit the front side door handle access hole plug (1).

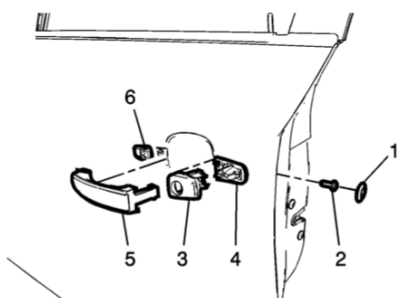
Front Side Door Outside Handle Replacement (with passive entry passive start)

[Removal Procedure](#)



1. Remove the front side door trim. Refer to [Front Side Door Trim Replacement](#).
2. Pull the water deflector aside to access the front side door handle passive entry passive start (PEPS) connector.
3. Disconnect the PEPS electrical connector.
4. Using the appropriate tool, remove the front side door handle access hole plug (1).
5. Pull outwards on the front side door handle (4) and turn the front side door outside handle bolt (2) counter-clockwise until the handle cap or lock (3) can be removed.
6. Pull the outside handle rearward to release it from the inside handle housing.

[Installation Procedure](#)



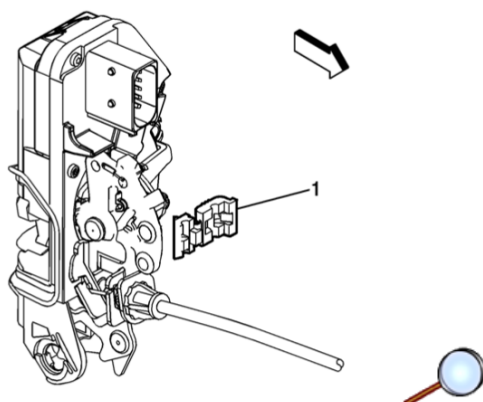
1. Inspect cap gasket (4) handle gasket (6) before assembly.

© 2014 General Motors. All rights reserved.

2. Insert the front side door handle (5) into the door front first, then slide forward to engage the inside handle housing.
Caution: Refer to [Fastener Caution](#).
3. Insert the front side door outside handle cap or lock (3) and then turn the front side door outside handle bolt (2) clockwise until handle snaps into place and tighten to 3 N·m (27 lb in)
4. Refit the front side door handle access hole plug (1).
5. Test door handle operation before proceeding. Ensure door closes and opens normally.
6. Reconnect the PEPS electrical connector.
7. Refit the water deflector.
8. Install the front side door trim . Refer to [Front Side Door Trim Replacement](#).

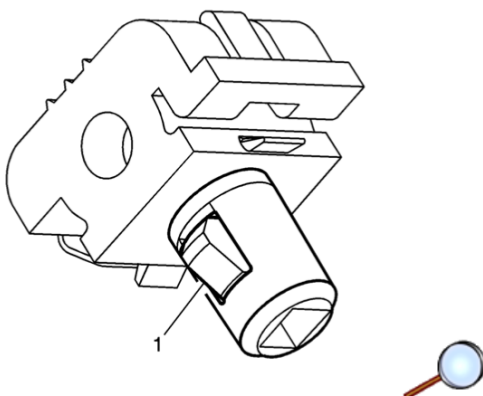
Front and Rear Side Door Outside Handle Rod Clip Replacement

[Removal Procedure](#)



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

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

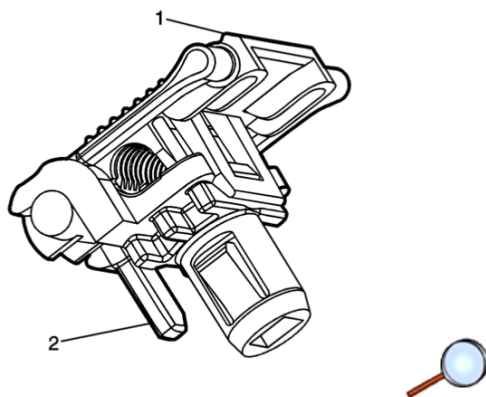


Note: The clip for the outside door handle rod is designed for one use only, a new clip must be installed to the door latch to retain the outside handle rod.

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

2. Remove the old outside door handle rod clip (1) from the door latch.

[Installation Procedure](#)

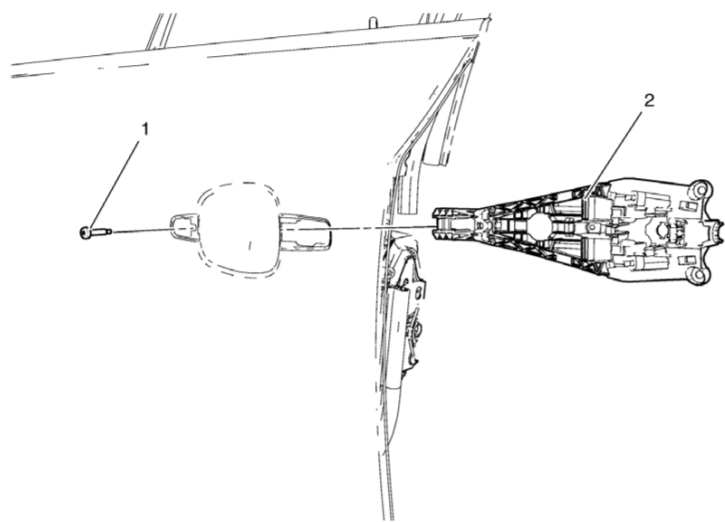


Note: When replacing the old designed outside door handle rod clip with the new designed clip (1) the anti rotation tab (2) will need to be removed.

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

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

Front Side Door Outside Handle Bracket Replacement

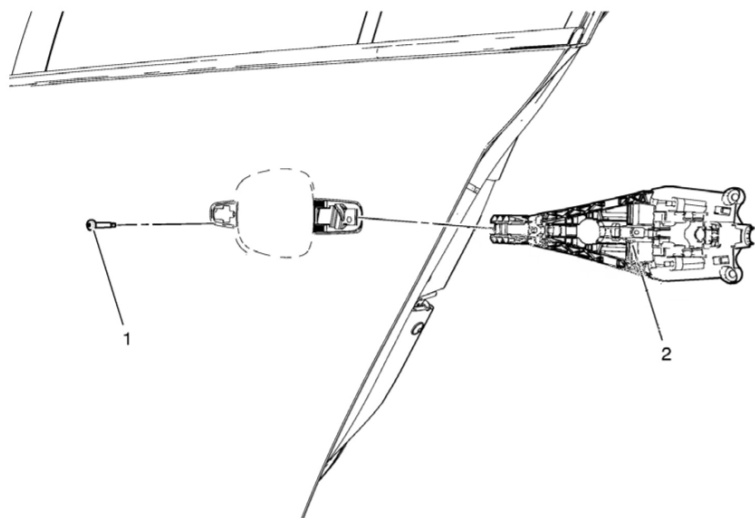


Front Side Door Outside Handle Bracket Replacement

Callout	Component Name
Preliminary Procedures 1. Remove the front side door trim. Refer to Front Side Door Trim Replacement . 2. Remove the front side door water deflector. 3. Remove the front side door outside handle. Refer to Front Side Door Outside Handle Replacement .	
1	Front Side Door Outside Handle Bracket Bolt Caution: Refer to Fastener Caution . Tighten 9 N•m (80 lb in)
2	Front Side Door Outside Handle Bracket Procedure 1. Disconnect the front side door latch (lock) and handle rods to remove the housing. 2. Disconnect the passive entry passive start electrical connector. 3. Inspect the latch, lock cylinder and handle adjustments. Refer to Front Side Door Outside Handle Rod Adjustment . Note: Inspect the door for proper operation before installing the door trim.

cardiagn.com

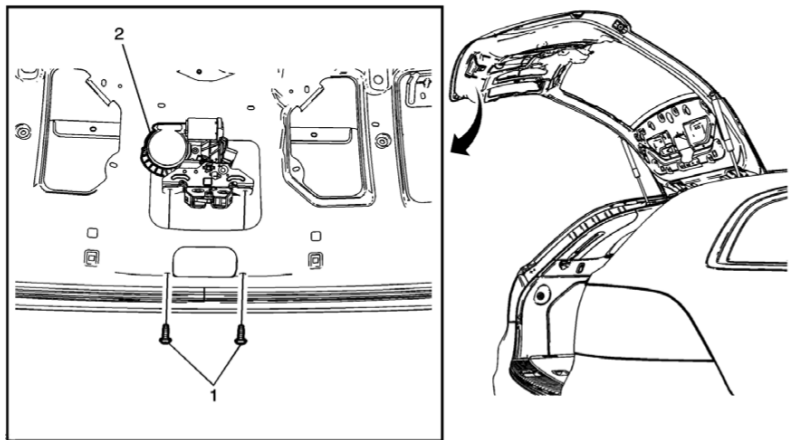
Rear Side Door Outside Handle Bracket Replacement



Rear Side Door Outside Handle Bracket Replacement

Callout	Component Name
Preliminary Procedures 1. Remove the rear side door trim. Refer to Rear Side Door Trim Replacement . 2. Remove the rear side door water deflector. 3. Remove the rear side door outside handle. Refer to Rear Side Door Outside Handle Replacement .	
1	Rear Side Door Handle Bracket Bolt Caution: Refer to Fastener Caution . Tighten 9 N•m (80 lb in)
2	Rear Side Door Outside Handle Bracket Procedure 1. Transfer all necessary components. 2. Disconnect the passive entry passive start electrical connector. 3. Inspect the lock, lock cylinder and handle adjustments. Refer to Rear Side Door Outside Handle Rod Adjustment . Note: Inspect the door for proper operation before installing the door trim.

Liftgate Latch Replacement

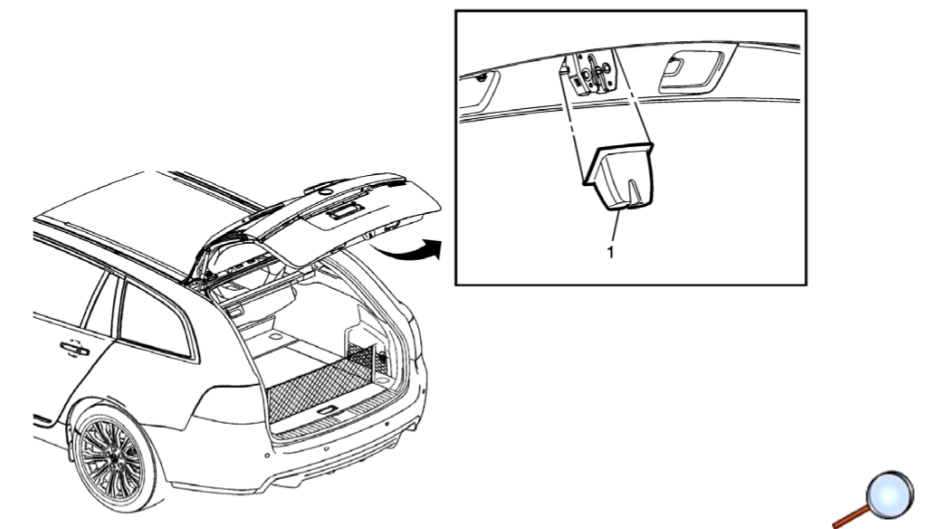


Liftgate Latch Replacement

Callout	Component Name
Preliminary Procedure Remove the liftgate lower trim panel. Refer to Liftgate Lower Trim Finish Panel Replacement .	
1	Liftgate Latch Screw (Qty: 2) Caution: Refer to Fastener Caution . Tighten 9 N•m (80 lb in)
2	Liftgate Latch Assembly Procedure 1. Disconnect the electrical connector. 2. Adjust the liftgate if needed.

cardiagn.com

Liftgate Latch Cover Replacement (Sportwagon)

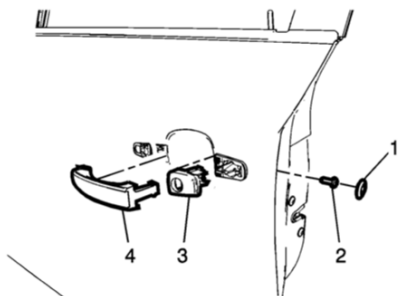


Liftgate Latch Cover Replacement

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.

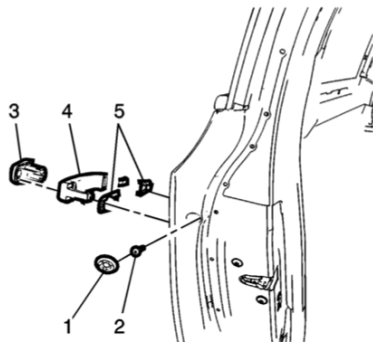
Rear Side Door Outside Handle Replacement (with passive entry passive start)

[Removal Procedure](#)



1. Remove the rear side door trim. Refer to [Rear Side Door Trim Replacement](#).
2. Pull the water deflector aside to access the rear side door handle passive entry passive start (PEPS) connector.
3. Disconnect the PEPS electrical connector.
4. Using the appropriate tool, remove the rear side door handle access hole plug (1).
5. Pull outwards on the rear side door handle (4) and turn the rear side door outside handle bolt (2) counter-clockwise until the front side door outside handle cap or lock (3) can be removed.
6. Pull the outside handle rearward to release it from the inside handle housing.

[Installation Procedure](#)



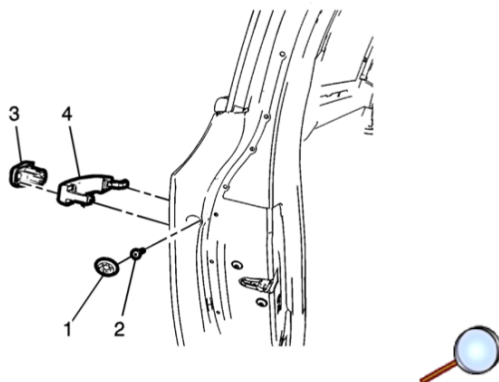
1. Inspect cap gasket and handle gasket (5) before assembly.

© 2014 General Motors. All rights reserved.

2. Insert the rear side door handle (4) into the door front first, then slide forward to engage the inside handle housing.
Caution: Refer to [Fastener Caution](#).
3. Insert the rear side door outside handle cap or lock (3) and then turn the rear side door outside handle bolt (2) clockwise until the handle snaps into place and tighten to 3 N·m (27 lb in)
4. Refit the rear side door handle access hole plug (1).
5. Test door handle operation before proceeding. Ensure door closes and opens normally.
6. Reconnect the PEPS electrical connector.
7. Refit the water deflector.
8. Install the rear side door trim . Refer to [Rear Side Door Trim Replacement](#).

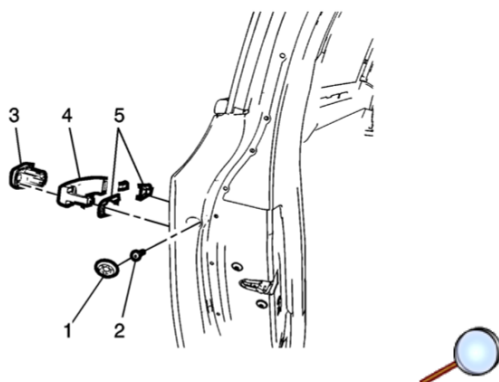
Rear Side Door Outside Handle Replacement (without passive entry passive start)

[Removal Procedure](#)



1. Using the appropriate tool, remove the rear side door handle access hole plug (1).
2. Pull outwards on the rear side door handle (4) and turn the front side door outside handle bolt (2) counter-clockwise until the rear side door outside handle cap or lock (3) can be removed.
3. Pull the outside handle (4) rearward to release it from the inside handle housing.

[Installation Procedure](#)

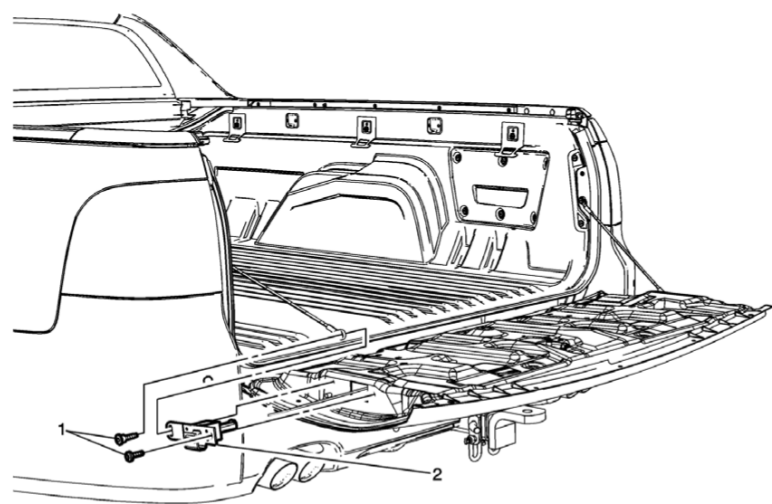


1. Inspect cap gasket and handle gasket (5) before assembly.
2. Insert the rear side door handle (4) into the door front first, then slide forward to engage the inside handle housing.

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

3. Insert the rear side door outside handle cap or lock (3) and then turn the rear side door outside handle bolt (2) clockwise until handle snaps into place and tighten to 3 N·m (27 lb in)
4. Refit the rear side door handle access hole plug (1).

Endgate Latch Replacement

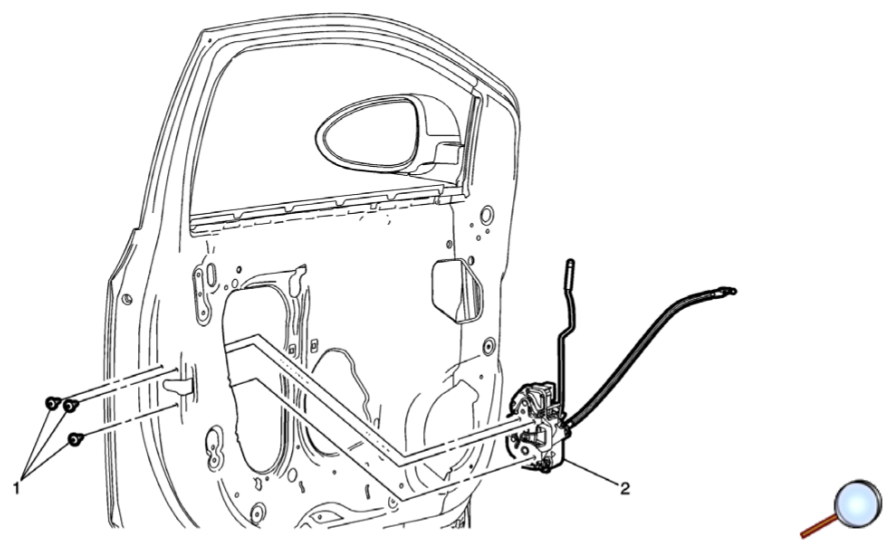


Endgate Latch Replacement

Callout	Component Name
Preliminary Procedure Remove the pickup box endgate liner. Refer to Pickup Box Endgate Liner Replacement .	
1	Endgate Latch Bolt (Qty: 2) Caution: Refer to Fastener Caution . Note: Use a grease pencil to mark the position of the endgate latch before removing the bolts. Tighten 27 N•m (20 lb ft)
2	Endgate Latch Procedure 1. Support the pickup box endgate. 2. Release the endgate cable from the endgate cable bolt. 3. Disconnect the latch rod from the latch handle. 4. Remove the endgate latch and transfer the endgate cable.

cardiagn.com

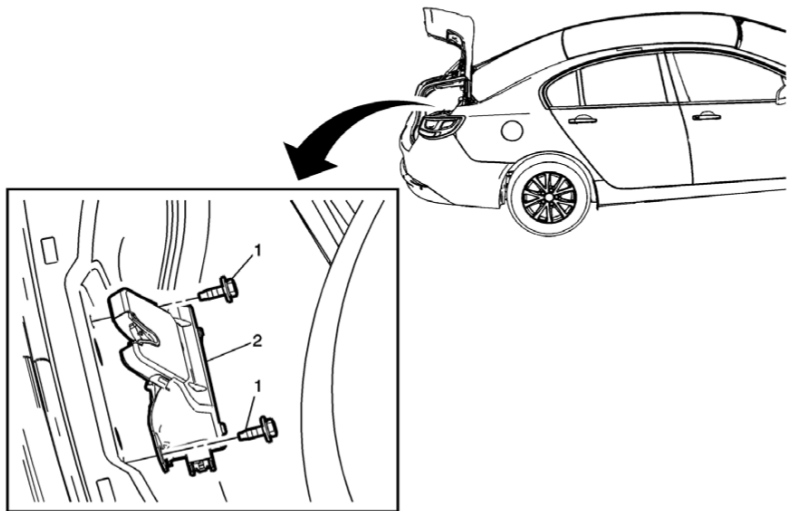
Front Side Door Latch Replacement



Front Side Door Latch Replacement

Callout	Component Name
Preliminary Procedure Remove the front side door trim. Refer to Front Side Door Trim Replacement .	
1	Front Side Door Latch Screw (Qty: 3) Caution: Refer to Fastener Caution. Procedures 1. Remove the water deflector. 2. Release the front inside door handle cable retainers from the door. Tighten 9N•m (80 lb in)
2	Front Side Door Latch Assembly Procedure 1. Disconnect the front side door latch electrical connector. 2. Transfer all necessary components. 3. Front outside door handle rod adjustment. Refer to Front Side Door Outside Handle Rod Adjustment. Note: Inspect the door for proper operation before installing the door trim.

Rear Compartment Lid Latch Replacement

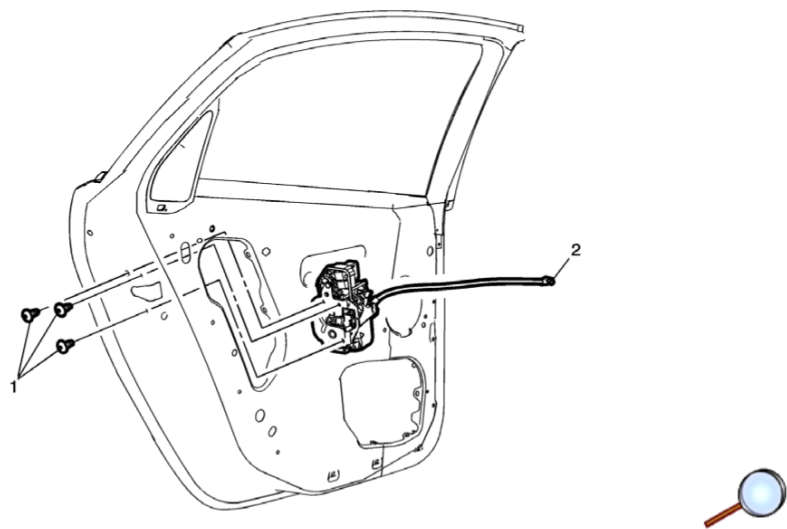


Rear Compartment Lid Latch Replacement

Callout	Component Name
Preliminary Procedures 1. Remove the liftgate sill garnish molding. Refer to Liftgate Sill Garnish Molding Replacement . 2. Disconnect the rear compartment lid latch release cable. Refer to Rear Compartment Lid Latch Release Cable Replacement .	
1	Rear Compartment Lid Latch Bolt (Qty: 2) Caution: Refer to Fastener Caution . Tighten 9N•m (80 lb in)
2	Rear Compartment Lid Latch Procedure Disconnect the electrical connector if equipped.

cardiagn.com

Rear Side Door Latch Replacement

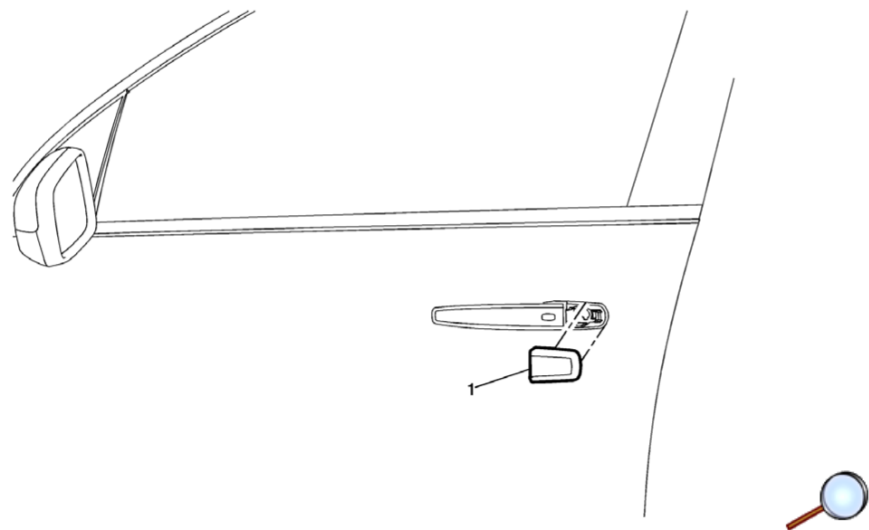


Rear Side Door Latch Replacement

Callout	Component Name
Preliminary Procedure 1. Remove the rear side door trim. Refer to Rear Side Door Trim Replacement . 2. Remove the water deflector.	
1	Rear Side Door Latch Screw (Qty: 3) Caution: Refer to Fastener Caution . Procedure 1. Release the rear inside door handle cable retainers from the door. 2. Remove the rear side door stationary window channel. Refer to Rear Side Door Stationary Window Channel Replacement . Tighten 9 N•m (80 lb in)
2	Rear Side Door Latch Assembly Procedure 1. Disconnect the rear side door latch electrical connector. 2. Transfer all necessary components. 3. Rear outside door handle rod adjustment. Refer to Rear Side Door Outside Handle Rod Adjustment .

Callout	Component Name
	Note: Inspect the door lock system for proper operation before installing the door trim.

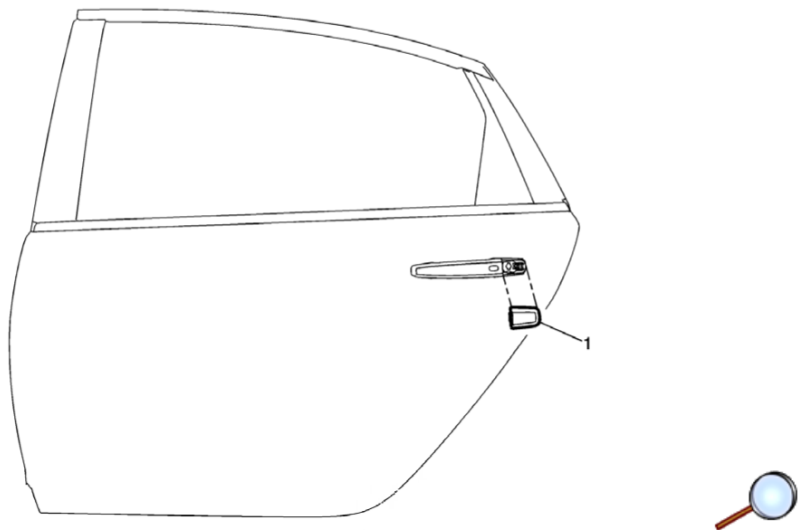
Front Side Door Lock Cylinder Opening Cover Replacement



Front Side Door Lock Cylinder Opening Cover Replacement

Callout	Component Name
1	Front Side Door Lock Cylinder Opening Cover Procedure Using the appropriate tool, release the lock cylinder bezel retainers located on both sides. Note: Inspect the door for proper operation.

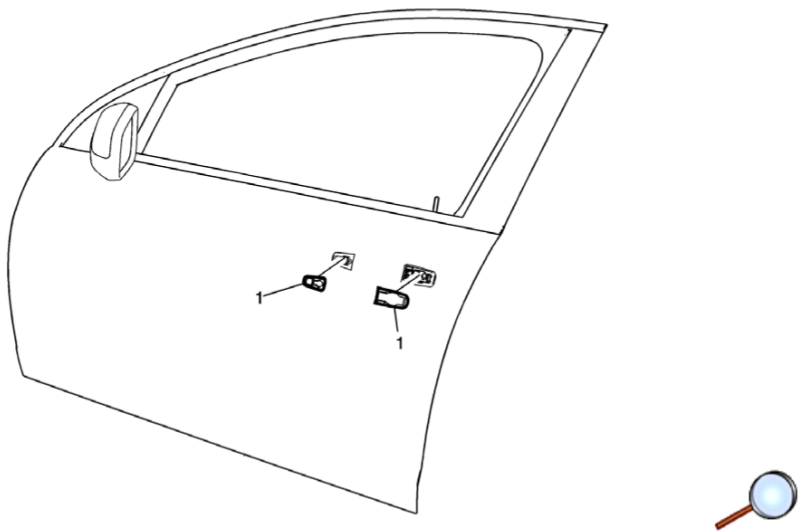
Rear Side Door Lock Cylinder Opening Cover Replacement



Rear Side Door Lock Cylinder Opening Cover Replacement

Callout	Component Name
1	Rear Side Door Lock Cylinder Opening Cover Procedure Using the appropriate tool, release the lock cylinder bezel retainers located on both sides. Note: Inspect the door for proper operation.

Front Side Door Lock Cylinder Bezel Replacement

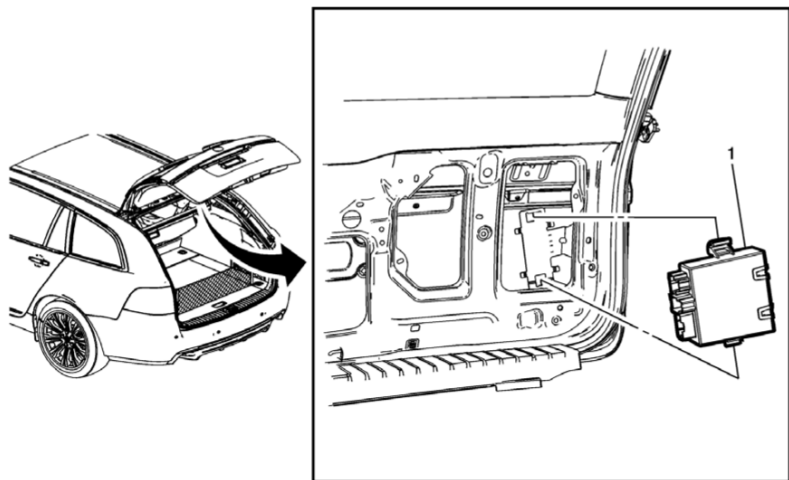


Front Side Door Lock Cylinder Bezel Replacement

Callout	Component Name
Preliminary Procedure Remove the front side door outside handle. Refer to Front Side Door Outside Handle Replacement	
1	Front Side Door Lock Cylinder Bezel Procedure Using the appropriate tool, remove the front side door lock cylinder bezel. Note: Inspect the door lock system for proper operation.

cardiagn.com

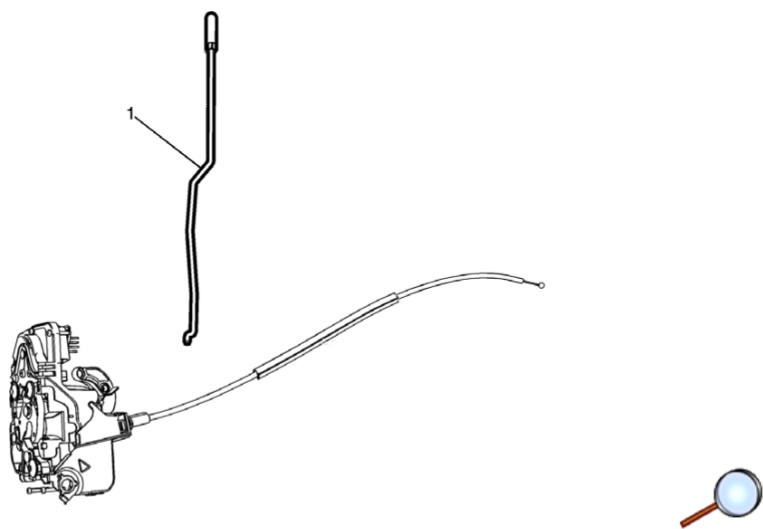
Accessory and Liftgate Control Module Replacement (Sportwagon)



Accessory and Liftgate Control Module Replacement

Callout	Component Name
Preliminary Procedure Remove the liftgate lower trim finish panel. Refer to Liftgate Lower 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 bracket. 3. Reprogram the control module if replaced. Refer to Control Module References.

Front Side Door Locking Rod Knob Replacement

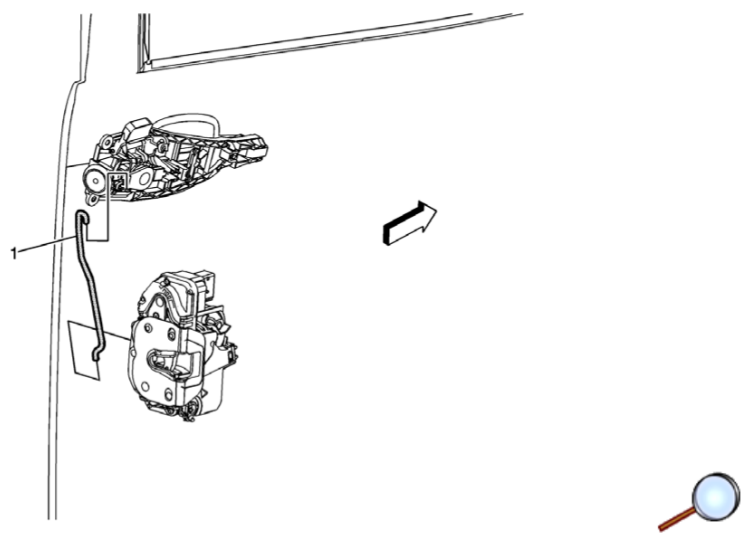


Front Side Door Locking Rod Knob Replacement

Callout	Component Name
Preliminary Procedure Remove the front side door lock . Refer to Front Side Door Latch Replacement . Do Not remove the lock completely from the door, lower the lock to disconnect the rod.	
1	Front Side Door Latching Rod Procedure 1. Place the window in the full up position. 2. Remove the water deflector. 3. Transfer components as necessary. 4. In order to prevent outside handle lever pre-load, lock, outside handle, handle bracket and cover/cap shall be fully secured to the door prior to securing integral lock clip to outside handle rod. Integral lock clip shall be in the full up position while securing to outside handle rod. Refer to Front Side Door Outside Handle Rod Adjustment. Note: Inspect the door lock system for proper operation before installing the door trim.

cardiagn.com

Front Side Door Lock Cylinder Rod Replacement

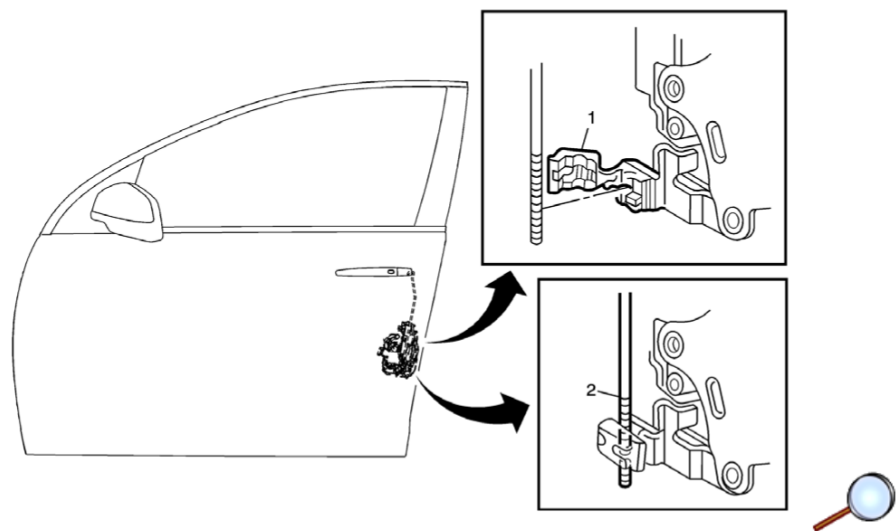


Front Side Door Lock Cylinder Rod Replacement

Callout	Component Name
Preliminary Procedure Remove the front side door latch. Refer to Front Side Door Latch Replacement .	
1	Front Side Door Outside Handle Rod Note: Inspect the door for proper operation before installing the door trim.

cardiagn.com

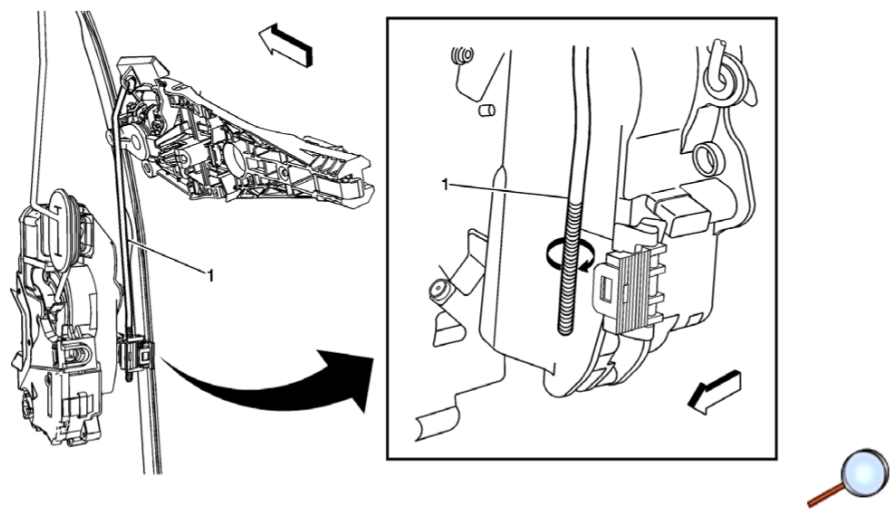
Front Side Door Outside Handle Rod Adjustment



Front Side Door Outside Handle Rod Adjustment

Callout	Component Name
Preliminary Procedures Remove the front side door trim. Refer to Front Side Door Trim Replacement	
1	Front Side Door Outside Handle Rod Clip Procedure 1. Remove the front side door water deflector. 2. Using the appropriate tool, open the clip from the threaded rod connecting the lock to the outside handle.
2	Front Side Door Outside Handle Rod Procedure 1. Position the front side door outside handle rod in the clip in order to eliminate any free play in the outside door handle. 2. Adjust the travel of the handle by removing the threaded rod from the clip. 3. Install the clip cover closed over the threaded front side door outside handle rod. Note: Inspect the door lock system for proper operation before installing the door trim.

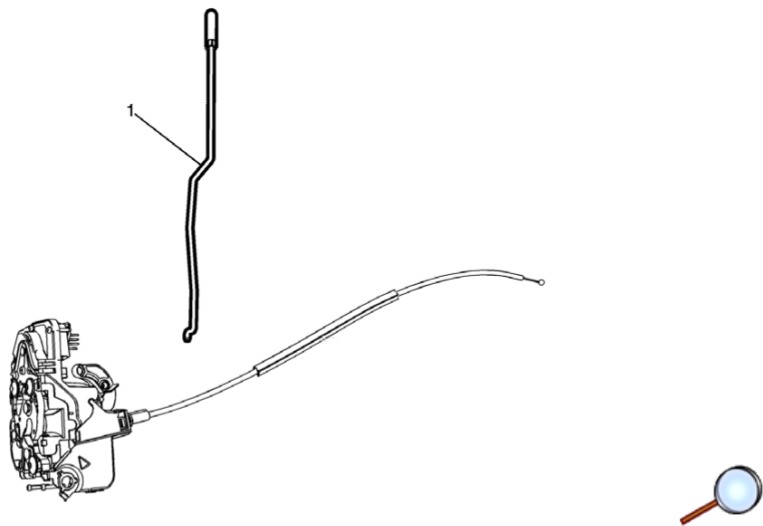
Front Side Door Outside Handle Rod Replacement



Front Side Door Outside Handle Rod Replacement

Callout	Component Name
Preliminary Procedure Remove the front side door outside handle bracket. Refer to Front Side Door Outside Handle Bracket Replacement .	
1	Front Side Door Outside Handle Rod Procedure 1. Place the window in the full up position. 2. Remove the water deflector. 3. Open the handle rod by releasing the clip at the end of the handle rod. 4. In order to prevent outside handle lever pre-load, lock, outside handle, handle bracket and cover/cap shall be fully secured to the door prior to securing integral lock clip to outside handle rod. Integral lock clip shall be in the full up position while securing to outside handle rod. Refer to Front Side Door Outside Handle Rod Adjustment. Note: Inspect the door lock system for proper operation before installing the door trim.

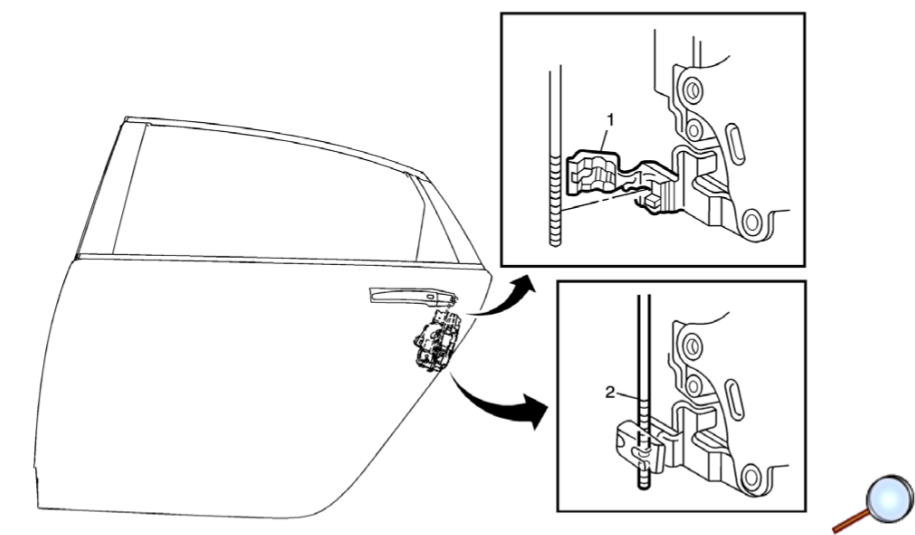
Rear Side Door Locking Rod Knob Replacement



Rear Side Door Locking Rod Knob Replacement

Callout	Component Name
Preliminary Procedure Remove the rear side door lock. Refer to Rear Side Door Latch Replacement . Do Not remove the lock completely from the door, lower the lock to disconnect the rod.	
1	Rear Side Door Locking Rod Procedure 1. Place the window in the full up position. 2. Remove the water deflector. 3. Transfer components as necessary. 4. In order to prevent outside handle lever pre-load, lock, outside handle, handle bracket and cover/cap shall be fully secured to the door prior to securing integral lock clip to outside handle rod. Integral lock clip shall be in the full up position while securing to outside handle rod. Refer to Rear Side Door Outside Handle Rod Adjustment. Note: Inspect the door lock system for proper operation before installing the door trim.

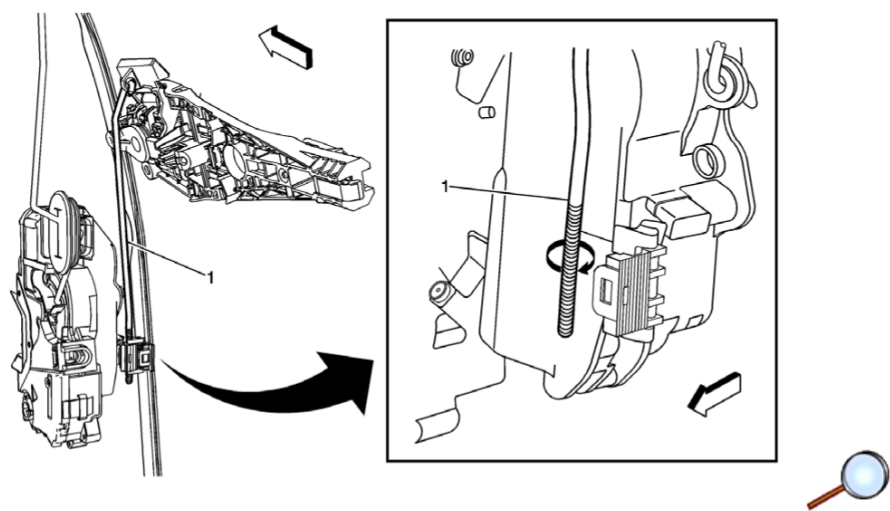
Rear Side Door Outside Handle Rod Adjustment



Rear Side Door Outside Handle Rod Adjustment

Callout	Component Name
Preliminary Procedures Remove the rear side door trim. Refer to Rear Side Door Trim Replacement .	
1	Rear Side Door Outside Handle Rod Clip Procedure 1. Remove the rear side door water deflector. 2. Using the appropriate tool, open the clip from the threaded rod connecting the lock to the outside handle.
2	Rear Side Door Outside Handle Rod Procedure 1. Position the rear side door outside handle rod in the clip in order to eliminate any free play in the outside door handle. 2. Adjust the travel of the handle by removing the threaded rod from the clip. 3. Install the clip cover closed over the threaded front side door outside handle rod. Note: Inspect the door locking system for proper operation before installing the trim.

Rear Side Door Outside Handle Rod Replacement

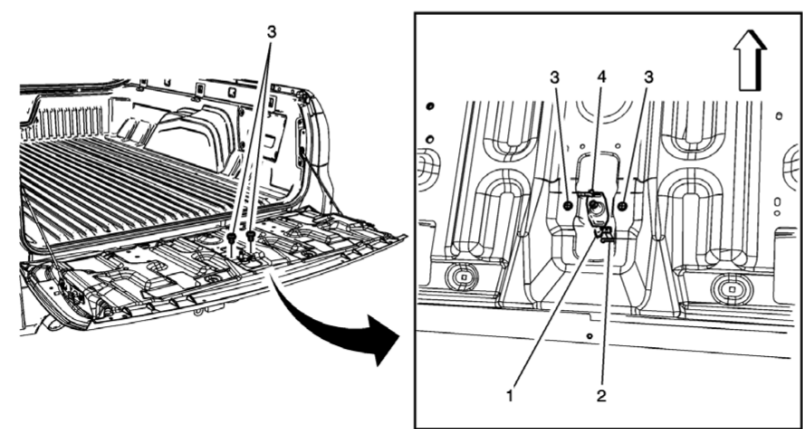


Rear Side Door Outside Handle Rod Replacement

Callout	Component Name
Preliminary Procedure Remove the rear side door trim. Refer to Rear Side Door Trim Replacement .	
1	Rear Side Door Outside Handle Rod Procedure 1. Place the window in the full up position. 2. Remove the water deflector. 3. Open the handle rod by releasing the clip at the end of the handle rod. 4. In order to prevent outside handle lever pre-load, the lock, outside handle, handle bracket and cover shall be fully secured to the door prior to securing integral lock clip to outside handle rod. Integral lock clip shall be in the full up position while securing to outside handle rod. Refer to Rear Side Door Outside Handle Rod Adjustment. Note: Inspect the door lock system for proper operation before installing the door trim.

cardiagn.com

Pickup Box Endgate Lock Striker Anchor Plate Replacement

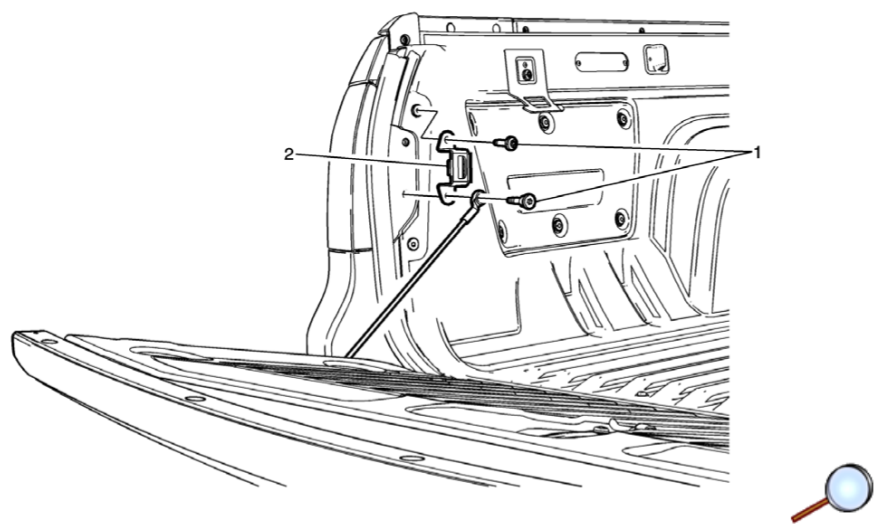


Pickup Box Endgate Lock Striker Anchor Plate Replacement

Callout	Component Name
Preliminary Procedure Remove the pickup box endgate liner. Refer to Pickup Box Endgate Liner Replacement .	
1	Pickup Box Endgate Lock Striker Anchor Plate Rod Retainer (Qty: 2) Release the retainer.
2	Pickup Box Endgate Lock Striker Anchor Plate Rod (Qty: 2) Note: Release both of the rods before removing.
3	Pickup Box Endgate Lock Striker Anchor Plate Bolt (Qty: 2) Caution: Refer to Fastener Caution . Tighten 10 N·m (7 lb ft)
4	Pickup Box Endgate Lock Striker Anchor Plate

cardiagn.com

Pickup Box Endgate Striker Replacement

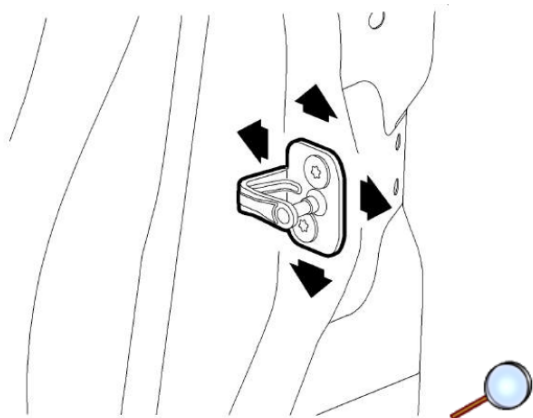


Pickup Box Endgate Striker Replacement

Callout	Component Name
1	Pickup Box Endgate Striker Bolt (Qty 2) Caution: Refer to Fastener Caution. Note: Release the endgate cable from the striker-endgate cable bolt using a small flat bladed tool. Tighten 27 N•m (20 lb ft)
2	Pickup Box Endgate Striker

Front Side Door Lock Striker Adjustment

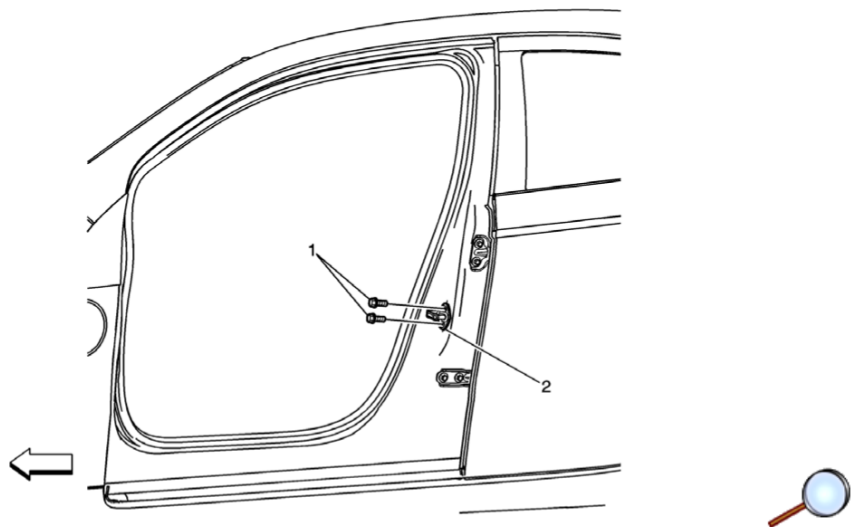
To determine if striker adjustment is required, proceed as follows:



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.
 3. Using a grease pencil, mark around the striker for reference of the original position. Loosen the striker.
 4. Move the striker to eliminate drag on the striker and door 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](#).
5. Tighten the striker bolts. Tighten the front side door striker screws to **13 N•m (10 lb ft)**.

cardiagn.com

Front Side Door Lock Striker Replacement



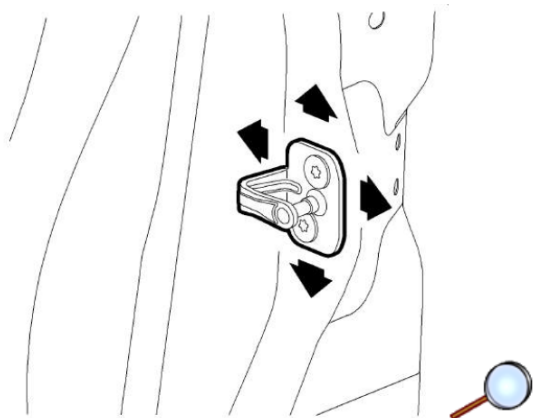
Front Side Door Lock Striker Replacement

Callout	Component Name
1	Front Side Door Lock Striker Screw (Qty: 2) Caution: Refer to Fastener Caution . Tighten 13 N•m (10 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.

cardiagn.com

Rear Side Door Lock Striker Adjustment

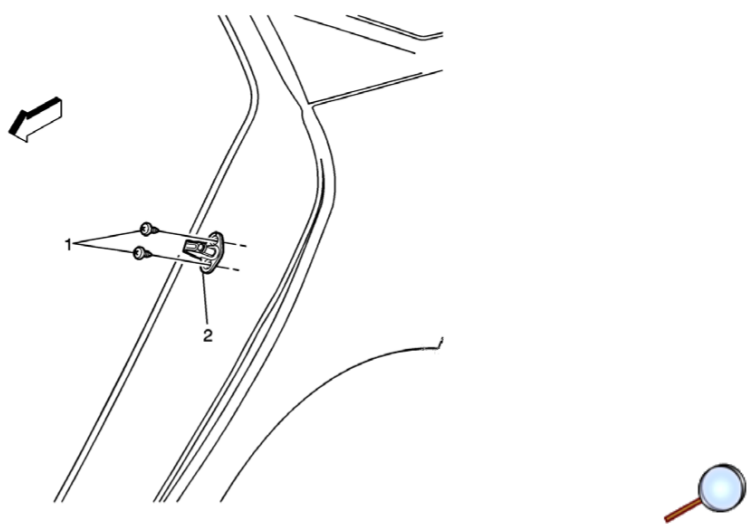
To determine if striker adjustment is required, proceed as follows:



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.
 3. Using a grease pencil, mark around the striker for reference of the original position. Loosen the striker.
 4. Move the striker to eliminate drag on the striker and door 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](#).
5. Tighten the striker bolts. Tighten the rear side door striker screws to **13 N·m (10 lb ft)**.

cardiagn.com

Rear Side Door Lock Striker Replacement

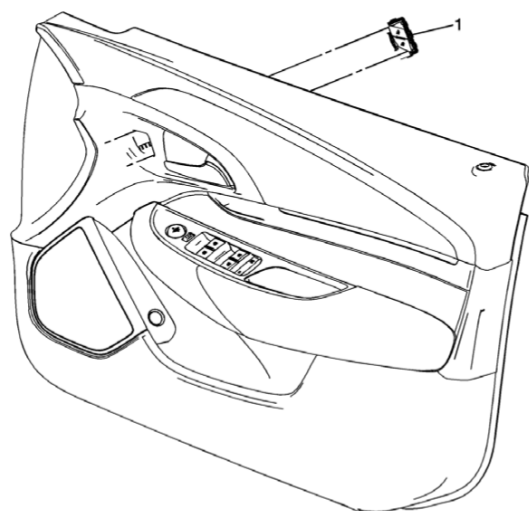


Rear Side Door Lock Striker Replacement

Callout	Component Name
1	Rear Side Door Lock Striker Screw (Qty: 2) Caution: Refer to Fastener Caution . Tighten 13 N•m (10 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.

cardiagn.com

Door Lock Switch Replacement - Driver Side



Door Lock Switch Replacement - Driver Side

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.

cardiagn.com

Door Lock Switch Replacement - Passenger Front

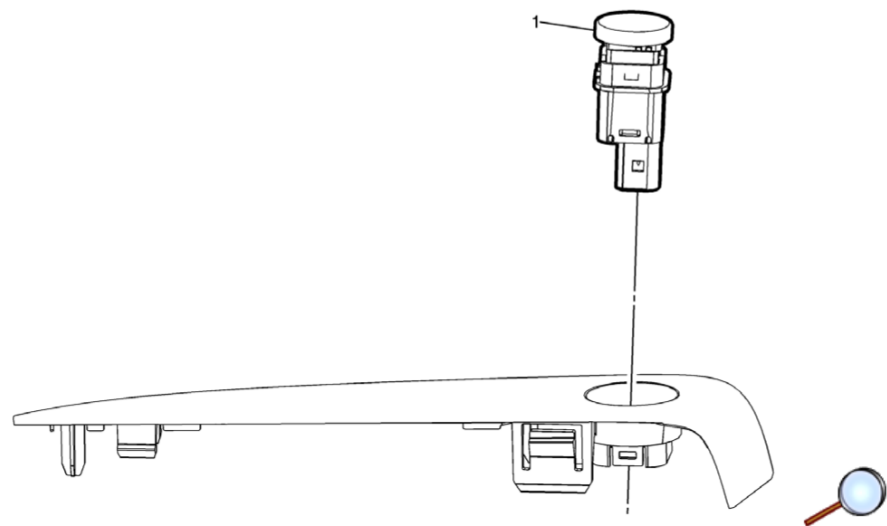


Door Lock Switch Replacement - Passenger Front

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.

cardiagn.com

Rear Compartment Lid Release Switch Replacement (Driver Side)



Rear Compartment Lid Release Switch Replacement

Callout	Component Name
Preliminary Procedure Remove the rear compartment lid release switch bezel. Refer to Rear Compartment Lid Release Switch Bezel Replacement .	
1	Rear Compartment Lid Release Switch Assembly Procedure 1. Disconnect the electrical connector. 2. Push the 2 tabs in to release the switch from the rear compartment lid release switch bezel.

Fastener Tightening Specifications

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Endgate Latch Bolt	27 N•m	20 lb ft
Front Side Door Latch Screw	9 N•m	80 lb in
Front Side Door Lock Cylinder Bolt	9 N•m	80 lb in
Front Side Door Lock Striker Screw	13 N•m	10 lb ft
Front Side Door Outside Handle Bolt	3 N•m	26 lb in
Front Side Door Outside Handle Bracket Bolt	9 N•m	80 lb in
Liftgate Latch Screw	9 N•m	80 lb in
Liftgate Latch Striker Bolt	10 N•m	7 lb ft
Pickup Box Endgate Lock Striker Anchor Plate Bolt	10 N•m	7 lb ft
Pickup Box Endgate Striker Bolt	27 N•m	20 lb ft
Rear Compartment Lid Latch Bolt	9 N•m	80 lb in
Rear Side Door Latch Screw	9 N•m	80 lb in
Rear Side Door Lock Striker Screw	13 N•m	10 lb ft
Rear Side Door Outside Handle Bolt	3 N•m	26 lb in
Rear Side Door Outside Handle Bracket Bolt	9 N•m	80 lb in

cardiagn.com

Door Lock/Indicator Schematics

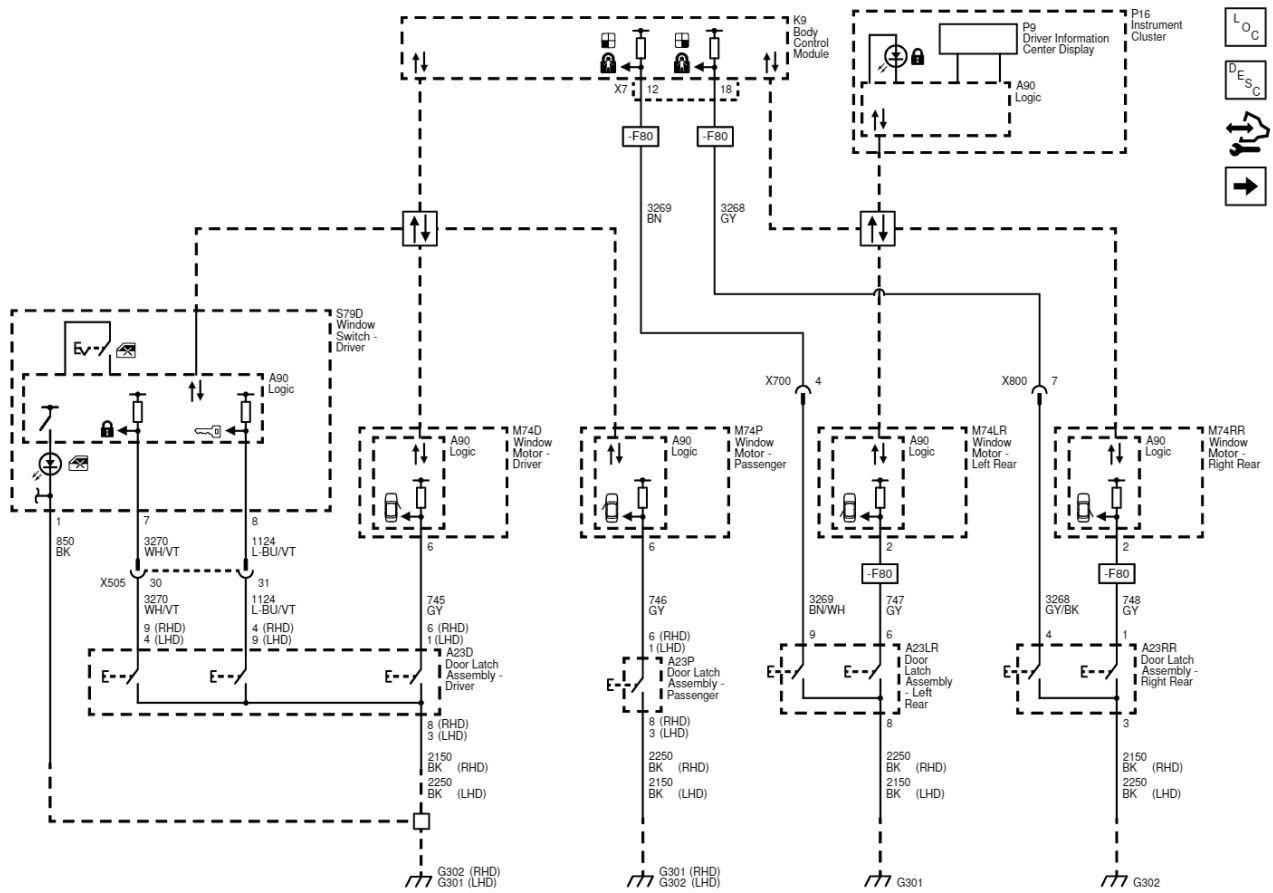
Figure 1: [Indicators and Switches](#)

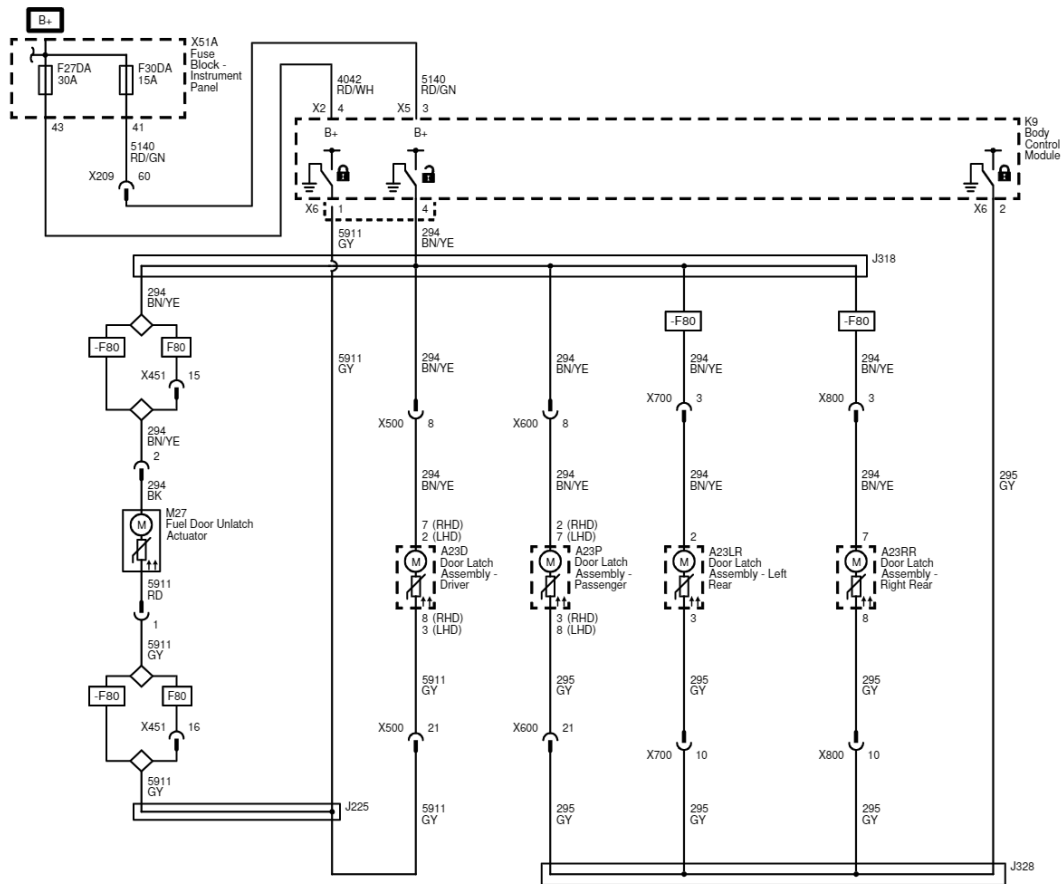
Figure 2: [Actuators](#)

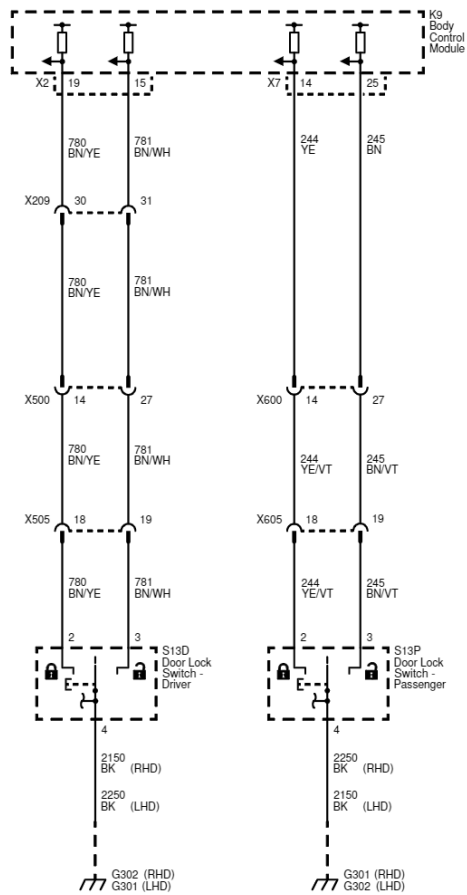
Figure 3: [Switches](#)

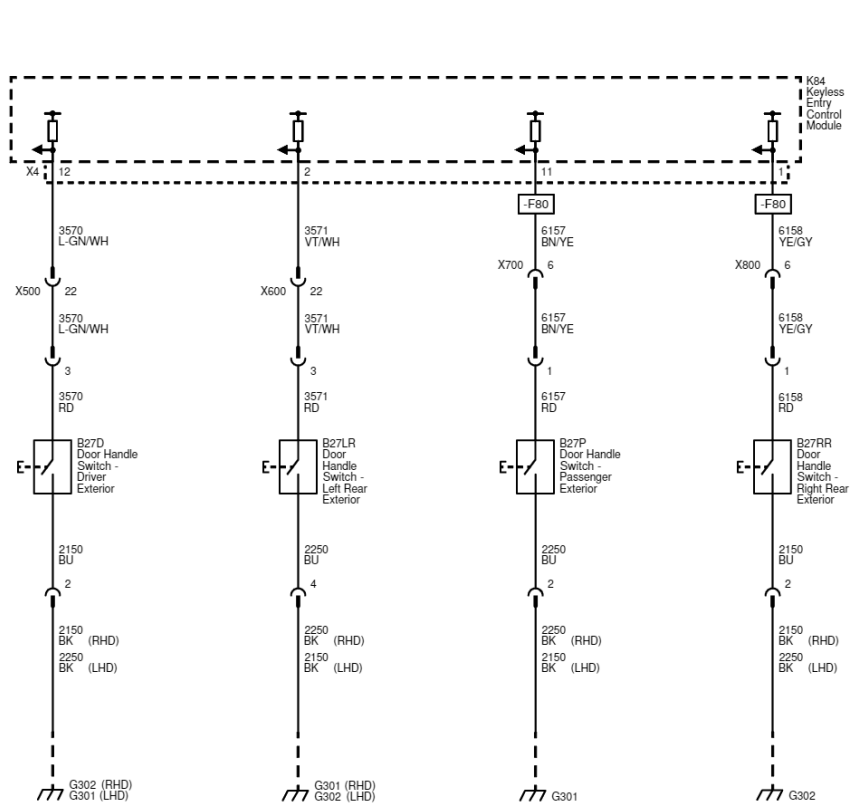
Figure 4: [Door Handle Switches \(ATH\)](#)

cardiagn.com









LOG

DES



Release Systems Schematics

Figure 1: [Rear Compartment Lid Release](#)

Figure 2: [Liftgate Release](#)

Figure 3: [Tonneau Release \(HSV\)](#)

Figure 4: [Tonneau Release \(Holden Genuine Accessory\)](#)

cardiagn.com

