

2017 ACCESSORIES & EQUIPMENT

Vehicle Access - Description and Operation - CT6

DESCRIPTION AND OPERATION

CHARGE PORT DOOR DESCRIPTION AND OPERATION

Charge Port System Components

The charge port system consists of the following components:

- Charge port door position sensor
- Hybrid/EV powertrain control module 2

Charge Port Ajar Message

When the vehicle is in the Service Mode or ON, the hybrid/EV powertrain control module 2 supplies a 5V signal to the charge port door position switch through the charge port door sensor signal circuit. The charge port door position switch contains a resistor ladder interface for switch position between two resistors for sensing used by the hybrid/EV powertrain control module 2 to determine if the charge port door is in the open position or the closed position. The hybrid/EV powertrain control module 2 sends a serial data message to the driver information center in the instrument panel cluster to display the Charge Door Open message.

DOOR AJAR INDICATOR DESCRIPTION AND OPERATION

Door Ajar Indicator System Components

The door ajar indicator system consists of the following components:

- Body control module (BCM)
- Instrument cluster
- Driver door latch
- Passenger door latch
- Left rear door latch
- Right rear door latch
- Driver window motor
- Passenger window motor
- Left rear window motor
- Right rear window motor

Door Ajar Indicator Block Diagram

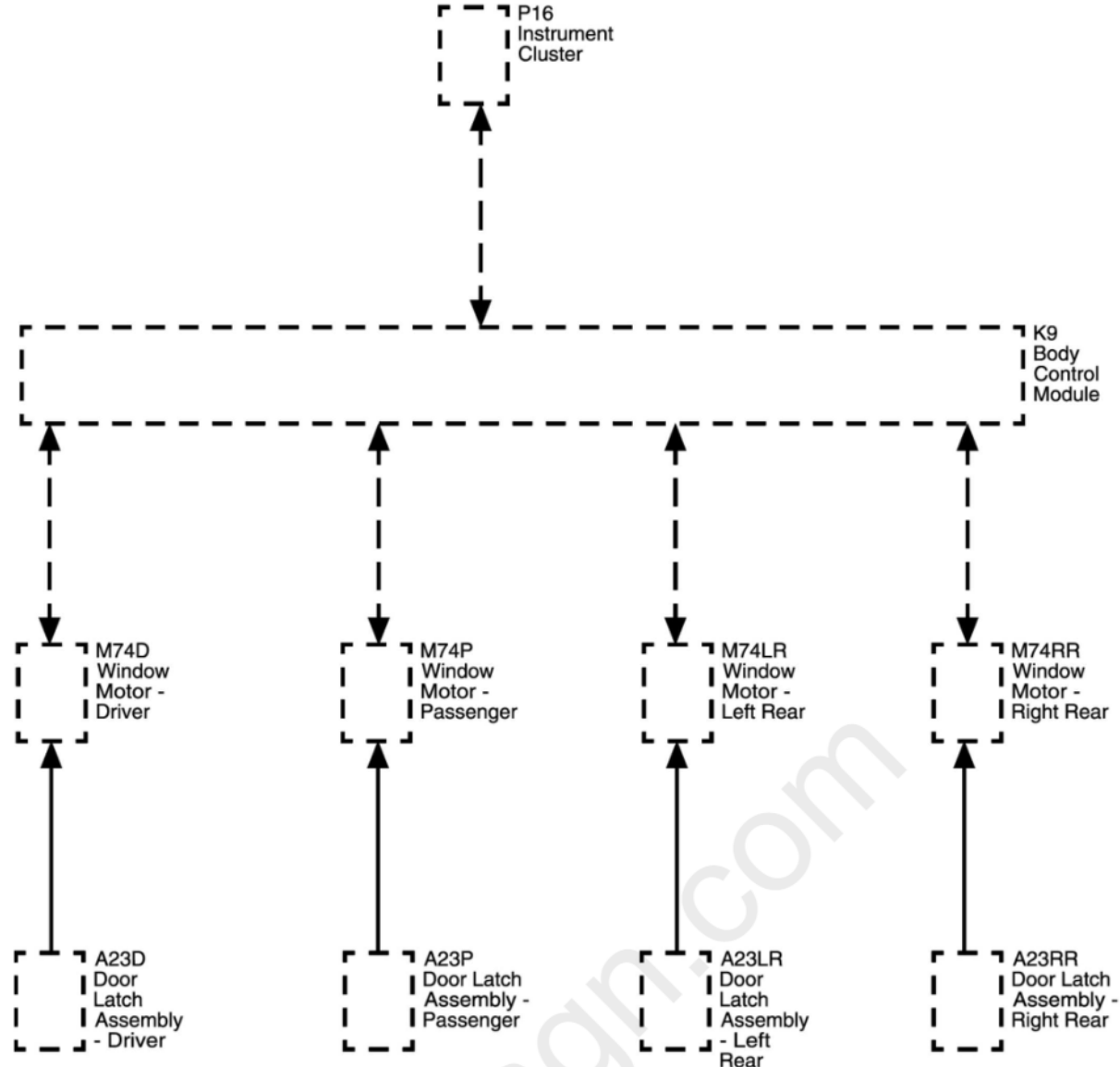


Fig. 1: Door Ajar Indicator Block Diagram
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
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
M74LR	M74LR Window Motor - Left Rear
M74RR	M74RR Window Motor - Right Rear

Driver and Passenger Door Ajar

The 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

FUEL FILL DOOR DESCRIPTION AND OPERATION (WITHOUT HP9)

Fuel Door Unlatch System Components

- Body control module (BCM)
- Fuel door unlatch actuator
- Fuel door relay

The locking and unlocking of the fuel door is a function of the power door lock system. The fuel door unlatch actuator is supplied by the door lock signal circuit and the driver door unlock signal circuit which is switched through the fuel door relay. The fuel door relay coil is controlled by the body control module (BCM). When the vehicles doors are unlocked, the body control module (BCM) will respond by applying voltage to the fuel door relay coil control circuit. This energizes the coil causing the switch contacts to close. With the switch contacts closed, the driver door unlock circuit supplies B+ or ground to the fuel door unlatch actuator, unlocking the fuel door.

FUEL FILL DOOR DESCRIPTION AND OPERATION (WITH HP9)

Refueling System Components

The refueling system consists of the following components:

- Refuel request switch
- Fuel door position sensor
- Fuel door latch
- Hybrid powertrain control module 2

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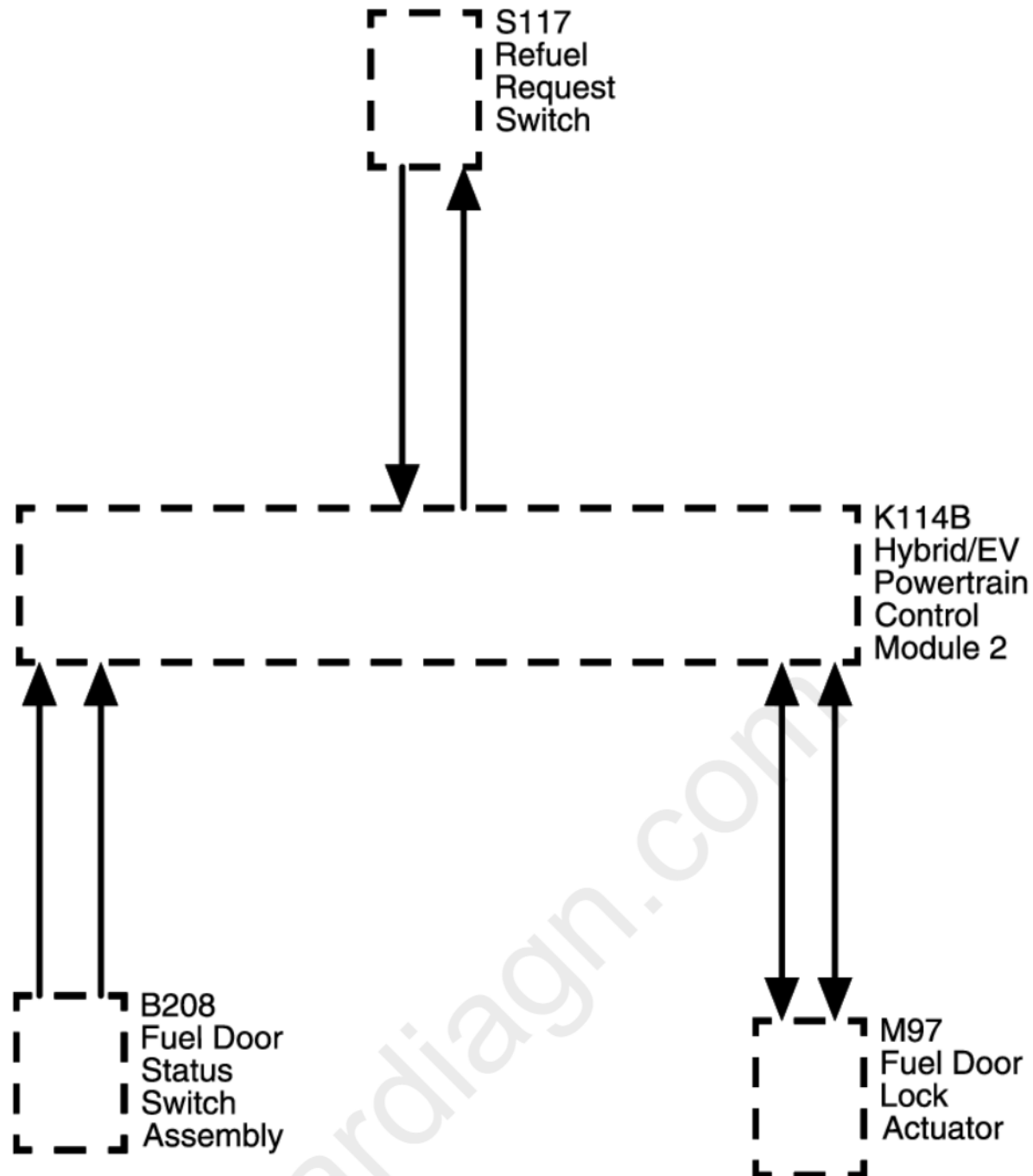


Fig. 2: Refueling System Diagram

Courtesy of GENERAL MOTORS COMPANY

Refueling System Overview

To effectively manage evaporative fuel emissions, hybrid vehicles with extended electrical range capability must be equipped with a "pressurized" fuel system that can be sealed from atmosphere when the internal combustion engine is not operating.

When the fuel system is sealed, the internal pressure will vary with changes in temperature, such as the natural variation in ambient temperature that occurs throughout the day. To maintain evaporative emissions compliance, vehicle refueling can only be permitted once the fuel system has been adequately vented to atmosphere through the carbon canister. The Refueling Management feature described in this document provides the necessary means to regulate customer access to the fuel cap and manage venting of the fuel system in order to facilitate vehicle refueling without compromising evaporative emissions compliance.

Refueling System Operation

The hybrid/EV powertrain control module 2 monitors the voltage values of the fuel fill door open request wake-up signal circuit and the fuel door request signal circuit. When the refuel request switch is pressed, the two switch contacts close. This provides B+ to the wake-up circuit input and changes the voltage level of the fuel door request signal as it passes through a single resistor instead of 2 resistors. The hybrid/EV powertrain control module 2 will detect the 12 volts on the wake-up circuit and the voltage change on the fuel door request circuit, it will then command the fuel system to vent and sends a serial data message to the driver information center to display the Wait to Refuel message. The hybrid/EV powertrain control module 2 then energizes the fuel door lock/unlock actuator to unlock the fuel door.

After the system has been vented, the hybrid powertrain control module 2 will send a command to unlock the fuel filler door and will send a serial data message to the driver information center to display the Ready To Refuel message. After the vehicle has been refueled, the hybrid powertrain control module 2 will send a serial data message to the driver information center to display the Close Fuel Door message until the fuel filler door is closed. The hybrid powertrain control module 2 will then command the fuel filler door to lock 5 seconds after the fuel filler door is closed or the vehicle speed exceeds 40 km/h (25 mph).

LUGGAGE COMPARTMENT DESCRIPTION AND OPERATION (WITHOUT TC2)

Rear Compartment Lid Release System Components

- Body control module (BCM)
- Exterior rear compartment lid unlatch switch
- Interior rear compartment lid unlatch switch
- Rear compartment lid latch
- Trunk ajar switch (Part of the rear compartment lid latch)
- Underhood fuse block (Contains rear compartment lid unlatch PCB relay)

14 Trunk Release Block Diagram

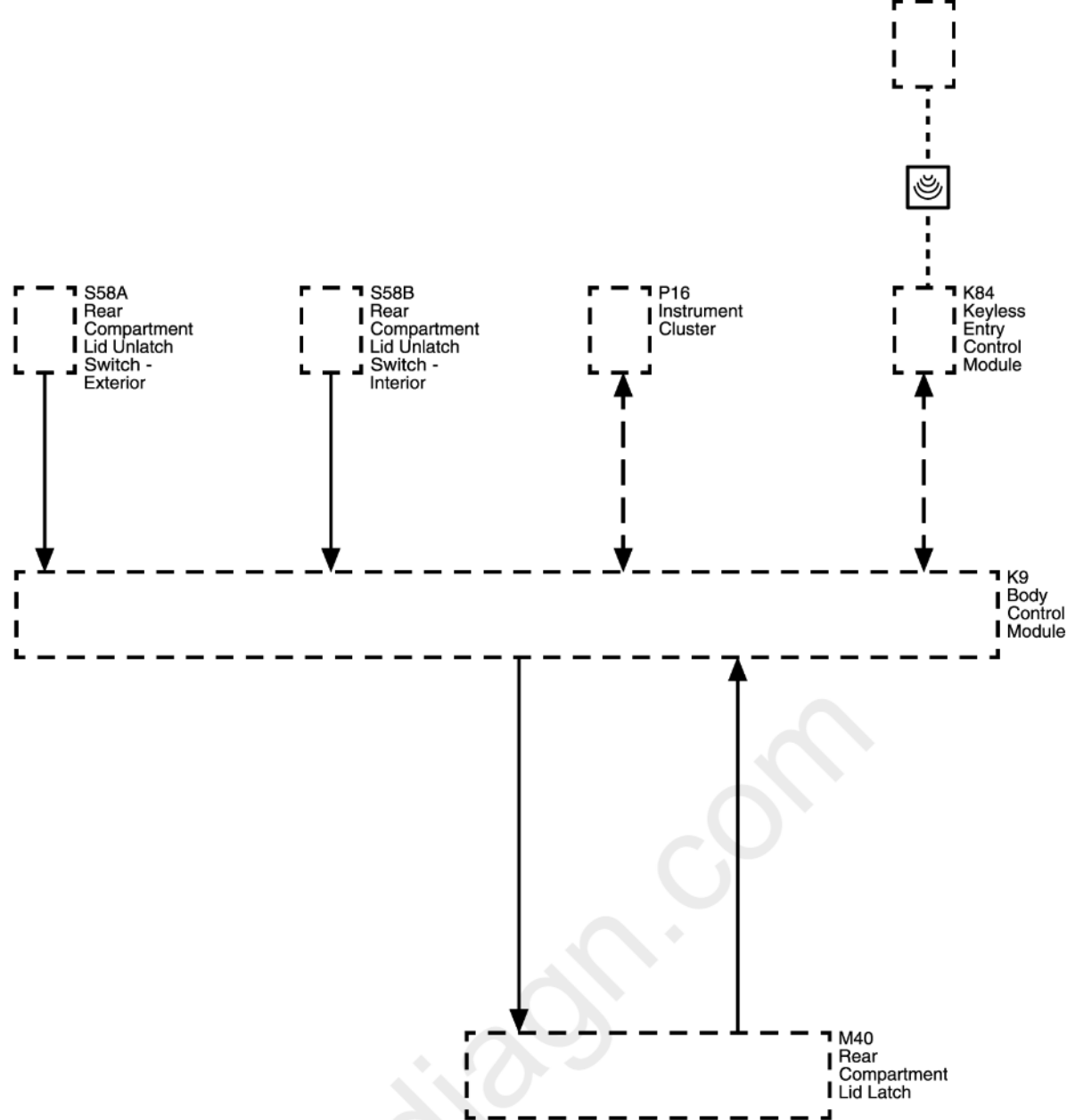


Fig. 3: 14 Trunk Release Block Diagram
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
WL	Wireless
K84	K84 Keyless Entry Control Module
P16	P16 Instrument Cluster
S58B	S58B Rear Compartment Lid Unlatch Switch - Interior
S58A	S58A Rear Compartment Lid Unlatch Switch - Exterior
K9	K9 Body Control Module
M40	M40 Rear Compartment Lid Latch

Rear Compartment Lid Release Operation

Rear Compartment Lid Unlatch Switch

The BCM monitors a voltage signal to the interior and exterior rear compartment lid unlatch switch so that when either 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 switches, if the vehicle doors have been unlocked, the BCM will recognize the request and will provide voltage to the rear compartment lid unlatch PCB relay.

Rear Compartment Lid Latch

When BCM receives a rear compartment lid release command from the exterior rear compartment lid unlatch switch, the BCM applies brief pulse of voltage to the rear compartment lid unlatch PCB relay control circuit, which energizes the coil side of the relay. The switch side of the rear compartment lid unlatch PCB 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 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 rear compartment lid.

Trunk Open Message

The body control module (BCM) 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 panel. The instrument panel will then display the Trunk Open message.

LUGGAGE COMPARTMENT DESCRIPTION AND OPERATION (WITH TC2)

System Description

The power trunk system consists of the following components:

- Liftgate control module
- Liftgate angle sensor (Part of the liftgate motor assembly)
- Interior liftgate control switch
- Liftgate unlatch switch
- Exterior liftgate control switch
- Liftgate latch assembly
- Liftgate motor assembly
- Left and right hands free object sensors
- Liftgate hands free sensor control module
- Keyless entry transmitter
- Keyless entry control module

Operation

The power trunk can be commanded to function in the following methods:

- An open or close command from the interior liftgate control switch
- An open command from the liftgate unlatch switch
- A close command from the exterior liftgate control switch
- An open or close request by a signal from the keyless entry transmitter to the keyless entry control module
- The kicking motion of a foot and lower leg under the center of the lower rear fascia

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

Power Latch

The liftgate control module continuously monitors power trunk operation and calculates its location and direction of travel from an liftgate position sensor (part of the liftgate motor assembly). One input returns the position of the trunk relative to the x-axis and y-axis. The liftgate control module then uses these 2 inputs together to calculate its angle relative to the trunk.

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

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

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

The keyless entry control module monitors the proximity of the keyless entry transmitter. If the liftgate unlatch switch is pressed and the keyless entry transmitter is within range, the keyless entry control module will send a serial data message to the liftgate control module indicating the presence of the keyless entry transmitter and the liftgate control module will permit the trunk to unlatch and power open. If the doors are locked and the keyless entry transmitter is not within range, the liftgate control module will ignore the signal from the liftgate unlatch switch.

Hands Free Sensor

The sensors are located behind the lower rear fascia at the bottom center and is designed to detect the motion of the operator's foot by way of a kicking motion. When the keyless entry transmitter is within 3 feet (1 meter) of the trunk and the operator kick his or her foot under the center of the rear fascia, the sensors will detect the motion of the foot and the lower leg and send a serial data message to the liftgate control module to command the trunk to power open.

POWER DOOR LOCKS DESCRIPTION AND OPERATION

Door Lock System Components

The power door lock system consists of the following components:

- Driver door lock switch
- Passenger door lock switch
- Body control module (BCM)
- Door dead lock relay
- 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 System Block Diagram

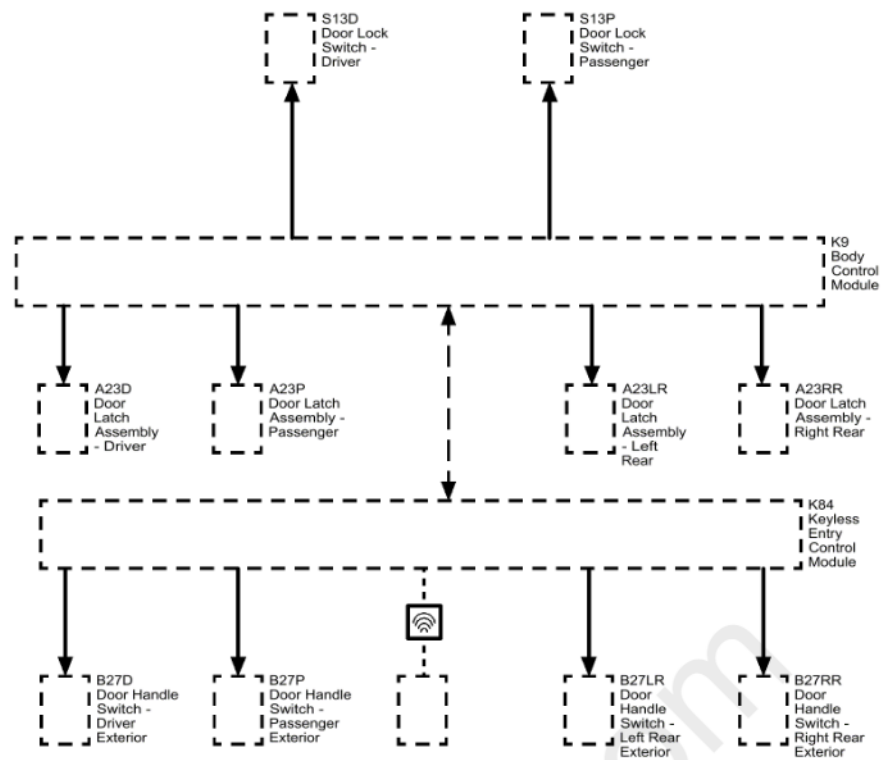


Fig. 4: Power Door Locks System Block Diagram

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
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 System Controls

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

- Power door lock switch activation
- Keyless entry lock or unlock command
- A door lock cylinder switch Unlock actuation
- Delayed locking command
- Automatic door lock command

Door Lock and Unlock Operation

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

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

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.

Power Door Dead Lock Operation

Vehicles equipped with the dead lock feature include an additional reversible dead lock motor contained within each door latch assembly. Each door latch assembly is wired to the BCM through 2 control circuits; the door lock dead lock control circuit and the door lock actuator unlock control circuit. To disable the interior door handles, the door locks are activated by momentarily applying voltage to the door lock dead lock control circuits and ground to the door lock actuator unlock control circuits. Ground to the dead lock actuators is provided through the door lock actuator unlock control circuits. Once the doors are locked with dead lock, the mechanical lock/unlock linkage within the door lock actuator is physically disconnected so that the door cannot be opened by using the interior door handles. If the content theft feature is armed at the same time, the interior door lock switches will not operate the locks.

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

2017 ACCESSORIES & EQUIPMENT

Vehicle Access - Diagnostic Information and Procedures - CT6

DIAGNOSTIC INFORMATION AND PROCEDURES

DTC B1019: SYSTEM CONFIGURATION ERROR

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 B1019 00

System Configuration Error

Circuit/System Description

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

Conditions for Running the DTC

The system voltage is 9-18 V.

Conditions for Setting the DTC

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

Action Taken When the DTC Sets

The power deck lid system will be disabled.

Conditions for Clearing the DTC

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

Diagnostic Aids

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

Reference Information

Schematic Reference

[Liftgate Schematics \(TC2/TL9\)](#)

Connector End View Reference

[COMPONENT CONNECTOR END VIEWS - INDEX](#)

Description and Operation

Luggage Compartment Description and Operation (Without TC2) Luggage Compartment Description and Operation (With TC2)

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 Testing

Perform the [Liftgate Calibration](#) . The K39 Liftgate Control Module should learn the travel limits, exit the calibration mode and B1019 00 will become a history code.

Repair Instructions

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

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

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

Diagnostic Instructions

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

DTC Descriptor

DTC B1474

Passenger Exterior Door Handle Switch Circuit

DTC B3849

Driver Exterior Door Handle Switch Circuit

Symptom Byte Information: [Symptom Byte List](#)

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal - Exterior Driver Door Handle Switch	B3849 02	1	1	-
Signal - Exterior Passenger Door Handle Switch	B1474 02	2	2	-
Ground - A24D Door Handle Assembly - Driver Exterior	-	1	-	-
Ground - A24P Door Handle Assembly - Passenger Exterior	-	2	-	-

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
1. B27D Door Handle Switch - Driver Exterior=Disabled 2. B27P Door Handle Switch - Passenger Exterior=Disabled				

Circuit/System Description

For an overview of the component/system, refer to [Power Door Locks Description and Operation](#)

Circuit	Description
Signal	The control module input circuit has an internal resistance connected to 12 V.
Ground	Chassis Ground

Component	Description
B27D Door Handle Switch - Driver Exterior	The switch has a normally open contact. When the switch is activated, the signal circuit to the control module is grounded.
B27P Door Handle Switch - Passenger Exterior	The switch has a normally open contact. When the switch is activated, the signal circuit to the control module is grounded.
K84 Keyless Entry Control Module	The control module also reads various switches and sensors and makes their values available via serial data.

Conditions for Running the DTC

Ignition⌘ On / Vehicle⌘ In Service Mode

Conditions for Setting the DTC

B1474 02

Passenger Door Handle Switch Signal=Short to Ground - For greater than 60 s

B3849 02

Driver Door Handle Switch Signal=Short to Ground - For greater than 60 s

Actions Taken When the DTC Sets

B1474 02

B27P Door Handle Switch - Passenger Exterior=Disabled

B3849 02

B27D Door Handle Switch - Driver Exterior=Disabled

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

[Door Lock/Indicator Schematics](#)

Connector End View Reference

[COMPONENT CONNECTOR END VIEWS - INDEX](#)

Door Component Views

Electrical Information Reference

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

Scan Tool Reference

Control Module References

Circuit/System Verification

1. Ignition» On / Vehicle» In Service Mode
2. B27D Door Handle Switch - Driver Exterior» Not Pressed

Verify the scan tool parameter: Exterior Driver Door Handle Switch=Inactive

- **If not the specified state**

Refer to Circuit/System Testing

- **If the specified state**

3. B27P Door Handle Switch - Passenger Exterior» Not Pressed

Verify the scan tool parameter: Exterior Passenger Door Handle Switch=Inactive

- **If not the specified state**

Refer to Circuit/System Testing

- **If the specified state**

4. Operate the component: B27D Door Handle Switch - Driver Exterior» Pressed

Verify the scan tool parameter: Exterior Driver Door Handle Switch = Active

- **If not the specified state**

Refer to Circuit/System Testing

- **If the specified state**

5. Operate the component: B27P Door Handle Switch - Passenger Exterior» Pressed

Verify the scan tool parameter: Exterior Passenger Door Handle Switch=Active

- **If not the specified state**

Refer to Circuit/System Testing

- **If the specified state**

6. All OK.

Circuit/System Testing

1. Ignition/Vehicle & All vehicle systems» Off

NOTE:

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

2. Disconnect the appropriate electrical connector: A24D Door Handle Assembly - Driver Exterior or A24P Door Handle Assembly - Passenger Exterior
3. Test for less than 10 Ω between the test points: Ground circuit terminal 5 & Ground
 - **If 10 Ω or greater**
 1. Disconnect the ground connection:
 - G301
 - G302
 2. Test for less than 2 Ω between the test points:
 - A24D Door Handle Assembly - Driver Exterior Ground circuit terminal 5 @ Component harness & Terminal G301
 - A24P Door Handle Assembly - Passenger Exterior Ground circuit terminal 5 @ Component harness & Terminal G302
 - 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**
4. Ignition » On / Vehicle » In Service Mode
5. Verify the scan tool parameter: Exterior Door Handle Switch Circuit=Inactive
 - **If not the specified state**
 1. Ignition/Vehicle » Off
 2. Disconnect the electrical connector: K84 Keyless Entry Control Module
 3. Test for infinite resistance between the test points: Signal circuit terminal 1 @ Component harness & Ground
 - If less than infinite resistance » Repair the short to ground on the circuit.
 - If infinite resistance » Replace the component: K84 Keyless Entry Control Module
 - **If the specified state**
6. Connect a 3 A fused jumper wire between the test points: Signal circuit terminal 1 & Ground circuit terminal 5
7. Verify the scan tool parameter: Exterior Door Handle Switch Circuit= Active
 - **If not the specified state**
 1. Ignition/Vehicle » Off & Remove » Jumper wire(s)
 2. Disconnect the electrical connector: K84 Keyless Entry Control Module
 3. Ignition » On / Vehicle » In Service Mode
 4. Test for less than 1 V between the test points: Signal circuit terminal 1 @ Component harness & Ground
 - If 1 V or greater » Repair the short to voltage on the circuit.
 - If less than 1 V
 5. Ignition/Vehicle » Off
 6. Test for less than 2 Ω between the test points:
 - A24D Door Handle Assembly - Driver Exterior Signal circuit terminal 1 @ Component harness & Terminal 12 X2 @ Control module harness
 - A24P Door Handle Assembly - Passenger Exterior Signal circuit terminal 1 @ Component harness & Terminal 11 X2 @ Control module harness
 - If 2 Ω or greater » Repair the open/high resistance in the circuit.
 - If less than 2 Ω » Replace the component: K84 Keyless Entry Control Module
 - **If the specified state**
8. Test or replace the component: A24 Door Handle Assembly

Component Testing

1. Ignition/Vehicle » Off

2. Disconnect the appropriate electrical connector: A24D Door Handle Assembly - Driver Exterior or A24P Door Handle Assembly - Passenger Exterior

3. Test for infinite resistance between the test points: Signal terminal 1 & Ground terminal 5 - The switch is in the open position.

- **If less than infinite resistance**

Replace the component: A24 Door Handle Assembly

- **If infinite resistance**

4. Test for less than 3 Ω between the test points: Signal terminal 1 & Ground terminal 5 - The switch is in the closed position.

- **If 3 Ω or greater**

Replace the component: A24 Door Handle Assembly

- **If less than 3 Ω**

5. All OK.

Repair Instructions

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

- [Front Side Door Outside Handle Replacement](#)
- For control module replacement, programming and setup, refer to [Control Module References](#)

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

Diagnostic Instructions

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

DTC Descriptor

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

DTC B1534

Left Rear Door Handle Switch Circuit

DTC B1535

Right Rear Door Handle Switch Circuit

Symptom Byte Information: [Symptom Byte List](#)

Diagnostic Fault Information

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

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Ground - A24LR Door Handle Assembly - Left Rear Exterior	-	1	-	-
Ground - A24RR Door Handle Assembly - Right Rear Exterior	-	2	-	-
1. A24LR Door Handle Assembly - Left Rear Exterior=Disabled 2. A24RR Door Handle Assembly - Right Rear Exterior=Disabled				

Circuit/System Description

For an overview of the component/system, refer to [Power Door Locks Description and Operation](#)

Circuit	Description
Signal	The control module input circuit has an internal resistance connected to 12 V.
Ground	Chassis Ground

Component	Description
A24LR Door Handle Assembly - Left Rear Exterior	The switch has a normally open contact. When the switch is activated, the signal circuit to the control module is grounded.
A24RR Door Handle Assembly - Right Rear Exterior	The switch has a normally open contact. When the switch is activated, the signal circuit to the control module is grounded.
K84 Keyless Entry Control Module	The control module also reads various switches and sensors and makes their values available via serial data.

Conditions for Running the DTC

Ignition» On / Vehicle» In Service Mode

Conditions for Setting the DTC

B1534 02

Left Rear Door Handle Switch Signal=Short to Ground - For greater than 60 s

B1535 02

Right Rear Door Handle Switch Signal=Short to Ground - For greater than 60 s

Actions Taken When the DTC Sets

B1534 02

A24LR Door Handle Assembly - Left Rear Exterior=Disabled

B1535 02

A24RR Door Handle Assembly - Right Rear Exterior=Disabled

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Component View Reference

Door Component Views

Electrical Information Reference

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

Scan Tool Reference

Control Module References

Circuit/System Verification

1. Ignition» On / Vehicle» In Service Mode
2. Verify the scan tool parameter: Exterior Left Rear Door Handle Switch= Inactive
 - **If not the specified state**
Refer to: Circuit/System Testing
 - **If the specified state**
3. Verify the scan tool parameter: Exterior Right Rear Door Handle Switch= Inactive
 - **If not the specified state**
Refer to Circuit/System Testing
 - **If the specified state**
4. Operate the component: A24LR Door Handle Assembly - Left Rear Exterior» Pressed
Verify the scan tool parameter: Exterior Left Rear Door Handle Switch=Active
 - **If not the specified state**
Refer to Circuit/System Testing
 - **If the specified state**
5. Operate the component: A24RR Door Handle Assembly - Right Rear Exterior» Pressed
Verify the scan tool parameter: Exterior Right Rear Door Handle Switch=Active
 - **If not the specified state**
Refer to Circuit/System Testing
 - **If the specified state**
6. All OK.

Circuit/System Testing

1. Ignition/Vehicle & All vehicle systems» Off

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

2. Disconnect the appropriate electrical connector: A24LR Door Handle Assembly - Left Rear Exterior or A24RR Door Handle Assembly - Right Rear Exterior
3. Test for less than 10 Ω between the test points: Ground circuit terminal 5 & Ground
 - **If 10 Ω or greater**
 1. Ground Connection» Disconnect
 2. Test for less than 2 Ω between the test points: Ground circuit terminal 5 @ Component harness & Ground Connection
 - 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**
4. Ignition» On / Vehicle» In Service Mode
5. Verify the scan tool parameter: Exterior Door Handle Switch Circuit=Inactive
 - **If not the specified state**
 1. Ignition/Vehicle » Off
 2. Disconnect the electrical connector: X2 K84 Keyless Entry Control Module
 3. Test for infinite resistance between the test points: Signal circuit terminal 1 @ Component harness & Ground
 - If less than infinite resistance» Repair the short to ground on the circuit.
 - If infinite resistance» Replace the component: K84 Keyless Entry Control Module
 - **If the specified state**
6. Connect a 3 A fused jumper wire between the test points: Signal circuit terminal 1 & Ground circuit terminal 5
7. Verify the scan tool parameter: Exterior Door Handle Switch Circuit= Active
 - **If not the specified state**
 1. Ignition/Vehicle» Off & Remove» Jumper wire(s)
 2. Disconnect the electrical connector: X2 K84 Keyless Entry Control Module
 3. Ignition On/Vehicle in Service Mode.
 4. Test for less than 1 V between the test points: Signal circuit terminal 1 @ Component harness & Ground
 - If 1 V or greater» Repair the short to voltage on the circuit.
 - If less than 1 V
 5. Ignition/Vehicle» Off
 6. Test for less than 2 Ω between the test points:
 - A24LR Door Handle Assembly - Left Rear Exterior Signal circuit terminal 1 @ Component harness & Terminal 2 X2 @ Control module harness
 - A24RR Door Handle Assembly - Right Rear Exterior Signal circuit terminal 1 @ Component harness & Terminal 1 X2 @ Control module harness
 - If 2 Ω or greater» Repair the open/high resistance in the circuit.
 - If less than 2 Ω » Replace the component: K84 Keyless Entry Control Module
 - **If the specified state**
8. Test or replace the component: A24 Door Handle Assembly

Component Testing

1. Ignition/Vehicle» Off
2. Disconnect the appropriate electrical connector: A24LR Door Handle Assembly - Left Rear Exterior or A24RR Door Handle Assembly - Right Rear Exterior

3. Test for infinite resistance between the test points: Signal terminal 1 & Ground terminal 5 - The switch is in the open position.

- **If less than infinite resistance**

Replace the component: A24 Door Handle Assembly

- **If infinite resistance**

4. Test for less than 3 Ω between the test points: Signal terminal 1 & Ground terminal 5 - The switch is in the closed position.

- **If 3 Ω or greater**

Replace the component: A24 Door Handle Assembly

- **If less than 3 Ω**

5. All OK.

Repair Instructions

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

- [Rear Side Door Outside Handle Replacement](#)
- For control module replacement, programming and setup, refer to [Control Module References](#)

DTC B153A: POWER LIFTGATE LATCH SWITCHES SIGNAL INVALID

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	-	-
Rear Compartment Lid Latch Low Reference	-	B153A 08	-	-

Circuit/System Description

The ratchet and pawl switches are part of the rear compartment lid latch and are used by the liftgate control module to determine the state of the actuator during the process of cinching or unlatching. The ratchet and pawl switches will be inactive when the primary and secondary latches are latched. Each of the rear compartment lid latch switch signal circuits are supplied signal through a resistor and monitored within the liftgate control module. The rear compartment lid 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 and/or the pawl signal circuit, an open/high resistance in the rear compartment lid latch low reference circuit or any incorrect combination of signals from the following switch inputs:

- Ratchet switch
- Pawl switch

Action Taken When the DTC Sets

The liftgate control module will command the rear compartment lid latch to release, but the rear compartment lid 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

Liftgate Schematics (TC2/TL9)

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Luggage Compartment Description and Operation (Without TC2) Luggage Compartment Description and Operation (With TC2)

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/Vehicle in Service Mode.
2. Verify the A23C Liftgate Latch Assembly activates and releases the rear compartment lid when pressing the S46B Liftgate Unlatch Switch.

NOTE: Verify all doors have been commanded UNLOCK with a scan tool

prior to commanding the rear compartment lid to unlatch

- **If the A23C Liftgate Latch Assembly does not release the rear compartment lid**

Refer to Circuit/System Testing.

- **If the A23C Liftgate Latch Assembly does release the rear compartment lid**

3. Verify the scan tool Liftgate Latch Pawl Switch parameter changes between Open and Closed when opening and closing the rear compartment lid.

- **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 rear compartment lid.

- **If the parameter does not change**

Refer to Circuit/System Testing.

- **If the parameter changes**

5. All OK.

Circuit/System Testing

1. Ignition/Vehicle Off and all vehicle systems Off. Disconnect the X2 harness connector at the K39 Liftgate Control Module. It may take up to 2 minutes for all vehicle systems to power down.

2. Test for less than 10 Ω between the ground circuit terminal 6 and ground.

- **If 10 Ω or greater**

1. Ignition/Vehicle Off.

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

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

- **If less than 10 Ω**

3. Ignition On/Vehicle in Service Mode.

4. Verify a test lamp illuminates between the B+ circuit terminal 3 and ground.

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

1. Ignition/Vehicle Off.

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

- If 2 Ω or greater, repair the open/high resistance in the circuit.
- If less than 2 Ω , verify the fuse is not open and there is voltage at the fuse.

- **If the test lamp does not illuminate and the circuit fuse is open**

1. Ignition/Vehicle Off.

2. Test for infinite resistance between the B+ circuit and ground.

- If less than infinite resistance, repair the short to ground on the circuit.
- If infinite resistance, replace the K39 Liftgate Control Module.

- **If the test lamp illuminates**

5. Ignition/Vehicle Off and all vehicle systems Off. Connect the X2 harness connector at the K39 Liftgate Control Module. Disconnect the harness connector at the A23C Liftgate Latch Assembly. It may take up to 2 minutes for all vehicle systems to power down.

6. Test for less than 10 Ω between the low reference circuit terminal 6 and ground.

- **If 10 Ω or greater**

1. Disconnect the harness connector at the K39 Liftgate Control Module.

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

- If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K39 Liftgate Control Module.
 - **If less than 10 Ω**
7. Ignition On/Vehicle in Service Mode.
 8. Verify the scan tool Liftgate Latch Pawl Switch parameter is Closed.
 - **If not Closed**
 1. Ignition/Vehicle Off. Disconnect the harness connector at the K39 Liftgate Control Module.
 2. Test for infinite resistance between the signal circuit terminal 3 and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the K39 Liftgate Control Module.
 - **If Closed**
 9. Install a 3 A fused jumper wire between the signal circuit terminal 3 and the low reference circuit terminal 6.
 10. Verify the scan tool Liftgate Latch Pawl Switch parameter is Open
 - **If not Open**
 1. Ignition/Vehicle Off. Remove the 3 A fused jumper wire, disconnect the harness connector at the K39 Liftgate Control Module, Ignition On/Vehicle in Service Mode.
 2. Test for less than 1 V between the signal circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V
 3. Test for less than 2 Ω in the signal circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K39 Liftgate Control Module.
 - **If Open**
 11. Verify the scan tool Liftgate Ajar Switch parameter is Closed.
 - **If not Closed**
 1. Ignition/Vehicle Off. Disconnect the harness connector at the K39 Liftgate Control Module.
 2. Test for infinite resistance between the signal circuit terminal 2 and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the K39 Liftgate Control Module.
 - **If Closed**
 12. Install a 3 A fused jumper wire between the signal circuit terminal 2 and the low reference circuit terminal 6.
 13. Verify the scan tool Liftgate Ajar Switch parameter is Open
 - **If not Open**
 1. Ignition/Vehicle Off. Remove the 3 A fused jumper wire, disconnect the harness connector at the K39 Liftgate Control Module, Ignition On/Vehicle in Service Mode.
 2. Test for less than 1 V between the signal circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V
 3. Test for less than 2 Ω in the signal circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K39 Liftgate Control Module.
 - **If Open**
 14. Test or replace the A23C Liftgate Latch Assembly.

Repair Instructions

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

- [Rear Compartment Lid Latch Replacement](#)

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

DTC B153E: LIFTGATE POSITION SENSOR SIGNAL CIRCUIT PERFORMANCE

Diagnostic Instructions

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

DTC Descriptor

DTC B153E

Liftgate Position Sensor Signal Circuit Performance

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

Diagnostic Fault Information

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

Circuit/System Description

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

Conditions for Running the DTC

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

Conditions for Setting the DTC

B153E 01

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

B153E 02

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

B153E 04

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

B153E 08

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

Action Taken When the DTC Sets

The power deck lid will open and close erratically.

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

Liftgate Schematics (TC2/TL9)

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Luggage Compartment Description and Operation (Without TC2) Luggage Compartment Description and Operation (With TC2)

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/Vehicle in Service Mode.
2. Verify the trunk lid will release and smoothly power open and close when commanding Liftgate Open/Close with a scan tool.
 - **If the trunk lid releases but performs an erratic power open/close motion**
Refer to Circuit/System Testing
 - **If the trunk lid does smoothly power open and close**
3. All OK.

Circuit/System Testing

1. Ignition/Vehicle Off. Disconnect the harness connector at the M17 Liftgate Motor Assembly.
2. Test for less than 20 Ω between the low reference circuit terminal 3 and ground.
 - **If 20 Ω or greater**
 1. Ignition OFF, disconnect the harness connector at the K39 Liftgate Control Module
 2. Test for less than 2 Ω in the low reference circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K39 Liftgate Control Module.
 - **If less than 20 Ω**

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

- **If 11 V or less**

1. Ignition/Vehicle Off. Disconnect the X3 harness connector at the K39 Liftgate Control Module.

2. Test for infinite resistance between the 12 V reference circuit and ground.

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

3. Test for less than 2 Ω in the 12 V reference circuit end to end.

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

- **If greater than 11 V**

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

- **If 11 V or less**

1. Ignition/Vehicle Off. Disconnect the X3 harness connector at the K39 Liftgate Control Module.

2. Test for infinite resistance between the Position Sensor Signal 1 circuit and ground.

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

3. Test for less than 2 Ω in the Position Sensor Signal 1 circuit end to end.

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

- **If greater than 11 V**

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

- **If 11 V or less**

1. Ignition/Vehicle Off. Disconnect the X3 harness connector at the K39 Liftgate Control Module.

2. Test for infinite resistance between the Position Sensor Signal 2 circuit and ground.

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

3. Test for less than 2 Ω in the Position Sensor Signal 2 circuit end to end.

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

- **If greater than 11 V**

6. Replace the M17 Liftgate Motor Assembly.

Repair Instructions

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

- [Rear Compartment Lid Power Assist Actuator Replacement](#)
- [Control Module References](#) for the liftgate control module replacement, setup and programming

DTC B2494: LIFTGATE HANDLE SWITCH CIRCUIT

Diagnostic Instructions

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

DTC Descriptor

DTC B2494 00

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal	B2494 02	1	1	-
Ground	-	1	-	-
1. S46B Liftgate Unlatch Switch=Disabled				

Circuit/System Description

For an overview of the component/system, refer to: [Luggage Compartment Description and Operation \(Without TC2\)](#), [Luggage Compartment Description and Operation \(With TC2\)](#)

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

Component	Description
S46B Liftgate Unlatch Switch	- The switch has a normally open contact. - When the switch is activated, the signal circuit to the control module is grounded.
K9 Body Control Module	The module controls various vehicle functions like lighting, central door locking, power windows, etc.

Conditions for Running the DTC

Ignition » On / Vehicle » In Service Mode

Conditions for Setting the DTC

Signal circuit=Short to Ground - For greater than 60 s

Actions Taken When the DTC Sets

S46B Liftgate Unlatch Switch=Disabled

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

Liftgate Schematics (TC2/TL9)

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Component View Reference

Luggage Compartment/Rear of Vehicle Component Views

Electrical Information Reference

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

Scan Tool Reference

[Control Module References](#)

[Circuit/System Verification](#)

1. IgnitionÂ» On / VehicleÂ» In Service Mode
2. Verify the scan tool parameter: Liftgate Handle Switch=Inactive
 - **If not the specified state**
Refer to Circuit/System Testing
 - **If the specified state**
3. Operate the component: S46B Liftgate Unlatch SwitchÂ» Pressed
Verify the scan tool parameter: Liftgate Handle Switch=Active
 - **If not the specified state**
Refer to Circuit/System Testing
 - **If the specified state**
4. All OK.

[Circuit/System Testing](#)

1. Ignition/Vehicle & All vehicle systemsÂ» Off

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

2. Disconnect the electrical connector: S46B Liftgate Unlatch Switch
3. Test for less than 10 Ω between the test points: Low Reference circuit terminal 2 & Ground
 - **If 10 Ω or greater**
 1. Disconnect the electrical connector: K39 Liftgate Control Module
 2. Test for less than 2 Ω between the test points: Low Reference circuit terminal 2 @ Component harness & Terminal 16 X1 @ Control module harness
 - If 2 Ω or greaterÂ» Repair the open/high resistance in the circuit.
 - If less than 2 Ω Â» Replace the component: K39 Liftgate Control Module
 - **If less than 10 Ω**
4. IgnitionÂ» On / VehicleÂ» In Service Mode
5. Verify the scan tool parameter: Liftgate Handle Switch=Inactive
 - **If not the specified state**
 1. Ignition/VehicleÂ» Off
 2. Disconnect the electrical connector: K39 Liftgate Control Module
 3. Test for infinite resistance between the test points: Signal circuit terminal 1 @ Component harness & Ground
 - If less than infinite resistanceÂ» Repair the short to ground on the circuit.
 - If infinite resistanceÂ» Replace the component: K39 Liftgate Control Module
 - **If the specified state**

6. Connect a 3 A fused jumper wire between the test points: Signal circuit terminal 1 & Low Reference circuit terminal 2
7. Verify the scan tool parameter: Liftgate Handle Switch=Active
 - **If not the specified state**
 1. Ignition/Vehicle » Off & Remove » Jumper wire(s)
 2. Disconnect the electrical connector: K39 Liftgate Control Module
 3. Ignition » On / Vehicle » In Service Mode
 4. Test for less than 1 V between the test points: Signal circuit terminal 1 @ Component harness & Ground
 - If 1 V or greater » Repair the short to voltage on the circuit.
 - If less than 1 V
 5. Ignition/Vehicle » Off
 6. Test for less than 2 Ω between the test points: Signal circuit terminal 1 @ Component harness & Terminal 14 X1 @ Control module harness
 - If 2 Ω or greater » Repair the open/high resistance in the circuit.
 - If less than 2 Ω » Replace the component: K39 Liftgate Control Module
 - **If the specified state**
8. Test or replace the component: S46B Liftgate Unlatch Switch

Component Testing

1. Ignition/Vehicle » Off
2. Disconnect the electrical connector: S46B Liftgate Unlatch Switch
3. Test for infinite resistance between the test points: Signal terminal 1 & Low Reference terminal 2 - Switch Not Pressed
 - **If less than infinite resistance**
Replace the component: S46B Liftgate Unlatch Switch
 - **If infinite resistance**
4. Test for less than 3 Ω between the test points: Signal terminal 1 & Low Reference terminal 2 - Switch » Pressed
 - **If 3 Ω or greater**
Replace the component: S46B Liftgate Unlatch Switch
 - **If less than 3 Ω**
5. All OK.

Repair Instructions

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

- [Liftgate Release Switch Replacement](#)
- For control module replacement, programming and setup, refer to [Control Module References](#)

DTC B2495: LIFTGATE LATCH CONTROL CIRCUIT

Diagnostic Instructions

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

DTC Descriptors

DTC B2495

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

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Latch Control Terminal 1	B2495 02	B2495 04	B2495 01	-
Latch Control Terminal 4	B2495 02	B2495 04	B2495 01	-

Circuit/System Description

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

Conditions for Running the DTC

The system voltage is 9-16 V.

Conditions for Setting the DTC

B2495 01

The liftgate control module detects a short to battery in the cinch control circuit or the release control circuit.

B2495 02

The liftgate control module detects a short to ground in the cinch control circuit or the release control circuit.

B2495 04

The liftgate control module detects an open/high resistance in the cinch control circuit or the release control circuit.

Action Taken When the DTC Sets

The liftgate latch assembly will be inoperative.

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

Liftgate Schematics (TC2/TL9)

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Luggage Compartment Description and Operation (Without TC2) Luggage Compartment Description and Operation (With TC2)

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/Vehicle in Service Mode.
2. Verify the A23C Liftgate Latch Assembly activates and releases the rear compartment lid when pressing the S46B Liftgate Unlatch Switch.

NOTE: The keyless entry transmitter must be within 1 m (3 feet) of the rear compartment lid

- **If the A23C Liftgate Latch Assembly does not release**

Refer to Circuit/System Testing

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

3. Verify the A23C Liftgate Latch Assembly cinches the rear compartment lid to the fully closed position when gently pushing the rear compartment lid closed.

- **If the A23C Liftgate Latch Assembly does not cinch**

Refer to Circuit/System Testing

- **If the A23C Liftgate Latch Assembly cinch works**

4. All OK.

Circuit/System Testing

1. Ignition/Vehicle OFF, disconnect the X2 harness connector at the K39 Liftgate Control Module.
2. Test for less than 1 V between the control circuit terminals listed below and ground:

- Control circuit terminal 1 X2
- Control circuit terminal 2 X2
- **If 1 V or greater**

1. Ignition/Vehicle OFF, disconnect the harness connector at the A23C Liftgate Latch Assembly. Ignition ON/Vehicle in Service Mode.

2. Test for less than 1 V between the control circuit and ground.

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

- **If less than 1 V**

3. Test for infinite resistance between the control circuit terminals listed below and ground:

- Control circuit terminal 1 X2
- Control circuit terminal 2 X2
- **If less than infinite resistance**

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

2. Test for infinite resistance between the control circuit and ground.

- If less than infinite resistance, repair the short to ground on the circuit.
- If infinite resistance, replace the A23C Liftgate Latch Assembly.

- **If infinite resistance**

4. Test for less than 10 Ω between the control circuit terminal 1 and the control circuit terminal 2.

- **If 10 Ω or greater**

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

2. Test for less than 2 Ω between the K39 Liftgate Control Module control circuit terminal 1 and the A23C Liftgate Latch Assembly control circuit terminal 4.

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

3. Test for less than 2 Ω between the K39 Liftgate Control Module control circuit terminal 2 and the A23C Liftgate Latch Assembly control circuit terminal 1.

- 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.

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

DTC B2730: INTERIOR LIFTGATE UNLATCH SWITCH CIRCUIT

Diagnostic Instructions

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

DTC Descriptor

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

DTC B2730 00

Interior Liftgate Unlatch Switch Circuit

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal	B2730 00	1	1	-
Ground	-	1	-	-
1. Rear Compartment Lid Release Switch=Disabled				

Typical Scan Tool Data

Interior Trunk Lid/Liftgate Window Unlatch Switch

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

Circuit	Short to Ground	Open	Short to Voltage
Ground	-	Inactive	-

Circuit/System Description

Circuit	Description
Signal	The control module input circuit has an internal resistance connected to 1 V.
Ground	Chassis Ground

Component	Description
S58B Rear Compartment Lid Unlatch Switch - Interior	The switch has a normally open contact. When the switch is activated, the signal circuit to the control module is grounded.
K9 Body Control Module	The module controls various vehicle functions like lighting, central door locking, power windows, etc.

Conditions for Running the DTC

Ignition=On

Conditions for Setting the DTC

Signal circuit=Short to Ground - For greater than 60 s

Actions Taken When the DTC Sets

S58B Rear Compartment Lid Unlatch Switch - Interior=Disabled

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Luggage Compartment Description and Operation (Without TC2) Luggage Compartment Description and Operation (With TC2)

Electrical Information Reference

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

Scan Tool Reference

Control Module References

Circuit/System Verification

1. Ignition On/Vehicle in Service Mode.
2. Verify the scan tool parameter: Interior Trunk Lid/Liftgate Window Unlatch Switch=Inactive
 - **If not the specified state**
Refer to Circuit/System Testing
 - **If the specified state**
3. Operate the component: S58B Rear Compartment Lid Unlatch Switch - Interior » Pressed
Verify the scan tool parameter: Interior Trunk Lid/Liftgate Window Unlatch Switch=Active
 - **If not the specified state**
Refer to Circuit/System Testing
 - **If the specified state**
4. All OK.

Circuit/System Testing

1. Ignition/Vehicle Off and all vehicle systems Off.

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

2. Disconnect the electrical connector: S58B Rear Compartment Lid Unlatch Switch - Interior
3. Test for less than 10 Ω between the test points: Ground circuit terminal 2 & Ground
 - **If 10 Ω or greater**
 1. Disconnect the ground connection: G301
 2. Test for less than 2 Ω between the test points: Ground circuit terminal 2 @ Component harness & Terminal G301
 - 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**
4. Ignition On/Vehicle in Service Mode.
5. Verify the scan tool parameter: Interior Trunk Lid/Liftgate Window Unlatch Switch = Inactive
 - **If not the specified state**
 1. Ignition/Vehicle Off.
 2. Disconnect the electrical connector: K9 Body Control Module
 3. Test for infinite resistance between the test points: Signal circuit terminal 5 @ Component harness & Ground
 - If less than infinite resistance » Repair the short to ground on the circuit.
 - If infinite resistance » Replace the component: K9 Body Control Module
 - **If the specified state**
6. Connect a 3 A fused jumper wire between the test points: Signal circuit terminal 5 & Ground circuit terminal 2
7. Verify the scan tool parameter: Interior Trunk Lid/Liftgate Window Unlatch Switch=Active
 - **If not the specified state**
 1. Ignition/Vehicle Off. Remove » Jumper Wire
 2. Disconnect the electrical connector: K9 Body Control Module
 3. Ignition On/Vehicle in Service Mode.
 4. Test for less than 1 V between the test points: Signal circuit terminal 5 @ Component harness & Ground
 - If 1 V or greater » Repair the short to voltage on the circuit.

- If less than 1 V
- Ignition/Vehicle Off.
 - Test for less than 2 Ω between the test points: Signal circuit terminal 5 @ Component harness & Terminal 14 X6 @ Control module harness
 - If 2 Ω or greater $\hat{A}$ » Repair the open/high resistance in the circuit.
 - If less than 2 $\Omega \hat{A}$ » Replace the component: K9 Body Control Module
 - If the specified state**
 - Test or replace the component: S58B Rear Compartment Lid Unlatch Switch - Interior

Component Testing

S58B Rear Compartment Lid Unlatch Switch - Interior

- Ignition/Vehicle Off.
- Disconnect the electrical connector: S58B Rear Compartment Lid Unlatch Switch - Interior
- Test for infinite resistance between the test points: Signal terminal 5 & Ground terminal 2 - The switch is in the open position.
 - **If less than infinite resistance**
Replace the component: S58B Rear Compartment Lid Unlatch Switch - Interior
 - **If infinite resistance**
- Test for less than 3 Ω between the test points: Signal terminal 5 & Ground terminal 2 - The switch is in the closed position.
 - **If 3 Ω or greater**
Replace the component: S58B Rear Compartment Lid Unlatch Switch - Interior
 - **If less than 3 Ω**
- All OK.

Repair Instructions

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

- [Rear Compartment Lid Release Switch Replacement](#)
- For control module replacement, programming and setup, refer to [Control Module References](#)

DTC B297B OR B297C: DRIVER DOOR OPEN SWITCH CIRCUIT

Diagnostic Instructions

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

DTC Descriptor

DTC B297B

Driver Door Open Switch Circuit

Symptom Byte Information: [Symptom Byte List](#)

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal	B297B 5A	B297B 5A	B297B 5A	-

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Ground	-	1	-	-
1. Door Ajar Indicator» Driver Door=Always Off				

Typical Scan Tool Data

Body Control Module» Driver Door Ajar Switch

Circuit	Short to Ground	Open	Short to Voltage
Operating Conditions: Ignition» On / Vehicle» In Service Mode Parameter Normal Range: - Inactive - Driver Door» Closed - Active - Driver Door» Open			
Signal	Active	Inactive	Inactive
Ground	-	Inactive	-

Keyless Entry Control Module» Driver Door Ajar Switch

Circuit	Short to Ground	Open	Short to Voltage
Operating Conditions: Ignition» On / Vehicle» In Service Mode Parameter Normal Range: - Inactive - Driver Door» Closed - Active - Driver Door» Open			
Signal	Active	Inactive	Inactive
Ground	-	Inactive	-

Circuit/System Description

For an overview of the component/system, refer to [Steering Wheel and Column Description and Operation](#)

Circuit	Description
Signal	The control module input circuit has an internal resistance connected to 12 V.
Ground	Chassis Ground

Component	Description
A23D Door Latch Assembly - Driver	The switch has a normally open contact. When the switch is activated, the signal circuit to the control module is grounded.
K84 Keyless Entry Control Module	The control module also reads various switches and sensors and makes their values available via serial data.

Conditions for Running the DTC

Ignition» On / Vehicle» In Service Mode

Conditions for Setting the DTC

DTC B297B 5A may set when there is a condition with the component circuits:

- Driver Door Open Switch Circuit=Open/High Resistance & Left Front Door Ajar Circuit=Normal
- Driver Door Open Switch Circuit=Short to Ground & Left Front Door Ajar Circuit=Normal
- Left Front Door Ajar Circuit=Open/High Resistance & Driver Door Open Switch Circuit=Normal

- Left Front Door Ajar Circuit=Short to Ground & Driver Door Open Switch Circuit=Normal

Actions Taken When the DTC Sets

- Driver Information Display= Service Driver Door Switch
- Audible Reminders= Continuously

Conditions for Clearing the DTC

- The conditions for setting the DTC no longer exist.
- A history DTC will clear after 50 consecutive malfunction-free ignition cycles.

Reference Information

Schematic Reference

- [Door Lock/Indicator Schematics](#)
- [Remote Function Schematics](#)
- [Column Lock Schematics](#)

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Component View Reference

Door Component Views

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. IgnitionÂ» On / VehicleÂ» In Service Mode
2. Operate the component: Driver DoorÂ» Open

Verify the scan tool parameter: Body Control ModuleÂ» Driver Door Ajar Switch=Active

- **If not the specified state**

Refer to:[Door Ajar Indicator Malfunction](#)

- **If the specified state**

3. Verify the scan tool parameter: Keyless Entry Control ModuleÂ» Driver Door Ajar Switch=Active

- **If not the specified state**

Refer to Circuit/System Testing

- **If the specified state**

4. Operate the component: Driver DoorÂ» Closed

Verify the scan tool parameter: Body Control ModuleÂ» Driver Door Ajar Switch=Inactive

- **If not the specified state**

Refer to [Door Ajar Indicator Malfunction](#)

- **If the specified state**

5. Verify the scan tool parameter: Keyless Entry Control Module » Driver Door Ajar Switch=Inactive

- **If not the specified state**

Refer to Circuit/System Testing

- **If the specified state**

6. All OK.

Circuit/System Testing

1. Ignition/Vehicle & All vehicle systems » Off

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

2. Disconnect the electrical connector. A23D Door Latch Assembly - Driver

3. Test for less than 10 Ω between the test points: Ground circuit terminal 3 & Ground

- **If 10 Ω or greater**

1. Ground Connection » Disconnect

2. Test for less than 2 Ω between the test points: Ground circuit terminal 3 @ Component harness & Ground Connection

- 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**

4. Ignition » On / Vehicle » In Service Mode

5. Verify the scan tool parameter: Driver Door Ajar Switch=Inactive

- **If not the specified state**

1. Ignition/Vehicle » Off

2. Disconnect the electrical connector: K84 Keyless Entry Control Module

3. Test for infinite resistance between the test points: Signal circuit terminal 2 @ Component harness & Ground

- If less than infinite resistance » Repair the short to ground on the circuit.
- If infinite resistance » Replace the component: K84 Keyless Entry Control Module

- **If the specified state**

6. Connect a 3 A fused jumper wire between the test points: Signal circuit terminal 2 & Ground circuit terminal 3

7. Verify the scan tool parameter: Driver Door Ajar Switch=Active

- **If not the specified state**

1. Ignition/Vehicle » Off & Remove » Jumper wire(s)

2. Disconnect the electrical connector: K84 Keyless Entry Control Module

3. Ignition » On / Vehicle » In Service Mode

4. Test for less than 1 V between the test points: Signal circuit terminal 2 @ Component harness & Ground

- If 1 V or greater » Repair the short to voltage on the circuit.
- If less than 1 V

5. Ignition/Vehicle » Off

6. Test for less than 2 Ω between the test points: Signal circuit terminal 2 @ & Signal circuit terminal 9 X1 @ Control module harness

- If 2 Ω or greater » Repair the open/high resistance in the circuit.
- If less than 2 Ω » Replace the component: K84 Keyless Entry Control Module

- **If the specified state**

8. Test or replace the component: A23D Door Latch Assembly - Driver

Component Testing

1. Ignition/Vehicle » Off

2. Disconnect the electrical connector: A23D Door Latch Assembly - Driver

3. Test for infinite resistance between the test points: Signal terminal 2 & Ground terminal 3 - The switch is in the open position.

- **If less than infinite resistance**

Replace the component: A23D Door Latch Assembly - Driver

- **If infinite resistance**

4. Test for less than 3 Ω between the test points: Signal terminal 2 & Ground terminal 3 - The switch is in the closed position.

- **If 3 Ω or greater**

Replace the component: A23D Door Latch Assembly - Driver

- **If less than 3 Ω**

5. All OK.

Repair Instructions

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

- [Front Side Door Latch Replacement](#)
- For control module replacement, programming and setup, refer to [Control Module References](#)

DTC B3125, B3130 OR B3135: DOOR LOCK/UNLOCK CIRCUIT

Diagnostic Instructions

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

DTC Descriptor

DTC B3125

Driver Door Only Unlock Circuit

DTC B3130

All Doors Unlock Circuit

DTC B3135

All Doors Lock Circuit

Symptom Byte Information:

[Symptom Byte List](#)

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Short to Voltage
B+ - Body Control Module	B3125 02, B3130 02, B3135 02	B3125 02, B3130 02, B3135 02	-	-
Ground - Body Control Module	-	1, 2, 3, 4	-	-
Control - A23D Door Latch Assembly - Driver	B3125 02, B3130 02, B3135 02	1	B3125 01, B3130 01, B3135 01	-
Control - A23P Door Latch Assembly - Passenger	B3125 02, B3130 02, B3135 02	2	B3125 01, B3130 01, B3135 01	-
Control - A23LR Door Latch Assembly - Left Rear	B3125 02, B3130 02, B3135 02	3	B3125 01, B3130 01, B3135 01	-
Control - A23RR Door Latch Assembly - Right Rear	B3125 02, B3130 02, B3135 02	4	B3125 01, B3130 01, B3135 01	-
1. A23D Door Latch Assembly - Driver=Inoperative 2. A23P Door Latch Assembly - Passenger=Inoperative 3. A23LR Door Latch Assembly - Left Rear=Inoperative 4. A23RR Door Latch Assembly - Right Rear=Inoperative				

Circuit/System Description

For an overview of the component/system, refer to [Power Door Locks Description and Operation](#)

Circuit	Description
B+ - Body Control Module	Supplied from a fuse.
Ground - Body Control Module	Chassis Ground
Control Driver Door Unlock	The output circuit is switched from ground to 12 V to activate the component.
Control All Doors Lock	The output circuit is switched from ground to 12 V to activate the component.
Control Passenger Door Unlock	The output circuit is switched from ground to 12 V to activate the component.

Component	Description
A23D Door Latch Assembly - Driver	The door locks are actuated by a bidirectional DC motor that locks/unlocks the door so that it can not be opened from outside the vehicle (but still from inside).
A23P Door Latch Assembly - Passenger	The door locks are actuated by a bidirectional DC motor that locks/unlocks the door so that it can not be opened from outside the vehicle (but still from inside).
A23LR Door Latch Assembly - Left Rear	The door locks are actuated by a bidirectional DC motor that locks/unlocks the door so that it can not be opened from outside the vehicle (but still from inside).
A23RR Door Latch Assembly - Right Rear	The door locks are actuated by a bidirectional DC motor that locks/unlocks the door so that it can not be opened from outside the vehicle (but still from inside).
K9 Body Control Module	The module controls various vehicle functions like lighting, central door locking, power windows, etc. The control module also reads various switches and sensors and makes their values available via serial data.

Conditions for Running the DTC

Ignition» On / Vehicle» In Service Mode

Conditions for Setting the DTC

- B3125 01, B3130 01, B3135 01» Control Circuit=Short to Voltage
- B3125 02, B3130 02, B3135 02» Control Circuit=Short to Ground
- B3125 02, B3130 02, B3135 02» B+ circuit @ K9 Body Control Module=Short to Ground/Open/High Resistance

Actions Taken When the DTC Sets

All Doors Lock Command & All Doors Unlock Command=Inoperative

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

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

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Component View Reference

Door Component Views

Electrical Information Reference

- [Circuit Testing](#)
- [Connector Repairs](#)
- [Testing for Intermittent Conditions and Poor Connections](#)
- [Wiring Repairs](#)
- [Relay Replacement \(Attached to Wire Harness\)](#) [Relay Replacement \(Within an Electrical Center\)](#)

Scan Tool Reference

Control Module References

Circuit/System Verification

1. Ignition» On / Vehicle» In Service Mode
2. Operate the component: S13D Door Lock Switch - Driver» Lock & Unlock

Verify the scan tool parameter: Driver Door Lock Switch=Inactive & Lock & Unlock

- **If not the specified state**

Refer to [Power Door Locks Malfunction](#)

- **If the specified state**

3. Operate the component: S13P Door Lock Switch - Passenger» Lock & Unlock

Verify the scan tool parameter: Passenger Door Lock Switch=Inactive & Lock & Unlock

- **If not the specified state**

Refer to **Power Door Locks Malfunction**

- **If the specified state**

4. Operate the component: S13D Door Lock Switch - Driver » Lock & Unlock

Verify the component works as specified:

- A23D Door Latch Assembly - Driver = Lock & Unlock
- A23LR Door Latch Assembly - Left Rear = Lock & Unlock
- A23P Door Latch Assembly - Passenger = Lock & Unlock
- A23RR Door Latch Assembly - Right Rear = Lock & Unlock
- **If the component does not activate » A23D Door Latch Assembly - Driver**

Refer to Circuit/System Testing - Test 1

- **If the component does not activate » A23LR Door Latch Assembly - Left Rear**

Refer to Circuit/System Testing - Test 2

- **If the component does not activate » A23P Door Latch Assembly - Passenger**

Refer to Circuit/System Testing - Test 2

- **If the component does not activate » A23RR Door Latch Assembly - Right Rear**

Refer to Circuit/System Testing - Test 2

- **If none of the components operate**

Refer to Circuit/System Testing - Test 3

- **If all functions work properly**

5. All OK.

Circuit/System Testing

Test 1

1. Ignition/Vehicle & All vehicle systems » Off
2. Disconnect the electrical connector: A23D Door Latch Assembly - Driver
3. Connect a test lamp between the test points: Control circuit terminal 7 & Control circuit terminal 8
4. Ignition » On / Vehicle » In Service Mode
5. Operate the component: S13D Door Lock Switch - Driver » Lock & Unlock
6. Verify the test lamp does not turn On and Off.

- **If the test lamp turns On and Off**

Test or replace the component: A23D Door Latch Assembly - Driver

- **If the test lamp does not turn On and Off**

7. Ignition/Vehicle » Off

8. Disconnect the electrical connector: X6 K9 Body Control Module

9. Test for less than 2 Ω between the test points:

- Control circuit terminal 7 @ A23D Door Latch Assembly - Driver & Terminal 1 X6 @ Control module harness
- Control circuit terminal 8 @ A23D Door Latch Assembly - Driver & Terminal 4 X6 @ Control module harness
- If 2 Ω or greater » Repair the open/high resistance in the circuit.

- **If less than 2 Ω**

10. Test or replace the component: K9 Body Control Module

Test 2

1. Ignition/Vehicle $\hat{A}$ » Off
2. Disconnect the appropriate electrical connector:
 - A23LR Door Latch Assembly - Left Rear
 - A23P Door Latch Assembly - Passenger
 - A23RR Door Latch Assembly - Right Rear
3. Connect a test lamp between the test points:
 - A23P Door Latch Assembly - Passenger Control circuit terminal 8 & Control circuit terminal 9
 - A23LR Door Latch Assembly - Left Rear Control circuit terminal 7 & Control circuit terminal 8
 - A23RR Door Latch Assembly - Right Rear Control circuit terminal 8 & Control circuit terminal 9
4. Ignition $\hat{A}$ » On / Vehicle $\hat{A}$ » In Service Mode
5. Operate the component: S13D Door Lock Switch - Driver $\hat{A}$ » Lock & Unlock
6. Verify the test lamp does not turn On and Off.
 - **If the test lamp turns On and Off**
 Test or replace the component: A23 Door Latch Assembly
 - **If the test lamp does not turn On and Off**
7. Ignition/Vehicle $\hat{A}$ » Off
8. Disconnect the electrical connector: X6 K9 Body Control Module
9. Ignition $\hat{A}$ » On / Vehicle $\hat{A}$ » In Service Mode
10. Test for less than 2 Ω between the test points:
 - Control circuit terminal 7 @ A23LR Door Latch Assembly - Left Rear & Terminal 2 X6 @ Control module harness
 - Control circuit terminal 8 @ A23LR Door Latch Assembly - Left Rear & Terminal 4 X6 @ Control module harness
 - Control circuit terminal 8 @ A23P Door Latch Assembly - Passenger & Terminal 4 X6 @ Control module harness
 - Control circuit terminal 9 @ A23P Door Latch Assembly - Passenger & Terminal 2 X6 @ Control module harness
 - Control circuit terminal 8 @ A23RR Door Latch Assembly - Right Rear & Terminal 4 X6 @ Control module harness
 - Control circuit terminal 9 @ A23RR Door Latch Assembly - Right Rear & Terminal 2 X6 @ Control module harness
 - If 2 Ω or greater $\hat{A}$ » Repair the open/high resistance in the circuit.
 - **If less than 2 Ω**
11. Test or replace the component: K9 Body Control Module

Test 3

1. Ignition/Vehicle $\hat{A}$ » Off

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

2. Disconnect the electrical connector: X2 & X6 K9 Body Control Module
3. Test for less than 10 Ω between the test points: Ground circuit terminal 3 X6 & Ground

- **If 10 Ω or greater**

1. Ground Connection» Disconnect

2. Test for less than 2 Ω between the test points: Ground circuit terminal 3 X6 & Ground Connection

- 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**

4. Ignition » On / Vehicle » In Service Mode

5. Verify a test lamp turns On between the test points: B+ circuit terminal 4 X2 & Ground

- **If the test lamp does not turn On and the circuit fuse is OK**

1. Ignition/Vehicle» Off & Remove» Test lamp

2. Test for less than 2 Ω between the test points: B+ circuit terminal 4 X2 & Output terminal @ Fuse

- If 2 Ω or greater» Repair the open/high resistance in the circuit.
- If less than 2 Ω » Verify the fuse is OK and there is voltage at the fuse.

- **If the test lamp does not turn On and the circuit fuse is open**

1. Ignition/Vehicle» Off & Remove» Test lamp

2. Disconnect the electrical connector:

- A23D Door Latch Assembly - Driver
- A23LR Door Latch Assembly - Left Rear
- A23P Door Latch Assembly - Passenger
- A23RR Door Latch Assembly - Right Rear

3. Test for infinite resistance between the test points:

- Control circuit terminal 2 X6 @ K9 Body Control Module & Ground
- Control circuit terminal 4 X6 @ K9 Body Control Module & Ground
- If less than infinite resistance» Repair the short to ground on the circuit.
- If infinite resistance» Replace the component: A23 Door Latch Assembly

- **If the test lamp turns On**

6. Ignition/Vehicle » Off

7. Connect the electrical connector: X2K9 Body Control Module

8. Ignition» On / Vehicle» In Service Mode

9. Test for less than 1 V between the test points:

- Control circuit terminal 1 X6 @ K9 Body Control Module & Ground
- Control circuit terminal 2 X6 @ K9 Body Control Module & Ground
- Control circuit terminal 4 X6 @ K9 Body Control Module & Ground
- **If greater than 1 V**

Repair the short to voltage on the circuit.

- **If 1 V or less**

10. Ignition/Vehicle» Off

11. Disconnect the electrical connector: X3 @ X50A Fuse Block - Underhood

12. Test for infinite resistance between the test points:

- Control circuit terminal 2 X6 @ K9 Body Control Module & Ground
- Control circuit terminal 4 X6 @ K9 Body Control Module & Ground
- Control circuit terminal 4 X3 @ X50A Fuse Block - Underhood & Ground
- **If less than infinite resistance**

Repair the short to ground on the circuit.

- **If infinite resistance**

13. Connect the electrical connector: X3 @ X50A Fuse Block - Underhood

14. Test for infinite resistance between the test points: Control circuit terminal 1 X6 @ K9 Body Control Module & Ground

- **If less than infinite resistance**

1. Ignition/Vehicle ⌘ Off

2. Disconnect the electrical connector: X3 @ X50A Fuse Block - Underhood

3. Test for infinite resistance between the test points: Control circuit terminal 1 X6 @ K9 Body Control Module & Ground

- If less than infinite resistance⌘ Repair the short to ground on the circuit.
- If infinite resistance⌘ Replace the component: X50A Fuse Block - Underhood

- **If infinite resistance**

15. Replace the component: K9 Body Control Module

Component Testing

1. Ignition/Vehicle ⌘ Off

2. Disconnect the appropriate electrical connector:

- A23D Door Latch Assembly - Driver
- A23P Door Latch Assembly - Passenger
- A23LR Door Latch Assembly - Left Rear
- A23RR Door Latch Assembly - Right Rear

3. Connect a 25 A fused jumper wire between the test points:

- A23D Door Latch Assembly - Driver Control terminal 7 & B+
- A23P Door Latch Assembly - Passenger Control terminal 8 & B+
- A23LR Door Latch Assembly - Left Rear Control terminal 7 & B+
- A23RR Door Latch Assembly - Right Rear Control terminal 8 & B+

4. Momentarily connect a jumper wire between the test points:

CAUTION: Complete the testing as quickly as possible in order to prevent overheating and damaging the component.

- A23D Door Latch Assembly - Driver Control terminal 8 & Ground
- A23P Door Latch Assembly - Passenger Control terminal 9 & Ground
- A23LR Door Latch Assembly - Left Rear Control terminal 8 & Ground
- A23RR Door Latch Assembly - Right Rear Control terminal 9 & Ground

5. Reverse the jumper wires 2 times between the terminals.

Verify the component works as specified: A23 Door Latch Assembly = Lock & Unlock

- **If not the specified state**

Replace the component: A23 Door Latch Assembly

- **If not the specified state**

6. All OK.

Repair Instructions

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

- [Front Side Door Latch Replacement](#)
- [Rear Side Door Latch Replacement](#)
- [Body Wiring Harness Junction Block Replacement](#)
- For control module replacement, programming and setup, refer to [Control Module References](#)

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

Diagnostic Instructions

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

DTC Descriptor

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

DTC B3140 00

Driver Door Unlock Switch Circuit

DTC B3145 00

Passenger Door Unlock Switch Circuit

DTC B3150 00

Driver Door Lock Switch Circuit

DTC B3155 00

Passenger Door Lock Switch Circuit

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal terminal 2 @ S13D Door Lock Switch - Driver	B3150 00	2	2	-
Signal terminal 3 @ S13D Door Lock Switch - Driver	B3140 00	3	3	-
Signal terminal 2 @ S13P Door Lock Switch - Passenger	B3155 00	4	4	-
Signal terminal 3 @ S13P Door Lock Switch - Passenger	B3145 00	5	5	-
S13D Door Lock Switch - Driver - Ground	-	1	-	-
S13P Door Lock Switch - Passenger -Ground	-	6	-	-

1. S13D Door Lock Switch - Driver=Inoperative
2. Driver Door Lock Switch=Inoperative
3. Driver Door Unlock Switch=Inoperative
4. Passenger Door Lock Switch=Inoperative
5. Passenger Door Unlock Switch=Inoperative
6. S13P Door Lock Switch - Passenger=Inoperative

Circuit/System Description

For an overview of the component/system, refer to [Power Door Locks Description and Operation](#)

Circuit	Description
Signal	The control module input circuit has an internal resistance connected to 12 V.
Ground	Chassis Ground

Component	Description
S13D Door Lock Switch - Driver	The switch has a normally open contact. When the switch is activated, the signal circuit to the control module is grounded.
S13P Door Lock Switch - Passenger	The switch has a normally open contact. When the switch is activated, the signal circuit to the control module is grounded.
K9 Body Control Module	The module controls various vehicle functions like lighting, central door locking, power windows, etc.

Conditions for Running the DTC

IgnitionÂ» On / VehicleÂ» In Service Mode

Conditions for Setting the DTC

B3140 00Â» Driver Door Lock Switch Circuit= Short to Ground - For greater than 60 s

B3145 00Â» Passenger Door Unlock Switch Circuit= Short to Ground - For greater than 60 s

B3150 00Â» Driver Door Unlock Switch Circuit= Short to Ground - For greater than 60 s

B3155 00Â» Passenger Door Lock Switch Circuit= Short to Ground - For greater than 60 s

Actions Taken When the DTC Sets

B3140 00Â» Driver Door Lock Switch=Disabled

B3145 00Â» Passenger Door Unlock Switch=Disabled

B3150 00Â» Driver Door Unlock Switch=Disabled

B3155 00Â» Passenger Door Lock Switch=Disabled

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Component View Reference

Door Component Views

Electrical Information Reference

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

- **Wiring Repairs**

Scan Tool Reference

Control Module References

Circuit/System Verification

1. Ignition/ Vehicle » In Service Mode
2. Verify the scan tool parameter: Driver Door Lock Switch=Inactive
 - **If not the specified state**
Refer to Circuit/System Testing - Test 1
 - **If the specified state**
3. Operate the component: S13D Door Lock Switch - Driver » Lock & Unlock
Verify the scan tool parameter: Driver Door Lock Switch=Lock & Unlock
 - **If not the specified state**
Refer to Circuit/System Testing - Test 1
 - **If the specified state**
4. Verify the scan tool parameter: Passenger Door Lock Switch=Inactive
 - **If not the specified state**
Refer to Circuit/System Testing - Test 2
 - **If the specified state**
5. Operate the component: S13P Door Lock Switch - Passenger » Lock & Unlock
Verify the scan tool parameter: Passenger Door Lock Switch=Lock & Unlock
 - **If not the specified state**
Refer to Circuit/System Testing - Test 2
 - **If the specified state**
6. All OK.

Circuit/System Testing

Test 1

1. Ignition/Vehicle & All vehicle systems » Off

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

2. Disconnect the electrical connector: S13D Door Lock Switch - Driver
3. Test for less than 10 Ω between the test points: Ground circuit terminal 4 & Ground
 - **If 10 Ω or greater**
 1. Ground Connection » Disconnect
 2. Test for less than 2 Ω between the test points: Ground circuit terminal 4 @ Component harness & Ground Connection
 - 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**

4. Ignition/ Vehicle In Service Mode

5. Verify the scan tool parameter: Driver Door Lock Switch=Inactive

- **If not the specified state**

1. Ignition/ Vehicle Off

2. Disconnect the electrical connector: X2 K9 Body Control Module

3. Test for infinite resistance between the test points:

- Signal circuit terminal 2 @ Component harness & Ground
- Signal circuit terminal 3 @ Component harness & Ground
- If less than infinite resistance Repair the short to ground on the circuit.
- If infinite resistance Replace the component: K9 Body Control Module

- **If the specified state**

6. Connect a 3 A fused jumper wire between the test points: Signal circuit terminal 2 & Ground circuit terminal 4

7. Verify the scan tool parameter: Driver Door Lock Switch=Lock

- **If not the specified state**

1. Ignition/ Vehicle Off & Remove Jumper wire(s)

2. Disconnect the electrical connector: X2 K9 Body Control Module

3. Ignition On / Vehicle In Service Mode

4. Test for less than 1 V between the test points: Signal circuit terminal 2 @ Component harness & Ground

- If 1 V or greater Repair the short to voltage on the circuit.
- If less than 1 V

5. Ignition/ Vehicle Off

6. Test for less than 2 Ω between the test points: Signal circuit terminal 2 @ Component harness & Terminal 19 X2 @ Control module harness

- If 2 Ω or greater Repair the open/high resistance in the circuit.
- If less than 2 Ω Replace the component: K9 Body Control Module

- **If the specified state**

8. Connect a 3 A fused jumper wire between the test points: Signal circuit terminal 3 & Ground circuit terminal 4

9. Verify the scan tool parameter: Driver Door Lock Switch=Unlock

- **If not the specified state**

1. Ignition/ Vehicle Off & Remove Jumper wire(s)

2. Disconnect the electrical connector: X2 K9 Body Control Module

3. Ignition On / Vehicle In Service Mode

4. Test for less than 1 V between the test points: Signal circuit terminal 3 @ Component harness & Ground

- If 1 V or greater Repair the short to voltage on the circuit.
- If less than 1 V

5. Ignition/ Vehicle Off

6. Test for less than 2 Ω between the test points: Signal circuit terminal 3 @ Component harness & Terminal 15 X2 @ Control module harness

- If 2 Ω or greater Repair the open/high resistance in the circuit.
- If less than 2 Ω Replace the component: K9 Body Control Module

- **If the specified state**

10. Test or replace the component: S13D Door Lock Switch - Driver

Test 2

1. Ignition/ Vehicle & All vehicle systems Off

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

2. Disconnect the electrical connector: S13P Door Lock Switch - Passenger
3. Test for less than 10 Ω between the test points: Ground circuit terminal 4 & Ground
 - **If 10 Ω or greater**
 1. Ground Connection» Disconnect
 2. Test for less than 2 Ω between the test points: Ground circuit terminal 4 @ Component harness & Ground Connection
 - 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**
4. Ignition» On / Vehicle» In Service Mode
5. Verify the scan tool parameter: Passenger Door Lock Switch=Inactive
 - **If not the specified state**
 1. Ignition/Vehicle» Off
 2. Disconnect the electrical connector: X7 K9 Body Control Module
 3. Test for infinite resistance between the test points:
 - Signal circuit terminal 2 @ Component harness & Ground
 - Signal circuit terminal 3 @ Component harness & Ground
 - If less than infinite resistance» Repair the short to ground on the circuit.
 - If infinite resistance» Replace the component: K9 Body Control Module
 - **If the specified state**
6. Connect a 3 A fused jumper wire between the test points: Signal circuit terminal 2 & Ground circuit terminal 4
7. Verify the scan tool parameter: Passenger Door Lock Switch=Lock
 - **If not the specified state**
 1. Ignition/Vehicle» Off & Remove» Jumper wire(s)
 2. Disconnect the electrical connector: X7 K9 Body Control Module
 3. Ignition» On / Vehicle» In Service Mode
 4. Test for less than 1 V between the test points: Signal circuit terminal 2 @ Component harness & Ground
 - If 1 V or greater» Repair the short to voltage on the circuit.
 - If less than 1 V
 5. Ignition/Vehicle » Off
 6. Test for less than 2 Ω between the test points: Signal circuit terminal 2 @ Component harness & Terminal 14 X7 @ Control module harness
 - If 2 Ω or greater» Repair the open/high resistance in the circuit.
 - If less than 2 Ω » Replace the component: K9 Body Control Module
 - **If the specified state**
8. Connect a 3 A fused jumper wire between the test points: Signal circuit terminal 3 & Ground circuit terminal 4
9. Verify the scan tool parameter: Passenger Door Lock Switch=Unlock
 - **If not the specified state**
 1. Ignition/Vehicle» Off & Remove» Jumper wire(s)
 2. Disconnect the electrical connector: X7 K9 Body Control Module
 3. Ignition» On / Vehicle» In Service Mode
 4. Test for less than 1 V between the test points: Signal circuit terminal 3 @ Component harness & Ground
 - If 1 V or greater» Repair the short to voltage on the circuit.

- If less than 1 V
5. Ignition/Vehicle $\hat{\mathbf{A}}$ » Off
 6. Test for less than 2 Ω between the test points: Signal circuit terminal 3 @ Component harness & Terminal 25 X7 @ Control module harness
 - If 2 Ω or greater $\hat{\mathbf{A}}$ » Repair the open/high resistance in the circuit.
 - If less than 2 Ω $\hat{\mathbf{A}}$ » Replace the component: K9 Body Control Module
 - **If the specified state**
 10. Test or replace the component: S13P Door Lock Switch - Passenger

Component Testing

S13 Door Lock Switch - Test

1. Ignition/Vehicle $\hat{\mathbf{A}}$ » Off
2. Disconnect the appropriate electrical connector: S13 Door Lock Switch
3. Test for infinite resistance between the test points:
 - Signal terminal 2 & Ground terminal 4 - Switch $\hat{\mathbf{A}}$ » Not Pressed
 - Signal terminal 3 & Ground terminal 4 - Switch $\hat{\mathbf{A}}$ » Not Pressed
 - **If less than infinite resistance**
Replace the component: S13 Door Lock Switch
 - **If infinite resistance**
4. Test for less than 3 Ω between the test points: Signal terminal 2 & Ground terminal 4 - Lock Switch $\hat{\mathbf{A}}$ » Pressed
 - **If 3 Ω or greater**
Replace the component: S13 Door Lock Switch
 - **If less than 3 Ω**
5. Test for less than 3 Ω between the test points: Signal terminal 3 & Ground terminal 4 - Unlock Switch $\hat{\mathbf{A}}$ » Pressed
 - **If 3 Ω or greater**
Replace the component: S13 Door Lock Switch
 - **If less than 3 Ω**
6. All OK.

Repair Instructions

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

- [Door Lock Switch Replacement - Driver Side](#)
- [Door Lock Switch Replacement - Passenger Front](#)
- For control module replacement, programming and setup, refer to [Control Module References](#)

DTC B323A-B323C: HANDS FREE SENSOR SIGNAL

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 B323A 08

DTC B323B 08

Lower Hands Free Sensor Signal Invalid

DTC B323C 39

Hands Free Liftgate Sensor Module Internal Hardware Failure

DTC B323C 42

Hands Free Liftgate Sensor Module Invalid Calibration Set

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Liftgate Hands-Free Control Module B+	1	U1510 00	-	-
Upper Hands Free Sensor Signal	B232A 08	B232A 08	B232A 08	B232A 08
Lower Hands Free Sensor Signal	B232A 08	B232A 08	B232A 08	B232B 08
Liftgate Hands-Free Control Module Ground	-	U1510 00	-	-
1. Power trunk inoperative, no communication with liftgate control module				

Circuit/System Description

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

Conditions for Running the DTC

Battery voltage is between 9-16 V.

Conditions for Setting the DTC**B323A 08**

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

B323B 08

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

B323C 39

An internal malfunction has been detected by the liftgate control module

B323C 42

The liftgate control module will automatically attempt to download the calibration program into the liftgate hands-free sensor control module (As will occur when the liftgate hands-free sensor control

module has been replaced), if the first calibration program fails to load, the liftgate control module will attempt to download the calibration program a second time. If this download fails, the liftgate control module will set appropriate DTC.

Action Taken When the DTC Sets

The hands-free feature will be inoperative

Conditions for Clearing the DTC

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

Diagnostic Aids

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

- The keyless entry transmitter is not within range
- The kicking motion is incorrectly performed
- A loose or misaligned hands-free sensor

Reference Information

Schematic Reference

Liftgate Schematics (TC2/TL9)

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Luggage Compartment Description and Operation (Without TC2) Luggage Compartment Description and Operation (With TC2)

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/Vehicle in Service Mode.
2. Verify the tail lights flash 3 times and the power trunk lid opens while performing a kicking motion behind and under the rear fascia.

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

- If the tail lamps flash but the trunk does not open

Refer to Trunk Release Malfunction (With TC2) and/or Trunk Release Malfunction (Without TC2)

- If the tail lamps do not flash

Refer to Circuit/System Testing.

- If the tail lamps flash and the power trunk lid does open

3. All OK.

Circuit/System Testing

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

Repair Instructions

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

- [Rear Closure Hands Free Sensor Replacement \(Lower\)](#) [Rear Closure Hands Free Sensor Replacement \(Upper\)](#)
- [Control Module References](#) for liftgate hands-free sensor control module replacement, programming and setup.

DTC B3265: TRUNK LID UNLATCH OUTPUT CIRCUIT

Diagnostic Instructions

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

DTC Descriptor

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

DTC B3265

Trunk Lid Unlatch Output Circuit

Symptom Byte Information: [Symptom Byte List](#)

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Control - Relay Coil	B3265 02	B3265 04	B3265 01	-
Ground - Relay Coil	-	B3265 04	-	-

Circuit/System Description

For an overview of the component/system, refer to **Luggage Compartment Description and Operation (Without TC2)** and/or **Luggage Compartment Description and Operation (With TC2)**

Circuit	Description
Control - Relay Coil	The output circuit is switched to 12 V to activate the component.
Ground - Relay Coil	Chassis Ground

Component	Description
X53A Fuse Block - Rear Body	The fuse block houses various fuses and relays.
K9 Body Control Module	The module controls various vehicle functions like lighting, central door locking, power windows, etc.

Conditions for Running the DTC

Ignition» On / Vehicle» In Service Mode

Conditions for Setting the DTC

- B3265 01» Control Circuit=Short to Battery
- B3265 02» Control Circuit=Short to Ground
- B3265 04» Control Circuit=Open

Actions Taken When the DTC Sets

M40 Rear Compartment Lid Latch=Inoperative

Conditions for Clearing the DTC

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

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Component View Reference

Luggage Compartment/Rear of Vehicle Component Views

Electrical Information Reference

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

Scan Tool Reference

Control Module References

Circuit/System Verification

1. Ignition» On / Vehicle» In Service Mode
2. Perform the scan tool control function: Trunk Lid Unlatch» Unlatch

Verify the component produces a clicking sound: M40 Rear Compartment Lid Latch

- **If the component does not produce a sound**

Refer to Circuit/System Testing

- **If the component produces a sound**

3. All OK.

Circuit/System Testing

1. Ignition/Vehicle & All vehicle systems» Off

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

2. Disconnect the electrical connector: X2X53A Fuse Block - Rear Body
3. Test for less than 10 Ω between the test points: Ground circuit terminal 23 X2 & Ground
 - **If 10 Ω or greater**
 1. Ground Connection» Disconnect
 2. Test for less than 2 Ω between the test points: Ground circuit terminal 23 X2 & Ground Connection
 - 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**
4. Connect the electrical connector: X2X53A Fuse Block - Rear Body
5. Disconnect the electrical connector: X5K9 Body Control Module
6. Ignition» On / Vehicle» In Service Mode
7. Momentarily connect a 3 A fused jumper wire between the test points: Control circuit terminal 11 X5 & B+

Verify the component turns On and Off when connecting and disconnecting the jumper wire: M40 Rear Compartment Lid Latch

- **If the component does not turn On and Off**

1. Ignition/Vehicle» Off & Remove» Jumper wire(s)
2. Disconnect the electrical connector: X2X53A Fuse Block - Rear Body
3. Ignition» On / Vehicle» In Service Mode
4. Test for less than 1 V between the test points: Control circuit terminal 11 X5 @ Control module harness & Ground
 - If 1 V or greater» Repair the short to voltage on the circuit.
 - If less than 1 V
5. Ignition/Vehicle» Off
6. Test for infinite resistance between the test points: Control circuit terminal 11 X5 @ Control module harness & Ground
 - If less than infinite resistance» Repair the short to ground on the circuit.
 - If infinite resistance

7. Test for less than 2 Ω between the test points: Control circuit terminal 11 X5 @ Control module harness & Terminal 22 X2 @ Fuse Block Harness

- If 2 Ω or greater » Repair the open/high resistance in the circuit.
- If less than 2 Ω » Test or replace the component: X53A Fuse Block - Rear Body

- **If the component turns On and Off**

8. Replace the component: K9 Body Control Module

Repair Instructions

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

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

DTC B3618: EXTERIOR LIFTGATE WINDOW UNLATCH SWITCH CIRCUIT

Diagnostic Instructions

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

DTC Descriptor

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

DTC B3618 00

Exterior Liftgate Window Unlatch Switch Circuit

Diagnostic Fault Information

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

Circuit/System Description

For an overview of the component/system, refer to [Luggage Compartment Description and Operation \(Without TC2\)](#) and/or [Luggage Compartment Description and Operation \(With TC2\)](#)

Circuit	Description
Signal	The control module input circuit has an internal resistance connected to 12 V.
Ground	Chassis Ground

Component	Description
S58A Rear Compartment Lid Unlatch Switch - Exterior	• The switch has a normally open contact. • When the switch is activated, the signal circuit to the control module is grounded.
K9 Body Control Module	The module controls various vehicle functions like lighting, central door locking, power windows, etc.

Conditions for Running the DTC

Ignition» On / Vehicle» In Service Mode

Conditions for Setting the DTC

Signal circuit=Short to Ground - For greater than 60 s

Actions Taken When the DTC Sets

S58A Rear Compartment Lid Unlatch Switch - Exterior=Disabled

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Component View Reference

Luggage Compartment/Rear of Vehicle Component Views

Electrical Information Reference

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

Scan Tool Reference

Control Module References

Circuit/System Verification

1. Ignition» On / Vehicle» In Service Mode
2. Verify the scan tool parameter: Trunk Lid/Liftgate Window Exterior Unlatch Switch=Inactive
 - **If not the specified state**
Refer to Circuit/System Testing
 - **If the specified state**
3. Operate the component: S58A Rear Compartment Lid Unlatch Switch - Exterior» Pressed
Verify the scan tool parameter: Trunk Lid/Liftgate Window Exterior Unlatch Switch=Active
 - **If not the specified state**
Refer to Circuit/System Testing
 - **If the specified state**
4. All OK.

Circuit/System Testing

1. Ignition/Vehicle & All vehicle systems» Off

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

2. Disconnect the electrical connector: S58A Rear Compartment Lid Unlatch Switch - Exterior

3. Test for less than 10 Ω between the test points: Ground circuit terminal 2 & Ground

- **If 10 Ω or greater**

1. Ground Connection» Disconnect

2. Test for less than 2 Ω between the test points: Ground circuit terminal 2 @ Component harness & Ground Connection

- 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**

4. Ignition» On / Vehicle» In Service Mode

5. Verify the scan tool parameter: Trunk Lid/Liftgate Window Exterior Unlatch Switch=Inactive

- **If not the specified state**

1. Ignition/Vehicle» Off

2. Disconnect the electrical connector: K9 Body Control Module

3. Test for infinite resistance between the test points: Signal circuit terminal 1 @ Component harness & Ground

- If less than infinite resistance» Repair the short to ground on the circuit.
- If infinite resistance» Replace the component: K9 Body Control Module

- **If the specified state**

6. Connect a 3 A fused jumper wire between the test points: Signal circuit terminal 1 & Ground circuit terminal 2

7. Verify the scan tool parameter: Trunk Lid/Liftgate Window Exterior Unlatch Switch= Active

- **If not the specified state**

1. Ignition/Vehicle» Off & Remove» Jumper wire(s)

2. Disconnect the electrical connector: K9 Body Control Module

3. Ignition» On / Vehicle» In Service Mode

4. Test for less than 1 V between the test points: Signal circuit terminal 1 @ Component harness & Ground

- If 1 V or greater» Repair the short to voltage on the circuit.
- If less than 1 V

5. Ignition/Vehicle» Off

6. Test for less than 2 Ω between the test points: Signal circuit terminal 1 @ Component harness & Terminal 15 X6 @ Control module harness

- If 2 Ω or greater» Repair the open/high resistance in the circuit.
- If less than 2 Ω » Replace the component: K9 Body Control Module

- **If the specified state**

8. Test or replace the component: S58A Rear Compartment Lid Unlatch Switch - Exterior

Component Testing

1. Ignition/Vehicle» Off

2. Disconnect the electrical connector: S58A Rear Compartment Lid Unlatch Switch - Exterior

3. Test for infinite resistance between the test points: Signal terminal 1 & Ground terminal 2 - The switch is in the open position.

- **If less than infinite resistance**

Replace the component: S58A Rear Compartment Lid Unlatch Switch - Exterior

- **If infinite resistance**

4. Test for less than 3 Ω between the test points: Signal terminal 1 & Ground terminal 2 - The switch is in the closed position.

- **If 3 Ω or greater**

Replace the component: S58A Rear Compartment Lid Unlatch Switch - Exterior

- **If less than 3 Ω**

5. All OK.

Repair Instructions

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

- [Liftgate Release Switch Replacement](#)
- For control module replacement, programming and setup, refer to [Control Module References](#)

DTC B3797: ALL DOOR DEAD LOCK CIRCUIT

Diagnostic Instructions

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

DTC Descriptor

DTC B3797

All Door Dead Lock Circuit

Symptom Byte Information: [Symptom Byte List](#)

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Control - Relay Coil	B3797 02	B3797 04	B3797 01	-
Ground - X53A Fuse Block - Rear Body	-	B3797 04	-	-

Circuit/System Description

For an overview of the component/system, refer to [Power Door Locks Description and Operation](#)

Circuit	Description
Control - Relay Coil	The output circuit is switched to 12 V to activate the component.
Ground - X53A Fuse Block - Rear Body	Chassis Ground

Component	Description
X53A Fuse Block - Rear Body	The fuse block houses various fuses and relays.
K9 Body Control Module	The module controls various vehicle functions like lighting, central door locking, power windows, etc.

Conditions for Running the DTC

KR114 Door Dead Lock Relay» The component is commanded On.

Conditions for Setting the DTC

- B3797 01A» Control Circuit=Short to Battery
- B3797 02A» Control Circuit=Short to Ground
- B3797 04A» Control Circuit=Open

Actions Taken When the DTC Sets

Dead Lock All Doors=Inoperative

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Component View Reference

Electrical Center Identification Views Electrical Center Identification Views

Electrical Information Reference

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

Scan Tool Reference

Control Module References

Circuit/System Verification

1. Ignition» On / Vehicle» In Service Mode
2. Perform the scan tool control function: Door Dead Lock Lock/Unlock» Lock

Verify the correct operation: Interior Door Handle» Disabled

- **If the component does not work as specified**

Refer to Circuit/System Testing

- **If the component works as specified**

3. Perform the scan tool control function: Door Dead Lock Lock/Unlock» Unlock

Verify the correct operation: Interior Door Handle» Enabled

- **If the component does not work as specified**

Refer to Circuit/System Testing

- **If the component works as specified**

4. All OK.

Circuit/System Testing

1. Ignition/Vehicle & All vehicle systems» Off

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

2. Disconnect the electrical connector: X1X53A Fuse Block - Rear Body

3. Test for less than 10 Ω between the test points: Ground circuit terminal 27 & Ground

- **If 10 Ω or greater**

1. Ground Connection» Disconnect

2. Test for less than 2 Ω between the test points: Ground circuit terminal 27 & Ground Connection

- 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**

4. Connect the electrical connector: X1X53A Fuse Block - Rear Body

5. Disconnect the electrical connector: X7K9 Body Control Module

6. Ignition» On / Vehicle» In Service Mode

7. Momentarily connect a 3 A fused jumper wire between the test points: Control circuit terminal 10 & B+

Verify the component produces a clicking sound: A23D Door Latch Assembly - Driver

- **If the component does not turn On and Off**

1. Ignition/Vehicle » Off & Remove» Jumper wire(s)

2. Disconnect the electrical connector:

- {Without UKL} X2 @ X53A Fuse Block - Rear Body
- {With UKL} X1 @ X53A Fuse Block - Rear Body

3. Ignition» On / Vehicle» In Service Mode

4. Test for less than 1 V between the test points: Control circuit terminal 10 @ Control module harness & Ground

- If 1 V or greater» Repair the short to voltage on the circuit.
- If less than 1 V

5. Ignition/Vehicle » Off

6. Test for infinite resistance between the test points: Control circuit terminal 10 @ Control module harness & Ground

- If less than infinite resistance » Repair the short to ground on the circuit.
- If infinite resistance

7. Test for less than 2 Ω between the test points:

- {Without UKL} Control circuit terminal 10 @ Control module harness & Terminal 16 @ Fuse Block Harness
- {With UKL} Control circuit terminal 10 @ Control module harness & Terminal 15 @ Fuse Block Harness
- If 2 Ω or greater» Repair the open/high resistance in the circuit.
- If less than 2 Ω » Test or replace the component: X53A Fuse Block - Rear Body

- **If the component turns On and Off**

8. Replace the component: K9 Body Control Module

Repair Instructions

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

- [Body Wiring Harness Junction Block Replacement](#)

- For control module replacement, programming and setup, refer to [Control Module References](#)

DTC B384A: LIFTGATE CLOSE SWITCH INDICATOR CIRCUIT

Diagnostic Instructions

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

DTC Descriptor

DTC B384A

Liftgate Close Switch Indicator Circuit

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

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Control	B384A 02	1	B384A 01	-
Ground	-	1	-	-
1. Switch Backlight Inoperative				

Circuit/System Description

The liftgate control module will receive a serial data message from the body control module that the backlights for the interior switches have been commanded ON, the liftgate control module in response will provide voltage to the backlight within the exterior liftgate control switch.

Conditions for Running the DTC

The system voltage is 9-16 V.

Conditions for Setting the DTC

B384A 01

The liftgate control module has detected a short to battery on the liftgate close switch backlight control circuit for greater than 60 seconds

B384A 02

The liftgate control module has detected a short to ground on the liftgate close switch backlight control circuit for greater than 60 seconds

Action Taken When the DTC Sets

B384A 01, B384A 02

The exterior liftgate control switch backlight will be inoperative

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

[Liftgate Schematics \(TC2/TL9\)](#)

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Interior Lighting Systems 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/Vehicle in Service Mode.
2. Verify the backlight within the B70 Liftgate Close Switch turns ON and dims when commanding the LED Backlight Dimming Command with a scan tool.
 - **If the backlight is always ON or always OFF**
Refer to Circuit/System Testing.
 - **If the backlight turns ON and turns OFF**
3. All OK.

Circuit/System Testing

1. Ignition/Vehicle Off and all vehicle systems Off. Disconnect the harness connector at the B70 Liftgate Close Switch. It may take up to 2 min for all vehicle systems to power down.
2. Test for less than 30 Ω between the low reference circuit terminal 1 and ground.
 - **If 30 Ω or greater**
 1. Ignition/Vehicle Off. Disconnect the harness connector at the K39 Liftgate Control Module
 2. Test for less than 2 Ω in the low reference circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , repair the open/high resistance in the low reference connection.
 - **If less than 30 Ω**
3. Ignition On/Vehicle in Service Mode.
4. Connect a test lamp between the control circuit terminal 2 and ground.
5. Verify the test lamp turns ON and dims when commanding the LED Backlight Dimming Command with a scan tool.
 - **If the test lamp is always OFF**
 1. Ignition/Vehicle Off. Remove the test lamp, disconnect the harness connector at the K39 Liftgate Control Module.
 2. Test for infinite resistance between the control circuit and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance
 3. Test for less than 2 Ω in the control circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K39 Liftgate Control Module.
 - **If the test lamp is always ON**

1. Ignition/Vehicle Off. Remove the test lamp, disconnect the harness connector at the K39 Liftgate Control Module. Ignition On/Vehicle in Service Mode.
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 K39 Liftgate Control Module.
- **If the test lamp turns ON and OFF**
6. Test or replace the B70 Liftgate Close Switch.

Repair Instructions

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

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

DTC B384B: RIGHT LIFTGATE MOTOR (SPINDLE) CONTROL CIRCUIT

Diagnostic Instructions

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

DTC Descriptors

DTC B384B

Right Liftgate Motor (Spindle) Control Circuit

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

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Liftgate Control Module B+ Terminal 3 X2	B384B 04	B384B 04	-	-
Liftgate Motor Close Control	B384B 02	B384B 04	B384B 01	-
Liftgate Motor Open Control	B384B 02	B384B 04	B384B 01	-

Circuit/System Description

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

Conditions for Running the DTC

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

Conditions for Setting the DTC

B384B 01

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

B384B 02

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

B384B 04

The liftgate control module detects an open/high resistance in the liftgate motor control circuits or an open/high resistance in the terminal 3 X2 B+ circuit

Action Taken When the DTC Sets

The trunk lid will release but will not power open or power close

Conditions for Clearing the DTC

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

Diagnostic Aids

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

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

Reference Information

Schematic Reference

Liftgate Schematics (TC2/TL9)

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Luggage Compartment Description and Operation (Without TC2) **Luggage Compartment Description and Operation (With TC2)**

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/Vehicle in Service Mode

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

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

- **If the trunk lid does power OPEN and CLOSE**

3. All OK.

Circuit/System Testing

1. Ignition/Vehicle OFF, disconnect the X2 harness connector at the K39 Liftgate Control Module, Ignition On/Vehicle in Service Mode.
2. Verify a test lamp illuminates between the B+ circuit terminal 3 and ground.
 - **If the test lamp does not illuminate and the circuit fuse is good**
 1. Ignition/Vehicle Off.
 2. Test for less than 2 Ω in the B+ circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , verify the fuse is not open and there is voltage at the fuse.
 - **If the test lamp does not illuminate and the circuit fuse is open**
 1. Ignition/Vehicle Off.
 2. Test for infinite resistance between the B+ circuit and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance
 3. Disconnect the harness connector at the M17 Liftgate Motor Assembly.
 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 M17 Liftgate Motor Assembly.
 - **If the test lamp illuminates**
3. Ignition/Vehicle OFF, connect the X2 harness connector at the K39 Liftgate Control Module
4. Disconnect the harness connector at the M17 Liftgate Motor Assembly. Ignition ON/Vehicle in Service Mode
5. Connect a test lamp between the control circuit terminal 1 and control circuit terminal 4, ignition ON.
6. Verify the test lamp turns ON and OFF when pressing the B70 Liftgate Close Switch.
 - **If the test lamp remains OFF**
 1. Ignition/Vehicle OFF, remove the test lamp, disconnect the X3 harness connector at the K39 Liftgate Control Module.
 2. Test for infinite resistance between each control circuit and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance
 3. Test for less than 2 Ω in the control circuits end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K39 Liftgate Control Module.
 - **If the test lamp is always ON**
 1. Ignition/Vehicle OFF, remove the test lamp, disconnect the X3 harness connector at the K39 Liftgate Control Module, Ignition ON/Vehicle in Service Mode.
 2. Test for less than 1 V between each control circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V, replace the K39 Liftgate Control Module
 - **If the test lamp turns ON and Off**
7. Replace the M17 Liftgate Motor Assembly.

Repair Instructions

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

- [Rear Compartment Lid Power Assist Actuator Replacement](#)
- [Control Module References](#) for the liftgate control module replacement, programming and setup

DTC B3938: FUEL FILL DOOR ACTUATOR LOCK CIRCUIT

Diagnostic Instructions

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

DTC Descriptor

DTC B3938

Fuel Fill Door Actuator Lock Circuit

Symptom Byte Information: [Symptom Byte List](#)

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Control - Relay Coil	B3938 02	B3938 04	B3938 01	-
Control - Terminal 1 @ M97 Fuel Fill Door Lock Actuator	B3125 02, B3130 02, B3135 02	1	B3125 01, B3130 01, B3135 01	-
Control - Terminal 2 @ M97 Fuel Fill Door Lock Actuator	B3125 02, B3130 02, B3135 02	1	B3125 01, B3130 01, B3135 01	-
Ground - Relay Coil	-	B3938 04	-	-
1. M97 Fuel Fill Door Lock Actuator=Inoperative				

Circuit/System Description

For an overview of the component/system, refer to [Fuel Fill Door Description and Operation \(Without HP9\)](#) and/or [Fuel Fill Door Description and Operation \(With HP9\)](#).

Circuit	Description
Control - Relay Coil	The output circuit is switched to 12 V to activate the component.
Control - Terminal 1 @ M97 Fuel Fill Door Lock Actuator	The output circuit is switched from ground to 12 V to activate the component.
Control - Terminal 2 @ M97 Fuel Fill Door Lock Actuator	The output circuit is switched from ground to 12 V to activate the component.
Ground - Relay Coil	Chassis Ground

Component	Description
M97 Fuel Fill Door Lock Actuator	The fuel fill door lock actuator is a bidirectional DC motor that locks/unlocks the door.
X53A Fuse Block - Rear Body	The fuse block houses various fuses and relays.
K9 Body Control Module	The module controls various vehicle functions like lighting, central door locking, power windows, etc.

Conditions for Running the DTC

Ignition» On / Vehicle» In Service Mode

Conditions for Setting the DTC

B3938 01

Fuel Door Lock Relay Control=Short to Voltage

B3938 02

Fuel Door Lock Relay Control=Short to Ground

B3938 04

Fuel Door Lock Relay Control=Open/High Resistance

Actions Taken When the DTC Sets

M97 Fuel Fill Door Lock Actuator=Inoperative

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Component View Reference

Instrument Panel/Center Console Component Views

Electrical Information Reference

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

Scan Tool Reference

Control Module References

Circuit/System Verification

1. Ignition» On / Vehicle» In Service Mode
2. Operate the component: S13D Door Lock Switch - Driver» Lock

Verify the component works as specified: M97 Fuel Fill Door Lock Actuator=Locked

- **If not the specified state**

Refer to: Circuit/System Testing

- **If the specified state**

3. Operate the component:S13D Door Lock Switch - Driver»Unlock

Verify the component works as specified: M97 Fuel Fill Door Lock Actuator = Unlocked

- **If not the specified state**

Refer to Circuit/System Testing

- **If the specified state**

4. All OK.

Circuit/System Testing

1. Ignition/Vehicle » Off
2. Disconnect the electrical connector: M97 Fuel Fill Door Lock Actuator
3. Connect a test lamp between the test points: Control circuit terminal 1 & Control circuit terminal 2
4. Ignition » On / Vehicle » In Service Mode
5. Operate the component: S13D Door Lock Switch - Driver » Lock & Unlock
6. Ignition » On / Vehicle » In Service Mode

- **If the test lamp turns On and Off**

Test or replace the component: M97 Fuel Fill Door Lock Actuator

- **If the test lamp does not turn On and Off**

7. Disconnect the electrical connector: X6 @ K9 Body Control Module
8. Disconnect the electrical connector: X3 or X3 @ X53A Fuse Block - Rear Body
9. Test for less than 2 Ω between the test points:
 - Control circuit terminal 1 @ Component harness & Terminal 4 X6 @ Control module harness
 - {Without UKL} Control circuit terminal 2 @ Component harness & Terminal 17 X3 @ Fuse Block Harness
 - {With UKL} Control circuit terminal 2 @ Component harness & Terminal 12 X1 @ Fuse Block Harness
 - If 2 Ω or greater » Repair the open/high resistance in the circuit.
 - **If less than 2 Ω**
10. Ignition/Vehicle & All vehicle systems » Off

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

11. Connect the electrical connector: X6 @ K9 Body Control Module
12. Connect the electrical connector: X3 or X3 @ X53A Fuse Block - Rear Body
13. Disconnect the electrical connector: X1 @ X53A Fuse Block - Rear Body
14. Test for less than 10 Ω between the test points: Ground circuit terminal 27 & Ground
 - **If 10 Ω or greater**
 1. Ground Connection » Disconnect
 2. Test for less than 2 Ω between the test points: Ground circuit terminal 27 & Ground Connection
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance
 - **If less than 10 Ω**

15. Connect the electrical connector: X1 @ X53A Fuse Block - Rear Body
16. Disconnect the electrical connector: X7 @ K9 Body Control Module
17. Ignition » On / Vehicle » In Service Mode
18. Momentarily connect a 3 A fused jumper wire between the test points: Control circuit terminal 4 X7 & B+

Verify the component produces a clicking sound: KR132 Fuel Fill Door Lock Relay

- **If the component does not produce a sound**

1. Ignition/Vehicle » Off & Remove » Jumper wire(s)
2. Disconnect the electrical connector: X1 or X3 @ X53A Fuse Block - Rear Body
3. Ignition » On / Vehicle » In Service Mode
4. Test for less than 1 V between the test points: Control circuit terminal 4 X7 @ Control module harness & Ground
 - If 1 V or greater » Repair the short to voltage on the circuit.
 - If less than 1 V
5. Ignition/Vehicle » Off
6. Test for infinite resistance between the test points: Control circuit terminal 4 X7 @ Control module harness & Ground
 - If less than infinite resistance » Repair the short to ground on the circuit.
 - If infinite resistance
7. Test for less than 2 Ω between the test points:
 - {Without UKL} Control circuit terminal 4 X7 @ Control module harness & Control circuit terminal 11 X3 @ Fuse Block Harness
 - {With UKL} Control circuit terminal 4 X7 @ Control module harness & Control circuit terminal 13 X1 @ Fuse Block Harness
 - If 2 Ω or greater » Repair the open/high resistance in the circuit.
 - If less than 2 Ω » Test or replace the component: X53A Fuse Block - Rear Body

- **If the component turns On and Off**

19. Replace the component: K9 Body Control Module

Component Testing

1. Ignition/Vehicle » Off
2. Disconnect the electrical connector: M97 Fuel Fill Door Lock Actuator
3. Connect a 20 A fused jumper wire between the test points: Control terminal 1 & 12 V
4. Momentarily connect a jumper wire between the test points: Control terminal 2 & Ground

CAUTION: Complete the testing as quickly as possible in order to prevent overheating and damaging the component.

Reverse the jumper wires 2 times between the terminals.

Verify the component works as specified: M97 Fuel Fill Door Lock Actuator = Lock / Unlock

- **If not the specified state**

Replace the component: M97 Fuel Fill Door Lock Actuator

- **If not the specified state**

5. All OK.

Repair Instructions

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

- [Fuel Tank Filler Pipe Housing Replacement](#)
- [Body Wiring Harness Junction Block Replacement](#)
- For control module replacement, programming and setup, refer to [Control Module References](#)

DTC B396D: FRONT LIFTGATE ACTUATOR SWITCH CIRCUIT

Diagnostic Instructions

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

DTC Descriptor

DTC B396D

Front Liftgate Actuator Switch Circuit

Symptom Byte Information: [Symptom Byte List](#)

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal	B396D 02	1	1	-
Ground	-	1	-	-
1. S58B Rear Compartment Lid Unlatch Switch - Interior=Disabled				

Circuit/System Description

For an overview of the component/system, refer to [Luggage Compartment Description and Operation \(Without TC2\)](#) and/or [Luggage Compartment Description and Operation \(With TC2\)](#)

Circuit	Description
Signal	The control module input circuit has an internal resistance connected to 12 V.
Ground	Chassis Ground

Component	Description
S58B Rear Compartment Lid Unlatch Switch - Interior	When the switch is activated, the signal circuit to the control module is grounded.
K39 Liftgate Control Module	The control module K39 controls the liftgate motor function depending on inputs from a variety of sensors, switches and serial data information from other control modules.

Conditions for Running the DTC

Ignition⌘ On / Vehicle⌘ In Service Mode

Conditions for Setting the DTC

Signal circuit=Short to Ground For greater than 60 s

Actions Taken When the DTC Sets

S58B Rear Compartment Lid Unlatch Switch - Interior=Disabled

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Component View Reference

Door Component Views

Electrical Information Reference

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

Scan Tool Reference

Control Module References

Circuit/System Verification

1. Ignition» On / Vehicle» In Service Mode
2. Verify the scan tool parameter: Liftgate Front Control Switch=Inactive
 - **If not the specified state**
Refer to Circuit/System Testing
 - **If the specified state**
3. Operate the component: S58B Rear Compartment Lid Unlatch Switch - Interior» Pressed
Verify the scan tool parameter: Liftgate Front Control Switch=Active
 - **If not the specified state**
Refer to Circuit/System Testing
 - **If the specified state**
4. All OK.

Circuit/System Testing

1. Ignition/Vehicle & All vehicle systems» Off

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

2. Disconnect the electrical connector: S58B Rear Compartment Lid Unlatch Switch - Interior
3. Test for less than 10 Ω between the test points: Ground circuit terminal 2 & Ground
 - **If 10 Ω or greater**
 1. Ground Connection» Disconnect
 2. Test for less than 2 Ω between the test points: Ground circuit terminal 2 @ Component harness & Ground Connection
 - 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**
4. Ignition» On / Vehicle» In Service Mode
5. Verify the scan tool parameter: Liftgate Front Control Switch=Inactive

- **If not the specified state**

1. Ignition/Vehicle » Off
2. Disconnect the electrical connector: K39 Liftgate Control Module
3. Test for infinite resistance between the test points: Signal circuit terminal 4 @ Component harness & Ground
 - If less than infinite resistance » Repair the short to ground on the circuit.
 - If infinite resistance » Replace the component: K39 Liftgate Control Module

- **If the specified state**

6. Connect a 3 A fused jumper wire between the test points: Signal circuit terminal 4 & Ground circuit terminal 2
7. Verify the scan tool parameter: Liftgate Front Control Switch=Active

- **If not the specified state**

1. Ignition/Vehicle » Off & Remove » Jumper wire(s)
2. Disconnect the electrical connector: K39 Liftgate Control Module
3. Ignition » On / Vehicle » In Service Mode
4. Test for less than 1 V between the test points: Signal circuit terminal 4 @ Component harness & Ground
 - If 1 V or greater » Repair the short to voltage on the circuit.
 - If less than 1 V
5. Ignition/Vehicle » Off
6. Test for less than 2 Ω between the test points: Signal circuit terminal 4 @ Component harness & Terminal 12 X1 @ Control module harness
 - If 2 Ω or greater » Repair the open/high resistance in the circuit.
 - If less than 2 Ω » Replace the component: K39 Liftgate Control Module

- **If the specified state**

8. Test or replace the component: S58B Rear Compartment Lid Unlatch Switch - Interior

Component Testing

1. Ignition/Vehicle » Off
2. Disconnect the electrical connector: S58B Rear Compartment Lid Unlatch Switch - Interior
3. Test for infinite resistance between the test points: Signal terminal 4 & Ground terminal 2 - Not Pressed

- **If less than infinite resistance**

Replace the component: S58B Rear Compartment Lid Unlatch Switch - Interior

- **If infinite resistance**

4. Test for less than 3 Ω between the test points: Signal terminal 4 & Ground terminal 2 - Pressed

- **If 3 Ω or greater**

Replace the component: S58B Rear Compartment Lid Unlatch Switch - Interior

- **If less than 3 Ω**

5. All OK.

Repair Instructions

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

- [Rear Compartment Lid Release Switch Replacement](#)
- For control module replacement, programming and setup, refer to [Control Module References](#)

DTC B396E: REAR LIFTGATE ACTUATOR SWITCH CIRCUIT

Diagnostic Instructions

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

DTC Descriptor

DTC B396E

Rear Liftgate Actuator Switch Circuit

Symptom Byte Information: [Symptom Byte List](#)

Diagnostic Fault Information

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

Circuit/System Description

For an overview of the component/system, refer to [Luggage Compartment Description and Operation \(Without TC2\)](#) and/or [Luggage Compartment Description and Operation \(With TC2\)](#)

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

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

Conditions for Running the DTC

Ignition⌘ On/Vehicle⌘ In Service Mode

Conditions for Setting the DTC

Signal circuit=Short to Ground For greater than 60 s

Actions Taken When the DTC Sets

B70 Liftgate Close Switch=Disabled

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

Liftgate Schematics (TC2/TL9)

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Component View Reference

Luggage Compartment/Rear of Vehicle Component Views

Electrical Information Reference

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

Scan Tool Reference

Control Module References

Circuit/System Verification

1. IgnitionÂ» On / VehicleÂ» In Service Mode
2. Verify the scan tool parameter: Liftgate Rear Close Switch=Inactive
 - **If not the specified state**
Refer to Circuit/System Testing
 - **If the specified state**
3. Operate the component: B70 Liftgate Close SwitchÂ» Pressed
Verify the scan tool parameter: Liftgate Rear Close Switch=Active
 - **If not the specified state**
Refer to: Circuit/System Testing
 - **If the specified state**
4. All OK.

Circuit/System Testing

1. Ignition/Vehicle & All vehicle systemsÂ» Off

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

2. Disconnect the electrical connector: B70 Liftgate Close Switch
3. Test for less than 10 Ω between the test points: Low Reference terminal 4 & Ground
 - **If 10 Ω or greater**
 1. Disconnect the electrical connector: K39 Liftgate Control Module
 2. Test for less than 2 Ω between the test points: Low Reference terminal 4 @ Component harness & Terminal 16 X1 @ Control module harness
 - If 2 Ω or greaterÂ» Repair the open/high resistance in the circuit.
 - If less than 2 Ω Â» Replace the component: K39 Liftgate Control Module
 - **If less than 10 Ω**
4. Ignition Â» On / Vehicle Â» In Service Mode
5. Verify the scan tool parameter: Liftgate Rear Close Switch=Inactive

- **If not the specified state**

1. Ignition/Vehicle» Off
2. Disconnect the electrical connector: K39 Liftgate Control Module
3. Test for infinite resistance between the test points: Signal circuit terminal 3 @ Component harness & Ground
 - If less than infinite resistance» Repair the short to ground on the circuit.
 - If infinite resistance» Replace the component: K39 Liftgate Control Module

- **If the specified state**

6. Connect a 3 A fused jumper wire between the test points: Signal circuit terminal 3 & Low Reference terminal 4

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

- **If not the specified state**

1. Ignition/Vehicle» Off & Remove» Jumper wire(s)
2. Disconnect the electrical connector: K39 Liftgate Control Module
3. Ignition» On / Vehicle» In Service Mode
4. Test for less than 1 V between the test points: Signal circuit terminal 3 @ Component harness & Ground
 - If 1 V or greater» Repair the short to voltage on the circuit.
 - If less than 1 V
5. Ignition/Vehicle» Off
6. Test for less than 2 Ω between the test points: Signal circuit terminal 3 @ Component harness & Terminal 3 X1 @ Control module harness
 - If 2 Ω or greater » Repair the open/high resistance in the circuit.
 - If less than 2 Ω » Replace the component: K39 Liftgate Control Module

- **If the specified state**

8. Test or replace the component: B70 Liftgate Close Switch

Component Testing

1. Ignition/Vehicle» Off
2. Disconnect the electrical connector: B70 Liftgate Close Switch
3. Test for infinite resistance between the test points: Signal terminal 3 & Low Reference terminal 4 - Switch» Not Pressed

- **If less than infinite resistance**

Replace the component: B70 Liftgate Close Switch

- **If infinite resistance**

4. Test for less than 3 Ω between the test points: Signal terminal 3 & Low Reference terminal 4 - Switch» Pressed

- **If 3 Ω or greater**

Replace the component: B70 Liftgate Close Switch

- **If less than 3 Ω**

5. All OK.

Repair Instructions

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

- [Liftgate Close Switch Replacement](#)

- For control module replacement, programming and setup, refer to [Control Module References](#)

DTC P0CCC, P0CCE OR P0CCF: CHARGE PORT DOOR POSITION SENSOR CIRCUIT

Diagnostic Instructions

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

DTC Descriptors

DTC P0CCC 00

Charge Port Door Position Sensor Circuit

DTC P0CCE 00

Charge Port Door Position Sensor Circuit Low Voltage

DTC P0CCF 00

Charge Port Door Position Sensor Circuit High Voltage

Diagnostic Fault Information

Circuit	Short to Ground	Open	High Resistance	Short to Voltage	Signal Performance
5 V Reference	P0CCE 00	P0CCE 00	P0CCC 00	P0CCF 00	-
Signal	P0CCE 00	P0CCE 00	P0CCC 00	P0CCF 00	-
Ground	-	P0CCE 00	P0CCC 00	-	-

Circuit/System Description

The hybrid/EV powertrain control module 2 provides a 5V signal through a pull-up resistor to the charge port door position sensor circuit. The other end of the charge port door position sensor circuit is connected to the charge port door position switch. The hybrid/EV powertrain control module 2 monitors the voltage on the charge port door position sensor circuit. In normal operation, the hybrid/EV powertrain control module 2 sends a serial data message to the driver information center in the instrument panel cluster to display the Charge Door Open message.

Conditions for Running the DTC

hybrid/EV powertrain control module 2 must be awake.

Conditions for Setting the DTC

P0CCC 00

The hybrid/EV powertrain control module 2 detects the charge port door position sensor signal circuit voltage is mid range between expected high and low voltage values

P0CCE 00

The hybrid/EV powertrain control module 2 detects a short to ground in the charge port position sensor circuit.

P0CCF 00

The hybrid/EV powertrain control module 2 detects a short to voltage or an open/high resistance in the charge port position sensor circuit.

Action Taken When the DTC Sets

The Charge Door Open message will not illuminate when the charge port door is open or ajar.

Conditions for Clearing the DTC

DTC P0CCC 00, P0CCE 00 and P0CCF 00 are type C DTCs

Reference Information

Schematic Reference

Plug-In Charging Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Charge Port 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.

Circuit/System Verification

1. Vehicle in Service Mode.
2. Verify the scan tool Charge Port Door parameter changes between Open and Closed when opening and closing the charge port door.
 - **If the parameter does not change**
Refer to Circuit/System Testing.
 - **If the parameter changes**
3. All OK.

Circuit/System Testing

1. Vehicle OFF, disconnect the harness connector at the B197 Charge Port Door Position 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 C and ground.
 - **If 10 Ω or greater**
 1. Vehicle OFF.
 2. Test for less than 2 Ω in the ground circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , repair the open/high resistance in the ground connection.
 - **If less than 10 Ω**
3. Vehicle in Service Mode, test for 4.8-5.2 V between the 5 V reference circuit terminal B and ground.
 - **If less than 4.8 V**
 1. Vehicle OFF, disconnect the harness connector at the K114B Hybrid/EV Powertrain Control Module 2.
 2. Test for infinite resistance between the 5 V reference circuit and ground
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance
 3. Test for less than 2 Ω in the 5 V reference circuit end to end.

- If 2 Ω or greater, repair the open/high resistance in the circuit.
- If less than 2 Ω , replace the K114B Hybrid/EV Powertrain Control Module 2.
- **If greater than 5.2 V**
 1. Vehicle OFF, disconnect the harness connector at the K114B Hybrid/EV Powertrain Control Module 2, Vehicle in Service Mode.
 2. Test for less than 1 V between the 5 V reference circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V, replace the K114B Hybrid/EV Powertrain Control Module 2.
- **If between 4.8-5.2 V**
- 4. Verify the scan tool Charge Port Door parameter is Closed.
 - **If not Closed**
 1. Vehicle OFF, disconnect the harness connector at the K114B Hybrid/EV Powertrain Control Module 2.
 2. Test for infinite resistance between the signal circuit terminal A and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the K114B Hybrid/EV Powertrain Control Module 2.
 - **If Closed**
- 5. Install a 3 A fused jumper wire between the signal circuit terminal A and the 5 V reference circuit terminal B.
- 6. Verify the scan tool Charge Port Door parameter is Open.
 - **If not Open**
 1. Vehicle OFF, remove the jumper wire, disconnect the harness connector at the K114B Hybrid/EV Powertrain Control Module 2, Vehicle in Service Mode.
 2. Test for less than 1 V between the signal circuit terminal A and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V
 3. Vehicle OFF
 4. 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 K114B Hybrid/EV Powertrain Control Module 2.
 - **If Open**
- 7. Test or replace the B197 Charge Port Door Position Switch.

Repair Instructions

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

- [Charge Port Door Ajar Indicator Switch Replacement](#)
- [Control Module References](#) for the hybrid/EV powertrain control module 2 replacement, programming and setup.

DTC P04B6: FUEL FILL DOOR STUCK CLOSED

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 P04B6 00

Fuel Fill Door Stuck Closed

Circuit/System Description

The hybrid powertrain control module 2 monitors the voltage values of the fuel fill door open request wake-up signal circuit and the fuel door request signal circuit. When the refuel request switch is pressed, the two switch contacts close. This provide B+ to the Wake-up Circuit input of the hybrid powertrain control module 2 and lowers the voltage on the fuel door request signal circuit input to the hybrid powertrain control module 2. The hybrid powertrain control module 2 detects the voltage on the signal circuits and commands the fuel system to vent and sends a serial data message to the driver information center to display the Wait to Refuel message. The hybrid powertrain control module 2 then energizes the fuel door lock/unlock actuator to unlock the fuel door.

Conditions for Running the DTC

- The hybrid powertrain control module 2 is awake
- The fuel tank is being filled.

Conditions for Setting the DTC

The hybrid powertrain control module 2 has detected that the fuel level in the fuel tank has increased but detects that the fuel filler door was always in the closed position.

Action Taken When the DTC Sets

The driver information center will display the Service Refuel System message.

Conditions for Clearing the DTC

DTC P04B6 is a type B DTC.

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Fuel Fill Door Description and Operation (Without HP9) Fuel Fill Door Description and Operation (With HP9)

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. Vehicle in Service Mode.
2. Verify the scan tool Fuel Door Position parameter changes between Open and Closed when opening and closing the fuel filler door.
 - **If the parameter does not change**

Refer to **Fuel Filler Door Ajar Indicator Malfunction**

- If the parameter changes

3. All OK.

DTC P04B8-P04BA: FUEL FILL DOOR POSITION SENSOR CIRCUIT

Diagnostic Instructions

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

DTC Descriptors

DTC P04B8 00

Fuel Fill Door Position Sensor Circuit

DTC P04B9 00

Fuel Fill Door Position Sensor Circuit Low Voltage

DTC P04BA 00

Fuel Fill Door Position Sensor Circuit High Voltage

Diagnostic Fault Information

Circuit	Short to Ground	Open	High Resistance	Short to Voltage	Signal Performance
Signal	P04B9 00	P04B9 00	P04B8 00	P04BA 00	-
Ground	-	P04B9 00	P04B8 00	-	-

Circuit/System Description

The hybrid powertrain control module 2 provides a 5V signal through a pull-up resistor to the fuel door position sensor circuit. The other end of the fuel door position sensor circuit is connected to the fuel door position sensor in the fuel door status switch assembly. The hybrid powertrain control module 2 monitors the voltage on the fuel door position sensor circuit. In normal operation, when the Fuel Door moves to the open position, the switch in the fuel door lock position closes and lowers the voltage on the fuel door position sensor circuit.

Conditions for Running the DTC

Hybrid powertrain control module 2 is awake.

Conditions for Setting the DTC

P04B8 00

The hybrid powertrain control module 2 detects the fuel door position signal circuit voltage is mid range between expected high and low voltage values.

P04B9 00

The hybrid powertrain control module 2 detects a short to ground in the fuel door open signal circuit.

P04BA 00

The hybrid powertrain control module 2 detects a short to voltage or an open or high resistance in the fuel door open signal circuit.

Action Taken When the DTC Sets

The driver information center will continuously display the Wait To Refuel message after the refuel request switch is pressed.

Conditions for Clearing the DTC

DTC P04B8 00, P04B9 00 and P04BA 00 are type B DTCs

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Fuel Fill Door Description and Operation (Without HP9) **Fuel Fill Door Description and Operation (With HP9)**

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. Vehicle in Service Mode.
2. Verify the scan tool Fuel Door Position parameter changes between Open and Closed when opening and closing the fuel filler door.
 - **If the parameter does not change**
Refer to Circuit/System Testing.
 - **If the parameter changes**
3. All OK.

Circuit/System Testing

1. Vehicle OFF, disconnect the harness connector at the B208 Fuel Door Status Switch 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 2 and ground.
 - **If 10 Ω or greater**
 1. Vehicle OFF.
 2. Test for less than 2 Ω in the ground circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , repair the open/high resistance in the ground connection.
 - **If less than 10 Ω**
3. Vehicle in Service Mode, test for 4.8-5.2 V between the 5 V reference circuit terminal 1 and ground.
 - **If less than 4.8 V**

1. Vehicle OFF, disconnect the harness connector at the K114B Hybrid Powertrain Control Module 2.
2. Test for infinite resistance between the 5 V reference circuit and ground
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance
3. Test for less than 2 Ω in the 5 V reference circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K114B Hybrid Powertrain Control Module 2.
- **If greater than 5.2 V**
 1. Vehicle OFF, disconnect the harness connector at the K114B Hybrid Powertrain Control Module 2, Vehicle in Service Mode.
 2. Test for less than 1 V between the 5 V reference circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V, replace the K114B Hybrid Powertrain Control Module 2.
- **If between 4.8-5.2 V**
4. Test or replace the B208 Fuel Door Status Switch Assembly.

Component Testing

1. Vehicle OFF, disconnect the harness connector at the B208 Fuel Door Status Switch Assembly.
2. Test for 180 Ω -190 Ω between the signal terminal 1 and the ground terminal 2 with the switch in the open position.
 - **If 191 Ω or greater**

Replace the B208 Fuel Door Status Switch Assembly.
 - **If 179 Ω or less**

Replace the B208 Fuel Door Status Switch Assembly.
 - **If 180 Ω -190 Ω**
3. Test for 2040 Ω -2065 Ω between the signal terminal 1 and the ground terminal 2 with the switch in the closed position.
 - **If 2066 Ω or greater**

Replace the B208 Fuel Door Status Switch Assembly.
 - **If 2039 Ω or less**

Replace the B208 Fuel Door Status Switch Assembly.
 - **If 2040 Ω -2065 Ω**
4. All OK

Repair Instructions

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

[Control Module References](#) for the hybrid powertrain control module 2 replacement, programming and setup.

DTC P04BB, P04BC OR P04C0: FUEL FILL DOOR LOCK CONTROL CIRCUIT

Diagnostic Instructions

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

DTC Descriptors

DTC P04BB 00

Fuel Fill Door Lock Control Circuit

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Fuel Door Lock Actuator Lock Control	P04BB 00	P04BB 00	P04BB 00	-
Fuel Door Lock Actuator Unlock Control	P04BB 00	P04BB 00	P04BB 00	-

Circuit/System Description

The hybrid powertrain control module 2 monitors the voltage values of the fuel fill door open request wake-up signal circuit and the fuel door request signal circuit. When the refuel request switch is pressed, the two switch contacts close. This provide B+ to the Wake-up Circuit input of the hybrid powertrain control module 2 and lowers the voltage on the fuel door request signal circuit input to the hybrid powertrain control module 2. The hybrid powertrain control module 2 detects the voltage on the signal circuits and commands the fuel system to vent and sends a serial data message to the driver information center to display the Wait to Refuel message. The hybrid powertrain control module 2 then energizes the fuel door lock/unlock actuator to unlock the fuel door.

Conditions for Running the DTC

Hybrid Powertrain Control Module 2 is awake

Conditions for Setting the DTC

The hybrid powertrain control module 2 has detected a short to ground, short to voltage or an open/high resistance on either of the lock actuator control circuits

Action Taken When the DTC Sets

- The fuel door latch will malfunction and the fuel filler door may not be able to be opened.
- The Wait to Refuel message always be displayed on the driver information center.

Conditions for Clearing the DTC

DTC P04BB 00 is type B DTCs

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Fuel Fill Door Description and Operation (Without HP9) Fuel Fill Door Description and Operation (With HP9)

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. Vehicle in Service Mode.
2. Verify the function of the fuel door lock actuator when commanding the Fuel Fill Door to Lock and Unlock with a scan tool.
 - **If the Lock and Unlock function for the fuel door lock actuator does not work**
Refer to Circuit/System Testing.
 - **If the Lock and Unlock function for the fuel door lock actuator works**
3. All OK.

Circuit/System Testing

1. Vehicle OFF, disconnect the harness connector at the M97 fuel door lock actuator.
2. Test for greater than 10 V between the control circuit terminal 1 and ground.
 - **If 10 V or less**
 1. Vehicle OFF, disconnect the harness connector at the K114B hybrid powertrain 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
 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 K114B hybrid powertrain control module 2.
 - **If greater than 10 V**
3. Test for greater than 10 V between the control circuit terminal 2 and ground.
 - **If 10 V or less**
 1. Vehicle OFF, disconnect the harness connector at the K114B hybrid powertrain 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
 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 K114B hybrid powertrain control module 2.
 - **If greater than 10 V**
4. Connect a test lamp between control circuit terminal 1 and control circuit terminal 2, Vehicle in Service Mode.
5. Verify the test lamp turns ON when commanding the Fuel Fill Door to Lock and Unlock with a scan tool.
 - **If the test lamp remains OFF during either of the commands**
 1. Vehicle OFF, disconnect the harness connector at the K114B hybrid powertrain control module 2. Vehicle in Service Mode
 2. Test for less than 1 V between each control circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.

- If less than 1 V replace the K114B hybrid powertrain control module 2

- **If the test lamp turns ON during each of the commands**

6. Test or replace the M97 fuel door lock actuator.

Component Testing

Fuel Door Lock Actuator

1. Vehicle OFF, disconnect the harness connector at the M97 fuel door lock 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 M97 fuel door lock actuator should perform the LOCK and UNLOCK function.

- **If the actuator does not perform the LOCK and UNLOCK function**

Replace the M97 fuel door lock actuator.

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

3. All OK

Repair Instructions

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

- **Fuel Tank Filler Pipe Housing Replacement**
- **Control Module References** for the hybrid powertrain control module 2 replacement, programming and setup

DTC P04C8, P04CA OR P04CB: FUEL FILL DOOR OPEN REQUEST SWITCH CIRCUIT

Diagnostic Instructions

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

DTC Descriptors

DTC P04C8 00

Fuel Fill Door Open Request Switch Circuit

DTC P04CA 00

Fuel Fill Door Open Request Switch Circuit Low Voltage

DTC P04CB 00

Fuel Fill Door Open Request Switch Circuit High Voltage

Diagnostic Fault Information

Circuit	Short to Ground	Open	High Resistance	Short to Voltage	Signal Performance
Signal	P04CA 00	P04C8 00	P04C8 00	P04CB 00	-
Ground	-	P04C8 00	P04C8 00	P04CB 00	-

Circuit/System Description

The Hybrid/EV Powertrain Control Module 2 monitors the voltage values of the fuel fill door open request wake-up signal circuit and the fuel door request signal circuit. When the Refuel Request Switch is pressed, the two switch contacts close. This provide B+ to the Wake-up Circuit input of the Hybrid/EV Powertrain Control Module 2 and lowers the voltage on the fuel door request signal circuit

input to the Hybrid/EV Powertrain Control Module 2. The Hybrid/EV Powertrain Control Module 2 detects the voltage on the signal circuits and commands the fuel system to vent and sends a serial data message to the driver information center to display the Wait to Refuel message. The Hybrid/EV Powertrain Control Module 2 then energizes the fuel door lock/unlock actuator to unlock the fuel door.

Conditions for Running the DTC

The Hybrid/EV Powertrain Control Module 2 is awake

Conditions for Setting the DTC

P04C8 00

The Hybrid/EV Powertrain Control Module 2 the fuel fill door open request switch circuit voltage is mid-range between expected high and low voltage values.

P04CA 00

The Hybrid/EV Powertrain Control Module 2 detects a short to ground in the refuel request signal circuit.

P04CB 00

The Hybrid/EV Powertrain Control Module 2 detects a short to voltage or an open/high resistance in the refuel request signal circuit.

Action Taken When the DTC Sets

The Refuel Request Switch will still function normally.

Conditions for Clearing the DTC

DTC P04C8 00, P04CA 00 and P04CB 00 are type B DTCs

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Fuel Fill Door Description and Operation (Without HP9) **Fuel Fill Door Description and Operation (With HP9)**

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. Vehicle in Service Mode.
2. Verify the M97 Fuel Door Lock Actuator will UNLOCK when pressing the refuel request switch.

- If the UNLOCK function for the M97 Fuel Door Lock Actuator does not work

Refer to Circuit/System Testing

- If the UNLOCK function for the M97 Fuel Door Lock Actuator works

3. All OK.

Circuit/System Testing

1. Vehicle 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 4 and ground.
 - **If 10 Ω or greater**
 1. Ignition OFF.
 2. Test for less than 2 Ω in the ground circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , repair the open/high resistance in the ground connection.
 - **If less than 10 Ω**
3. Vehicle in Service Mode, test for 4.8-5.2 V between the 5 V reference circuit terminal 6 and ground.
 - **If less than 4.8 V**
 1. Vehicle OFF, disconnect the harness connector at the K114B Hybrid/EV Powertrain Control Module 2.
 2. Test for infinite resistance between the 5 V reference circuit and ground
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance
 3. Test for less than 2 Ω in the 5 V reference circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K114B Hybrid/EV Powertrain Control Module 2.
 - **If greater than 5.2 V**
 1. Vehicle OFF, disconnect the harness connector at the K114B Hybrid/EV Powertrain Control Module 2, Vehicle in Service Mode.
 2. Test for less than 1 V between the 5 V reference circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V, replace the K114B Hybrid/EV Powertrain Control Module 2.
 - **If between 4.8-5.2 V**
4. Test or replace the S58B Rear Compartment Lid Unlatch Switch-Interior.

Repair Instructions

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

- [Rear Compartment Lid Release Switch Replacement](#)
- [Control Module References](#) for the Hybrid/EV Powertrain Control Module 2 replacement, programming and setup

DTC P169D: FUEL FILL DOOR OPEN REQUEST SWITCH WAKE-UP CIRCUIT

Diagnostic Instructions

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

DTC Descriptor

DTC P169D 00

Fuel Fill Door Open Request Switch Wake-Up Circuit Performance

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
B+	P169D 00	P169D 00	-	-
Fuel Door Open Request Wake-Up Signal	P169D 00	P169D 00	1	-
1. Fuel Door Switch Malfunction				

Circuit/System Description

The hybrid powertrain control module 2 monitors the voltage values of the fuel fill door open request wake-up signal circuit and the fuel door request signal circuit. When the refuel request switch is pressed, the two switch contacts close. This provides B+ to the Wake-up Circuit input of the hybrid powertrain control module 2 and lowers the voltage on the fuel door request signal circuit input to the hybrid powertrain control module 2.

The hybrid powertrain control module 2 detects the voltage on the signal circuits and commands the fuel system to vent and sends a serial data message to the driver information center to display the Wait to Refuel message. The hybrid powertrain control module 2 then energizes the fuel door lock/unlock actuator to unlock the fuel door.

Conditions for Running the DTC

- The hybrid powertrain control module 2 is awake
- A refuel request has been commanded

Conditions for Setting the DTC

The hybrid powertrain control module 2 detects that the Fuel Fill Door Open Request Switch Wake-Up Circuit value does not match the expected corresponding value for the Fuel Fill Door Open Request resistor ladder switch input.

Action Taken When the DTC Sets

- The fuel filler door unlatch request will only function when the hybrid powertrain control module 2 is awake.
- The driver information center will display the Service Refueling System message.

Conditions for Clearing the DTC

DTC P169D 00 is a type B DTC

Reference Information

Schematic Reference

Release Systems Schematics

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Fuel Fill Door Description and Operation (Without HP9) Fuel Fill Door Description and Operation (With HP9)

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. Vehicle in Service Mode.
2. Verify the operation of the fuel filler door when commanding the fuel door lock actuator to UNLATCH by pressing the refuel request switch.

- **If the fuel door lock actuator does not UNLATCH**

Refer to Circuit/System Testing

- **If the fuel door lock actuator does UNLATCH**

3. All OK.

Circuit/System Testing

1. Vehicle OFF, disconnect the harness connector at the S58B Rear Compartment Lid Unlatch Switch-Interior. Vehicle in Service Mode.
2. Verify a test lamp illuminates between the B+ circuit terminal 8 and ground.
 - **If the test lamp does not illuminate and the circuit fuse is good**
 1. Vehicle OFF.
 2. Test for less than 2 Ω in the B+ circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , verify the fuse is not open and there is voltage at the fuse.
 - **If the test lamp does not illuminate and the circuit fuse is open**
 1. Vehicle OFF.
 2. Test for infinite resistance between the B+ circuit and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance
 3. Disconnect the X2 harness connector at the K114B Hybrid/EV Powertrain Control Module 2.
 4. 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 K114B Hybrid/EV Powertrain Control Module 2.
 - **If the test lamp illuminates**
3. Vehicle OFF, connect the harness connector at the S58B Rear Compartment Lid Unlatch Switch-Interior. Disconnect the X2 harness connector at the K114B Hybrid/EV Powertrain Control Module 2.
4. Connect a test lamp between the signal circuit terminal 7 and ground.
5. Verify the test lamp turns ON and OFF by pressing the S58B Rear Compartment Lid Unlatch Switch-Interior.
 - **If the test lamp is always OFF**
 1. Vehicle OFF, remove the test lamp, disconnect the harness connector at the S58B Rear Compartment Lid Unlatch Switch-Interior.
 2. Test for infinite resistance between the signal circuit and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance

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

- If 2 Ω or greater, repair the open/high resistance in the circuit.
- If less than 2 Ω , test or replace the S58B Rear Compartment Lid Unlatch Switch-Interior.

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

1. Vehicle OFF, disconnect the harness connector at the S58B Rear Compartment Lid Unlatch Switch-Interior, Vehicle in Service Mode.

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 S58B Rear Compartment Lid Unlatch Switch-Interior.

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

6. Replace the K114B Hybrid/EV Powertrain Control Module 2.

Component Testing

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

2. Test for infinite resistance between the signal terminal 2 and the B+ terminal 1 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 2 and the B+ terminal 1 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 the Hybrid/EV Powertrain Control Module 2 replacement, programming and setup.

SYMPTOMS - VEHICLE ACCESS

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

1. Perform the [Diagnostic System Check - Vehicle](#), before using the Symptom Tables in order to verify that all of the following are true:

- There are no DTCs set
- The control modules can communicate via the serial data link

2. Review the system operation in order to familiarize yourself with the system functions. Refer to the following systems description:

- [Door Ajar Indicator Description and Operation](#)
- [Luggage Compartment Description and Operation \(Without TC2\)](#) [Luggage Compartment Description and Operation \(With TC2\)](#)
- [Power Door Locks Description and Operation](#)

- [Fuel Fill Door Description and Operation \(Without HP9\)](#) [Fuel Fill Door Description and Operation \(With HP9\)](#)
- [Charge Port Door Description and Operation](#)

Visual/Physical Inspection

- Inspect for aftermarket devices which may affect the operation of the system. Refer to [Checking Aftermarket Accessories](#).
- Inspect the easily accessible or visible system components for obvious damage or conditions which may cause the symptom.

Intermittent

Faulty electrical connections or wiring may be the cause of intermittent conditions. Refer to [Testing for Intermittent Conditions and Poor Connections](#).

Symptom List

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

- [Charger Door Ajar Indicator Malfunction](#)
- [Exterior Door Handle Switch Malfunction](#)
- [Fuel Filler Door Ajar Indicator Malfunction](#)
- [Fuel Filler Door Release Malfunction \(Without HP9\)](#) [Fuel Filler Door Release Malfunction \(With HP9\)](#)
- [Door Ajar Indicator Malfunction](#)
- [Power Door Dead Lock Malfunction](#)
- [Power Door Lock Key Cylinder Switches Malfunction](#)
- [Power Door Locks Malfunction](#)
- [Trunk Release Malfunction \(With TC2\)](#) [Trunk Release Malfunction \(Without TC2\)](#)
- [Trunk Ajar Indicator Malfunction \(Without TC2, TL9\)](#) [Trunk Ajar Indicator Malfunction \(With TC2, TL9\)](#)

CHARGER 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.

DTC Descriptors

DTC P0CCC 00

Charge Port Door Position Sensor Circuit

DTC P0CCE 00

Charge Port Door Position Sensor Circuit Low Voltage

DTC P0CCF 00

Charge Port Door Position Sensor Circuit High Voltage

Diagnostic Fault Information

Circuit	Short to Ground	Open	High Resistance	Short to Voltage	Signal Performance
5 V Reference	P0CCE 00	P0CCE 00	P0CCC 00	P0CCF 00	-
Signal	P0CCE 00	P0CCE 00	P0CCC 00	P0CCF 00	-

Circuit	Short to Ground	Open	High Resistance	Short to Voltage	Signal Performance
Ground	-	P0CCE 00	P0CCC 00	-	-

Circuit/System Description

The hybrid/EV powertrain control module 2 provides a 5 V signal through a pull-up resistor to the charge port door position sensor circuit. The other end of the charge port door position sensor circuit is connected to the charge port door position switch. The hybrid/EV powertrain control module 2 monitors the voltage on the charge port door position sensor circuit. In normal operation, the hybrid/EV powertrain control module 2 sends a serial data message to the driver information center in the instrument panel cluster to display the Charge Door Open message.

Conditions for Running the DTC

hybrid/EV powertrain control module 2 must be awake.

Conditions for Setting the DTC

P0CCC 00

The hybrid/EV powertrain control module 2 detects the charge port door position sensor signal circuit voltage is mid range between expected high and low voltage values

P0CCE 00

The hybrid/EV powertrain control module 2 detects a short to ground in the charge port position sensor circuit.

P0CCF 00

The hybrid/EV powertrain control module 2 detects a short to voltage or an open/high resistance in the charge port position sensor circuit.

Action Taken When the DTC Sets

The Charge Door Open message will not illuminate when the charge port door is open or ajar.

Conditions for Clearing the DTC

DTC P0CCC 00, P0CCE 00 and P0CCF 00 are type C DTCs

Reference Information

Schematic Reference

Plug-In Charging Schematics

Connector End View Reference

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Charge Port Door Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Circuit/System Verification

1. Vehicle in Service Mode.
2. Verify the scan tool Charge Port Door parameter changes between Open and Closed when opening and closing the charge port door.
 - **If the parameter does not change**

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

Circuit/System Testing

1. Vehicle OFF, disconnect the harness connector at the B197 Charge Port Door Position 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 C and ground.
 - **If 10 Ω or greater**
 1. Vehicle OFF.
 2. Test for less than 2 Ω in the ground circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , repair the open/high resistance in the ground connection.
 - **If less than 10 Ω**
3. Vehicle in Service Mode, test for 4.8-5.2 V between the 5 V reference circuit terminal B and ground.
 - **If less than 4.8 V**
 1. Vehicle OFF, disconnect the harness connector at the K114B Hybrid/EV Powertrain Control Module 2.
 2. Test for infinite resistance between the 5 V reference circuit and ground
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance
 3. Test for less than 2 Ω in the 5 V reference circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K114B Hybrid/EV Powertrain Control Module 2.
 - **If greater than 5.2 V**
 1. Vehicle OFF, disconnect the harness connector at the K114B Hybrid/EV Powertrain Control Module 2, Vehicle in Service Mode.
 2. Test for less than 1 V between the 5 V reference circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V, replace the K114B Hybrid/EV Powertrain Control Module 2.
 - **If between 4.8-5.2 V**
4. Verify the scan tool Charge Port Door parameter is Closed.
 - **If not Closed**
 1. Vehicle OFF, disconnect the harness connector at the K114B Hybrid/EV Powertrain Control Module 2.
 2. Test for infinite resistance between the signal circuit terminal A and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the K114B Hybrid/EV Powertrain Control Module 2.
 - **If Closed**
5. Install a 3 A fused jumper wire between the signal circuit terminal A and the 5 V reference circuit terminal B.

6. Verify the scan tool Charge Port Door parameter is Open.

- **If not Open**

1. Vehicle OFF, remove the jumper wire, disconnect the harness connector at the K114B Hybrid/EV Powertrain Control Module 2, Vehicle in Service Mode.
2. Test for less than 1 V between the signal circuit terminal A and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V
3. Vehicle OFF
4. 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 K114B Hybrid/EV Powertrain Control Module 2.

- **If Open**

7. Test or replace the B197 Charge Port Door Position Switch.

Repair Instructions

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

- [Charge Port Door Ajar Indicator Switch Replacement](#)
- [Control Module References](#) for the hybrid/EV powertrain control module 2 replacement, programming and setup.

EXTERIOR DOOR HANDLE SWITCH MALFUNCTION

Diagnostic Instructions

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

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal - Exterior Driver Door Handle Switch	B3849 02	1	1	-
Signal - Exterior Passenger Door Handle Switch	B1474 02	2	2	-
Signal - Exterior Left Rear Door Handle Switch	B1534 02	3	3	-
Signal - Exterior Right Rear Door Handle Switch	B1535 02	4	4	-
Ground - A24D Door Handle Assembly - Driver Exterior	-	1	-	-
Ground - A24P Door Handle Assembly - Passenger Exterior	-	2	-	-
Ground - A24LR Door Handle Assembly - Left Rear Exterior	-	3	-	-
Ground - A24RR Door Handle Assembly - Right Rear Exterior	-	4	-	-

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
1. B27D Door Handle Switch - Driver Exterior=Disabled 2. B27P Door Handle Switch - Passenger Exterior=Disabled 3. B27LR Door Handle Switch - Left Rear Exterior=Disabled 4. B27RR Door Handle Switch - Right Rear Exterior=Disabled				

Circuit/System Description

For an overview of the component/system, refer to [Power Door Locks Description and Operation](#)

Circuit	Description
Signal	The control module input circuit has an internal resistance connected to 12 V.
Ground	Chassis Ground

Component	Description
A24D Door Handle Assembly - Driver Exterior	The switch has a normally open contact. When the switch is activated, the signal circuit to the control module is grounded.
A24P Door Handle Assembly - Passenger Exterior	The switch has a normally open contact. When the switch is activated, the signal circuit to the control module is grounded.
A24LR Door Handle Assembly - Left Rear Exterior	The switch has a normally open contact. When the switch is activated, the signal circuit to the control module is grounded.
A24RR Door Handle Assembly - Right Rear Exterior	The switch has a normally open contact. When the switch is activated, the signal circuit to the control module is grounded.
K84 Keyless Entry Control Module	The control module also reads various switches and sensors and makes their values available via serial data.

Reference Information

Schematic Reference

[Door Lock/Indicator Schematics](#)

Connector End View Reference

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Component View Reference

[Door Component Views](#)

Electrical Information Reference

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

Scan Tool Reference

[Control Module References](#)

Circuit/System Verification

1. IgnitionA» On / VehicleA» In Service Mode

2. B27D Door Handle Switch - Driver ExteriorA» Not Pressed

Verify the scan tool parameter: Exterior Driver Door Handle Switch=Inactive

- **If not the specified state**

Refer to Circuit/System Testing

- **If the specified state**

3. B27P Door Handle Switch - Passenger ExteriorA» Not Pressed

Verify the scan tool parameter: Exterior Passenger Door Handle Switch=Inactive

- **If not the specified state**

Refer to: Circuit/System Testing

- **If the specified state**

4. B27LR Door Handle Switch - Left Rear ExteriorA» Not Pressed

Verify the scan tool parameter: Exterior Left Rear Door Handle Switch=Inactive

- **If not the specified state**

Refer to: Circuit/System Testing

- **If the specified state**

5. B27RR Door Handle Switch - Right Rear ExteriorA» Not Pressed

Verify the scan tool parameter: Exterior Right Rear Door Handle Switch=Inactive

- **If not the specified state**

Refer to Circuit/System Testing

- **If the specified state**

6. Operate the component: B27D Door Handle Switch - Driver ExteriorA» Pressed

Verify the scan tool parameter: Exterior Driver Door Handle Switch=Active

- **If not the specified state**

Refer to Circuit/System Testing

- **If the specified state**

7. Operate the component: B27P Door Handle Switch - Passenger ExteriorA» Pressed

Verify the scan tool parameter: Exterior Passenger Door Handle Switch=Active

- **If not the specified state**

Refer to Circuit/System Testing

- **If the specified state**

8. Operate the component: B27LR Door Handle Switch - Left Rear ExteriorA» Pressed

Verify the scan tool parameter: Exterior Left Rear Door Handle Switch=Active

- **If not the specified state**

Refer to Circuit/System Testing

- **If the specified state**

9. Operate the component: B27RR Door Handle Switch - Right Rear Exterior» Pressed

Verify the scan tool parameter: Exterior Right Rear Door Handle Switch=Active

- **If not the specified state**

Refer to Circuit/System Testing

- **If the specified state**

10. All OK.

Circuit/System Testing

1. Ignition/Vehicle & All vehicle systems» Off

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

2. Disconnect the appropriate electrical connector: A24 Door Handle Assembly

3. Test for less than 10 Ω between the test points: Ground circuit terminal 5 & Ground

- **If 10 Ω or greater**

1. Ground Connection» Disconnect

2. Test for less than 2 Ω between the test points: Ground circuit terminal 5 @ Component harness & Ground Connection

- 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**

4. Ignition » On / Vehicle » In Service Mode

5. Verify the scan tool parameter: Exterior Door Handle Switch Circuit=Inactive

- **If not the specified state**

1. Ignition/Vehicle » Off

2. Disconnect the electrical connector: X2K84 Keyless Entry Control Module

3. Test for infinite resistance between the test points: Signal circuit terminal 1 @ Component harness & Ground

- If less than infinite resistance» Repair the short to ground on the circuit.
- If infinite resistance» Replace the component: K84 Keyless Entry Control Module

- **If the specified state**

6. Connect a 3 A fused jumper wire between the test points: Signal circuit terminal 1 & Ground circuit terminal 5

7. Verify the scan tool parameter: Exterior Door Handle Switch Circuit= Active

- **If not the specified state**

1. Ignition/Vehicle» Off & Remove» Jumper wire(s)

2. Disconnect the electrical connector: X2 K84 Keyless Entry Control Module

3. Ignition» On / Vehicle» In Service Mode

4. Test for less than 1 V between the test points: Signal circuit terminal 1 @ Component harness & Ground

- If 1 V or greater» Repair the short to voltage on the circuit.
- If less than 1 V

5. Ignition/Vehicle» Off

6. Test for less than 2 Ω between the test points:

- A24D Door Handle Assembly - Driver Exterior Signal circuit terminal 1 @ Component harness & Terminal 12 X2 @ Control module harness

- A24P Door Handle Assembly - Passenger Exterior Signal circuit terminal 1 @ Component harness & Terminal 11 X2 @ Control module harness
- A24LR Door Handle Assembly - Left Rear Exterior Signal circuit terminal 1 @ Component harness & Terminal 2 X2 @ Control module harness
- A24RR Door Handle Assembly - Right Rear Exterior Signal circuit terminal 1 @ Component harness & Terminal 1 X2 @ Control module harness
- If $2\ \Omega$ or greater $\hat{\gg}$ Repair the open/high resistance in the circuit.
- If less than $2\ \Omega$ $\hat{\gg}$ Replace the component: K84 Keyless Entry Control Module

- **If the specified state**

8. Test or replace the component: A24 Door Handle Assembly

Component Testing

1. Ignition/Vehicle $\hat{\gg}$ Off
2. Disconnect the appropriate electrical connector: A24 Door Handle Assembly
3. Test for infinite resistance between the test points: Signal terminal 1 & Ground terminal 5 - Not Pressed
 - **If less than infinite resistance**
Replace the component: A24 Door Handle Assembly
 - **If infinite resistance**
4. Test for less than $3\ \Omega$ between the test points: Signal terminal 1 & Ground terminal 5 - Pressed
 - **If $3\ \Omega$ or greater**
Replace the component: A24 Door Handle Assembly
 - **If less than $3\ \Omega$**
5. All OK.

Repair Instructions

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

- [Front Side Door Outside Handle Replacement](#)
- [Rear Side Door Outside Handle Replacement](#)
- For control module replacement, programming and setup, refer to [Control Module References](#)

FUEL FILLER 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
Fuel Door Position Sensor Signal	P04B9 00	P04B9 00	P04BA 00	P04DC 00
Fuel Door Status Switch Ground	-	P04B9 00	-	-

Circuit/System Description

The hybrid powertrain control module 2 provides a 5 V signal through a pull-up resistor to the fuel door position sensor circuit. The other end of the fuel door position sensor circuit is connected to the fuel

door position sensor in the fuel door status switch assembly. The hybrid powertrain control module 2 monitors the voltage on the fuel door position sensor circuit. In normal operation, when the fuel door moves to the open position, the switch in the fuel door lock position closes and lowers the voltage on the fuel door lock position sensor circuit.

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

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Description and Operation

Fuel Fill Door Description and Operation (Without HP9) **Fuel Fill Door Description and Operation (With HP9)**

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. Vehicle in Service Mode.
2. Verify the scan tool Fuel Door Position parameter changes between Open and Closed when opening and closing the fuel filler door.
 - **If the parameter does not change**

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

Circuit/System Testing

1. Vehicle OFF, disconnect the harness connector at the B208 Fuel Door Status Switch 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 2 and ground.
 - **If 10 Ω or greater**
 1. Vehicle OFF.
 2. Test for less than 2 Ω in the ground circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , repair the open/high resistance in the ground connection.
 - **If less than 10 Ω**
3. Vehicle in Service Mode, test for 4.8-5.2 V between the 5 V reference circuit terminal 1 and ground.
 - **If less than 4.8 V**
 1. Vehicle OFF, disconnect the harness connector at the K114B Hybrid Powertrain Control Module 2.

2. Test for infinite resistance between the 5 V reference circuit and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance
3. Test for less than 2 Ω in the 5 V reference circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K114B Hybrid Powertrain Control Module 2.
- **If greater than 5.2 V**
 1. Vehicle OFF, disconnect the harness connector at the K114 Hybrid Powertrain Control Module 2, Vehicle in Service Mode.
 2. Test for less than 1 V between the 5 V reference circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V, replace the K114B Hybrid Powertrain Control Module 2.
- **If between 4.8-5.2 V**
4. Test or replace the B208 Fuel Door Status Switch Assembly.

Component Testing

1. Vehicle OFF, disconnect the harness connector at the B208 Fuel Door Status Switch Assembly.
2. Test for 180 Ω -190 Ω between the signal terminal 1 and the ground terminal 2 with the switch in the open position.
 - **If 191 Ω or greater**
Replace the B208 Fuel Door Status Switch Assembly.
 - **If 179 Ω or less**
Replace the B208 Fuel Door Status Switch Assembly.
 - **If 180 Ω -190 Ω**
3. Test for 2040 Ω -2065 Ω between the signal terminal 1 and the ground terminal 2 with the switch in the closed position.
 - **If 2066 Ω or greater**
Replace the B208 Fuel Door Status Switch Assembly.
 - **If 2039 Ω or less**
Replace the B208 Fuel Door Status Switch Assembly.
 - **If 2040 Ω -2065 Ω**
4. All OK

Repair Instructions

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

- [Fuel Tank Filler Pipe Housing Replacement](#)
- [Control Module References](#) for the hybrid powertrain control module 2 replacement, programming and setup.

FUEL FILLER DOOR RELEASE MALFUNCTION (WITHOUT HP9)

Diagnostic Instructions

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

DTC Descriptor

DTC B3938

Fuel Fill Door Actuator Lock Circuit

Symptom Byte Information: [Symptom Byte List](#)

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Control - Relay Coil	B3938 02	B3938 04	B3938 01	-
Control - Terminal 1 @ M97 Fuel Fill Door Lock Actuator	B3125 02, B3130 02, B3135 02	1	B3125 01, B3130 01, B3135 01	-
Control - Terminal 2 @ M97 Fuel Fill Door Lock Actuator	B3125 02, B3130 02, B3135 02	1	B3125 01, B3130 01, B3135 01	-
Ground - Relay Coil	-	B3938 04	-	-
1. M97 Fuel Fill Door Lock Actuator=Inoperative				

Circuit/System Description

For an overview of the component/system, refer to [Fuel Fill Door Description and Operation \(Without HP9\)](#)

Circuit	Description
Control - Relay Coil	The output circuit is switched to 12 V to activate the component.
Control - Terminal 1 @ M97 Fuel Fill Door Lock Actuator	The output circuit is switched from ground to 12 V to activate the component.
Control - Terminal 2 @ M97 Fuel Fill Door Lock Actuator	The output circuit is switched from ground to 12 V to activate the component.
Ground - Relay Coil	Chassis Ground

Component	Description
M97 Fuel Fill Door Lock Actuator	The fuel fill door lock actuator is a bidirectional DC motor that locks/unlocks the door.
X53A Fuse Block - Rear Body	The fuse block houses various fuses and relays.
K9 Body Control Module	The module controls various vehicle functions like lighting, central door locking, power windows, etc.

Conditions for Running the DTC

Ignition» On / Vehicle» In Service Mode

Conditions for Setting the DTC

B3938 01

Fuel Door Lock Relay Control=Short to Voltage

B3938 02

Fuel Door Lock Relay Control=Short to Ground

B3938 04

Fuel Door Lock Relay Control=Open/High Resistance

Actions Taken When the DTC Sets

M97 Fuel Fill Door Lock Actuator=Inoperative

Conditions for Clearing the DTC

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

Reference Information

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Release Systems Schematics

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Instrument Panel/Center Console Component Views

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

Scan Tool Reference

Control Module References

Circuit/System Verification

1. Ignition» On / Vehicle» In Service Mode
2. Operate the component: S13D Door Lock Switch - Driver» Lock

Verify the component works as specified: M97 Fuel Fill Door Lock Actuator = Locked

- **If not the specified state**

Refer to Circuit/System Testing

- **If the specified state**

3. Operate the component: S13D Door Lock Switch - Driver» Unlock

Verify the component works as specified: M97 Fuel Fill Door Lock Actuator = Unlocked

- **If not the specified state**

Refer to Circuit/System Testing

- **If the specified state**

4. All OK.

Circuit/System Testing

1. Ignition/Vehicle» Off
2. Disconnect the electrical connector: M97 Fuel Fill Door Lock Actuator
3. Connect a test lamp between the test points: Control circuit terminal 1 & Control circuit terminal 2
4. Ignition» On / Vehicle» In Service Mode

5. Operate the component: S13D Door Lock Switch - Driver» Lock & Unlock

6. Verify the test lamp does not turn On and Off.

- **If the test lamp turns On and Off**

Test or replace the component: M97 Fuel Fill Door Lock Actuator

- **If the test lamp does not turn On and Off**

7. Disconnect the electrical connector: X6 @ K9 Body Control Module

8. Disconnect the electrical connector: X3 or X3 @ X53A Fuse Block - Rear Body

9. Test for less than 2 Ω between the test points:

- Control circuit terminal 1 @ Component harness & Terminal 4 X6 @ Control module harness
- {Without UKL} Control circuit terminal 2 @ Component harness & Terminal 17 X3 Fuse Block Harness
- {With UKL} Control circuit terminal 2 @ Component harness & Terminal 12 X1 Fuse Block Harness
- If 2 Ω or greater» Repair the open/high resistance in the circuit.
- **If less than 2 Ω**

10. Ignition/Vehicle & All vehicle systems» Off

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

11. Connect the electrical connector: X6 @ K9 Body Control Module

12. Connect the electrical connector: X3 or X3 @ X53A Fuse Block - Rear Body

13. Disconnect the electrical connector: X1 @ X53A Fuse Block - Rear Body

14. Test for less than 10 Ω between the test points: Ground circuit terminal 27 & Ground

- **If 10 Ω or greater**

1. Ground Connection» Disconnect

2. Test for less than 2 Ω between the test points: Ground circuit terminal 27 & Ground Connection

- 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**

15. Connect the electrical connector: X1 @ X53A Fuse Block - Rear Body

16. Disconnect the electrical connector: X7 @ K9 Body Control Module

17. Ignition» On / Vehicle» In Service Mode

18. Momentarily connect a 3 A fused jumper wire between the test points: Control circuit terminal 4 X7 & B+

Verify the component produces a clicking sound: KR132 Fuel Fill Door Lock Relay

- **If the component does not produce a sound**

1. Ignition/Vehicle» Off & Remove» Jumper wire(s)

2. Disconnect the electrical connector: X1 or X3 @ X53A Fuse Block - Rear Body

3. Ignition» On / Vehicle» In Service Mode

4. Test for less than 1 V between the test points: Control circuit terminal 4 X7 @ Control module harness & Ground

- If 1 V or greater» Repair the short to voltage on the circuit.
- If less than 1 V

5. Ignition/Vehicle» Off

6. Test for infinite resistance between the test points: Control circuit terminal 4 X7 @ Control module harness & Ground

- If less than infinite resistance» Repair the short to ground on the circuit.
- If infinite resistance

7. Test for less than 2 Ω between the test points:

- {Without UKL} Control circuit terminal 4 X7 @ Control module harness & Control circuit terminal 11 X3 @ Fuse Block Harness
- {With UKL} Control circuit terminal 4 X7 @ Control module harness & Control circuit terminal 13 X1 @ Fuse Block Harness
- If 2 Ω or greater» Repair the open/high resistance in the circuit.
- If less than 2 Ω » Test or replace the component: X53A Fuse Block - Rear Body

- **If the component turns On and Off**

19. Replace the component: K9 Body Control Module

Component Testing

1. Ignition/Vehicle » Off
2. Disconnect the electrical connector: M97 Fuel Fill Door Lock Actuator
3. Connect a 20 A fused jumper wire between the test points: Control terminal 1 & 12 V
4. Momentarily connect a jumper wire between the test points: Control terminal 2 & Ground

CAUTION: Complete the testing as quickly as possible in order to prevent overheating and damaging the component.

Reverse the jumper wires 2 times between the terminals.

Verify the component works as specified: M97 Fuel Fill Door Lock Actuator = Lock/Unlock

- **If not the specified state**

Replace the component: M97 Fuel Fill Door Lock Actuator

- **If not the specified state**

5. All OK.

Repair Instructions

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

- [Fuel Tank Filler Pipe Housing Replacement](#)
- [Body Wiring Harness Junction Block Replacement](#)
- For control module replacement, programming and setup, refer to [Control Module References](#)

FUEL FILLER DOOR RELEASE MALFUNCTION (WITH HP9)

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
Refuel Request Switch B+	P04CA 00	P04CA00	-	-
Refuel Request Wakeup Signal	P169D 00	P169D 00	P169D 00	-

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Refuel Request Signal	P04CA 00	P04CA 00	P04CB 00	-
Fuel Fill Door Lock Control	P04BB 00	P04BB 00	P04BB 00	-
Fuel Fill Door Unlock Control	P04BB 00	P04BB 00	P04BB 00	-
Refuel Request Switch Low Reference	-	P04CA 00	-	-

Circuit/System Description

The hybrid/EV powertrain control module 2 monitors the voltage values of the fuel fill door open request wake-up signal circuit and the fuel door request signal circuit. When the refuel request switch is pressed, the two switch contacts close. This provide B+ to the wake-up circuit input of the hybrid/EV powertrain control module 2 and lowers the voltage on the fuel door request signal circuit input to the hybrid/EV powertrain control module 2. The hybrid/EV powertrain control module 2 detects the voltage on the signal circuits and commands the fuel system to vent and sends a serial data message to the driver information center to display the Wait to Refuel message. The hybrid/EV powertrain control module 2 then energizes the fuel door lock/unlock actuator to unlock the fuel door.

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Fuel Fill Door Description and Operation (With HP9)

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. Vehicle in Service Mode.
2. Verify the M97 Fuel Door Lock Actuator will LOCK and UNLOCK when commanding the Fuel Fill Door Lock to Lock and Unlock with a scan tool.
 - **If the LOCK and UNLOCK function for the M97 Fuel Door Lock Actuator does not work**
Refer to Circuit/System Testing - Fuel Door Release Inoperative.
 - **If the LOCK and UNLOCK function for the M97 Fuel Door Lock Actuator works**
3. Verify the M97 Fuel Door Lock Actuator will UNLOCK when pressing the refuel request switch.
 - **If the UNLOCK function for the M97 Fuel Door Lock Actuator does not work**

Refer to Circuit/System Testing - Refuel Request Switch Inoperative When Module Is Awake

- **If the M97 Fuel Door Lock Actuator UNLOCKS**

4. Vehicle OFF, it may take up to 2 minutes for the K114B Hybrid/EV Powertrain Control Module 2 to enter the sleep mode.
5. Verify the M97 Fuel Door Lock Actuator will UNLOCK when pressing the refuel request switch.
 - **If the UNLOCK function for the M97 Fuel Door Lock Actuator does not work**

Refer to Circuit/System Testing - Refuel Request Switch Inoperative When Module Is Asleep

- **If the M97 Fuel Door Lock Actuator UNLOCKS**

6. All OK.

Circuit/System Testing

Fuel Door Release Inoperative

1. Vehicle OFF, disconnect the harness connector at the M97 Fuel Door Lock Actuator.
2. Test for greater than 10 V between the control circuit terminal 1 and ground.
 - **If 10 V or less**
 1. Vehicle OFF, disconnect the harness connector at the K114B Hybrid/EV Powertrain 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
 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 K114B Hybrid/EV Powertrain Control Module 2.
 - **If greater than 10 V**
3. Test for greater than 10 V between the control circuit terminal 2 and ground.
 - **If 10 V or less**
 1. Vehicle OFF, disconnect the harness connector at the K114B Hybrid/EV Powertrain 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
 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 K114B Hybrid/EV Powertrain Control Module 2.
 - **If greater than 10 V**
4. Connect a test lamp between control circuit terminal 1 and control circuit terminal 2, Vehicle in Service Mode.
5. Verify the test lamp turns ON when commanding the LOCK and UNLOCK states with a scan tool.
 - **If the test lamp remains OFF during either of the commands**
 1. Vehicle OFF, remove the test lamp, disconnect the harness connector at the K114B Hybrid/EV Powertrain Control Module 2. Vehicle in Service Mode
 2. Test for less than 1 V between each control circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V replace the K114B Hybrid/EV Powertrain Control Module 2
 - **If the test lamp turns ON during each of the commands**
6. Test or replace the M97 Fuel Door Lock Actuator.

Refuel Request Switch Inoperative When Module Is Awake

1. Vehicle 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 4 and ground.
 - **If 10 Ω or greater**
 1. Ignition OFF.
 2. Test for less than 2 Ω in the ground circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , repair the open/high resistance in the ground connection.
 - **If less than 10 Ω**
3. Vehicle in Service Mode, test for 4.8-5.2 V between the 5 V reference circuit terminal 6 and ground.
 - **If less than 4.8 V**
 1. Vehicle OFF, disconnect the harness connector at the K114B Hybrid/EV Powertrain Control Module 2.
 2. Test for infinite resistance between the 5 V reference circuit and ground
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance
 3. Test for less than 2 Ω in the 5 V reference circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K114B Hybrid/EV Powertrain Control Module 2.
 - **If greater than 5.2 V**
 1. Vehicle OFF, disconnect the harness connector at the K114B Hybrid/EV Powertrain Control Module 2, Vehicle in Service Mode.
 2. Test for less than 1 V between the 5 V reference circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V, replace the K114B Hybrid/EV Powertrain Control Module 2.
 - **If between 4.8-5.2 V**
4. Test or replace the S58B Rear Compartment Lid Unlatch Switch-Interior.

Refuel Request Switch Inoperative When Module Is Asleep

1. Vehicle OFF, disconnect the harness connector at the S58B Rear Compartment Lid Unlatch Switch-Interior. Vehicle in Service Mode.
2. Verify a test lamp illuminates between the B+ circuit terminal 8 and ground.
 - **If the test lamp does not illuminate and the circuit fuse is good**
 1. Vehicle OFF.
 2. Test for less than 2 Ω in the B+ circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , verify the fuse is not open and there is voltage at the fuse.
 - **If the test lamp does not illuminate and the circuit fuse is open**
 1. Vehicle OFF.
 2. Test for infinite resistance between the B+ circuit and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance
 3. Disconnect the X2 harness connector at the K114B Hybrid/EV Powertrain Control Module 2.
 4. 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 K114B Hybrid/EV Powertrain Control Module 2.
 - **If the test lamp illuminates**

3. Vehicle OFF, connect the harness connector at the S58B Rear Compartment Lid Unlatch Switch-Interior. Disconnect the X2 harness connector at the K114B Hybrid/EV Powertrain Control Module 2.
4. Connect a test lamp between the signal circuit terminal 7 and ground.
5. Verify the test lamp turns ON and OFF by pressing the S58B Rear Compartment Lid Unlatch Switch-Interior.
 - **If the test lamp is always OFF**
 1. Vehicle OFF, remove the test lamp, disconnect the harness connector at the S58B Rear Compartment Lid Unlatch Switch-Interior.
 2. Test for infinite resistance between the signal circuit and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance
 3. Test for less than 2 Ω in the control circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , test or replace the S58B Rear Compartment Lid Unlatch Switch-Interior.
 - **If the test lamp is always ON**
 1. Vehicle OFF, disconnect the harness connector at the S58B Rear Compartment Lid Unlatch Switch-Interior, Vehicle in Service Mode.
 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 S58B Rear Compartment Lid Unlatch Switch-Interior.
 - **If the test lamp turns ON and OFF**
6. Replace the K114B Hybrid/EV Powertrain Control Module 2.

Component Testing

Fuel Door Open Request Switch

1. Vehicle OFF, disconnect the harness connector at the S58B Rear Compartment Lid Unlatch Switch-Interior.
2. Test for infinite resistance between the signal terminal 2 and the B+ terminal 1 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 2 and the B+ terminal 1 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

Fuel Door Lock Actuator

1. Vehicle OFF, disconnect the harness connector at the M97 Fuel Door Lock 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 M97 Fuel Door Lock Actuator should perform the LOCK and UNLOCK function.
 - **If the actuator does not perform the LOCK and UNLOCK function**

Replace the M97 Fuel Door Lock 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 Pipe Housing Replacement](#)
- [Rear Compartment Lid Release Switch Replacement](#)
- [Control Module References](#) for the Hybrid/EV Powertrain Control Module 2 replacement, programming and setup.

LIFTGATE HANDSFREE SENSOR MALFUNCTION

Diagnostic Instructions

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

DTC Descriptors

DTC B323A 08

Upper Hands Free Sensor Signal Invalid

DTC B323B 08

Lower Hands Free Sensor Signal Invalid

DTC B323C 39

Hands Free Liftgate Sensor Module Internal Hardware Failure

DTC B323C 42

Hands Free Liftgate Sensor Module Invalid Calibration Set

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Liftgate Hands-Free Control Module B+	1	U1510 00	-	-
Upper Hands Free Sensor Signal	B232A 08	B232A 08	B232A 08	B232A 08
Lower Hands Free Sensor Signal	B232A 08	B232A 08	B232A 08	B232B 08
Liftgate Hands-Free Control Module Ground	-	U1510 00	-	-
1. Power trunk inoperative, no communication with liftgate control module				

Circuit/System Description

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

module will send a serial data message to the body control module to command the tail lights to flash 3 times

Conditions for Running the DTC

Battery voltage is between 9-16 V.

Conditions for Setting the DTC

B323A 08

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

B323B 08

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

B323C 39

An internal malfunction has been detected by the liftgate control module

B323C 42

The liftgate control module will automatically attempt to download the calibration program into the liftgate hands-free sensor control module (As will occur when the liftgate hands-free sensor control module has been replaced), if the first calibration program fails to load, the liftgate control module will attempt to download the calibration program a second time. If this download fails, the liftgate control module will set appropriate DTC.

Action Taken When the DTC Sets

The hands-free feature will be inoperative

Conditions for Clearing the DTC

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

Diagnostic Aids

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

- The keyless entry transmitter is not within range
- The kicking motion is incorrectly performed
- A loose or misaligned hands-free sensor

Reference Information

Schematic Reference

Liftgate Schematics (TC2/TL9)

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Luggage Compartment Description and Operation (Without TC2) Luggage Compartment Description and Operation (With TC2)

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/Vehicle in Service Mode.
2. Verify the tail lights flash 3 times and the power trunk lid opens while performing a kicking motion behind and under the rear fascia.

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

- If the tail lamps flash but the trunk does not open

Refer to [Trunk Release Malfunction \(With TC2\)](#) and/or [Trunk Release Malfunction \(Without TC2\)](#)

- If the tail lamps do not flash

Refer to Circuit/System Testing.

- If the tail lamps flash and the power trunk lid does open

3. All OK.

Circuit/System Testing

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

Repair Instructions

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

- [Rear Closure Hands Free Sensor Replacement \(Lower\) Rear Closure Hands Free Sensor Replacement \(Upper\)](#)

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

DOOR AJAR INDICATOR MALFUNCTION

Diagnostic Instructions

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

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Driver Door Ajar Switch Signal	1	2	2	-
Passenger Door Ajar Switch Signal	1	3	3	-
Left Front Door Ajar Switch Signal	1	4	4	-
Right Front Door Ajar Switch Signal	1	5	5	-
Ground - A23D Door Latch Assembly - Driver	-	2	-	-
Ground - A23P Door Latch Assembly - Passenger	-	3	-	-
Ground - A23LR Door Latch Assembly - Left Rear	-	4	-	-
Ground - A23RR Door Latch Assembly - Right Rear	-	5	-	-
1. Door Ajar Indicator=Always On 2. Door Ajar Indicator - Driver Door=Always Off 3. Door Ajar Indicator - Passenger Door=Always Off 4. Door Ajar Indicator - Left Rear Door=Always Off 5. Door Ajar Indicator - Right Rear Door=Always Off				

Circuit/System Description

For an overview of the component/system, refer to [Door Ajar Indicator Description and Operation](#)

Circuit	Description
Signal	The control module input circuit has an internal resistance connected to 12 V.
Ground	Chassis Ground

Component	Description
A23D Door Latch Assembly - Driver	The lock assemblies also contain a door ajar switch that is open when the door is closed.
M74D Window Motor - Driver	• Power Window Control • The control module also reads various switches and sensors and makes their values available via serial data.
A23P Door Latch Assembly - Passenger	The lock assemblies also contain a door ajar switch that is open when the door is closed.

Component	Description
M74P Window Motor - Passenger	• Power Window Control • The control module also reads various switches and sensors and makes their values available via serial data.
A23LR Door Latch Assembly - Left Rear	The lock assemblies also contain a door ajar switch that is open when the door is closed.
M74LR Window Motor - Left Rear	• Power Window Control • The control module also reads various switches and sensors and makes their values available via serial data.
A23RR Door Latch Assembly - Right Rear	The lock assemblies also contain a door ajar switch that is open when the door is closed.
M74RR Window Motor - Right Rear	• Power Window Control • The control module also reads various switches and sensors and makes their values available via serial data.

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Component View Reference

Door Component Views

Electrical Information Reference

- [Circuit Testing](#)
- [Connector Repairs](#)
- [Testing for Intermittent Conditions and Poor Connections](#)
- [Wiring Repairs](#)
- [Relay Replacement \(Attached to Wire Harness\)](#) [Relay Replacement \(Within an Electrical Center\)](#)

Scan Tool Reference

Control Module References

Circuit/System Verification

1. IgnitionÂ» On / VehicleÂ» In Service Mode
2. Verify the appropriate scan tool door ajar switch parameter changes when opening and closing the vehicle doors.
 - **If the parameter state does not change**
Refer to Circuit/System Testing
 - **If the parameter state changes**

3. All OK.

Circuit/System Testing

1. Ignition/Vehicle & All vehicle systems $\hat{\text{A}}$ Off

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

2. Disconnect the appropriate electrical connector: A23 Door Latch Assembly

3. Test for less than 10 Ω between the test points: Ground circuit terminal 3 & Ground

- **If 10 Ω or greater**

1. Ground Connection $\hat{\text{A}}$ Disconnect

2. Test for less than 2 Ω between the test points: Ground circuit terminal 3 @ Component harness & Ground Connection

- If 2 Ω or greater $\hat{\text{A}}$ Repair the open/high resistance in the circuit.
- If less than 2 Ω $\hat{\text{A}}$ Repair the open/high resistance in the ground connection.

- **If less than 10 Ω**

4. Ignition $\hat{\text{A}}$ On / Vehicle $\hat{\text{A}}$ In Service Mode

5. Verify the scan tool parameter: Door Ajar Switch=Inactive

- **If not the specified state**

1. Ignition/Vehicle $\hat{\text{A}}$ Off

2. Disconnect the appropriate electrical connector:

- M74D Window Motor - Driver
- M74P Window Motor - Passenger
- M74LR Window Motor - Left Rear
- M74RR Window Motor - Right Rear

3. Test for infinite resistance between the test points:

- A23D Door Latch Assembly - Driver Signal circuit terminal 1 @ Component harness & Ground
- A23P Door Latch Assembly - Passenger Signal circuit terminal 5 @ Component harness & Ground
- A23LR Door Latch Assembly - Left Rear Signal circuit terminal 1 @ Component harness & Ground
- A23RR Door Latch Assembly - Right Rear Signal circuit terminal 5 @ Component harness & Ground
- If less than infinite resistance $\hat{\text{A}}$ Repair the short to ground on the circuit.
- If infinite resistance $\hat{\text{A}}$ Replace the component:

- M74D Window Motor - Driver
- M74P Window Motor - Passenger
- M74LR Window Motor - Left Rear
- M74RR Window Motor - Right Rear

- **If the specified state**

6. Connect a 3 A fused jumper wire between the test points:

- A23D Door Latch Assembly - Driver Signal circuit terminal 1 & Ground circuit terminal 3
- A23P Door Latch Assembly - Passenger Signal circuit terminal 5 & Ground circuit terminal 3
- A23LR Door Latch Assembly - Left Rear Signal circuit terminal 1 & Ground circuit terminal 3
- A23RR Door Latch Assembly - Right Rear Signal circuit terminal 5 & Ground circuit terminal 3

7. Verify the scan tool parameter: Door Ajar Switch=Active

- **If not the specified state**

1. Ignition/Vehicle » Off & Remove » Jumper wire(s)
2. Disconnect the electrical connector:
 - M74D Window Motor - Driver
 - M74P Window Motor - Passenger
 - M74LR Window Motor - Left Rear
 - M74RR Window Motor - Right Rear
3. Ignition » On / Vehicle » In Service Mode
4. Test for less than 1 V between the test points:
 - A23D Door Latch Assembly - Driver Signal circuit terminal 1 @ Component harness & Ground
 - A23P Door Latch Assembly - Passenger Signal circuit terminal 5 @ Component harness & Ground
 - A23LR Door Latch Assembly - Left Rear Signal circuit terminal 1 @ Component harness & Ground
 - A23RR Door Latch Assembly - Right Rear Signal circuit terminal 5 @ Component harness & Ground
 - If 1 V or greater » Repair the short to voltage on the circuit.
 - If less than 1 V
5. Ignition/Vehicle » Off
6. Test for less than 2 Ω between the test points:
 - A23D Door Latch Assembly - Driver Signal circuit terminal 1 @ Component harness & M74D Window Motor - Driver Signal circuit terminal 6 @ Component harness
 - A23P Door Latch Assembly - Passenger Signal circuit terminal 5 @ Component harness & M74P Window Motor - Passenger Signal circuit terminal 6 @ Component harness
 - A23LR Door Latch Assembly - Left Rear Signal circuit terminal 1 @ Component harness & M74LR Window Motor - Left Rear Signal circuit terminal 6 @ Component harness
 - A23RR Door Latch Assembly - Right Rear Signal circuit terminal 5 @ Component harness & M74RR Window Motor - Right Rear Signal circuit terminal 6 @ Component harness
 - If 2 Ω or greater » Repair the open/high resistance in the circuit.
 - If less than 2 Ω » Replace the component:
 - M74D Window Motor - Driver
 - M74P Window Motor - Passenger
 - M74LR Window Motor - Left Rear
 - M74RR Window Motor - Right Rear

- **If the specified state**

8. Test or replace the component: A23 Door Latch Assembly

Component Testing

1. Ignition/Vehicle » Off
2. Disconnect the appropriate electrical connector: A23 Door Latch Assembly
3. Test for infinite resistance between the test points:
 - A23D Door Latch Assembly - Driver Signal terminal 1 & Ground terminal 3 - The switch is in the open position.
 - A23P Door Latch Assembly - Passenger Signal terminal 5 & Ground terminal 3 - The switch is in the open position.
 - A23LR Door Latch Assembly - Left Rear Signal terminal 1 & Ground terminal 3 - The switch is in the open position.

- A23RR Door Latch Assembly - Right Rear Signal terminal 5 & Ground terminal 3 - The switch is in the open position.

- **If less than infinite resistance**

Replace the component: A23 Door Latch Assembly

- **If infinite resistance**

4. Test for less than 3 Ω between the test points:

- A23D Door Latch Assembly - Driver Signal terminal 1 & Ground terminal 3 - The switch is in the closed position.
- A23P Door Latch Assembly - Passenger Signal terminal 5 & Ground terminal 3 - The switch is in the closed position.
- A23LR Door Latch Assembly - Left Rear Signal terminal 1 & Ground terminal 3 - The switch is in the closed position.
- A23RR Door Latch Assembly - Right Rear Signal terminal 5 & Ground terminal 3 - The switch is in the closed position.

- **If 3 Ω or greater**

Replace the component: A23 Door Latch Assembly

- **If less than 3 Ω**

5. All OK.

Repair Instructions

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

- [Rear Side Door Latch Replacement](#)
- [Front Side Door Latch Replacement](#)
- [Front Side Door Window Regulator Motor Replacement](#)
- [Rear Side Door Window Regulator Motor Replacement](#)

POWER DOOR DEAD LOCK MALFUNCTION

Diagnostic Instructions

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

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Short to Voltage
Control - Relay Coil	B3797 02	B3797 04	B3797 01	-
Control - A23D Door Latch Assembly - Driver	B3125 02, B3130 02, B3135 02	1	B3125 01, B3130 01, B3135 01	-
Control - A23P Door Latch Assembly - Passenger	B3125 02, B3130 02, B3135 02	1	B3125 01, B3130 01, B3135 01	-
Control - A23LR Door Latch Assembly - Left Rear	B3125 02, B3130 02, B3135 02	1	B3125 01, B3130 01, B3135 01	-
Control - A23RR Door Latch Assembly - Right Rear	B3125 02, B3130 02, B3135 02	1	B3125 01, B3130 01, B3135 01	-

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Short to Voltage
1. Interior Door Handle» Enabled/Disabled=Malfunction				

Circuit/System Description

For an overview of the component/system, refer to [Power Door Locks Description and Operation](#)

Circuit	Description
Control - Relay Coil	The output circuit is switched to 12 V to activate the component.
Control Driver Door Unlock	The output circuit is switched from ground to 12 V to activate the component.
Control All Doors Lock	The output circuit is switched from ground to 12 V to activate the component.
Control Passenger Door Unlock	The output circuit is switched from ground to 12 V to activate the component.

Component	Description
A23D Door Latch Assembly - Driver	The door locks are actuated by a bidirectional DC motor that locks/unlocks the door so that it can not be opened from outside the vehicle (but still from inside).
A23P Door Latch Assembly - Passenger	The door locks are actuated by a bidirectional DC motor that locks/unlocks the door so that it can not be opened from outside the vehicle (but still from inside).
A23LR Door Latch Assembly - Left Rear	The door locks are actuated by a bidirectional DC motor that locks/unlocks the door so that it can not be opened from outside the vehicle (but still from inside).
A23RR Door Latch Assembly - Right Rear	The door locks are actuated by a bidirectional DC motor that locks/unlocks the door so that it can not be opened from outside the vehicle (but still from inside).
X53A Fuse Block - Rear Body	The fuse block houses various fuses and relays.
K9 Body Control Module	The module controls various vehicle functions like lighting, central door locking, power windows, etc.

Reference Information

Schematic Reference

[Door Lock/Indicator Schematics](#)

Connector End View Reference

[COMPONENT CONNECTOR END VIEWS - INDEX](#)

Component View Reference

[Door Component Views](#)

Electrical Information Reference

- [Circuit Testing](#)
- [Connector Repairs](#)
- [Testing for Intermittent Conditions and Poor Connections](#)
- [Wiring Repairs](#)
- [Relay Replacement \(Attached to Wire Harness\)](#) [Relay Replacement \(Within an Electrical Center\)](#)

Control Module References

Circuit/System Verification

1. Ignition/ Vehicle Off / In Service Mode
2. Perform the scan tool control function: Door Dead Lock Lock/Unlock/ Lock

Verify the correct operation:

- Interior Door Handle @ Driver Door Off Disabled
- Interior Door Handle @ Passenger Door Off Disabled
- Interior Door Handle @ Left Rear Door Off Disabled
- Interior Door Handle @ Right Rear Door Off Disabled
- **If the component does not work as specified**

Refer to Circuit/System Testing - Test 1

- **If none of the components work properly**

Refer to Circuit/System Testing - Test 2

- **If the component works as specified**

3. Perform the scan tool control function: Door Dead Lock Lock/Unlock/ Unlock

Verify the correct operation:

- Interior Door Handle @ Driver Door On Enabled
- Interior Door Handle @ Passenger Door On Enabled
- Interior Door Handle @ Left Rear Door On Enabled
- Interior Door Handle @ Right Rear Door On Enabled
- **If the component does not work as specified**

Refer to Circuit/System Testing - Test 1

- **If none of the components work properly**

Refer to Circuit/System Testing - Test 2

- **If the component works as specified**

4. All OK.

Circuit/System Testing

Test 1

1. Ignition/Vehicle & All vehicle systems Off
2. Disconnect the appropriate electrical connector:
 - A23D Door Latch Assembly - Driver
 - A23LR Door Latch Assembly - Left Rear
 - A23P Door Latch Assembly - Passenger
 - A23RR Door Latch Assembly - Right Rear
3. Connect a test lamp between the test points:
 - A23D Door Latch Assembly - Driver: Control circuit terminal 6 & Control circuit terminal 8
 - A23P Door Latch Assembly - Passenger: Control circuit terminal 10 & Control circuit terminal 8

- A23LR Door Latch Assembly - Left Rear: Control circuit terminal 6 & Control circuit terminal 8
 - A23RR Door Latch Assembly - Right Rear: Control circuit terminal 10 & Control circuit terminal 8
4. Ignition/Vehicle On / Vehicle In Service Mode
 5. Perform the scan tool control function: Door Dead Lock Lock/Unlock Lock & Unlock
 6. Verify the test lamp does not turn On and Off.
 - **If the test lamp turns On and Off**
 Test or replace the component: A23 Door Latch Assembly
 - **If the test lamp does not turn On and Off**
 7. Ignition/Vehicle Off
 8. Disconnect the electrical connector: X6 @ K9 Body Control Module
 9. Disconnect the electrical connector: X1 or X3 @ X53A Fuse Block - Rear Body
 10. Test for less than 2 Ω between the test points:
 - Control circuit terminal 8 @ A23D Door Latch Assembly - Driver & Terminal 4 X6 @ Control module harness
 - Control circuit terminal 8 @ A23LR Door Latch Assembly - Left Rear & Terminal 4 X6 @ Control module harness
 - Control circuit terminal 8 @ A23P Door Latch Assembly - Passenger & Terminal 4 X6 @ Control module harness
 - Control circuit terminal 8 @ A23RR Door Latch Assembly - Right Rear & Terminal 4 X6 @ Control module harness
 - {With UKL} Control circuit terminal 10 @ A23P Door Latch Assembly - Passenger & Terminal 19 X1 @ Fuse Block Harness
 - {With UKL} Control circuit terminal 10 @ A23RR Door Latch Assembly - Right Rear & Terminal 19 X1 @ Fuse Block Harness
 - {With UKL} Control circuit terminal 6 @ A23D Door Latch Assembly - Driver & Terminal 19 X1 @ Fuse Block Harness
 - {With UKL} Control circuit terminal 6 @ A23LR Door Latch Assembly - Left Rear & Terminal 19 X1 @ Fuse Block Harness
 - {Without UKL} Control circuit terminal 6 @ A23D Door Latch Assembly - Driver & Terminal 2 X3 @ Fuse Block Harness
 - {Without UKL} Control circuit terminal 6 @ A23LR Door Latch Assembly - Left Rear & Terminal 2 X3 @ Fuse Block Harness
 - {Without UKL} Control circuit terminal 10 @ A23P Door Latch Assembly - Passenger & Terminal 2 X3 @ Fuse Block Harness
 - {Without UKL} Control circuit terminal 10 @ A23RR Door Latch Assembly - Right Rear & Terminal 2 X3 @ Fuse Block Harness
 - If 2 Ω or greater Repair the open/high resistance in the circuit.
 - **If less than 2 Ω**
 11. Test or replace the component: K9 Body Control Module

Test 2

1. Ignition/Vehicle & All vehicle systems Off

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

2. Disconnect the electrical connector: X1 @ X53A Fuse Block - Rear Body
3. Test for less than 10 Ω between the test points: Ground circuit terminal 27 & Ground
 - **If 10 Ω or greater**

1. Ground Connection» Disconnect

2. Test for less than $2\ \Omega$ between the test points: Ground circuit terminal 27 & Ground Connection

- 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 $10\ \Omega$**

4. Connect the electrical connector: X1 @ X53A Fuse Block - Rear Body

5. Disconnect the electrical connector: X7 @ K9 Body Control Module

6. Ignition» On / Vehicle» In Service Mode

7. Momentarily connect a 3 A fused jumper wire between the test points: Control circuit terminal 10 & B+

Verify the component produces a clicking sound: A23D Door Latch Assembly - Driver

• **If the component does not produce a sound**

1. Ignition/Vehicle» Off & Remove» Jumper wire(s)

2. Disconnect the electrical connector: X1 or X2 @ X53A Fuse Block - Rear Body

3. Ignition» On / Vehicle» In Service Mode

4. Test for less than 1 V between the test points: Control circuit terminal 10 @ Control module harness & Ground

- If 1 V or greater » Repair the short to voltage on the circuit.
- If less than 1 V

5. Ignition/Vehicle » Off

6. Test for infinite resistance between the test points: Control circuit terminal 10 @ Control module harness & Ground

- If less than infinite resistance » Repair the short to ground on the circuit.
- If infinite resistance

7. Test for less than $2\ \Omega$ between the test points:

- {With UKL} Control circuit terminal 10 @ Control module harness & Terminal 15 X1 @ Fuse Block Harness
- {Without UKL} Control circuit terminal 10 @ Control module harness & Terminal 16 X2 @ Fuse Block Harness
- If $2\ \Omega$ or greater» Repair the open/high resistance in the circuit.
- If less than $2\ \Omega$ » Test or replace the component: X53A Fuse Block - Rear Body

• **If the component turns On and Off**

8. Replace the component: K9 Body Control Module

Component Testing

1. Ignition/Vehicle» Off

2. Disconnect the appropriate electrical connector:

- A23D Door Latch Assembly - Driver
- A23P Door Latch Assembly - Passenger
- A23LR Door Latch Assembly - Left Rear
- A23RR Door Latch Assembly - Right Rear

3. Connect a 25 A fused jumper wire between the test points: Control terminal 8 & B+

4. Momentarily connect a jumper wire between the test points:

CAUTION: Complete the testing as quickly as possible in order to prevent overheating and damaging the component.

- A23D Door Latch Assembly - Driver: Control terminal 6 & Ground
- A23P Door Latch Assembly - Passenger: Control terminal 10 & Ground

- A23LR Door Latch Assembly - Left Rear: Control terminal 6 & Ground
- A23RR Door Latch Assembly - Right Rear: Control terminal 10 & Ground

5. Reverse the jumper wires 2 times between the terminals.

Verify the component works as specified: A23 Door Latch Assembly = Lock & Unlock

- **If not the specified state**

Replace the component: A23 Door Latch Assembly

- **If not the specified state**

6. All OK.

Repair Instructions

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

- [Front Side Door Latch Replacement](#)
- [Rear Side Door Latch Replacement](#)
- [Body Wiring Harness Junction Block Replacement](#)
- For control module replacement, programming and setup, refer to [Control Module References](#)

POWER DOOR LOCK KEY CYLINDER SWITCHES MALFUNCTION

Diagnostic Instructions

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

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal	1	1	1	-
Ground	-	1	-	-
1. B29D Door Lock Key Cylinder Switch - Driver=Disabled				

Circuit/System Description

For an overview of the component/system, refer to [Power Door Locks Description and Operation](#)

Circuit	Description
Signal	The control module input circuit has an internal resistance connected to 12 V.
Ground	Chassis Ground

Component	Description
A23 Door Latch Assembly	The door locks are actuated by a bidirectional DC motor that locks/unlocks the door so that it can not be opened from outside the vehicle (but still from inside). The assembly also contains a normally open door ajar switch that closes as soon as the door is not fully closed.

Component	Description
S79D Window Switch - Driver	The assembly on the driver side has one switch for the driver window and one switch for the passenger window. Each switch has 2 outputs, one for window down and one for window up. The motors contain electronics that interpret the up/down signals and actuate the motors accordingly. The circuits for the motor in the driver door are directly wired to the motor. The circuits for the window in the passenger door first go to the passenger window switch and then to the motor. In the inactive position the switch on the passenger side passes on the two control signals as they are. When actuated, it switches one of the control circuits to 12 V.

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Component View Reference

Door Component Views

Electrical Information Reference

- Circuit Testing
- Connector Repairs
- Testing for Intermittent Conditions and Poor Connections
- Wiring Repairs
- Relay Replacement (Attached to Wire Harness) Relay Replacement (Within an Electrical Center)

Scan Tool Reference

Control Module References

Circuit/System Verification

1. Operate the component: S13D Door Lock Switch - Driver» Unlock
2. Operate the component: B29D Door Lock Key Cylinder Switch - Driver» Lock
3. Verify the component activates: A23LR Door Latch Assembly - Left Rear/A23P Door Latch Assembly - Passenger/A23RR Door Latch Assembly - Right Rear

- **If the component does not work as specified**

Refer to Circuit/System Testing

- **If all functions work properly**

4. All OK.

Circuit/System Testing

1. Ignition/Vehicle & All vehicle systems» Off

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

2. Disconnect the electrical connector: A23D Door Latch Assembly - Driver

3. Test for less than 10 Ω between the test points: Ground circuit terminal 3 & Ground

- **If 10 Ω or greater**

1. Ground Connection» Disconnect

2. Test for less than 10 Ω between the test points: Ground circuit terminal 3 @ Component harness & Ground Connection

- 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**

4. Ignition» On / Vehicle» In Service Mode

5. Test for greater than 10 V between the test points: Signal circuit terminal 4 & Ground circuit terminal 3

- **If 10 V or less**

1. Ignition/Vehicle» Off

2. Disconnect the electrical connector: S79D Window Switch - Driver

3. Test for infinite resistance between the test points: Signal circuit terminal 4 @ Component harness & Ground

- If less than infinite resistance» Repair the short to ground on the circuit.
- If infinite resistance

4. Test for less than 2 Ω between the test points: Signal circuit terminal 4 @ Component harness & Signal circuit terminal 14 @ S79D Window Switch - Driver

- If 2 Ω or greater» Repair the open/high resistance in the circuit.
- If less than 2 Ω » Replace the component: S79D Window Switch - Driver

- **If greater than 10 V**

6. Test or replace the component: A23D Door Latch Assembly - Driver

Component Testing

1. Ignition/Vehicle» Off

2. Disconnect the electrical connector: A23D Door Latch Assembly - Driver

3. Test for infinite resistance between the test points: Signal terminal 4 & Ground terminal 3 - The switch is in the open position.

- **If less than infinite resistance**

Replace the component: A23D Door Latch Assembly - Driver

- **If infinite resistance**

4. Test for less than 3 Ω between the test points: Signal terminal 4 & Ground terminal 3 - The switch is in the closed position.

- **If 3 Ω or greater**

Replace the component: A23D Door Latch Assembly - Driver

- **If less than 3 Ω**

5. All OK.

Repair Instructions

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

- [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
B+-Body Control Module	B3125 02, B3130 02, B3135 02	B3125 02, B3130 02, B3135 02	-	-
Signal terminal 2 @ S13D Door Lock Switch - Driver	B3150 00	2	2	-
Signal terminal 3 @ S13D Door Lock Switch - Driver	B3140 00	3	3	-
Signal terminal 2 @ S13P Door Lock Switch - Passenger	B3155 00	4	4	-
Signal terminal 3 @ S13P Door Lock Switch - Passenger	B3145 00	5	5	-
Control-A23D Door Latch Assembly - Driver	B3125 02, B3130 02, B3135 02	7	B3125 01, B3130 01, B3135 01	-
Control-A23P Door Latch Assembly - Passenger	B3125 02, B3130 02, B3135 02	8	B3125 01, B3130 01, B3135 01	-
Control-A23LR Door Latch Assembly - Left Rear	B3125 02, B3130 02, B3135 02	9	B3125 01, B3130 01, B3135 01	-
Control-A23RR Door Latch Assembly - Right Rear	B3125 02, B3130 02, B3135 02	10	B3125 01, B3130 01, B3135 01	-
S13P Door Lock Switch - Passenger-Ground	-	6	-	-
Ground-S13D Door Lock Switch - Driver	-	1	-	-
Ground-Body Control Module	-	7, 8, 9, 10	-	-
1. S13D Door Lock Switch - Driver=Inoperative 2. Driver Door Lock Switch=Inoperative 3. Driver Door Unlock Switch=Inoperative 4. Passenger Door Lock Switch=Inoperative 5. Passenger Door Unlock Switch=Inoperative 6. S13P Door Lock Switch - Passenger=Inoperative 7. A23D Door Latch Assembly - Driver=Inoperative 8. A23P Door Latch Assembly - Passenger=Inoperative 9. A23LR Door Latch Assembly - Left Rear=Inoperative 10. A23RR Door Latch Assembly - Right Rear=Inoperative				

Circuit/System Description

For an overview of the component/system, refer to [Power Door Locks Description and Operation](#)

Circuit	Description
B+-Body Control Module	Supplied from a fuse.
Signal	The control module input circuit has an internal

	resistance connected to 12 V.
Control Driver Door Unlock	The output circuit is switched from ground to 12 V to activate the component.
Control All Doors Lock	The output circuit is switched from ground to 12 V to activate the component.
Control Passenger Door Unlock	The output circuit is switched from ground to 12 V to activate the component.
Ground-S13D Door Lock Switch - Driver	Chassis Ground
Ground-S13P Door Lock Switch - Passenger	Chassis Ground
Ground-Body Control Module	Chassis Ground

Component	Description
A23D Door Latch Assembly - Driver	The door locks are actuated by a bidirectional DC motor that locks/unlocks the door so that it can not be opened from outside the vehicle (but still from inside).
A23P Door Latch Assembly - Passenger	The door locks are actuated by a bidirectional DC motor that locks/unlocks the door so that it can not be opened from outside the vehicle (but still from inside).
A23LR Door Latch Assembly - Left Rear	The door locks are actuated by a bidirectional DC motor that locks/unlocks the door so that it can not be opened from outside the vehicle (but still from inside).
A23RR Door Latch Assembly - Right Rear	The door locks are actuated by a bidirectional DC motor that locks/unlocks the door so that it can not be opened from outside the vehicle (but still from inside).
K9 Body Control Module	The module controls various vehicle functions like lighting, central door locking, power windows, etc.
S13P Door Lock Switch - Passenger	- The switch has a normally open contact. - When the switch is activated, the signal circuit to the control module is grounded.
S13D Door Lock Switch - Driver	- The switch has a normally open contact. - When the switch is activated, the signal circuit to the control module is grounded.

Reference Information

Schematic Reference

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

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Component View Reference

Door Component Views

Electrical Information Reference

- [Circuit Testing](#)

- [Connector Repairs](#)
- [Testing for Intermittent Conditions and Poor Connections](#)
- [Wiring Repairs](#)
- [Relay Replacement \(Attached To Wire Harness\)](#) [Relay Replacement \(Within An Electrical Center\)](#) .

Scan Tool Reference

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

Circuit/System Verification

1. Ignition» On / Vehicle» In Service Mode
2. Verify the scan tool parameter: Driver Door Lock Switch=Inactive
 - **If not the specified state**
Refer to Circuit/System Testing-Test 1
 - **If the specified state**
3. Operate the component: S13D Door Lock Switch - Driver» Lock & Unlock
Verify the scan tool parameter: Driver Door Lock Switch=Lock & Unlock
 - **If not the specified state**
Refer to Circuit/System Testing-Test 1
 - **If the specified state**
4. Verify the scan tool parameter: Passenger Door Lock Switch=Inactive
 - **If not the specified state**
Refer to Circuit/System Testing-Test 1
 - **If the specified state**
5. Operate the component: S13P Door Lock Switch - Passenger» Lock & Unlock
Verify the scan tool parameter: Passenger Door Lock Switch=Lock & Unlock
 - **If not the specified state**
Refer to Circuit/System Testing-Test 1
 - **If the specified state**
6. Operate the component: S13D Door Lock Switch - Driver» Lock & Unlock
Verify the component works as specified:
 - A23D Door Latch Assembly - Driver= Lock & Unlock
 - A23LR Door Latch Assembly - Left Rear= Lock & Unlock
 - A23P Door Latch Assembly - Passenger= Lock & Unlock
 - A23RR Door Latch Assembly - Right Rear= Lock & Unlock
 - **If the component does not activate» A23D Door Latch Assembly - Driver**
Refer to Circuit/System Testing-Test 2
 - **If the component does not activate» A23LR Door Latch Assembly - Left Rear**
Refer to Circuit/System Testing-Test 3
 - **If the component does not activate» A23P Door Latch Assembly - Passenger**

Refer to Circuit/System Testing-Test 3

- **If the component does not activate**» A23RR Door Latch Assembly - Right Rear

Refer to Circuit/System Testing-Test 3

- **If none of the components operate**

Refer to Circuit/System Testing-Test 4

- **If all functions work properly**

7. All OK.

Circuit/System Testing

Test 1

1. Ignition/Vehicle & All vehicle systems» Off

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

2. Disconnect the appropriate electrical connector: S13D Door Lock Switch - Driver/S13P Door Lock Switch - Passenger

3. Test for less than 10 Ω between the test points: Ground circuit terminal 4 & Ground

- **If 10 Ω or greater**

1. Ground Connection» Disconnect

2. Test for less than 2 Ω between the test points: Ground circuit terminal 4 @ Component harness & Ground Connection

- 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**

4. Ignition» On / Vehicle» In Service Mode

5. Verify the scan tool parameter: Driver Door Lock Switch or Passenger Door Lock Switch=Inactive

- **If not the specified state**

1. Ignition/Vehicle» Off

2. Disconnect the electrical connector: X2/X7 @ K9 Body Control Module

3. Test for infinite resistance between the test points:

- Signal circuit terminal 2 @ Component harness & Ground
- Signal circuit terminal 3 @ Component harness & Ground
- If less than infinite resistance» Repair the short to ground on the circuit.
- If infinite resistance» Replace the component: K9 Body Control Module

- **If the specified state**

6. Connect a 3 A fused jumper wire between the test points: Signal circuit terminal 2 & Ground circuit terminal 4

7. Verify the scan tool parameter: Driver Door Lock Switch or Passenger Door Lock Switch=Lock

If not the specified state

1. Ignition/Vehicle» Off & Remove» Jumper wire(s)

2. Disconnect the electrical connector: X2 or X7 @ K9 Body Control Module

3. Ignition» On / Vehicle» In Service Mode

4. Test for less than 1 V between the test points: Signal circuit terminal 2 @ Component harness & Ground

5. Ignition/Vehicle » Off

6. Test for less than 2 Ω between the test points:

- Signal circuit terminal 2 @ S13D Door Lock Switch - Driver & Terminal 19 X2 @ Control module harness
- Signal circuit terminal 2 @ S13P Door Lock Switch - Passenger & Terminal 14 X7 @ Control module harness
- If 2 Ω or greater » Repair the open/high resistance in the circuit.
- If less than 2 Ω » Replace the component: K9 Body Control Module

If the specified state

8. Connect a 3 A fused jumper wire between the test points: Signal circuit terminal 3 & Ground circuit terminal 4

9. Verify the scan tool parameter: Driver Door Lock Switch or Passenger Door Lock Switch=Unlock

- **If not the specified state**

1. Ignition/Vehicle » Off & Remove » Jumper wire(s)

2. Disconnect the electrical connector: X2 or X7 @ K9 Body Control Module

3. Ignition » On / Vehicle » In Service Mode

4. Test for less than 1 V between the test points: Signal circuit terminal 3 @ Component harness & Ground

- If 1 V or greater » Repair the short to voltage on the circuit.
- If less than 1 V

5. Ignition/Vehicle » Off

6. Test for less than 2 Ω between the test points:

- Signal circuit terminal 3 @ S13D Door Lock Switch - Driver & Terminal 15 X2 @ Control module harness
- Signal circuit terminal 3 @ S13P Door Lock Switch - Passenger & Terminal 25 X7 @ Control module harness
- If 2 Ω or greater » Repair the open/high resistance in the circuit.
- If less than 2 Ω » Replace the component: K9 Body Control Module

10. Test or replace the component: S13D Door Lock Switch - Driver/S13P Door Lock Switch - Passenger

Test 2

1. Ignition/Vehicle » Off

2. Disconnect the electrical connector: A23D Door Latch Assembly - Driver

3. Connect a test lamp between the test points: Control circuit terminal 7 & Control circuit terminal 8

4. Ignition » On / Vehicle » In Service Mode

5. Operate the component: S13D Door Lock Switch - Driver » Lock & Unlock

6. Verify the test lamp does not turn On and Off.

- **If the test lamp turns On and Off**

Test or replace the component: A23D Door Latch Assembly - Driver

- **If the test lamp does not turn On and Off**

7. Ignition/Vehicle » Off

8. Disconnect the electrical connector: X6 @ K9 Body Control Module

9. Test for less than 2 Ω between the test points:

- Control circuit terminal 7 @ A23D Door Latch Assembly - Driver & Terminal 1 X6 @ Control module harness
- Control circuit terminal 8 @ A23D Door Latch Assembly - Driver & Terminal 4 X6 @ Control module harness
- If 2 Ω or greater » Repair the open/high resistance in the circuit.

- **If less than 2 Ω**

10. Test or replace the component: K9 Body Control Module

Test 3

1. Ignition/Vehicle $\hat{A}$ Off
2. Disconnect the appropriate electrical connector:
 - A23LR Door Latch Assembly - Left Rear
 - A23P Door Latch Assembly - Passenger
 - A23RR Door Latch Assembly - Right Rear
3. Connect a test lamp between the test points:
 - A23P Door Latch Assembly - Passenger: Control circuit terminal 8 & Control circuit terminal 9
 - A23LR Door Latch Assembly - Left Rear: Control circuit terminal 7 & Control circuit terminal 8
 - A23RR Door Latch Assembly - Right Rear: Control circuit terminal 8 & Control circuit terminal 9
4. Ignition $\hat{A}$ On / Vehicle $\hat{A}$ In Service Mode
5. Operate the component: S13D Door Lock Switch - Driver $\hat{A}$ Lock & Unblock
6. Verify the test lamp does not turn On and Off.
 - **If the test lamp turns On and Off**
 Test or replace the component: A23 Door Latch Assembly
 - **If the test lamp does not turn On and Off**
7. Ignition/Vehicle $\hat{A}$ Off
8. Disconnect the electrical connector: X6 @ K9 Body Control Module
9. Ignition $\hat{A}$ On / Vehicle $\hat{A}$ In Service Mode
10. Test for less than 2 Ω between the test points:
 - Control circuit terminal 7 @ A23LR Door Latch Assembly - Left Rear & Terminal 2 X6 @ Control module harness
 - Control circuit terminal 8 @ A23LR Door Latch Assembly - Left Rear & Terminal 4 X6 @ Control module harness
 - Control circuit terminal 8 @ A23P Door Latch Assembly - Passenger & Terminal 4 X6 @ Control module harness
 - Control circuit terminal 9 @ A23P Door Latch Assembly - Passenger & Terminal 2 X6 @ Control module harness
 - Control circuit terminal 8 @ A23RR Door Latch Assembly - Right Rear & Terminal 4 X6 @ Control module harness
 - Control circuit terminal 9 @ A23RR Door Latch Assembly - Right Rear & Terminal 2 X6 @ Control module harness
 - If 2 Ω or greater $\hat{A}$ Repair the open/high resistance in the circuit.
 - **If less than 2 Ω**
11. Test or replace the component: K9 Body Control Module

Test 4

1. Ignition/Vehicle & All vehicle systems $\hat{A}$ Off

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

2. Disconnect the electrical connector: X2 & X6 @ K9 Body Control Module
3. Test for less than 10 Ω between the test points: Ground circuit terminal 3 X6 & Ground

- **If 10 Ω or greater**

1. Ground Connection» Disconnect

2. Test for less than 2 Ω between the test points: Ground circuit terminal 3 X6 & Ground Connection

- 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**

4. Ignition» On / Vehicle» In Service Mode

5. Verify a test lamp turns On between the test points: B+ circuit terminal 4 X2 & Ground

- **If the test lamp does not turn On and the circuit fuse is OK**

1. Ignition/Vehicle» Off & Remove» Test lamp

2. Test for less than 2 Ω between the test points: B+ circuit terminal 4 X2 & Output terminal @ F9DA Fuse

- If 2 Ω or greater» Repair the open/high resistance in the circuit.
- If less than 2 Ω » Verify the fuse is OK and there is voltage at the fuse.

- **If the test lamp does not turn On and the circuit fuse is open**

1. Ignition/Vehicle» Off & Remove » Test lamp

2. Disconnect the electrical connector:

- A23D Door Latch Assembly - Driver
- A23LR Door Latch Assembly - Left Rear
- A23P Door Latch Assembly - Passenger
- A23RR Door Latch Assembly - Right Rear

3. Test for infinite resistance between the test points:

- Control circuit terminal 1 X6 @ K9 Body Control Module & Ground
- Control circuit terminal 2 X6 @ K9 Body Control Module & Ground
- Control circuit terminal 4 X6 @ K9 Body Control Module & Ground
- If less than infinite resistance» Repair the short to ground on the circuit.
- If infinite resistance» Replace the component: A23 Door Latch Assembly

- **If the test lamp turns On**

6. Ignition/Vehicle » Off

7. Connect the electrical connector: X2 @ K9 Body Control Module

8. Ignition» On / Vehicle» In Service Mode

9. Test for less than 1 V between the test points:

- Control circuit terminal 1 X6 @ K9 Body Control Module & Ground
- Control circuit terminal 2 X6 @ K9 Body Control Module & Ground
- Control circuit terminal 4 X6 @ K9 Body Control Module & Ground
- **If greater than 1 V**

Repair the short to ground on the circuit.

- **If 1 V or less**

10. Ignition/Vehicle» Off

11. Test for infinite resistance between the test points:

- Control circuit terminal 1 X6 @ K9 Body Control Module & Ground
- Control circuit terminal 2 X6 @ K9 Body Control Module & Ground
- Control circuit terminal 4 X6 @ K9 Body Control Module & Ground
- **If less than infinite resistance**

Repair the short to ground on the circuit.

- **If infinite resistance**

12. Replace the component: K9 Body Control Module

Component Testing

S13 Door Lock Switch-Test

1. Ignition/Vehicle » Off
2. Disconnect the appropriate electrical connector: S13 Door Lock Switch
3. Test for infinite resistance between the test points:
 - Signal terminal 2 & Ground terminal 4-Switch » Not Pressed
 - Signal terminal 3 & Ground terminal 4-Switch » Not Pressed
 - **If less than infinite resistance**
Replace the component: S13 Door Lock Switch
 - **If infinite resistance**
4. Test for less than 3 Ω between the test points: Signal terminal 2 & Ground terminal 4-Lock Switch » Pressed
 - **If 3 Ω or greater**
Replace the component: S13 Door Lock Switch
 - **If less than 3 Ω**
5. Test for less than 3 Ω between the test points: Signal terminal 3 & Ground terminal 4-Unlock Switch » Pressed
 - **If 3 Ω or greater**
Replace the component: S13 Door Lock Switch
 - **If less than 3 Ω**
6. All OK

A23 Door Latch Assembly

1. Ignition/Vehicle » Off
2. Disconnect the appropriate electrical connector:
 - A23D Door Latch Assembly - Driver
 - A23P Door Latch Assembly - Passenger
 - A23LR Door Latch Assembly - Left Rear
 - A23RR Door Latch Assembly - Right Rear
3. Connect a 25 A fused jumper wire between the test points: Control terminal 8 & B+
4. Momentarily connect a jumper wire between the test points:

CAUTION: Complete the testing as quickly as possible in order to prevent overheating and damaging the component.

- A23D Door Latch Assembly - Driver Control terminal 7 & Ground
 - A23P Door Latch Assembly - Passenger Control terminal 9 & Ground
 - A23LR Door Latch Assembly - Left Rear Control terminal 7 & Ground
 - A23RR Door Latch Assembly - Right Rear Control terminal 9 & Ground
5. Reverse the jumper wires 2 times between the terminals.

Verify the component works as specified: A23 Door Latch Assembly = Lock & Unlock

- **If not the specified state**

Replace the component: A23 Door Latch Assembly

- If not the specified state

6. All OK

Repair Instructions

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

- [Door Lock Switch Replacement - Driver Side](#)
- [Door Lock Switch Replacement - Passenger Front](#)
- [Front Side Door Latch Replacement](#)
- [Rear Side Door Latch Replacement](#)
- For control module replacement, programming and setup, refer to [Control Module References](#)

TRUNK RELEASE MALFUNCTION (WITH TC2)

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 Control Module B+ Terminal 4 X2	U0230 00	U0230 00	-	-
Liftgate Control Module B+ Terminal 3 X2	B384B 04	B384B 04	-	-
Interior Rear Compartment Lid Unlatch Switch Signal	B396D 02	2	2	-
Liftgate Unlatch Switch Signal	B2494 02	1	1	-
Liftgate Close Switch Signal	B396E 02	4	4	-
Pawl Switch Signal	B153A 08	B153A 08	B153A 08	-
Ratchet Switch Signal	B153A 08	B153A 08	B153A 08	-
Liftgate Position Sensor 12 V Reference Voltage	B153E 02	B153E 04	-	-
Liftgate Position Sensor 1 Signal	B153E02, B153E 08	B153E 04, B153E 08	B153E 01, B153E 08	B153E 08
Liftgate Position Sensor 2 Signal	B153E 02, B153E 08	B153E 04, B153E 08	B153E 01, B153E 08	B153E 08
Liftgate Motor Close Control	B384B 02	B384B 04	B384B 01	-
Liftgate Motor Open Control	B384B 02	B384B 04	B384B 01	-
Trunk Lid Latch Cinch Control	B2495 02	B2495 04	B2495 01	-
Trunk Lid Latch Release Control	B2495 02	B2495 04	B2495 01	-
Liftgate Position Sensor Low Reference	-	B153E 04	-	-
Liftgate Close Switch Low Reference	-	4	-	-
Liftgate Unlatch Switch Low Reference	-	1	-	-
Interior Rear Compartment Lid Unlatch Switch Ground	-	2	-	-
Liftgate Control Module Ground	-	U0230 00	-	-

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
1. Liftgate unlatch switch inoperative 2. Interior rear compartment lid unlatch switch inoperative 3. Trunk release inoperative 4. Liftgate close switch inoperative				

Circuit/System Description

The liftgate latch assembly 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.

The ratchet and pawl 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. 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.

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

Diagnostic Aids

- Whenever the liftgate control module loses power or is disconnected, the ignition must be cycled OFF then ON in order to reactivate the liftgate control module.
- Remote power trunk lid functions may be disabled if a second keyless entry transmitter is inside the vehicle

Reference Information

Schematic Reference

Liftgate Schematics (TC2/TL9)

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX

Description and Operation

Luggage Compartment Description and Operation (Without TC2) Luggage Compartment Description and Operation (With TC2)

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/Vehicle in Service Mode.
2. Verify the scan tool Liftgate Front Control 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 Liftgate Switch Inoperative
 - **If the parameter changes**
3. Verify the scan tool Liftgate Handle Switch parameter changes between Active and Inactive when pressing the S46B Liftgate Unlatch Switch.
 - **If the parameter does not change**

Refer to Circuit/System Testing - Liftgate Unlatch Switch Malfunction
 - **If the parameter changes**
4. Trunk Lid Closed, verify the scan tool Liftgate Latch Pawl Switch and Liftgate Latch Ratchet Switch parameters are as listed below:
 - Liftgate Latch Pawl Switch parameter Close
 - Liftgate Latch Ratchet Switch parameter Close
 - **If any of the parameters are not as listed**

Refer to Circuit/System Testing - Rear Compartment Lid Latch Switches Malfunction
 - **If the parameters are as listed**
5. Verify the A23C Liftgate Latch Assembly will release and the trunk lid will power open and close when commanding Liftgate Open/Close with a scan tool.
 - **If the A23C Liftgate Latch Assembly does not release**

Refer to Circuit/System Testing - Liftgate Latch Release Malfunction
 - **If the A23C Liftgate Latch Assembly releases but the trunk lid does not power open or power close**

Refer to Circuit/System Testing - Power Trunk Lid Inoperative
 - **If the A23C Liftgate Latch Assembly activates and the trunk will power open and power close**
6. Trunk lid Open, verify the scan tool Liftgate Latch Pawl Switch and Liftgate Latch Ratchet Switch parameters are as listed below:
 - Liftgate Latch Pawl Switch parameter Open
 - Liftgate Latch Ratchet Switch parameter Open
 - **If any of the parameter are not as listed**

Refer to Circuit/System Testing - Rear Compartment Lid Latch Switches Malfunction
 - **If the parameters are as listed**
7. Verify the scan tool Liftgate Rear Close Switch parameter changes between Inactive to Active when pressing the B70 Liftgate Close Switch.
 - **If the parameter does not change**

Refer to Circuit/System Testing - Liftgate Close Switch Malfunction
 - **If the parameter changes**
8. All OK.

Circuit/System Testing

Interior Liftgate Switch Inoperative

1. Ignition/Vehicle 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**
 1. Ignition/Vehicle Off.
 2. Test for less than 2 Ω in the ground circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , repair the open/high resistance in the ground connection.
 - **If less than 10 Ω**
3. Ignition On/Vehicle in Service Mode.
4. Verify the scan tool Liftgate Front Control Switch parameter is Inactive.
 - **If not Inactive**
 1. Ignition/Vehicle Off. Disconnect the harness connector at the K39 Liftgate Control Module.
 2. Test for infinite resistance between the signal circuit terminal 4 and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the K39 Liftgate Control Module.
 - **If Inactive**
5. Install a 3 A fused jumper wire between the signal circuit terminal 4 and the ground circuit terminal 2.
6. Verify the scan tool Liftgate Front Control Switch parameter is Active.
 - **If not Active**
 1. Ignition/Vehicle Off. Remove the jumper wire, disconnect the harness connector at the K39 Liftgate Control Module. Ignition On/Vehicle in Service Mode.
 2. Test for less than 1 V between the signal circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V
 3. Test for less than 2 Ω in the signal circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K39 Liftgate Control Module.
 - **If Active**
7. Test or replace the S58B Rear Compartment Lid Unlatch Switch-Interior.

Liftgate Unlatch Switch Malfunction

1. Ignition/Vehicle 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**
 1. Ignition/Vehicle Off. Disconnect the harness connector at the K39 Liftgate Control Module
 2. Test for less than 2 Ω in the low reference circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , repair the open/high resistance in the low reference connection.
 - **If less than 10 Ω**
3. Ignition On/Vehicle in Service Mode.
4. Verify the scan tool Liftgate Handle Switch parameter is Inactive.
 - **If not Inactive**
 1. Ignition/Vehicle Off. Disconnect the harness connector at the K39 Liftgate Control Module.
 2. Test for infinite resistance between the signal circuit terminal 2 and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the 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**
 1. Ignition/Vehicle Off. Disconnect the harness connector at the K39 Liftgate Control Module. Ignition On/Vehicle in Service Mode.
 2. Test for less than 1 V between the signal circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V
 3. Test for less than 2 Ω in the signal circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K39 Liftgate Control Module.
 - **If Active**
 7. Test or replace the S46B Liftgate Unlatch Switch.

Rear Compartment Latch Switches Malfunction

1. Ignition/Vehicle Off and all vehicle systems Off. Disconnect the harness connector at the A23C Liftgate Latch Assembly. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the low reference circuit terminal 6 and ground.
 - **If 10 Ω or greater**
 1. Ignition/Vehicle Off. Disconnect the harness connector at the K39 Liftgate Control Module.
 2. Test for less than 2 Ω in the low reference circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K39 Liftgate Control Module.
 - **If less than 10 Ω**
3. Ignition On/Vehicle in Service Mode.
4. Verify the scan tool Liftgate Latch Pawl Switch parameter is Closed.
 - **If not Closed**
 1. Ignition/Vehicle Off. Disconnect the X1 harness connector at the K39 Liftgate Control Module.
 2. Test for infinite resistance between the signal circuit terminal 3 and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the K39 Liftgate Control Module.
 - **If Closed**
5. Install a 3 A fused jumper wire between the signal circuit terminal 3 and the low reference circuit terminal 6.
6. Verify the scan tool Liftgate Latch Pawl Switch parameter is Open
 - **If not Open**
 1. Ignition/Vehicle Off. Remove the 3 A fused jumper wire, disconnect the X1 harness connector at the K39 Liftgate Control Module. Ignition On/Vehicle in Service Mode.
 2. Test for less than 1 V between the signal circuit terminal 3 and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V
 3. Test for less than 2 Ω in the signal circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K39 Liftgate Control Module.
 - **If Open**
7. Verify the scan tool Liftgate Latch Ratchet Switch parameter is Closed.
 - **If not Closed**

1. Ignition/Vehicle Off. Disconnect the X1 harness connector at the K39 Liftgate Control Module.
2. Test for infinite resistance between the signal circuit terminal 2 and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the K39 Liftgate Control Module.
- **If Closed**
8. Install a 3 A fused jumper wire between the signal circuit terminal 2 and the low reference circuit terminal 6.
9. Verify the scan tool Liftgate Latch Ratchet Switch parameter is Open
 - **If not Open**
 1. Ignition/Vehicle Off. Remove the 3 A fused jumper wire, disconnect the X1 harness connector at the K39 Liftgate Control Module. Ignition On/Vehicle in Service Mode.
 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
 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. Test or replace the A23C Liftgate Latch Assembly.

Liftgate Latch Release Malfunction

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

- 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.

Power Trunk Lid Inoperative

1. Ignition/Vehicle OFF, disconnect the X2 harness connector at the K39 Liftgate Control Module, Ignition On/Vehicle in Service Mode.
2. Verify a test lamp illuminates between the B+ circuit terminal 3 and ground.
 - **If the test lamp does not illuminate and the circuit fuse is good**
 1. Ignition/Vehicle Off.
 2. Test for less than 2 Ω in the B+ circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , verify the fuse is not open and there is voltage at the fuse.
 - **If the test lamp does not illuminate and the circuit fuse is open**
 1. Ignition/Vehicle Off.
 2. Test for infinite resistance between the B+ circuit and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance
 3. Disconnect the harness connector at the M17 Liftgate Motor Assembly.
 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 M17 Liftgate Motor Assembly.
 - **If the test lamp illuminates**
3. Ignition/Vehicle Off and all vehicle systems Off. Connect the X2 harness connector at the K39 Liftgate Control Module. It may take up to 2 minutes for all vehicle systems to power down.
4. Disconnect the harness connector at the M17 Liftgate Motor Assembly.
5. Test for less than 10 Ω between the low reference circuit terminal 3 and ground.
 - **If 10 Ω or greater**
 1. Ignition/Vehicle Off.
 2. Test for less than 2 Ω in the low reference circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K39 Liftgate Control Module.
 - **If less than 10 Ω**
6. Ignition ON/Vehicle in Service Mode, test for greater than 11 V between the 12 V reference circuit terminal 2 and ground.
 - **If 11 V or less**
 1. Ignition OFF, disconnect the X3 harness connector at the K39 Liftgate Control Module.
 2. Test for infinite resistance between the 12 V reference circuit and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance
 3. Test for less than 2 Ω in the 12 V reference circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K39 Liftgate Control Module.
 - **If greater than 11 V**
7. Test for greater than 11 V between the Position Sensor Signal 1 circuit terminal 7 and ground.
 - **If 11 V or less**
 1. Ignition/Vehicle Off. Disconnect the X3 harness connector at the K39 Liftgate Control Module.
 2. Test for infinite resistance between the Position Sensor Signal 1 circuit and ground.

- If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance
3. Test for less than 2 Ω in the Position Sensor Signal 1 circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K39 Liftgate Control Module.
 - **If greater than 11 V**
8. Test for greater than 11 V between the Position Sensor Signal 2 circuit terminal 8 and ground.
 - **If 11 V or less**
 1. Ignition/Vehicle Off. Disconnect the X3 harness connector at the K39 Liftgate Control Module.
 2. Test for infinite resistance between the Position Sensor Signal 2 circuit and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance
 3. Test for less than 2 Ω in the Position Sensor Signal 2 circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K39 Liftgate Control Module.
 - **If greater than 11 V**
 9. Connect a test lamp between the control circuit terminal 1 and control circuit terminal 4. Ignition On/Vehicle in Service Mode.
 10. Verify the test lamp turns ON and OFF while pressing the B70 Liftgate Close Switch.
 - **If the test lamp remains OFF**
 1. Ignition/Vehicle Off. Remove the test lamp, disconnect the X3 harness connector at the K39 Liftgate Control Module.
 2. Test for infinite resistance between each control circuit and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance
 3. Test for less than 2 Ω in the control circuits end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K39 Liftgate Control Module.
 - **If the test lamp is always ON**
 1. Ignition/Vehicle Off. Remove the test lamp, disconnect the X3 harness connector at the K39 Liftgate Control Module. Ignition On/Vehicle in Service Mode.
 2. Test for less than 1 V between each control circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V, replace the K39 Liftgate Control Module
 - **If the test lamp turns ON and Off**
 11. Replace the M17 Liftgate Motor Assembly.

Liftgate Close Switch Malfunction

1. Ignition/Vehicle Off and all vehicle systems Off. Disconnect the harness connector at the B70 Liftgate Close 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 4 and ground.
 - **If 10 Ω or greater**
 1. Ignition/Vehicle Off. Disconnect the harness connector at the K39 Liftgate Control Module
 2. Test for less than 2 Ω in the low reference circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , repair the open/high resistance in the low reference connection.
 - **If less than 10 Ω**
3. Ignition On/Vehicle in Service Mode.
4. Verify the scan tool Liftgate Rear Close Switch parameter is Inactive.

- **If not Inactive**

1. Ignition/Vehicle Off. Disconnect the harness connector at the K39 Liftgate Control Module.
2. Test for infinite resistance between the signal circuit terminal 3 and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the K39 Liftgate Control Module.

- **If Inactive**

5. Install a 3 A fused jumper wire between the signal circuit terminal 3 and the low reference circuit terminal 4.
6. Verify the scan tool Liftgate Rear Close Switch parameter is Active.

- **If not Active**

1. Ignition/Vehicle Off. Disconnect the harness connector at the K39 Liftgate Control Module. Ignition On/Vehicle in Service Mode.
2. Test for less than 1 V between the signal circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V
3. Test for less than 2 Ω in the signal circuit end to end.
 - If 2 Ω or greater, repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K39 Liftgate Control Module.

- **If Active**

7. Test or replace the B70 Liftgate Close Switch.

Component Testing

Liftgate Unlatch Switch

1. Ignition/Vehicle 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

Exterior Trunk Control Switch

1. Ignition/Vehicle Off. Disconnect the harness connector at the B70 Liftgate Close Switch.
2. Test for infinite resistance between the signal terminal 3 and the low reference terminal 4 with the switch in the open position.
 - **If less than infinite resistance**
Replace the B70 Liftgate Close Switch.
 - **If infinite resistance**
3. Test for less than 3 Ω between the signal terminal 3 and the low reference terminal 4 with the switch in the closed position.
 - **If 3 Ω or greater**
Replace the B70 Liftgate Close Switch.

- **If less than 3 Ω**

4. All OK

Interior Trunk Control Switch

1. Ignition/Vehicle Off. Disconnect the harness connector at the S58B Rear Compartment Lid Unlatch Switch-Interior.
2. Test for infinite resistance between the signal terminal 4 and the ground terminal 2 with the switch in the open position.

- **If less than infinite resistance**

Replace the S58B Rear Compartment Lid Unlatch Switch-Interior.

- **If infinite resistance**

3. Test for less than 3 Ω between the signal terminal 4 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](#)
- [Rear Compartment Lid Power Assist Actuator Replacement](#)
- [Rear Compartment Lid Latch Replacement](#)
- [Liftgate Release Switch Replacement](#)
- [Liftgate Close Switch Replacement](#)
- [Control Module References](#) for the liftgate control module replacement, programming and setup.

TRUNK RELEASE MALFUNCTION (WITHOUT TC2)

Diagnostic Instructions

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

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
B+ - Relay Switch	3	3	-	-
Signal-S58A Rear Compartment Lid Unlatch Switch - Exterior	B3618 00	1	1	-
Signal-S58B Rear Compartment Lid Unlatch Switch - Interior	B2730 00	2	2	-
Control - Relay Coil	B3265 02	B3265 04	B3265 01	-
Control - M40 Rear Compartment Lid Latch	2	3	2	-
Ground-S58A Rear Compartment Lid Unlatch Switch - Exterior	-	2	-	-

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Ground-S58B Rear Compartment Lid Unlatch Switch - Interior	-	1	-	-
Ground - Relay Coil	-	B3265 04	-	-
Ground-M40 Rear Compartment Lid Latch	-	3	-	-
1. S58A Rear Compartment Lid Unlatch Switch - Exterior-Disabled 2. S58B Rear Compartment Lid Unlatch Switch - Interior-Disabled 3. M40 Rear Compartment Lid Latch-Inoperative				

Circuit/System Description

For an overview of the component/system, refer to [Luggage Compartment Description and Operation \(Without TC2\)](#)

Circuit	Description
B+ - Relay Switch	Supplied from a fuse.
Signal	The control module input circuit has an internal resistance connected to 12 V.
Control - Component	The output circuit is switched to 12 V to activate the component.
Control - Relay Coil	The output circuit is switched to 12 V to activate the component.
Ground - Component	Chassis Ground
Ground - Relay Coil	Chassis Ground

Component	Description
S58A Rear Compartment Lid Unlatch Switch - Exterior	When the switch is activated, the signal circuit to the control module is grounded.
S58B Rear Compartment Lid Unlatch Switch - Interior	When the switch is activated, the signal circuit to the control module is grounded.
M40 Rear Compartment Lid Latch	An electric DC motor.
K9 Body Control Module	The module controls various vehicle functions like lighting, central door locking, power windows, etc.

Reference Information

Schematic Reference

[Release Systems Schematics](#)

Connector End View Reference

[COMPONENT CONNECTOR END VIEWS - INDEX](#)

Description and Operation

- [Electrical Center Identification Views](#) and/or [Electrical Center Identification Views](#)
- [Luggage Compartment/Rear Of Vehicle Component Views](#)

Electrical Information Reference

- [Circuit Testing](#)
- [Connector Repairs](#)
- [Relay Replacement \(Attached To Wire Harness\)](#) [Relay Replacement \(Within An Electrical Center\)](#)

- Testing for Intermittent Conditions and Poor Connections
- Wiring Repairs

Scan Tool Reference

Control Module References

Circuit/System Verification

1. Ignition» On / Vehicle» In Service Mode
2. Verify the scan tool parameter: Trunk Lid/Liftgate Window Exterior Unlatch Switch=Inactive
 - **If not the specified state**
Refer to Circuit/System Testing - Test 1
 - **If the specified state**
3. Operate the component: S58A Rear Compartment Lid Unlatch Switch - Exterior» Pressed
Verify the scan tool parameter: Trunk Lid/Liftgate Window Exterior Unlatch Switch=Active
 - **If not the specified state**
Refer to Circuit/System Testing - Test 1
 - **If the specified state**
4. Verify the scan tool parameter: Interior Liftgate/Liftgate Window Unlatch Switch=Inactive
 - **If not the specified state**
Refer to Circuit/System Testing
 - **If the specified state**
5. Operate the component: S58B Rear Compartment Lid Unlatch Switch - Interior» Pressed
Verify the scan tool parameter: Interior Liftgate/Liftgate Window Unlatch Switch=Active
 - **If not the specified state**
Refer to Circuit/System Testing - Test 2
 - **If the specified state**
6. Perform the scan tool control function: Trunk Lid Unlatch Command» Unlatch
Verify a click can be heard or felt at the component when it is turned On and Off: M40 Rear Compartment Lid Latch
 - **If a click cannot be heard or felt**
Refer to Circuit/System Testing - Test 3
 - **If a click can be heard or felt**
7. All OK.

Circuit/System Testing

Test 1

1. Ignition/Vehicle Off and all vehicle systems Off. Disconnect the harness connector at the S58A Rear Compartment Lid Unlatch Switch-Exterior. It may take up to 2 minutes for all vehicle systems to power down.

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

performed.

2. Disconnect the electrical connector: S58A Rear Compartment Lid Unlatch Switch - Exterior
3. Test for less than 10 Ω between the test points: Ground circuit terminal 2 & Ground
 - **If 10 Ω or greater**
 1. Ground Connection» Disconnect
 2. Test for less than 2 Ω between the test points: Ground circuit terminal 2 @ Component harness & Ground Connection
 - 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**
4. Ignition» On / Vehicle» In Service Mode
5. Verify the scan tool parameter: Trunk Lid/Liftgate Window Exterior Unlatch Switch=Inactive
 - **If not the specified state**
 1. Ignition/Vehicle» Off
 2. Disconnect the electrical connector: K9 Body Control Module
 3. Test for infinite resistance between the test points: Signal circuit terminal 1 @ Component harness & Ground
 - If less than infinite resistance» Repair the short to ground on the circuit.
 - If infinite resistance» Replace the component: K9 Body Control Module
 - **If the specified state**
6. Connect a 3 A fused jumper wire between the test points: Signal circuit terminal 1 & Ground circuit terminal 2
7. Verify the scan tool parameter: Trunk Lid/Liftgate Window Exterior Unlatch Switch=Active
 - **If not the specified state**
 1. Ignition/Vehicle» Off & Remove» Jumper wire(s)
 2. Disconnect the electrical connector: K9 Body Control Module
 3. Ignition» On / Vehicle» In Service Mode
 4. Test for less than 1 V between the test points: Signal circuit terminal 1 @ Component harness & Ground
 - If 1 V or greater» Repair the short to voltage on the circuit.
 - If less than 1 V
 5. Ignition/Vehicle» Off
 6. Test for less than 2 Ω between the test points: Signal circuit terminal 1 @ Component harness & Terminal 15 X6 @ Control module harness
 - If 2 Ω or greater» Repair the open/high resistance in the circuit.
 - If less than 2 Ω » Replace the component: K9 Body Control Module
 - **If the specified state**
8. Test or replace the component: S58A Rear Compartment Lid Unlatch Switch - Exterior

Test 2

1. Ignition/Vehicle & All vehicle systems» Off

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

2. Disconnect the electrical connector: S58B Rear Compartment Lid Unlatch Switch - Interior
3. Test for less than 10 Ω between the test points: Ground circuit terminal 2 & Ground
 - **If 10 Ω or greater**
 1. Ground Connection» Disconnect

2. Test for less than 2 Ω between the test points: Ground circuit terminal 2 @ Component harness & Ground Connection
 - 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**
4. Ignition» On/Vehicle in Service Mode.
5. Verify the scan tool parameter: Interior Liftgate/Liftgate Window Unlatch Switch= Inactive.
 - **If not the specified state**
 1. Ignition/Vehicle» Off
 2. Disconnect the electrical connector: X6 @ K9 Body Control Module
 3. Test for infinite resistance between the test points: Signal circuit terminal 1 @ Component harness & Ground
 - If less than infinite resistance» Repair the short to ground on the circuit.
 - If infinite resistance» Replace the K9 Body Control Module.
 - **If the specified state**
6. Connect a 3 A fused jumper wire between the test points: Signal circuit terminal 1 & Ground circuit terminal 2
7. Verify the scan tool parameter: Interior Liftgate/Liftgate Window Unlatch Switch=Active
 - **If not the specified state**
 1. Ignition/Vehicle» Off & Remove» Jumper wire(s)
 2. Disconnect the electrical connector: X6 @ K9 Body Control Module
 3. Ignition» On / Vehicle » In Service Mode
 4. Test for less than 1 V between the test points: Signal circuit terminal 1 @ Component harness & Ground
 - If 1 V or greater» Repair the short to voltage on the circuit.
 - If less than 1 V
 5. Ignition/Vehicle » Off
 6. Test for less than 2 Ω between the test points: Signal circuit terminal 1 @ Component harness & Terminal 14 X6 @ Control module harness
 - If 2 or greater» Repair the open/high resistance in the circuit.
 - If less than 2 Ω , replace the K9 Body Control Module.
 - **If the specified state**
8. Test or replace the component: S58B Rear Compartment Lid Unlatch Switch-Interior.

Test 3

1. Ignition/Vehicle Off and all vehicle systems» Off.

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

2. Disconnect the electrical connector: M40 Rear Compartment Lid Latch
3. Test for less than 10 Ω between the test points: Ground circuit terminal 2 & Ground
 - **If 10 Ω or greater**
 1. Ground Connection» Disconnect
 2. Test for less than 2 Ω between the test points: Ground circuit terminal 2 & Ground Connection
 - 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**

4. Verify the test lamp does not turn ON and OFF when commanding the Trunk Lid Unlatch with a scan tool.

- **If the fuse is open**

1. Replace the component: F16RA Fuse

2. Verify the fuse does not open.

- If the fuse opensÂ» Test or replace the component: X53A Fuse Block - Rear Body
- If the fuse does not open, go to the next step.

- **If the fuse is not open**

5. Connect a test lamp between the test points: Control circuit terminal 1 & Ground circuit terminal 2

6. IgnitionÂ» On/VehicleÂ» In Service Mode

7. Perform the scan tool control function: Trunk Lid Unlatch CommandÂ» Unlatch

Verify the test lamp does not turn On and Off.

- **If the test lamp turns On and Off**

Test or replace the component: M40 Rear Compartment Lid Latch

- **If the test lamp does not turn On and Off**

8. Ignition/VehicleÂ» Off

9. Connect the electrical connector: M40 Rear Compartment Lid Latch

10. Disconnect the electrical connector: X3 @ X53A Fuse Block - Rear Body

11. IgnitionÂ» On / VehicleÂ» In Service Mode

12. Momentarily connect a 10 A fused jumper wire between the test points: Control circuit terminal 8 X3 & B+

Verify the component turns On and Off when connecting and disconnecting the jumper wire: M40 Rear Compartment Lid Latch

- **If the component does not turn On and Off**

1. Ignition/Vehicle Â» Off & RemoveÂ» Jumper wire(s)

2. Disconnect the electrical connector: M40 Rear Compartment Lid Latch

3. IgnitionÂ» On / VehicleÂ» In Service Mode

4. Test for less than 1 V between the test points: Control circuit terminal 1 @ Component harness & Ground

- If less than Infinite resistance, repair the short to ground on the circuit.
- If infinite resistance, test or replace the X53A Fuse Block-Rear Body.

5. Ignition/Vehicle Â» Off

6. Test for infinite resistance between the test points: Control circuit terminal 1 @ Component harness & Ground

- If less than infinite resistance Â» Repair the short to ground on the circuit.
- If infinite resistance

7. Test for less than 2 Ω between the test points: Control circuit terminal 1 @ Component harness & Terminal 8 X3 @ Fuse Block Harness

- If 2 Ω or greaterÂ» Repair the open/high resistance in the circuit.
- If less than 2 Ω Â» Test or replace the component: M40 Rear Compartment Lid Latch

- **If the component turns On and Off**

13. Ignition/Vehicle & All vehicle systems Â» Off

14. Verify the fuse is not open: F16RA Fuse

- **If the fuse is open**

Test or replace the component: X53A Fuse Block - Rear Body

- **If the fuse is not open**

15. Test for less than 10 Ω between the test points: Ground circuit terminal 12 X3 & Ground

- **If 10 Ω or greater**

1. Ground Connection» Disconnect

2. Test for less than 2 Ω between the test points: Ground circuit terminal 12 X3 & Ground Connection

- 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**

16. Connect the electrical connector: X3 @ X53A Fuse Block - Rear Body

17. Disconnect the electrical connector: X5 @ K9 Body Control Module

18. Ignition » On / Vehicle» In Service Mode

19. Momentarily connect a 3 A fused jumper wire between the test points: Control circuit terminal 11 X5 & B+

Verify the component turns On and Off when connecting and disconnecting the jumper wire: M40 Rear Compartment Lid Latch

- **If the component does not turn On and Off**

1. Ignition/Vehicle» Off & Remove » Jumper wire(s)

2. Disconnect the electrical connector: X3 @ X53A Fuse Block - Rear Body

3. Ignition» On / Vehicle» In Service Mode

4. Test for less than 1 V between the test points: Control circuit terminal 11 X5 @ Control module harness & Ground

- If 1 V or greater» Repair the short to voltage on the circuit.

- If less than 1 V

5. Ignition/Vehicle» Off

6. Test for infinite resistance between the test points: Control circuit terminal 11 X5 @ Control module harness & Ground

- If less than infinite resistance» Repair the short to ground on the circuit.

- If infinite resistance

7. Test for less than 2 Ω between the test points: Control circuit terminal 11 X5 @ Control module harness & Terminal 21 X3 @ Fuse Block Harness

- If 2 Ω or greater» Repair the open/high resistance in the circuit.

- If less than 2 Ω » Test or replace the component: X53A Fuse Block - Rear Body

- **If the component turns On and Off**

20. Replace the component: K9 Body Control Module

Component Testing

M40 Rear Compartment Lid Latch

1. Ignition/Vehicle» Off

2. Disconnect the electrical connector: M40 Rear Compartment Lid Latch

3. Connect a jumper wire between the test points: Ground terminal 2 & Ground

4. Momentarily connect a 10 A fused jumper wire between the test points: Control terminal 1 & 12 V

Verify the component turns On and Off when connecting and disconnecting the jumper wire: M40 Rear Compartment Lid Latch

- **If the component does not turn On and Off**

Replace the M40 Rear Compartment Lid Latch.

- **If the component turns On and Off**

5. All OK

S58A Rear Compartment Lid Unlatch Switch - Exterior

1. Ignition/Vehicle » Off
2. Disconnect the electrical connector: S58A Rear Compartment Lid Unlatch Switch - Exterior
3. Test for infinite resistance between the test points: Signal terminal 1 & Ground terminal 2-Switch » Not Pressed
 - **If less than infinite resistance**

Replace the component: S58A Rear Compartment Lid Unlatch Switch - Exterior
 - **If infinite resistance**
4. Test for less than 3 Ω between the test points: Signal terminal 1 & Ground terminal 2-Switch » Pressed
 - **If 3 Ω or greater**

Replace the component: S58B Rear Compartment Lid Unlatch Switch - Interior
 - **If less than 3 Ω**
5. All OK

S58B Rear Compartment Lid Unlatch Switch - Interior

1. Ignition/Vehicle » Off
2. Disconnect the electrical connector: S58B Rear Compartment Lid Unlatch Switch - Interior
3. Test for infinite resistance between the test points: Signal terminal 1 & Ground terminal 2-Switch » Not Pressed
 - **If less than infinite resistance**

Replace the component: S58B Rear Compartment Lid Unlatch Switch - Interior
 - **If infinite resistance**
4. Test for less than 3 Ω between the test points: Signal terminal 1 & Ground terminal 2-Switch » Pressed
 - **If 3 Ω or greater**

Replace the component: S58B Rear Compartment Lid Unlatch Switch - Interior
 - **If less than 3 Ω**
5. All OK

Repair Instructions

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

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

TRUNK AJAR INDICATOR MALFUNCTION (WITHOUT TC2, TL9)

Diagnostic Instructions

- Perform the Diagnostic System Check prior to using this diagnostic procedure: [**Diagnostic System Check - Vehicle**](#)
- Review the description of Strategy Based Diagnosis: [**Strategy Based Diagnosis**](#)

- An overview of each diagnostic category can be found here: [Diagnostic Procedure Instructions](#)

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal	1	2	2	-
Ground	-	3	-	-
1. Trunk Open Display Message=Always On 2. Trunk Open Display Message=Disabled 3. Rear Compartment Lid Latch=Disabled				

Circuit/System Description

For an overview of the component/system, refer to [Luggage Compartment Description and Operation \(Without TC2\)](#).

Circuit	Description
Signal	The control module input circuit has an internal resistance connected to 12 V.
Ground	Chassis Ground

Component	Description
M40 Rear Compartment Lid Latch	The switch has a normally open contact. When the switch is activated, the signal circuit to the control module is grounded.
K9 Body Control Module	The module controls various vehicle functions like lighting, central door locking, power windows, etc.

Reference Information

Schematic Reference

[Release Systems Schematics](#)

Connector End View Reference

[COMPONENT CONNECTOR END VIEWS - INDEX](#)

Component View Reference

[Luggage Compartment/Rear of Vehicle Component Views](#)

Electrical Information Reference

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

Scan Tool Reference

[Control Module References](#)

Circuit/System Verification

1. Ignition» On / Vehicle» In Service Mode
2. Operate the component: Trunk Lid» Closed

Verify the scan tool parameter: Rear Closure Ajar Switch=Inactive

- **If not the specified state**

Refer to Circuit/System Testing

- **If the specified state**

3. Operate the component: Trunk Lid» Ajar

Verify the scan tool parameter: Rear Closure Ajar Switch=Active

- **If not the specified state**

Refer to Circuit/System Testing

- **If the specified state**

4. All OK.

Circuit/System Testing

1. Ignition/Vehicle» Off

2. Disconnect the electrical connector: M40 Rear Compartment Lid Latch

3. Ignition » On / Vehicle» In Service Mode

4. Verify the scan tool parameter: Rear Closure Ajar Switch=Inactive

- **If not the specified state**

1. Ignition/Vehicle» Off

2. Disconnect the electrical connector: K9 Body Control Module

3. Test for infinite resistance between the test points: Signal circuit terminal 2 @ Component harness & Ground

- If less than infinite resistance» Repair the short to ground on the circuit.

- If infinite resistance» Replace the component: K9 Body Control Module

- **If the specified state**

5. Connect a 3 A fused jumper wire between the test points: Signal circuit terminal 2 & Ground circuit terminal 1

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

- **If not the specified state**

1. Ignition/Vehicle» Off & Remove» Jumper wire(s)

2. Disconnect the electrical connector: K9 Body Control Module

3. Ignition» On / Vehicle» In Service Mode

4. Test for less than 1 V between the test points: Signal circuit terminal 2 @ Component harness & Ground

- If 1 V or greater» Repair the short to voltage on the circuit.

- If less than 1 V

5. Ignition/Vehicle » Off

6. Test for less than 2 Ω between the test points: Signal circuit terminal 2 @ Component harness & Terminal 5 X6 @ Control module harness

- If 2 Ω or greater» Repair the open/high resistance in the circuit.

- If less than 2 Ω » Replace the component: K9 Body Control Module

- **If the specified state**

7. Test or replace the component: M40 Rear Compartment Lid Latch

Component Testing

1. Ignition/Vehicle» Off

2. Disconnect the electrical connector: M40 Rear Compartment Lid Latch

3. Test for infinite resistance between the test points: Signal terminal 2 & Ground terminal 1 - The switch is in the open position.

- **If less than infinite resistance**

Replace the component: M40 Rear Compartment Lid Latch

- **If infinite resistance**

4. Test for less than 3 Ω between the test points: Signal terminal 2 & Ground terminal 1 - The switch is in the closed position.

- **If 3 Ω or greater**

Replace the component: M40 Rear Compartment Lid Latch

- **If less than 3 Ω**

5. All OK.

Repair Instructions

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

- [Rear Compartment Lid Latch Replacement](#)
- For control module replacement, programming and setup, refer to [Control Module References](#)

TRUNK AJAR INDICATOR MALFUNCTION (WITH TC2, TL9)

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 Trunk Open message when the liftgate control module detects the liftgate ratchet and the liftgate pawl switches are closed to ground indicating the rear compartment lid is open. The instrument panel cluster receives a serial data message from the liftgate control module indicating the rear compartment lid ajar status.

Diagnostic Aids

Do not use the scan tool Body Control Module Rear Closure Ajar parameters for vehicles equipped with the power trunk option (TL9 or TC2), this will result in a mis-diagnosis and replacement of normally functioning components without correcting the fault.

Reference Information

Schematic Reference

[Liftgate Schematics \(TC2/TL9\)](#)

Connector End View Reference

[COMPONENT CONNECTOR END VIEWS - INDEX](#)

Description and Operation

[Luggage Compartment Description and Operation \(With TC2\)](#)

Electrical Information Reference

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

Control Module References for scan tool information**Circuit/System Verification**

1. Ignition On/Vehicle in Service Mode.
2. Verify the scan tool Liftgate Latch Pawl Switch parameter changes between Open and Closed when opening and closing the rear compartment lid.
 - **If the parameter does not change**
Refer to **Trunk Release Malfunction (With TC2)**
 - **If the parameter changes**
3. Verify the scan tool Liftgate Latch Ratchet Switch parameter changes between Open and Closed when opening and closing the rear compartment lid.
 - **If the parameter does not change**
Refer to **Trunk Release Malfunction (With TC2)**
 - **If the parameter changes**
4. Refer to **Instrument Cluster Description and Operation**

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 <u>Diagnostic System Check - Vehicle</u>
2	Were you sent here from a Vehicle Access Symptom Table?	Go to Step 3	Go to <u>Symptoms - Vehicle</u>
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

Step	Action	Yes	No
10	If the door will not open with the outside handle or the handle is obstructed or loose, check the following: • For cold weather freezing, thaw as necessary. • Check the handle for foreign material. Remove material as necessary. • Check the handle grab bar for looseness or damage. Repair as necessary. • Check the handle for full travel. If the issue is not resolved, remove the trim panel as necessary to gain access to door hardware and check the following: • Check the handle chassis for loose fasteners, broken chassis inserts, loose or missing spring or a loose, missing or bent rod lever. • Check for bent rod to the outside handle. • Check that the handle grab bar engages the rod lever properly. • Check for interference of rod and handle to other components in the door. • Check that handle rod is securely attached at both latch and handle. • Check if rod is positioned properly in the clip on the latch. At rest position, the handle should be fully against the down stop and the latch lever should be at the bottom of its travel. Correct by opening clip, repositioning rod in clip and closing clip till it snaps, as necessary. Did you find and correct the condition?	Go to Step 18	Go to Step 11
11	Door will not open with the inside handle: • Check the inside handle for foreign material. Remove material as necessary. • Check that the handle is secure. Correct as necessary. • If rear door, verify child security is not engaged. • Remove the trim panel as necessary to and check the inside handle rod/cable attachments at both the latch and handle. If the cable is kinked or pinched, correct as necessary. Did you find and correct the condition?	Go to Step 18	Go to Step 12

Step	Action	Yes	No
12	The door will not or is difficult to unlatch with the inside manual latch knob: • For cold weather freezing, thaw as necessary • Check the latch knob for a loose condition. Repair or replace as necessary. Check the latch knob for binding or dragging using the following procedure: 1. Remove the latch knob. 2. If condition goes away, check for drag/interference of the latch knob against the inner belt seal or the trim panel. Correct as required. If further action is required, remove the trim panel and check the latch rod and latch knob for interference with the following: • Water deflector/paper • Side impact foam • Rod grommet in sheet metal • Glass run channel • Other rods or cables • Trim panel Did you find and correct the condition?	Go to Step 18	Go to Step 13
13	With a manual lock, if the latch will not function properly do the following: 1. Function the lock/unlatch lever on the latch to unlatch the latch. Check for high internal resistance. 2. With the door open, manually close the latch with a screwdriver. 3. Check the latch for internal binding by actuating the latch with the inside door handle lever. 4. Manually close the latch with a screwdriver again. 5. Check the latch for internal binding by actuating the latch with the outside door handle lever. Did you find and correct the condition?	Go to Step 18	Go to Step 14

Step	Action	Yes	No
14	If power locks are included in vehicle options and do not function with either the keyless entry transmitter or switch: 1. For cold weather freezing, thaw as necessary. 2. Remove trim pad as required and check the following: • Verify door harness has appropriate power connectors for switches and latch. • Check harness connector pins for corrosion. • Assure wire harness connectors are seated and locked properly at latch and switch. Remove and re-seat if required. • Check door harness for cuts/chafing/corrosion. Correct/replace as required. • Check for 12V at latch and door switch. Correct/proceed accordingly. • Check BCM for trouble codes. Correct/proceed accordingly. 3. If power locks still do not function do the following: 1. Remove latch from door cavity. 2. Connect latch to electrical connector outside the door. 3. Function power lock/unlatch switch in both latch and unlatch directions. Watch for lock/unlatch lever on latch to move completely from one position to the other. 4. If lever does not move, remove connector from old latch and attach to new latch outside of door cavity. 5. Verify new latch is functional, if so, attach rods and install new latch in door. Did you find and correct the condition?	Go to Step 18	Go to Step 15
15	If the key cylinder is loose do the following: • Remove the trim if necessary. • Check that the retaining clip is properly seated. (if equipped) • Check that the fastener is properly torqued. (if equipped) Did you find and correct the condition?	Go to Step 18	Go to Step 16

Step	Action	Yes	No
16	The outside key cylinder will not latch and unlatch the latch and function smoothly without binding: 1. For cold weather freezing, thaw as necessary 2. Remove trim if required. 3. Check that the key cylinder rod is securely attached both to the key cylinder pawl and the latch. 4. Check that key cylinder lever, rod and latch lever are free of interferences. Remove interferences as required. 5. Check that latch cylinder rod is routed properly. Re-route as required. 6. Remove rod from latch cylinder and actuate cylinder. Check for internal resistance. Lubricate latch cylinder as required 7. Verify Cylinder rotates with vehicle key. If not, code and replace cylinder to match vehicle key. See latch cylinder coding and replacing.		
	Did you find and correct the condition?	Go to Step 18	Go to Step 17
17	The door is difficult to open: • Check for interference with the fender, adjacent door, body opening or door striker and adjust as necessary. • Check for binding door hinges. Lubricate or align/adjust as necessary. • Check the door check link for binding. Lubricate as necessary. • Adjust the door as necessary.		Go to appropriate Door Lock Striker Adjustment procedure.
	Did you find and correct the condition?	Go to Step 18	
18	Verify proper operation of the door closing system. • Outside handle • Inside handle • Manual lock/unlatch • Outside key cylinder • Inside latch knob • Double pull handle • Power lock/unlatch • Key fob • Door switches • Door opening/closing effort		
	Is the condition still present?	Go to Step 1	System OK

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2017 ACCESSORIES & EQUIPMENT
Vehicle Access - Repair Instructions - CT6

REPAIR INSTRUCTIONS

FRONT SIDE DOOR INSIDE HANDLE CABLE REPLACEMENT

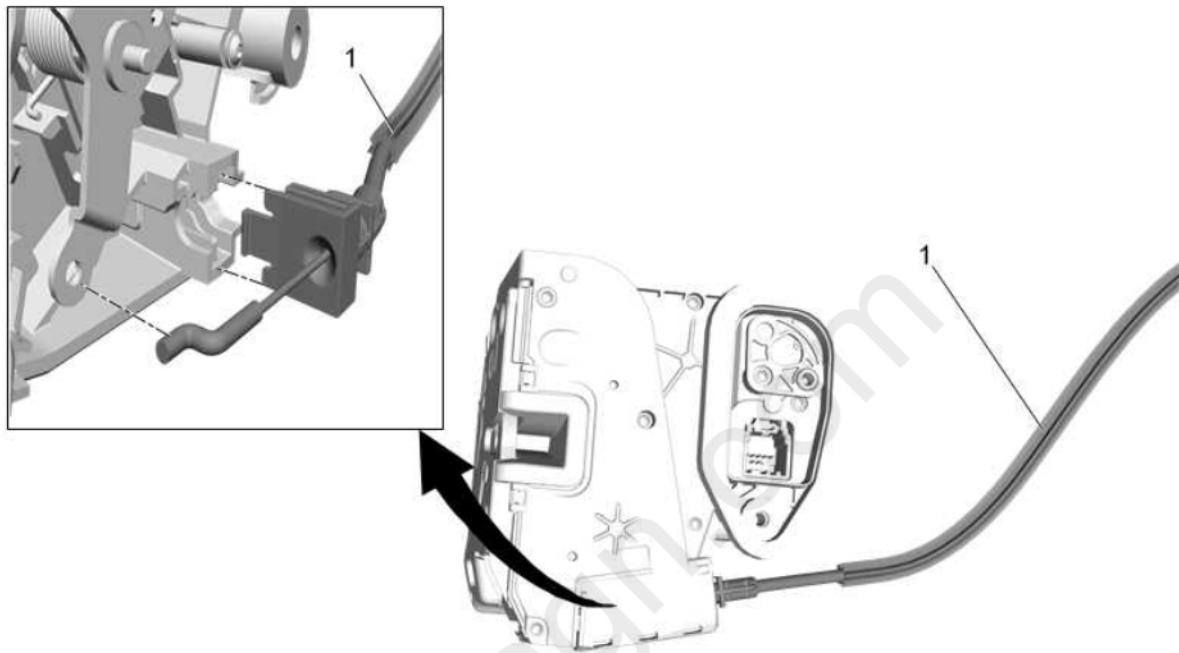


Fig. 1: Front Side Door Inside Handle Cable
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Front Side Door Latch Replacement	
1	Front Side Door Inside Handle Cable Procedure Using the appropriate tool, open the access cover to release the cable from the latch assembly. NOTE: Ensure that the door lock system operates properly before installing the door trim.

REAR SIDE DOOR INSIDE HANDLE CABLE REPLACEMENT

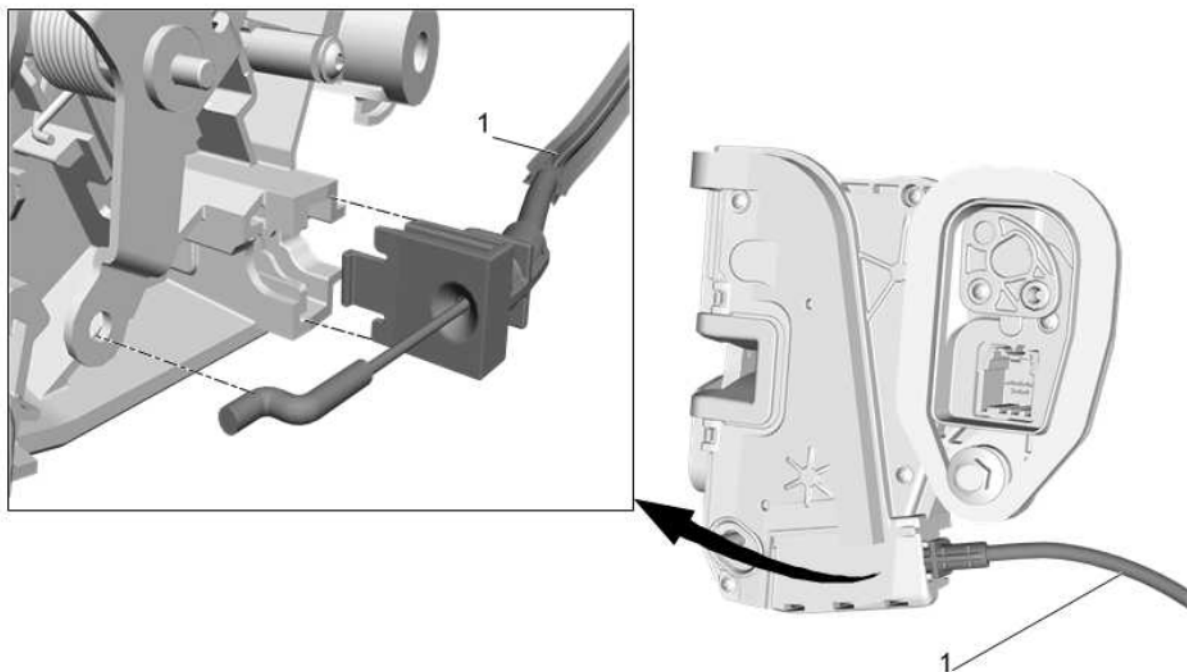


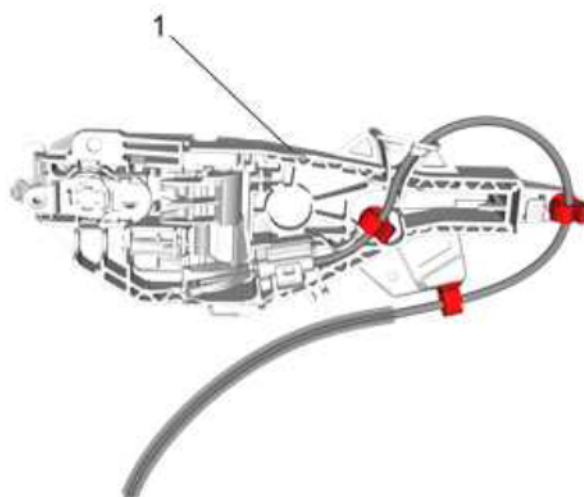
Fig. 2: Rear Side Door Inside Handle Cable
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure	
<u>Rear Side Door Latch Replacement</u>	
1	Rear Side Door Inside Handle Cable Procedure 1. Using the appropriate tool, open the access cover to view the cable end. 2. Release the cable from the latch assembly. 3. Ensure that the door lock system operates properly before installing the door trim.

FRONT SIDE DOOR LOCK CYLINDER REPLACEMENT

Removal Procedure

1. **Front Side Door Outside Handle Bracket Replacement** (1)» Reposition



2. Front Side Door Lock Cylinder Rod (1) @ Front Side Door Lock Cylinder» Remove



Fig. 4: Front Side Door Lock Cylinder Rod
Courtesy of GENERAL MOTORS COMPANY

NOTE: Its not necessary to disconnect the inside or outside handle cables to replace the door lock cylinder.

3. From the back side of the outside handle bracket, use a suitable tool, push up and down on the lock cylinder retainers (1) releasing the retainer from the cylinder (2).

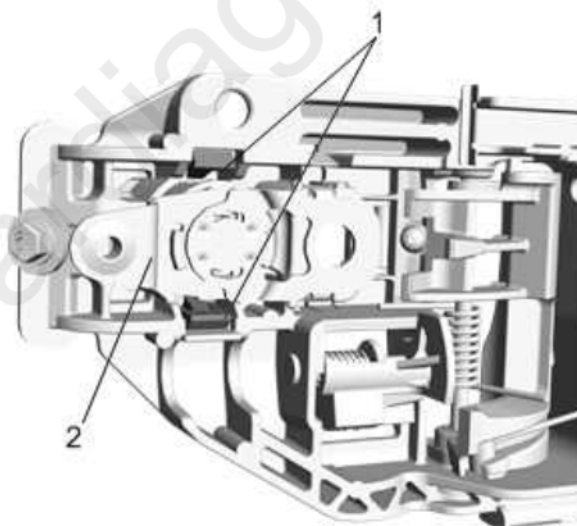


Fig. 5: Lock Cylinder Retainers
Courtesy of GENERAL MOTORS COMPANY

4. With the lock cylinder retainer (1) removed, pull the lock cylinder (2) rearward releasing it from the handle bracket (3).

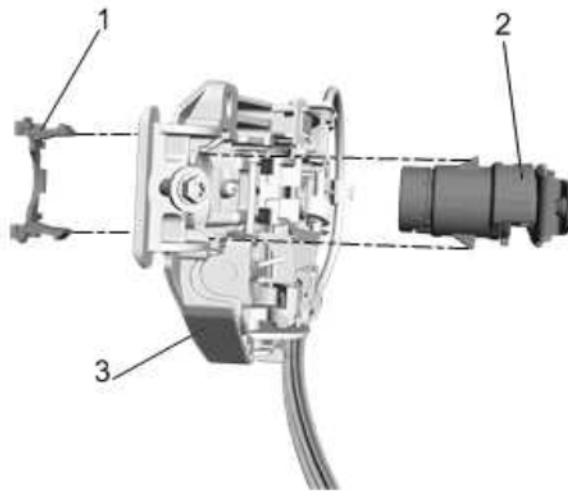


Fig. 6: Lock Cylinder Retainer, Pull The Lock Cylinder, Handle Bracket
 Courtesy of GENERAL MOTORS COMPANY

Installation Procedure

1. Code the NEW front side door lock cylinder. Refer to [Front Side Door Lock Cylinder Coding \(Non Free Wheeling\)](#) and/or [Front Side Door Lock Cylinder Coding](#)
2. Install the lock cylinder retainer (1) to the front side door outside handle bracket assembly (3).

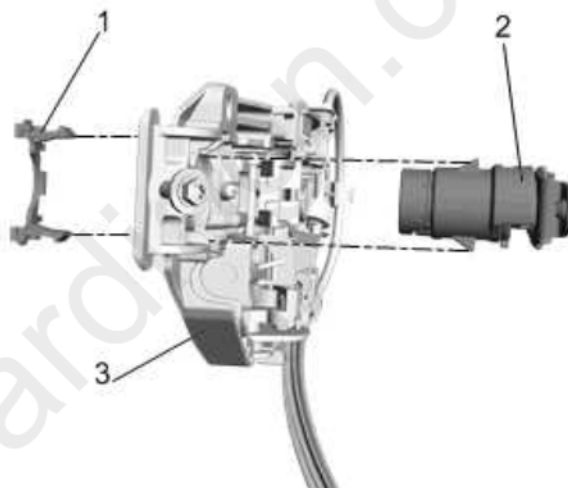


Fig. 7: Lock Cylinder Retainer, Pull The Lock Cylinder, Handle Bracket
 Courtesy of GENERAL MOTORS COMPANY

NOTE: Ensure that the door lock cylinder is engage all the way into the side door handle locator tabs. Insert the key into the door lock cylinder, turn left to right checking for binding before install the assembly to the vehicle.

3. Install the door lock cylinder (2) in the front side door outside handle bracket, push forward locking the lock cylinder (2) into the lock cylinder retainer.
4. Front Side Door Lock Cylinder Rod (1) @ Front Side Door Lock CylinderÂ» Install



Fig. 8: Front Side Door Lock Cylinder Rod
Courtesy of GENERAL MOTORS COMPANY

5. **Front Side Door Outside Handle Bracket Replacement** (1) » Install

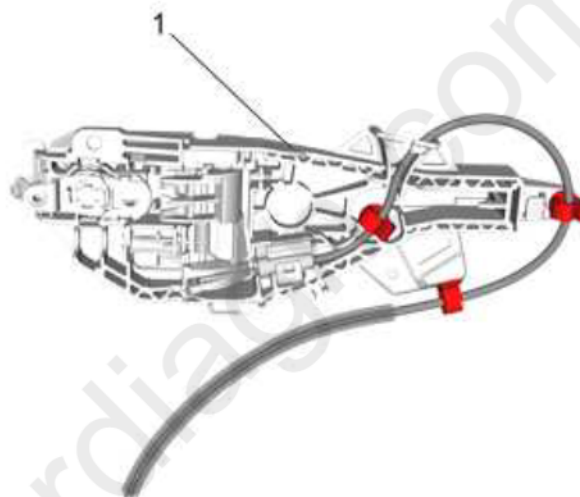


Fig. 9: Side Door Outside Handle Bracket
Courtesy of GENERAL MOTORS COMPANY

6. Ensure that the door lock system operates properly before installing the trim.

LIFTGATE CALIBRATION

Deck Lid Relearn

NOTE: To ensure proper relearning of the deck lid, the deck lid assembly must be at room temperature during the relearn process.

NOTE: DTC B1019 00 will set automatically as an indicator that the system is in learn mode and not as a fault indicator. Once the travel limits are learned by the liftgate module, the liftgate module will exit learn mode and DTC B1019 00 become a history code.

If any portion of the power deck lid assembly is replaced, repaired or disassembled, perform the following liftgate relearn procedure:

1. Connect the scan tool to the vehicle.
2. Select Module Diagnosis:
3. Select Liftgate Control Module:
4. Select Configuration/Reset Functions:

5. Select Liftgate Maximum Open Position Learn.
6. Press "Enter" and follow the on screen instructions:

FRONT SIDE DOOR INSIDE HANDLE REPLACEMENT

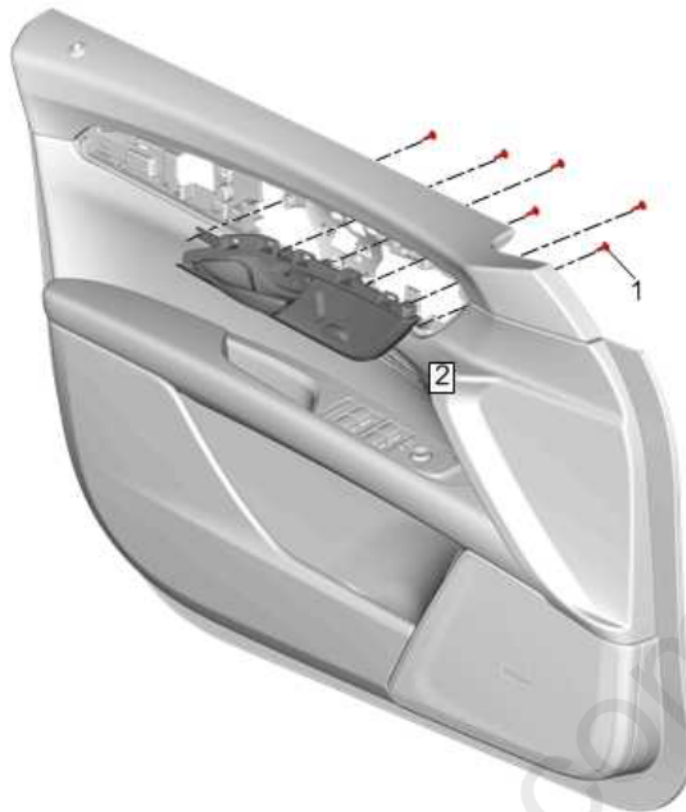


Fig. 10: Front Side Door Inside Handle

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure 1. Front Side Door Trim Replacement 2. Front Side Door Trim Panel Applique Replacement 3. Reposition insulator, as required.	
1	Front Side Door Inside Handle Fastener [6x] CAUTION: Refer to Fastener Caution . NOTE: The six screws are located on the backside of the trim panel. Tighten 2.5 N.m (22 lb in)
2	Front Side Door Inside Handle Procedure 1. Disconnect all electrical connectors. 2. Transfer components as necessary.

FRONT SIDE DOOR OUTSIDE HANDLE REPLACEMENT

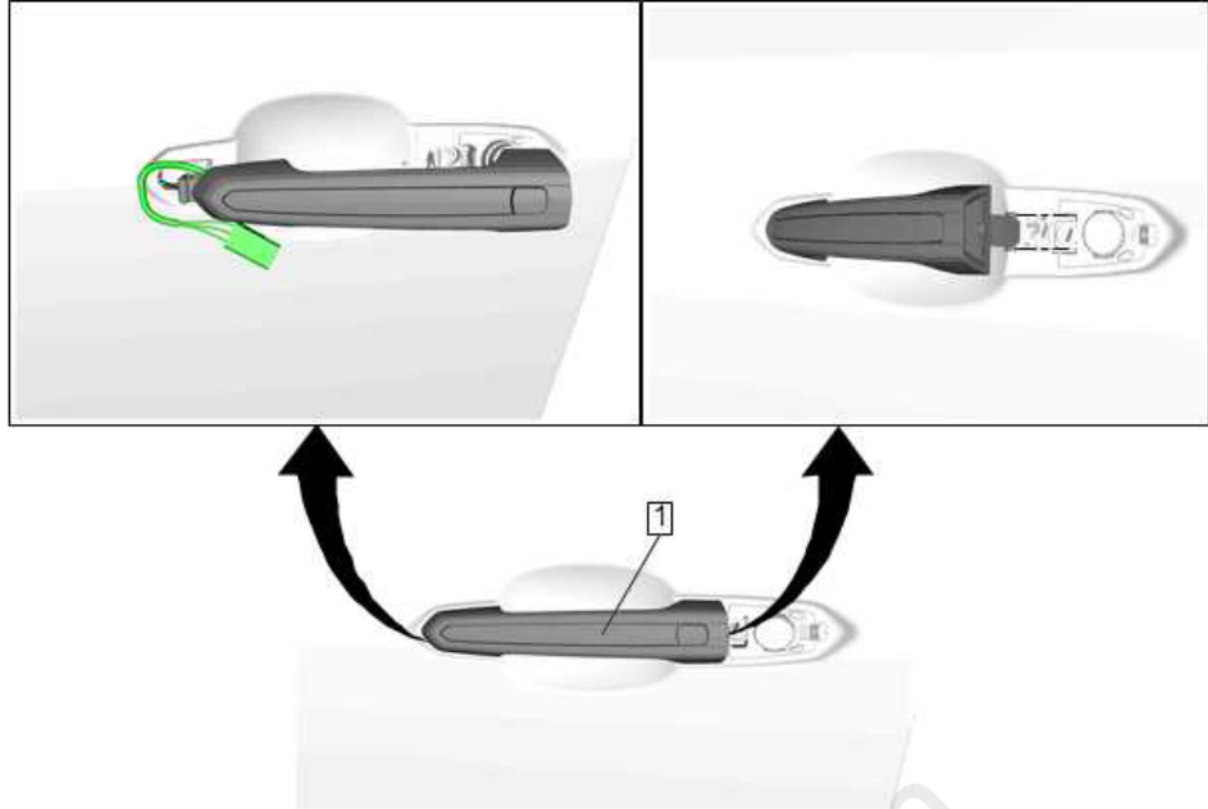


Fig. 11: Front Side Door Outside Handle
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure 1. Front Side Door Lock Cylinder Opening Cover Replacement 2. Front Side Door Trim Replacement - Front Side Door Water Deflector - Disconnect the electrical connector.	
1	Front Side Door Outside Handle - Pull the front side door outside handle outward and hold it in the open position. - Slide the front side door outside handle rearward and then outwards in a swinging motion releasing the handle from the front side door outside handle bracket. - Install the front side door outside handle into the handle bracket. - From inside the door, push outward on the door handle bracket housing counter balance lever at the same time. Slide the outside door handle toward the lock cylinder then forward, engaging the handle to the housing counter balance. - While screwing in the screw for the lock cylinder opening cover, hold the handle in the open position, this will avoid the door handle from snapping once the spring pressure is relieved and the door handle returns to the close position. NOTE: The rear side door outside handle cannot be installed until the counter balance and handle is reset.

FRONT SIDE DOOR OUTSIDE HANDLE BRACKET REPLACEMENT

Removal Procedure

1. Front Side Door Outside Handle (1)» Remove - [Front Side Door Outside Handle Replacement](#)

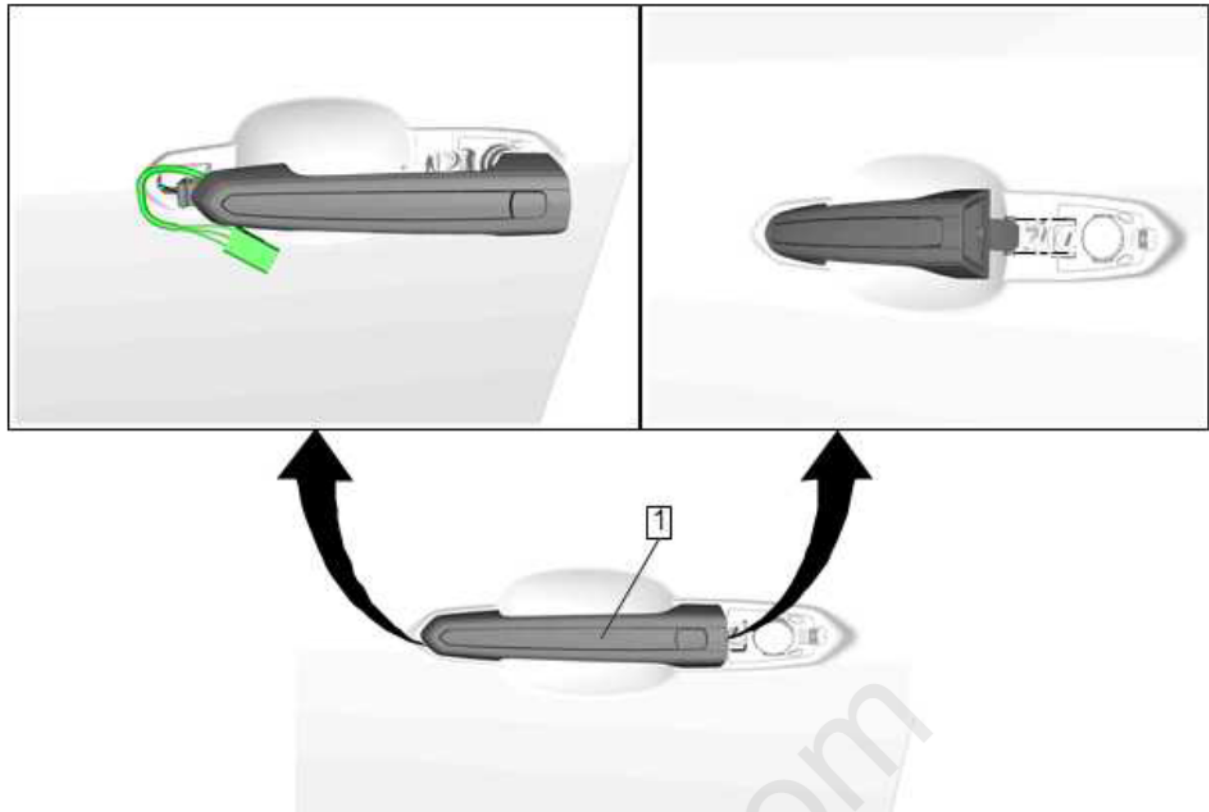


Fig. 12: Front Side Door Outside Handle
Courtesy of GENERAL MOTORS COMPANY

2. Front Side Door Outside Handle Bracket Screw (1)» Remove



Fig. 13: Front Side Door Outside Handle Bracket Screw
Courtesy of GENERAL MOTORS COMPANY

3. Front Side Door Window Regulator (2)» Reposition - [Front Side Door Window Regulator Replacement](#)

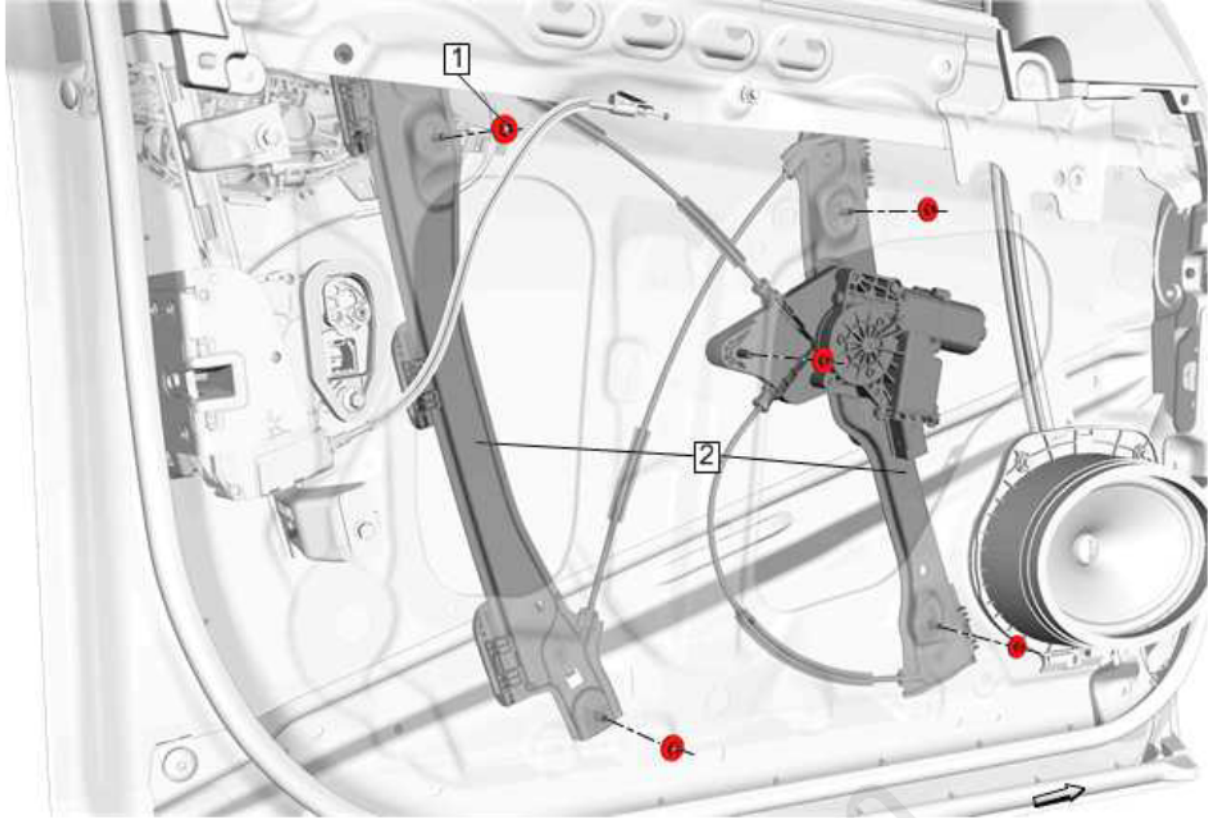


Fig. 14: Front Side Door Window Regulator
 Courtesy of GENERAL MOTORS COMPANY

4. Front Side Door Lock Rod (1) @ Front Side Door Lock Cylinder (2) » Remove



Fig. 15: Front Side Door Lock Rod, Front Side Door Lock Cylinder
 Courtesy of GENERAL MOTORS COMPANY

5. Lower front side door outside handle bracket (1) to the inside door opening.

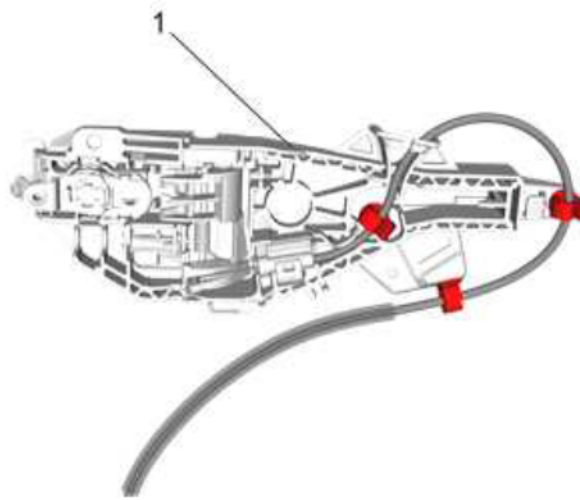


Fig. 16: Side Door Outside Handle Bracket
 Courtesy of GENERAL MOTORS COMPANY

6. Front Side Door Outside Cable (1) @ Retainers (2) » Remove

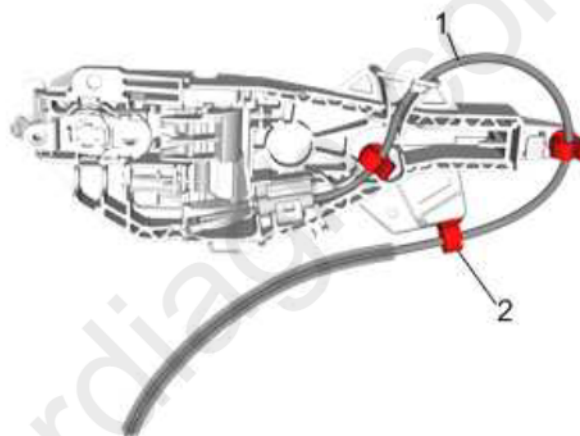


Fig. 17: Side Door Outside Cable And Retainers
 Courtesy of GENERAL MOTORS COMPANY

7. Front Side Door Outside Handle Bracket Cable (1) @ Counter Balance (2) » Remove

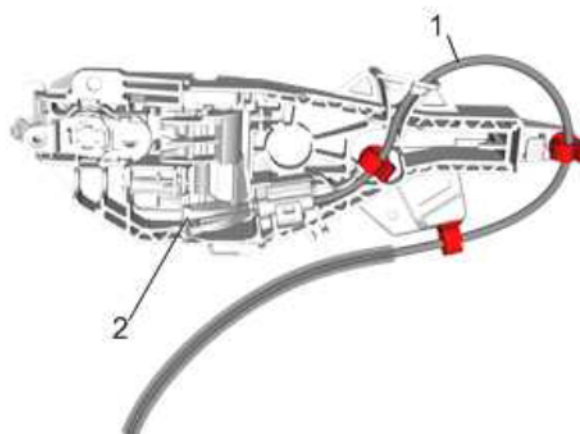


Fig. 18: Side Door Outside Handle Bracket Cable And Counter Balance
 Courtesy of GENERAL MOTORS COMPANY

8. Transfer components as necessary.

NOTE: It may be necessary to transfer the wire harness retainers from the old handle bracket.

Installation Procedure

1. Reset the front side door outside handle bracket counter balance as follows:

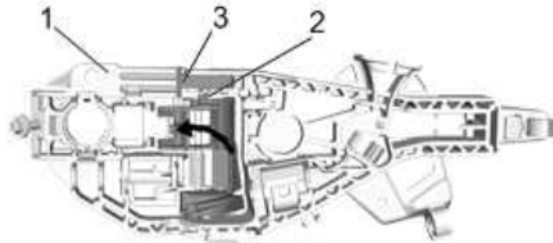


Fig. 19: Side Door Outside Handle Bracket, Counter Balance And Bracket Clip
Courtesy of GENERAL MOTORS COMPANY

1. The outside door handle Can Not be installed until the counter balance is reset.
 2. Grasp the front side door outside handle bracket (1) with one hand.
 3. From the back side of the counter balance (2) push forward on the counter balance until it can be held in place using the bracket clip (3).
2. Front Side Door Outside Handle Bracket Cable (1) @ Counter Balance (2) » Install

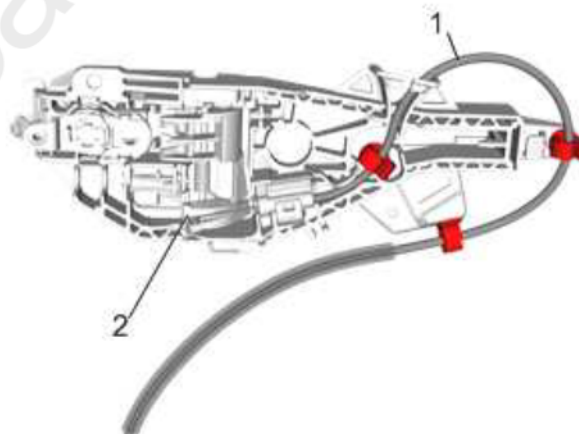


Fig. 20: Side Door Outside Handle Bracket Cable And Counter Balance
Courtesy of GENERAL MOTORS COMPANY

3. Front Side Door Outside Cable (1) @ Retainers (2) » Install

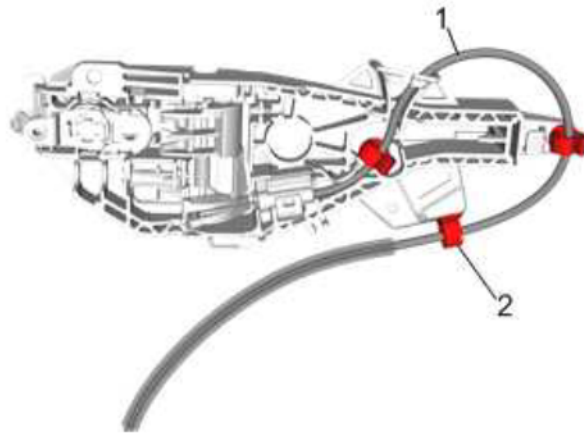


Fig. 21: Side Door Outside Cable And Retainers
 Courtesy of GENERAL MOTORS COMPANY

4. Front Side Door Window Regulator (2) » Install - **Front Side Door Window Regulator Replacement**

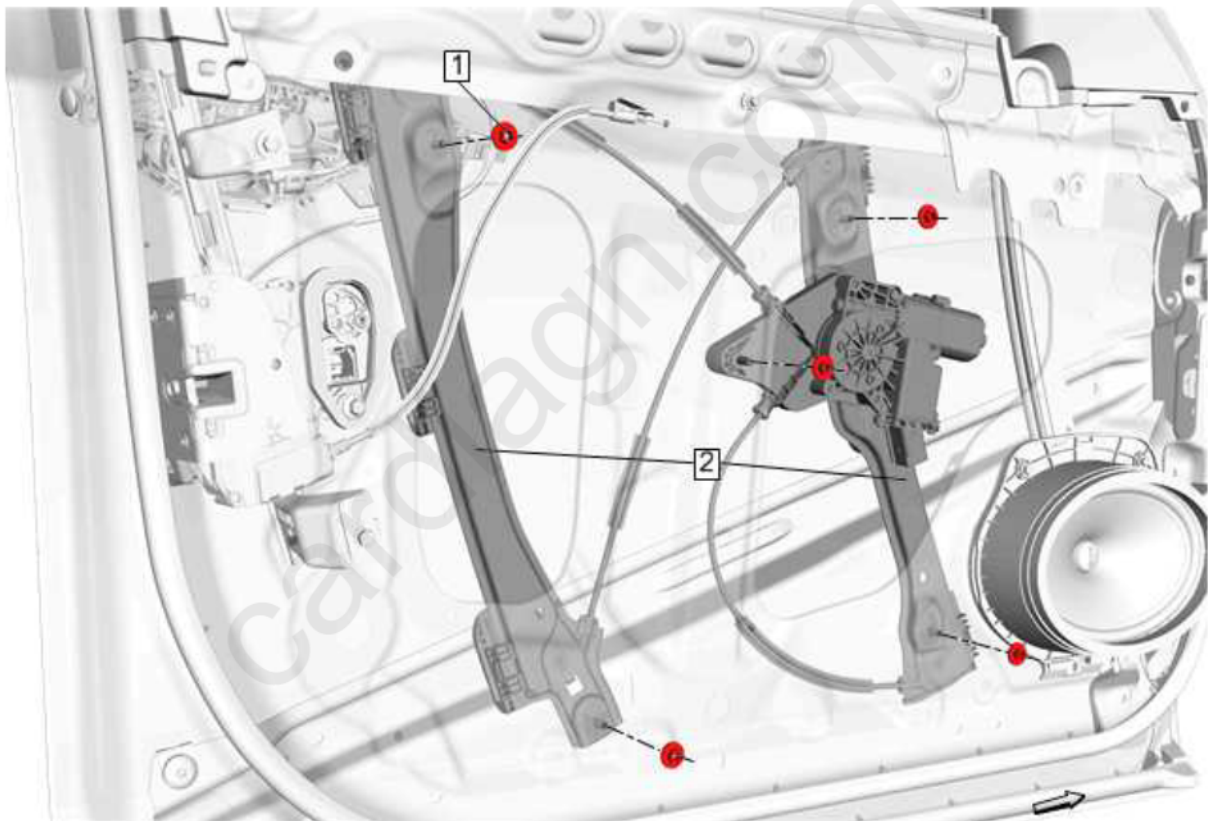


Fig. 22: Front Side Door Window Regulator
 Courtesy of GENERAL MOTORS COMPANY

5. Front Side Door Lock Rod (1) @ Front Side Door Lock Cylinder (2) » Install

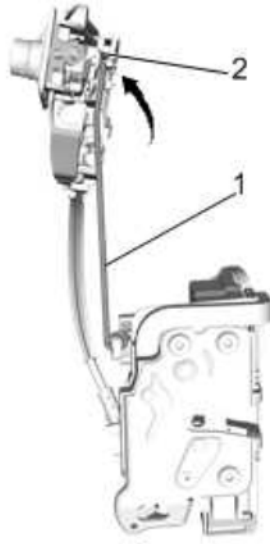


Fig. 23: Front Side Door Lock Rod, Front Side Door Lock Cylinder
 Courtesy of GENERAL MOTORS COMPANY

6. Raise front side door outside handle bracket (1) up to the outside door opening.

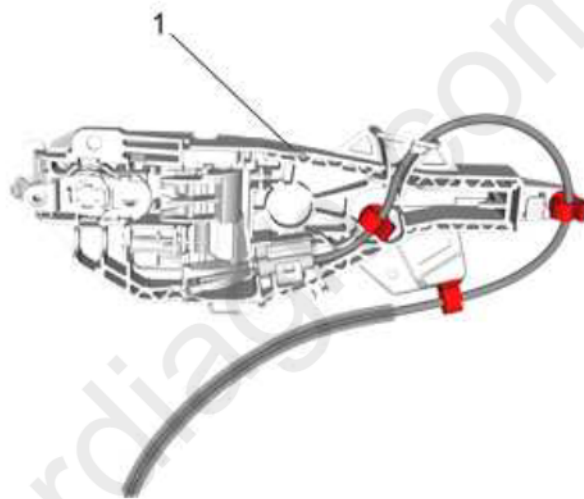


Fig. 24: Side Door Outside Handle Bracket
 Courtesy of GENERAL MOTORS COMPANY

7. Front Side Door Outside Handle Bracket Screw (1) » Install and tighten 4.7 N.m (42 lb in)

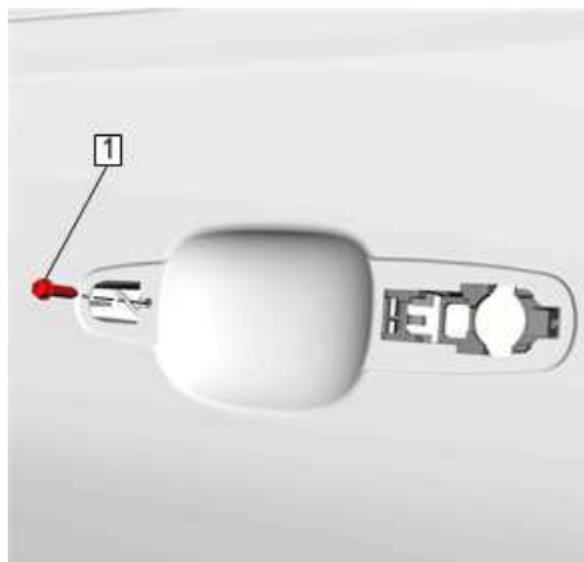


Fig. 25: Front Side Door Outside Handle Bracket Screw
 Courtesy of GENERAL MOTORS COMPANY

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

8. Front Side Door Outside Handle (1)» Install - [Front Side Door Outside Handle Replacement](#)

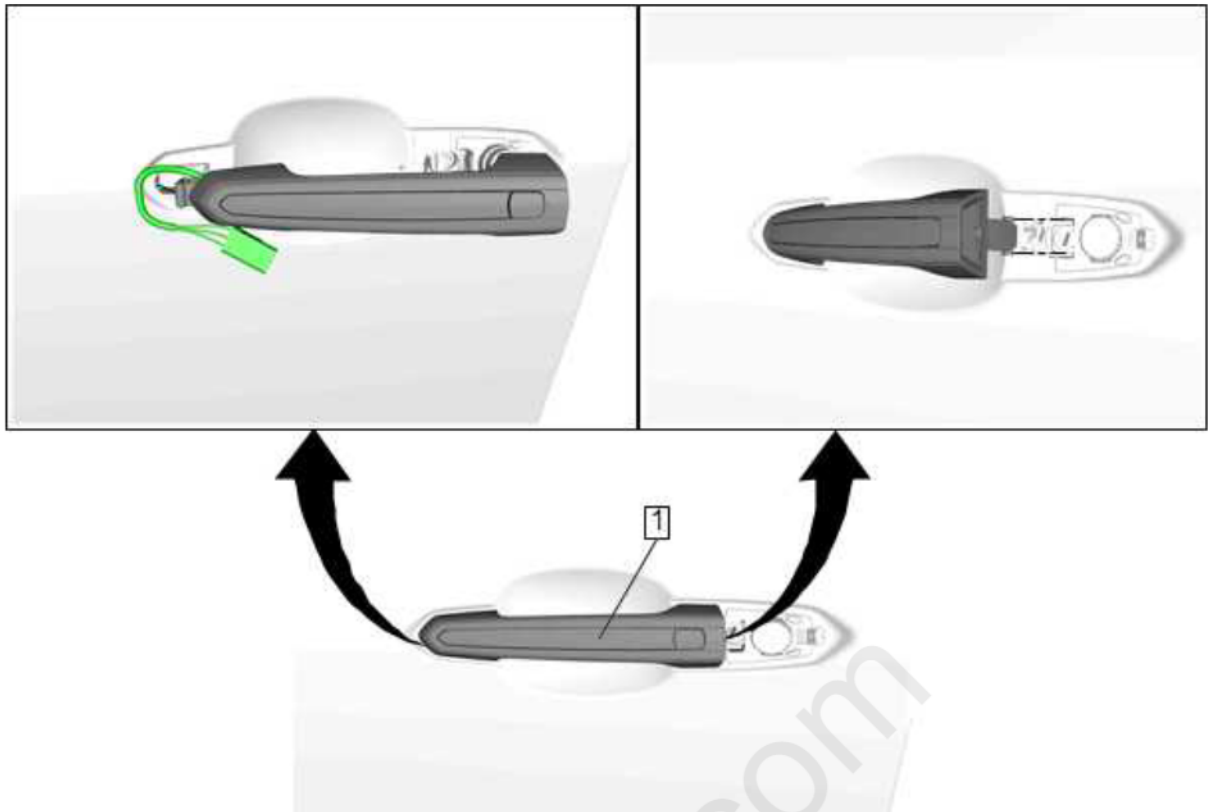


Fig. 26: Front Side Door Outside Handle
Courtesy of GENERAL MOTORS COMPANY

9. Ensure the door system operates properly.

FRONT SIDE DOOR OUTSIDE HANDLE CABLE REPLACEMENT

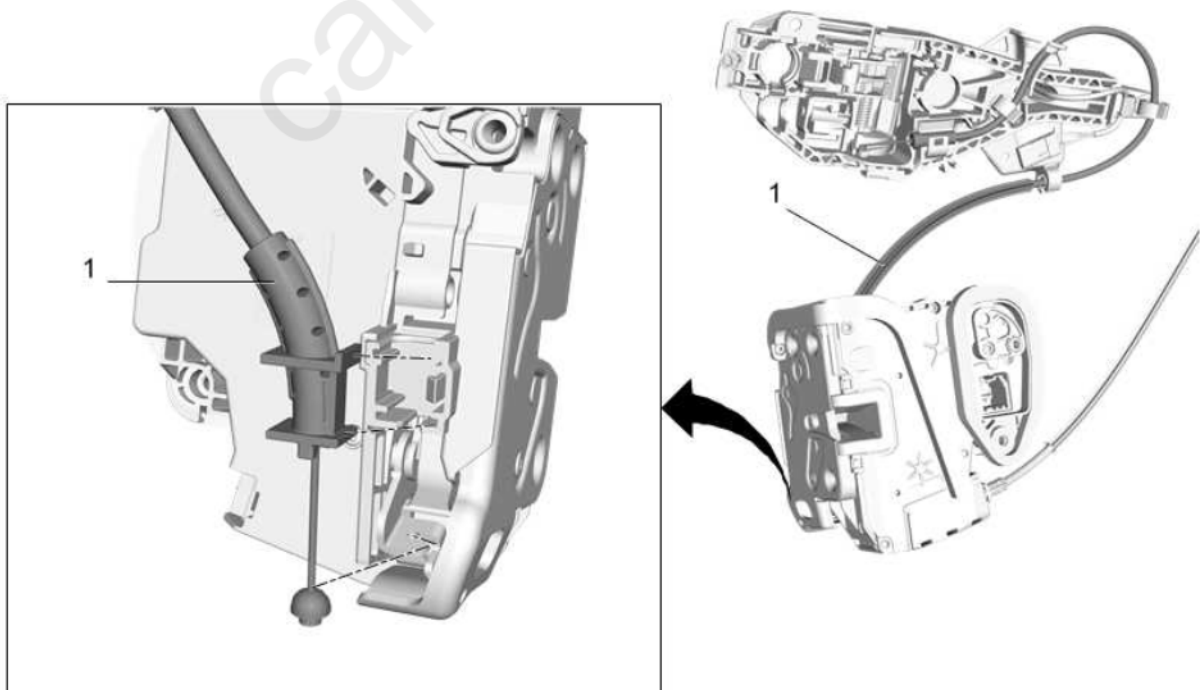


Fig. 27: Front Side Door Outside Handle Cable
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name

Callout	Component Name
Preliminary Procedure	
Front Side Door Latch Replacement	
1	Front Side Door Outside Handle Cable Procedure 1. Remove the front side door outside handle cable from the handle retainers. 2. Release the cable from the back of the latch assembly. 3. Remove the front side door outside handle cable from the front side door outside handle bracket.

REAR SIDE DOOR OUTSIDE HANDLE BRACKET REPLACEMENT

Removal Procedure

1. [Rear Side Door Trim Replacement](#) » Remove
2. Rear Side Door Water Deflector » Remove
3. [Rear Side Door Outside Handle Replacement](#) » Remove
4. Remove the screw (1) that retains the rear side door outside bracket to the door (2).

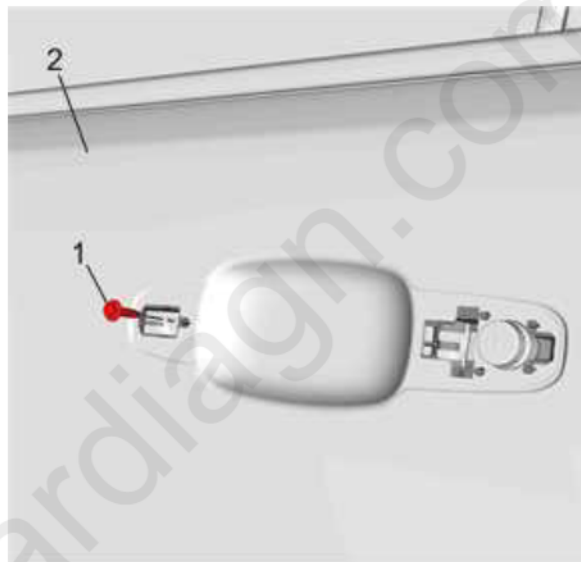


Fig. 28: Front Side Door Outside Handle Bracket Fastener
 Courtesy of GENERAL MOTORS COMPANY

5. Pull the rear side door outside handle bracket (3) down to the inside door opening.

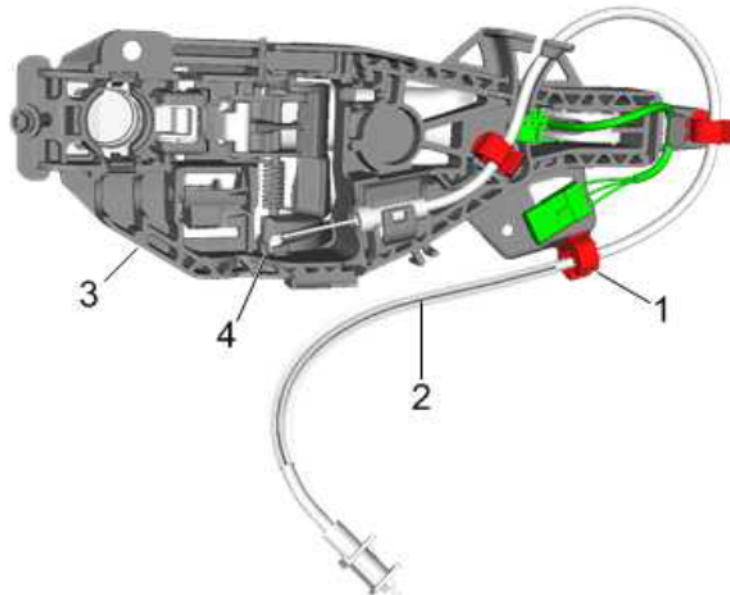


Fig. 29: Rear Side Door Outside Handle Bracket Retainers

Courtesy of GENERAL MOTORS COMPANY

6. Remove the cable (2) from the rear side door outside handle bracket retainers (1) and counter balance (4).
7. Rear Side Door Outside Handle Bracket (3)» Remove

Installation Procedure

1. Set the rear side door outside handle bracket counter balance (3) as follows:

NOTE:

It may be necessary to transfer the wire harness retainers (2) to the new bracket.

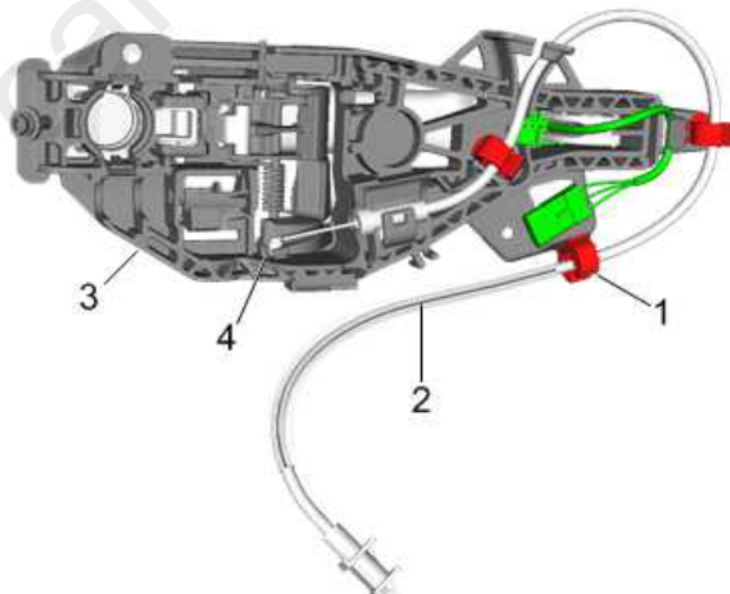


Fig. 30: Rear Side Door Outside Handle Bracket Retainers

Courtesy of GENERAL MOTORS COMPANY

1. The outside door handle Can Not be installed until the counter balance (3) is reset.
2. Grasp the front side door outside handle bracket (1) with one hand.
3. From the back side of the counter balance (3) push forward on the counter balance until it can be held in place using the bracket clip (2).

2. Install the rear side door outside handle bracket cable (2) to the counter balance (4).

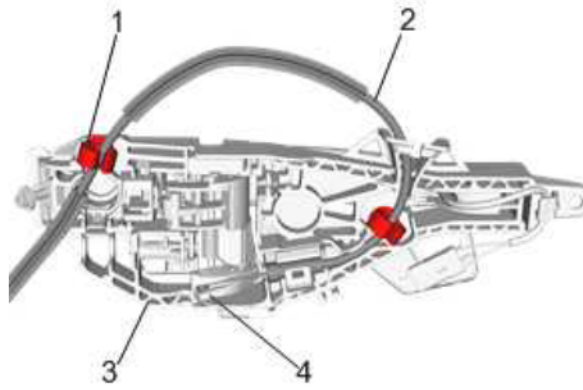


Fig. 31: Rear Side Door Outside Handle Bracket, Retainers, Cable And Counter Balance
Courtesy of GENERAL MOTORS COMPANY

3. Install the rear side door outside handle bracket cable (2) in the retainers (1) of bracket (3).
4. Rear Side Door Outside Handle Bracket (3) » Install
5. Rear Side Door Outside Handle Bracket Screw (1) @ door (2) » Install and tighten 4.7 N.m (42 lb in).

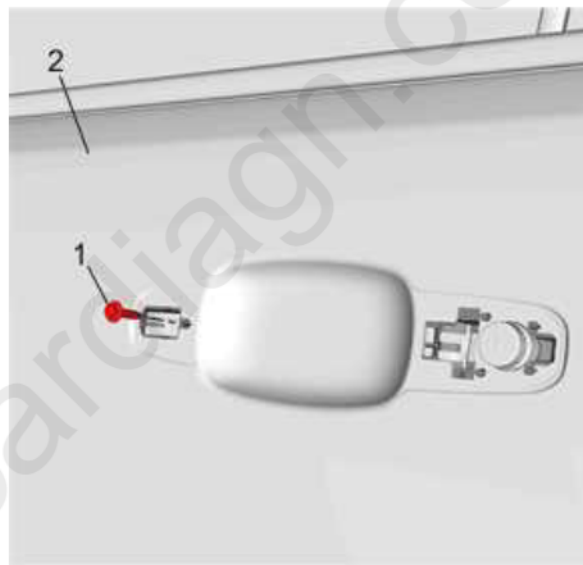


Fig. 32: Front Side Door Outside Handle Bracket Fastener
Courtesy of GENERAL MOTORS COMPANY

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

NOTE:

- Ensure that the counter balance is reset and locked in the detent of the handle bracket. The counter balance Can Not be reset after the latch and handle bracket has been reinstalled in the door.
- Bracket should be slid full rearward prior to tightening bracket screw.

6. [Rear Side Door Outside Handle Replacement](#) » Install
7. Rear Side Door Water Deflector » Install
8. [Rear Side Door Trim Replacement](#) » Install
9. Ensure that the door system operates properly before installing the trim.

AUXILIARY REAR COMPARTMENT LATCH RELEASE HANDLE REPLACEMENT

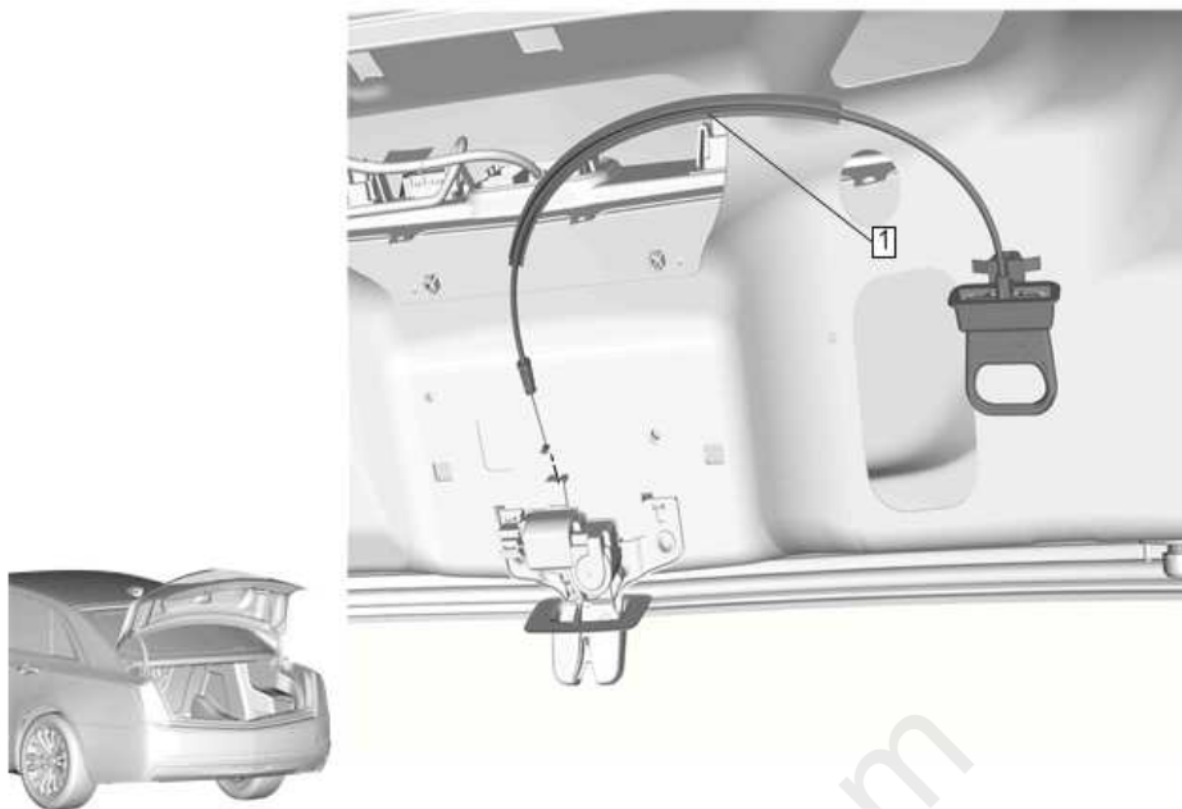


Fig. 33: Auxiliary Rear Compartment Latch Release Handle

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure	
<u>Rear Compartment Lid Inner Panel Trim Replacement</u>	
1	Auxiliary Rear Compartment Latch Release Handle
	Procedure 1. Disconnect the auxiliary rear compartment latch release handle from the lid. 2. Release the cable conduit fitting from the latch. 3. Rotate the cable until the cable end is released from the latch.

REAR COMPARTMENT LID POWER ASSIST ACTUATOR REPLACEMENT

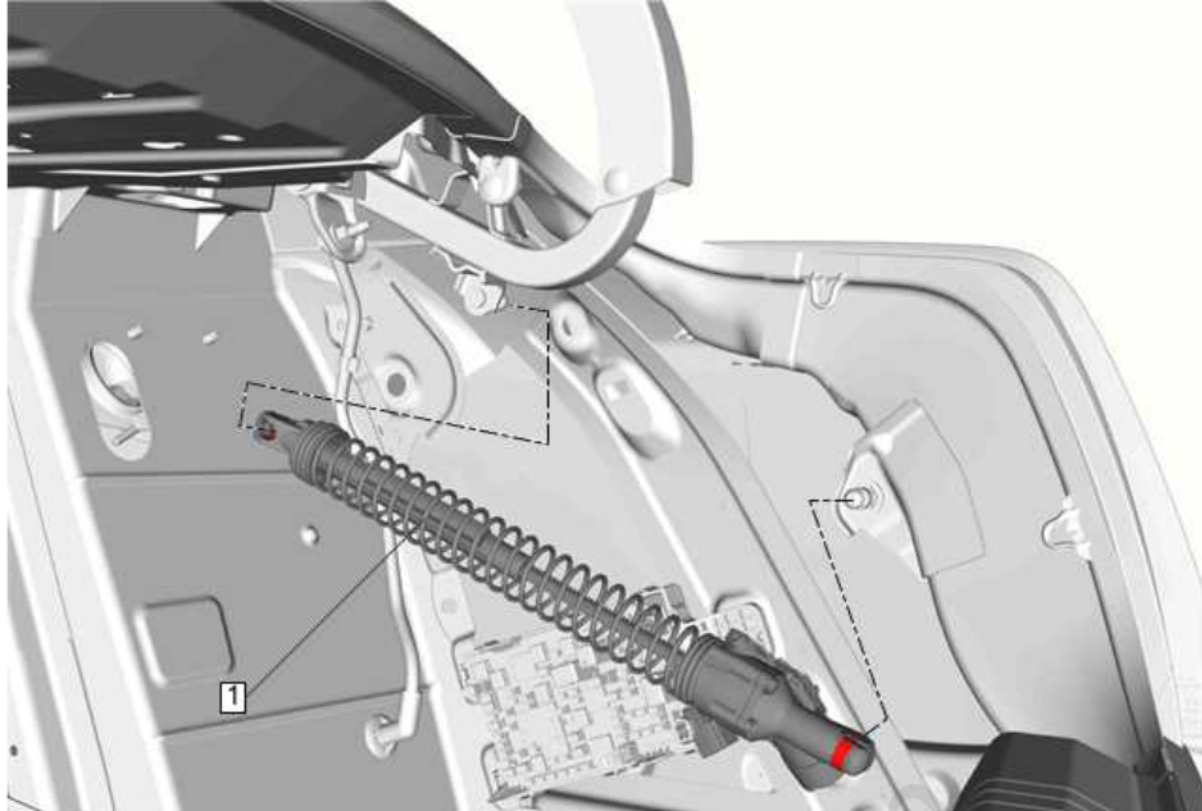


Fig. 34: Rear Compartment Lid Power Assist Actuator

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
WARNING: When a hood hold open device is being removed or installed, provide alternate support to avoid the possibility of damage to the vehicle or personal injury.	
CAUTION: Apply pressure only at the end of the liftgate/hood assist rod that you are removing or attaching. Do NOT apply pressure to the middle of the rod because damage or bending will result.	
Preliminary Procedure <u>Rear Compartment Side Trim Replacement - Right Side (Without HP9)</u> <u>Rear Compartment Side Trim Replacement - Right Side (With HP9)</u>	
1	Rear Compartment Lid Power Assist Actuator Procedure 1. Release the locking tabs on the strut. 2. Ensure the clip is fully seated when the strut is installed. If the clip cannot be fully seated, install a NEW strut.

REAR SIDE DOOR INSIDE HANDLE REPLACEMENT



Fig. 35: Rear Side Door Inside Handle
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure <u>Rear Side Door Trim Replacement</u> <u>Rear Side Door Trim Panel Applique Replacement</u> - Reposition insulator, as required.	
1	Rear Side Door Inside Handle Fastener [5x] CAUTION: Refer to <u>Fastener Caution</u> . NOTE: The five screws are located on the backside of the trim panel. Tighten 2.5 N.m (22 lb in)
2	Rear Side Door Inside Handle Procedure - Disconnect all electrical connectors. - Transfer components as necessary.

REAR SIDE DOOR OUTSIDE HANDLE REPLACEMENT

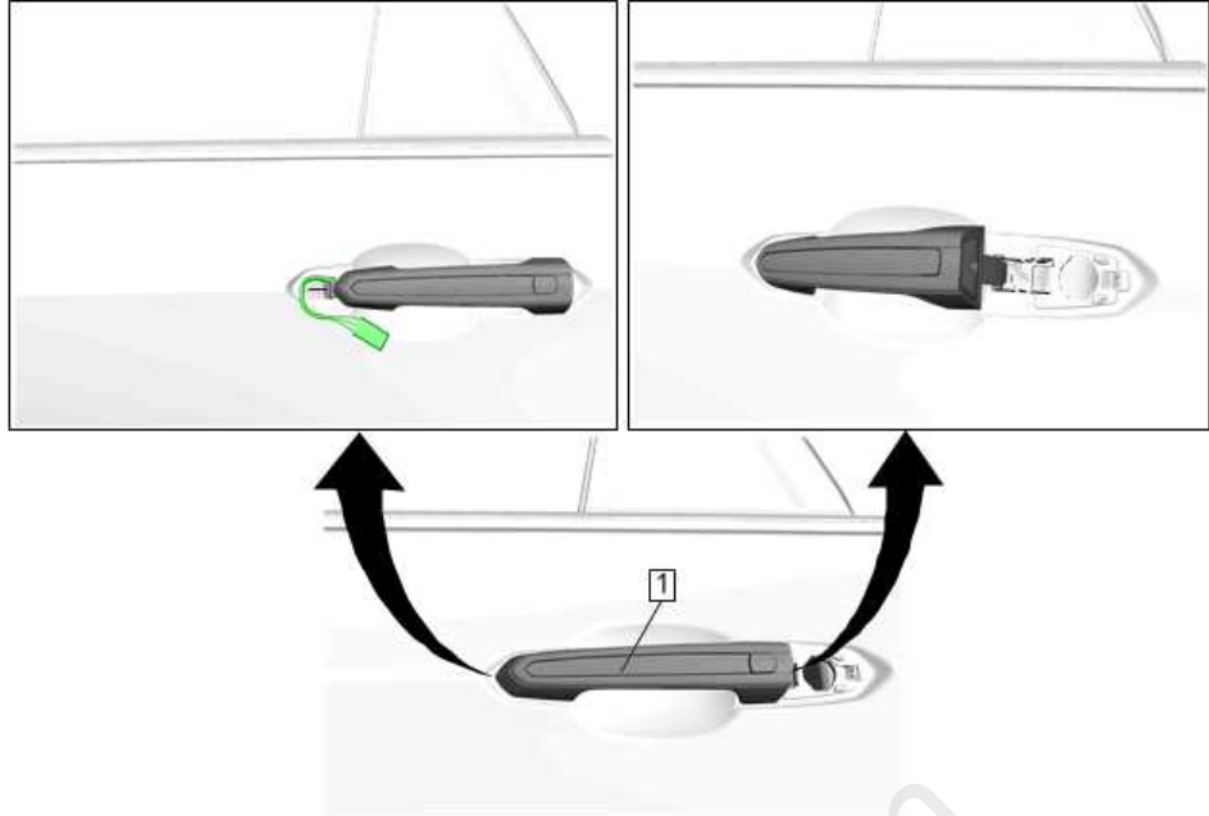


Fig. 36: Rear Side Door Outside Handle
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure <u>Rear Side Door Lock Cylinder Opening Cover Replacement</u> <u>Rear Side Door Trim Replacement</u> - Remove the rear side door water deflector. - Disconnect the electrical connector.	
1	Rear Side Door Outside Handle - Pull the rear side door outside handle outward and hold it in the open position. - Slide the rear side door outside handle rearward and then outwards in a swinging motion releasing the handle from the rear side door outside handle bracket. - Install the rear side door outside handle into the handle bracket. - From inside the door, push outward on the door handle bracket housing counter balance lever at the same time. Slide the outside door handle toward the lock cylinder then forward, engaging the handle to the housing counter balance. - While screwing in the screw for the lock cylinder opening cover, hold the handle in the open position, this will avoid the door handle from snapping once the spring pressure is relieved and the door handle returns to the close position. NOTE: The rear side door outside handle cannot be installed until the counter balance and handle is reset.

REAR SIDE DOOR OUTSIDE HANDLE CABLE REPLACEMENT

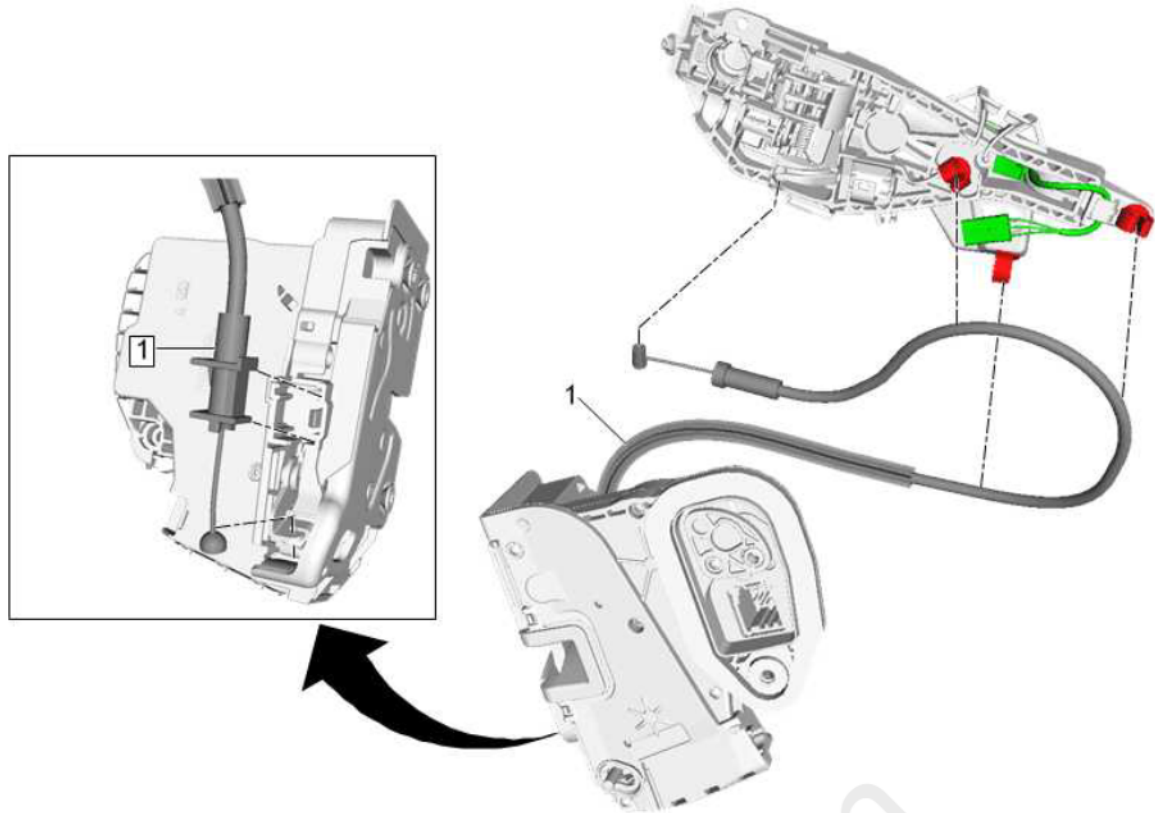


Fig. 37: Rear Side Outside Handle Cable
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure	
<u>Rear Side Door Latch Replacement</u>	
1	Rear Side Door Outside Handle Cable Procedure 1. Remove the rear side door outside handle cable from the handle retainers. 2. Release the cable from the back of the latch assembly. 3. Remove the rear side door outside handle cable from the rear side door outside handle bracket.

FRONT SIDE DOOR LATCH REPLACEMENT

Removal Procedure

1. Position the front side door window regulator rear rail to access and remove the door latch and handle bracket assembly. Refer to **Front Side Door Window Regulator Replacement**

NOTE: Disconnect the window from the window regulator, place the window in the full up position, use masking tape to tape the window to the upper door frame.

2. Remove the front side door outside handle bracket screw. Refer to **Front Side Door Outside Handle Bracket Replacement**
3. **Front Side Door Window Channel Retainer Replacement** » Remove
4. **Front Side Door Locking Rod Knob Replacement** » Remove
5. Disconnect the electrical connector from the front side door outside handle bracket, if equipped.
6. Front Side Door Latch Bolt (1) @ Front Side Door Latch » Remove [4x]

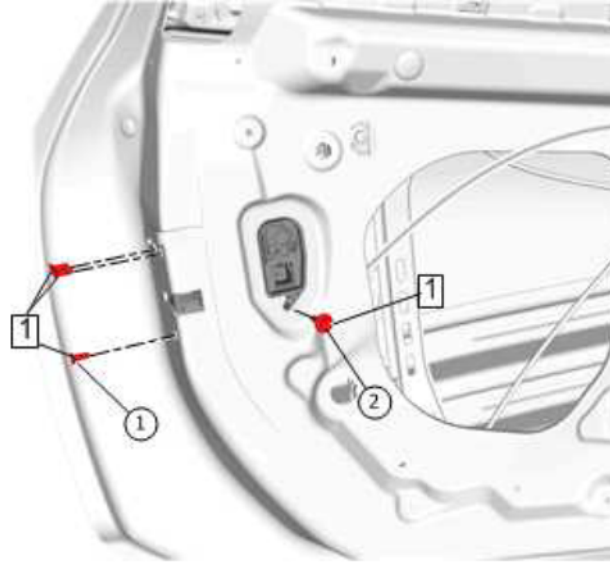


Fig. 38: Front Side Door Latch Bolt

Courtesy of GENERAL MOTORS COMPANY

7. Front Door Outside Handle Bracket (1) @ the Front Side Door Latch (2)» Remove

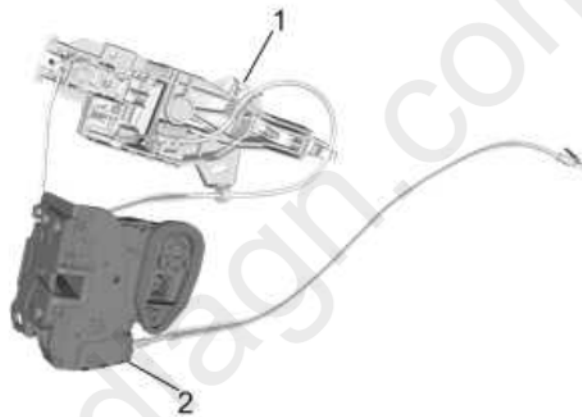


Fig. 39: Rear Side Door Outside Handle Bracket And Rear Side Door Latch

Courtesy of GENERAL MOTORS COMPANY

8. **Front Side Door Outside Handle Cable Replacement**» Remove
9. **Front Side Door Inside Handle Cable Replacement**» Remove

Installation Procedure

1. **Front Side Door Inside Handle Cable Replacement**» Install
2. **Front Side Door Outside Handle Cable Replacement**» Install
3. Transfer components as necessary.
4. Front Door Outside Handle Bracket (1) @ the Front Side Door Latch (2)» Install

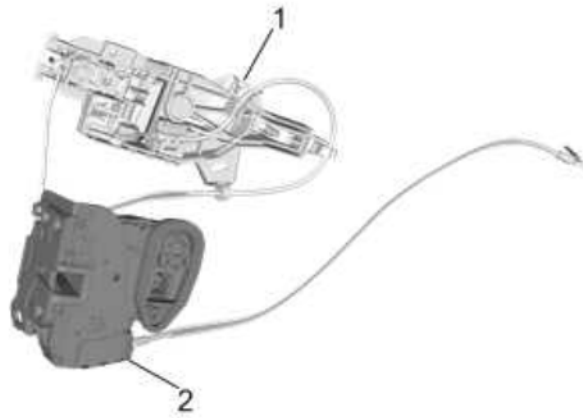


Fig. 40: Rear Side Door Outside Handle Bracket And Rear Side Door Latch
Courtesy of GENERAL MOTORS COMPANY

5. Front Side Door Latch Bolt (1) @ Front Side Door Latch» Install and tighten [4x] 9 N.m (80 lb in)

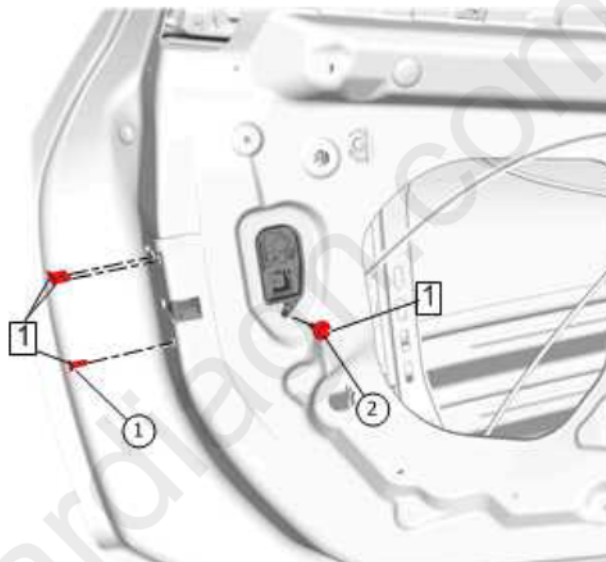


Fig. 41: Front Side Door Latch Bolt
Courtesy of GENERAL MOTORS COMPANY

CAUTION: Refer to [Fastener Caution](#)

NOTE: Install and torque the four latch bolts in proper sequence to prevent damage to the latch mechanism.

6. Install the front side door outside handle bracket screw. Refer to [Front Side Door Outside Handle Bracket Replacement](#)
7. [Front Side Door Window Regulator Replacement](#) » Install
8. [Front Side Door Locking Rod Knob Replacement](#) » Install
9. [Front Side Door Window Channel Retainer Replacement](#) » Install
10. Connect the electrical connector.
11. Inspect the door latch and outside handle for proper operation before installing the door trim.
12. Remove the tape from the front side door window and frame.

REAR COMPARTMENT LID LATCH REPLACEMENT

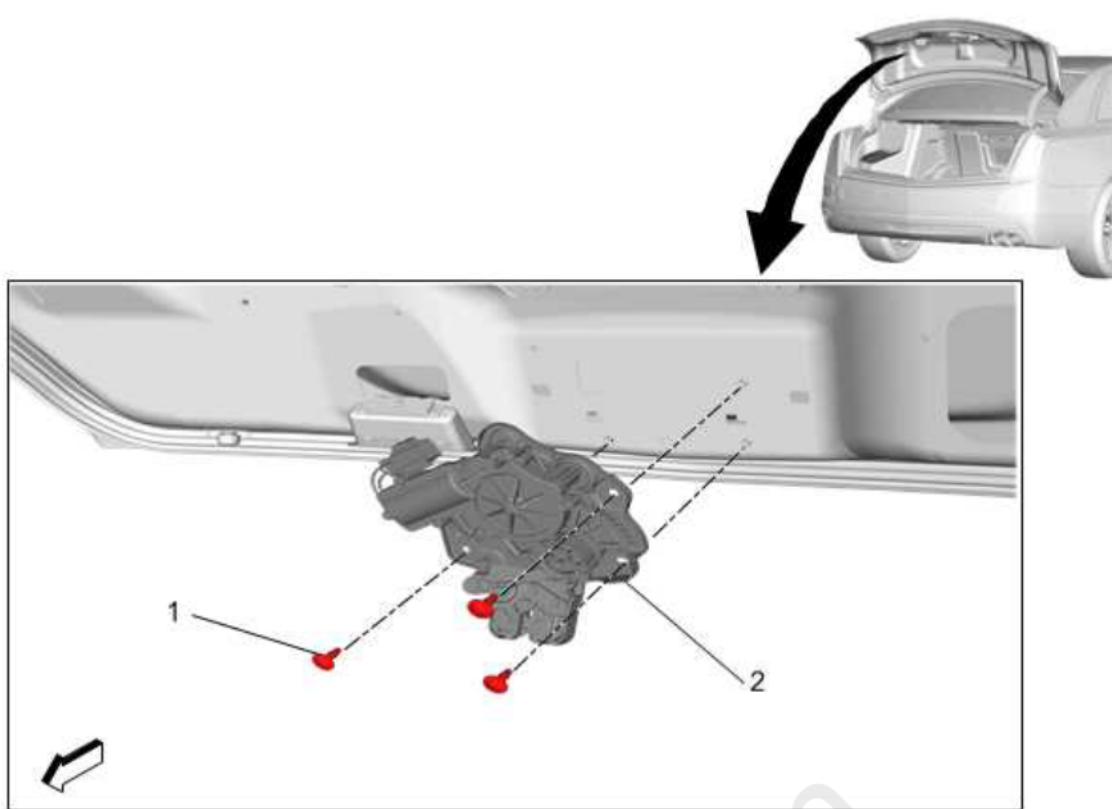


Fig. 42: Rear Compartment Lid Latch
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure	
<u>Auxiliary Rear Compartment Latch Release Handle Replacement</u>	
1	Rear Compartment Lid Latch Bolt [3x] CAUTION: Refer to <u>Fastener Caution</u> . Tighten 9 N.m (80 lb in)
2	Rear Compartment Lid Latch Procedure Disconnect the electrical connector.

REAR SIDE DOOR LATCH REPLACEMENT

Removal Procedure

1. Place the window in the full up position.
2. Rear Side Door Window Channel Retainer (1)» Remove - **Rear Side Door Window Channel Retainer Replacement**

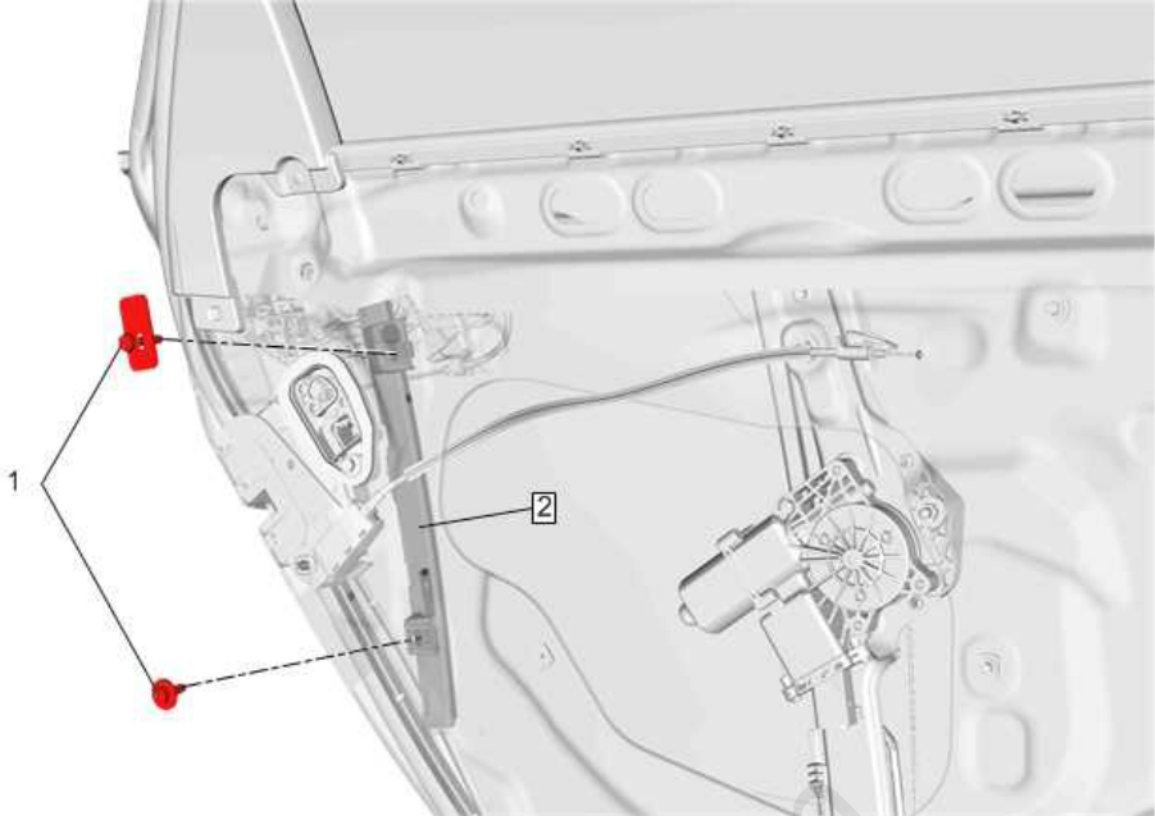


Fig. 43: Rear Side Door Window Channel Retainer

Courtesy of GENERAL MOTORS COMPANY

3. Rear Side Door Outside Handle Bracket Screw (1)» Remove - **Rear Side Door Outside Handle Bracket Replacement**

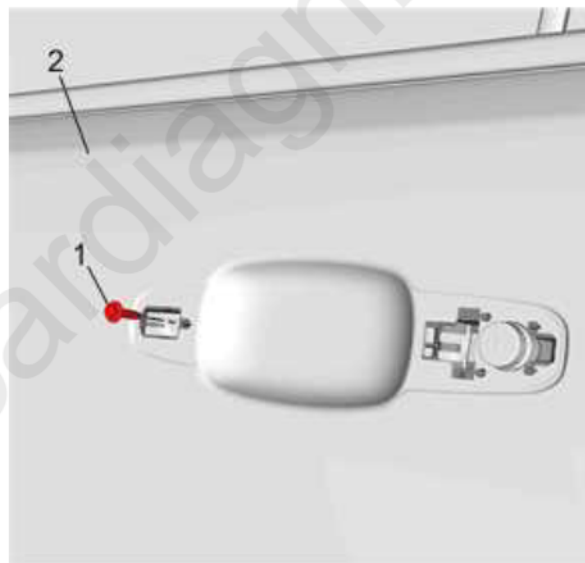


Fig. 44: Front Side Door Outside Handle Bracket Fastener

Courtesy of GENERAL MOTORS COMPANY

4. Rear Side door Locking Rod Knob» Remove - **Rear Side Door Locking Rod Knob Replacement**
5. Rear Side Door Latch Bolt (1)» Remove [4x]

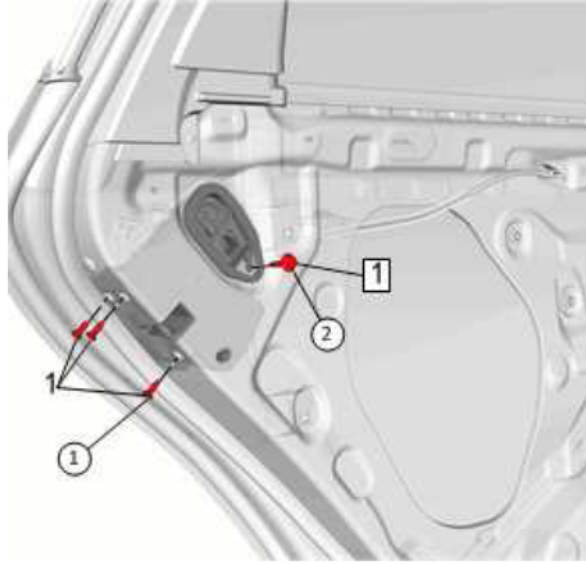


Fig. 45: Rear Side Door Latch Bolts

Courtesy of GENERAL MOTORS COMPANY

6. Remove the outside handle bracket (1) and the rear side door latch (2) as an assembly.

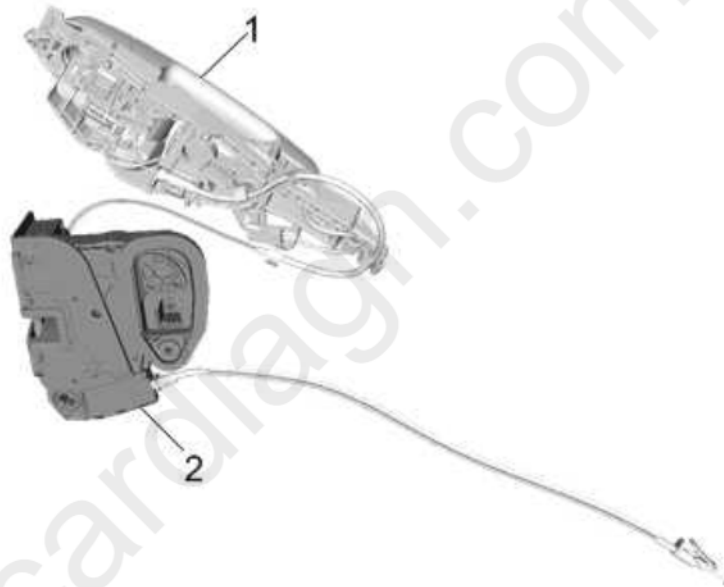


Fig. 46: Outside Handle Bracket And Rear Side Door Latch

Courtesy of GENERAL MOTORS COMPANY

7. Rear Side Door Outside Handle Cable (1)» Remove - **[Rear Side Door Outside Handle Cable Replacement](#)**

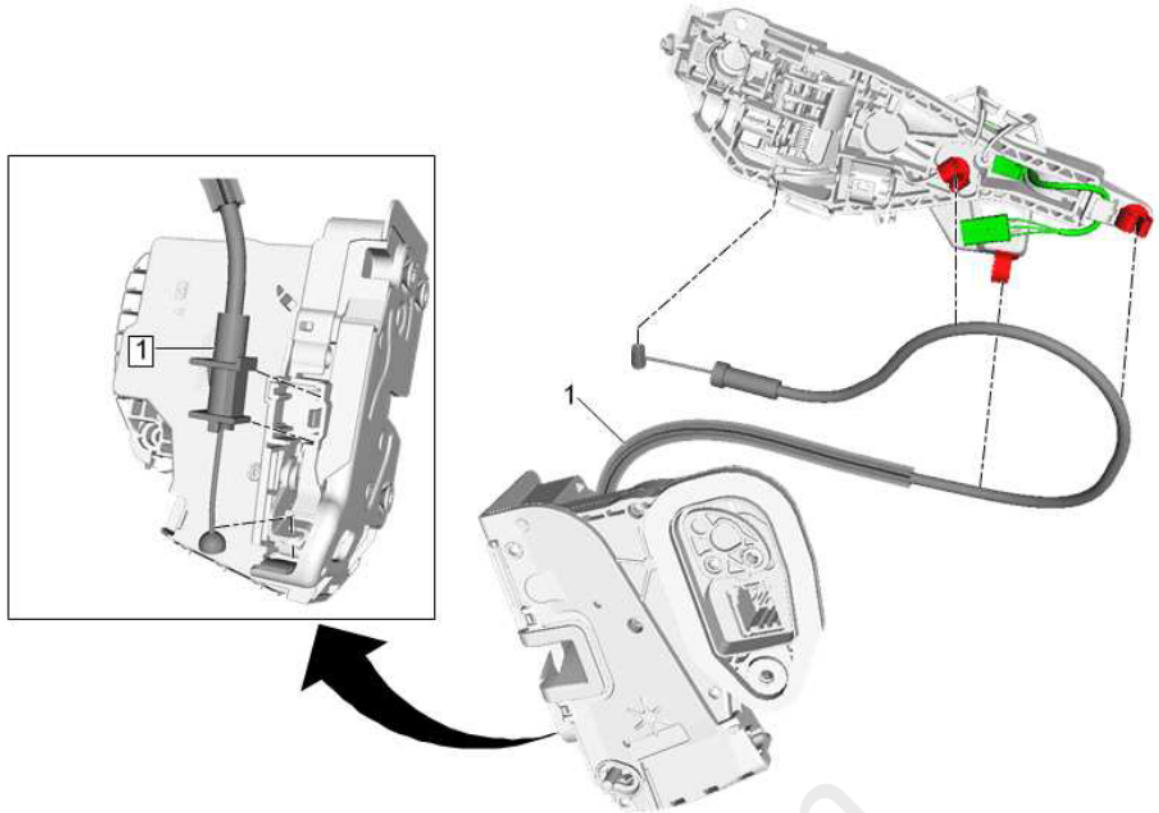


Fig. 47: Rear Side Outside Handle Cable
 Courtesy of GENERAL MOTORS COMPANY

Installation Procedure

1. Rear Side Door Outside Handle Cable (1) » Install - **Rear Side Door Outside Handle Cable Replacement**

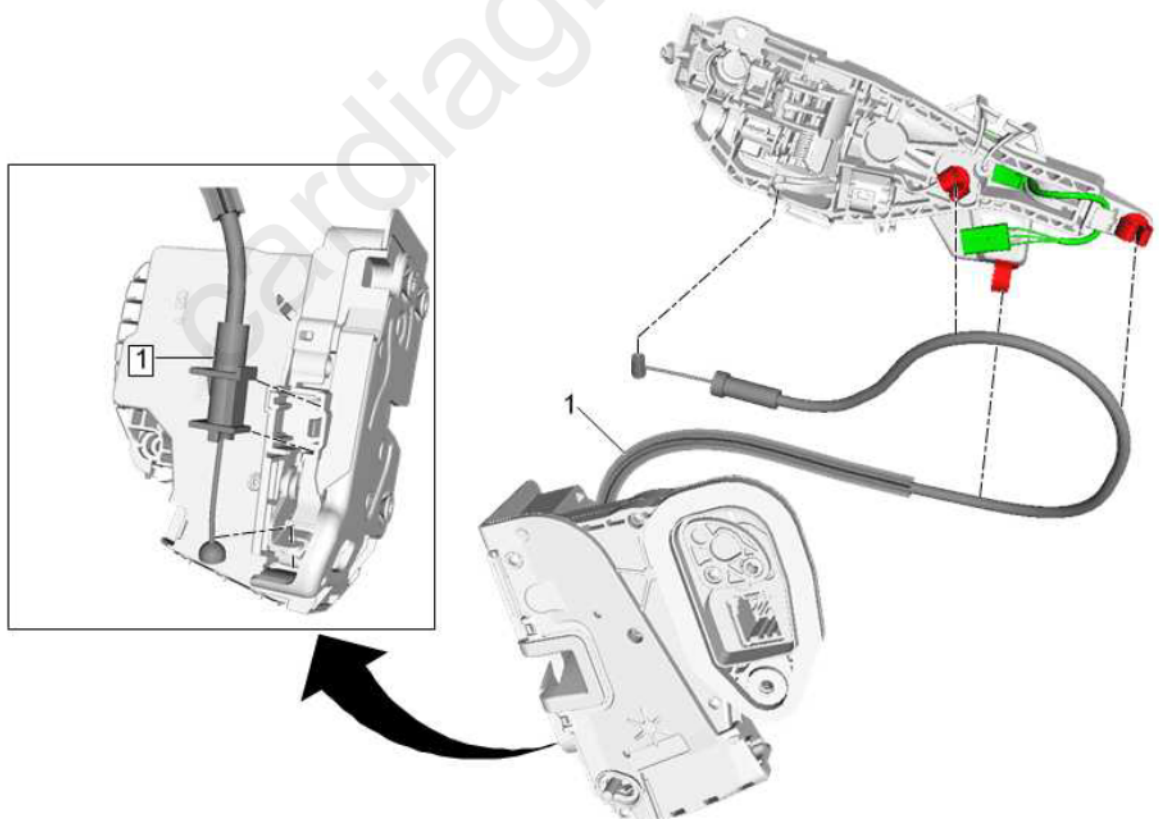


Fig. 48: Rear Side Outside Handle Cable
 Courtesy of GENERAL MOTORS COMPANY

2. Install the outside handle bracket (1) and the rear side door latch (2) as an assembly.

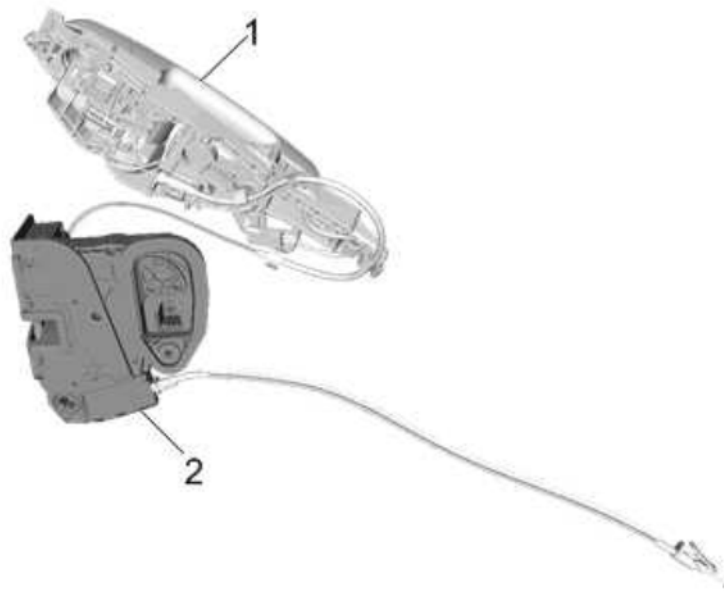


Fig. 49: Outside Handle Bracket And Rear Side Door Latch

Courtesy of GENERAL MOTORS COMPANY

3. Rear Side Door Latch Bolt (1)» Install and tighten [4x] 9 N.m (80 lb in)

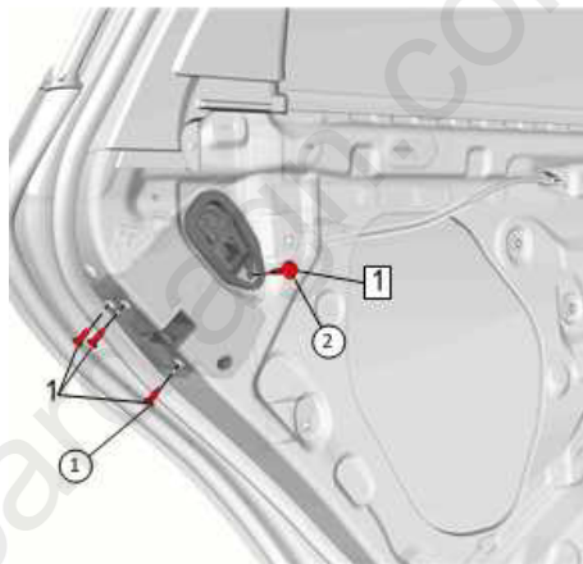


Fig. 50: Rear Side Door Latch Bolt

Courtesy of GENERAL MOTORS COMPANY

CAUTION: Refer to [Fastener Caution](#)

NOTE: Tighten in proper sequence to prevent damage to the latch mechanism.

4. Rear Side door Locking Rod Knob» Install - [Rear Side Door Locking Rod Knob Replacement](#)
5. Rear Side Door Outside Handle Bracket Screw (1)» Install - [Rear Side Door Outside Handle Bracket Replacement](#)

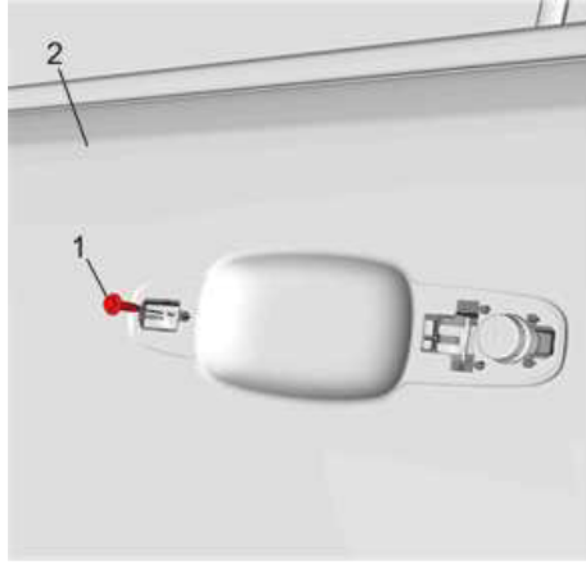


Fig. 51: Front Side Door Outside Handle Bracket Fastener

Courtesy of GENERAL MOTORS COMPANY

6. Rear Side Door Window Channel Retainer (1)» Install - **Rear Side Door Window Channel Retainer Replacement**

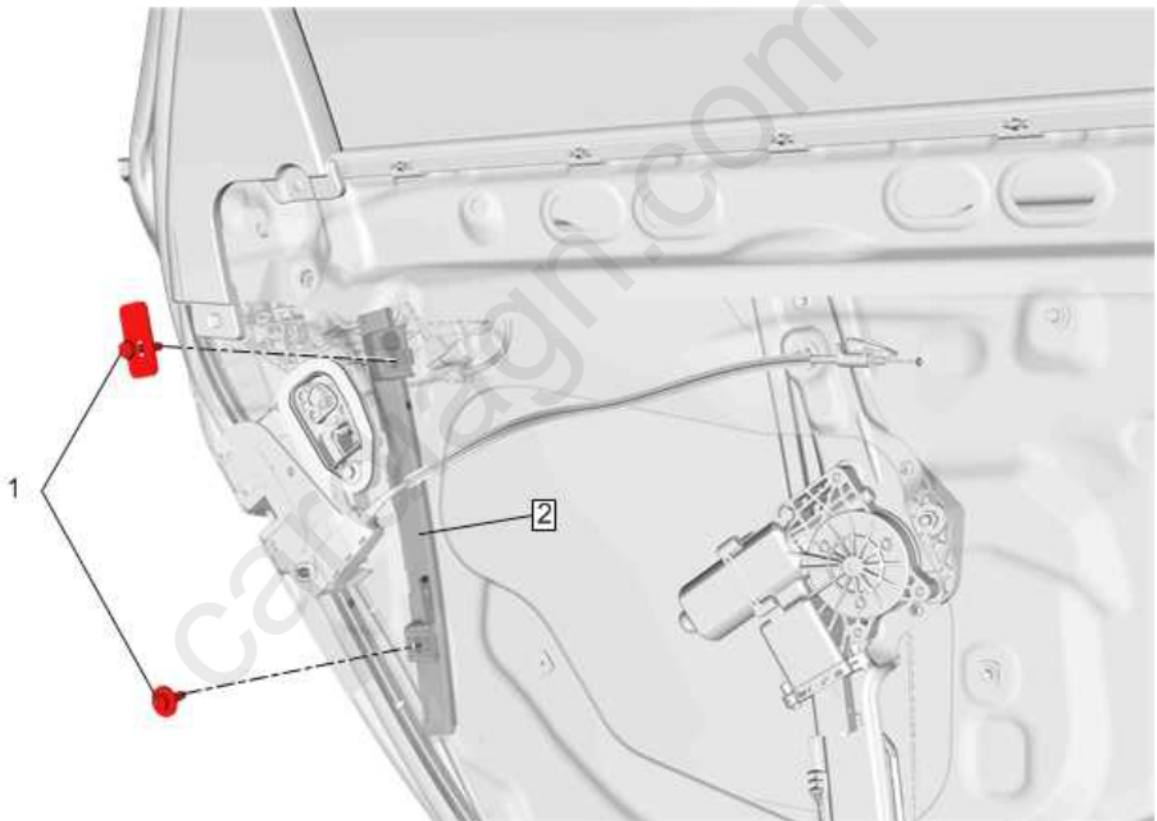


Fig. 52: Rear Side Door Window Channel Retainer

Courtesy of GENERAL MOTORS COMPANY

7. Connect window to the window regulator.
8. Inspect the door latch, window and outside handle for proper operation before installing the door trim.

FRONT SIDE DOOR LOCK CYLINDER OPENING COVER REPLACEMENT

Removal Procedure

1. Front Side Door Access Hole Cover (1)» Remove

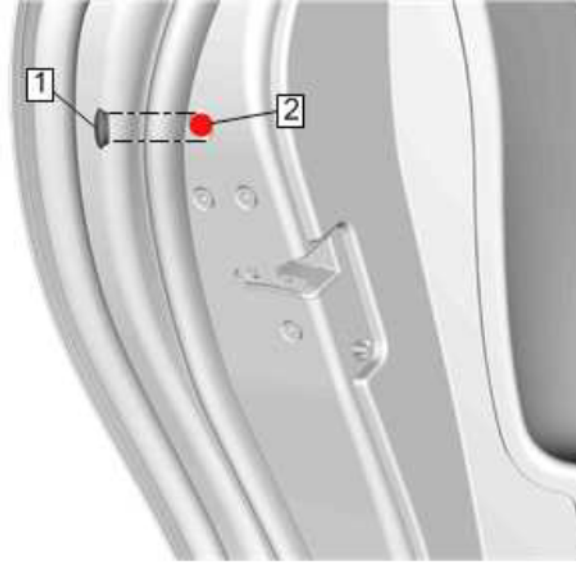


Fig. 53: Front Side Door Outside Handle Lock Cylinder Screw
 Courtesy of GENERAL MOTORS COMPANY

2. Front Side Door Outside Handle Lock Cylinder Screw (2) » Loosen

NOTE:

- **USE HAND TOOL ONLY.** Using a battery operated gun or power tool can **BREAK** the component.
- **Around 10-12 rotations is enough to allow the Front Side Door Outside Handle Lock Cylinder to be removed.**

3. Pull the door handle (1) out to the open position.

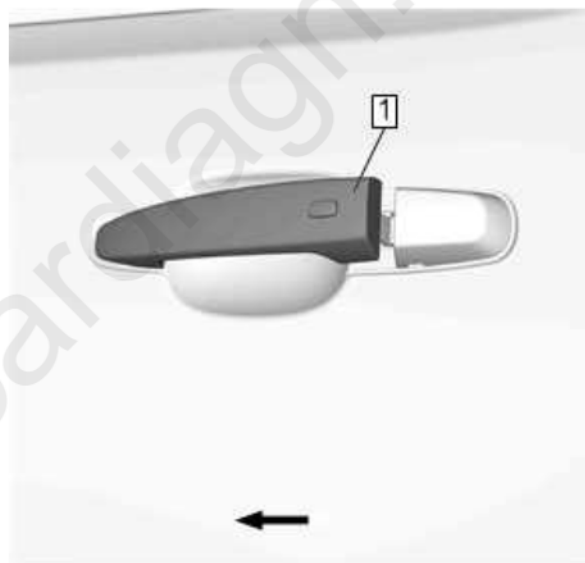


Fig. 54: Front Side Door Outside Handle
 Courtesy of GENERAL MOTORS COMPANY

4. Front Side Door Lock Cylinder Opening Cover (1) » Remove



Fig. 55: Front Side Door Lock Cylinder Opening Cover
Courtesy of GENERAL MOTORS COMPANY

5. Using the appropriate tool, remove the cover (1) from the lock cylinder insulator (2).

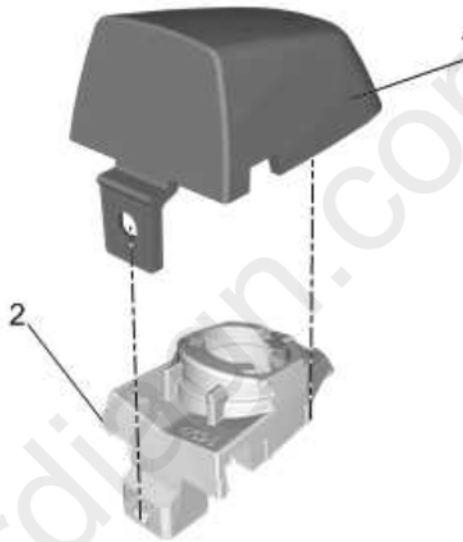


Fig. 56: Lock Cylinder Insulator And Cover
Courtesy of GENERAL MOTORS COMPANY

Installation Procedure

1. Install the cover (1) to the lock cylinder insulator (2).

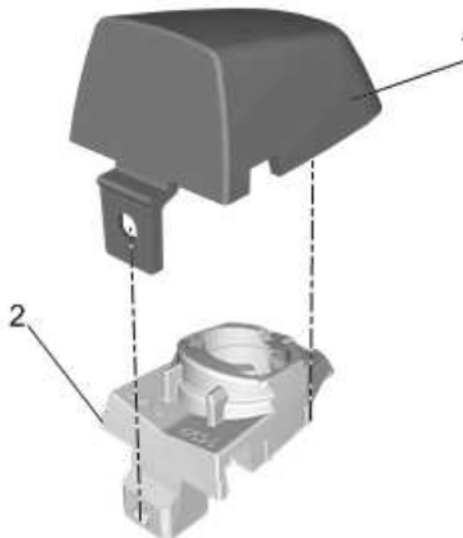


Fig. 57: Lock Cylinder Insulator And Cover
Courtesy of GENERAL MOTORS COMPANY

2. Pull the door handle (1) out to the open position.

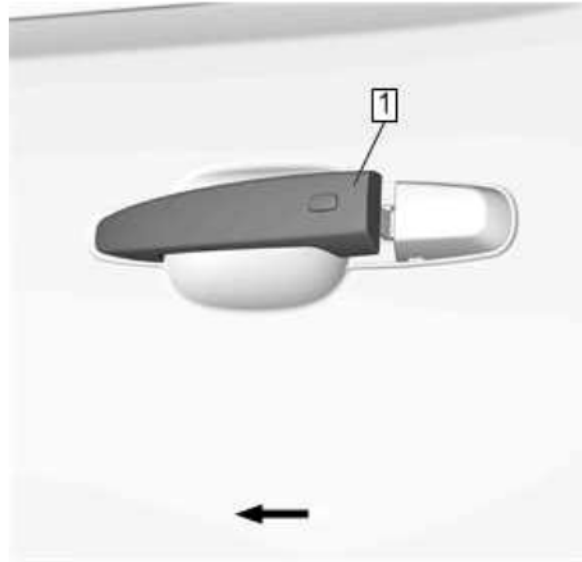


Fig. 58: Front Side Door Outside Handle
Courtesy of GENERAL MOTORS COMPANY

3. Front Side Door Lock Cylinder Opening Cover (1)» Install

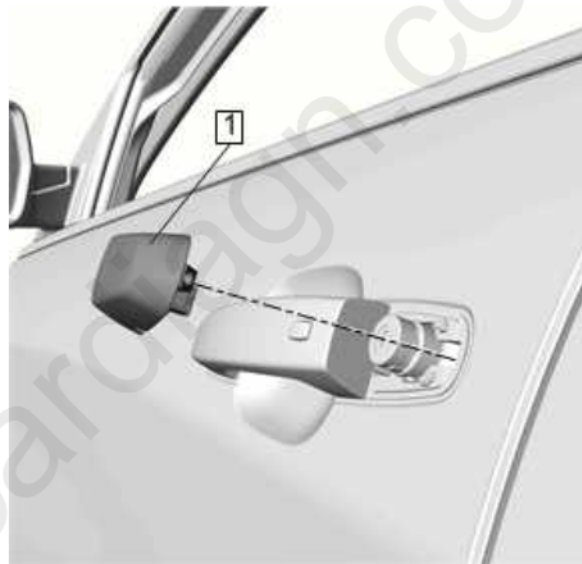


Fig. 59: Front Side Door Lock Cylinder Opening Cover
Courtesy of GENERAL MOTORS COMPANY

4. Place the Front Side Door Outside Handle (1) in the closed position.



Fig. 60: Front Side Door Outside Handle
Courtesy of GENERAL MOTORS COMPANY

5. Front Side Door Outside Handle Lock Cylinder Screw (2) » Tighten 4 N.m (31 lb in)

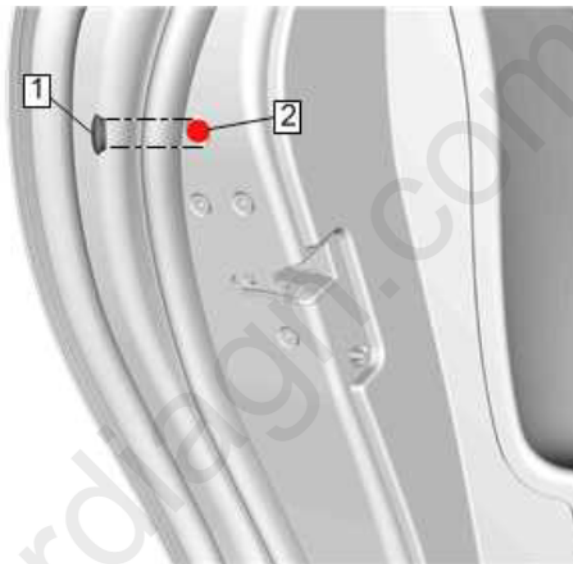


Fig. 61: Front Side Door Outside Handle Lock Cylinder Screw
Courtesy of GENERAL MOTORS COMPANY

CAUTION: Refer to **Fastener Caution** .

6. Front Side Door Lock Cylinder Opening Cover (1) » Install

REAR SIDE DOOR LOCK CYLINDER OPENING COVER REPLACEMENT

Removal Procedure

1. Rear Side Door Access Hole Cover (1) » Remove

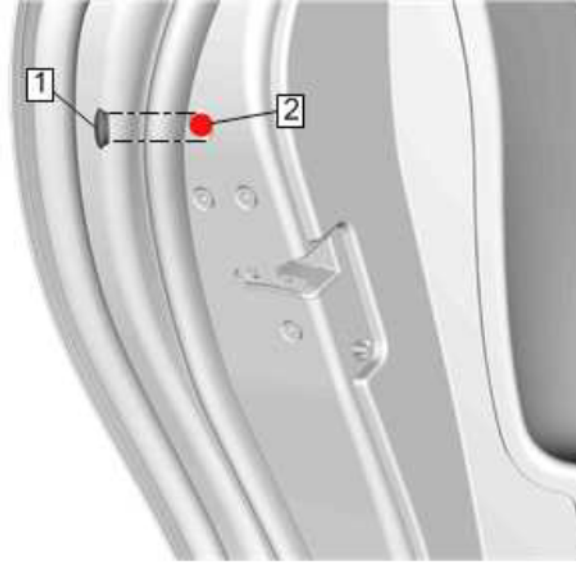


Fig. 62: Front Side Door Outside Handle Lock Cylinder Screw
Courtesy of GENERAL MOTORS COMPANY

2. Rear Side Door Outside Handle Lock Cylinder Screw (2) » Loosen

NOTE:

- **USE HAND TOOL ONLY.** Using a battery operated gun or power tool can **BREAK** the component.
- **Around 10-12 rotations is enough to allow the Front Side Door Outside Handle Lock Cylinder to be removed.**

3. Pull the Rear Side Door Outside Handle (1) out to the open position.

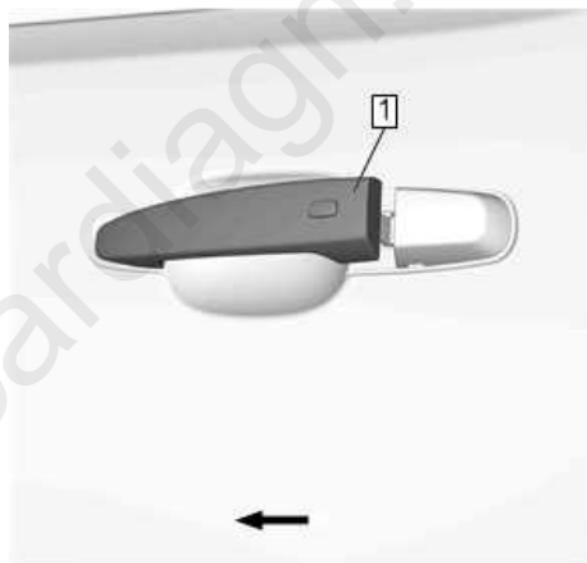


Fig. 63: Front Side Door Outside Handle
Courtesy of GENERAL MOTORS COMPANY

4. Rear Side Door Lock Cylinder Opening Cover (1) » Remove



Fig. 64: Rear Side Door Lock Cylinder Opening Cover
 Courtesy of GENERAL MOTORS COMPANY

5. Using the appropriate tool, remove the cover (1) from the lock cylinder insulator (2).

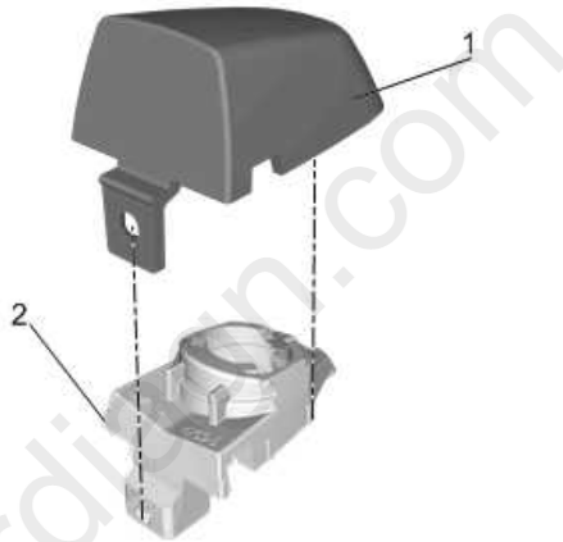


Fig. 65: Lock Cylinder Insulator And Cover
 Courtesy of GENERAL MOTORS COMPANY

Installation Procedure

1. Install the cover (1) to the lock cylinder insulator (2).

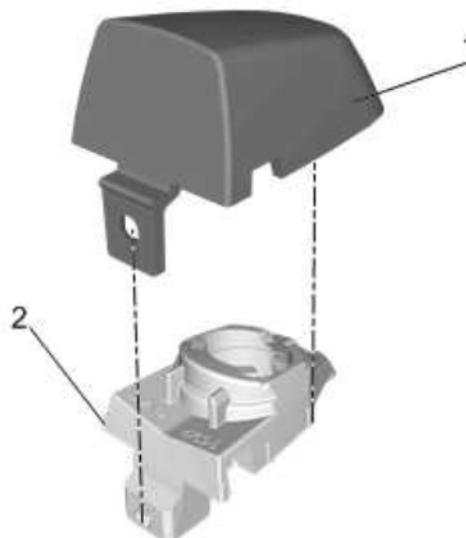


Fig. 66: Lock Cylinder Insulator And Cover
Courtesy of GENERAL MOTORS COMPANY

2. Pull the door handle (1) out to the open position.

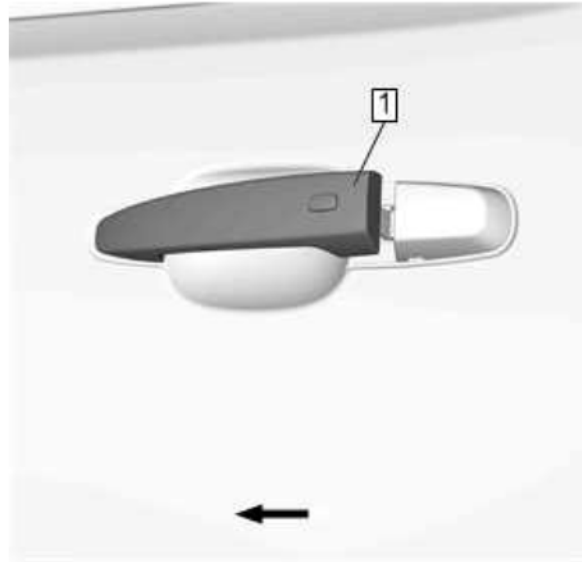


Fig. 67: Front Side Door Outside Handle
Courtesy of GENERAL MOTORS COMPANY

3. Rear Side Door Lock Cylinder Opening Cover (1)» Install



Fig. 68: Rear Side Door Lock Cylinder Opening Cover
Courtesy of GENERAL MOTORS COMPANY

4. Place the Rear Side Door Outside Handle (1) in the closed position.



Fig. 69: Front Side Door Outside Handle

Courtesy of GENERAL MOTORS COMPANY

5. Rear Side Door Outside Handle Lock Cylinder Screw (2) » Install and tighten 4 N.m (31 lb in)

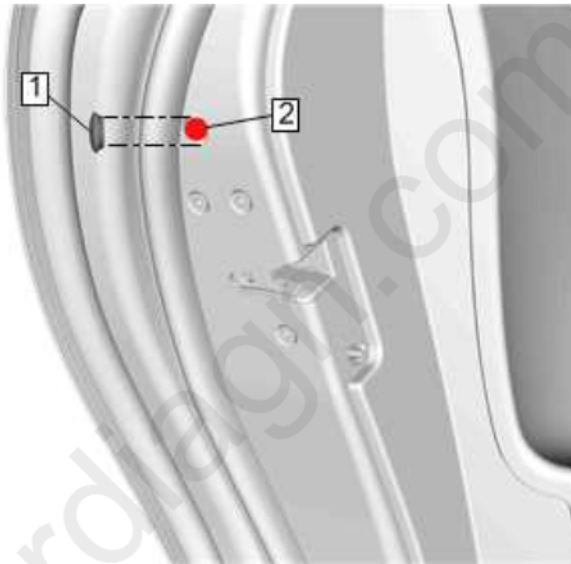


Fig. 70: Front Side Door Outside Handle Lock Cylinder Screw

Courtesy of GENERAL MOTORS COMPANY

CAUTION: Refer to **Fastener Caution** .

6. Rear Side Door Access Hole Cover (1) » Install

FRONT SIDE DOOR LOCK CYLINDER BEZEL REPLACEMENT

Removal Procedure

1. Front Side Door Access Hole Cover (1) » Remove

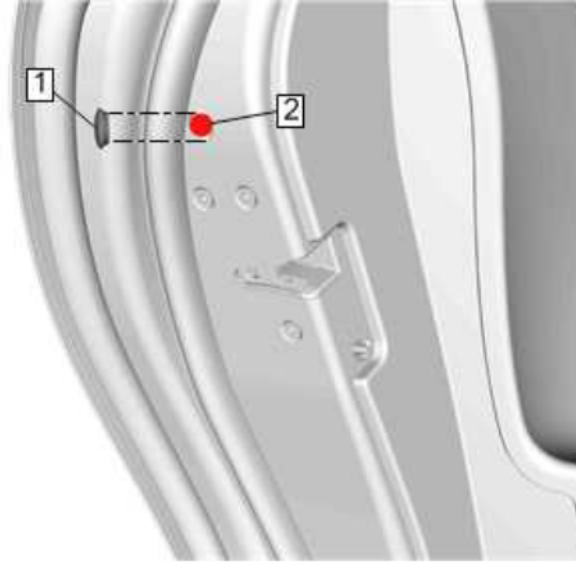


Fig. 71: Front Side Door Outside Handle Lock Cylinder Screw
 Courtesy of GENERAL MOTORS COMPANY

2. Front Side Door Outside Handle Lock Cylinder Screw (2) ⌘ Loosen

NOTE:

- **USE HAND TOOL ONLY.** Using a battery operated gun or power tool can **BREAK** the component.
- **Around 10-12 rotations is enough to allow the Front Side Door Outside Handle Lock Cylinder to be removed.**

3. Pull the door handle (1) out to the open position.

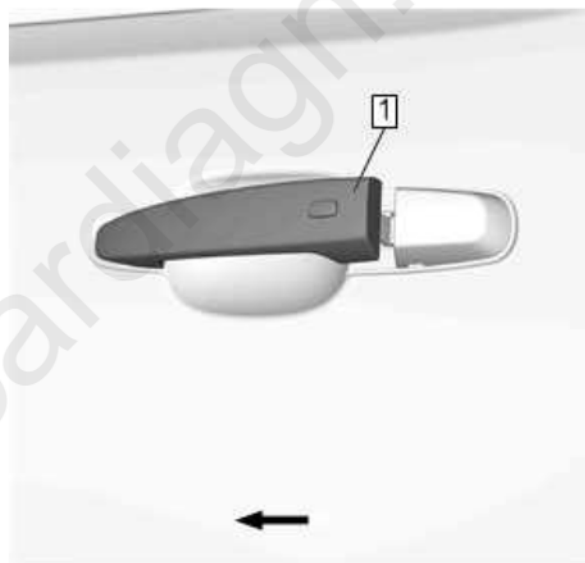


Fig. 72: Front Side Door Outside Handle
 Courtesy of GENERAL MOTORS COMPANY

4. Front Side Door Lock Cylinder Opening Bezel (1) ⌘ Remove



Fig. 73: Front Side Door Lock Cylinder Opening Cover
Courtesy of GENERAL MOTORS COMPANY

5. Using the appropriate tool, remove the bezel (1) from the lock cylinder insulator (2).

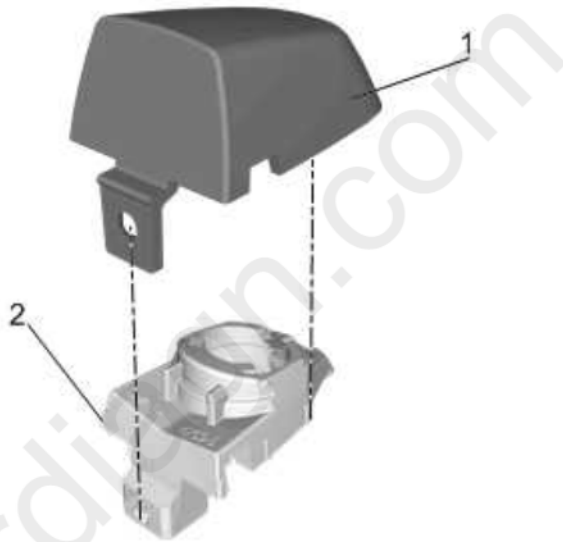


Fig. 74: Lock Cylinder Insulator And Cover
Courtesy of GENERAL MOTORS COMPANY

Installation Procedure

1. Install the bezel (1) to the lock cylinder insulator (2).

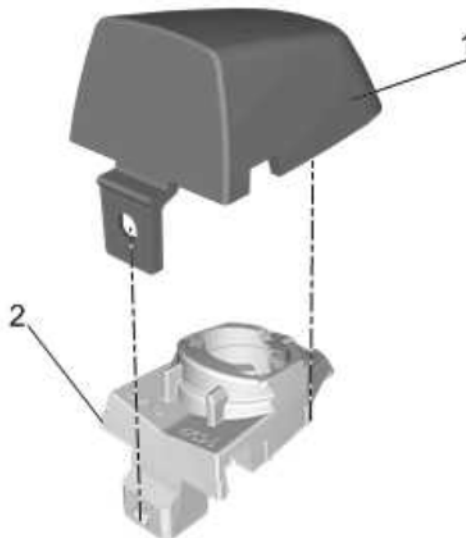


Fig. 75: Lock Cylinder Insulator And Cover
Courtesy of GENERAL MOTORS COMPANY

2. Pull the door handle (1) out to the open position.

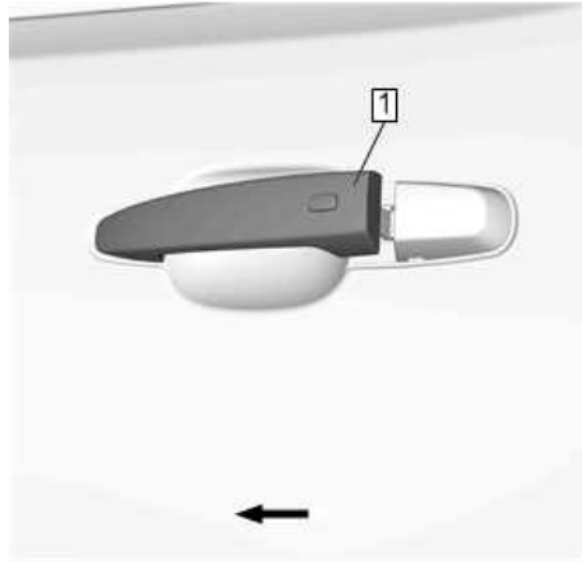


Fig. 76: Front Side Door Outside Handle
Courtesy of GENERAL MOTORS COMPANY

3. Front Side Door Lock Cylinder Opening Bezel (1)» Install

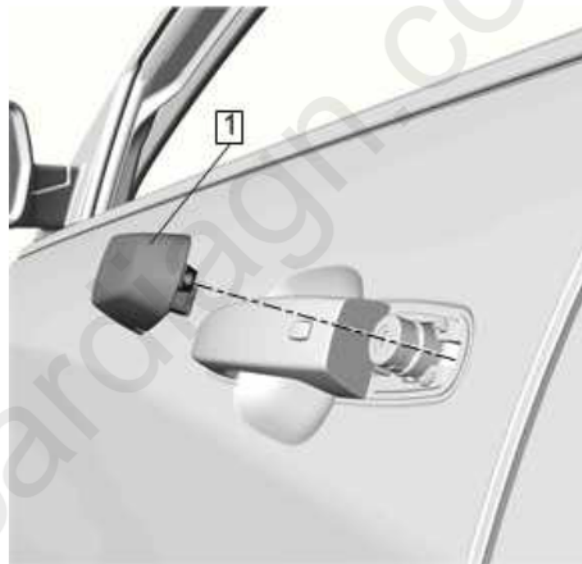


Fig. 77: Front Side Door Lock Cylinder Opening Cover
Courtesy of GENERAL MOTORS COMPANY

4. Place the front side door outside handle (1) in the closed position.

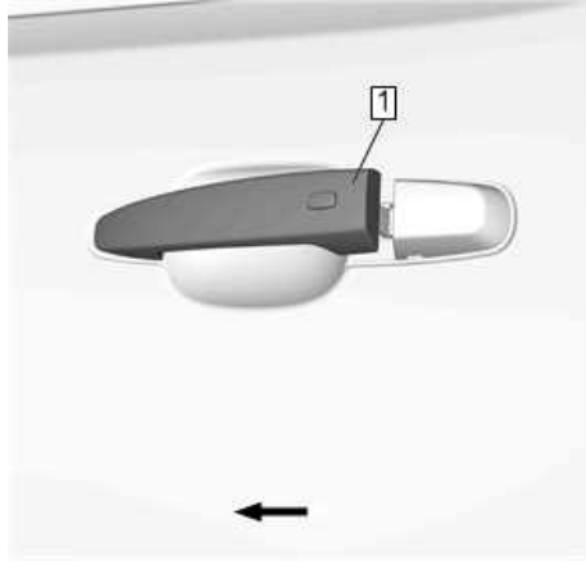


Fig. 78: Front Side Door Outside Handle
 Courtesy of GENERAL MOTORS COMPANY

5. Front Side Door Outside Handle Lock Cylinder Screw (2)» Tighten 4 N.m (31 lb in)

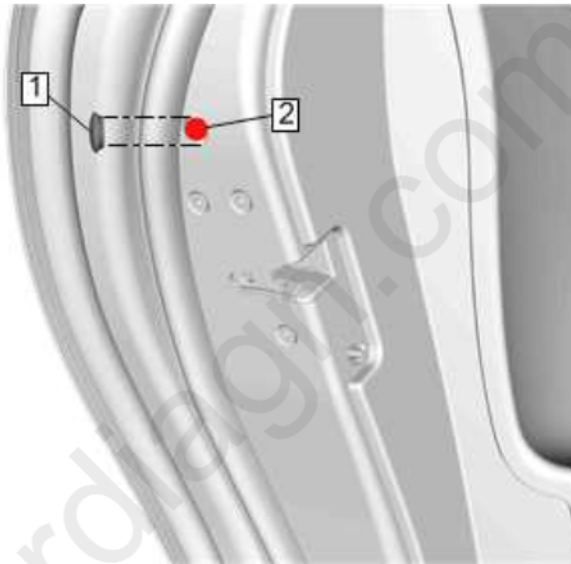


Fig. 79: Front Side Door Outside Handle Lock Cylinder Screw
 Courtesy of GENERAL MOTORS COMPANY

6. Front Side Door Access Hole Cover (1)» Install

ACCESSORY AND LIFTGATE CONTROL MODULE REPLACEMENT

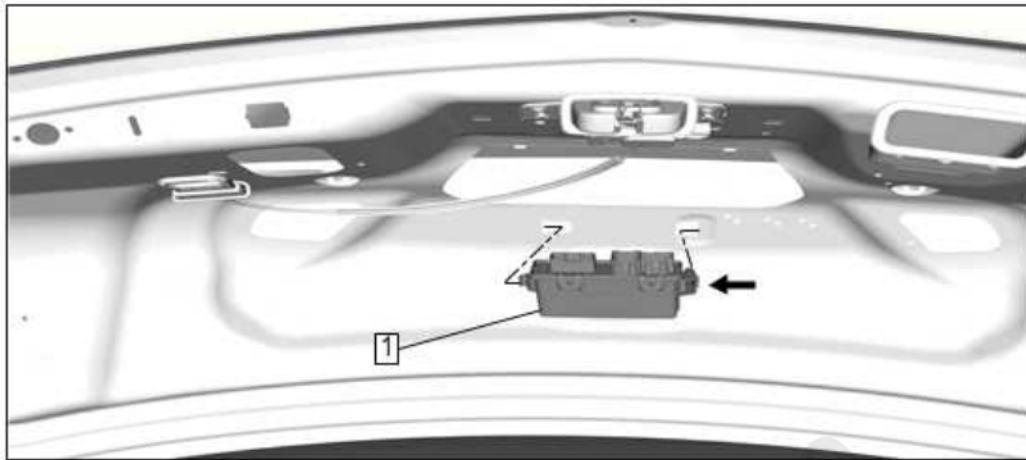


Fig. 80: Accessory And Liftgate Control Module

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure	
<u>Rear Compartment Lid Inner Panel Trim Replacement</u>	
1	Accessory Liftgate Control Module Procedure 1. Disconnect the electrical connector. 2. Use a plastic trim tool if necessary.

REAR CLOSURE HANDS FREE MODULE REPLACEMENT

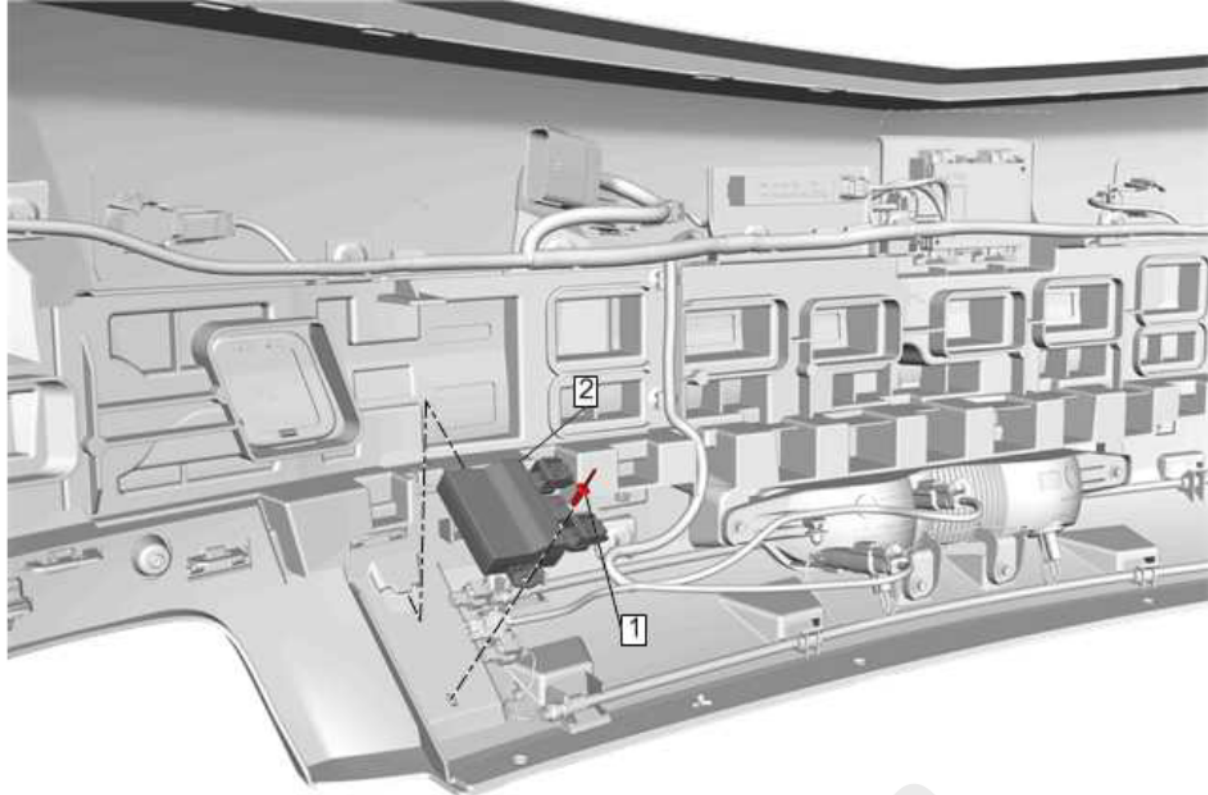


Fig. 81: Rear Closure Hands Free Module
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
WARNING: Eye protection must be worn when drilling rivets to reduce the chance of personal injury.	
Preliminary Procedure Underbody Rear Air Rear Deflector Replacement (Without HP9) Underbody Rear Air Rear Deflector Replacement (With HP9)	
1	Rear Closure Hands Free Module Rivet Procedure Using the appropriate tool, remove the rivet.
2	Rear Closure Hands Free Module Procedure Disconnect the upper and lower hands free sensors.

REAR CLOSURE HANDS FREE SENSOR REPLACEMENT (LOWER)

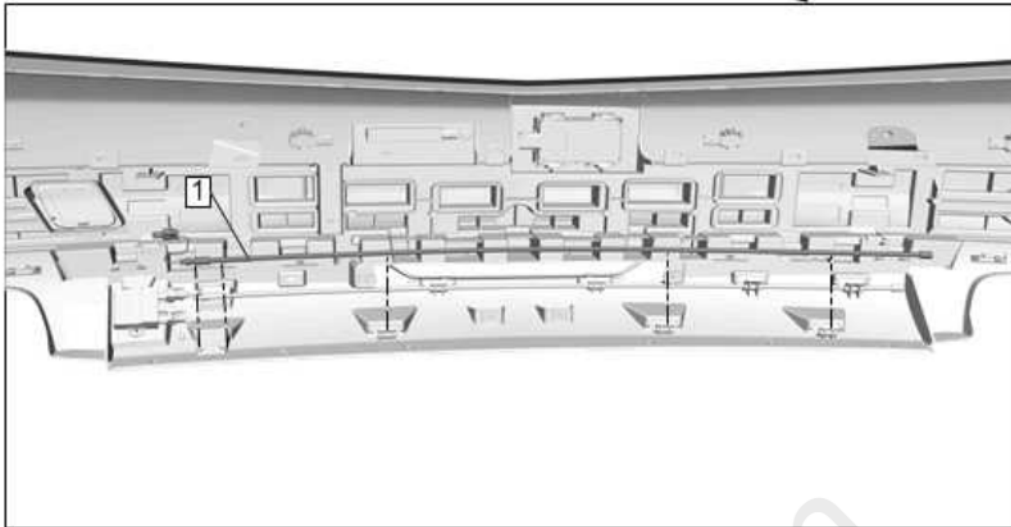


Fig. 82: Rear Closure Hands Free Sensor (Lower)

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure <u>Underbody Rear Air Rear Deflector Replacement (Without HP9) Underbody Rear Air Rear Deflector Replacement (With HP9)</u>	
1	Rear Closure Hands Free Sensor Procedure 1. Disconnect the electrical connector. 2. Disengage the wire at the connector, disengage opposite end, then pull back on each tab and apply slight force on sensor to push the sensor out of the tabs and remove.

REAR CLOSURE HANDS FREE SENSOR REPLACEMENT (UPPER)

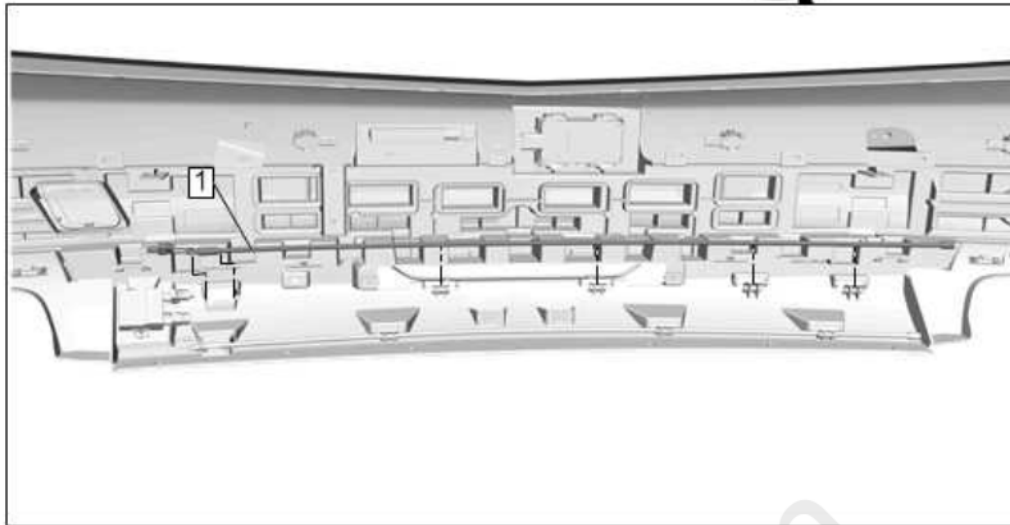


Fig. 83: Rear Closure Hands Free Sensor (Upper)

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure <u>Underbody Rear Air Rear Deflector Replacement (Without HP9) Underbody Rear Air Rear Deflector Replacement (With HP9)</u>	
1	Rear Closure Hands Free Sensor Procedure 1. Disconnect the electrical connector. 2. Disengage the wire at the connector, disengage opposite end, then pull back on each tab and apply slight force on sensor to push the sensor out of the tabs and remove.

FRONT SIDE DOOR OUTSIDE HANDLE INSERT REPLACEMENT

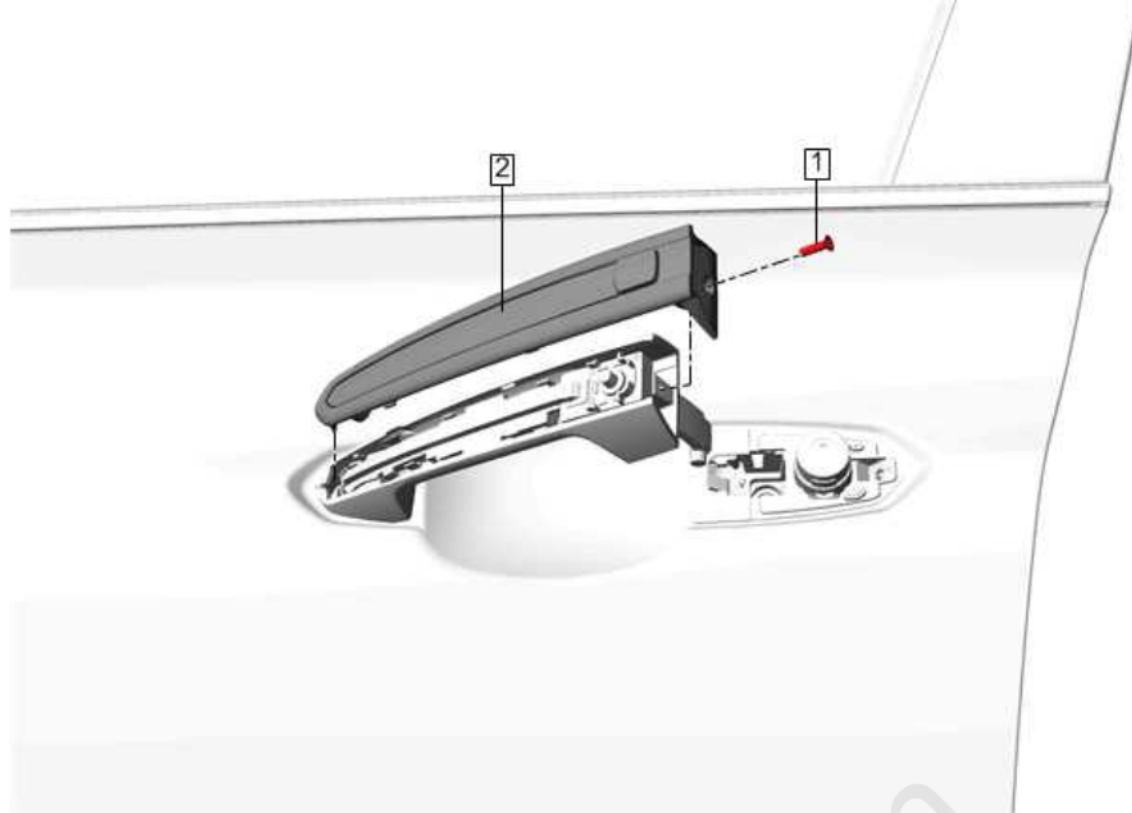


Fig. 84: Front Side Door Outside Handle Insert
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Front Side Door Lock Cylinder Opening Cover Replacement	
1	Front Side Door Outside Handle Insert Screw CAUTION: Refer to Fastener Caution . Tighten 1.5 N.m (13 lb in)
2	Front Side Door Outside Handle Insert NOTE: Ensure the door operates properly before installing the door trim.

FRONT SIDE DOOR LOCKING ROD KNOB REPLACEMENT

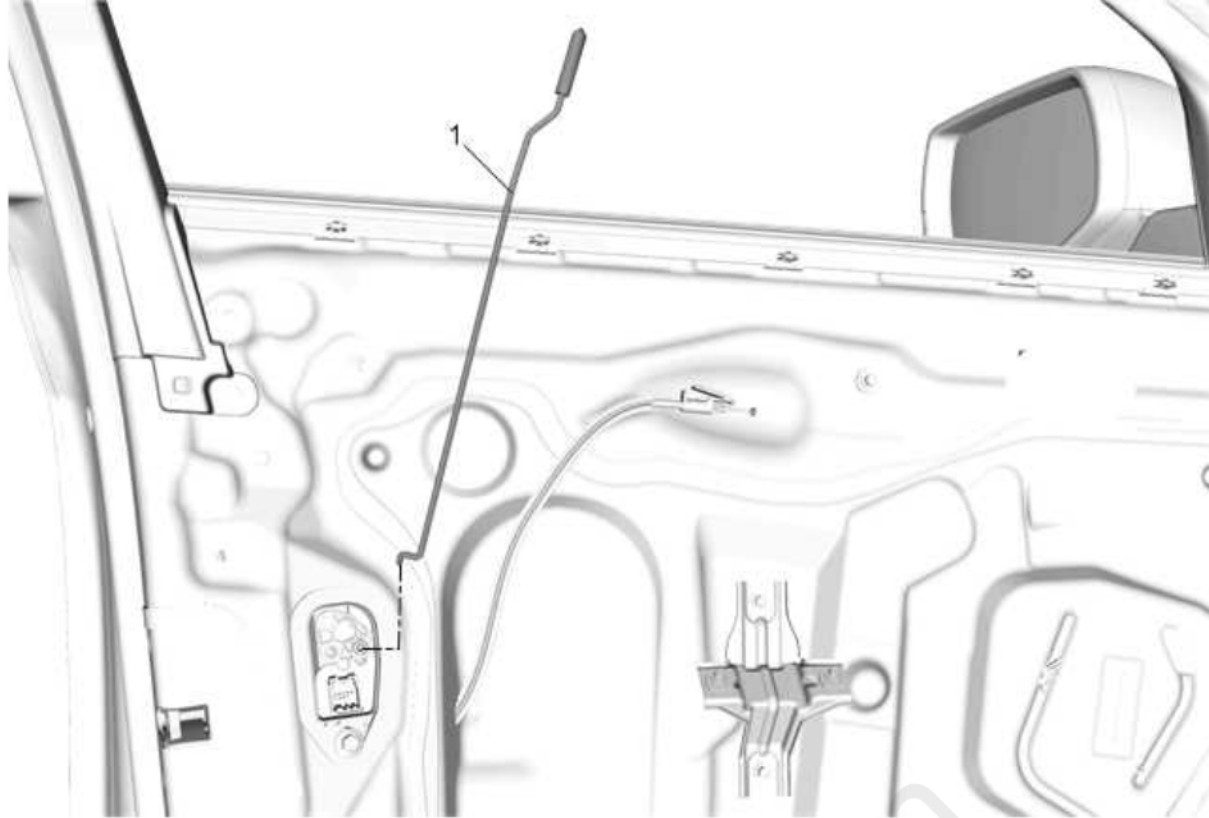


Fig. 85: Front Side Door Locking Rod Knob
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure <u>Front Side Door Trim Replacement</u>	
1	Front Side Door Locking Rod Knob Procedure Turn the locking rod down, while twisting it out to releasing it from the latch.

FRONT SIDE DOOR LOCK CYLINDER ROD REPLACEMENT

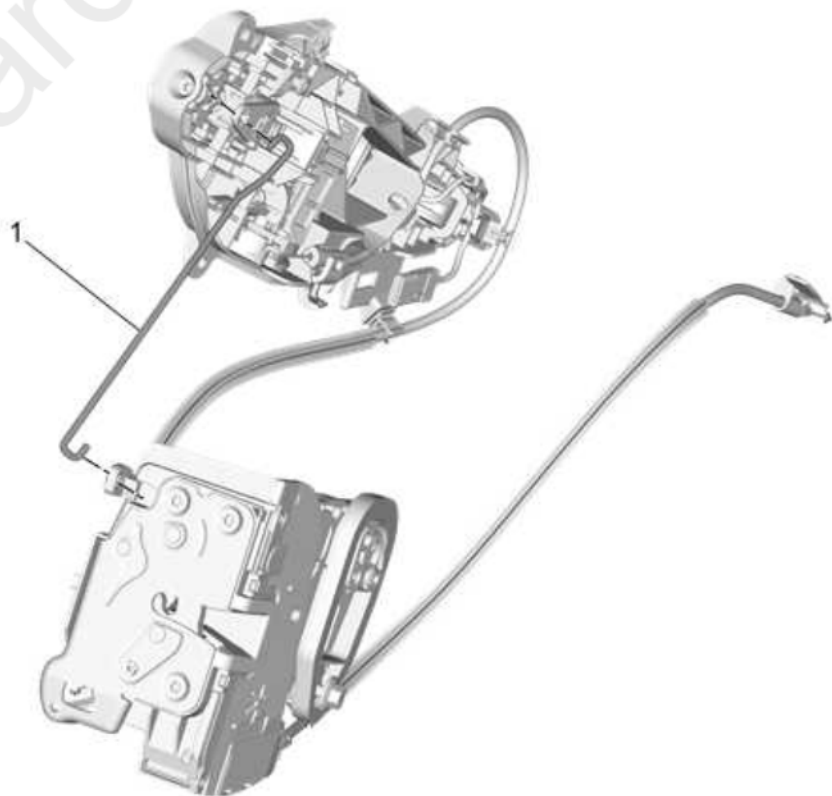


Fig. 86: Front Side Door Lock Cylinder Rod
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure	
Front Side Door Latch Replacement	
1	Front Side Door Lock Cylinder Rod Procedure 1. Remove the front side door lock cylinder rod from the lock cylinder by turning the housing bracket clockwise. 2. Release the lock cylinder rod from the latch only. Do NOT remove the door handle cables from the latch.

FRONT SIDE DOOR OUTSIDE HANDLE CABLE RETAINER REPLACEMENT

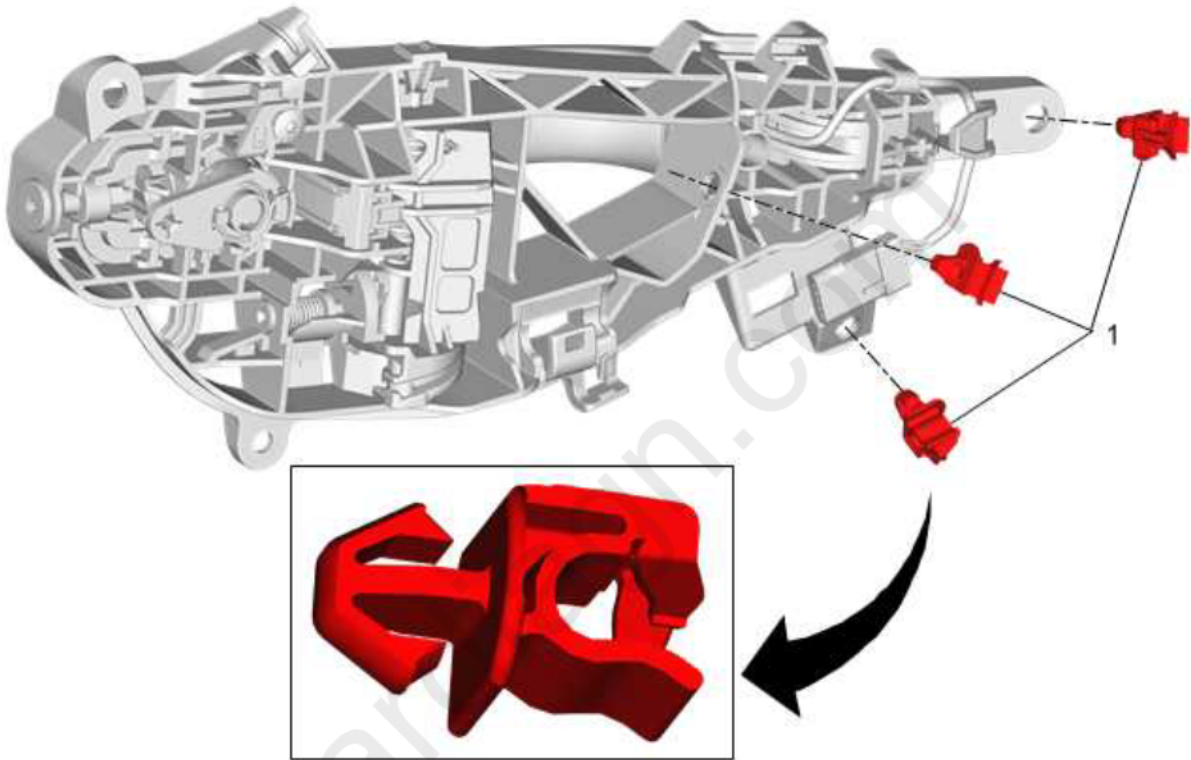


Fig. 87: Front Side Door Outside Handle Cable Retainer
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure	
Front Side Door Outside Handle Bracket Replacement	
1	Front Side Door Outside Handle Cable Retainer [3x] Procedure Squeeze tab end of retainer and pull retainer from handle bracket.

REAR SIDE DOOR LOCKING ROD KNOB REPLACEMENT

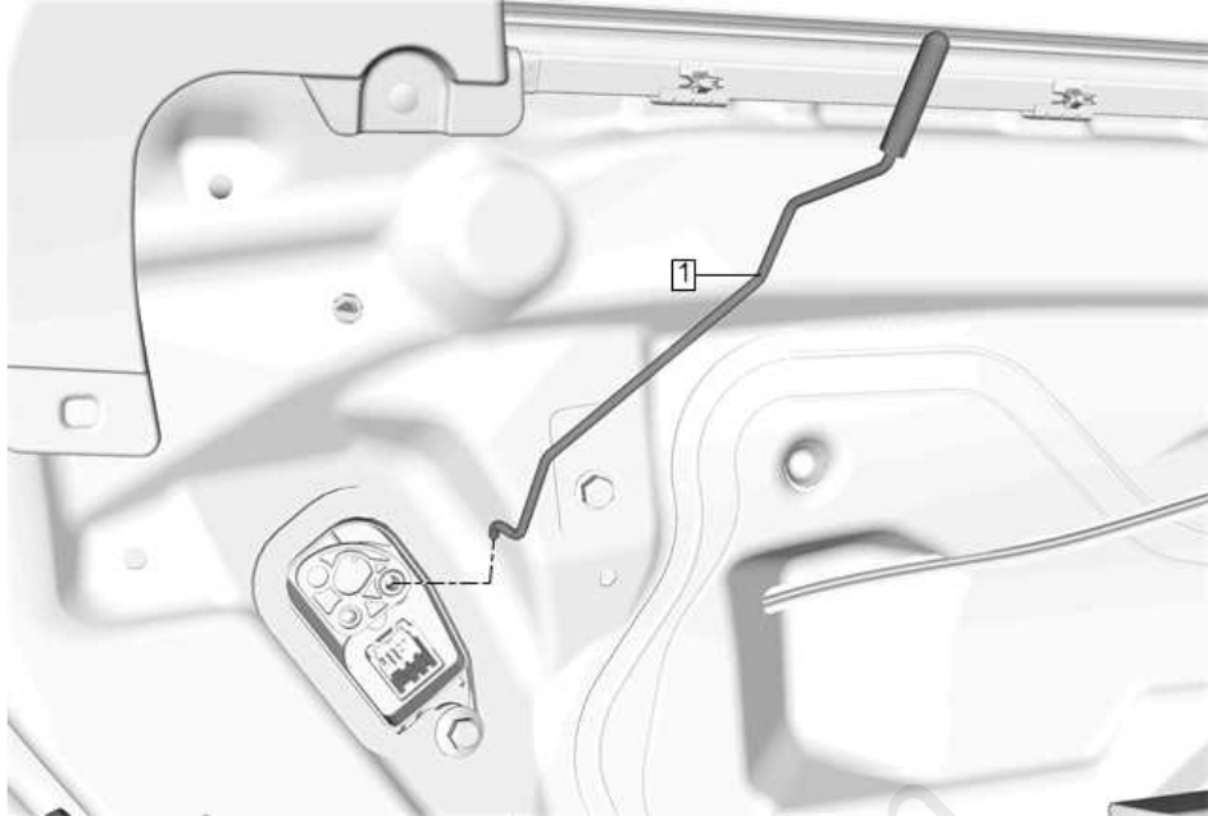


Fig. 88: Rear Side Door Locking Rod Knob
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure	
<u>Rear Side Door Trim Replacement</u>	
1	Rear Side Door Locking Rod Knob Procedure Turn the locking rod down, while twisting it out to releasing it from the latch.

REAR SIDE DOOR OUTSIDE HANDLE INSERT REPLACEMENT

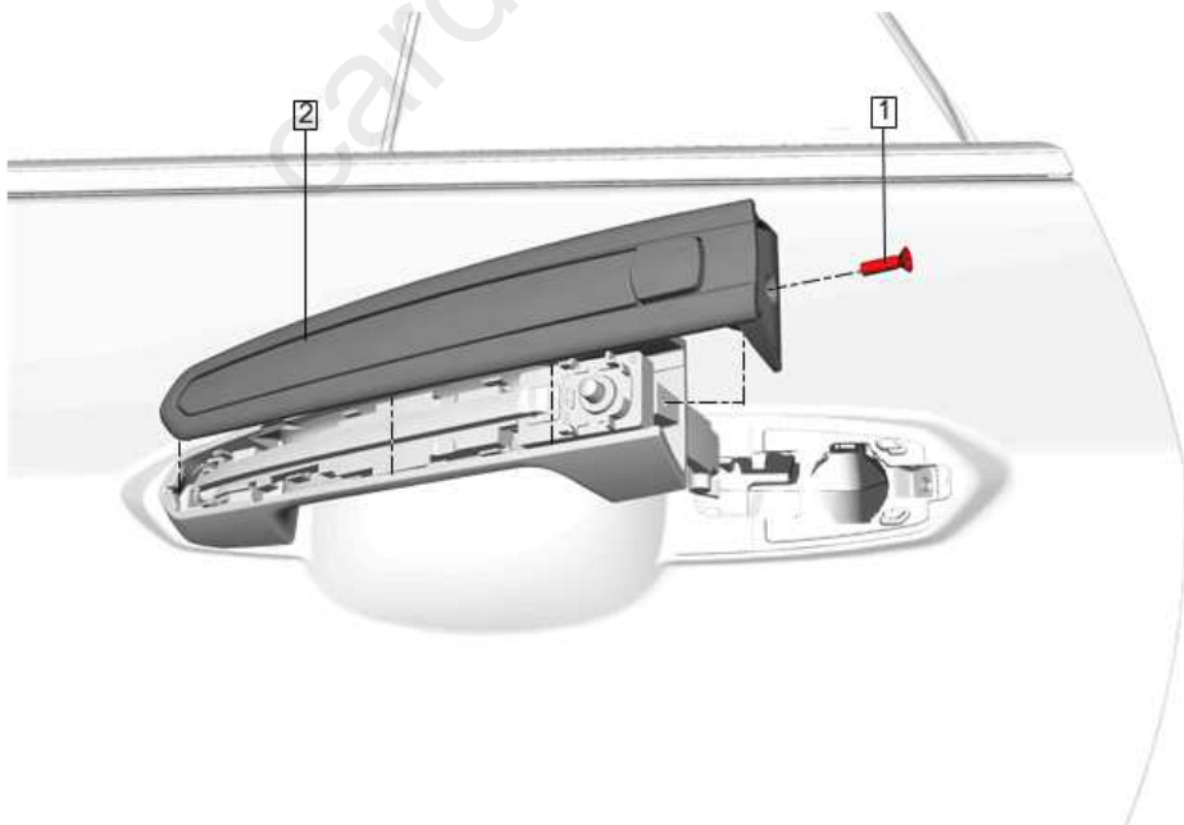


Fig. 89: Rear Side Door Outside Handle Insert
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Rear Side Door Lock Cylinder Opening Cover Replacement	
1	Rear Side Door Outside Handle Insert Screw CAUTION: Refer to Fastener Caution . Tighten 1.5 N.m (13 lb in)
2	Rear Side Door Outside Handle Insert NOTE: Ensure the door operates properly before installing the door trim.

FRONT SIDE DOOR LATCH STRIKER COVER REPLACEMENT

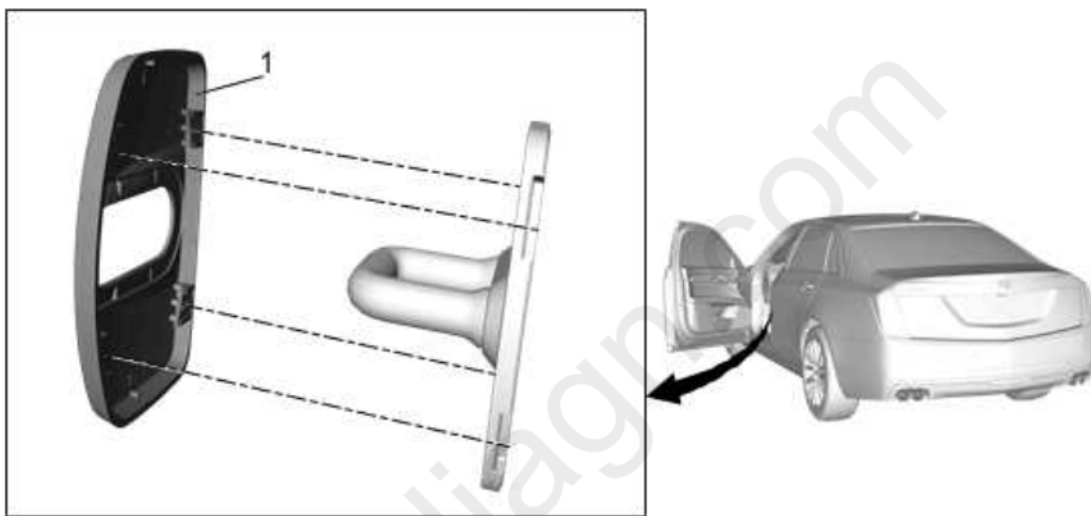


Fig. 90: Front Side Door Lock Striker Cover
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Open the front side door.	
1	Front Side Door Lock Striker Cover Procedure 1. Using the appropriate tool, place the tool between the outboard side of cover and pull upward from the striker. 2. Align the inboard tabs on the rear side door lock striker cover to the outboard side of the striker and press into place.

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 lock striker adjustment.

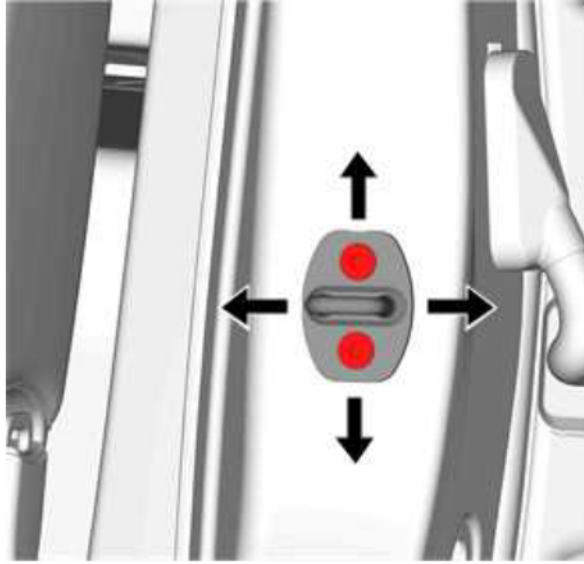


Fig. 91: Front Side Door Lock Striker

Courtesy of GENERAL MOTORS COMPANY

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. Front Side Door Lock Striker Cover (1) » Remove - **Front Side Door Latch Striker Cover Replacement**

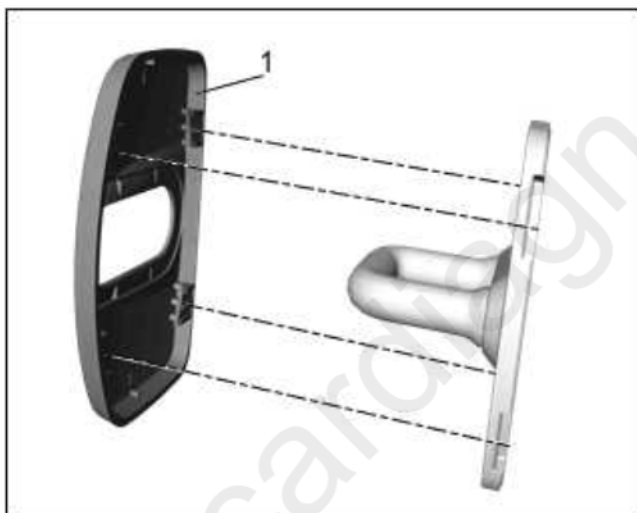


Fig. 92: Front Side Door Lock Striker Cover

Courtesy of GENERAL MOTORS COMPANY

4. Using a grease pencil, mark around the striker for reference of the original position. Loosen the striker.
5. Move the striker to eliminate drag on the striker and door lock and to achieve the proper door position within the door opening. Start with the up/down position, then position the striker to achieve proper alignment to the door opening. Set the in/out adjustment for the proper door seal engagement making sure the door closing efforts are correct.
6. Tighten the front side door lock striker screws to 22 N.m (16 lb ft).

CAUTION: Refer to **Fastener Caution** .

FRONT SIDE DOOR LOCK STRIKER REPLACEMENT

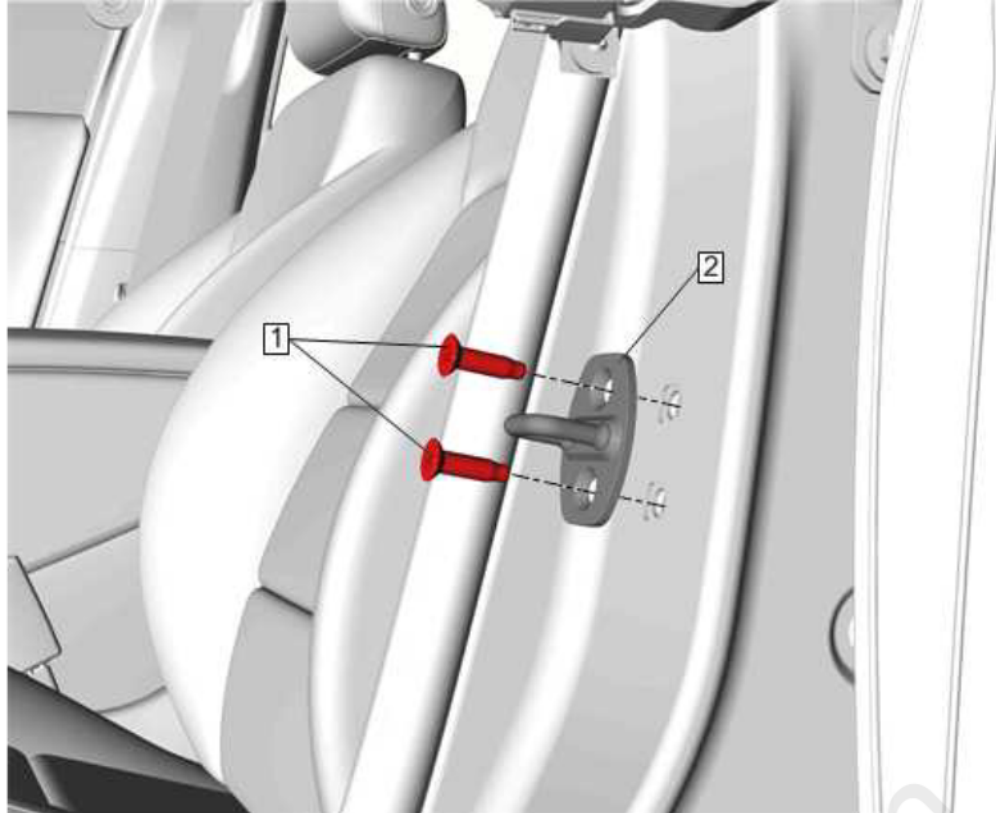


Fig. 93: Front Side Door Lock Striker

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Front Side Door Latch Striker Cover Replacement	
1	Front Side Door Lock Striker Screw [2x] CAUTION: Refer to Fastener Caution . Tighten 22 N.m (16 lb ft)
2	Front Side Door Lock Striker Procedure Front Side Door Lock Striker Adjustment

REAR COMPARTMENT LID LATCH STRIKER REPLACEMENT

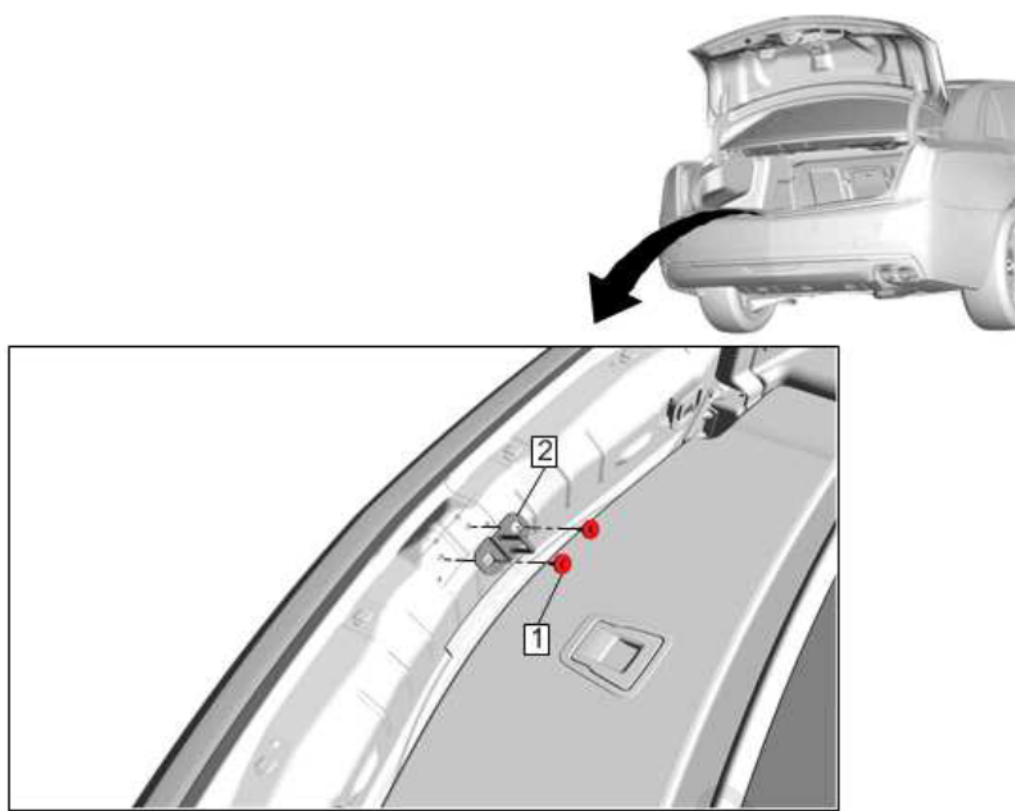


Fig. 94: Rear Compartment Lid Latch Striker
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
1	Rear End Trim Finish Panel Cover Procedure Using a flat bladed tool, release the cover.
2	Rear Compartment Lid Latch Striker Bolt [2x] CAUTION: Refer to Fastener Caution . Procedure Use a grease pencil to outline the striker before removing the bolts. Tighten 9 N.m (80 lb in)
3	Rear Compartment Lid Latch Striker Procedure Rear Compartment Lid Adjustment

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 lock striker adjustment.

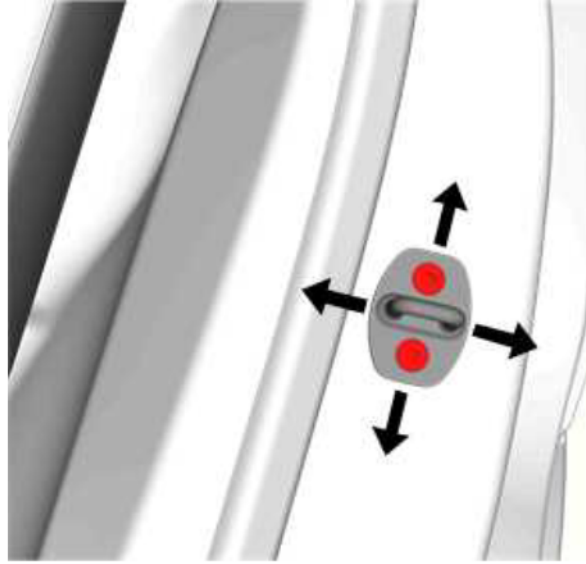


Fig. 95: Rear Side Door Lock Striker

Courtesy of GENERAL MOTORS COMPANY

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. Rear Side Door Lock Striker Cover (1)» Remove - [Rear Side Door Lock Striker Cover Replacement](#)



Fig. 96: Rear Side Door Lock Striker Cover

Courtesy of GENERAL MOTORS COMPANY

4. Using a grease pencil, mark around the striker for reference of the original position. Loosen the striker.
5. Move the striker to eliminate drag on the striker and door lock and to achieve the proper door position within the door opening. Start with the up/down position, then position the striker to achieve proper alignment to the door opening. Set the in/out adjustment for the proper door seal engagement making sure the door closing efforts are correct.
6. Tighten the rear side door lock striker screws to 22 N.m (16 lb ft).

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

REAR SIDE DOOR LOCK STRIKER REPLACEMENT

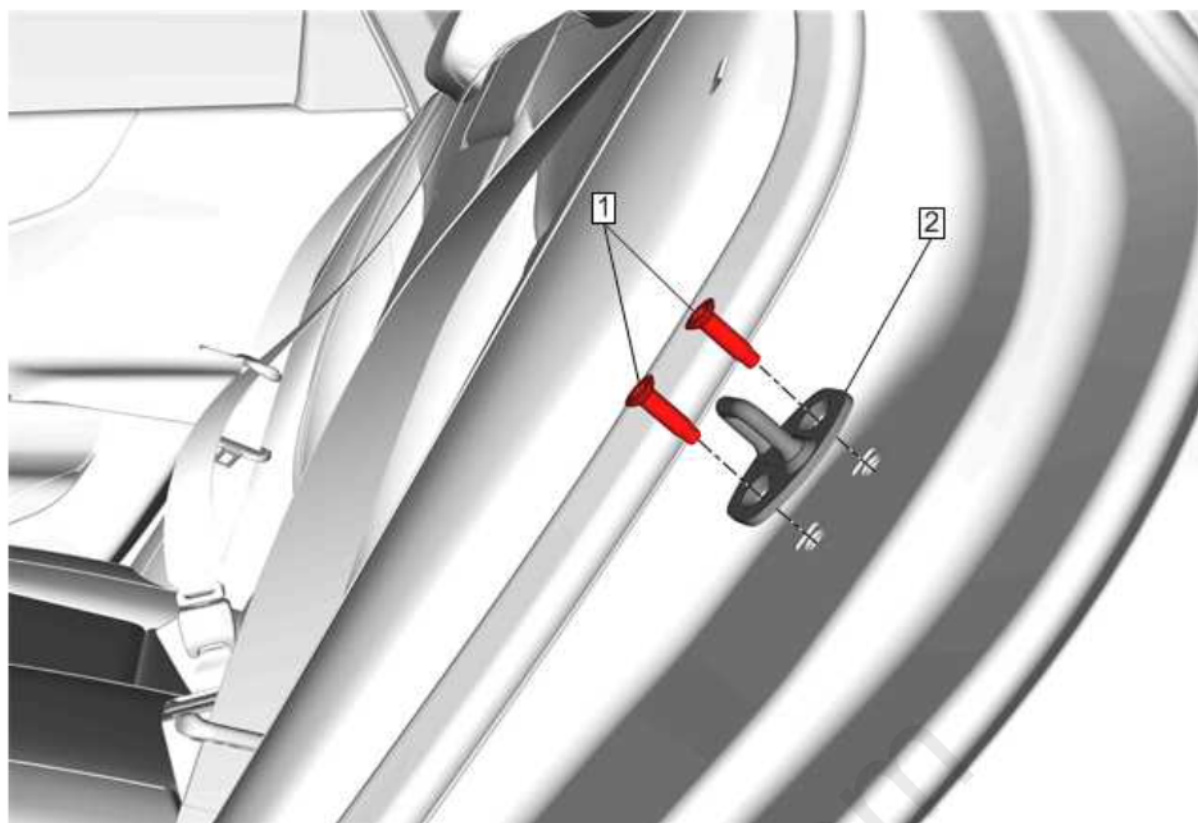


Fig. 97: Rear Side Door Lock Striker
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure <u>Rear Side Door Lock Striker Cover Replacement</u>	
1	Rear Side Door Lock Striker Screw [2x] CAUTION: Refer to <u>Fastener Caution</u> . Tighten 22 N.m (16 lb ft)
2	Rear Side Door Lock Striker Procedure <u>Rear Side Door Lock Striker Adjustment</u>

REAR SIDE DOOR LOCK STRIKER COVER REPLACEMENT

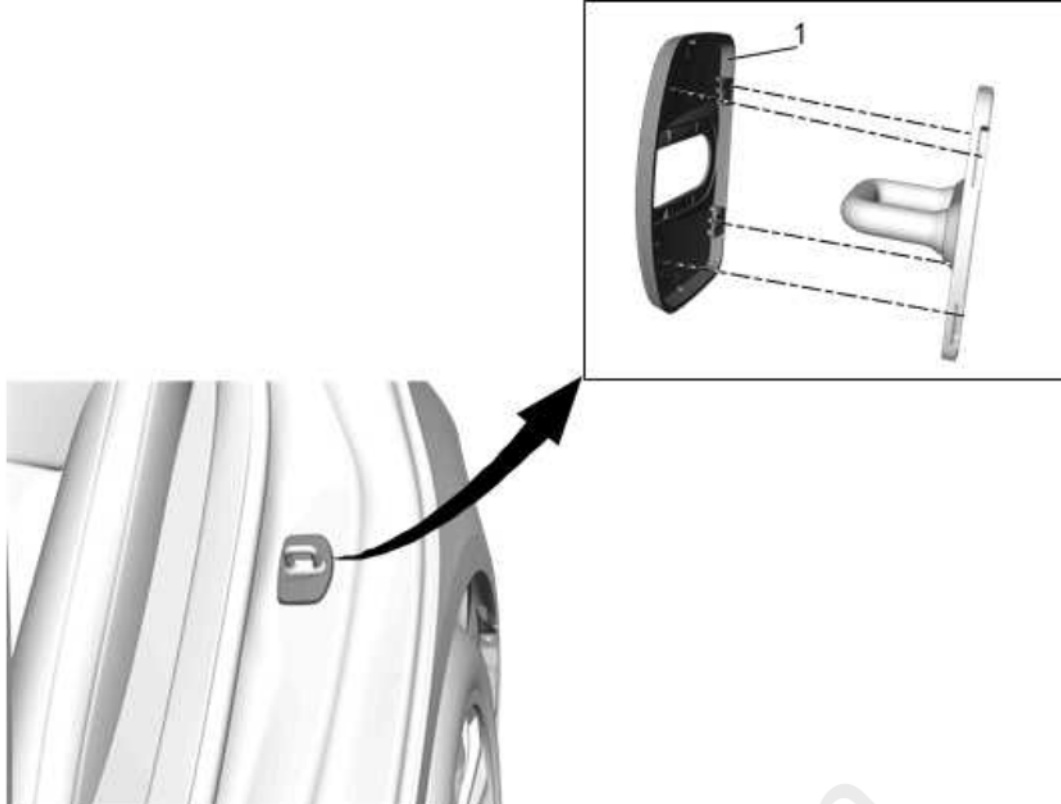


Fig. 98: Rear Side Door Lock Striker Cover
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Open the rear side door.	
1	Rear Side Door Lock Striker Cover Procedure 1. Using the appropriate tool, place the tool between the outboard side of cover and pull upward from the striker. 2. Align the inboard tabs on the rear side door lock striker cover to the outboard side of the striker and press into place.

LIFTGATE RELEASE SWITCH REPLACEMENT

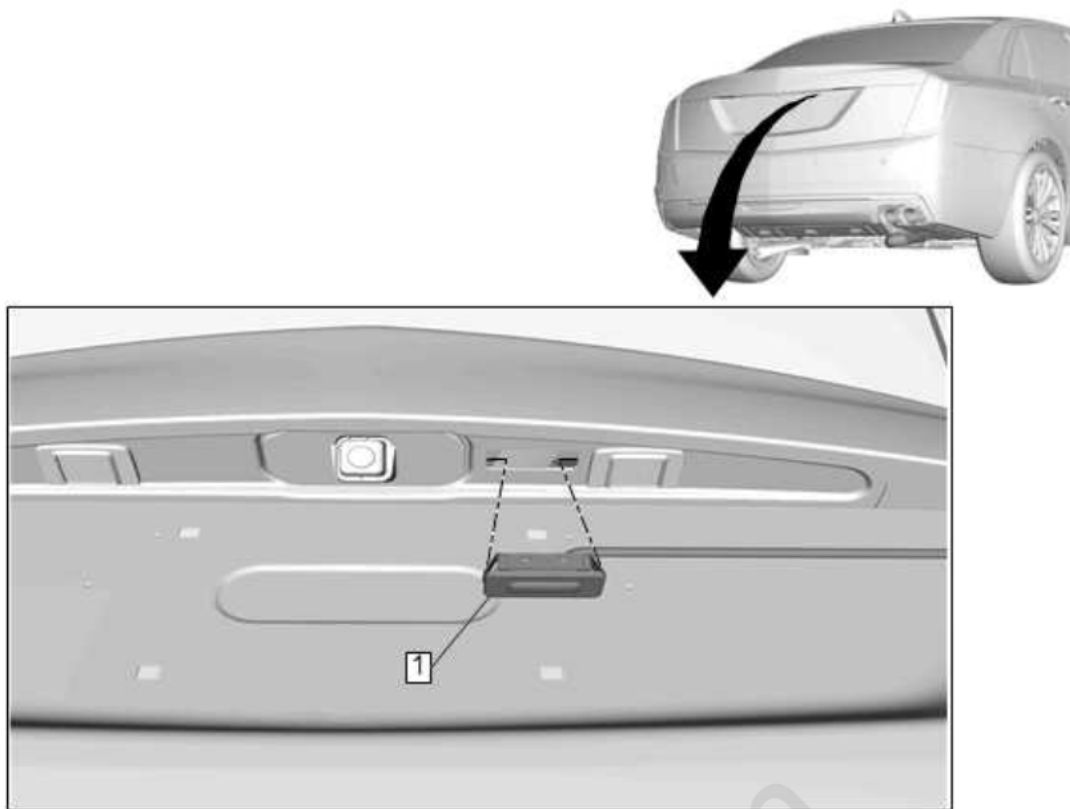


Fig. 99: Liftgate Release Switch

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
1	Liftgate Release Switch Procedure 1. Using a small flat-bladed tool, depress the inner switch tab and rotate downward to remove the lamp from the rear compartment lid. 2. Disconnect the electrical connector.

LIFTGATE CLOSE SWITCH REPLACEMENT

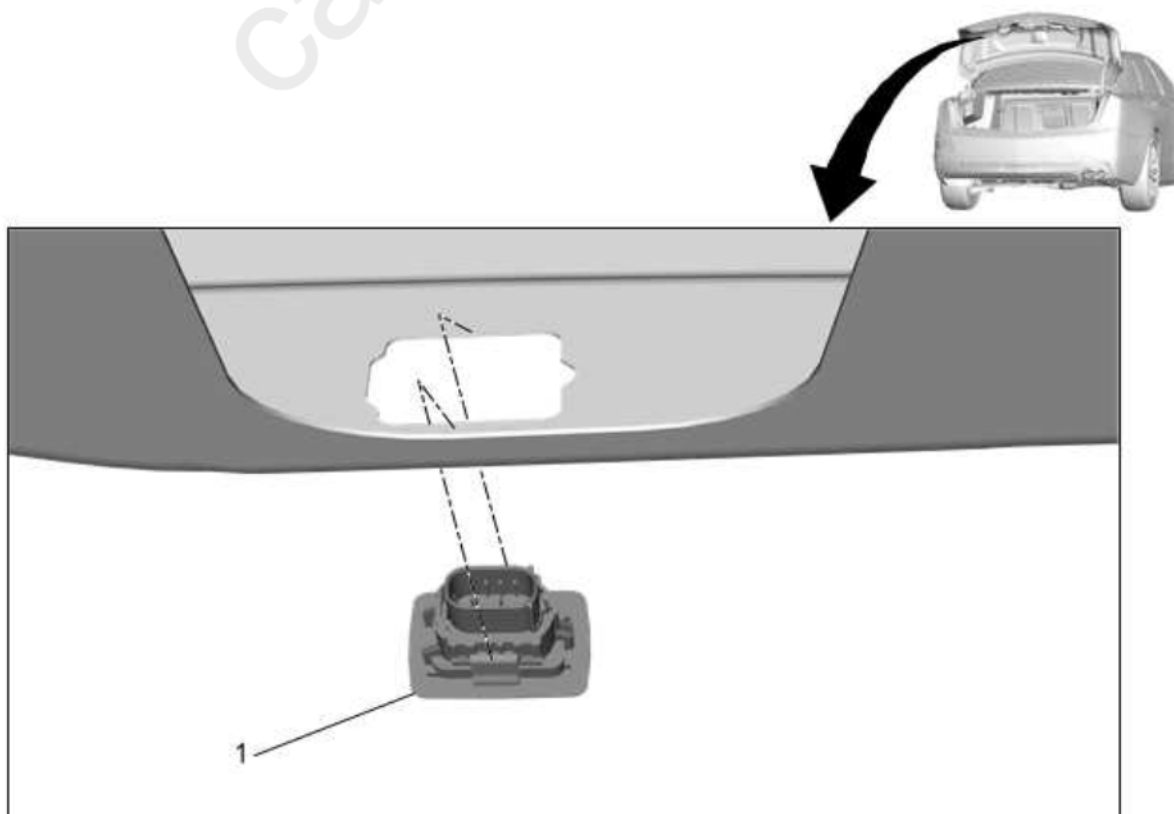


Fig. 100: Liftgate Close Switch
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure <u>Auxiliary Rear Compartment Latch Release Handle Replacement</u>	
1	Liftgate Close Switch Procedure 1. Disconnect the electrical connector. 2. Release the liftgate close switch retainers and push out from the rear compartment lid.

DOOR LOCK SWITCH REPLACEMENT - DRIVER SIDE

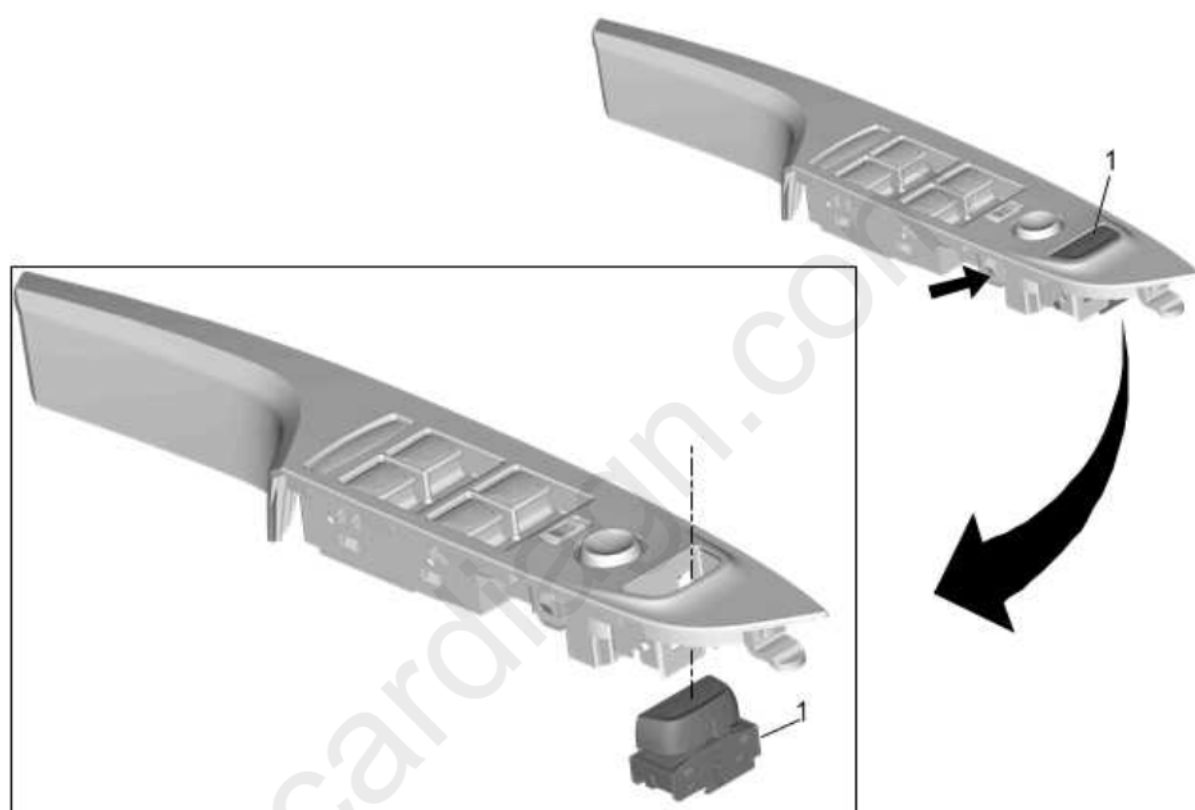


Fig. 101: Door Lock Switch - Driver Side
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure <u>Front Side Door Armrest Switch Mount Plate Replacement (Drivers Side)</u> <u>Front Side Door Armrest Switch Mount Plate Replacement (Passenger Side)</u>	
1	Door Lock Switch Procedure 1. Release the switch assembly from the switch mount plate by depressing the tabs along each side of the switch. 2. <u>Control Module References</u> for programming and setup information, if required.

DOOR LOCK SWITCH REPLACEMENT - PASSENGER FRONT

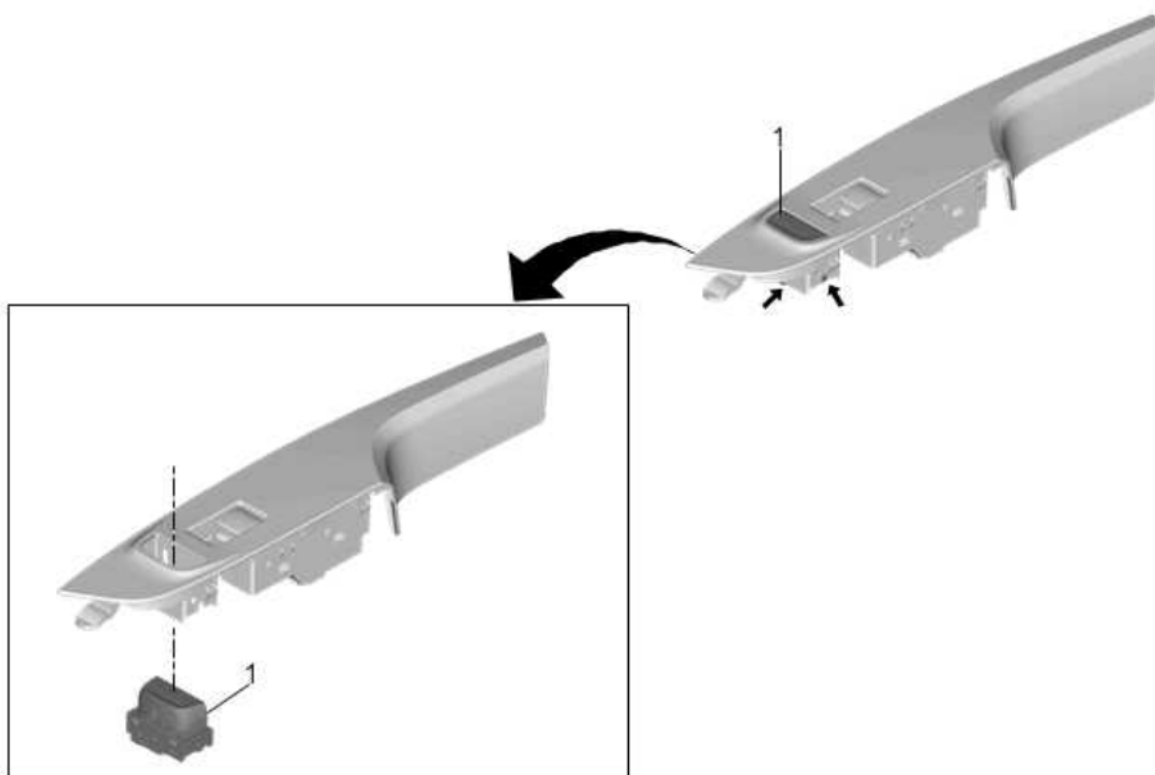


Fig. 102: Door Lock Switch - Passenger Front
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure <u>Front Side Door Armrest Switch Mount Plate Replacement (Drivers Side)</u> <u>Front Side Door Armrest Switch Mount Plate Replacement (Passenger Side)</u>	
1	Door Lock Switch Procedure 1. Release the switch assembly from the switch mount plate by depressing the tabs along each side of the switch. 2. <u>Control Module References</u> for programming and setup information, if required.

REAR COMPARTMENT LID RELEASE SWITCH REPLACEMENT

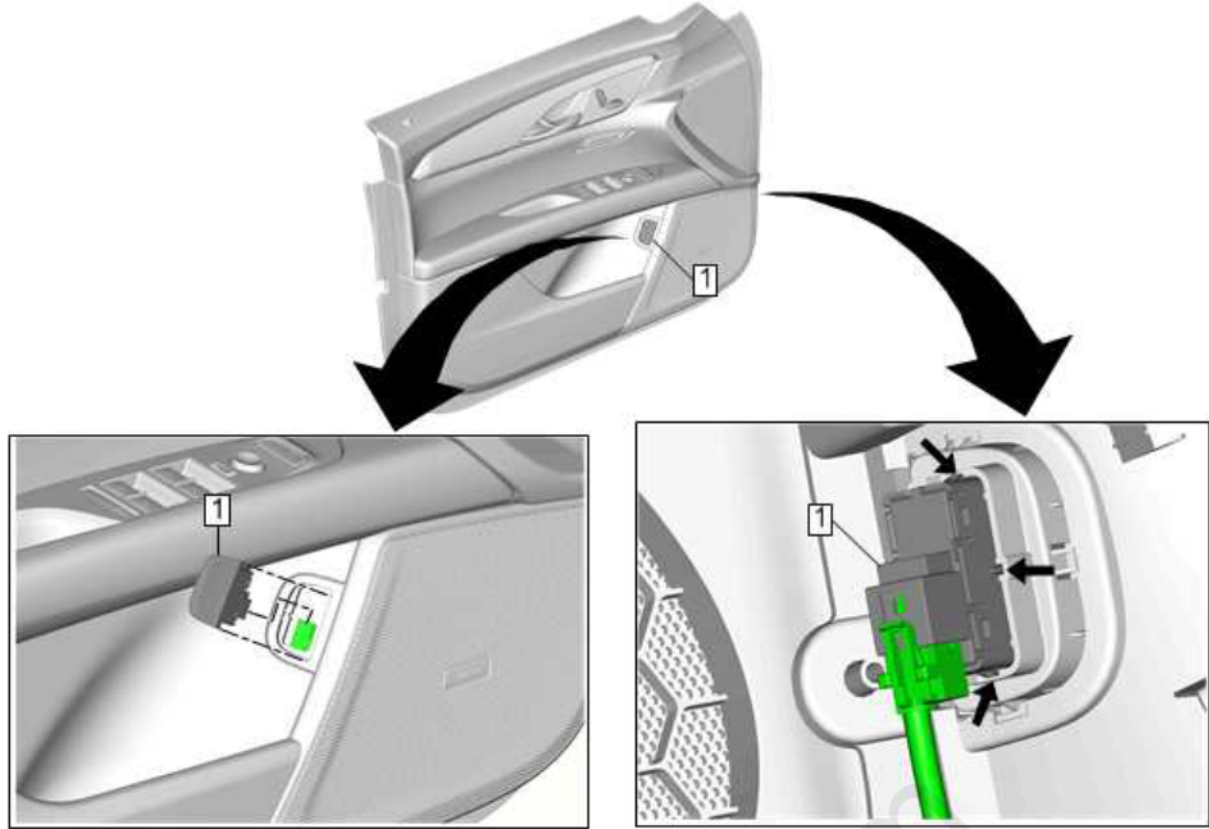


Fig. 103: Rear Compartment Lid Release Switch
 Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure	
<u>Front Side Door Trim Replacement</u>	
1	Rear Compartment Lid Release Switch Procedure 1. From the backside of the door trim panel, use a plastic trim tool to gently push in on the tabs to release the switch from the front side door trim. 2. Disconnect the electrical connector.

2017 ACCESSORIES & EQUIPMENT

Vehicle Access - Schematic Wiring Diagrams - CT6

SCHEMATIC WIRING DIAGRAMS

DOOR LOCK/INDICATOR WIRING SCHEMATICS

Ajar Switches

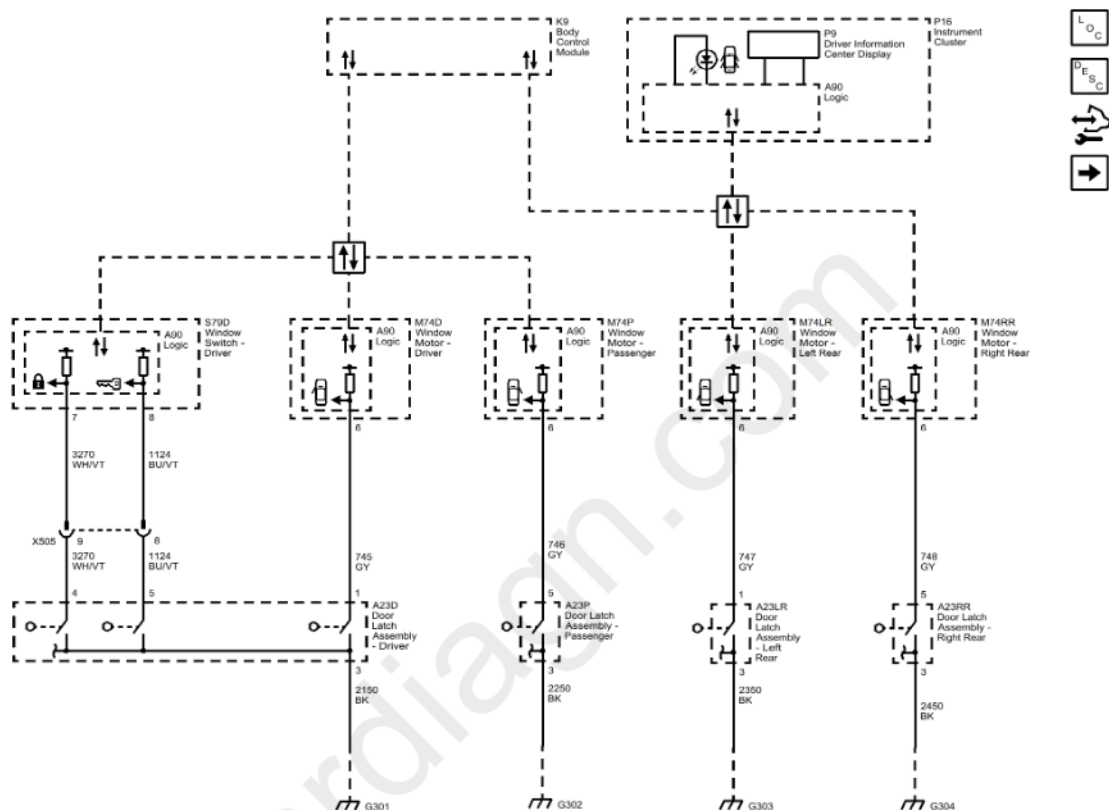


Fig. 1: Ajar Switches

Courtesy of GENERAL MOTORS COMPANY

Lock Switches

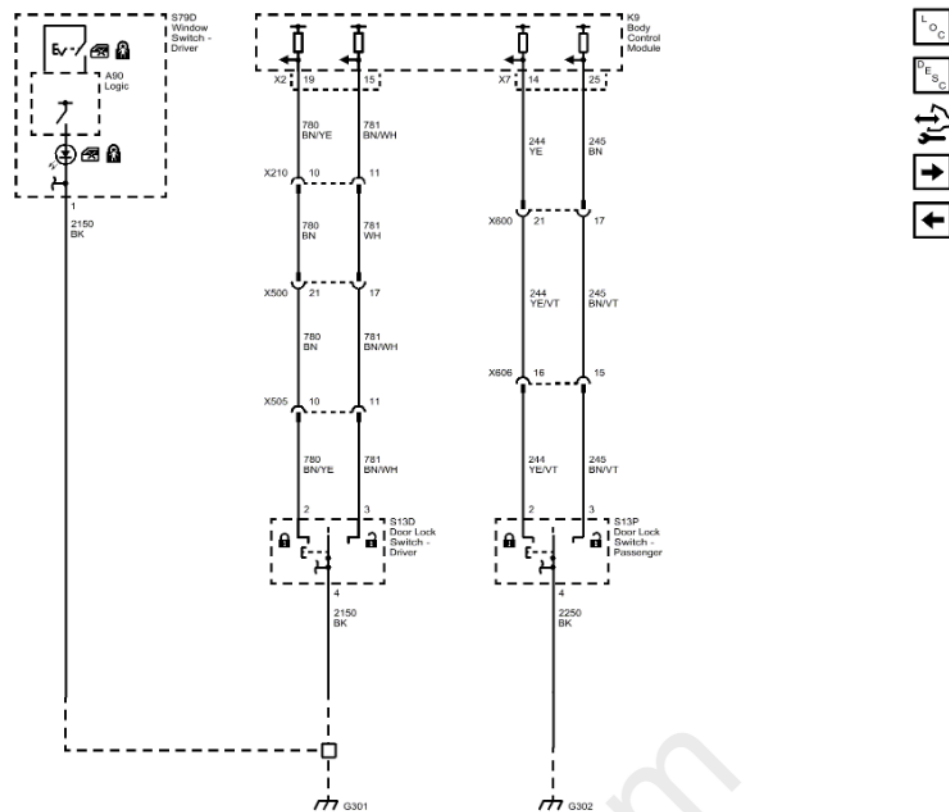


Fig. 2: Lock Switches

Courtesy of GENERAL MOTORS COMPANY

Actuators

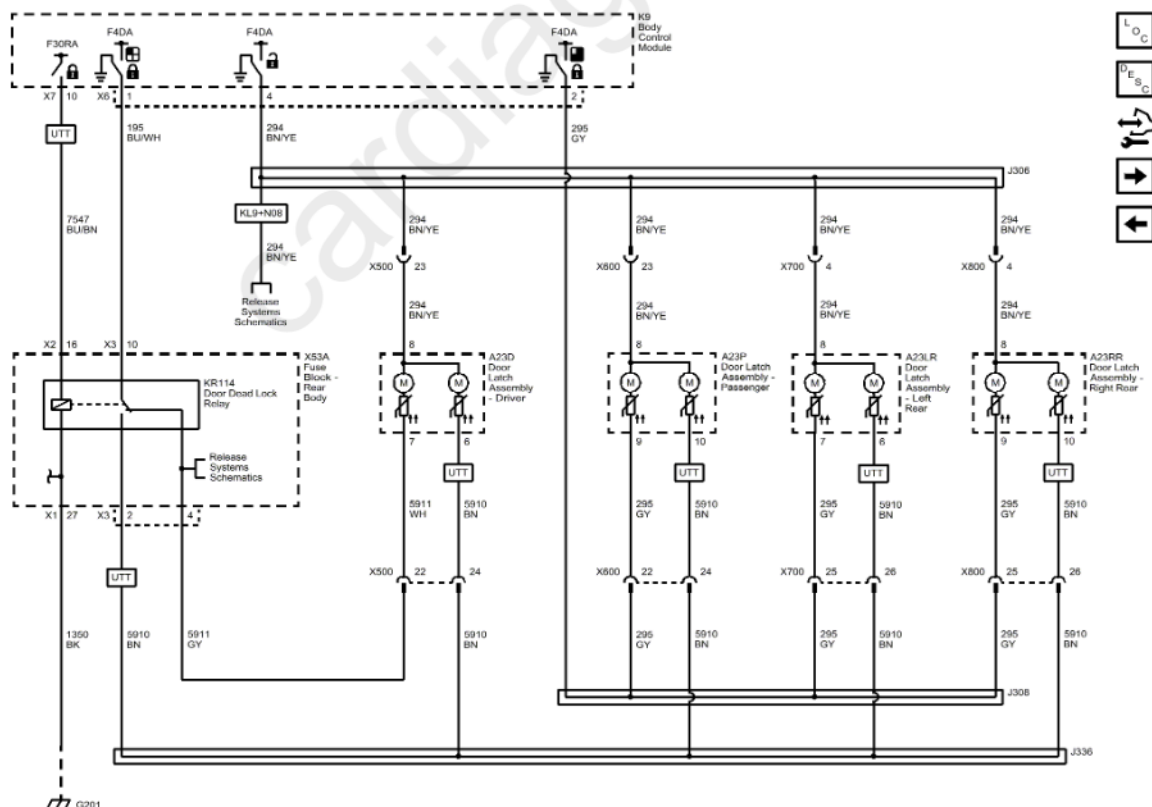


Fig. 3: Actuators

Courtesy of GENERAL MOTORS COMPANY

Door Handle Switches

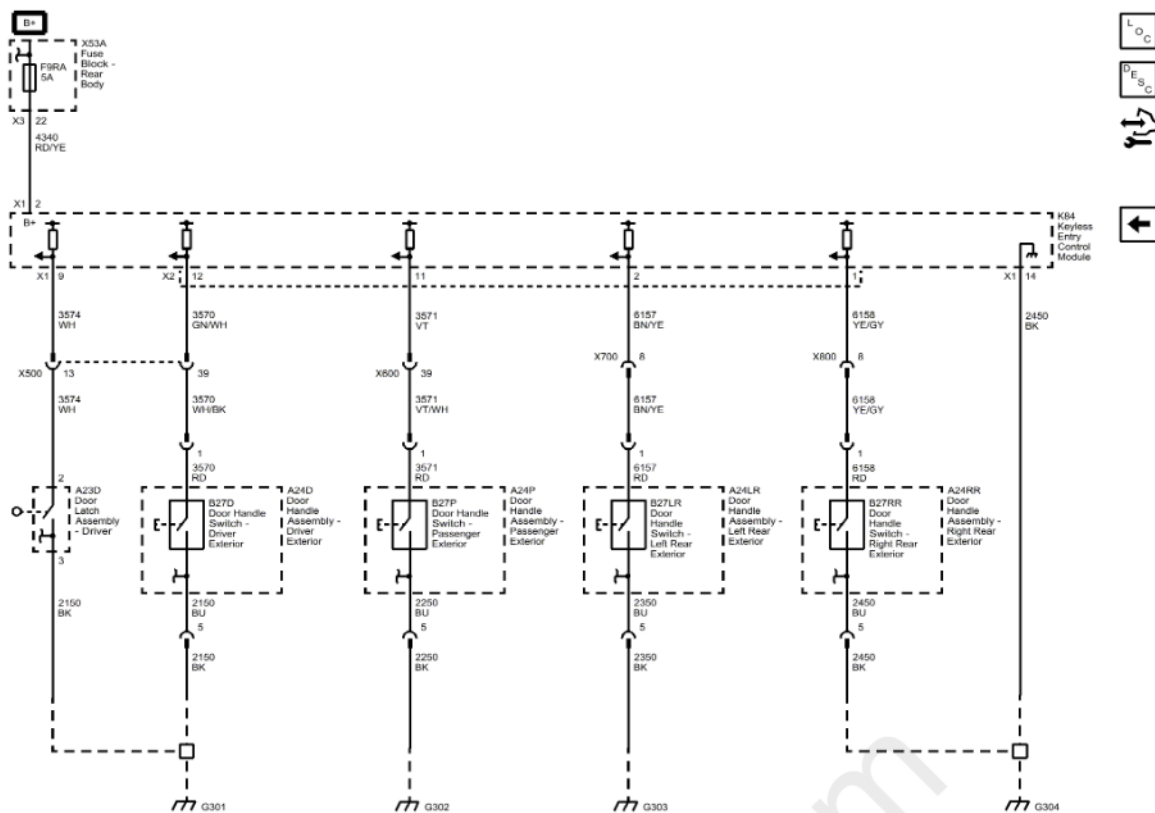


Fig. 4: Door Handle Switches

Courtesy of GENERAL MOTORS COMPANY

RELEASE SYSTEMS WIRING SCHEMATICS

Rear Compartment (-TC2/TL9)

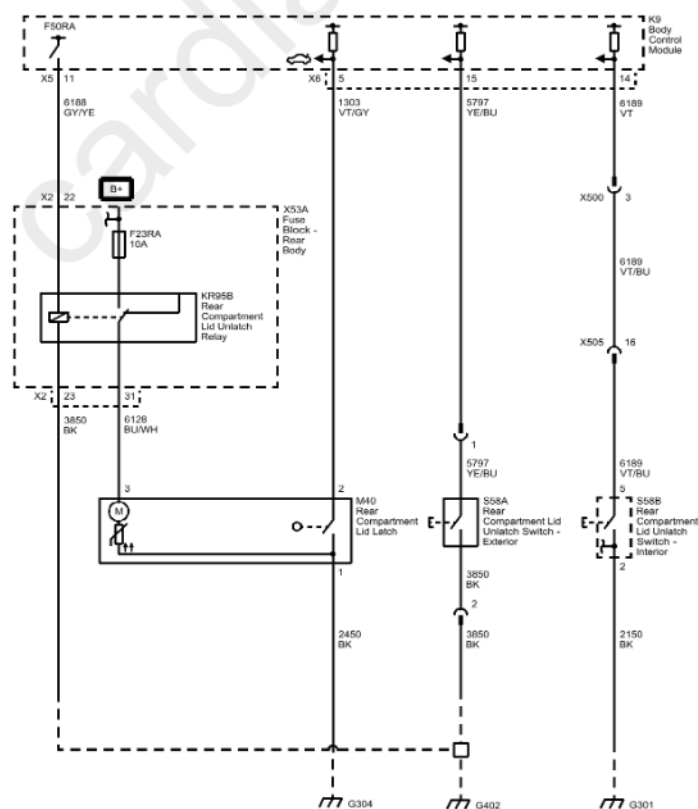


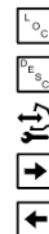
Fig. 5: Rear Compartment (-TC2/TL9)

Courtesy of GENERAL MOTORS COMPANY

Fuel Door Lock (KL9)



Liftgate Release Controls



Courtesy of GENERAL MOTORS COMPANY

Hands-Free Liftgate Controls (TC2)

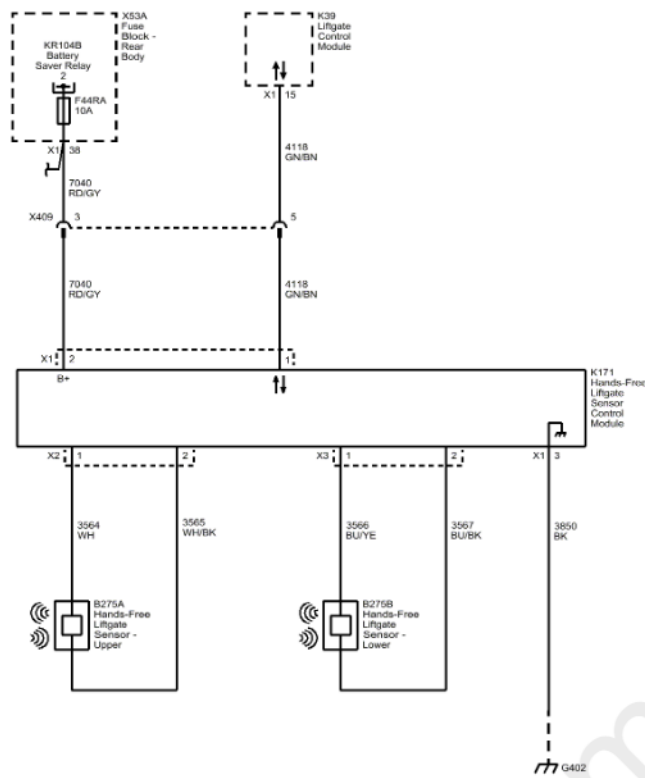


Fig. 10: Hands-Free Liftgate Controls (TC2)
 Courtesy of GENERAL MOTORS COMPANY

2017 ACCESSORIES & EQUIPMENT**Vehicle Access - Specifications - Fastener Specifications - CT6****SPECIFICATIONS****FASTENER SPECIFICATIONS****Reusable Threaded Fastener Tightening Specifications****NOTE:**

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

Application	Specification
	Metric (English)
Front Side Door Inside Handle Fastener	2.5 N.m (22 lb in)
Front Side Door Latch Bolt	9 N.m (80 lb in)
Front Side Door Lock Striker Screw	22 N.m (16 lb ft)
Front Side Door Outside Handle Bracket Screw	4.7 N.m (42 lb in)
Front Side Door Outside Handle Insert Screw	1.5 N.m (13 lb in)
Front Side Door Outside Handle Lock Cylinder Screw	4 N.m (31 lb in)
Rear Compartment Lid Latch Bolt	9 N.m (80 lb in)
Rear Compartment Lid Latch Striker Bolt	9 N.m (80 lb in)
Rear Side Door Inside Handle Fastener	2.5 N.m (22 lb in)
Rear Side Door Latch Bolt	9 N.m (80 lb in)
Rear Side Door Lock Striker Screw	22 N.m (16 lb ft)
Rear Side Door Outside Handle Bracket Screw	4.7 N.m (42 lb in)
Rear Side Door Outside Handle Insert Screw	1.5 N.m (13 lb in)
Rear Side Door Outside Handle Lock Cylinder Screw	4 N.m (31 lb in)