

ACCESSORIES & EQUIPMENT

Power Door Lock System And Release Systems - Coupe And Wagon

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Door Striker Bolts	25 N.m	18 lb ft
Front Side Door Latch Bolts	10 N.m	89 lb in
Front Side Door Latch Cover	5 N.m	44 lb in
Front Side Door Outside Handle Bolts	9 N.m	80 lb in
Front Side Door Outside Handle Bolts- Coupe	6 N.m	53 lb in
Front Side Door Outside Handle Housing Bolts	7 N.m	62 lb in
Hood Latch Striker Bolts	9 N.m	80 lb in
Rear Compartment Latch Bolts	10 N.m	89 lb in
Rear Compartment Lid Latch Striker Bolts	25 N.m	18 lb ft
Rear Side Door Latch Bolts	10 N.m	89 lb in
Rear Side Door Outside Handle Bolts	9 N.m	80 lb in
Rear Side Door Outside Handle Housing Bolts	7 N.m	62 lb in

ADHESIVES, FLUIDS, LUBRICANTS, AND SEALERS

Adhesives, Fluids, Lubricants, and Sealers

Application	Type of Material	GM Part Number	
		United States	Canada
Liftgate Hydraulic Fluid Reservoir	Hydraulic Fluid	88863458	88863459

SCHEMATIC WIRING DIAGRAMS

DOOR LOCK/INDICATOR WIRING SCHEMATICS

Front Doors (Wagon)

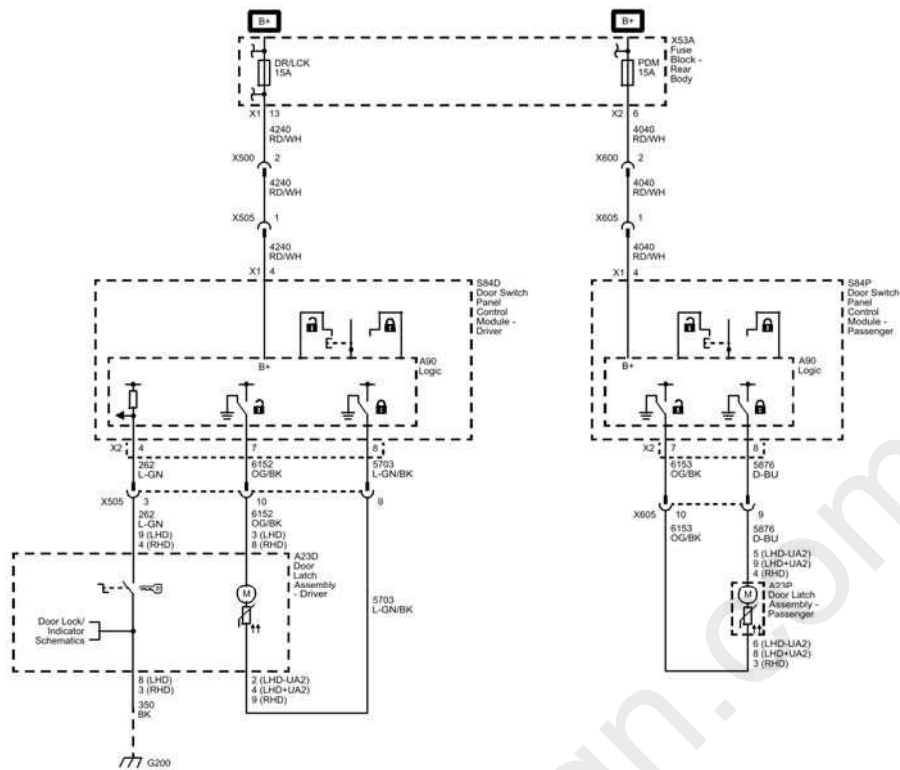


Fig. 1: Front Doors (Wagon)

Courtesy of GENERAL MOTORS COMPANY

Deadbolt Control (Wagon with UA2)

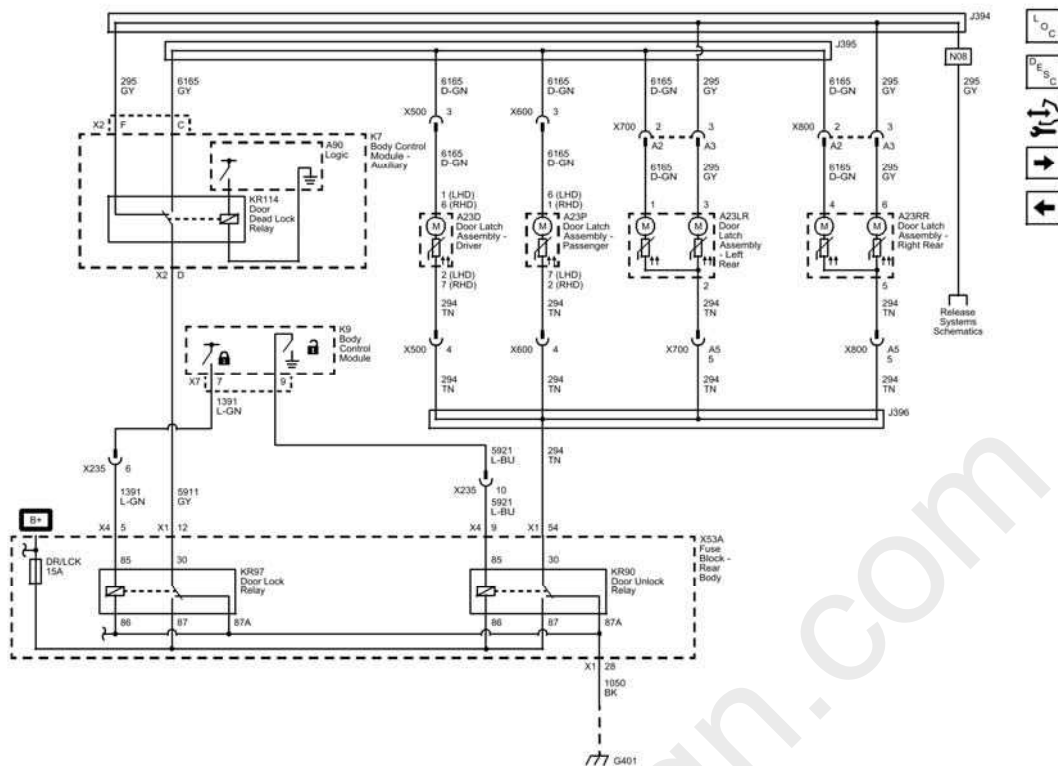


Fig. 2: Deadbolt Control (Wagon with UA2)
Courtesy of GENERAL MOTORS COMPANY

Rear Doors (Wagon without UA2)

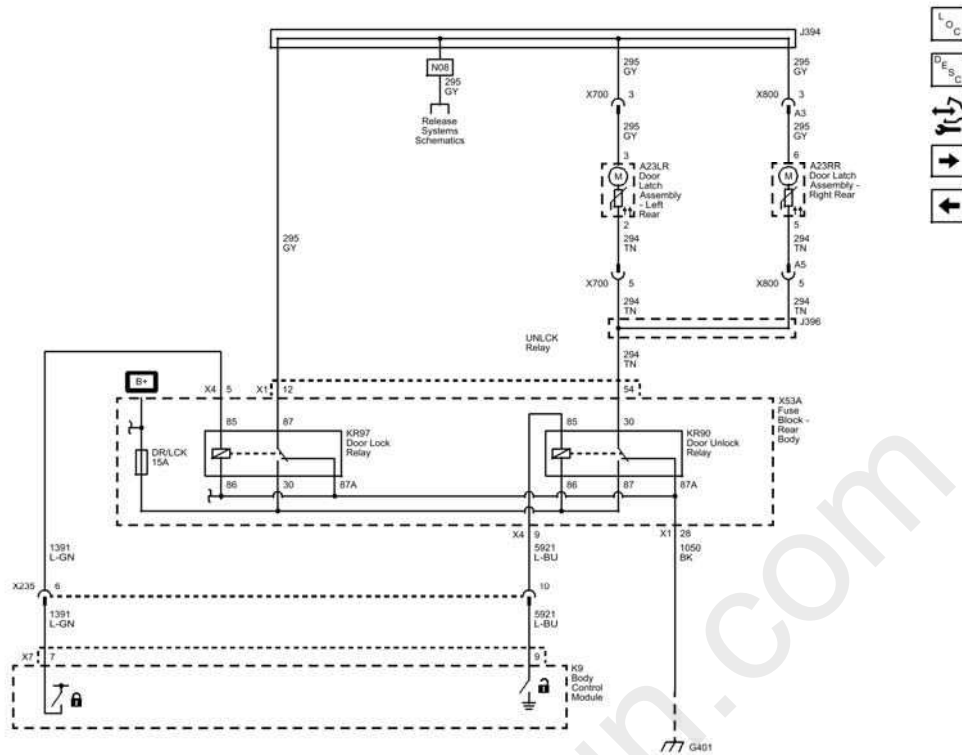


Fig. 3: Rear Doors (Wagon without UA2)
Courtesy of GENERAL MOTORS COMPANY

Ajar Switches (Wagon)

Door Handle Switches (Wagon)

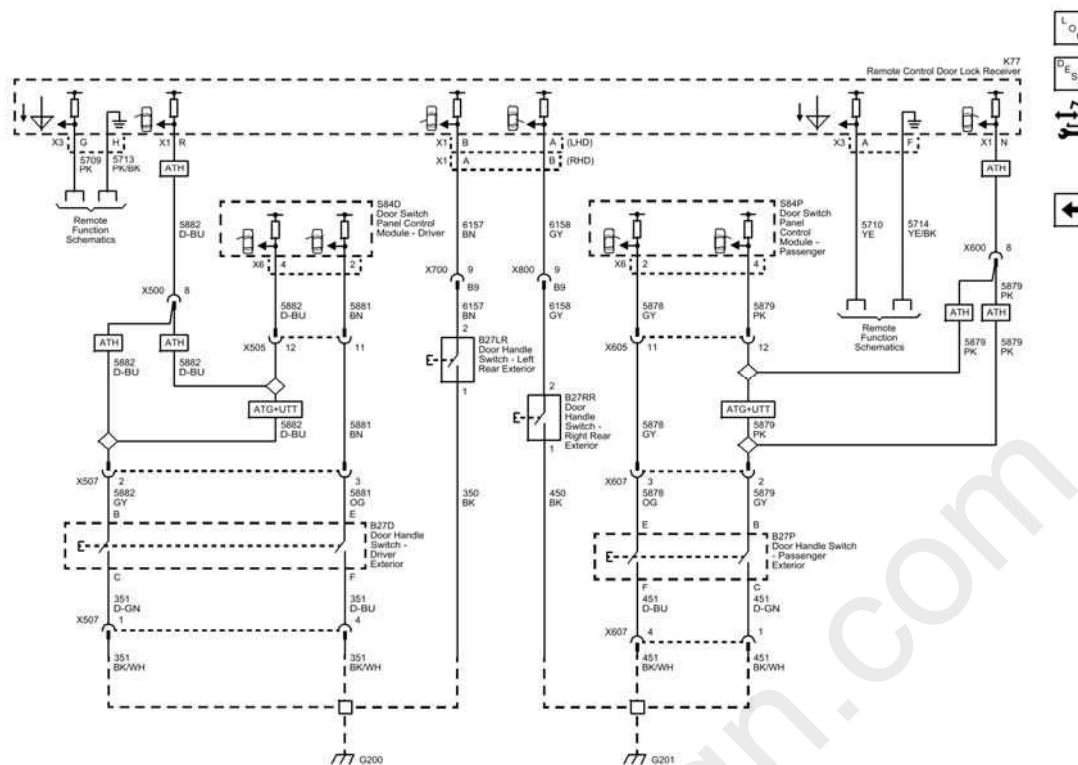
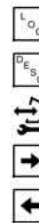


Fig. 5: Door Handle Switches (Wagon)
 Courtesy of GENERAL MOTORS COMPANY

Door Handle Switches (Coupe)

Deadbolt Control (Coupe with UA2)



Ajar Switches (Coupe)

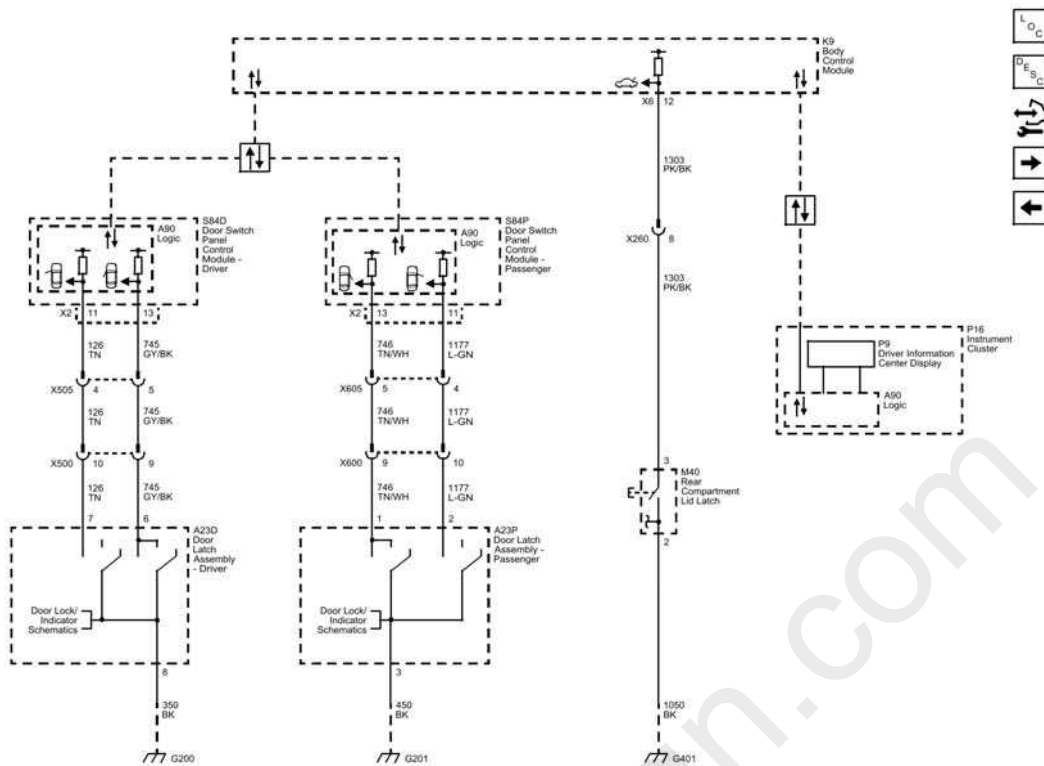


Fig. 8: Ajar Switches (Coupe)

Courtesy of GENERAL MOTORS COMPANY

DOOR CONTROL MODULE WIRING SCHEMATICS

Driver Door Module (1 of 2)

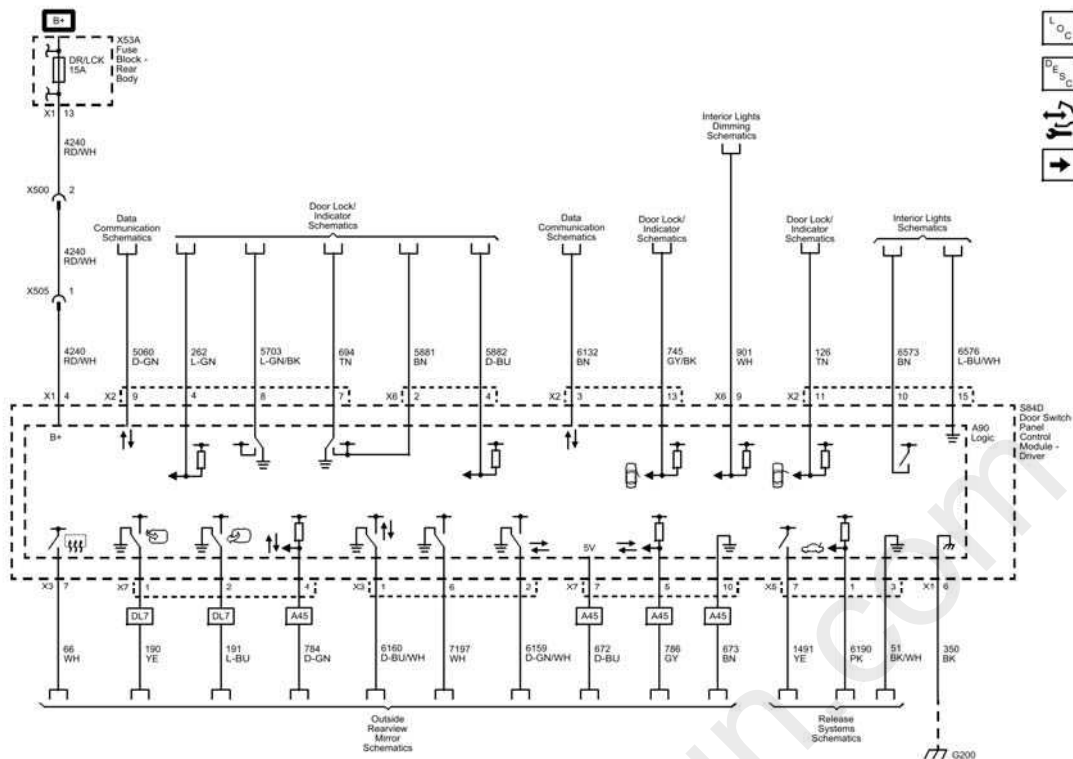


Fig. 9: Driver Door Module (1 of 2)
Courtesy of GENERAL MOTORS COMPANY

Driver Door Module (2 of 2)

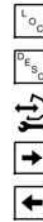
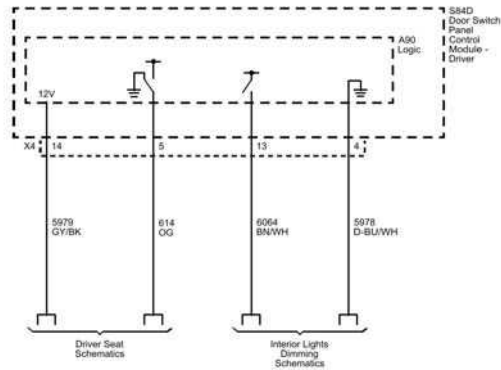


Fig. 10: Driver Door Module (2 of 2)
Courtesy of GENERAL MOTORS COMPANY

Front Passenger Door Module

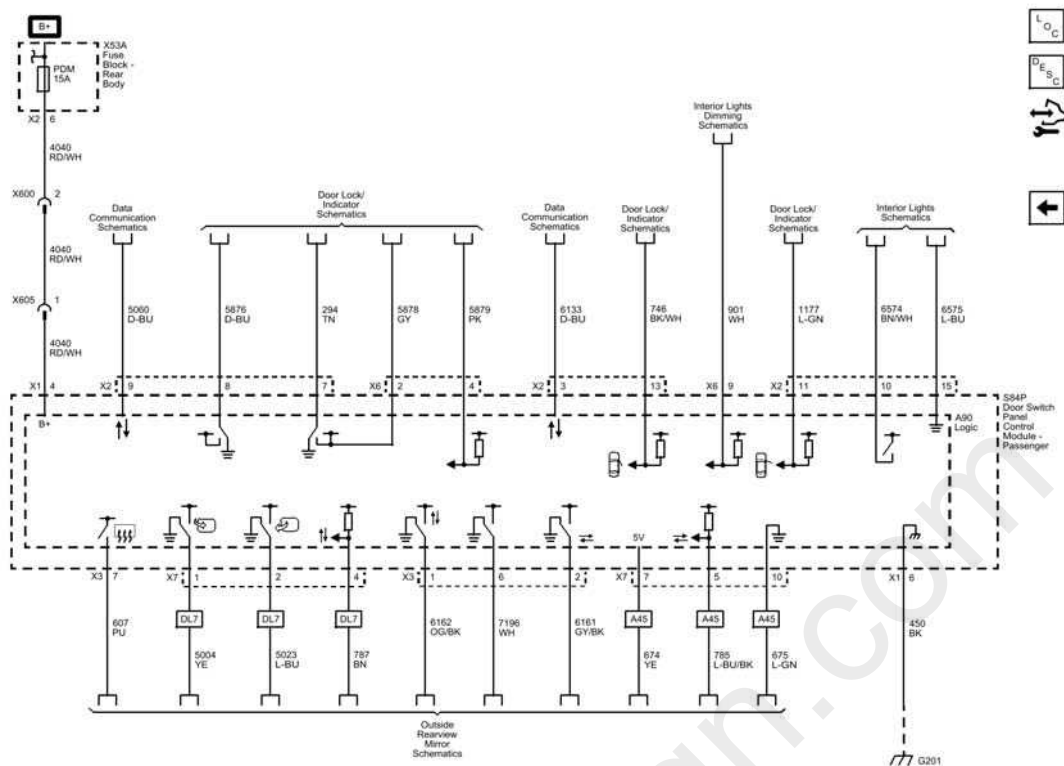


Fig. 11: Front Passenger Door Module
Courtesy of GENERAL MOTORS COMPANY

RELEASE SYSTEMS WIRING SCHEMATICS

Fuel Door System

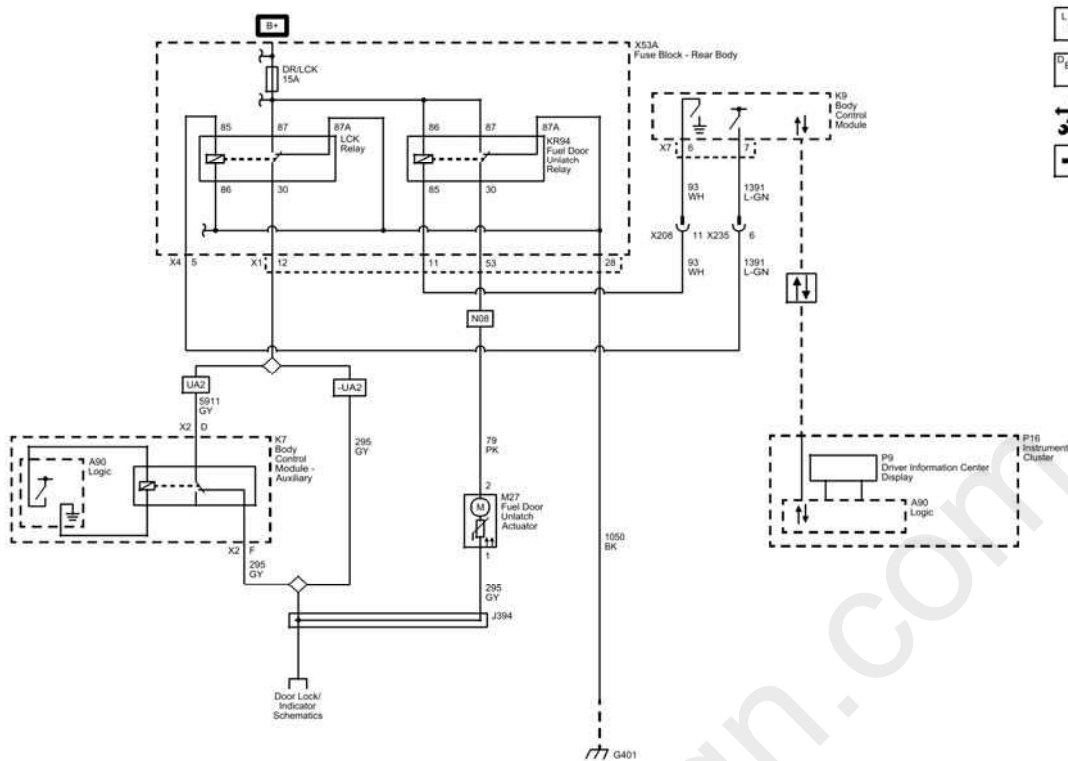


Fig. 12: Fuel Door System

Courtesy of GENERAL MOTORS COMPANY

Rear Compartment (Coupe)

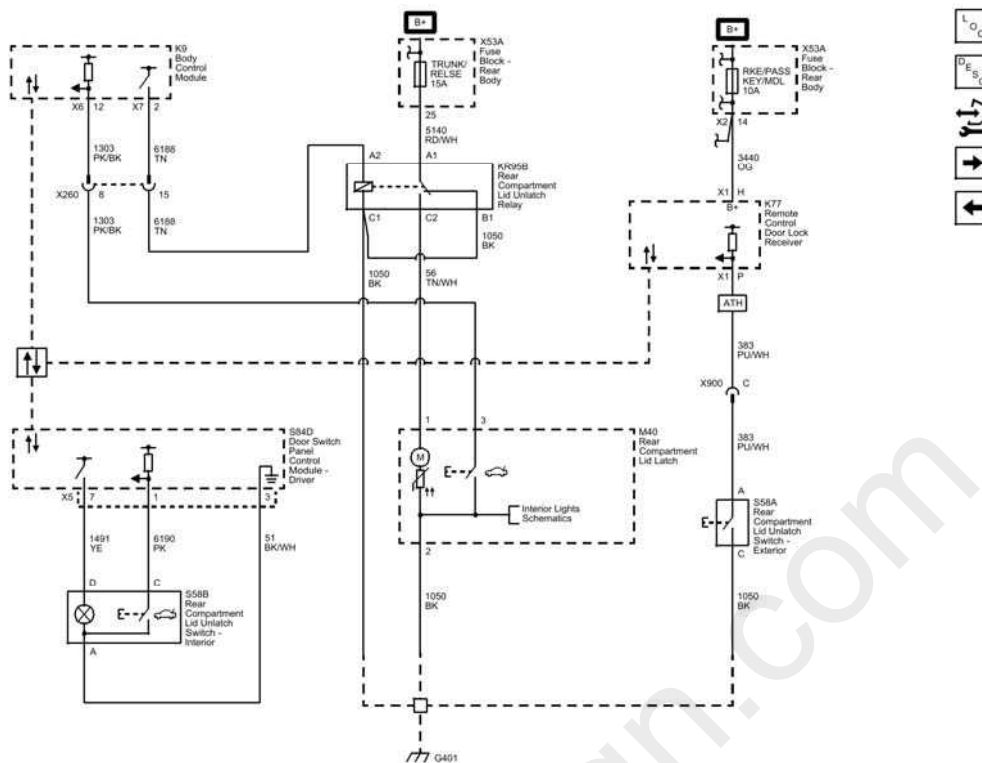


Fig. 13: Rear Compartment (Coupe)
Courtesy of GENERAL MOTORS COMPANY

Liftgate (Wagon)

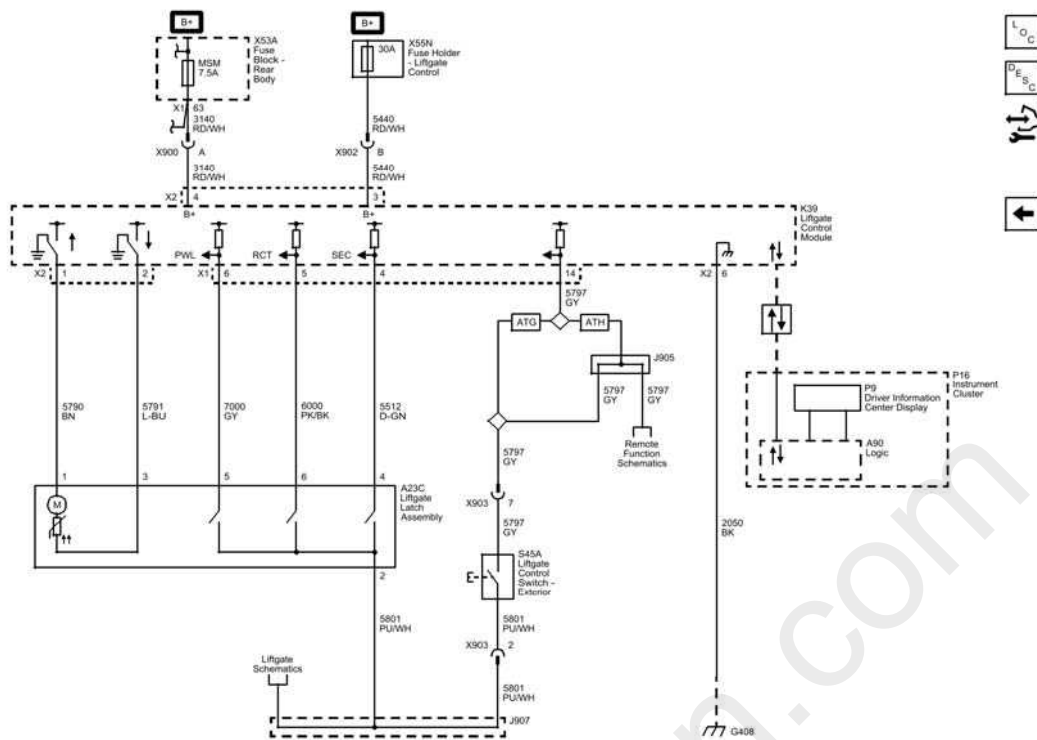
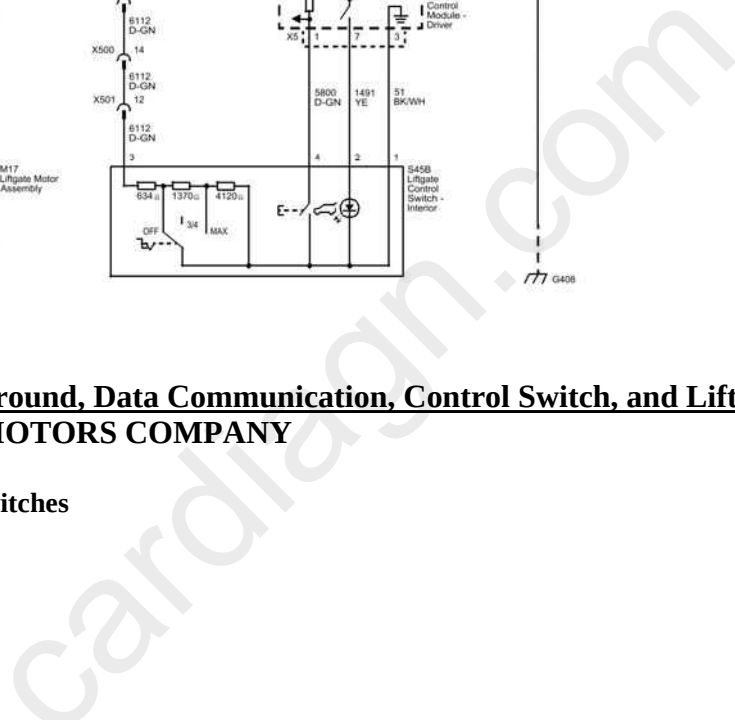


Fig. 14: Liftgate (Wagon)

Courtesy of GENERAL MOTORS COMPANY

LIFTGATE WIRING SCHEMATICS

Module Power, Ground, Data Communication, Control Switch, and Liftgate Motor



Latch, Object Sensors and Switches

Latch, Object Sensors and Switches

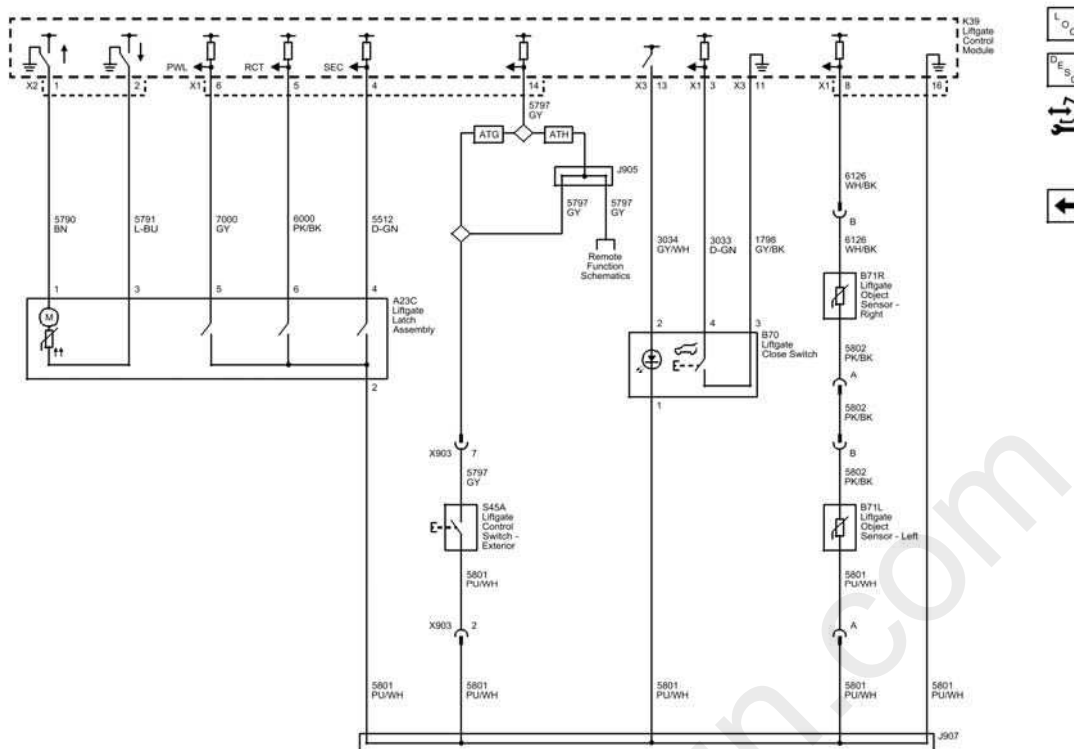


Fig. 16: Latch, Object Sensors and Switches
Courtesy of GENERAL MOTORS COMPANY

DIAGNOSTIC INFORMATION AND PROCEDURES

DIAGNOSTIC CODE INDEX

DIAGNOSTIC CODE INDEX

DTC	Description
<u>DTC B1023</u>	DTC B1023 00 Integral Switch Performance
<u>DTC B1420</u>	DTC B1420 02 Device Voltage Short To Ground
<u>DTC B1474</u>	DTC B1474 02 Exterior Passenger Door Handle Switch Circuit Short to Ground
<u>DTC B1534 or B1535</u>	DTC B1534 02 Left Rear Door Handle Switch Circuit DTC B1535 02 Right Rear Door Handle Switch Circuit
<u>DTC B2503</u>	DTC B2503 00 Trunk/Liftglass/Hatch Key Switch Circuit
<u>DTC B2996 or B3001</u>	DTC B2996 00 Left Rear Door Ajar Circuit DTC B3001 00 Right Rear Door Ajar Circuit
<u>DTC B3130 or B3135</u>	DTC B3130 00 All Door Unlock Circuit DTC B3135 00 All Door Lock Circuit
<u>DTC B3265</u>	DTC B3265 00 Trunk/Hatch/Liftglass Release Output Circuit
<u>DTC B3618</u>	DTC B3618 02 Exterior Trunk Release Switch Circuit Short to Ground

<u>DTC B3849 (Without ATH)</u>	DTC B3849 00 Exterior Door Handle Switch Circuit
<u>DTC B3849 (With ATH)</u>	DTC B3849 00 Exterior Door Handle Switch Circuit DTC B3849 02 Exterior Door Handle Switch Circuit Short to Ground

DTC B1023: INTEGRAL SWITCH 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 B1023 00

Integral Switch Performance

Circuit/System Description

The driver door switch (DDS) and front passenger door switch (PDS) each contain switches that control power door lock and window functions. The DDS also contains the control switch for the power outside rear view mirrors. These switches are integrated within the door control modules and are not serviceable as separate components. The DDS and PDS monitor these switch inputs for internal faults and set DTC B1023 00 if any are detected.

Conditions for Running the DTC

The system voltage is 9-16 volts.

Conditions for Setting the DTC

The DDS or PDS detects multiple or simultaneous inputs from a window or door lock switch.

Action Taken When the DTC Sets

The DDS or PDS ignores inputs from the malfunctioning switch.

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Power Door Latch 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

Clear all DTCs and operate the integrated switches at each door control switch within the Conditions for Running the DTC. The DTC should not set.

- If the DTC sets, replace the appropriate door switch.

Repair Instructions

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

Control Module References for DDS and PDS replacement, setup, and programming

DTC B1420: DEVICE VOLTAGE SHORT TO GROUND

Diagnostic Instructions

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

DTC Descriptor

DTC B1420 02

Device Voltage Short To Ground

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Liftgate Module B+	B1420 02	B1019 00	-	-
Liftgate Module Ground	-	U0230 00	-	-

Circuit/System Description

The liftgate control module controls operation of the liftgate latch motor and the liftgate actuator assembly. Under normal conditions the power latch can only be unlatched under power from the liftgate control module through an input from the liftgate handle switch, the driver door switch, or the remote keyless entry transmitter, but the liftgate may be manually closed to the primary latched position without the liftgate control module performing the power latch function. The ON/OFF switch in the driver door will enable or disable the power open/close operation of the actuator assembly but will have no effect on power latch operation. The drive motor is mated to a worm type gear off the actuator clutch and when the clutch is engaged the motor rotation is transferred to the clutch gear, intermediate gear, and actuator arm gear. The liftgate control module continuously monitors power liftgate operation and calculates its location and direction of travel using 2 inputs from the liftgate position sensor. One input returns the position of the liftgate relative to the latch along the x-axis and the other returns the position of the liftgate relative to the latch along the y-axis. The liftgate control module then uses these 2 inputs together to calculate its angle relative to the liftgate latch.

Conditions for Running the DTC

Battery voltage must be less than 9 volts or greater than 15.9 volts.

Conditions for Setting the DTC

- The supply voltage to the liftgate control module is less than 9V.
- The conditions above must be present for more than 5 seconds

Action Taken When the DTC Sets

The power liftgate 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

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Liftgate Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Testing

1. Ignition OFF, disconnect the X2 harness connector at the K39 Liftgate Control Module.
2. Ignition ON, verify that a test lamp illuminates between the B+ circuit terminal 3 and ground.
 - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance.
3. Ignition ON, verify that a test lamp illuminates between the B+ circuit terminal 4 and ground.
 - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance.
4. If all circuits test normal, replace the K39 Liftgate Control Module.

Repair Instructions

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

- **Liftgate Hydraulic Pump Replacement**
- **Control Module References** for liftgate module replacement, setup and programming

DTC B1474: DEVICE VOLTAGE SHORT TO GROUND

Diagnostic Instructions

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

DTC Descriptor

DTC B1474 02

Exterior Passenger Door Handle Switch Circuit Short to Ground

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Passenger Door Handle Switch Signal	B3849 00, B1474 02	1	1	-
Passenger Door Handle Switch Ground	-	1	-	-
1. Passenger Door Unlatch Malfunction				

Circuit/System Description

The exterior door handle switch signal circuit provides inputs to their respective door lock/window switch and to the remote control door lock receiver when the exterior door handle switch is activated. This input allows the door lock/window switch and the remote control door lock receiver to detect a door open request. The door lock/window switch and the remote control door lock receiver provides voltage to the exterior door handle switch via the front door handle switch signal circuit. When the front door handle is activated, the switch closes and the voltage signals from the door lock/window switch and the remote control door lock receiver are pulled to ground.

Conditions for Running the DTC

Battery voltage is between 9-16 V.

Conditions for Setting the DTC

The remote control door lock receiver detects the right front exterior door handle switch signal circuit is shorted to ground or closed for greater than 180 seconds.

Action Taken When the DTC Sets

The remote control door lock receiver ignores inputs from the passenger exterior door handle switch.

Conditions for Clearing the DTC

- The DTC will be current for as long as the fault is present.

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

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Power Door Latch 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

Ignition ON, observe the scan tool Remote Control Door Lock Receiver Ext. Psgr. Door Handle Switch parameter while pulling and releasing the exterior passenger door handle switch. The value should change from Inactive to Active each time the handle is pulled and released.

Circuit/System Testing

1. Ignition OFF, scan tool OFF, doors closed, disconnect the harness connector at the exterior passenger door handle switch.
2. After 10 minutes, test for less than 10 ohms between the ground circuit terminal C and ground.
 - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Disconnect the X6 harness connector at the passenger door lock/window switch.
4. Ignition ON, verify that the scan tool Remote Control Door Lock Receiver Ext. Psgr. Door Handle Switch parameter is Inactive.
 - If not the specified value, test the signal circuit terminal listed below for a short to ground. If the circuit tests normal, replace the remote control door lock receiver.

- Terminal B-exterior passenger door handle switch Wagon
 - Terminal D-exterior passenger door handle switch Coupe
5. Ignition OFF, connect the X6 harness connector at the passenger door lock/window switch.
 6. Ignition ON, verify that the scan tool Remote Control Door Lock Receiver Ext. Psgr. Door Handle Switch parameter is Inactive.
 - If not the specified value, replace the passenger door lock/window switch.
 7. If all circuits test normal, test or replace the exterior passenger door handle switch.

Component Testing

1. Ignition OFF, disconnect the harness connector at the exterior passenger door handle switch.
2. With the switch in the open position, test for infinite resistance between the signal terminal and the ground terminal listed below:
 - Signal terminal B and ground terminal C -Wagon
 - Signal terminal D and ground terminal C-Coupe
 - If not the specified value, replace the exterior passenger door handle switch.
3. With the switch in the closed position, test for less than 1 ohms between the signal terminal and the ground terminal listed below:
 - Signal terminal B and ground terminal C -Wagon
 - Signal terminal D and ground terminal C-Coupe
 - If greater than the specified range, replace the exterior passenger door handle switch.

Repair Instructions

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

- **Front Side Door Outside Handle Replacement (Front Door with ATH), Front Side Door Outside Handle Replacement (Front and Rear Doors with ATH), Front Side Door Outside Handle Replacement (Without ATH)**
- **Control Module References** for passenger door lock/window switch and remote control door lock receiver replacement, setup, and programming

DTC B1534 OR B1535: REAR DOOR HANDLE SWITCH

Diagnostic Instructions

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

DTC Descriptors

DTC B1534 02

Left Rear Door Handle Switch Circuit

DTC B1535 02

Right Rear Door Handle Switch Circuit

Diagnostic Fault Information

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

Circuit/System Description

The left and right rear door handle switch signal circuit provides inputs to the keyless entry control module when the appropriate rear exterior door handle switch is activated. This input allows the keyless entry control module to detect a door open request. When the left or right rear door handle is activated, the switch closes and the voltage signal from the keyless entry control module is pulled to ground, the keyless entry control module will then send a command to the appropriate door module to unlock and unlatch the door.

Conditions for Running the DTC

The system voltage is 9-16 V.

Conditions for Setting the DTC

The keyless entry control module detects a short to ground in the left rear or right rear door handle signal circuit.

Action Taken When the DTC Sets

The affected door will not unlock when using the exterior rear door handle.

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Power Door Latch 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

With the doors closed and locked, approach the vehicle with the keyless entry transmitter and pull the exterior left rear door handle or the exterior right rear door handle. The appropriate door should unlock and unlatch allowing the door to be pulled open.

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the appropriate B27 door handle switch - rear.
2. Test for less than 30ohms between the ground circuit terminal 1 and ground.
 - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Ignition ON, test for greater than 10 V between the signal circuit terminal 2 and ground.
 - If less than the specified range, test the signal circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the K48 keyless entry control module.
4. If all circuits test normal, test or replace the B27 door handle switch - rear.

Component Testing

1. Ignition OFF, disconnect the harness connector at the appropriate B27 door handle switch - rear.
2. Test for infinite resistance between the signal terminal 2 and the ground terminal 1 with the switch in the

open position.

- If not the specified value, replace the B27 door handle switch - rear.
- 3. Test for less than 2 ohms between the signal terminal 2 and the ground terminal 1 with the switch in the closed position.
- 4. If greater than the specified range, replace the B27 door handle switch - rear.

Repair Instructions

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

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

DTC B2503: TRUNK/LIFTGLASS/HATCH KEY 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 Descriptor

DTC B2503 00

Trunk/Liftglass/Hatch Key Switch Circuit

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal	B2503 00	1	1	-
Ground	-	2	-	-
1. Trunk Ajar Indicator Malfunction 2. Trunk Release Inoperative				

Circuit/System Description

The Body Control Module supplies a 12V signal to the rear compartment lid ajar switch signal circuit. When the rear compartment lid release actuator releases the rear compartment lid, the rear compartment lid ajar switch, which is internal to the rear compartment lid release actuator causes the trunk ajar switch signal circuit to be pulled low. The Body Control Module interprets this and communicates via serial data with the instrument panel cluster (IPC). When the trunk is open/ajar and the vehicle is in any gear other than PARK, the driver information center will display TRUNK OPEN. If the trunk is still open and the vehicle speed is greater than 5 km/h (3 mph) a chime will sound.

Conditions for Running the DTC

Battery voltage is between 9-16 volts.

Conditions for Setting the DTC

The BCM detects a short to ground in the rear compartment lid ajar switch signal circuit for greater than 5 minutes.

Action Taken When the DTC Sets

The TRUNK OPEN indicator will be continuously illuminated.

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Luggage Compartment Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

Ignition ON, observe the scan tool Rear Closure Ajar Sw. parameter while opening and closing the trunk. The

parameter should change between Inactive and Active.

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the M40 Rear Compartment Lid Latch.
2. Ignition ON, verify the scan tool Rear Closure Ajar Sw. parameter is Inactive.
 - If not the specified value, test the signal circuit terminal 3 for a short to ground. If the circuit tests normal, replace the K9 Body Control Module.
3. Install a 3A fused jumper wire between the signal circuit terminal 3 and ground. Verify the scan tool Rear Closure Ajar Sw. parameter is Active.
 - If not the specified value, test the signal circuit for a short to voltage or and open/high resistance. If the circuit tests normal, replace the K9 Body Control Module.
4. If all circuits test normal, test or replace the M40 Rear Compartment Lid Latch.

Component Testing

1. Ignition OFF, disconnect the harness connector at the M40 Rear Compartment Lid Latch.
2. Test for infinite resistance between the signal terminal 3 and ground terminal 2 with the switch in the open position.
 - If not the specified value, replace the M40 Rear Compartment Lid Latch.
3. Test for less than 2 ohms between the signal terminal 3 and ground terminal 2 with the switch in the closed position.
 - If greater than the specified range, replace the M40 Rear Compartment Lid Latch.

Repair Instructions

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

- **Rear Compartment Lid Latch Replacement (Coupe)**
- **Control Module References** for Body Control Module replacement, setup, and programming

DTC B2996 OR B3001: REAR DOOR AJAR CIRCUIT

Diagnostic Instructions

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

DTC Descriptor

DTC B2996 00

Left Rear Door Ajar Circuit

DTC B3001 00

Right Rear Door Ajar Circuit

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Left Rear Door Ajar Switch Signal	B2996 00	1	1	-
Right Rear Door Ajar Switch Signal	B3001 00	2	2	-
Left Rear Door Latch Ground	-	1	-	-
Right Rear Door Latch Ground	-	2	-	-
1. Door Ajar Indicator Inoperative When Left Rear Door Is Open 2. Door Ajar Indicator Inoperative When Right Rear Door Is Open				

Circuit/System Description

The body control module (BCM) provides a 12 V signal to each door ajar switch signal circuit. When a door is opened, the normally open ajar switch closes. With the ajar switch closed, ground is provided to the ajar switch signal circuit. The BCM interprets this and communicates via serial data with the instrument panel cluster to display the ajar icon.

Conditions for Running the DTC

The system voltage is 9-18 volts.

Conditions for Setting the DTC

B2996 00

The BCM detects a short to ground in the left rear door ajar circuit for greater than 10 minutes.

B3001 00

The BCM detects a short to ground in the right rear door ajar circuit for greater than 10 minutes.

Action Taken When the DTC Sets

The door ajar indicator will be continuously illuminated.

Conditions for Clearing the DTC

- The DTC will be current for as long as the fault is present.
- When the fault is no longer present, the DTC will be a history DTC.

- A history DTC will clear after 50 ignition cycles.

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Power Door Latch 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

Ignition ON, observe the scan tool Right Rear Door Ajar Sw. and Left Rear Door Ajar Sw, parameters while opening and closing the left rear and right rear doors. The parameters for each door should change between Door Closed and Door Ajar.

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the appropriate rear door latch.
2. Ignition ON, verify the scan tool Rear Door Ajar Sw parameter is Door Closed.
 - If not the specified value, test the signal circuit terminal listed below for a short to ground. If the circuit tests normal, replace the BCM
 - Left rear door latch signal circuit terminal 4
 - Right rear door latch signal circuit terminal 1
3. If all circuits test normal, test or replace the rear door latch.

Component Testing

1. Ignition OFF, disconnect the harness connector at the appropriate rear door latch.
2. Test for infinite resistance between the terminals listed below with the switch in the open position:
 - Left rear door latch signal terminal 4 and ground terminal 6
 - Right rear door latch signal terminal 1 and ground terminal 3
 - If not the specified value, replace the door ajar switch.
3. Test for less than 2 ohms between the terminals listed below with the switch in the closed position:
 - Left rear door latch signal terminal 4 and ground terminal 6
 - Right rear door latch signal terminal 1 and ground terminal 3
 - If greater than the specified range, replace the rear door latch.

Repair Instructions

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

- **Rear Side Door Latch Replacement**
- **Control Module References** for BCM replacement, setup and programming

DTC B3130 OR B3135: ALL DOOR LOCK/UNLOCK 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 B3130 00

All Door Unlock Circuit

DTC B3135 00

All Door Lock Circuit

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Lock Relay B+	3	3	-	-
Unlock Relay B+	3	3	-	-
Driver Door Handle Switch Signal	B3849 00, B3849 02	1	1	-
Passenger Door Handle Switch				

Signal	B1474 02	2	2	-
Driver Door Latch Control	1	1	1	-
Lock Relay Control	B3135 00	3	3	-
LR Door Latch Control	3	3	3	-
Passenger Door Latch Control	2	2	2	-
RR Door Latch Control	3	3	3	-
Unlock Relay Control	3	3	B3130 00	-
Driver Door Handle Switch Ground	-	1	1	-
Passenger Door Handle Switch Ground	-	2	2	-
Lock Relay Ground	-	3	3	-
Unlock Relay Ground	-	3	3	-
1. Driver Door Lock Malfunction 2. Passenger Door Lock Malfunction 3. Rear Door Lock Malfunction				

Circuit/System Description

The rear passenger door locks are controlled by the body control module (BCM). When a door lock switch is operated to the lock position, the BCM applies voltage to the rear door lock actuator lock control circuit which energizes the lock relay. The BCM applies ground to the rear door lock actuator unlock control circuit which energizes the unlock relay coil.

Conditions for Running the DTC

Battery voltage is between 9-16 volts.

Conditions for Setting the DTC

B3130 00

The BCM detects a short to voltage on the rear door unlock control circuit.

B3135 00

The BCM detects a short to ground on the rear door lock control circuit.

Actions Taken When the DTC Sets

The BCM will disable all rear door unlock requests.

Conditions for Clearing the DTC

- The DTC will be current for as long as the fault is present.
- When the fault is no longer present, the DTC will be a history DTC.

- A history DTC will clear after 50 ignition cycles

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Power Door Latch 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

Command the rear doors to LOCK and UNLOCK with the scan tool, the rear doors should perform the LOCK and UNLOCK function.

- If B3130 00 is current, refer to UNLCK Relay Control Circuit Malfunction.
- If B3135 00 is current, refer to LCK Relay Control Circuit Malfunction

Circuit/System Testing

UNLCK Relay Control Circuit Malfunction

1. Ignition OFF, disconnect the UNLCK relay.
2. Connect a test lamp between the control circuit terminal 85 and the B+ circuit terminal 86.
3. Command the rear doors to UNLOCK with a scan tool. The test lamp should briefly illuminate when commanding the UNLOCK state.
 - If the test lamp is always OFF, test the control circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the BCM.

- If the test lamp is always ON, test the control circuit for a short to ground. If the circuit tests normal, replace the BCM.
- 4. If all circuits test normal, test or replace the UNLCK relay.

LCK Relay Control Circuit Malfunction

1. Ignition OFF, disconnect the LCK relay.
2. Connect a test lamp between the control circuit terminal 85 and the ground circuit terminal 86.
3. Command the rear doors to LOCK with a scan tool. The test lamp should briefly illuminate when commanding the LOCK state.
 - If the test lamp is always OFF, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the BCM.
 - If the test lamp is always ON, test the control circuit for a short to voltage. If the circuit tests normal, replace the BCM.
4. If all circuits test normal, test or replace the LCK relay.

Component Testing

Relay Test

1. Ignition OFF, disconnect the appropriate relay.
2. Test for 60-200 ohms between terminals 85 and 86.
 - If not within the specified range, replace the relay.
3. Test for infinite resistance between the following terminals:
 - 30 and 86
 - 30 and 87
 - 30 and 85
 - 85 and 87
 - If less than the specified value, replace the relay.
4. Test for less than 2 ohms between terminals 30 and 87A.
 - If greater than the specified range, replace the relay.
5. Install a 3A fused jumper wire between the relay terminal 85 and 12V. Install a jumper wire between relay terminal 86 and ground. Test for less than 2 ohms between terminals 30 and 87.
 - If greater than specified range, replace the relay.

Repair Instructions

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

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

DTC B3265: TRUNK/HATCH/LIFTGLASS RELEASE OUTPUT CIRCUIT

Diagnostic Instructions

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

DTC Descriptor

DTC B3265 00

Trunk/Hatch/Liftglass Release Output Circuit

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Trunk Release Relay Control	B3265 00	1	1	-
1. Rear Compartment Lid Latch Inoperative				

Circuit/System Description

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

Conditions for Running the DTC

Battery voltage is between 9-16 volts.

Conditions for Setting the DTC

The BCM detects a short to ground in the trunk release relay control circuit.

Action Taken When the DTC Sets

The rear compartment latch will not operate.

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Luggage Compartment Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

Ignition ON, command the Trunk Release with a scan tool. The M40 rear compartment lid latch should release the trunk lid.

Circuit/System Testing

1. Ignition OFF, disconnect the TRUNK/RELSE relay.
2. Connect a test lamp between the control circuit terminal 85 and the ground circuit terminal 86.
3. Command the Trunk Release with a scan tool. The test lamp should illuminate during the RELEASE command.
 - If the test lamp is always ON, test the control circuit for a short to voltage. If the circuit tests normal, replace the K9 BCM.
 - If the test lamp is always OFF, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the K9 BCM.
4. If all circuits test normal, test or replace the TRUNK/RELSE relay.

Component Testing

Relay Test

1. Ignition OFF, disconnect the TRUNK/RELSE relay.

2. Test for 60-180 ohms between terminals 85 and 86.
 - If not within the specified range, replace the relay.
3. Test for infinite resistance between the following terminals:
 - 30 and 86
 - 30 and 87
 - 30 and 85
 - 85 and 87
 - If not the specified value, replace the relay.
4. Install a 25A fused jumper wire between relay terminal 85 and 12 V. Install a jumper wire between relay terminal 86 and ground. Test for less than 2 ohms between terminals 30 and 87.
 - If greater than the specified range, replace the relay.

Repair Instructions

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

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

DTC B3618: EXTERIOR TRUNK RELEASE SWITCH CIRCUIT SHORT TO GROUND

Diagnostic Instructions

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

DTC Descriptor

DTC B3618 02

Exterior Trunk Release Switch Circuit Short to Ground

Diagnostic Fault Information

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

Circuit/System Description

The exterior rear compartment lid release switch sends a signal from the remote control door lock receiver. When the exterior rear compartment lid release switch is activated, the signal circuit is pulled to ground. The

remote control door lock receiver interprets this and sends a serial data message to the body control module (BCM) requesting the rear compartment lid be released.

Conditions for Running the DTC

Battery voltage is between 9-16 volts.

Conditions for Setting the DTC

The remote control door lock receiver detects a short to ground on the exterior trunk release switch signal circuit for greater than 30 seconds

Action Taken When the DTC Sets

The trunk will not release from the exterior rear compartment lid release switch.

Conditions for Clearing the DTC

- The condition responsible for setting the DTC no longer exists.
- A history DTC will clear once 40 consecutive malfunction free ignition cycles have occurred.

Diagnostic Aids

If the vehicle has a history of the trunk opening unexpectedly, inspect the point where the wires enter the exterior rear compartment lid unlatch switch for corrosion or evidence of water intrusion.

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Luggage Compartment Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. DTC B3618 should not be set as a history DTC.
 - If DTC B3618 is set only as history, replace the exterior rear compartment lid release switch.
2. Observe the scan tool Remote Control Door Lock Receiver Trunk Release Switch parameter while pressing the exterior rear compartment lid release switch. The value should change from Inactive to Active each time the switch is pressed.

Circuit/System Testing

1. Ignition OFF, disconnect the X900 inline harness connector at the exterior rear compartment lid release switch.
2. Verify the scan tool Remote Control Door Lock Receiver Trunk Release Switch parameter is Inactive.
 - If not the specified value, test the signal circuit terminal C for a short to ground. If the circuit tests normal, replace the K77 remote control door lock receiver.
3. Install a 3 A fused jumper wire between the signal circuit terminal C and ground. Verify the scan tool Remote Control Door Lock Receiver Trunk Release Switch parameter is Active.
 - If not the specified value, test the signal circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the K77 remote control door lock receiver.
4. If all circuits test normal, test or replace the exterior rear compartment lid release switch.

Component Testing

Exterior Rear Compartment Lid Release Switch

1. Ignition OFF, disconnect the X900 inline harness connector at the exterior rear compartment lid release switch.
2. Test for infinite resistance between the signal circuit terminal C and the ground circuit terminal D with the switch in the open position.
 - If not the specified value, replace the exterior rear compartment lid release switch.
3. Test for less than 2 ohms between the signal circuit terminal C and the ground circuit terminal D with the switch in the closed position.
 - If greater than the specified range, replace the exterior rear compartment lid release switch.

Repair Instructions

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

Control Module References for the remote control door lock receiver replacement, programming and setup.

DTC B3849 (WITHOUT ATH): EXTERIOR TRUNK RELEASE SWITCH CIRCUIT SHORT TO

GROUND

Diagnostic Instructions

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

DTC Descriptor

DTC B3849 00

Exterior Door Handle Switch Circuit

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Driver Door Handle Switch Signal	B3849 00	1	1	-
Passenger Door Handle Switch Signal	B3849 00	2	2	-
Driver Door Handle Switch Ground	-	1	-	-
Passenger Door Handle Switch Ground	-	2	-	-
1. Driver Door Unlatch Malfunction 2. Passenger Door Unlatch Malfunction				

Circuit/System Description

The exterior door handle switch signal circuit provides inputs to their respective door lock/window switch when the exterior door handle switch is activated. This input allows the door lock/window switch to detect a door open request. The door lock/window switch provides voltage to the exterior door handle switch via the front door handle switch signal circuit. When the front door handle is activated, the switch closes and the voltage signals from the door lock/window switch are pulled to ground.

Conditions for Running the DTC

Battery voltage is between 9-16 V.

Conditions for Setting the DTC

The driver door lock/window switch detects the driver exterior door handle switch signal circuit is shorted to ground for greater than 180 seconds.

The passenger door lock/window switch detects the passenger exterior door handle switch signal circuit is shorted to ground for greater than 180 seconds.

Action Taken When the DTC Sets

The exterior door handle switch signal ignores inputs from the exterior door handle switch.

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Power Door Latch 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 OFF, with the doors unlocked, pull the exterior driver door handle. The driver door should unlatch allowing the driver door to be pulled open.
 - If the driver door does not open, refer to Driver Door Handle Switch Malfunction
2. With the doors unlocked, pull the exterior passenger door handle. The passenger door should unlatch allowing the passenger door to be pulled open.
 - If the passenger door does not open, refer to Passenger Door Handle Switch Malfunction

Circuit/System Testing

Driver Door Handle Switch Malfunction

1. Ignition OFF, disconnect the harness connector at the B27D door handle switch - driver exterior.
2. Test for less than 10ohms between the ground circuit terminal C and ground.
 - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Ignition ON, test for greater than 9 V between the signal circuit terminal listed below and ground.
 - Signal circuit terminal B-Wagon
 - Signal circuit terminal A-Coupe
 - If less than the specified range, test the signal circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the S84D door lock/window switch-driver.
4. If all circuits test normal, test or replace the B27D door handle switch - driver exterior.

Passenger Door Handle Switch Malfunction

1. Ignition OFF, disconnect the harness connector at the B27P door handle switch - passenger.
2. Test for less than 10ohms between the ground circuit terminal C and ground.
 - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Ignition ON, test for greater than 9 V between the signal circuit terminal listed below and ground.
 - Signal circuit terminal B-Wagon
 - Signal circuit terminal A-Coupe
 - If less than the specified range, test the signal circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the S84P door lock/window switch-passenger.
4. If all circuits test normal, test or replace the B27P door handle switch - passenger.

Component Testing

1. Ignition OFF, disconnect the harness connector at the appropriate exterior door handle switch.
2. With the switch in the open position, test for infinite resistance between the signal terminal and the ground terminal listed below:
 - Signal terminal B and ground terminal C -Wagon
 - Signal terminal D and ground terminal C-Coupe
 - If not the specified value, replace the exterior door handle switch.
3. With the switch in the closed position, test for less than 1 ohms between the signal terminal and the ground terminal listed below:
 - Signal terminal B and ground terminal C -Wagon
 - Signal terminal D and ground terminal C-Coupe
 - If greater than the specified range, replace the exterior door handle switch.

Repair Instructions

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

- **Front Side Door Outside Handle Replacement (Without ATH)**
- **Control Module References** for door lock/window switch-driver or door lock/window switch-passenger replacement, setup, and programming

DTC B3849 (WITH ATH): EXTERIOR DOOR HANDLE SWITCH

Diagnostic Instructions

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

DTC Descriptors

DTC B3849 00

Exterior Door Handle Switch Circuit

DTC B3849 02

Exterior Door Handle Switch Circuit Short to Ground

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Driver Door Handle Switch Signal	B3849 00, B3849 02	1	1	-
Driver Door Handle Switch Ground	-	1	-	-
1. Driver Door Unlatch Malfunction				

Circuit/System Description

The exterior door handle switch signal circuit provides inputs to their respective door lock/window switch and to the remote control door lock receiver when the exterior door handle switch is activated. This input allows the door lock/window switch and the remote control door lock receiver to detect a door open request. The door lock/window switch and the remote control door lock receiver provides voltage to the exterior door handle switch via the front door handle switch signal circuit. When the front door handle is activated, the switch closes and the voltage signals from the door lock/window switch and the remote control door lock receiver are pulled to ground.

Conditions for Running the DTC

Battery voltage is between 9-16 V.

Conditions for Setting the DTC

B3849 00

The door lock/window switch detects the driver exterior door handle switch signal circuit is shorted to ground or closed for greater than 180 seconds.

B3849 02

The remote control door lock receiver detects the driver exterior door handle switch signal circuit is shorted to ground or closed for greater than 180 seconds.

Action Taken When the DTC Sets

The remote control door lock receiver ignores inputs from the driver exterior door handle switch.

Conditions for Clearing the DTC

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

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Power Door Latch 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

Ignition ON, observe the scan tool RCDLR Ext Driver Door Handle parameter while pulling and releasing the exterior driver door handle switch. The value should change from Inactive to Active each time the handle is pulled and released

Circuit/System Testing

1. Ignition OFF, scan tool OFF, doors closed, disconnect the harness connector at the exterior driver door handle switch.
2. After 10 minutes, test for less than 10 ohms between the ground circuit terminal C and ground.
 - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Disconnect the X6 harness connector at the driver door lock/window switch.
4. Ignition ON, verify that the scan tool RCDLR Ext Driver Door Handle parameter is Inactive.
 - If not the specified value, test the signal circuit terminal listed below for a short to ground. If the circuit tests normal, replace the remote control door lock receiver.
 - Terminal B-exterior driver door handle switch Wagon
 - Terminal D-exterior driver door handle switch Coupe
5. Ignition OFF, connect the X6 harness connector at the driver door lock/window switch.
6. Ignition ON, verify that the scan tool RCDLR Ext Driver Door Handle parameter is Inactive.
 - If not the specified value, replace the driver door lock/window switch.
7. If all circuits test normal, test or replace the exterior driver door handle switch.

Component Testing

1. Ignition OFF, disconnect the harness connector at the exterior driver door handle switch.
2. With the switch in the open position, test for infinite resistance between the signal terminal and the ground terminal listed below:
 - Signal terminal B and ground terminal C -Wagon
 - Signal terminal D and ground terminal C-Coupe
 - If not the specified value, replace the exterior driver door handle switch.
3. With the switch in the closed position, test for less than 1 ohms between the signal terminal and the ground terminal listed below:
 - Signal terminal B and ground terminal C -Wagon
 - Signal terminal D and ground terminal C-Coupe
 - If greater than the specified range, replace the exterior driver door handle switch.

Repair Instructions

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

- **Front Side Door Outside Handle Replacement (Front Door with ATH), Front Side Door Outside Handle Replacement (Front and Rear Doors with ATH)**

- **Control Module References** for driver door lock/window switch and keyless entry control module replacement, setup, and programming

SYMPTOMS - VEHICLE ACCESS

NOTE: **The following steps must be completed before using a symptom table.**

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 GMLAN serial data.
2. Review the system description and operation in order to familiarize yourself with the system functions. Refer to the following:
 - **Luggage Compartment Description and Operation**
 - **Power Door Latch Description and Operation**
 - **Liftgate Description and Operation**
 - **Liftgate Ajar Indicator Description and Operation**
 - **Fuel Fill Door Description and Operation**

Visual/Physical Inspection

- Inspect for aftermarket devices which could affect the operation of the power door locks or power lift gate. Refer to **Checking Aftermarket Accessories** .
- Inspect the easily accessible or visible system components for obvious damage or conditions which could cause the symptom.

Intermittent

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

Symptom List

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

- **Liftgate System Diagnosis**
- **Fuel Filler Door Release Malfunction**
- **Liftgate Ajar Indicator Malfunction**
- **Door Ajar Indicator Malfunction**
- **Power Door Latch System Malfunction (Passive Entry)**
- **Power Door Lock Key Cylinder Switches Malfunction**
- **Power Door Locks Malfunction (Wagon), Power Door Locks Malfunction (Coupe)**
- **Trunk Release Malfunction**

- **Trunk Ajar Indicator Malfunction**
- **Door Will Not Open/Close, Door Binding, or Locks, Handles, or Cylinders Do Not Function**

FUEL FILLER DOOR RELEASE MALFUNCTION

Diagnostic Instructions

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

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
FUEL/DR/RELSE Relay Coil B+	1	1	1	-
FUEL/DR/RELSE Relay Switch B+	1	1	1	-
Fuel Door Actuator Control	1	1	1	-
Spare Relay Coil Control	1	1	1	-
FUEL/DR/RELSE Relay Ground	-	1	-	-
1. Fuel Door Release Malfunction				

Circuit/System Description

The FUEL/DR/RELSE relay switch and relay coil is supplied with B+ at all times via the DR/LCK fuse. The locking and unlocking of the fuel door is a function of the power door lock system. When the vehicles doors are unlocked, the body control module (BCM) will respond by applying voltage to the FUEL/DR/RELSE relay coil control circuit. This energizes the coil causing the switch contacts to close. With the switch contacts closed, B+ is supplied to the fuel door release actuator, unlocking the fuel door.

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Fuel Fill Door Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

Verify the operation of the fuel door release actuator while commanding the Lock Rear Doors and Unlock Rear Doors with a scan tool. The fuel door release actuator should perform the LOCK and UNLOCK functions

Circuit/System Testing

1. Ignition OFF, disconnect the FUEL/DR/RELSE relay.
2. Test for less than 10 ohms between the ground circuit terminal 87A and ground.
 - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Ignition ON, verify a test lamp illuminates between the B+ circuit terminal 87 and ground.
 - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance.
4. Verify a test lamp illuminates between the B+ circuit terminal 86 and ground.
 - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance.
5. Connect a test lamp between the control circuit terminal 85 and ground.
6. Command the Lock Rear Doors and Unlock Rear Doors with a scan tool. The test lamp should turn ON and OFF when changing between the commanded states.
 - If the test lamp is always ON, test the control circuit for a short to voltage. If the circuit tests normal, replace the BCM.
 - If the test lamp is always OFF, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the BCM.
7. Ignition OFF, connect the FUEL/DR/RELSE relay. Disconnect the harness connector at the fuel door release actuator.
8. Test for less than 10 ohms between the control circuit terminal 2 and ground.
 - If greater than the specified range, test the control circuit for an open/high resistance. If the circuit tests normal, test or replace the FUEL/DR/RELSE relay.
9. Test for less than 10 ohms between the control circuit terminal 1 and ground.
 - If greater than the specified range, test the control circuit for an open/high resistance. If the circuit tests normal, test or replace the LCK relay.
10. Connect a test lamp between the control circuit terminal 2 and ground.
11. Command the Unlock Rear Doors with a scan tool. The test lamp should illuminate while commanding

the UNLOCK function.

- If the test lamp does not illuminate, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal, test or replace the FUEL/DR/RELSE relay.
- 12. Connect a test lamp between the control circuit terminal 1 and ground.
- 13. Command the Lock Rear Doors with a scan tool. The test lamp should illuminate when commanding the LOCK function.
 - If the test lamp does not illuminate, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal, test or replace the LCK relay.
- 14. If all circuits test normal, test or replace the fuel door release actuator.

Component Testing

Relay Test

1. Ignition OFF, disconnect the appropriate relay.
2. Test for 60-180 ohms between terminals 85 and 86.
 - If not within the specified range, replace the relay.
3. Test for infinite resistance between the following terminals:
 - 30 and 86
 - 30 and 87
 - 30 and 85
 - 85 and 87
 - If not the specified value, replace the relay.
4. Install a 25 A fused jumper wire between relay terminal 85 and 12 V. Install a jumper wire between relay terminal 86 and ground. Test for less than 2 ohms between terminals 30 and 87.
 - If greater than the specified range, replace the relay.

Fuel Door Release Actuator

1. Ignition OFF, disconnect the harness connector at the fuel door release actuator.
2. Install a 15A 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 fuel door release actuator should perform the LOCK and UNLOCK functions.
 - If it does not perform as specified, replace the fuel door release actuator.

Repair Instructions

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

- **Relay Replacement (Within an Electrical Center) , Relay Replacement (Attached to Wire Harness)**
- **Fuel Tank Filler Door Lock Actuator Replacement (Asia, Africa, and Europe)**
- **Control Module References** for BCM replacement, setup, and programming

LIFTGATE SYSTEM DIAGNOSIS

Diagnostic Instructions

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

Circuit/System Description

The power liftgate system is a standard liftgate that has an added electric motor, hydraulic pump, a hydraulic arm, and an electric latch/cinch that can open and close the liftgate with no customer input. The liftgate can be both manually or automatically open and closed. Automatic opening or closing of the liftgate can be done through the interior liftgate switch, pushing either the open or close switch at the liftgate, or selecting open or close on the remote keyless transmitter. The automatic liftgate function can be disabled using the interior liftgate on/off control switch.

Diagnostic Aids

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

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

A power liftgate that will not fully open may be caused by kinked or twisted hydraulic lines.

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

An open or shorted accessory wake up ignition circuit between the engine control module and transmission control module will cause the power liftgate to work when the ignition is ON but not work when the ignition is OFF.

Reference Information

Schematic Reference

Liftgate Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Liftgate Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Verify the K39 liftgate control module is programmed with the latest software.
 - If the software is not the latest, program the K39 liftgate control module with the latest software. Refer to **Control Module References** for liftgate control module replacement, programming and setup.
2. Verify the K39 liftgate control module does not have any current DTCs set.
 - If the K39 liftgate control module has current DTCs set, refer to **Diagnostic Trouble Code (DTC) List - Vehicle**.
3. Verify DTC B2494 or B153F is not set as a history DTC.
 - If DTC B2494 is set only as history, replace the outside S46 liftgate handle switch, refer to **Rear License Plate Lamp Wiring Harness Replacement (Wagon)**, **Rear License Plate Lamp Wiring Harness Replacement (Coupe)**.
 - If DTC B153F is set only as history, replace both B71 liftgate object sensors, refer to **Liftgate Side Sensor Replacement**.
4. Verify the scan tool LGM Mode Switch parameter changes from Disable to Garage Shift to Normal while rotating the S45B liftgate control switch - interior.
 - If the parameter does not indicate each position, refer to **Liftgate Interior Release Open/Close Switch Malfunction - DTC B396C or B396D**.
5. Place the S45B liftgate control switch - interior to the OFF position.
6. Verify the scan tool LGM Front Control Switch parameter changes between Inactive and Active while pressing and releasing the S45B liftgate control switch - interior.
 - If the parameter does not change, refer to **Liftgate Interior Release Open/Close Switch Malfunction - DTC B396C or B396D**.
7. With the liftgate closed, observe the scan tool LGM Pawl Sw, LGM Ratchet Sw, and LGM Sector Sw. parameters. Each parameter status should be as listed below:

- LGM Pawl Sw. parameter - Inactive
 - LGM Ratchet Sw. parameter - Inactive
 - LGM Sector Sw. parameter - Inactive
 - If not the specified value, refer to **Liftgate Latch Switches Malfunction - DTC B153A.**
8. Verify the scan tool rear Liftgate Handle Sw. parameter changes between Active and Inactive while pressing and releasing the exterior S46 liftgate handle switch.
 - If the parameter does not change, refer to **Liftgate Handle Switch Malfunction - DTC B2494.**
 9. Using either the power door lock switches or the keyless entry transmitter, LOCK all doors then UNLOCK all doors. This will set the liftgate module door lock status to unlock.
 10. Verify the liftgate will manually open.
 - If the liftgate does not manually open, refer to **Liftgate Latch Release/Cinch Malfunction - DTC B2495.**
 11. With the liftgate open, verify the scan tool LGM Secondary Obstacle Detection parameter is 3-3.5 V.
 - If not within the specified range, refer to **Liftgate Object Sensor Malfunction - DTC B153F.**
 12. With the liftgate open, verify the scan tool LGM Pawl Sw, LGM Ratchet Sw, and LGM Sector Sw parameters are as listed below:
 - LGM Pawl Sw. parameter - Active
 - LGM Ratchet Sw. parameter - Active
 - LGM Sector Sw. parameter - Inactive
 - If not the specified value, refer to **Liftgate Latch Switches Malfunction - DTC B153A.**
 13. Verify while manually opening and closing the liftgate is in proper aligned with the body bumpers, wedges and striker and there is no binding, refer to **Liftgate Adjustment** , and **Liftgate Lock Striker Adjustment.**
 14. Verify the scan tool LGM Sector Sw parameter changes from Inactive to Active then back to Inactive within 10 seconds while the liftgate is being automatically cinched closed.
 - If the liftgate cinches close and the parameter does not momentarily change states while cinching, refer to **Liftgate Latch Switches Malfunction - DTC B153A.**
 - If the liftgate does not cinch close, refer to **Liftgate Latch Release/Cinch Malfunction - DTC B2495.**
 15. Verify the scan tool LGM Rear Close Sw. parameter changes from Inactive to Active while pressing and releasing the B70 liftgate close switch.
 - If the parameter does not change, refer to **Liftgate Close Switch Malfunction - DTC B396E.**
 16. Liftgate open, select either the 3/4 or Max position on the control switch then activate the power close function. Verify the liftgate power closes.
 - If the liftgate does not power close, refer to **Liftgate Motor Power Open/Close Malfunction - DTC B396A.**
 17. Liftgate closed, activate the power open function. Verify the liftgate power opens.
 - If the liftgate does not power open, refer to **Liftgate Motor Power Open/Close Malfunction - DTC B396A.**
 18. Verify the liftgate has not been auto reversing un-expectedly.

- If the liftgate has been auto reversing, check the following:
 - Low pump fluid - refer to **Liftgate Hydraulic System Refilling**
 - Pump actuator hoses for twists or kinks
 - Fluid leaks
 - Both liftgate object sensors for interference or deformity

DTC B396E: LIFTGATE CLOSE SWITCH MALFUNCTION

Diagnostic Instructions

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

DTC Descriptor

DTC B396E 02

Rear Liftgate Shutface Switch Circuit Short To Ground

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal	B396E 02	1	1	-
Low Reference	-	1	1	-
1. Liftgate will not close using the liftgate close switch				

Circuit/System Description

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

Conditions for Running the DTC

The system voltage is 9-16 V.

Conditions for Setting the DTC

The liftgate control module detects the liftgate close signal circuit is active for greater than 30 seconds.

Action Taken When the DTC Sets

The liftgate control module will ignore the input from the liftgate close switch, the liftgate will only power close

by using the interior liftgate control switch or by a close request from the remote control door lock receiver.

Conditions for Clearing the DTC

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

Diagnostic Aids

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

Reference Information

Schematic Reference

Liftgate Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Liftgate Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

Ignition ON, with the liftgate open, observe the scan tool LGM Rear Close Sw. parameter while pressing and releasing the B70 liftgate close switch. The parameter should change from Inactive to Active.

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the B70 liftgate close switch.
2. Test for less than 10 ohms between the low reference circuit terminal 3 and ground.
 - If greater than the specified range, test the low reference circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the K39 liftgate control module
3. Ignition ON, verify the scan tool LGM Rear Close Sw. parameter is Inactive.
 - If not the specified value, test the signal circuit terminal 4 for a short to ground. If the circuit tests normal, replace the K39 liftgate control module.
4. Connect a 3 A fused jumper wire between the signal circuit terminal 4 and ground, verify the scan tool LGM Rear Close Sw. parameter is Active.
 - If not the specified value, test the signal circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the K39 liftgate control module.
5. If all circuits test normal, test or replace the B70 liftgate close switch.

Component Testing

Liftgate Close Switch Assembly

1. Ignition OFF, disconnect the harness connector at the B70 liftgate close switch.
2. Test for infinite resistance between the signal terminal 4 and the low reference terminal 3 with the switch in the inactive position.
 - If not the specified value, replace the B70 liftgate close switch.
3. Test for less than 3 ohms between the signal terminal 4 and the low reference terminal 3 with the switch in the active position.
 - If greater than the specified range, replace the B70 liftgate close switch.

Repair Instructions

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

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

DTC B1019: LIFTGATE CONTROL MODULE

Diagnostic Instructions

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

DTC Descriptor

DTC B1019 00

System Configuration Error

Circuit/System Description

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

Conditions for Running the DTC

The system voltage is 9-18 V.

Conditions for Setting the DTC

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

Action Taken When the DTC Sets

The power liftgate system will be disabled.

Conditions for Clearing the DTC

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

Diagnostic Aids

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

Reference Information

Schematic Reference

Liftgate Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Liftgate Description and Operation

Electrical Information Reference

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

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Testing

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

Repair Instructions

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

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

DTC B2494: LIFTGATE HANDLE SWITCH MALFUNCTION

Diagnostic Instructions

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

DTC Descriptor

DTC B2494 02

Liftgate Handle Switch Circuit Short to Ground

Diagnostic Fault Information

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

Circuit/System Description

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

Conditions for Running the DTC

The system voltage is 9-16 V.

Conditions for Setting the DTC

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

Action Taken When the DTC Sets

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

Conditions for Clearing the DTC

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

Diagnostic Aids

- If the liftgate will not release from the closed position, refer to **Opening the Liftgate Without Electrical Power** for the appropriate procedure
- Whenever the liftgate control module loses power or is disconnected, the ignition must be cycled OFF then ON in order to reactivate the liftgate control module.
- An intermittent short to ground in the Rear Liftgate Open/Close Switch circuit may cause the liftgate control module to command the liftgate to open if the vehicle is in park and the doors are unlocked. If the vehicle has a history of the liftgate opening unexpectedly, inspect the point where the wires enter the exterior liftgate handle switch for corrosion or evidence of water intrusion.

Reference Information

Schematic Reference

Liftgate Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Liftgate Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. DTC B2494 should not be set as a history DTC.
 - If DTC B2494 is set only as history, replace the S45A liftgate handle switch-exterior.
2. Ignition ON, observe the scan tool Liftgate Handle Sw. parameter while pressing and releasing the liftgate handle switch-exterior. The parameter should change between Active and Inactive.

Circuit/System Testing

1. Ignition OFF, disconnect the X903 inline harness connector at the S45A liftgate handle switch-exterior.
2. Test for less than 10 ohms between the low reference circuit terminal 2 and ground.
 - If greater than the specified range, test the low reference circuit terminal for a short to voltage or an open/high resistance. If the circuit tests normal, replace the K39 liftgate control module.
3. Ignition ON, verify the scan tool Liftgate Handle Sw. parameter is Inactive.
 - If not the specified value, test the signal circuit terminal 7 for a short to ground. If the circuit tests normal, replace the K39 liftgate control module.
4. Connect a 3 A fused jumper wire between the signal circuit terminal 7 and ground, verify the scan tool Liftgate Handle Sw. parameter is Active.
 - If not the specified value, test the signal circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the K39 liftgate control module.
5. If all circuits test normal, test or replace the S45A liftgate handle switch-exterior.

Component Testing

1. Ignition OFF, disconnect the X903 inline harness connector at the S45A liftgate handle switch-exterior
2. Test for infinite resistance between the signal circuit terminal 7 and the low reference circuit terminal 2 with the switch in the open position.
 - If not the specified value, replace the S45A liftgate handle switch-exterior.
3. Test for less than 2 ohms between the signal circuit terminal 7 and the low reference circuit terminal 2 with the switch in the closed position.
 - If greater than the specified range, replace the S45A liftgate handle switch-exterior.

Repair Instructions

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

- **Rear License Plate Lamp Wiring Harness Replacement (Wagon) , Rear License Plate Lamp Wiring Harness Replacement (Coupe)**
- **Control Module References** for liftgate control module replacement, setup and programming

DTC B396C OR B396D: LIFTGATE INTERIOR RELEASE OPEN/CLOSE SWITCH MALFUNCTION

Diagnostic Instructions

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

DTC Descriptor

DTC B396C 08

Power Liftgate Mode Switch Out of Range Signal Invalid

Diagnostic Fault Information

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

Circuit/System Description

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

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

Conditions for Running the DTC

The system voltage is 9-16 V.

Conditions for Setting the DTC

The liftgate control module detects an out of range voltage condition in the Power Liftgate On/Off Switch Signal circuit.

Action Taken When the DTC Sets

The liftgate will only function in the full open power mode.

Conditions for Clearing the DTC

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

Diagnostic Aids

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

Reference Information

Schematic Reference

Liftgate Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Liftgate Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Ignition ON, observe the scan tool liftgate module LGM Mode Switch parameter while changing the mode switch between the Off and 3/4 and Max positions. The value should change from Disable to Garage Shift to Normal as the switch is changed.
 - If the value does not change with each position selected, refer to OFF/ 3/4 position/MAX Switch Circuit Test
2. Place the S45B liftgate control switch - interior to the Off position.
3. Observe the scan tool driver door switch LGM Front Control Switch parameter while pressing and releasing the liftgate button on the S45B liftgate control switch-interior. The parameter should change between Inactive and Active.
 - If the value does not change, refer to Open/Close Switch Circuit Test

Circuit/System Testing

OFF/ 3/4 position/MAX Switch Circuit Test

1. Ignition OFF, disconnect the harness connector at the S45B liftgate control switch-interior.
2. Test for less than 10 ohms between the low reference circuit terminal 1 and ground.
 - If greater than the specified range, test the low reference circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the S84D door lock/window switch-driver.
3. Test for greater than 10V between the signal circuit terminal 3 and ground.
 - If less than the specified range, test the signal circuit terminal 3 for a short to ground or an open/high resistance. If the circuit tests normal, replace the K39 liftgate control module.
4. If all circuits test normal, test or replace the S45B liftgate control switch-interior.

Open/Close Switch Circuit Test

1. Ignition OFF, disconnect the harness connector at the S45B liftgate control switch-interior.
2. Test for less than 10 ohms between the ground circuit terminal 1 and ground.
 - If greater than the specified range, test the low reference circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the S84D door lock/window switch-driver.
3. Ignition ON, verify the scan tool LGM Front Control Switch parameter is Inactive.
 - If not the specified value, test the signal circuit terminal 4 for a short to ground. If the circuit tests normal, replace the S84D door lock/window switch-driver.
4. Install a 3 A fused jumper wire between the signal circuit terminal 4 and ground. Verify the scan tool Liftgate Front Control Switch parameter is Active.
 - If not the specified value, test the signal circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the S84D door lock/window switch-driver.
5. If all circuits test normal, test or replace the S45B liftgate control switch-interior.

Component Testing

1. Ignition OFF, disconnect the harness connector at the S45B liftgate control switch-interior.
2. Test for the values listed below between the signal terminal 3 and the ground terminal 1.
 - 600-650 ohms in the Off position
 - 125k-140k ohms in the 3/4 position
 - 400k-415k ohms in the Max position
 - If not within the specified ranges, replace the S45B liftgate control switch-interior.
3. Test for infinite resistance between the signal terminal 4 and the ground terminal 1 with the switch open.
 - If not the specified value, replace the S45B liftgate control switch-interior.
4. Test for less than 3 ohms between the signal terminal 4 and the ground terminal 1 with the switch closed.
 - If greater than the specified range, replace the S45B liftgate control switch-interior.

Repair Instructions

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

- **Rear Compartment Lid Release Switch Replacement (Coupe)**
- **Control Module References** for liftgate control module and driver door lock/window switch replacement, programming and setup

DTC B2495: LIFTGATE LATCH RELEASE/CINCH MALFUNCTION

Diagnostic Instructions

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

DTC Descriptors

DTC B2495 01

Liftgate Latch Control Circuit Short to Battery

DTC B2495 02

Liftgate Latch Control Circuit Short to Ground

DTC B2495 04

Liftgate Latch Control Circuit Open

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 2	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 voltage in the liftgate latch motor cinch control circuit or the liftgate latch motor release control circuit.

B2495 02

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

B2495 04

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

Action Taken When the DTC Sets

The liftgate will be inoperative in the power and manual modes.

Conditions for Clearing the DTC

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

Diagnostic Aids

- If the liftgate will not release from the closed position, refer to **Opening the Liftgate Without Electrical**

Power for the appropriate procedure

- Whenever the liftgate control module loses power or is disconnected, the ignition must be cycled OFF then ON in order to reactivate the liftgate control module.
- DTC B2495 01 may be set due to minor fluctuations in the system voltage. The power liftgate will continue to function normally and only requires that the DTC be cleared when encountered.

Reference Information

Schematic Reference

Liftgate Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Liftgate Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Ignition OFF, transmission in Park, using either the power door lock switches or the remote keyless entry transmitter, LOCK all doors and then UNLOCK all doors. This will set the liftgate module door lock status to unlock
2. Manually open the liftgate, the A23C liftgate latch assembly should release allowing the liftgate to be pulled open.

Circuit/System Testing

1. Ignition OFF, disconnect the X2 harness connector at the K39 liftgate control module.
2. Test for less than 15 ohms between the control circuit terminal 1 and the control circuit terminal 2.
 - If greater than the specified range, test either control circuit for a short to voltage or an open/high resistance. If circuits test normal, test or replace the M31 liftgate latch assembly.

3. Verify that a test lamp does not illuminate between the control circuit terminal 1 and B+.
 - If the test lamp illuminates, test the control circuit for a short to ground. If circuit tests normal, test or replace the A23C liftgate latch assembly.
4. Verify that a test lamp does not illuminate between the control circuit terminal 2 and B+.
 - If the test lamp illuminates, test the control circuit for a short to ground. If circuit tests normal, test or replace the A23C liftgate latch assembly.
5. If all circuits test normal, replace the K39 liftgate control module

Repair Instructions

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

- **Liftgate Latch Replacement**
- **Control Module References** for the liftgate module replacement, programming and setup

DTC B153A: LIFTGATE LATCH SWITCHES MALFUNCTION

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **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
Pawl Switch Signal	B153A 08	B153A 08	B153A 08	-
Ratchet Switch Signal	B153A 08	B153A 08	B153A 08	-
Sector Switch Signal	B153A 08	1	B153A 08	-
1. Liftgate Switch Malfunction				

Circuit/System Description

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

circuit from the liftgate control module and when the switch contacts close the signal circuit goes low and the liftgate control module determines the switch to be active.

Conditions for Running the DTC

The system voltage is 9-16 V.

Conditions for Setting the DTC

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

- Ratchet switch
- Sector switch
- Pawl switch

Action Taken When the DTC Sets

- The liftgate will not power open or manually open.
- The latch may be inoperative or not function normally.

Conditions for Clearing the DTC

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

Diagnostic Aids

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

Reference Information

Schematic Reference

Liftgate Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Liftgate Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. With the liftgate closed, observe the scan tool Pawl, Ratchet, and Sector switch parameters. Each parameter status should be as listed below:
 - LGM Pawl Sw. parameter - Inactive
 - LGM Ratchet Sw. parameter - Inactive
 - LGM Sector Sw. parameter - Inactive
2. With the liftgate open, observe the scan tool Pawl, Ratchet, and Sector switch parameters. Each parameter status should be as listed below:
 - LGM Pawl Sw. parameter - Active
 - LGM Ratchet Sw. parameter - Active
 - LGM Sector Sw. parameter - Inactive
3. Sector Switch Test - Close the liftgate allowing the cinch motor to pull the liftgate closed. Observing the scan tool LGM Sector Sw. parameter while the liftgate is being automatically cinched closed; the parameter should change from inactive to active then back to inactive within 10 seconds.

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the A23C liftgate latch assembly.
2. Test for less than 30 ohms between the low reference circuit terminal 2 and ground.
 - If greater than the specified range, test the low reference circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the K39 liftgate control module.
3. Ignition ON, verify the scan tool LGM Latch Pawl Sw. parameter is Inactive.
 - If not the specified value, test the signal circuit terminal 5 for a short to ground. If the circuit tests normal, replace the K39 liftgate control module.
4. Install a 3 A fused jumper wire between the signal circuit terminal 5 and the low reference circuit

terminal 2. Verify the scan tool LGM Latch Pawl Sw. parameter is Active.

- If not the specified value, test the signal circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the K39 liftgate control module.
- 5. Verify the scan tool LGM Latch Ratchet Sw. parameter is Inactive.
 - If not the specified value, test the signal circuit terminal 6 for a short to ground. If the circuit tests normal, replace the K39 liftgate control module.
- 6. Install a 3 A fused jumper wire between the signal circuit terminal 6 and low reference circuit terminal 2. Verify the scan tool LGM Latch Ratchet Sw. parameter is Active.
 - If not the specified value, test the signal circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the K39 liftgate control module.
- 7. Verify the scan tool LGM Latch Sector Sw. parameter is Inactive.
 - If not the specified value, test the signal circuit terminal 4 for a short to ground. If the circuit tests normal, replace the K39 liftgate control module.
- 8. Install a 3 A fused jumper wire between the signal circuit terminal 4 and low reference circuit terminal 2. Verify the scan tool LGM Latch Sector Sw. parameter is Active.
 - If not the specified value, test the signal circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the K39 liftgate control module.
- 9. If all circuits test normal, test or replace the A23C liftgate latch assembly.

Repair Instructions

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

- **Liftgate Latch Replacement**
- **Control Module References** for LGM replacement, programming and setup

DTC B153F: LIFTGATE OBJECT SENSOR MALFUNCTION

Diagnostic Instructions

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

DTC Descriptors

DTC B153F 02

Liftgate Position Sensor Signal Circuit Short to Ground

DTC B153F 05

Liftgate Position Sensor Signal Circuit Short to Battery or Open

Diagnostic Fault Information

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

Circuit/System Description

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

Conditions for Running the DTC

The system voltage is 9-16 V.

Conditions for Setting the DTC

B153F 02

The liftgate module detects a short to ground in the liftgate tape switch signal circuit for greater than 10 minutes.

B153F 05

The liftgate module detects a short to voltage or an open/high resistance in the liftgate tape switch signal circuit or an open/high resistance in the low reference circuit for greater than 10 minutes.

Action Taken When the DTC Sets

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

Conditions for Clearing the DTC

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

Diagnostic Aids

- If the liftgate will not release from the closed position, refer to **Opening the Liftgate Without Electrical Power** for the appropriate procedure
- Whenever the liftgate control module loses power or is disconnected, the ignition must be cycled OFF then ON in order to reactivate the liftgate control module.
- If the liftgate mode switch is in the Off position, the liftgate will only open and close manually. Before testing the liftgate for power open and power close functions, verify that the liftgate mode switch is in the 3/4 or MAX position.

Reference Information

Schematic Reference

Liftgate Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Liftgate Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. DTC B153F should not be set as history.
 - If DTC B153F is set only as history, replace both B71 liftgate object sensors
2. Ignition ON, observe the scan tool LGM Secondary Obstacle Detection parameter. The reading should be between 3V-3.5V.
 - If not within the specified range, perform the Circuit/System Testing.
3. Observe the scan tool LGM Secondary Obstacle Detection parameter while pressing and releasing the B71R liftgate object sensor - right. The reading should change from 3V-3.5V to 2.25-2.75V as the sensor is pressed and released.

- If the value does not change, test or replace the B71R liftgate object sensor - right.
- 4. Observe the scan tool LGM Secondary Obstacle Detection parameter while pressing and releasing the B71L liftgate object sensor - left. The reading should change from 3V-3.5V to 2.25-2.75V as the sensor is pressed and released.
 - If the value does not change, test or replace the B71L liftgate object sensor - left.

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the B71L liftgate object sensor - left.
2. Test for less than 30 ohms between the low reference circuit terminal A and ground.
 - If greater than the specified range, test the low reference circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the K39 liftgate control module.
3. Disconnect the harness connector at the B71R liftgate object sensor - right
4. Ignition ON, test for 4.75-5.25 V between the signal circuit terminal B and ground.
 - If less than the specified range, test the signal circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the K39 liftgate control module.
 - If greater than the specified range, test the signal circuit for a short to voltage. If the circuit tests normal, replace the K39 liftgate control module.
5. Test for less than 10 ohms between the signal circuit terminal A at the B71R liftgate object sensor - right and the signal circuit terminal B at the B71L liftgate object sensor - left.
 - If greater than the specified range, test the signal circuit between the two sensors for an open/high resistance.
6. If all circuits test normal, test or replace the B71L liftgate object sensors.

Component Testing

1. Ignition OFF, disconnect the harness connectors at the B71 liftgate object sensor.
2. Test for 8k-12k ohms between the signal terminal B and the low reference terminal A.
 - If not within the specified range, replace the B71 liftgate object sensor.

Repair Instructions

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

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

DTC B396A: LIFTGATE MOTOR POWER OPEN/CLOSE 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 B396A 01

Liftgate Motor Control Circuit Short to Battery

DTC B396A 02

Liftgate Motor Control Circuit Short to Ground

DTC B396A 04

Liftgate Motor Control Circuit Open

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
B+ Terminal 3	B396A 04	B396A 04	-	-
Motor Control Terminal A	B396A 02	B396A 04	B396A 01	-
Motor Control Terminal B	B396A 02	B396A 04	B396A 01	-

Circuit/System Description

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

Conditions for Running the DTC

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

Conditions for Setting the DTC

B396A 01

The liftgate control module detects a short to voltage in a liftgate motor control circuit.

B396A 02

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

B396A 04

The liftgate control module detects an open/high resistance in a liftgate motor control circuit or the liftgate control module B+ circuit. A short to ground in the liftgate control module B+ circuit.

Action Taken When the DTC Sets

The power liftgate will only function in the manual mode.

Conditions for Clearing the DTC

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

Diagnostic Aids

- If the liftgate will not release from the closed position, refer to **Opening the Liftgate Without Electrical Power** for the appropriate procedure
- Whenever the liftgate control module loses power or is disconnected, the ignition must be cycled OFF then ON in order to reactivate the liftgate control module.
- DTC B396A 01 may set as current or history when the liftgate control module detects erratic voltage levels in the electrical system and does not affect the operation of the power liftgate. If this DTC is set and the liftgate functions normally, clear the DTC

Reference Information

Schematic Reference

Liftgate Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Liftgate Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Using either the power door lock switches or the remote keyless transmitter, LOCK all doors then UNLOCK all doors. This will set the liftgate module door lock status to unlock.
2. With the liftgate closed, select either the 3/4 or Max position on the S45B liftgate control switch-interior and activate the power open. The liftgate should power open
3. With the liftgate open, activate the power close. The liftgate should power close

Circuit/System Testing

1. Ignition OFF, disconnect the X2 harness connector at the K39 liftgate control module.
2. Ignition ON, verify that a test lamp illuminates between the B+ circuit terminal 3 and ground.
 - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance. If the circuit tests normal and the B+ fuse is open, test each of the control circuits listed below for a short to ground. If the circuits test normal, replace the liftgate module.
 - Control circuit terminal 1 X2
 - Control circuit terminal 2 X2
 - Control circuit terminal 1 X3
 - Control circuit terminal 2 X3
3. Ignition OFF, connect the X2 harness connector at the K39 liftgate control module and disconnect the harness connector at the M17 liftgate motor assembly.
4. Test for less than 30k ohms between the control circuit terminal A and ground.
 - If greater than the specified range, test the control circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the K39 liftgate control module.
5. Test for less than 30k ohms between the control circuit terminal B and ground.
 - If greater than the specified range, test the control circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the K39 liftgate control module.

NOTE: **Verify that the interior liftgate control switch is in the 3/4 or MAX position**

6. Connect a test lamp between the control circuit terminal A and control circuit terminal B.
7. Ignition ON, with the liftgate in the open position, command the liftgate to CLOSE by pressing the B70 liftgate close switch. The test lamp should illuminate during the CLOSE command.
 - If the test lamp does not illuminate, test control circuit terminal A for a short to ground. If the circuit tests normal, replace the K39 liftgate control module.
8. With the liftgate in the closed position, command the liftgate to OPEN by pressing the S46 liftgate handle switch. The test lamp should illuminate during the OPEN command.
 - If the test lamp does not illuminate, test control circuit terminal B for a short to ground. If the circuit tests normal, replace the K39 liftgate control module.

9. If all circuits test normal, test or replace the M17 liftgate motor assembly.

Repair Instructions

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

- **Liftgate Hydraulic Pump Replacement**
- **Control Module References** for liftgate module replacement, programming and setup

LIFTGATE AJAR INDICATOR MALFUNCTION

Diagnostic Instructions

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

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Ratchet Switch Signal	1	B153A 08	2	-
1. Liftgate Ajar Indicator Always On 2. Power Liftgate Inoperative				

Circuit/System Description

The driver information center illuminates the Rear Access Open message when the liftgate control module (LGM) detects the liftgate ratchet switch is closed to ground indicating the liftgate is open. The instrument panel cluster receives a serial data message from the liftgate control module indicating the liftgate ajar status. If this message is displayed and the vehicle speed is greater than 8 km/h (5 mph), a chime will sound.

Reference Information

Schematic Reference

Liftgate Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Liftgate Ajar Indicator Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

Ignition ON, observe the scan tool LGM Latch Ratchet Sw parameter while opening and closing the liftgate. The parameter should change between Active and Inactive.

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the liftgate latch assembly.
2. Ignition ON, verify the scan tool LGM Latch Ratchet Sw parameter is Inactive.
 - If not the specified value, test the signal circuit terminal 6 for a short to ground. If the circuit tests normal, replace the liftgate control module.
3. Install a 3 A fused jumper wire between the signal circuit terminal 6 and ground. Verify the scan tool LGM Latch Ratchet Sw parameter is Active.
 - If not the specified value, test the signal circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the liftgate control module.
4. If all circuits test normal, replace the liftgate latch assembly.

Repair Instructions

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

- **Liftgate Latch Replacement**
- **Control Module References** for LGM replacement, setup, and programming

DOOR AJAR INDICATOR MALFUNCTION

Diagnostic Instructions

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

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Driver Door Ajar Signal	1	2	2	-
Passenger Door Ajar Signal	1	3	3	-
Right Rear Door Ajar Signal	B3001 00	4	4	-
Left Rear Door Ajar Signal	B2996 00	5	5	-
Driver Door Latch Ground	-	2	-	-
Passenger Door Latch Ground	-	3	-	-
Left Rear Door Latch Ground	-	4	-	-
Right Rear Door Latch Ground	-	5	-	-
1. Door Ajar Indicator Always On 2. Door Ajar Indicator Inoperative When Driver Door Is Open 3. Door Ajar Indicator Inoperative When Passenger Door Is Open 4. Door Ajar Indicator Inoperative When Left Rear Door Is Open 5. Door Ajar Indicator Inoperative When Right Rear Door Is Open				

Circuit/System Description

The driver door lock/window switch and passenger door lock/window switch each provide a 12V signal to their respective door ajar switch signal circuits. The door ajar switches are integral to each door latch assembly. When a front 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. The appropriate door lock/window switch will detect the voltage drop and send a serial data message to the BCM and the BCM will send a serial data message to the instrument panel cluster to display the door ajar icon.

The body control module (BCM) provides a 12 V signal to each rear door ajar switch signal circuits. When a rear door is opened, the normally open ajar switch closes. With the ajar switch closed, a ground path is provided to the ajar switch signal circuit. The BCM interprets this and communicates via serial data with the instrument panel cluster to display the door ajar icon.

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Power Door Latch Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

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

Circuit/System Testing

Driver Door Ajar Switch Malfunction

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the A23D Door Latch Assembly - Driver. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 ohms between the ground circuit terminal listed below and ground:
 - Ground circuit terminal 8 (LHD)
 - Ground circuit terminal 3 (RHD)
 - **If 10 ohms or greater**
 1. Ignition OFF.
 2. Test for less than 2 ohms in the ground circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.
 - If less than 2 ohms, repair the open/high resistance in the ground connection.
 - **If less than 10 ohms**
3. Ignition ON.
4. Verify the scan tool Driver Door Ajar Sw parameter is Inactive.
 - **If not Inactive**
 1. Ignition OFF, disconnect the harness connector at the Driver Door Lock/Window Switch.
 2. Test for infinite resistance between the signal circuit terminal listed below and ground:
 - Signal circuit terminal 6 (LHD)
 - Signal circuit terminal 1 (RHD)
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the Driver Door Lock/Window Switch.
 - **If Inactive**
5. Install a 3 A fused jumper wire between the signal circuit terminal and the ground circuit terminal listed below:
 - Signal circuit terminal 6 and ground circuit terminal 8 (LHD)
 - Signal circuit terminal 1 and ground circuit terminal 3 (RHD)
6. Verify the scan tool Driver Door Ajar Sw. parameter is Active.
 - **If not Active**
 1. Ignition OFF, disconnect the harness connector at the Driver Door Lock/Window Switch, ignition ON.
 2. Test for less than 1 V between the signal circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V
 3. Test for less than 2 ohms in the signal circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.
 - If less than 2 ohms, replace the Driver Door Lock/Window Switch.
 - **If Active**
7. Test or replace the A23D Door Latch Assembly - Driver.

Passenger Door Ajar Switch Malfunction

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the A23P Door Latch Assembly - Passenger. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 ohms between the ground circuit terminal listed below and ground:
 - Ground circuit terminal 8 (RHD)
 - Ground circuit terminal 3 (LHD)
 - **If 10 ohms or greater**
 1. Ignition OFF.
 2. Test for less than 2 ohms in the ground circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.
 - If less than 2 ohms, repair the open/high resistance in the ground connection.
 - **If less than 10 ohms**
3. Ignition ON.
4. Verify the scan tool Passenger Door Ajar Sw parameter is Inactive.
 - **If not Inactive**
 1. Ignition OFF, disconnect the harness connector at the Passenger Door Lock/Window Switch.
 2. Test for infinite resistance between the signal circuit terminal listed below and ground:
 - Signal circuit terminal 6 (RHD)
 - Signal circuit terminal 1 (LHD)
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the Passenger Door Lock/Window Switch.
 - **If Inactive**
5. Install a 3 A fused jumper wire between the signal circuit terminal and the ground circuit terminal listed below:
 - Signal circuit terminal 6 and ground circuit terminal 8 (RHD)
 - Signal circuit terminal 1 and ground circuit terminal 3 (LHD)
6. Verify the scan tool Passenger Door Ajar Sw. parameter is Active.
 - **If not Active**
 1. Ignition OFF, disconnect the harness connector at the Passenger Door Lock/Window Switch, ignition ON.
 2. Test for less than 1 V between the signal circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V
 3. Test for less than 2 ohms in the signal circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.
 - If less than 2 ohms, replace the Passenger Door Lock/Window Switch.
 - **If Active**
7. Test or replace the A23P Door Latch Assembly - Passenger.

Left Rear Door Ajar Switch Malfunction

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the A23LR Door Latch Assembly - Left Rear. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 ohms between the ground circuit terminal 6 and ground.
 - **If 10 ohms or greater**
 1. Ignition OFF.
 2. Test for less than 2 ohms in the ground circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.
 - If less than 2 ohms, repair the open/high resistance in the ground connection.
 - **If less than 10 ohms**
3. Ignition ON.
4. Verify the scan tool Left Rear Door Ajar Sw. parameter is Door Closed.
 - **If not Door Closed**
 1. Ignition OFF, disconnect the harness connector at the K9 Body Control Module.
 2. Test for infinite resistance between the signal circuit terminal 4 and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the K9 Body Control Module.
 - **If Door Closed**
5. Install a 3 A fused jumper wire between the signal circuit terminal 4 and the ground circuit terminal 6.
6. Verify the scan tool Left Rear Door Ajar Sw. parameter is Door Ajar.
 - **If not Door Ajar**
 1. Ignition OFF, disconnect the harness connector at the K9 Body Control Module, ignition ON.
 2. Test for less than 1 V between the signal circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V
 3. Test for less than 2 ohms in the signal circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.
 - If less than 2 ohms, replace the K9 Body Control Module.
 - **If Door Ajar**
7. Test or replace the A23LR Door Latch Assembly - Left Rear.

Right Rear Door Ajar Switch Malfunction

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the A23RR Door Latch Assembly - Right Rear. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 ohms between the ground circuit terminal 3 and ground.
 - **If 10 ohms or greater**
 1. Ignition OFF.

2. Test for less than 2 ohms in the ground circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.
 - If less than 2 ohms, repair the open/high resistance in the ground connection.
 - **If less than 10 ohms**
3. Ignition ON.
4. Verify the scan tool Right Rear Door Ajar Sw. parameter is Door Closed.
 - **If not Door Closed**
 1. Ignition OFF, disconnect the harness connector at the K9 Body Control Module.
 2. Test for infinite resistance between the signal circuit terminal 1 and ground.
 - If less than infinite resistance, repair the short to ground on the circuit.
 - If infinite resistance, replace the K9 Body Control Module.
 - **If Door Closed**
5. Install a 3 A fused jumper wire between the signal circuit terminal 1 and the ground circuit terminal 3.
6. Verify the scan tool Right Door Ajar Sw parameter is Door Ajar.
 - **If not Door Ajar**
 1. Ignition OFF, disconnect the harness connector at the K9 Body Control Module, ignition ON.
 2. Test for less than 1 V between the signal circuit and ground.
 - If 1 V or greater, repair the short to voltage on the circuit.
 - If less than 1 V
 3. Test for less than 2 ohms in the signal circuit end to end.
 - If 2 ohms or greater, repair the open/high resistance in the circuit.
 - If less than 2 ohms, replace the K9 Body Control Module.
 - **If Door Ajar**
7. Test or replace the A23RR Door Latch Assembly - Right Rear.

Component Testing

1. Ignition OFF, disconnect the harness connector at the appropriate A23 Door Latch Assembly.
2. Test for infinite resistance between the terminals listed below with the switch in the open position.
 - A23D Door Latch Assembly-Driver (LHD) - signal terminal 6 and ground terminal 8
 - A23D Door Latch Assembly-Driver (RHD) - signal terminal 1 and ground terminal 3
 - A23P Door Latch Assembly-Passenger (RHD) - signal terminal 6 and ground terminal 8
 - A23P Door Latch Assembly-Passenger (LHD) - signal terminal 1 and ground terminal 3
 - A23LR Door Latch Assembly-Left Rear - signal terminal 4 and ground terminal 6
 - A23RR Door Latch Assembly-Right Rear - signal terminal 1 and ground terminal 3
 - **If less than infinite resistance**

Replace the A23 Door Latch Assembly.

- **If infinite resistance**

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

- A23D Door Latch Assembly-Driver (LHD) - signal terminal 6 and ground terminal 8
- A23D Door Latch Assembly-Driver (RHD) - signal terminal 1 and ground terminal 3
- A23P Door Latch Assembly-Passenger (RHD) - signal terminal 6 and ground terminal 8
- A23P Door Latch Assembly-Passenger (LHD) - signal terminal 1 and ground terminal 3
- A23LR Door Latch Assembly-Left Rear - signal terminal 4 and ground terminal 6
- A23RR Door Latch Assembly-Right Rear - signal terminal 1 and ground terminal 3

- **If 3 ohms or greater**

Replace the A23 Door Latch Assembly.

- **If less than 3 ohms**

4. All OK

Repair Instructions

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

- **Front Side Door Latch Replacement (Coupe), Front Side Door Latch Replacement (Wagon)**
- **Rear Side Door Latch Replacement**
- **Control Module References** for the BCM, driver door lock/window switch, passenger driver door lock/window switch replacement, setup and programming

POWER DOOR LATCH SYSTEM MALFUNCTION (PASSIVE ENTRY)

Diagnostic Instructions

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

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Driver Door Handle Switch Signal	B3849 00	1	1	-
Left Rear Door Handle Switch	B1534 02	3	3	-
Passenger Door Handle Switch Signal	B1474 02, B3849 00	2	2	-
Right Rear Door Handle Switch Signal	B1535 02	4	4	-

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

Circuit/System Description

The system is designed so that when the operator approaches a locked vehicle with the keyless entry transmitter, the remote control door lock receiver will detect the keyless entry transmitter and when an exterior door handle is pulled the keyless entry control module will command the door to unlock and unlatch allowing the door to be pulled open.

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Power Door Latch 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. Observe the scan tool RCDLR Ext. Driver Door Handle parameter and the Driver Door Switch Ext. Driver Door Handle parameter while pulling and releasing the exterior driver door handle. Both values should change from Inactive to Active each time the handle is pulled.
 - If the value does not change, refer to Driver Exterior Door Handle Malfunction.
2. Observe the scan tool RCDLR Ext. Psgr. Door Handle parameter and the Passenger Door Switch Ext. Psgr. Door Handle parameter while pulling and releasing the exterior passenger door handle. Both values should change from Inactive to Active each time the handle is pulled.
 - If the value does not change, refer to Passenger Exterior Door Handle Malfunction..
3. With the doors closed and locked, approach the vehicle with the keyless entry transmitter and pull exterior left rear door handle or the exterior right rear door handle. The appropriate rear door should unlock with the first pull and unlatch with the second pull allowing the rear door to be pulled open.
 - If a rear door does not perform as specified, refer to Rear Door Handle Switch Malfunction.

Circuit/System Testing

Driver Door Handle Switch Malfunction

NOTE: Reconnect the X501 and X505 inline harness connectors located on the driver door panel prior to performing electrical diagnostics.

1. Ignition OFF, disconnect the harness connector at the B27A door handle switch - driver exterior.
2. Test for less than 10 ohms between the ground circuit terminal C and ground
 - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Disconnect the harness connector at the driver door lock/window switch.
4. Ignition ON, verify that the scan tool RCDLR Ext. Driver Door Handle parameter is Inactive.
 - If not the specified value, test the signal circuit terminal B for a short to ground. If the circuit tests normal, replace the remote control door lock receiver.
5. Connect a 3A fused jumper wire between the signal circuit terminal B and ground, verify that the scan tool RCDLR Ext. Driver Door Handle parameter is Active.
 - If not the specified value, test the signal circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the remote control door lock receiver.
6. If all circuits test normal, test or replace the B27A door handle switch - driver exterior.

Passenger Door Handle Switch Malfunction

NOTE: Reconnect the X600 and X601 inline harness connectors located on the passenger door panel prior to performing electrical diagnostics.

1. Ignition OFF, disconnect the harness connector at the passenger door handle switch.
2. Test for less than 10 ohms between the ground circuit terminal C and ground
 - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Disconnect the harness connector at the passenger door lock/window switch.

4. Ignition ON, verify that the scan tool RCDLR Ext. Driver Door Handle parameter is Inactive.
 - If not the specified value, test the signal circuit terminal B for a short to ground. If the circuit tests normal, replace the remote control door lock receiver.
5. Connect a 3A fused jumper wire between the signal circuit terminal B and ground, verify that the scan tool RCDLR Ext. Driver Door Handle parameter is Active.
 - If not the specified value, test the signal circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the remote control door lock receiver.
6. If all circuits test normal, test or replace the passenger door handle switch.

Rear Door Handle Switch Malfunction

NOTE: **Reconnect the appropriate inline harness connector located on the rear door panel prior to performing electrical diagnostics.**

1. Ignition OFF, disconnect the harness connector at the appropriate rear door handle switch.
2. Test for less than 10 ohms between the ground circuit terminal 1 and ground.
 - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Ignition ON, test for greater than 10 V between the signal circuit terminal 2 and ground.
 - If less than the specified range, test the signal circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the remote control door lock receiver.
4. If all circuits test normal, test or replace the rear door handle switch.

Component Testing

Door Handle

1. Ignition OFF, disconnect the harness connector at the appropriate A24 door handle assembly.
2. With the switch in the open position, test for infinite resistance between the signal terminal 2 and the ground terminal 1.
 - If not the specified value, replace the A24 door handle assembly.
3. With the switch in the closed position, test for less than 5 ohms between the signal terminal 2 and the ground terminal 1
 - If it does not perform as specified, replace the A24 door handle assembly.

Repair Instructions

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

- **Front Side Door Outside Handle Replacement (Front Door with ATH), Front Side Door Outside Handle Replacement (Front and Rear Doors with ATH), Front Side Door Outside Handle Replacement (Without ATH)**
- **Front Side Door Latch Replacement (Coupe), Front Side Door Latch Replacement (Wagon)**
- **Relay Replacement (Within an Electrical Center) , Relay Replacement (Attached to Wire Harness)**

- **Rear Side Door Latch Replacement**
- **Control Module References** for door handle switch - driver exterior, door handle switch - passenger exterior and remote control door lock receiver replacement, setup and programming

POWER DOOR DEAD LOCK MALFUNCTION

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **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
Lock Relay B+	3	3	-	-
Unlock Relay B+	3	3	-	-
Driver Door Latch Control	1	1	1	-
Lock Relay Control	B3135 00	3	3	-
LR Door Latch Control	3	3	3	-
Passenger Door Latch Control	2	2	2	-
RR Door Latch Control	3	3	3	-
Unlock Relay Control	3	3	B3130 00	-
Rear Fuse Block Ground	-	3	-	-
1. Driver Door Lock Malfunction 2. Passenger Door Lock Malfunction 3. Rear Door Lock Malfunction				

Circuit/System Description

Vehicles equipped with the UA2 option contain a reversible dead lock motor contained within each door latch assembly. Each dead lock motor is controlled by 2 circuits; the dead lock control circuit and the dead lock unlock control circuit. To dead lock a door, the body control module (BCM) locks the door by momentarily energizing the door lock relay. To complete the dead locking, the BCM momentarily applies voltage to the dead lock control circuit and ground to the door lock relay control circuit and the door latches will then dead lock.

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Power Door Latch 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, command the doors to LOCK and UNLOCK by using the S84D door lock/window switch-driver, the all doors should perform the LOCK and UNLOCK function.
 - If the doors do not LOCK or UNLOCK, refer to **Power Door Locks Malfunction (Wagon)**, **Power Door Locks Malfunction (Coupe)**.
2. Verify the interior door handles do not open the doors when commanding the Lock Rear Doors with a scan tool. The interior door handles should be inoperative.
 - If one or more interior door handles continue to function, but not all, refer to Single Door Dead Lock Malfunction.
 - If all interior door handles function, refer to All Door Dead Lock Malfunction.
3. Verify the interior door handles will open the doors when commanding Unlock Rear Doors with a scan tool. The exterior door handles should open the doors.
 - If one or more interior door handles are inoperative, but not all, refer to Single Door Dead Lock Malfunction.
 - If all interior door handles are inoperative, refer to All Door Dead Lock Malfunction.

Circuit/System Testing

Single Door Dead Lock Malfunction

1. Ignition OFF, disconnect the harness connector at the appropriate A23 door latch assembly.
2. Connect a test lamp between control circuit terminals listed below:
 - A23D door latch assembly - driver control terminal 6 and control terminal 7 (Right hand drive)
 - A23D door latch assembly - driver control terminal 1 and control terminal 2 (Left hand drive)
 - A23P door latch assembly - passenger control terminal 1 and control terminal 2 (Right hand drive)
 - A23P door latch assembly - passenger control terminal 6 and control terminal 7 (Left hand drive)

- A23LR door latch assembly - left rear control terminal 1 and control terminal 2
 - A23RR door latch assembly - right rear control terminal 4 and control terminal 5
3. Command the doors to LOCK and UNLOCK with a scan tool, the test lamp should briefly illuminate while commanding the LOCK and UNLOCK states.
 - If the test lamp is always OFF, test either control circuit for an open/high resistance between the connector and the circuit splice.
 4. If all circuits test normal, test or replace the A23 door latch assembly

All Door Dead Lock Malfunction

1. Ignition OFF, disconnect the UNLCK relay.
2. Test for less than 30 ohms between the ground circuit terminal 87A and ground.
 - If greater than the specified range, test the ground circuit for a short to voltage or an open/high resistance.
3. Ignition ON, verify that a test lamp illuminates between the B+ circuit terminal listed below and ground:
 - B+ circuit terminal 86
 - B+ circuit terminal 87
 - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance.
4. Connect a test lamp between the B+ circuit terminal 86 and the control circuit terminal 85.
5. Command the doors to UNLOCK with a scan tool. The test lamp should briefly illuminate during the UNLOCK command.
 - If the test lamp is always OFF, test the control circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the K9 BCM.
 - If the test lamp is always ON, test the control circuit for a short to ground. If the circuit tests normal, replace the K9 BCM.
6. Ignition OFF, connect the UNLCK relay and disconnect the LCK relay.
7. Test for less than 30 ohms between the ground circuit terminals listed below and ground:
 - Ground circuit terminal 86
 - Ground circuit terminal 86
 - If greater than the specified range, test the ground circuit for a short to voltage or an open/high resistance.
8. Connect a test lamp between the ground circuit terminal 86 and the control circuit terminal 85.
9. Command the doors to LOCK with a scan tool. The test lamp should briefly illuminate during the LOCK command.
 - If the test lamp is always OFF, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the K9 BCM.
 - If the test lamp is always ON, test the control circuit for a short to voltage. If the circuit tests normal, replace the K9 BCM.
10. Ignition OFF, connect the LCK relay and disconnect the X2 harness connector at the theft deterrent alarm.

11. Test for less than 20 ohms between the control circuit terminal D and ground.
 - If greater than the specified range, test the control circuit for a short to voltage or an open/high resistance. If the circuit tests normal, test or replace the LCK relay
12. Connect a test lamp between the control circuit terminal D and ground.
13. Command the doors to LOCK with a scan tool. The test lamp should briefly illuminate during the LOCK command.
 - If the test lamp is always OFF, test the control circuit for a short to voltage or an open/high resistance. If the circuit tests normal, test or replace the LCK relay.
 - If the test lamp is always ON, test the control circuit for a short to voltage. If the circuit tests normal, test or replace the LCK relay.
14. Test for less than 20 ohms between the control circuit terminal listed below and ground:
 - Control circuit terminal C
 - Control circuit terminal F
 - If greater than the specified range, test the control circuit for a short to voltage or an open/high resistance.
15. Connect at test lamp between the control circuit terminal C and the control circuit terminal D
16. Command the doors to UNLOCK with a scan tool. The test lamp should briefly illuminate during the UNLOCK command.
 - If the test lamp does not illuminate, test the control circuit for a short to ground.
17. Connect at test lamp between the control circuit terminal F and the control circuit terminal D
18. Command the doors to UNLOCK with a scan tool. The test lamp should briefly illuminate during the UNLOCK command.
 - If the test lamp does not illuminate, test the control circuit for a short to ground.
19. If all circuits test normal, replace the theft deterrent alarm.

Component Testing

Door Latch Assembly Test

1. Ignition OFF, disconnect the harness connector at the appropriate A23 door latch assembly.
2. Install a 25 A fused jumper wire between one of the control terminals and 12 V. Momentarily install a jumper wire between the other control terminal and ground. Reverse the jumper wires at least two times, the A23 door latch assembly should perform the LOCK and UNLOCK functions.
 - If it does not perform as specified, replace the A23 door latch assembly.

Relay Test

1. Ignition OFF, disconnect the appropriate relay.
2. Test for 60-200 ohms between terminals 85 and 86.
 - If not within the specified range, replace the relay.
3. Test for infinite resistance between the following terminals:
 - 30 and 86

- 30 and 87
- 30 and 85
- 85 and 87
 - If less than the specified value, replace the relay.
- 4. Test for less than 2 ohms between terminals 30 and 87 A.
 - If greater than the specified value, replace the relay.
- 5. Install a 3 A fused jumper wire between terminal 85 and 12 V. Install a jumper wire between relay terminal 86 and ground. Test for less than 2 ohms between terminals 30 and 87.
 - If greater than the specified value, replace the relay

Repair Instructions

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

- **Front Side Door Outside Handle Replacement (Front Door with ATH), Front Side Door Outside Handle Replacement (Front and Rear Doors with ATH), Front Side Door Outside Handle Replacement (Without ATH)**
- **Front Side Door Latch Replacement (Coupe), Front Side Door Latch Replacement (Wagon)**
- **Relay Replacement (Within an Electrical Center) , Relay Replacement (Attached to Wire Harness)**
- **Rear Side Door Latch Replacement**
- **Control Module References** for door lock/window switch-driver, door lock/window switch passenger and BCM, replacement, programming and setup

POWER DOOR LOCK KEY CYLINDER SWITCHES MALFUNCTION

Diagnostic Instructions

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

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Driver Door Key Switch Signal	1	1	1	-
Left Front Door Switch Low Reference	-	1	1	-
1. Key Cylinder Switch Malfunction				

Circuit/System Description

The key cylinder switch contains a signal circuit and a low reference circuit. When the door key is turned to

unlock, the switch contacts, which are normally open, close and the driver door module (DDM) detects a switched ground. The DDM sends a message via serial data to the front passenger door module (PDM), and body control module (BCM) to unlock their respective doors.

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Power Door Latch 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, observe the function of the door locks while performing the LOCK and UNLOCK command using a scan tool, all doors should the LOCK and UNLOCK.
 - If any door fails to LOCK or UNLOCK, refer to **Power Door Latch System Malfunction (Passive Entry)**.
2. Insert the key into the drivers door lock cylinder, turn the key clockwise for greater than 1 second and turn the key counterclockwise for greater than 1 second while observing the scan tool Door Key Cyl Unlock Switch parameters, the parameter should change between Idle and Unlock.

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the driver door latch assembly.
2. Ignition ON, test for less than 10 ohms between the ground circuit terminal 8 and ground.
 - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Verify the scan tool Door Key Cyl. Unlock Switch parameter is Idle.

- If not the specified value, test the signal circuit terminal 9 for a short to ground. If the circuit tests normal, replace the DDM.
- 4. Install a 3 A fused jumper wire between the signal circuit terminal 9 and the ground circuit terminal 8. Verify the scan tool Door Key Cyl. Unlock Switch parameter is Unlock.
 - If not the specified value, test the signal circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the DDM.
- 5. If all circuits test normal, test or replace the driver door latch assembly.

Component Testing

1. Ignition OFF, disconnect the harness connector at the driver door latch assembly.
2. Test for infinite resistance between the signal terminal 9 and the ground terminal 8 with the switch in the Idle position.
 - If not the specified value, replace the driver door latch assembly.
3. Test for less than 2 ohms between the signal terminal 9 and the ground terminal 8 with the switch in the Unlock position.
 - If greater than the specified range, replace the driver door latch assembly.

Repair Instructions

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

- **Front Side Door Latch Replacement (Coupe)**, **Front Side Door Latch Replacement (Wagon)**
- **Control Module References** for DDM replacement, setup, and programming

POWER DOOR LOCKS MALFUNCTION (WAGON)

Diagnostic Instructions

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

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Driver Door Lock/Window Switch B+	U0199 00	U0199 00	-	-
Passenger Door Lock/Window Switch B+	U0200 00	U0200 00	-	-
Left Front Door Handle Switch Signal	B3849 00	1	1	-
Right Front Door Handle Switch	B3849 00	2	2	-

Signal				
Driver Door Lock Actuator Lock Control	1	1	1	-
Driver Door Lock Actuator Unlock Control	1	1	1	-
Lock Relay Control	B3135 00	3, 4	3, 4	-
Passenger Door Lock Actuator Lock Control	2	2	2	-
Passenger Door Lock Actuator Unlock Control	2	2	2	-
Left Rear Door Lock Actuator Lock Control	3, 4	3	3, 4	-
Left Rear Door Lock Actuator Unlock Control	3, 4	3	3, 4	-
Right Rear Door Lock Actuator Lock Control	3, 4	4	3, 4	-
Right Rear Door Lock Actuator Unlock Control	3, 4	4	3, 4	-
Unlock Relay Control	3, 4	3, 4	B3130 00	-
Driver Door Lock/Window Switch Ground	-	U0199 00	-	-
Driver Door Handle Switch Ground	-	1	-	-
Passenger Door Lock/Window Switch Ground	-	U0200 00	-	-
Passenger Door Handle Switch Ground	-	2	-	-
Rear Fuse Block Ground	-	3, 4	-	-
1. Driver Door Lock Malfunction 2. Passenger Door Lock Malfunction 3. Left Rear Door Lock Malfunction 4. Right Rear Door Lock Malfunction				

Circuit/System Description

The driver and front passenger power door lock switches are integral components of the driver door lock/window switch and passenger door lock/window switch. The switches consist of 2 positions, lock and unlock, and are in the normally open state. When placed in either the lock or unlock positions, the switches provide a direct input to their respective door lock/window switch. When a power door lock switch is operated to the lock or unlock position, the associated door lock/window switch responds by sending a serial data message indicating a change in the switch's position. This serial data message is received by the opposite door lock/window switch as well as the body control module (BCM). The driver door lock/window switch and passenger door lock/window switch responds to the lock/unlock request by enabling or disabling the driver and passenger exterior door handles. The BCM is responsible for controlling the left and right rear passenger door lock motors. The BCM, upon receipt of a lock or unlock serial data signal, will control either the rear door lock

or unlock relay. When the appropriate door lock relay is energized, the rear power door lock motors will lock or unlock the rear doors.

Diagnostic Aids

Verify the smooth and consistent mechanical operation of each part of the door latch system prior to performing extensive electrical diagnostics

Any door that does not function smoothly or consistently, refer to **Door Will Not Open/Close, Door Binding, or Locks, Handles, or Cylinders Do Not Function.**

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Power Door Latch 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. Verify the function of the driver and passenger door lock knobs by manually moving the door locks knobs between the LOCK and UNLOCK positions, all door lock knobs should move between the LOCK and UNLOCK positions without binding or require excessive force.
 - If the driver or passenger door lock knob does not function or requires excessive force, refer to **Door Will Not Open/Close, Door Binding, or Locks, Handles, or Cylinders Do Not Function.**
2. With the doors closed and unlocked, pull the exterior driver door handle. The driver door should unlatch allowing the driver door to be pulled open.
 - If the driver door does not perform as specified, refer to Driver Door Latch Malfunction.

3. With the doors closed and unlocked, pull the exterior passenger door handle. The passenger door should unlatch allowing the passenger door to be pulled open.
 - If the passenger door does not perform as specified, refer to Passenger Door Latch Malfunction.
4. Command the rear door latches to LOCK and UNLOCK with a scan tool, the rear doors should LOCK and UNLOCK while changing between the commanded states.
 - If either rear door does not LOCK or UNLOCK refer to Rear Door Lock Malfunction.
5. Observe the scan tool BCM Rear Doors Lock Cmd. and the Rear Doors Unlock Cmd. while pressing the driver or passenger door lock switch, each parameter should briefly change from Off to On to Off as the appropriate switch is pressed.
 - If the value is always Off, replace the appropriate door lock/window switch

Circuit/System Testing

Driver Door Latch Malfunction

NOTE: **Reconnect the X501 and X505 inline harness connectors located on the driver door panel prior to performing electrical diagnostics.**

1. Ignition OFF, disconnect the harness connector at the driver door handle switch.
2. Test for less than 10 ohms between the ground circuit terminal listed below and ground:
 - Ground terminal C
 - Ground terminal F
 - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Ignition OFF, connect the harness connector at the driver door handle switch and disconnect the X6 harness connector at the driver door lock/window switch.
4. Connect a test lamp between the signal circuit terminal listed below and B+
 - Signal circuit terminal 2
 - Signal circuit terminal 4
5. Observe the function of the test lamp while pulling and releasing the exterior driver door handle. The test lamp should illuminate each time the handle is pulled.
 - If the test lamp is always OFF, test the control circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the exterior driver door handle.
 - If the test lamp is always ON, test the control circuit for a short to ground. If the circuit tests normal, replace the exterior driver door handle.
6. Ignition OFF, connect the X6 harness connector at the driver door lock/window switch and disconnect the harness connector at the driver door latch.
7. Connect a test lamp between the control circuit terminal listed below and ground :
 - Left hand drive-control circuit terminal 3
 - Right hand drive-control circuit terminal 8
8. Observe the function of the test lamp while pulling and releasing the exterior driver door handle. The test lamp will briefly illuminate each time the handle is pulled.

- If the test lamp is always OFF, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the driver door lock/window switch.
 - If the test lamp is always ON, test the control circuit for a short to voltage. If the circuit tests normal, replace the driver door lock/window switch.
9. Connect a test lamp between the control circuit terminal listed below and B+:
 - Control terminal 2 (left hand drive -UA2)
 - Control terminal 4 (left hand drive +UA2)
 - Control terminal 9 (right hand drive)
 10. Observe the function of the test lamp while pulling and releasing the exterior driver door handle. The test lamp will briefly illuminate each time the handle is pulled.
 - If the test lamp is always OFF, test the control circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the driver door lock/window switch.
 11. If all circuits test normal, replace the driver door latch.

Passenger Door Latch Malfunction

NOTE: Reconnect the X601 and X605 inline harness connectors located on the passenger door panel prior to performing electrical diagnostics.

1. Ignition OFF, disconnect the harness connector at the passenger door handle switch.
2. Test for less than 10 ohms between the ground circuit terminal listed below and ground:
 - Ground terminal C
 - Ground terminal F
 - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Ignition OFF, connect the harness connector at the passenger door handle switch and disconnect the X6 harness connector at the passenger door lock/window switch.
4. Connect a test lamp between the signal circuit terminal listed below and B+
 - Signal circuit terminal 2
 - Signal circuit terminal 4
5. Observe the function of the test lamp while pulling and releasing the exterior passenger door handle. The test lamp should illuminate each time the handle is pulled.
 - If the test lamp is always OFF, test the control circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the exterior passenger door handle.
 - If the test lamp is always ON, test the control circuit for a short to ground. If the circuit tests normal, replace the exterior passenger door handle.
6. Ignition OFF, connect the X6 harness connector at the passenger door lock/window switch and disconnect the harness connector at the passenger door latch.
7. Connect a test lamp between the control circuit terminal listed below and ground :
 - Control terminal 6 (left hand drive -UA2)
 - Control terminal 8 (left hand drive +UA2)
 - Control terminal 3 (right hand drive)

8. Observe the function of the test lamp while pulling and releasing the exterior passenger door handle. The test lamp will briefly illuminate each time the handle is pulled.
 - If the test lamp is always OFF, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the passenger door lock/window switch.
 - If the test lamp is always ON, test the control circuit for a short to voltage. If the circuit tests normal, replace the passenger door lock/window switch.
9. Connect a test lamp between the control circuit terminal listed below and B+:
 - Control terminal 5 (left hand drive -UA2)
 - Control terminal 9 (left hand drive +UA2)
 - Control terminal 4 (right hand drive)
10. Observe the function of the test lamp while pulling and releasing the exterior passenger door handle. The test lamp will briefly illuminate each time the handle is pulled.
 - If the test lamp is always OFF, test the control circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the passenger door lock/window switch.
11. If all circuits test normal, replace the passenger door latch.

Rear Door Lock Malfunction

1. Ignition OFF, verify the appropriate harness connector for the door latch assembly is firmly seated and secure.
 - If not the specified condition, seat and secure the harness connector and perform the Circuit/System Verification.
2. If the harness connector for the door latch is firmly seated and secure, refer to Rear Door Lock Circuit Testing.

Rear Door Lock Circuit Testing

1. Ignition OFF, disconnect the UNLCK relay.
2. Test for less than 30 ohms between the ground circuit terminal 87A and ground.
 - If greater than the specified range, test the ground circuit for a short to voltage or an open/high resistance.
3. Ignition ON, verify that a test lamp illuminates between the B+ circuit terminal listed below and ground:
 - B+ circuit terminal 86
 - B+ circuit terminal 87
 - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance.
4. Connect a test lamp between the B+ circuit terminal 86 and the control circuit terminal 85.
5. Command the doors to UNLOCK with a scan tool. The test lamp should briefly illuminate during the UNLOCK command.
 - If the test lamp is always OFF, test the control circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the K9 BCM.
 - If the test lamp is always ON, test the control circuit for a short to ground. If the circuit tests

normal, replace the BCM.

6. Ignition OFF, connect the UNLCK relay and disconnect the LCK relay.
7. Test for less than 30 ohms between the ground circuit terminals listed below and ground:
 - Ground circuit terminal 86
 - Ground circuit terminal 87A
 - If greater than the specified range, test the ground circuit for a short to voltage or an open/high resistance.
8. Connect a test lamp between the ground circuit terminal 86 and the control circuit terminal 85.
9. Command the doors to LOCK with a scan tool. The test lamp should briefly illuminate during the LOCK command.
 - If the test lamp is always OFF, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the K9 BCM.
 - If the test lamp is always ON, test the control circuit for a short to voltage. If the circuit tests normal, replace the BCM.
10. Ignition OFF, connect the LCK relay and disconnect the harness connector at the appropriate A23 door latch-rear.

NOTE: **Reconnect the appropriate inline harness connector located on the rear door panel prior to performing electrical diagnostics.**

11. Test for less than 10 ohms between the control circuit terminal listed below and ground.
 - A23LR door latch-left rear control circuit terminal 2
 - A23RR door latch-right rear control circuit terminal 5
 - If greater than the specified range, test the control circuit for a short to voltage or an open/high resistance. If the circuit tests normal, test or replace the UNLCK relay.
12. Test for less than 10 ohms between the control circuit terminal listed below and ground.
 - A23LR door latch-left rear control circuit terminal 3
 - A23RR door latch-right rear control circuit terminal 6
 - If greater than the specified range, test the control circuit for a short to voltage or an open/high resistance. If the circuit tests normal, test or replace the LCK relay.
13. Connect a test lamp between the control circuit terminal listed below and ground.
 - A23LR door latch-left rear control circuit terminal 2
 - A23RR door latch-right rear control circuit terminal 5
14. Command the doors to UNLOCK with a scan tool. The test lamp should briefly illuminate during the UNLOCK command.
 - If the test lamp is always OFF, test the control circuit for a short to voltage or an open/high resistance. If the circuit tests normal, test or replace the UNLCK relay.
 - If the test lamp is always ON, test the control circuit for a short to voltage. If the circuit tests normal, test or replace the UNLCK relay.
15. Connect a test lamp between the control circuit terminal listed below and ground.
 - A23LR door latch-left rear control circuit terminal 3

- A23RR door latch-right rear control circuit terminal 6
16. Command the doors to LOCK with a scan tool. The test lamp should briefly illuminate during the LOCK command.
 - If the test lamp is always OFF, test the control circuit for a short to voltage or an open/high resistance. If the circuit tests normal, test or replace the LCK relay.
 - If the test lamp is always ON, test the control circuit for a short to voltage. If the circuit tests normal, test or replace the LCK relay.
 17. If all circuits test normal, test or replace the A23 door latch assembly-rear.

Component Testing

Rear Door Latch Assembly Test

1. Ignition OFF, disconnect the harness connector at the appropriate A23 door latch assembly-rear.
2. Install a 25 A fused jumper wire between one of the control terminals and 12 V. Momentarily install a jumper wire between the other control terminal and ground. Reverse the jumper wires at least two times, the A23 door latch assembly-rear should perform the LOCK and UNLOCK functions.
 - If it does not perform as specified, replace the A23 door latch assembly-rear.

Relay Test

1. Ignition OFF, disconnect the appropriate relay.
2. Test for 60-200 ohms between terminals 85 and 86.
 - If not within the specified range, replace the relay.
3. Test for infinite resistance between the following terminals:
 - 30 and 86
 - 30 and 87
 - 30 and 85
 - 85 and 87
 - If less than the specified value, replace the relay.
4. Test for less than 2 ohms between terminals 30 and 87 A.
 - If greater than the specified value, replace the relay.
5. Install a 3 A fused jumper wire between terminal 85 and 12 V. Install a jumper wire between relay terminal 86 and ground. Test for less than 2 ohms between terminals 30 and 87.
 - If greater than the specified value, replace the relay

Repair Instructions

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

- **Front Side Door Outside Handle Replacement (Front Door with ATH), Front Side Door Outside Handle Replacement (Front and Rear Doors with ATH), Front Side Door Outside Handle Replacement (Without ATH)**

- **Front Side Door Latch Replacement (Wagon)**
- **Relay Replacement (Within an Electrical Center)** , **Relay Replacement (Attached to Wire Harness)**
- **Rear Side Door Latch Replacement**
- **Control Module References** for door lock/window switch-driver, door lock/window switch passenger and BCM, replacement, setup and programming

POWER DOOR LOCKS MALFUNCTION (COUPE)

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
Left Front Door Handle Switch Signal	B3849 00	1	1	-
Right Front Door Handle Switch Signal	B3849 00, B1474 02	2	2	-
Driver Door Lock Actuator Lock Control	1	1	1	-
Driver Door Lock Actuator Unlock Control	1	1	1	-
Passenger Door Lock Actuator Lock Control	2	2	2	-
Passenger Door Lock Actuator Unlock Control	2	2	2	-
Driver Door Handle Switch Ground	-	1	-	-
Passenger Door Handle Switch Ground	-	2	-	-
1. Driver Door Lock Malfunction 2. Passenger Door Lock Malfunction				

Circuit/System Description

The driver door lock/window switch and passenger door lock/window switch each provide a 12V signal to their respective interior and exterior door handle switches. When a door handle switch is pressed, the voltage within the signal circuit will drop to 0V, the door lock/window switch will detect the voltage drop and will provide voltage to one control circuit and ground to the other control circuit of the door latch causing the door latch to activate releasing the door allowing it to be push or pulled open.

The driver and front passenger power door lock switches are integral components of the driver door lock/window switch and passenger door lock/window switch . The switches consist of 2 positions, LOCK and UNLOCK, and are in the normally open state. When placed in the LOCK position, the driver door lock/window switch and the passenger door lock/window switch will disable the interior and exterior door handle switches preventing the doors from being open.

Diagnostic Aids

It was noted that an open/high resistance in the low reference circuit of the interior driver door handle switch that the switch will continue to function normally only when the interior backlights were OFF, when the interior backlights were ON, the interior driver door handle switch would become inoperative.

Reference Information

Schematic Reference

Door Lock/Indicator Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Power Door Latch 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. With the doors unlocked, observe the scan tool Door Lock Actuator Cmd while pressing and releasing the door handle switch-driver interior. The value should briefly change from Off to Lock to Off each time the switch is pressed.
 - If value does not change, refer to Interior Door Handle Switch Malfunction.
2. With the doors unlocked, observe the scan tool Door Lock Actuator Cmd while pressing and releasing the door handle switch - driver exterior. The value should briefly change from Off to Lock to Off each time the switch is pressed.

- If value does not change, refer to Exterior Door Handle Switch Malfunction.
- 3. With the doors unlocked, command the driver door to release by pressing a door handle switch - driver, listen as the door latch assembly-driver activates.
 - If the door latch assembly-driver is inoperative, refer to Door Latch Inoperative
- 4. With the doors unlocked, observe the scan tool Door Lock Actuator Cmd while pressing and releasing the door handle switch-passenger interior. The value should briefly change from Off to Lock to Off each time the switch is pressed.
 - If value does not change, refer to Interior Door Handle Switch Malfunction.
- 5. With the doors unlocked, observe the scan tool Door Lock Actuator Cmd while pressing and releasing the door handle switch-passenger exterior. The value should briefly change from Off to Lock to Off each time the switch is pressed.
 - If value does not change, refer to Exterior Door Handle Switch Malfunction.
- 6. With the doors unlocked, command the passenger door to release by pressing a door handle switch - passenger, listen as the door latch assembly-passenger activates.
 - If the door latch assembly-passenger is inoperative, refer to Door Latch Inoperative

Circuit/System Testing

Interior Door Handle Switch Malfunction

1. Ignition OFF, scan tool OFF, doors closed, disconnect the harness connector at the appropriate interior B27 door handle switch.
2. After 10 minutes, test for less than 10 ohms between the low reference circuit terminal A and ground.
 - If greater than the specified range, test the low reference circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the appropriate S84 door lock/window switch
3. Ignition ON, test for greater than 10V between the signal circuit terminal listed below and ground.
 - Signal circuit terminal B
 - Signal circuit terminal C
 - If less than the specified range, test the signal circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the S84 door lock/window switch.
4. If all circuits test normal, test or replace the interior B27 door handle switch.

Exerior Door Handle Switch Malfunction

1. Ignition OFF, scan tool OFF, doors closed, disconnect the harness connector at the appropriate exterior B27 door handle switch.
2. After 10 minutes, test for less than 10 ohms between the ground circuit terminal C and ground.
 - If greater than the specified range, test the low reference circuit for a short to voltage or an open/high resistance.
3. Ignition ON, test for greater than 10V between the signal circuit terminal listed below and ground.
 - Signal circuit terminal A

- Signal circuit terminal D
 - If less than the specified range, test the signal circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the S84 door lock/window switch.
- 4. If all circuits test normal, test or replace the exterior B27 door handle switch.

Door Latch Inoperative

1. Ignition OFF, doors closed, scan tool OFF, disconnect the harness connector at the A23 door latch.
2. Connect a test lamp between the control circuit terminal listed below:
 - Control circuit terminal 3 and control circuit terminal 4 - A23D door latch assembly-driver
 - Control circuit terminal 8 and control circuit terminal 9 - A23P door latch assembly-passenger

NOTE: **Verify that the door is unlocked by pressing the appropriate switch on the S84 door lock/window switch.**

3. Ignition ON, command the A23 door latch assembly to UNLATCH by pressing and releasing a door handle switch, the test lamp should briefly illuminate during the UNLATCH command.
 - If the test lamp is always OFF, test either control circuit for a short to ground or an open/high resistance. If both circuits tests normal, replace the S84 door lock/window switch.
 - If the test lamp is always ON, test either control circuit for a short to vootage. If both circuits tests normal, replace the S84 door lock/window switch.
4. If all circuits test normal, test or replace the A23 door latch assembly.

Repair Instructions

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

- **Front Side Door Outside Handle Replacement (Front Door with ATH), Front Side Door Outside Handle Replacement (Front and Rear Doors with ATH), Front Side Door Outside Handle Replacement (Without ATH)**
- **Door Latch Release Switch Bezel Replacement (Coupe)**
- **Front Side Door Latch Replacement (Coupe)**
- **Control Module References** for door lock/window switch-driver and door lock/window switch-passenger, replacement, setup and programming

TRUNK RELEASE MALFUNCTION

Diagnostic Instructions

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

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Trunk Release Relay B+	2	2	-	-
Trunk Release Switch Signal	1	1	1	-
Exterior Rear Compartment Lid Switch Signal	B3618 02	1	1	-
Trunk Release Relay Control	B3265 00	2	2	-
Rear Compartment Lid Latch Control	2	2	2	-
Exterior Rear Compartment Lid Switch Ground	-	1	-	-
Trunk Release Switch Low Reference	-	1	-	-
Rear Compartment Lid Latch Ground	-	2	-	-
Trunk Release Relay Ground	-	2	-	-
1. Rear Compartment Lid Release Switch Malfunction 2. Rear Compartment Lid Release Malfunction				

Circuit/System Description

The interior rear compartment lid release switch receives a signal from the driver door lock/window switch. When the interior rear compartment lid release switch is activated, the signal circuit is pulled to ground. The driver door lock/window switch interprets this and sends a serial data message to the body control module (BCM) requesting the rear compartment lid be released. The BCM responds by applying battery voltage to the trunk release relay control circuit which energizes the TRUNK/RELSE relay. The trunk release relay is supplied with battery voltage at all times. With the relay coil energized, the relay switch contacts close allowing battery voltage to flow to the rear compartment lid release actuator causing the rear compartment lid to release.

The exterior rear compartment lid release switch receives a signal from the remote control door lock receiver. When the exterior rear compartment lid release switch is activated, the signal circuit is pulled to ground. The remote control door lock receiver interprets this and sends a serial data message to the BCM requesting the rear compartment lid be released. The BCM responds by applying battery voltage to the trunk release relay control circuit which energizes the TRUNK/RELSE relay. The trunk release relay is supplied with battery voltage at all times. With the relay coil energized, the relay switch contacts close allowing battery voltage to flow to the rear compartment lid release actuator causing the rear compartment lid to release.

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Luggage Compartment Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Ignition ON, command the Trunk Release with a scan tool. The rear compartment lid latch should release the trunk lid.
 - If the M40 rear compartment lid latch is inoperative, refer to Rear Compartment Lid Malfunction.
2. Observe the scan tool LGM Front Control Switch parameter while pressing the rear compartment lid release switch - interior. The value should change from Inactive to Active each time the switch is pressed.
 - If the value does not change, refer to Interior Trunk Release Switch Malfunction.
3. Observe the scan tool Remote Control Door Lock Receiver Trunk Release Switch parameter while pressing the rear compartment lid unlatch switch-exterior. The value should change from Inactive to Active each time the switch is pressed.
 - If the value does not change, refer to Exterior Trunk Release Switch Malfunction.

Circuit/System Testing

Rear Compartment Lid Release Malfunction

1. Ignition OFF, disconnect the TRUNK RELSE relay.
2. Test for less than 5 ohms between the ground circuit terminal C2 and ground.
 - If greater than the specified range, test for an open/high resistance.
3. Ignition ON, verify that a test lamp does not illuminate between the control circuit terminal C1 and ground.
 - If the test lamp illuminates, test the control circuit for a short to voltage.
4. Verify that a test lamp illuminates between the B+ circuit terminal A2 and ground.
 - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance. If the circuit tests normal and the TRUNK RELSE fuse is open, test the control circuit terminal C1 for a short to ground.
5. Ignition OFF, disconnect the harness connector at the M40 rear compartment lid latch.

6. Test for less than 1 ohms between the ground circuit terminal 2 and ground.
 - If greater than the specified range, test the ground circuit for an open/high resistance.
7. Connect the harness connector at the M40 rear compartment lid latch.
8. Ignition ON, connect a 15 A fused jumper wire between the B+ circuit terminal A2 and the control circuit terminal C1. Verify the M40 rear compartment lid latch is activated.
 - If the M40 rear compartment lid latch does not activate, test the control circuit for an open/high resistance. If the circuit tests normal, test or replace the M40 rear compartment lid latch.
9. Connect a test lamp between the control circuit terminal A1 and ground.
10. Command the trunk release ON and OFF with a scan tool. The test lamp should turn ON and OFF when changing between the commanded states.
 - If the test lamp is always ON, test the control circuit for a short to voltage. If the circuit tests normal, replace the K9 BCM.
 - If the test lamp is always OFF, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the K9 BCM
11. If all circuits test normal, test or replace the TRUNK RELSE relay.

Interior Trunk Release Switch Malfunction

1. Ignition OFF, disconnect the harness connector at the S58B rear compartment lid release switch - interior.
2. Test for less than 5 ohms between the low reference circuit terminal A and ground.
 - If greater than the specified range, test the low reference circuit for an open/high resistance. If the circuit tests normal, replace the S84D door lock/window switch-driver.
3. Ignition ON, verify the scan tool LGM Front Control Switch parameter is Inactive.
 - If not the specified value, test the signal circuit terminal 4 for a short to ground. If the circuit tests normal, replace the S84D door lock/window switch-driver.
4. Install a 3 A fused jumper wire between the signal circuit terminal 4 and ground. Verify the scan tool LGM Front Control Switch parameter is Active.
 - If not the specified value, test the signal circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the S84D door lock/window switch-driver
5. If all circuits test normal, test or replace the S58B rear compartment lid release switch - interior.

Exterior Trunk Release Switch Malfunction

1. Ignition OFF, disconnect the X900 inline harness connector at the S58A rear compartment lid unlatch switch-exterior.
2. Ignition ON, test for less than 10 ohms between the ground circuit terminal 7 and ground.
 - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Verify the scan tool Remote Control Door Lock Receiver Trunk Release Switch parameter is Inactive.
 - If not the specified value, test the signal circuit terminal 2 for a short to ground. If the circuit tests normal, replace the K77 remote control door lock receiver.
4. Install a 3 A fused jumper wire between the signal circuit terminal 2 and ground. Verify the scan tool Remote Control Door Lock Receiver Trunk Release Switch parameter is Active.

- If not the specified value, test the signal circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the K77 remote control door lock receiver.
5. If all circuits test normal, test or replace the S58A rear compartment lid unlatch switch-exterior.

Component Testing

Rear Compartment Lid Latch

1. Ignition OFF, disconnect the harness connector at the M40 rear compartment lid latch.
2. Install a 15 A fused jumper wire between the control terminal A and 12 V. Briefly install a jumper wire between the ground terminal 2 and ground. Verify the M40 rear compartment lid latch activates.
 - If the actuator does not perform as specified, replace the M40 rear compartment lid latch.

Interior Rear Compartment Lid Unlatch Switch Test

1. Ignition OFF, disconnect the harness connector at the S58B rear compartment lid release switch - interior.
2. Test for infinite resistance between the signal terminal C and the low reference terminal A with the switch in the open position.
 - If not the specified value, replace the S58B rear compartment lid release switch - interior.
3. Test for less than 2 ohms between the signal terminal C and the low reference terminal A with the switch in the closed position.
 - If greater than the specified range, replace the S58B rear compartment lid release switch - interior.

Exterior Rear Compartment Lid Unlatch Switch Test

1. Ignition OFF, disconnect the X900 inline harness connector at the S58A rear compartment lid unlatch switch-exterior.
2. Test for infinite resistance between the signal circuit terminal 2 and the ground circuit terminal 7 with the switch in the open position.
 - If not the specified value, replace the S58A rear compartment lid unlatch switch-exterior.
3. Test for less than 5 ohms between the signal circuit terminal 2 and the ground circuit terminal 7 with the switch in the closed position.
 - If greater than the specified range, replace the S58A rear compartment lid unlatch switch-exterior.

Repair Instructions

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

- **Rear Compartment Lid Latch Replacement (Coupe)**
- **Rear Compartment Lid Release Switch Replacement (Coupe)**
- **Rear License Plate Lamp Wiring Harness Replacement (Wagon)** , **Rear License Plate Lamp Wiring Harness Replacement (Coupe)**
- **Relay Replacement (Within an Electrical Center)** , **Relay Replacement (Attached to Wire Harness)**

- **Control Module References** for BCM, driver door lock/window switch, or remote control door lock receiver replacement, programming and setup

TRUNK AJAR INDICATOR MALFUNCTION

Diagnostic Instructions

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

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Signal	B2503 00	1	1	-
Ground	-	2	-	-
1. Trunk Ajar Indicator Malfunction 2. Trunk Release Inoperative				

Circuit/System Description

The Body Control Module supplies a 12V signal to the rear compartment lid ajar switch signal circuit. When the rear compartment lid release actuator releases the rear compartment lid, the rear compartment lid ajar switch, which is internal to the rear compartment lid release actuator causes the trunk ajar switch signal circuit to be pulled low. The Body Control Module interprets this and communicates via serial data with the instrument panel cluster (IPC). When the trunk is open/ajar and the vehicle is in any gear other than PARK, the driver information center will display TRUNK OPEN. If the trunk is still open and the vehicle speed is greater than 5 km/h (3 mph) a chime will sound.

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Luggage Compartment Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

Ignition ON, observe the scan tool Rear Closure Ajar Sw. parameter while opening and closing the trunk. The parameter should change between Inactive and Active.

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the M40 Rear Compartment Lid Latch.
2. Ignition ON, verify the scan tool Rear Closure Ajar Sw. parameter is Inactive.
 - If not the specified value, test the signal circuit terminal 3 for a short to ground. If the circuit tests normal, replace the K9 Body Control Module.
3. Install a 3A fused jumper wire between the signal circuit terminal 3 and ground. Verify the scan tool Rear Closure Ajar Sw. parameter is Active.
 - If not the specified value, test the signal circuit for a short to voltage or and open/high resistance. If the circuit tests normal, replace the K9 Body Control Module.
4. If all circuits test normal, test or replace the M40 Rear Compartment Lid Latch.

Component Testing

1. Ignition OFF, disconnect the harness connector at the M40 Rear Compartment Lid Latch.
2. Test for infinite resistance between the signal terminal 3 and ground terminal 2 with the switch in the open position.
 - If not the specified value, replace the M40 Rear Compartment Lid Latch.
3. Test for less than 2 ohms between the signal terminal 3 and ground terminal 2 with the switch in the closed position.
 - If greater than the specified range, replace the M40 Rear Compartment Lid Latch.

Repair Instructions

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

- **Rear Compartment Lid Latch Replacement (Coupe)**
- **Control Module References** for Body Control Module replacement, setup and programming

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

NOT FUNCTION

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

Step	Action	Yes	No
DEFINITION: This diagnostic table is designed to address the mechanical diagnosis of the door latching system, which could include the inside and outside handles, latch rods/cables, latches, or latch cylinders.			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to <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 Access</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
10	If the door will not open with the outside handle, or the handle is obstructed or loose, check the following: • For cold weather freezing, thaw as necessary. • Check the handle for foreign material. Remove material as necessary. • Check the handle grab bar for looseness or damage. Repair as necessary. • Check the handle for full travel. If the issue is not resolved, remove the trim panel as necessary to gain access to door hardware and check the following: • Check the handle chassis for loose fasteners, broken chassis inserts, loose or missing spring, or a loose, missing or bent rod lever. • Check for bent rod to the outside handle. • Check that the handle grab bar engages the rod lever		

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

	If further action is required, remove the trim panel and check the latch rod and latch knob for interference with the following: • Water deflector/paper • Side impact foam • Rod grommet in sheet metal • Glass run channel • Other rods or cables • Trim panel		
	Did you find and correct the condition?	Go to Step 18	Go to Step 13
13	With a manual lock, if the latch will not function properly do the following: 1. Function the lock/unlatch lever on the latch to unlatch the latch. Check for high internal resistance. 2. With the door open, manually close the latch with a screwdriver. 3. Check the latch for internal binding by actuating the latch with the inside door handle lever. 4. Manually close the latch with a screwdriver again. 5. Check the latch for internal binding by actuating the latch with the outside door handle lever.		
	Did you find and correct the condition?	Go to Step 18	Go to Step 14
	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.		

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

	latch cylinder as required 7. Verify Cylinder rotates with vehicle key. If not, code and replace cylinder to match vehicle key. See latch cylinder coding and replacing.		
	Did you find and correct the condition?	Go to Step 18	Go to Step 17
17	The door is difficult to open: • Check for interference with the fender, adjacent door, body opening or door striker and adjust as necessary. • Check for binding door hinges. Lubricate or align/adjust as necessary. • Check the door check link for binding. Lubricate as necessary. • Adjust the door as necessary.		
	Did you find and correct the condition?	Go to Step 18	Go to or Go to
18	Verify proper operation of the door closing system. • Outside handle • Inside handle • Manual lock/unlatch ○ Outside key cylinder ○ Inside latch knob ○ Double pull handle • Power lock/unlatch ○ Key fob ○ Door switches • Door opening/closing effort		
	Is the condition still present?	Go to Step 1	System OK

REPAIR INSTRUCTIONS

DOOR INSIDE MANUAL RELEASE ACTUATOR REPLACEMENT

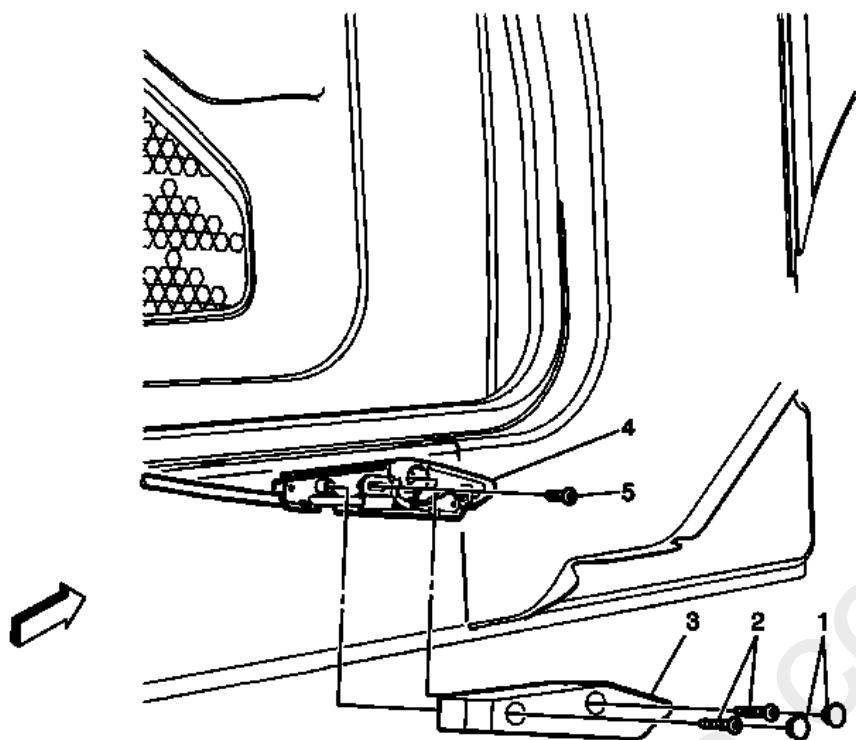


Fig. 17: Door Inside Manual Release Actuator & Components
 Courtesy of GENERAL MOTORS COMPANY

Door Inside Manual Release Actuator Replacement

Callout	Component Name
1	Door Inside Manual Release Actuator Screws Plug (Qty: 2) Procedures 1. Move the seat to the full rear position. 2. Remove both plugs in the front of the cover to expose the screws.
2	Door Inside Manual Release Actuator Screws (Qty: 2) CAUTION: Refer to <u>Fastener Caution</u> . Tighten 10 N.m (89 lb in)
3	Door Inside Manual Release Actuator Cover
4	Door Inside Manual Release Actuator Lever
5	Door Inside Manual Release Actuator Cable Screw Procedure Release the cable from the handle.

Tighten
5 N.m (44 lb in)

FUEL TANK FILLER DOOR LOCK ACTUATOR REPLACEMENT (ASIA, AFRICA, AND EUROPE)

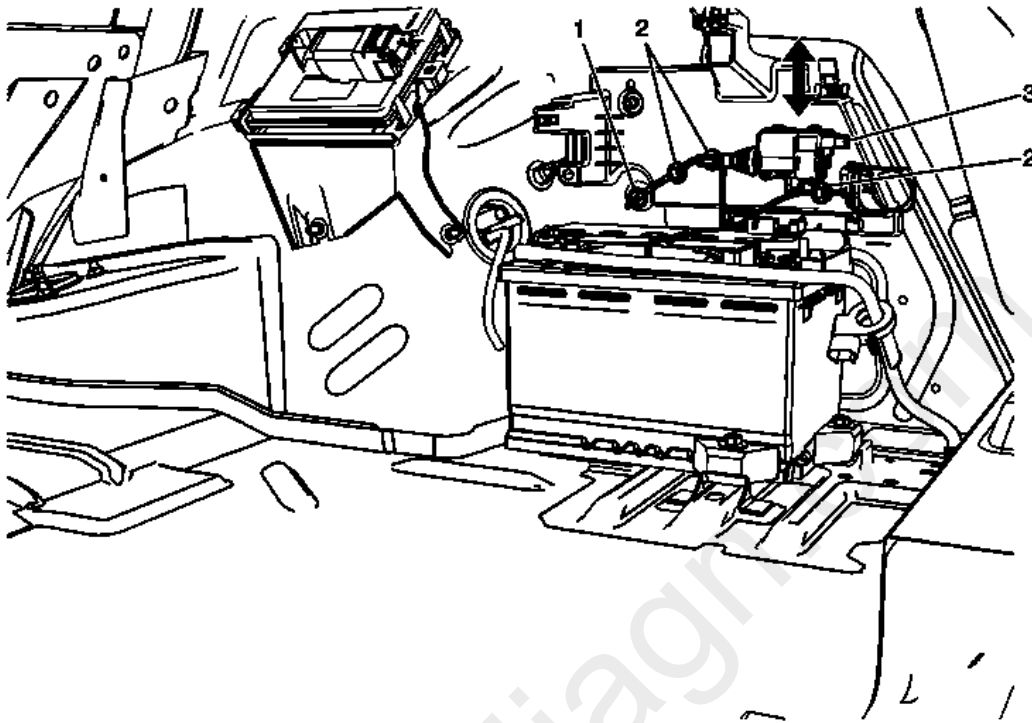


Fig. 18: Fuel Tank Filler Door Lock Actuator (Asia, Africa, And Europe)
Courtesy of GENERAL MOTORS COMPANY

Fuel Tank Filler Door Lock Actuator Replacement (Asia, Africa, and Europe)

Callout	Component Name
Preliminary Procedures	
1. Remove the fuel tank filler pipe housing. Refer to <u>Fuel Tank Filler Pipe Housing Replacement</u> .	
2. For the Coupe, remove the rear compartment side trim panel. Refer to <u>Rear Compartment Side Trim Panel Replacement (Coupe)</u> .	
3. For the wagon, remove the body side lower trim panel. Refer to <u>Body Side Lower Trim Panel Replacement (Wagon)</u> .	
4. Remove the body wiring harness junction block. Refer to <u>Body Wiring Harness Junction Block Replacement</u> .	
1	Fuel Tank Filler Door Lock Actuator Grommet Procedure Remove the grommet from the body side and pull out into the rear compartment.
2	Fuel Tank Filler Door Lock Actuator Cable Retainer (Qty: 3)
	Fuel Tank Filler Door Lock Actuator

3	Procedure 1. Disconnect the electrical connector from the actuator. 2. Press upwards on the actuator while releasing the lower retainer clip on the actuator mounting surface. • Do not loosen or tighten the mounting screws. • The fuel filler door can be manually opened from the inside of the rear compartment by pulling on the release cable located on the actuator.
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FRONT SIDE DOOR INSIDE HANDLE CABLE REPLACEMENT

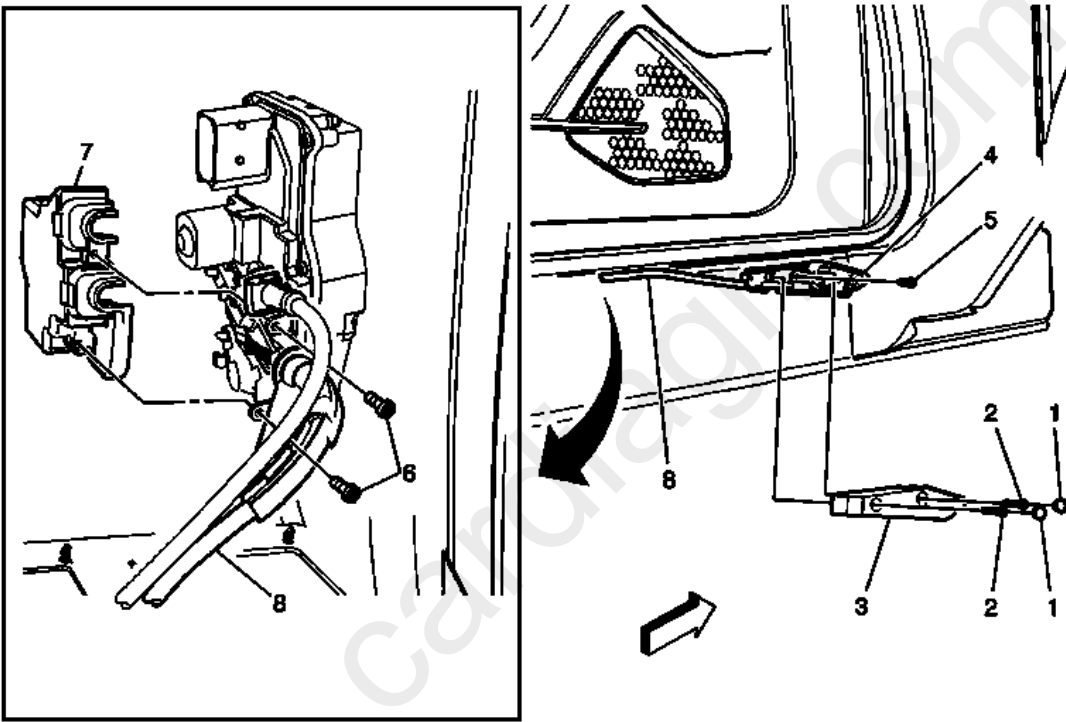


Fig. 19: Front Side Door Inside Handle Cable & Components
 Courtesy of GENERAL MOTORS COMPANY

Front Side Door Inside Handle Cable Replacement

	Preliminary Procedure Remove the body side front lower trim panel. Refer to <u>Body Side Front Lower Trim Panel Replacement (Coupe)</u>.
1	Front Side Door Inside Handle Screw Covers (Qty: 2) Procedure Use a suitable tool to remove the screw covers from the handle. TIP: The handle and cable should not be separated.
	Front Side Door Inside Handle Screws (Qty: 2)

2	CAUTION: Refer to <u>Fastener Caution</u> . Tighten 5 N.m (44 lb in)
3	Front Side Door Inside Handle Cover Procedure Use a suitable tool to remove the cable from the handle.
4	Front Side Door Inside Handle and Cable
5	Front Side Door Inside Handle and Cable Screw Procedure Use a suitable tool to disconnect the upper cable from the front side door lock. Tighten 5 N.m (44 lb in)
6	Front Side Door Latch Cable Cover Screws (Qty: 2) Procedure 1. Remove the front side door latch. Refer to <u>Front Side Door Latch Replacement (Coupe)</u>, <u>Front Side Door Latch Replacement (Wagon)</u>. 2. Pull the door latch out of the inner panel to remove the cover screws and cables. 3. Disconnect the electrical connector. Tighten 5 N.m (44 lb in)
7	Front Side Door Latch Cable Cover
8	Front Side Door Inside Handle and Cable TIP: Remove the cable and handle as one.

REAR COMPARTMENT ACCESS DOOR LATCH RELEASE CABLE REPLACEMENT

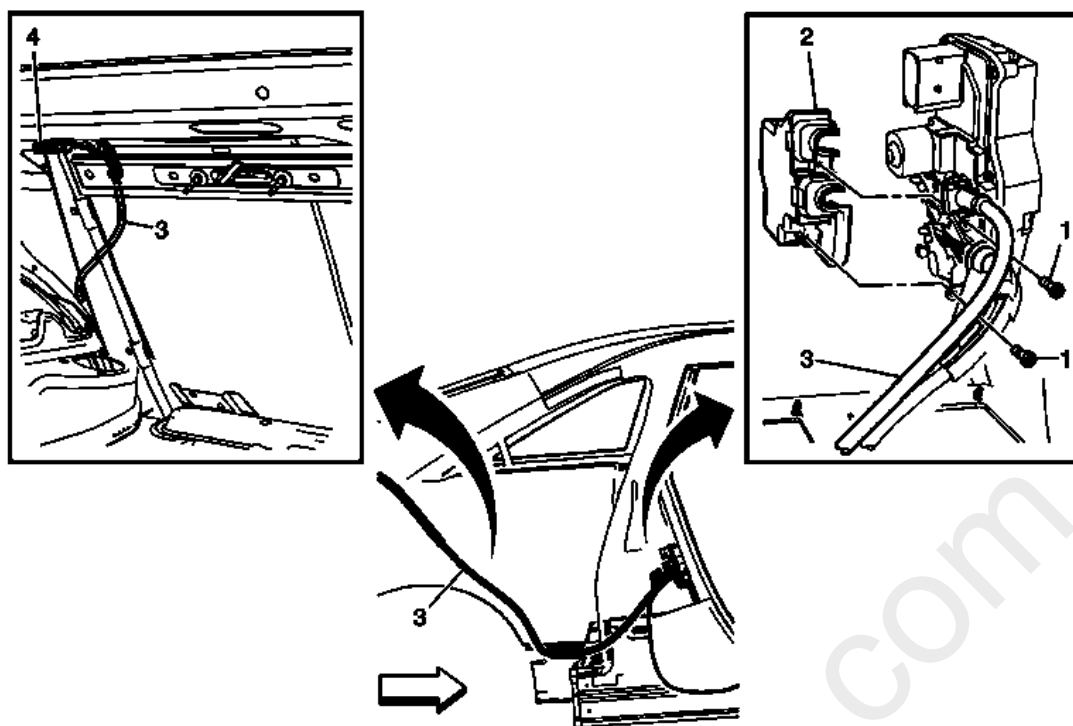


Fig. 20: Rear Compartment Access Door Latch Release Cable & Components
 Courtesy of GENERAL MOTORS COMPANY

Rear Compartment Access Door Latch Release Cable Replacement

Preliminary Procedure

1. Remove the lower rear seat cushion. Refer to **Rear Seat Cushion Removal and Installation (Coupe)** , **Rear Seat Cushion Removal and Installation (Wagon)** .
2. Remove the body side front lower trim panel. Refer to **Body Side Front Lower Trim Panel Replacement (Coupe)** .

1	Front Side Door Latch Cable Cover Screws (Qty: 2) Procedures 1. Pull the front side door latch out of the inner panel to remove the cover screws and cables. 2. Remove the front side door latch. Refer to <u>Front Side Door Latch Replacement (Coupe)</u>, <u>Front Side Door Latch Replacement (Wagon)</u>. Do Not disconnect both latch cable, remove the cable routed to the rear compartment lid interior release latch. 3. Disconnect the electrical connector. 4. Release the retainers holding the cable in place.
2	Front Side Door Latch Cable Cover

3	Rear Compartment Lid Interior Release Latch Cable Procedure Disconnect the upper cable from the front side door lock.
4	Rear Compartment Lid Interior Release Latch Cable End TIP: Release the retaining tab from the latch.

REAR COMPARTMENT LID LOCK CYLINDER REPLACEMENT (COUPE)

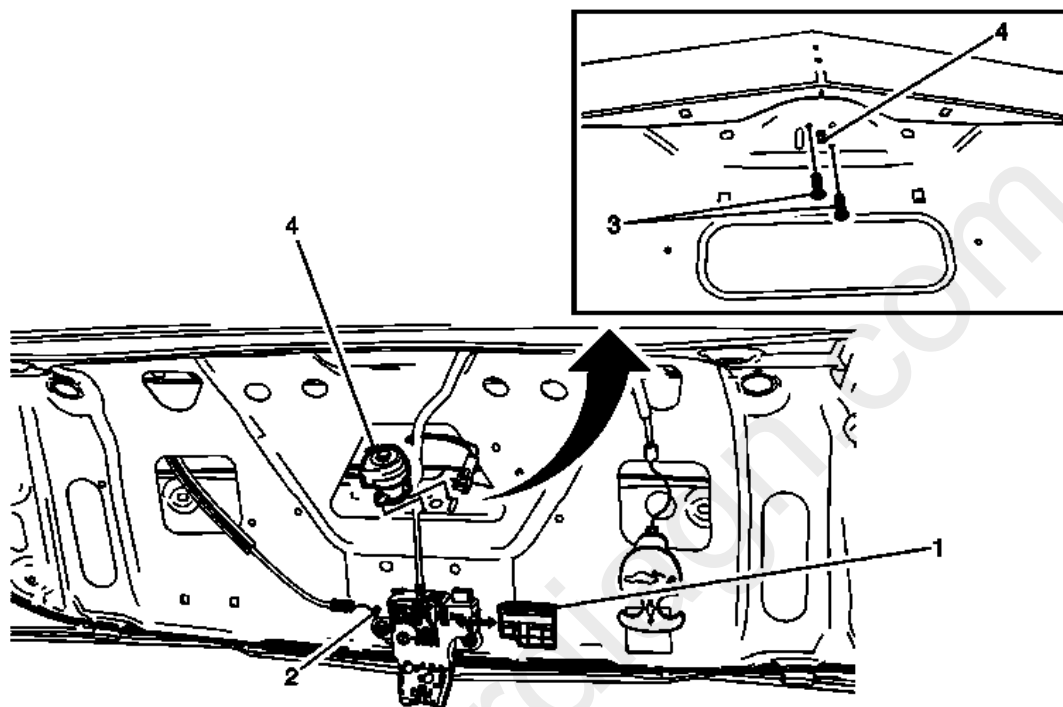


Fig. 21: Rear Compartment Lid Lock Cylinder & Components (Coupe)
Courtesy of GENERAL MOTORS COMPANY

Rear Compartment Lid Lock Cylinder Replacement (Coupe)

Callout	Component Name
WARNING: Refer to <u>Safety Glasses Warning</u> .	
Preliminary Procedures	
1. Remove the rear compartment lid inner panel trim. Refer to <u>Rear Compartment Lid Inner Panel Trim Replacement (Coupe)</u> . 2. Remove the rear compartment lid lower molding. Refer to <u>Rear Compartment Lid Lower Molding Replacement (Coupe)</u> .	
1	Rear Compartment Lid Inside Latch Access Cover Procedure

	Depress the retainers and slide the access cover to access the cable.
2	Rear Compartment Lid Lock Cylinder Cable Procedure Disconnect the rear compartment lid lock cylinder cable from the latch.
3	Rear Compartment Lid Lock Cylinder Rivet (Qty: 2) Procedure Disconnect the electrical connector.
4	Rear Compartment Lid Lock Cylinder

LIFTGATE CALIBRATION

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
Ignition	1	1	-	-
Backup Lamp Control	1	1	1	-
Ground	-	1	-	-
1. Inside Electrochromic Mirror Malfunction				

Circuit/System Description

The inside rearview mirror uses 2 photocell sensors. One sensor is the rear light sensor, located on the face side of the mirror, facing the rear of the vehicle. The rear light sensor is used to determine light conditions present at the mirror face. The other sensor is the front light sensor, located on the backside of the mirror, facing the front of the vehicle. The front light sensor is used to determine the exterior light conditions at the front of the vehicle. With a low exterior light condition detected by the front light sensor and a high light condition from the rear light sensor, the inside rearview mirror will automatically darken the face of the inside rearview mirror and the left outside rearview mirror. The inside rearview mirror provides a signal circuit and a low reference circuit to the left mirror face to darken the mirror when needed.

With the gear selector lever in the REVERSE position, backup lamp control voltage is supplied as an input to the inside rearview mirror. The mirror monitors this input to disable the automatic day-night feature. This allows the driver to see objects in the mirror clearly when backing up, regardless of the rear light sensor status.

Reference Information

Schematic Reference

Inside Rearview Mirror Schematics

Connector End View Reference

COMPONENT CONNECTOR END VIEWS - INDEX - COUPE AND WAGON

Description and Operation

Automatic Day-Night Mirror 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, headlamps ON, vehicle in PARK, cover the front light sensor with a towel or other suitable item. Shine a flashlight at the rear light sensor while observing the inside rearview mirror face. The inside rearview mirror face should dim.
2. Headlamps ON, park brake applied, cover the front light sensor with a towel or other suitable item. Shine a flashlight at the rear light sensor while observing the inside rearview mirror face. With engine running, place the transmission in REVERSE. The inside rearview mirror face should transition from dim to bright.

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the inside rearview mirror.
2. Test for less than 10 ohms between the ground circuit terminal 5 and ground.
 - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Ignition ON, verify that a test lamp illuminates between the ignition circuit terminal 2 and ground.
 - If the test lamp does not illuminate test the ignition circuit for an open/high resistance or short to ground.
4. Park brake applied, vehicle in REVERSE, verify that a test lamp illuminates between the backup lamp control circuit terminal 1 and ground.
 - If the test lamp does not illuminate test the control circuit for an open/high resistance or short to ground. If the circuit tests normal, refer to **Backup Lamps Malfunction**.
5. If all circuits test normal, test or replace the inside rearview mirror.

Repair Instructions

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

Inside Rearview Mirror Replacement

OPENING THE LIFTGATE WITHOUT ELECTRICAL POWER

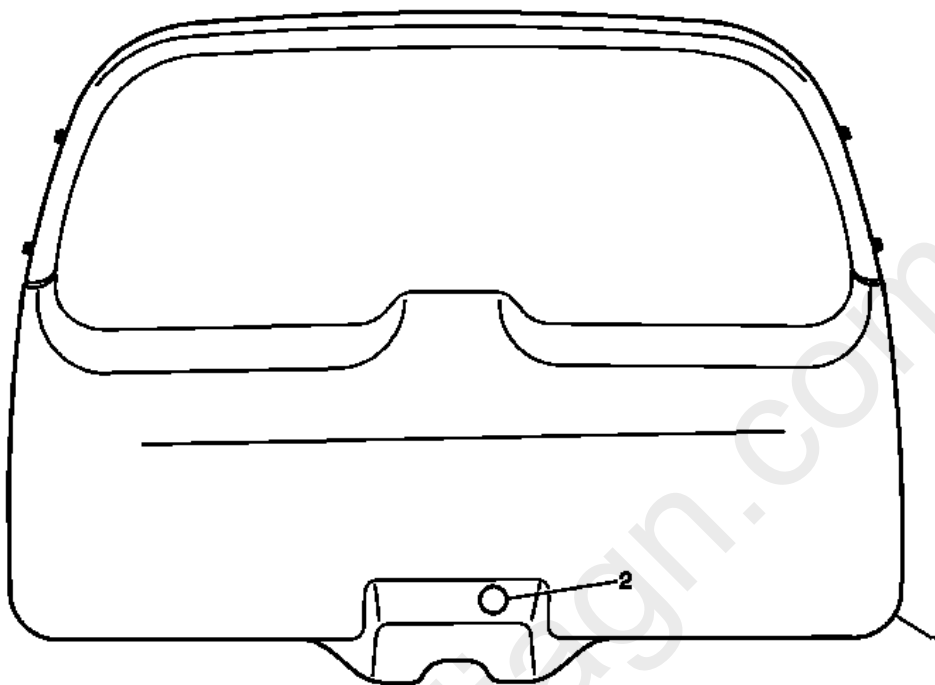


Fig. 22: View Of Liftgate & Trim Panel Plug
Courtesy of GENERAL MOTORS COMPANY

Opening the Liftgate Without Electrical Power

Callout	Component Name
1	Liftgate
2	Liftgate Trim Panel Plug Procedure 1. Locate dimple on trim panel. 2. Remove the access cover. 3. Using a flat-bladed tool push down on the black bellcrank lever, through the access hole, to unlock the liftgate. 4. Push open the liftgate from the inside. 5. Install the access cover.

FRONT SIDE DOOR OUTSIDE HANDLE REPLACEMENT (WITHOUT ATH)

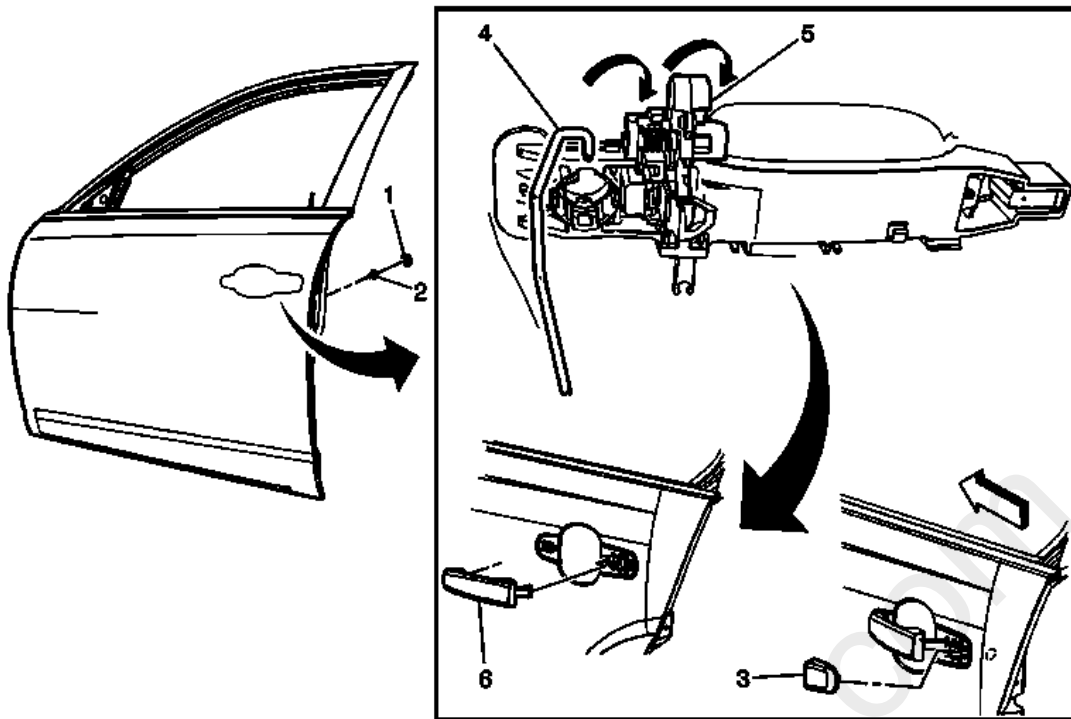


Fig. 23: Front Side Door Outside Handle Replacement
 Courtesy of GENERAL MOTORS COMPANY

Front Side Door Outside Handle Replacement (Without ATH)

Callout	Component Name
Preliminary Procedure Remove the front side door trim panel. Refer to Front Side Door Trim Panel Replacement (Coupe) , Front Side Door Trim Panel Replacement (Wagon) .	
1	Front Side Outside Door Handle Bolt Access Plug TIP: Use a plastic flat-bladed tool to remove the access hole plug, located in the upper inner door area.
2	Front Side Door Outside Handle Cap Bolt CAUTION: Refer to Fastener Caution . Tighten 9 N.m (80 lb in)
3	Front Side Door Outside Handle Cap
4	Front Side Door Outside Handle Rod Procedure 1. With the inside door trim panel off, reach around to the inner door.

	- Release the clip at the base of the door lock. - Release the handle rods from the lock. - Disconnect the electrical connector.
5	Front Side Door Outside Handle Counterbalance Procedure From inside the door, pull downward on the door handle housing counterbalance and at the same time slide the outside door handle forward. This will release the outside door handle from the door handle housing.
6	Front Side Door Outside Handle Procedure Ensure that the handle gaskets stays in place when installing the door handle.

FRONT SIDE DOOR OUTSIDE HANDLE REPLACEMENT (FRONT DOOR WITH ATH)

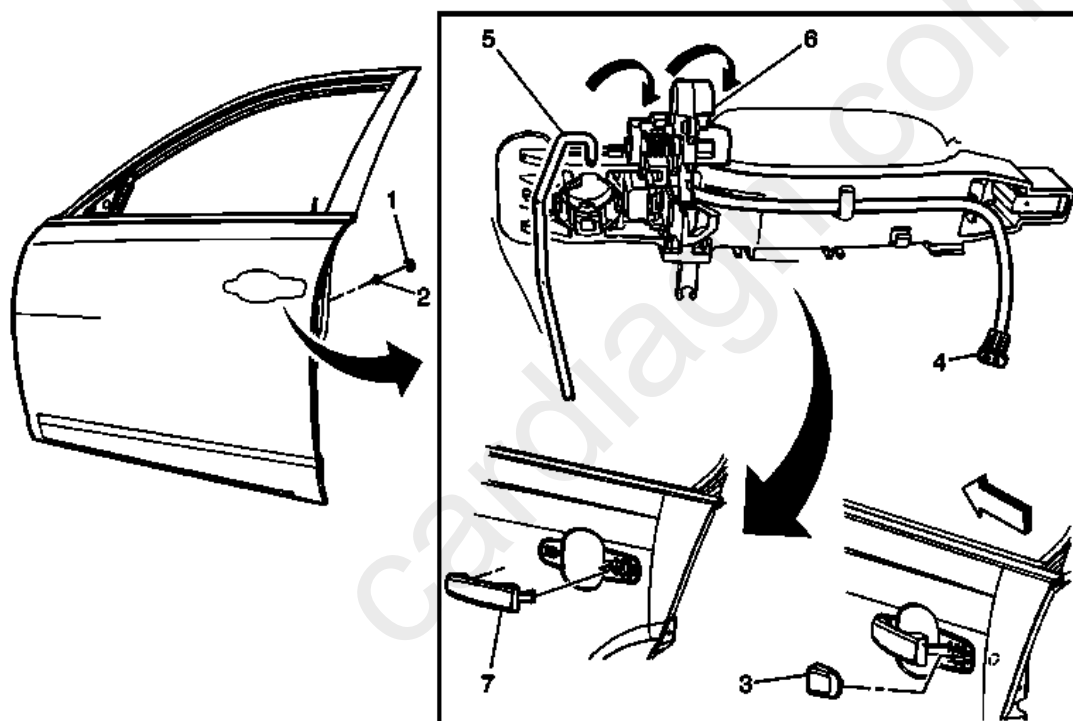


Fig. 24: Identifying Front Side Door Outside Handle (Front Door with ATH)
 Courtesy of GENERAL MOTORS COMPANY

Front Side Door Outside Handle Replacement (Front Door with ATH)

Callout	Component Name
Preliminary Procedure Remove the front side door trim panel. Refer to Front Side Door Trim Panel Replacement (Coupe) , Front Side Door Trim Panel Replacement (Wagon) .	
1	Front Side Outside Door Handle Bolt Access Plug TIP: Use a plastic flat-bladed tool to remove the access hole plug, located in the upper inner

	door area.
2	Front Side Door Outside Handle Cap Bolt CAUTION: Refer to <u>Fastener Caution</u> . Tighten 9 N.m (80 lb in)
3	Front Side Door Outside Handle Cap
4	Front Side Door Outside Handle Passive Entry Electrical Connector Procedure Disconnect the electrical connector. • Option (-UHA) passive entry is used on the front door only. • When using the passive entry pull once to open the front door.
5	Front Side Door Outside Handle Rod Procedure 1. With the inside door trim panel off, reach around to the inner door. 2. Release the clip at the base of the door lock. 3. Release the handle rods from the lock. 4. Disconnect electrical connector.
6	Front Side Door Outside Handle Counterbalance Procedure From inside the door, pull downward on the door handle housing counterbalance and at the same time slide the outside door handle forward. This will release the outside door handle from the door handle housing.
7	Front Side Door Outside Handle Procedure Ensure that the handle gaskets stays in place when installing the door handle.

FRONT SIDE DOOR OUTSIDE HANDLE REPLACEMENT (FRONT AND REAR DOORS WITH ATH)

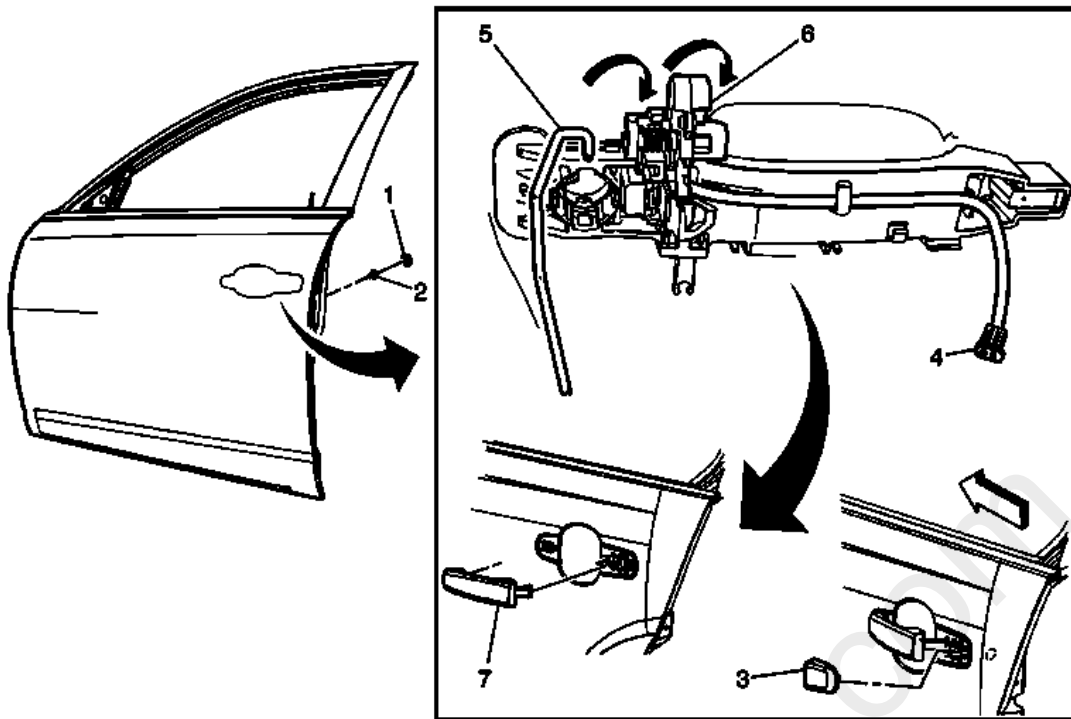


Fig. 25: Identifying Front Side Door Outside Handle (Front and Rear Doors with ATH)
 Courtesy of GENERAL MOTORS COMPANY

Front Side Door Outside Handle Replacement (Front and Rear Doors with ATH)

Callout	Component Name
Preliminary Procedure Remove the front side door trim panel. Refer to Front Side Door Trim Panel Replacement (Coupe) , Front Side Door Trim Panel Replacement (Wagon) .	
1	Front Side Outside Door Handle Bolt Access Plug TIP: Use a plastic flat-bladed tool to remove the access hole plug, located in the upper inner door area.
2	Front Side Door Outside Handle Cap Bolt CAUTION: Refer to Fastener Caution . Tighten 9 N.m (80 lb in)
3	Front Side Door Outside Handle Cap
4	Front Side Door Outside Handle Passive Entry Electrical Connector Procedure Disconnect the electrical connector. Option (+UHA) passive entry is used for both front and rear doors.

	When using the passive entry pull once to open the front door, twice for the rear door.
5	Front Side Door Outside Handle Rod Procedure - With the inside door trim panel off, reach around to the inner door. - Release the clip at the base of the door lock. - Release the handle rods from the lock.
6	Front Side Door Outside Handle Counterbalance Procedure From inside the door, pull downward on the door handle housing counterbalance and at the same time slide the outside door handle forward. This will release the outside door handle from the door handle housing.
7	Front Side Door Outside Handle Procedure Ensure that the handle gaskets stays in place when installing the door handle.

FRONT AND REAR SIDE DOOR OUTSIDE HANDLE ROD CLIP REPLACEMENT

Removal Procedure

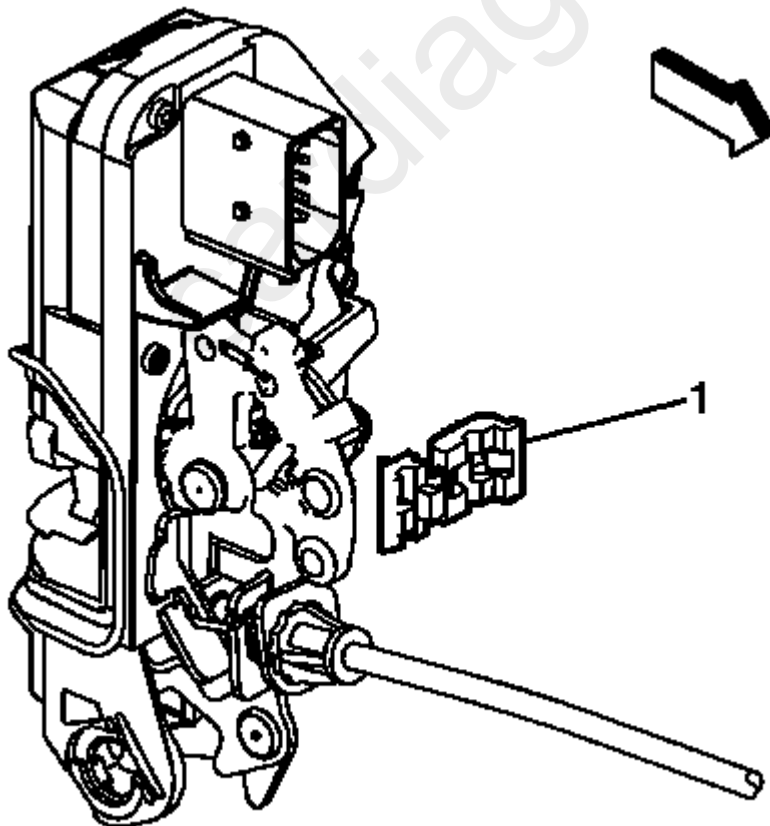


Fig. 26: Outside Door Handle Rod Clip
Courtesy of GENERAL MOTORS COMPANY

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

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

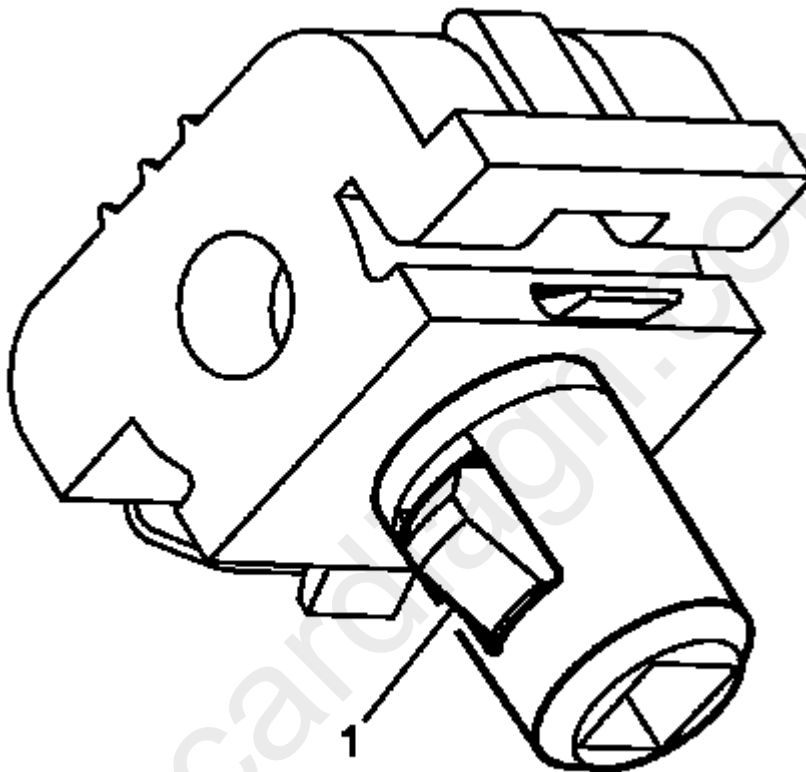


Fig. 27: Retaining Tabs
Courtesy of GENERAL MOTORS COMPANY

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

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

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

Installation Procedure

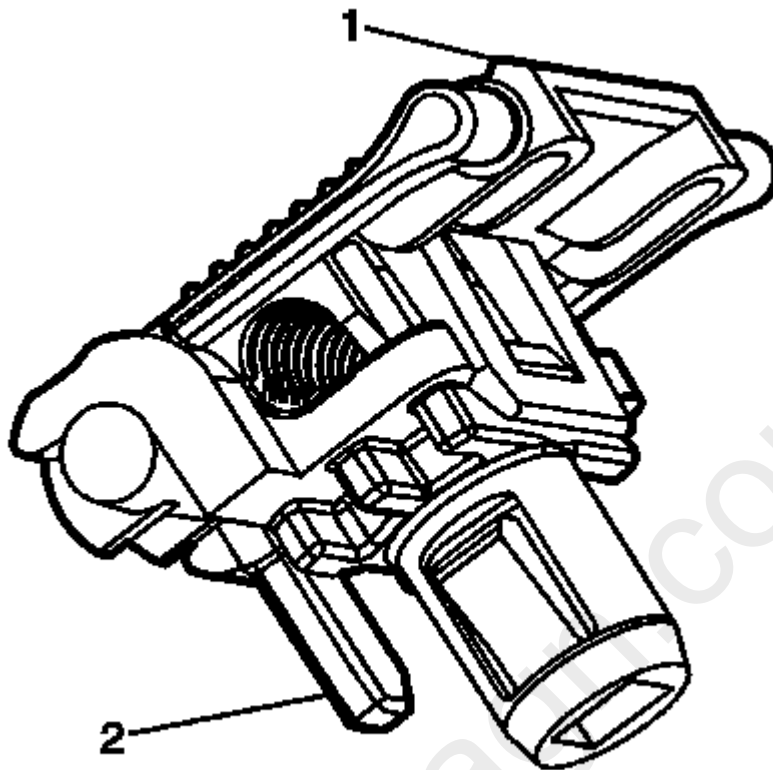


Fig. 28: Outside Door Handle Rod Clip
Courtesy of GENERAL MOTORS COMPANY

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

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

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

LIFTGATE LATCH REPLACEMENT

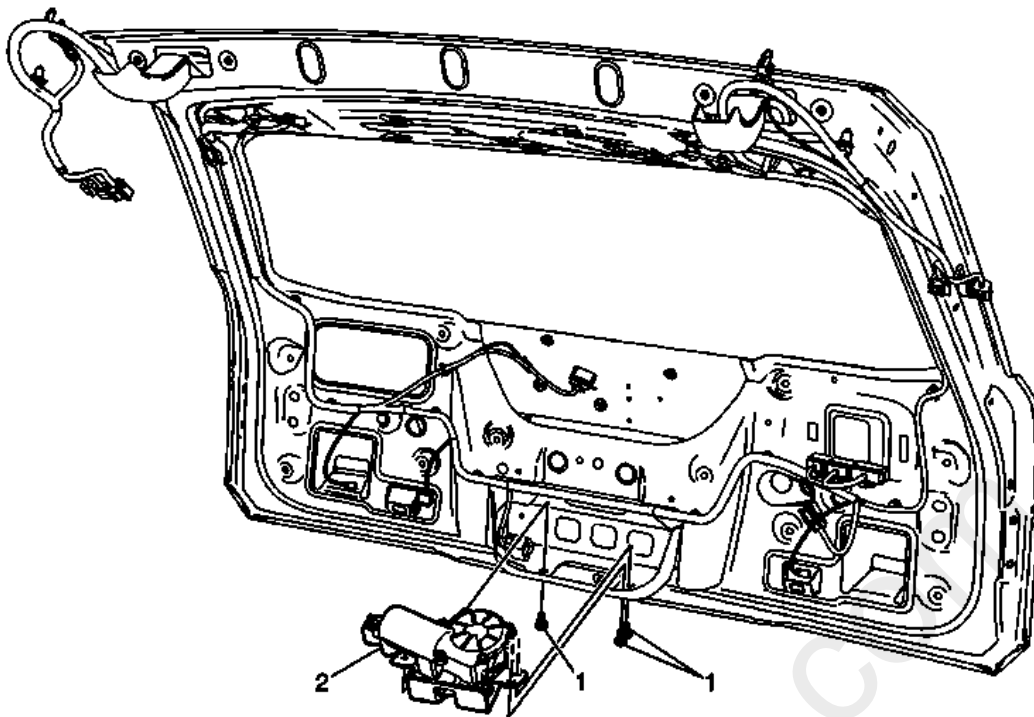


Fig. 29: Liftgate Latch & Screws
 Courtesy of GENERAL MOTORS COMPANY

Liftgate Latch Replacement

Callout	Component Name
Preliminary Procedure Remove the liftgate lower trim panel. Refer to <u>Liftgate Lower Trim Finish Panel Replacement (Wagon)</u> .	
1	Liftgate Latch Screw (Qty: 3) CAUTION: Refer to <u>Fastener Caution</u> . Tighten 9 N.m (80 lb in)
2	Liftgate Latch Assembly Procedure 1. Disconnect the electrical connector. 2. Adjust the liftgate if needed.

REAR COMPARTMENT LID INSIDE HANDLE REPLACEMENT (COUPE)

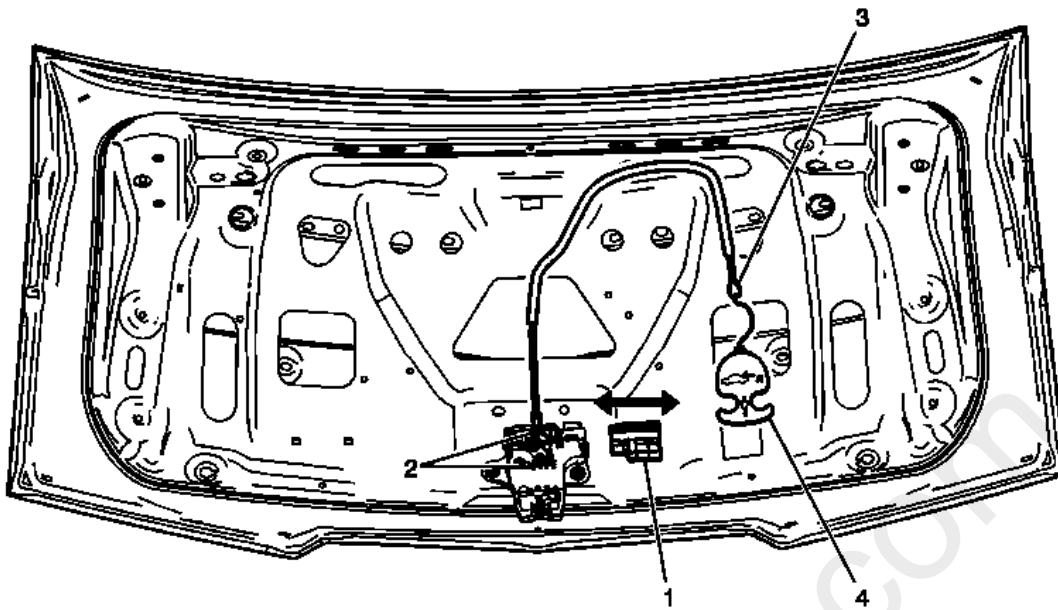


Fig. 30: Rear Compartment Lid Inside Handle & Components (Coupe)
 Courtesy of GENERAL MOTORS COMPANY

Rear Compartment Lid Inside Handle Replacement (Coupe)

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

REAR SIDE DOOR OUTSIDE HANDLE REPLACEMENT (WITHOUT ATH)

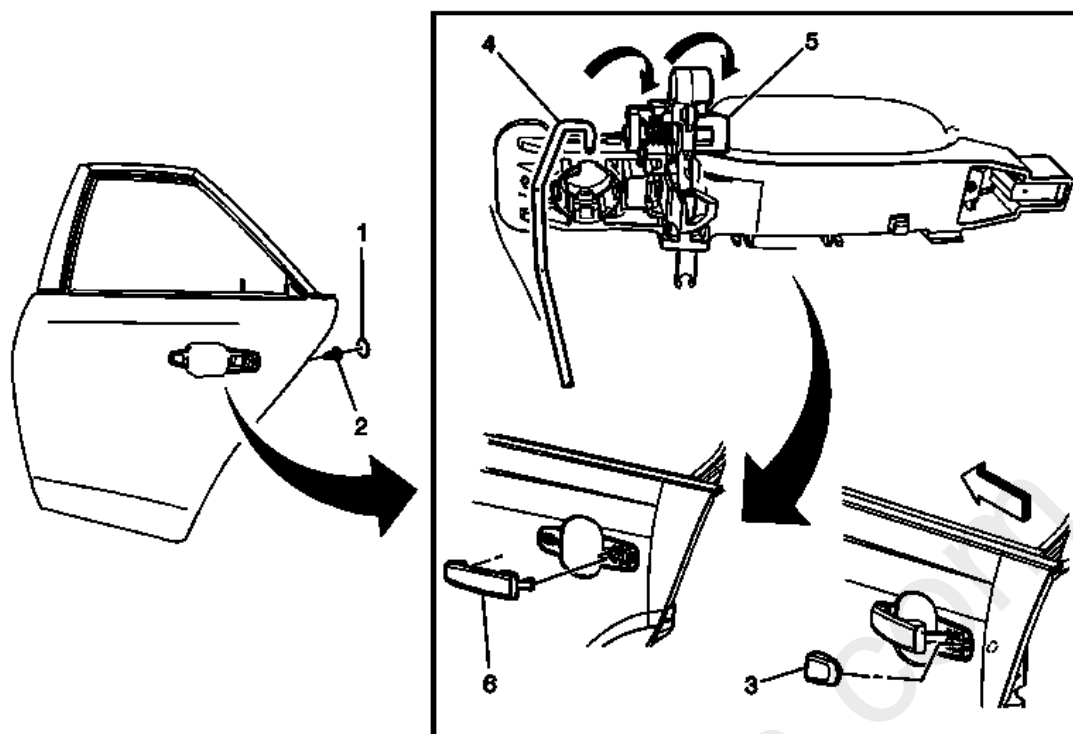


Fig. 31: Rear Side Door Outside Handle Replacement
 Courtesy of GENERAL MOTORS COMPANY

Rear Side Door Outside Handle Replacement (Without ATH)

Callout	Component Name
Preliminary Procedure Remove the rear side door trim panel. Refer to Rear Side Door Trim Panel Replacement (Wagon) .	
1	Rear Side Outside Door Handle Bolt Access Plug TIP: Use a plastic flat-bladed tool to remove the access hole plug, located in the upper inner door area.
2	Rear Side Door Outside Handle Cap Bolt CAUTION: Refer to <u>Fastener Caution</u> . Tighten 9 N.m (80 lb in)
3	Rear Side Door Outside Handle Cap
4	Rear Side Door Outside Handle Rod Procedure 1. Release the clip at the base of the door lock.

	2. Release the handle rods from the lock. 3. Disconnect electrical connector.
5	Rear Side Door Outside Handle Counterbalance Procedure From inside the door, pull downward on the door handle housing counterbalance and at the same time slide the outside door handle forward. This will release the outside door handle from the door handle housing.
6	Rear Side Door Outside Handle Procedure Ensure that the handle gaskets stays in place when installing the door handle.

REAR SIDE DOOR OUTSIDE HANDLE REPLACEMENT (WITH ATH)

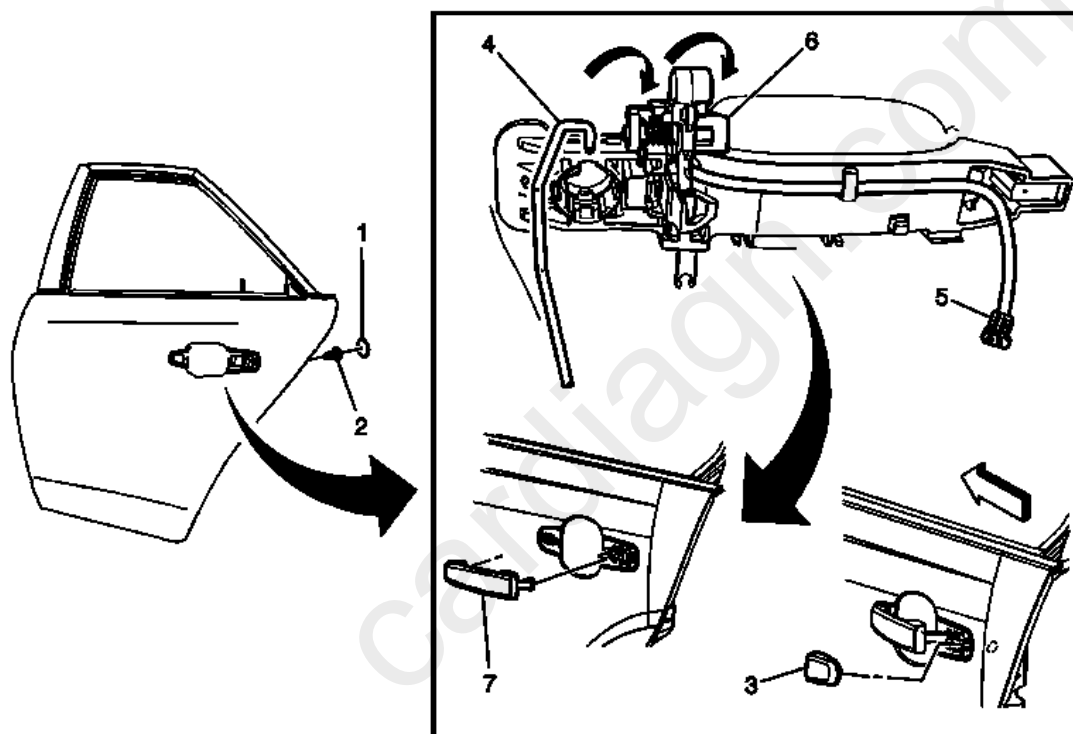


Fig. 32: Identifying Rear Side Door Outside Handle (With ATH)

Courtesy of GENERAL MOTORS COMPANY

Rear Side Door Outside Handle Replacement (With ATH)

Callout	Component Name
Preliminary Procedure Remove the rear side door trim panel. Refer to <u>Rear Side Door Trim Panel Replacement (Wagon)</u> .	
1	Rear Side Outside Door Handle Bolt Access Plug TIP: Use a plastic flat-bladed tool to remove the access hole plug, located in the upper inner door area.
	Rear Side Door Outside Handle Cap Bolt

2	CAUTION: Refer to <u>Fastener Caution</u> . Tighten 9 N.m (80 lb in)
3	Rear Side Door Outside Handle Cap
4	Rear Side Door Outside Handle Passive Entry Electrical Connector Procedure Disconnect the electrical connector. • Option (+UHA) passive entry is used for both front and rear doors. • When using the passive entry pull once to open the front door, twice for the rear door.
5	Rear Side Door Outside Handle Rod Procedure 1. Release the clip at the base of the door lock. 2. Release the handle rods from the lock. 3. Disconnect electrical connector.
6	Rear Side Door Outside Handle Counterbalance Procedure From inside the door, pull downward on the door handle housing counterbalance and at the same time slide the outside door handle forward. This will release the outside door handle from the door handle housing.
7	Rear Side Door Outside Handle Procedure Ensure that the handle gaskets stays in place when installing the door handle.

REAR SIDE DOOR OUTSIDE HANDLE HOUSING REPLACEMENT

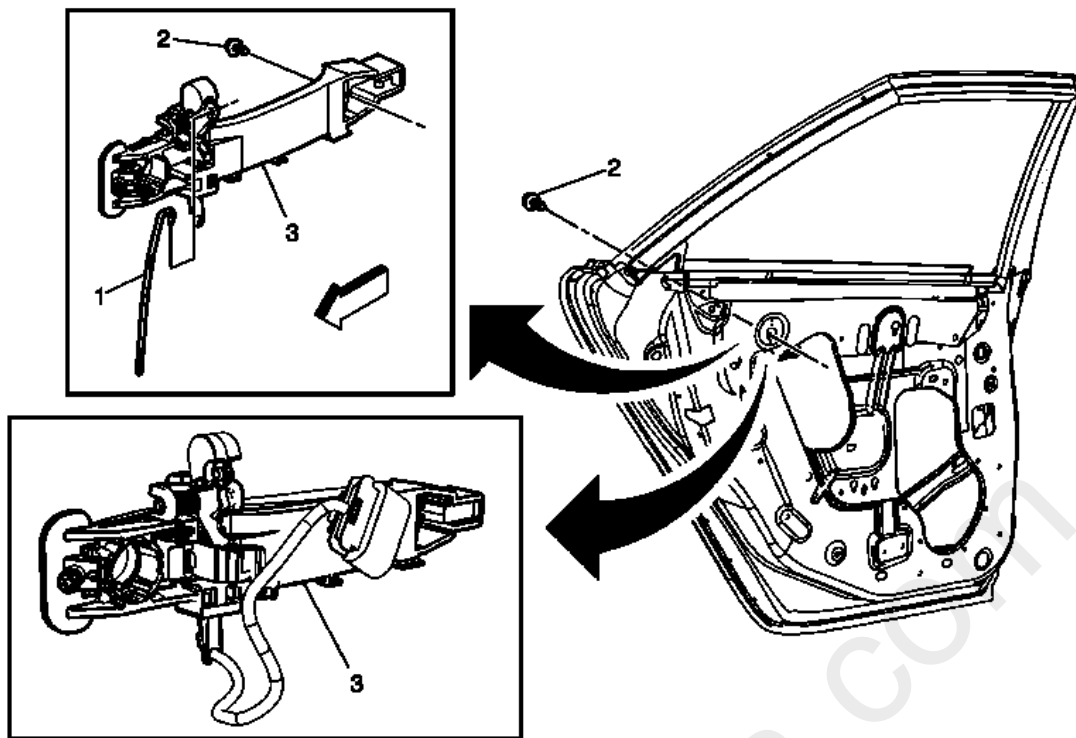


Fig. 33: Rear Side Door Outside Handle Housing
 Courtesy of GENERAL MOTORS COMPANY

Rear Side Door Outside Handle Housing Replacement

Callout	Component Name
Preliminary Procedures	
1. Remove the rear side door trim panel. Refer to <u>Rear Side Door Trim Panel Replacement (Wagon)</u> . 2. Remove the rear side door outside handle. Refer to <u>Rear Side Door Outside Handle Replacement (Without ATH)</u> , <u>Rear Side Door Outside Handle Replacement (With ATH)</u> .	
1	Rear Side Door latch Handle Rod Procedure 1. Release the clip at the base of the door lock. 2. Release the handle rod from the lock. 3. Disengage the housing release rod from the outside handle.
2	Rear Side Door Handle Housing Bolt CAUTION: Refer to <u>Fastener Caution</u> .

	Tighten 7 N.m (62 lb in)
3	Rear Side Door Handle Housing Procedure 1. Disconnect electrical connector. 2. Remove the housing through the opening in the inner panel. 3. Transfer the handle release rod to the new housing.

FRONT SIDE DOOR LATCH REPLACEMENT (WAGON)

Removal Procedure

1. Place the window in the full up position.
2. Remove the door trim panel. Refer to **Front Side Door Trim Panel Replacement (Wagon)** .
3. Remove the water deflector.
4. Disconnect the latch cylinder rod from the door latch, if equipped.
5. Remove the front side door latch cover.

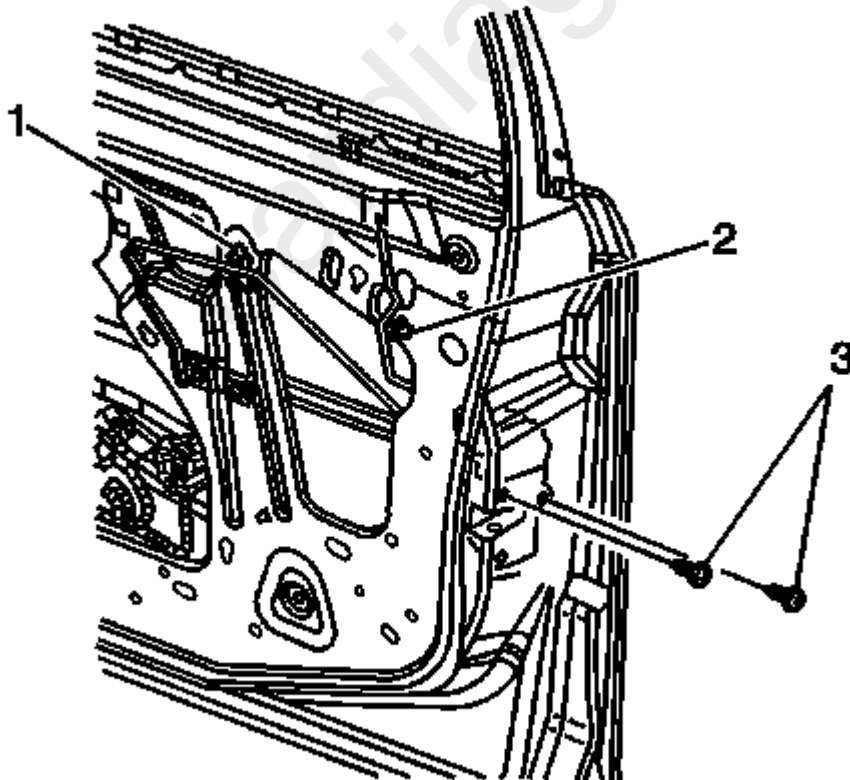


Fig. 34: View of Door and Latch Assembly
Courtesy of GENERAL MOTORS COMPANY

6. Remove the inside handle cable from the retainers (1).
7. Remove the door latch screws (3).
8. Remove the door latch from the door with the inside door handle cable.

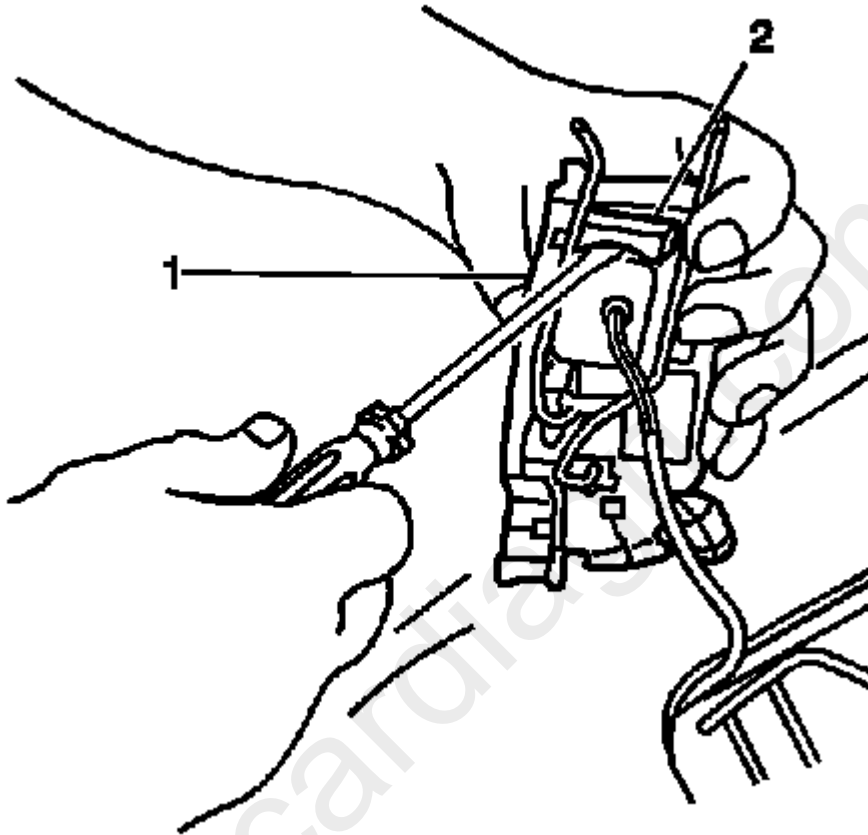


Fig. 35: Disconnecting Front Door Latch Electrical Connector
Courtesy of GENERAL MOTORS COMPANY

9. Use a small flat bladed tool to lift the electrical connector lock (2) and disconnect the electrical connector .
10. Remove the handle cable from the door latch.

Installation Procedure

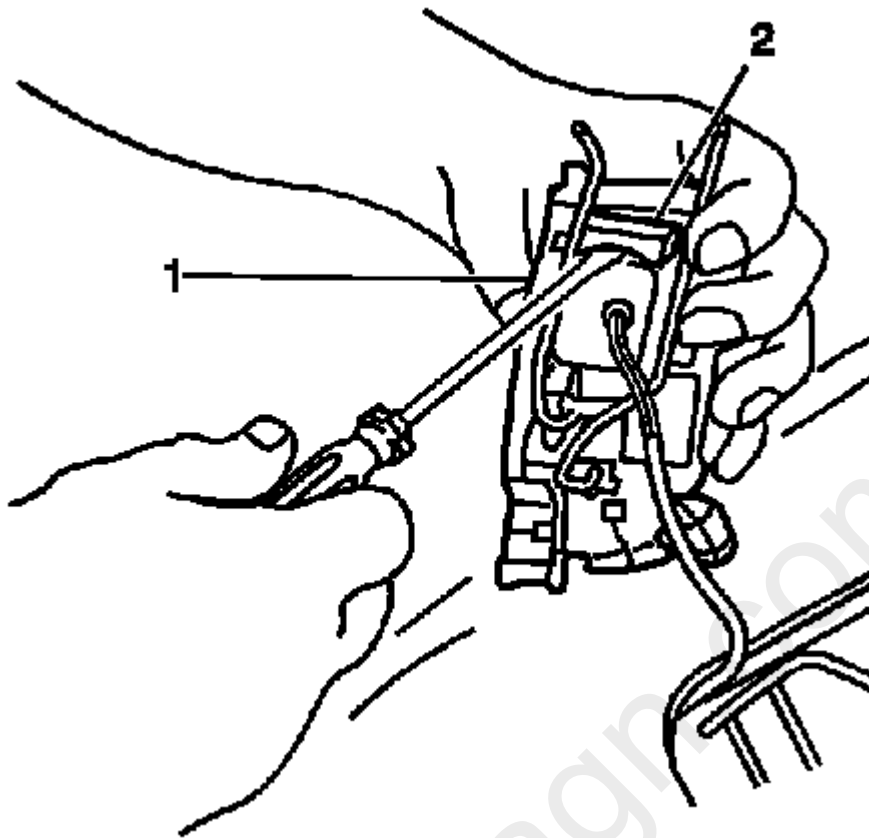


Fig. 36: Disconnecting Front Door Latch Electrical Connector
Courtesy of GENERAL MOTORS COMPANY

1. Install the inside door handle cable (2) to the door latch.
2. Install the electrical connector.
3. Install the door latch into the door.

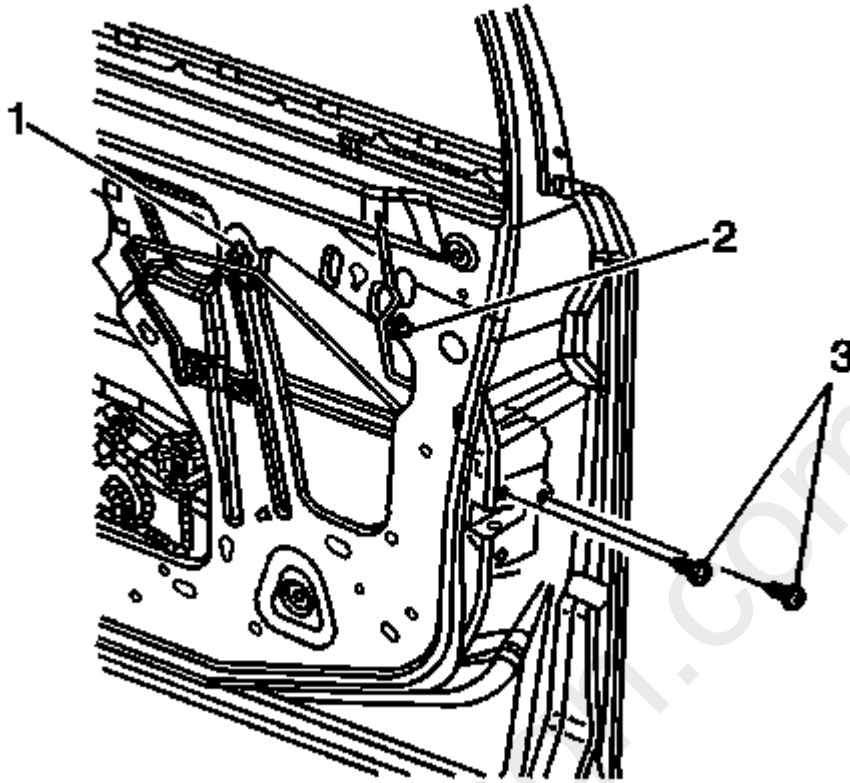


Fig. 37: View of Door and Latch Assembly
Courtesy of GENERAL MOTORS COMPANY

CAUTION: Refer to Fastener Caution .

4. Install the door latch screws (3) and tighten to 10 N.m (89 lb in).
5. Install the front side door latch cover.
6. Install the inside handle cable into the retainers (1).
7. Install the outside door handle rod (1) into the latch clip (2), if equipped.
8. Close the clip.
9. Check for proper operation of the door handles, latch cylinder, and door latch.
10. Install the water deflector.
11. Install the door trim panel. Refer to **Front Side Door Trim Panel Replacement (Wagon)** .

FRONT SIDE DOOR LATCH REPLACEMENT (COUPE)

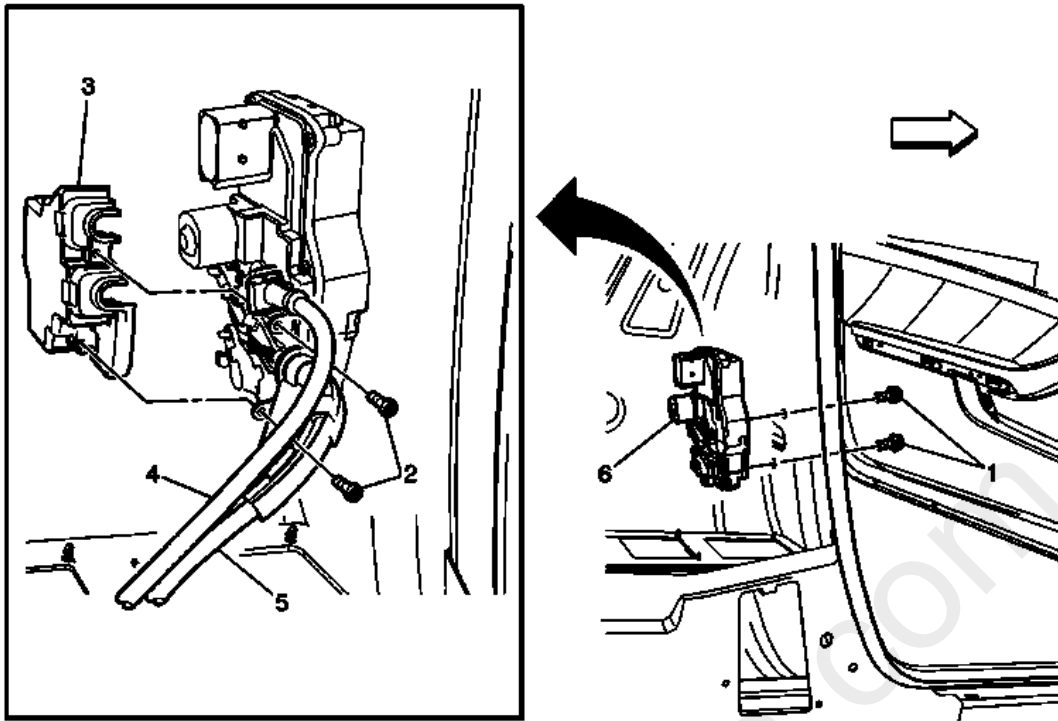


Fig. 38: Front Side Door Latch & Components (Coupe)
 Courtesy of GENERAL MOTORS COMPANY

Front Side Door Latch Replacement (Coupe)

Preliminary Procedure

1. Remove the body side front lower trim panel. Refer to **Body Side Front Lower Trim Panel Replacement (Coupe)** .
2. Remove the seat belt retractor Pretensioner. Refer to **Seat Belt Retractor Pretensioner Replacement - Front (AQ9 and Coupe prior to VIN B0100175)** , **Seat Belt Retractor Pretensioner Replacement - Front (W2E)** , **Seat Belt Retractor Pretensioner Replacement - Front (AQ9 and Coupe)** .

1

Front Side Door Latch Screws (Qty: 2)

CAUTION:
 Refer to **Fastener Caution** .

Procedure

Pull the door latch out of the inner panel to access the cover screws that conceal the cable.

Tighten

10 N.m (89 lb in)

Front Side Door Latch Cable Cover Screws (Qty: 2)

Procedures

2	1. Pull the door latch out of the inner panel to remove the cover screws and cables. 2. Disconnect the electrical connector. Tighten 5 N.m (44 lb in)
3	Front Side Door Latch Cable Cover
4	Rear Compartment Lid Interior Release Latch Cable
5	Procedure Disconnect the upper cable from the front side door lock release. Procedure Disconnect the lower cable from the front side door lock release.
6	Front Side Door Latch

REAR COMPARTMENT LID LATCH REPLACEMENT (COUPE)

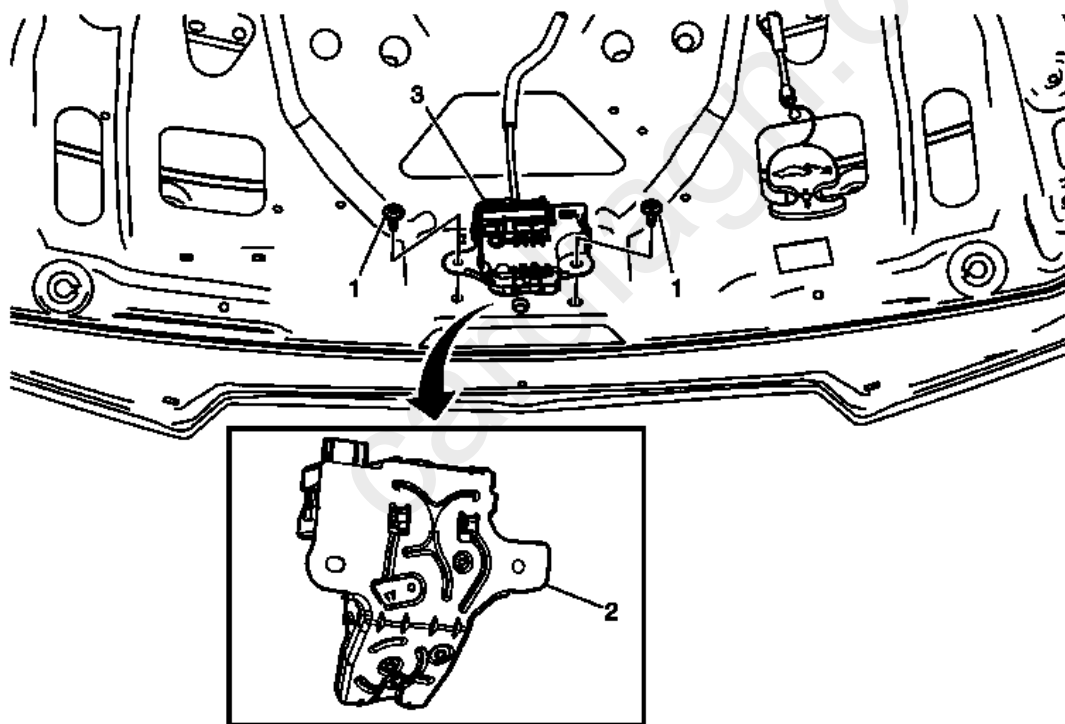


Fig. 39: Rear Compartment Lid Latch & Mounting Components (Coupe)

Courtesy of GENERAL MOTORS COMPANY

Rear Compartment Lid Latch Replacement (Coupe)

Callout	Component Name
Preliminary Procedures	

1. Disconnect the inside handle from the rear compartment lid at the latch. Refer to **Rear Compartment Lid Inside Handle Replacement (Coupe)**.
2. Disconnect the rear compartment lid lock cylinder cable at the latch. Refer to **Rear Compartment Lid Lock Cylinder Replacement (Coupe)**.

1	Rear Compartment Lid Latch Bolt (Qty: 2) CAUTION: Refer to <u>Fastener Caution</u> . Tighten 10 N.m (89 lb in)
2	Rear Compartment Lid Latch Locator Tab/Retainer Procedure Slide the latch to release from the tab/retainers.
3	Rear Compartment Lid Latch Procedure Disconnect the electrical connector.

REAR SIDE DOOR LATCH REPLACEMENT

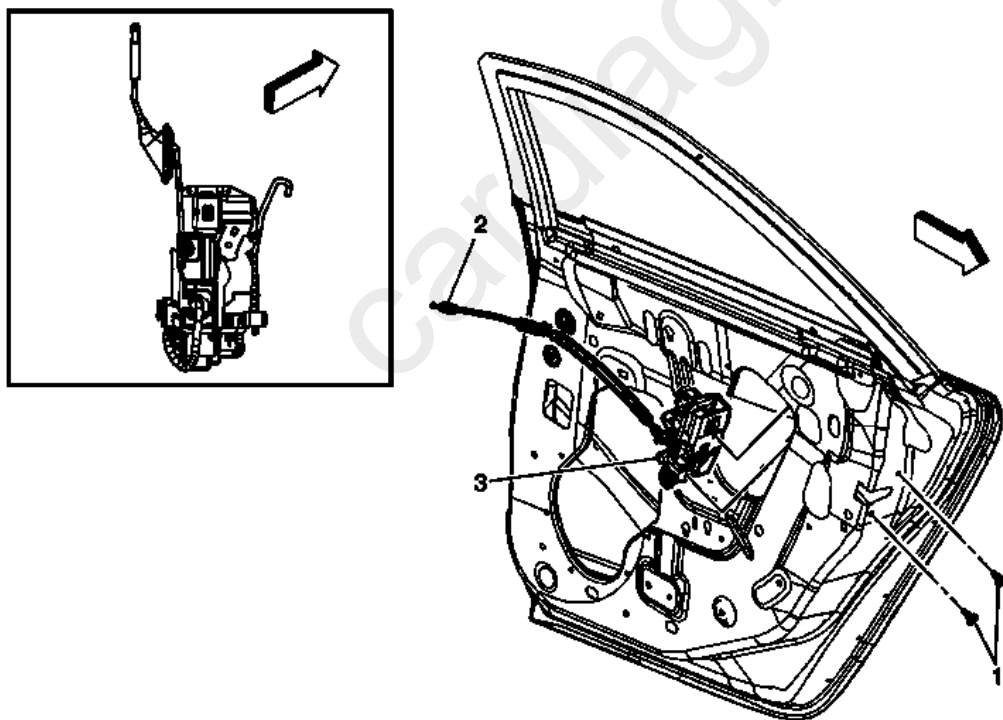


Fig. 40: Rear Side Door Latch
Courtesy of GENERAL MOTORS COMPANY

Rear Side Door Latch Replacement

Callout	Component Name
Preliminary Procedures 1. Remove the interior trim panel. Refer to <u>Rear Side Door Trim Panel Replacement (Wagon)</u> . 2. Remove the door outside handle housing. Refer to <u>Rear Side Door Outside Handle Housing Replacement</u>.	
1	Rear Side Door latch Bolt (Qty: 2) CAUTION: Refer to <u>Fastener Caution</u> . Procedure 1. Release the inside handle cable retainers before removing the door lock. 2. Disconnect the door latch electrical connector. Tighten 10 N.m (89 lb in)
2	Rear Inside Door Handle Cable
3	Rear Side Door Latch Assembly Procedures Transfer the latch rods.

FRONT SIDE DOOR LOCK COVER REPLACEMENT

Removal Procedure

1. Place the window in the full up position.
2. Remove the door trim panel. Refer to **Front Side Door Trim Panel Replacement (Coupe)** , **Front Side Door Trim Panel Replacement (Wagon)** .
3. Remove the water deflector.

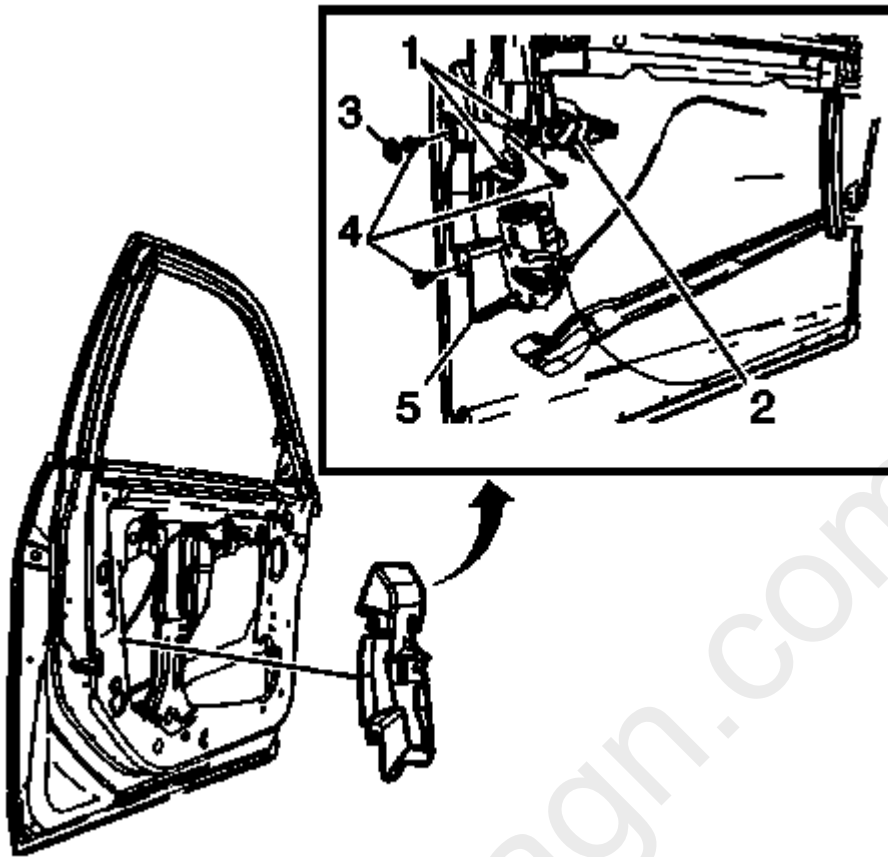


Fig. 41: View of Door and Wiring Harness Assembly
Courtesy of GENERAL MOTORS COMPANY

4. Remove the wiring harness from the retainers (1).
5. Disconnect the electrical connector (2).
6. Remove the screw cover (3).
7. Remove the screws (4) from the outer edge of the door and from the inside.
8. Remove the front side door latch cover (5) from inside the door.

Installation Procedure

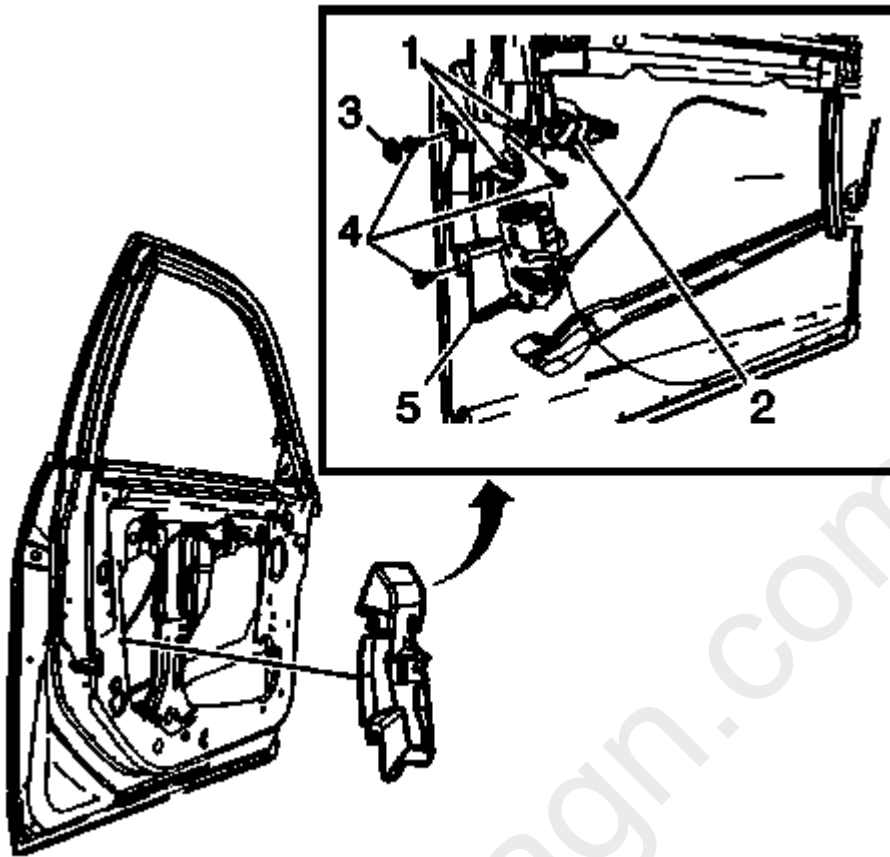


Fig. 42: View of Door and Wiring Harness Assembly
 Courtesy of GENERAL MOTORS COMPANY

1. Install the front side door latch cover (5) to cover the lock.

CAUTION: Refer to Fastener Caution .

2. Install the screws (4) to the outer edge of the door and to the inside and tighten to 5 N.m (44 lb in).
3. Install the screw cover (3).
4. Connect the electrical connector (2).
5. Install the wiring harness to the retainers (1).
6. Install the water deflector.
7. Install the door trim panel. Refer to Front Side Door Trim Panel Replacement (Coupe) , Front Side Door Trim Panel Replacement (Wagon) .

ACCESSORY AND LIFTGATE CONTROL MODULE REPLACEMENT (WAGON)

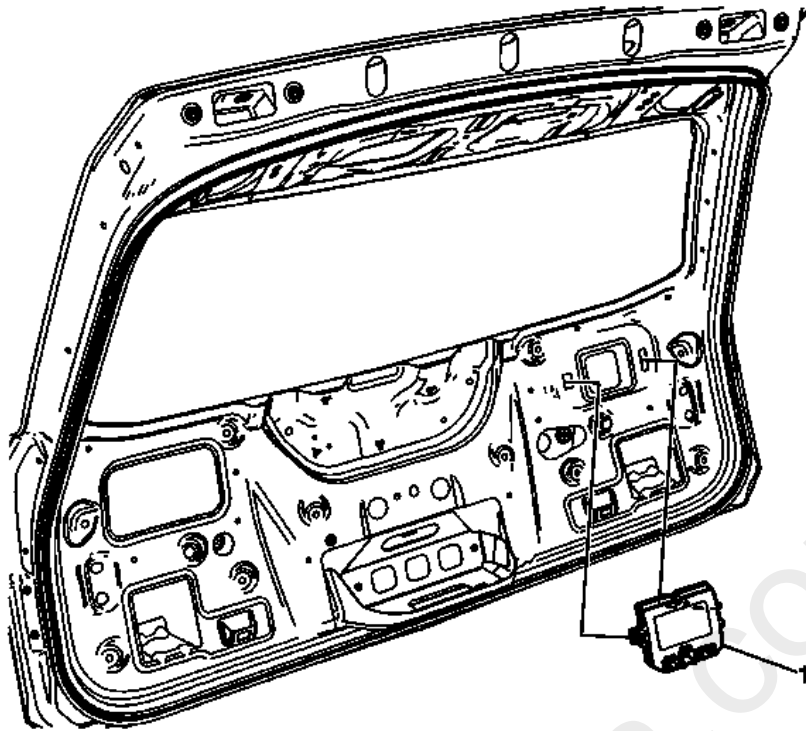


Fig. 43: Accessory And Liftgate Control Module (Wagon)
 Courtesy of GENERAL MOTORS COMPANY

Accessory and Liftgate Control Module Replacement (Wagon)

Callout	Component Name
Preliminary Procedure Remove the liftgate lower trim finish panel. Refer to <u>Liftgate Lower Trim Finish Panel Replacement (Wagon)</u> .	
1	Accessory and Liftgate Control Module Procedure 1. Disconnect the electrical connectors. 2. Push in tabs to release module. 3. Reprogram the control module if replaced. Refer to <u>Control Module References</u> .

LIFTGATE HYDRAULIC PUMP REPLACEMENT

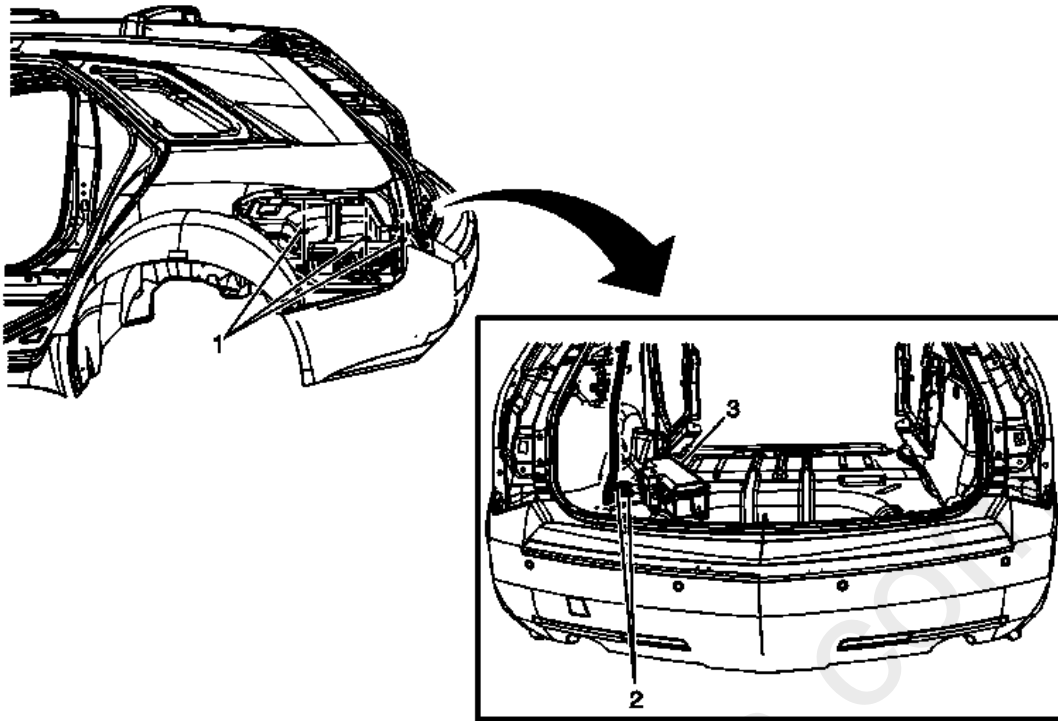


Fig. 44: Liftgate Hydraulic Pump, Hose & Nut
 Courtesy of GENERAL MOTORS COMPANY

Liftgate Hydraulic Pump Replacement

Callout	Component Name
WARNING: Refer to <u>Eye Protection Warning</u> .	
WARNING: Refer to <u>Liftgate Hydraulic System Warning</u> .	
Preliminary Procedures	
1. Open and support the liftgate. 2. Disconnect the battery. Refer to <u>Battery Negative Cable Disconnection and Connection (Coupe)</u> . 3. Remove the left side lower rear compartment trim panel. 4. Position a clean protective covering over the interior and adjacent panels.	
1	Liftgate Hydraulic Pump Nut CAUTION: Refer to <u>Fastener Caution</u> .

	Procedure Reposition the hydraulic pump to access the hydraulic pump hoses. Tighten 12 N.m (106 lb in)
2	Liftgate Hydraulic Pump Hose Procedure Disconnect the hydraulic pump hoses. Refer to <u>Liftgate Hydraulic Actuator Hose Disconnection and Connection.</u>
3	Liftgate Hydraulic Pump Procedure Inspect the liftgate hydraulic system for proper operation before final assembly of the trim panels. Refer to <u>Liftgate Hydraulic System Refilling,</u> and <u>Liftgate Hydraulic System Bleeding.</u>

LIFTGATE HYDRAULIC PUMP INSULATOR REPLACEMENT

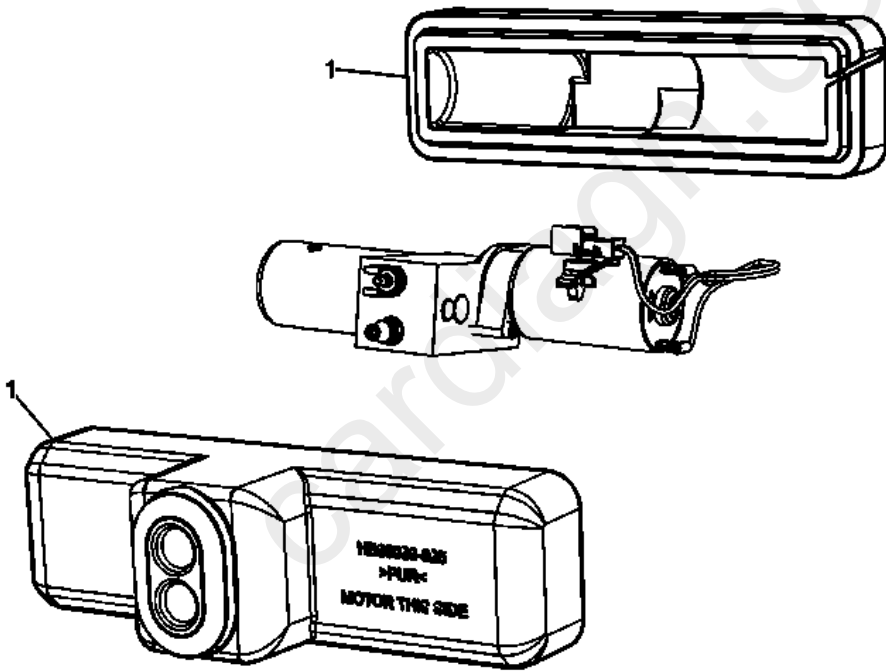


Fig. 45: View Of Liftgate Hydraulic Pump Insulator
Courtesy of GENERAL MOTORS COMPANY

Liftgate Hydraulic Pump Insulator Replacement

Callout	Component Name
WARNING: Refer to <u>Eye Protection Warning</u> .	
WARNING:	

Refer to Liftgate Hydraulic System Warning .

Preliminary Procedures

1. Remove the liftgate hydraulic pump. Refer to Liftgate Hydraulic Pump Replacement.
2. Remove the liftgate hydraulic pump cover. Refer to Liftgate Hydraulic Pump Cover Replacement.

1

Liftgate Hydraulic Pump Insulator

Procedure

Separate the foam insulator halves from the liftgate hydraulic pump motor.

LIFTGATE HYDRAULIC PUMP COVER REPLACEMENT

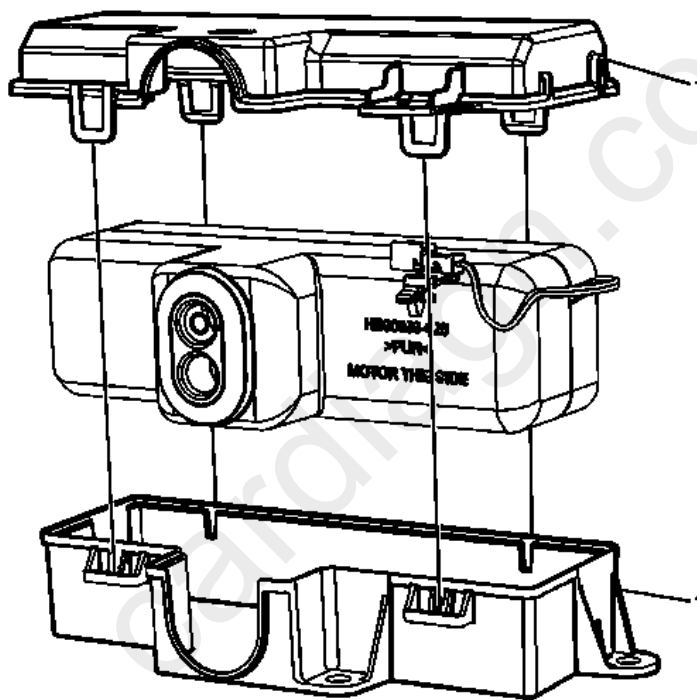


Fig. 46: View Of Liftgate Hydraulic Pump Cover
Courtesy of GENERAL MOTORS COMPANY

Liftgate Hydraulic Pump Cover Replacement

Callout	Component Name
WARNING: Refer to <u>Eye Protection Warning</u> . WARNING: Refer to <u>Liftgate Hydraulic System Warning</u> .	

Preliminary Procedures	
1. Open and support the liftgate. 2. Disconnect the battery. Refer to <u>Battery Negative Cable Disconnection and Connection (Coupe)</u> . 3. Remove the liftgate hydraulic pump from the vehicle. Refer to <u>Liftgate Hydraulic Pump Replacement</u>.	
	Liftgate Hydraulic Pump Cover
1	Procedure 1. Separate the cover halves from the liftgate pump by releasing the retainer tabs. 2. Inspect the liftgate hydraulic system for proper operation before final assembly of the trim panels. Refer to <u>Liftgate Hydraulic System Refilling</u>, and <u>Liftgate Hydraulic System Bleeding</u>.

FRONT SIDE DOOR OUTSIDE HANDLE HOUSING REPLACEMENT

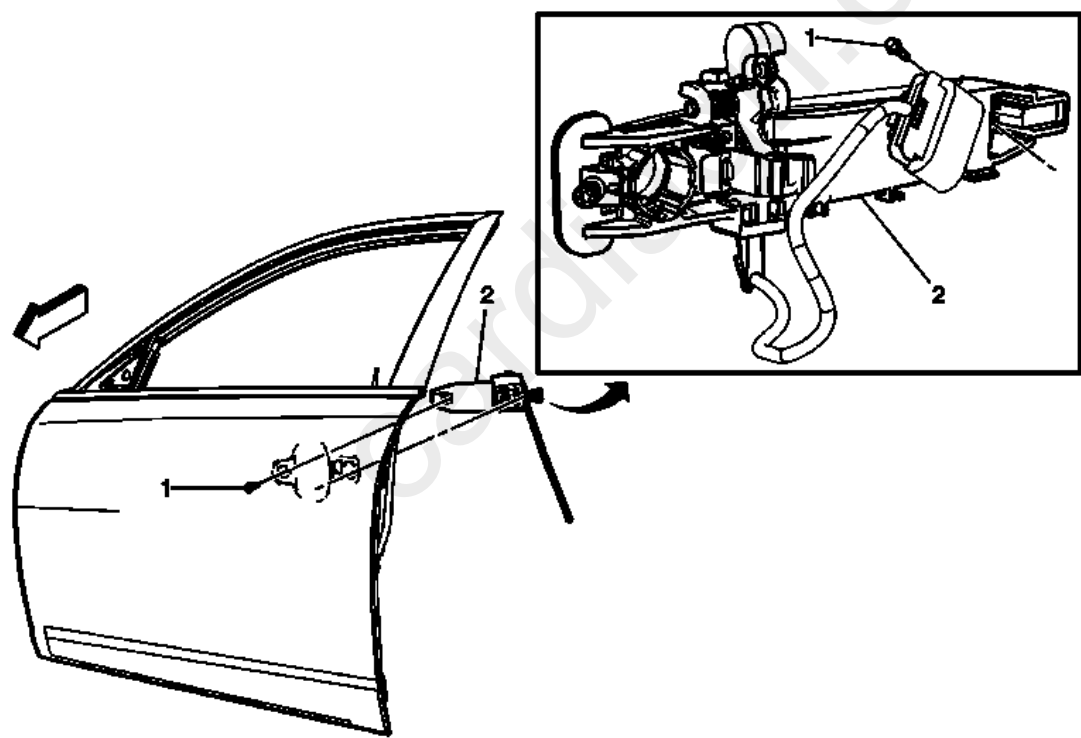


Fig. 47: Front Side Door Outside Handle Housing
 Courtesy of GENERAL MOTORS COMPANY

Front Side Door Outside Handle Housing Replacement

Callout	Component Name
Preliminary Procedures	

1. Remove the front side door trim panel. Refer to **Front Side Door Trim Panel Replacement (Coupe)** , **Front Side Door Trim Panel Replacement (Wagon)** .
2. Remove the front side outside handle. Refer to **Front Side Door Outside Handle Replacement (Front Door with ATH)**, **Front Side Door Outside Handle Replacement (Front and Rear Doors with ATH)**, **Front Side Door Outside Handle Replacement (Without ATH)**.

1	Front Side Door Handle Housing Bolt CAUTION: Refer to <u>Fastener Caution</u> . Tighten 7 N.m (62 lb in)
2	Front Side Door Handle Housing Procedure 1. Disconnect electrical connector. 2. Remove the housing through the opening in the inner panel. 3. Transfer the latch cylinder and handle release rod to the new housing.

FRONT SIDE DOOR LOCKING ROD REPLACEMENT

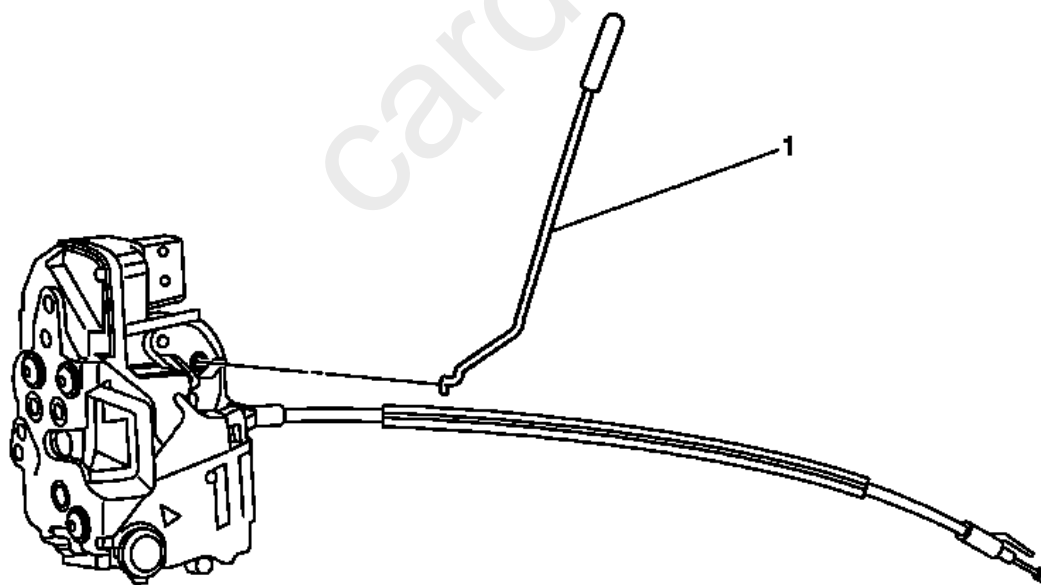


Fig. 48: Rear Side Door Locking Rod

Courtesy of GENERAL MOTORS COMPANY

Front Side Door Locking Rod Replacement

Callout	Component Name
Preliminary Procedure Remove the front side door latch. Refer to <u>Front Side Door Latch Replacement (Coupe)</u> , <u>Front Side Door Latch Replacement (Wagon)</u> .	
1	Front Side Door Locking Rod

LIFTGATE HYDRAULIC SYSTEM REFILLING

WARNING: Refer to Eye Protection Warning .

WARNING: Refer to Battery Disconnect Warning .

NOTE:

- The actuator/hose assemblies are shipped full with fluid. In this case the pump fluid reservoir should only be filled to the normal + sign. Do not overfill to compensate for an empty actuator/hose assembly.
- Symptom of a low fluid condition will be a jerking liftgate and with an abnormal hydraulic pump noise as the liftgate is being open. The liftgate will not open to the full open position. The liftgate will reverse before reaching the full open position if not operating properly.
- Inspection of the hydraulic fluid level and/or refilling may only be completed if the liftgate hydraulic actuator pump is removed from the vehicle and placed on a clean/level workbench horizontally to the + sign to accurately inspect and add fluid as needed. The liftgate hydraulic actuator pump must rest in the horizontal position for one minute before the hydraulic fluid level is inspected. The level must be above the + mark.
- The liftgate hydraulic system components must be tested for proper operation before reinstalling the trim panels that cover the liftgate hydraulic actuator pump and actuator/hose assemblies so the fluid level can be recheck after cycling the liftgate 3-5 times to ensure proper fluid level. Rechecking the fluid level will require removal of the liftgate hydraulic pump.

1. Remove the liftgate hydraulic pump. Refer to Liftgate Hydraulic Pump Replacement.

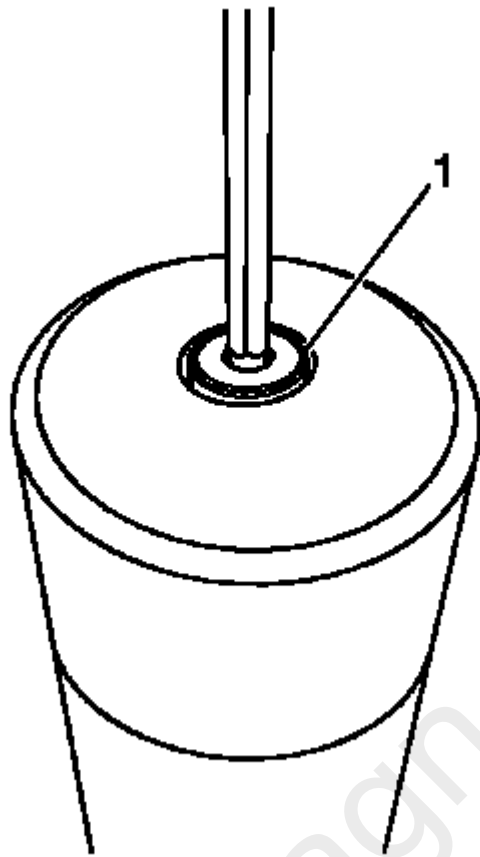


Fig. 49: Identifying Filler Screw

Courtesy of GENERAL MOTORS COMPANY

2. Position the pump with the fluid reservoir in a vertical position with the filler screw (1) in the up and/or on top position.
3. Wipe the surface around the filler screw clean.
4. Remove the filler screw (1) and place on a clean, lint and dust free surface.

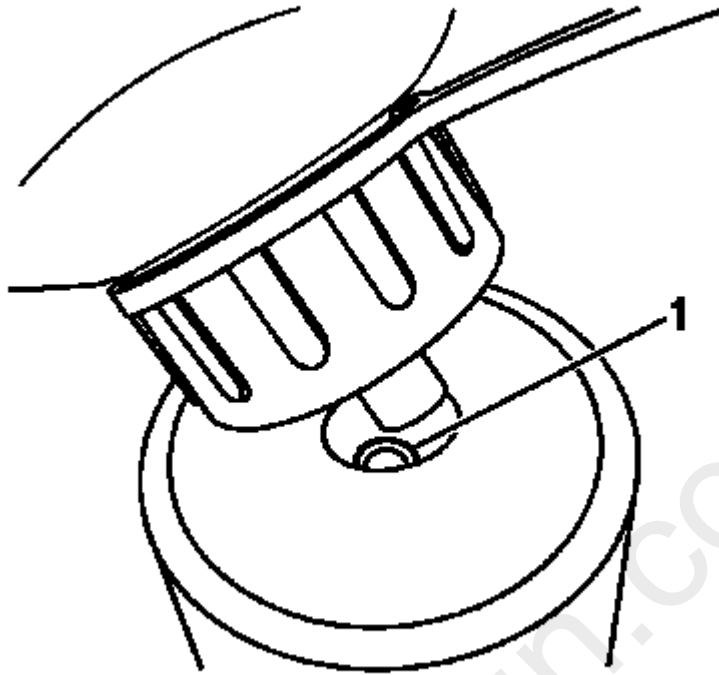


Fig. 50: Identifying Container

Courtesy of GENERAL MOTORS COMPANY

5. Add hydraulic fluid from a clean container (1). Refer to **Adhesives, Fluids, Lubricants, and Sealers** for the recommended fluid.

CAUTION: Refer to **Fastener Caution** .

6. Install the filler screw and tighten to 1.3 N.m (12 lb in).

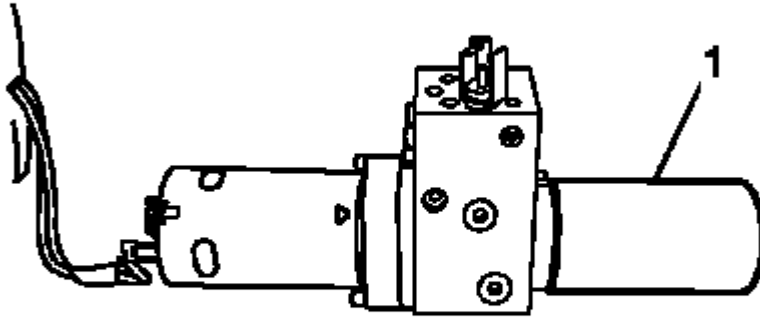


Fig. 51: Positioning Liftgate Hydraulic Actuator Pump
Courtesy of GENERAL MOTORS COMPANY

7. Position the liftgate hydraulic actuator pump (1) on a clean/level workbench horizontally to the + sign to accurately inspect and add fluid as needed.

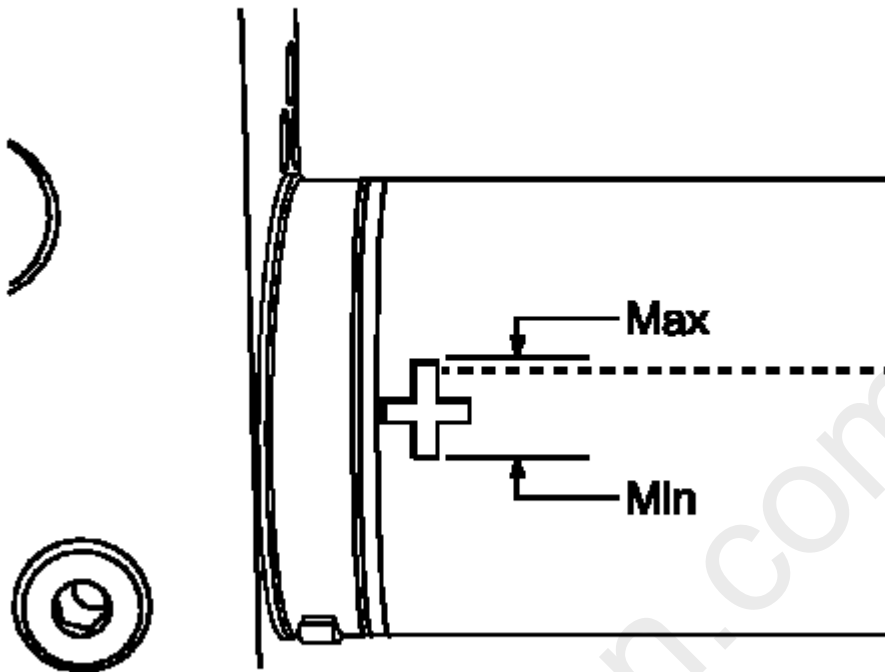


Fig. 52: Identifying Fluid Level Marks
Courtesy of GENERAL MOTORS COMPANY

8. The liftgate hydraulic actuator pump must rest in the horizontal position for one minute before the hydraulic fluid level is inspected. The level must be above the + mark.
9. Install the pump without the trim and inspect for proper operation and fluid level. The fluid level can be checked after cycling the liftgate 3-5 times to ensure proper fluid level. If the fluid is still low repeat the procedure.
10. Install the liftgate hydraulic pump after inspection. Refer to Liftgate Hydraulic Pump Replacement.

LIFTGATE HYDRAULIC SYSTEM BLEEDING

WARNING: Refer to Eye Protection Warning .

NOTE: Inspection of the hydraulic fluid level and/or refilling may only be completed if the liftgate hydraulic actuator pump is removed from the vehicle and placed on a clean/level workbench horizontally to the + sign to accurately inspect and add fluid as needed. The liftgate hydraulic actuator pump must rest in the horizontal position for one minute before the hydraulic fluid level is inspected. The level

must be above the + mark after cycling the liftgate 3-5 times.

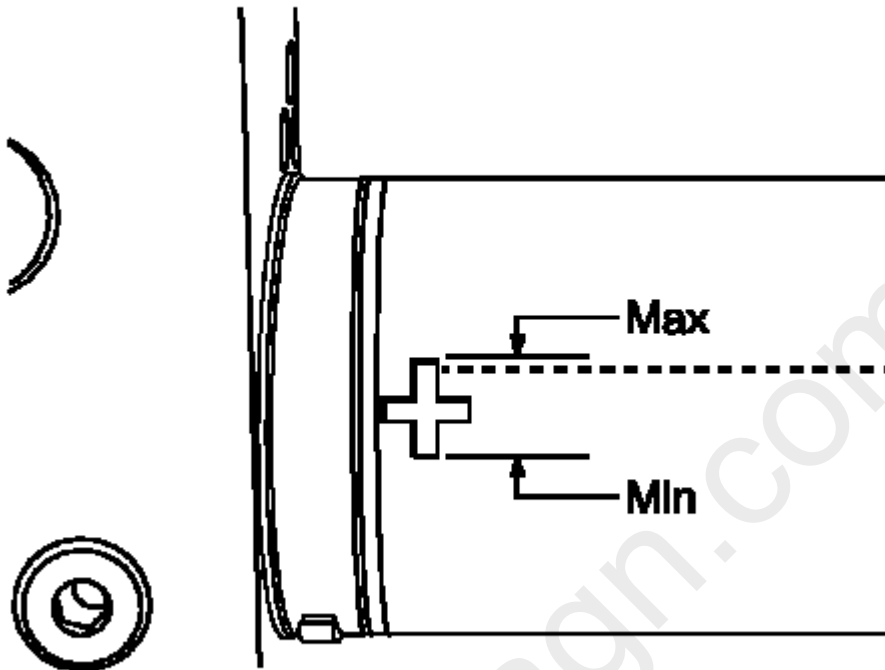


Fig. 53: Identifying Fluid Level Marks

Courtesy of GENERAL MOTORS COMPANY

1. Cycle the liftgate 3-5 times to ensure proper fluid level.
2. Inspect the fluid level. Refer to **Liftgate Hydraulic Pump Replacement**.
3. If adding fluid is required, refer to **Liftgate Hydraulic System Refilling**.

LIFTGATE HYDRAULIC ACTUATOR REPLACEMENT

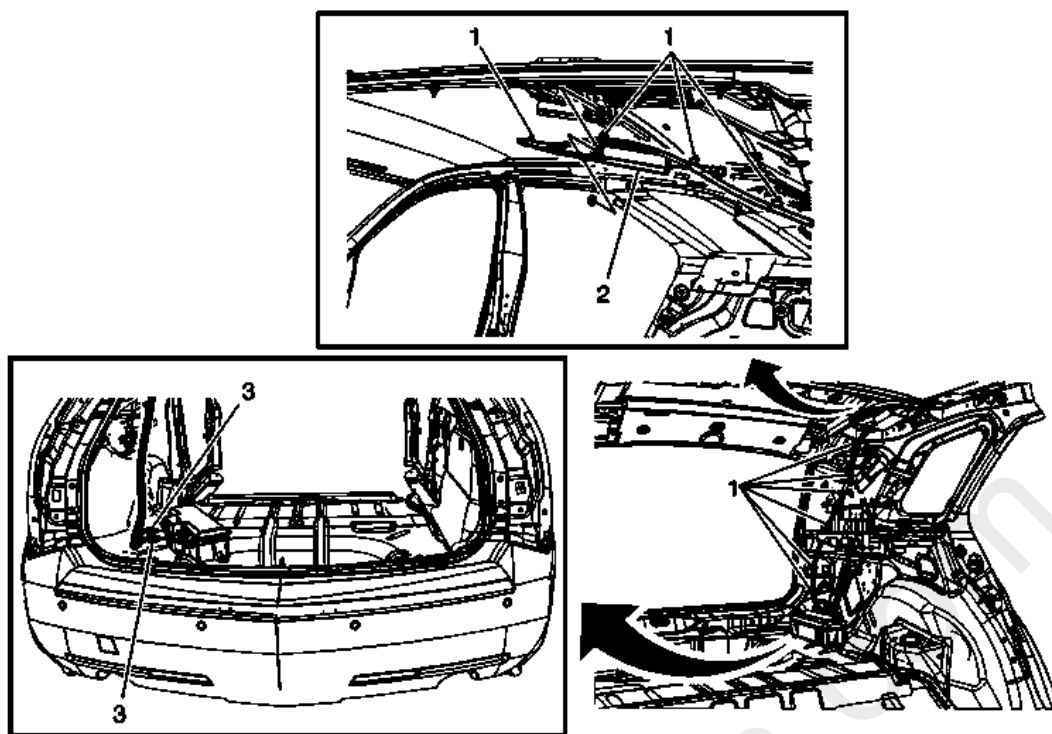


Fig. 54: Liftgate Hydraulic Actuator, Hose & Tie Wrap Retainers
 Courtesy of GENERAL MOTORS COMPANY

Liftgate Hydraulic Actuator Replacement

Callout	Component Name
WARNING: Refer to <u>Eye Protection Warning</u> .	
WARNING: Refer to <u>Liftgate Hydraulic System Warning</u> .	
Preliminary Procedures	
1. Disconnect the battery. Refer to <u>Battery Negative Cable Disconnection and Connection (Coupe)</u> , <u>Battery Negative Cable Disconnection and Connection (Wagon)</u> .	
2. Open and support the liftgate.	
3. Remove the headliner. Refer to <u>Headlining Trim Panel Replacement (Coupe)</u> , <u>Headlining Trim Panel Replacement (Wagon)</u> .	
4. Remove the left rear lower side compartment trim.	
5. Position a protective covering over the interior and the adjacent body panels.	
1	Tie Wrap Retainer (Qty: 10) Procedure Cut the tie wraps and replace with new tie wraps.
	Liftgate Hydraulic Actuator

2	Procedure 1. Do not disconnect the hydraulic hoses from the hydraulic actuator. 2. Reposition the liftgate hydraulic actuator to a position that will avoid bending the hoses.
3	Liftgate Hydraulic Actuator with Hose Procedure 1. Disconnect the liftgate hydraulic actuator hoses from the hydraulic actuator pump. Refer to <u>Liftgate Hydraulic Actuator Hose Disconnection and Connection</u>. 2. Inspect the liftgate hydraulic system for proper operation before final assembly of trim panels. Refer to <u>Liftgate Hydraulic System Refilling</u>, and <u>Liftgate Hydraulic System Bleeding</u>.

LIFTGATE HYDRAULIC ACTUATOR HOSE DISCONNECTION AND CONNECTION

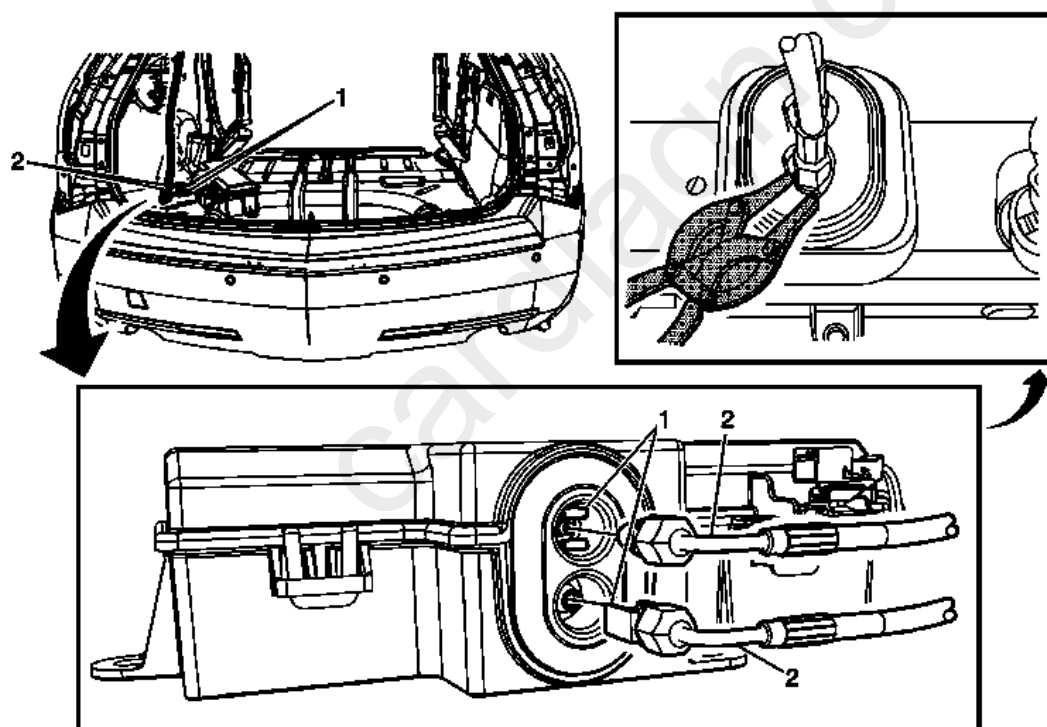


Fig. 55: Locating Liftgate Hydraulic Actuator Hose & Coupler
 Courtesy of GENERAL MOTORS COMPANY

Liftgate Hydraulic Actuator Hose Disconnection and Connection

Callout	Component Name
Preliminary Procedure Reposition the liftgate hydraulic pump. Refer to <u>Liftgate Hydraulic Pump Replacement</u>.	

1	Liftgate Hydraulic Actuator Quick Coupler
2	Liftgate Hydraulic Actuator Procedure 1. Place a clean protective covering over the interior and adjacent areas. 2. Reposition the pump so that the lines are on top for minimal leakage. 3. Disconnect the quick connects using J-8059 pliers while gently pulling on the hydraulic actuator hose or equivalent. 4. Ensure the quick connects are not distorted during removal or installation by over spreading the quick connects. 5. Bleed the hydraulic system. Refer to <u>Liftgate Hydraulic System Bleeding.</u> 6. Refill the hydraulic system. Refer to <u>Liftgate Hydraulic System Refilling.</u> Special Tools J-8059 Snap Ring Pliers- Parallel Jaw For equivalent regional tools, refer to <u>Special Tools.</u>

REAR SIDE DOOR LOCKING ROD REPLACEMENT

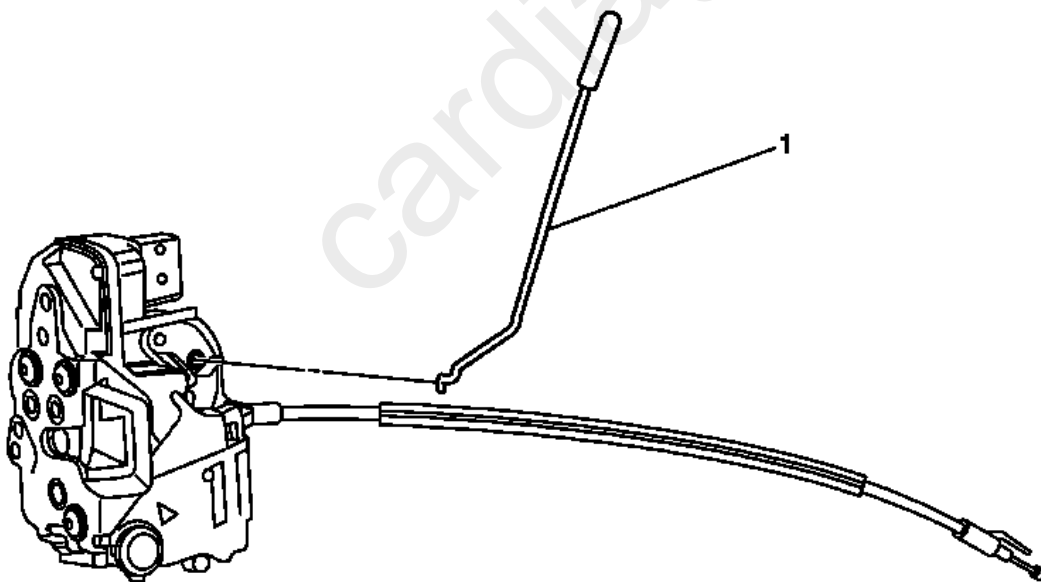


Fig. 56: Rear Side Door Locking Rod
Courtesy of GENERAL MOTORS COMPANY

Rear Side Door Locking Rod Replacement

Callout	Component Name
Preliminary Procedure Remove the rear side door latch. Refer to <u>Rear Side Door Latch Replacement</u> .	
1	Rear Side Door Locking Rod

LIFTGATE SIDE SENSOR REPLACEMENT

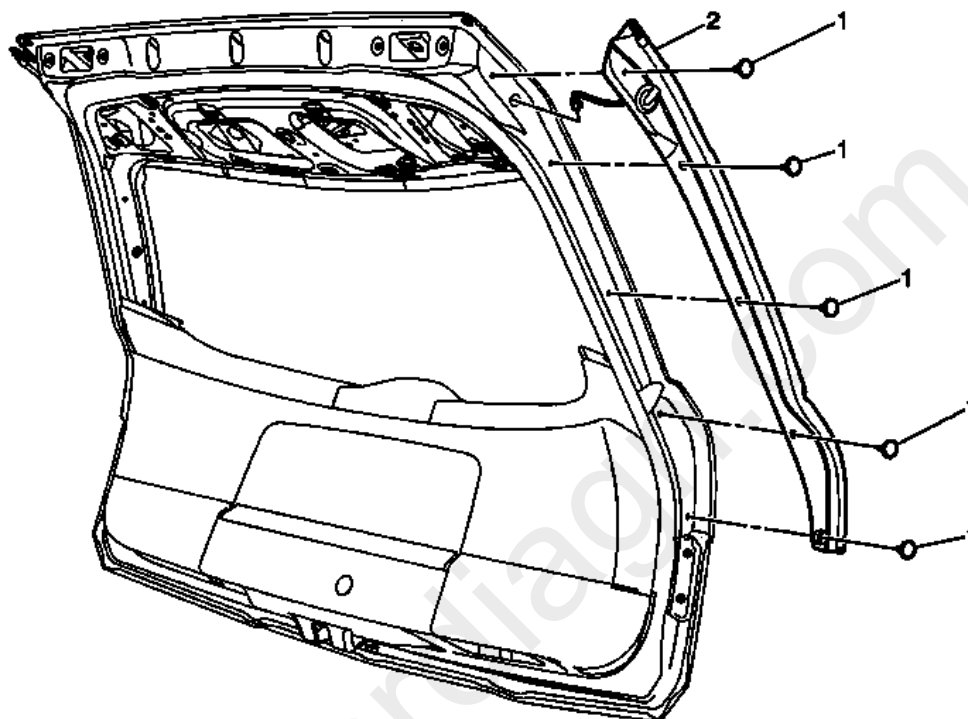


Fig. 57: Liftgate Side Upper Sensor & Retainers
Courtesy of GENERAL MOTORS COMPANY

Liftgate Side Sensor Replacement

Callout	Component Name
Preliminary Procedures 1. Remove the liftgate upper trim panel. Refer to <u>Liftgate Upper Trim Finish Panel Replacement (Wagon)</u> . 2. Disconnect the electrical connector.	
1	Liftgate Side Upper Sensor Retainer (Qty: 5) TIP: The retainers are ONE time use ONLY. They must be replaced after being removed.
2	Liftgate Side Upper Sensor

DOOR LOCK STRIKER ADJUSTMENT (WAGON)

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

1. Ensure that the door is properly aligned with the door opening before proceeding with the striker adjustment.
2. Open and close the door on the striker (2). Note if the door drags on the striker causing the door to move upward or downward upon contact with the striker. Also note the closing effort to fully engage the latch.

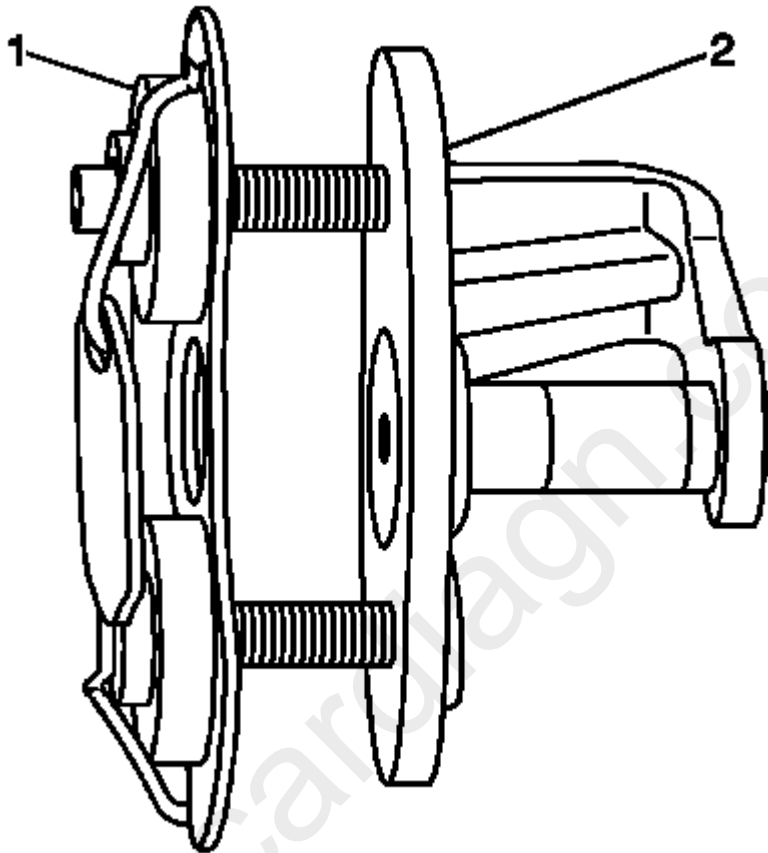


Fig. 58: Door Striker & Door Opening
Courtesy of GENERAL MOTORS COMPANY

NOTE: When the striker bolts have been removed, the striker anchor plate (1) will slip down in the door pillar or quarter panel and the trim will need to be removed to gain access.

3. Using a soft marker, mark around the striker (2) for reference of the original position. Loosen the striker screws just enough to allow the movement of the door striker and shims if equipped.
4. Adjust the door striker up or down and inboard or outboard as required.
5. Move the striker to eliminate drag on the striker and door latch and to achieve proper door position within door opening. Start with up/down position, then position the striker to achieve proper alignment to the door opening. Set the in/out adjustment for proper door seal engagement ensuring that the door closing

efforts are correct.

CAUTION: Refer to Fastener Caution .

6. Adjust the striker and add spacers as required. Tighten the screws to 25 N.m (18 lb ft).
7. Inspect the door for proper operation.
8. Close the door.

DOOR LOCK STRIKER ADJUSTMENT (COUPE)

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

1. Ensure that the door is properly aligned with the door opening before proceeding with the striker adjustment.
2. Open and close the door on the striker (2). Note if the door drags on the striker causing the door to move upward or downward upon contact with the striker. Also note the closing effort to fully engage the latch.

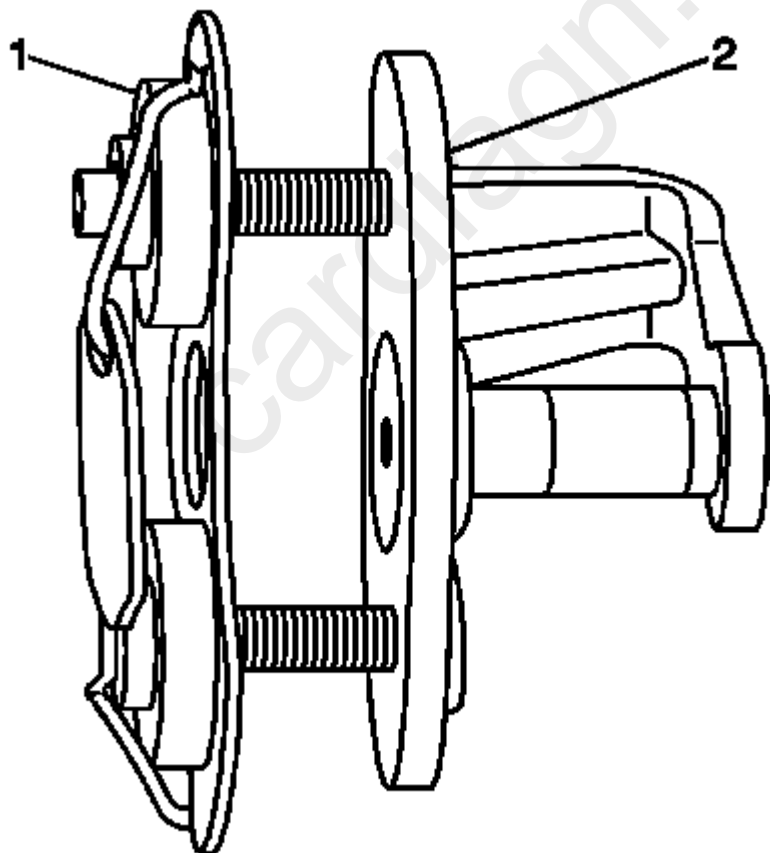


Fig. 59: Door Striker & Door Opening
Courtesy of GENERAL MOTORS COMPANY

NOTE: When the striker bolts have been removed, the striker anchor plate (1) will slip down in the door pillar or quarter panel and the trim will need to be removed to gain access.

3. Using a soft marker, mark around the striker (2) for reference of the original position. Loosen the striker screws just enough to allow the movement of the door striker and shims if equipped.
4. Adjust the door striker up or down and inboard or outboard as required.
5. Move the striker to eliminate drag on the striker and door latch and to achieve proper door position within door opening. Start with up/down position, then position the striker to achieve proper alignment to the door opening. Set the in/out adjustment for proper door seal engagement ensuring that the door closing efforts are correct.

CAUTION: Refer to Fastener Caution .

6. Adjust the striker and add spacers as required. Tighten the screws to 25 N.m (18 lb ft).
7. Inspect the door for proper operation.
8. Close the door.

FRONT SIDE DOOR LOCK STRIKER REPLACEMENT (WAGON)

Removal Procedure

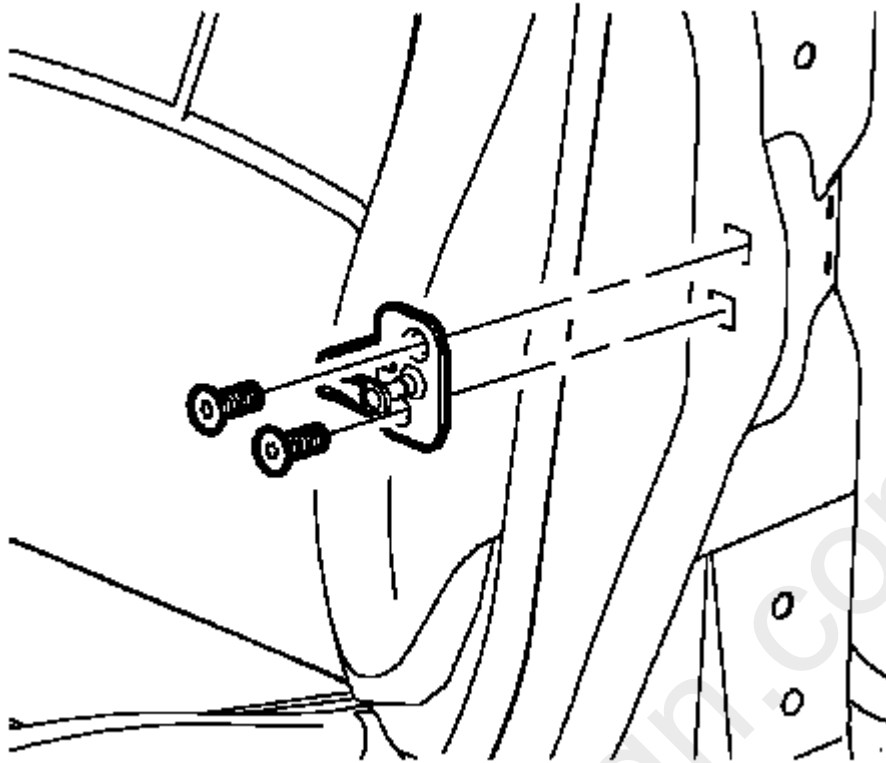


Fig. 60: View Of Front Door Striker
Courtesy of GENERAL MOTORS COMPANY

WARNING: In order to prevent SIR deployment, personal injury, or unnecessary SIR system repairs, do not strike the door or the door pillar in the area of the side impact sensor (SIS). Turn OFF the ignition and remove the key when performing service in the area of the SIS.

NOTE: When the striker bolts have been removed, the striker anchor plate could slip down in the door pillar or quarter panel and the trim will need to be removed to gain access.

1. Using a grease pencil, mark around the striker for installation purposes.
2. Remove the bolts.
3. Remove the striker.
4. Remove the striker plastic trim.

Installation Procedure

1. Install the striker plastic trim.

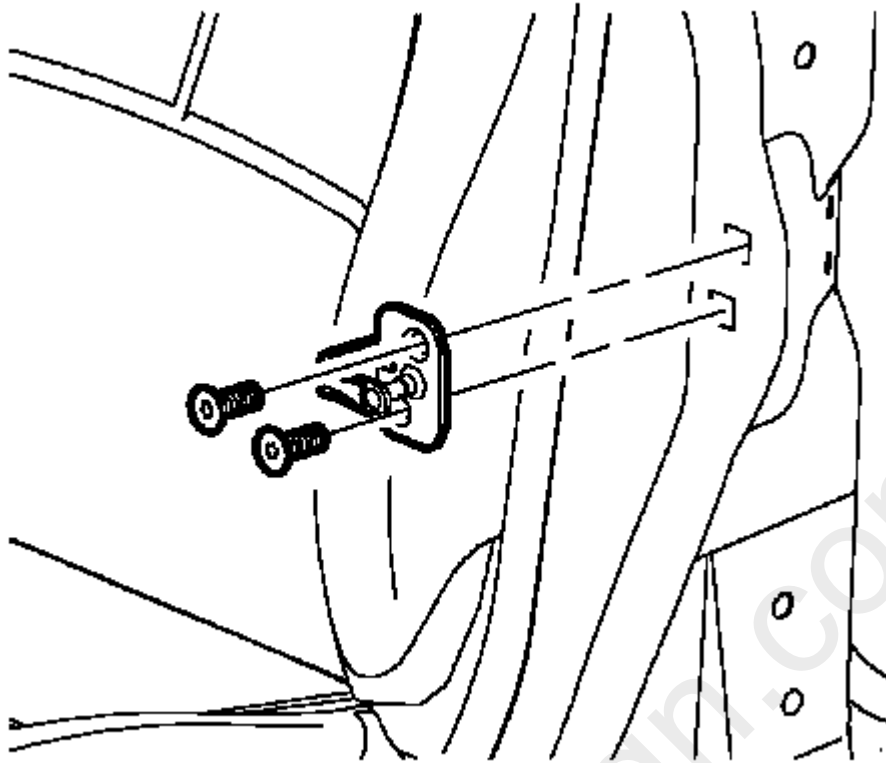


Fig. 61: View Of Front Door Striker
Courtesy of GENERAL MOTORS COMPANY

2. Loosely install the striker with the bolts.
3. Align the striker with the marks made prior to removal.
4. Install the bolts, hand tighten.
5. Inspect the door closing and align the striker as required. Refer to **Door Lock Striker Adjustment (Wagon)**.

CAUTION: Refer to **Fastener Caution** .

6. Tighten the strikers to 24 N.m (18 lb ft).

FRONT SIDE DOOR LOCK STRIKER REPLACEMENT (COUPE)

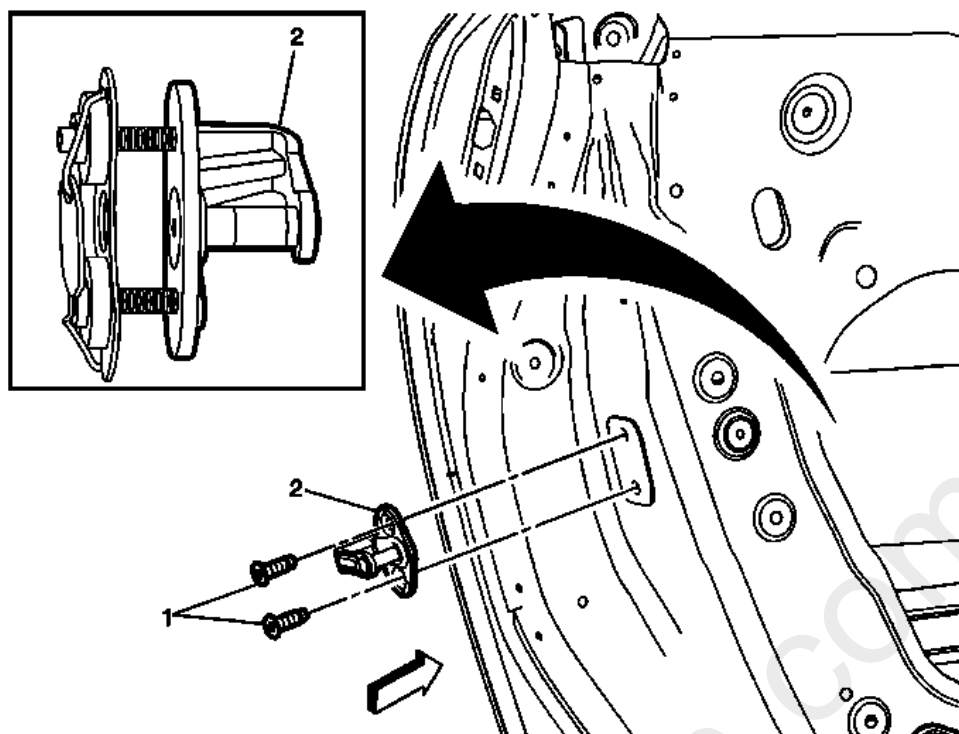


Fig. 62: Front Side Door Lock Striker & Screws (Coupe)

Courtesy of GENERAL MOTORS COMPANY

Front Side Door Lock Striker Replacement (Coupe)

Callout	Component Name
1	Front Side Door Lock Striker Screw (Qty: 2) CAUTION: Refer to <u>Fastener Caution</u> . Procedure Mark the location of the door striker using a suitable marker before removing the striker screws. Tighten 24 N.m (18 lb ft)
2	Front Side Door Lock Striker Procedure Adjust the striker as needed. Refer to <u>Door Lock Striker Adjustment (Coupe)</u>. NOTE: Ensure spacer is in place before installing striker.

LIFTGATE LOCK STRIKER ADJUSTMENT

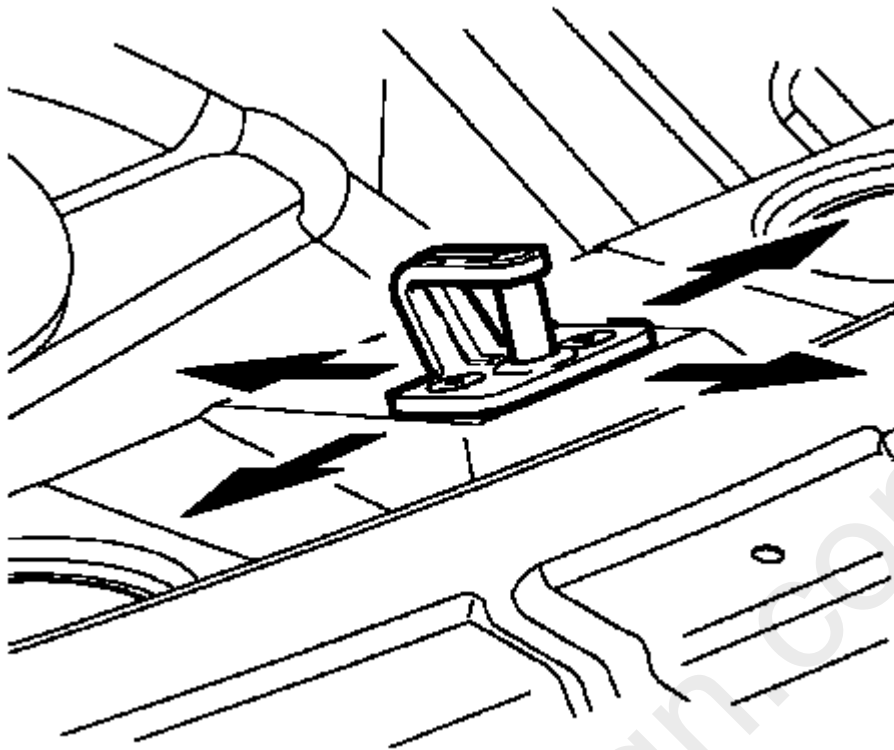


Fig. 63: Identifying Striker Adjustment
Courtesy of GENERAL MOTORS COMPANY

NOTE: Make certain the liftgate is properly aligned within the liftgate opening before proceeding with the striker adjustment.

1. Close the liftgate onto the striker and note if liftgate drags on striker causing the liftgate to move side to side upon contact with the striker. Also note closing efforts to fully engage latch.
2. Mark around the striker with a grease pencil for reference of original position.
3. Loosen striker bolts.
4. Move the striker to eliminate drag on striker and liftgate latch and to achieve proper liftgate position within the liftgate opening.
5. Align the left/right liftgate position, then position the striker to achieve proper alignment to liftgate opening.
6. Align the in/out adjustment for proper liftgate seal engagement making sure the liftgate closing efforts are correct.

CAUTION: Refer to Fastener Caution .

7. Verify correct alignment of striker and tighten striker bolts.

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

LIFTGATE LATCH STRIKER REPLACEMENT

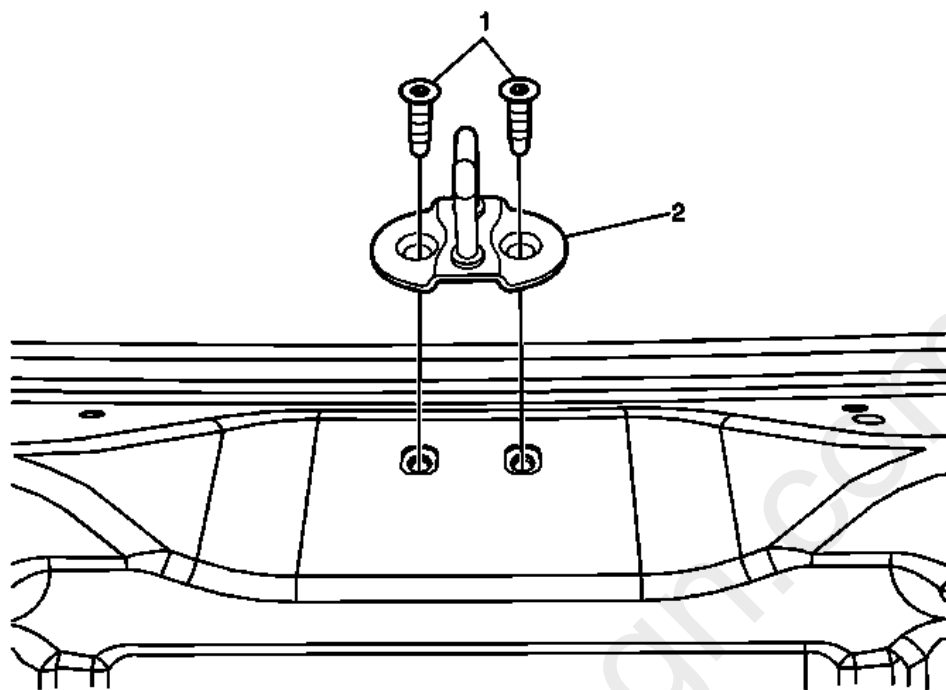


Fig. 64: View Of Liftgate Lock Striker & Bolts
Courtesy of GENERAL MOTORS COMPANY

Liftgate Latch Striker Replacement

Callout	Component Name
Preliminary Procedure Remove the liftgate door sill plate. Refer to <u>Rear Compartment Sill Trim Plate Replacement (Coupe)</u> , <u>Rear Compartment Sill Trim Plate Replacement (Wagon)</u> .	
1	Liftgate Latch Striker Bolt (Qty: 2) CAUTION: Refer to <u>Fastener Caution</u> . Tighten 25 N.m (18 lb ft)
2	Liftgate Latch Striker Procedure 1. Mark the location of the striker with a grease pencil to ensure proper alignment

- during installation.
2. Adjust the liftgate if needed.

REAR COMPARTMENT LID LATCH STRIKER REPLACEMENT

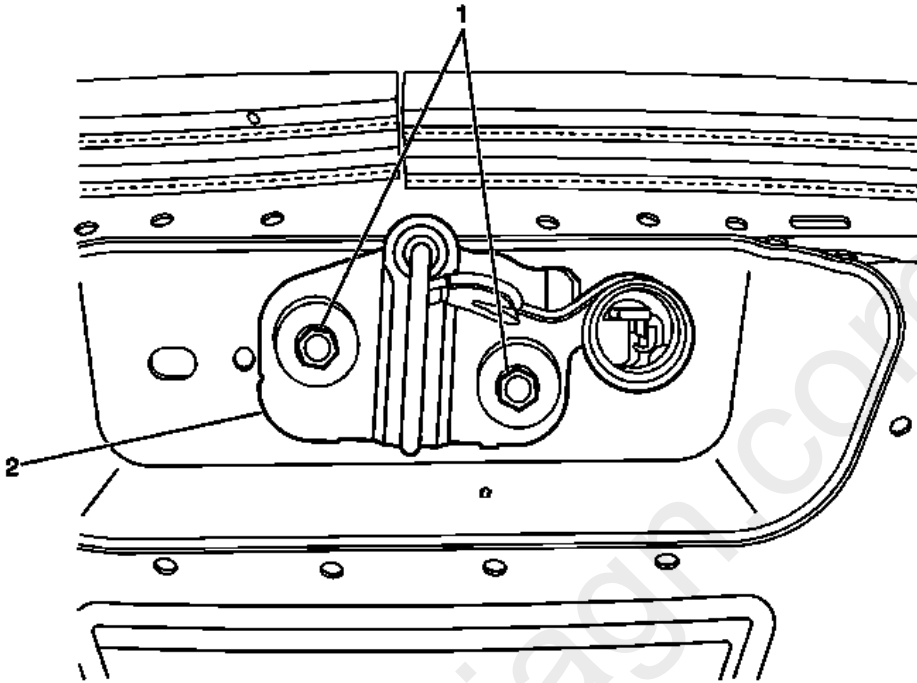


Fig. 65: Identifying Rear Compartment Lid Latch Striker

Courtesy of GENERAL MOTORS COMPANY

Rear Compartment Lid Latch Striker Replacement

Callout	Component Name
Preliminary Procedure Remove the rear compartment sill plate. Refer to <u>Rear Compartment Sill Trim Plate Replacement (Coupe)</u> , <u>Rear Compartment Sill Trim Plate Replacement (Wagon)</u> .	
1	Rear Compartment Lid Latch Striker Bolt (Qty: 2) CAUTION: Refer to <u>Fastener Caution</u> . Tighten 10 N.m (89 lb in)
2	Rear Compartment Lid Latch Striker TIP: Disconnect the rear compartment emergency release cable before removing the latch striker.

REAR SIDE DOOR LOCK STRIKER REPLACEMENT

Removal Procedure

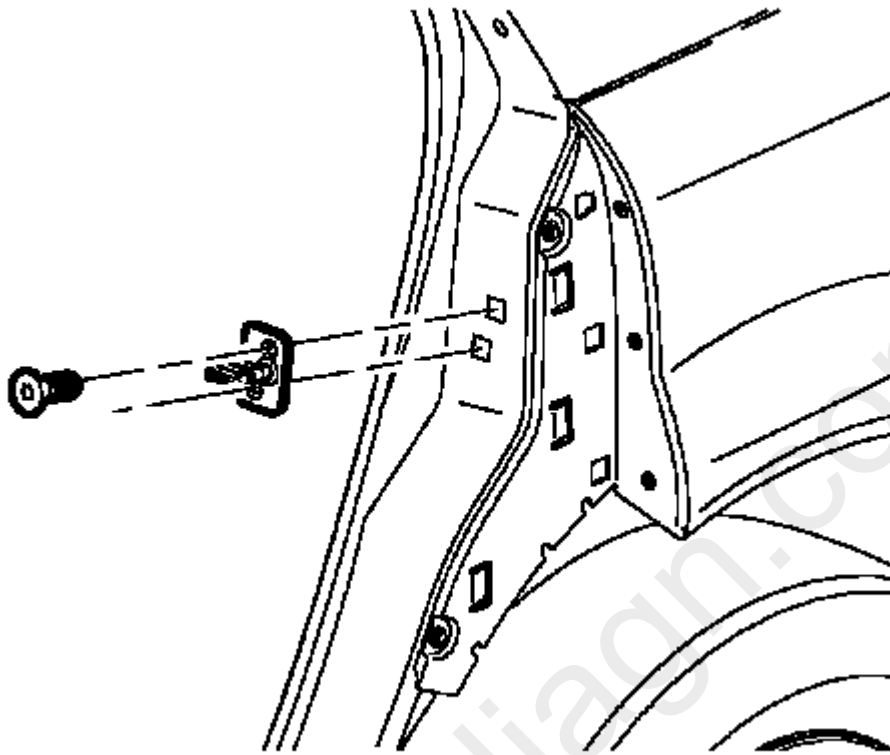


Fig. 66: Door Striker

Courtesy of GENERAL MOTORS COMPANY

WARNING: In order to prevent SIR deployment, personal injury, or unnecessary SIR system repairs, do not strike the door or the door pillar in the area of the side impact sensor (SIS). Turn OFF the ignition and remove the key when performing service in the area of the SIS.

NOTE: When the striker bolts have been removed, the striker anchor plate could slip down in the door pillar or quarter panel and the trim will need to be removed to gain access.

1. Using a grease pencil, mark around the striker for installation purposes.
2. Remove the screws.
3. Remove the striker.
4. Remove the striker plastic trim.

Installation Procedure

1. Install the striker plastic trim.

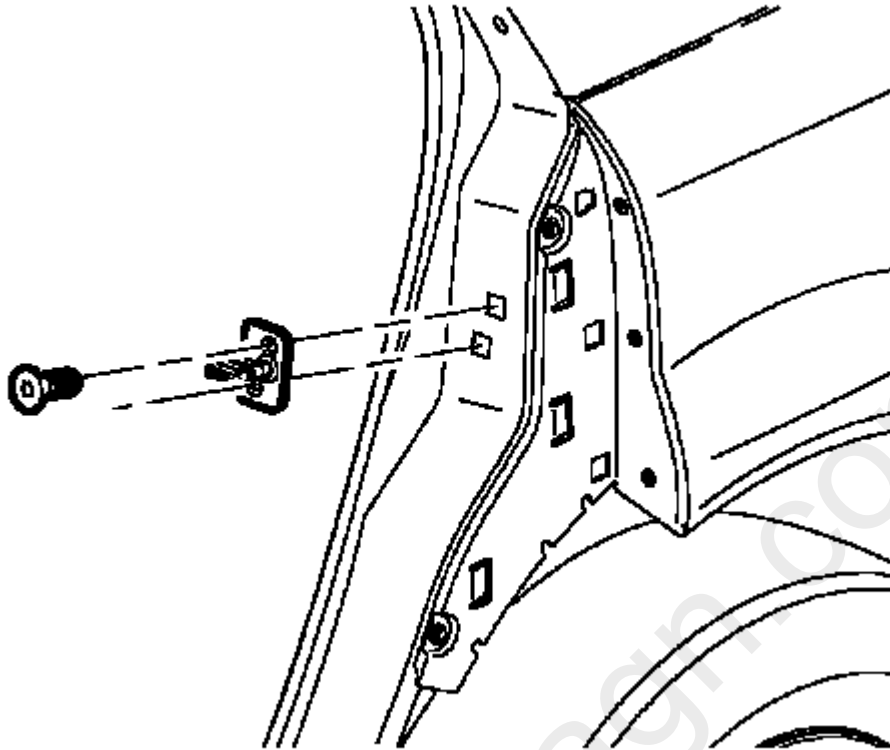


Fig. 67: Door Striker
Courtesy of GENERAL MOTORS COMPANY

2. Install the striker loosely with the bolts.
3. Align the striker with the marks made prior to removal.
4. Install the bolts, hand tighten.
5. Inspect the door closing and align the striker as required. Refer to **Door Lock Striker Adjustment (Wagon)**, **Door Lock Striker Adjustment (Coupe)**.

CAUTION: Refer to **Fastener Caution** .

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

DOOR LOCK AND SIDE WINDOW SWITCH REPLACEMENT - DRIVER SIDE

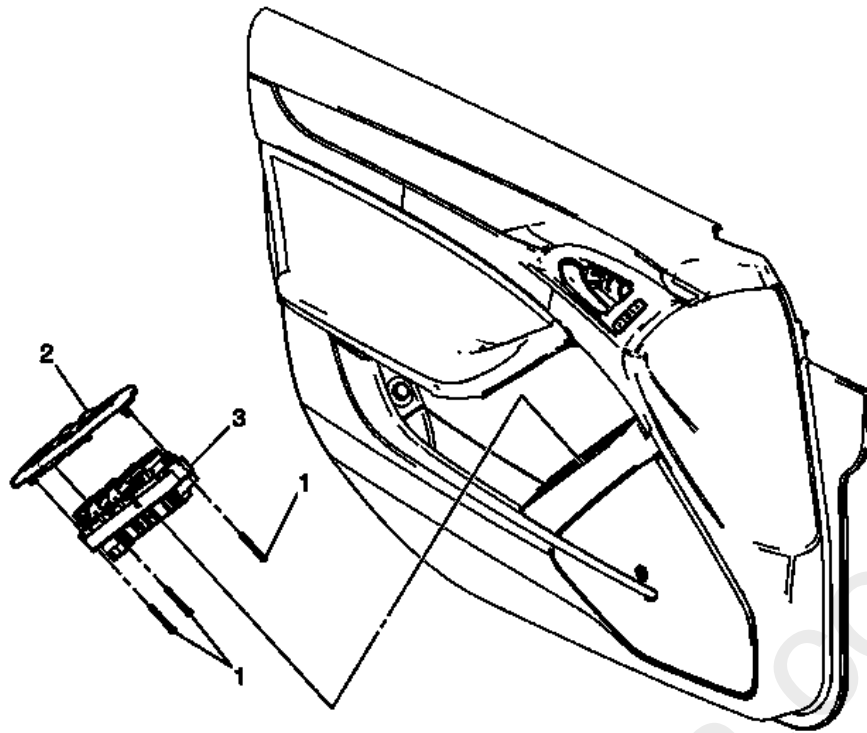


Fig. 68: Door Lock and Side Window Switch - Driver Side
 Courtesy of GENERAL MOTORS COMPANY

Door Lock and Side Window Switch Replacement - Driver Side

Callout	Component Name
Preliminary Procedures Remove the driver door panel trim. Refer to Front Side Door Trim Panel Replacement (Coupe) , Front Side Door Trim Panel Replacement (Wagon) .	
1	Door Lock and Side Window Switch Screw (Qty: 3) CAUTION: Refer to Fastener Caution . Tighten 3 N.m (27 lb in)
2	Front Side Door Window Switch Bezel Procedure Push in on the switch bezel integral tabs from the inside of the door trim panel to release the bezel.
3	Door Lock and Side Window Switch Procedure 1. Disconnect the electrical connector.

2. Refer to **Control Module References** for programming and setup information.

DOOR LOCK AND SIDE WINDOW SWITCH REPLACEMENT - PASSENGER SIDE

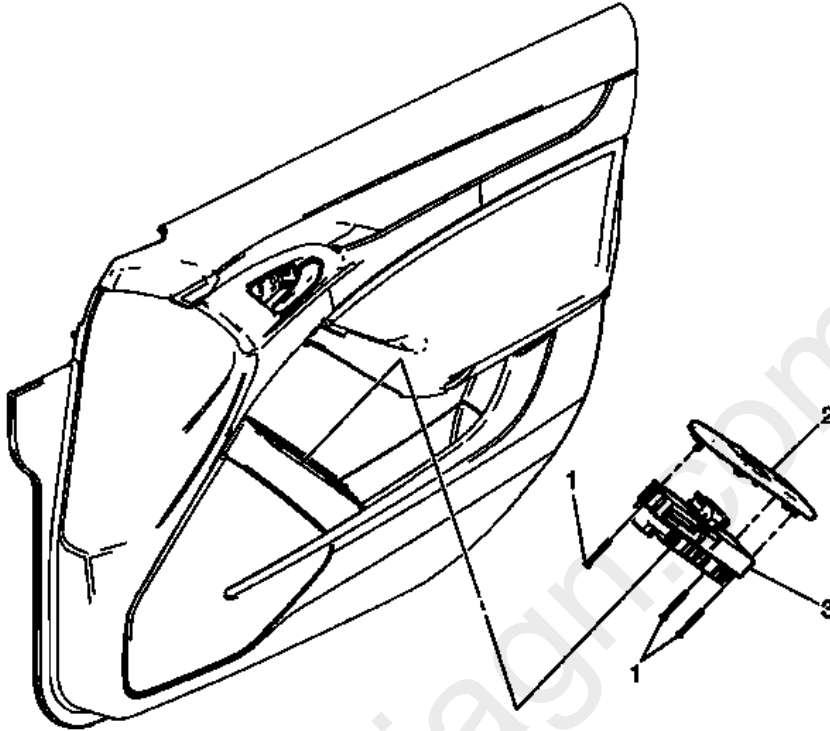


Fig. 69: Door Lock and Side Window Switch - Passenger Side
Courtesy of GENERAL MOTORS COMPANY

Door Lock and Side Window Switch Replacement - Passenger Side

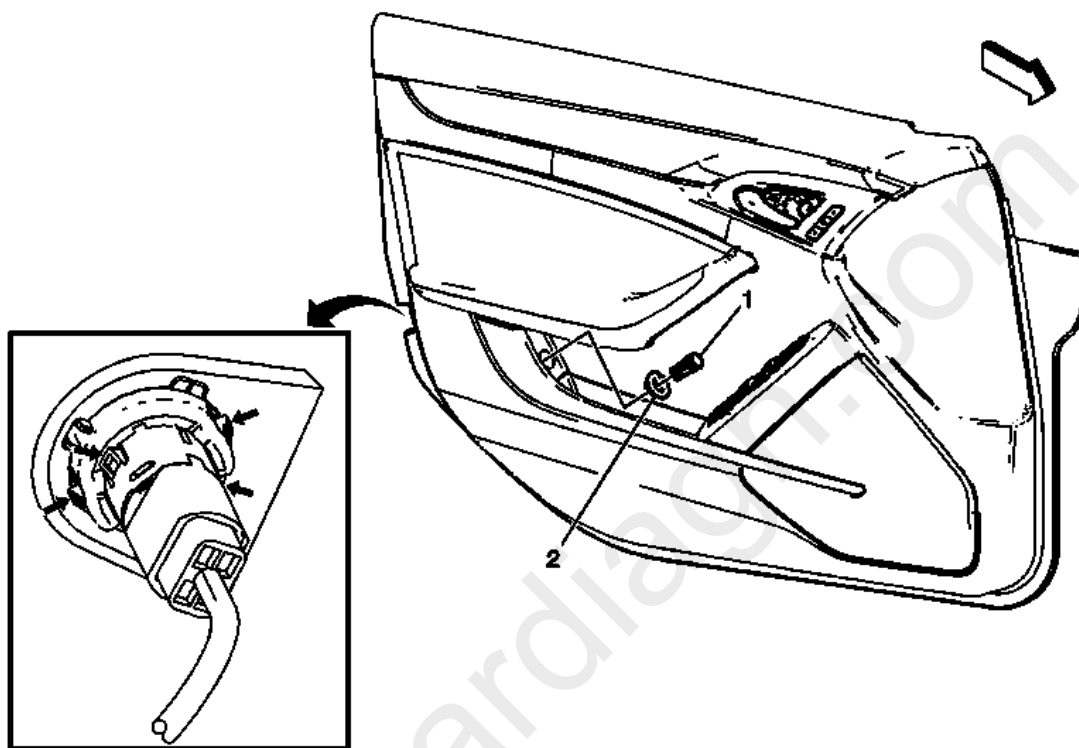
Callout	Component Name
Preliminary Procedures Remove the passenger door panel trim. Refer to <u>Front Side Door Trim Panel Replacement (Coupe)</u> , <u>Front Side Door Trim Panel Replacement (Wagon)</u> .	
1	Door Lock and Side Window Switch Screw (Qty: 3) CAUTION: Refer to <u>Fastener Caution</u> . Tighten 3 N.m (27 lb in)
2	Front Side Door Window Switch Bezel Procedure Push in on the switch bezel integral tabs from the inside of the door trim panel to release the bezel.

3

Door Lock and Side Window Switch

Procedure

1. Disconnect the electrical connector.
2. Refer to **Control Module References** for programming and setup information.

REAR COMPARTMENT LID RELEASE SWITCH REPLACEMENT (COUPE)**Fig. 70: Rear Compartment Lid Switch**

Courtesy of GENERAL MOTORS COMPANY

Rear Compartment Lid Release Switch Replacement (Coupe)

Callout	Component Name
Preliminary Procedures	
Remove the driver door panel trim. Refer to <u>Front Side Door Trim Panel Replacement (Coupe)</u> .	
1	Rear Compartment Lid Release Switch
	Procedure 1. Remove the foam insulator to access the switch and bezel. 2. Disconnect the electrical connector. 3. Push in on the integral tabs from the inside of the door trim panel and push the switch out through the bezel.

2

Rear Compartment Lid Release Switch Bezel

Procedure

Push in on the integral tabs from the inside of the door trim panel and push the switch bezel out through the door trim panel.

DESCRIPTION AND OPERATION

DOOR AJAR INDICATOR DESCRIPTION AND OPERATION

Door Ajar Indicator System Components

The door ajar indicator system consists of the following components:

- Body control module (BCM)
- Instrument panel cluster
- Driver door latch
- Passenger door latch
- Left rear door latch
- Right rear door latch
- Passenger door lock/window switch
- Driver door lock/window switch

Driver/Passenger Door Ajar

The driver and passenger door lock/window switches supplies a 12 V signal to their respective door ajar switch within the door latch, when the driver or passenger door is open the door ajar switch closes pulling the 12 V signal low. When the door lock/window switch detects the drop in the 12 V signal circuit, it will then communicate this status to the BCM via local interconnect network (LIN) bus. The BCM communicates with the instrument cluster via serial data message. The instrument panel cluster, upon receipt of this serial data message, will illuminate the driver door ajar indicator and also send a serial data message to the radio to activate the door ajar audible warning when the vehicle speed is greater than 8 km/h (5 mph).

Rear Door Ajar

The body control module (BCM) supplies a 12 V signal to each of the rear door latches, these latches contain an ajar switch which is normally open when the door is closed. When a door is ajar or open, the contacts of the ajar switch will close causing the voltage in the signal circuit to drop to zero volts. The BCM will detect the voltage drop and will send a message to the instrument panel cluster. The instrument panel cluster, upon receipt of this message, will illuminate the appropriate door ajar message in the driver information center and also send a message to the radio to activate the door ajar audible warning when the vehicle speed is greater than 8 km/h (5 mph).

FUEL FILL DOOR DESCRIPTION AND OPERATION

Fuel Door Release System Components

- Body control module (BCM)
- DR/LCK fuse 15 amp
- Fuel door release actuator
- Fuel door relay

The fuel door relay switch and coil terminals are supplied with battery voltage at all times via the DR/LCK fuse located in the rear fuse block. The locking and unlocking of the fuel door is a function of the power door lock system. When the vehicles doors are unlocked, the body control module (BCM) receives a GMLAN serial data message that the doors have been locked via a door lock switch or a remote keyless entry (RKE) function. The BCM will respond by applying ground to the fuel door relay control circuit. This energizes the coil causing the switch contacts to close. With the switch contacts closed, battery voltage is supplied to the fuel door release actuator, unlocking the fuel door.

When locking the fuel door, the BCM removes ground from the fuel door relay control circuit causing the relay switch contracts to open. With the relay in an non-energized state, the switch contacts are open to ground at G401. The BCM, upon receipt of a lock serial data signal, will apply ground to the door lock relay. This energizes the door lock relay causing the switch contacts to close. With the switch contacts closed, battery voltage is applied to the fuel door release actuator, rear door locks, rear door deadbolts, and front door deadbolts. The fuel door release actuator is supplied with ground through the open switch contacts of the fuel door relay to ground G401 causing the actuator to lock.

LIFTGATE AJAR INDICATOR DESCRIPTION AND OPERATION

Rear Access Open Message

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

LIFTGATE DESCRIPTION AND OPERATION

System Description

The power liftgate system consists of the following components:

- Liftgate control module
- Liftgate angle sensor (Part of the liftgate control module)
- Interior liftgate control switch
- Driver door switch panel control module
- Exterior liftgate control switch
- Liftgate close switch
- Liftgate latch assembly
- Liftgate motor assembly
- Left and right liftgate object sensors

- Keyless entry transmitter
- Remote control door lock receiver

Operation

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

- An open/close command from the driver door switch panel control module (Interior liftgate control switch)
- An open command from the exterior liftgate control switch
- A close command from the liftgate close switch
- An open request by a signal from the keyless entry transmitter to the remote control door lock receiver

The liftgate control module will respond to a request by commanding the liftgate latch to release the liftgate and commanding the liftgate pump motor to activate and pump hydraulic fluid to the liftgate control arm piston raising the liftgate to the open position.

Power Latch

The liftgate control module continuously monitors power liftgate operation and calculates its location and direction of travel from an external liftgate angle sensor. One input returns the position of the liftgate relative to the x-axis and y-axis. The liftgate control module then uses these 2 inputs together to calculate its angle relative to the liftgate. When the interior liftgate control switch is in the Garage position, a serial data message will be sent by the driver door switch panel control module to the liftgate control module, the liftgate control module will command the liftgate pump motor and monitor the x-axis and y-axis to stop the liftgate parallel to the vehicle roof.

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

The exterior liftgate control switch and liftgate close switch are parallel circuits and provide a single input to the liftgate control module. The exterior liftgate control switch and liftgate close switch signal circuit is supplied battery voltage through a resistor and monitored within the liftgate control module. The 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.

When the exterior liftgate control switch is pressed, the liftgate control module will check the status of the vehicle door locks by sending a serial data message to the body control module requesting the door lock status. If the vehicle doors are locked, the liftgate control module will ignore the signal from the exterior liftgate

control switch. If the vehicle doors are unlocked, the liftgate control module will permit the liftgate to unlatch and power open when the exterior liftgate control switch is pressed.

Liftgate Pump Motor

The liftgate pump 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 pump 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.

Object Detection

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

Manual Liftgate Operation

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

LUGGAGE COMPARTMENT DESCRIPTION AND OPERATION

Rear Compartment Lid Release System Components

- Body control module (BCM)
- Exterior rear compartment lid release switch
- Interior rear compartment lid release switch
- Rear compartment lid latch
- Trunk ajar switch (Part of the rear compartment lid latch)
- Rear compartment lid release relay

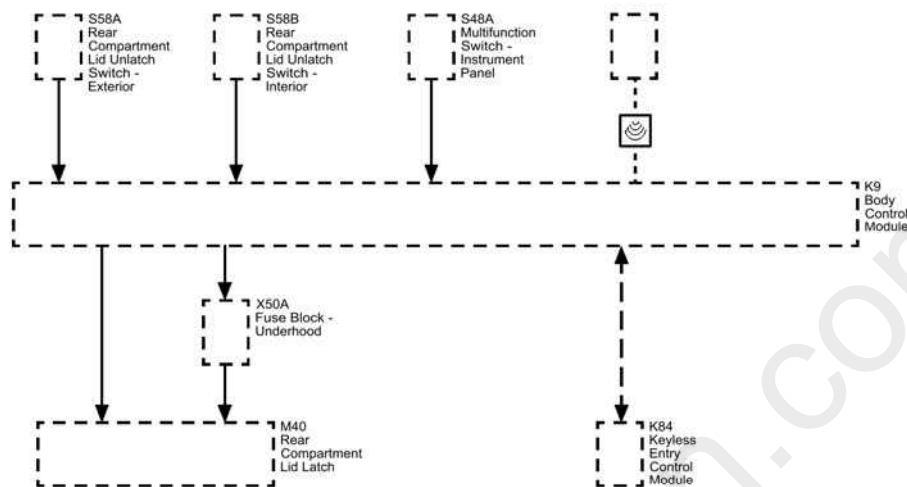


Fig. 71: Rear Compartment Lid Release System Components
 Courtesy of GENERAL MOTORS COMPANY

Rear Compartment Lid Release Operation

Rear Compartment Lid Release Switch

The BCM monitors a voltage signal to the interior and exterior rear compartment lid release 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 relay.

Rear Compartment Lid Latch

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

closes, supplying a brief pulse of battery positive voltage to the rear compartment lid latch. The rear compartment lid latch is continuously grounded and when it receives the voltage pulse, it will become energized and the latch will activate releasing the trunk lid so that the trunk lid may be manually raised to an open position.

Keyless Entry Transmitter

The BCM may also get a rear compartment lid release command from the 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 cluster (IPC). The IPC will then display the Trunk Open message.

POWER DOOR LATCH DESCRIPTION AND OPERATION

Power Door Lock System Components

- Driver door lock/window switch
- Passenger door lock/window switch
- Driver interior door handle switch (Coupe)
- Driver exterior door handle switch
- Passenger interior door handle switch (Coupe)
- Passenger exterior door handle switch
- Left rear exterior door handle switch
- Right rear exterior door handle switch
- Body control module (BCM)
- Rear door lock relay (Wagon)
- Rear door unlock relay (Wagon)
- Deadbolt relay PCB
- Driver door latch
- Passenger door latch
- Left rear door latch (Wagon)
- Right rear door latch (Wagon)
- Remote control door lock receiver
- DOOR LOCK 15 amp mini-fuse

Power Door Lock and Unlock Switch Operation (Wagon)

The driver and front passenger power door lock switches are integral components of the driver door lock/window switch and passenger door lock/window switch. The switches consist of 2 positions, lock and unlock, and are in the normally open state. When placed in either the lock or unlock positions, the switches provide a direct input to their respective door control module. When a power door lock switch is operated to the lock or unlock position, the associated door control module responds by sending a serial data message indicating a change in the switch's position. This serial data message is received by the opposite door control module as well as the BCM. The driver door lock/window switch and passenger door lock/window switch respond to the lock/unlock request by activating their associated power door lock motors to the appropriate direction to lock or unlock the front doors. The BCM is responsible for controlling the left and right rear passenger door lock motors. The BCM, upon receipt of a lock or unlock serial data signal, will control either the rear door lock or unlock relay. When the appropriate door lock relay is energized, the rear power door lock motors will lock or unlock the rear doors.

Power Door Lock and Unlock Switch Operation (Coupe)

The driver and front passenger power door lock switches are integral components of the driver door lock/window switch and passenger door lock/window switch. The switches consist of 2 positions, LOCK and UNLOCK, and are in the normally open state. When placed in the LOCK position, the driver door lock/window switch and the passenger door lock/window switch will disable the interior and exterior door handle switches preventing the doors from being open. Pressing the UNLOCK position on either power door lock will enable the interior and exterior door handle switches providing normal door opening and closing operation.

Power Door Lock Deadlock Motors

Some vehicles may be equipped with the deadlock feature, which includes a reversible deadlock motor contained within each door latch assembly. Each deadlock motor is wired to the lock and unlock relays through 2 control circuits; the door lock actuator lock control circuit and the door lock actuator unlock control circuit. To deadlock a door, the door locks are activated by momentarily supplying voltage to the door lock actuator lock control circuits, and ground to the door lock actuator unlock control circuits. The voltage to the door lock actuators is provided through the normally open switch contacts of the theft deterrent alarm relay. To complete the deadlocking, the theft deterrent alarm momentarily energizes an internal relay causing the switch contacts to close applying voltage to the deadlock actuator control circuits for both front and rear doors. Ground to the deadlock actuators is provided through the door lock actuator unlock control circuits. Once the doors are deadlocked, the mechanical lock/unlock linkage within the door lock actuator is physically disconnected so that the door can not be opened even when manually unlocked. If the content theft feature is armed at the same time, the interior door lock switches will not operate the locks.

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

Driver Door Key Cylinder Switch

The vehicle may be equipped with the central door unlock feature. With this feature, all doors can be unlocked from the driver door using the door key. To operate the feature, the door key is inserted into the driver door lock

cylinder, turned to the unlock position and held for 3 seconds or longer, or turned to the unlock position twice within 3 seconds. A mechanical linkage rod connects the driver door lock cylinder to the key cylinder unlock switch, which is built into the driver door latch assembly. The key cylinder unlock switch contacts, which are normally open, receive a constant ground via the ground circuit. When the door key is turned to unlock, the switch contacts close and the driver door lock/window switch detects a switched ground. The driver door lock/window switch sends a serial data to the Remote control door lock receiver, indicating the key cylinder unlock switch request. The remote control door lock receiver is the master of all lock and unlock operations. If the remote control door lock receiver determines that the key cylinder switch request is valid and conditions are correct, a serial data message will be sent to the driver door lock/window switch, passenger door lock/window switch, and BCM to lock or unlock there respective doors.

Passive Keyless Entry System Description and Operation

Passive keyless entry allows entry to a locked vehicle without pressing any buttons on the keyless entry transmitter. You must only have the transmitter with you. This passive system is also part of the vehicle starting system. It allows you to start and run the vehicle having only the transmitter as your key. The passive entry and starting system use low frequency antennas in several different areas on the vehicle to determine the location of the transmitter. When passively opening a locked door, trunk or the liftgate, you must have a programmed transmitter with you in your pocket, purse, or briefcase. As a customer opens the door handle or presses the trunk/liftgate touch pad, the low frequency antenna sends out a challenge to the keyless entry transmitter. The transmitter should be in a one meter range of the door or trunk/liftgate in order to receive the challenge. If the challenge is met, the transmitter will respond, allowing the door to be unlocked and opened by pulling the appropriate door handle or allowing the trunk/liftgate to open by pressing the touch pad.

Lockout Prevention

This feature prevents the locking of the driver door if the ignition key is left in the ignition lock cylinder. If a lock function occurs from any door lock switch and the BCM detects an active state on either the left front door latch signal, secondary door latch switch signal and/or the trunk ajar switch signal circuits and the key in ignition switch signal circuit is in the YES state, the BCM, driver door lock/window switch and passenger door lock/window switch will lock the doors and then the driver door lock/window switch will unlock the driver door.

Delayed Locking Operation

With any door open and a door lock switch is activated in the lock position, the driver door lock/window switch, passenger door lock/window switch and the BCM will go into a lock pending state. The BCM will also give 3 audible chimes. When the door is closed, the driver door lock/window switch, passenger door lock/window switch and the BCM will lock the doors after approximately 5 seconds. This feature can be overridden by activating the door lock switch a second time and the doors will lock even with a door open.

Door Ajar Indicator

The driver door lock/window switch and passenger door lock/window switch each receive a discrete input from there respective door ajar switch signal circuits. The BCM receives discrete inputs from each of the rear 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. The door lock/window switches and/or BCM interprets this and communicates

via serail serial data with the instrument panel cluster (IPC). When a door is open/ajar and the vehicle is in any gear other than PARK, the driver information center (DIC) will display DOOR AJAR for the appropriate door that is opened. If the door is still ajar and the vehicles speed is greater than 4.8 km/h (3 mph) a chime will sound.

SPECIAL TOOLS AND EQUIPMENT

SPECIAL TOOLS

Illustration	Tool Number/ Description
	J-8059 Snap Ring Pliers- Parallel Jaw

