Component Procedures: Trunk / Liftgate

Table of Contents

Component Procedures: Trunk / Liftgate

Luggage Compartment (Article 10454)

Rear Compartment Lid Release System Components
- Body control module (BCM)
- Rear compartment lid unlatch switch
- Rear compartment lid latch
- Rear compartment lid unlatch relay

Figure 1: 14 Trunk Release Block Diagram

Rear Compartment Lid Release Operation

Rear Compartment Lid Release Switch

The BCM monitors a voltage signal to the rear compartment lid unlatch switch so that when the switch is pressed, the voltage within the signal circuit is pulled low and in response, the BCM will detect the voltage drop and check the status of the door lock system . If the vehicle doors are locked, the BCM will ignore the rear compartment lid unlatch switch, 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 rear compartment lid unlatch switch, the BCM applies brief pulse of voltage to the rear compartment lid unlatch relay control circuit, which energizes the coil side of the relay. The switch side of the rear compartment lid unlatch relay then 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 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 cluster. The instrument cluster will then display the Trunk Open message.

Rear Compartment Lid Replacement (Article 10131)

Callout Component Name
1 Rear Compartment Lid Nut (Qty: 4) Caution: Refer to Fastener Caution . Tighten 10 Nm (89 lb in)
10 Nm (89 lb in)
2 Rear Compartment Lid Procedure Disconnect the electrical connectors. Transfer components as necessary.
Procedure
- Disconnect the electrical connectors.
- Transfer components as necessary.

Trunk Release Malfunction (Article 10473)

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

Diagnostic Fault Information

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

Circuit/System Description

The Body Control Module (BCM) supplies a reference voltage to the Rear Compartment Lid Unlatch Switch through the release switch signal circuit. When the Rear Compartment Lid Unlatch Switch is pressed, the release switch signal circuit is grounded through the Rear Compartment Lid Unlatch Switch ground circuit and the reference voltage is pulled low within the BCM. In response, the BCM applies battery positive voltage to the Rear Compartment Lid Unlatch Relay control circuit, which energizes the coil side of the relay. The switch side of the Rear Compartment Lid Unlatch Relay then closes, supplying battery positive voltage through the relay and the Rear Compartment Lid Latch control circuit activating the latch so that the trunk lid may be manually raised to an open position.

Diagnostic Aids

The BCM will receive a folding top position status from the folding top control module for convertible models. If the folding top is not completely stowed or not completely latched, the BCM will not allow the trunk to open when commanded. Refer to Power Folding Top Description and Operation for complete information on folding tops

Reference Information

Schematic Reference

Release Systems Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Luggage Compartment Description and Operation

Electrical Information Reference

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

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

- Ignition ON.
- Verify the scan tool Interior Liftgate / Liftgate Window Unlatch Switch parameter changes between Active and Inactive when pressing and releasing the S58 Rear Compartment Lid Unlatch Switch.
- If the parameter does not change Refer to Circuit/System Testing — Trunk Release Switch Inoperative
- If the parameter changes
- Verify the operation of the M40 Rear Compartment Lid Latch when commanding the Trunk Lid Unlatch with a scan tool.
- If the M40 Rear Compartment Lid Latch does not UNLATCH Refer to Circuit/System Testing — Release Actuator Inoperative
- If the M40 Rear Compartment Lid Latch does UNLATCH
- All OK.

Circuit/System Testing

Trunk Release Switch Inoperative

- Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the S58 Rear Compartment Lid Unlatch Switch. It may take up to 2 minutes for all vehicle systems to power down.
- Test for less than 10 Ω between the ground circuit terminal A and ground.
- If 10 Ω or greater
- Ignition OFF.
- Test for less than 2 Ω in the ground circuit end to end.
- If 2 Ω or greater, repair the open/high resistance in the circuit.
- If less than 2 Ω, repair the open/high resistance in the ground connection.
- If less than 10 Ω
- Verify the scan tool Interior Liftgate/Liftgate Window Unlatch Switch parameter is Inactive.
- If not Inactive
- Ignition OFF, disconnect the harness connector at the K9 Body Control Module.
- Test for infinite resistance between the signal circuit terminal C and ground.
- If less than infinite resistance, repair the short to ground on the circuit.
- If infinite resistance, replace the K9 Body Control Module.
- If Inactive
- Install a 3 A fused jumper wire between the signal circuit terminal C and the ground circuit terminal A.
- Verify the scan tool Interior Liftgate/Liftgate Window Unlatch Switch parameter is Active.

- If not Active
- Ignition OFF, disconnect the harness connector at the K9 Body Control Module, ignition ON.
- 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
- Test for less than 2 Ω in the signal circuit end to end.
- If less than 2 Ω, replace the K9 Body Control Module.
- If Active
- Test or replace the S58 Rear Compartment Lid Unlatch Switch.

Release Actuator Inoperative

- Ignition OFF and all vehicle systems OFF, disconnect the KR95B Rear Compartment Lid Unlatch Relay. It may take up to 2 minutes for all vehicle systems to power down.
- Test for less than 10 Ω between the ground circuit terminal 85 and ground.
- Verify a test lamp illuminates between the B+ circuit terminal 87 and ground.
- If the test lamp does not illuminate and the circuit fuse is good
- Test for less than 2 Ω in the B+ circuit end to end.
- If less than 2 Ω, verify the fuse is not open and there is voltage at the fuse.
- If the test lamp does not illuminate and the circuit fuse is open
- Test for infinite resistance between the B+ circuit and ground.
- If infinite resistance
- Disconnect the harness connector at the M40 Rear Compartment Lid Latch.
- Test for infinite resistance between the control circuit terminal 30 and ground.
- If infinite resistance, replace the KR95B Rear Compartment Lid Unlatch Relay.
- If the test lamp illuminates
- Connect a test lamp between the control circuit terminal 86 and the ground circuit terminal 85.
- Verify the test lamp briefly illuminates when commanding the Trunk Lid Unlatch with a scan tool.
- If the test lamp is always OFF
- Test for infinite resistance between the control circuit and ground.
- Test for less than 2 Ω in the control circuit end to end.
- If the test lamp is always ON
- Test for less than 1 V between the control circuit and ground.
- If less than 1 V, replace the K9 Body Control Module.
- If the test lamp turns ON and OFF
- Verify that a test lamp does not illuminate between the control circuit terminal 30 and ground.
- If the test lamp illuminates Repair the short to voltage on the control circuit
- If the test lamp does not illuminate
- Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the M40 Rear Compartment Lid Latch. It may take up to 2 minutes for all vehicle systems to power down.
- Test for less than 10 Ω between the ground circuit terminal 2 and ground.
- Connect the harness connector at the M40 Rear Compartment Lid Latch.
- Ignition ON, connect a 10 A fused jumper wire between the B+ circuit terminal 87 and the control circuit terminal 30.
- Verify the M40 Rear Compartment Lid Latch is activated.
- If the M40 Rear Compartment Lid Latch does not activate
- Ignition OFF, disconnect the harness connector at the M40 Rear Compartment Lid Latch.
- If less than 2 Ω, replace the M40 Rear Compartment Lid Latch.
- If the M40 Rear Compartment Lid Latch activates
- Test or replace the KR95B Rear Compartment Lid Unlatch Relay.

Component Testing

Rear Compartment Lid Latch

- Install a 25 A fused jumper wire between the control terminal 1 and 12 V. Install a jumper wire between the ground terminal 2 and ground.
- Verify the M40 Rear Compartment Lid Latch activates
- If the M40 Rear Compartment Lid Latch does not activate. Replace the M40 Rear Compartment Lid Latch.
- If the M40 Rear Compartment Lid Latch does activate.
- All OK

Trunk Release Switch

- Ignition OFF, disconnect the harness connector at the S58 Rear Compartment Lid Unlatch Switch.
- Test for infinite resistance between the signal terminal C and the ground terminal A with the switch in the open position.

- If less than infinite resistance Replace the S58 Rear Compartment Lid Unlatch Switch.
- Test for less than 3 Ω between the signal terminal C and the ground terminal A with the switch in the closed position.
- If 3 Ω or greater Replace the S58 Rear Compartment Lid Unlatch Switch.
- If less than 3 Ω

Relay Test

- Ignition OFF, disconnect the KR95B Rear Compartment Lid Unlatch Relay.
- Test for 60–200 Ω between terminals 85 and 86.
- If less than 60 or greater than 200 Replace the KR95B Rear Compartment Lid Unlatch Relay.
- If between 60–200 Ω
- Test for infinite resistance between the terminals listed below:
- 30 and 86
- 30 and 87
- 30 and 85
- 85 and 87
- If less than infinite resistance Replace the KR95B Rear Compartment Lid Unlatch Relay.
- Install a 3 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 Ω between terminals 30 and 87.
- If 2 Ω or greater Replace the KR95B Rear Compartment Lid Unlatch Relay.
- If less than 2 Ω

Repair Instructions

Perform the Diagnostic Repair Verification after completing the repair.

- Electrical Relay Replacement
- Rear Compartment Lid Latch Replacement
- Control Module References for BCM replacement, programming and setup

Trunk Ajar Indicator Malfunction (Article 10471)

Diagnostic Instructions

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

Diagnostic Fault Information

Circuit Short to Ground Open/High Resistance Short to Voltage Signal Performance
Signal 1 2 2 —
Ground — 3 — —
Trunk Open Display Message = Always On Trunk Open Display Message = Disabled Rear Compartment Lid Latch = Disabled

- Trunk Open Display Message = Always On
- Trunk Open Display Message = Disabled
- Rear Compartment Lid Latch = Disabled

Circuit/System Description

For an overview of the component/system, refer to: Luggage Compartment Description and Operation

Circuit Description

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

Component Description

M40 Rear Compartment Lid Latch The switch has a normally open contact. When the switch is activated, the signal circuit to the control module is grounded.
K9 Body Control Module The module controls various vehicle functions like lighting, central door locking , power windows, etc.

Reference Information

Schematic Reference
Release Systems Schematics
Connector End View Reference
Master Electrical Component List
Electrical Information Reference

- Circuit Testing
- Connector Repairs

- Testing for Intermittent Conditions and Poor Connections
- Wiring Repairs

Scan Tool Reference

Control Module References

Circuit/System Verification

- Ignition » On / Vehicle » In Service Mode
- Operate the component: Close the rear compartment lid. Verify the scan tool parameter: Rear Closure Ajar Switch = Inactive
- If not the specified state Refer to: Circuit/System Testing
- If the specified state
- Operate the component: Open the rear compartment lid. Verify the scan tool parameter: Rear Closure Ajar Switch = Active
- All OK.

Circuit/System Testing

- Ignition/Vehicle » Off
- Disconnect the electrical connector: M40 Rear Compartment Lid Latch
- Verify the scan tool parameter: Rear Closure Ajar Switch = Inactive
- If not the specified state
- Disconnect the electrical connector: K9 Body Control Module
- Test for infinite resistance between the test points: Signal circuit terminal 4 @ Component harness & Ground
- If less than infinite resistance » Repair the short to ground on the circuit.
- If infinite resistance » Replace the component: K9 Body Control Module
- Connect a 3 A fused jumper wire between the test points: Signal circuit terminal 4 & Ground circuit terminal 2
- Verify the scan tool parameter: Rear Closure Ajar Switch = Active
- Ignition/Vehicle » Off & Remove » Jumper wire(s)
- Test for less than 1 V between the test points: Signal circuit terminal 4 @ Component harness & Ground
- If 1 V or greater » Repair the short to voltage on the circuit.
- If less than 1 V
- Test for less than 2 Ω between the test points: Signal circuit terminal 4 @ Component harness & Terminal 5 X6 @ Control module harness
- If 2 Ω or greater » Repair the open/high resistance in the circuit.
- If less than 2 Ω » Replace the component: K9 Body Control Module
- Test or replace the component: M40 Rear Compartment Lid Latch

Component Testing

- Test for infinite resistance between the test points: Signal terminal 4 & Ground terminal 2 — The switch is in the open position.
- If less than infinite resistance Replace the component: M40 Rear Compartment Lid Latch
- If infinite resistance
- Test for less than 3 Ω between the test points: Signal terminal 4 & Ground terminal 2 — The switch is in the closed position.
- If 3 Ω or greater Replace the component: M40 Rear Compartment Lid Latch
- If less than 3 Ω

Repair Instructions

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

- Rear Compartment Lid Latch Replacement
- For control module replacement, programming, and setup refer to: Control Module References