**Hatch Release Malfunction**

**[Diagnostic Instructions](https://gsi.ext.gm.com/gsi/showDoc.do?laborOpCode=&docSyskey=2540371&cellId=179994&pubObjSyskey=5663697&from=sm&pubCellSyskey=5661196" \l "d41e3)**

* Perform the [Diagnostic System Check - Vehicle](https://gsi.ext.gm.com/gsi/cellHandler.do?cellId=72794&refDoc=2540371&from=sm) prior to using this diagnostic procedure.
* Review [Strategy Based Diagnosis](https://gsi.ext.gm.com/gsi/cellHandler.do?cellId=161235&refDoc=2540371&from=sm) for an overview of the diagnostic approach.
* [Diagnostic Procedure Instructions](https://gsi.ext.gm.com/gsi/cellHandler.do?cellId=161236&refDoc=2540371&from=sm) provides an overview of each diagnostic category.

[**Diagnostic Fault Information**](https://gsi.ext.gm.com/gsi/showDoc.do?laborOpCode=&docSyskey=2540371&cellId=179994&pubObjSyskey=5663697&from=sm&pubCellSyskey=5661196#d41e33)

| **Circuit** | **Short to Ground** | **Open/High Resistance** | **Short to Voltage** | **Signal Performance** |
| --- | --- | --- | --- | --- |
| Liftgate Unlatch Relay B+ | 2 | 2 | — | — |
| Liftgate Unlatch Switch Signal | B2494 00 | 1 | 1 | — |
| Liftgate Unlatch Relay Control Low | — | 2 | — | — |
| Liftgate Unlatch Relay Control High | B3245 02 | 2 | B324A 01 | — |
| Liftgate Latch Ground | — | 2 | — | — |
| Liftgate Unlatch Switch Ground | — | 1 | — | — |
| 1. Liftgate Release Switch Malfunction2. Liftgate Release Malfunction |

[**Circuit/System Description**](https://gsi.ext.gm.com/gsi/showDoc.do?laborOpCode=&docSyskey=2540371&cellId=179994&pubObjSyskey=5663697&from=sm&pubCellSyskey=5661196#d41e240)

The liftgate unlatch switch is an input to the body control module (BCM). The BCM supplies a 12 V signal to the liftgate unlatch switch and when the switch is pressed, signal circuit voltage goes low. When the BCM receives a liftgate release signal it will monitor the status to the door latches. If the vehicle doors are locked, the BCM will ignore the request, if the doors are unlocked, the BCM will supply voltage and ground to the liftgate release relay coil, energizing the relay. When the relay is energized, battery voltage flows through the closed contacts of the relay to the liftgate latch assembly which activates allowing for the liftgate to be raised to the open position.

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[**Diagnostic Aids**](https://gsi.ext.gm.com/gsi/showDoc.do?laborOpCode=&docSyskey=2540371&cellId=179994&pubObjSyskey=5663697&from=sm&pubCellSyskey=5661196#d41e249)

An intermittent short to ground in the liftgate unlatch switch signal circuit may cause the BCM to command the liftgate to open if the vehicle is in park and the doors are unlocked. If the vehicle has a history of the liftgate opening unexpectedly, inspect the point where the wires enter the liftgate unlatch switch for corrosion or evidence of water intrusion.

[**Reference Information**](https://gsi.ext.gm.com/gsi/showDoc.do?laborOpCode=&docSyskey=2540371&cellId=179994&pubObjSyskey=5663697&from=sm&pubCellSyskey=5661196#d41e258)

**Schematic Reference**

[Release Systems Schematics](https://gsi.ext.gm.com/gsi/cellHandler.do?cellId=9522&refDoc=2540371&from=sm)

**Connector End View Reference**

[Component Connector End Views](https://gsi.ext.gm.com/gsi/cellHandler.do?cellId=164814&refDoc=2540371&from=sm)

**Description and Operation**

[Rear Hatch/Gate Description and Operation](https://gsi.ext.gm.com/gsi/cellHandler.do?cellId=9939&refDoc=2540371&from=sm)

**Electrical Information Reference**

* [Circuit Testing](https://gsi.ext.gm.com/gsi/cellHandler.do?cellId=62194&refDoc=2540371&from=sm)
* [Connector Repairs](https://gsi.ext.gm.com/gsi/cellHandler.do?cellId=61973&refDoc=2540371&from=sm)
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**Scan Tool Reference**

[Control Module References](https://gsi.ext.gm.com/gsi/cellHandler.do?cellId=72864&refDoc=2540371&from=sm) for scan tool information

[**Circuit/System Verification**](https://gsi.ext.gm.com/gsi/showDoc.do?laborOpCode=&docSyskey=2540371&cellId=179994&pubObjSyskey=5663697&from=sm&pubCellSyskey=5661196#d41e336)

1. Ignition ON.
2. Verify the scan tool Trunk Lid/Liftgate Window Exterior Unlatch Switch parameter changes between Active and Inactive when pressing and releasing the S46B Liftgate Unlatch Switch.
	* **If the parameter does not change**

Refer to Circuit/System Testing — Liftgate Release Switch Inoperative

* + **If the parameter changes**

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

1. Verify the M30 Liftgate Latch releases by pressing the S46B Liftgate Unlatch Switch.
	* **If the M30 Liftgate Latch does not release**

Refer to Circuit/System Testing — Liftgate Release Actuator Inoperative

* + **If the M30 Liftgate Latch does release**
1. All OK.

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1. Ignition ON.
2. Verify the scan tool Trunk Lid/Liftgate Window Exterior Unlatch Switch parameter changes between Active and Inactive when pressing and releasing the S46B Liftgate Unlatch Switch.
	* **If the parameter does not change**

Refer to Circuit/System Testing — Liftgate Release Switch Inoperative

* + **If the parameter changes**

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

1. Verify the M30 Liftgate Latch releases by pressing the S46B Liftgate Unlatch Switch.
	* **If the M30 Liftgate Latch does not release**

Refer to Circuit/System Testing — Liftgate Release Actuator Inoperative

* + **If the M30 Liftgate Latch does release**
1. All OK.

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**Liftgate Release Switch Inoperative**

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the S46B Liftgate Unlatch Switch. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 2 and ground.
	* **If 10 Ω or greater**
	* 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**
3. Ignition ON.
4. Verify the scan tool Trunk Lid/Liftgate Window Exterior 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 1 and ground.
		+ If less than infinite resistance, repair the short to ground on the circuit.
		+ If infinite resistance, replace the K9 Body Control Module.
	* **If Inactive**
5. Install a 3 A fused jumper wire between the signal circuit terminal 1 and the ground circuit terminal 2.
6. Verify the scan tool Trunk Lid/Liftgate Window Exterior Unlatch Switch parameter is Active.
	* **If not Active**
	* Ignition OFF, remove the 3 A fused jumper wire, 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 2 Ω or greater, repair the open/high resistance in the circuit.
		+ If less than 2 Ω, replace the K9 Body Control Module.
	* **If Active**
7. Test or replace the S46B Liftgate Unlatch Switch.

**Release Actuator Inoperative**

1. Ignition OFF, disconnect the KR95A Liftgate Unlatch Relay. Ignition ON
2. Verify a test lamp illuminates between the B+ circuit terminal 3 and ground.
	* **If the test lamp does not illuminate and the circuit fuse is good**
	* Ignition OFF.
	* Test for less than 2 Ω in the B+ circuit end to end.
		+ If 2 Ω or greater, repair the open/high resistance in the circuit.
		+ If less than 2 Ω, verify the fuse is not open and there is voltage at the fuse.
	* **If the test lamp does not illuminate and the circuit fuse is open**
	* Ignition OFF.
	* Test for infinite resistance between the B+ circuit and ground.
		+ If less than infinite resistance, repair the short to ground on the circuit.
		+ If infinite resistance,
	* Disconnect the harness connector at the M30 Liftgate Latch.
	* Test for infinite resistance between the control circuit terminal 5 and ground.
		+ If less than infinite resistance, repair the short to ground on the circuit.
		+ If infinite resistance, replace the KR95A Liftgate Unlatch Relay
	* **If the test lamp illuminates**
3. Connect a test lamp between the control circuit terminal 1 and ground.
4. Ignition ON, verify the test lamp turns ON and OFF when pressing and releasing the S46B Liftgate Unlatch Switch.
	* **If the test lamp is always OFF**
	* Ignition OFF, remove the test lamp, disconnect the harness connector at the K9 Body Control Module.
	* Test for infinite resistance between the control circuit and ground.
		+ If less than infinite resistance, repair the short to ground on the circuit.
		+ If infinite resistance
	* Test for less than 2 Ω in the control circuit end to end.
		+ If 2 Ω or greater, repair the open/high resistance in the circuit.
		+ If less than 2 Ω, replace the K9 Body Control Module.
	* **If the test lamp is always ON**
	* Ignition OFF, remove the test lamp, disconnect the harness connector at the K9 Body Control Module, ignition ON.
	* Test for less than 1 V between the control circuit and ground.
		+ If 1 V or greater, repair the short to voltage on the circuit.
		+ If less than 1 V, replace the K9 Body Control Module.
	* **If the test lamp turns ON and OFF**
5. Connect a test lamp between the control circuit terminal 2 and B+.
6. Verify the test lamp turns ON and OFF when pressing and releasing S46B Liftgate Unlatch Switch.
	* **If the test lamp is always OFF**
	* Ignition OFF, remove the test lamp, disconnect the harness connector at the K9 Body Control Module, ignition ON.
	* Test for less than 1 V between the control circuit and ground.
		+ If 1 V or greater, repair the short to voltage on the circuit.
		+ If less than 1 V
	* Ignition OFF.
	* Test for less than 2 Ω in the control circuit end to end.
		+ If 2 Ω or greater, repair the open/high resistance in the circuit.
		+ If less than 2 Ω, replace the K9 Body Control Module.
	* **If the test lamp is always ON**
	* Ignition OFF, remove the test lamp, disconnect the harness connector at the K9 Body Control Module.
	* Test for infinite resistance between the control circuit and ground.
		+ If less than infinite resistance, repair the short to ground on the circuit.
		+ If infinite resistance, replace the K9 Body Control Module.
	* **If the test lamp turns ON and OFF**
7. Verify that a test lamp does not illuminate between the control circuit terminal 5 and ground.
	* **If the test lamp illuminates**

Repair the short to voltage on the control circuit

* + **If the test lamp does not illuminate**
1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the M30 Liftgate Latch. It may take up to 2 minutes for all vehicle systems to power down.
2. Test for less than 10 Ω between the ground circuit terminal 1 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**
3. Connect the harness connector at the M30 Liftgate Latch
4. Ignition ON, connect a 10 A fused jumper wire between the B+ circuit terminal 3 and the control circuit terminal 5.
5. Verify the M30 Liftgate Latch is activated.
	* **If the M30 Liftgate Latch does not activate**
	* Ignition OFF, disconnect the harness connector at the M30 Liftgate Latch.
	* Test for less than 2 Ω in the control circuit end to end.
		+ If 2 Ω or greater, repair the open/high resistance in the circuit.
		+ If less than 2 Ω, replace the M30 Liftgate Latch.
	* **If the M30 Liftgate Latch activates**
6. Test or replace the KR95A Liftgate Unlatch Relay.

[**Component Testing**](https://gsi.ext.gm.com/gsi/showDoc.do?laborOpCode=&docSyskey=2540371&cellId=179994&pubObjSyskey=5663697&from=sm&pubCellSyskey=5661196#d41e1054)

**Liftgate Latch**

1. Ignition OFF, disconnect the harness connector at the M30 Liftgate Latch.
2. Install a 10 A fused jumper wire between the control terminal 3 and 12 V. Install a jumper wire between the ground terminal 1 and ground.
3. Verify the M30 Liftgate Latch activates
	* **If the M30 Liftgate Latch does not activate.**

Replace the M30 Liftgate Latch.

* + **If the M30 Liftgate Latch does activate.**
1. All OK

**Liftgate Release Switch**

1. Ignition OFF, disconnect the harness connector at the S46B Liftgate Unlatch Switch.
2. Test for infinite resistance between the signal terminal 1 and the ground terminal 2 with the switch in the open position.
	* **If less than infinite resistance**

Replace the S46B Liftgate Unlatch Switch.

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

Replace the S46B Liftgate Unlatch Switch.

* + **If less than 3 Ω**
1. All OK

**Relay Test**

1. Ignition OFF, disconnect the KR95A Liftgate Unlatch Relay.
2. Test for 60–200 Ω between terminals 1 and 3.
	* **If less than 60 Ω or greater than 200 Ω**

Replace the KR95A Liftgate Unlatch Relay.

* + **If between 60-200 Ω**
1. Test for infinite resistance between the terminals listed below:
	* 4 and 3
	* 4 and 5
	* 4 and 1
	* 5 and 1
	* **If less than infinite resistance**

Replace the KR95A Liftgate Unlatch Relay.

* + **If infinite resistance**
1. Install a 3 A fused jumper wire between relay terminal 3 and 12 V. Install a jumper wire between relay terminal 1 and ground.
2. Test for less than 2 Ω between terminals 4 and 5.
	* **If 2 Ω or greater**

Replace the KR95A Liftgate Unlatch Relay.

* + **If less than 2 Ω**
1. All OK

[**Repair Instructions**](https://gsi.ext.gm.com/gsi/showDoc.do?laborOpCode=&docSyskey=2540371&cellId=179994&pubObjSyskey=5663697&from=sm&pubCellSyskey=5661196#d41e1295)

Perform the [Diagnostic Repair Verification](https://gsi.ext.gm.com/gsi/cellHandler.do?cellId=143214&refDoc=2540371&from=sm) after completing the repair procedure.

* [Relay Replacement](https://gsi.ext.gm.com/gsi/cellHandler.do?cellId=62215&refDoc=2540371&from=sm)
* [Liftgate Release Switch Replacement](https://gsi.ext.gm.com/gsi/cellHandler.do?cellId=156469&refDoc=2540371&from=sm)
* [Liftgate Latch Replacement](https://gsi.ext.gm.com/gsi/cellHandler.do?cellId=9515&refDoc=2540371&from=sm)
* [Control Module References](https://gsi.ext.gm.com/gsi/cellHandler.do?cellId=72864&refDoc=2540371&from=sm) for BCM replacement, programming and setup

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