

## Backup Lamps 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
VEH BCK/UP Fuse B+	B2545 00	B2545 00	--	--
Backup Lamps Control	B2545 00	1	1	--
Backup Lamp - Left Ground	--	1	--	--
Backup Lamp - Right Ground	--	1	--	--
Backup Lamp Relay Ground	--	1	--	--
1. Backup Lamps Malfunction				

### Circuit/System Description

When the transmission is placed in the REVERSE position, the transmission control module (TCM) sends a serial data message to the body control module (BCM). The message indicates that the gear selector is in the REVERSE position. The BCM applies voltage to the backup lamp relay control circuit energizing the backup lamp relay coil. With the relay coil energized, the switch contacts close allowing battery voltage to flow through the VEH BCK/UP fuse to the left and right backup lamps. The BCM also supplies voltage to the inside rearview mirror via the backup lamp relay control circuit for automatic day/night operation. Once the driver moves the gear selector out of the REVERSE position, a serial data message is sent by the TCM requesting the BCM to remove voltage from the backup lamp control circuit.

### Reference Information

#### Schematic Reference

#### [Exterior Lights Schematics](#)

#### Connector End View Reference

#### [Component Connector End Views](#)

#### Description and Operation

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## [Exterior Lighting Systems Description and Operation](#)

### Electrical Information Reference

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

### Scan Tool Reference

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

### **Circuit/System Testing**

1. Ignition OFF, disconnect the harness connector at the inside rearview mirror.
2. Connect a test lamp between the control circuit terminal 9 and ground.
3. Ignition ON, command the backup lamps 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 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.
4. Connect the harness connector at the inside rearview mirror.
5. Ignition OFF, disconnect the harness connector X5 at the underhood fuse block.
6. Connect a test lamp between the control circuit terminal H8 and ground.
7. Ignition ON, command the backup lamps 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 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.
8. If all circuits test normal, replace the underhood fuse block.
9. Ignition OFF, disconnect the harness connector at the inoperative backup lamp.
10. Ignition OFF, exterior lamps OFF, test for less than 5.0 ohms between the ground circuit terminal 1 and ground.  
If greater than the specified range, test the ground circuit for an open/high resistance.
11. Connect a test lamp between the control circuit terminal 3 and ground.
12. Ignition ON, command the backup lamps 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 underhood fuse block..  
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 underhood fuse block.
13. If all circuits test normal, test or replace the inoperative backup lamp.

### **Repair Instructions**

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

- [Tail Lamp Bulb Replacement](#)
- [Underhood Electrical Center or Junction Block Replacement](#)
- [Control Module References](#) for BCM replacement, programming, and setup