

Daytime Running Lamps (DRL)

Principles of Operation

NOTE: The Smart Junction Box (SJB) is also known as the Generic Electronic Module (GEM).

NOTE: The Daytime Running Lamps (DRL) is not a programmable parameter for this vehicle.

The Smart Junction Box (SJB) controls the [DRL](#) by using various inputs to determine whether or not the [DRL](#) should be illuminated. These inputs include:

- Ignition switch position
- Parking brake switch input
- Headlamps on or off
- Transaxle gear selection

For vehicles with halogen headlamps, when the [DRL](#) is active, the [SJB](#) provides a pulse-width modulated voltage to the low beam headlamps. This illuminates the headlamps at a reduced intensity.

For vehicles with High Intensity Discharge (HID) headlamps, the [SJB](#) activates the fog lamp relay. This illuminates the fog lamps at full intensity.

Inspection and Verification

1. Verify the customer concern.
2. If an obvious cause for an observed or reported concern is found, correct the cause (if possible) before proceeding to the next step.

NOTE: Make sure the headlamp switch is in the OFF position.

NOTE: Make sure the multifunction switch is in the LOW BEAM position.

3. **NOTE:** Make sure to use the latest scan tool software release.

If the cause is not visually evident, connect the scan tool to the Data Link Connector (DLC).

4. **NOTE:** The Vehicle Communication Module (VCM) LED prove-out confirms power and ground from the [DLC](#) are provided to the [VCM](#).

If the scan tool does not communicate with the [VCM](#):

- Check the [VCM](#) connection to the vehicle.
- Check the scan tool connection to the [VCM](#).
- Refer to [Section 418-00](#), No Power To The Scan Tool, to diagnose no power to the scan tool.

5. If the scan tool does not communicate with the vehicle:
 - Verify the ignition key is in the ON position.
 - Verify the scan tool operation with a known good vehicle.
 - Refer to [Section 418-00](#) to diagnose no response from the PCM.
6. Carry out the network test.

- If the scan tool responds with no communication for one or more modules, refer to [Section 418-00](#).
 - If the network test passes, retrieve and record the continuous memory DTCs.
7. If any DTCs are retrieved, refer to the Diagnostic Trouble Code (DTC) Chart in [Section 419-10](#).
8. If no DTCs are retrieved, GO to [Symptom Chart](#).

Symptom Chart

Symptom Chart

Condition	Possible Sources	Action
<ul style="list-style-type: none"> • The Daytime Running Lamps (DRL) are inoperative 	<ul style="list-style-type: none"> • Parking brake switch input concern • Headlamp operation • Ignition switch input concern • Smart Junction Box (SJB) 	<ul style="list-style-type: none"> • GO to Pinpoint Test W.
<ul style="list-style-type: none"> • The Daytime Running Lamps (DRL) are on with the parking brake set 	<ul style="list-style-type: none"> • Parking brake switch input • SJB 	<ul style="list-style-type: none"> • With the ignition switch on, apply the parking brake and observe the brake warning indicator. <ul style="list-style-type: none"> ■ If the brake warning indicator is inoperative, REFER to Section 413-01 to diagnose the brake warning indicator. ■ If the brake warning indicator illuminates, INSTALL a new SJB. REFER to Section 419-10. TEST the system for normal operation.

Pinpoint Tests

Pinpoint Test W: The Daytime Running Lamps (DRL) Are Inoperative

Normal Operation

When the ignition switch is in the RUN position, the parking brake is not applied and the headlamps are not requested on from the headlamp switch, the Smart Junction Box (SJB) provides a pulse-width modulated voltage to the low beam headlamps. This illuminates the headlamps at a reduced intensity.

This pinpoint test is intended to diagnose the following:

- Parking brake switch input concern
- Headlamp operation
- Ignition switch input concern
- [SJB](#)

PINPOINT TEST W: THE [DRL](#) ARE INOPERATIVE

Test Step	Result / Action to Take
<p>W1 VERIFY THE DRL OPERATION</p> <ul style="list-style-type: none"> ● Ignition ON. ● Verify the parking brake is fully released. ● Are the DRL illuminated? 	<p>Yes The system is operating correctly. INFORM the customer of the conditions required for the DRL to operate correctly.</p> <p>No GO to W2.</p>
<p>W2 CHECK THE BRAKE WARNING INDICATOR (DRL INOPERATIVE)</p> <ul style="list-style-type: none"> ● Observe the brake warning indicator. ● Is the brake warning indicator illuminated? 	<p>Yes REFER to Section 413-01 to diagnose the brake warning indicator.</p> <p>No For vehicles with halogen headlamps, GO to W3. For vehicles with High Intensity Discharge (HID) headlamps, GO to W4.</p>
<p>W3 CHECK THE OPERATION OF THE HEADLAMPS</p> <ul style="list-style-type: none"> ● Place the headlamp switch in the HEADLAMPS ON position and observe the headlamps. ● Do the headlamps operate correctly? 	<p>Yes GO to W5.</p> <p>No REFER to Headlamps in this section.</p>
<p>W4 CHECK THE OPERATION OF THE FOG LAMPS</p> <ul style="list-style-type: none"> ● Place the headlamp switch in the PARKING LAMPS ON position and engage the fog lamp switch. ● Do the fog lamps operate correctly? 	<p>Yes GO to W5.</p> <p>No REFER to Fog Lamps in this section.</p>
<p>W5 CHECK THE IGNITION SWITCH INPUT</p> <ul style="list-style-type: none"> ● Place the headlamp switch in the OFF position. ● Enter the following diagnostic mode on the scan tool: SJB DataLogger. ● Monitor the SJB ignition switch PID (IGN_SW) while cycling the ignition switch through all its positions. ● Does the PID agree with the ignition switch positions? 	<p>Yes INSTALL a new SJB. REFER to Section 419-10. TEST the system for normal operation.</p> <p>No REFER to Section 211-05 to diagnose the input from the ignition switch.</p>

