

Exterior Lighting

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

NOTE: If equipped, the perimeter lighting feature can be enabled or disabled. When enabled, the exterior lamps are illuminated when the UNLOCK button is pressed on the Remote Keyless Entry (RKE) transmitter. Refer to [Section 501-14](#) for programming and diagnostics.

The exterior lighting system consists of the following components:

- Headlamps
- Ballasts (if equipped with High Intensity Discharge (HID) headlamps) (located on the side of each headlamp)
- Front side marker lamps
- Rear side marker lamps
- Rear lamp assemblies
- Reversing lamps
- Headlamp switch
- Multifunction switch
- Hazard flasher lamp switch (located on the floor console)
- Light sensor
- Stoplamp switch
- Reversing lamp switch (located on the side of the manual transmission)
- SJB (located behind the RH kick panel)
- Body Control Module B (BCM-B) (located behind the RH quarter panel reinforcement)

Battery Saver

NOTE: Time-out is 1 minute if the vehicle has less than 80 km (50 miles).

The battery saver is internal to the [SJB](#) and provides automatic shut-off of the headlamps and parking lamps after 10 minutes in order to save battery voltage. A timer is started when the ignition switch is turned to the OFF position with the headlamp switch in the HEADLAMPS ON position, or the headlamp switch is placed in the HEADLAMPS ON position with the ignition switch off. When the time-out period has elapsed, the voltage is automatically shut off to the lamps by the battery saver.

The battery saver does **not** control the parking lamps if the headlamp switch is in the PARKING LAMPS ON position.

Lamp Assembly Condensation

Exterior lamps are vented to accommodate normal changes in pressure. Condensation can be a natural by-product of this design. When moist air enters the lamp assembly through the vents, there is a possibility that condensation can occur if the temperature is cold. When normal condensation occurs, a thin film of mist can form on the interior of the lens. The thin mist eventually clears and exits through the vents during normal operation. Time to clear the lens of acceptable mist varies with ambient humidity and lamp types. Normal condensation clears from any lamp in 48 hours under dry weather conditions.

Do **not** replace a lamp assembly with acceptable levels of condensation, such as:

- presence of thin mist (no streaks, drip marks or droplets present)
- fine mist covers less than 50% of the lens

Examples of unacceptable moisture (usually caused by a lamp housing leak):

- water puddling inside the lamp
- large water droplets, drip marks or streaks present on the interior of the lens

Headlamps

The headlamps are controlled by the [SJB](#) . The headlamp and multifunction switches are constantly monitored by the [SJB](#) . The [SJB](#) processes information (such as low beam, high beam or flash-to-pass requests) from the switch inputs, and then outputs voltage to the headlamps accordingly. In the event the [SJB](#) detects a fault with any of the headlamp switch inputs, all the exterior lamps are illuminated. There is also a headlamp battery saver feature. This feature turns off the headlamps 10 minutes after the ignition switch is turned off.

Headlamp Functionality — Halogen

When the low beams are requested (based on inputs to the [SJB](#)), the low beams are illuminated.

When the high beams are requested, the high beams are illuminated and the low beams turn off.

When the flash-to-pass feature is requested, the high beams are illuminated as long as the multifunction switch is held in the FLASH-TO-PASS position.

Headlamp Functionality — High Intensity Discharge (HID)

Vehicles equipped with [HID](#) headlamps utilize a second (hot at all times) voltage feed to the [HID](#) ballasts. The ballasts are located on the side of each headlamp assembly.

When the low beams are requested (based on inputs to the [SJB](#)), the [HID](#) ballasts energize and provide high voltage to the [HID](#) bulbs.

When the high beams are requested, the [HID](#) ballasts remain powered and a shutter within each headlamp is activated. This changes the headlamp beam pattern to illuminate a greater distance.

The flash-to-pass feature is unique for [HID](#) -equipped vehicles. If the low beams are off when the flash-to-pass is requested, the [HID](#) ballasts and the shutters within the headlamps are activated for less than 0.5 second. If the low beams are on when the flash-to-pass is requested, the shutters within the headlamps are activated as long as the multifunction switch is held in the FLASH-TO-PASS position.

Autolamps

The autolamp system provides light sensitive automatic on/off control of the exterior lamps. The autolamp system keeps the exterior lamps on for a pre-selected period of time after the ignition switch is turned to the OFF position (20 seconds is the factory default setting). The pre-selected time lapse is adjustable up to approximately 3 minutes. To adjust the setting, refer to [Autolamps Time Delay Adjustment](#)



Autolamps Time Delay Adjustment

NOTE: The time delay can be programmed through the message center using the message center buttons (if equipped) or using the following steps.

NOTE: Steps 2 through 5 must be carried out within a 10-second period.

1. Start with the ignition switch off and the headlamp switch in the AUTOLAMPS ON position.
2. Place the headlamp switch in the OFF position.
3. Place the ignition switch in the RUN position.
4. Place the ignition switch in the OFF position.
5. Place the headlamp switch in the AUTOLAMPS ON position. The exterior lamps turn on at this point.
6. Wait the desired amount of time and place the headlamp switch in the OFF position (maximum of 3 minutes). The exterior lamps turn off and the autolamp time delay is now set.

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in this section.

Headlamps On With Wipers On Feature

If the headlamp switch is in the AUTOLAMPS ON position and the front wipers are on for more than 10 seconds (except during a mist wipe or while the wipers are on to clear washer fluid during a wash condition), the exterior lamps are turned on. The exterior lamps are turned off when the ignition switch is changed to the OFF or ACC position, the headlamp switch is placed in the OFF position, or the front wipers are off for more than 30 seconds. The exception to this is when the exterior lights are on because of darkness determined by the light sensor.

Refer to [Section 501-16](#) for diagnostics of the headlamps on with wipers on feature.

Stoplamps

When the brake pedal is applied, the BCM-B supplies voltage to the stoplamps.

Turn Signal and Hazard Lamps

When the multifunction switch is in the LH or RH TURN POSITION, the SJB turns the appropriate front turn lamps on/off and the BCM-B sequentially flashes the corresponding rear lamps beginning with the inboard lamp and ending with the outboard lamp.

The front turn and rear inboard lamps provide a lamp outage indication.

When the hazard switch is engaged, the SJB turns both front turn lamps on/off and the BCM-B turns both rear lamps on/off.

Parking, Rear and License Plate Lamps

When the headlamp switch is in the HEADLAMPS ON or PARKING LAMPS ON position, the SJB processes this information and outputs voltage to the parking, rear, licence plate and side marker lamps.

The battery saver feature does not turn the parking lamps off when the headlamp switch is in the PARKING LAMPS ON position.

Fog Lamps

When the fog lamp switch is engaged, the SJB then activates the fog lamp relay, providing power to the fog lamps.

The SJB can only turn the fog lamps on when the ignition switch is in the RUN position, the parking lamps are on and the high beams are off.

Reversing Lamps

When the vehicle is in REVERSE (R), the BCM-B turns the reversing lamps on.

Daytime Running Lamps (DRL)

For vehicles with halogen headlamps, this feature illuminates the low beam headlamps at a reduced intensity when the Daytime Running Lamps (DRL) are requested on.

For vehicles with HID headlamps, this feature illuminates the fog lamps at full intensity when the DRL are requested on.

The DRL are requested on when the following conditions exist:

- The ignition switch is in the RUN position.
- The headlamps have not been turned on by the autolamp system or the headlamp switch.
- The transmission is not in PARK (P) (automatic transmission).
- The parking brake is released (manual transmission).

The DRL are not a programmable parameter for this vehicle.