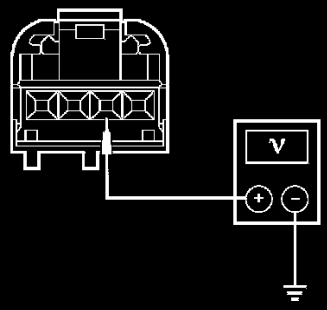
Headlamp: Pinpoint Tests

Test G: The Autolamps Are Inoperative

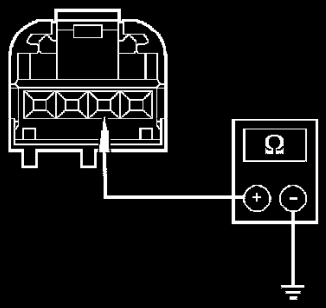
PINPOINT TEST G: THE AUTOLAMPS ARE INOPERATIVE

PINPOINT TEST G: THE AUTOLAMPS ARE INOPERATIVE

Test Step		Result / Action to Take
G1	CHECK SMART JUNCTION BOX (SJB) DTCs	
	• Key in OFF position. • Using the recorded results from the SJB self-test: • **Was DTC B1793 recorded?**	**Yes** GO to **G3**. **No** GO to **G2**.
G2	CHECK THE MANUAL HEADLAMP AND PARKING LAMP OPERATION	
	• Place the headlamp switch in the HEADLAMPS ON position. • **Do the headlamps and parking lamps operate correctly?**	**Yes** GO to **G3**. **No** REFER to Headlamps or Parking Lamp to continue diagnosis of the headlamps or parking lamps.
G3	CHECK FOR VOLTAGE TO THE LIGHT SENSOR	
	• Disconnect: Light Sensor C286. • Key in ON position. • Place the headlamp switch in the AUTOLAMPS ON position. • Measure the voltage between the light sensor C286-2, circuit 1416 (YE/WH), harness side and ground.  N0005377 • **Is the voltage approximately 5 volts?**	**Yes** INSTALL a new light sensor. CLEAR the DTCs. REPEAT the self-test. **No** GO to **G4**.

(Continued)

PINPOINT TEST G: THE AUTOLAMPS ARE INOPERATIVE (Continued)

Test Step	Result / Action to Take
G4 CHECK CIRCUIT 1416 (YE/WH) FOR A SHORT TO GROUND	
• Key in OFF position. • Disconnect: SJB C2280d. • Measure the resistance between the light sensor C286-2, circuit 1416 (YE/WH), harness side and ground.  N0005382 • **Is the resistance greater than 10,000 ohms?**	**Yes** GO to **G5**. **No** REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.
G5 CHECK FOR CORRECT SJB OPERATION	
• Disconnect all the SJB connectors. • Check for: — corrosion — pushed-out pins • Connect all the SJB connectors and make sure they seat correctly. • Operate the system and verify the concern is still present. • **Is the concern still present?**	**Yes** INSTALL a new SJB. TEST the system for normal operation. **No** The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. CLEAR the DTCs. REPEAT the self-test.

G4-G5

Normal Operation

The smart junction box (SJB) sends a reference signal to the light sensor through circuit 1416 (YE/WH). When the headlamp switch is placed in the AUTOLAMPS ON position, the SJB monitors the ambient light conditions based on the input received from the light sensor. When the ambient light level has reached a point (determined by the internal programming of the SJB), the SJB provides voltage to the headlamps, parking and license plate lamps.

Possible Causes

- Circuit 1416 (YE/WH) short to ground
- Light sensor
- SJB