

## 2004 ACCESSORIES & EQUIPMENT

### Lighting Systems - Vue

## SPECIFICATIONS

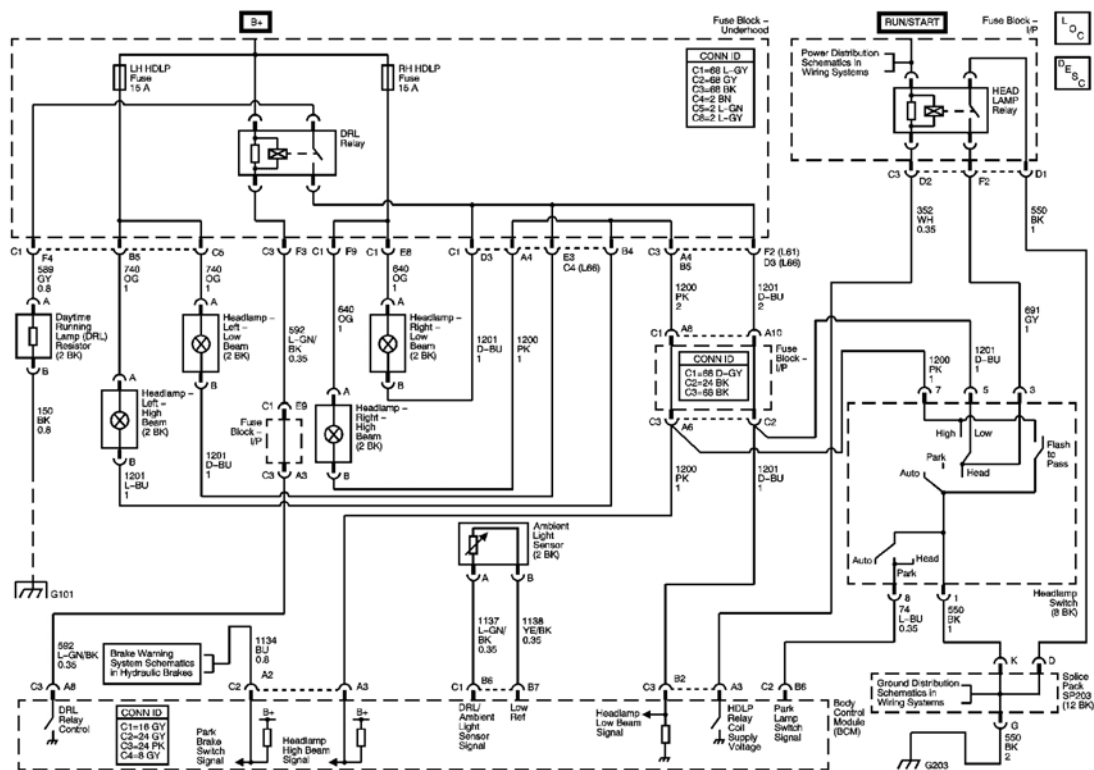
### FASTENER TIGHTENING SPECIFICATIONS

#### Fastener Tightening Specifications

Application	Specification	
	Metric	English
CHMSL to Lift Gate Screws	1 N.m	9 lb in
Fog Lamp to Fascia Screws	4 N.m	35 lb in
Headlamp Bracket Bolts	10 N.m	89 lb in
License Plate Bezel to Lift Gate Nuts	4 N.m	35 lb in
License Plate Bulb Assembly Screws	4 N.m	35 lb in
Tail Lamp Screws	2.5 N.m	22 lb in

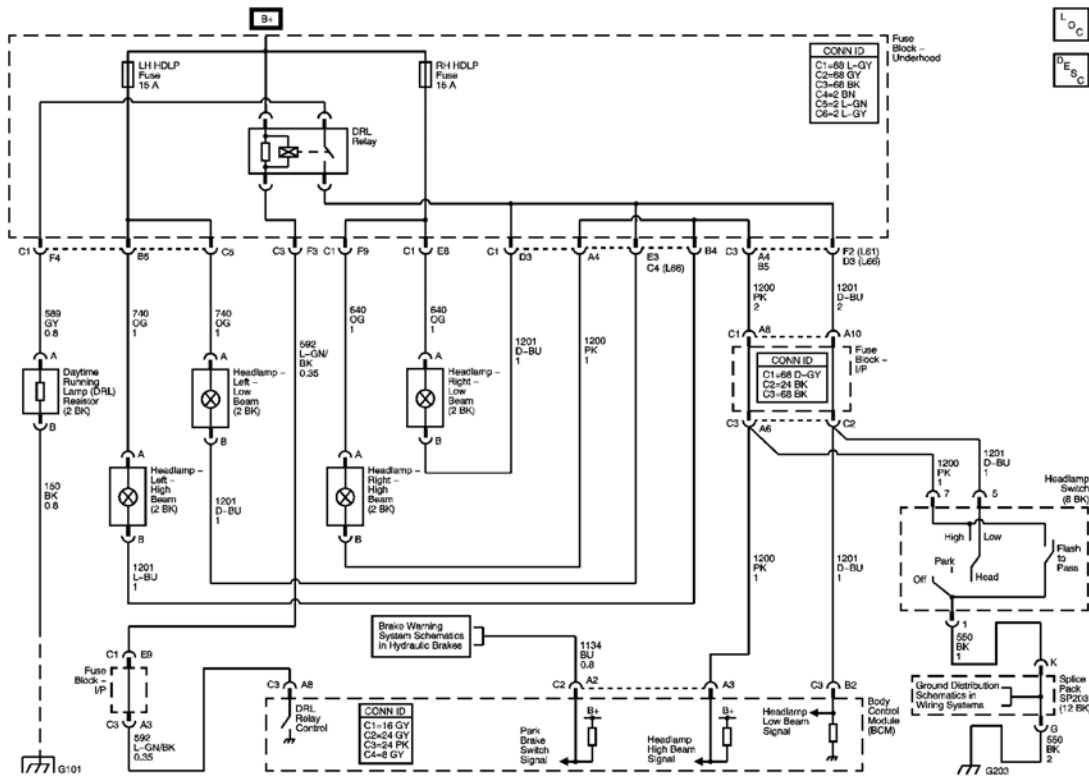
## SCHEMATIC AND ROUTING DIAGRAMS

### HEADLIGHTS/DAYTIME RUNNING LIGHTS (DRL) SCHEMATICS (W/T82)



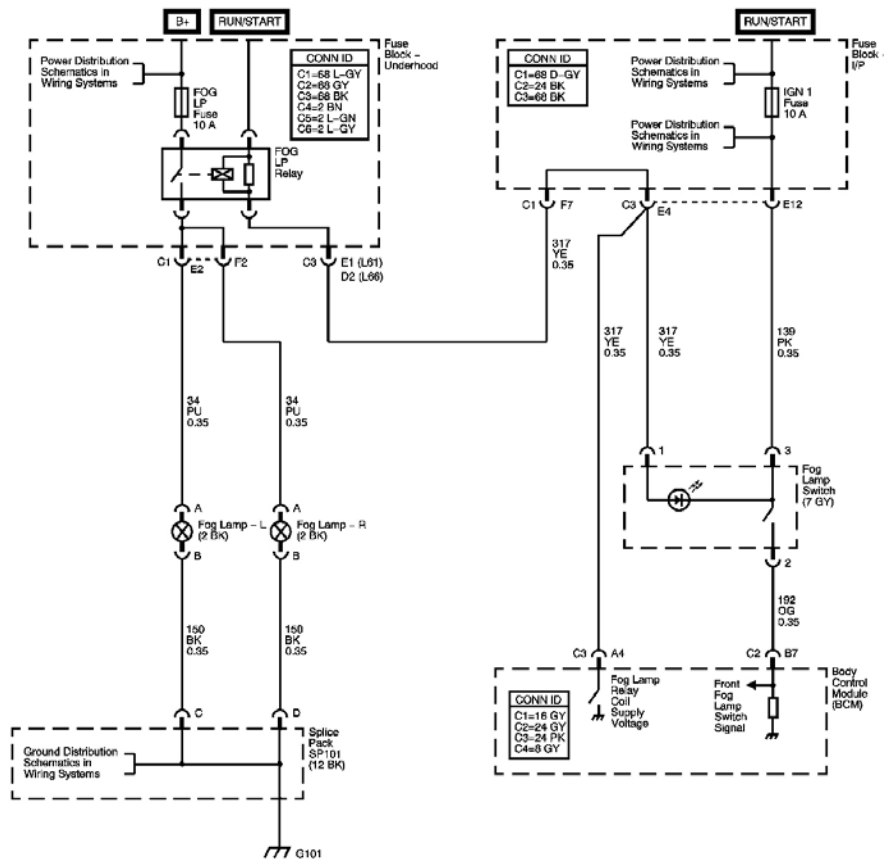
**Fig. 1: View Of Headlights/Daytime Running Lights (DRL) Schematics (w/T82)**  
 Courtesy of GENERAL MOTORS CORP.

**HEADLIGHTS/DAYTIME RUNNING LIGHTS (DRL) SCHEMATICS (W/O T82)**



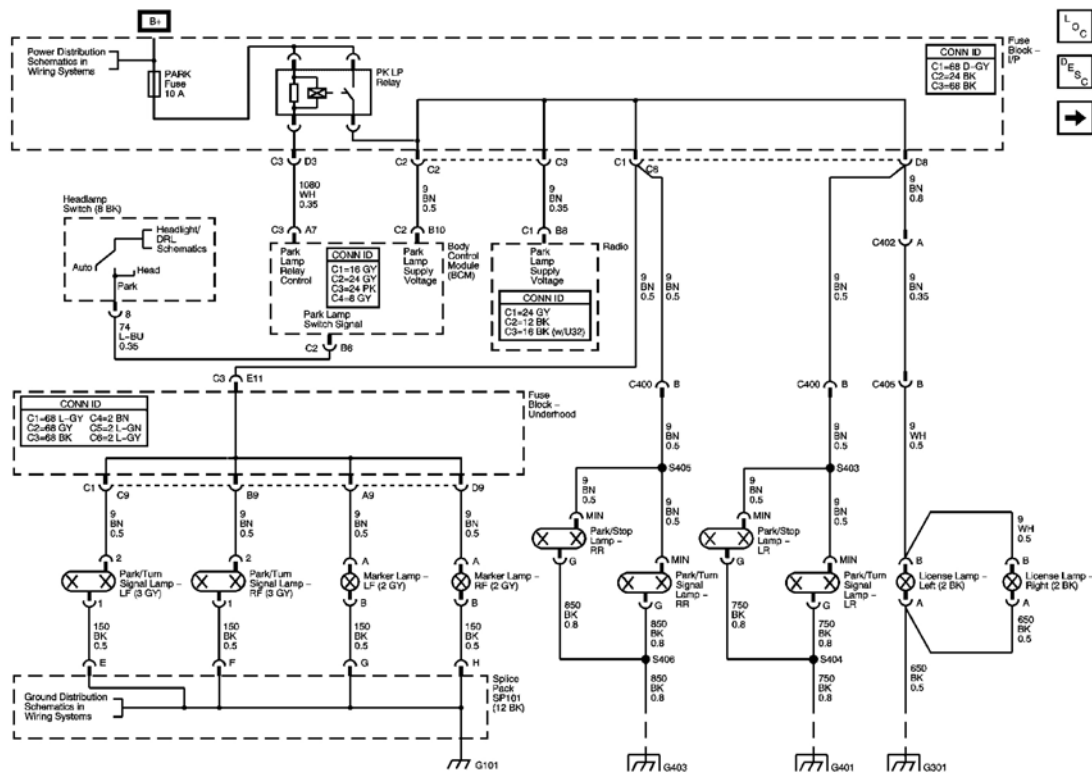
**Fig. 2: View Of Headlights/Daytime Running Lights (DRL) Schematics (w/o T82)**  
 Courtesy of GENERAL MOTORS CORP.

## FOG LIGHTS SCHEMATICS

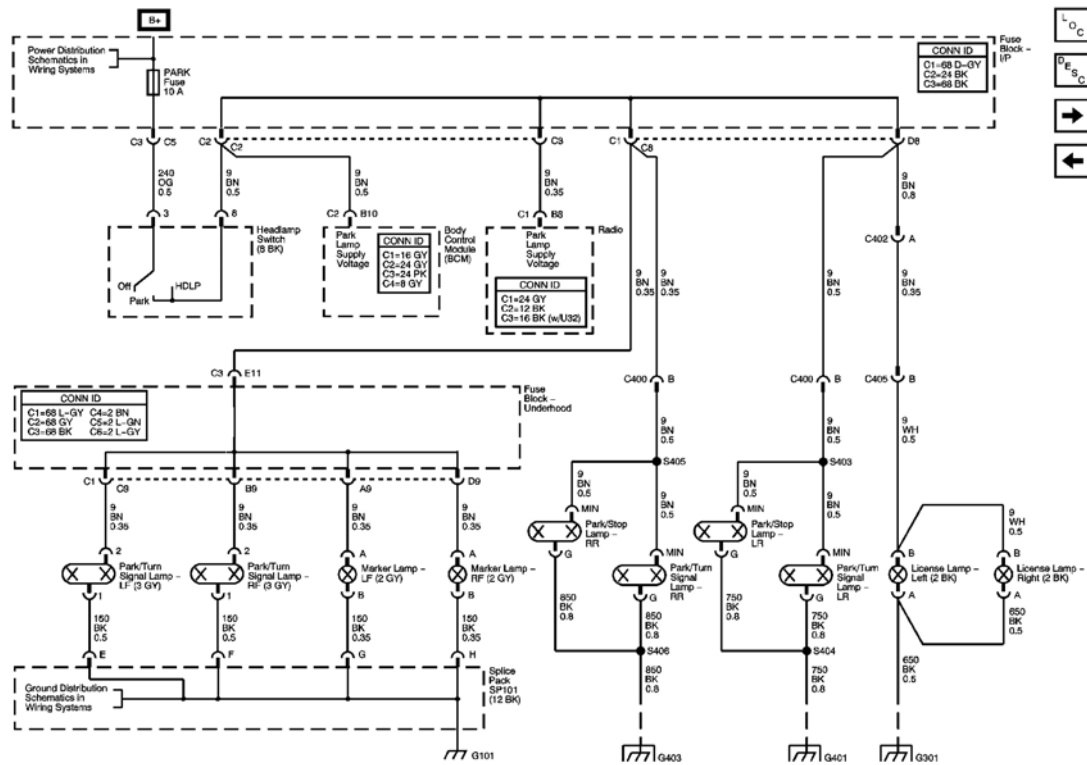


**Fig. 3: View Of Fog Lights Schematics**  
 Courtesy of GENERAL MOTORS CORP.

**EXTERIOR LIGHTS SCHEMATICS**

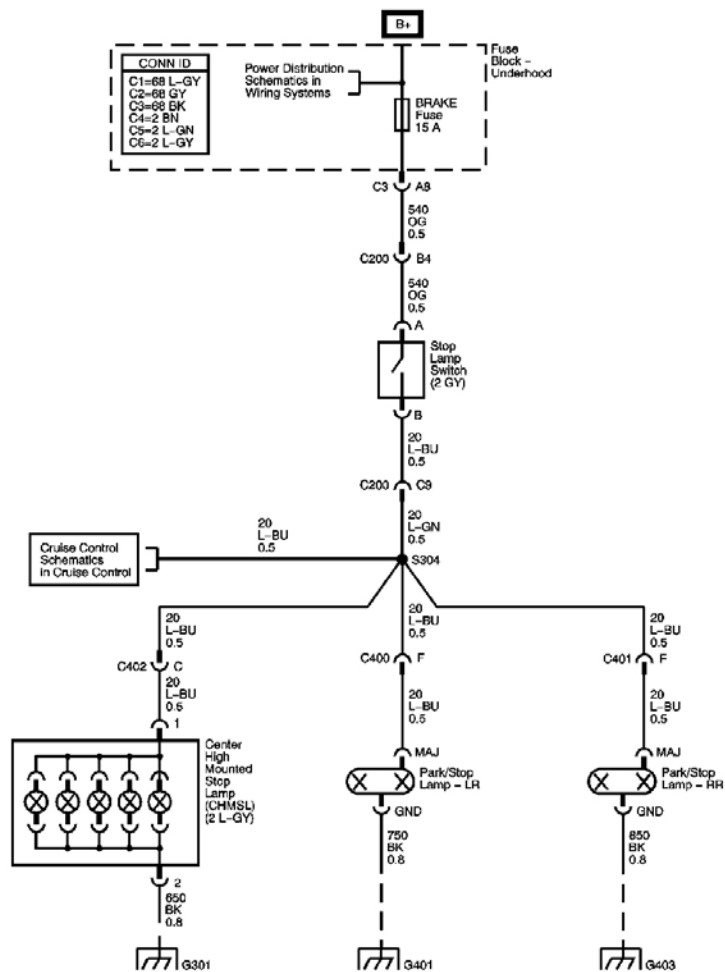


**Fig. 4: View Of Park Lamps w/T82**  
 Courtesy of GENERAL MOTORS CORP.



**Fig. 5: View Of Park Lamps w/o T82**  
 Courtesy of GENERAL MOTORS CORP.

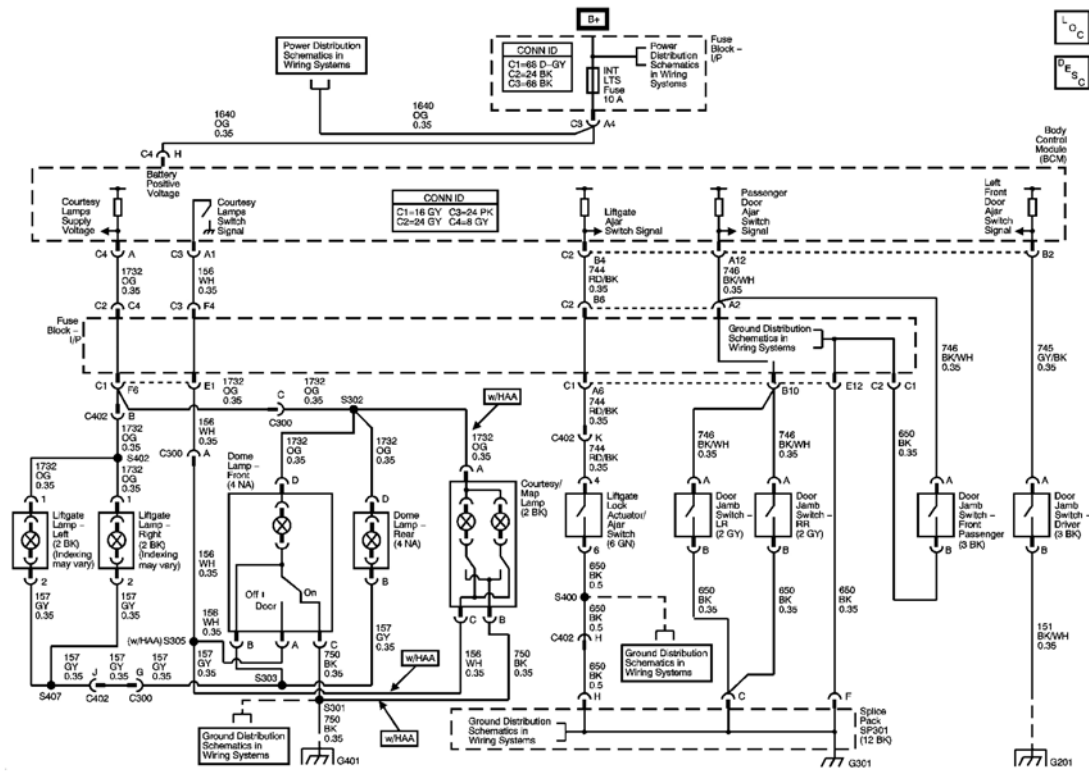




**Fig. 7: View Of Stop Lamps**  
 Courtesy of GENERAL MOTORS CORP.

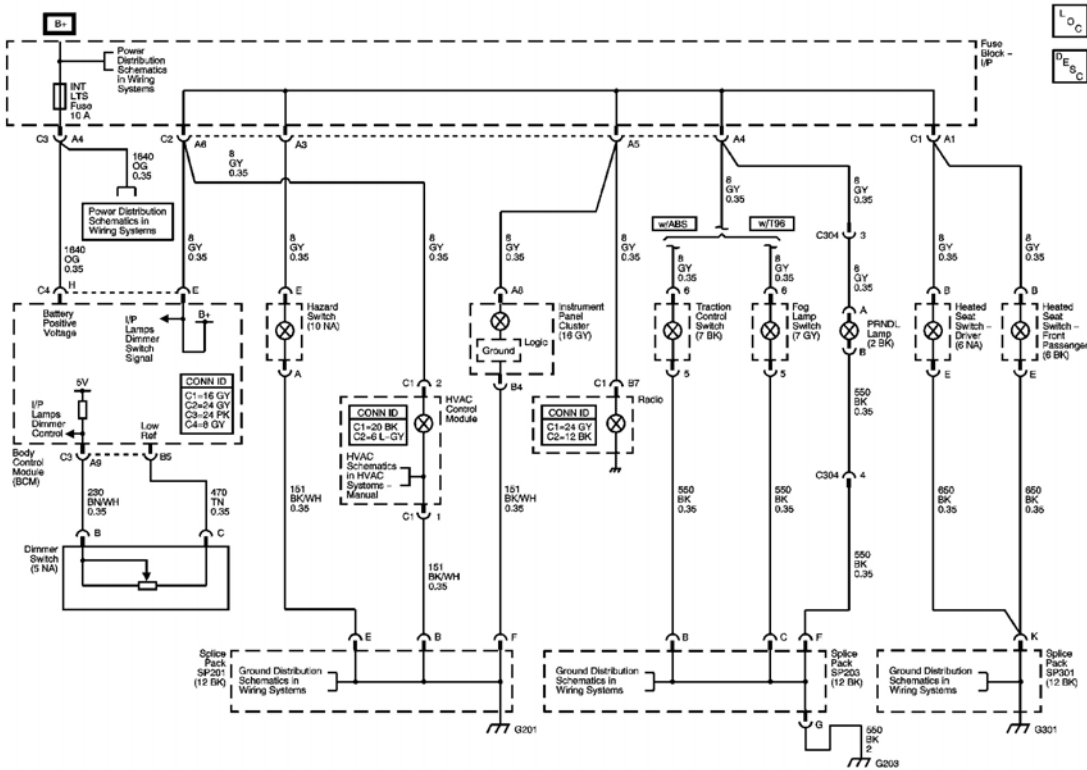






**Fig. 9: View Of Interior Lights Schematics**  
 Courtesy of GENERAL MOTORS CORP.

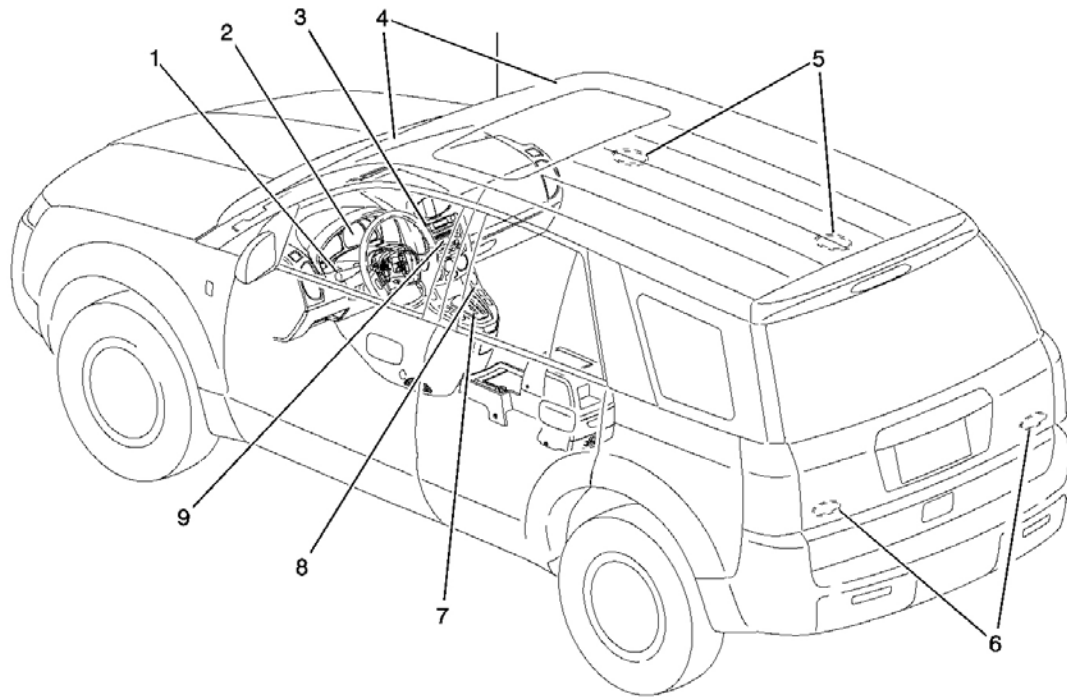
**INTERIOR LIGHTS DIMMING SCHEMATICS**



**Fig. 10: View Of Interior Lights Dimming Schematics**  
 Courtesy of GENERAL MOTORS CORP.

## COMPONENT LOCATOR

### LIGHTING SYSTEMS COMPONENT VIEWS



**Fig. 11: Lighting Systems Component Views**  
 Courtesy of GENERAL MOTORS CORP.

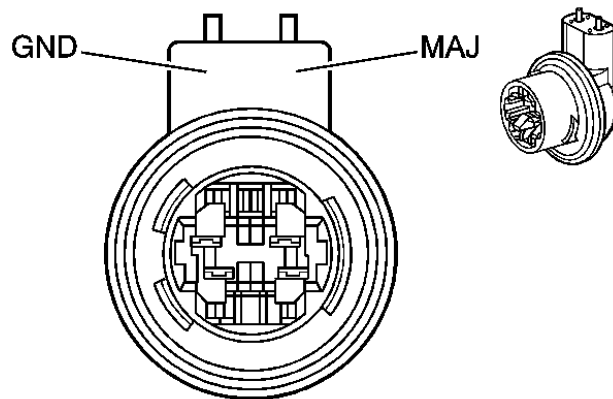
**Callouts For Fig. 11 Lighting Systems Component View**

Callout	Component Name
1	Headlamp Switch
2	Instrument Panel Cluster (IPC)
3	Dimmer Switch
4	Sunshade Lamps (Not Used)
5	Dome Lamps, Front and Rear
6	Liftgate Lamps, Left and Right
7	PRNDL Lamp
8	Cigar Lighter
9	Radio

**LIGHTING SYSTEMS CONNECTOR END VIEWS**

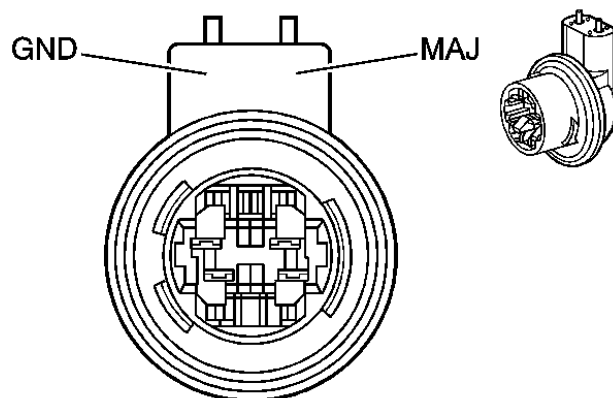
**Backup Lamp - Left Lighting Systems Connector End View**





<b>Connector Part Information</b>		<ul style="list-style-type: none"> <li>• 021940259</li> <li>• 3-Way F Bulb 3057 Socket (BK)</li> </ul>	
Pin	Wire Color	Circuit No.	Function
MAJ	L-GN	24	Backup Lamp Supply Voltage
MIN	-	-	Not Used
GND	BK	750	Ground

#### Backup Lamp - Right Lighting Systems Connector End View



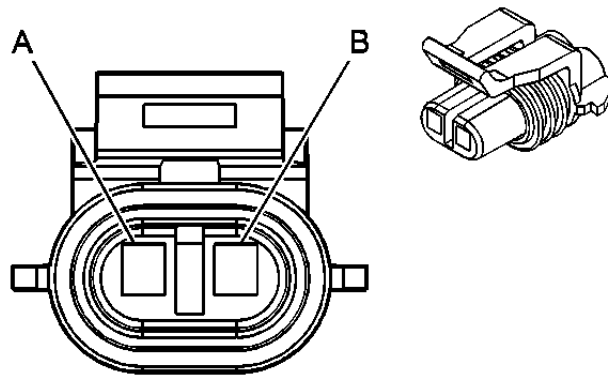
<b>Connector Part Information</b>		<ul style="list-style-type: none"> <li>• 021940259</li> <li>• 3-Way F Bulb 3057 Socket (BK)</li> </ul>	
Pin	Wire Color	Circuit No.	Function
MAJ	L-GN	24	Backup Lamp Supply Voltage
MIN	-	-	Not Used

GND

BK

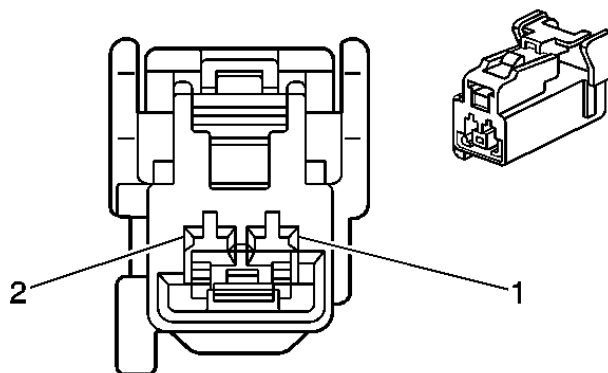
850

Ground

**Backup Switch (L61 w/M/T) Connector End View****Connector Part Information**

- 12052641
- 2-Way F Metri-Pack 150 Series (BK)

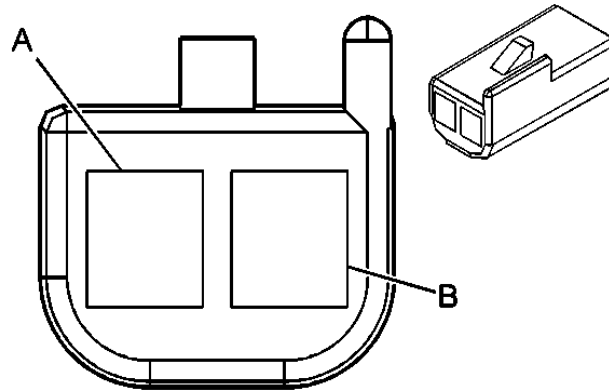
Pin	Wire Color	Circuit No.	Function
A	PK	239	Ignition 1 Voltage
B	L-GN	24	Backup Lamp Supply Voltage

**Center High Mount Stop Lamp (CHMSL) Connector End View****Connector Part Information**

- 7283-5530-40
- 2-Way F (L-GY)

Pin	Wire Color	Circuit No.	Function
1	L-BU	20	Stop Lamp Switch Signal

### Courtesy/Map Lamp Connector End View

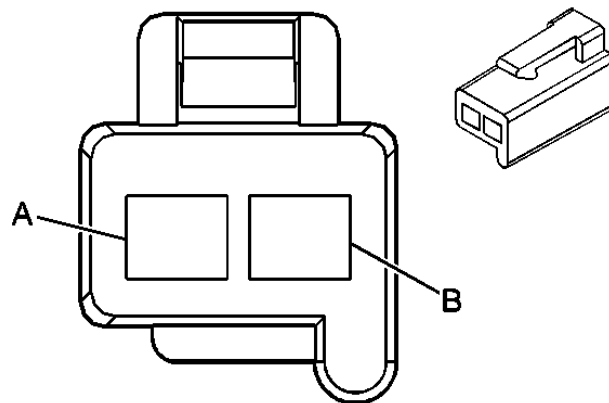


#### Connector Part Information

- 12047662
- 2-Way F Metri-Pack 150 Series (BK)

Pin	Wire Color	Circuit No.	Function
A	OG	1732	Courtesy Lamps Supply Voltage
B	BK	750	Ground

### Cruise/Brake Switch Connector End View



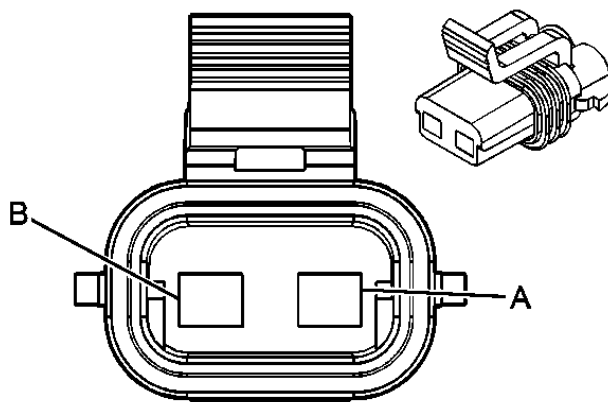
#### Connector Part Information

- 12041433
- 2-Way F Metri-Pack 280 Series (BK)

Pin	Wire Color	Circuit No.	Function

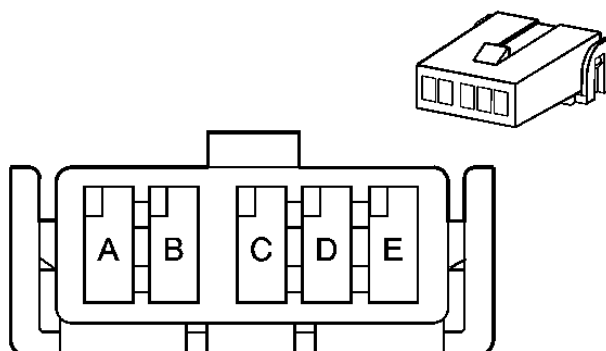
A	PK	1339	Ignition 1 Voltage
B	PU	420	Cruise Control Release Signal

### Daytime Running Lamps (DRL) Resistor Connector End View



<b>Connector Part Information</b>		<ul style="list-style-type: none"> <li>• 15300027</li> <li>• 2-Way F Metri-Pack 280 Sealed (BK)</li> </ul>	
Pin	Wire Color	Circuit No.	Function
A	GY	589	DRL Relay
B	BK	150	Ground

### Dimmer Switch (Dash Illumination) Connector End View

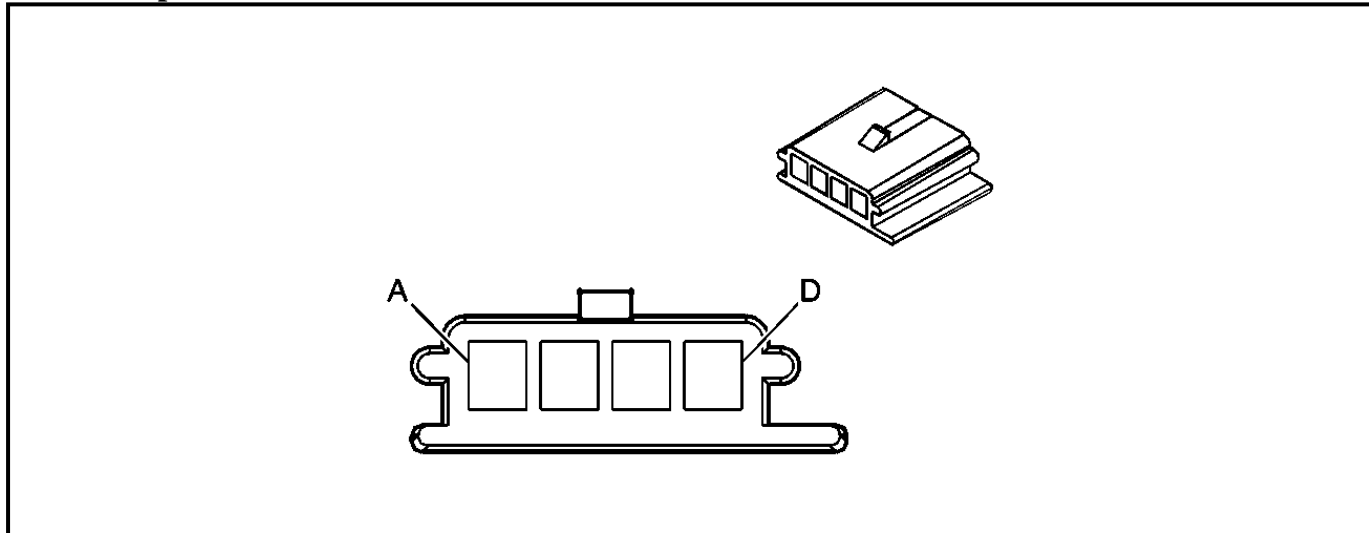


<b>Connector Part Information</b>		<ul style="list-style-type: none"> <li>• 12020299</li> <li>• 5-Way F P/C Edgeboard - Standard (NA)</li> </ul>	
Pin	Wire Color	Circuit No.	Function



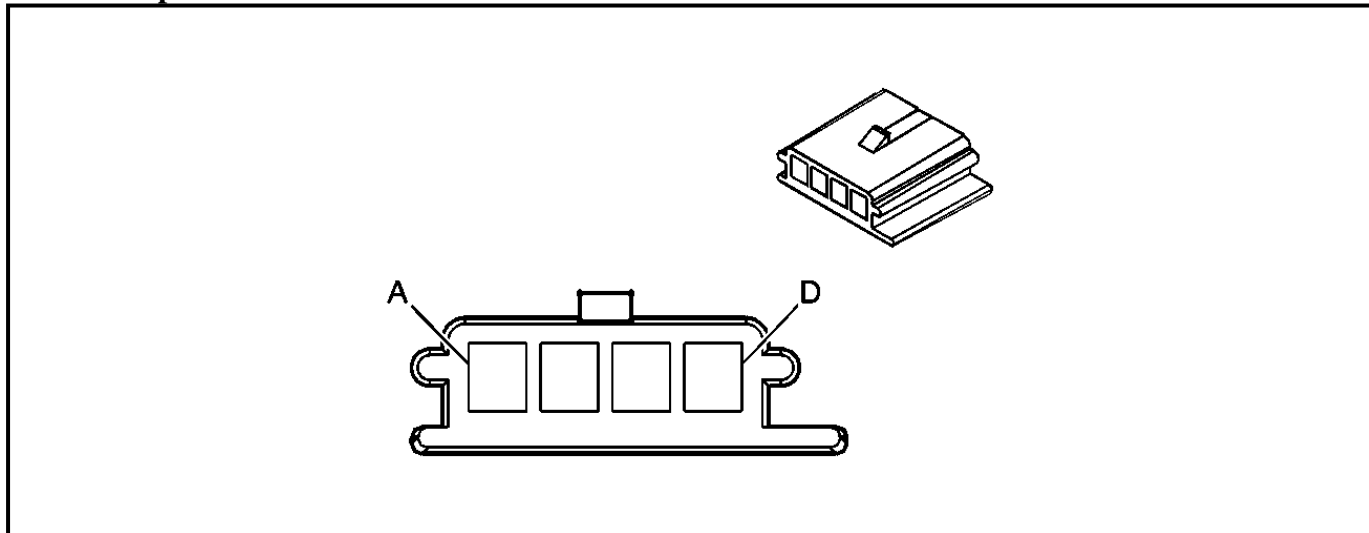
A	-	-	Not Used
B	BN/WH	230	I/P Lamps Dimmer Control
C	TN	470	Low Reference
D-E	-	-	Not Used

### Dome Lamp - Front Connector End View



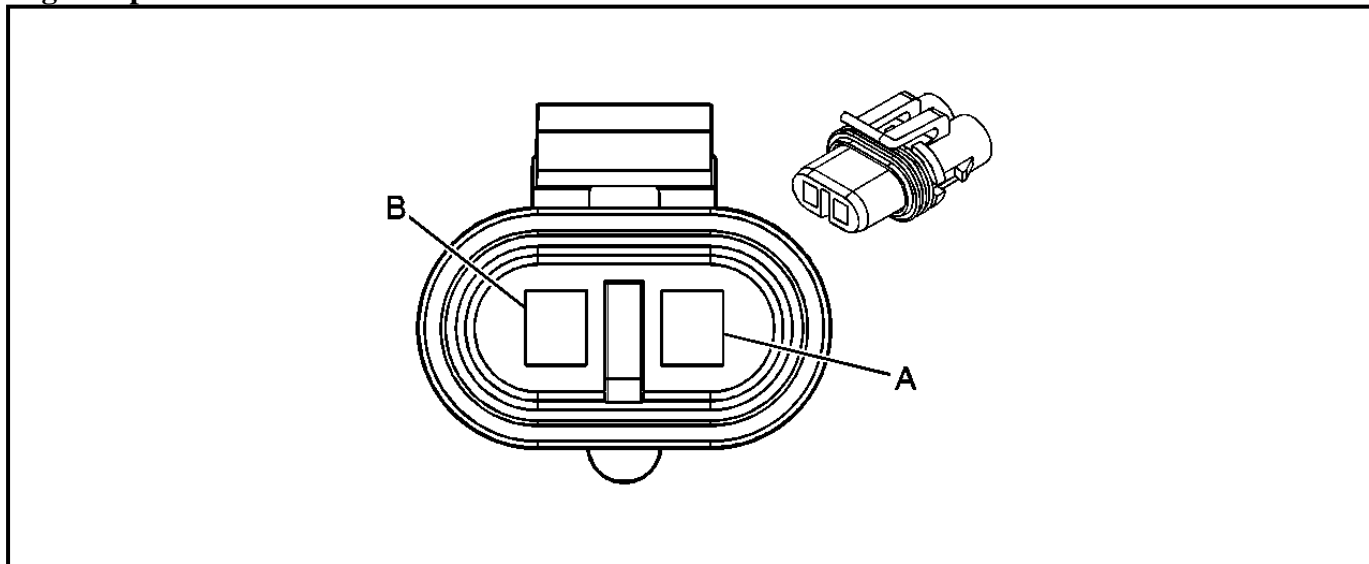
<b>Connector Part Information</b>		<ul style="list-style-type: none"> <li>• 12045813</li> <li>• 4-Way F Metri-Pack 150 Series (NA)</li> </ul>	
Pin	Wire Color	Circuit No.	Function
A	WH	156	Courtesy Lamps Switch Signal
B	GY	157	Courtesy Lamp Control
C	BK	750	Ground
D	OG	1732	Courtesy Lamps Supply Voltage

### Dome Lamp - Rear Connector End View



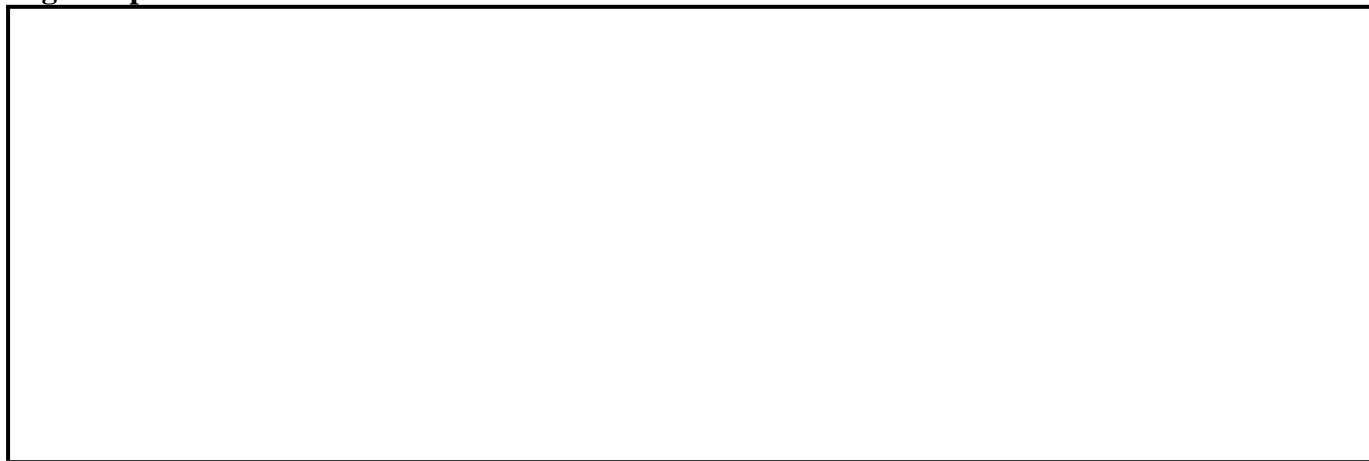
Connector Part Information		<ul style="list-style-type: none"> <li>• 12045813</li> <li>• 4-Way F Metri-Pack 150 Series (NA)</li> </ul>	
Pin	Wire Color	Circuit No.	Function
A	-	-	Not Used
B	GY	157	Courtesy Lamp Control
C	-	-	Not Used
D	OG	1732	Courtesy Lamps Supply Voltage

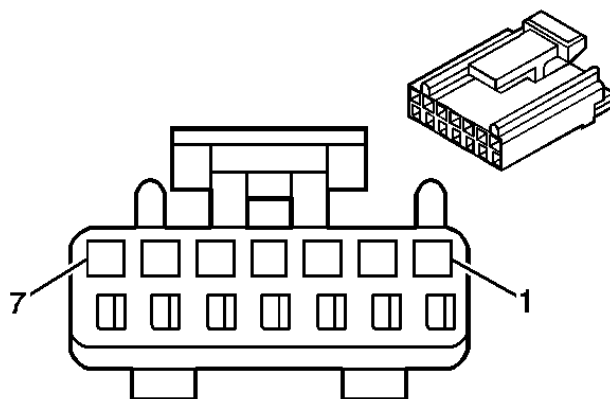
### Fog Lamps Connector End View



Connector Part Information		<ul style="list-style-type: none"> <li>• 12020599</li> <li>• 2-Way F Metri-Pack 280 Series (BK)</li> </ul>	
Pin	Wire Color	Circuit No.	Function
A	PU	34	Fog Lamp Relay
B	BK	150	Ground

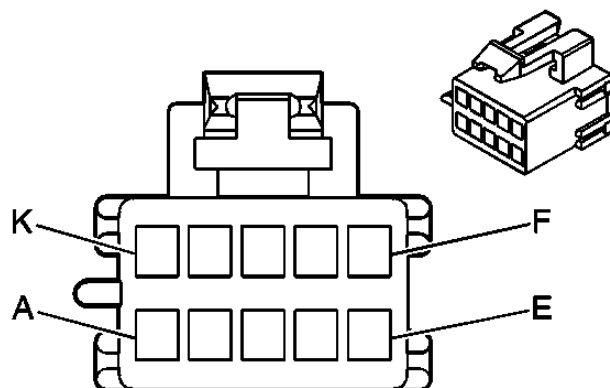
### Fog Lamp Switch Connector End View





Connector Part Information		<ul style="list-style-type: none"> <li>• 12065872</li> <li>• 7-Way F Micro-Pack 100 Series (GY)</li> </ul>	
Pin	Wire Color	Circuit No.	Function
1	YE	317	Fog Lamp Relay Coil Supply Voltage
2	OG	192	Front Fog Lamp Switch Signal
3	PK	139	Ignition 1 Voltage
4	-	-	Not Used
5	BK	550	Ground
6	GY	8	Instrument Panel Lamp Supply Voltage
7	-	-	Not Used

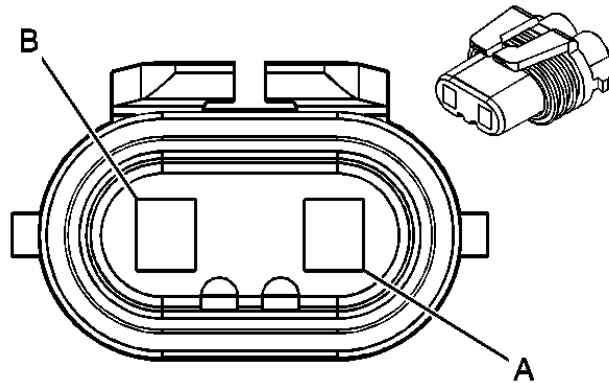
#### Hazard Switch Connector End View



Connector Part Information		<ul style="list-style-type: none"> <li>• 12064769</li> </ul>	
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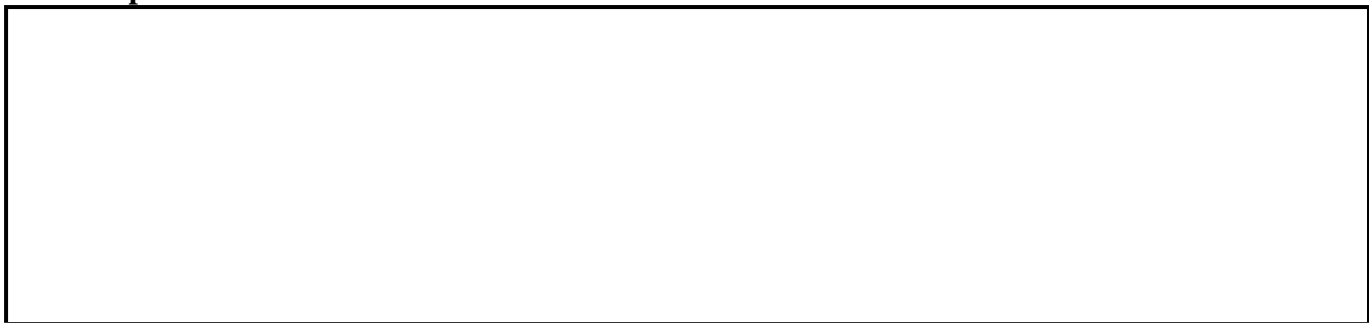
• 10-Way Metri-Pack 150 Series (NA)			
Pin	Wire Color	Circuit No.	Function
A	BK/WH	151	Ground
B	OG	1040	Battery Positive Voltage
C	YE	243	Accessory Voltage
D	-	-	Not Used
E	GY	8	Instrument Panel Lamp Supply Voltage
F	L-BU	14	Left Turn Signal Lamps Supply Voltage
G	D-BU	15	Right Turn Signal Lamps Supply Voltage
H	PU	16	Turn Signal Flasher Signal
J-K	-	-	Not Used

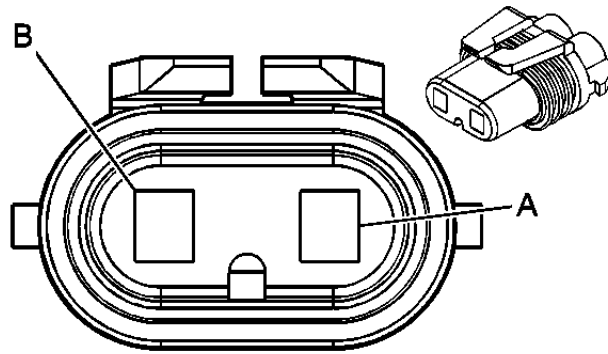
### Headlamp - Left - High Beam Connector End View



Connector Part Information		<ul style="list-style-type: none"> <li>• 12059183</li> <li>• 2-Way F Metri-Pack 280 Series Sealed (BK)</li> </ul>	
Pin	Wire Color	Circuit No.	Function
A	OG	740	Battery Positive Voltage
B	PK	1200	Headlamp High Beam Signal

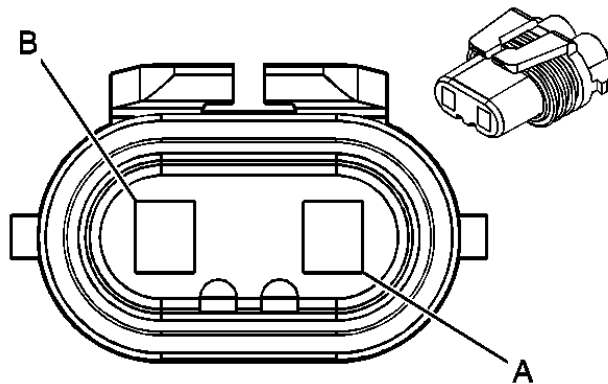
### Headlamp - Left - Low Beam Connector End View





<b>Connector Part Information</b>		<ul style="list-style-type: none"> <li>• 12059181</li> <li>• 2-Way F Metri-Pack 280 Series Sealed (M-GY)</li> </ul>	
<b>Pin</b>	<b>Wire Color</b>	<b>Circuit No.</b>	<b>Function</b>
A	OG	740	Battery Positive Voltage
B	D-BU	1201	Headlamp Low Beam Signal

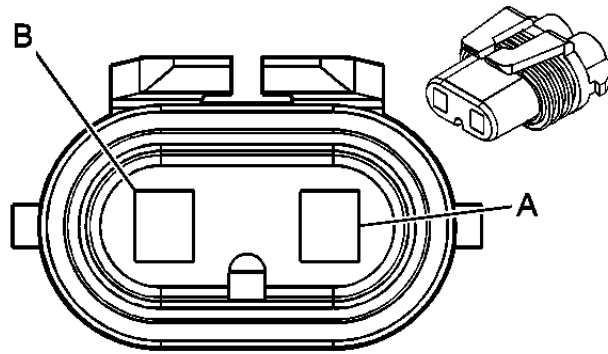
#### Headlamp - Right - High Beam Connector End View



<b>Connector Part Information</b>		<ul style="list-style-type: none"> <li>• 12059183</li> <li>• 2-Way F Metri-Pack 280 Series Sealed (BK)</li> </ul>	
<b>Pin</b>	<b>Wire Color</b>	<b>Circuit No.</b>	<b>Function</b>
A	OG	640	Battery Positive Voltage
B	PK	1200	Headlamp High Beam Signal

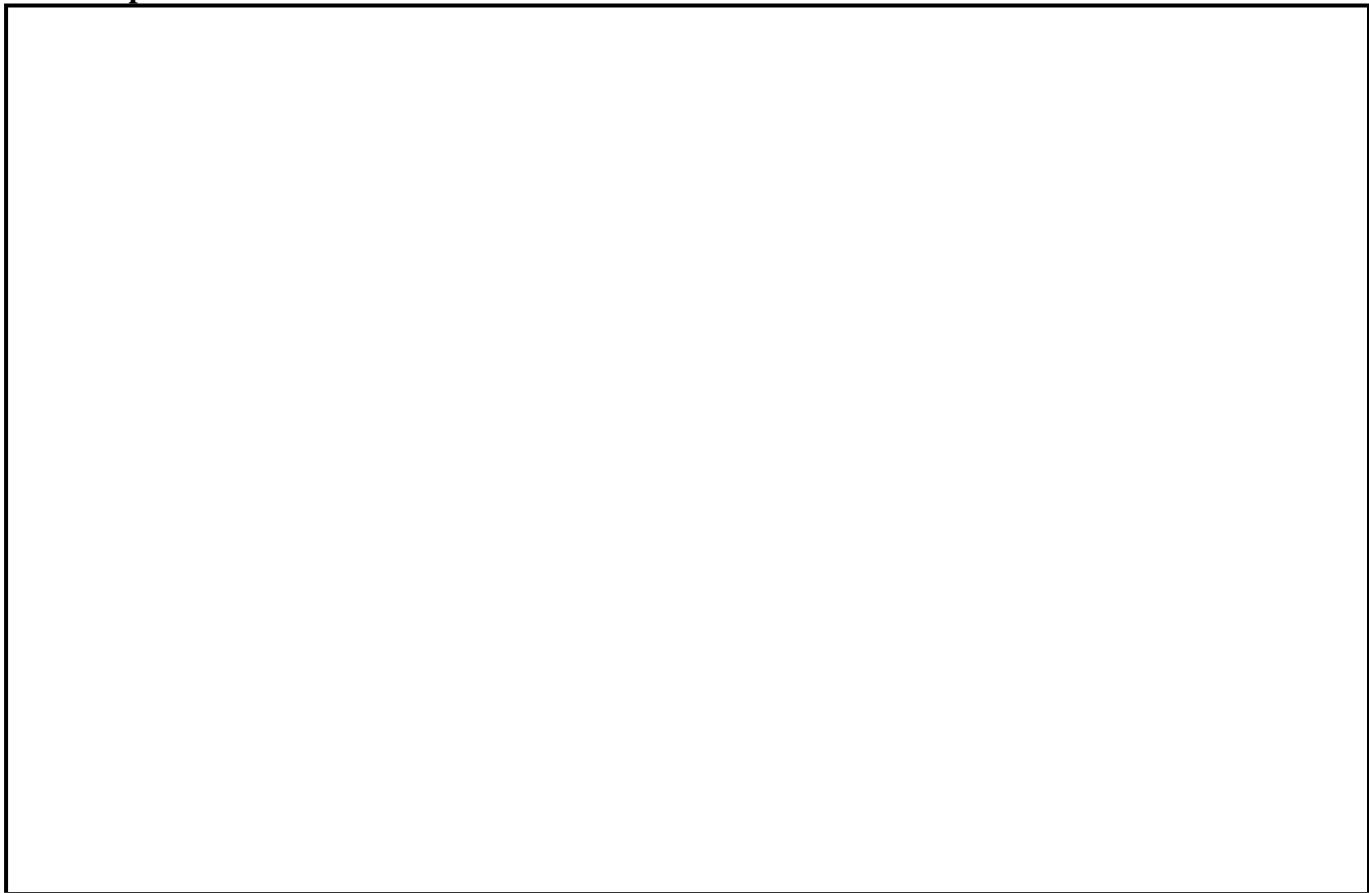
#### Headlamp - Right - Low Beam Connector End View

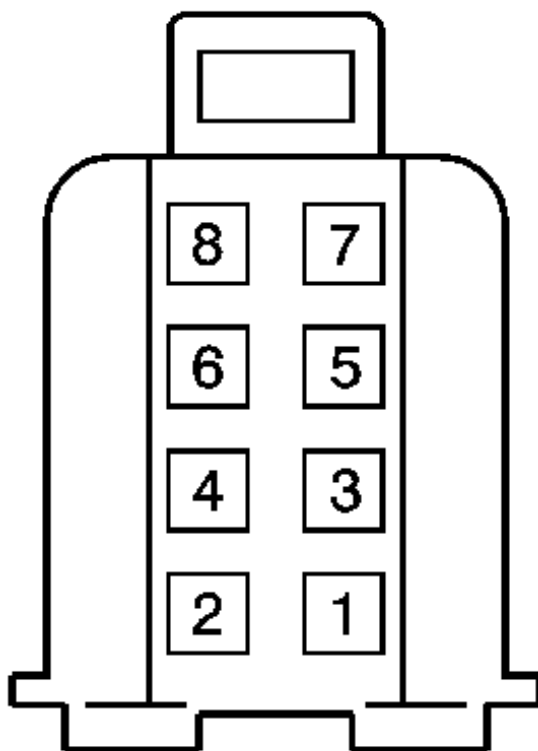




<b>Connector Part Information</b>		<ul style="list-style-type: none"> <li>• 12059181</li> <li>• 2-Way F Metri-Pack 280 Series Sealed (M-GY)</li> </ul>	
<b>Pin</b>	<b>Wire Color</b>	<b>Circuit No.</b>	<b>Function</b>
A	OG	640	Battery Positive Voltage
B	D-BU	1201	Headlamp Low Beam Signal

**Headlamp Switch Connector End View**

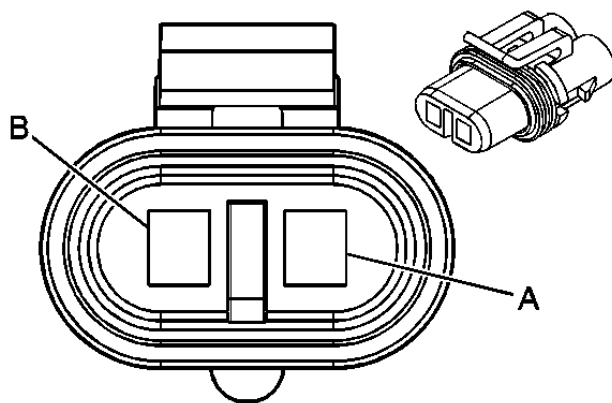




Connector Part Information		<ul style="list-style-type: none"> <li>• 12047976/929504-3</li> <li>• 8-Way F Metri-Pack 280 Series (BK)</li> </ul>	
Pin	Wire Color	Circuit No.	Function
1	BK	550	Ground
2	L-BU	14	Left Turn Signal Lamps Supply Voltage
3	OG	240	Battery Positive Voltage
4	PU	16	Turn Signal Flasher Signal
5	D BU	1201	Headlamp Low Beam Signal
6	D-BU	15	Right Turn Signal Lamps Supply Voltage
7	PK	1200	Headlamp High Beam Signal
8	BN	9	Park Lamp Supply Voltage

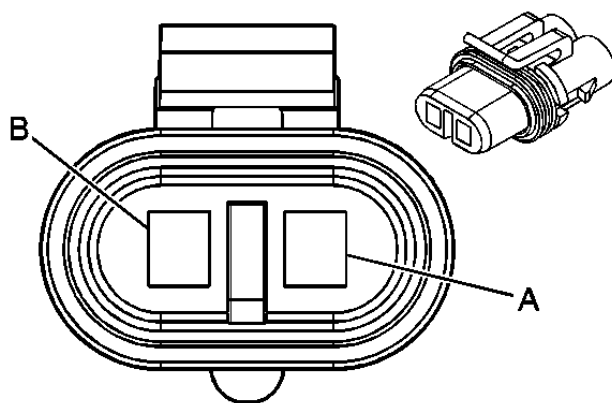
#### License Lamp - Left Connector End View





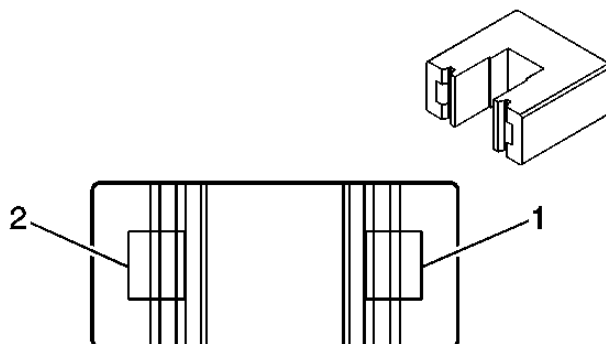
Connector Part Information		<ul style="list-style-type: none"> <li>• 12020599</li> <li>• 2-Way F 280 Series (BK)</li> </ul>	
Pin	Wire Color	Circuit No.	Function
A	BK	650	Ground
	BK	650	Ground
B	WH	9	Park Lamp Supply Voltage
	WH	9	Park Lamp Supply Voltage

**License Lamp - Right Connector End View**



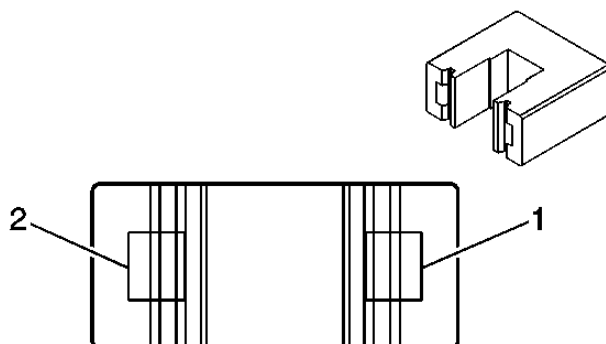
Connector Part Information		<ul style="list-style-type: none"> <li>• 12020599</li> <li>• 2-Way F 280 Series (BK)</li> </ul>	
Pin	Wire Color	Circuit No.	Function
A	BK	650	Ground



**Liftgate Lamp - Left Connector End View****Connector Part Information**

- 12186713
- 2-Way F (BK)
- Indexing may vary

Pin	Wire Color	Circuit No.	Function
1	OG	1732	Courtesy Lamps Supply Voltage
2	GY	157	Courtesy Lamp Control

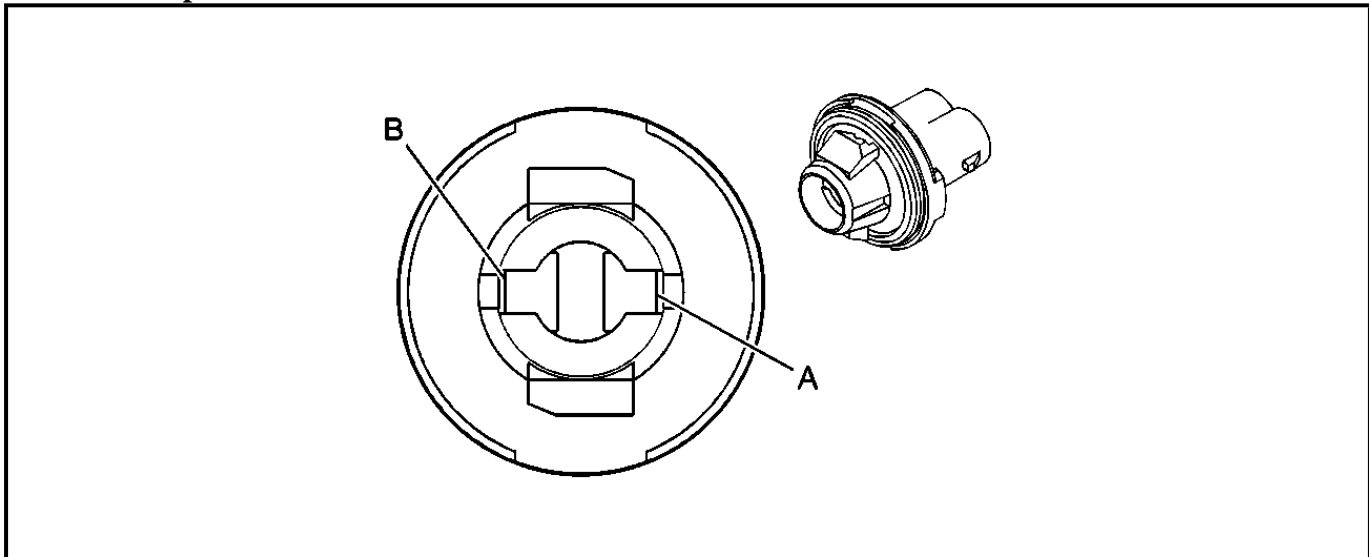
**Liftgate Lamp - Right Connector End View****Connector Part Information**

- 12186713
- 2-Way F (BK)
- Indexing may vary

Pin	Wire Color	Circuit No.	Function

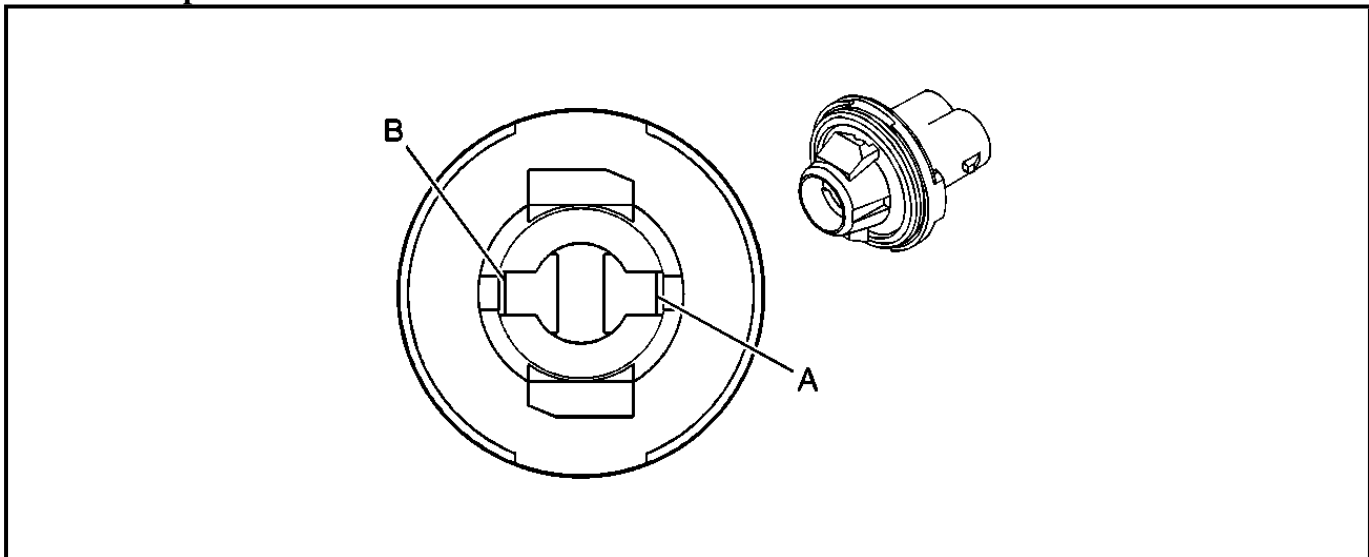
1	OG	1732	Courtesy Lamps Supply Voltage
2	GY	157	Courtesy Lamp Control

**Marker Lamp - LF Connector End View**



<b>Connector Part Information</b>		<ul style="list-style-type: none"> <li>• 12110053</li> <li>• 2-Way F Lamp Socket Wedge Base W2 (L-GY)</li> </ul>	
<b>Pin</b>	<b>Wire Color</b>	<b>Circuit No.</b>	<b>Function</b>
A	BN	9	Park Lamp Supply Voltage
B	BK	150	Ground

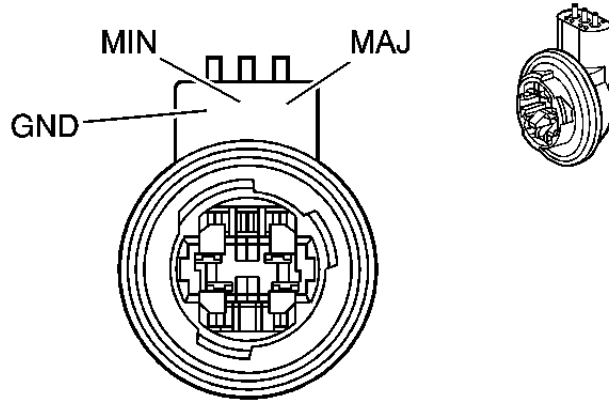
**Marker Lamp - RF Connector End View**



<b>Connector Part Information</b>		<ul style="list-style-type: none"> <li>• 12110053</li> <li>• 2-Way F Lamp Socket Wedge Base W2 (L-GY)</li> </ul>	

Pin	Wire Color	Circuit No.	Function
A	BN	9	Park Lamp Supply Voltage
B	BK	150	Ground

### Park/Stop Lamp - LR Connector End View

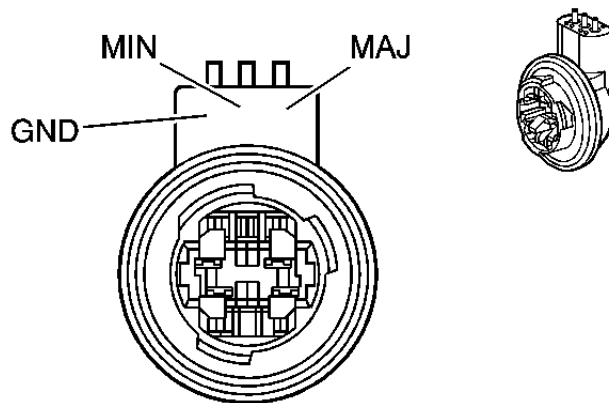


#### Connector Part Information

- 021940459
- 3-Way F Bulb 3057 Socket (BK)

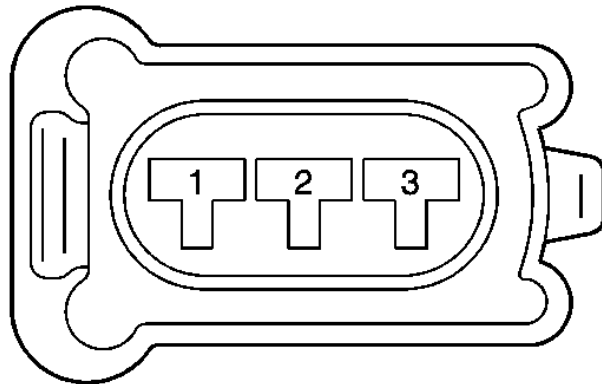
Pin	Wire Color	Circuit No.	Function
MAJ	L-BU	20	Stop Lamp Switch Signal
MIN	BN	9	Park Lamp Supply Voltage
GND	BK	750	Ground

### Park/Stop Lamp - RR Connector End View



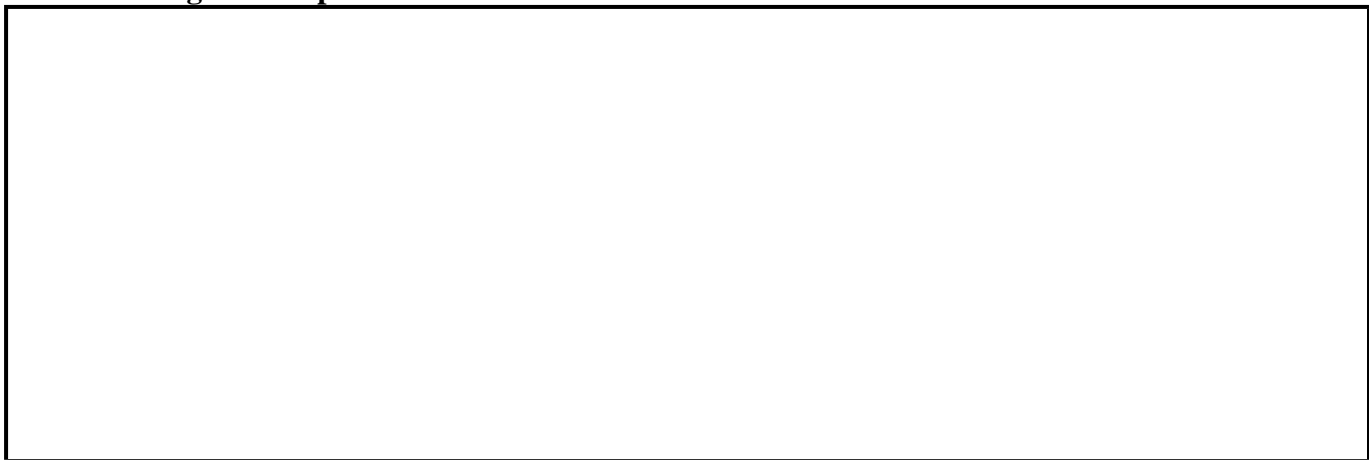
Connector Part Information		<ul style="list-style-type: none"> <li>• 021940459</li> <li>• 3-Way F Bulb 3057 Socket (BK)</li> </ul>	
Pin	Wire Color	Circuit No.	Function
MAJ	L-BU	20	Stop Lamp Switch Signal
MIN	BN	9	Park Lamp Supply Voltage
GND	BK	850	Ground

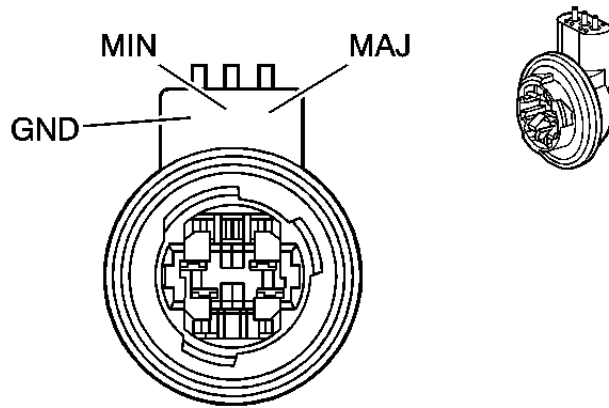
#### Park/Turn Signal Lamp - LF Connector End View



Connector Part Information		<ul style="list-style-type: none"> <li>• ZF1-00561-UA</li> <li>• 3-Way F (BK)</li> </ul>	
Pin	Wire Color	Circuit No.	Function
1	BK	150	Ground
2	BN	9	Park Lamp Supply Voltage
3	L-BU	14	Left Turn Signal Lamps Supply Voltage

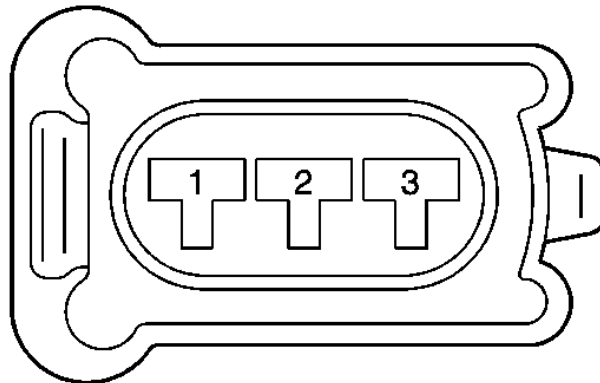
#### Park/Turn Signal Lamp - LR Connector End View



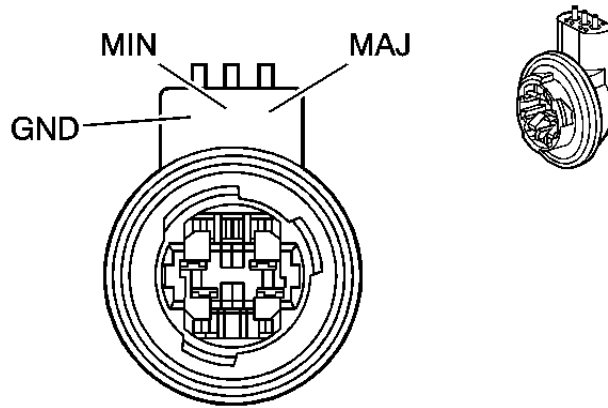


<b>Connector Part Information</b>		<ul style="list-style-type: none"> <li>• 021780959</li> <li>• 3-Way F Bulb 3057 Socket (BK)</li> </ul>	
Pin	Wire Color	Circuit No.	Function
MAJ	D-BU	18	Left Rear Turn Lamp Supply Voltage
MIN	BN	9	Park Lamp Supply Voltage
GND	BK	750	Ground

#### Park/Turn Signal Lamp - RF Connector End View

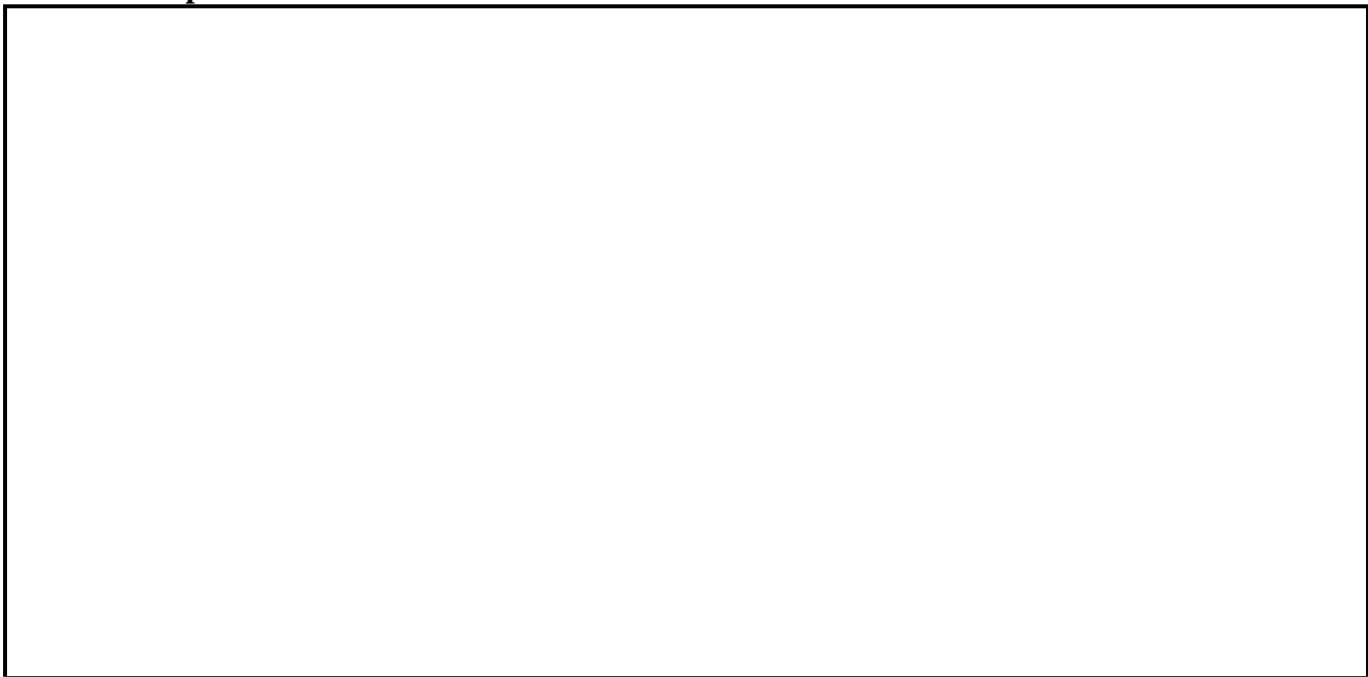


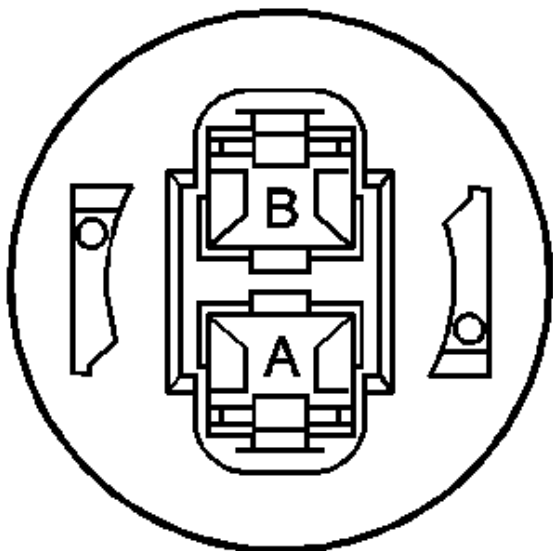
<b>Connector Part Information</b>		<ul style="list-style-type: none"> <li>• ZF1-00561-UA</li> <li>• 3-Way F (BK)</li> </ul>	
Pin	Wire Color	Circuit No.	Function
1	BK	150	Ground
2	BN	9	Park Lamp Supply Voltage

**Park/Turn Signal Lamp - RR Connector End View****Connector Part Information**

- 021780959
- 3-Way F Bulb 3057 Socket (BK)

Pin	Wire Color	Circuit No.	Function
MAJ	D-BU	19	Right Rear Turn Lamp Supply Voltage
MIN	BN	9	Park Lamp Supply Voltage
GND	BK	850	Ground

**PRNDL Lamp Connector End View**

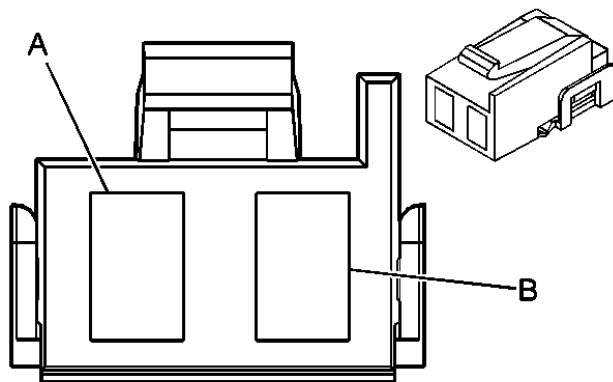


**Connector Part Information**

- 12033701
- Lamp Socket Bulb Base Type W-2 Axial (BK)

Pin	Wire Color	Circuit No.	Function
A	GY	8	I/P Dimmer Lamps Switch Signal
B	BK	550	Ground

**Stop Lamp Switch Connector End View**



<b>Connector Part Information</b>		<ul style="list-style-type: none"> <li>• 12033701</li> <li>• 2-Way F Metri-Pack 480 Series (GY)</li> </ul>	
<b>Pin</b>	<b>Wire Color</b>	<b>Circuit No.</b>	<b>Function</b>
A	OG	540	Battery Positive Voltage
B	L-BU	20	Stop Lamp Switch Signal

## DIAGNOSTIC INFORMATION AND PROCEDURES

### DIAGNOSTIC STARTING POINT - LIGHTING SYSTEMS

Begin the system diagnosis with the **Diagnostic System Check - Lighting Systems** . The Diagnostic System Check will provide the following information:

- The identification of the control module(s) which command the system
- The ability of the control module(s) to communicate through the serial data circuit
- The identification of any stored diagnostic trouble codes (DTCs) and their status

The use of the Diagnostic System Check will identify the correct procedure for diagnosing the system and where the procedure is located.

### DIAGNOSTIC SYSTEM CHECK - LIGHTING SYSTEMS

#### Test Description

The numbers below refer to the step numbers on the diagnostic table.

**2:** Lack of communication may be due to a partial malfunction of the class 2 serial data circuit or due to a total malfunction of the class 2 serial data circuit. The specified procedure will determine the particular condition.

**3:** The Lighting Systems Symptoms will determine the correct diagnostic procedure to use when no DTCs are present.

**4:** The presence of DTCs which begin with "U" indicate some other module is not communicating. The specified procedure will compile all the available information before tests are performed.

**5:** DTC B1000 and DTC B1001 are internal BCM malfunctions and should be corrected before performing any other diagnostic procedure.

#### Diagnostic System Check - Lighting Systems

Step	Action	Yes	No
1	Install a scan tool. Does the scan tool power up?	Go to <b>Step 2</b>	Go to <b>Scan Tool Does Not Power Up</b> in Data Link Communications
	1. Turn ON the ignition, with the engine OFF.		



2	2. Attempt to establish communication with the body control module (BCM).  Does the scan tool communicate with the BCM?	Go to <b>Step 3</b>	Go to <b><u>Scan Tool Does Not Communicate with Class 2 Device</u></b> in Data Link Communications
3	Select the BCM display DTCs function on the scan tool. Does the scan tool display any DTCs?	Go to <b>Step 4</b>	Go to <b><u>Symptoms - Lighting Systems</u></b>
4	Does the scan tool display any DTCs which begin with a "U"?	Go to <b><u>Scan Tool Does Not Communicate with Class 2 Device</u></b> in Data Link Communications	Go to <b>Step 5</b>
5	Does the scan tool display DTC B1000 or B1001?	Go to <b><u>Diagnostic Trouble Code (DTC) List</u></b> in Body Control System	Go to <b><u>Diagnostic Trouble Code (DTC) List</u></b>

## SCAN TOOL OUTPUT CONTROLS

### Body Control Module (BCM) Scan Tool Output Controls

Scan Tool Output Control	Additional Menu Selection	Description
Auto. Headlamp Control	Lamp Test	The body control module (BCM) actuates the headlamps when you select ON.
Auto. Parklamp Control	Lamp Test	The BCM actuates the ALC park lamp relay when you select ON.
Daytime Running Lamps	Lamp Test	The BCM actuates the DRL relay when you select ON.
Interior Lamps	Lamp Test	The BCM actuates the interior lamp control for when you select ON.
I/P Illumination Lamps	Lamp Test	The BCM actuates the I/P lamps at the requested intensity when you select ON.

## SCAN TOOL DATA LIST

### Scan Tool Data List

Scan Tool Parameter	Data List	Units Displayed	Typical Data Value
<b>Ignition On, Engine Off</b>			
ALC Light Sensor	Exterior Lamps	Volts	0.4-4.4 volts
Battery 1	Exterior Lamps and Interior Lamps	Volts	Battery Voltage

Dome Lamp Command	Interior Lamps	On/Off	On when dome lamp requested
Dome Lamp Feedback	Interior Lamps	High/Low	Low when dome lamp requested
Driver Door Switch	Interior Lamps	High/Low	Low when driver door is open
DRL Relay Command	Exterior Lamps	On/Off	On when DRL is requested
DRL Relay Feedback	Exterior Lamps	High/Low	Low when DRL is requested
Headlamp Feedback.	Exterior Lamps	High/Low	Low when headlamps are requested
Inadvertent Power Cmd.	Interior Lamps	On/Off	On when inadvertent power is active
Inadvertent Power Feedback.	Interior Lamps	High/Low	Low when inadvertent power is active
I/P Dimmer Input	Interior Lamps	Volts	0.5-4 volts
I/P Dimmer Output	Interior Lamps	% DC	19-100%
Key In Ignition	Interior Lamps	Yes/No	Yes with key in ignition
Low Beam Input	Exterior Lamps	Volts	0.4 volts - Battery Voltage
Low Beam Input = DRL	Exterior Lamps	Yes/No	No when low beam headlamps are off
Low Beam Input = High	Exterior Lamps	Yes/No	No when low beam headlamps are requested
Low Beam Input = Off	Exterior Lamps	Yes/No	No when low beam headlamps are requested
Low Beam Switch	Exterior Lamps	On/Off	On when low beam headlamps are requested
Parklamp Cmd.	Exterior Lamps	On/Off	On when park lamps are requested
Parklamp Input	Exterior Lamps	Volts	4.8 volts - Battery Voltage
Parklamp Switch	Exterior Lamps	On/Off	On when park lamps are requested
Pass Door Switches	Interior Lamps	High/Low	Low when any passenger door is open

## SCAN TOOL DATA DEFINITIONS

Use the Scan Tool Data Display Values and Definitions Information in order to assist in diagnosing vehicle malfunctions. Compare the vehicles actual scan tool data with the typical data display value table information. Use the data information in order to aid in understanding the nature of the problem when the vehicle does not match with the typical data display values.

The scan tool data values were taken from a known good vehicle under the following conditions:

- The ignition switch is in the ON position.
- The engine is not running.
- The vehicle is in PARK.

## ALC Light Sensor

This BCM input is used to determine the amount of ambient light present. It has a voltage range of 0.4 volts (light) to 4.4 volts (dark).

### **Battery 1**

This BCM input is used to determine the available system voltage of the vehicle's battery.

### **Dome Lamp Command**

This BCM input shows the requested state of the dome lamp. On is displayed when the dome lamp is requested.

### **Dome Lamp Feedback**

This BCM input is used to determine the state of the dome lamp. Low is displayed when the dome lamp is active.

### **Driver Door Switch**

This BCM input is used to determine if the driver door is open. The BCM uses this input to perform various functions such as chimes and interior lamp control. Low is displayed when the driver door is open.

### **DRL Relay Command**

This body control module output displays the state of the daytime running lamps (DRL) relay. When the proper conditions are present for the BCM to command on the DRL relay by providing ground to the relay, ON is displayed.

### **DRL Relay Feedback**

This body control module output displays the state of the daytime running lamps (DRL) relay. Low is displayed when the DRL relay is active.

### **Headlamp Fdbk.**

This BCM output displays the state of the headlamps. Low is displayed when the headlamps are active.

### **Inadvertent Power Cmd.**

This BCM output displays the state of the inadvertent power relay that is internal to the BCM. The BCM uses this output to provide battery voltage to the courtesy lamps. If the BCM senses that a lamp has been illuminated for approximately 20 minutes after exiting the vehicle, the BCM will turn off the inadvertent power relay to protect the battery from run-down. On is displayed when the inadvertent power circuit is active.

## **Inadvertent Power Fdbk.**

This BCM output displays the state of the inadvertent power relay. Low is displayed when the inadvertent power relay is active.

## **I/P Dimmer Input**

The BCM uses this input to determine the requested intensity of the I/P lamps. A voltage range of 0.57 volts (full intensity illumination) to 4 volts (lowest intensity illumination) is shown.

## **I/P Dimmer Output**

The BCM uses this output to control the intensity of the I/P lamps. A % Duty Cycle (DC) range of 100% (full intensity illumination) to 19% (lowest intensity illumination) is shown.

## **Key In Ignition**

The BCM uses this input to determine if the ignition key is inserted into the ignition cylinder. Yes is displayed if a key is present in the ignition cylinder.

## **Low Beam Input**

This body control module input displays the state of the low beam headlamps. When the BCM senses that the normal low beam headlamps are illuminated, a voltage reading of approximately 4.8 volts is displayed. When the low beam headlamps are not illuminated, battery voltage should be displayed.

## **Low Beam Input = DRL**

This body control module input displays the state of the daytime running lamps (DRL). Yes is displayed when the DRLs are active.

## **Low Beam Input = High**

This body control module input displays the state of the low beam headlamps. When the BCM senses that the low beam headlamps are illuminated, No is displayed.

## **Low Beam Input = Off**

This body control module input displays the state of the low beam headlamps. When the BCM senses that the normal low beam headlamps are illuminated, No is displayed.

## **Low Beam Switch**

This body control module input displays the state of the low beam headlamps. When the BCM senses that the normal low beam headlamps are illuminated, On is displayed.

## Parklamp Cmd.

This body control module output displays the commanded state of the parklamp relay. When the parklamp relay is requested, On is displayed.

## Parklamp Input

This body control module input displays the state of the park lamps. When the BCM senses that the park lamps are illuminated, ON is displayed.

## Parklamp Switch

This body control module input displays the state of the park lamp switch. When the BCM senses that the headlamp switch is in the headlamp or park lamp position, On is displayed.

## Pass Door Switches

This BCM input is used to determine if a passenger door is open. The BCM uses this input to perform various functions such as chimes and interior lamp control. Low is displayed when a passenger door is open.

## DIAGNOSTIC TROUBLE CODE (DTC) LIST

### Diagnostic Trouble Code (DTC) List

DTC	Diagnostic Procedure	Module
B1482	<b><u>DTC B1482</u></b>	BCM
B2532	<b><u>DTC B2532</u></b>	BCM
B2533	<b><u>DTC B2533</u></b>	BCM
B2600	<b><u>DTC B2600</u></b>	BCM
B2602	<b><u>DTC B2602</u></b>	BCM
B2603	<b><u>DTC B2603</u></b>	BCM
B2622	<b><u>DTC B2622</u></b>	BCM
B2623	<b><u>DTC B2623</u></b>	BCM
B2627	<b><u>DTC B2627</u></b>	BCM
B2628	<b><u>DTC B2628</u></b>	BCM
B2662	<b><u>DTC B2662</u></b>	BCM
B2743	<b><u>DTC B2743</u></b>	BCM

## DTC B1482

### Circuit Description

Battery rundown protection, inadvertent power, is controlled by the body control module (BCM). Should any device remain on, the BCM will turn inadvertent power off after 20 minutes to conserve battery energy. If a problem is detected on the inadvertent power supply circuit, this DTC sets.

### Conditions for Running the DTC

The interior lamps are active.

### Conditions for Setting the DTC

Any of the following conditions will set this DTC:

- The inadvertent power supply circuit is open or shorted to ground.
- The battery positive voltage circuit of the BCM is open or shorted to ground.

### Action Taken When the DTC Sets

Interior lamps are inoperative.

### Conditions for Clearing the DTC

- The conditions for setting the DTC are no longer present.
- A history DTC clears after 100 malfunction free ignition cycles.
- The BCM receives the clear code command from the scan tool.

### Diagnostic Aids

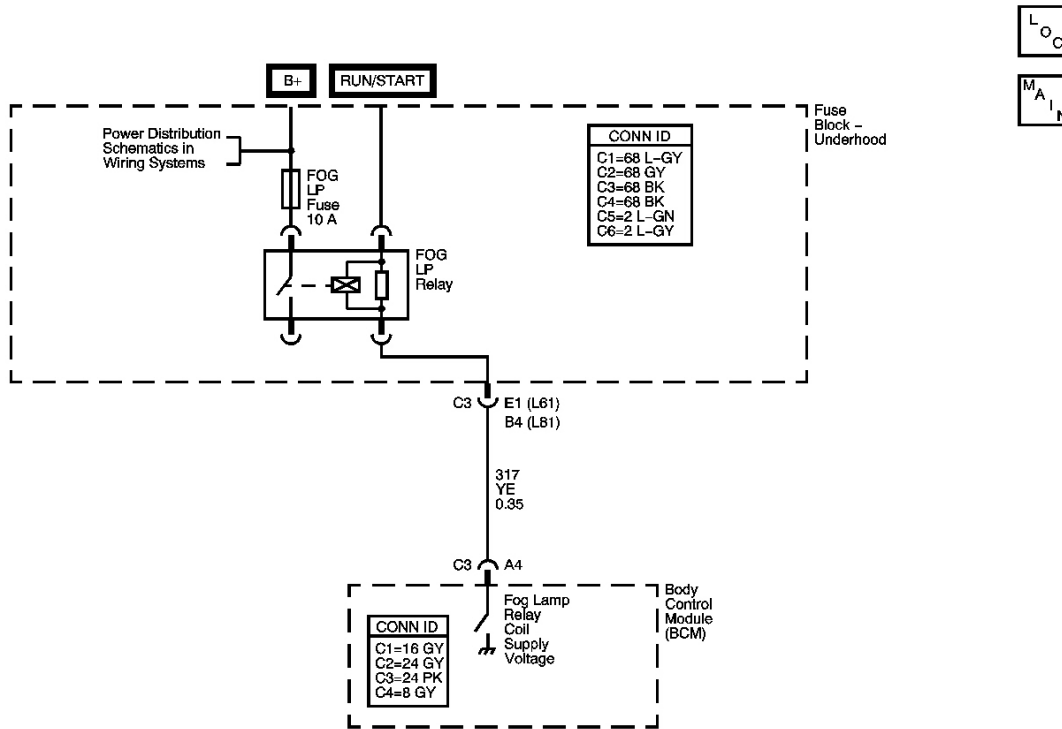
If the DTC is a history DTC, the problem may be intermittent. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

### DTC B1482 Circuit

Step	Action	Yes	No
<b>Schematic Reference: Interior Lights Dimming Schematics</b>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	Place the dome lamp in the on position. Does the dome lamp illuminate?	Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems	Go to <b>Step 3</b>
3	Test the battery positive voltage circuit of the body control module (BCM) for an open, high resistance, or short to ground. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 7</b>	Go to <b>Step 4</b>
4	Test the inadvertent power supply circuit for an open, high resistance, or short to ground. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.		

	Did you find and correct the condition?	Go to <b>Step 7</b>	Go to <b>Step 5</b>
5	Inspect for poor connections at the harness connector of the BCM. Refer to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> and <b><u>Connector Repairs</u></b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 7</b>	Go to <b>Step 6</b>
6	<b>IMPORTANT:</b> <b>Perform the set up procedure for the BCM. Refer to <u>Body Control Module (BCM) Programming/RPO Configuration</u> in Body Control System.</b>  Replace the BCM. Refer to <b><u>Body Control Module Replacement</u></b> in Body Control System. Did you complete the replacement?	Go to <b>Step 7</b>	-
7	1. Use the scan tool in order to clear the DTCs. 2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text.  Does the DTC reset?	Go to <b>Step 2</b>	System OK

## DTC B2532



**Fig. 12: DTC B2532 Circuit**  
 Courtesy of GENERAL MOTORS CORP.

### Circuit Description

The fog lamp relay is controlled by the body control module (BCM). On the Chevrolet, battery positive voltage is applied to the relay coil when the headlamp switch is in the PARK or HEAD position. On the Pontiac, battery positive voltage is applied to the relay coil at all times. The BCM grounds the fog lamp relay control circuit in order to turn ON the fog lamp relay. When the fog lamp relay control circuit opens or becomes shorted to ground without being commanded ON by the BCM, DTC B2532 is set.

### Conditions for Running the DTC

- The ignition switch is in the ON position.
- The headlamp switch is in the HEAD or PARK position.

### Conditions for Setting the DTC

- The ignition switch is in the ON position.
- The headlamp switch is the HEAD or PARK position.
- The fog lamp relay control circuit is open or shorted to ground for 5 seconds.



## Action Taken When the DTC Sets

- DTC B2532 is stored in the BCM memory.
- If the fog lamp relay control circuit is shorted to ground, the fog lamps are always ON when the headlamps or park lamps are ON.
- If the fog lamp relay control circuit is open, the fog lamps are inoperative.

## Conditions for Clearing the DTC

- The conditions for setting the DTC are no longer present.
- A history DTC clears after 100 malfunction free ignition cycles.
- The BCM receives the clear code command from the scan tool.

## Diagnostic Aids

- The fog lamps will only illuminate under the following conditions:
  - The park lamps or low beam headlamps are ON.
  - The highbeam headlamps are OFF.
  - The fog lamp switch is the ON position.
- If the DTC is a history DTC, the problem may be intermittent. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

## Test Description

The numbers below refer to the step numbers on the diagnostic table.

**2:** Listen for an audible click when the fog lamp relay operates. Command both the ON and OFF states. Repeat the commands as necessary.

**3:** Tests for voltage at the coil side of the fog lamp relay.

**4:** Verifies that the body control module is providing ground to the fog lamp relay.

**5:** Tests if ground is constantly being applied to the fog lamp relay.

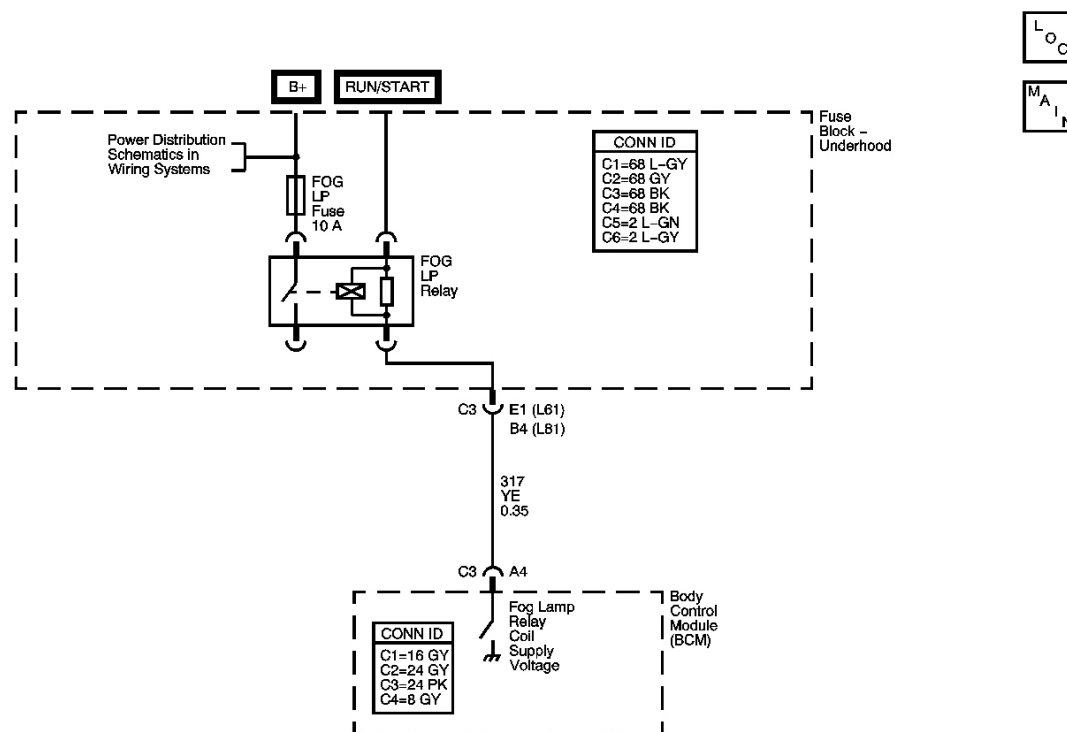
## DTC B2532 Circuit

Step	Action	Yes	No
<b>Schematic Reference:</b> <u>Fog Lights Schematics</u>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	<ol style="list-style-type: none"><li>1. Install a scan tool.</li><li>2. Turn ON the ignition, with the engine OFF.</li><li>3. With a scan tool, command the fog lamp relay ON and OFF.</li></ol>	Go to <b>Testing for Intermittent Conditions</b>	

	Does the fog lamp relay state change with each command?	<b>and Poor Connections</b> in Wiring Systems	Go to <b>Step 3</b>
<b>3</b>	<ol style="list-style-type: none"> <li>1. Turn OFF the ignition.</li> <li>2. Disconnect the fog lamp relay.</li> <li>3. Place the headlamp switch in the PARK position.</li> <li>4. Probe the coil side battery positive voltage circuit of the fog lamp relay with a test lamp that is connected to a good ground.</li> </ol> <p>Does the test lamp illuminate?</p>	Go to <b>Step 4</b>	Go to <b>Step 10</b>
<b>4</b>	<ol style="list-style-type: none"> <li>1. Connect a test lamp between the control circuit of the fog lamp relay and the coil side battery positive voltage circuit of the fog lamp relay.</li> <li>2. With a scan tool, command the fog lamp relay ON and OFF.</li> </ol> <p>Does the test lamp turn ON and OFF with each command?</p>	Go to <b>Step 8</b>	Go to <b>Step 5</b>
<b>5</b>	Does the test lamp remain illuminated with each command?	Go to <b>Step 7</b>	Go to <b>Step 6</b>
<b>6</b>	Test the control circuit of the fog lamp relay for a high resistance or an open. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 13</b>	Go to <b>Step 9</b>
<b>7</b>	Test the control circuit of the fog lamp relay for a short to ground. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 13</b>	Go to <b>Step 9</b>
<b>8</b>	Inspect for poor connections at the fog lamp relay. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 13</b>	Go to <b>Step 11</b>
<b>9</b>	Inspect for poor connections at the harness connector of the body control module. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 13</b>	Go to <b>Step 12</b>
<b>10</b>	Repair the open in the coil side battery positive voltage circuit of the fog lamp relay. Refer to <b>Wiring Repairs</b> in Wiring Systems.		

	Did you complete the repair?	Go to <b>Step 13</b>	-
11	Replace the fog lamp relay. Did you complete the replacement?	Go to <b>Step 13</b>	-
12	<b>IMPORTANT:</b> <b>Perform the set up procedure for the body control module.</b>  Replace the body control module. Refer to <b>Body Control Module Replacement</b> in Body Control Systems. Did you complete the replacement?	Go to <b>Step 13</b>	-
13	1. Use the scan tool in order to clear the DTCs. 2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text.  Does the DTC reset?	Go to <b>Step 2</b>	System OK

## DTC B2533



**Fig. 13: DTC B2533 Circuit**  
Courtesy of GENERAL MOTORS CORP.

## Circuit Description

The fog lamp relay is controlled by the body control module (BCM). On the Chevrolet, battery positive voltage is applied to the relay coil when the headlamp switch is in the PARK or HEAD position. On the Pontiac, battery positive voltage is applied to the relay coil at all times. The BCM grounds the fog lamp relay control circuit in order to turn ON the fog lamp relay. When the fog lamp relay control circuit opens or becomes shorted to ground without being commanded ON by the BCM, DTC B2532 is set.

## Conditions for Running the DTC

- The ignition switch is in the ON position.
- The headlamp switch is in the PARK or HEAD position.

## Conditions for Setting the DTC

All of the following conditions must be met:

- The ignition switch is in the ON position.
- The headlamp switch is in the PARK or HEAD position.
- The fog lamp relay control circuit is shorted to battery positive voltage for 250 milliseconds.

## Action Taken When the DTC Sets

- DTC B2533 will be stored in the BCM memory.
- The fog lamps are inoperative.

## Conditions for Clearing the DTC

- The conditions for setting the DTC are no longer present.
- A history DTC clears after 100 malfunction free ignition cycles.
- The BCM receives the clear code command from the scan tool.

## Diagnostic Aids

- The fog lamps will only illuminate under the following conditions:
  - The park lamps or low beam headlamps are ON.
  - The highbeam headlamps are OFF.
  - The fog lamp switch is ON.
- If the DTC is a history DTC, the problem may be intermittent. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

## Test Description

The numbers below refer to the step numbers on the diagnostic table.

**2:** Listen for an audible click when the fog lamp relay operates. Command both the ON and OFF states. Repeat the commands as necessary.

**3:** Tests for voltage at the coil side of the fog lamp relay.

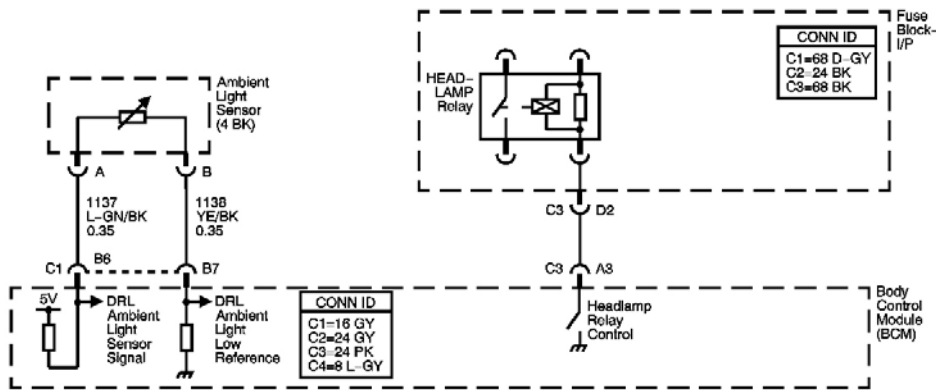
**4:** Verifies that the body control module is providing ground to the fog lamp relay.

### DTC B2533 Circuit

Step	Action	Yes	No
<b>Schematic Reference:</b> <u>Fog Lights Schematics</u>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	<ol style="list-style-type: none"> <li>1. Install a scan tool.</li> <li>2. Turn ON the ignition, with the engine OFF.</li> <li>3. With a scan tool, command the fog lamp relay ON and OFF.</li> </ol> <p>Does the fog lamp relay state change with each command?</p>	Go to <b>Testing for Intermittent Conditions and Poor Connections in Wiring Systems</b>	Go to <b>Step 3</b>
3	<ol style="list-style-type: none"> <li>1. Turn OFF the ignition.</li> <li>2. Disconnect the fog lamp relay.</li> <li>3. Turn ON the ignition, with the engine OFF.</li> <li>4. Turn the headlamp switch to the PARK or HEAD position.</li> <li>5. Probe the coil side battery positive voltage circuit between the fog lamp relay and the headlamp switch with a test lamp that is connected to a good ground.</li> </ol> <p>Does the test lamp illuminate?</p>	Go to <b>Step 4</b>	Go to <b>Step 8</b>
4	<ol style="list-style-type: none"> <li>1. Connect a test lamp between the control circuit of the fog lamp relay and the coil side battery positive voltage circuit of the fog lamp relay.</li> <li>2. Place the headlamp switch in the PARK or HEADLAMP position.</li> <li>3. With a scan tool, command the fog lamp relay ON and OFF.</li> </ol> <p>Does the test lamp turn ON and OFF with each command?</p>	Go to <b>Step 6</b>	Go to <b>Step 5</b>
5	Test the control circuit of the fog lamp relay for a short to voltage. Refer to <b>Circuit Testing</b> and		

	<b>Wiring Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 11</b>	Go to <b>Step 7</b>
6	Inspect for poor connections at the fog lamp relay. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 11</b>	Go to <b>Step 9</b>
7	Inspect for poor connections at the harness connector of the body control module. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 11</b>	Go to <b>Step 10</b>
8	Repair the open in the coil side battery positive voltage circuit of the fog lamp relay. Refer to <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	Go to <b>Step 11</b>	-
9	Replace the fog lamp relay. Did you complete the replacement?	Go to <b>Step 11</b>	-
10	<b>IMPORTANT:</b> <b>Perform the set up procedure for the body control module.</b>  Replace the body control module. Refer to <b>Body Control Module Replacement</b> in Body Control System. Did you complete the replacement?	Go to <b>Step 11</b>	-
11	1. Use the scan tool in order to clear the DTCs. 2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text.  Does the DTC reset?	Go to <b>Step 2</b>	System OK

**DTC B2575**

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**Fig. 14: DTC B2575 Circuit**  
**Courtesy of GENERAL MOTORS CORP.**

### Circuit Description

The body control module (BCM) turns ON the headlamp relay when the ambient light sensor senses a dark condition. Battery positive voltage is supplied to the headlamp relay at all times through the BACKUP/TURN fuse. The BCM grounds the headlamp relay control circuit in order to activate the relay.

### Conditions for Running the DTC

- The ignition switch is in the ON position.
- The ambient light sensor senses a dark condition, automatic lamp control (ALC) headlamps ON.

### Conditions for Setting the DTC

The headlamp relay control circuit is open for 5 seconds.

### Action Taken When the DTC Sets

The SERVICE indicator illuminates.

### Conditions for Clearing the DTC

- The conditions for setting the DTC are no longer present.
- A history DTC clears after 100 malfunction free ignition cycles.
- The BCM receives the clear code command from the scan tool.

## Diagnostic Aids

- Turn the ignition switch to the OFF position, cover the ambient light sensor on the dash, wait for 15 seconds and then return the ignition to the ON position. The low beam headlamps should illuminate.
- If the DTC is a history DTC, the problem may be intermittent. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

## Test Description

The numbers below refer to the step numbers on the diagnostic table.

**2:** Listen for an audible click when the headlamp relay operates. Command both the ON and OFF states. Repeat the commands, as necessary.

**3:** Tests for voltage at the coil side of the headlamp relay. The BACKUP/TURN fuse supplies battery positive voltage to the coil side of the headlamp relay.

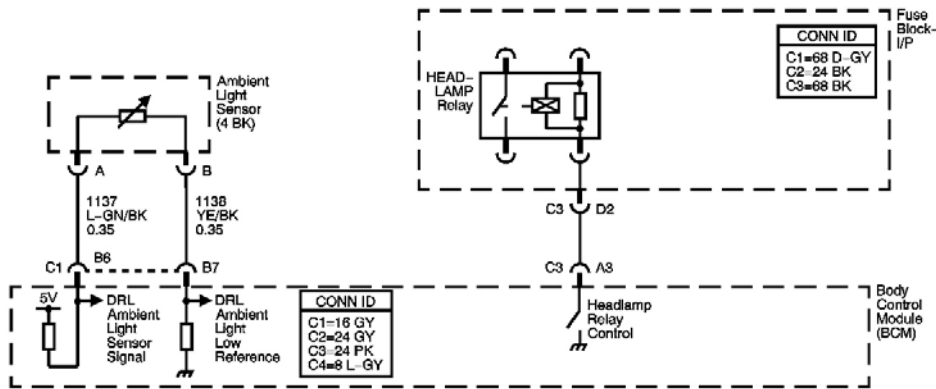
**4:** Verifies that the BCM is providing ground to the headlamp relay.

## DTC B2575 Circuit

Step	Action	Yes	No
<b>Schematic Reference:Headlights/Daytime Running Lights (DRL) Schematics (w/ T82) Headlights/Daytime Running Lights (DRL) Schematics (w/o T82)</b>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b><u>Diagnostic System Check - Lighting Systems</u></b>
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, command the headlamp relay ON and OFF.  Does the headlamp relay turn ON and OFF with each command?	Go to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> in Wiring Systems	Go to <b>Step 3</b>
3	1. Turn OFF the ignition. 2. Disconnect the headlamp relay. 3. Turn ON the ignition, with the engine OFF. 4. Probe the coil side battery positive voltage circuit of the headlamp relay with a test lamp that is connected to a good ground.  Does the test lamp illuminate?	Go to <b>Step 4</b>	Go to <b>Step 8</b>
	1. Connect a test lamp between the control circuit of the headlamp relay and the coil side battery positive voltage circuit of the headlamp relay.		



4	<p>2. With a scan tool, command the headlamp relay ON and OFF.</p> <p>Does the test lamp turn ON and OFF with each command?</p>	Go to <b>Step 6</b>	Go to <b>Step 5</b>
5	<p>Test the control circuit of the headlamp relay for a high resistance or an open. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you find and correct the condition?</p>	Go to <b>Step 11</b>	Go to <b>Step 7</b>
6	<p>Inspect for poor connections at the headlamp relay. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?</p>	Go to <b>Step 11</b>	Go to <b>Step 9</b>
7	<p>Inspect for poor connections at the harness connector of the body control module. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?</p>	Go to <b>Step 11</b>	Go to <b>Step 10</b>
8	<p>Repair the open in the coil side battery positive voltage circuit of the headlamp relay. Refer to <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?</p>	Go to <b>Step 11</b>	-
9	<p>Replace the headlamp relay. Refer to <b>Relay Replacement (Within an Electrical Center)</b> and <b>Relay Replacement (Attached to Wire Harness)</b> in Wiring Systems. Did you complete the replacement?</p>	Go to <b>Step 11</b>	-
10	<p><b>IMPORTANT:</b> Perform the set up procedure for the body control module.</p> <p>Replace the body control module. Refer to <b>Body Control Module Replacement</b> in Body Control System. Did you complete the replacement?</p>	Go to <b>Step 11</b>	-
11	<p>1. Use the scan tool in order to clear the DTCs. 2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text.</p> <p>Does the DTC reset?</p>	Go to <b>Step 2</b>	System OK

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**Fig. 15: DTC B2577 Circuit**  
 Courtesy of GENERAL MOTORS CORP.

### Circuit Description

The body control module (BCM) turns on the headlamp relay when the ambient light sensor senses a dark condition. Battery positive voltage is supplied to the headlamp relay at all times through the BACKUP/TURN fuse. The BCM grounds the headlamp relay control circuit in order to activate the relay.

### Conditions for Running the DTC

- The ignition switch is in the ON position.
- The ambient light sensor senses a light condition (automatic lamp control (ALC) headlamps off).

### Conditions for Setting the DTC

Either of the following conditions will set this DTC:

- The headlamp relay control circuit is open for 5 seconds.
- The headlamp relay control circuit is shorted to ground for 5 seconds.

### Action Taken When the DTC Sets

The SERVICE indicator will illuminate.

### Conditions for Clearing the DTC

- The conditions for setting the DTC are no longer present.
- A history DTC clears after 100 malfunction free ignition cycles.
- The BCM receives the clear code command from the scan tool.

### Diagnostic Aids

- If the headlamp relay control circuit is open, the ALC headlamps will be inoperative.
- In the headlamp relay control circuit is shorted to ground, the ALC headlamps will be always on.
- If the DTC is a history DTC, the problem may be intermittent. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

### Test Description

The numbers below refer to the step numbers on the diagnostic table.

**2:** Listen for an audible click when the headlamp relay operates. Command both the ON and OFF states. Repeat the commands, as necessary.

**3:** Tests for voltage at the coil side of the headlamp relay. The BACKUP/TURN fuse supplies battery positive voltage to the coil side of the headlamp relay.

**4:** Verifies that the BCM is providing ground to the headlamp relay.

**5:** Tests if ground is constantly being applied to the headlamp relay.

### DTC B2577 Circuit

Step	Action	Yes	No
<b>Schematic Reference:Headlights/Daytime Running Lights (DRL) Schematics (w/ T82)</b>			
<b>Headlights/Daytime Running Lights (DRL) Schematics (w/o T82)</b>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b><u>Diagnostic System Check - Lighting Systems</u></b>
2	<ol style="list-style-type: none"> <li>1. Install a scan tool.</li> <li>2. Turn ON the ignition, with the engine OFF.</li> <li>3. With a scan tool, command the headlamp relay ON and OFF.</li> </ol> <p>Does the headlamp relay turn ON and OFF with each command?</p>	Go to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> in Wiring Systems	Go to <b>Step 3</b>
3	<ol style="list-style-type: none"> <li>1. Turn OFF the ignition.</li> <li>2. Disconnect the headlamp relay.</li> <li>3. Turn ON the ignition, with the engine OFF.</li> <li>4. Probe the coil side battery positive voltage circuit of the headlamp relay with a test lamp that is connected to a good ground.</li> </ol>		

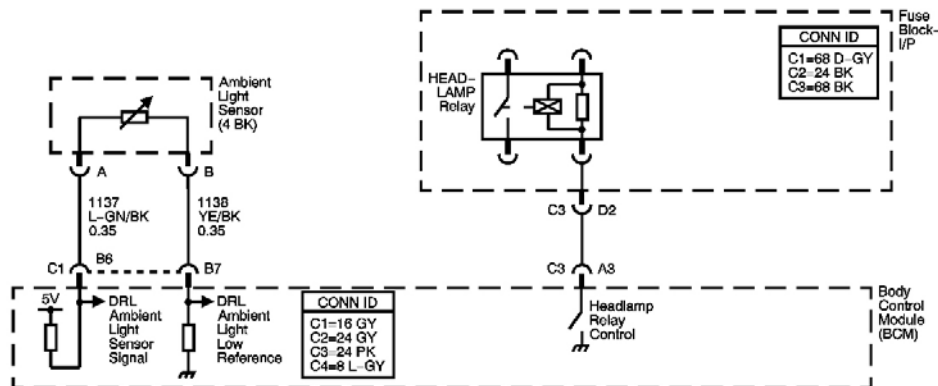
	Does the test lamp illuminate?	Go to <b>Step 4</b>	Go to <b>Step 10</b>
4	<ol style="list-style-type: none"> <li>1. Connect a test lamp between the control circuit of the headlamp relay and the coil side battery positive voltage circuit of the headlamp relay.</li> <li>2. With a scan tool, command the headlamp relay ON and OFF.</li> </ol> <p>Does the test lamp turn ON and OFF with each command?</p>	Go to <b>Step 8</b>	Go to <b>Step 5</b>
5	Does the test lamp remain illuminated with each command?	Go to <b>Step 7</b>	Go to <b>Step 6</b>
6	Test the control circuit of the headlamp relay for a high resistance or an open. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 13</b>	Go to <b>Step 9</b>
7	Test the control circuit of the headlamp relay for a short to ground. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 13</b>	Go to <b>Step 9</b>
8	Inspect for poor connections at the headlamp relay. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 13</b>	Go to <b>Step 11</b>
9	Inspect for poor connections at the harness connector of the body control module (BCM). Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 13</b>	Go to <b>Step 12</b>
10	Repair the coil side battery positive voltage circuit of the headlamp relay. Refer to <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	Go to <b>Step 13</b>	-
11	Replace the headlamp relay. Refer to <b>Relay Replacement (Within an Electrical Center)Relay Replacement (Attached to Wire Harness)</b> in Wiring Systems. Did you complete the replacement?	Go to <b>Step 13</b>	-
12	<p><b>IMPORTANT:</b> Perform the set up procedure for the BCM.</p> <p>Replace the BCM. Refer to <b>Body Control Module Replacement</b> in Body Control System. Did you</p>		

	complete the replacement?	Go to <b>Step 13</b>	-
13	<ol style="list-style-type: none"> <li>1. Use the scan tool in order to clear the DTCs.</li> <li>2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text.</li> </ol>		
	Does the DTC reset?	Go to <b>Step 2</b>	System OK

## DTC B2578

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**Fig. 16: DTC B2578 Circuit**  
 Courtesy of GENERAL MOTORS CORP.

### Circuit Description

The body control module (BCM) turns on the headlamp relay when the ambient light sensor senses a dark condition. Battery positive voltage is supplied to the headlamp relay at all times through the BACKUP/TURN fuse. The BCM grounds the headlamp relay control circuit in order to activate the relay.

### Conditions for Running the DTC

- The ignition switch is in the ON position.
- The ambient light sensor senses a dark condition (automatic lamp control (ALC) headlamps on).

### Conditions for Setting the DTC

The headlamp relay control circuit is shorted to voltage for 1 second.

#### Action Taken When the DTC Sets

- The BCM turns off the headlamp relay control for the remainder of the ignition cycle.
- The SERVICE indicator illuminates.

#### Conditions for Clearing the DTC

- The conditions for setting the DTC are no longer present.
- A history DTC clears after 100 malfunction free ignition cycles.
- The BCM receives the clear code command from the scan tool.

#### Diagnostic Aids

If the DTC is a history DTC, the problem may be intermittent. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

#### Test Description

The number below refers to the step number on the diagnostic table.

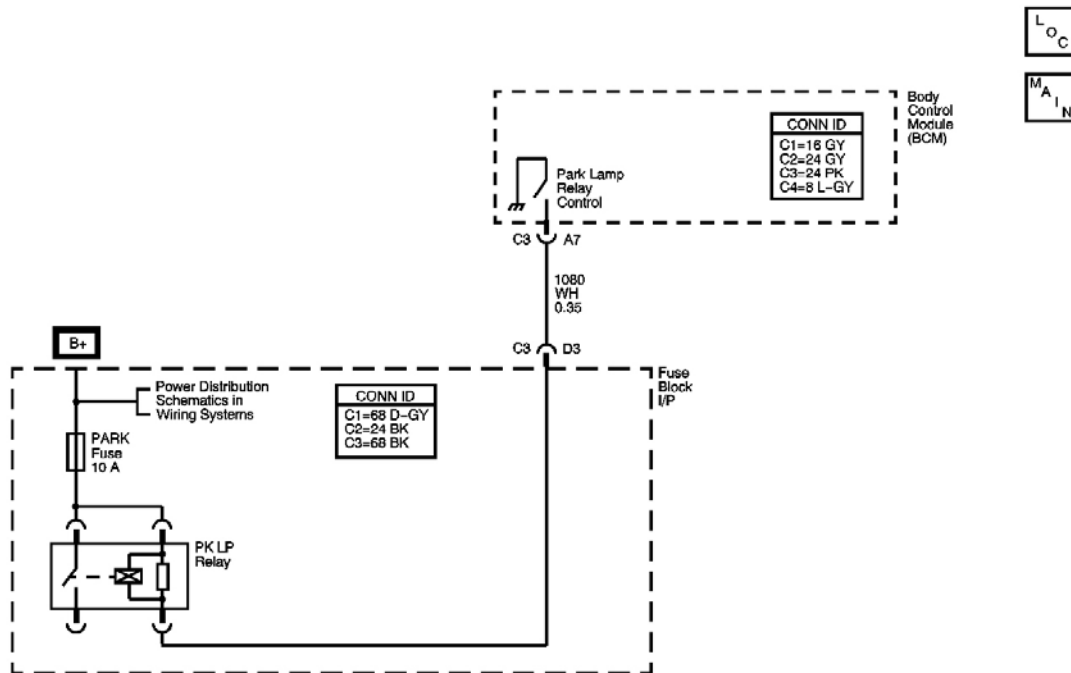
**2:** Listen for an audible click when the headlamp relay operates. Command both the ON and OFF states. Repeat the commands, as necessary.

#### DTC B2578 Circuit

Step	Action	Yes	No
<b>Schematic Reference: <u>Headlights/Daytime Running Lights (DRL) Schematics (w/ T82)</u></b> <b><u>Headlights/Daytime Running Lights (DRL) Schematics (w/o T82)</u></b>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b><u>Diagnostic System Check - Lighting Systems</u></b>
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, command the headlamp relay ON and OFF.  Does the headlamp relay turn ON and OFF with each command?	Go to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> in Wiring Systems	Go to <b>Step 3</b>
3	Test for a short to voltage in the control circuit of the headlamp relay. Refer to <b><u>Circuit Testing</u></b> and <b><u>Wiring Repairs</u></b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 6</b>	Go to <b>Step 4</b>
	Inspect for poor connections at the harness connector of the body control module (BCM).		

4	Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 6</b>	Go to <b>Step 5</b>
5	<b>IMPORTANT:</b> <b>Perform the set up procedure for the BCM.</b> Replace the BCM. Refer to <b>Body Control Module Replacement</b> in Body Control System. Did you complete the replacement?	Go to <b>Step 6</b>	-
6	1. Use the scan tool in order to clear the DTCs. 2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text.  Does the DTC reset?	Go to <b>Step 2</b>	System OK

## DTC B2585



**Fig. 17: DTC B2585 Circuit**  
Courtesy of GENERAL MOTORS CORP.

### Circuit Description

The body control module (BCM) turns on the auto park lamp control relay when the ambient light sensor senses a dark condition. Battery positive voltage is supplied to the park lamp relay at all times through the PARK LAMP fuse. The BCM grounds the park lamp relay control circuit in order to activate the relay.

### Conditions for Running the DTC

- The ignition switch is in the ON position.
- The ambient light sensor senses a dark condition (automatic lamp control (ALC) park lamps on).

### Conditions for Setting the DTC

- The park lamp relay control circuit is open or shorted to voltage for 5 seconds.
- The park lamp supply voltage circuit is open or shorted to ground for 5 seconds.

### Action Taken When the DTC Sets

The SERVICE indicator will illuminate.

### Conditions for Clearing the DTC

- The conditions for setting the DTC are no longer present.
- A history DTC clears after 100 malfunction free ignition cycles.
- The BCM receives the clear code command from the scan tool.

### Diagnostic Aids

If the DTC is a history DTC, the problem may be intermittent. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

### Test Description

The numbers below refer to the step numbers on the diagnostic table.

- 2:** Listen for an audible click when the park lamp relay operates. Command both the ON and OFF states. Repeat the commands, as necessary.
- 3:** Tests for voltage at the coil side of the park lamp relay. The PARK LAMP fuse supplies battery positive voltage to the coil side of the park lamp relay.
- 4:** Verifies that the BCM is providing ground to the park lamp relay.

### DTC B2585 Circuit

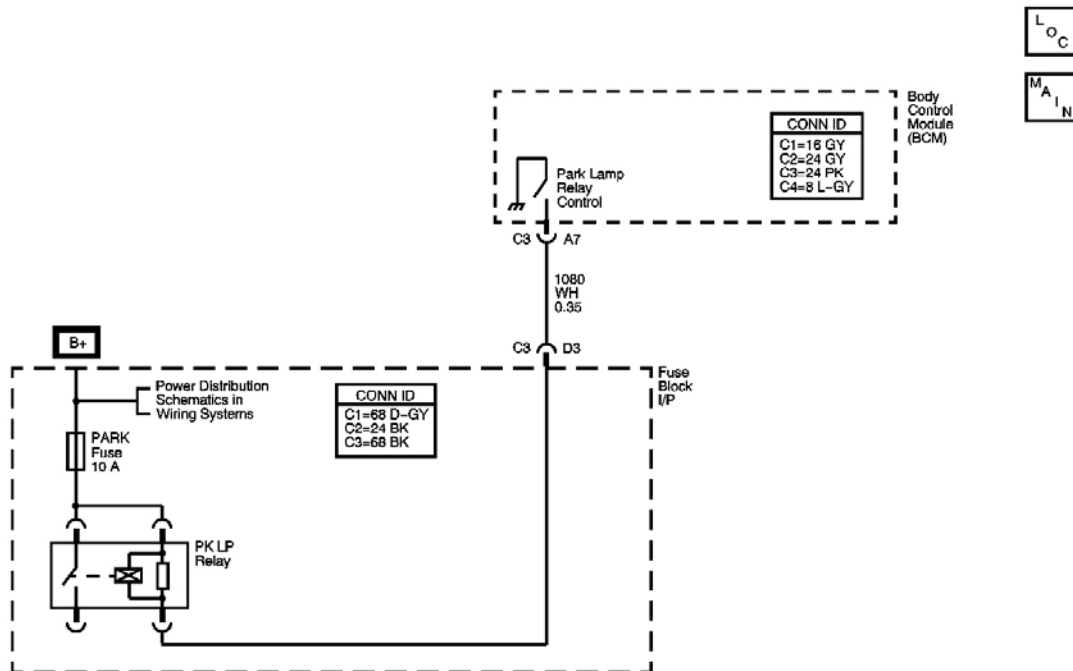
Step	Action	Yes	No
<b>Schematic Reference:</b> <u>Exterior Lights Schematics</u>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>



2	<ol style="list-style-type: none"> <li>1. Install a scan tool.</li> <li>2. Turn ON the ignition, with the engine OFF.</li> <li>3. With a scan tool, command the park lamps ON and OFF.</li> </ol> <p>Does the park ramp relay turn ON and OFF with each command?</p>	<p>Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems</p>	<p>Go to <b>Step 3</b></p>
3	<ol style="list-style-type: none"> <li>1. Turn OFF the ignition.</li> <li>2. Disconnect the park lamp relay.</li> <li>3. Turn ON the ignition, with the engine OFF.</li> <li>4. Probe the coil side battery positive voltage circuit of the park lamp relay with a test lamp that is connected to a good ground.</li> </ol> <p>Does the test lamp illuminate?</p>	<p>Go to <b>Step 4</b></p>	<p>Go to <b>Step 9</b></p>
4	<ol style="list-style-type: none"> <li>1. Connect a test lamp between the control circuit of the park lamp relay and the coil side battery positive voltage circuit of the park lamp relay.</li> <li>2. With a scan tool, command the park lamp relay ON and OFF.</li> </ol> <p>Does the test lamp turn ON and OFF with each command?</p>	<p>Go to <b>Step 5</b></p>	<p>Go to <b>Step 6</b></p>
5	<p>Test for an open or high resistance in the park lamp supply voltage circuit. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	<p>Go to <b>Step 12</b></p>	<p>Go to <b>Step 7</b></p>
6	<p>Test for an open, high resistance, or short to voltage in the control circuit of the park lamp relay. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	<p>Go to <b>Step 12</b></p>	<p>Go to <b>Step 8</b></p>
7	<p>Inspect for poor connection at the park lamp relay. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	<p>Go to <b>Step 12</b></p>	<p>Go to <b>Step 10</b></p>
8	<p>Inspect for poor connections at the harness connector of the body control module (BCM). Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	<p>Go to <b>Step 12</b></p>	<p>Go to <b>Step 11</b></p>

9	<p>Repair an open, high resistance, or short to ground in the coil side battery positive voltage circuit of the park lamp relay. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you complete the repair?</p>	Go to <b>Step 12</b>	-
10	<p>Replace the park lamp relay. Refer to <b>Relay Replacement (Within an Electrical Center)</b> <b>Relay Replacement (Attached to Wire Harness)</b> in Wiring Systems.</p> <p>Did you complete the replacement?</p>	Go to <b>Step 12</b>	-
11	<p><b>IMPORTANT:</b>  <b>Perform the set up procedure for the body control module.</b></p> <p>Replace the body control module. Refer to <b>Body Control Module Replacement</b> in Body Control System. Did you complete the replacement?</p>	Go to <b>Step 12</b>	-
12	<ol style="list-style-type: none"> <li>1. Use the scan tool in order to clear the DTCs.</li> <li>2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text.</li> </ol> <p>Does the DTC reset?</p>	Go to <b>Step 2</b>	-

## DTC B2587



**Fig. 18: DTC B2587 Circuit**  
 Courtesy of GENERAL MOTORS CORP.

### Circuit Description

The body control module (BCM) turns on the park lamp relay when the ambient light sensor senses a dark condition. Battery positive voltage is supplied to the park lamp relay at all times through the PARK LAMP fuse. The BCM grounds the park lamp relay control circuit in order to activate the relay.

### Conditions for Running the DTC

- The ignition switch is in the ON position.
- The ambient light sensor senses a light condition (automatic lamp control (ALC) park lamps off).

### Conditions for Setting the DTC

- The park lamp relay control circuit is shorted to ground or open for 5 seconds.
- ALC is not in operation.
- The headlamp switch is not in the PARK position.

### Action Taken When the DTC Sets

The SERVICE indicator will illuminate.

## Conditions for Clearing the DTC

- The conditions for setting the DTC are no longer present.
- A history DTC clears after 100 malfunction free ignition cycles.
- The BCM receives the clear code command from the scan tool.

## Diagnostic Aids

If the DTC is a history DTC, the problem may be intermittent. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

## Test Description

The numbers below refer to the step numbers on the diagnostic table.

**2:** Listen for an audible click when the park lamp relay operates. Command both the ON and OFF states. Repeat the commands, as necessary.

**3:** Tests for voltage at the coil side of the park lamp relay. The PARK LAMP fuse supplies battery positive voltage to the coil side of the park lamp relay.

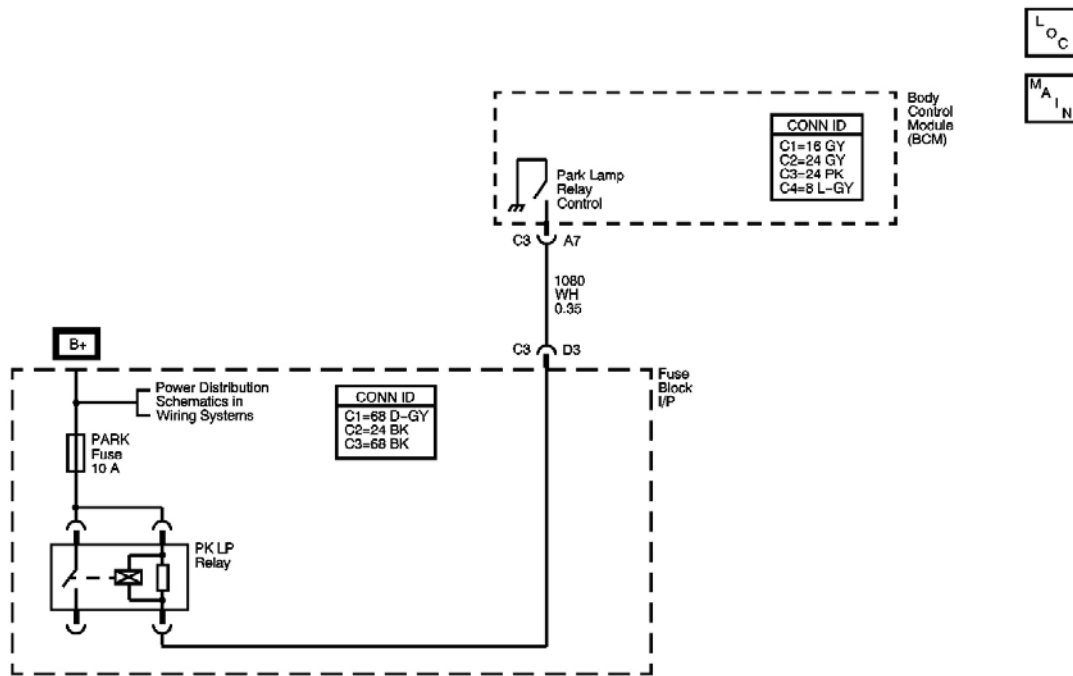
## DTC B2587 Circuit

Step	Action	Yes	No
<b>Schematic Reference: Exterior Lights Schematics</b>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b><u>Diagnostic System Check - Lighting Systems</u></b>
2	<ol style="list-style-type: none"><li>1. Install a scan tool.</li><li>2. Turn ON the ignition, with the engine OFF.</li><li>3. With a scan tool, command the park lamps ON and OFF.</li></ol> Does the park lamp relay turn ON and OFF with each command?	Go to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> in Wiring Systems	Go to <b>Step 3</b>
3	<ol style="list-style-type: none"><li>1. Turn OFF the ignition.</li><li>2. Disconnect the park lamp relay.</li><li>3. Turn ON the ignition, with the engine OFF.</li><li>4. Probe the coil side battery positive voltage circuit of the park lamp relay with a test lamp that is connected to a good ground.</li></ol> Does the test lamp illuminate?	Go to <b>Step 4</b>	Go to <b>Step 10</b>
	<ol style="list-style-type: none"><li>1. Connect a test lamp between the coil side battery positive voltage circuit of the park</li></ol>		

4	<p>lamp relay and the control circuit of the park lamp relay.</p> <p>2. With a scan tool, command the park lamps ON and OFF.</p> <p>Does the test lamp turn on and off?</p>	Go to <b>Step 8</b>	Go to <b>Step 5</b>
5	<p>Is the test lamp illuminated?</p>	Go to <b>Step 6</b>	Go to <b>Step 7</b>
6	<p>Test for a short to ground in the control circuit of the park lamp relay. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 13</b>	Go to <b>Step 9</b>
7	<p>Test for an open or high resistance in the control circuit of the park lamp relay. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 13</b>	Go to <b>Step 9</b>
8	<p>Inspect for poor connections at the park lamp relay. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 13</b>	Go to <b>Step 11</b>
9	<p>Inspect for poor connections at the harness connector of the body control module (BCM). Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 13</b>	Go to <b>Step 12</b>
10	<p>Repair an open, high resistance, or short to ground in the coil side battery positive voltage circuit of the park lamp relay. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you complete the repair?</p>	Go to <b>Step 13</b>	-
11	<p>Replace the park lamp relay. Refer to <b>Relay Replacement (Within an Electrical Center)</b> and <b>Relay Replacement (Attached to Wire Harness)</b> in Wiring Systems.</p> <p>Did you complete the replacement?</p>	Go to <b>Step 13</b>	-
12	<p><b>IMPORTANT:</b> <b>Perform the set up procedure for the BCM.</b></p> <p>Replace the BCM. Refer to <b>Body Control Module Replacement</b> in Body Control System. Did you complete the replacement?</p>	Go to <b>Step 13</b>	-
	<p>1. Use the scan tool in order to clear the DTCs.</p> <p>2. Operate the vehicle within the Conditions for</p>		

13	Running the DTC as specified in the supporting text.  Does the DTC reset?	Go to <b>Step 2</b>	System OK
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## DTC B2588



**Fig. 19: DTC B2588 Circuit**  
Courtesy of GENERAL MOTORS CORP.

### Circuit Description

The body control module (BCM) turns on the park lamp relay when the ambient light sensor senses a dark condition. Battery positive voltage is supplied to the park lamp relay at all times through the PARK LAMP fuse. The BCM grounds the park lamp relay control circuit in order to activate the relay.

### Conditions for Running the DTC

- The ignition switch is in the ON position.
- The ambient light sensor senses a dark condition (automatic lamp control (ALC) park lamps on).

### Conditions for Setting the DTC

The park lamp relay control circuit is shorted to voltage for 1 second.

## Action Taken When the DTC Sets

- The BCM turns off the park lamp relay control circuit for the remainder of the ignition cycle.
- The SERVICE indicator illuminates.

## Conditions for Clearing the DTC

- The conditions for setting the DTC are no longer present.
- A history DTC clears after 100 malfunction free ignition cycles.
- The BCM receives the clear code command from the scan tool.

## Diagnostic Aids

If the DTC is a history DTC, the problem may be intermittent. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

## Test Description

The number below refers to the step number on the diagnostic table.

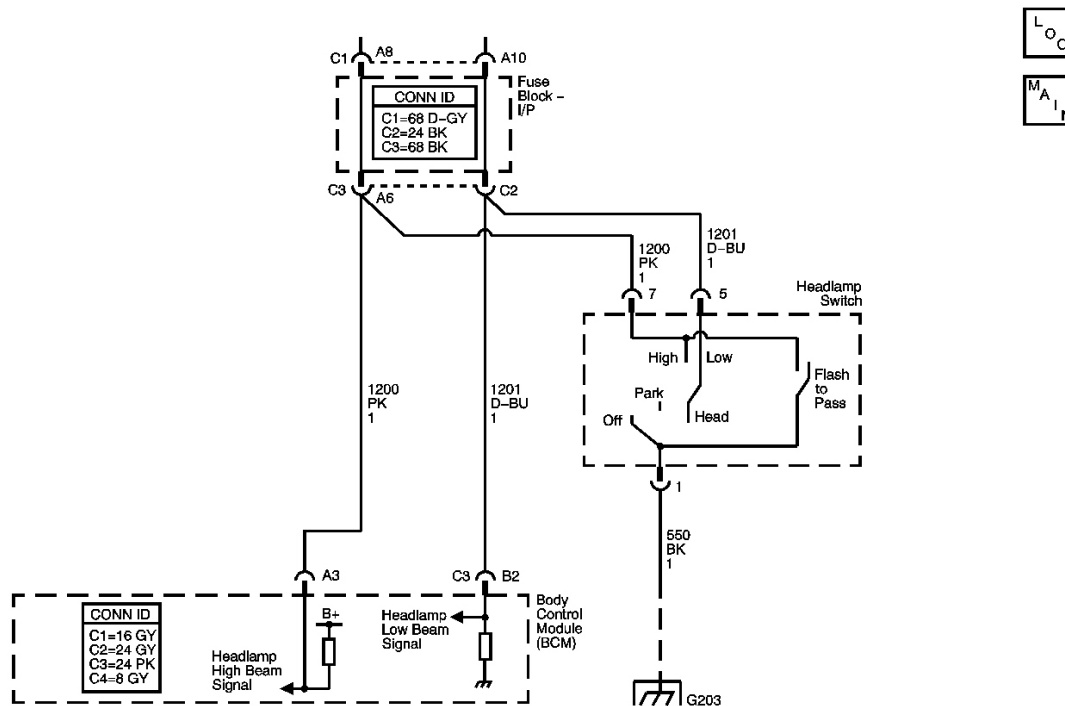
**2:** Listen for an audible click when the park lamp relay operates. Command both the ON and OFF states. Repeat the commands, as necessary.

## DTC B2588 Circuit

Step	Action	Yes	No
<b>Schematic Reference:</b> <u>Exterior Lights Schematics</u>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, command the park lamps ON and OFF.  Does the park lamp relay turn ON and OFF with each command?	Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems	Go to <b>Step 3</b>
3	Test the control circuit of the park lamp relay for a short to voltage. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 6</b>	Go to <b>Step 4</b>
4	Inspect for poor connections at the harness connector of the body control module (BCM). Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.		

	Did you find and correct the condition?	Go to <b>Step 6</b>	Go to <b>Step 5</b>
5	<p><b>IMPORTANT:</b> Perform the set up procedure for the BCM.</p> <p>Replace the BCM. Refer to <b>Body Control Module Replacement</b> in Body Control System. Did you complete the replacement?</p>	Go to <b>Step 6</b>	-
6	<ol style="list-style-type: none"> <li>1. Use the scan tool in order to clear the DTCs.</li> <li>2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text.</li> </ol> <p>Does the DTC reset?</p>	Go to <b>Step 2</b>	-

## DTC B2600



**Fig. 20: DTC B2600 Circuit**

Courtesy of GENERAL MOTORS CORP.

### Circuit Description

The daytime running lamps (DRL) are controlled by the body control module (BCM). The BCM grounds the



DRL relay control circuit in order to energize the DRL relay coil. This action provides a path to ground for the RH and LH headlamps through the DRL relay and the Daytime Running Lamp (DRL) Resistor. The DRL Resistor reduces the intensity of the low beam headlamps for DRL operation. The BCM monitors the low and high beam circuits to ensure that the DRLs are operating properly. If the BCM senses that the DRLs are not operating properly, DTC B2600 is set.

#### **Conditions for Running the DTCs**

- The ignition switch is in the ON position.
- The headlamp switch is OFF.
- The park brake is unapplied.

#### **Conditions for Setting the DTC**

One or more of the following conditions are present:

- The DRL resistor supply voltage circuit is open.
- The DRL resistor ground circuit is open.
- The DRL resistor is open.
- The DRL relay is stuck in the open position.
- The headlamp high beam signal circuit is open.
- The headlamp low beam signal circuit is open.
- The right headlamp battery positive voltage circuit is open.
- The left headlamp battery positive voltage circuit is open.

#### **Action Taken When the DTC Sets**

- The BCM turns off the DRL relay control for the remainder of the ignition cycle.
- The SERVICE indicator lights.

#### **Conditions for Clearing the DTC**

- The conditions for setting the DTC are no longer present.
- A history DTC clears after 100 malfunction free ignition cycles.
- The BCM receives the clear code command from the scan tool.

#### **Diagnostic Aids**

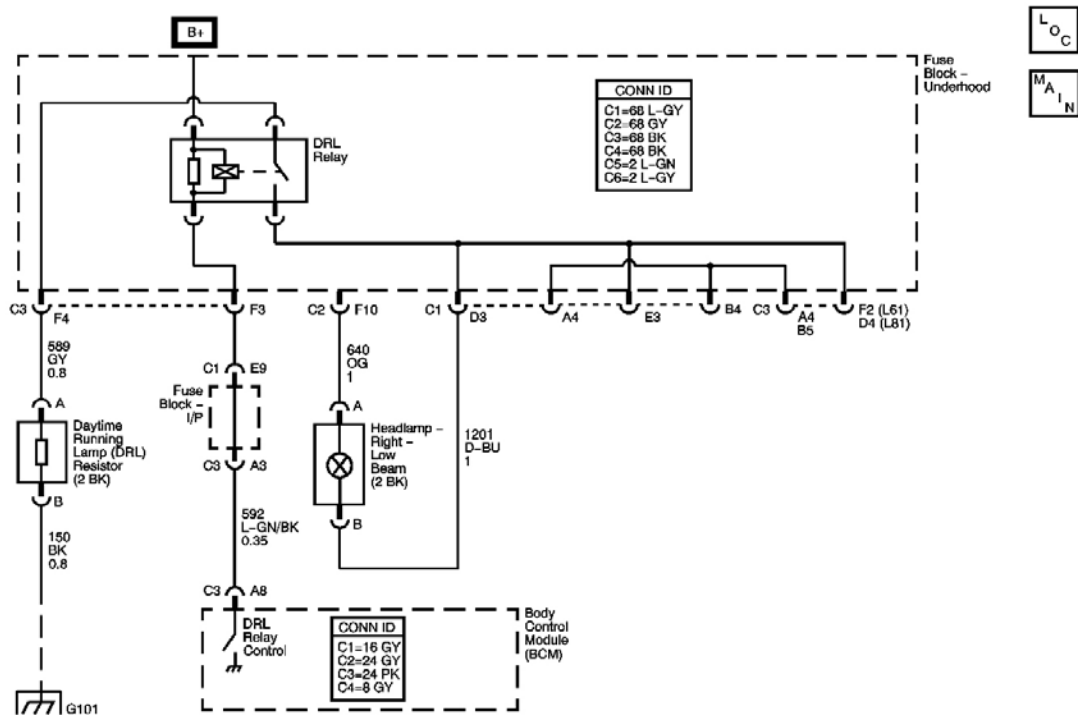
- The low beam headlamps must operate correctly or DTC B2600 may result.
- Check both the LH and RH headlamps for proper operation.
- Check both the LT HEADLAMP and RT HEADLAMP fuses.
- If the DTC is a history DTC, the problem may be intermittent. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

## DTC B2600 Circuit

Step	Action	Values	Yes	No
<b>Schematic Reference:Headlights/Daytime Running Lights (DRL) Schematics (w/ T82)</b>				
<b>Headlights/Daytime Running Lights (DRL) Schematics (w/o T82)</b>				
1	Did you perform the Lighting System Diagnostic System Check?	-	Go to Step 2	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	<ol style="list-style-type: none"> <li>Place the headlamp switch in the HEADLAMP position.</li> <li>Place the headlamp dimmer switch in the HIGH position.</li> <li>Place the headlamp dimmer switch in the LOW position.</li> </ol> Do the headlamps operate properly?	-	Go to Step 4	Go to Step 3
3	Are both the high beam and low beam headlamps on one side inoperative?	-	Go to Step 12	Go to Step 13
4	<ol style="list-style-type: none"> <li>Disconnect the DRL relay.</li> <li>Test the resistance between the DRL resistor supply voltage circuit of the relay connector and a good ground.</li> </ol> Is the resistance within the specified range?	0.4 to 1 ohm	Go to Step 5	Go to Step 6
5	Test the DRL relay for continuity between the coil sides of the relay. Is continuity present?	-	Go to Step 8	Go to Step 11
6	<ol style="list-style-type: none"> <li>Disconnect the DRL resistor connector.</li> <li>Test the resistance of the DRL resistor ground circuit between the resistor connector and a good ground.</li> </ol> Is the resistance within the specified range?	Less than 1 ohm	Go to Step 7	Go to Step 14
7	Test the DRL resistor supply voltage circuit for an open or high resistance. Did you find and correct the condition?	-	Go to Step 18	Go to Step 10
8	Test the headlamp high beam signal circuit and the headlamp low beam signal circuit for an open or high resistance between the body control module (BCM) and the underhood junction block. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you find and correct the condition?	-	Go to Step 18	Go to Step 9
9	Inspect for poor connections at the harness connector of the BCM. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	-	Go to Step 18	Go to Step 17

10	Inspect for poor connections at the harness connector of the DRL resistor. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	-	Go to <b>Step 18</b>	Go to <b>Step 15</b>
11	Inspect for poor connections at the DRL relay. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	-	Go to <b>Step 18</b>	Go to <b>Step 16</b>
12	Repair an open, high resistance, or short to ground in the supply voltage circuit of the inoperative headlamp. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	-	Go to <b>Step 18</b>	-
13	Repair an open or high resistance in the headlamp high beam signal circuit or the headlamp low beam signal circuit of the inoperative headlamp. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	-	Go to <b>Step 18</b>	-
14	Repair an open or high resistance in the ground circuit of the DRL resistor. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	-	Go to <b>Step 18</b>	-
15	Replace the DRL resistor. Did you complete the replacement?	-	Go to <b>Step 18</b>	-
16	Replace the DRL relay. Refer to <b>Relay Replacement (Within an Electrical Center)</b> and <b>Relay Replacement (Attached to Wire Harness)</b> in Wiring Systems. Did you complete the replacement?	-	Go to <b>Step 18</b>	-
17	<b>IMPORTANT:</b> <b>Perform the setup procedure for the BCM.</b> Replace the BCM. Refer to <b>Body Control Module Replacement</b> in Body Control System. Did you complete the replacement?	-	Go to <b>Step 18</b>	-
18	1. Use the scan tool in order to clear the DTCs. 2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text.  Does the DTC reset?	-	Go to <b>Step 2</b>	System OK

**DTC B2602**



**Fig. 21: DTC B2602 Circuit**  
 Courtesy of GENERAL MOTORS CORP.

### Circuit Description

The daytime running lights (DRL) relay is controlled by the body control module (BCM). Battery positive voltage is applied to the relay coil at all times. The BCM grounds the DRL relay control circuit in order to turn ON the DRL relay. When the DRL relay control circuit becomes shorted to ground without being commanded on by the BCM, DTC B2602 is set.

### Conditions for Running the DTC

- The ignition switch is in the ON position
- The transaxle is in the park position.

### Conditions for Setting the DTC

All of the following conditions must be met:

- The BCM is not commanding the DRL relay on.
- The headlamp feedback is present for 5 seconds.

### Action Taken When the DTC Sets

- The BCM disables the DRL relay control as long as the malfunction is present.
- The SERVICE indicator illuminates.

### Conditions for Clearing the DTC

- The conditions for setting the DTC are no longer present.
- A history DTC clears after 100 malfunction free ignition cycles.
- The BCM receives the clear code command from the scan tool.

### Diagnostic Aids

- The park brake must be unapplied and the transaxle must be in gear for the DRLs to operate properly.
- If the DTC is a history DTC, the problem may be intermittent. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

### Test Description

The numbers below refer to the step numbers on the diagnostic table.

**2:** Listen for an audible click when the DRL relay operates. Command both the ON and OFF states. Repeat the commands as necessary.

**3:** Tests for voltage at the coil side of the DRL relay.

**4:** Verifies that the body control module is providing ground to the DRL relay.

**5:** Tests if ground is constantly being applied to the DRL relay.

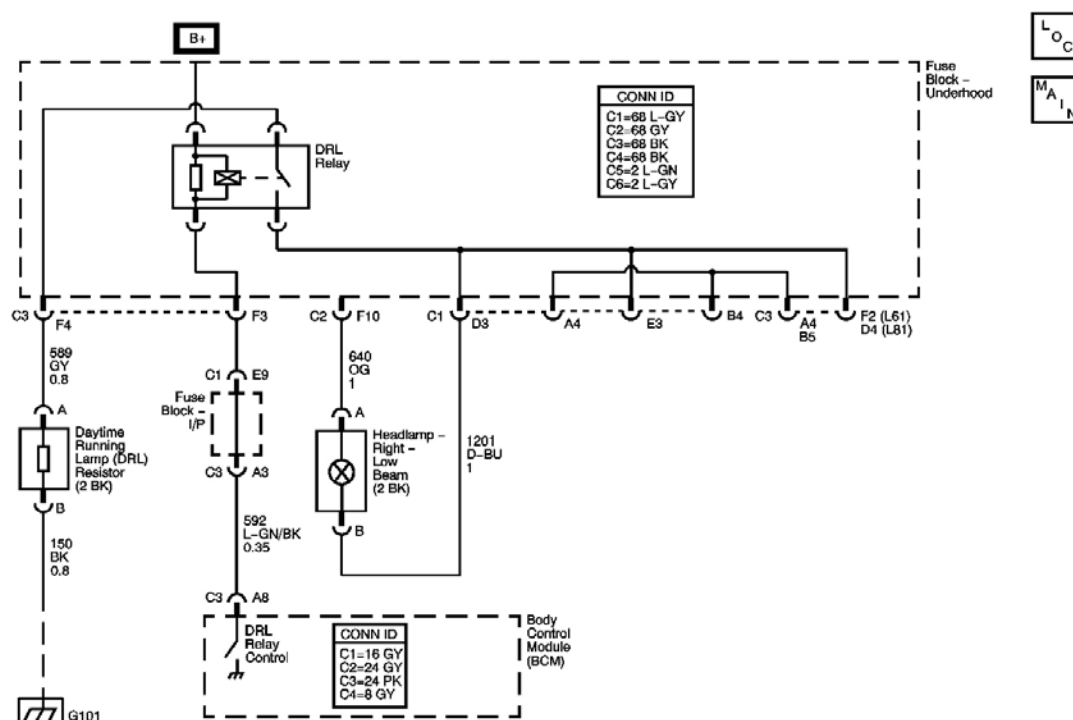
### DTC B2602 Circuit

Step	Action	Yes	No
<b>Schematic Reference: <u>Headlights/Daytime Running Lights (DRL) Schematics (w/ T82)</u></b>			
<b><u>Headlights/Daytime Running Lights (DRL) Schematics (w/o T82)</u></b>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b><u>Diagnostic System Check - Lighting Systems</u></b>
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, command the DRL relay ON and OFF.  Does the DRL relay turn ON and OFF with each command?	Go to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> in Wiring Systems	Go to <b>Step 3</b>
	1. Turn OFF the ignition. 2. Disconnect the DRL relay. 3. Turn ON the ignition, with the engine OFF.		

3	<p>4. Probe the coil side battery positive voltage circuit of the DRL relay with a test lamp that is connected to a good ground.</p> <p>Does the test lamp illuminate?</p>	Go to <b>Step 4</b>	Go to <b>Step 10</b>
4	<p>1. Connect a test lamp between the control circuit of the DRL relay and the coil side battery positive voltage circuit of the DRL relay.</p> <p>2. With a scan tool, command the DRL relay ON and OFF.</p> <p>Does the test lamp turn ON and OFF with each command?</p>	Go to <b>Step 8</b>	Go to <b>Step 5</b>
5	<p>Does the test lamp remain illuminated with each command?</p>	Go to <b>Step 7</b>	Go to <b>Step 6</b>
6	<p>Test the control circuit of the DRL relay for an open. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 13</b>	Go to <b>Step 9</b>
7	<p>Test the control circuit of the DRL relay for a short to ground. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 13</b>	Go to <b>Step 9</b>
8	<p>Inspect for poor connections at the DRL relay. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 13</b>	Go to <b>Step 11</b>
9	<p>Inspect for poor connections at the harness connector of the body control module. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 13</b>	Go to <b>Step 12</b>
10	<p>Repair an open, high resistance, or short to ground in the coil side battery positive voltage circuit of the DRL relay. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you complete the repair?</p>	Go to <b>Step 13</b>	-
11	<p>Replace the DRL relay.</p> <p>Did you complete the replacement?</p>	Go to <b>Step 13</b>	-
	<p><b>IMPORTANT:</b> Perform the set up procedure for the body control module.</p>		

12	Replace the body control module. Refer to <b>Body Control Module Replacement</b> in Body Control System. Did you complete the replacement?	Go to <b>Step 13</b>	-
13	<ol style="list-style-type: none"> <li>1. Use the scan tool in order to clear the DTCs.</li> <li>2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text.</li> </ol> <p>Does the DTC reset?</p>	Go to <b>Step 2</b>	System OK

## DTC B2603



**Fig. 22: DTC B2603 Circuit**  
 Courtesy of GENERAL MOTORS CORP.

### Circuit Description

The daytime running lights (DRL) relay is controlled by the body control module (BCM). Battery positive voltage is applied to the relay coil at all times. The BCM grounds the DRL relay control circuit in order to turn ON the DRL relay. When the DRL relay control circuit becomes shorted to battery positive voltage, DTC B2603 is set.

## Conditions for Running the DTC

The ignition switch is in the ON position.

## Conditions for Setting the DTC

- The BCM is commanding the DRL relay on.
- The headlamp feedback is not present for 1 second.

## Action Taken When the DTC Sets

- The BCM disables the DRL relay control as long as the malfunction is present.
- The SERVICE indicator illuminates.

## Conditions for Clearing the DTC

- The conditions for setting the DTC are no longer present.
- A history DTC clears after 100 malfunction free ignition cycles.
- The BCM receives the clear code command from the scan tool.

## Diagnostic Aids

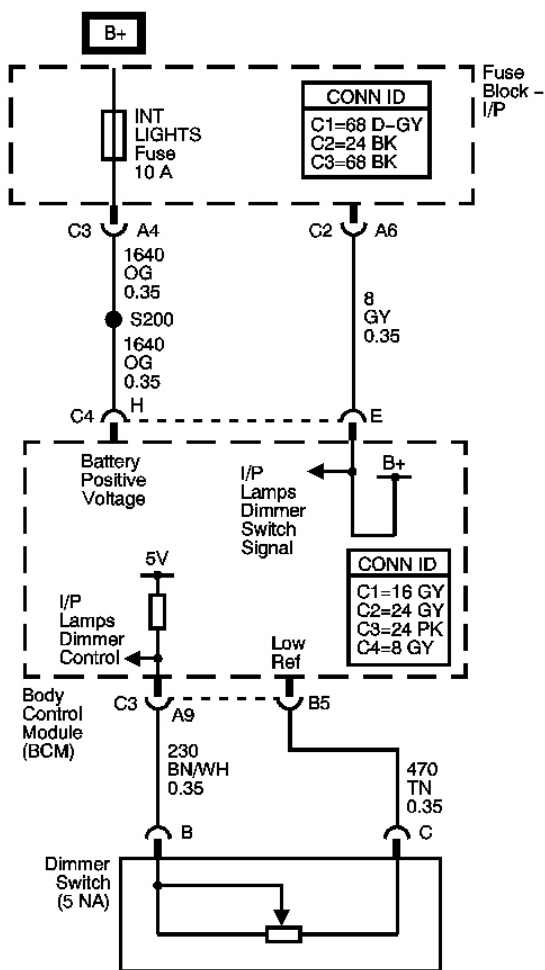
- The park brake must be unapplied and the transaxle must be in gear for the DRLs to operate properly.
- If the DTC is a history DTC, the problem may be intermittent. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

## DTC B2603 Circuit

Step	Action	Yes	No
<b>Schematic Reference: <u>Headlights/Daytime Running Lights (DRL) Schematics (w/ T82)</u> <u>Headlights/Daytime Running Lights (DRL) Schematics (w/o T82)</u></b>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, command the DRL relay ON and OFF.  Does the DRL relay turn ON and OFF with each command?	Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems	Go to <b>Step 3</b>
	1. Disconnect the daytime running lights (DRL) relay. 2. Turn ON the ignition, with the engine OFF.		



3	<p>3. Probe the control circuit of the DRL relay with a test lamp that is connected to a good ground.</p> <p>Does the test lamp illuminate?</p>	Go to <b>Step 4</b>	Go to <b>Step 5</b>
4	<p>1. Leave the test lamp connected. 2. Turn OFF the ignition. 3. Disconnect the body control module (BCM). 4. Turn ON the ignition, with the engine OFF.</p> <p>Does the test lamp illuminate?</p>	Go to <b>Step 5</b>	Go to <b>Step 6</b>
5	<p>Inspect for poor connections at the DRL relay. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 10</b>	Go to <b>Step 8</b>
6	<p>Inspect for poor connections at the harness connector of the body control module. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 10</b>	Go to <b>Step 9</b>
7	<p>Repair a short to voltage in the DRL relay control circuit. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you complete the repair?</p>	Go to <b>Step 10</b>	-
8	<p>Replace the DRL relay.</p> <p>Did you complete the replacement?</p>	Go to <b>Step 10</b>	-
9	<p><b>IMPORTANT:</b> <b>Perform the set up procedure for the body control module.</b></p> <p>Replace the body control module. Refer to <b>Body Control Module Replacement</b> in Body Control System. Did you complete the replacement?</p>	Go to <b>Step 10</b>	-
10	<p>1. Use the scan tool in order to clear the DTCs. 2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text.</p> <p>Does the DTC reset?</p>	Go to <b>Step 3</b>	System OK



LOC

MAIN

**Fig. 23: DTC B2622 Circuit**  
 Courtesy of GENERAL MOTORS CORP.

**Circuit Description**

The body control module (BCM) supplies voltage to the instrument panel dimmer switch through the instrument panel dimmer switch signal circuit. The dimmer switch varies the voltage and returns the new voltage to the BCM through the dimmer switch signal return circuit. The BCM uses this voltage to determine the illumination level of the instrument panel lamps.

**Conditions for Running the DTC**

The park lamp input to the BCM is active (park or headlamps on).

**Conditions for Setting the DTC**

Any of the following conditions will set this DTC:

- The dimmer switch signal is open or shorted to ground.
- The dimmer switch signal return is open or shorted to ground.

#### Action Taken When the DTC Sets

The illumination of the instrument panel lamps is forced to full intensity.

#### Conditions for Clearing the DTC

- The conditions for setting the DTC are no longer present.
- A history DTC clears after 100 malfunction free ignition cycles.
- The BCM receives the clear code command from the scan tool.

#### Diagnostic Aids

If the DTC is a history DTC, the problem may be intermittent. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

#### Test Description

The numbers below refer to the step numbers on the diagnostic table.

- 2:** The normal operating voltage of the instrument panel dimmer switch is 0.4-4.5 volts.  
**3:** This step determines if there is a problem with the dimmer switch.

#### DTC B2622 Circuit

Step	Action	Value (s)	Yes	No
<b>Schematic Reference: Interior Lights Dimming Schematics</b>				
1	Did you perform the Lighting System Diagnostic System Check?	-	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, observe the I/P Dimmer Input data parameter in the Interior Lamps data list.  Does the scan tool indicate that the I/P Dimmer Input parameter is within the specified range?	0.4-4.5 volts	Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems	Go to <b>Step 3</b>

3	<ol style="list-style-type: none"> <li>1. Turn OFF the ignition.</li> <li>2. Disconnect the instrument panel dimmer switch.</li> <li>3. Turn ON the ignition, with the engine OFF.</li> <li>4. With a scan tool, observe the I/P Dimmer Input data parameter.</li> </ol> <p>Does the scan tool indicate that the I/P Dimmer Input data parameter is greater than the specified value?</p>	4.5 volts		<p>Go to <b>Step 5</b></p> <p>Go to <b>Step 4</b></p>
4	<p>Test the 5 volt reference circuit and the instrument panel lamps dimmer switch signal circuit for an open, high resistance, or short to ground. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	-		<p>Go to <b>Step 9</b></p> <p>Go to <b>Step 6</b></p>
5	<p>Inspect for poor connections at the harness connector of the instrument panel dimmer switch. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	-		<p>Go to <b>Step 9</b></p> <p>Go to <b>Step 7</b></p>
6	<p>Inspect for poor connections at the harness connector of the body control module. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	-		<p>Go to <b>Step 9</b></p> <p>Go to <b>Step 8</b></p>
7	<p>Replace the instrument panel dimmer switch.</p> <p>Did you complete the replacement?</p>	-		<p>Go to <b>Step 9</b></p> <p>Go to <b>Step 9</b></p>
8	<p><b>IMPORTANT:</b></p> <p><b>Perform the set up procedure for the body control module. Refer to <u>Body Control Module (BCM) Programming/RPO Configuration</u> in Body Control System.</b></p> <p>Replace the body control module. Refer to <b>Body Control Module Replacement</b> in Body Control System. Did you complete the replacement?</p>	-		<p>Go to <b>Step 9</b></p> <p>-</p>
9	<ol style="list-style-type: none"> <li>1. Use the scan tool in order to clear the DTCs.</li> <li>2. Operate the vehicle within the Conditions for Running the DTC as specified in the</li> </ol>	-		

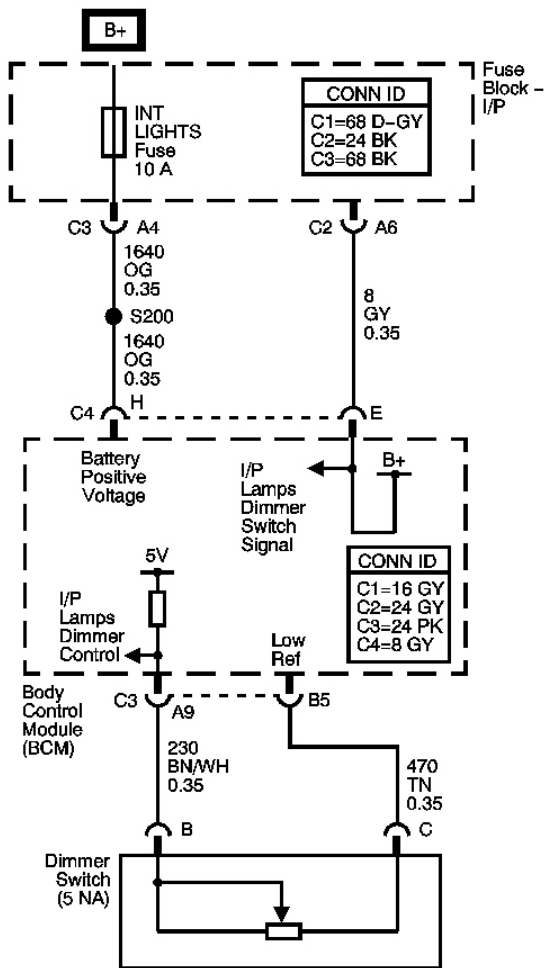
supporting text.

Does the DTC reset?

Go to **Step 2**

System OK

## DTC B2623



LOC

MAIN

**Fig. 24: DTC B2623 Circuit**

Courtesy of GENERAL MOTORS CORP.

### Circuit Description

The body control module (BCM) supplies voltage to the instrument panel dimmer switch through the instrument panel dimmer switch signal circuit. The dimmer switch varies the voltage and returns the new voltage to the BCM through the dimmer switch signal return circuit. The BCM uses this voltage to determine the illumination level of the instrument panel lamps.

### Conditions for Running the DTC

The park lamp input to the BCM is active (park or headlamps on).

### Conditions for Setting the DTC

Any of the following conditions will set this DTC:

- The dimmer switch signal is open or shorted to voltage.
- The dimmer switch signal return is open or shorted to voltage.

### Action Taken When the DTC Sets

The illumination of the instrument panel lamps is forced to full intensity.

### Conditions for Clearing the DTC

- The conditions for setting the DTC are no longer present.
- A history DTC clears after 100 malfunction free ignition cycles.
- The BCM receives the clear code command from the scan tool.

### Diagnostic Aids

If the DTC is a history DTC, the problem may be intermittent. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

### Test Description

The numbers below refer to the step numbers on the diagnostic table.

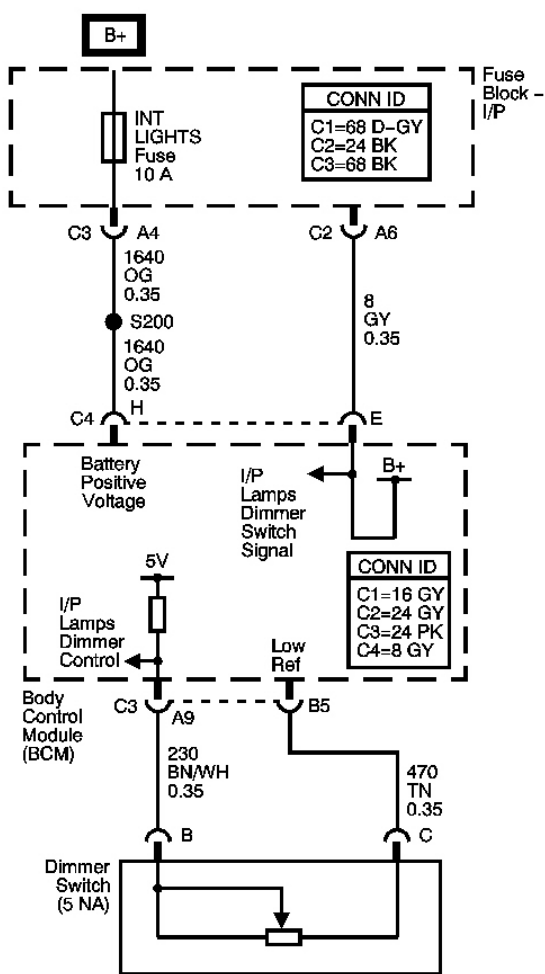
**2:** The normal operating voltage of the instrument panel dimmer switch is 0.4-4.5 volts.

**3:** This step determines if there is a problem with the dimmer switch.

### DTC B2623 Circuit

Step	Action	Value (s)	Yes	No
<b>Schematic Reference:Interior Lights Dimming Schematics</b>				
1	Did you perform the Lighting System Diagnostic System Check?	-	Go to Step 2	Go to <b><u>Diagnostic System Check - Lighting Systems</u></b>
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, observe the I/P Dimmer Input Data parameter in the Interior Lamps data list.	4.5 Volts	Go to	Go to <b><u>Testing for Intermittent Conditions</u></b>

	Does the scan tool indicate that the I/P Dimmer Input parameter is greater than the specified range?		<b>Step 3</b>	<b>and Poor Connections</b> in Wiring Systems
<b>3</b>	<ol style="list-style-type: none"> <li>1. Turn OFF the ignition.</li> <li>2. Disconnect the instrument panel dimmer switch.</li> <li>3. Turn ON the ignition, with the engine OFF.</li> <li>4. With a scan tool, observe the I/P Dimmer Input Data parameter.</li> </ol> <p>Does the scan tool indicate that the I/P Dimmer Input Data parameter is greater than the specified value?</p>	4.5 Volts	Go to <b>Step 4</b>	Go to <b>Step 5</b>
<b>4</b>	<p>Test the 5-volt reference circuit and the instrument panel lamps dimmer switch signal circuit for an open or short to voltage. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	-	Go to <b>Step 9</b>	Go to <b>Step 6</b>
<b>5</b>	<p>Inspect for poor connections at the harness connector of the instrument panel dimmer switch. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	-	Go to <b>Step 9</b>	Go to <b>Step 7</b>
<b>6</b>	<p>Inspect for poor connections at the harness connector of the body control module. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	-	Go to <b>Step 9</b>	Go to <b>Step 8</b>
<b>7</b>	<p>Replace the instrument panel dimmer switch.</p> <p>Did you complete the replacement?</p>	-	Go to <b>Step 9</b>	Go to <b>Step 9</b>
<b>8</b>	<p><b>IMPORTANT:</b></p> <p><b>Perform the set up procedure for the body control module. Refer to <u>Body Control Module (BCM) Programming/RPO Configuration</u> in Body Control System.</b></p> <p>Replace the body control module. Refer to <b>Body Control Module Replacement</b> in Body Control System. Did you complete the replacement?</p>	-	Go to <b>Step 9</b>	-
<b>9</b>	<ol style="list-style-type: none"> <li>1. Use the scan tool in order to clear the DTCs.</li> <li>2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text.</li> </ol> <p>Does the DTC reset?</p>	-	Go to <b>Step 2</b>	System OK



LOC

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**Fig. 25: DTC B2627 Circuit**  
 Courtesy of GENERAL MOTORS CORP.

**Circuit Description**

The body control module (BCM) receives a variable voltage from the instrument panel lamp dimmer switch. The BCM uses this signal in order to vary the illumination level of the instrument panel lamps. The instrument panel dimming lamps output from the BCM is a pulse width modulated voltage supply used to light the instrument panel lamps. If a malfunction occurs in the instrument panel dimming lamps output circuit, this DTC is set.

**Conditions for Running the DTC**



The park lamp input is active (park or headlamps on).

### Conditions for Setting the DTC

Any of the following conditions will set this DTC:

The instrument panel dimming lamps output is open or shorted to ground.

### Action Taken When the DTC Sets

If the instrument panel dimming lamps output is shorted to voltage, the instrument panel lamps will illuminate full intensity.

### Conditions for Clearing the DTC

- The conditions for setting the DTC are no longer present.
- A history DTC clears after 100 malfunction free ignition cycles.
- The BCM receives the clear code command from the scan tool.

### Diagnostic Aids

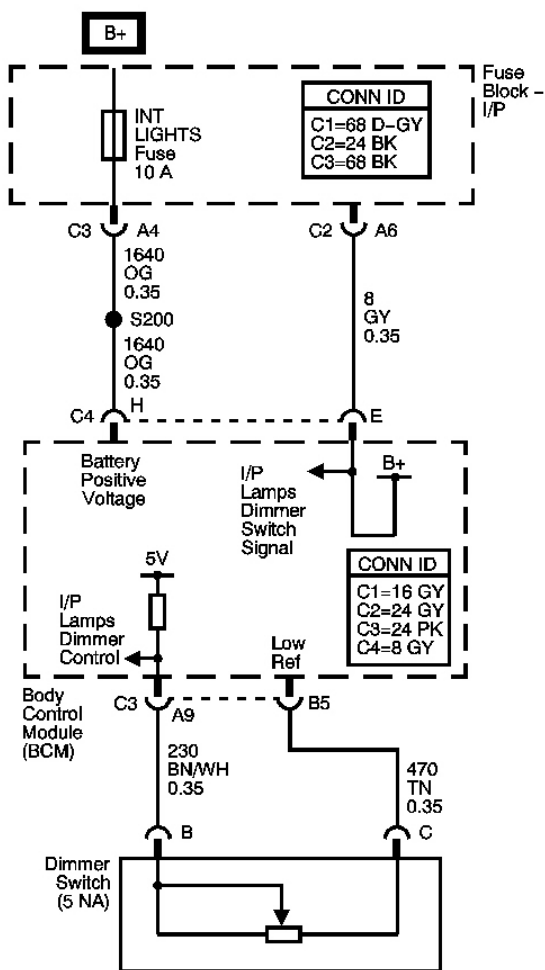
If the DTC is a history DTC, the malfunction may be intermittent. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

### DTC B2627 Circuit

Step	Action	Yes	No
<b>Schematic Reference: Interior Lights Dimming Schematics</b>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	<ol style="list-style-type: none"><li>1. Turn the ignition switch to the on position.</li><li>2. Turn the headlamp switch to the on position.</li><li>3. Attempt to adjust the lighting intensity of the instrument lamps with the dimmer switch.</li></ol> Do the instrument panel lamps vary with dimmer control?	Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems	Go to <b>Step 3</b>
3	Is DTC B2622 or B2623 set?	Go to <b>DTC B2622</b> or <b>DTC B2623</b>	Go to <b>Step 4</b>
4	Test for an open, high resistance, or short to ground on the instrument panel lamps supply voltage circuit. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 7</b>	Go to <b>Step 5</b>
	Inspect for poor connections at the harness		

5	<p>connector of the body control module. Refer to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> and <b><u>Connector Repairs</u></b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 7</b>	Go to <b>Step 6</b>
6	<p><b>IMPORTANT:</b>  <b>Perform the set up procedure for the body control module. Refer to <u>Body Control Module (BCM) Programming/RPO Configuration in Body Control System.</u></b></p> <p>Replace the body control module. Refer to <b><u>Body Control Module Replacement</u></b> in Body Control System. Did you complete the replacement?</p>	Go to <b>Step 7</b>	-
7	<ol style="list-style-type: none"> <li>1. Use the scan tool in order to clear the DTCs.</li> <li>2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text.</li> </ol> <p>Does the DTC reset?</p>	Go to <b>Step 2</b>	System OK

## DTC B2628



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**Fig. 26: DTC B2628 Circuit**  
 Courtesy of GENERAL MOTORS CORP.

### Circuit Description

The body control module (BCM) receives a variable voltage from the instrument panel lamp dimmer switch. The BCM uses this signal in order to vary the illumination level of the instrument panel lamps. The instrument panel dimming lamps output from the BCM is a pulse width modulated voltage supply used to light the instrument panel lamps. If a malfunction occurs in the instrument panel dimming lamps output circuit, this DTC is set.

### Conditions for Running the DTC

The park lamp input is active (park or headlamps on).

## Conditions for Setting the DTC

Any of the following conditions will set this DTC:

The instrument panel dimming lamps output is shorted to voltage.

## Action Taken When the DTC Sets

If the instrument panel dimming lamps output is shorted to voltage, the instrument panel lamps will illuminate at full intensity.

## Conditions for Clearing the DTC

- The conditions for setting the DTC are no longer present.
- A history DTC clears after 100 malfunction free ignition cycles.
- The BCM receives the clear code command from the scan tool.

## Diagnostic Aids

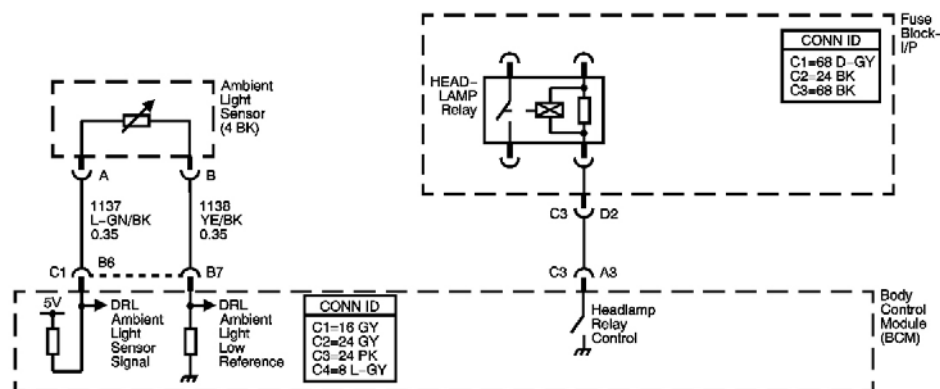
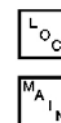
If the DTC is a history DTC, the malfunction may be intermittent. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

## DTC B2628 Circuit

Step	Action	Yes	No
<b>Schematic Reference: Interior Lights Dimming Schematics</b>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b><u>Diagnostic System Check - Lighting Systems</u></b>
2	1. Turn the ignition switch to the on position. 2. Turn the headlamp switch to the on position. 3. Attempt to adjust the lighting intensity of the instrument lamps with the dimmer switch.  Do the instrument panel lamps vary with dimmer control?	Go to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> in Wiring Systems	Go to <b>Step 3</b>
3	Is DTC B2622 or B2623 set?	Go to <b><u>DTC B2622</u></b> or <b><u>DTC B2623</u></b>	Go to <b>Step 4</b>
4	Test for a short to voltage on the instrument panel lamps supply voltage circuit. Refer to <b><u>Circuit Testing</u></b> and <b><u>Wiring Repairs</u></b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 7</b>	Go to <b>Step 5</b>
5	Inspect for poor connections at the harness connector of the body control module. Refer to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> and <b><u>Connector Repairs</u></b> in Wiring		

	Systems. Did you find and correct the condition?	Go to <b>Step 7</b>	Go to <b>Step 6</b>
6	<b>IMPORTANT:</b> <b>Perform the set up procedure for the body control module. Refer to <u>Body Control Module (BCM) Programming/RPO Configuration in Body Control System.</u></b>  Replace the body control module. Refer to <b><u>Body Control Module Replacement</u></b> in Body Control System. Did you complete the replacement?	Go to <b>Step 7</b>	-
7	1. Use the scan tool in order to clear the DTCs. 2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text.  Does the DTC reset?	Go to <b>Step 2</b>	System OK

## DTC B2647



**Fig. 27: DTC B2647 Circuit**  
Courtesy of GENERAL MOTORS CORP.

### Circuit Description

The ambient light sensor indicates the light level to control the automatic headlamps and park lamps. The body

control module (BCM) provides a 5-volt reference signal to the light sensor through the ambient light sensor signal circuit. The BCM receives the modified voltage from the ambient light sensor through the ambient light sensor low reference circuit. A low voltage under 1.5 volts, signals a dark condition to the BCM and vice versa.

### Conditions for Running the DTC

The ignition switch is in the ON position.

### Conditions for Setting the DTC

Any of the following conditions will set this DTC:

- The ambient light sensor signal reference circuit is open for 5 seconds.
- The ambient light sensor signal reference circuit is shorted to ground for 5 seconds.
- The ambient light sensor signal return circuit is open for 5 seconds.
- The ambient light sensor signal return circuit is shorted to ground for 5 seconds.

### Action Taken When the DTC Sets

The headlamps and park lamps are always illuminated with the ignition ON.

### Conditions for Clearing the DTC

- The conditions for setting the DTC are no longer present.
- A history DTC clears after 100 malfunction free ignition cycles.
- The BCM receives the clear code command from the scan tool.

### Diagnostic Aids

If the DTC is a history DTC, the problem may be intermittent. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

### Test Description

The numbers below refer to the step numbers on the diagnostic table.

- 2:** The normal operating voltage of the ambient light sensor (photocell) is 0.5-4.5 volts.
- 3:** This step determines if there is a problem with the signal circuit of the ambient light sensor.

### DTC B2647 Circuit

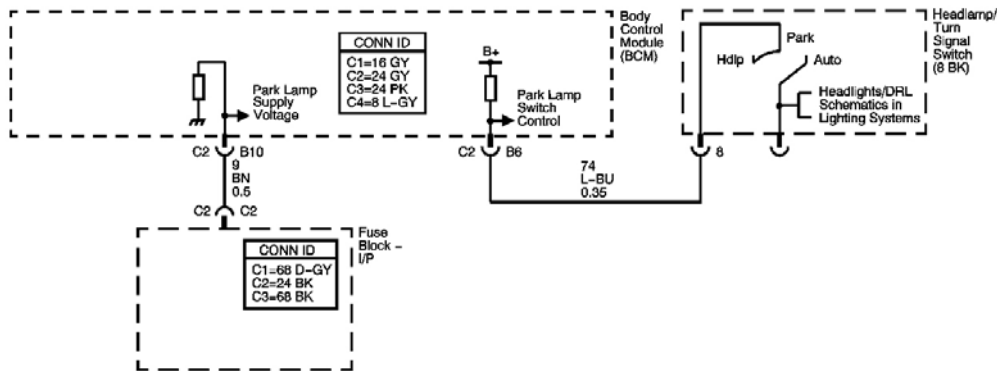
Step	Action	Value (s)	Yes	No
<b>Schematic Reference:Headlights/Daytime Running Lights (DRL) Schematics (w/ T82)</b>				
<b>Headlights/Daytime Running Lights (DRL) Schematics (w/o T82)</b>				
	Did you perform the Lighting System			Go to <b>Diagnostic</b>

1	Diagnostic System Check?	-	Go to <b>Step 2</b>	<b>System Check - Lighting Systems</b>
2	<ol style="list-style-type: none"> <li>1. Install a scan tool.</li> <li>2. Turn ON the ignition, with the engine OFF.</li> <li>3. With a scan tool, observe the PHOTOCELL VOLTAGE data parameter in the LAMP STATUS data list.</li> </ol> <p>Does the scan tool indicate that the PHOTOCELL VOLTAGE parameter is within the specified range?</p>	0.5-4.5 Volts	Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems	Go to <b>Step 3</b>
3	<ol style="list-style-type: none"> <li>1. Turn OFF the ignition.</li> <li>2. Disconnect the ambient light sensor.</li> <li>3. Turn ON the ignition, with the engine OFF.</li> <li>4. Probe the signal circuit of the ambient light sensor with a test lamp that is connected to a good ground.</li> </ol> <p>Does the test lamp illuminate?</p>	-	Go to <b>Step 4</b>	Go to <b>Step 5</b>
4	<ol style="list-style-type: none"> <li>1. Connect a fused jumper wire between the signal circuit of the ambient light sensor and the low reference circuit of the ambient light sensor.</li> <li>2. With a scan tool, observe the PHOTOCELL VOLTAGE data parameter in the LAMP STATUS data list.</li> </ol> <p>Does the scan tool indicate that the PHOTOCELL VOLTAGE parameter is within the specified range?</p>	4.5-5.0 Volts	Go to <b>Step 7</b>	Go to <b>Step 6</b>
5	<p>Test the signal circuit of the ambient light sensor for an open, high resistance, or short to ground. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	-	Go to <b>Step 11</b>	Go to <b>Step 8</b>
6	<p>Test the low reference circuit of the ambient light sensor for an open, high resistance, or short to ground. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p>	-		

	Did you find and correct the condition?		Go to <b>Step 11</b>	Go to <b>Step 8</b>
7	Inspect for poor connections at the harness connector of the ambient light sensor. Refer to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> and <b><u>Connector Repairs</u></b> in Wiring Systems. Did you find and correct the condition?	-	Go to <b>Step 11</b>	Go to <b>Step 9</b>
8	Inspect for poor connections at the harness connector of the body control module (BCM). Refer to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> and <b><u>Connector Repairs</u></b> in Wiring Systems. Did you find and correct the condition?	-	Go to <b>Step 11</b>	Go to <b>Step 10</b>
9	Replace the ambient light sensor. Did you complete the replacement?	-	Go to <b>Step 11</b>	-
10	<b>IMPORTANT:</b> <b>Perform the set up procedure for the BCM.</b>  Replace the BCM. Refer to <b><u>Body Control Module Replacement</u></b> in Body Control System. Did you complete the replacement?	-	Go to <b>Step 11</b>	-
11	1. Use the scan tool in order to clear the DTCs. 2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text.  Does the DTC reset?	-	Go to <b>Step 2</b>	System OK

## DTC B2662



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**Fig. 28: DTC B2662 Circuit**  
 Courtesy of GENERAL MOTORS CORP.

### Circuit Description

The park lamps are controlled by the headlamp switch. Battery positive voltage is supplied to the switch through the PARK LP fuse. When the headlamp switch is placed in the park or head position, battery voltage is supplied to the park lamps. The body control module is also connected to the park lamp circuit to sense whether or not the park lamps turn on when the lowbeam or highbeam headlamps are turned on. If the BCM senses that the lowbeam or highbeam headlamps are on and the park lamp input is not active, DTC B2662 sets.

### Conditions for Running the DTC

- The ignition switch is in the ON position.
- The lowbeam or highbeam headlamps are on.

### Conditions for Setting the DTC

The park lamp input is inactive.

### Action Taken When the DTC Sets

DTC B2662 is stored in the BCM memory.

### Conditions for Clearing the DTC

- The conditions for setting the DTC are no longer present.
- A history DTC clears after 100 malfunction free ignition cycles.

- The BCM receives the clear code command from the scan tool.

### Diagnostic Aids

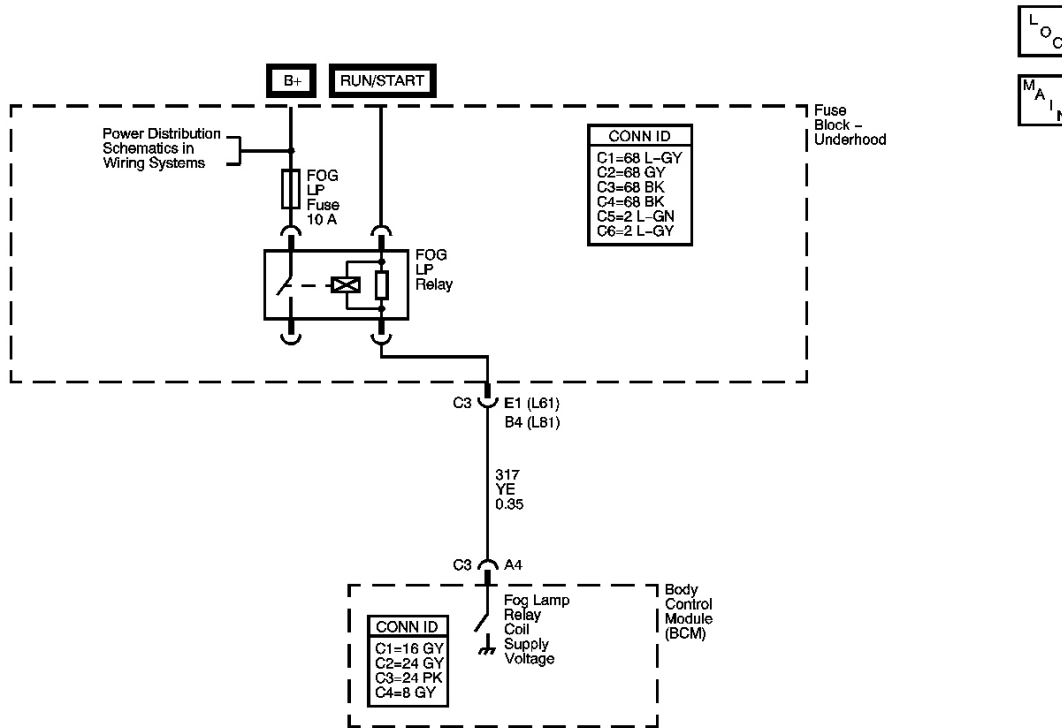
- The low or highbeam headlamps must be on in order to set this DTC.
- An open PARK LP fuse will set this code.
- If the DTC is a history DTC, the problem may be intermittent. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

### DTC B2662 Circuit

Step	Action	Yes	No
<b>Schematic Reference:</b> <u>Exterior Lights Schematics</u>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b><u>Diagnostic System Check - Lighting Systems</u></b>
2	<ol style="list-style-type: none"> <li>1. Install a scan tool.</li> <li>2. Turn ON the ignition, with the engine OFF.</li> <li>3. With a scan tool, observe the Parklamp Switch parameter in the Exterior Lamps data list.</li> <li>4. Turn the lowbeam headlamps ON.</li> <li>5. Return the headlamp switch to the OFF position.</li> </ol> <p>Does the scan tool display toggle between on and off?</p>	Go to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> in Wiring Systems	Go to <b>Step 3</b>
3	Are the park lamps operating properly when the headlamp switch is turned ON and then OFF?	Go to <b>Step 4</b>	Go to <b>Step 6</b>
4	Test the signal circuit of the headlamp switch for an open or high resistance. Refer to <b><u>Circuit Testing</u></b> and <b><u>Wiring Repairs</u></b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 11</b>	Go to <b>Step 5</b>
5	Inspect for poor connections at the harness connector of the BCM. Refer to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> and <b><u>Connector Repairs</u></b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 11</b>	Go to <b>Step 9</b>
6	Test the battery positive voltage circuit of the headlamp switch for an open or short to ground. Refer to <b><u>Circuit Testing</u></b> and <b><u>Wiring Repairs</u></b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 11</b>	Go to <b>Step 7</b>
	Test the park lamp signal circuit of the headlamp switch for an open or high resistance. Refer to		

7	<p><b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 11</b>	Go to <b>Step 8</b>
8	<p>Inspect for poor connections at the harness connector of the headlamp switch. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 11</b>	Go to <b>Step 10</b>
9	<p><b>IMPORTANT:</b>  <b>Perform the set up procedure for the body control module. Refer to <u>Body Control Module (BCM) Programming/RPO Configuration</u> in Body Control System.</b></p> <p>Replace the body control module. Refer to <b>Body Control Module Replacement</b> in Body Control System. Did you complete the replacement?</p>	Go to <b>Step 11</b>	-
10	<p>Replace the headlamp switch. Refer to <b>Multifunction, Turn Signal Switch Replacement</b> in Steering Wheel and Column.</p> <p>Did you complete the replacement?</p>	Go to <b>Step 11</b>	-
11	<ol style="list-style-type: none"> <li>1. Use the scan tool in order to clear the DTCs.</li> <li>2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text.</li> </ol> <p>Does the DTC reset?</p>	Go to <b>Step 2</b>	System OK

**DTC B2743**



**Fig. 29: DTC B2743 Circuit**  
 Courtesy of GENERAL MOTORS CORP.

**DTC B2743 Circuit**

Step	Action	Yes	No
<b>Schematic Reference: Fog Lights Schematics</b>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	1. Turn ON the ignition, with the engine OFF. 2. Place the fog lamp switch in the OFF position. 3. Place the headlamp switch in the OFF position.  Do the fog lamps remain illuminated?	Go to <b>Step 3</b>	Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems
3	Disconnect the fog lamp relay. Did the fog lamps turn off?	Go to <b>Step 4</b>	Go to <b>Step 6</b>
4	Test the fog lamp relay control circuit for a short to ground. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 8</b>	Go to <b>Step 5</b>
	Inspect for poor connections at the fog lamp relay. Refer to <b>Testing for Intermittent Conditions and</b>		

5	<b>Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 8</b>	Go to <b>Step 7</b>
6	Repair a short to voltage in the front fog lamp supply voltage circuit. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	Go to <b>Step 8</b>	-
7	Replace the fog lamp relay. Refer to <b>Relay Replacement (Within an Electrical Center)Relay Replacement (Attached to Wire Harness)</b> in Wiring Systems. Did you complete the replacement?	Go to <b>Step 8</b>	-
8	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to <b>Step 3</b>

## DTC P0504

### Circuit Description

The powertrain control module (PCM) monitors the stop lamp switch signal circuit and the cruise control release signal circuit every 100 ms. The PCM monitors the status of the stop lamp switch signal circuit and the cruise control signal circuit to see if they match when the brake pedal is pressed or released.

### Conditions for Running the DTC

The ignition is ON.

### Conditions for Setting the DTC

The status of the stop lamp switch input to the PCM, and the cruise/brake switch input to the PCM do not match for at least 2 seconds continuously, for 10 occurrences. Each time the signals match then do not match at counter increments. When the counter reaches 10 the DTC will set.

### Action Taken When the DTC Sets

When DTC P0504 is set the following will occur:

- The cruise control is disabled.
- The PCM will function as if the brake pedal is not pressed.
- The control module stores the DTC information into memory when the diagnostic runs and fails.
- The malfunction indicator lamp (MIL) will not illuminate.
- The control module records the operating conditions at the time the diagnostic fails. The control module stores this information in the Failure Records.

### Conditions for Clearing the DTC

- The DTC will clear when the status of the stop lamp switch input to the PCM, and the cruise/brake switch input to the PCM match for at least 2 seconds continuously for both the pressed position and the released position.
- A current DTC Last Test Failed clears when the diagnostic runs and passes.
- A history DTC clears after 40 consecutive warm-up cycles, if no failures are reported by this or any other non-emission related diagnostic.
- Clear the DTC with a scan tool.

### Diagnostic Aids

- Inspect for proper adjustment of the stop lamp switch and cruise/brake switch. Refer to **Cruise Release Switch Adjustment** in Cruise Control and **Stop Lamp Switch Adjustment** .
- Check for interments and poor connections. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems

### DTC P0504 Circuit

Step	Action	Yes	No
<b>Schematic Reference:</b> <u>Exterior Lights Schematics</u> and <u>Cruise Control Schematics (w/L61)</u> <u>Cruise Control Schematics (w/L66)</u> in Cruise Control <b>Connector End View Reference:</b> <u>Master Electrical Component List</u> in Wiring Systems			
1	Did you perform the Diagnostic System Check - Lighting Systems?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	1. With the scan tool, observe the Brake Switch parameter and the Cruise Brake Switch parameter. 2. Press and release the brake pedal.  Does the Brake Switch parameter and the Cruise Brake Switch parameter display change closely with each other?	Go to Diagnostic Aids	Go to <b>Step 3</b>
3	1. With the scan tool, observe the Cruise Brake Switch parameter. 2. Press and release the brake pedal.  Does the Cruise Brake Switch parameter display change with the brake pedal position?	Go to <b>Step 6</b>	Go to <b>Step 4</b>
4	1. Turn OFF the ignition. 2. Disconnect the cruise/brake switch. 3. Turn ON the ignition, with the engine OFF.  Does the Cruise Brake Switch parameter display Applied?	Go to <b>Step 5</b>	Go to <b>Step 12</b>
	1. Turn OFF the ignition. 2. Connect a 10-amp fused jumper between the ignition		

5	<p>positive voltage circuit of the cruise brake switch and the cruise control release signal circuit of the cruise brake switch.</p> <p>3. Turn ON the ignition, with the engine OFF.</p> <p>Does the Cruise Brake Switch parameter display Released?</p>	Go to <b>Step 16</b>	Go to <b>Step 8</b>
6	<p>1. Turn OFF the ignition.</p> <p>2. Disconnect the stop lamp switch.</p> <p>3. Turn ON the ignition, with the engine off.</p> <p>4. With the scan tool, observe the Brake Switch parameter.</p> <p>Does the Brake Switch parameter display Released?</p>	Go to <b>Step 7</b>	Go to <b>Step 10</b>
7	<p>1. Turn OFF the ignition.</p> <p>2. Connect a 15-amp fused jumper between the battery positive voltage circuit of the stop lamp switch and the stop lamp switch signal circuit.</p> <p>3. Turn ON the ignition, with the engine OFF.</p> <p>Does the Brake Switch parameter display Applied?</p>	Go to <b>Step 15</b>	Go to <b>Step 11</b>
8	<p>Test the ignition positive voltage circuit of the cruise/brake switch for an open, high resistance, or short to ground. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 20</b>	Go to <b>Step 9</b>
9	<p>Test for an open, high resistance, or short to ground in the cruise control release signal circuit of the cruise/brake switch. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 20</b>	Go to <b>Step 14</b>
10	<p>Test the stop lamp switch signal circuit for a short to voltage. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 20</b>	Go to <b>Step 14</b>
11	<p>Test the battery positive voltage circuit of the stop lamp switch for an open or short to ground. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 20</b>	Go to <b>Step 13</b>
12	<p>Test the cruise control release signal circuit of the cruise/brake switch for a short to voltage. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 20</b>	Go to <b>Step 17</b>
13	<p>Test the stop lamp switch signal circuit for an open, high resistance, or short to ground. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 20</b>	Go to <b>Step 14</b>

14	Inspect for poor connections at the harness connector of the powertrain control module (PCM). Refer to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> and <b><u>Connector Repairs</u></b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 20</b>	Go to <b>Step 17</b>
15	Inspect for poor connections at the harness connector of the cruise/brake switch. Refer to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> and <b><u>Connector Repairs</u></b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 20</b>	Go to <b>Step 18</b>
16	Inspect for poor connections at the harness connector of the stop lamp switch. Refer to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> and <b><u>Connector Repairs</u></b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 20</b>	Go to <b>Step 19</b>
17	<b>IMPORTANT:</b> <b>Program the replacement PCM.</b>  Replace the PCM. Refer to <b><u>Powertrain Control Module (PCM) Replacement</u></b> in Engine Controls - 3.5L (L66).Did you complete the replacement?	Go to <b>Step 20</b>	-
18	Replace the stop lamp switch. Refer to <b><u>Stop Lamp Switch Replacement</u></b> . Did you complete the replacement?	Go to <b>Step 20</b>	-
19	Replace the cruise/brake switch. Refer to <b><u>Cruise Release Switch Replacement</u></b> in Cruise Control. Did you complete the replacement?	Go to <b>Step 20</b>	-
20	1. Use the scan tool in order to clear the DTCs. 2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text.  Does the DTC reset?	Go to <b>Step 2</b>	System OK

## SYMPTOMS - LIGHTING SYSTEMS

**IMPORTANT:** The following steps must be completed before using the symptoms tables.

- Perform the **Diagnostic System Check - Lighting Systems** before using the symptom tables in order to verify that all of the following are true:
  - There are no DTCs set.
  - The control modules can communicate via the serial data link.
- Review the system operation in order to familiarize yourself with the system functions. Refer to the following:
  - Exterior Lighting Systems Description and Operation**



## • Interior Lighting Systems Description and Operation

### Visual/Physical Inspection

Several of the symptom procedures ask for a careful visual/physical check. This step is extremely important-it could lead to correcting a problem without further checks and can save valuable time. These checks include the following:

- Inspect for aftermarket devices which could affect the operation of the Lighting System. Refer to **Checking Aftermarket Accessories** in Wiring Systems.
- Inspect the easily accessible or visible system components and harness connectors for obvious damage or conditions which could cause the symptom.
- If only one lamp is inoperative, inspect and repair a poor connection or an open in the power feed or ground circuit before replacing the light bulb. Refer to **Circuit Testing** and **Wiring Repairs** in Wiring Systems.

### Intermittent

Faulty electrical connections or wiring may also be the cause of intermittent conditions. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

### Symptom List

Refer to a symptom diagnostic procedure from the following list in order to diagnose a symptom that does not set a DTC:

- **Backup Lamps Always On**
- **Backup Lamps Inoperative**
- **Daytime Running Lamps (DRL) Indicator Inoperative**
- **Daytime Running Lamps (DRL) Inoperative**
- **Dome Lamps Inoperative**
- **Fog Lamps Always On**
- **Fog Lamps Inoperative**
- **Hazard Lamps Inoperative**
- **Headlamps Inoperative - High Beams**
- **Headlamps Inoperative - Low Beams**
- **Headlamps Inoperative - Low and High Beams**
- **Headlamps Inoperative - Flash to Pass**
- **High Beam Indicator Inoperative**
- **Illuminated Entry Lamps Inoperative**
- **Park Lamps Always On**
- **Park Lamps Inoperative**

- **Stop Lamps Inoperative**
- **Turn Signal Lamps and/or Indicators Inoperative**

## BACKUP LAMPS ALWAYS ON

### Backup Lamps Always On

Step	Action	Yes	No
<b>Schematic Reference: <u>Exterior Lights Schematics</u></b>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b><u>Diagnostic System Check - Lighting Systems</u></b>
2	1. Turn ON the ignition, with the engine OFF. 2. Place the gear selector in park or neutral.  Do the backup lamps illuminate?	Go to <b>Step 3</b>	Go to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> in Wiring Systems
3	Disconnect the backup lamp switch, for manual transaxle or the park neutral position switch, for automatic transaxle. Are the backup lamps illuminated?	Go to <b>Step 4</b>	Go to <b>Step 5</b>
4	Repair the short to battery positive voltage in the backup lamp supply voltage circuit. Refer to <b><u>Circuit Testing</u></b> and <b><u>Wiring Repairs</u></b> in Wiring Systems. Did you complete the repair?	Go to <b>Step 6</b>	-
5	Replace the appropriate switch. Refer to <b><u>Backup Lamp Switch Replacement</u></b> in Manual Transmission or <b><u>Park/Neutral Position Switch Replacement</u></b> and <b><u>Park/Neutral Position Switch Replacement</u></b> in Automatic Transaxle. Did you complete the replacement?	Go to <b>Step 6</b>	-
6	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to <b>Step 3</b>

## BACKUP LAMPS INOPERATIVE

### Backup Lamps Inoperative

Step	Action	Yes	No
<b>Schematic Reference: <u>Exterior Lights Schematics</u></b>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b><u>Diagnostic System Check - Lighting Systems</u></b>
2	1. Turn ON the ignition, with the engine OFF. 2. Apply the park brake. 3. Place the gear selector in the REVERSE position.	Go to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b>	

	Do both backup lamps illuminate?	in Wiring Systems	Go to <b>Step 3</b>
3	Is only one lamp inoperative?	Go to <b>Step 4</b>	Go to <b>Step 5</b>
4	<ol style="list-style-type: none"> <li>1. Disconnect the inoperative backup lamp connector.</li> <li>2. Probe the backup lamp supply voltage circuit of the backup lamp connector with a test lamp that is connected to a good ground.</li> </ol> <p>Does the test lamp illuminate?</p>	Go to <b>Step 8</b>	Go to <b>Step 9</b>
5	<ol style="list-style-type: none"> <li>1. Turn OFF the ignition.</li> <li>2. Disconnect the backup lamp switch connector, for manual transaxle or the park neutral position switch connector for automatic transaxle.</li> <li>3. Turn ON the ignition, with the engine OFF.</li> <li>4. Probe the backup lamp supply voltage circuit of the connector with a test lamp that is connected to a good ground.</li> </ol> <p>Does the test lamp illuminate?</p>	Go to <b>Step 6</b>	Go to <b>Step 10</b>
6	<ol style="list-style-type: none"> <li>1. Turn OFF the ignition.</li> <li>2. Connect a 10 amp fused jumper wire between the ignition positive voltage circuit of the appropriate switch and the backup lamp supply voltage circuit of the appropriate switch.</li> <li>3. Turn ON the ignition, with the engine OFF.</li> </ol> <p>Do the backup lamps illuminate?</p>	Go to <b>Step 7</b>	Go to <b>Step 11</b>
7	<p>Inspect for poor connections at the harness connector of the appropriate switch. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 13</b>	Go to <b>Step 12</b>
8	<p>Repair an open or high resistance in the ground circuit of the inoperative backup lamp. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you complete the repair?</p>	Go to <b>Step 13</b>	-
9	<p>Repair an open or high resistance in the backup lamp supply voltage circuit of the inoperative backup lamp. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you complete the repair?</p>	Go to <b>Step 13</b>	-

10	Repair an open, high resistance, or short to ground in the ignition positive voltage circuit of the appropriate switch. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	Go to <b>Step 13</b>	-
11	Repair an open or high resistance in the backup lamp supply voltage circuit between the appropriate switch and the backup lamps. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	Go to <b>Step 13</b>	-
12	Replace the appropriate switch. Refer to <b>Backup Lamp Switch Replacement</b> in Manual Transmission or <b>Park/Neutral Position Switch Replacement</b> and <b>Park/Neutral Position Switch Replacement</b> in Automatic Transaxle. Did you complete the replacement?	Go to <b>Step 13</b>	-
13	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to <b>Step 2</b>

## COURTESY LAMPS ALWAYS ON

### Courtesy Lamps Always On

Step	Action	Yes	No
<b>Schematic Reference: Interior Lights Schematics</b>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	<ol style="list-style-type: none"> <li>1. Ensure the instrument panel dimmer switch is not in the ON position.</li> <li>2. Close all of the vehicle doors.</li> <li>3. Wait 20 seconds.</li> </ol> Are the courtesy lamps illuminated?	Go to <b>Step 3</b>	Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems
3	Use the Scan Tool in order to command the courtesy lamps OFF. Do the courtesy lamps turn OFF?	Go to <b>Step 4</b>	Go to <b>Step 6</b>
4	<ol style="list-style-type: none"> <li>1. Close all of the vehicle doors.</li> <li>2. With a scan tool, observe the Driver Door Ajar Sw. parameter and the Passenger Door Ajar Sw. parameter in the Lamp Status data list.</li> </ol> Does the scan tool indicate that both parameters are OFF?	Go to <b>Step 13</b>	Go to <b>Step 5</b>
5	Does the scan tool indicate that the Driver Door Ajar Sw. parameter is ON?	Go to <b>Step 8</b>	Go to <b>Step 9</b>
	Disconnect the instrument panel dimmer switch.	Go to	

6	Are the courtesy lamps illuminated?	<b>Step 7</b>	Go to <b>Step 12</b>
7	<ol style="list-style-type: none"> <li>1. Disconnect the body control module (BCM).</li> <li>2. Test the courtesy lamp low control circuit for a short to ground. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</li> </ol> <p>Did you find and correct the condition?</p>	Go to <b>Step 17</b>	Go to <b>Step 13</b>
8	<ol style="list-style-type: none"> <li>1. Disconnect the driver door jamb switch.</li> <li>2. Observe the Driver Door Ajar Sw. parameter as you disconnect the switch.</li> </ol> <p>Does the scan tool indicate that the Driver Door Ajar Sw. parameter is OFF when the driver door jamb switch is disconnected?</p>	Go to <b>Step 15</b>	Go to <b>Step 10</b>
9	<ol style="list-style-type: none"> <li>1. Disconnect the passenger door jamb switches one at a time.</li> <li>2. Observe the Passenger Door Ajar Sw. parameter as you disconnect each switch.</li> </ol> <p>Does the scan tool indicate that the Passenger Door Ajar Sw. parameter is OFF when one of the passenger door jamb switches is disconnected?</p>	Go to <b>Step 15</b>	Go to <b>Step 11</b>
10	<p>Test the driver's door jamb switch signal circuit for a short to ground. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 17</b>	Go to <b>Step 13</b>
11	<p>Test the passenger's door jamb switch signal circuit for a short to ground. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 17</b>	Go to <b>Step 13</b>
12	<p>Inspect for poor connections at the harness connector of the instrument panel dimmer switch. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 17</b>	Go to <b>Step 14</b>
13	<p>Inspect for poor connections at the harness connector of the BCM. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 17</b>	Go to <b>Step 16</b>
14	<p>Replace the instrument panel dimmer switch. Refer to <b>Instrument Panel (I/P) Dimmer Switch Replacement</b> .</p> <p>Did you complete the replacement?</p>	Go to <b>Step 17</b>	-
	Replace the inoperative door jamb switch. Refer to <b>Door</b>		

15	<b>Jamb Switch Replacement - Front .</b> Did you complete the replacement?	Go to <b>Step 17</b>	-
16	<b>IMPORTANT:</b> <b>Perform the set up procedure for the body control module.</b>  Replace the body control module. Refer to <b>Body Control Module Replacement</b> in Body Control System. Did you complete the replacement?	Go to <b>Step 17</b>	-
17	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to <b>Step 2</b>

## COURTESY LAMPS INOPERATIVE

### Courtesy Lamps Inoperative

Step	Action	Yes	No
<b>Schematic Reference: Interior Lights Schematics</b>			
DEFINITION: Courtesy lamps are inoperative from the door jamb switch or switches only.			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	<ol style="list-style-type: none"> <li>1. Turn ON the ignition, with the engine OFF.</li> <li>2. Open and close all of the vehicle doors.</li> <li>3. Observe the courtesy lamps.</li> </ol> Do the courtesy lamps illuminate when each door is opened?	Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems	Go to <b>Step 3</b>
3	Are the courtesy lamps inoperative from the driver's door?	Go to <b>Step 5</b>	Go to <b>Step 4</b>
4	Are the courtesy lamps inoperative from all of the passenger doors?	Go to <b>Step 7</b>	Go to <b>Step 6</b>
5	<ol style="list-style-type: none"> <li>1. Close all of the vehicle doors, except the driver.</li> <li>2. Disconnect the driver door jamb switch.</li> <li>3. Connect a 3 amp fused jumper wire between the door jamb switch signal wire and a good ground.</li> </ol> Do the courtesy lamps illuminate?	Go to <b>Step 8</b>	Go to <b>Step 9</b>
	<ol style="list-style-type: none"> <li>1. Close all of the vehicle doors, except the inoperative door.</li> <li>2. Disconnect the inoperative door jamb switch.</li> </ol>		

6	<p>3. Connect a 3 amp fused jumper wire between the door jamb switch signal wire and a good ground.</p> <p>Do the courtesy lamps illuminate?</p>	Go to <b>Step 8</b>	Go to <b>Step 9</b>
7	<p>Test the passenger door jamb switch signal circuit for an open or high resistance between the body control module (BCM) and splice 290. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 14</b>	Go to <b>Step 11</b>
8	<p>Test the ground circuit of the inoperative door jamb switch for an open or high resistance. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 14</b>	Go to <b>Step 10</b>
9	<p>Test the inoperative door jamb switch signal circuit for an open or high resistance. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 14</b>	Go to <b>Step 11</b>
10	<p>Inspect for poor connections at the harness connector of the inoperative door jamb switch. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 14</b>	Go to <b>Step 12</b>
11	<p>Inspect for poor connections at the harness connector of the body control module (BCM). Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 14</b>	Go to <b>Step 13</b>
12	<p>Replace the inoperative door jamb switch. Refer to <b>Door Jamb Switch Replacement - Front</b> .</p> <p>Did you complete the replacement?</p>	Go to <b>Step 14</b>	-
13	<p><b>IMPORTANT:</b> <b>Perform the set up procedure for the body control module.</b></p> <p>Replace the body control module. Refer to <b>Body Control Module Replacement</b> in Body Control System. Did you complete the replacement?</p>	Go to <b>Step 14</b>	-
14	<p>Operate the system in order to verify the repair.</p> <p>Did you correct the condition?</p>	System OK	Go to <b>Step 3</b>

## DAYTIME RUNNING LAMPS (DRL) INDICATOR INOPERATIVE

### Daytime Running Lamps (DRL) Indicator Inoperative

Step	Action	Yes	No
<b>Schematic Reference: <u>Headlights/Daytime Running Lights (DRL) Schematics (w/ T82)</u></b> <b><u>Headlights/Daytime Running Lights (DRL) Schematics (w/o T82)</u></b>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	<ol style="list-style-type: none"> <li>Place the headlamp switch in the OFF position.</li> <li>Turn ON the ignition switch, with the engine OFF.</li> <li>Ensure the parking brake is disengaged.</li> <li>With the brake pedal pressed, place the gear selector in the REVERSE position.</li> </ol> <p>Does the daytime running lights (DRL) indicator illuminate?</p>	Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems	Go to <b>Step 3</b>
3	Are the daytime running lights illuminated?	Go to <b>Step 4</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
4	With a scan tool, select Instrument Panel Cluster (IPC), Special Functions, Lamp and Gauge Test, turn ON the IPC lamps. Does the DRL indicator illuminate?	Go to <b>Step 7</b>	Go to <b>Step 5</b>
5	Check for a burned filament in the DRL indicator bulb. Is the bulb OK?	Go to <b>Step 6</b>	Go to <b>Step 8</b>
6	Inspect for poor connections at the harness connector of the IPC harness connector. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Conditions. Did you find and correct the condition?	Go to <b>Step 11</b>	Go to <b>Step 9</b>
7	Inspect for poor connections at the harness connector of the body control module (BCM) harness connector. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 11</b>	Go to <b>Step 10</b>
8	Replace the bulb. Refer to <b>Instrument Cluster Lamp Replacement</b> in Instrument Panel, Gages, and Console. Did you complete the replacement?	Go to <b>Step 11</b>	-



9	Replace the IPC. Refer to <b><u>Instrument Panel Cluster (IPC) Replacement</u></b> in Instrument Panel, Gages, and Console. Did you complete the replacement?	Go to <b>Step 11</b>	-
10	<b>IMPORTANT:</b> <b>Perform the setup procedure for the BCM.</b> Replace the BCM. Refer to <b><u>Body Control Module Replacement</u></b> in Body Control Systems. Did you complete the replacement?	Go to <b>Step 11</b>	-
11	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to <b>Step 3</b>

## DAYTIME RUNNING LAMPS (DRL) INOPERATIVE

### Daytime Running Lamps (DRL) Inoperative

Step	Action	Yes	No
<b>Schematic Reference: <u>Headlights/Daytime Running Lights (DRL) Schematics (w/ T82)</u></b> <b><u>Headlights/Daytime Running Lights (DRL) Schematics (w/o T82)</u></b>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	<ol style="list-style-type: none"> <li>1. Turn ON the ignition, with the engine OFF.</li> <li>2. Place the headlamp switch in the OFF position.</li> <li>3. Block the wheels.</li> <li>4. Ensure the parking brake is disengaged.</li> <li>5. Place the transaxle in neutral.</li> </ol> Do the daytime running lamps (DRL) illuminate?	Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems	Go to <b>Step 3</b>
3	<ol style="list-style-type: none"> <li>1. Disconnect the DRL resistor.</li> <li>2. Connect a 15 amp fused jumper wire between the ground circuit of the DRL relay at the DRL resistor connector and a good ground.</li> </ol> Are the headlamps illuminated?	Go to <b>Step 4</b>	Go to <b>Step 5</b>
4	Connect a 15 amp fused jumper wire between the ground circuit of the DRL relay at the DRL resistor connector and the ground circuit at the DRL resistor connector. Are the headlamps illuminated?	Go to <b>Step 7</b>	Go to <b>Step 8</b>
	Test the ground circuit of the DRL relay for an		

5	open or high resistance. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 11</b>	Go to <b>Step 6</b>
6	Inspect for poor connections at the DRL relay. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 11</b>	Go to <b>Step 9</b>
7	Inspect for poor connections at the harness connector of the DRL resistor. Refer to <b>Underhood Electrical Center or Junction Block Replacement</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 11</b>	Go to <b>Step 10</b>
8	Repair an open or high resistance in the ground circuit of the DRL resistor. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	Go to <b>Step 11</b>	-
9	Replace the DRL relay. Refer to <b>Relay Replacement (Within an Electrical Center)</b> and <b>Relay Replacement (Attached to Wire Harness)</b> in Wiring Systems. Did you complete the replacement?	Go to <b>Step 11</b>	-
10	Replace the DRL resistor. Did you complete the replacement?	Go to <b>Step 11</b>	-
11	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to <b>Step 2</b>

## DOMES LAMPS INOPERATIVE

### Dome Lamps Inoperative

Step	Action	Yes	No
<b>Schematic Reference: Interior Lights Schematics</b> DEFINITION: Only the dome lamp is inoperative.			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	Place the instrument panel dimmer switch in the ON position. Does the dome lamp illuminate?	Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems	Go to <b>Step 3</b>
3	1. Disconnect the dome lamp assembly. 2. Probe the courtesy lamp supply voltage circuit with a test lamp that is connected to a good ground.		

	Does the test lamp illuminate?	Go to <b>Step 4</b>	Go to <b>Step 6</b>
4	Connect the test lamp between the courtesy lamp supply voltage circuit and the courtesy lamp low control circuit. Does the test lamp illuminate?	Go to <b>Step 5</b>	Go to <b>Step 7</b>
5	Inspect for poor connections at the harness connector of the dome lamp assembly. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 9</b>	Go to <b>Step 8</b>
6	Repair an open, high resistance, or short to ground in the courtesy lamp supply voltage circuit. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	Go to <b>Step 9</b>	-
7	Repair an open or high resistance in the courtesy lamp low control circuit. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	Go to <b>Step 9</b>	-
8	Replace the dome lamp assembly. Refer to <b>Dome Lamp Replacement</b> . Did you complete the replacement?	Go to <b>Step 9</b>	-
9	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to <b>Step 3</b>

## FOG LAMPS ALWAYS ON

### Fog Lamps Always On

Step	Action	Yes	No
<b>Schematic Reference:</b> <u>Fog Lights Schematics</u>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	1. Turn ON the ignition, with the engine OFF. 2. Place the fog lamp switch in the OFF position. 3. Place the headlamp switch in the OFF position.  Do the fog lamps remain illuminated?	Go to <b>Step 3</b>	Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems
3	Disconnect the fog lamp relay. Did the fog lamps turn off?	Go to <b>Step 4</b>	Go to <b>Step 6</b>
4	Test the fog lamp relay control circuit for a short to ground. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.	Go to	

	Did you find and correct the condition?	<b>Step 8</b>	Go to <b>Step 5</b>
5	Inspect for poor connections at the fog lamp relay. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 8</b>	Go to <b>Step 7</b>
6	Repair a short to voltage in the front fog lamp supply voltage circuit. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	Go to <b>Step 8</b>	-
7	Replace the fog lamp relay. Refer to <b>Relay Replacement (Within an Electrical Center)</b> and <b>Relay Replacement (Attached to Wire Harness)</b> in Wiring Systems. Did you complete the replacement?	Go to <b>Step 8</b>	-
8	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to <b>Step 3</b>

## FOG LAMPS INOPERATIVE

### Fog Lamps Inoperative

Step	Action	Yes	No
<b>Schematic Reference: Fog Lights Schematics</b>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	<ol style="list-style-type: none"> <li>Turn ON the ignition, with the engine OFF.</li> <li>Place the headlamp switch in the HEADLAMP position.</li> <li>Place the fog lamp switch in the ON position.</li> </ol> Do both fog lamps illuminate?	Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems	Go to <b>Step 3</b>
3	Is only one lamp inoperative?	Go to <b>Step 4</b>	Go to <b>Step 5</b>
4	<ol style="list-style-type: none"> <li>Disconnect the inoperative fog lamp.</li> <li>Probe the front fog lamps supply voltage circuit with a test lamp that is connected to a good ground.</li> </ol> Does the test lamp illuminate?	Go to <b>Step 16</b>	Go to <b>Step 19</b>
5	With a scan tool, command the fog lamps ON. Do the fog lamps illuminate?	Go to <b>Step 10</b>	Go to <b>Step 6</b>
	<ol style="list-style-type: none"> <li>Disconnect the fog lamps relay.</li> <li>Probe the coil side voltage supply circuit of</li> </ol>		

6	<p>the fog lamp relay with a test lamp that is connected to a good ground.</p> <p>Does the test lamp illuminate?</p>	Go to <b>Step 7</b>	Go to <b>Step 18</b>
7	<p>Probe the fog lamp relay control circuit of the fog lamp relay with a test lamp that is connected to battery positive voltage.</p> <p>Does the test lamp illuminate?</p>	Go to <b>Step 8</b>	Go to <b>Step 13</b>
8	<p>Connect a 10 amp fused jumper wire between the switch side battery positive voltage circuit of the fog lamp relay and the front fog lamps supply voltage circuit of the fog lamp relay.</p> <p>Do the fog lamps illuminate?</p>	Go to <b>Step 17</b>	Go to <b>Step 9</b>
9	<ol style="list-style-type: none"> <li>1. Leave the fused jumper wire connected.</li> <li>2. Disconnect one of the fog lamps.</li> <li>3. Probe the front fog lamps supply voltage circuit of the disconnected fog lamp with a test lamp that is connected to a good ground.</li> </ol> <p>Does the test lamp illuminate?</p>	Go to <b>Step 21</b>	Go to <b>Step 22</b>
10	<ol style="list-style-type: none"> <li>1. Disconnect the fog lamp switch.</li> <li>2. Connect a 3 amp fused jumper wire between the front fog lamp switch signal circuit and a good ground.</li> </ol> <p>Do the fog lamps illuminate?</p>	Go to <b>Step 11</b>	Go to <b>Step 12</b>
11	<p>Test the ground circuit of the fog lamp switch for an open or high resistance. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 26</b>	Go to <b>Step 14</b>
12	<p>Test the front fog lamp switch signal circuit for an open or high resistance. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 26</b>	Go to <b>Step 15</b>
13	<p>Test the fog lamp relay control circuit for an open or high resistance. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 26</b>	Go to <b>Step 15</b>
14	<p>Inspect for poor connections at the harness connector of the fog lamp switch. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 26</b>	Go to <b>Step 23</b>

15	<p>Inspect for poor connections at the harness connector of the body control module (BCM). Refer to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> and <b><u>Connector Repairs</u></b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 26</b>	Go to <b>Step 24</b>
16	<p>Inspect for poor connections at the harness connector of the inoperative fog lamp. Refer to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> and <b><u>Connector Repairs</u></b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 26</b>	Go to <b>Step 19</b>
17	<p>Inspect for poor connections at the fog lamp relay. Refer to <b><u>Testing for Intermittent Conditions and Poor Connections</u></b> and <b><u>Connector Repairs</u></b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 26</b>	Go to <b>Step 25</b>
18	<p>Repair an open, high resistance, or short to ground in the coil side voltage supply circuit of the fog lamp relay. Refer to <b><u>Circuit Testing</u></b> and <b><u>Wiring Repairs</u></b> in Wiring Systems.</p> <p>Did you complete the repair?</p>	Go to <b>Step 26</b>	-
19	<p>Repair an open or high resistance in the front fog lamp supply voltage circuit of the inoperative fog lamp. Refer to <b><u>Circuit Testing</u></b> and <b><u>Wiring Repairs</u></b> in Wiring Systems.</p> <p>Did you complete the repair?</p>	Go to <b>Step 26</b>	-
20	<p>Repair an open or high resistance in the ground circuit of the inoperative fog lamp. Refer to <b><u>Circuit Testing</u></b> and <b><u>Wiring Repairs</u></b> in Wiring Systems.</p> <p>Did you complete the repair?</p>	Go to <b>Step 26</b>	-
21	<p>Repair an open or high resistance in the ground circuit of the front fog lamps. Refer to <b><u>Circuit Testing</u></b> and <b><u>Wiring Repairs</u></b> in Wiring Systems.</p> <p>Did you complete the repair?</p>	Go to <b>Step 26</b>	-
22	<p>Repair an open or high resistance in the front fog lamps supply voltage circuit. Refer to <b><u>Circuit Testing</u></b> and <b><u>Wiring Repairs</u></b> in Wiring Systems.</p> <p>Did you complete the repair?</p>	Go to <b>Step 26</b>	-
23	<p>Replace the fog lamp switch. Refer to <b><u>Fog Lamp Switch Replacement - Front</u></b> .</p> <p>Did you complete the replacement?</p>	Go to <b>Step 26</b>	-
24	<p><b>IMPORTANT:</b> Perform the set up procedure for the body control module.</p>		-

	Replace the body control module. Refer to <b>Body Control Module Replacement</b> in Body Control System. Did you complete the replacement?	Go to <b>Step 26</b>	
25	Replace the fog lamp relay. Refer to <b>Relay Replacement (Within an Electrical Center) Relay Replacement (Attached to Wire Harness)</b> in Wiring Systems. Did you complete the replacement?	Go to <b>Step 26</b>	-
26	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to <b>Step 3</b>

## HAZARD LAMPS INOPERATIVE

### Hazard Lamps Inoperative

Step	Action	Yes	No
<b>Schematic Reference: Exterior Lights Schematics</b>			
DEFINITION: Hazard lamps are inoperative. Turn signal lamps may also be inoperative.			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	<ol style="list-style-type: none"> <li>1. Turn ON the ignition, with the engine OFF.</li> <li>2. Place the hazard lamp switch to the ON position.</li> </ol> Do all of the turn signal lamps flash on and off?	Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems	Go to <b>Step 3</b>
3	<ol style="list-style-type: none"> <li>1. Disconnect the turn/hazard-headlamp switch.</li> <li>2. Probe the hazard flasher signal circuit of the turn/hazard-headlamp switch with a test lamp that is connected to a good ground.</li> </ol> Does the test lamp illuminate and flash?	Go to <b>Step 7</b>	Go to <b>Step 4</b>
4	<ol style="list-style-type: none"> <li>1. Disconnect the turn/hazard-flasher.</li> <li>2. Probe the battery positive voltage circuit of the turn/hazard-flasher with a test lamp that is connected to a good ground.</li> </ol> Does the test lamp illuminate?	Go to <b>Step 5</b>	Go to <b>Step 9</b>
5	Connect a test lamp between the battery positive voltage circuit of the turn/hazard-flasher and the ground circuit of the turn/hazard-flasher. Does the test lamp illuminate?	Go to <b>Step 6</b>	Go to <b>Step 10</b>
6	Test for an open, high resistance, or short to ground in the hazard flasher signal circuit. Refer to <b>Circuit</b>		

	<b>Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 13</b>	Go to <b>Step 7</b>
7	Inspect for poor connections at the harness connector of the turn/hazard-headlamp switch. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 13</b>	Go to <b>Step 11</b>
8	Inspect for poor connections at the harness connector of the turn/hazard-flasher. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 13</b>	Go to <b>Step 12</b>
9	Repair an open, high resistance, or short to ground in the battery positive voltage circuit of the turn/hazard-flasher. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	Go to <b>Step 13</b>	-
10	Repair an open or high resistance in the ground circuit of the turn/hazard-flasher. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	Go to <b>Step 13</b>	-
11	Replace the turn hazard headlamp switch. Refer to <b>Multifunction, Turn Signal Switch Replacement</b> in Steering Wheel and Column. Did you complete the replacement?	Go to <b>Step 13</b>	-
12	Replace the turn/hazard-flasher. Did you complete the replacement?	Go to <b>Step 13</b>	-
13	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to <b>Step 3</b>

## HEADLAMPS INOPERATIVE - HIGH BEAMS

### Headlamps Inoperative - High Beams

Step	Action	Yes	No
<b>Schematic Reference:Headlights/Daytime Running Lights (DRL) Schematics (w/ T82) Headlights/Daytime Running Lights (DRL) Schematics (w/o T82)</b>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	1. Place the headlamp switch in the HEADLAMP position. 2. Place the headlamp dimmer switch in the HIGH position.	Go to <b>Testing for Intermittent Conditions</b>	



	Do the high beam headlamps illuminate?	<b>and Poor Connections</b> in Wiring Systems	Go to <b>Step 3</b>
3	Inspect for poor connections at the harness connector of the headlamp switch. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 5</b>	Go to <b>Step 4</b>
4	Replace the headlamp switch. Refer to <b>Multifunction, Turn Signal Switch Replacement</b> in Steering Wheel and Column. Did you complete the replacement?	Go to <b>Step 5</b>	-
5	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to <b>Step 3</b>

## HEADLAMPS INOPERATIVE - LOW BEAMS

### Headlamps Inoperative - Low Beams

Step	Action	Yes	No
<b>Schematic Reference:Headlights/Daytime Running Lights (DRL) Schematics (w/ T82)</b>			
<b>Headlights/Daytime Running Lights (DRL) Schematics (w/o T82)</b>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	1. Place the headlamp switch in the HEADLAMP position. 2. Place the headlamp dimmer switch in the LOW position.  Do the low beam headlamps illuminate?	Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems	Go to <b>Step 3</b>
3	Inspect for poor connections at the harness connector of the headlamp switch. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 5</b>	Go to <b>Step 4</b>
4	Replace the headlamp switch. Refer to <b>Multifunction, Turn Signal Switch Replacement</b> in Steering Wheel and Column. Did you complete the replacement?	Go to <b>Step 5</b>	-
5	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to <b>Step 3</b>

## HEADLAMPS INOPERATIVE - LOW AND HIGH BEAMS

## Headlamps Inoperative - Low and High Beams

Step	Action	Yes	No
<b>Schematic Reference:Headlights/Daytime Running Lights (DRL) Schematics (w/ T82)</b> <b>Headlights/Daytime Running Lights (DRL) Schematics (w/o T82)</b>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	<ol style="list-style-type: none"> <li>1. Place the headlamp switch in the HEADLAMP position.</li> <li>2. Place the headlamp dimmer switch in the LOW position.</li> <li>3. Observe the headlamps.</li> <li>4. Place the headlamp dimmer switch in the HIGH position.</li> <li>5. Observe the headlamps.</li> </ol> <p>Do both the low and high beam headlamps illuminate?</p>	Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems	Go to <b>Step 3</b>
3	<p>Test the headlamp ground circuit of the headlamp switch for an open or high resistance. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 6</b>	Go to <b>Step 4</b>
4	<p>Inspect for poor connections at the harness connector of the headlamp switch. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 6</b>	Go to <b>Step 5</b>
5	<p>Replace the headlamp switch. Refer to <b>Multifunction, Turn Signal Switch Replacement</b> in Steering Wheel and Column.</p> <p>Did you complete the replacement?</p>	Go to <b>Step 6</b>	-
6	<p>Operate the system in order to verify the repair.</p> <p>Did you correct the condition?</p>	System OK	Go to <b>Step 3</b>

## HEADLAMPS INOPERATIVE - FLASH TO PASS

### Headlamps Inoperative - Flash to Pass

Step	Action	Yes	No
<b>Schematic Reference:Headlights/Daytime Running Lights (DRL) Schematics (w/ T82)</b> <b>Headlights/Daytime Running Lights (DRL) Schematics (w/o T82)</b>			
1	Did you perform the Lighting System Diagnostic System Check?		Go to <b>Diagnostic System Check -</b>

		Go to <b>Step 2</b>	<u>Lighting Systems</u>
2	<ol style="list-style-type: none"> <li>Place the headlamp switch in the HEADLAMP position.</li> <li>Place the multifunction lever in the FLASH TO PASS position.</li> </ol> <p>Do the high beam headlamps illuminate?</p>	Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems	Go to <b>Step 3</b>
3	<p>Test for an open or high resistance in the flash to pass ground circuit of the headlamp switch. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 6</b>	Go to <b>Step 4</b>
4	<p>Inspect for poor connections at the harness connector of the headlamp switch. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 6</b>	Go to <b>Step 5</b>
5	<p>Replace the headlamp switch. Refer to <b>Multifunction, Turn Signal Switch Replacement</b> in Steering Wheel and Column.</p> <p>Did you complete the repair?</p>	Go to <b>Step 6</b>	-
6	<p>Operate the system in order to verify the repair.</p> <p>Did you correct the condition?</p>	System OK	Go to <b>Step 3</b>

## HIGH BEAM INDICATOR INOPERATIVE

### High Beam Indicator Inoperative

Step	Action	Yes	No
<b>Schematic Reference:Headlights/Daytime Running Lights (DRL) Schematics (w/ T82)</b>			
<b>Headlights/Daytime Running Lights (DRL) Schematics (w/o T82)</b>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	<ol style="list-style-type: none"> <li>Turn ON the ignition, with the engine OFF.</li> <li>Using a scan tool, command the high beam indicator on.</li> <li>Observe the high beam indicator on the instrument cluster.</li> </ol> <p>Does the indicator illuminate?</p>	Go to <b>Step 3</b>	Go to <b>Step 4</b>
	<ol style="list-style-type: none"> <li>Place the headlamp switch in the HEADLAMP position.</li> </ol>		

3	2. Place the headlamp dimmer switch in the HIGH position. Does the indicator illuminate?	Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems	Go to <b>Step 6</b>
4	Inspect the high beam indicator bulb for an open filament. Did you find an inoperative bulb?	Go to <b>Step 8</b>	Go to <b>Step 5</b>
5	Inspect for poor connections at the harness connector of the instrument panel cluster (IPC). Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 10</b>	Go to <b>Step 7</b>
6	Inspect for poor connections at the harness connector of the body control module (BCM). Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 10</b>	Go to <b>Step 9</b>
7	Replace the IPC. Refer to <b>Instrument Panel Cluster (IPC) Replacement</b> in Instrument Panel, Gages and Console. Did you complete the replacement?	Go to <b>Step 10</b>	-
8	Replace the high beam indicator bulb. Refer to <b>Instrument Cluster Lamp Replacement</b> in Instrument Panel, Gages, and Console. Did you complete the replacement?	Go to <b>Step 10</b>	-
9	<b>IMPORTANT:</b> <b>Perform the set up procedure for the body control module.</b> Replace the BCM. Refer to <b>Body Control Module Replacement</b> in Body Control Systems. Did you complete the replacement?	Go to <b>Step 10</b>	-
10	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to <b>Step 2</b>

## ILLUMINATED ENTRY LAMPS INOPERATIVE

### Illuminated Entry Lamps Inoperative

Step	Action	Yes	No
<b>Schematic Reference: Interior Lights Schematics</b>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>

2	<ol style="list-style-type: none"> <li>1. Turn OFF the ignition.</li> <li>2. Lock all of the vehicle doors.</li> <li>3. Close all of the vehicle doors.</li> <li>4. Wait 20 seconds.</li> <li>5. Press the unlock button on the remote keyless entry transmitter.</li> </ol> <p>Do the courtesy lamps illuminate?</p>	<p>Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems</p>	<p>Go to <b>Step 3</b></p>
3	<p>Does the driver door unlock?</p>	<p>Go to <b>Step 4</b></p>	<p>Go to <b>Symptoms - Keyless Entry</b> in Keyless Entry</p>
4	<p><b>IMPORTANT:</b> Perform the set up procedure for the body control module.</p> <p>Replace the body control module. Refer to <b>Body Control Module Replacement</b> in Body Control System. Did you complete the replacement?</p>	<p>Go to <b>Step 5</b></p>	<p>-</p>
5	<p>Operate the system in order to verify the repair.</p> <p>Did you correct the condition?</p>	<p>System OK</p>	<p>Go to <b>Step 3</b></p>

## PARK LAMPS ALWAYS ON

### Park Lamps Always On

Step	Action	Yes	No
<b>Schematic Reference: Exterior Lights Schematics</b>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	Place the headlamp switch in the OFF position. Are the park lamps illuminated?	Go to <b>Step 3</b>	Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems
3	Disconnect the headlamp switch. Are the park lamps illuminated?	Go to <b>Step 5</b>	Go to <b>Step 4</b>
4	Inspect for poor connections at the harness connector of the headlamp switch. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 7</b>	Go to <b>Step 6</b>
5	Repair a short to voltage in the park lamp supply voltage circuit. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.	Go to	-

	Did you complete the repair?	<b>Step 7</b>	
6	Replace the headlamp switch. Refer to <b>Multifunction, Turn Signal Switch Replacement</b> in Steering Wheel and Column. Did you complete the replacement?	Go to <b>Step 7</b>	-
7	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to <b>Step 3</b>

## PARK LAMPS INOPERATIVE

### Park Lamps Inoperative

Step	Action	Yes	No
<b>Schematic Reference: Exterior Lights Schematics</b>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	Place the headlamp switch in the PARK position. Do the park lamps illuminate?	Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems	Go to <b>Step 3</b>
3	Is only one lamp inoperative?	Go to <b>Step 4</b>	Go to <b>Step 5</b>
4	1. Disconnect the inoperative lamp. 2. Probe the park lamp supply voltage circuit of the inoperative lamp with a test lamp that is connected to a good ground.  Does the test lamp illuminate?	Go to <b>Step 12</b>	Go to <b>Step 13</b>
5	Are all of the park lamps inoperative?	Go to <b>Step 6</b>	Go to <b>Step 7</b>
6	1. Turn ON the ignition, with the engine OFF. 2. With a scan tool, observe the Park Lamp Input parameter in the Lamp Status data list.  Does the scan tool display the Park Lamp Input parameter as On?	Go to <b>Step 14</b>	Go to <b>Step 10</b>
7	Are the front park lamps inoperative?	Go to <b>Step 8</b>	Go to <b>Step 9</b>
8	Test for an open or high resistance in the park lamp supply voltage circuit between splice 216 and the front park lamps. Refer to <b>Circuit Testing and Wiring Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 18</b>	Go to <b>Step 15</b>
9	Test for an open or high resistance in the park lamp supply voltage circuit between splice 216 and the rear park lamps. Refer to <b>Circuit Testing and Wiring Repairs</b> in Wiring Systems.		

	Did you find and correct the condition?	Go to <b>Step 18</b>	Go to <b>Step 16</b>
10	Test the park lamp supply voltage circuit for an open or high resistance between the headlamp switch and splice 216. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 18</b>	Go to <b>Step 11</b>
11	Inspect for poor connections at the harness connector of the headlamp switch. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 18</b>	Go to <b>Step 17</b>
12	Repair an open or high resistance in the ground circuit of the inoperative lamp. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	Go to <b>Step 18</b>	-
13	Repair an open, high resistance, or short to ground in the park lamp supply voltage circuit of the inoperative lamp. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	Go to <b>Step 18</b>	-
14	Repair an open or high resistance in the park lamp supply voltage circuit at splice 216. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	Go to <b>Step 18</b>	-
15	Repair an open or high resistance in the ground circuit of the front park lamps. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	Go to <b>Step 18</b>	-
16	Repair an open or high resistance in the ground circuit of the rear park lamps. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	Go to <b>Step 18</b>	-
17	Replace the headlamp switch. Refer to <b>Multifunction, Turn Signal Switch Replacement</b> in Steering Wheel and Column. Did you complete the repair?	Go to <b>Step 18</b>	-
18	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to <b>Step 3</b>

## STOP LAMPS INOPERATIVE

### Stop Lamps Inoperative

Step	Action	Yes	No
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**Schematic Reference: Exterior Lights Schematics**

1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	Press down the brake pedal. Do all of the stop lamps illuminate?	Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems	Go to <b>Step 3</b>
3	Is only one lamp inoperative?	Go to <b>Step 4</b>	Go to <b>Step 5</b>
4	1. Disconnect the inoperative stop lamp. 2. Probe the stop lamp supply voltage circuit of the inoperative lamp with a test lamp that is connected to a good ground. 3. Press down the brake pedal.  Does the test lamp illuminate?	Go to <b>Step 16</b>	Go to <b>Step 17</b>
5	Are all of the stop lamps, including the high mounted stop lamps, inoperative?	Go to <b>Step 6</b>	Go to <b>Step 8</b>
6	1. Disconnect the brake switch. 2. Probe the battery positive voltage circuit of the brake switch with a test lamp that is connected to a good ground.  Does the test lamp illuminate?	Go to <b>Step 7</b>	Go to <b>Step 18</b>
7	Connect a 20 amp fused jumper wire between the battery positive voltage circuit of the brake switch and the stop lamp supply voltage circuit. Do the stop lamps illuminate?	Go to <b>Step 12</b>	Go to <b>Step 19</b>
8	Are the high mounted stop lamps inoperative?	Go to <b>Step 9</b>	Go to <b>Step 11</b>
9	Test the stop lamp supply voltage circuit of the high mounted stop lamps for an open or high resistance. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 23</b>	Go to <b>Step 10</b>
10	Test the ground circuit of the high mounted stop lamps for an open or high resistance. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 23</b>	Go to <b>Step 15</b>
11	Test for an open or high resistance in the stop lamp supply voltage circuit between splice 206 and the turn/hazard-headlamp switch assembly. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.		



	Did you find and correct the condition?	Go to <b>Step 23</b>	Go to <b>Step 14</b>
12	Inspect for poor connections at the harness connector of the brake switch. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 23</b>	Go to <b>Step 13</b>
13	Inspect the brake switch for proper adjustment. Refer to <b>Stop Lamp Switch Adjustment</b> in Hydraulic Brakes. Did you find and correct the condition?	Go to <b>Step 23</b>	Go to <b>Step 20</b>
14	Inspect for poor connections at the harness connector of the turn/hazard-headlamp switch. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 23</b>	Go to <b>Step 21</b>
15	Inspect for poor connections at the harness connector of the high mounted stop lamps. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems. Did you find and correct the condition?	Go to <b>Step 23</b>	Go to <b>Step 22</b>
16	Repair an open or high resistance in the ground circuit of the inoperative lamp. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	Go to <b>Step 23</b>	-
17	Repair an open or high resistance in the stop lamp supply voltage circuit of the inoperative lamp. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	Go to <b>Step 23</b>	-
18	Repair an open, high resistance, or short to ground in the battery positive voltage circuit of the brake switch. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	Go to <b>Step 23</b>	-
19	Repair an open or high resistance in the stop lamp supply voltage circuit between the brake switch and splice 206. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	Go to <b>Step 23</b>	-
20	Replace the brake switch. Refer to <b>Stop Lamp Switch Replacement</b> in Hydraulic Brakes. Did you complete the replacement?	Go to <b>Step 23</b>	-
	Replace the turn/hazard-headlamp switch. Refer to <b>Multifunction, Turn Signal Switch Replacement</b>		

21	in Steering Wheel and Column. Did you complete the replacement?	Go to <b>Step 23</b>	-
22	Replace the high mounted stop lamp assembly. Refer to <b>High Mounted Stop Lamp Replacement</b> . Did you complete the replacement?	Go to <b>Step 23</b>	-
23	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to <b>Step 3</b>

## TURN SIGNAL LAMPS AND/OR INDICATORS INOPERATIVE

### Turn Signal Lamps and/or Indicators Inoperative

Step	Action	Yes	No
<b>Schematic Reference: Exterior Lights Schematics</b>			
1	Did you perform the Lighting System Diagnostic System Check?	Go to <b>Step 2</b>	Go to <b>Diagnostic System Check - Lighting Systems</b>
2	<ol style="list-style-type: none"> <li>1. Turn ON the ignition, with the engine OFF.</li> <li>2. Place the turn signal lever in the LEFT turn position.</li> <li>3. Place the turn signal lever in the RIGHT turn position.</li> </ol> Do the appropriate turn signal lamps and/or indicators illuminate for each action?	Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems	Go to <b>Step 3</b>
3	Is only one turn signal lamp inoperative?	Go to <b>Step 6</b>	Go to <b>Step 4</b>
4	Is only one of the turn signal indicators inoperative?	Go to <b>Step 5</b>	Go to <b>Step 7</b>
5	<ol style="list-style-type: none"> <li>1. Turn OFF the ignition.</li> <li>2. Disconnect the instrument panel cluster (IPC). Refer to <b>Instrument Panel Cluster (IPC) Replacement</b> in Instrument Panel, Gages, and Console.</li> <li>3. Turn ON the ignition, with the engine OFF.</li> <li>4. Probe the inoperative turn signal supply voltage circuit of the IPC with a test lamp that is connected to a good ground.</li> <li>5. Place the turn signal lever in the position of the inoperative indicator.</li> </ol> Does the test lamp illuminate and flash.	Go to <b>Step 10</b>	Go to <b>Step 14</b>
	<ol style="list-style-type: none"> <li>1. Disconnect the inoperative turn signal lamp.</li> <li>2. Probe the turn signal supply voltage circuit of</li> </ol>		

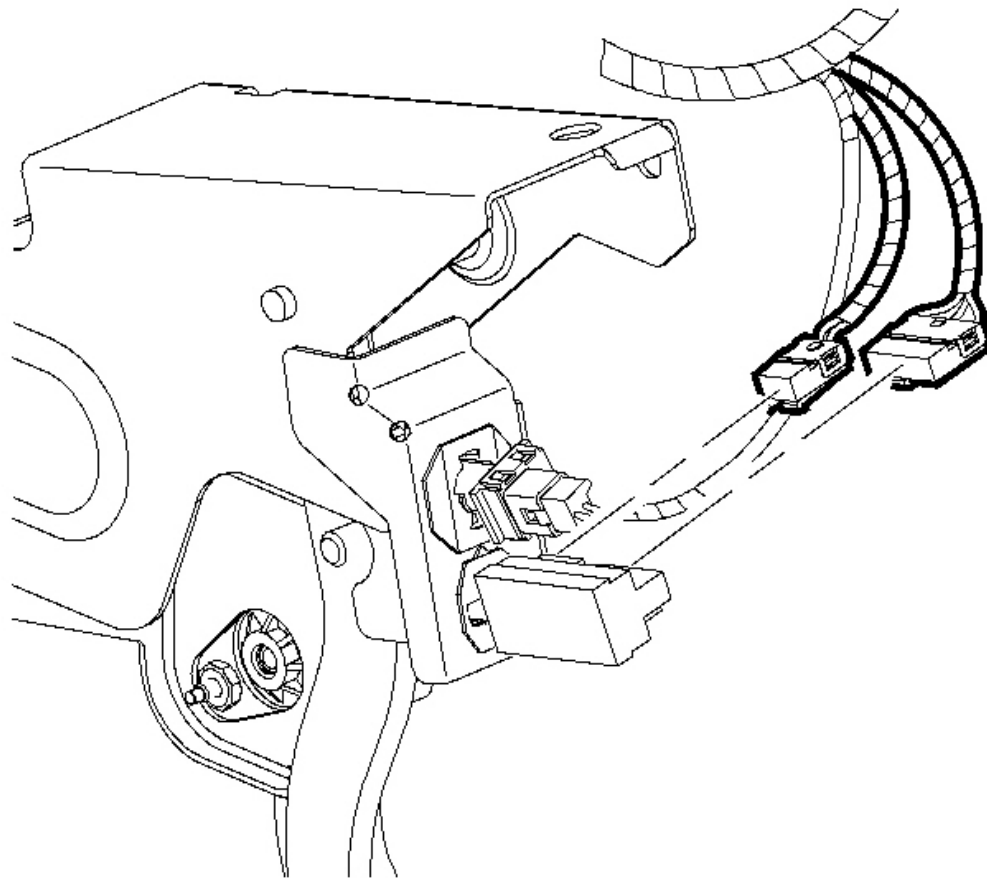
6	<p>the inoperative lamp with a test lamp that is connected to a good ground.</p> <p>3. Place the turn signal lever in the position of the inoperative lamp.</p> <p>Does the test lamp illuminate and flash?</p>	Go to <b>Step 15</b>	Go to <b>Step 16</b>
7	<p>Do the hazard lamps operate properly?</p>	Go to <b>Step 8</b>	Go to <b>Hazard Lamps Inoperative</b>
8	<p>1. Disconnect the turn/hazard-headlamp switch.</p> <p>2. Probe the turn signal flasher signal circuit with a test lamp that is connected to a good ground.</p> <p>Does the test lamp illuminate and flash?</p>	Go to <b>Step 12</b>	Go to <b>Step 9</b>
9	<p>Test the turn signal flasher signal circuit for an open, high resistance, or short to ground. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 21</b>	Go to <b>Step 13</b>
10	<p>Inspect the bulb of the inoperative turn signal indicator for an open filament.</p> <p>Did you find an inoperative bulb?</p>	Go to <b>Step 19</b>	Go to <b>Step 11</b>
11	<p>Inspect for poor connections at the harness connector of the IPC. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 21</b>	Go to <b>Step 17</b>
12	<p>Inspect for poor connections at the harness connector of the turn/hazard-headlamp switch. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 21</b>	Go to <b>Step 18</b>
13	<p>Inspect for poor connections at the harness connector of the turn/hazard-flasher. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to <b>Step 21</b>	Go to <b>Step 20</b>
14	<p>Repair an open, high resistance, or short to ground in the inoperative turn signal supply voltage circuit. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</p> <p>Did you complete the repair?</p>	Go to <b>Step 21</b>	-

15	Repair an open or high resistance in the ground circuit of the inoperative lamp. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	Go to <b>Step 21</b>	-
16	Repair an open, high resistance, or short to ground in the inoperative turn signal supply voltage circuit. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems. Did you complete the repair?	Go to <b>Step 21</b>	-
17	Replace the IPC. Refer to <b>Instrument Panel Cluster (IPC) Replacement</b> in Instrument Panel, Gages, and Console. Did you complete the replacement?	Go to <b>Step 21</b>	-
18	Replace the turn/hazard-headlamp switch. Refer to <b>Multifunction, Turn Signal Switch Replacement</b> in Steering Wheel and Column. Did you complete the replacement?	Go to <b>Step 21</b>	-
19	Replace the inoperative turn signal indicator bulb. Refer to <b>Instrument Cluster Lamp Replacement</b> in Instrument Panel, Gages, and Console. Did you complete the replacement?	Go to <b>Step 21</b>	-
20	Replace the turn/hazard-flasher. Did you complete the replacement?	Go to <b>Step 21</b>	-
21	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to <b>Step 3</b>

## REPAIR INSTRUCTIONS

### STOP LAMP SWITCH ADJUSTMENT

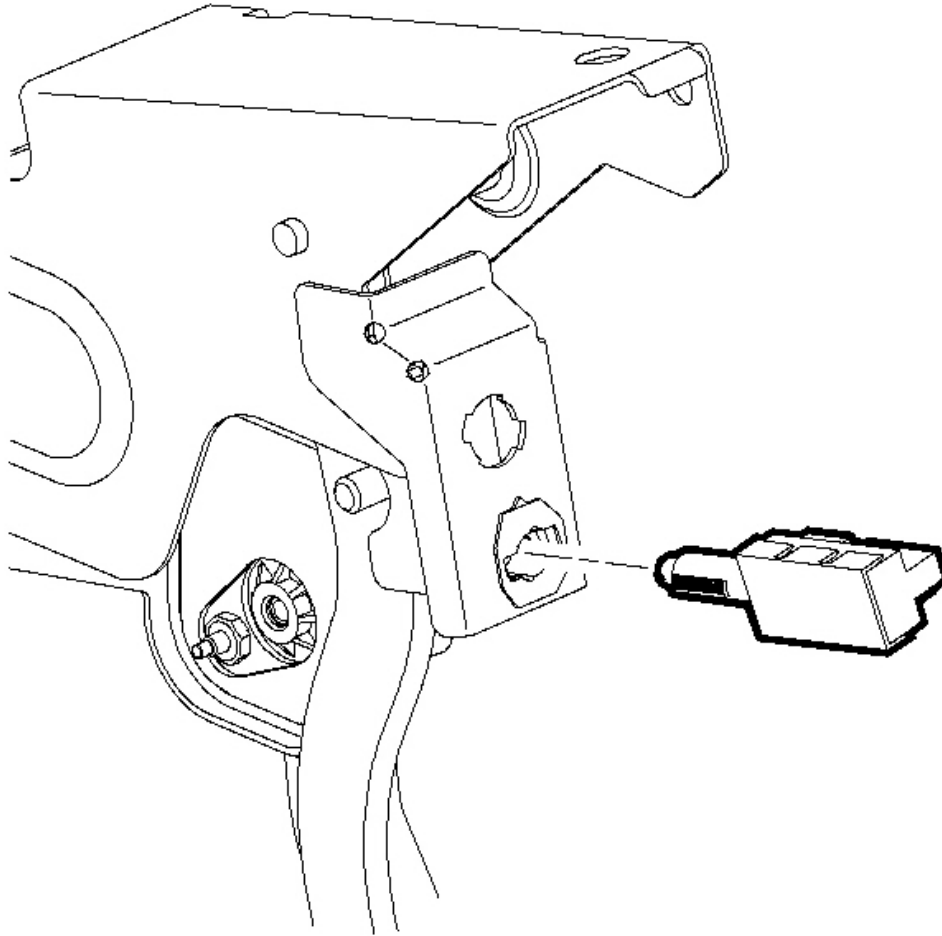
#### Adjustment Procedure



**Fig. 30: View Of Stop Lamp Switch**  
Courtesy of GENERAL MOTORS CORP.

**NOTE:** Proper stoplamp switch adjustment is essential. Improper stoplamp switch adjustment may cause brake drag, heat buildup and excessive brake lining wear.

1. Disconnect the electrical connector from the stop lamp switch.



**Fig. 31: Removing/Installing Switch To The Bracket**  
Courtesy of GENERAL MOTORS CORP.

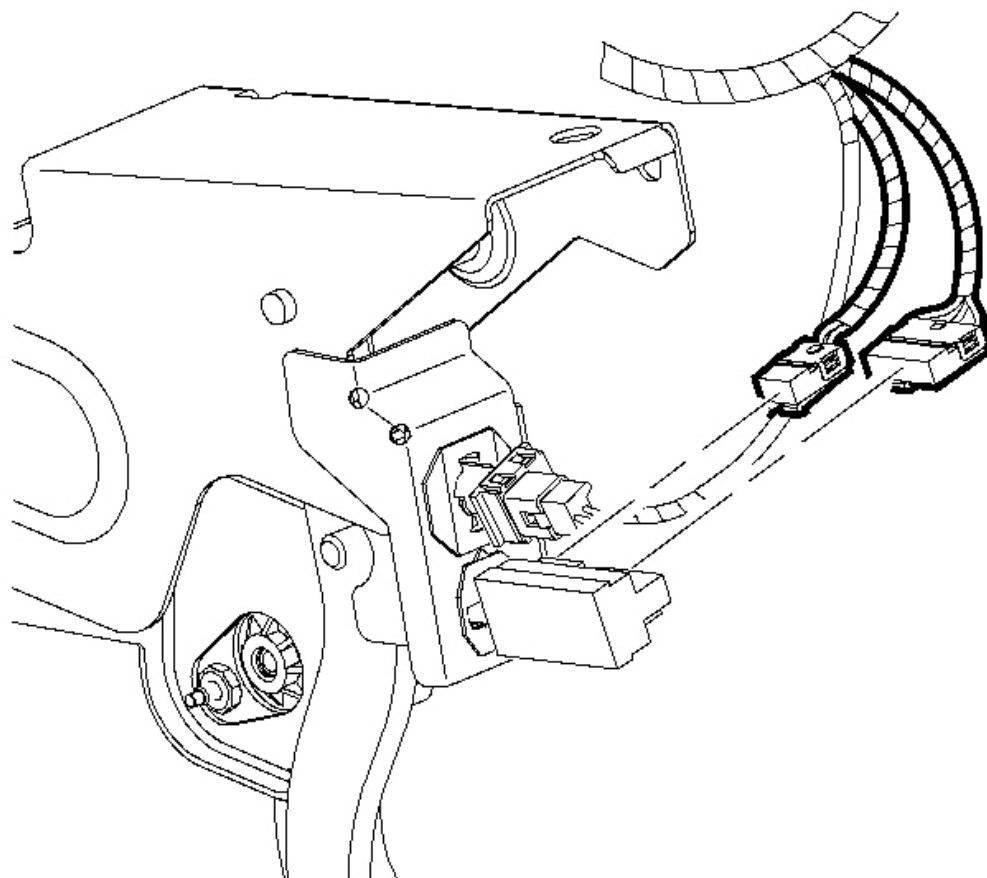
2. Rotate the switch counterclockwise and remove the switch from the switch retainer.

**IMPORTANT: Do NOT depress the brake pedal assembly during the stop lamp switch installation. This will cause a drag condition on the brake.**

3. Install the switch to the bracket by turning and pushing the switch until the switch bottoms on the brake pedal.
4. Connect the electrical connector to the stop lamp switch.
5. Inspect the stop lamps for proper operation

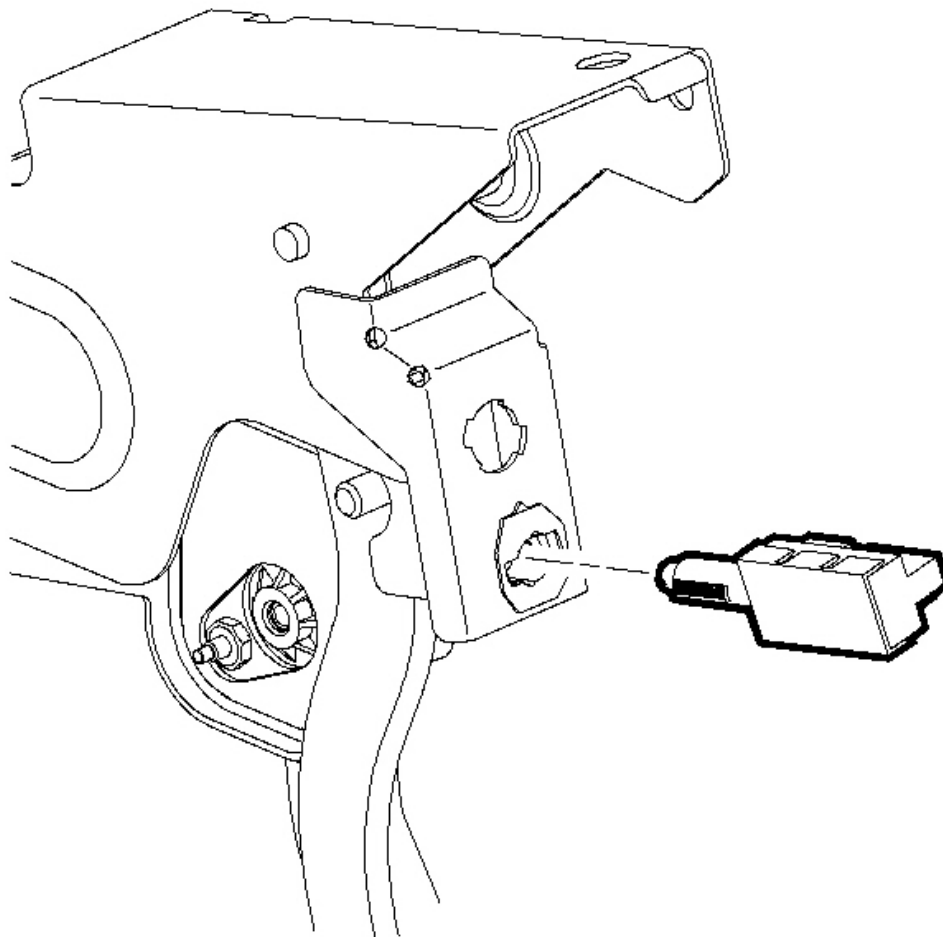
# STOP LAMP SWITCH REPLACEMENT

## Removal Procedure



**Fig. 32: View Of Stop Lamp Switch**  
Courtesy of GENERAL MOTORS CORP.

1. Disconnect the electrical connectors from the stop lamp switch.
2. Rotate the stop lamp switch counterclockwise and remove the switch from the switch retainer.



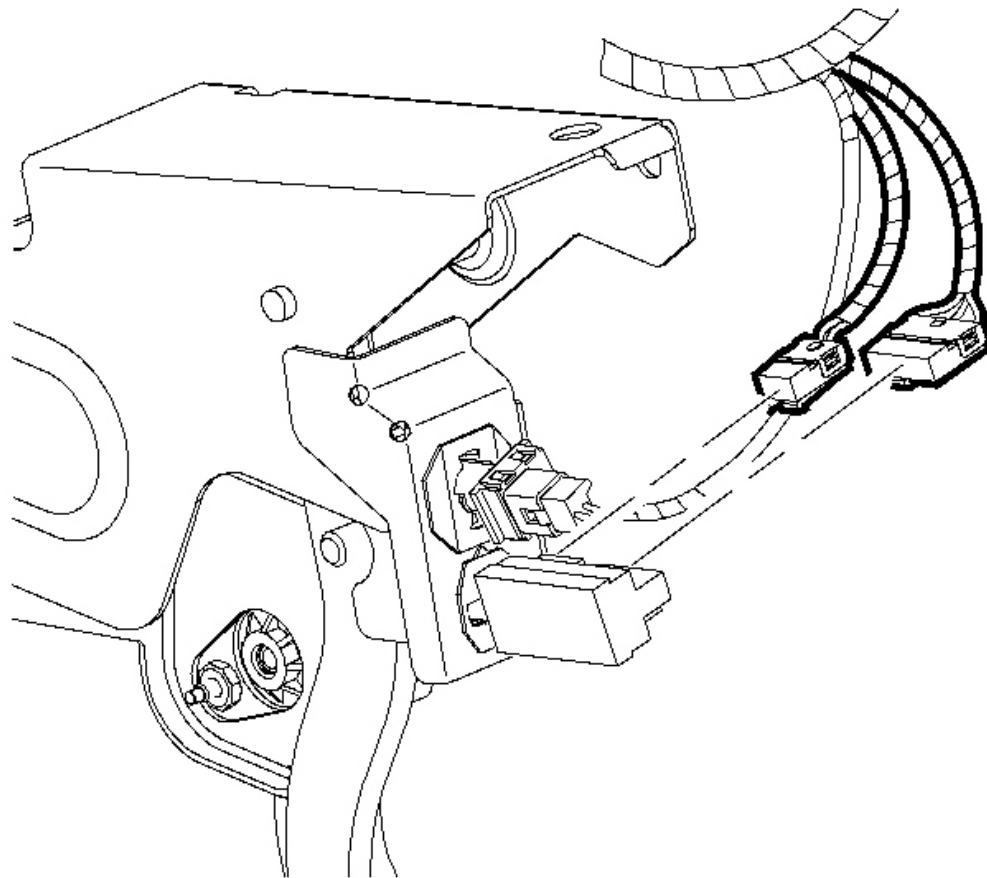
**Fig. 33: Removing/Installing Switch To The Bracket**  
Courtesy of GENERAL MOTORS CORP.

**IMPORTANT:** Depressing the brake pedal will allow easier access to the locking tabs on the stop lamp retainer.

3. Gently compress the locking tabs on the switch retainer and remove the switch retainer from the brake pedal assembly.

#### **Installation Procedure**





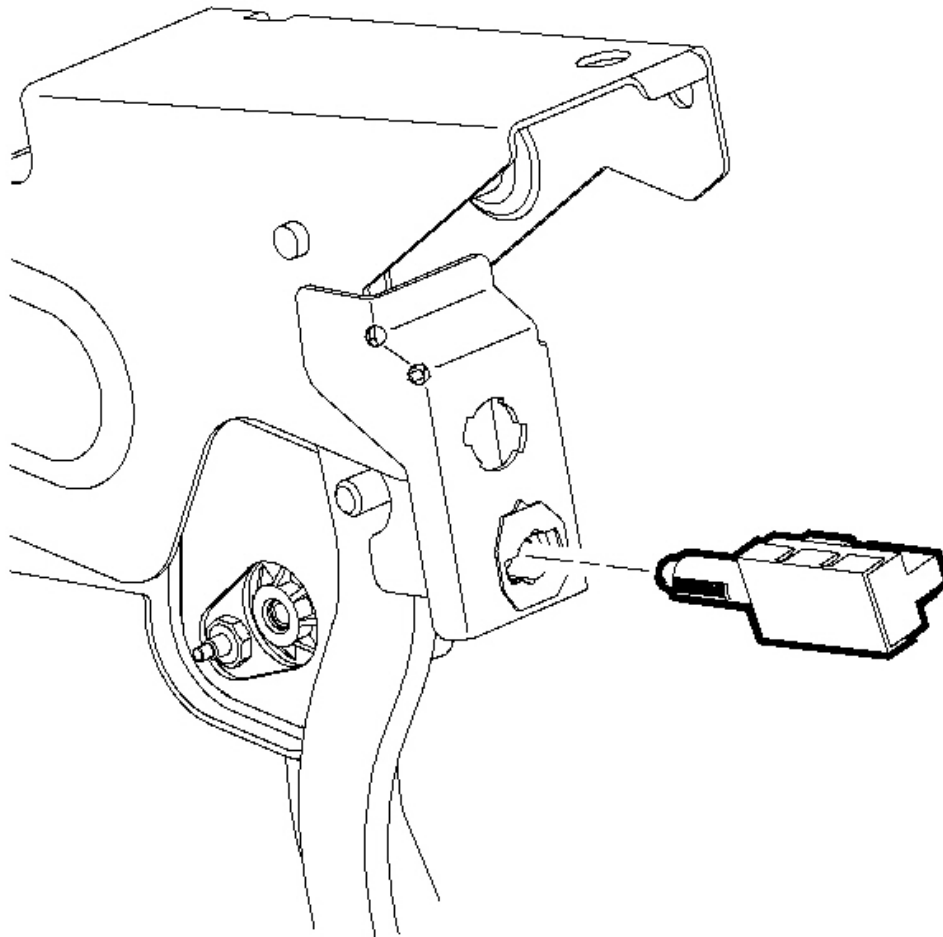
**Fig. 34: View Of Stop Lamp Switch**  
Courtesy of GENERAL MOTORS CORP.

**NOTE:** Proper stoplamp switch adjustment is essential. Improper stoplamp switch adjustment may cause brake drag, heat buildup and excessive brake lining wear.

**IMPORTANT:** Do NOT depress the brake pedal assembly during the stop lamp switch installation. This will cause a drag condition on the brake.

**IMPORTANT:** Inspect the retainer to insure that the locking tabs have locked into position and the retainer is in place.

1. Connect the electrical connectors on the stop lamp switch.



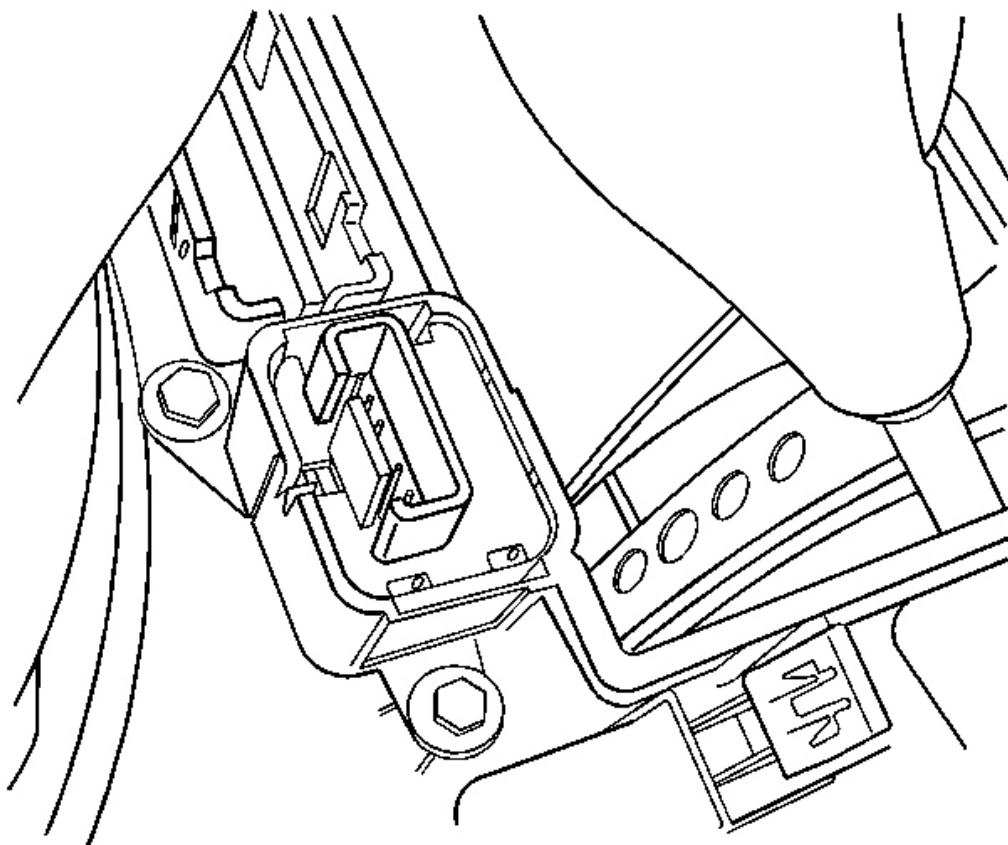
**Fig. 35: Removing/Installing Switch To The Bracket**  
Courtesy of GENERAL MOTORS CORP.

2. Install the switch to the bracket by turning and pushing the switch until the switch bottoms on the brake pedal.
3. Inspect the stop lamps for proper operation

## **FOG LAMP SWITCH REPLACEMENT - FRONT**

### **Removal Procedure**

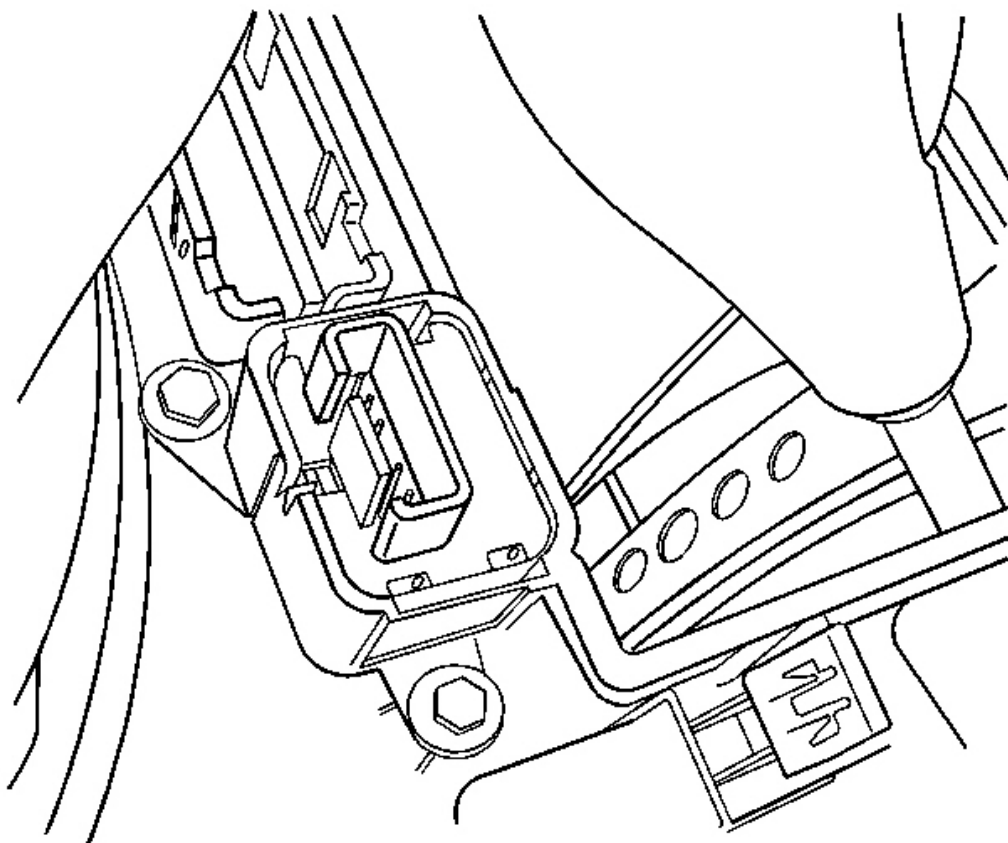
1. Remove the instrument panel (I/P) trim panel bezel. Refer to **Trim Bezel Replacement - Center** in Instrument Panel, Gages, and Console.



**Fig. 36: View Of Front Fog Lamp Switch**  
Courtesy of GENERAL MOTORS CORP.

2. Remove the switch assembly fasteners and remove the switch assembly.

#### **Installation Procedure**



**Fig. 37: View Of Front Fog Lamp Switch**  
Courtesy of GENERAL MOTORS CORP.

**NOTE:** Refer to Fastener Notice in Cautions and Notices.

1. Install the switch assembly on to the bezel and install the fasteners.

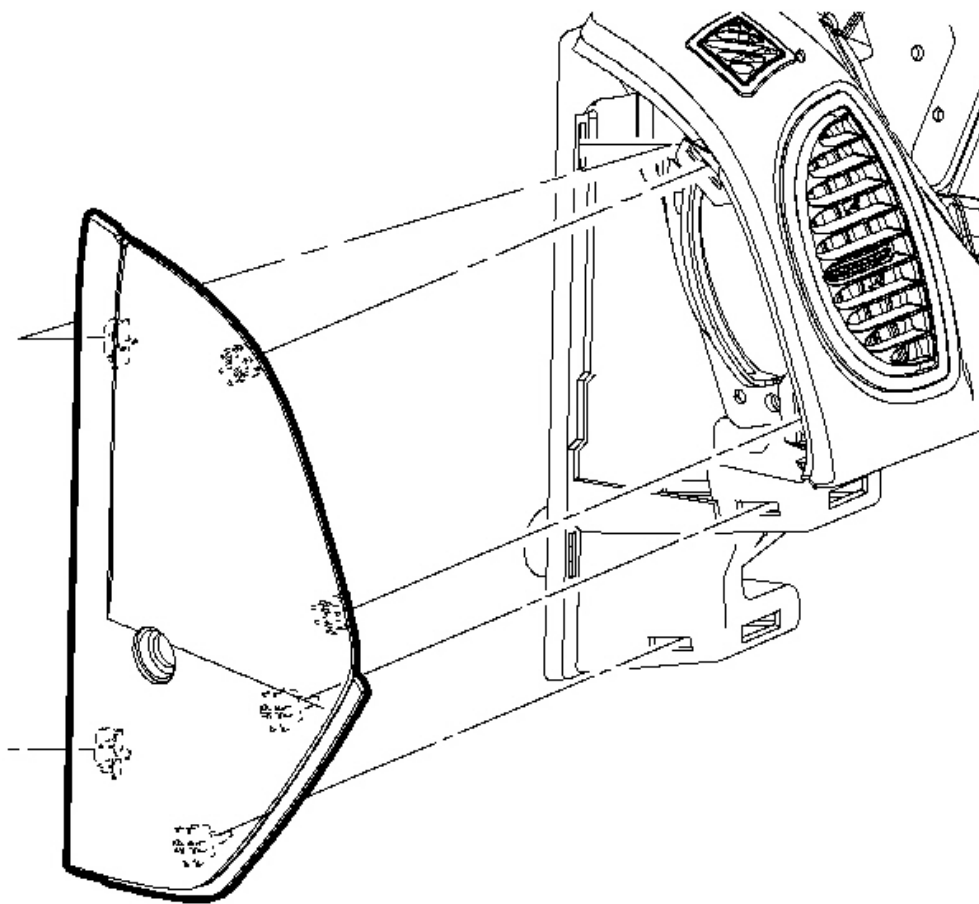
**Tighten:** Tighten the fasteners to 2.5 N.m (22 lb in).

2. Install the I/P trim panel bezel. Refer to Trim Bezel Replacement - Center in Instrument Panel, Gages, and Console.

## **DOOR JAMB SWITCH REPLACEMENT - FRONT**

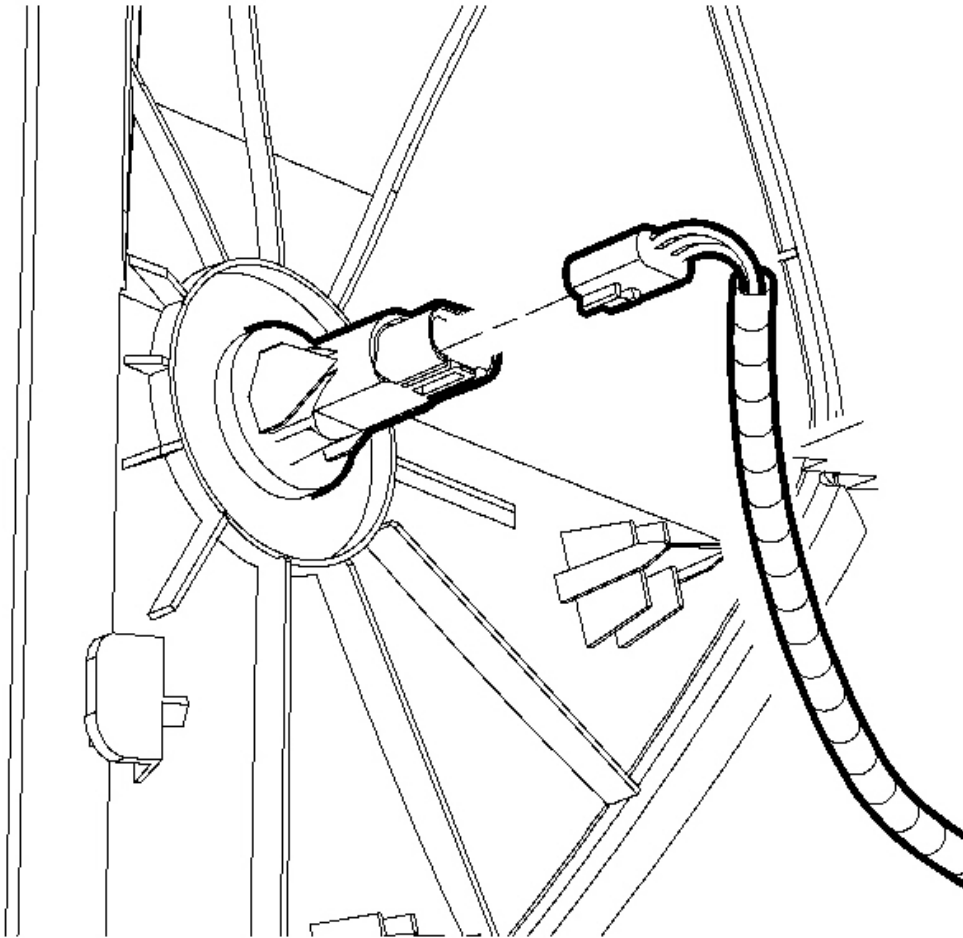
### **Removal Procedure**

1. Open the front door.



**Fig. 38: View Of Front Door Jamb Switch**  
Courtesy of GENERAL MOTORS CORP.

2. Remove the instrument panel (I/P) end panel by pulling straight out.

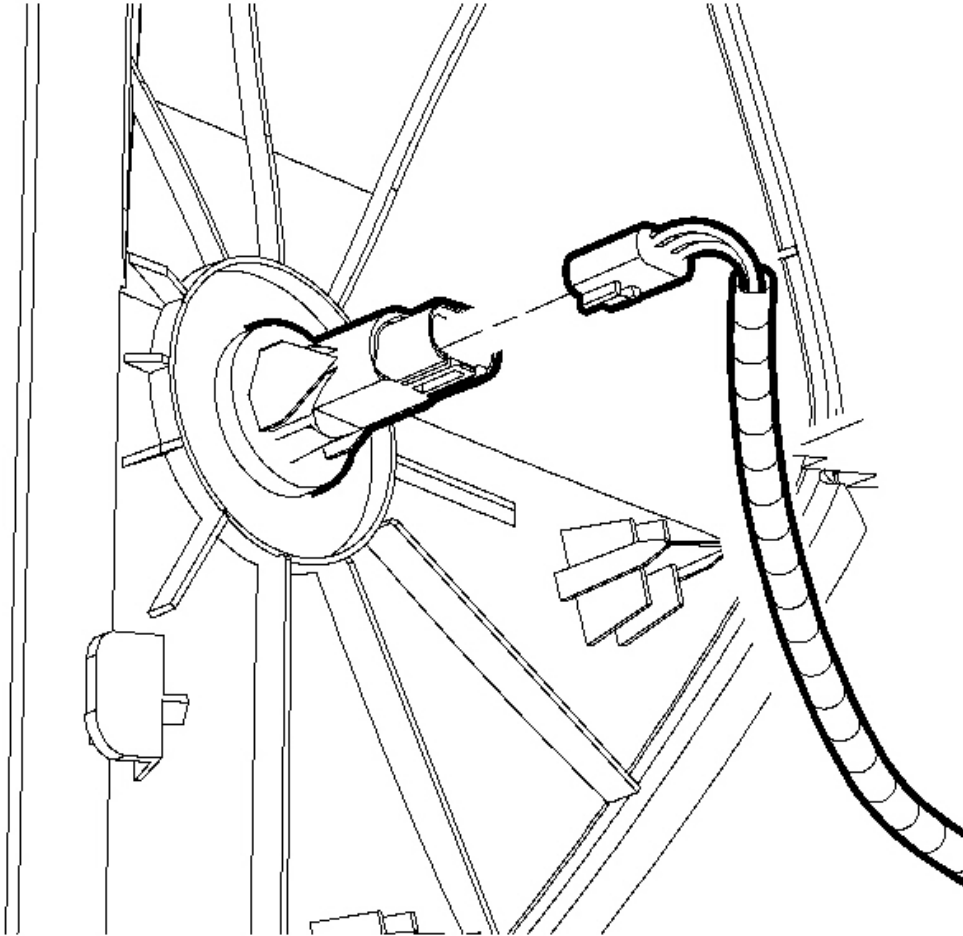


**Fig. 39: Disconnecting/Connecting Electrical Connectors**  
Courtesy of GENERAL MOTORS CORP.

3. Disconnect the electrical connectors from the door jamb switch.
4. Remove the door jamb switch from the I/P end panel.

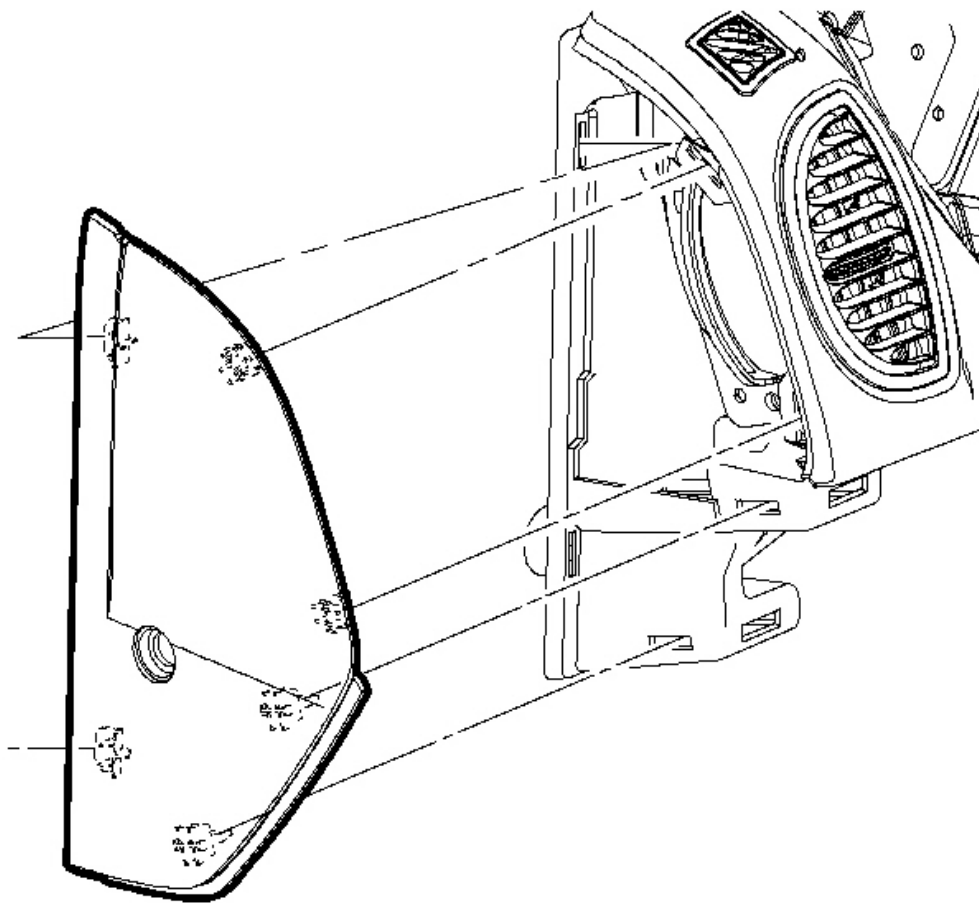
#### **Installation Procedure**

1. Install the door jamb switch to the I/P end panel.



**Fig. 40: Disconnecting/Connecting Electrical Connectors**  
Courtesy of GENERAL MOTORS CORP.

2. Connect the electrical connectors to the door jamb switch.



**Fig. 41: View Of Front Door Jamb Switch**  
Courtesy of GENERAL MOTORS CORP.

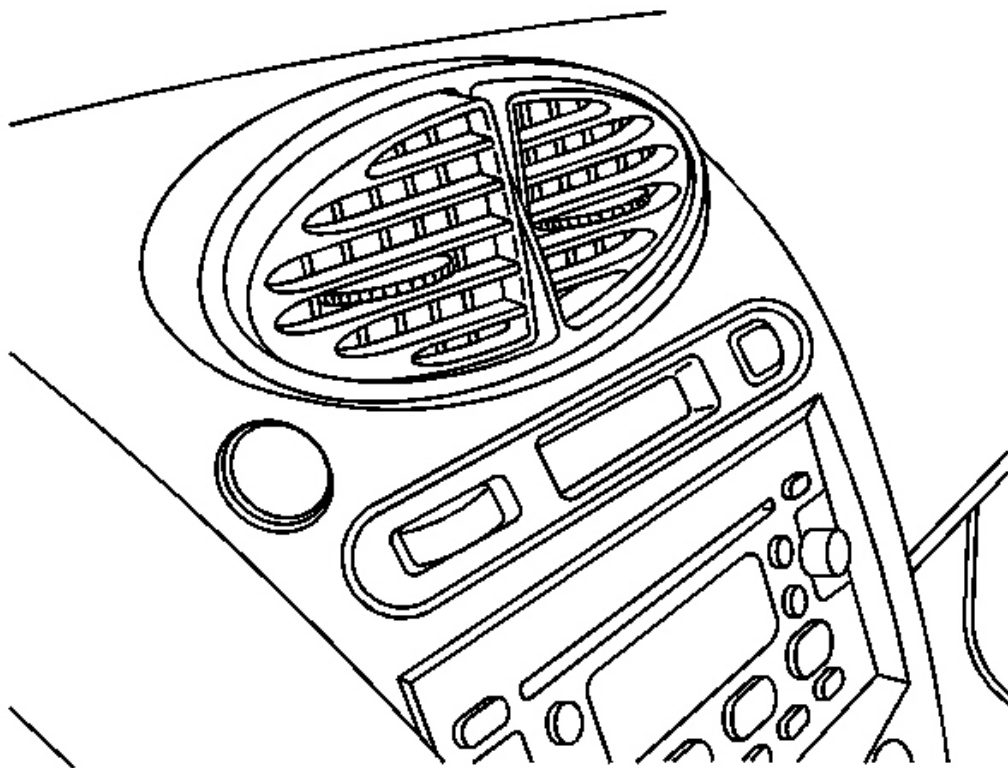
3. Position the I/P side end panel into place and secure by pushing firmly.
4. Close the front door.

## **INSTRUMENT PANEL (I/P) DIMMER SWITCH REPLACEMENT**

### **Removal Procedure**

1. Remove the instrument panel (I/P) trim panel bezel. Refer to **Trim Bezel Replacement - Center** in Instrument Panel, Gages, and Console.

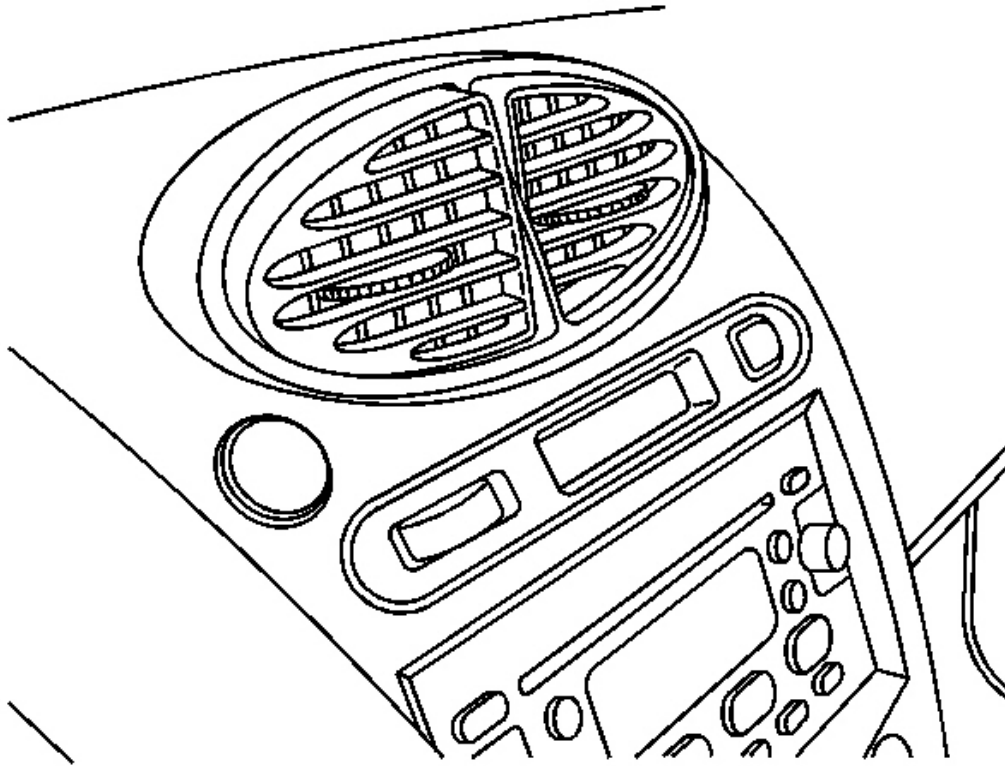




**Fig. 42: View Of Instrument Panel (I/P) Dimmer Switch**  
**Courtesy of GENERAL MOTORS CORP.**

2. Remove the switch assembly fasteners and remove the switch assembly.

#### **Installation Procedure**



**Fig. 43: View Of Instrument Panel (I/P) Dimmer Switch**  
Courtesy of GENERAL MOTORS CORP.

**NOTE:** Refer to Fastener Notice in Cautions and Notices.

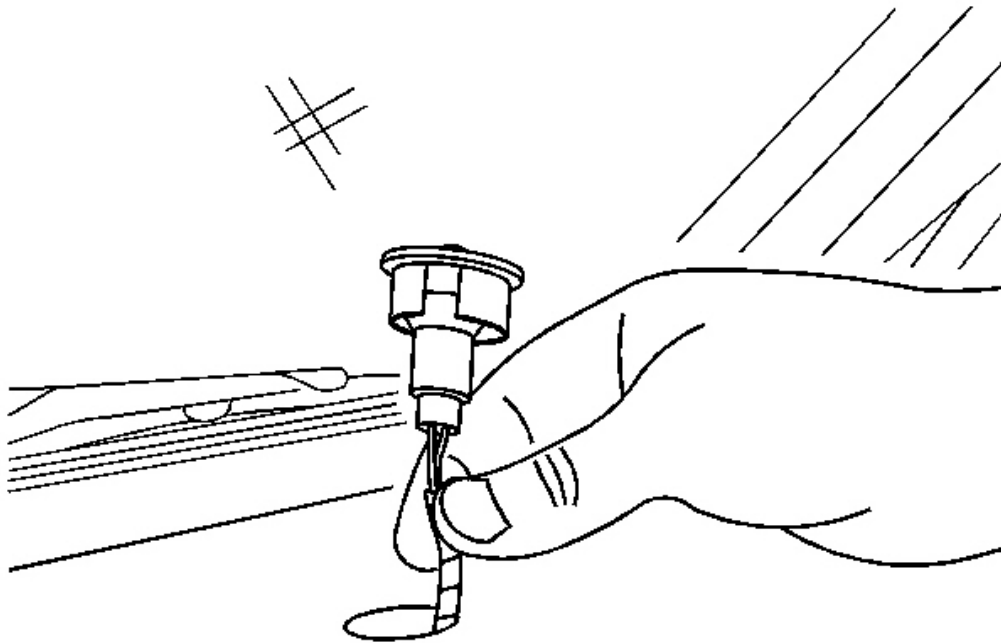
1. Install the switch assembly on to the bezel and install the fasteners.

**Tighten:** Tighten the fasteners to 2.5 N.m (22 lb in).

2. Install the I/P trim panel bezel. Refer to Trim Bezel Replacement - Center in Instrument Panel, Gages, and Console.

## **AMBIENT LIGHT SENSOR REPLACEMENT**

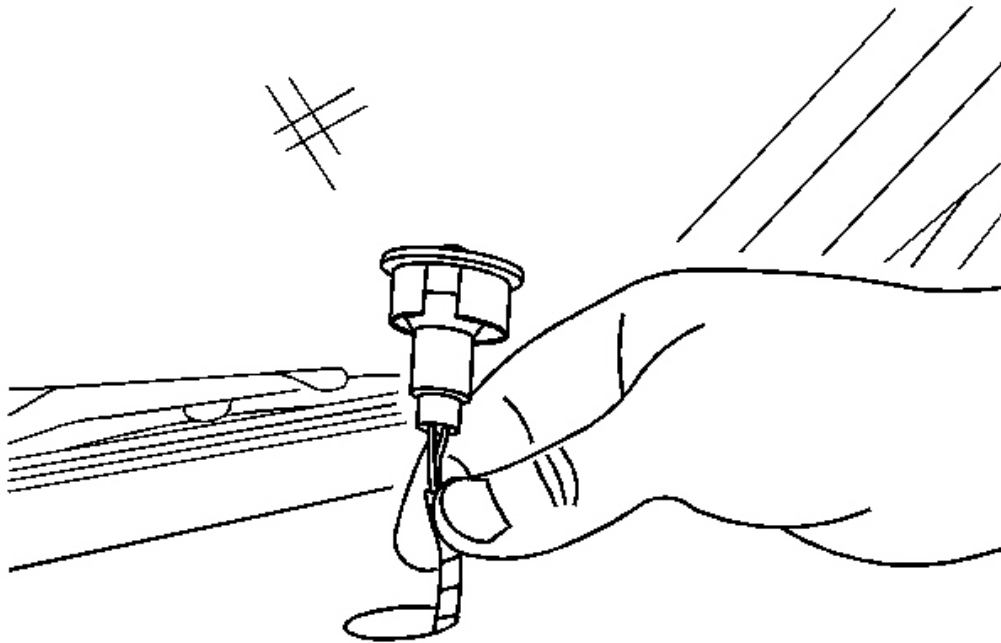
### **Removal Procedure**



**Fig. 44: View Of Ambient Light Sensor**  
**Courtesy of GENERAL MOTORS CORP.**

1. Using a small flat-bladed tool, pry the sensor up.
2. Disconnect the electrical connector and remove the sensor.

#### **Installation Procedure**



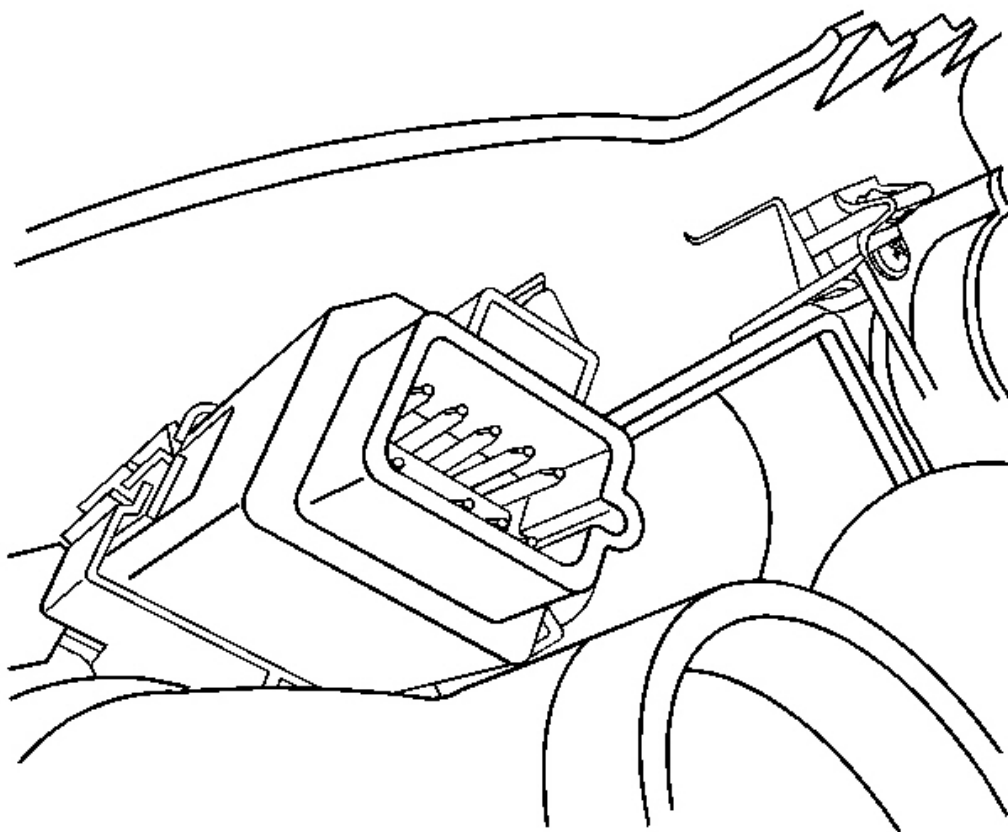
**Fig. 45: View Of Ambient Light Sensor**  
**Courtesy of GENERAL MOTORS CORP.**

1. Connect the electrical connector to the sensor.
2. Press the sensor into place.

## **HAZARD AND TURN SIGNAL FLASHER REPLACEMENT**

### **Removal Procedure**

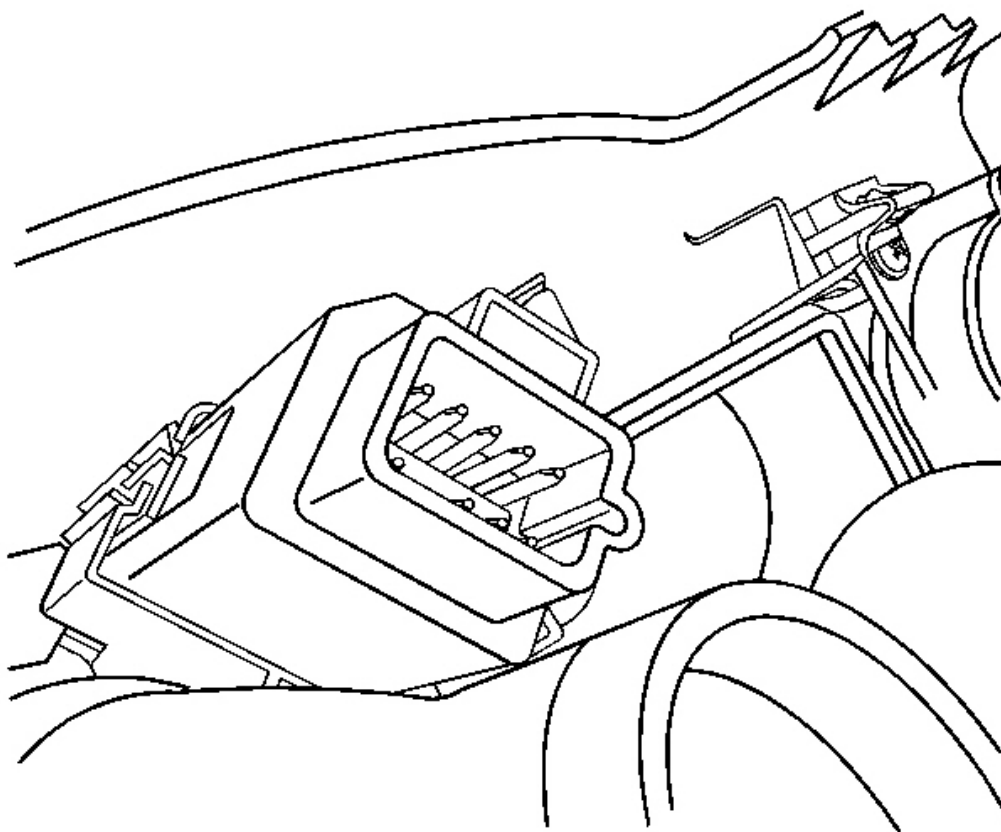
1. Remove the instrument panel (I/P) trim panel bezel. Refer to **Trim Bezel Replacement - Center** in Instrument Panel, Gages, and Console.



**Fig. 46: View Of Hazard & Turn Signal Flasher**  
Courtesy of GENERAL MOTORS CORP.

2. Remove the switch assembly fasteners and remove the switch assembly.

#### **Installation Procedure**



**Fig. 47: View Of Hazard & Turn Signal Flasher**  
Courtesy of GENERAL MOTORS CORP.

**NOTE:** Refer to Fastener Notice in Cautions and Notices.

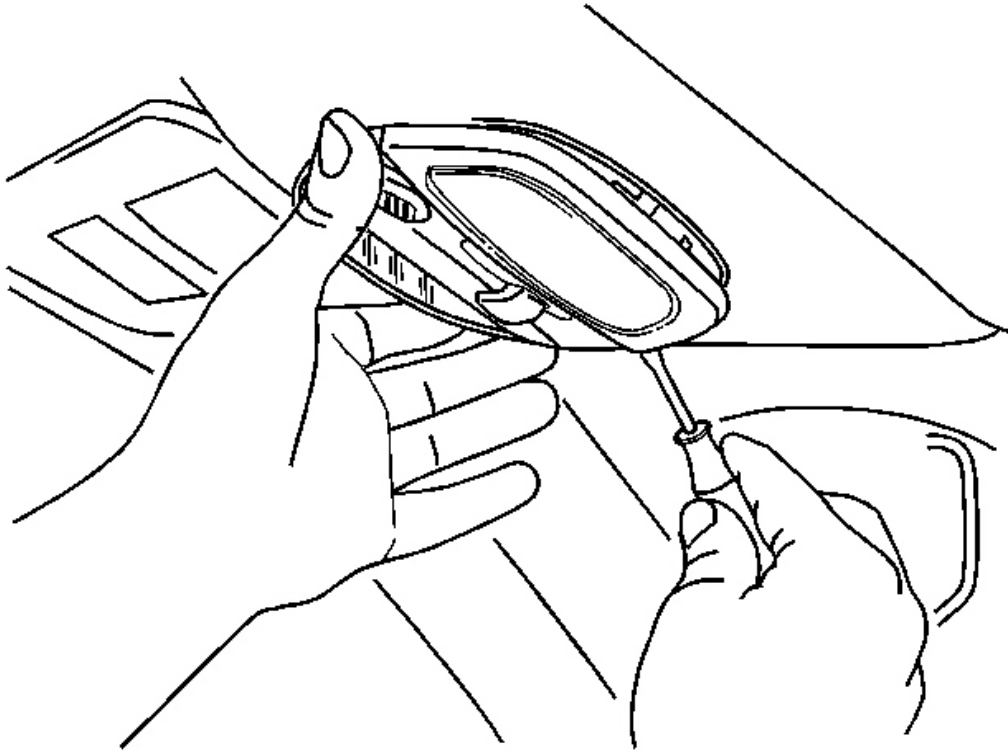
1. Install the switch assembly on to the bezel and install the fasteners.

**Tighten:** Tighten the fasteners to 2.5 N.m (22 lb in).

2. Install the I/P trim panel bezel. Refer to Trim Bezel Replacement - Center in Instrument Panel, Gages, and Console.

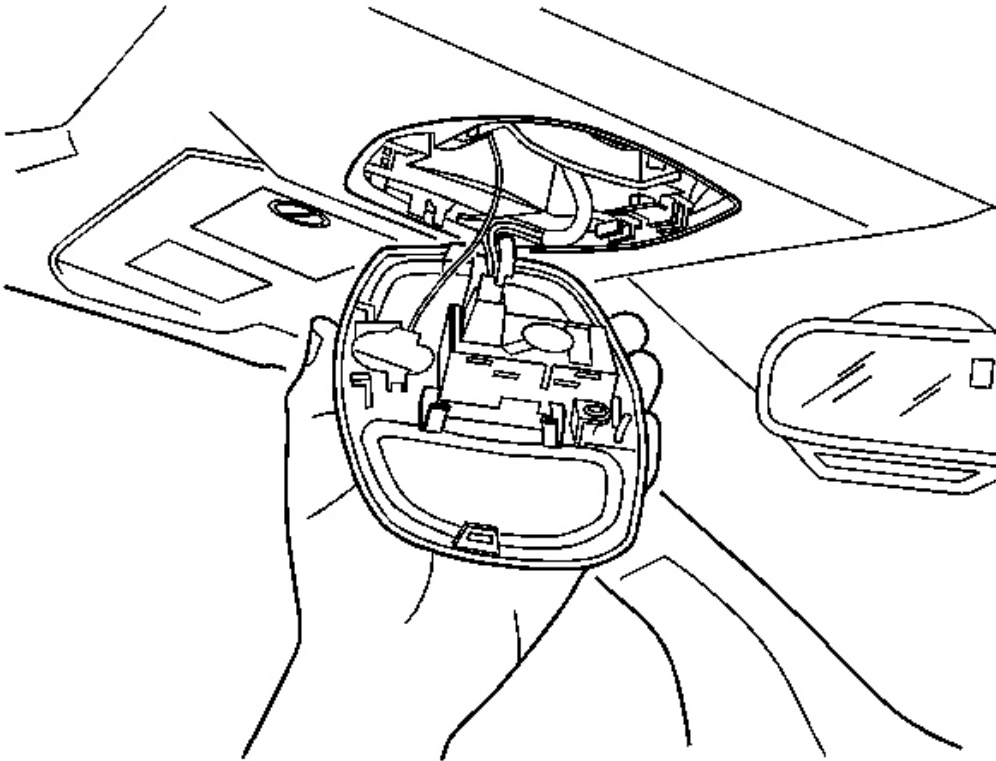
## READING LAMP BULB REPLACEMENT

### Removal Procedure



**Fig. 48: View Of Reading Lamp Bulb**  
**Courtesy of GENERAL MOTORS CORP.**

1. Insert a small flat-bladed tool at the front of the reading lamp. Disengage the reading lamp.

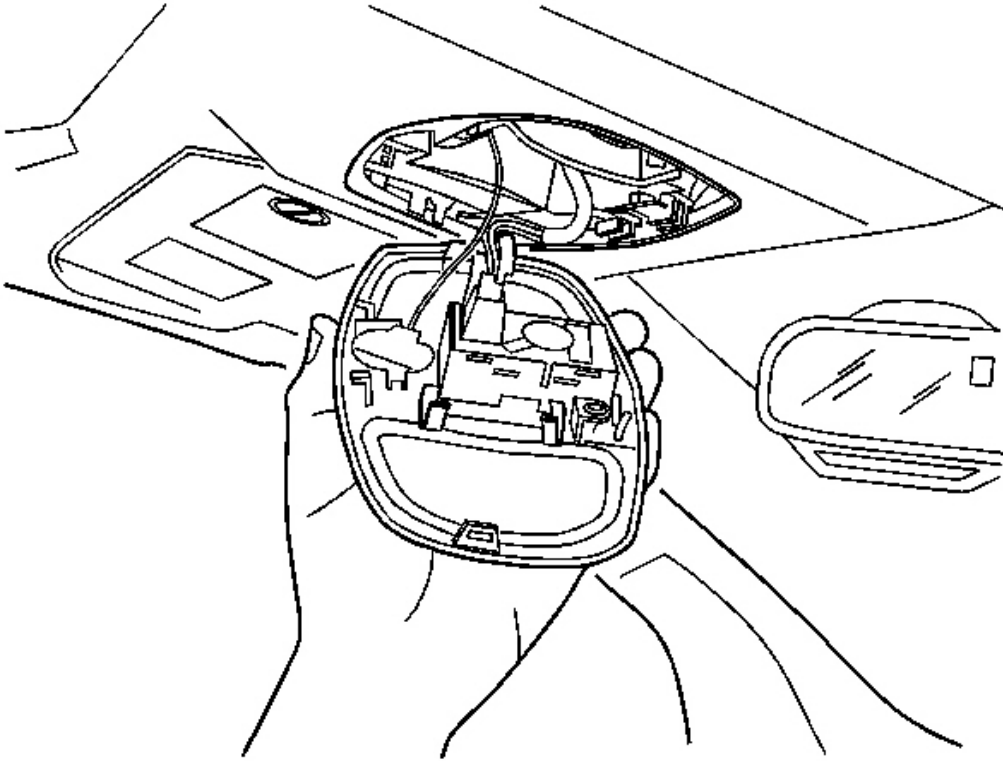


**Fig. 49: Removing/Installing Reading Lamp Bulb**  
Courtesy of GENERAL MOTORS CORP.

2. Pull the reading lamp down.
3. Remove the bulb.

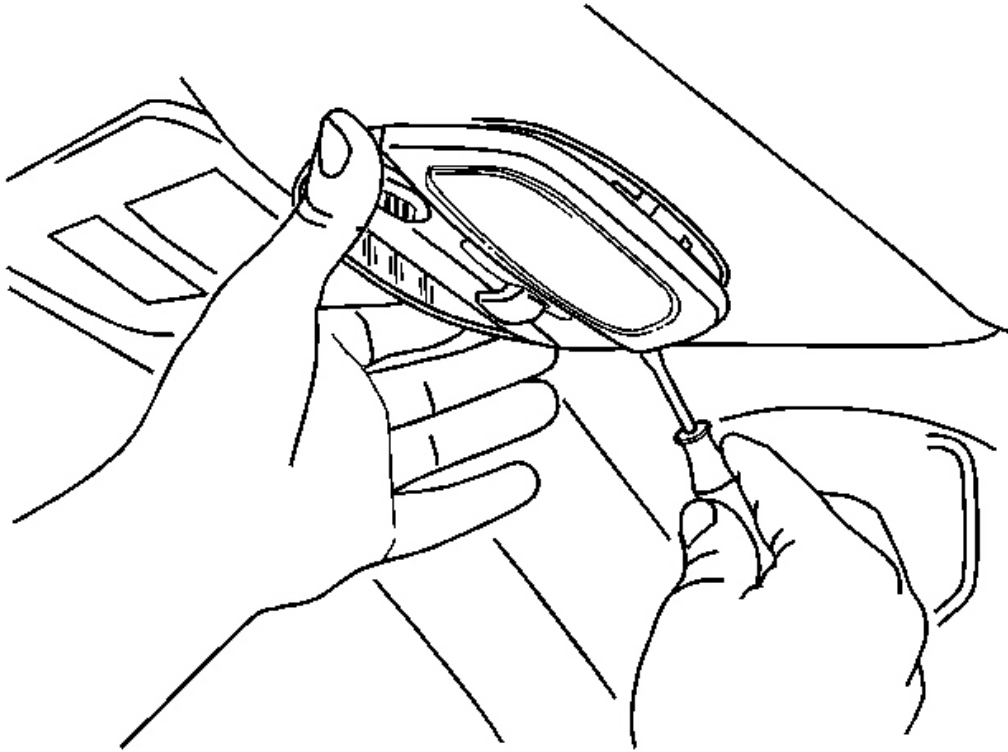
#### **Installation Procedure**





**Fig. 50: Removing/Installing Reading Lamp Bulb**  
Courtesy of GENERAL MOTORS CORP.

1. Install the reading lamp bulb.



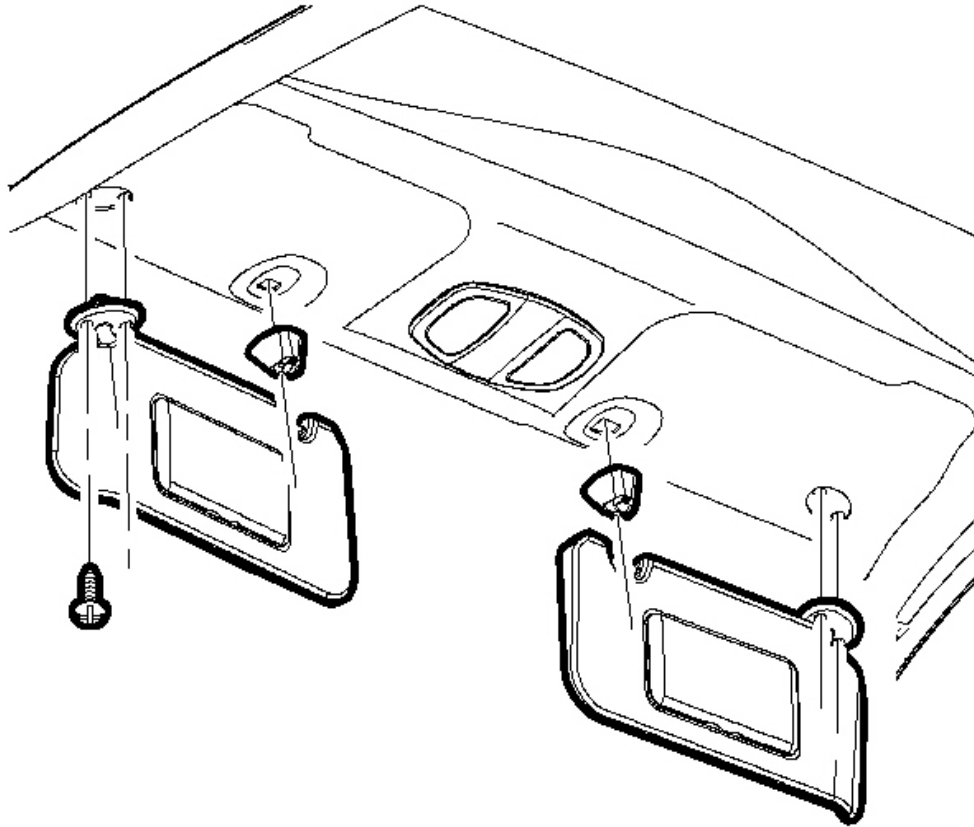
**Fig. 51: View Of Reading Lamp Bulb**  
Courtesy of GENERAL MOTORS CORP.

2. Install the reading lamp cover, beginning with the back of the cover.
3. Push the front of the lamp cover up until seated.

## **READING LAMP REPLACEMENT**

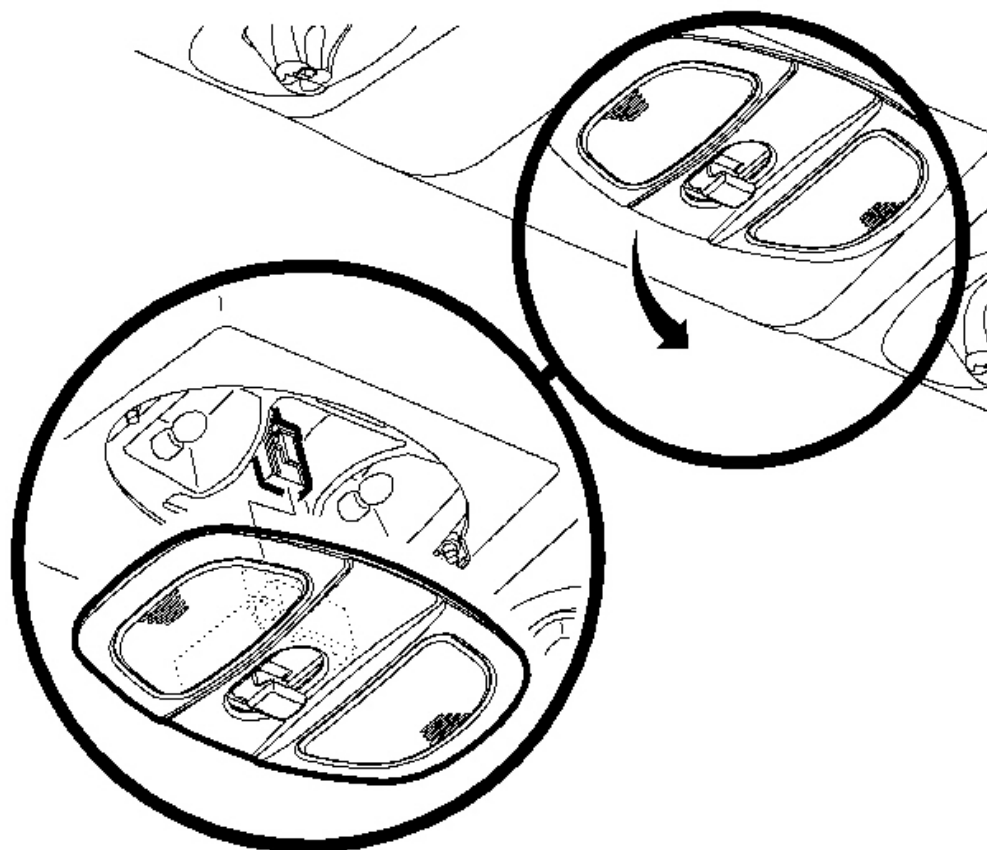
### **Removal Procedure**

1. Remove the windshield upper garnish molding. Refer to **Windshield Upper Garnish Molding Replacement** in Interior Trim.



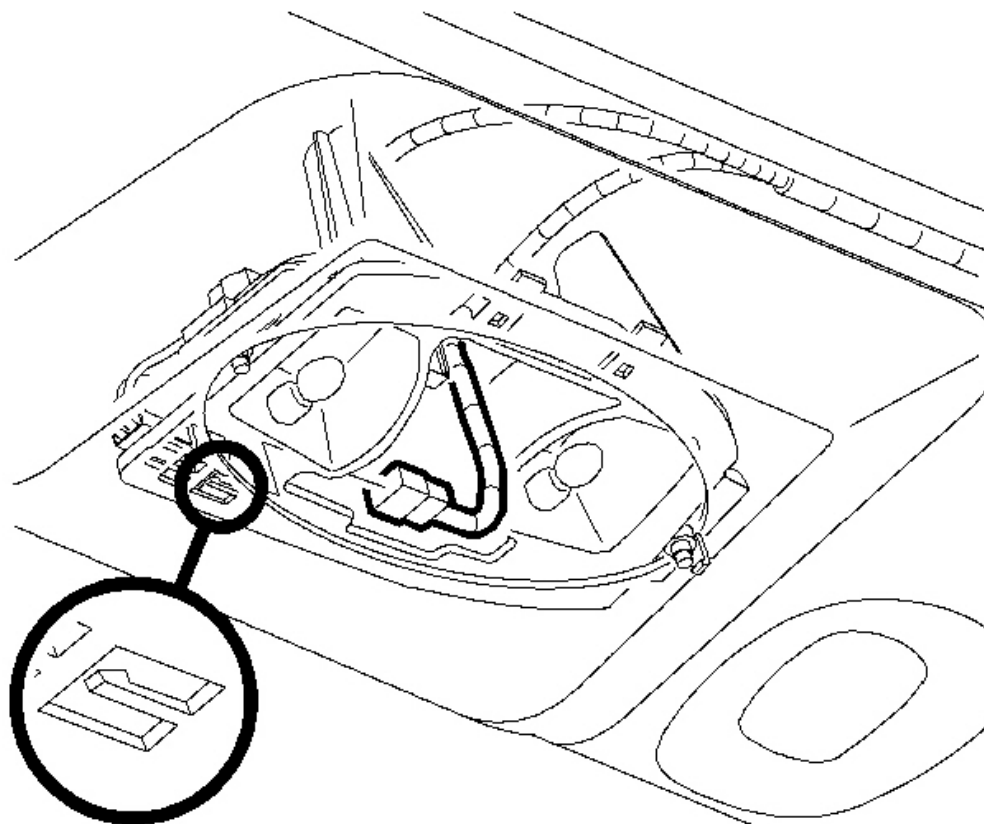
**Fig. 52: Removing/Installing Sunshade Retainers**  
Courtesy of GENERAL MOTORS CORP.

2. Unsnap the sunshade from the inner retainer clips.
3. Remove the sunshade fasteners and remove the sunshade assemblies.
4. Remove the inner retainer fasteners and remove the retainers.
5. If the vehicle is equipped with a sunroof, use a flat-bladed tool to remove the sunroof switch knob.



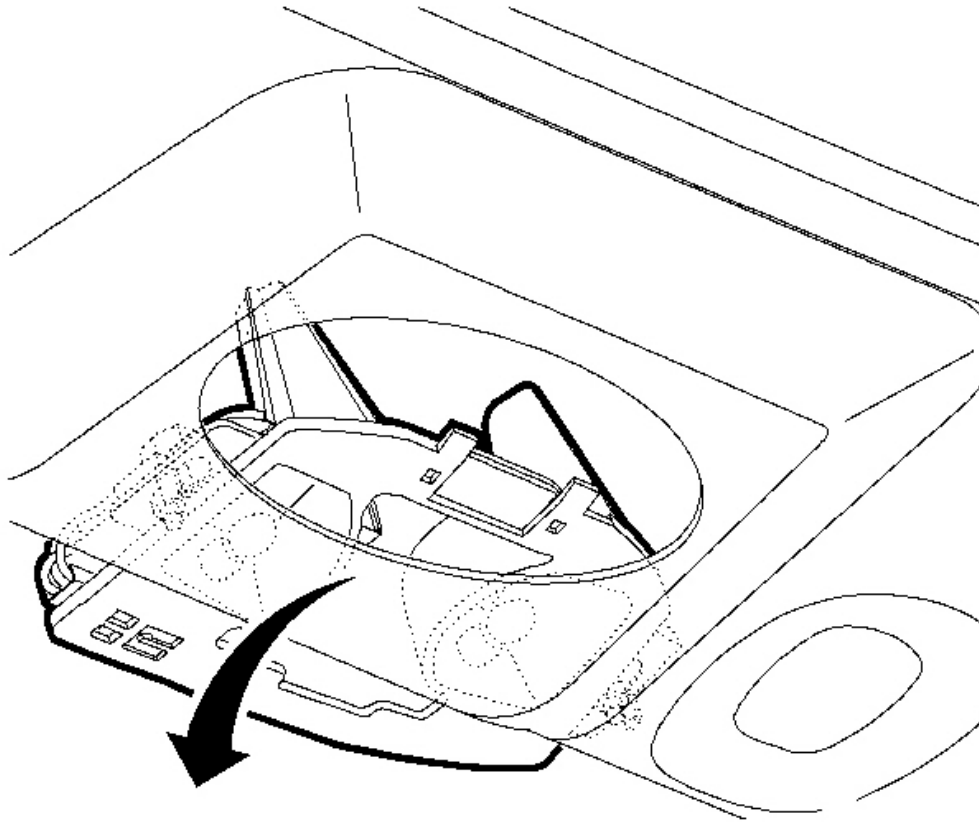
**Fig. 53: View Of Reading Lamp Cover**  
Courtesy of GENERAL MOTORS CORP.

6. Pull gently at the front of the reading lamp cover to disengage the retainer clips.
7. If the vehicle is equipped with OnStar(R), remove the microphone. Refer to **OnStar Microphone Replacement** in Cellular Communication.
8. Rotate the cover rearward until the rear attaching hooks are released.
9. If the vehicle is equipped with a sunroof or with OnStar(R), disconnect the electrical connectors.
10. Remove the cover.



**Fig. 54: Disconnecting/Connecting Electrical Connector To The Reading Lamp**  
Courtesy of GENERAL MOTORS CORP.

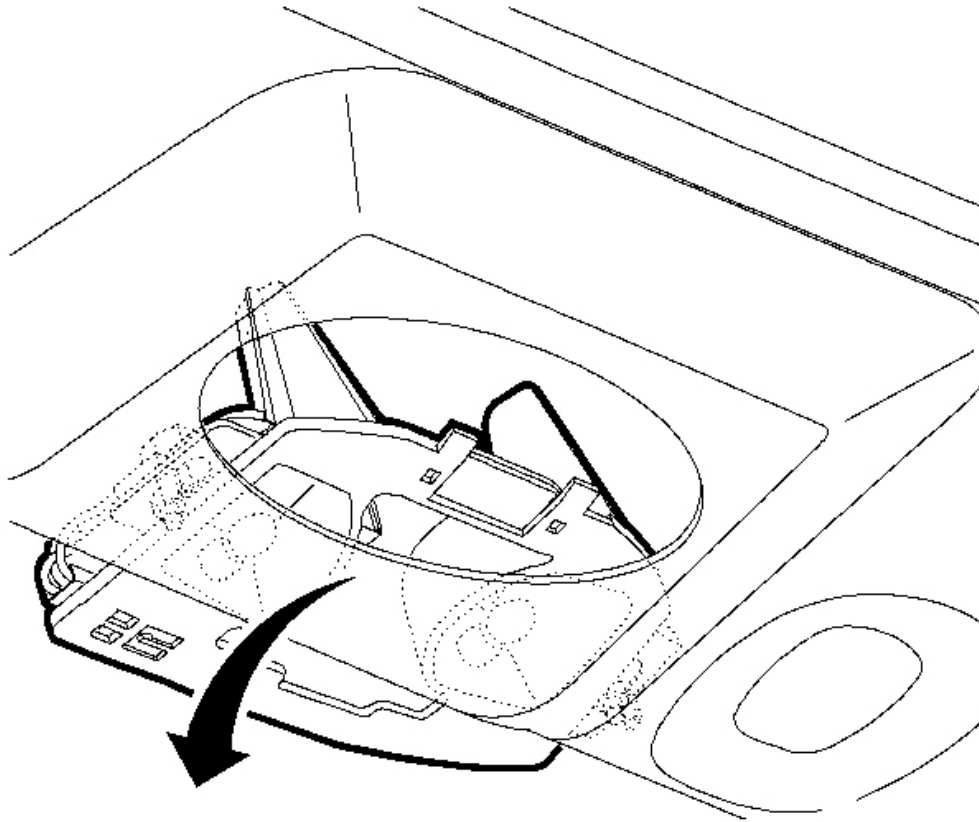
11. Disconnect the electrical connector from the forward reading lamp.



**Fig. 55: Pulling Headliner Down Slightly & Slide Forward Reading Lamp**  
Courtesy of GENERAL MOTORS CORP.

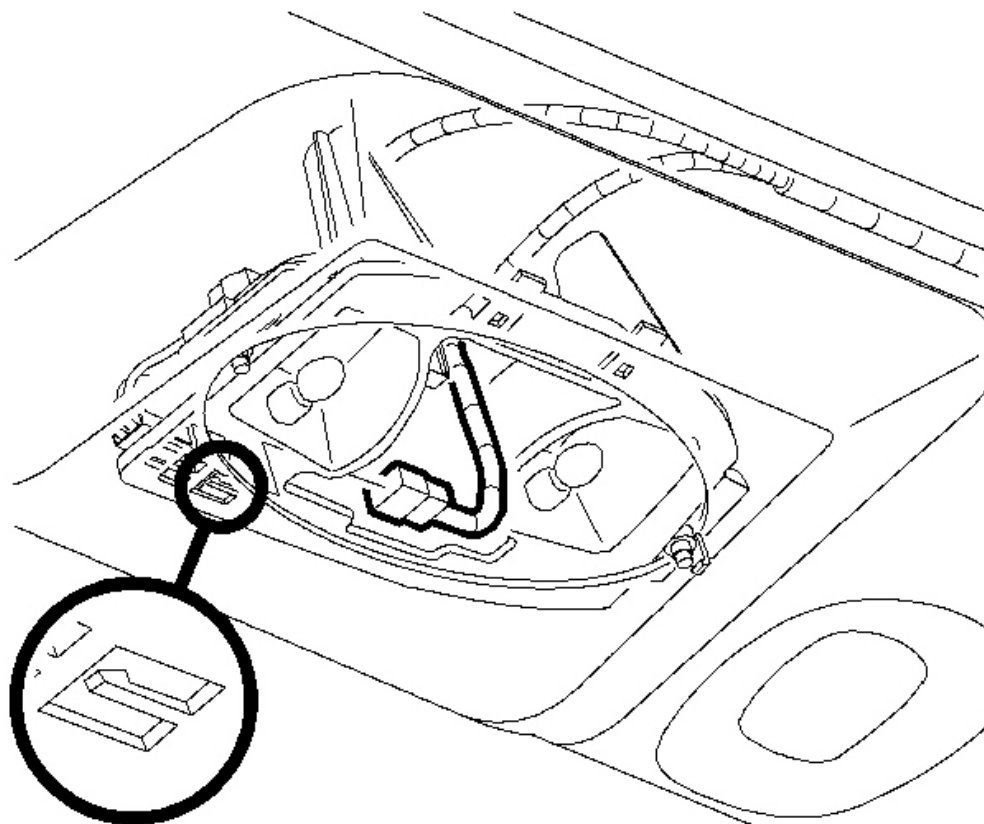
12. Pull the headliner down slightly and slide the forward reading lamp out of the headliner.

#### **Installation Procedure**



**Fig. 56: Pulling Headliner Down Slightly & Slide Forward Reading Lamp**  
Courtesy of GENERAL MOTORS CORP.

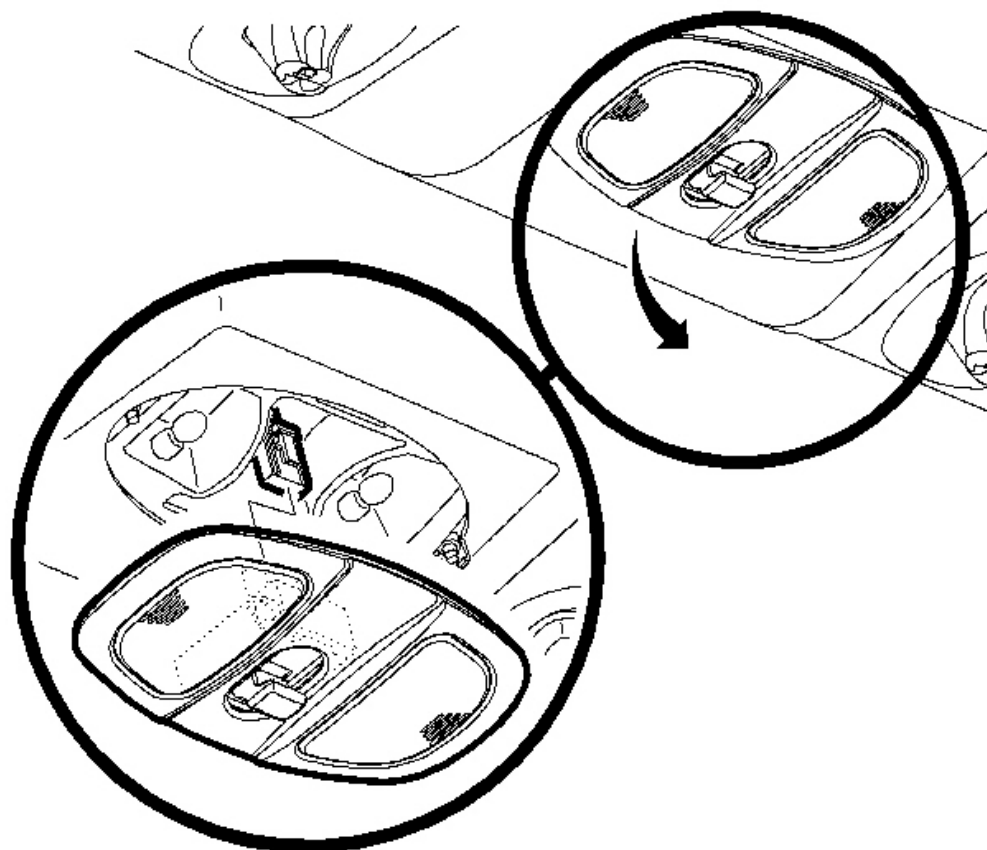
1. Pull the headliner down slightly and slide the forward reading lamp into place.



**Fig. 57: Disconnecting/Connecting Electrical Connector To The Reading Lamp**  
Courtesy of GENERAL MOTORS CORP.

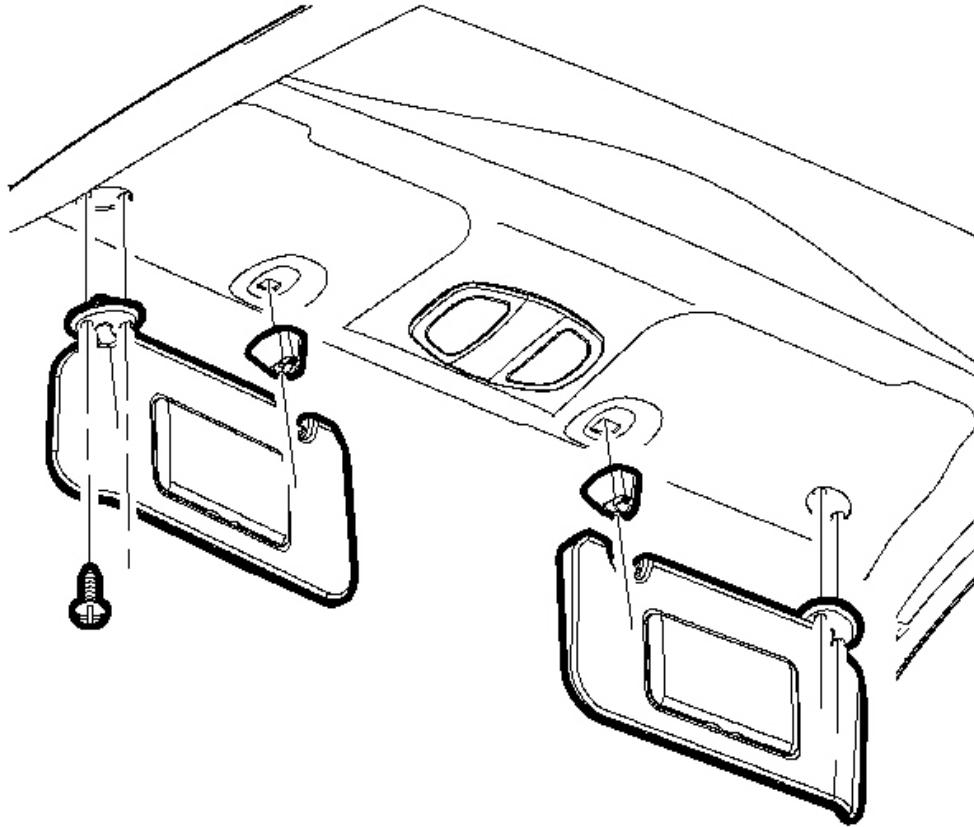
2. Connect the electrical connector to the reading lamp.
3. If the vehicle is equipped with OnStar(R), install the microphone. Refer to **OnStar Microphone Replacement** in Cellular Communication.





**Fig. 58: View Of Reading Lamp Cover**  
**Courtesy of GENERAL MOTORS CORP.**

4. Position the forward reading lamp cover into the rear attaching hooks.
5. If the vehicle is equipped with a sunroof or with OnStar(R), connect the electrical connectors.
6. Rotate the front reading lamp cover forward into the lamp assembly. Snap the cover into place.
7. If the vehicle is equipped with a sunroof, install the sunroof switch knob.



**Fig. 59: Removing/Installing Sunshade Retainers**  
Courtesy of GENERAL MOTORS CORP.

**NOTE:** Refer to Fastener Notice in Cautions and Notices.

8. Install the sunshade retainers.

**Tighten:** Tighten the retainer fasteners to 2.5 N.m (22 lb in).

9. Position the sunshade outer brackets to the headliner.

10. Install the sunshades.

**Tighten:** Tighten the sunshade fasteners to 2.5 N.m (22 lb in).

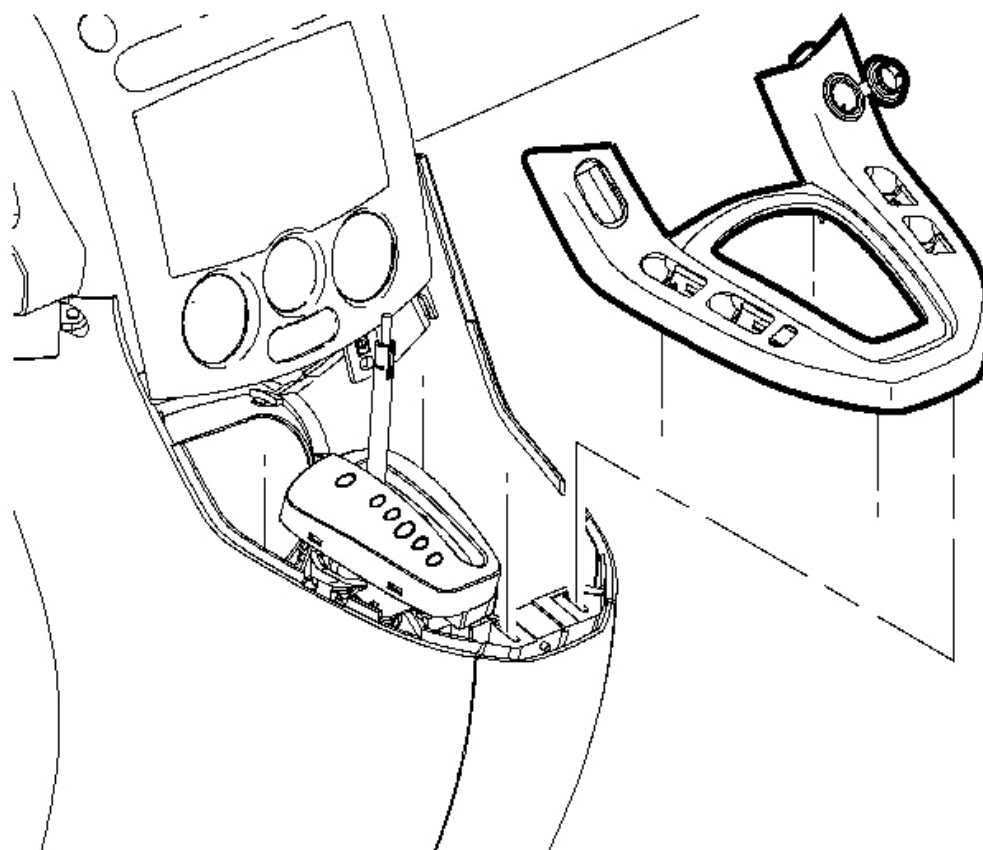
**IMPORTANT:** If the vehicle is equipped with a side inflator module, position the inflator module tether rearward of the molding attaching clips.

11. Install the windshield upper garnish molding. Refer to Windshield Upper Garnish Molding Replacement in Interior Trim.

## **TRANS FLOOR SHIFT CONTROL INDICATOR LAMP REPLACEMENT**

### **Removal Procedure**

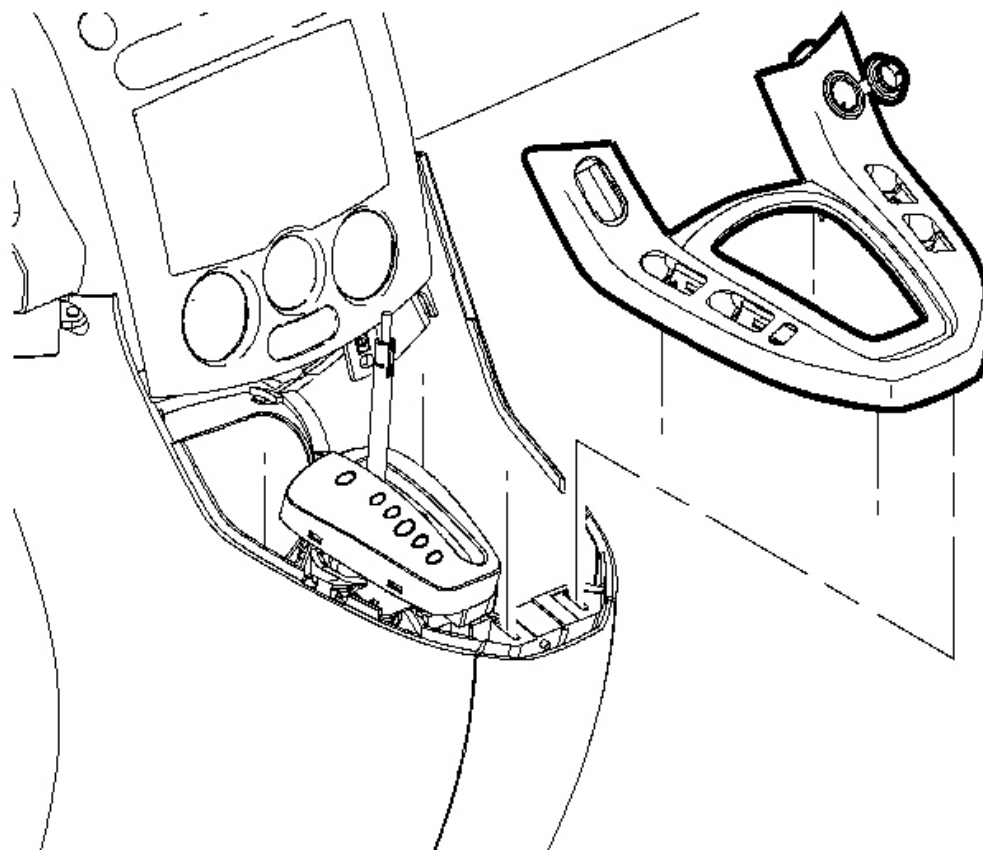
1. Remove the shifter bezel. Refer to Console Shift Lever Bezel Replacement in Instrument Panel, Gages, and Console.



**Fig. 60: View Of Trans Floor Shift Control Indicator Lamp**  
Courtesy of GENERAL MOTORS CORP.

2. Remove the bulb socket from beneath the shifter.
3. Pull the bulb from the socket.

#### **Installation Procedure**

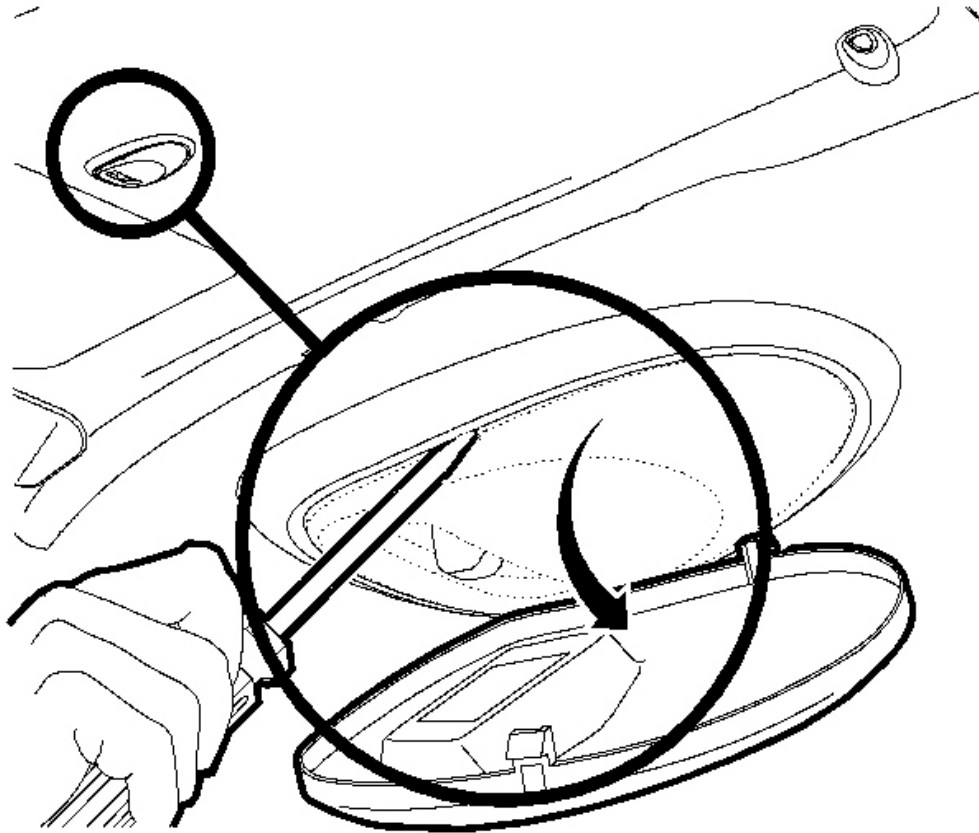


**Fig. 61: View Of Trans Floor Shift Control Indicator Lamp**  
Courtesy of GENERAL MOTORS CORP.

1. Install the bulb into the socket.
2. Install the bulb socket onto the shifter.
3. Install the shifter bezel. Refer to **Console Shift Lever Bezel Replacement** in Instrument Panel, Gages, and Console.

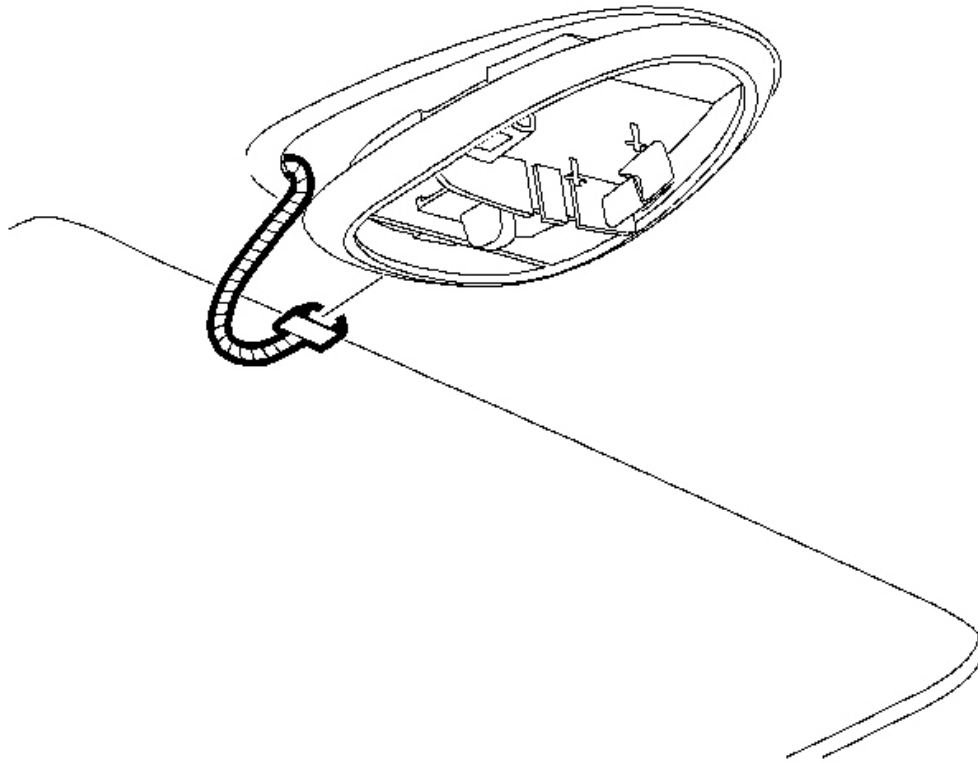
## **DOMELAMP REPLACEMENT**

### **Removal Procedure**



**Fig. 62: View Of Dome Lamp**  
Courtesy of GENERAL MOTORS CORP.

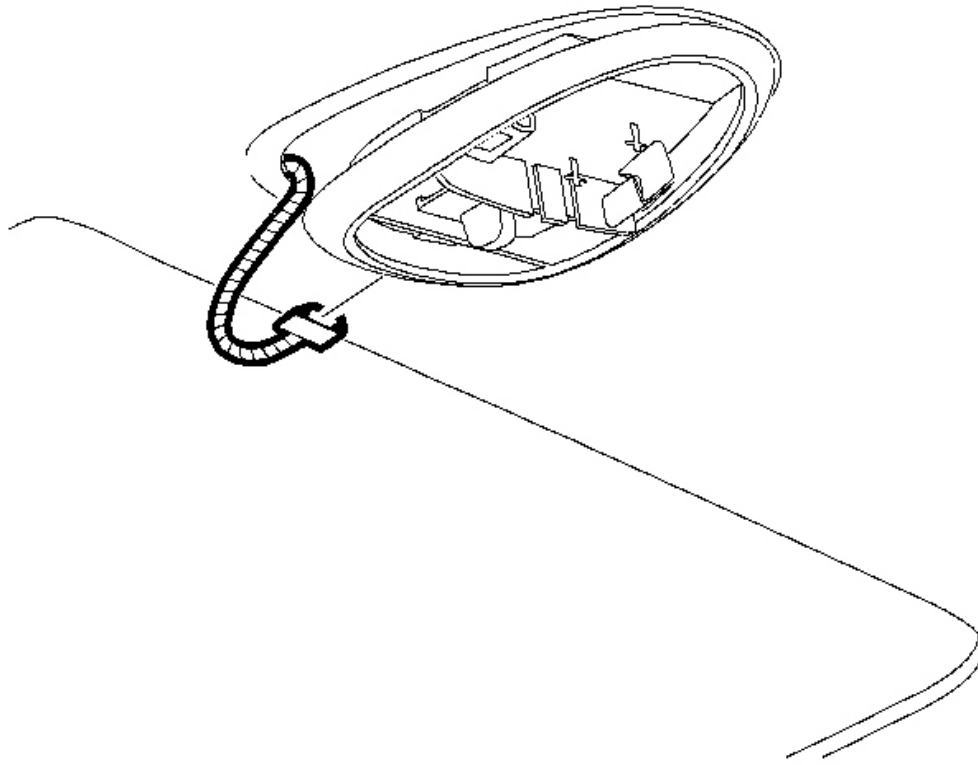
1. Using a flat-bladed tool, remove the lamp lens from the dome lamp assembly.
2. Using a small flat-bladed tool, disengage the dome lamp attaching clips by gently prying at each side of the retaining tab while pulling the tab off of the headliner.
3. Pull the forward edge of the dome lamp downward and rearward to disengage the lamp from the headliner.



**Fig. 63: Disconnecting Dome Lamp Electrical Connector**  
Courtesy of GENERAL MOTORS CORP.

4. Disconnect the dome lamp electrical connector.
5. Remove the dome lamp.

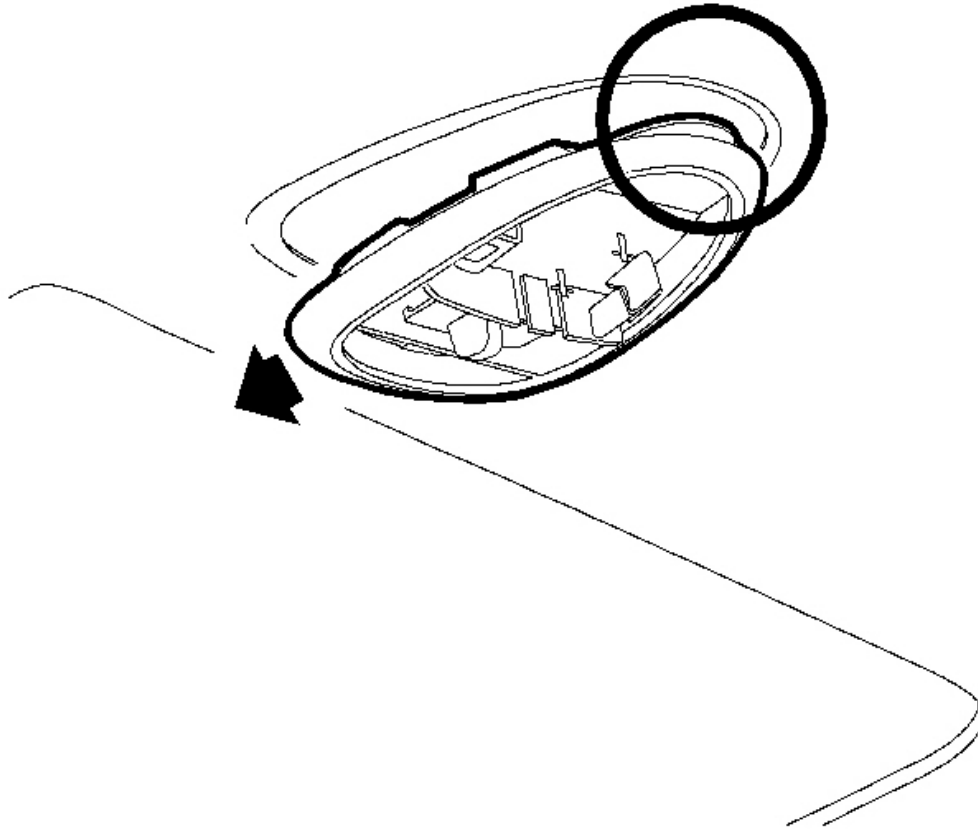
**Installation Procedure**



**Fig. 64: Disconnecting/Connecting Dome Lamp Electrical Connector**  
Courtesy of GENERAL MOTORS CORP.

1. Position the dome lamp to the headliner. Connect the dome lamp electrical harness.
2. Slide the dome lamp into place.



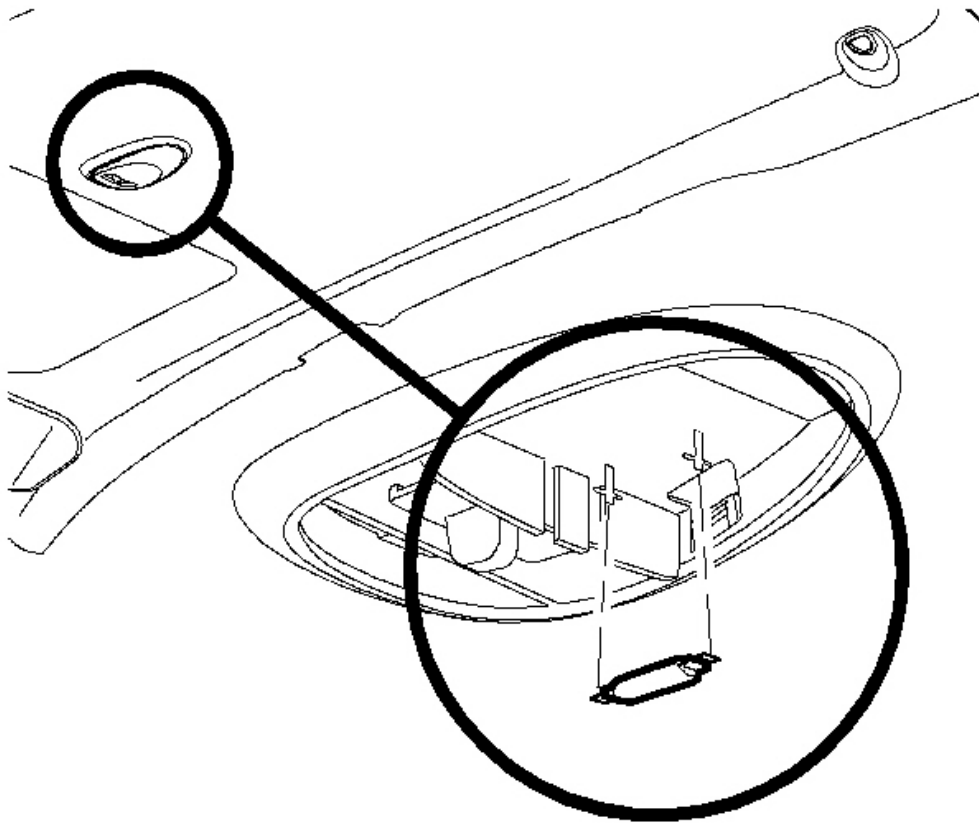


**Fig. 65: Snapping Dome Lamp Clips Into Closed Position**  
Courtesy of GENERAL MOTORS CORP.

3. Snap the dome lamp clips into the closed position.
4. Snap the lens into the dome lamp assembly.

## **DOMELAMP BULB REPLACEMENT**

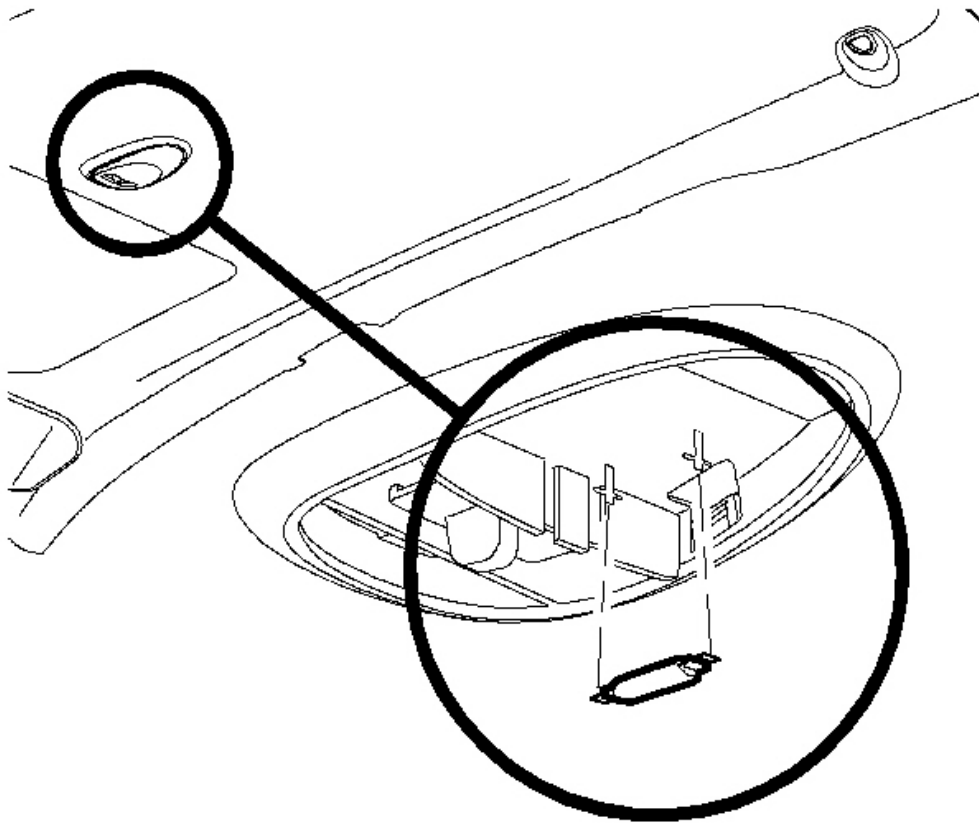
### **Removal Procedure**



**Fig. 66: View Of Dome Lamp Bulb**  
**Courtesy of GENERAL MOTORS CORP.**

1. Remove the cover from the dome lamp/cargo lamp.
2. Remove the bulb from the lamp.

**Installation Procedure**



**Fig. 67: View Of Dome Lamp Bulb**  
Courtesy of GENERAL MOTORS CORP.

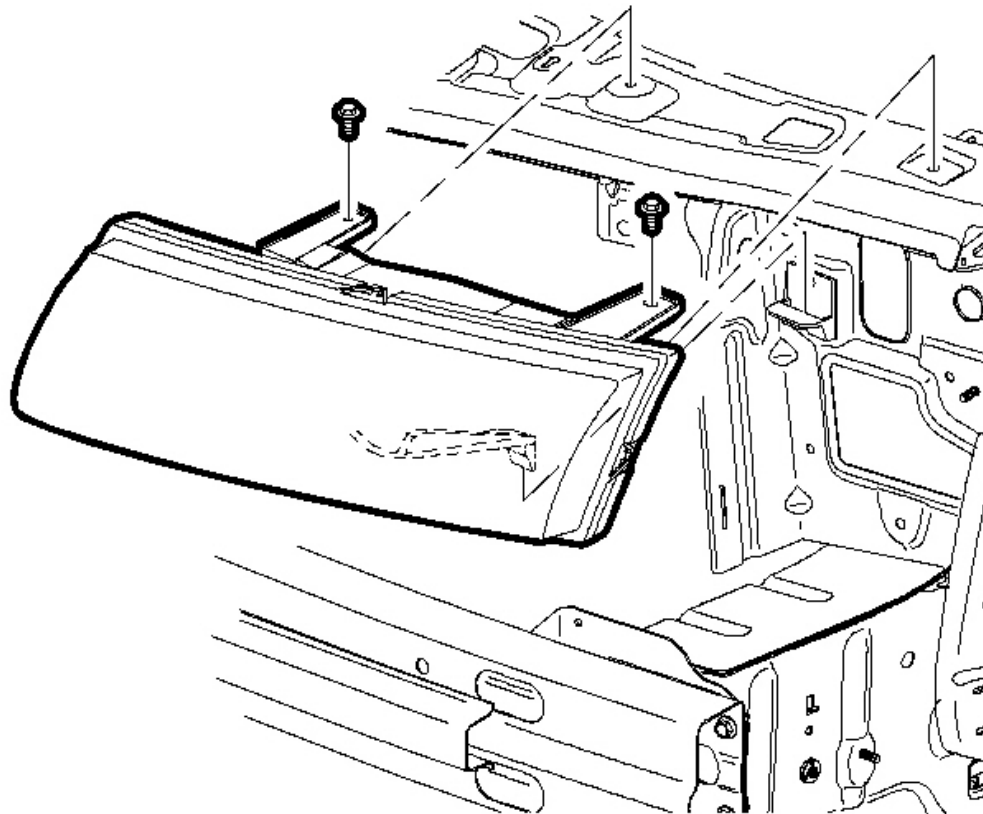
1. Install a new bulb to the lamp.
2. Install the cover to the lamp.

**HEADLAMP ASSEMBLY OR HEADLAMP BULB AND/OR CORNERING, SIDEMARKER, PARK,  
TURN SIGNAL BULB REPLACEMENT**

**Removal Procedure**

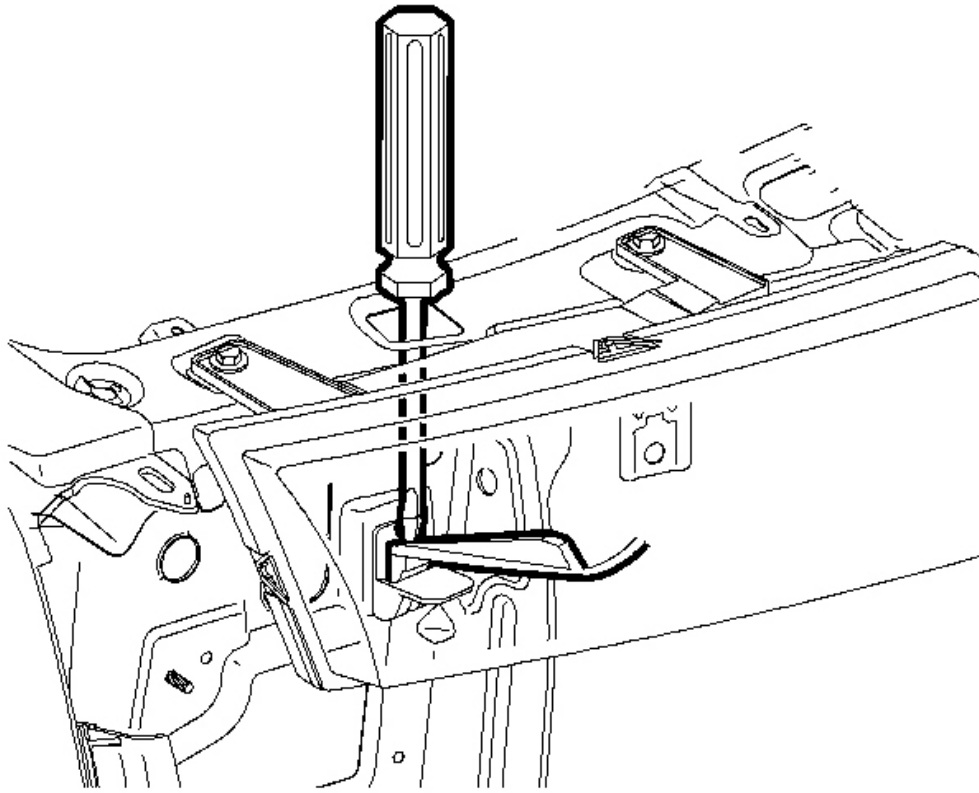
**CAUTION: Refer to Halogen Bulb Caution in Cautions and Notices.**

1. Open the hood.
2. Remove the side marker lamp. Refer to **Marker Lamp Replacement - Side** .



**Fig. 68: View Of Headlamp Assembly or Headlamp Bulb & or Cornering, Sidemarker, Park, Turn Signal Bulb**  
Courtesy of GENERAL MOTORS CORP.

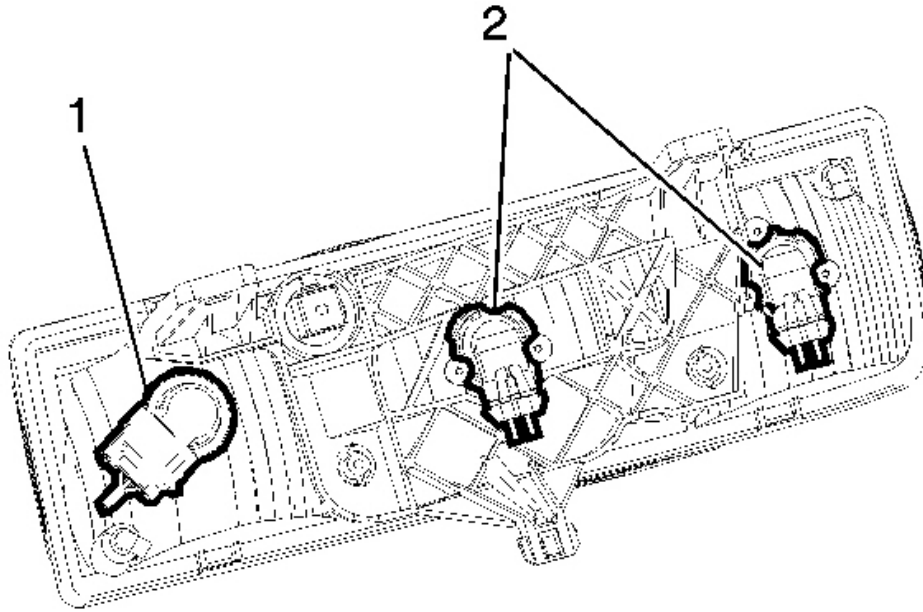
3. Remove the headlamp bracket to structure bolts.



**Fig. 69: Insert Blat-Bladed Tool To Detach Headlamp Bracket**  
Courtesy of GENERAL MOTORS CORP.

**IMPORTANT: Make sure the screwdriver tip fits through the opening in the headlamp bracket lower arm.**

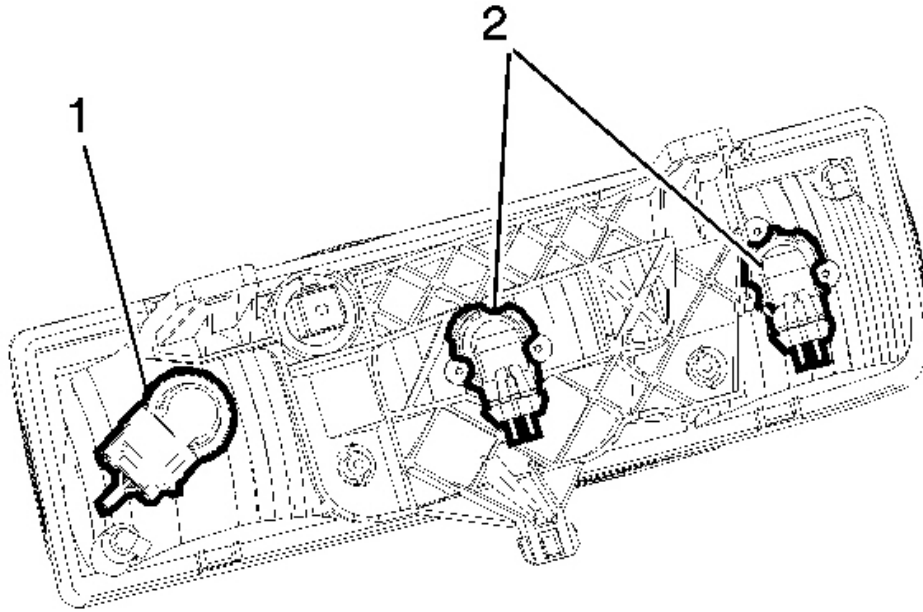
4. Insert a blat-bladed tool through the opening in the upper structure.
5. Gently push the locking tab toward the rear of the vehicle with flat-bladed tool to detach the headlamp bracket lower arm.
6. Lift headlamp assembly upward.
7. Disconnect the electrical connector from the headlamp assembly.
8. Remove the headlamp assembly away from the vehicle, if necessary.



**Fig. 70: Removing/Installing Park/Turn Bulb Into The Bulb Socket**  
Courtesy of GENERAL MOTORS CORP.

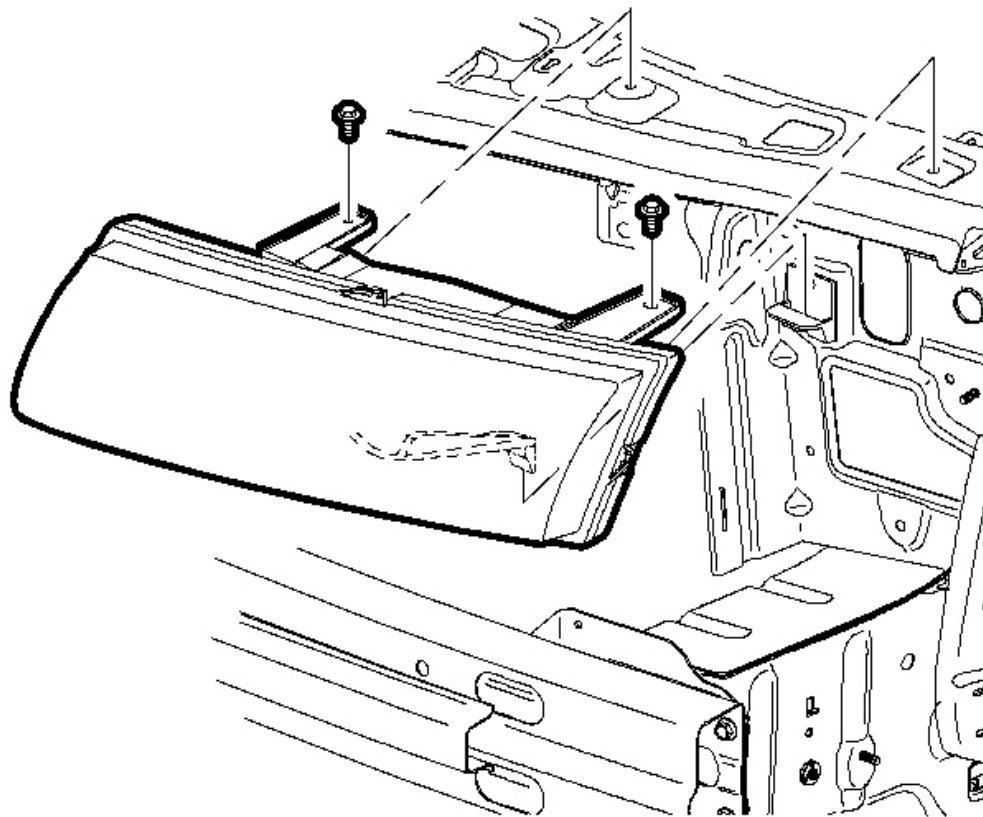
9. Rotate the headlamp bulb assembly (2) counterclockwise to remove it from the headlamp housing.
10. Remove the park/turn bulb socket (1) from the housing by rotating the socket counterclockwise, if necessary.
11. Gently pull the park/turn bulb from the socket, if necessary.

#### **Installation Procedure**



**Fig. 71: Removing/Installing Park/Turn Bulb Into The Bulb Socket**  
**Courtesy of GENERAL MOTORS CORP.**

1. Install the park/turn bulb into the bulb socket.
2. Install the park/turn bulb socket (1) into the headlamp housing by rotating the socket clockwise.
3. Install the headlamp bulb assembly (2) into the headlamp housing.
4. Rotate the headlamp bulb assembly (2) clockwise until seated.
5. Connect the headlamp bulb electrical connector.



**Fig. 72: View Of Headlamp Assembly or Headlamp Bulb & or Cornering, Sidemarker, Park, Turn Signal Bulb**

Courtesy of GENERAL MOTORS CORP.

6. Position the headlamp assembly to the vehicle.
7. Connect the electrical connector to the headlamp assembly.

**NOTE:** Refer to Fastener Notice in Cautions and Notices.

8. Install the headlamp bracket to structure bolts.

**Tighten:** Tighten the screw to 105 N.m (89 lb in).



9. Install the side marker lamp. Refer to **Marker Lamp Replacement - Side** .
10. Close the hood.

## **HEADLAMP AIMING**

### **Visual Aiming Preparation Procedure**

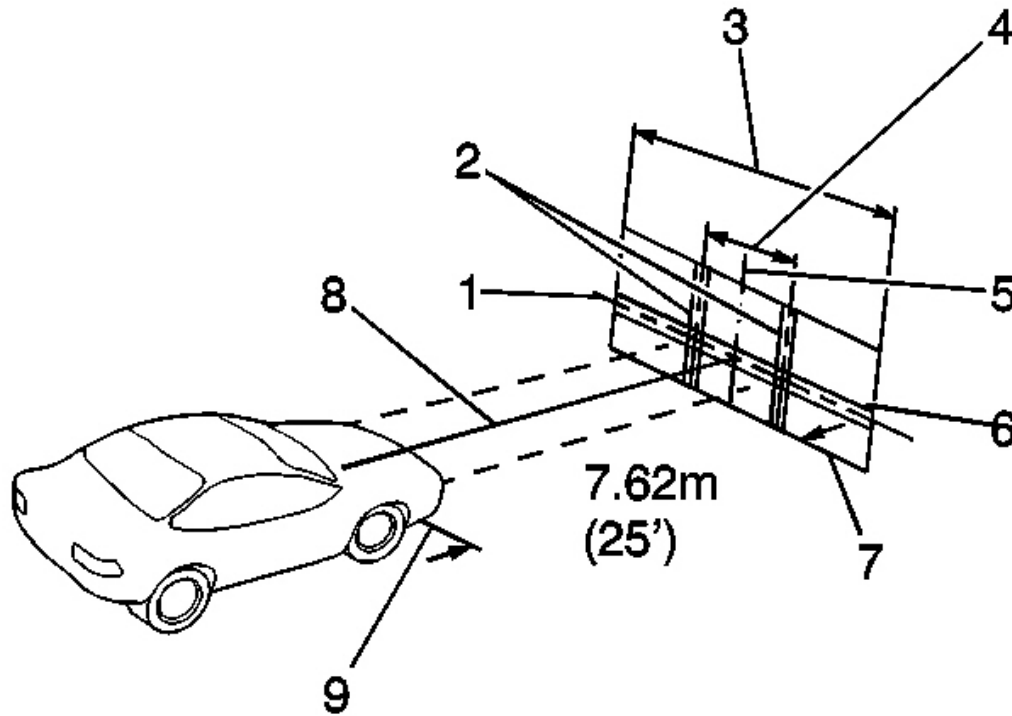
**IMPORTANT: Some state and local laws specify requirements for headlamp aim. Comply with all of these laws when performing any headlamp aiming operations.**

Headlamp aim should be checked:

- When a new headlamp capsule is installed.
- If service or repairs to the front end area have, or may have, disturbed the headlamps or their mounting.

The aiming screen should meet the following criteria:

- The area will consist of a level surface large enough to allow for a vehicle and an additional 7.62 m (25 ft) measured from face of lamps to the front of the aiming screen.
- The screen will be 1.52 m (5 ft) high x 3.66 m (12 ft) wide with a matte white surface well shaded from extraneous light, and properly adjusted to the floor on which the vehicle stands. Provisions should be made to align the aiming screen parallel with the vehicle.
- The screen shall be provided with a fixed vertical centerline, two laterally adjustable vertical tapes, and one vertically adjustable horizontal tape.
- If a regular commercial aiming screen is not available, the screen may consist of a vertical wall having a clear uninterrupted area approximately 1.83 m (6 ft) high and 3.66 m (12 ft) wide. The surface should be finished with a washable non-gloss white paint.

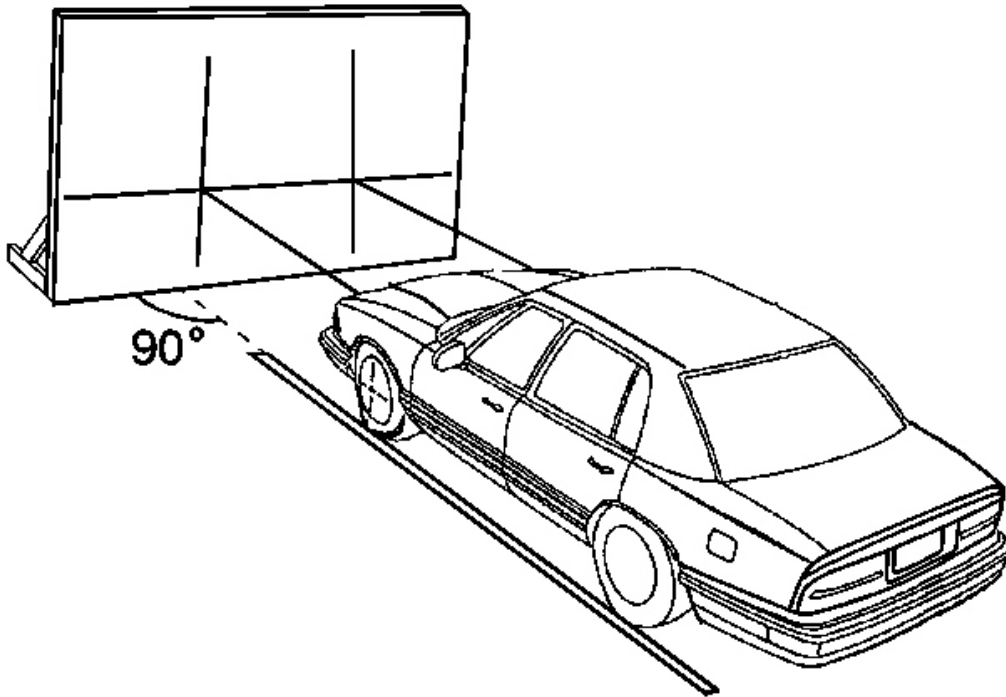


**Fig. 73: View Of Headlamp Aiming**  
**Courtesy of GENERAL MOTORS CORP.**

- After the aiming screen has been set up in a permanent location, paint a reference line on the floor directly under the lens of the lamps to indicate the proper location of the headlamps when they are being aimed:
  - Distance between headlamps (1)
  - Center line of screen (2)
  - Adjustable vertical pointer (3)
  - Adjustable horizontal tape (4)
  - Diagram of light screen (5)
  - Vertical center line ahead of right headlamp pointer position (6)
  - 7.62 m (25 ft) (7)
  - Car axis (8)
  - Adjustable vertical pointer
  - Horizontal center line of lamps
  - Vertical center line ahead of left headlamp

Prior to aiming the headlamps, the following steps must be taken:

1. Remove any snow, ice or mud from the vehicle.
2. The vehicle must have a full tank of gas.
3. Stop all other work on the vehicle.
4. If any service has been performed on the vehicle, make sure that all of the components are back in their original place.
5. The vehicle must be on a level surface.



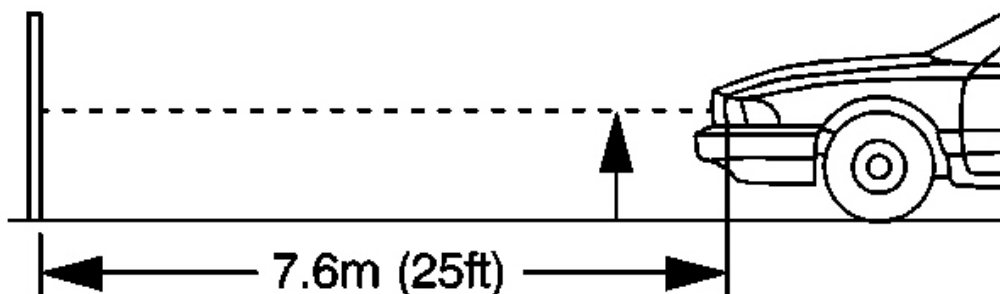
**Fig. 74: Identifying Aiming Screen & Vehicle Alignment**  
Courtesy of GENERAL MOTORS CORP.

6. The vehicle left tires must be aligned with the reference line extending from the screen with the headlamps aligned with the reference line.
7. Do not load any cargo in the vehicle.
8. The vehicle must contain approximately 75 kg (165 lb) on the driver seat.
9. Inflate the tires to the proper pressure.
10. Simulate the vehicle loads if the intended use of the vehicle is for hauling heavy loads or towing a trailer.

11. Rock the vehicle in order to stabilize the suspension.
12. Turn on the headlamps to low beam and observe the left and the top edges of the high intensity zone on the screen. The edges of the high intensity zone should fall within the specifications.

### Headlamp Aiming Procedure

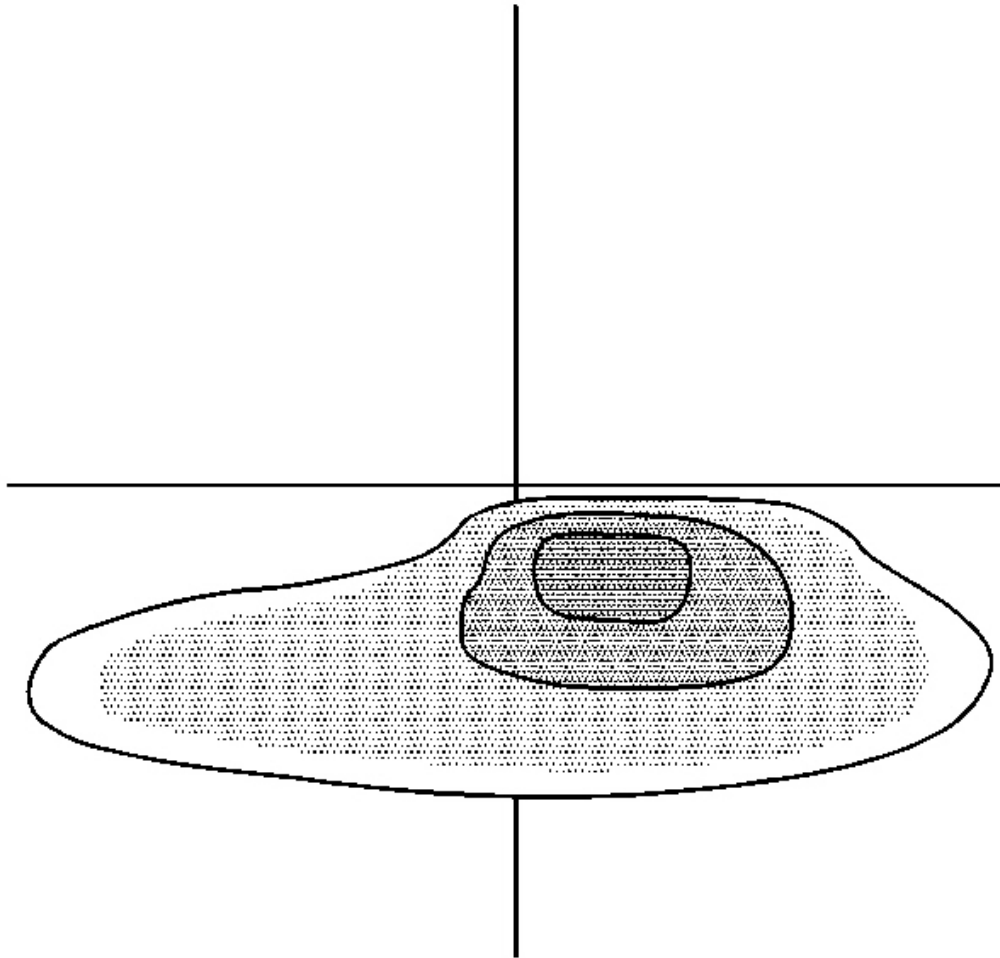
1. Open the hood.



**Fig. 75: Measuring Headlamp Bulb Centerline**  
Courtesy of GENERAL MOTORS CORP.

2. Measure from the floor to the center of the headlamp bulb. Some headlamps have an aim dot marked on the headlamp lens.
3. At the screen, measure from the floor and place the horizontal tape at the measured distance.
4. Measure from the reference line on the floor to the left headlamp bulb centerline.
5. At the screen, measure from the reference line and place the vertical tape at the measured distance.
6. Measure from the reference line on the floor to the right headlamp bulb centerline.
7. At the screen, measure from the reference line and place the vertical tape at the measured distance.

**IMPORTANT: DO NOT cover the headlamp. This may cause excessive heat build up.**



**Fig. 76: Measuring Headlamp Vertical Adjustment**  
Courtesy of GENERAL MOTORS CORP.

8. Turn ON the low beam headlamps. Block the light from projecting onto the screen from the passenger side headlamp.

**IMPORTANT: The headlamps can not be adjusted horizontally.**

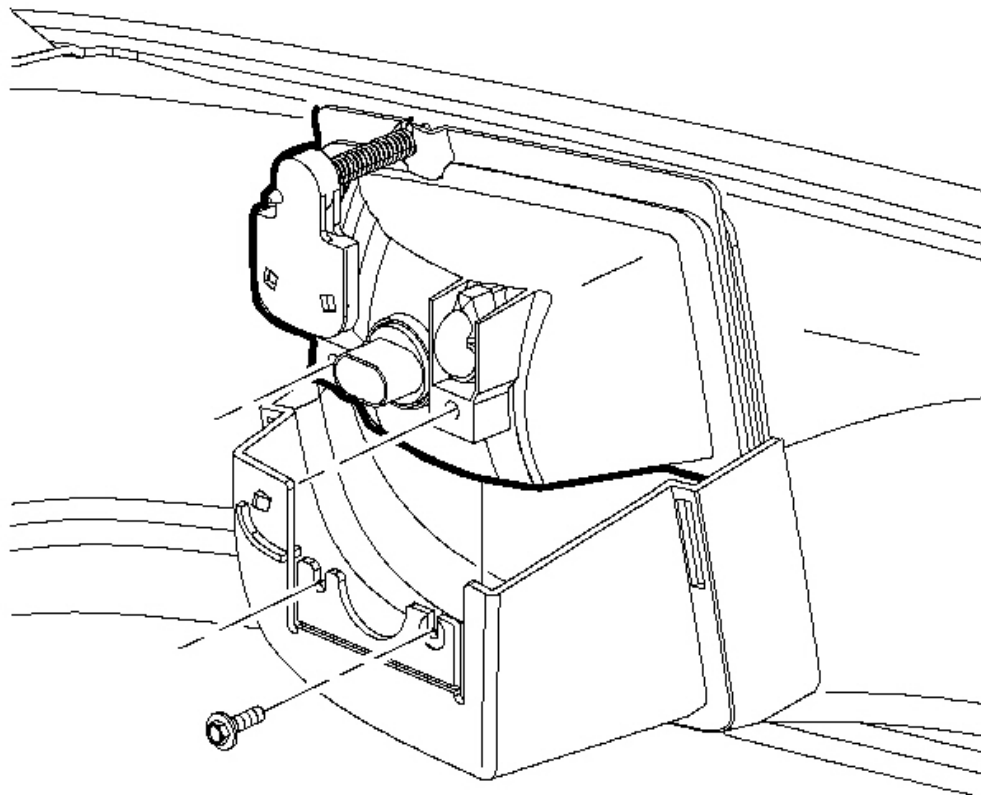
9. Adjust the vertical aim screw, located on the top of the headlamp bracket, to the specifications required by the state and the local authorities, or as shown in step number 8.
10. Repeat the aiming procedure for the passenger side headlamp while blocking the light from projecting onto the screen from the driver side headlamp.

11. Turn the headlamps OFF.
12. Close the hood.

## **FOG LAMP REPLACEMENT - FRONT**

### **Removal Procedure**

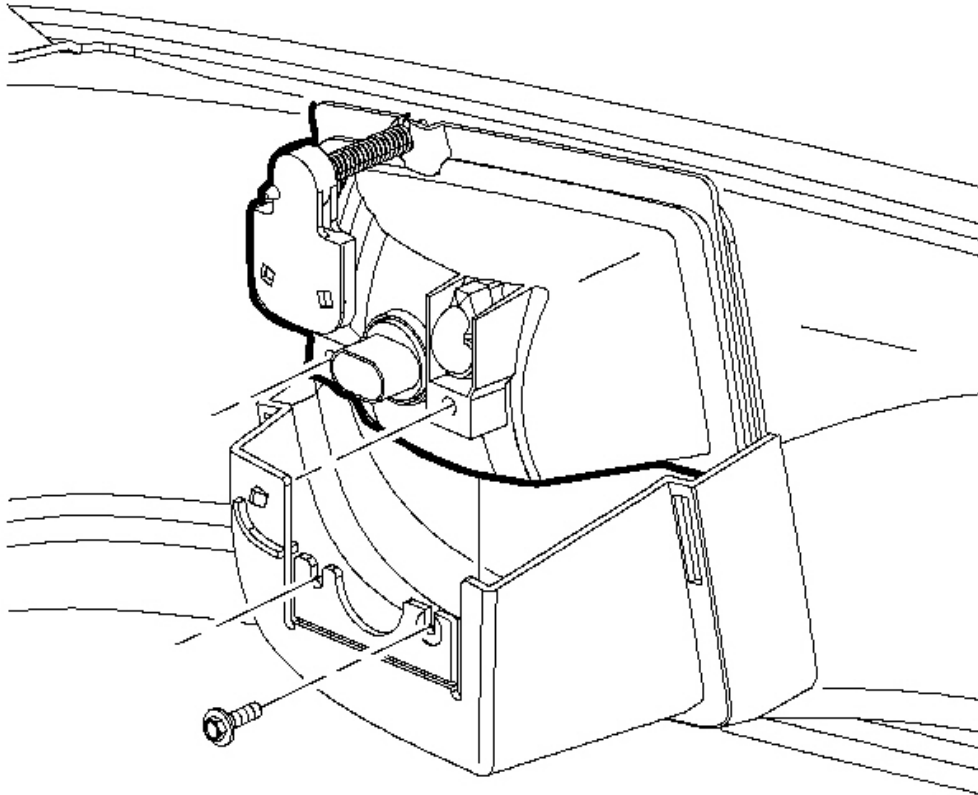
1. Remove the headlamp. Refer to **Headlamp Assembly or Headlamp Bulb and/or Cornering, Sidemarker, Park, Turn Signal Bulb Replacement** in Bumpers.



**Fig. 77: View Of Front Fog Lamp**  
Courtesy of GENERAL MOTORS CORP.

2. Using a small flat blade screwdriver free the fog lamp adjuster bracket from the fascia.
3. Loosen the fog lamp to fascia screws.
4. Remove the fog lamp from the fascia.

### **Installation Procedure**



**Fig. 78: View Of Front Fog Lamp**  
**Courtesy of GENERAL MOTORS CORP.**

1. Position the fog lamp in the front fascia pocket.
2. Install the fog lamp adjuster bracket onto the fascia.

**NOTE:** Refer to Fastener Notice in Cautions and Notices.

3. Install the front fog lamp screws.

**Tighten:** Tighten the screws to 4 N.m (35 lb in).

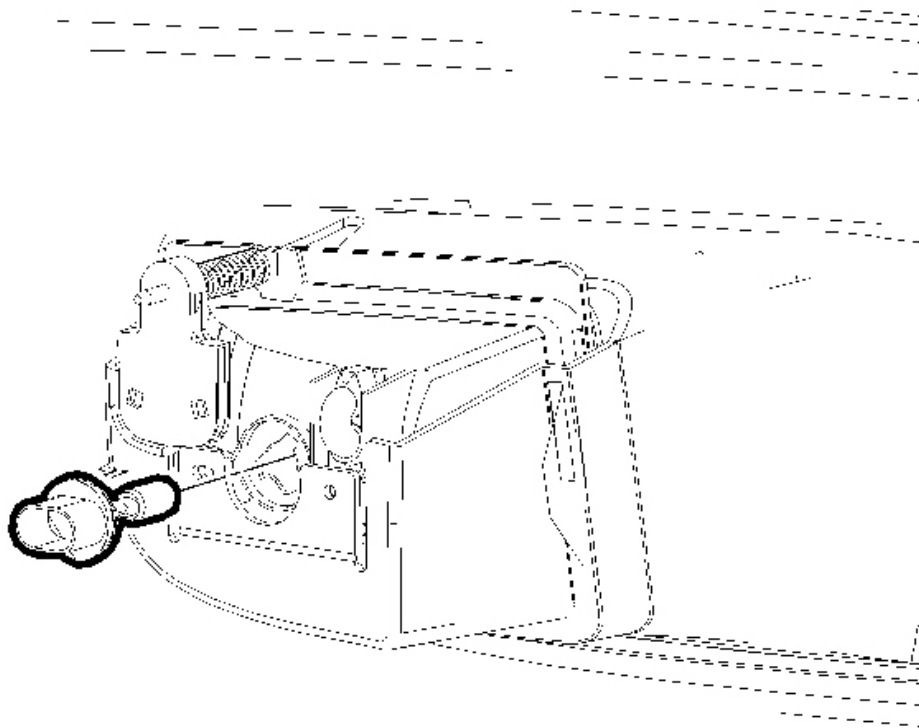
4. Install the headlamp. Refer to Headlamp Assembly or Headlamp Bulb and/or Cornering, Sidemarker, Park, Turn Signal Bulb Replacement in Bumpers.

## **FOG LAMP BULB REPLACEMENT - FRONT**

### **Removal Procedure**

**CAUTION:** Refer to Halogen Bulb Caution in Cautions and Notices.

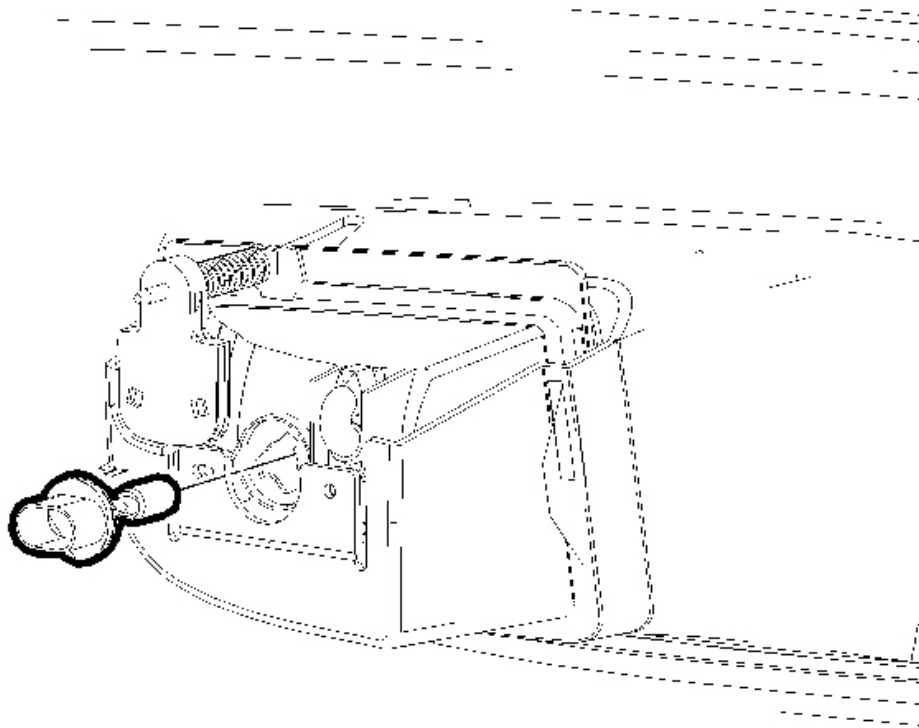




**Fig. 79: View Of Front Fog Lamp Bulb**  
**Courtesy of GENERAL MOTORS CORP.**

1. Remove the headlamp and reach through the opening. Refer to **Headlamp Assembly or Headlamp Bulb and/or Cornering, Sidemarker, Park, Turn Signal Bulb Replacement** .
2. Disconnect the fog lamp bulb electrical connector by slightly lifting on the locking tab while pulling the connector rearward.
3. Rotate the fog lamp bulb assembly counterclockwise to remove it from the fog lamp housing.

#### **Installation Procedure**

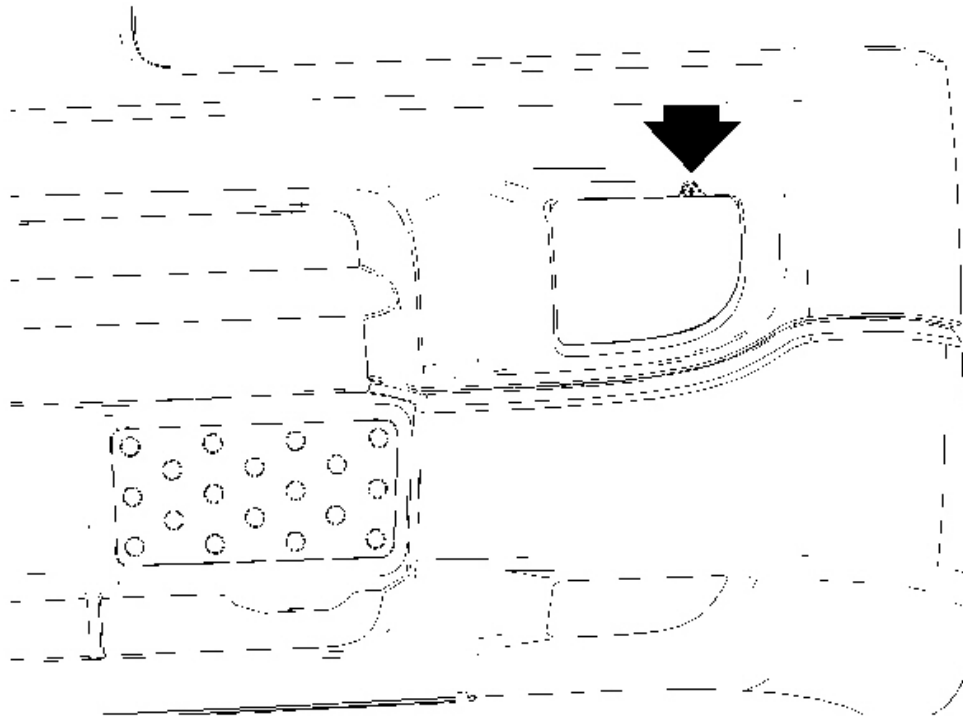


**Fig. 80: View Of Front Fog Lamp**  
**Courtesy of GENERAL MOTORS CORP.**

1. Install the fog lamp bulb into the fog lamp housing.
2. Rotate the fog lamp bulb assembly clockwise until seated.
3. Connect the fog lamp bulb electrical connector to the fog lamp bulb assembly.
4. Install the headlamp. Refer to **Headlamp Assembly or Headlamp Bulb and/or Cornering, Sidemarker, Park, Turn Signal Bulb Replacement** .

## **FOG LAMP AIMING PROCEDURE**

### **Preparation Procedure**



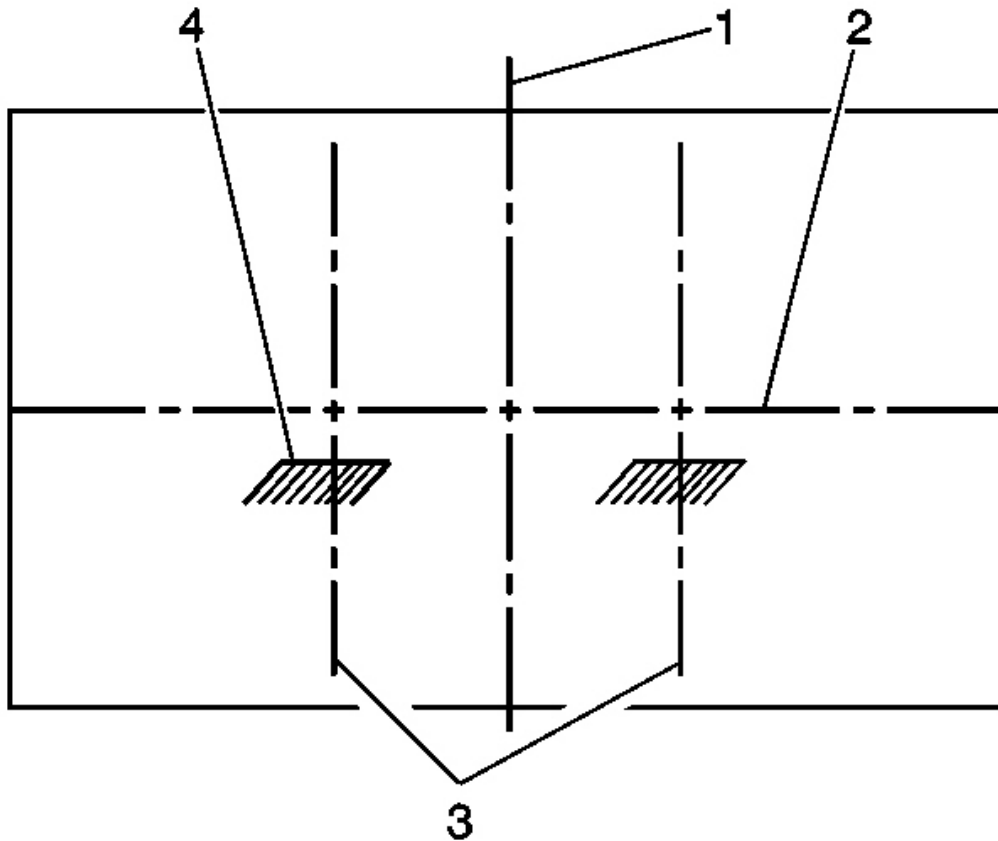
**Fig. 81: View Of Fog Lamp Aiming**  
Courtesy of GENERAL MOTORS CORP.

**IMPORTANT:** Horizontal aim is not adjustable on this vehicle. Vertical aim is done by an adjusting screw located in the fascia fog lamp opening. Prior to aiming the fog lamps, perform the following steps:

1. Completely assemble all of the components on the vehicle.
2. Place the vehicle on a level surface.
3. Stop all unnecessary operations or work that could affect the ride height of the vehicle.
4. Close the doors and verify that the luggage compartment is empty.
5. Stabilize the suspension by rocking the vehicle sideways.

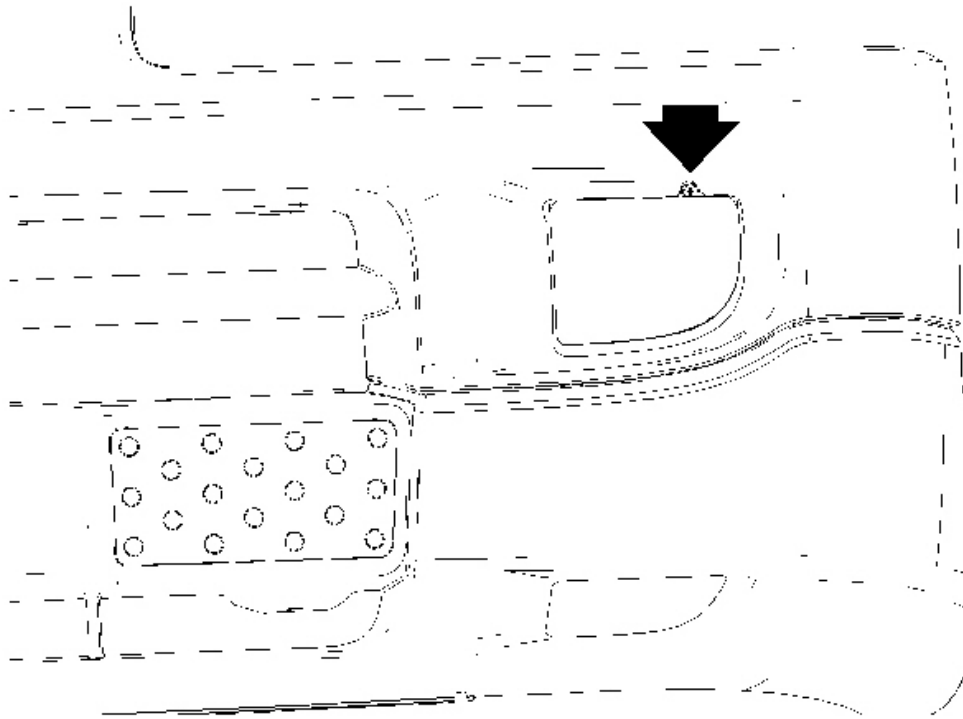
6. Ensure that the fuel level is full.
7. Ensure that the tires are inflated to the proper pressure.
8. Ensure that the driver or a similar weight, approximately 75 kg (165 lb), is in the vehicle driver seat.

#### Aiming Procedure



**Fig. 82: Measuring Fog Lamp Centerline**  
Courtesy of GENERAL MOTORS CORP.

1. Park the vehicle 7.6 m (25 ft) away from the target screen.
2. Measure from the center of the fog lamp to the ground line. Using this measurement, mark the horizontal centerline (3) of the fog lamp on the target screen directly in front of the vehicle.
3. Turn ON the fog lamps. The top of the fog lamp beam image (4) on the target screen should be 102 mm (4 in) below the center of the fog lamp lens height.

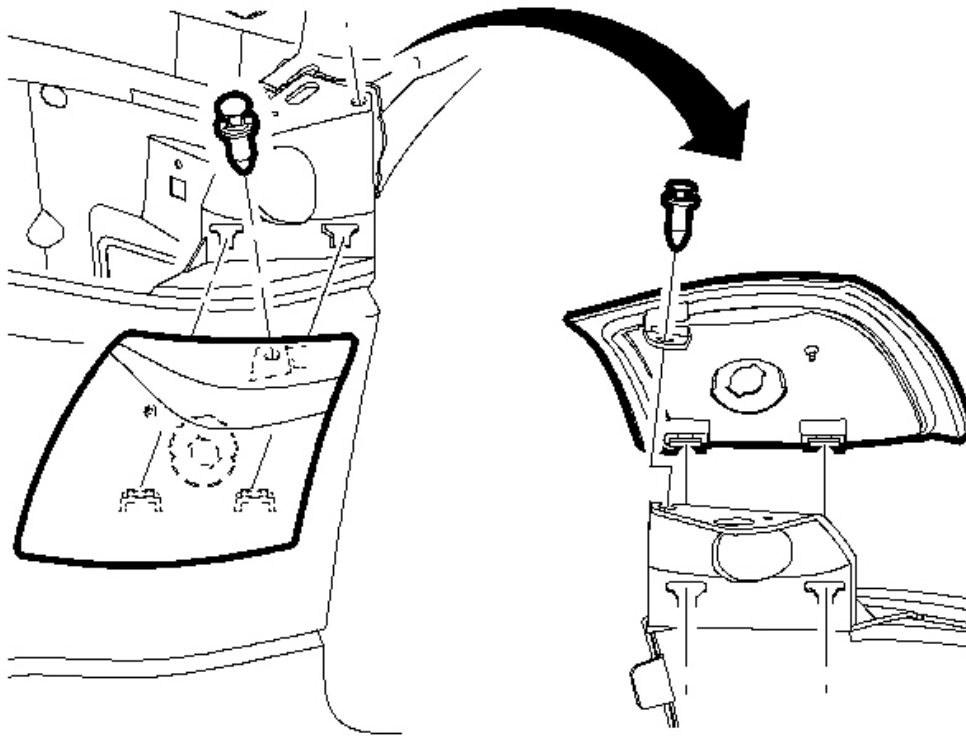


**Fig. 83: View Of Fog Lamp Aiming**  
**Courtesy of GENERAL MOTORS CORP.**

4. Adjust the fog lamp as required using the adjusting screw in the fog lamp opening.
5. Turn OFF the fog lamps.

## **MARKER LAMP REPLACEMENT - SIDE**

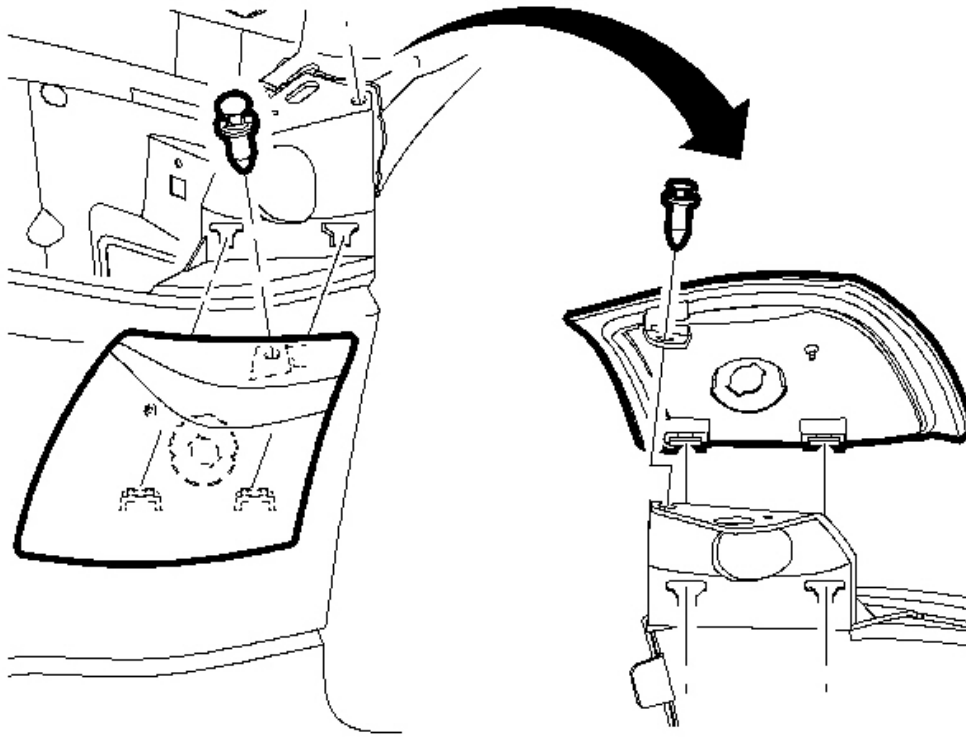
### **Removal Procedure**



**Fig. 84: View Of Side Marker Lamp**  
Courtesy of GENERAL MOTORS CORP.

1. Remove the side marker to body push-in retainer.
2. Lift the side marker up and out of the fascia to free lower attaching tabs.
3. Rotate the side marker bulb socket assembly counterclockwise and remove it from the side marker housing.
4. Remove the side marker lamp assembly from the vehicle.

#### **Installation Procedure**



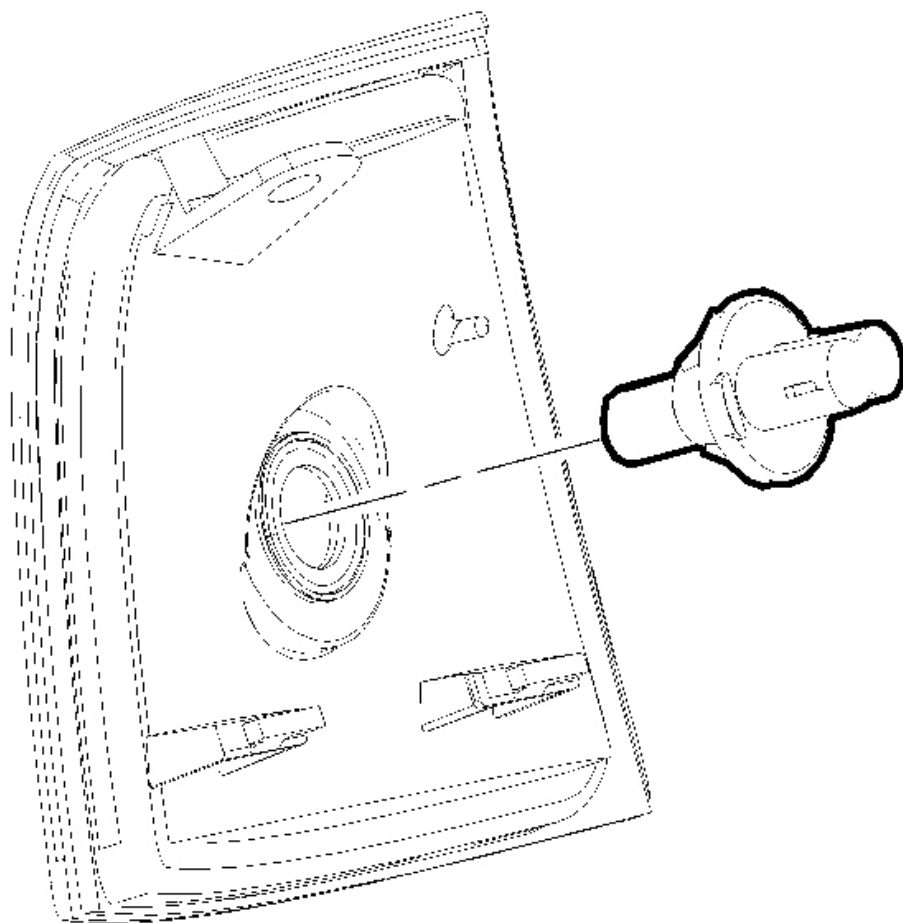
**Fig. 85: View Of Side Marker Lamp**  
Courtesy of GENERAL MOTORS CORP.

1. Insert side marker bulb assembly into side marker lamp hosing and rotate clockwise until seated.
2. align side marker lamp housing lower attaching tabs with notches in front fascia and lower into position.
3. Install the side marker to body push-in fastener.

## **MARKER LAMP BULB REPLACEMENT - SIDE**

### **Removal Procedure**

1. Remove the side marker lamp. Refer to **Marker Lamp Replacement - Side** .

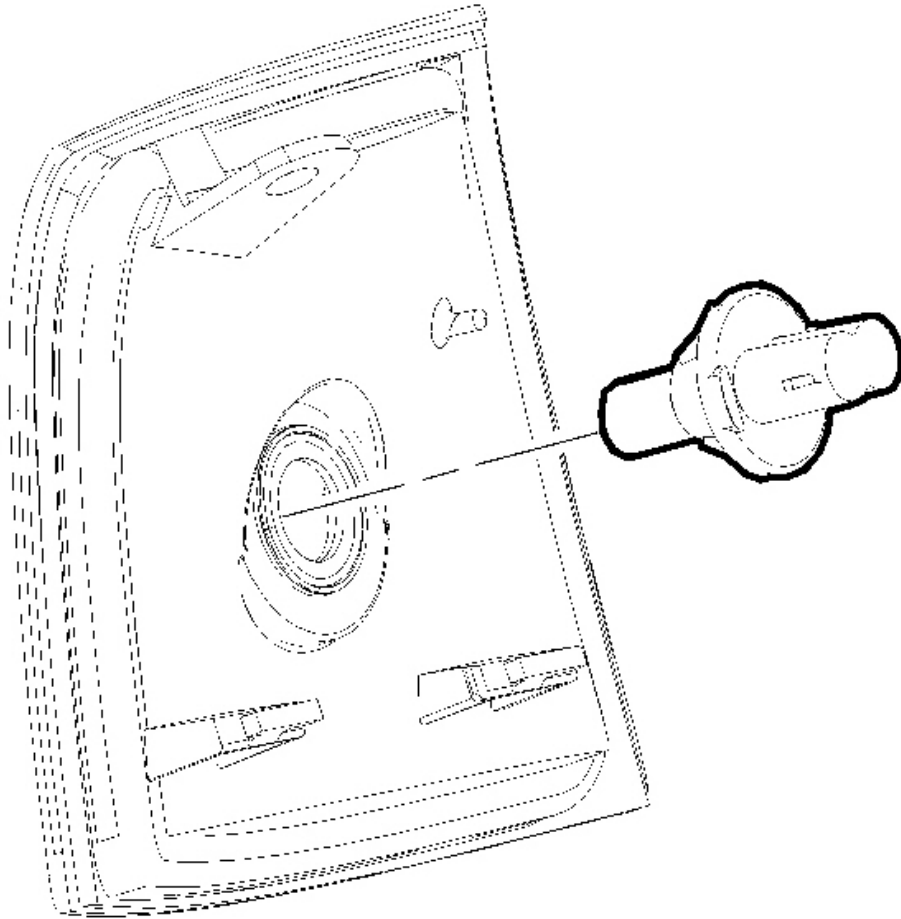


**Fig. 86: View Of Side Marker Lamp Bulb**  
**Courtesy of GENERAL MOTORS CORP.**

2. Pull the side marker bulb out of the bulb socket.

#### **Installation Procedure**



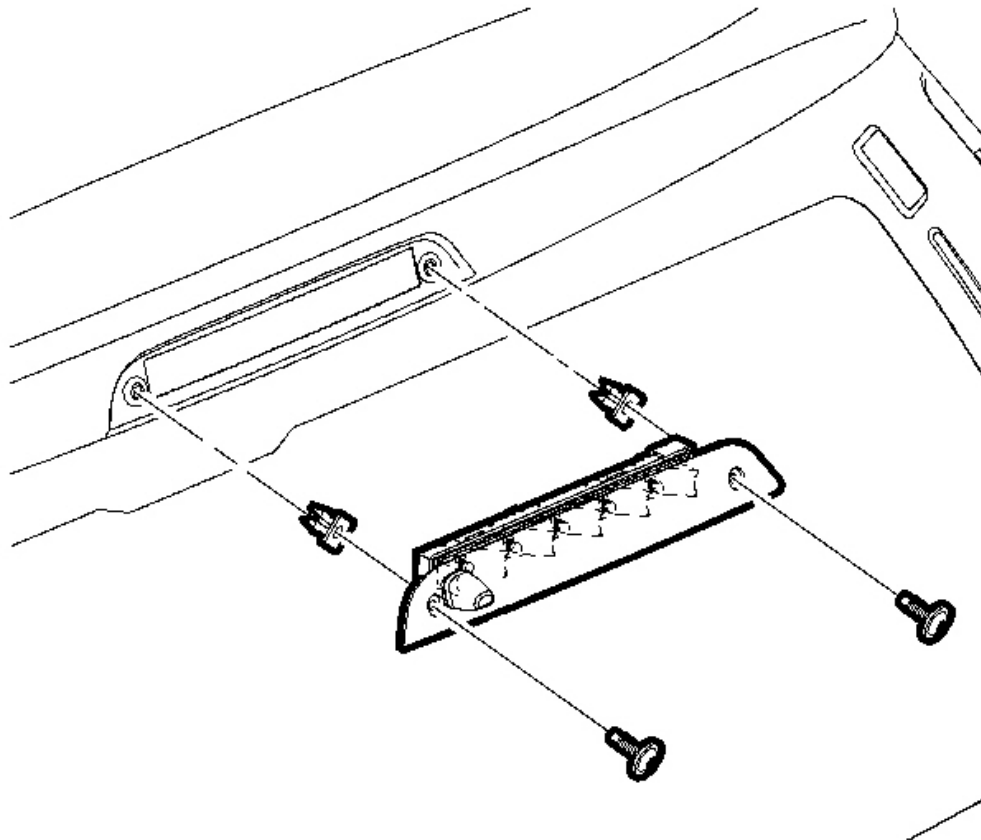


**Fig. 87: View Of Side Marker Lamp Bulb**  
**Courtesy of GENERAL MOTORS CORP.**

1. Insert the bulb into the socket.
2. Install the side marker lamp. Refer to **Marker Lamp Replacement - Side** .

## **HIGH MOUNTED STOP LAMP REPLACEMENT**

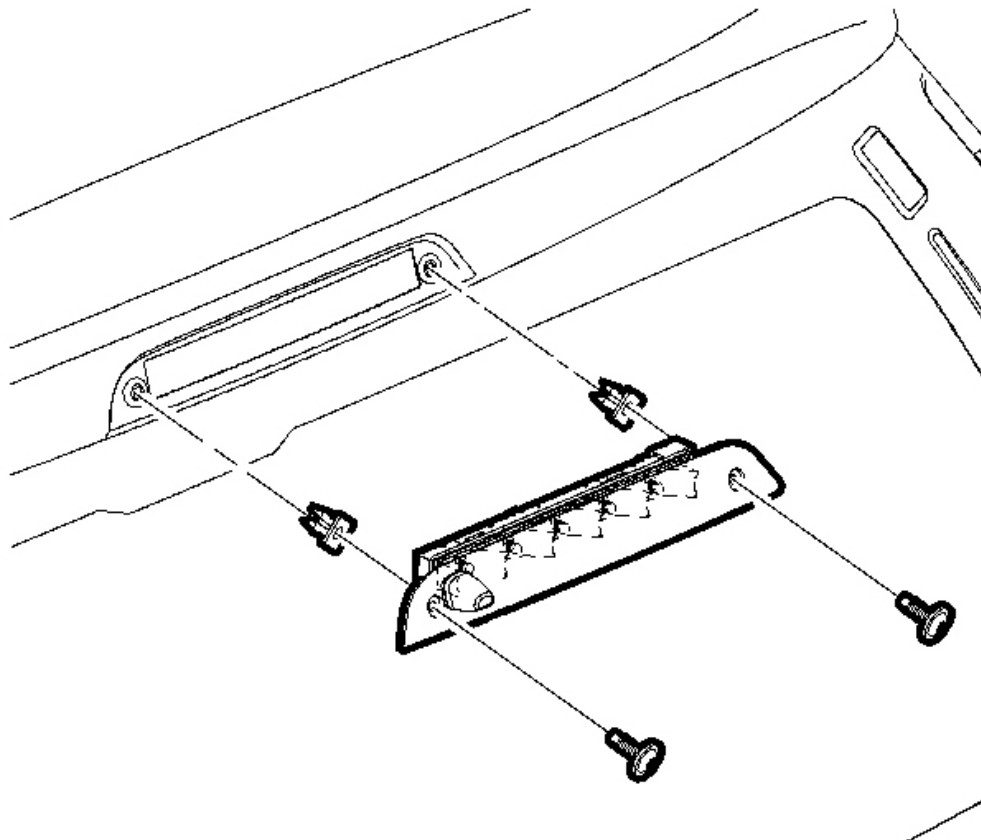
### **Removal Procedure**



**Fig. 88: View Of High Mounted Stop Lamp**  
**Courtesy of GENERAL MOTORS CORP.**

1. Remove the center high-mounted stop lamp (CHMSL) screws.
2. Carefully pull the CHMSL assembly out of the lift gate.
3. Disconnect the rear washer hose from the rear washer nozzle.
4. Disconnect the electrical connector from the CHMSL assembly.
5. Remove the CHMSL from the vehicle.

#### **Installation Procedure**



**Fig. 89: View Of High Mounted Stop Lamp**  
Courtesy of GENERAL MOTORS CORP.

1. Connect the electrical connector to the CHMSL assembly.
2. Connect the rear washer hose to the rear washer nozzle.
3. Align the CHMSL assembly with the rear lift gate.

**NOTE:** Refer to Fastener Notice in Cautions and Notices.

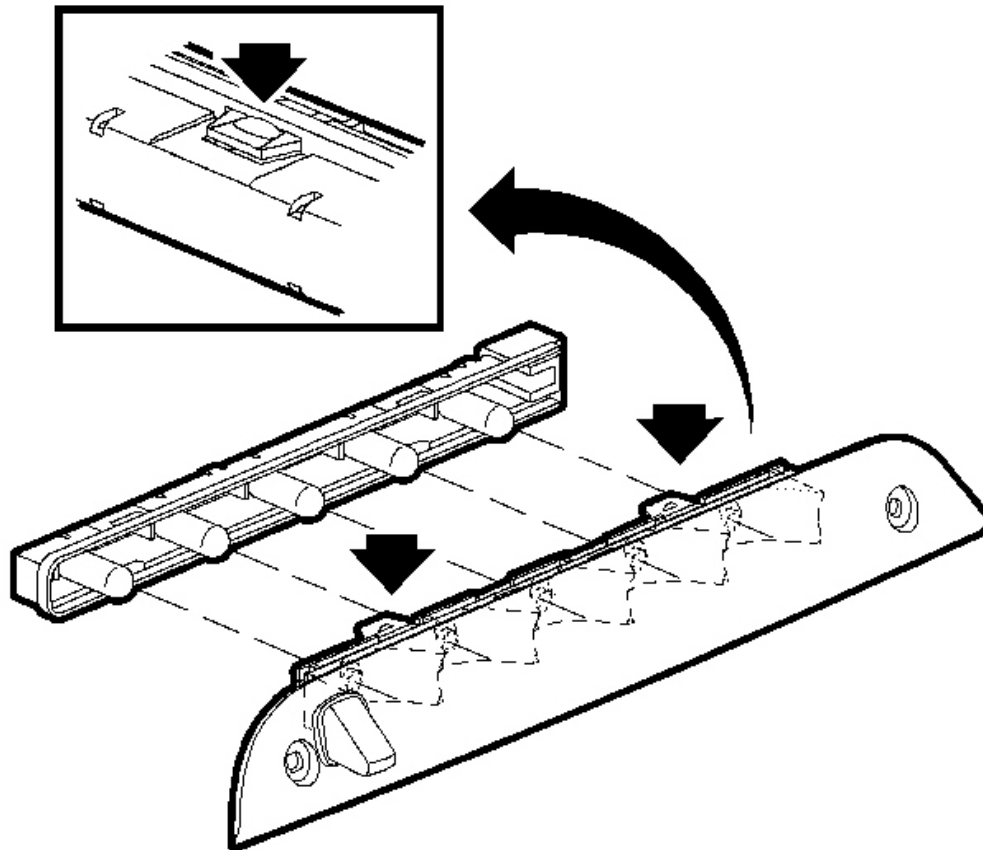
4. Install the CHMSL screws.

**Tighten:** Tighten the CHMSL screws to 1 N.m (9 lb in).

# HIGH MOUNTED STOP LAMP BULB REPLACEMENT

## Removal Procedure

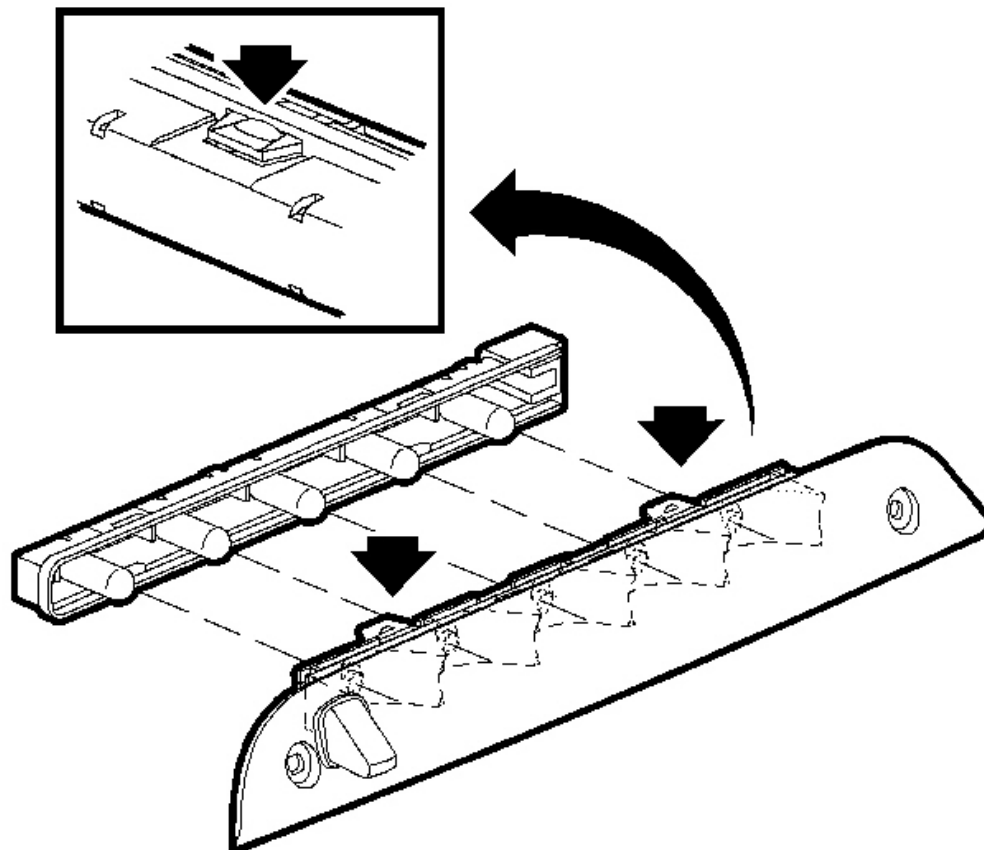
1. Remove the center high-mounted stop lamp (CHMSL). Refer to **High Mounted Stop Lamp Replacement** .



**Fig. 90: View Of High Mounted Stop Lamp Bulb**  
Courtesy of GENERAL MOTORS CORP.

2. Depress the tabs on the CHMSL lens to separate the bulb assembly from the lens.
3. Pull the bulb out of the bulb assembly.

## Installation Procedure

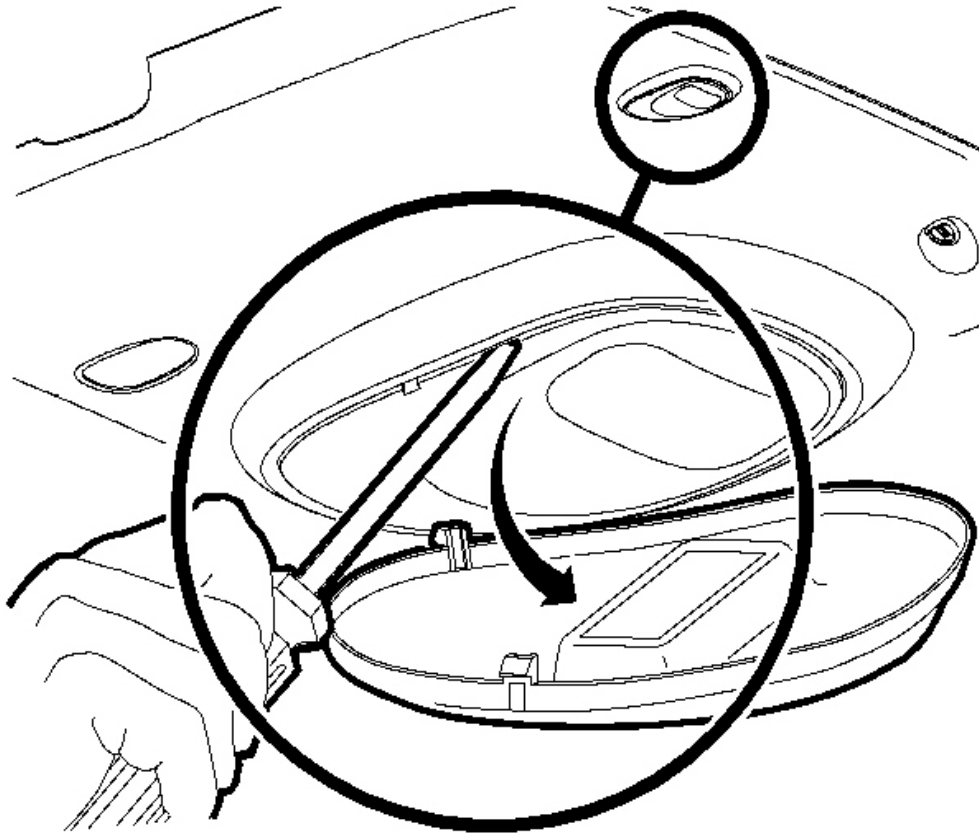


**Fig. 91: View Of High Mounted Stop Lamp Bulb**  
Courtesy of GENERAL MOTORS CORP.

1. Connect the bulb into the bulb assembly and push to seat.
2. Align the tabs on the CHMSL lens with the bulb assembly and push to seat.
3. Install the center high-mounted stop lamp (CHMSL). Refer to **High Mounted Stop Lamp Replacement** .

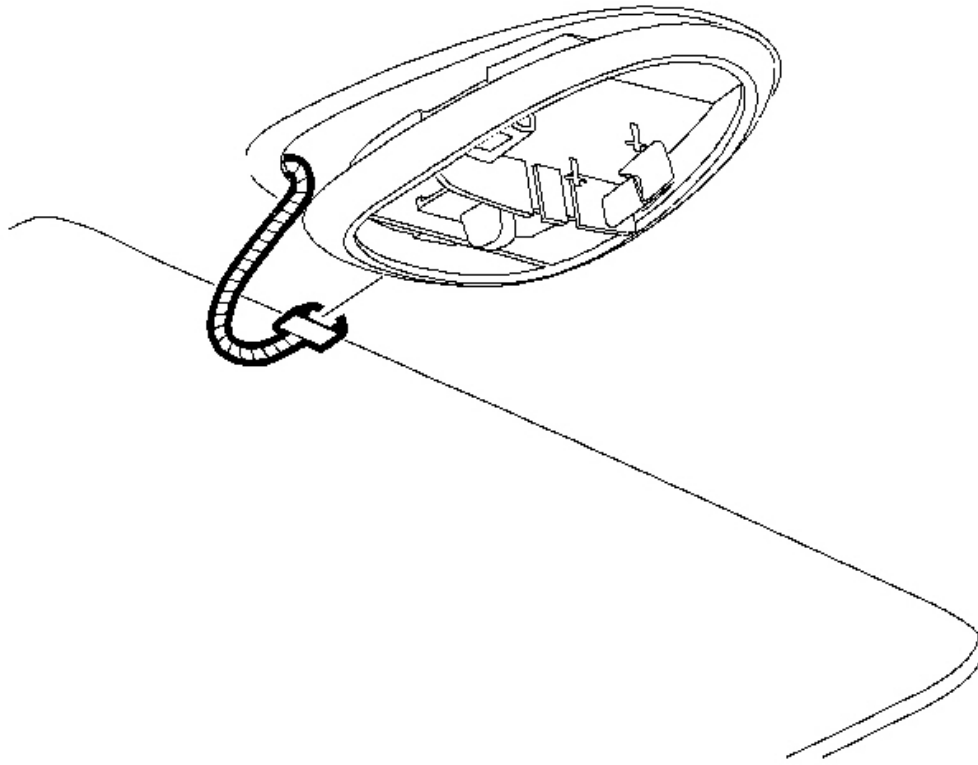
## CARGO LAMP REPLACEMENT

### Removal Procedure



**Fig. 92: View Of Cargo Lamp Assembly**  
**Courtesy of GENERAL MOTORS CORP.**

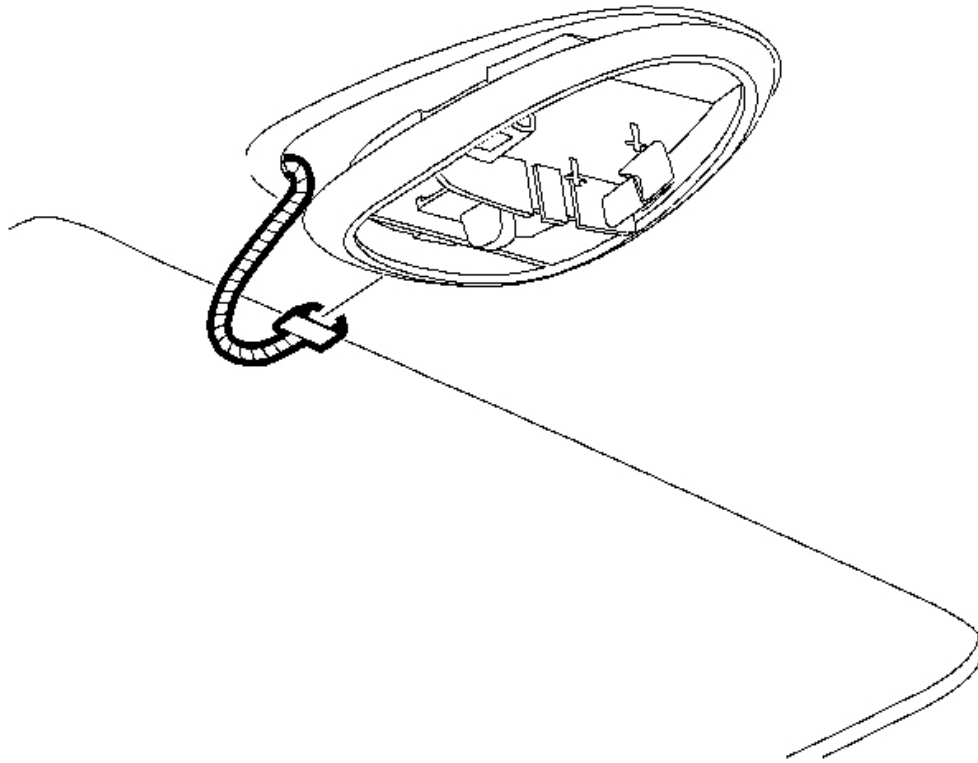
1. Using a flat-bladed tool, unsnap the lens from the cargo lamp assembly.



**Fig. 93: Disconnecting/Connecting Dome Lamp Electrical Connector**  
Courtesy of GENERAL MOTORS CORP.

2. Using a flat-bladed tool, disengage the cargo lamp attaching clips by gently prying inboard, being careful not to break the attaching clips.
3. Pull downward and rearward on the cargo lamp to disengage the lamp from the headliner.
4. Disconnect the electrical harness from the cargo lamp.
5. Remove the cargo lamp.

#### **Installation Procedure**



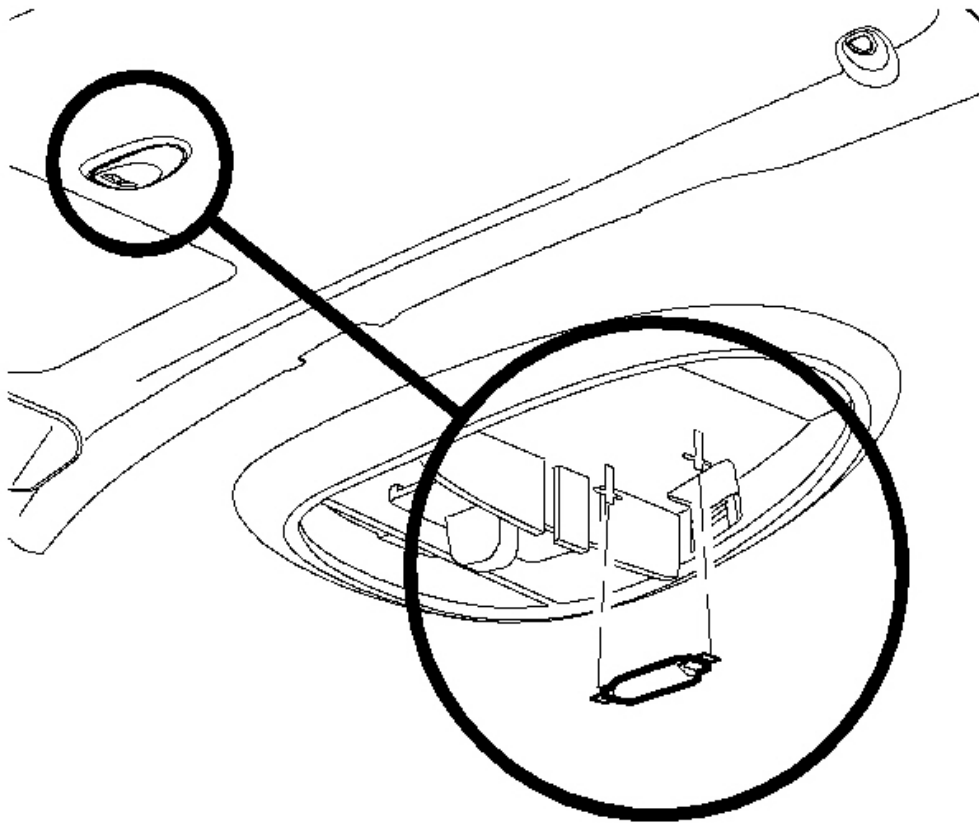
**Fig. 94: Disconnecting/Connecting Dome Lamp Electrical Connector**  
Courtesy of GENERAL MOTORS CORP.

1. Position the cargo lamp to the headliner and connect the electrical connector.
2. Slide the cargo lamp into place.
3. Snap the cargo lamp clips back into the closed position.
4. Snap the lens into the cargo lamp assembly.

## **CARGO LAMP BULB REPLACEMENT**

### **Removal Procedure**

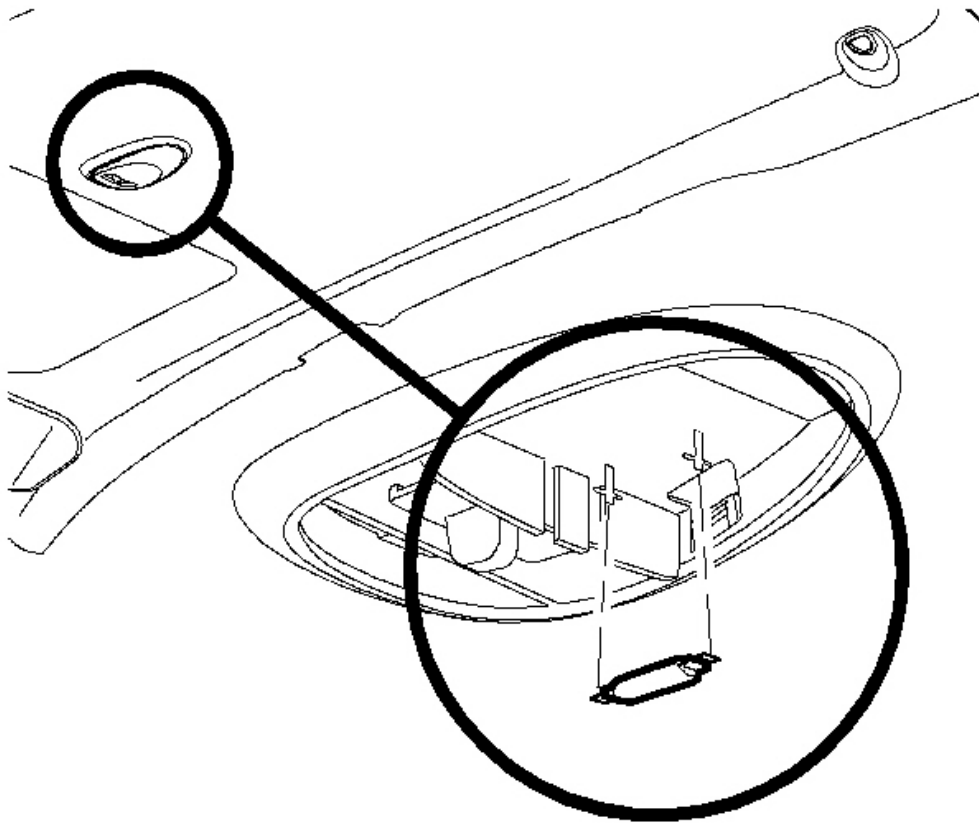




**Fig. 95: View Of Cargo Lamp Bulb**  
**Courtesy of GENERAL MOTORS CORP.**

1. Remove the cover from the dome lamp/cargo lamp.
2. Remove the bulb from the lamp.

**Installation Procedure**



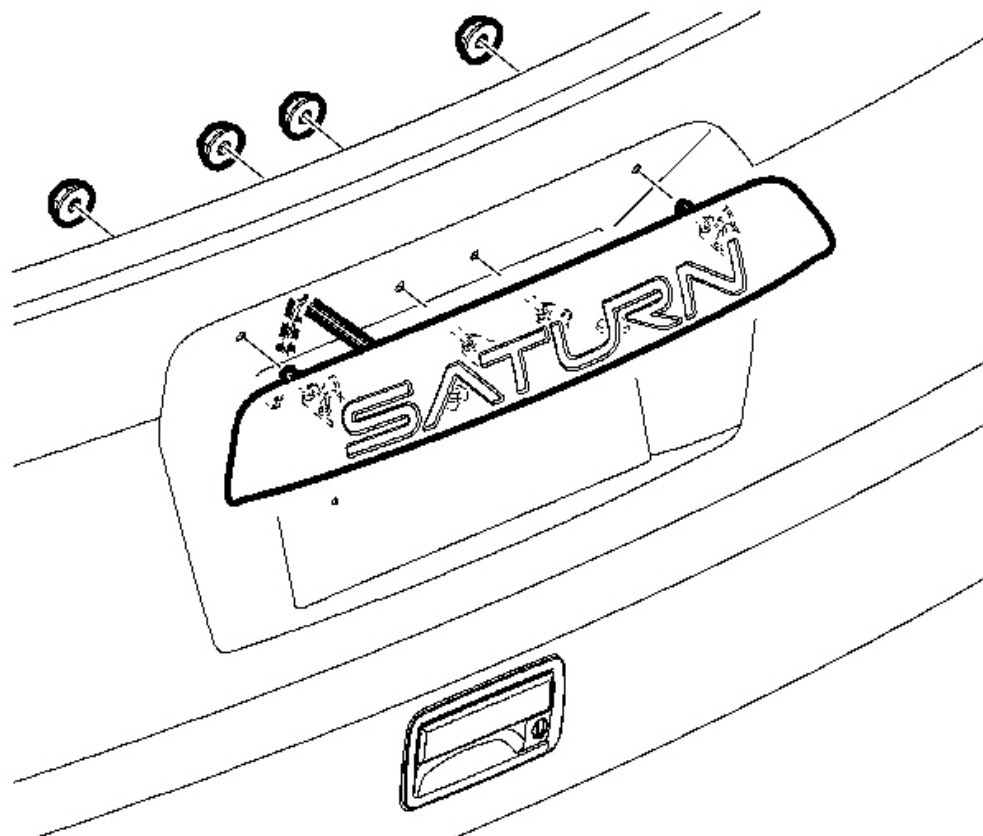
**Fig. 96: View Of Dome Lamp Bulb**  
Courtesy of GENERAL MOTORS CORP.

1. Install a new bulb to the lamp.
2. Install the cover to the lamp.

## LICENSE LAMP REPLACEMENT

### Removal Procedure

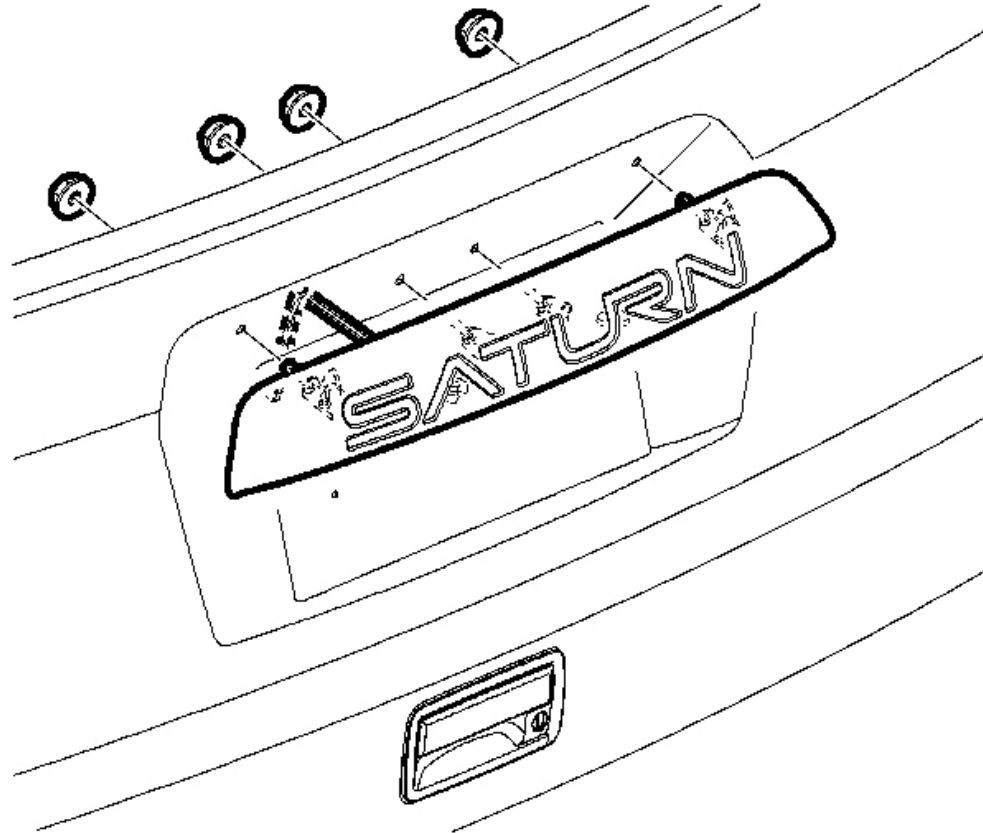
1. Remove the lift gate interior trim panel. Refer to **Trim Panel Replacement - Liftgate** in Body Rear End.
2. Remove the rear wiper assembly. Refer to **Wiper Motor Replacement - Liftgate** in Wiper/Washer Systems.



**Fig. 97: View Of License Lamp Bezel**  
**Courtesy of GENERAL MOTORS CORP.**

3. Disconnect the license lamp electrical connector.
4. Remove the license lamp bezel to lift gate nuts.
5. Remove the license bezel housing from the vehicle.

**Installation Procedure**



**Fig. 98: View Of License Lamp Bezel**  
Courtesy of GENERAL MOTORS CORP.

1. Position the license lamp bezel on the lift gate.

**NOTE:** Refer to **Fastener Notice** in Cautions and Notices.

2. Install the license lamp bezel to lift gate nuts.

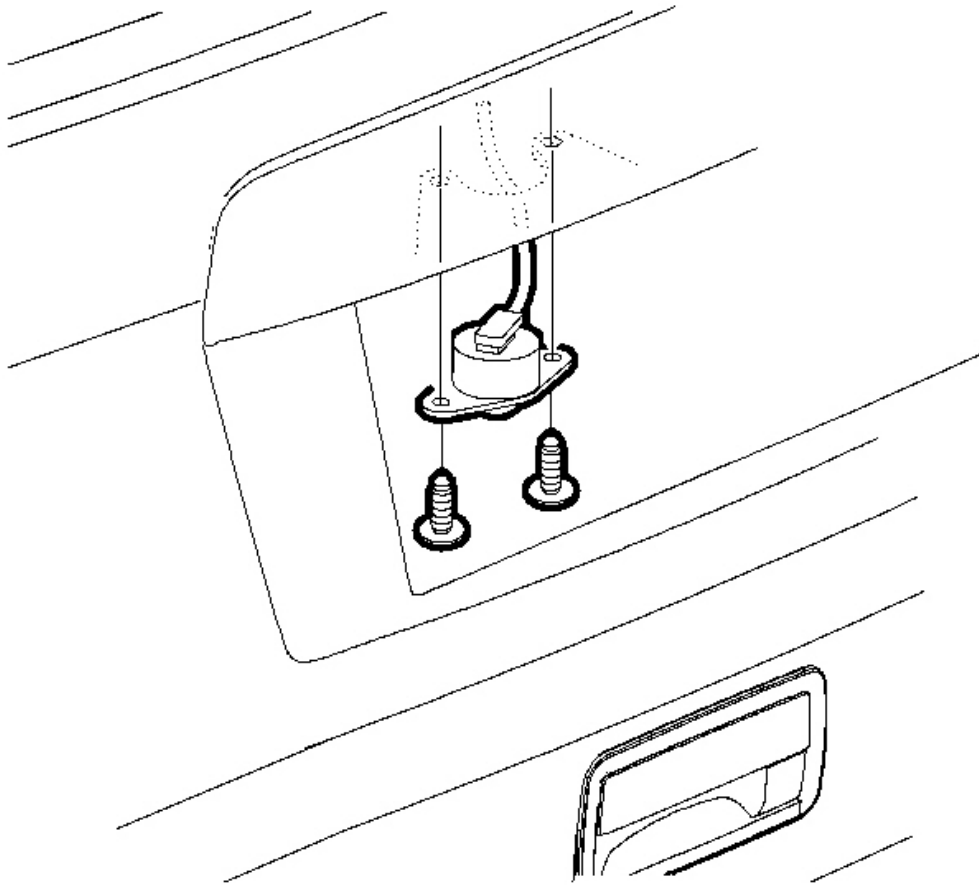
**Tighten:** Tighten the nuts to 4 N.m (35 lb in).

3. Connect the license lamp electrical connector.

4. Install the rear wiper assembly. Refer to **Wiper Motor Replacement - Liftgate** in Wiper/Washer Systems.
5. Install the lift gate interior trim panel. Refer to **Trim Panel Replacement - Liftgate** in Body Rear End.

## LICENSE LAMP BULB REPLACEMENT

### Removal Procedure

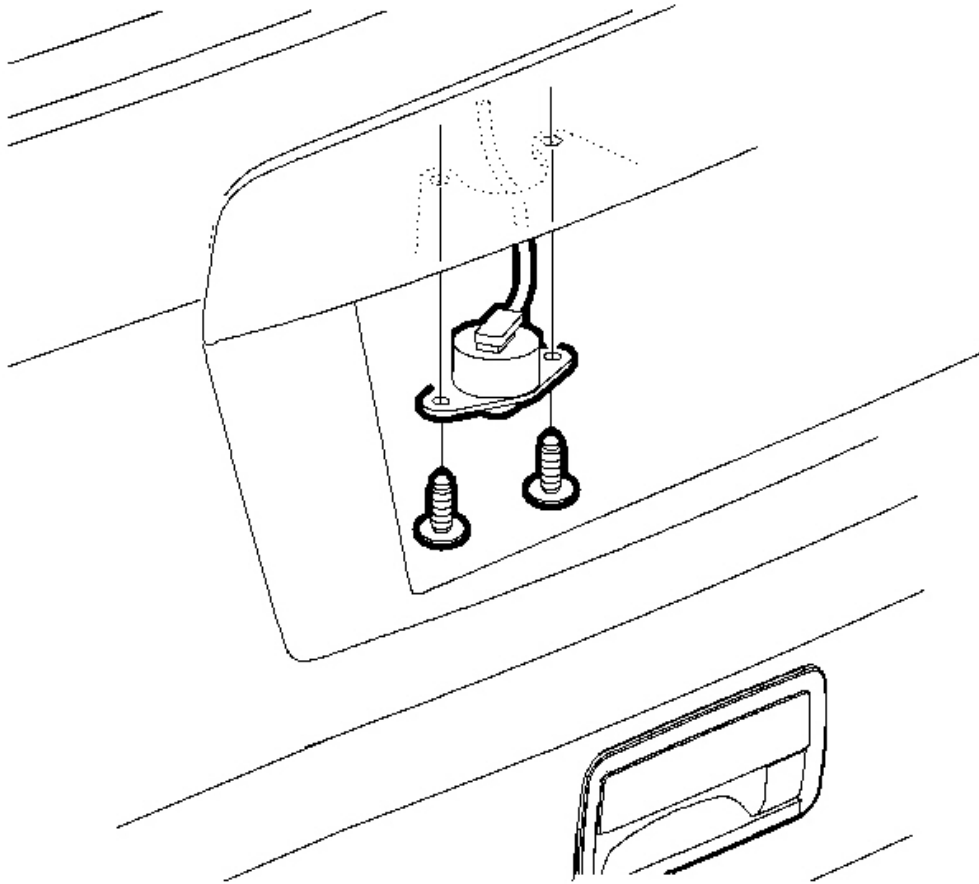


**Fig. 99: View Of License Plate Lamp Bulb**  
Courtesy of GENERAL MOTORS CORP.

1. Remove the fasteners attaching the rear license plate lamp assembly to the rear license plate lamp bezel.

2. Lower the license plate lamp assembly from the bezel.
3. Rotate the license plate lamp bulb assembly counterclockwise and remove it from the housing.
4. Pull the license plate lamp bulb out of the bulb socket.

#### **Installation Procedure**



**Fig. 100: View Of License Plate Lamp Bulb**  
**Courtesy of GENERAL MOTORS CORP.**

1. Press the license plate lamp bulb into the lamp socket until seated.
2. Install the license plate lamp bulb socket assembly in the license plate lamp lens and rotate clockwise until seated.

3. Align license plate lamp assembly with the license plate lamp bezel.

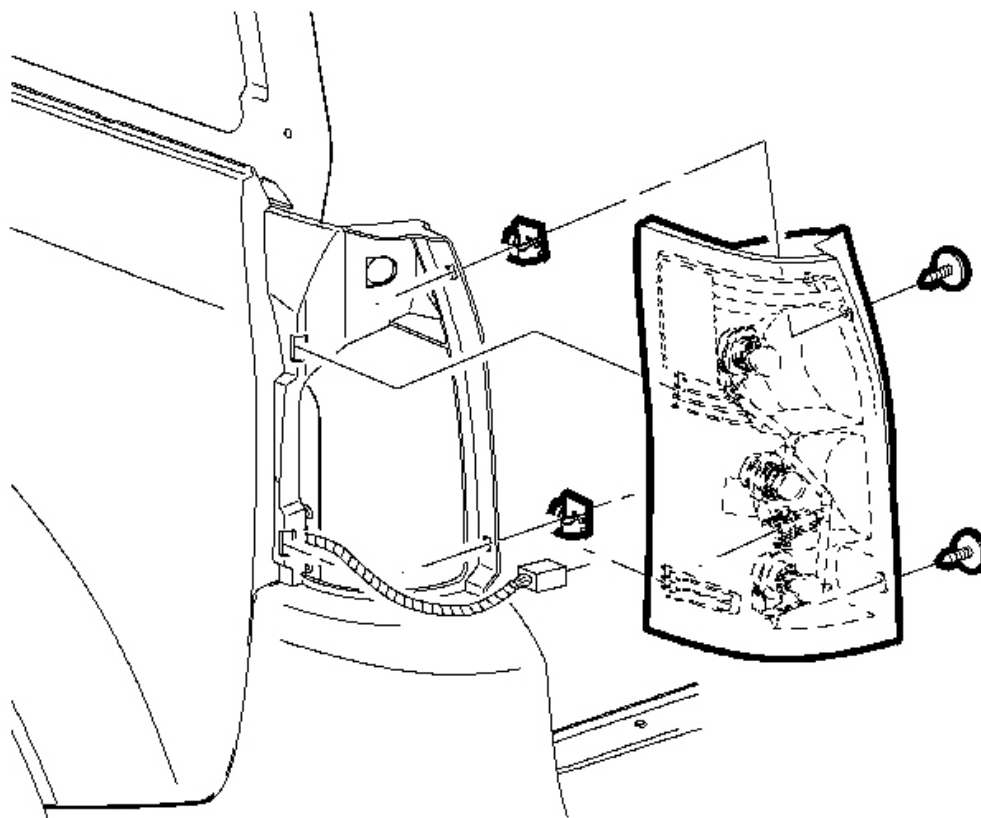
**NOTE:** Refer to Fastener Notice in **Cautions and Notices**.

4. Install the license plate lamp assembly to the license plate lamp bezel screws.

**Tighten:** Tighten the screws to 4 N.m (35 lb in).

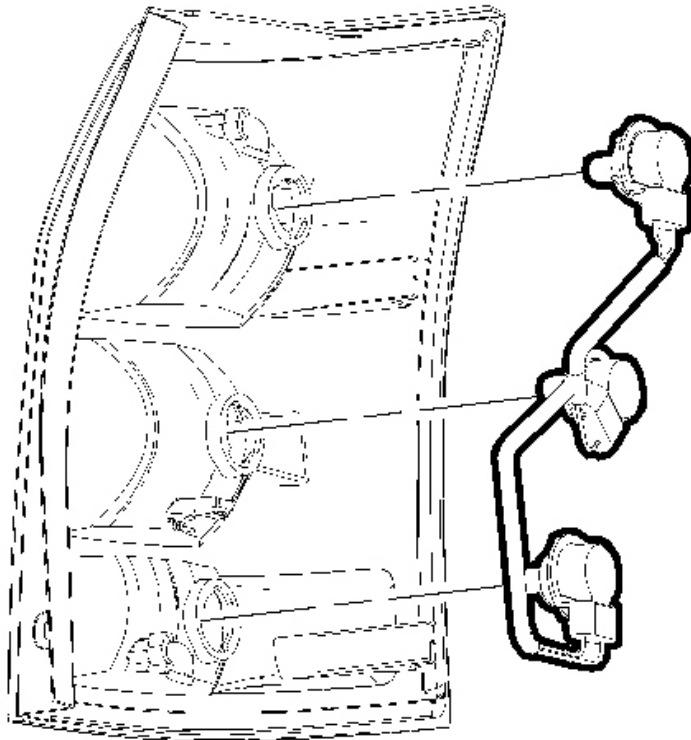
## TAIL LAMP ASSEMBLY AND/OR BACKUP, SIDEMARKER, STOP, TURN SIGNAL BULB REPLACEMENT

### Removal Procedure



**Fig. 101: View Of Tail Lamp Assembly & or Backup, Sidemarker, Stop, Turn Signal Bulb**  
Courtesy of GENERAL MOTORS CORP.

1. Remove the tail lamp housing to body screws.
2. Carefully slide the tail lamp housing rearward away from vehicle.
3. Disconnect the tail lamp housing electrical connector.
4. Remove the tail lamp housing from the vehicle.



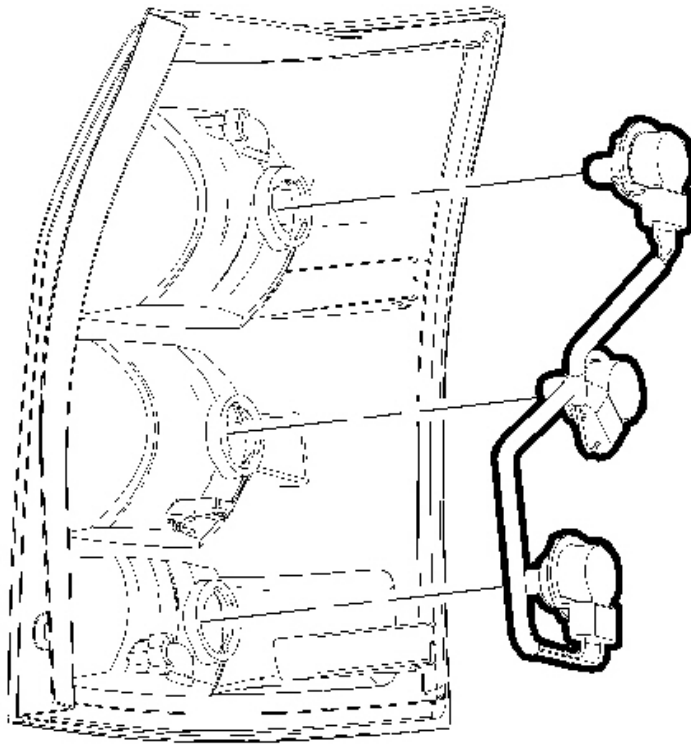
**Fig. 102: Removing/Installing Tail Lamp Bulb Assembly**  
Courtesy of GENERAL MOTORS CORP.

5. Rotate the tail lamp bulb assembly counterclockwise and remove from the housing.



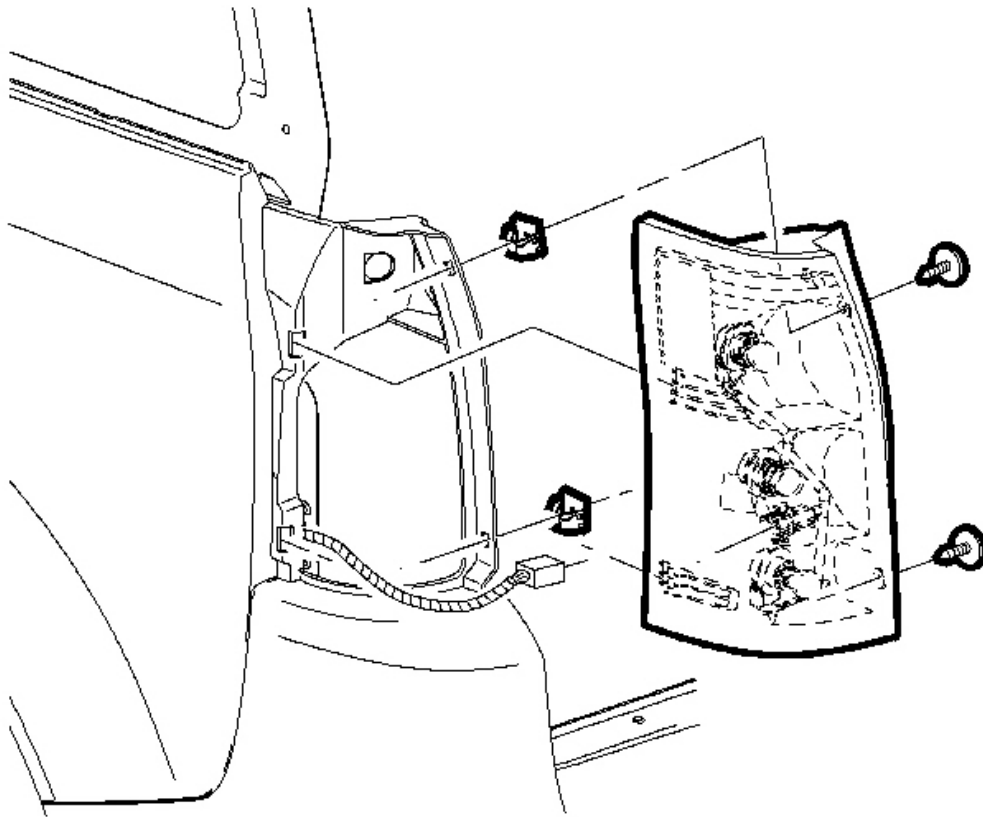
6. Pull tail lamp bulb out of the bulb socket.

### Installation Procedure



**Fig. 103: Removing/Installing Tail Lamp Bulb Assembly**  
Courtesy of GENERAL MOTORS CORP.

1. Push the new tail lamp bulb into the bulb socket.
2. Install the tail lamp bulb assembly into the tail lamp housing.
3. Connect the tail lamp housing electrical connector.



**Fig. 104: View Of Tail Lamp Assembly & or Backup, Sidemarker, Stop, Turn Signal Bulb**  
Courtesy of GENERAL MOTORS CORP.

4. Align the tail lamp housing with the vehicle.

**NOTE:** Refer to **Fastener Notice** in Cautions and Notices.

5. Install the tail lamp screws to the tail lamp.

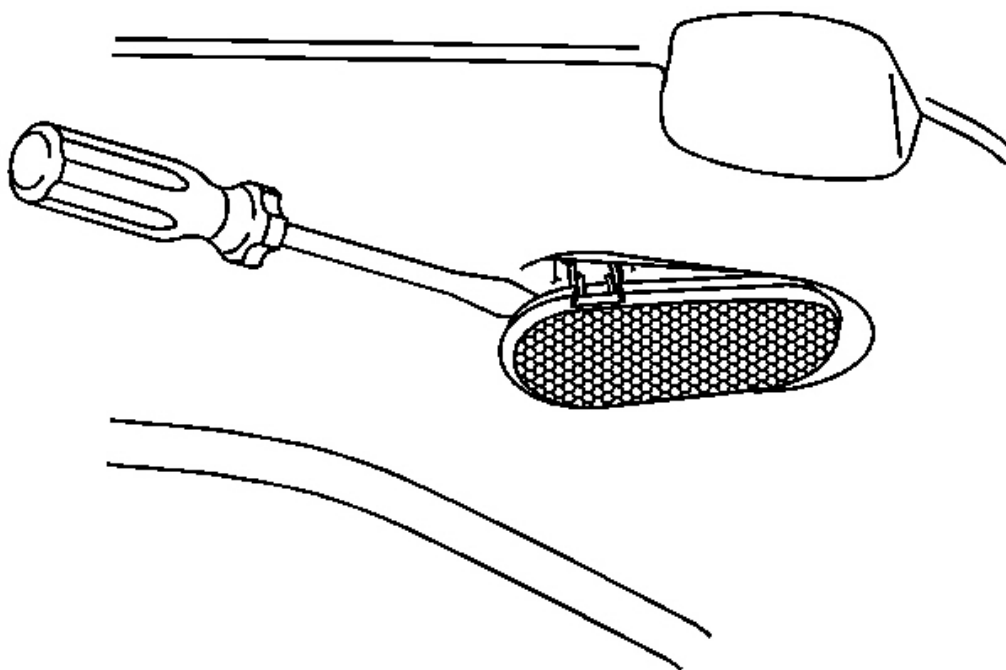
**Tighten:** Tighten the tail lamp screw to 2.5 N.m (22 lb in).

6. Close the rear compartment.

## REAR LIFTGATE LAMP REPLACEMENT

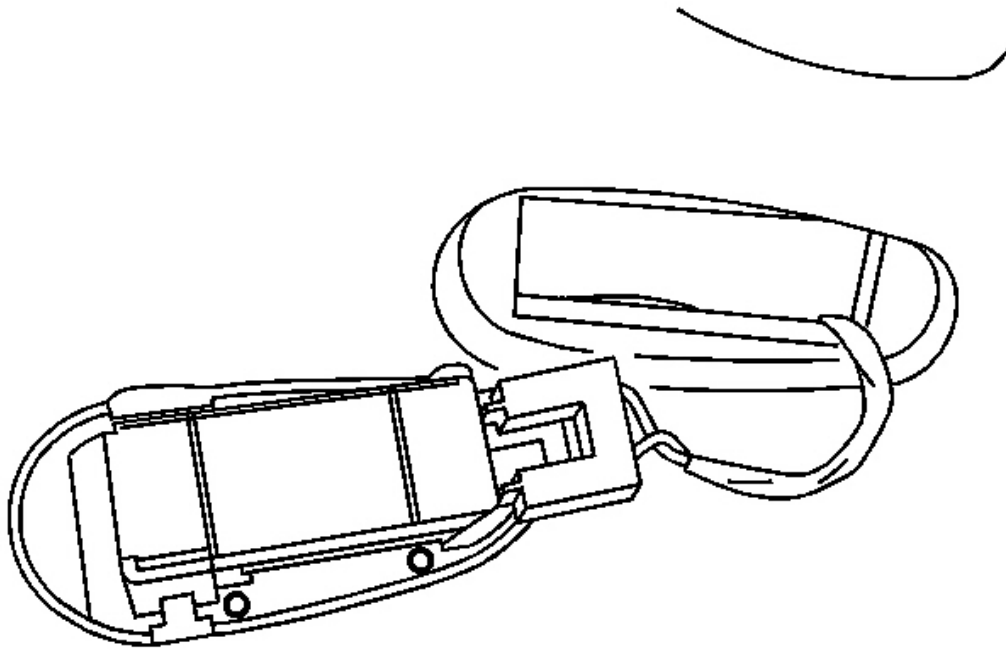
### Removal Procedure

1. Open the lift gate.



**Fig. 105: View Of Liftgate Lamp**  
Courtesy of GENERAL MOTORS CORP.

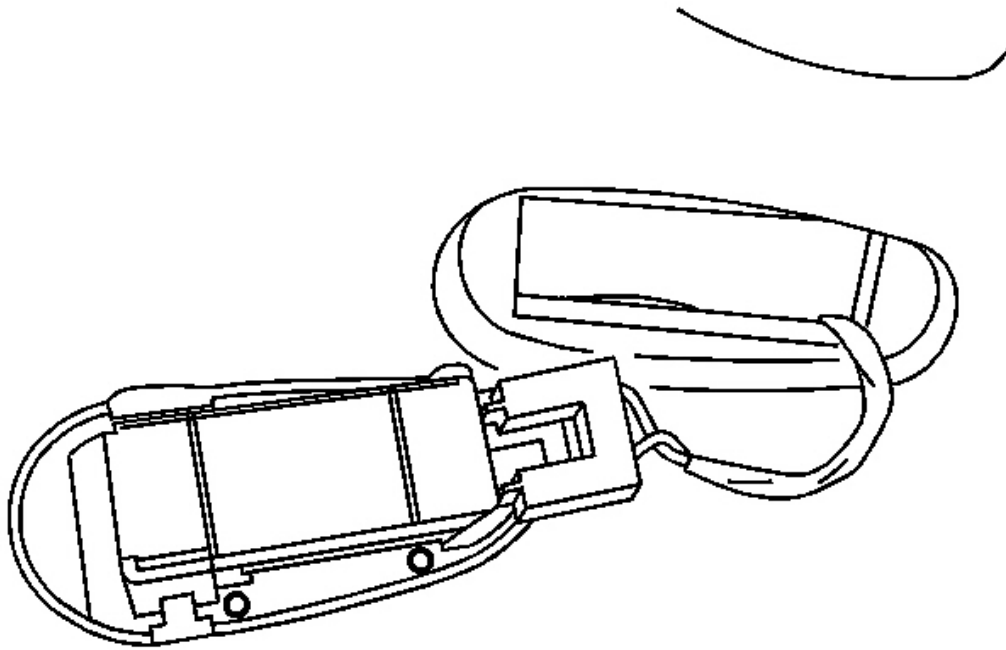
2. Insert a small flat-bladed tool at the front of the lens. Pry the lens from the liftgate.



**Fig. 106: Disconnecting/Connecting Electrical Connector From The Lamp**  
Courtesy of GENERAL MOTORS CORP.

3. Disconnect the electrical connector from the lamp.
4. Remove the lamp.

#### **Installation Procedure**



**Fig. 107: Disconnecting/Connecting Electrical Connector**  
Courtesy of GENERAL MOTORS CORP.

1. Connect the electrical connector to the lamp.
2. Press the liftgate lamp into the liftgate trim panel until seated.
3. Close the liftgate.

## **DESCRIPTION AND OPERATION**

### **EXTERIOR LIGHTING SYSTEMS DESCRIPTION AND OPERATION**

#### **Exterior Lamps**

The exterior lighting system consists of the following lamps:

- The headlamps
- The daytime running lamps
- The fog lamps
- The park, tail, and marker lamps
- The turn signal lamps

- The hazard lamps
- The stop lamps
- The backup lamps

## **Headlamps**

The headlamps may be turned on 2 different ways, if equipped with RPO T 82, automatic lamp control (ALC). First, when the driver places the headlamp switch in the ON position, for manual operation. Second, with ALC, and the headlamp switch placed in the OFF position.

The LH HDLP and RH HDLP fuse in the fuse block - underhood, supply battery positive voltage to both low and high beam lamps at all times. For manual operation or without RPO T 82, when the headlamp switch is in the ON position, the headlamp switch supplies ground directly to the headlamps and to the body control module (BCM) on the headlamp low or high beam signal circuit, depending on the position of the headlamp dimmer switch. The BCM uses this signal to determine if the conditions are present to illuminate the daytime running lamps or headlamps.

For ALC operation, the BCM receives a signal from the ambient light sensor indicating a low or high ambient (outside) light level. The ambient light sensor is a light sensitive transistor that varies its voltage signal to the BCM in response to changes to the outside (ambient) light level. Under the correct conditions the BCM grounds the headlamp relay control circuit energizing the headlamp control relay. The now closed relay supplies ground through the headlamp switch to the headlamps and the BCM on the headlamp low or high beam signal circuit, depending on the position of the headlamp dimmer switch. When the BCM grounds the headlamp relay control circuit, it also grounds the park lamp relay control circuit illuminating the park lamps. The headlamp relay is grounded at G203.

If the engine stalls with the headlamps in the ALC mode under low light conditions, the headlamps will be controlled OFF during cranking.

The conditions necessary for the BCM to activate the ACL mode are as follows:

- The ignition switch is in the RUN position.
- The headlamps are in the OFF position.
- The park brake is released.
- The BCM is receiving a low light condition from the ambient light sensor, if equipped with RPO T 82.

## **Daytime Running Lamps (DRL)**

The low beam headlamps operate at reduced intensity when in daytime running lamps (DRL) mode. The ground circuit to the switch input side of the DRL relay has a resistor in-line to reduce the intensity of the low beam headlamps for DRL operation. With RPO T 82, the body control module (BCM) receives a signal from the ambient light sensor indicating a low or high ambient (outside) light level. Without RPO T 82, when the headlamp switch is in the ON position, the headlamp switch supplies ground directly to the headlamps and to the BCM on the headlamp low or high beam signal circuit, depending on the position of the headlamp dimmer switch. The BCM uses these signals to determine if the conditions are present to illuminate the daytime running lamps.

Under the correct conditions the BCM grounds the DRL relay control circuit energizing the DRL control relay. The now closed relay supplies ground directly to the low beam headlamps and to the BCM on the headlamp low beam signal circuit. The low beam headlamps now illuminate with reduced intensity. The DRL relay is grounded at G101. Any time the headlamps or park lamps are illuminated the DRL will not illuminate.

The conditions necessary for the BCM to illuminate the DRL are as follows:

- The ignition switch is in the RUN position.
- The headlamps and park lamps are in the OFF position.
- The park brake is OFF (released).
- The BCM is receiving a high light (daytime) condition from the ambient light sensor, if equipped with RPO T 82.

### **Fog Lamps**

The FOG LP fuse in the fuse block - underhood supplies battery positive voltage to the switch side of the fog lamp relay at all times. When the fog lamp switch is pressed, it supplies voltage on the front fog lamp switch signal circuit to the body control module (BCM). The BCM then supplies ground to the coil side of the fog lamp relay, energizing the relay. The switch side of the fog lamp relay then supplies voltage to both front fog lamps. The front fog lamps are connected to ground at G101. The park lamps or headlamps must be ON for the fog lamps to operate.

### **Park, Tail and Marker Lamps**

The park lamps consist of the park, tail, marker, and license lamps. These lamps are illuminated any time the headlamp switch is in the park, headlamp on position, or anytime the body control module (BCM) illuminates the headlamps. The PARK fuse in the fuse block - instrument panel (I/P) supplies voltage to both the coil and switch input side of the park lamp relay. The BCM controls the park lamp relay by grounding the park lamp control circuit energizing the relay.

For automatic lamp control (ALC) the BCM receives a signal from the ambient light sensor indicating a low or high ambient (outside) light level. Under low light conditions, the BCM grounds the park lamp relay control circuit energizing the park lamp relay. The now closed relay supplies voltage on the park lamp supply voltage circuit directly to the lamps. The BCM always turns ON the park lamps and headlamps together when in the ALC mode.

For manual operation, when the headlamp switch is in the park position, the headlamp switch supplies ground to the BCM on the park lamp switch signal circuit. In response, the BCM grounds only the park lamp relay control circuit, and the lamps illuminate as stated above.

The conditions necessary for the BCM to activate the ALC mode are as follows:

- The ignition switch is in the RUN position.
- The headlamps are in the OFF position.
- The park brake is released.
- The BCM is receiving a low light condition from the ambient light sensor, if equipped with RPO T 82.

## **Turn Signal Lamps**

The TURN fuse in the fuse block - instrument panel (I/P) provides ignition positive voltage to the flasher module. The turn signal lamps may only be activated with the ignition switch in the ON position. When the turn signal switch is placed in either the left or right position, current flow is from the flasher module output to the turn signal switch assembly. The flasher module then sends an ON-OFF voltage signal to either the left or right turn signals and their instrument panel cluster (IPC) indicator.

## **Hazard Lamps**

The HAZARD fuse in the fuse block - instrument panel (I/P) provides battery positive voltage to the flasher module. When the hazard switch is activated, the flasher provides an ON-OFF voltage to all of the turn signal lamps and both turn signal indicators. The lamps receive a ground at G101, G401, or G403.

## **Stop Lamps**

The 15A BRAKE fuse located in the fuse block - underhood, supplies battery positive voltage to the normally open stop lamp switch. When the driver presses the brake pedal, the switch contacts close and battery positive voltage is supplied to both left and right stop lamp assemblies, the center high mounted stop lamp (CHMSL), and the engine control module (ECM). The stop lamps are grounded at G401 and G403. The CHMSL is grounded at G301.

## **Backup Lamps**

The 10A BACKUP fuse in the fuse block - underhood supplies ignition positive voltage to the park/neutral position (PNP) switch of the automatic transmission or backup switches for manual transmission. When the transmission is placed in reverse, the switch supplies voltage to the back up lamps and the inside rearview mirror. The back up lamps receive ground at G401 and G403.

# **INTERIOR LIGHTING SYSTEMS DESCRIPTION AND OPERATION**

## **Interior Lamps**

The interior lamps consist of 2 groups, those which can dim from the instrument panel (I/P) dimmer switch and those that can not dim.

## **Courtesy/Illuminated Entry Lamps**

The following lamps may be manually turned ON by placing the interior lamp switch in the ON position, or by opening a door while the switch is in the AUTO position.

- The dome lamp
- The liftgate lamps
- Courtesy/map lights

The courtesy lamp supply voltage circuit of the body control module (BCM) supplies battery positive voltage to the dome lamp, the liftgate lamps, and the map lamps. When any door is opened, the door jamb switch contacts



close providing a door open input to the BCM. The BCM then provides a ground to the interior lamps with the switch in the AUTO position. The interior lamps receive a ground at G401 with the switch in the ON position.

**IMPORTANT: If the liftgate is opened after all the modules go to sleep, the dome light will not come on. The liftgate ajar switch input to the BCM will not wake up the BCM once it has gone to sleep, so the dome light will not come on. Once the BCM gets an input to wake it up, from remote keyless entry (RKE) or a door handle, the dome light will turn on when the liftgate is opened.**

If the driver inadvertently leaves any interior lamp ON, the BCM will turn it OFF after a 20 minute time-out.

The courtesy lamps will turn OFF immediately if the ignition switch is turned to the ON position or approximately 20 seconds after all doors are closed.

### **Keyless Entry Interior Illumination**

When the BCM receives a door unlock command from the remote keyless entry (RKE) transmitter, the body control module (BCM) will flash the park lamps several times, illuminate the courtesy and park lamps, and illuminate the low beam headlamps at low intensity. The lamps will remain on until the ignition key is turned from the OFF position, a RKE door lock command is received, or after an approximate 20-second delay.

### **Interior Lamps Dimming**

This group includes lamps which may dim. This group may use a combination of vacuum fluorescent (VF) illumination and incandescent lamps.

- HVAC control module, head assembly
- Radio
- The instrument panel cluster (IPC)
- The PRNDL lamp, with the exception of the current gear select position.
- Power window switches
- Various switches

When the ignition switch is turned to the ON position, the VF display, radio, turns ON at maximum brightness. When the park lamps are ON, all incandescent back lighting turn ON at the dimming level indicated by the instrument panel (I/P) dimmer switch. At the same time all VF displays dim to match the indicated dimming level. When the headlamp switch is placed in the PARK position, the park lamp supply voltage circuit provides an input to the body control module (BCM). The BCM then supplies voltage to the I/P dimmer switch through the I/P dimming lamps control circuit. The setting of the I/P dimmer switch determines the amount of voltage that the I/P dimmer switch supplies to the BCM through the I/P dimming lamps low reference circuit. The BCM then sends a pulse width modulation (PWM) voltage to all the interior lamps. All the VF and incandescent back lighting lamps are provided a specific voltage and are then grounded. When the headlight switch is turned to the park lamp or headlamp position, all incandescent back lighting turn ON at the dimming level indicated by the I/P dimmer switch. When the I/P dimmer switch is moved from MIN to MAX, all VF displays, as well as all incandescent back lighting respond from minimum intensity to maximum brightness in response to the I/P

dimmer switch.

### **Inadvertent Power**

The body control module (BCM) used in this vehicle controls the lighting system through circuits that enable the interior lamps. The BCM opens these enabling circuits shortly after the ignition switch is turned OFF with no lamp switch activity. If the ignition switch is turned to any position other than OFF, or if a lamp switch is activated during this period, the timer will reset itself.