

2006 ACCESSORIES & EQUIPMENT

Lighting Systems - Equinox & Torrent

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Fastener Tightening Specifications

Application	Specification	
	Metric	English
CHMSL to Liftgate Screws	2 N.m	18 lb in
Fog Lamp Screws	2 N.m	18 lb in
Fog Lamp to Fascia Screws	4 N.m	35 lb in
Headlamp bolts	2.5 N.m	22 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

LIGHTING SYSTEMS SCHEMATIC ICONS

Lighting Systems Schematic Icons

Icon	Icon Definition
	CAUTION: When performing service on or near the SIR components or the SIR wiring, the SIR system must be disabled. Refer to SIR Disabling and Enabling Zones. Failure to observe the correct procedure could cause deployment of the SIR components, personal injury, or unnecessary SIR system repairs.

2006 Chevrolet Equinox LS

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HEADLIGHTS/DAYTIME RUNNING LIGHTS (DRL) SCHEMATICS

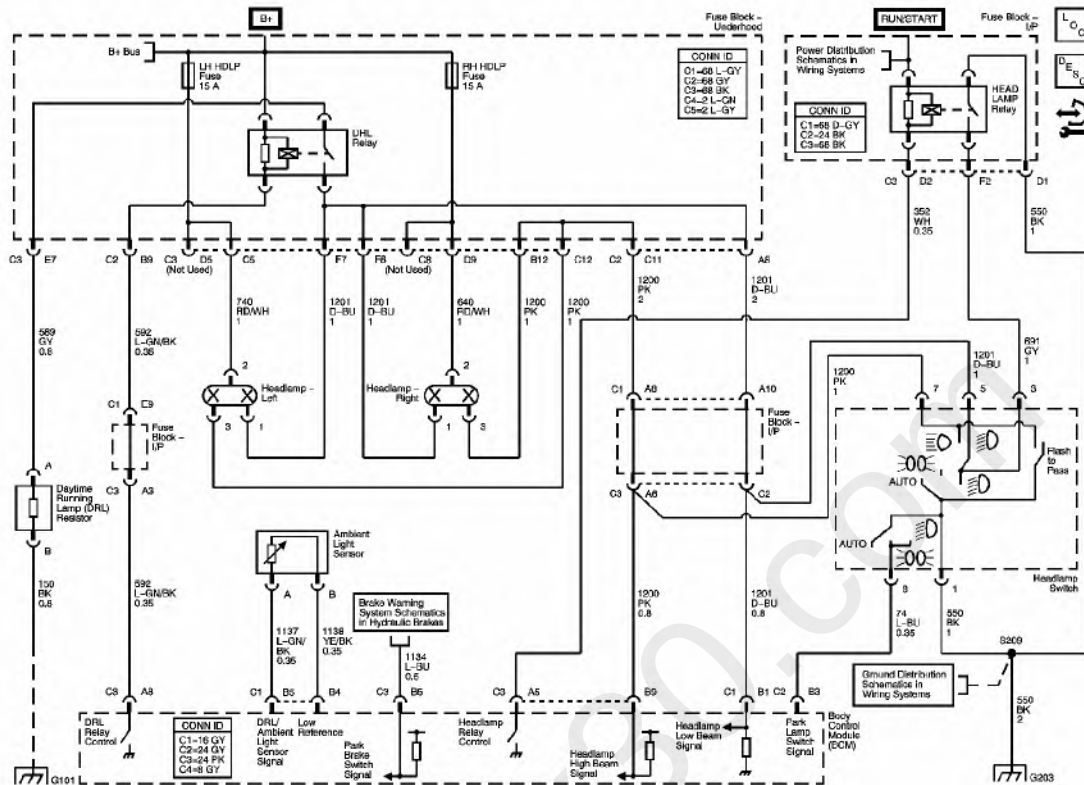


Fig. 1: Headlights/Daytime Running Lights (DRL) Schematics
Courtesy of GENERAL MOTORS CORP.

FOG LIGHTS SCHEMATICS

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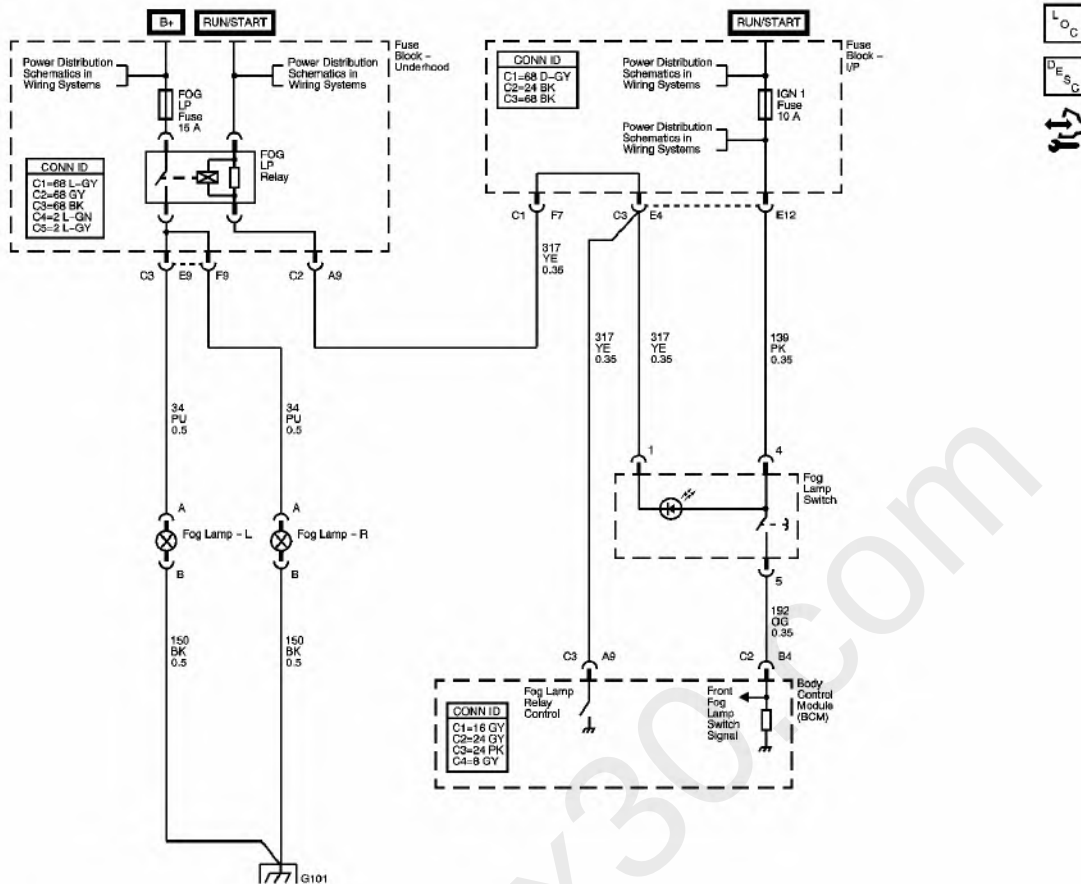


Fig. 2: Fog Lights Schematics
Courtesy of GENERAL MOTORS CORP.

EXTERIOR LIGHTS SCHEMATICS

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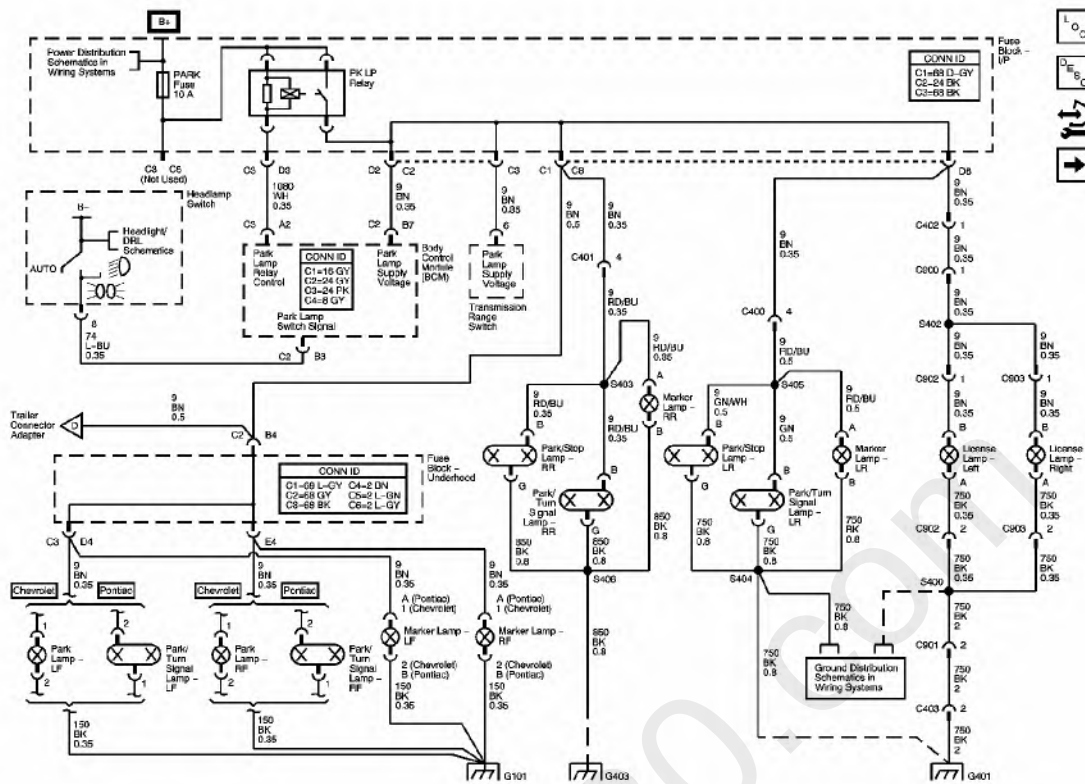


Fig. 3: Park Lamps
Courtesy of GENERAL MOTORS CORP.

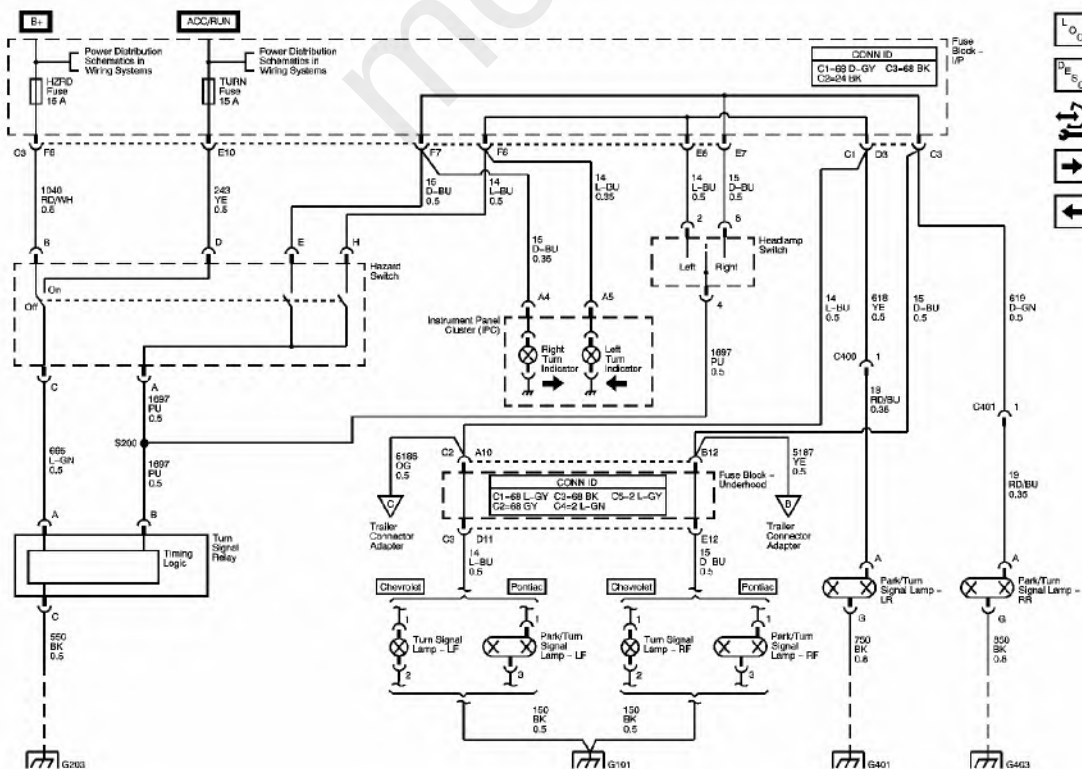


Fig. 4: Hazards, Turn Signal Lamps
Courtesy of GENERAL MOTORS CORP.

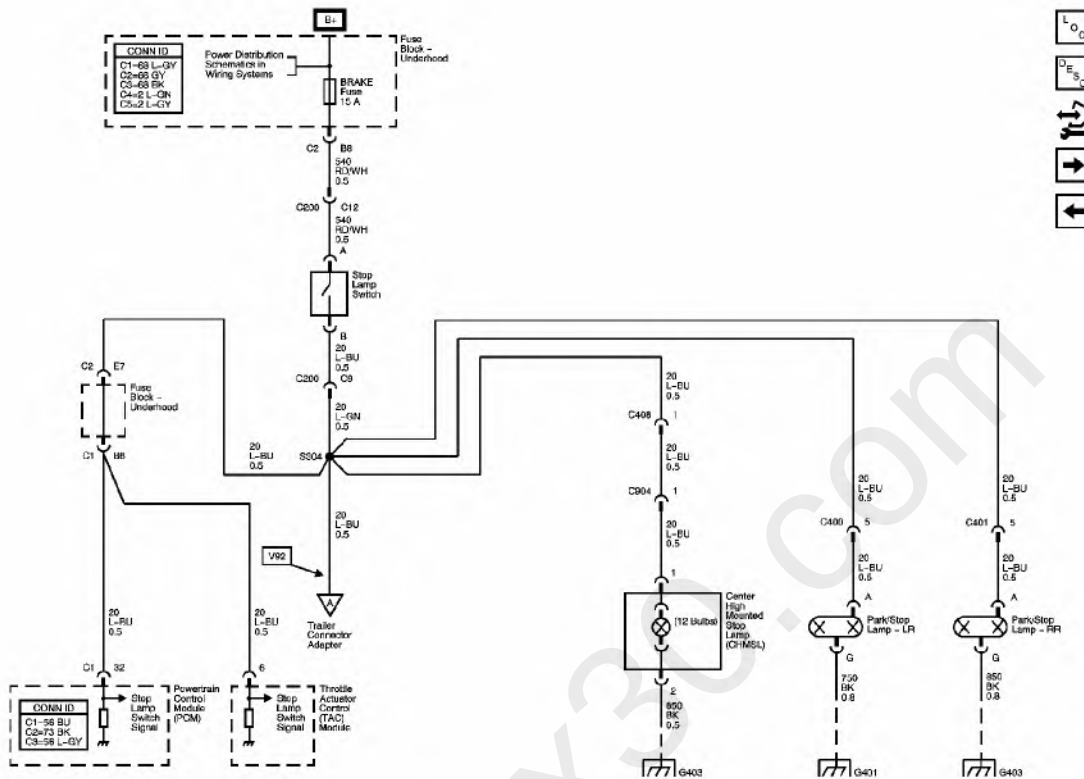


Fig. 5: Stop Lamps
Courtesy of GENERAL MOTORS CORP.

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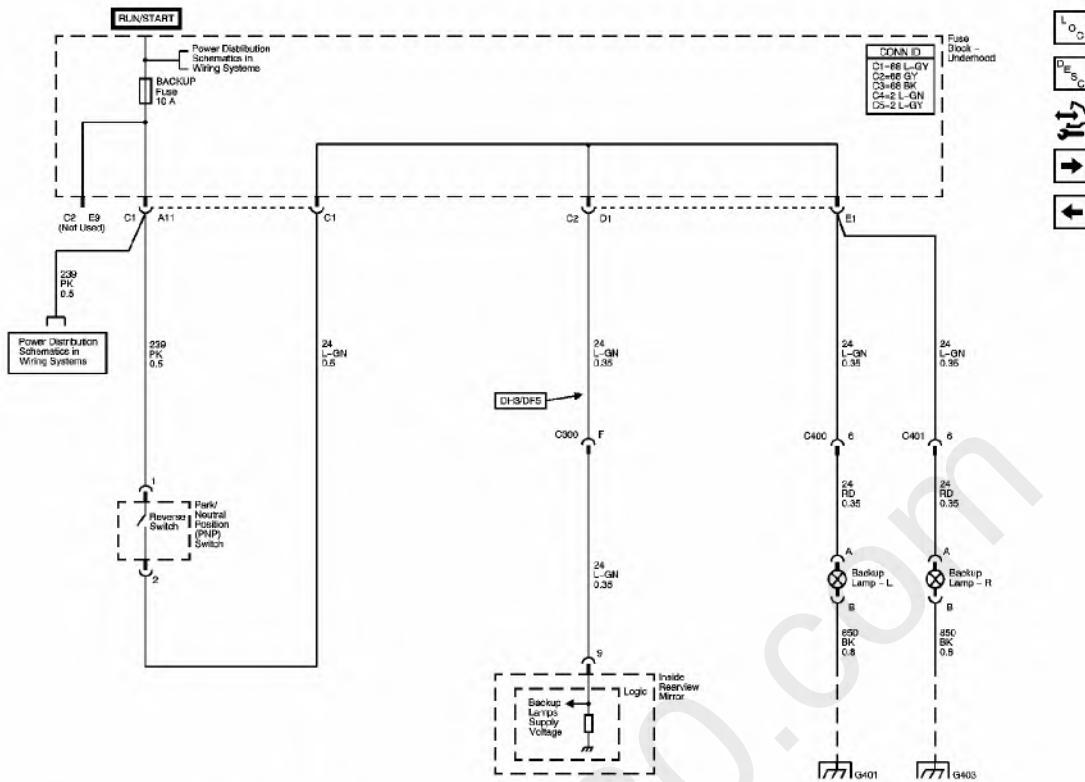


Fig. 6: Backup Lamps
Courtesy of GENERAL MOTORS CORP.

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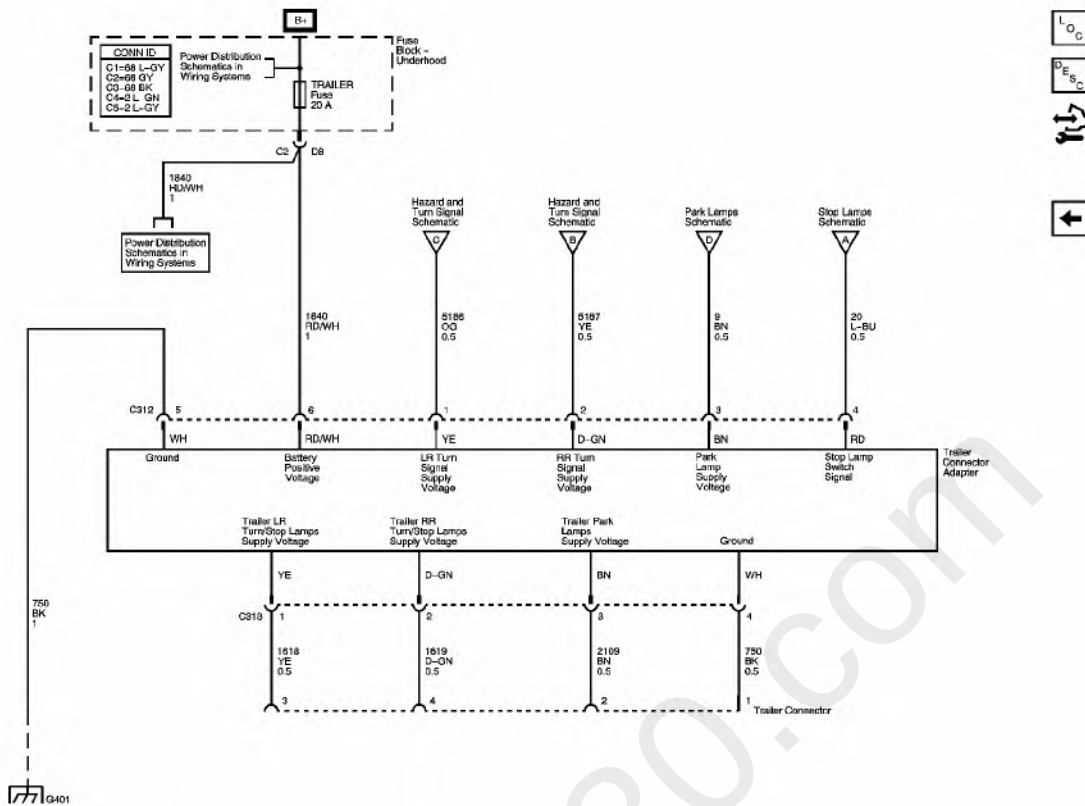


Fig. 7: Trailer Connector Adapter (V92)
Courtesy of GENERAL MOTORS CORP.

INTERIOR LIGHTS SCHEMATICS

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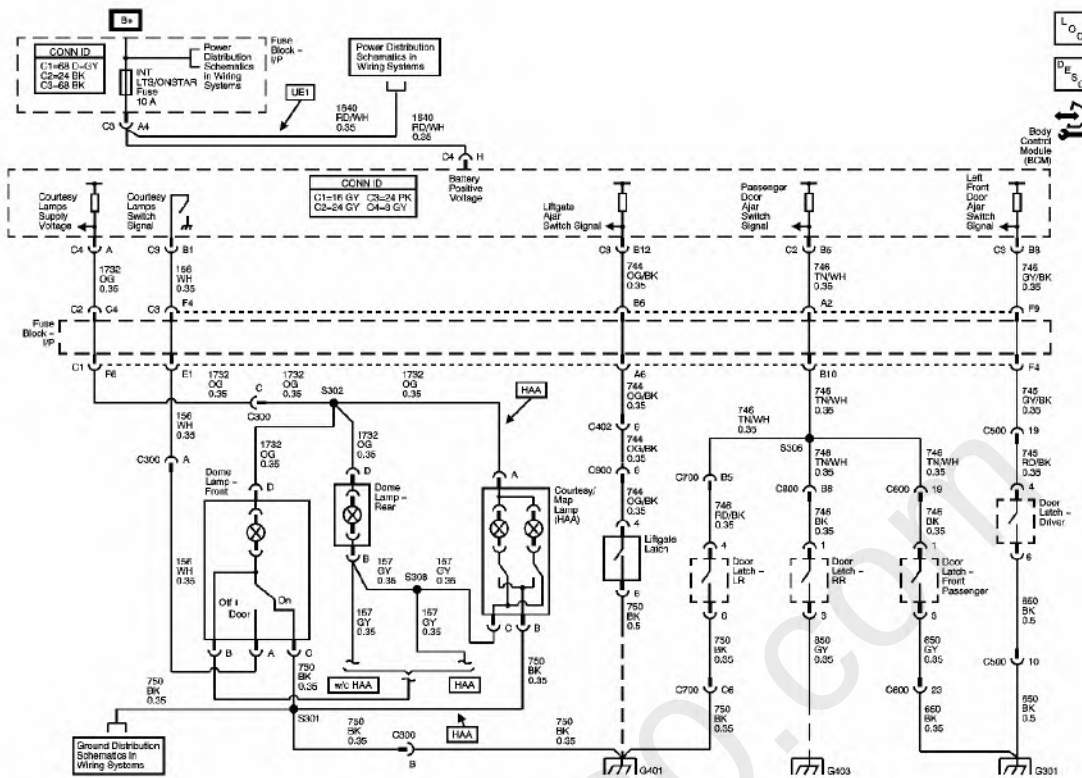


Fig. 8: Interior Lights Schematics
Courtesy of GENERAL MOTORS CORP.

INTERIOR LIGHTS DIMMING SCHEMATICS

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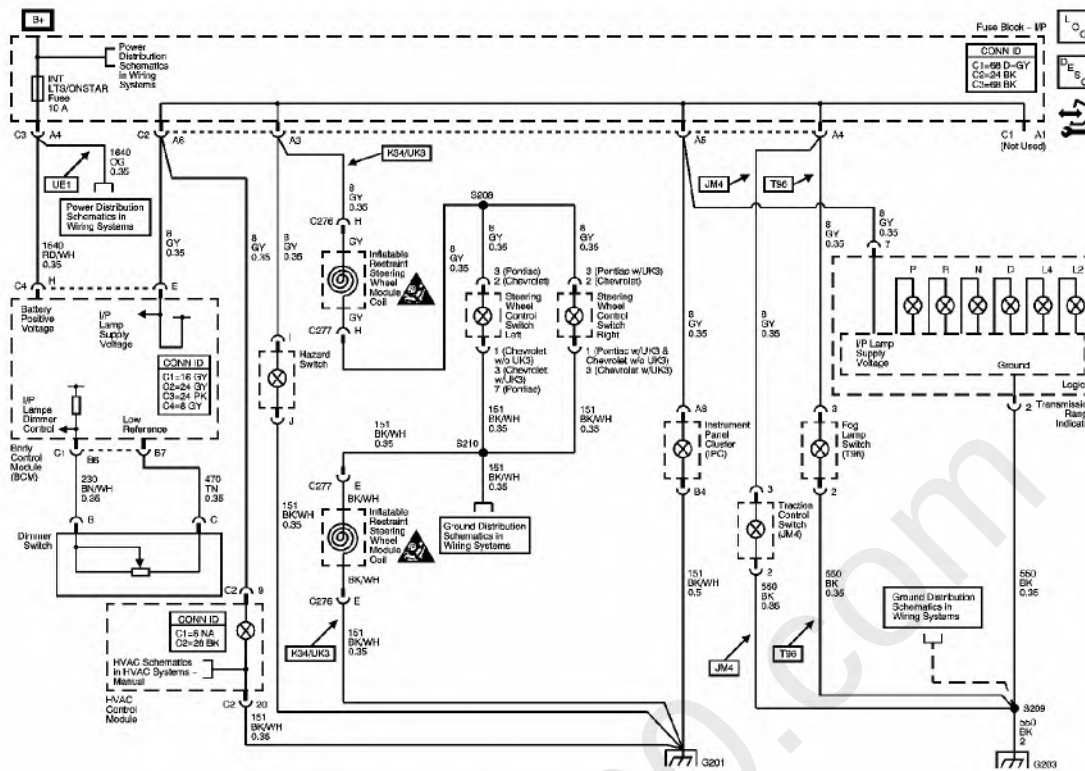


Fig. 9: Interior Lights Dimming Schematics
 Courtesy of GENERAL MOTORS CORP.

COMPONENT LOCATOR

LIGHTING SYSTEMS COMPONENT VIEWS

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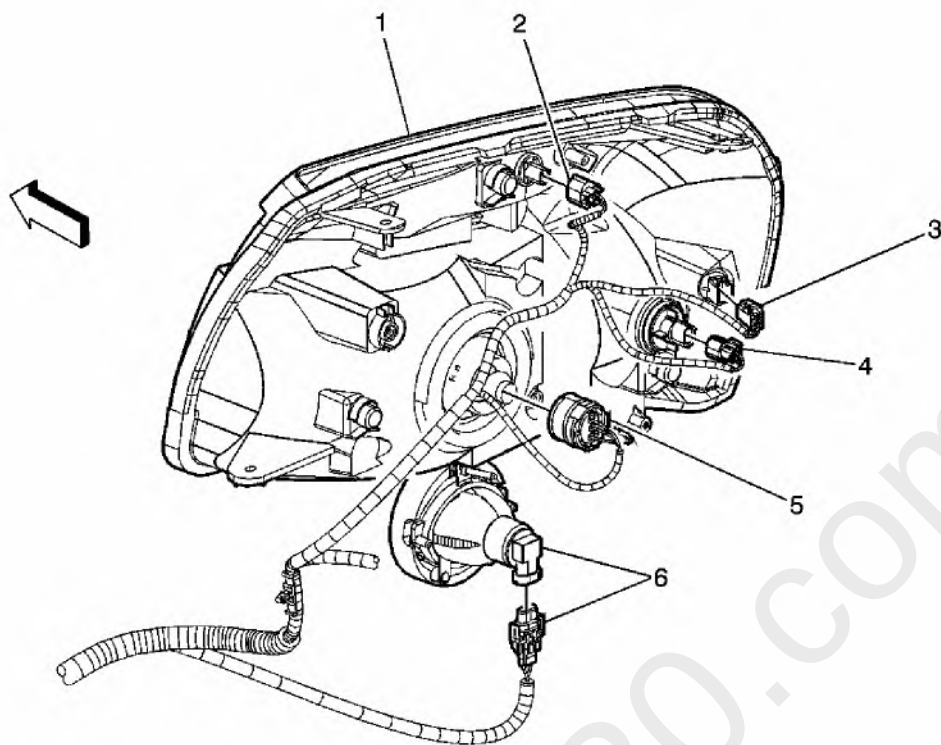


Fig. 10: Front Exterior Lamps
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 10

Callout	Component Name
1	Right Headlamp Assembly
2	Park Lamp - RF, LF Similar
3	Marker Lamp - RF, LF Similar
4	Turn Signal Lamp - RF, LF Similar
5	Headlamp - Right, Left Similar
6	Fog Lamp - RF, LF Similar

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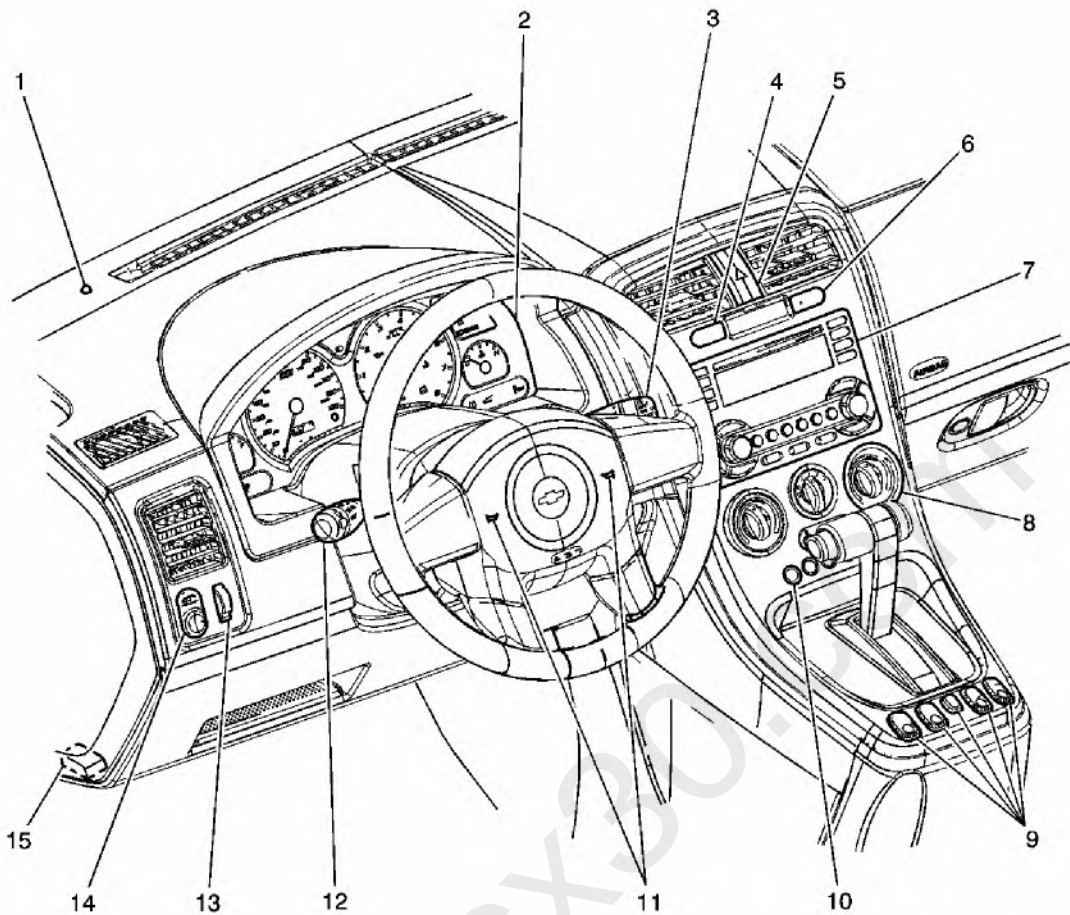


Fig. 11: Left Side of the I/P
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 11

Callout	Component Name
1	Ambient Light Sensor
2	Instrument Panel Cluster (IPC)
3	Windshield Wiper/Washer Switch
4	Traction Control (TC) Switch (JM4)
5	Hazard Switch
6	Fog Lamp Switch (T96)
7	Radio
8	HVAC Control Module
9	Power Window Switch - Main
10	Transmission Range Indicator
11	Horn Switch/Pad - Part of the Inflatable Restraint Steering Wheel Module

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12	Headlamp Switch
13	Dimmer Switch
14	Outside Rearview Mirror Switch
15	Data Link Connector (DLC)

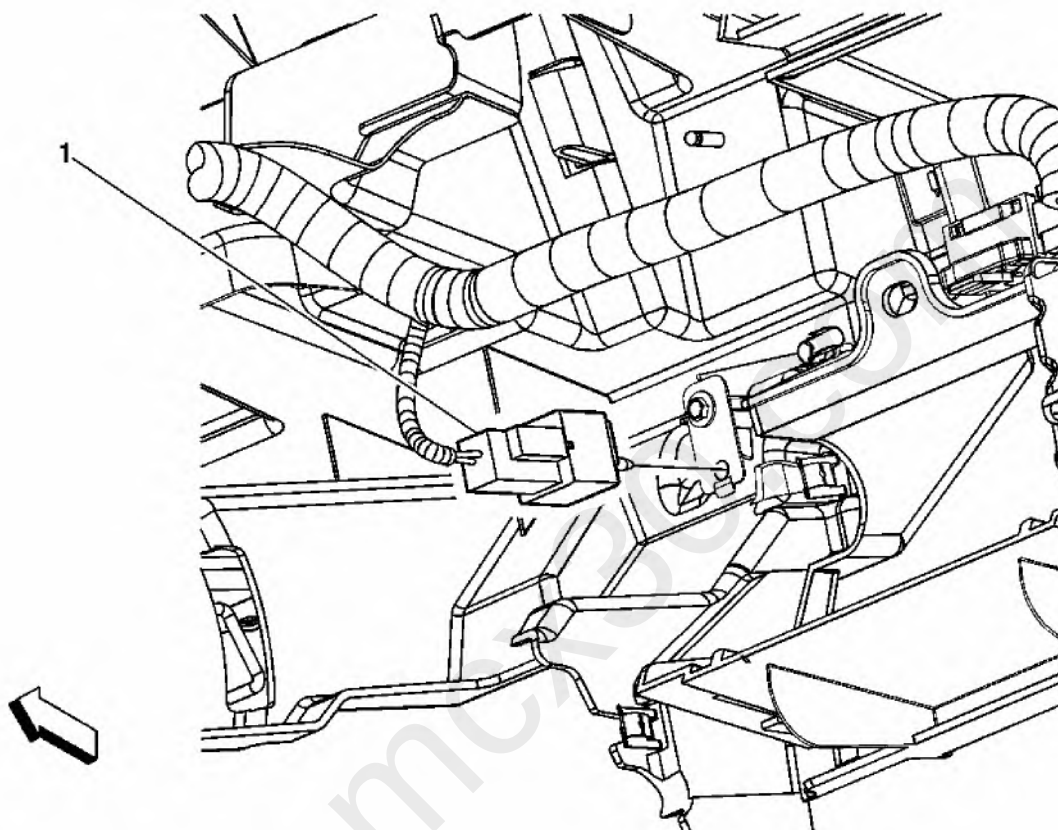


Fig. 12: Behind the Center of the I/P - Turn Signal Relay Location
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 12

Callout	Component Name
1	Turn Signal Relay

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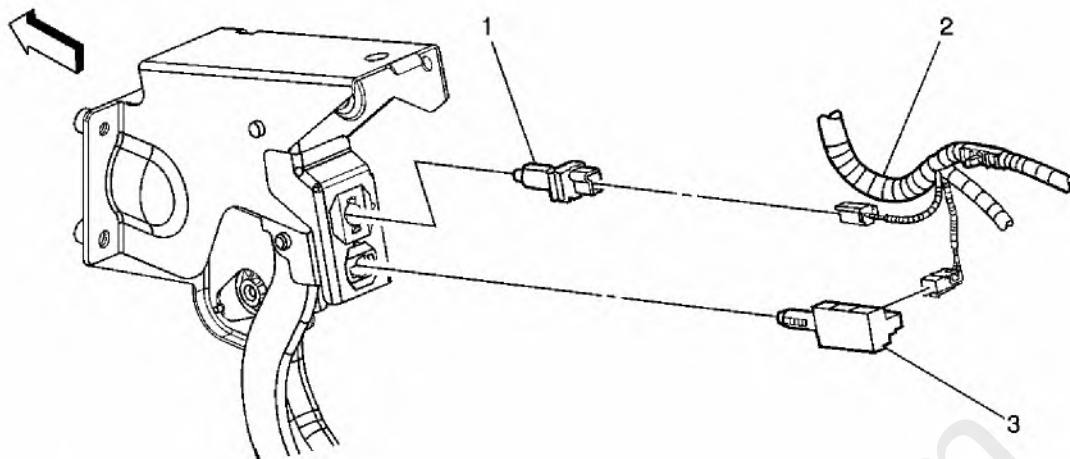


Fig. 13: Brake Switches

Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 13

Callout	Component Name
1	Cruise/Brake Switch
2	I/P Harness
3	Stop Lamp Switch

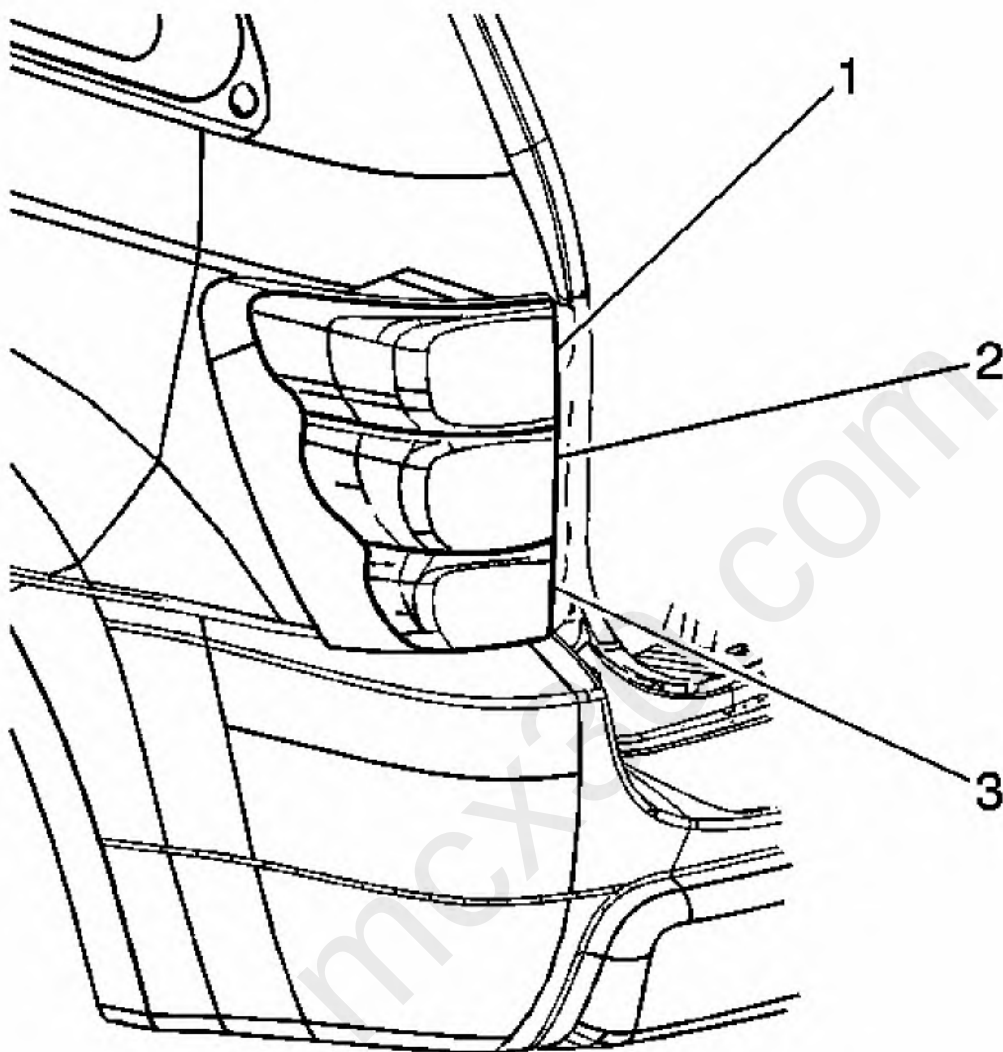


Fig. 14: Tail Lamp Assembly
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 14

Callout	Component Name
1	Park/Stop Lamp - LH, RH Similar
2	Park/Turn Signal Lamp - LH, RH Similar
3	Backup Lamp - Left, Right Similar

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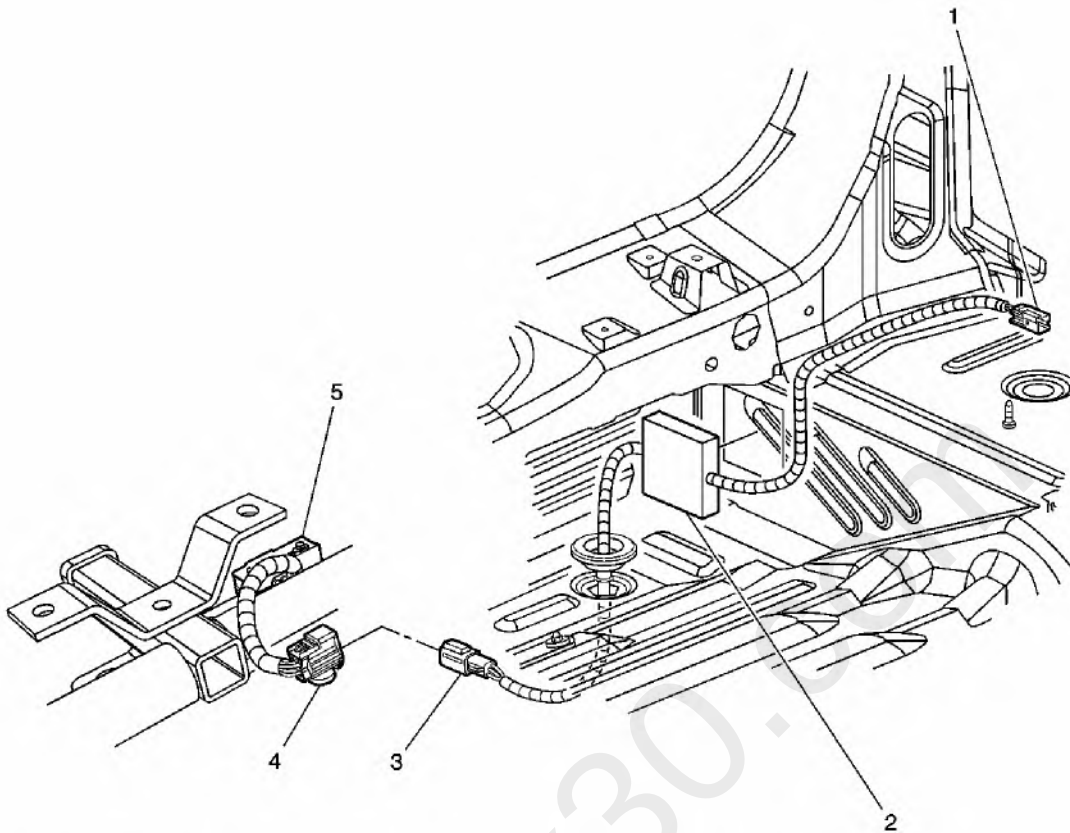


Fig. 15: View of Trailer Connector Harness Routing
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 15

Callout	Component Name
1	C312 - Trailer Connector Adapter to the Body Harness
2	Trailer Connector Adapter
3	C313 - Trailer Connector Adapter Pigtail
4	C313 - Trailer Hitch Harness Side
5	Trailer Connector

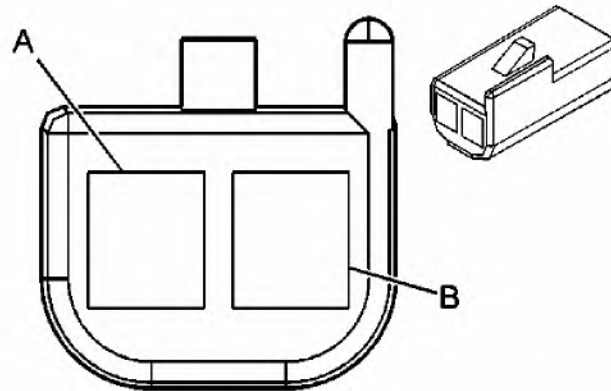
LIGHTING SYSTEMS CONNECTOR END VIEWS

Ambient Light Sensor



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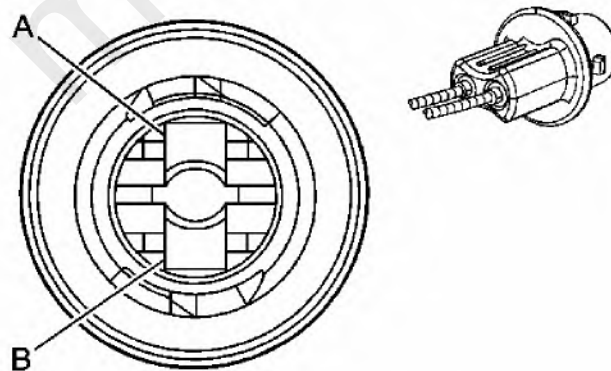


Connector Part Information

- OEM: 12047662
- Service: 12085535
- 2-Way F Metri-Pack 150 Series (BK)

Pin	Wire Color	Circuit No.	Function
A	L-GN/BK	1137	DRL/Ambient Light Sensor Signal
B	YE/BK	1138	DRL Ambient Light Sensor Low Reference

Backup Lamp - Left



Connector Part Information

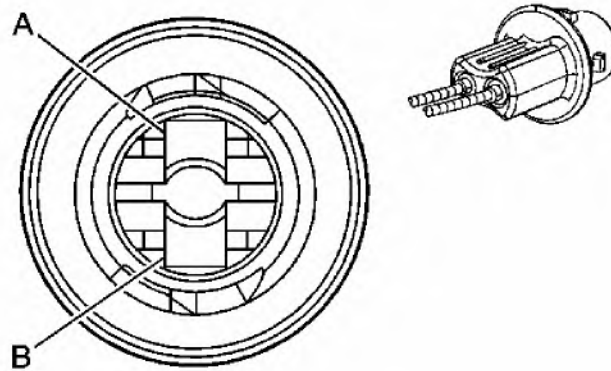
- OEM: Stanley
- Service: N/A
- 2-Way F Bulb Socket (GY)

Pin	Wire Color	Circuit No.	Function
A	RD	24	Backup Lamps Supply Voltage
B	BK	850	Ground

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Backup Lamp - Right

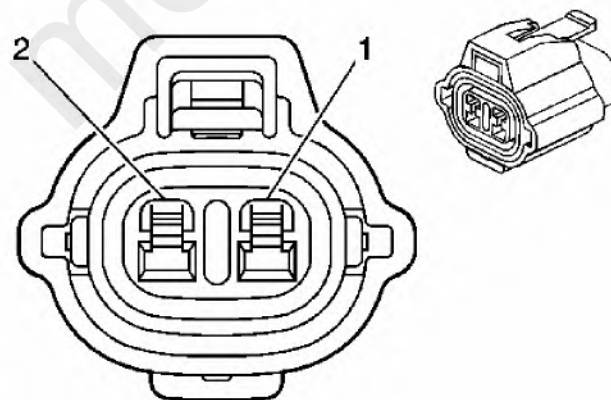


Connector Part Information

- OEM: Stanley
- Service: N/A
- 2-Way F Bulb Socket (GY)

Pin	Wire Color	Circuit No.	Function
A	RD	24	Backup Lamps Supply Voltage
B	BK	850	Ground

Center High Mounted Stop Lamp (CHMSL)



Connector Part Information

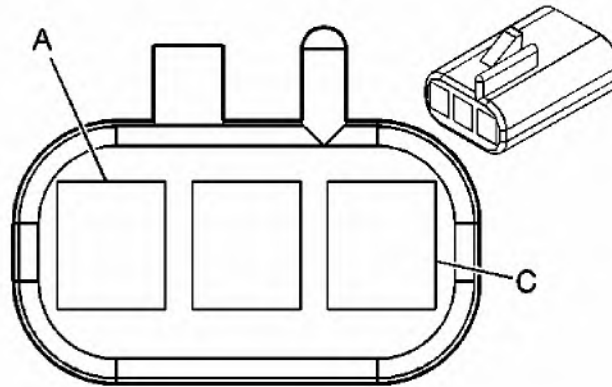
- OEM: 7223-1324
- Service: See Catalog
- 2-Way F (NAT)

Pin	Wire Color	Circuit No.	Function
1	L-BU	20	Stop Lamp Switch Signal
2	BK	850	Ground

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Courtesy/Map Lamp

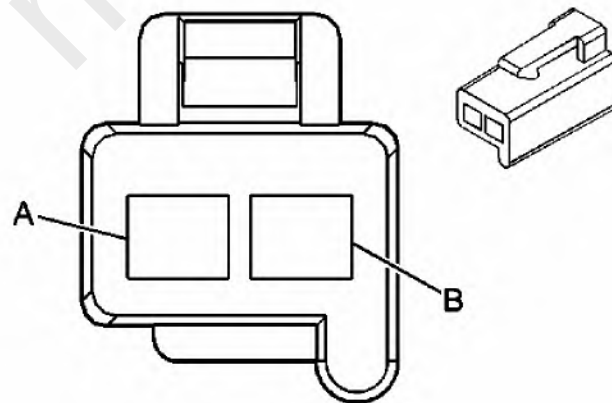


Connector Part Information

- OEM: 12047781
- Service: 12101864
- 3-Way F (BK)

Pin	Wire Color	Circuit No.	Function
A	OG	1732	Courtesy Lamps Supply Voltage
B	BK	750	Ground
C	-	-	Not Used

Cruise/Brake Switch



Connector Part Information

- OEM: 12041433
- Service: 12126463
- 2-Way F Metri-Pack 280 Series (BK)

Pin	Wire Color	Circuit No.	Function
A	PK	1339	Ignition 1 Voltage

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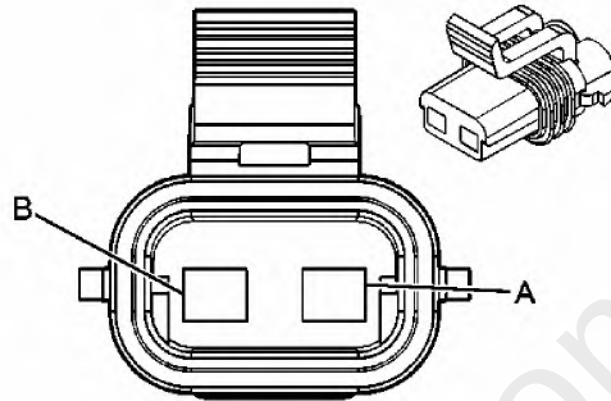
B

PU

420

Brake/Cruise Release Switch Signal

Daytime Running Lamp (DRL) Resistor

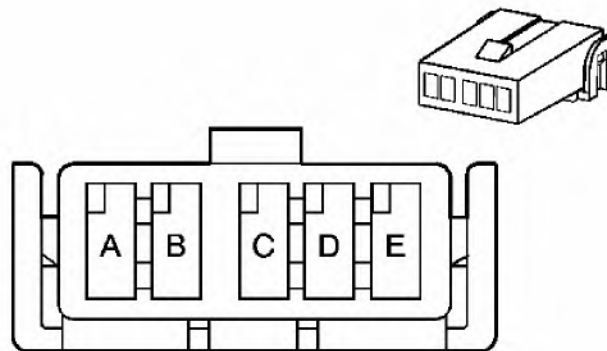


Connector Part Information

- OEM Assembly: 15300027
- OEM Connector Body: 15300008
- Service: 12101855
- 2-Way F Metri-Pack 280 Series Sealed (BK)

Pin	Wire Color	Circuit No.	Function
A	GY	589	DRL Resistor Supply Voltage
B	BK	150	Ground

Dimmer Switch



Connector Part Information

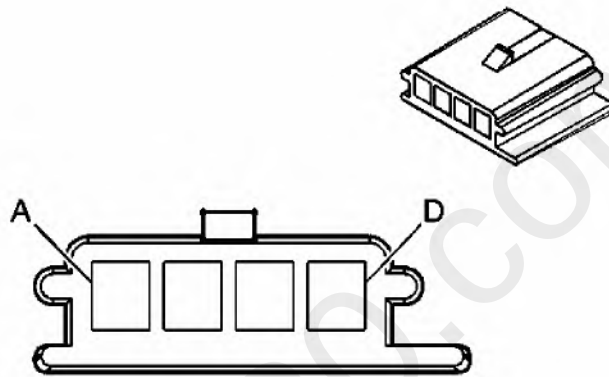
- OEM: 12020299
- Service: 12102566
- 5-Way F P/C Edgeboard - Standard (NA)

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Pin	Wire Color	Circuit No.	Function
A	-	-	Not Used
B	BN/WH	230	Instrument Panel Lamps Dimming Control
C	TN	470	Low Reference
D-E	-	-	Not Used

Dome Lamp - Front



Connector Part Information

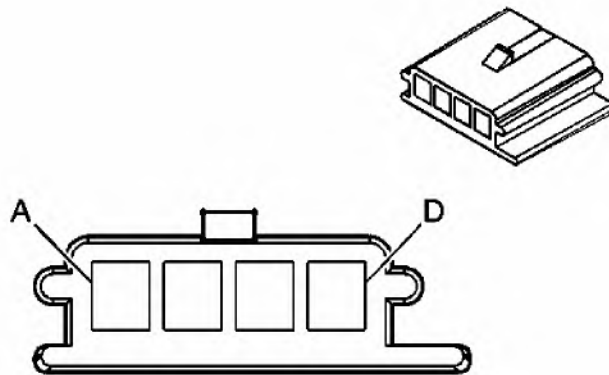
- OEM: 12045813
- Service: 12101889
- 4-Way F (NA)

Pin	Wire Color	Circuit No.	Function
A	WH	156	Courtesy Lamp Switch Signal
B	GY	157	Interior Lamp Control
C	BK	750	Ground
D	OG	1732	Courtesy Lamps Supply Voltage

Dome Lamp - Rear

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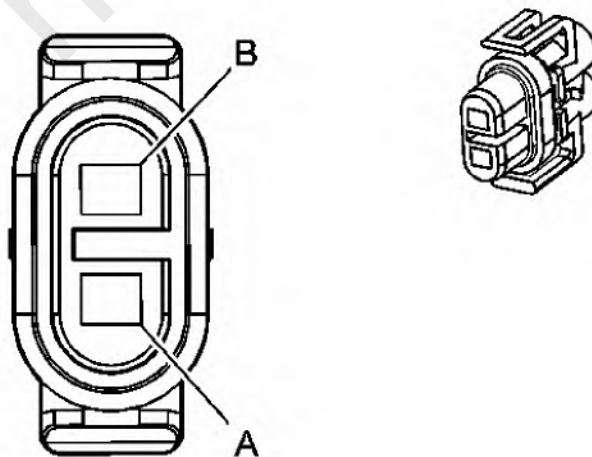


Connector Part Information

- OEM: 12045813
- Service: 12101889
- 4-Way F (NA)

Pin	Wire Color	Circuit No.	Function
A	-	-	Not Used
B	GY	157	Interior Lamp Control
C	-	-	Not Used
D	OG	1732	Courtesy Lamps Supply Voltage

Fog Lamp - Left (T96)



Connector Part Information

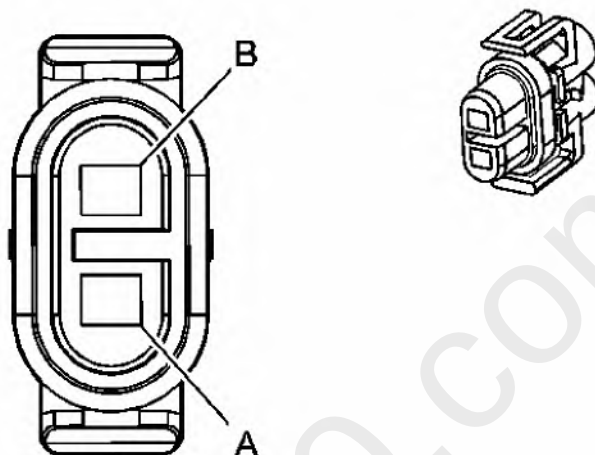
- OEM: 12124819
- Service: 12085498
- 2-Way F Metri-Pack 280 Series (BK)

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Pin	Wire Color	Circuit No.	Function
A	PU	34	Front Fog Lamp Supply Voltage
B	BK	150	Ground

Fog Lamp - Right (T96)

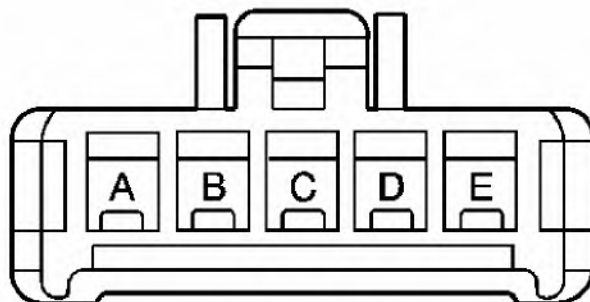


Connector Part Information

- OEM: 12124819
- Service: 12085498
- 2-Way F Metri-Pack 280 Series (BK)

Pin	Wire Color	Circuit No.	Function
A	PU	34	Front Fog Lamp Supply Voltage
B	BK	150	Ground

Fog Lamp Switch (T96)

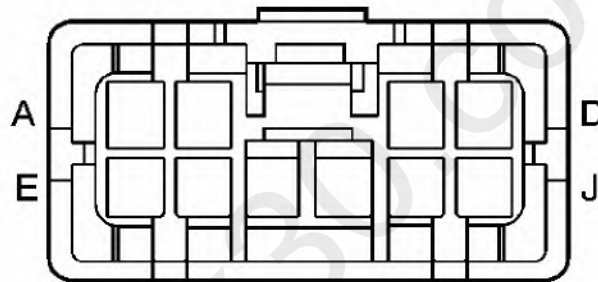


- OEM: 6098-1779

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Connector Part Information		• Service: See Catalog • 5-Way F (GN)	
Pin	Wire Color	Circuit No.	Function
A	YE	317	Fog Lamp Relay Control
B	BK	550	Ground
C	GY	8	Instrument Panel Lamps Supply Voltage
D	PK	139	Ignition 1 Voltage
E	OG	192	Front Fog Lamp Switch Signal

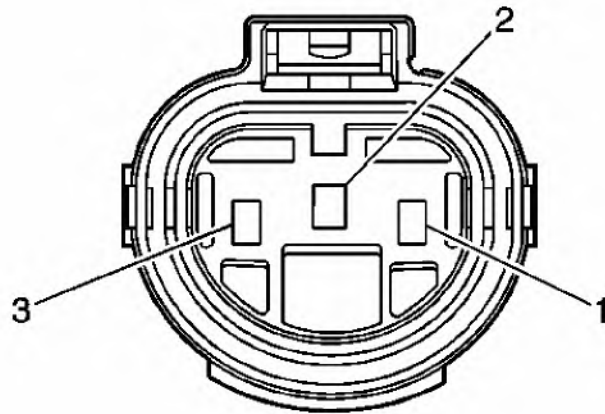
Hazard Switch

Connector Part Information		• OEM: 7183-7201-80 • Service: See Catalog • 10-Way F (BN)	
Pin	Wire Color	Circuit No.	Function
A	PU	1697	Turn Signal Relay Signal
B	RD/WH	1040	Battery Positive Voltage
C	L-GN	665	Turn Signal Relay Control
D	YE	243	Accessory Voltage
E	D-BU	15	Right Turn Signal Lamp Supply Voltage
F-G	-	-	Not Used
H	L-BU	14	Left Turn Signal Lamp Supply Voltage
I	GY	8	Instrument Panel Lamps Supply Voltage
J	BK/WH	151	Signal Ground

Headlamp - Left (Chevrolet)

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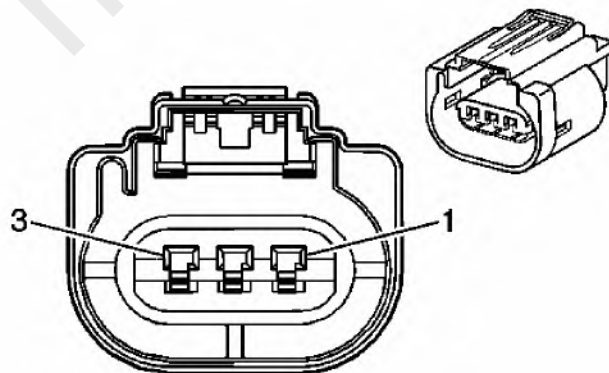


Connector Part Information

- OEM: 61890112
- Service: See Catalog
- 3-Way F (WH)

Pin	Wire Color	Circuit No.	Function
1	D-BU	1201	Headlamp Low Beam Signal
2	RD/WH	740	Battery Positive Voltage
3	PK	1200	Headlamp High Beam Signal

Headlamp - Left (Pontiac)



Connector Part Information

- OEM: 7900-1486-003
- Service: See Catalog
- 3-Way F (WH)

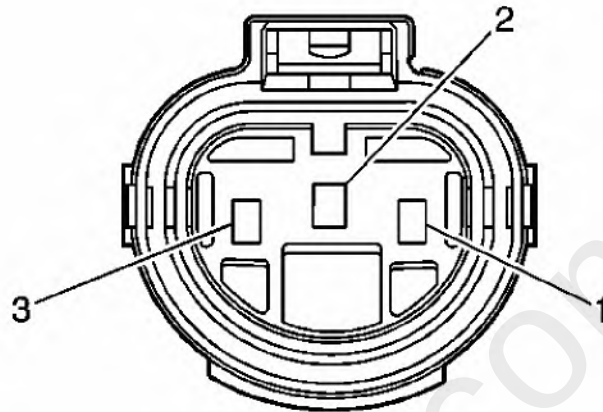
Pin	Wire Color	Circuit No.	Function
1	D-BU	1201	Headlamp Low Beam Signal

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2	RD/WH	740	Battery Positive Voltage
3	PK	1200	Headlamp High Beam Signal

Headlamp - Right (Chevrolet)

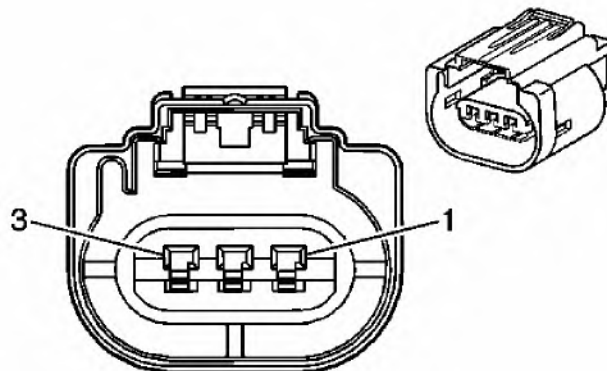


Connector Part Information

- OEM: 61890112
- Service: See Catalog
- 3-Way F (WH)

Pin	Wire Color	Circuit No.	Function
1	D-BU	1201	Headlamp Low Beam Signal
2	RD/WH	640	Battery Positive Voltage
3	PK	1200	Headlamp High Beam Signal

Headlamp - Right (Pontiac)

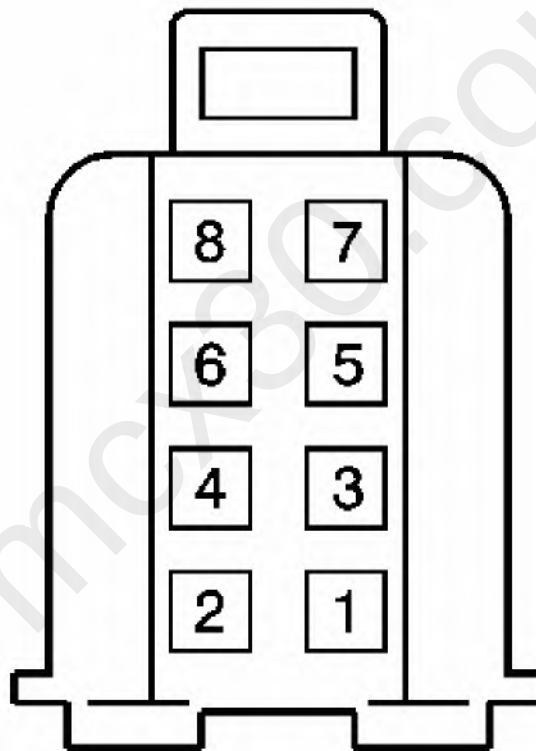


- OEM: 7900-1486-003

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Connector Part Information		• Service: See Catalog • 3-Way F (WH)	
Pin	Wire Color	Circuit No.	Function
1	D-BU	1201	Headlamp Low Beam Signal
2	RD/WH	640	Battery Positive Voltage
3	PK	1200	Headlamp High Beam Signal

Headlamp Switch

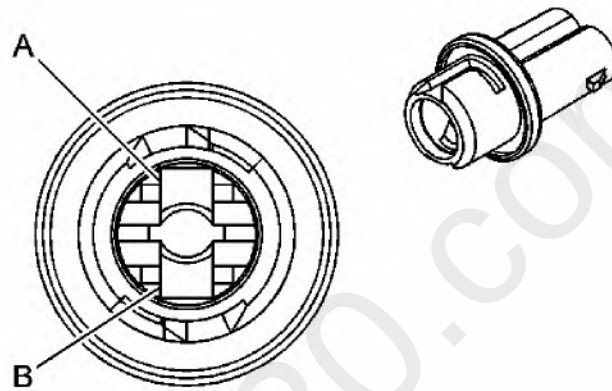
Connector Part Information		• OEM: 929504-3 • Service: 15318085 • 8-Way F (BK)	
Pin	Wire Color	Circuit No.	Function
1	BK	550	Ground
2	L-BU	14	Left Turn Signal Lamp Supply Voltage
3	GY	691	Headlamp Relay Output

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4	PU	1697	Turn Signal Relay Signal
5	D-BU	1201	Headlamp Low Beam Signal
6	D-BU	15	Right Turn Signal Lamp Supply Voltage
7	PK	1200	Headlamp High Beam Signal
8	L-BU	74	Park Lamp Switch Signal

License Lamp - Left



Connector Part Information

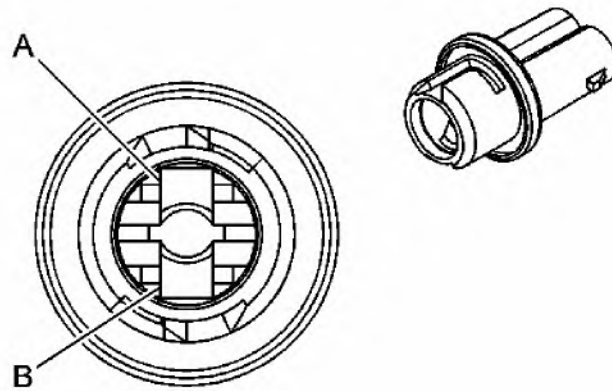
- OEM: 15317651
- Service: 15306330
- 2-Way F LP Socket WGE BSE W2 (GY)

Pin	Wire Color	Circuit No.	Function
A	BK	750	Ground
B	BN	9	Park Lamp Supply Voltage

License Lamp - Right

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Connector Part Information

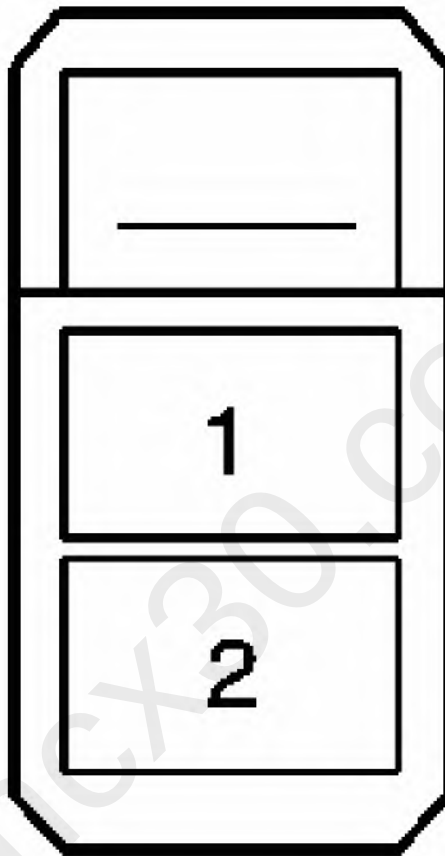
- OEM: 15317651
- Service: 15306330
- 2-Way F LP Socket WGE BSE W2 (GY)

Pin	Wire Color	Circuit No.	Function
A	BK	750	Ground
B	BN	9	Park Lamp Supply Voltage

Marker Lamp - LF (Chevrolet)

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Connector Part Information

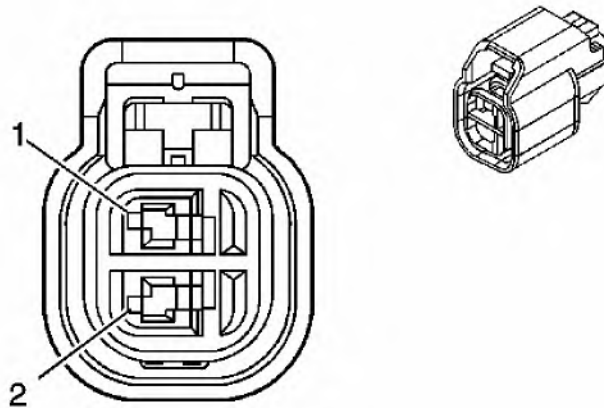
- OEM: 7123-5228
- Service: See Catalog
- 2-Way F 250 Housing ET Lock Series (NA)

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

Marker Lamp - LF (Pontiac)

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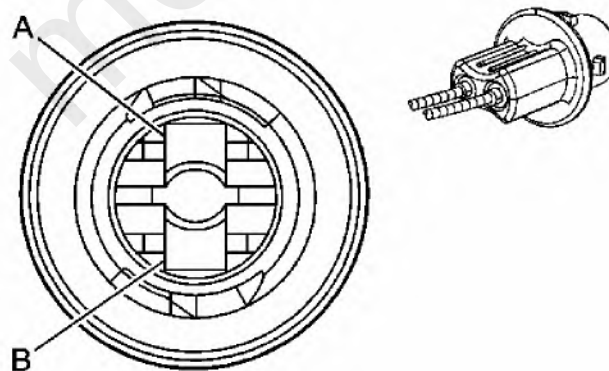


Connector Part Information

- OEM: E3550
- Service: See Catalog
- 2-Way F 1.5 mm Series (BK)

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

Marker Lamp - LR



Connector Part Information

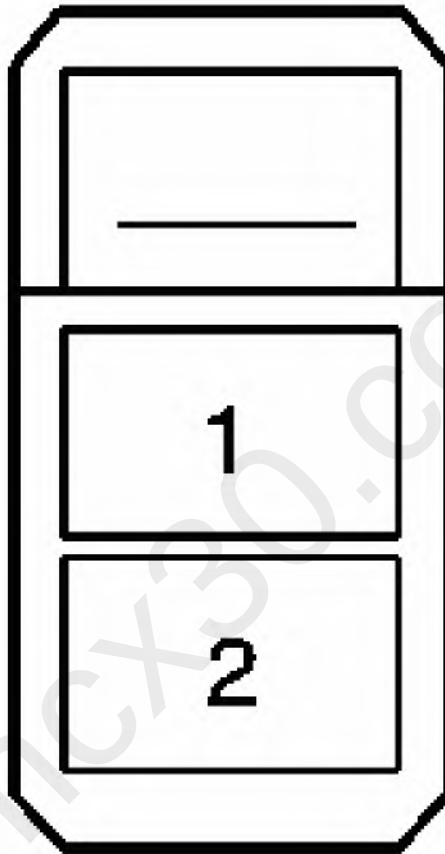
- OEM: Stanley 140
- Service: N/A
- 2-Way F Bulb Socket (BK)

Pin	Wire Color	Circuit No.	Function
A	RD/BU	9	Park Lamp Supply Voltage
B	BK	750	Ground

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Marker Lamp - RF (Chevrolet)



Connector Part Information

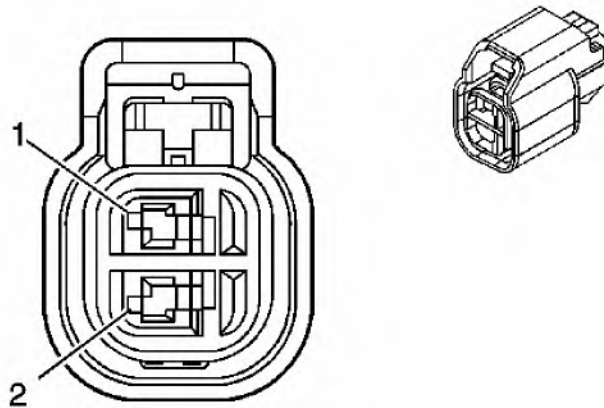
- **OEM: 7123-5228**
- **Service: See Catalog**
- **2-Way F 250 Housing ET Lock Series (NAT)**

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

Marker Lamp - RF (Pontiac)

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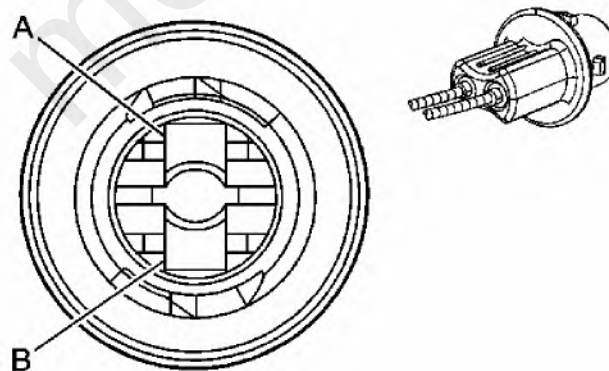


Connector Part Information

- OEM: E3550
- Service: See Catalog
- 2-Way F 1.5 mm Series (BK)

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

Marker Lamp - RR



Connector Part Information

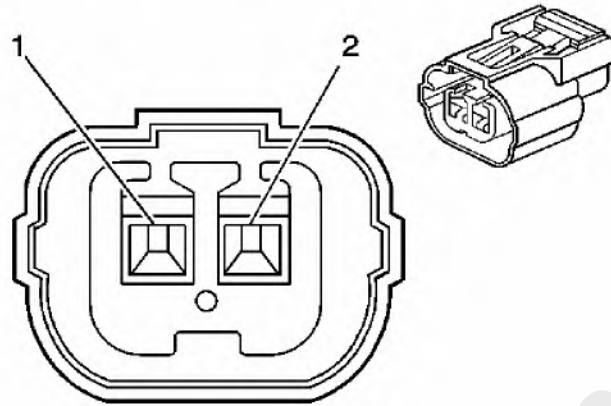
- OEM: Stanley 140
- Service: N/A
- 2-Way F Bulb Socket (BK)

Pin	Wire Color	Circuit No.	Function
A	RD/BU	9	Park Lamp Supply Voltage
B	BK	850	Ground

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Park Lamp - LF (Chevrolet)

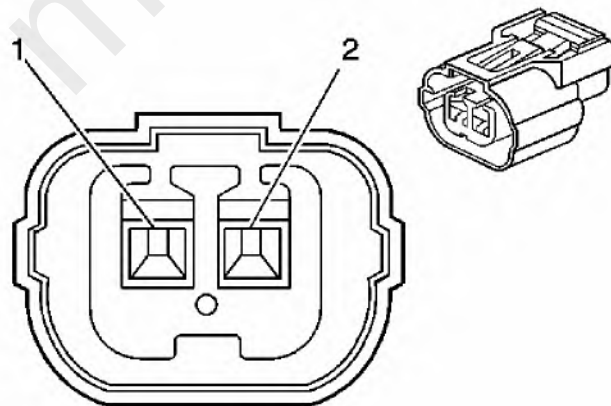


Connector Part Information

- OEM: 61890890
- Service: See Catalog
- 2-Way F Series Sealed (BK)

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

Park Lamp - RF (Chevrolet)



Connector Part Information

- OEM: 61890890
- Service: See Catalog
- 2-Way F Series Sealed (BK)

Pin	Wire Color	Circuit No.	Function
1	BK	150	Ground

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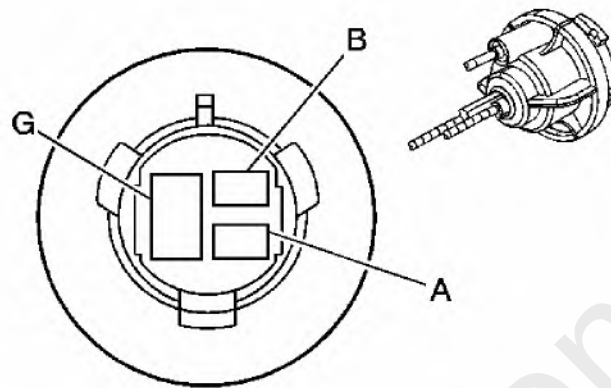
2

BN

9

Park Lamp Supply Voltage

Park/Stop Lamp - LR

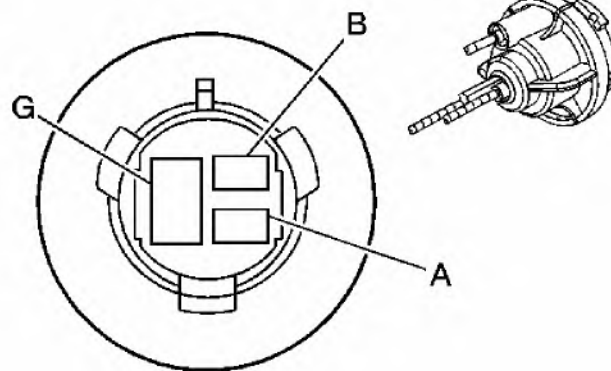


Connector Part Information

- OEM: Stanley 1480
- Service: N/A
- 3-Way F Bulb #3057 Socket (BK)

Pin	Wire Color	Circuit No.	Function
A	RD/BU	20	Stop Lamp Switch Signal
B	GN/WH	9	Park Lamps Supply Voltage
G	BK	750	Ground

Park/Stop Lamp - RR



Connector Part Information

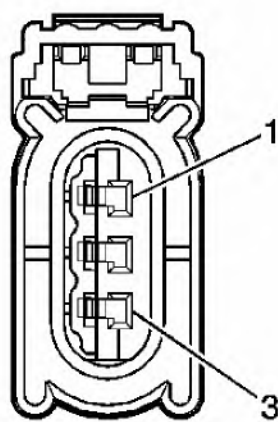
- OEM: Stanley 1480
- Service: N/A
- 3-Way F Bulb #3057 Socket (BK)

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Pin	Wire Color	Circuit No.	Function
A	RD/BU	20	Stop Lamp Switch Signal
B	GN/WH	9	Park Lamps Supply Voltage
G	BK	850	Ground

Park/Turn Signal Lamp - LF (Pontiac)



Connector Part Information

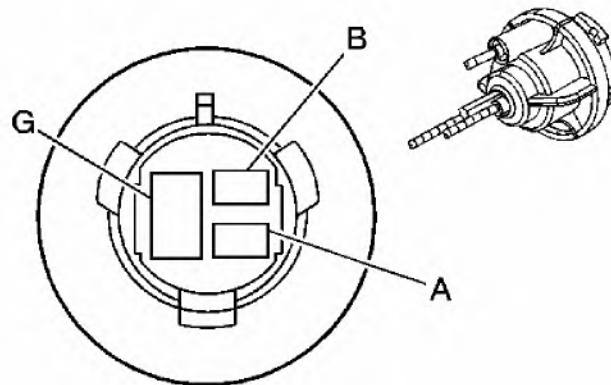
- OEM: 7900-1493-000
- Service: See Catalog
- 3Way F (BK)

Pin	Wire Color	Circuit No.	Function
1	L-BU	14	Left Turn Signal Lamps Supply Voltage
2	BN	9	Park Lamp Supply Voltage
3	BK	150	Ground

Park/Turn Signal Lamp - LR

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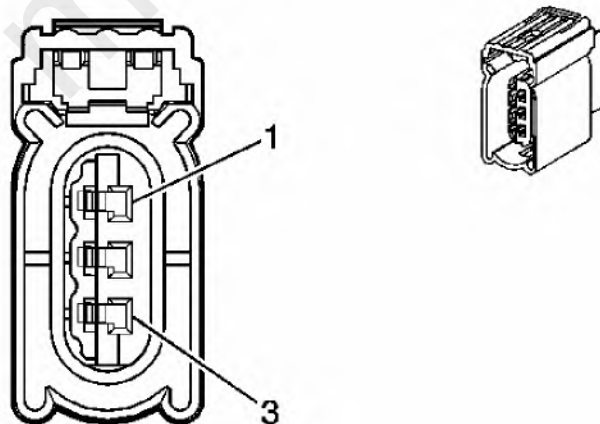


Connector Part Information

- OEM: Stanley 1500
- Service: N/A
- 3-Way F Bulb #3057 Socket (BK)

Pin	Wire Color	Circuit No.	Function
A	RD/BU	18	Left Turn Signal Supply Voltage
B	GN	9	Park Lamps Supply Voltage
G	BK	750	Ground

Park/Turn Signal Lamp - RF (Pontiac)



Connector Part Information

- OEM: 7900-1493-000
- Service: See Catalog
- 3Way F (BK)

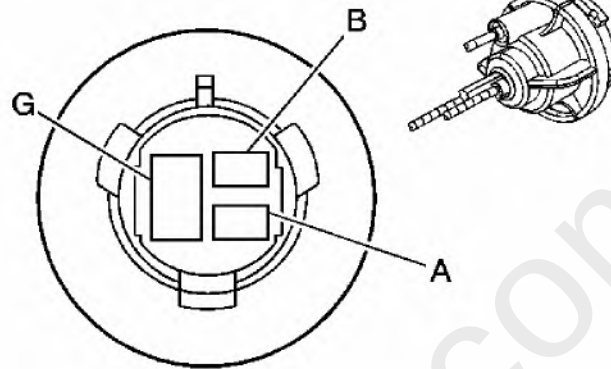
Pin	Wire Color	Circuit No.	Function
			Right Turn Signal Lamps Supply

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1	D-BU	15	Voltage
2	BN	9	Park Lamp Supply Voltage
3	BK	150	Ground

Park/Turn Signal Lamp - RR

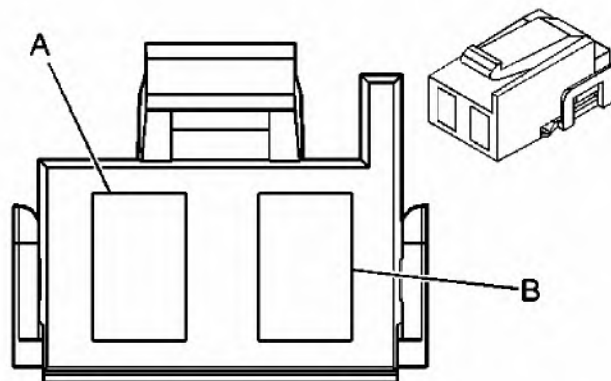


Connector Part Information

- OEM: Stanley 1500
- Service: N/A
- 3-Way F Bulb #3057 Socket (BK)

Pin	Wire Color	Circuit No.	Function
A	RD/BU	19	Right Turn Signal Supply Voltage
B	GN	9	Park Lamps Supply Voltage
G	BK	850	Ground

Stop Lamp Switch



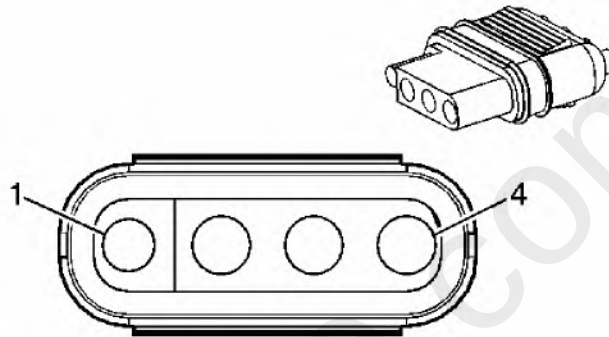
- OEM: 12033701

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Connector Part Information		• Service: See Catalog • 2-Way F Metri-Pack 480 Series (GY)	
Pin	Wire Color	Circuit No.	Function
A	RD/WH	540	Battery Positive Voltage
B	L-BU	20	Stop Lamp Switch Signal

Trailer Connector (V92)

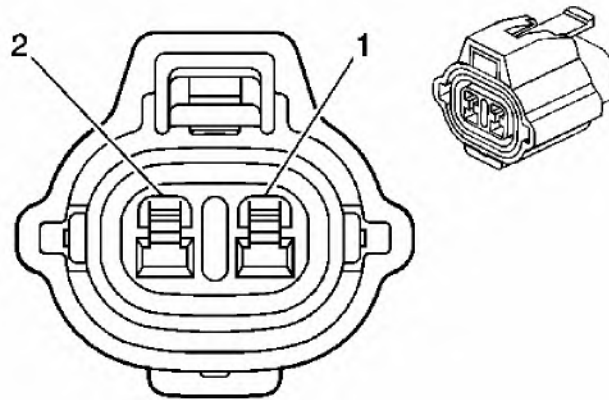


Connector Part Information		• OEM: 15A416 • Service: Not Serviced • 4-Way F (BK)	
Pin	Wire Color	Circuit No.	Function
1	BK	750	Ground
2	BN	2109	Park Lamp Supply Voltage
3	YE	1618	Left Turn Signal Lamp Supply Voltage
4	D-GN	1619	Right Turn Signal Lamp Supply Voltage

Turn Signal Lamp - LF (Chevrolet)

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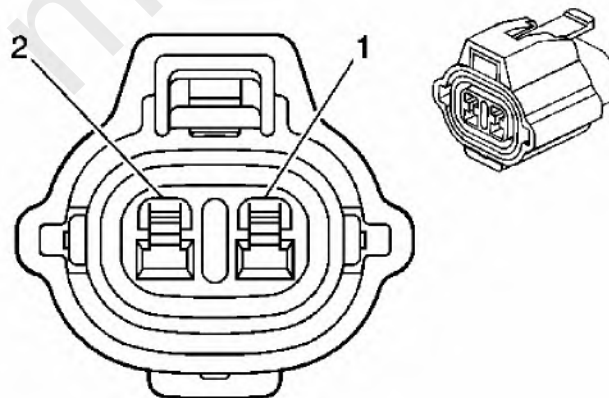


Connector Part Information

- OEM: 7223-1324-40
- Service: See Catalog
- 2-Way F (GY)

Pin	Wire Color	Circuit No.	Function
1	L-BU	14	Left Turn Signal Lamp Supply Voltage
2	BK	150	Ground

Turn Signal Lamp - RF (Chevrolet)



Connector Part Information

- OEM: 7223-1324-40
- Service: See Catalog
- 2-Way F (GY)

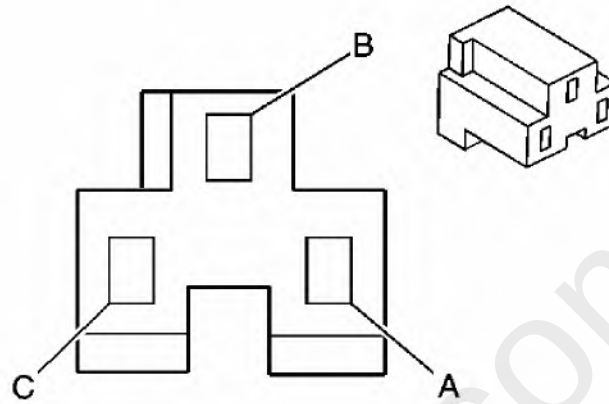
Pin	Wire Color	Circuit No.	Function
1	D-BU	15	Right Turn Signal Lamp Supply

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			Voltage
2	BK	150	Ground

Turn Signal Relay



Connector Part Information

- OEM: 7125-3152-30
- Service: See Catalog
- 3-Way F (BK)

Pin	Wire Color	Circuit No.	Function
A	L-GN	665	Turn Signal Relay Control
B	PU	1697	Turn Signal Relay Signal
C	BK	550	Ground

DIAGNOSTIC INFORMATION AND PROCEDURES

DIAGNOSTIC CODE INDEX

DIAGNOSTIC CODE INDEX

DTC	Description
DTC B1482	Battery Rundown Protection Circuit Low.
DTC B2532	Front Fog Lamps Control Circuit Low.
DTC B2533	Front Fog Lamps Control Circuit High.
DTC B2575	Headlamp Control Circuit
DTC B2577	Headlamp Control Circuit Low.
DTC B2578	Headlamp Relay Control Circuit High.
DTC B2585	Park Lamp Circuit
DTC B2587	Park Lamp Control Circuit Low
DTC B2588	Park Lamp Relay Control Circuit High

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DTC B2600	Daytime Running Lamp Control Circuit
DTC B2602	Daytime Running Lamp Circuit Low
DTC B2603	Daytime Running Lamp Circuit High
DTC B2622	Display Dimming Pulse Width Modulation (PWM) Input Circuit Low
DTC B2623	Display Dimming Pulse Width Modulation (PWM) Input Circuit High
DTC B2627	Display Dimming Pulse Width Modulation (PWM) Output Circuit Low
DTC B2628	Display Dimming Pulse Width Modulation (PWM) Output Circuit High
DTC B2647	Ambient Light Sensor Circuit Low
DTC B2662	Park Lamp Switch Circuit Malfunction
DTC B2743	Fog Lamp Switch Circuit High

DIAGNOSTIC STARTING POINT - LIGHTING SYSTEMS

Begin the system diagnosis with the **Diagnostic System Check - Vehicle** in Vehicle DTC Information. The Diagnostic System Check will provide the following information:

- The identification of the control modules which command the system
- The ability of the control modules 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.

SCAN TOOL OUTPUT CONTROLS

Scan Tool Output Controls

Scan Tool Output Control	Additional Menu Selection	Description
Inadvertent Power	-	The body control module (BCM) deactivates inadvertent power when OFF is selected.
Lamp Test	Daytime Running Lamps	The BCM actuates the daytime running lamps (DRL) relay when ON is selected.
Lamp Test	Fog Lamps	The BCM illuminates the fog lamps when ON is selected.
Lamp Test	Headlamps	The BCM illuminates the headlamps when ON is selected.
Lamp Test	Interior Lamps	The BCM actuates the interior lamp control when ON is selected.

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Lamp Test	I/P Illumination Lamps	The BCM illuminates the instrument panel (I/P) lamps at the requested intensity when increase or decrease are selected.
Lamp Test	Parking Lamps	The BCM illuminates the parking lamps when ON is selected.

SCAN TOOL DATA LIST**Exterior Lamps**

Scan Tool Parameter	Units Displayed	Typical Data Value
Ignition On, Engine Off		
Ambient Light Sensor	Volts	0.4-4 volts
Battery 1	Volts	Battery Voltage
DRL Relay Command	On/Off	On when requested
DRL Relay Feedback	High/Low	Low when requested
Fog Lamp Relay Cmd.	On/Off	On when requested
Fog Lamp Relay Fdbk.	High/Low	Low when requested
Fog Lamp Switch	On/Off	On when requested
High Beam Switch	On/Off	On when requested
Low Beam Input	Volts	0.4 volts - Battery Voltage
Low Beam Input = Off	Yes/No	Yes when Low Beams requested
Low Beam Input = DRL	Yes/No	Yes when DRL requested
Low Beam Input = High	Yes/No	No when Low Beams requested
Parklamp Switch	On/Off	On when Park Lamps requested

Interior Lamps

Scan Tool Parameter	Units Displayed	Typical Data Value
Ignition On, Engine Off		
Battery 1	Volts	Battery Voltage
Dome Lamp Command	On/Off	On when Dome requested
Dome Lamp Feedback	High/Low	Low when Dome requested
Driver Door Switch	High/Low	Low with Driver Door Open
Inadvertent Power Cmd.	On/Off	On
Inadvertent Power Fdbk.	High/Low	High when On
Key In Ignition	Yes/No	Yes

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Pass Door Switches

High/Low

Low with any Door Open

Switch Inputs

Scan Tool Parameter	Units Displayed	Typical Data Value
Ignition On, Engine Off		
Liftgate Ajar Switch	High/Low	Low with Liftgate Open
Park Brake Switch	On/Off	Off

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.

Ambient Light Sensor

This body control module (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 vehicles 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 BCM 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 DRL relay. Low is displayed when the DRL relay is active.

Fog Lamp Relay Cmd.

This BCM output displays the state of the fog lamp relay control circuit. The BCM uses this output to provide a ground to the fog lamp relay, illuminating the fog lamps.

Fog Lamp Relay Fdbk.

This BCM output displays the state of the fog lamp relay. Low is displayed when the fog lamp relay is active.

Fog Lamp Switch

This BCM input is used to determine if the fog lamps are requested. On is displayed when the fog lamp switch is pressed.

High Beam Switch

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

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. High is displayed when the inadvertent power relay is active.

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.

Liftgate Ajar Switch

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

Low Beam Input

This BCM 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 0.4 volts is displayed. When the low beam headlamps are not illuminated, battery voltage should be displayed.

Low Beam Input = DRL

This BCM input displays the state of the DRL. Yes is displayed when the DRLs are active.

Low Beam Input = High

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

Park Brake Switch

This BCM input is used to determine if the park brake is set. The BCM uses this input to determine if daytime running lamps should be requested during daylight driving.

Parklamp Switch

This BCM 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.

DTC B1482

Circuit Description

The courtesy lamp supply voltage circuit is controlled by the body control module (BCM). Should any device controlled by this circuit remain ON after the ignition key is removed, the BCM will turn inadvertent power OFF after 20 minutes to conserve battery energy.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B1482 Battery Rundown Protection Circuit Low.

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 courtesy lamp supply voltage circuit is shorted to ground.
- The battery positive voltage circuit to the BCM from the INT LTS/ONSTAR fuse is open or shorted to ground.

Action Taken When the DTC Sets

Interior lamps are inoperative.

Conditions for Clearing the DTC

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

Diagnostic Aids

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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

Step	Action	Yes	No
Schematic Reference: Interior Lights Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	Place the dome lamp in the ON position. Does the dome lamp illuminate?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	Test the battery positive voltage circuit of the body control module (BCM) for an open, high resistance, or short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 7	Go to Step 4
4	Test the courtesy lamp supply voltage circuit for an open, high resistance, or short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 7	Go to Step 5
5	Inspect for poor connections at the harness connector of the BCM. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 7	Go to Step 6
6	Replace the BCM. Refer to Control Module References in Computer/Integrating Systems for replacement, setup and programming. Did you complete the replacement?	Go to Step 7	-
	1. Use the scan tool in order to clear the DTCs.		

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7	2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text.		
	Does the DTC reset?	Go to Step 2	System OK

DTC B2532

Circuit Description

The fog lamp relay is controlled by the body control module (BCM). Battery positive voltage is applied to the relay coil when the headlamp switch is in the headlamps or park lamps ON position. The BCM grounds the fog lamp relay control circuit in order to turn ON the fog lamp relay.

DTC Descriptor

The diagnostic procedure supports the following DTC:

DTC B2532 Front Fog Lamps Control Circuit Low.

Conditions for Running the DTC

The ignition switch is in the ON position.

Conditions for Setting the DTC

The fog lamp relay control circuit is open or shorted to ground.

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.
- If the fog lamp relay control circuit is open, the fog lamps are inoperative.

Conditions for Clearing the DTC

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

Diagnostic Aids

- The fog lamps will only illuminate under the following conditions:
 - The park lamps or low beam headlamps are ON.

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- The high beam headlamps are OFF.
- The fog lamp switch is pressed.
- The ignition switch is in the RUN 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: Determines if ground is constantly being applied, or there is an open circuit to the fog lamp relay.

DTC B2532

Step	Action	Yes	No
Schematic Reference: Fog Lights Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, command the fog lamp relay ON and OFF. Does the fog lamp relay state change with each command?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	1. Turn OFF the ignition. 2. Disconnect the fog lamp relay. 3. Place the headlamp switch in the park lamps ON position. 4. Probe the coil side battery positive voltage circuit of the fog lamp relay		

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	with a test lamp that is connected to a good ground.		
	Does the test lamp illuminate?	Go to Step 4	Go to Step 10
4	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. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, command the fog lamp relay ON and OFF. Does the test lamp turn ON and OFF with each command?	Go to Step 8	Go to Step 5
5	Does the test lamp remain illuminated with each command?	Go to Step 7	Go to Step 6
6	Test the control circuit of the fog lamp relay for a high resistance or an open. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 9
7	Test the control circuit of the fog lamp relay for a short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 9
8	Inspect for poor connections at the fog lamp relay. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 11
9	Inspect for poor connections at the harness connector of the body control module (BCM). Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 12
10	Repair the open in the coil side battery positive voltage circuit of the fog lamp relay. Refer to Wiring Repairs in Wiring Systems.		

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	Did you complete the repair?	Go to Step 13	-
11	Replace the fog lamp relay. Did you complete the replacement?	Go to Step 13	-
12	Replace the BCM. Refer to Control Module References in Computer/Integrating Systems for replacement, setup and programming. Did you complete the replacement?	Go to Step 13	-
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 Step 2	System OK

DTC B2533**Circuit Description**

The fog lamp relay is controlled by the body control module (BCM). Battery positive voltage is applied to the relay coil when the headlamp switch is in the headlamps or park lamps ON position. The BCM grounds the fog lamp relay control circuit in order to turn ON the fog lamp relay.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2533 Front Fog Lamps Control Circuit High.

Conditions for Running the DTC

The ignition switch is in the ON position.

Conditions for Setting the DTC

All of the following conditions must be met:

- The BCM has received a fog lamp ON request signal from the fog lamp switch.
- The fog lamp relay control circuit is shorted to battery positive voltage for 250 milliseconds.

Action Taken When the DTC Sets

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The fog lamps are inoperative.

Conditions for Clearing the DTC

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

Diagnostic Aids

- The fog lamps will only illuminate under the following conditions:
 - The park lamps or low beam headlamps are ON.
 - The high beam headlamps are OFF.
 - The fog lamp switch is pressed.
 - The ignition switch is in the RUN 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: Determines if there is a shorted relay coil or a circuit/BCM malfunction.

DTC B2533

Step	Action	Yes	No
Schematic Reference: Fog Lights Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to <u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, command the fog lamp relay ON and OFF.	Go to <u>Testing for Intermittent Conditions and Poor</u>	

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	Does the fog lamp relay state change with each command?	<u>Connections</u> in Wiring Systems	Go to Step 3
3	1. Turn OFF the ignition. 2. Disconnect the fog lamp relay. 3. Turn ON the ignition, with the engine OFF. 4. 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. 5. With a scan tool, command the fog lamp relay ON and OFF. Does the test lamp turn ON and OFF with each command?	Go to Step 5	Go to Step 4
4	Test the control circuit of the fog lamp relay for a short to voltage. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 9	Go to Step 6
5	Inspect for poor connections at the fog lamp relay. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 9	Go to Step 7
6	Inspect for poor connections at the harness connector of the body control module (BCM). Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 9	Go to Step 8
7	Replace the fog lamp relay. Refer to <u>Relay Replacement (Within an Electrical Center)</u> or <u>Relay Replacement (Attached to Wire Harness)</u> in Wiring Systems. Did you complete the replacement?	Go to Step 9	-
8	Replace the BCM. Refer to <u>Control Module References</u> in Computer/Integrating Systems for replacement, setup and programming. Did you complete the replacement?	Go to Step 9	-

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9	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 Step 2	System OK

DTC B2575

Circuit Description

The body control module (BCM) grounds the headlamp relay control circuit when the ambient light sensor senses a dark condition. Voltage is supplied to the headlamp relay when the ignition is in the RUN position.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2575 Headlamp Control Circuit

Conditions for Running the DTC

- The ignition switch is in the RUN position.
- The ambient light sensor senses a dark condition.
- The headlamp switch is in the AUTO position.
- Transmission gear selectors not in the PARK position.

Conditions for Setting the DTC

Any of the following conditions will set this DTC:

- The headlamp relay control circuit is open for 5 seconds.
- The headlamp relay coil is open.
- Ignition voltage to the headlamp relay is open.
- The low beam signal circuit is open between the headlamp switch and the instrument panel (I/P) fuse block.
- The headlamp relay output circuit is open.
- The ground is open to the headlamp relay or switch.

Action Taken When the DTC Sets

The headlamps will not illuminate in the AUTO position.

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Conditions for Clearing the DTC

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

Diagnostic Aids

- Turn the ignition switch to the OFF position, cover the ambient light sensor on the instrument panel, wait for 15 seconds and then return the ignition to the ON position. The 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.
- An open in the following circuits may cause DTC B2575:
 - Low beam signal circuit
 - Headlamp relay output circuit
 - Ground to the headlamp switch or relay

Test Description

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

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

4: Tests for voltage at the coil side of the headlamp relay. The ignition switch supplies voltage to the coil side of the headlamp relay.

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

DTC B2575

Step	Action	Yes	No
Schematic Reference: <u>Headlights/Daytime Running Lights (DRL) Schematics</u>			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 3	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
	1. Block the drive wheels. 2. Cover the ambient light sensor, simulating dark conditions. 3. Ensure the headlamp switch is in the		

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2	OFF position. - Ensure the headlamp dimmer switch is in the low beam position. - Turn ON the ignition, with the engine OFF. - With the brake depressed, place the gear selector in the reverse position. Do the headlamps default to DRL and the DRL indicator illuminate?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	- Install a scan tool. - Turn ON the ignition, with the engine OFF. - With a scan tool, command the headlamp relay ON and OFF. Does the headlamp relay turn ON and OFF with each command?	Go to Step 7	Go to Step 4
4	- Turn OFF the ignition. - Disconnect the headlamp relay. - Turn ON the ignition, with the engine OFF. - Probe the coil side ignition voltage circuit of the headlamp relay with a test lamp that is connected to a good ground. Does the test lamp illuminate?	Go to Step 5	Go to Step 11
5	- Connect a test lamp between the control circuit of the headlamp relay and the coil side battery positive voltage circuit of the headlamp relay. - With a scan tool, command the headlamp relay ON and OFF. Does the test lamp turn ON and OFF with each command?	Go to Step 9	Go to Step 6
6	Test the control circuit of the headlamp relay for a high resistance or an open. Refer to Circuit Testing and Wiring Repairs in Wiring Systems.		

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	Did you find and correct the condition?	Go to Step 15	Go to Step 10
7	Test the following circuits for high resistance or an open. • Low beam signal circuit between the headlamp switch and the instrument panel (I/P) fuse block • Headlamp relay output circuit between the headlamp switch and the I/P fuse block • Ground between SP 203 and the headlamp switch Did you find and correct the condition?	Go to Step 15	Go to Step 10
8	Inspect for poor connections at the headlamp switch. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 15	Go to Step 8
9	Inspect for poor connections at the headlamp relay. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 15	Go to Step 12
10	Inspect for poor connections at the harness connector of the body control module (BCM). Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 15	Go to Step 13
11	Repair the open in the coil side battery positive voltage circuit of the headlamp relay. Refer to Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 15	-
12	Replace the headlamp switch. Refer to Multifunction, Turn Signal Switch Replacement in Steering Wheel and Column. Did you complete the replacement?	Go to Step 15	-

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13	Replace the headlamp relay. Refer to Relay Replacement (Within an Electrical Center) or Relay Replacement (Attached to Wire Harness) in Wiring Systems. Did you complete the replacement?	Go to Step 15	-
14	Replace the BCM. Refer to Control Module References in Computer/Integrating Systems for replacement, setup and programming. Did you complete the replacement?	Go to Step 15	-
15	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 Step 3	System OK

DTC B2577**Circuit Description**

The body control module (BCM) energizes the headlamp relay when the ambient light sensor senses a dark condition. Battery positive voltage is supplied to the headlamp relay when the ignition is in the RUN position. The BCM grounds the headlamp relay control circuit in order to activate the relay.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2577 Headlamp Control Circuit Low.

Conditions for Running the DTC

- The ignition switch is in the RUN 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.

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Action Taken When the DTC Sets

The headlamps will remain illuminated or will not illuminate in ALC mode.

Conditions for Clearing the DTC

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

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 ignition switch 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

Step	Action	Yes	No
Schematic Reference: Headlights/Daytime Running Lights (DRL) Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, command the	Go to Testing for Intermittent	

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	headlamp relay ON and OFF. Does the headlamp relay turn ON and OFF with each command?	Conditions and Poor Connections in Wiring Systems	Go to Step 3
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 Step 4	Go to Step 10
4	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. 2. With a scan tool, command the headlamp relay ON and OFF. Does the test lamp turn ON and OFF with each command?	Go to Step 8	Go to Step 5
5	Does the test lamp remain illuminated with each command?	Go to Step 7	Go to Step 6
6	Test the control circuit of the headlamp relay for a high resistance or an open. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 9
7	Test the control circuit of the headlamp relay for a short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 9
8	Inspect for poor connections at the headlamp relay. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 11

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9	Inspect for poor connections at the harness connector of the body control module (BCM). Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 12
10	Repair the coil side battery positive voltage circuit of the headlamp relay. Refer to <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 13	-
11	Replace the headlamp relay. Refer to <u>Relay Replacement (Within an Electrical Center)</u> or <u>Relay Replacement (Attached to Wire Harness)</u> in Wiring Systems. Did you complete the replacement?	Go to Step 13	-
12	Replace the BCM. Refer to <u>Control Module References</u> in Computer/Integrating Systems for replacement, setup and programming. Did you complete the replacement?	Go to Step 13	-
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 Step 2	System OK

DTC B2578

Circuit Description

The body control module (BCM) turns ON the headlamp relay when the ambient light sensor senses a dark condition. Voltage is supplied to the headlamp relay coil side at all times. The BCM grounds the headlamp relay control circuit in order to activate the relay. With the HEADLAMP relay activated ground is supplied to the low or high beam signal circuit depending on the position of the headlamp dimmer switch illuminating the headlamps, and signaling the BCM.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2578 Headlamp Relay Control Circuit High.

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Conditions for Running the DTC

- The ignition switch is in the RUN 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.

Conditions for Clearing the DTC

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

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.
- Headlamps will remain ON with key OFF until battery runs down.

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

Step	Action	Yes	No
Schematic Reference: Headlights/Daytime Running Lights (DRL) Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
	1. Install a scan tool.		

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2	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 Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	Test for a short to voltage in the control circuit of the headlamp relay. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 6	Go to Step 4
4	Inspect for poor connections at the harness connector of the body control module (BCM). Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 6	Go to Step 5
5	Replace the BCM. Refer to Control Module References in Computer/Integrating Systems for replacement, setup and programming. Did you complete the replacement?	Go to Step 6	-
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 Step 2	System OK

DTC B2585

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 fuse. The BCM grounds the park lamp relay control circuit in order to activate the relay. With the park lamp relay activated voltage is supplied to the park lamp supply voltage circuit illuminating the park lamps, license lamps, marker lamps, and signaling the BCM.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2585 Park Lamp Circuit

Conditions for Running the DTC

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

Conditions for Setting the DTC

Any of the following conditions will set this DTC:

- The park lamp relay control circuit is open.
- The park lamp supply voltage circuit is open between the instrument panel (I/P) fuse block and the BCM for 5 seconds.
- The park lamp supply voltage circuit is shorted to ground.
- The park lamp relay is stuck in the OPEN position.

Action Taken When the DTC Sets

- The park lamps will operate properly if the park lamp supply voltage circuit is open between the I/P fuse block and the BCM.
- The park lamps will not illuminate if relay is stuck open or the PARK fuse in the I/P fuse block is open.

Conditions for Clearing the DTC

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

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.

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3: Tests for voltage at the coil side of the park lamp relay. The PARK 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

Step	Action	Yes	No
Schematic Reference: Exterior Lights Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
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. Do the park lamps turn ON and OFF with each command?	Go to Step 5	Go to Step 3
3	1. Turn OFF the ignition. 2. Disconnect the park lamp relay. 3. Turn ON the ignition, with the engine OFF. 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. Does the test lamp illuminate?	Go to Step 4	Go to Step 9
4	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. 2. With a scan tool, command the park lamp relay ON and OFF. Does the test lamp turn ON and OFF with each command?	Go to Step 5	Go to Step 6
	Test for an open or high resistance in the		

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5	park lamp supply voltage circuit to the body control module (BCM). Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 12	Go to Step 7
6	Test for an open or high resistance in the control circuit of the park lamp relay. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 12	Go to Step 8
7	Inspect for poor connection at the park lamp relay. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 12	Go to Step 10
8	Inspect for poor connections at the harness connector of the BCM. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 12	Go to Step 11
9	Repair an open, high resistance, or short to ground in the coil side battery positive voltage circuit of the park lamp relay or the short to ground in the park lamp supply voltage circuit. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 12	-
10	Replace the park lamp relay. Refer to Relay Replacement (Within an Electrical Center) or Relay Replacement (Attached to Wire Harness) in Wiring Systems. Did you complete the replacement?	Go to Step 12	-
11	Replace the BCM. Refer to Control Module References in Computer/Integrating Systems for replacement, setup, and programming. Did you complete the replacement?	Go to Step 12	-
12	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.		

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Does the DTC reset?	Go to Step 2	-
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DTC B2587

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 fuse. The BCM grounds the park lamp relay control circuit in order to activate the relay.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2587 Park Lamp Control Circuit Low

Conditions for Running the DTC

- The ignition switch is in the RUN position.
- The headlamp switch is in the AUTO position.
- The ambient light sensor senses a light condition, automatic lamp control (ALC) is commanding the park lamps OFF.

Conditions for Setting the DTC

The following condition will set this DTC:

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

Action Taken When the DTC Sets

- The park lamps will remain illuminated if shorted to ground.
- The park lamps will not illuminate if open.

Conditions for Clearing the DTC

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

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.

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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 fuse supplies battery positive voltage to the coil side of the park lamp relay.

DTC B2587

Step	Action	Yes	No
Schematic Reference: Exterior Lights Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
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 Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	1. Turn OFF the ignition. 2. Disconnect the park lamp relay. 3. Turn ON the ignition, with the engine OFF. 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. Does the test lamp illuminate?	Go to Step 4	Go to Step 10
4	1. Connect a test lamp between the coil side battery positive voltage circuit of the park lamp relay and the control circuit of the park lamp relay. 2. With a scan tool, command the park		

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	lamps ON and OFF.		
	Does the test lamp turn on and off?	Go to Step 8	Go to Step 5
5	Is the test lamp illuminated?	Go to Step 6	Go to Step 7
6	Test for a short to ground in the control circuit of the park lamp relay. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 9
7	Test for an open or high resistance in the control circuit of the park lamp relay. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 9
8	Inspect for poor connections at the park lamp relay. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 11
9	Inspect for poor connections at the harness connector of the body control module (BCM). Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 12
10	Repair an open, high resistance, or short to ground in the coil side battery positive voltage circuit of the park lamp relay. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 13	-
11	Replace the park lamp relay. Refer to Relay Replacement (Within an Electrical Center) or Relay Replacement (Attached to Wire Harness) in Wiring Systems. Did you complete the replacement?	Go to Step 13	-
12	Replace the BCM. Refer to Control Module References in Computer/Integrating Systems for replacement, setup, and programming. Did you complete the replacement?	Go to Step 13	-

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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 Step 2	System OK

DTC B2588

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 fuse. The BCM grounds the park lamp relay control circuit in order to activate the relay.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2588 Park Lamp Relay Control Circuit High

Conditions for Running the DTC

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

Conditions for Setting the DTC

The following condition will set this 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.

Conditions for Clearing the DTC

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

Diagnostic Aids

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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

Step	Action	Yes	No
Schematic Reference: <u>Exterior Lights Schematics</u>			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to <u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
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 <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
3	Test the control circuit of the park lamp relay for a short to voltage. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 6	Go to Step 4
4	Inspect for poor connections at the harness connector of the body control module (BCM). Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 6	Go to Step 5
5	Replace the BCM. Refer to <u>Control Module References</u> in Computer/Integrating Systems for replacement, setup, and programming. Did you complete the replacement?	Go to Step 6	-

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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 Step 2	-

DTC B2600

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 DRL resistor. The DRL resistor reduces the intensity of the low beam headlamps for DRL operation. The BCM monitors the low beam circuit to ensure that the DRL are operating properly.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2600 Daytime Running Lamp Control Circuit

Conditions for Running the DTCs

- The ignition switch is in the RUN position.
- The headlamp switch is in the AUTO position.
- The park brake is not applied.
- The gear selector is not in the PARK position.

Conditions for Setting the DTC

Any of the following conditions will set this DTC:

- The DRL resistor supply voltage circuit is open, or shorted to ground.
- The headlamp low beam signal circuit between a headlamp and the underhood fuse block is open or shorted to ground.
- The battery positive voltage circuit to the headlamp is open or shorted to ground.
- One of the headlamp fuses in the underhood fuse block are open.
- The DRL resistor ground circuit is open.
- The DRL resistor is open or shorted.

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- The DRL relay is stuck in the OPEN position.

Action Taken When the DTC Sets

The BCM turns off the DRL relay control for the remainder of the ignition cycle.

Conditions for Clearing the DTC

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

Diagnostic Aids

- Check both the LH and RH headlamps for proper operation.
- Check both the LT HDLP and RT HDLP 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

Step	Action	Values	Yes	No
Schematic Reference: <u>Headlights/Daytime Running Lights (DRL)</u>				
Schematics				
1	Did you perform the Diagnostic System Check - Vehicle?	-	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	Is DTC B2602 also set?	-	Go to DTC B2602	Go to Step 3
3	1. Place the headlamp switch in the ON position. 2. Place the headlamp dimmer switch in the low beam position. Do both low beam headlamps illuminate properly?	-	Go to Step 5	Go to Step 4

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4	Test the headlamp low beam signal circuit and the battery positive voltage circuit for short to ground, high resistance or open between the headlamp and the instrument panel (I/P) fuse block. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	-	Go to Step 20	Go to Step 11
5	1. Disconnect the daytime running lamps (DRL) relay. 2. Test the resistance between the DRL resistor supply voltage circuit of the relay connector and a good ground. Is the resistance within the specified range?	0.4-1 ohms	Go to Step 6	Go to Step 9
6	Test the DRL relay for continuity between the coil sides of the relay. Is continuity present?	-	Go to Step 7	Go to Step 14
7	Connect a test lamp between the DRL relay control circuit of the DRL relay and ground. Does the test lamp illuminate?	-	Go to Step 15	Go to Step 8
8	1. Connect a test lamp between the DRL relay control circuit of the DRL relay and battery positive voltage. 2. With a scan tool, command the DRL ON, and then OFF. Does the test lamp turn on and off as commanded?	-	Go to Step 14	Go to Step 12
9	Test the DRL relay resistor supply voltage circuit of the DRL resistor for a short to ground, high resistance or an open. Refer to			

Go

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	Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and fix the concern?	Go to Step 20		to Step 10
10	Test the ground circuit of the DRL resistor for high resistance or an open. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and fix the concern?	Go to Step 20		Go to Step 13
11	Inspect for poor connections at the harness connector of the headlamp. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 20		Go to Step 16
12	Inspect for poor connections at the harness connector of the body control module (BCM). Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	-	Go to Step 20	Go to Step 19
13	Inspect for poor connections at the harness connector of the DRL resistor. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	-	Go to Step 20	Go to Step 17
14	Inspect for poor connections at the DRL relay. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the	-	Go to	Go to Step

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	condition?		Step 20	18
15	Repair a short to voltage in the DRL relay control circuit of the BCM. Refer to Wiring Repairs in Wiring Systems. Did you complete the repair?	-	Go to Step 20	-
16	Replace headlamp bulb. Refer to Headlamp Assembly or Headlamp Bulb and/or Cornering, Sidemarker, Park, Turn Signal Bulb Replacement (Equinox) or Headlamp Assembly or Headlamp Bulb and/or Cornering, Sidemarker, Park, Turn Signal Bulb Replacement (Torrent) . Did you complete the replacement?	Go to Step 20		
17	Replace the DRL resistor. Did you complete the replacement?	-	Go to Step 20	-
18	Replace the DRL relay. Refer to Relay Replacement (Within an Electrical Center) or Relay Replacement (Attached to Wire Harness) in Wiring Systems. Did you complete the replacement?	-	Go to Step 20	-
19	Replace the BCM. Refer to Control Module References in Computer/Integrating Systems for replacement, setup, and programming. Did you complete the replacement?	-	Go to Step 20	-
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.	-	Go to	

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Does the DTC reset?		Step 2	System OK	
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DTC B2602

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.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2602 Daytime Running Lamp Circuit Low

Conditions for Running the DTC

- The ignition switch is in the RUN position.
- The headlamp switch is in the AUTO position.
- The park brake is not applied.
- The gear selector is not 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 DRL relay control circuit is open or shorted to ground, or the DRL relay coil is open, or battery positive voltage to the DRL relay is open.

Action Taken When the DTC Sets

The BCM disables the DRL relay control as long as the malfunction is present.

Conditions for Clearing the DTC

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

Diagnostic Aids

- The park brake must not be set and the transaxle must be in gear for the DRL to operate properly.

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- 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

Step	Action	Yes	No
Schematic Reference: Headlights/Daytime Running Lights (DRL) Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, command the daytime running lights (DRL) relay ON and OFF. Does the DRL relay turn ON and OFF with each command?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	1. Turn OFF the ignition. 2. Disconnect the DRL relay. 3. Turn ON the ignition, with the engine OFF. 4. Probe the coil side battery positive voltage circuit of the DRL relay with a test lamp that is connected to a good ground. Does the test lamp illuminate?	Go to Step 4	Go to Step 10

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4	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. 2. With a scan tool, command the DRL relay ON and OFF. Does the test lamp turn ON and OFF with each command?	Go to Step 8	Go to Step 5
5	Does the test lamp remain illuminated with each command?	Go to Step 7	Go to Step 6
6	Test the control circuit of the DRL relay for an open. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 9
7	Test the control circuit of the DRL relay for a short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 9
8	Inspect for poor connections at the DRL relay. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 11
9	Inspect for poor connections at the harness connector of the body control module (BCM). Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 12
10	Repair an open, high resistance, or short to ground in the coil side battery positive voltage circuit of the DRL relay. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 13	-
11	Replace the DRL relay. Refer to Relay Replacement (Within an Electrical Center) or Relay Replacement (Attached to Wire Harness) in Wiring Systems. Did you complete the replacement?	Go to Step 13	-
	Replace the BCM. Refer to Control		

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12	Module References in Computer/Integrating Systems for replacement, setup, and programming. Did you complete the replacement?	Go to Step 13	-
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 Step 2	System OK

DTC B2603

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.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2603 Daytime Running Lamp Circuit High

Conditions for Running the DTC

The ignition switch is in the RUN position.

Conditions for Setting the DTC

All of the following conditions must be met:

- The BCM is commanding the DRL relay ON.
- The DRL relay control circuit is shorted to voltage.

Action Taken When the DTC Sets

The BCM disables the DRL relay control as long as the malfunction is present.

Conditions for Clearing the DTC

- The BCM receives the clear code command from the scan tool.
- A current DTC will clear when the conditions for setting the DTC are no longer present.

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- A history DTC clears after 100 malfunction free ignition cycles.

Diagnostic Aids

- The park brake must not be set and the transaxle must be in gear for the DRL 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

Step	Action	Yes	No
Schematic Reference: <u>Headlights/Daytime Running Lights (DRL) Schematics</u>			
1	Did you perform the Diagnostic System Check-Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, command the daytime running lights (DRL) relay ON and OFF. Does the DRL relay turn ON and OFF with each command?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	1. Disconnect the daytime running lights (DRL) relay. 2. Turn ON the ignition, with the engine OFF. 3. Probe the control circuit of the DRL relay with a test lamp that is connected to a good ground. Does the test lamp illuminate?	Go to Step 4	Go to Step 5
4	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		

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	OFF.		
	Does the test lamp illuminate?	Go to Step 5	Go to Step 6
5	Inspect for poor connections at the DRL relay. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 10	Go to Step 8
6	Inspect for poor connections at the harness connector of the body control module. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 10	Go to Step 9
7	Repair a short to voltage in the DRL relay control circuit. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 10	-
8	Replace the DRL relay. Refer to Relay Replacement (Within an Electrical Center) or Relay Replacement (Attached to Wire Harness) in Wiring Systems. Did you complete the replacement?	Go to Step 10	-
9	Replace the BCM. Refer to Control Module References in Computer/Integrating Systems for replacement, setup, and programming. Did you complete the replacement?	Go to Step 10	-
10	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 Step 3	System OK

DTC B2622

Circuit Description

The body control module (BCM) supplies a reference voltage to the instrument panel dimmer switch through the instrument panel (I/P) lamps dimmer control circuit. The dimmer switch varies the voltage and returns the new voltage to the BCM through the low reference

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circuit. The BCM uses this voltage to determine the illumination level of the I/P lamps.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2622 Display Dimming Pulse Width Modulation (PWM) Input Circuit Low

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 I/P lamps dimmer control circuit is shorted to ground.
- The low reference circuit is shorted to ground.

Action Taken When the DTC Sets

The illumination of the I/P lamps defaults at full intensity.

Conditions for Clearing the DTC

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

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 I/P dimmer switch is 0.4-4.5 volts.

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

DTC B2622

Step	Action	Value(s)	Yes	No
Schematic Reference: Interior Lights Dimming Schematics				
	Did you perform the Diagnostic			Go to

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1	System Check - Vehicle?	-	Go to Step 2	<u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, observe the Instrument Panel (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 V	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
3	1. Turn OFF the ignition. 2. Disconnect the instrument panel dimmer switch. 3. Turn ON the ignition, with the engine OFF. 4. With a scan tool, observe the I/P Dimmer Input Data parameter. Does the scan tool indicate that the I/P Dimmer Input Data parameter is greater than the specified value?	4.5 V	Go to Step 5	Go to Step 4
4	Test the low reference circuit and the I/P lamps dimmer control circuit for short to ground. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	-	Go to Step 9	Go to Step 6
5	Inspect for poor connections at the harness connector of the I/P dimmer switch. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the	-		

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	condition?		Go to Step 9	Go to Step 7
6	Inspect for poor connections at the harness connector of the body control module (BCM). Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	-	Go to Step 9	Go to Step 8
7	Replace the I/P dimmer switch. Refer to Instrument Panel (I/P) Dimmer Switch Replacement . Did you complete the replacement?	-	Go to Step 9	Go to Step 9
8	Replace the BCM. Refer to Control Module References in Computer/Integrating Systems for replacement, setup, and programming. Did you complete the replacement?	-	Go to Step 9	-
9	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 Step 2	System OK

DTC B2623

Circuit Description

The body control module (BCM) supplies a reference voltage to the instrument panel (I/P) dimmer switch through the I/P lamps dimmer control circuit. The dimmer switch varies the voltage and returns the new voltage to the BCM through the low reference circuit. The BCM uses this voltage to determine the illumination level of the I/P lamps.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2623 Display Dimming Pulse Width Modulation (PWM) Input Circuit High

Conditions for Running the DTC

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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 I/P lamps dimmer control is open or shorted to voltage.
- The low reference is open or shorted to voltage.

Action Taken When the DTC Sets

The illumination of the I/P lamps is forced to full intensity.

Conditions for Clearing the DTC

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

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.
- A short to voltage may damage the instrument panel dimmer switch.

Test Description

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

2: The normal operating voltage of the I/P dimmer switch is 0.4-4.5 volts.

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

DTC B2623

Step	Action	Value(s)	Yes	No
Schematic Reference: Interior Lights Dimming Schematics				
1	Did you perform the Diagnostic System Check - Vehicle?	-	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
	1. Install a scan tool.			

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2	2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, observe the Instrument Panel (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 greater than the specified value?	4.5 V	Go to Step 3	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems
3	1. Turn OFF the ignition. 2. Disconnect the instrument panel dimmer switch. 3. Turn ON the ignition, with the engine OFF. 4. With a scan tool, observe the I/P Dimmer Input Data parameter. Does the scan tool indicate that the I/P Dimmer Input Data parameter is greater than the specified value?	4.5 V	Go to Step 4	Go to Step 5
4	Test the low reference circuit and the I/P lamps dimmer switch signal circuit for an open or short to voltage. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	-	Go to Step 9	Go to Step 6
5	Inspect for poor connections at the harness connector of the I/P dimmer switch. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	-	Go to Step 9	Go to Step 7
6	Inspect for poor connections at the harness connector of the body control module (BCM). Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	-	Go to Step 9	Go to Step 8
	Replace the I/P dimmer switch. Refer to			

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7	Instrument Panel (I/P) Dimmer Switch Replacement. Did you complete the replacement?	-	Go to Step 9	Go to Step 9
8	Replace the BCM. Refer to Control Module References in Computer/Integrating Systems for replacement, setup, and programming. Did you complete the replacement?	-	Go to Step 9	-
9	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 Step 2	System OK

DTC B2627**Circuit Description**

The body control module (BCM) receives a variable voltage from the instrument panel (I/P) lamp dimmer switch. The BCM uses this signal in order to vary the illumination level of the I/P lamps. The I/P dimming lamps output from the BCM is a pulse width modulated voltage supply used to light the I/P lamps.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2627 Display Dimming Pulse Width Modulation (PWM) Output Circuit Low

Conditions for Running the DTC

The park lamp input is active, park or headlamps ON.

Conditions for Setting the DTC

The following conditions will set this DTC:

The I/P dimming lamps output is open or shorted to ground.

Action Taken When the DTC Sets

The I/P lamps will be inoperative.

Conditions for Clearing the DTC

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

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

Step	Action	Yes	No
Schematic Reference: Interior Lights Dimming Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Turn ON the ignition, with the engine OFF. 2. Turn the headlamp switch to the headlamps ON position. 3. Attempt to adjust the lighting intensity of the instrument lamps with the dimmer switch. Do the instrument panel (I/P) lamps vary with dimmer control?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	Is DTC B2622 or B2623 set?	Go to Diagnostic Trouble Code (DTC) List - Vehicle in Vehicle DTC Information	Go to Step 4
4	Test for an open, high resistance, or short to ground on the I/P lamps supply voltage circuit. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 7	Go to Step 5
	Inspect for poor connections at the harness		

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5	connector of the body control module (BCM). Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 7	Go to Step 6
6	Replace the BCM. Refer to Control Module References in Computer/Integrating Systems for replacement, setup, and programming. Did you complete the replacement?	Go to Step 7	-
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 Step 2	System OK

DTC B2628**Circuit Description**

The body control module (BCM) receives a variable voltage from the instrument panel (I/P) lamp dimmer switch. The BCM uses this signal in order to vary the illumination level of the I/P lamps. The I/P dimming lamps output from the BCM is a pulse width modulated voltage supply used to light the I/P lamps.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2628 Display Dimming Pulse Width Modulation (PWM) Output Circuit High

Conditions for Running the DTC

The park lamp input is inactive, park and headlamps OFF.

Conditions for Setting the DTC

The following condition will set this DTC:

The I/P dimming lamps output is shorted to voltage.

Action Taken When the DTC Sets

If the I/P dimming lamps output is shorted to voltage, the I/P lamps will illuminate at full

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intensity.

Conditions for Clearing the DTC

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

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

Step	Action	Yes	No
Schematic Reference: Interior Lights Dimming Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Turn ON the ignition, with the engine OFF. 2. Turn the headlamp switch to the headlamps ON position. 3. Attempt to adjust the lighting intensity of the instrument lamps with the dimmer switch. Do the instrument panel (I/P) lamps vary with dimmer control?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	Is DTC B2622 or B2623 set?	Go to Diagnostic Trouble Code (DTC) List - Vehicle in Vehicle DTC Information	Go to Step 4
4	Test for a short to voltage on the I/P lamps supply voltage circuit. Refer to Circuit Testing and Wiring Repairs in Wiring		

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	Systems. Did you find and correct the condition?	Go to Step 7	Go to Step 5
5	Inspect for poor connections at the harness connector of the body control module (BCM). Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 7	Go to Step 6
6	Replace the BCM. Refer to Control Module References in Computer/Integrating Systems for replacement, setup, and programming. Did you complete the replacement?	Go to Step 7	-
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 Step 2	System OK

DTC B2647**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. 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.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2647 Ambient Light Sensor Circuit Low

Conditions for Running the DTC

The ignition switch is in the RUN position.

Conditions for Setting the DTC

The daytime running lamps (DRL)/ambient light sensor signal circuit is shorted to ground for 5 seconds.

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Action Taken When the DTC Sets

The DRL and indicator will not illuminate.

Conditions for Clearing the DTC

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

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

Step	Action	Value(s)	Yes	No
Schematic Reference: Headlights/Daytime Running Lights (DRL) Schematics				
1	Did you perform the Diagnostic System Check - Vehicle?	-	Go to Step 2	Go to <u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, observe the PHOTOCELL VOLTAGE Data parameter in the data list. Does the scan tool indicate that the PHOTOCELL VOLTAGE parameter is within the specified range?	0.5-4.5 V	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3

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3	Test the daytime running lamps (DRL)/ambient light sensor signal circuit of the body control module (BCM) for a short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	-	Go to Step 9	Go to Step 4
4	1. Disconnect the ambient light sensor. 2. Connect a fused jumper wire between the signal circuit of the ambient light sensor and the low reference circuit of the ambient light sensor. 3. With a scan tool, observe the PHOTOCELL VOLTAGE data parameter in the data list. Does the scan tool indicate that the PHOTOCELL VOLTAGE parameter is within the specified range?	4.5-5.0 V	Go to Step 5	Go to Step 6
5	Inspect for poor connections at the harness connector of the ambient light sensor. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	-	Go to Step 9	Go to Step 7
6	Inspect for poor connections at the harness connector of the BCM. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	-	Go to Step 9	Go to Step 8
7	Replace the ambient light sensor. Refer to Ambient Light Sensor Replacement Did you complete the replacement?	-	Go to Step 9	-

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8	Replace the BCM. Refer to Control Module References in Computer/Integrating Systems for replacement, setup, and programming. Did you complete the replacement?	-	Go to Step 9	-
9	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 Step 2	System OK

DTC B2662**Circuit Description**

The PARK fuse in the fuse block - instrument panel (I/P) supplies voltage to the switch input side of the park lamp relay. The body control module (BCM) controls the park lamp relay, closing the contacts, applying voltage to the park lamp supply voltage circuit. The park lamps are illuminated any time the headlamp switch is in the park lamps ON or headlamps ON position, or anytime the BCM illuminates the headlamps.

The BCM monitors the park lamp supply voltage circuit to determine if the park lamps are receiving voltage when requested. When the BCM is commanding the headlamps ON and is not receiving voltage on the park lamps supply voltage circuit input the DTC will set.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2662 Park Lamp Switch Circuit Malfunction**Conditions for Running the DTC**

- The ignition switch is in the ON position.
- The low beam or high beam headlamps are ON.

Conditions for Setting the DTC

Any of the following conditions will set this DTC:

- The park lamp supply voltage circuit is open or shorted to ground.
- The park lamp relay is inoperative.

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- Battery positive voltage to the park lamp relay is open.

Action Taken When the DTC Sets

DTC B2662 is stored in the BCM memory.

Conditions for Clearing the DTC

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

Diagnostic Aids

- The low or high beam headlamps must be ON in order to set this DTC.
- An open PARK 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

Step	Action	Yes	No
Schematic Reference: Exterior Lights Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, observe the PARKLAMP SWITCH parameter in the data list. 4. Turn the headlamp switch to the low beam headlamps ON position. 5. Return the headlamp switch to the AUTO position. Does the scan tool display toggle between ON and OFF?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3

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3	Are the park lamps operating properly when the headlamp switch is turned ON and then to AUTO?	Go to Step 4	Go to Step 6
4	Test the signal circuit of the headlamp switch for an open or high resistance. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 5
5	Inspect for poor connections at the harness connector of the body control module (BCM). Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 9
6	Test the battery positive voltage circuit of the headlamp switch for an open or short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 7
7	Test the park lamp signal circuit of the headlamp switch for an open or high resistance. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 8
8	Inspect for poor connections at the harness connector of the headlamp switch. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 10
9	Replace the BCM. Refer to Control Module References in Computer/Integrating Systems for replacement, setup, and programming. Did you complete the replacement?	Go to Step 11	-
10	Replace the headlamp switch. Refer to Multifunction, Turn Signal Switch Replacement in Steering Wheel and Column. Did you complete the replacement?	Go to Step 11	-
	1. Use the scan tool in order to clear the DTCs.		

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11	2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text.		
	Does the DTC reset?	Go to Step 2	System OK

DTC B2743

Circuit Description

The fog lamp switch is a momentary switch and receives voltage on from the IGN 1 fuse in the instrument panel (I/P) fuse block. The body control module (BCM) monitors the switch on the front fog lamp switch signal circuit. When the switch is pressed voltage is supplied on the front fog lamp signal circuit only while the switch is held down.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2743 Fog Lamp Switch Circuit High

Conditions for Running the DTC

- The ignition switch is in the RUN position.
- The headlamp switch is in the headlamps ON or park lamps ON position.
- The fog lamps are commanded ON.

Conditions for Setting the DTC

Any of the following conditions will set this DTC:

- The front fog lamp signal circuit is shorted to voltage for 30 seconds.
- The fog lamp switch sticks closed.

Action Taken When the DTC Sets

DTC B2743 is stored in the BCM memory.

Conditions for Clearing the DTC

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

Diagnostic Aids

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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 B2743

Step	Action	Yes	No
Schematic Reference: Fog Lights Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
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 AUTO position. Do the fog lamps remain illuminated?	Go to Step 3	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems
3	Disconnect the fog lamp relay. Did the fog lamps turn OFF?	Go to Step 4	Go to Step 6
4	Test the fog lamp relay control circuit for a short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 8	Go to Step 5
5	Inspect for poor connections at the fog lamp relay. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 8	Go to Step 7
6	Repair a short to voltage in the front fog lamp supply voltage circuit. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 8	-
7	Replace the fog lamp relay. Refer to Relay Replacement (Within an Electrical Center) or Relay Replacement (Attached to Wire Harness) in Wiring Systems. Did you complete the replacement?	Go to Step 8	-
8	Operate the system in order to verify the repair.		

Did you correct the condition?

System OK

Go to **Step 3****SYMPTOMS - LIGHTING SYSTEMS**

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

1. Perform the **Diagnostic System Check - Vehicle** in Vehicle DTC Information 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.
2. 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**
- **Courtesy Lamps Always On**

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- Courtesy Lamps Inoperative
- Daytime Running Lamps (DRL) Indicator Inoperative
- Daytime Running Lamps (DRL) Inoperative
- Fog Lamp Indicator Inoperative
- Fog Lamps Always On
- Fog Lamps Inoperative
- Hazard Lamps Inoperative
- Headlamps Always On - Low or High Beam
- 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
- Interior Backlighting Does Not Dim
- Interior Backlighting Inoperative
- Park Lamps Always On
- Park Lamps Inoperative
- Reading Lamp(s) Inoperative
- Stop Lamps Always On
- Stop Lamps Inoperative
- Turn Signal Lamps and/or Indicators Always On or Flashing
- Turn Signal Lamps and/or Indicators Inoperative

BACKUP LAMPS ALWAYS ON

Backup Lamps Always On

Step	Action	Yes	No
Schematic Reference: Exterior Lights Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Turn ON the ignition, with the engine OFF. 2. Place the gear selector in park or neutral.		Go to Testing for Intermittent Conditions and Poor

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	Do the backup lamps illuminate?	Go to Step 3	Connections in Wiring Systems
3	Disconnect the park neutral position switch. Are the backup lamps illuminated?	Go to Step 4	Go to Step 5
4	Repair the short to battery positive voltage in the backup lamp supply voltage circuit. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 6	-
5	Replace the switch. Refer to Transaxle Range Switch Replacement in Automatic Transaxle - AF33-5. Did you complete the replacement?	Go to Step 6	-
6	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 3

BACKUP LAMPS INOPERATIVE

Backup Lamps Inoperative

Step	Action	Yes	No
Schematic Reference: Exterior Lights Schematics Connector End View Reference: Automatic Transmission Related Connector End Views in Automatic Transaxle - AF33-5			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Turn ON the ignition, with the engine OFF. 2. Apply the park brake. 3. Place the gear selector in the REVERSE position. Do both backup lamps illuminate?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	Is only one lamp inoperative?	Go to Step 4	Go to Step 5
	1. Disconnect the inoperative backup lamp connector. 2. Probe the backup lamp supply voltage		

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4	circuit of the backup lamp connector with a test lamp that is connected to a good ground. Does the test lamp illuminate?	Go to Step 8	Go to Step 9
5	1. Turn OFF the ignition. 2. Disconnect the park neutral position switch connector. 3. Turn ON the ignition, with the engine OFF. 4. Probe the battery positive voltage circuit of the connector with a test lamp that is connected to a good ground. Does the test lamp illuminate?	Go to Step 6	Go to Step 10
6	1. Turn OFF the ignition. 2. Connect a 10-amp fused jumper wire between the battery positive voltage circuit of the switch and the backup lamp supply voltage circuit of the switch. Do the backup lamps illuminate?	Go to Step 7	Go to Step 11
7	Inspect for poor connections at the harness connector of the switch. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 12
8	Repair an open or high resistance in the ground circuit of the inoperative backup lamp. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 13	-
9	Repair an open or high resistance in the backup lamp supply voltage circuit of the inoperative backup lamp. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 13	-
	Repair an open, high resistance, or short to		

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10	ground in the battery positive voltage circuit or a short to ground in the backup lamp supply voltage circuit of the switch. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 13	-
11	Repair an open or high resistance in the backup lamp supply voltage circuit between the switch and the backup lamps. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 13	-
12	Replace the switch. Refer to Transaxle Range Switch Replacement in Automatic Transaxle - AF33-5. Did you complete the replacement?	Go to Step 13	-
13	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

COURTESY LAMPS ALWAYS ON

Courtesy Lamps Always On

Step	Action	Yes	No
Schematic Reference: Interior Lights Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Ensure the front dome lamp switch is in the OFF position. 2. Close all of the vehicle doors. 3. Place the front dome lamp switch in the DOOR position. 4. Wait 30 seconds. Do the courtesy lamps operate as expected?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	Place the front dome lamp switch in the OFF position. Do the courtesy lamps remain on with the		

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	front dome lamp switch in the OFF position?	Go to Step 7	Go to Step 4
4	1. Ensure the front dome lamp switch is in the DOOR position. 2. Close all of the vehicle doors. 3. Use the scan tool in order to command the interior lamps OFF. Do the courtesy lamps turn OFF when commanded?	Go to Step 5	Go to Step 8
5	1. Close all of the vehicle doors. 2. With a scan tool, observe the Driver Door Switch, Passenger Door Switch, and the Liftgate Ajar Switch parameters in the data list. Does the scan tool display that all parameters are High?	Go to Step 14	Go to Step 6
6	Does the scan tool display that the Passenger Door Switch parameter is Low?	Go to Step 10	Go to Step 9
7	Disconnect the front dome lamp switch. Is the rear courtesy lamp illuminated?	Go to Step 15	Go to Step 13
8	Test the courtesy lamps switch signal circuit for a short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 19	Go to Step 14
9	While monitoring the parameters, disconnect the connector of the switch that indicates a Low parameter. Does the scan tool display a parameter change to High when a switch is disconnected?	Go to Step 17	Go to Step 11
10	While monitoring the parameter, disconnect each passenger door jamb switch one at a time. Does the scan tool display a parameter change to High when one of the passenger door jamb switches is disconnected?	Go to Step 17	Go to Step 12
11	Test the ajar switch signal circuit for a short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems.		

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	Did you find and correct the condition?	Go to Step 19	Go to Step 14
12	Test the passenger door ajar switch signal circuit for a short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 19	Go to Step 14
13	Inspect for poor connections at the harness connector of the front dome lamp switch. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 19	Go to Step 16
14	Inspect for poor connections at the harness connector of the body control module (BCM). Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 19	Go to Step 18
15	Repair the interior lamp control circuit of the rear dome lamp for a short to ground. Refer to Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 19	-
16	Replace the front dome lamp switch. Refer to Dome Lamp Replacement . Did you complete the replacement?	Go to Step 19	-
17	Replace the inoperative ajar switch. Refer to Latch Replacement - Front Door , Latch Replacement - Rear Door in Doors, or Lock Plate and Rod Replacement - Liftgate in Body Rear End. Did you complete the replacement?	Go to Step 19	-
18	Replace the BCM. Refer to Control Module References in Computer/Integrating Systems for replacement, setup, and programming. Did you complete the replacement?	Go to Step 19	-
19	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

COURTESY LAMPS INOPERATIVE

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Courtesy Lamps Inoperative

Step	Action	Yes	No
Schematic Reference: Interior Lights Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	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 body control module (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. - Place the front dome lamp switch in the AUTO position. - Observe the courtesy lamps. - Open and close all of the vehicle doors. - Place the courtesy lamp switch in the ON position. Do the courtesy lamps illuminate as expected?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	Is only one courtesy lamp inoperative?	Go to Step 4	Go to Step 5
4	Test the voltage supply and ground circuits of the inoperative courtesy lamp for an open or high resistance. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 19
5	Are all courtesy lamps inoperative at all times?	Go to Step 6	Go to Step 7
	Test the courtesy lamp supply voltage and battery positive voltage circuits of the BCM for the following: - An open - A high resistance		

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6	• A short to ground Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 17
7	Are the courtesy lamps inoperative from the front dome lamp switch only?	Go to Step 8	Go to Step 9
8	Test the ground circuit of the front dome lamp switch for an open or high resistance. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 16
9	Are the courtesy lamps inoperative from all doors and the liftgate?	Go to Step 10	Go to Step 12
10	1. Open the doors. 2. Connect a test lamp between the courtesy lamp switch signal circuit of the front dome lamp connector and battery positive voltage. Does the test lamp illuminate?	Go to Step 16	Go to Step 11
11	Test the courtesy lamp switch circuit of the BCM for an open or high resistance. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 17
12	1. With the scan tool, observe the parameter of the door that does not illuminate the courtesy lamps using the following: • DRIVER DOOR SWITCH • PASS DOOR SWITCH • LIFTGATE AJAR SWITCH 2. Open and close the door. Does the parameter switch from HIGH to LOW as expected?	Go to Step 17	Go to Step 13
	1. Close all doors that illuminate the courtesy lamps. 2. Disconnect the inoperative door ajar		

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13	switch connector. 3. Connect a 3-amp fused jumper wire between the signal circuit of the connector and a good ground. Do the courtesy lamps illuminate?	Go to Step 15	Go to Step 14
14	Test the signal circuit of the switch for an open or high resistance. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 17
15	Test the ground circuit of the switch for an open or high resistance. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 18
16	Inspect for poor connections at the harness connector of the front courtesy lamp assembly. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 20
17	Inspect for poor connections at the harness connector of the BCM. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 21
18	Inspect for poor connections at the harness connector of the inoperative switch. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 22
19	Replace the bulb. Refer to Dome Lamp Bulb Replacement. Did you complete the replacement?	Go to Step 23	-
20	Replace the bulb or lamp assembly. Refer to Dome Lamp Bulb Replacement or Dome Lamp Replacement. Did you complete the replacement?	Go to Step 23	-

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21	Replace the BCM. Refer to <u>Control Module References</u> in Computer/Integrating Systems for replacement, setup and programming. Did you complete the replacement?	Go to Step 23	-
22	Replace the inoperative switch. Refer to the following: • <u>Latch Replacement - Front Door</u> • <u>Latch Replacement - Rear Door</u> in Doors • <u>Lock Plate and Rod Replacement - Liftgate</u> in Body Rear End Did you complete the replacement?	Go to Step 23	-
23	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 3

DAYTIME RUNNING LAMPS (DRL) INDICATOR INOPERATIVE

Daytime Running Lamps (DRL) Indicator Inoperative

Step	Action	Yes	No
Schematic Reference: Headlights/Daytime Running Lights (DRL) Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to <u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
2	1. Place the headlamp switch in the OFF position. 2. Turn ON the ignition switch, with the engine OFF. 3. With the brake pedal pressed, place the gear selector in the REVERSE position. 4. Ensure the parking brake is disengaged. Does the daytime running lamp (DRL)	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in	

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	indicator illuminate?	Wiring Systems	Go to Step 3
3	Are the low beam headlamps illuminated at reduced intensity?	Go to Step 4	Go to Symptoms - Lighting Systems
4	Replace the instrument panel cluster (IPC). Refer to Control Module References in Computer/Integrating Systems for replacement, setup, and programming. Did you complete the replacement?	Go to Step 5	-
5	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 3

DAYTIME RUNNING LAMPS (DRL) INOPERATIVE

Daytime Running Lamps (DRL) Inoperative

Step	Action	Yes	No
Schematic Reference: Headlights/Daytime Running Lights (DRL) Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Ensure that the ambient light sensor is not covered and is receiving daylight conditions. 2. Place the headlamp switch in the AUTO position. 3. Turn ON the ignition, with the engine OFF. 4. Block the wheels. 5. Ensure the parking brake is disengaged. 6. Place the transaxle in neutral. Do the daytime running lamps (DRL) illuminate?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
	1. Turn ON the ignition, with the engine OFF.		

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3	2. With the scan tool, command the DRL ON. Do the low beam headlamps illuminate at low intensity?	Go to Step 4	Go to Step 6
4	Test for high resistance or open in the following body control module (BCM) circuits. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. • DRL/ambient light sensor signal • Low ref • Headlamp low beam signal - between the BCM and the I/P fuse block Did you find and correct the condition?	Go to Step 9	Go to Step 5
5	Inspect for poor connections at the harness connector of the ambient light sensor. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 9	Go to Step 7
6	Inspect for poor connections at the harness connector of the BCM. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 9	Go to Step 8
7	Replace the ambient light sensor. Refer to Ambient Light Sensor Replacement. Did you complete the replacement?	Go to Step 9	-
8	Replace the BCM. Refer to Control Module References in Computer/Integrating Systems for replacement, setup and programming. Did you complete the replacement?	Go to Step 9	-
9	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

FOG LAMP INDICATOR INOPERATIVE

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Fog Lamp Indicator Inoperative

Step	Action	Yes	No
Schematic Reference: Fog Lights Schematics Connector End View Reference: Lighting Systems Connector End Views			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	Verify that the fog lamp indicator is inoperative. Does the fog lamp indicator operate normally?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	Do the fog lamps operate normally?	Go to Step 4	Go to Symptoms - Lighting Systems
4	Test the fog lamp relay control circuit for an open or high resistance between the I/P fuse block and the fog lamp switch. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 7	Go to Step 5
5	Inspect for poor connections at the harness connector of the fog lamp switch. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 7	Go to Step 6
6	Replace the fog lamp switch. Refer to Fog Lamp Switch Replacement - Front . Did you complete the replacement?	Go to Step 7	-
7	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 3

FOG LAMPS ALWAYS ON

Fog Lamps Always On

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Step	Action	Yes	No
Schematic Reference: Fog Lights Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Turn ON the ignition, with the engine OFF. 2. Place the headlamp switch in the ON position. 3. Press the fog lamp switch several times. Do the fog lamps remain illuminated in both positions?	Go to Step 3	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems
3	Disconnect the fog lamp relay. Did the fog lamps turn OFF?	Go to Step 4	Go to Step 6
4	Test the fog lamp relay control circuit for a short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 8	Go to Step 5
5	Inspect for poor connections at the fog lamp relay. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 8	Go to Step 7
6	Repair a short to voltage in the front fog lamp supply voltage circuit. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 8	-
7	Replace the fog lamp relay. Refer to Relay Replacement (Within an Electrical Center) or Relay Replacement (Attached to Wire Harness) in Wiring Systems. Did you complete the replacement?	Go to Step 8	-
8	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 3

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Fog Lamps Inoperative

Step	Action	Yes	No
Schematic Reference: Fog Lights Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Turn ON the ignition, with the engine OFF. 2. Place the headlamp switch in the headlamp ON position. 3. Ensure headlamps are in the LOW BEAM position 4. Place the fog lamp switch in the ON position. Do both fog lamps illuminate?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	Is only one lamp inoperative?	Go to Step 4	Go to Step 6
4	Test the front fog lamp supply voltage circuit of the inoperative lamp for an open or high resistance. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 24	Go to Step 5
5	Test the ground circuit of the inoperative lamp for an open or high resistance. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 24	Go to Step 16
6	With a scan tool, command the fog lamps ON. Do the fog lamps illuminate?	Go to Step 10	Go to Step 7
7	1. Disconnect the fog lamp relay. 2. Probe the switch side battery positive voltage circuit of the relay connector with a test lamp that is connected to ground. Does the test lamp illuminate?	Go to Step 8	Go to Step 18
	1. Disconnect the fog lamps relay.		

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8	2. Probe the coil side voltage supply circuit of the fog lamp relay connector with a test lamp that is connected to a good ground. Does the test lamp illuminate?	Go to Step 9	Go to Step 19
9	Probe the fog lamp relay control circuit of the fog lamp relay with a test lamp that is connected to battery positive voltage. Does the test lamp illuminate?	Go to Step 17	Go to Step 13
10	1. Disconnect the fog lamp switch. 2. Momentarily connect a 3-amp fused jumper wire between the front fog lamp switch signal circuit of the switch and battery positive voltage. Do the fog lamps illuminate?	Go to Step 11	Go to Step 12
11	Test the ignition 1 voltage circuit of the fog lamp switch for an open, high resistance or short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 24	Go to Step 14
12	Test the front fog lamp switch signal circuit for an open, high resistance, short to voltage, or short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 24	Go to Step 15
13	Test the fog lamp relay control circuit for an open or high resistance. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 24	Go to Step 15
14	Inspect for poor connections at the harness connector of the fog lamp switch. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 24	Go to Step 21
15	Inspect for poor connections at the harness connector of the body control module (BCM). Refer to Testing for Intermittent		

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	Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 24	Go to Step 22
16	Inspect for poor connections at the harness connector of the inoperative fog lamp. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 24	Go to Step 20
17	Inspect for poor connections at the fog lamp relay. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 24	Go to Step 23
18	Repair a short to ground in the front fog lamp supply voltage circuit of the fog lamps. Refer to Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 24	-
19	Repair an open, high resistance, or short to ground in the coil side voltage supply circuit of the fog lamp relay. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 24	-
20	Replace the bulb or lamp assembly. Refer to Fog Lamp Bulb Replacement - Front (Equinox) or Fog Lamp Bulb Replacement - Front (Torrent) or Fog Lamp Replacement - Front (Equinox) or Fog Lamp Replacement - Front (Torrent) . Did you complete the replacement?	Go to Step 24	-
21	Replace the fog lamp switch. Refer to Fog Lamp Switch Replacement - Front . Did you complete the replacement?	Go to Step 24	-
22	Replace the BCM. Refer to Control Module References in Computer/Integrating Systems for replacement, setup, and programming. Did you complete the replacement?	Go to Step 24	-
	Replace the fog lamp relay. Refer to Relay Replacement (Within an Electrical		

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23	Center) or Relay Replacement (Attached to Wire Harness) in Wiring Systems. Did you complete the replacement?	Go to Step 24	-
24	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 3

HAZARD LAMPS INOPERATIVE

Hazard Lamps Inoperative

Step	Action	Yes	No
Schematic Reference: Exterior Lights Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Turn ON the ignition, with the engine OFF. 2. Place the hazard lamp switch to the ON position. Do the hazard flashers operate correctly?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	1. Turn ON the ignition, with the engine OFF. 2. Operate the left and right turn signals. Does at least one left and one right turn signal lamp operate correctly, including the turn indicators?	Go to Step 4	Go to Symptoms - Vehicle in Vehicle DTC Information
4	Are only the left or right side hazard flashers inoperative?	Go to Step 5	Go to Step 6
5	Test the right turn signal supply voltage circuit or the left turn signal supply voltage circuit of the hazard switch between the hazard switch and the I/P fuse block for high resistance or an open. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 14	Go to Step 10
	1. Turn ON the ignition, with the engine		

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6	OFF. 2. Place the hazard switch in the ON position. 3. Place the turn signal switch in either the left or right turn signal position. Do the hazard flashers operate with the turn signal ON?	Go to Step 7	Go to Step 8
7	Test the turn signal relay circuit of the hazard switch for an open or high resistance between S200 and the hazard switch. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 14	Go to Step 10
8	Test the battery positive voltage circuit of the hazard switch for an open, high resistance or a short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 14	Go to Step 9
9	1. Turn ON the hazard switch. 2. Back probe the turn/hazard module signal circuit at the hazard switch connector with a test light that is connected to a good ground. Does the test lamp flash ON and OFF?	Go to Step 10	Go to Step 11
10	Inspect for poor connections at the harness connector of the hazard switch. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 14	Go to Step 12
11	Inspect for poor connections at the harness connector of the turn signal relay. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 14	Go to Step 13
12	Replace the hazard switch. Refer to Multifunction, Turn Signal Switch Replacement in Steering Wheel and		

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	Column. Did you complete the replacement?	Go to Step 14	-
13	Replace the turn signal relay. Refer to Hazard and Turn Signal Flasher Replacement . Did you complete the replacement?	Go to Step 14	-
14	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 3

HEADLAMPS ALWAYS ON - LOW OR HIGH BEAM

Headlamps Always On - Low or High Beam

Step	Action	Yes	No
Schematic Reference: Headlights/Daytime Running Lights (DRL) Schematics Connector End View Reference: Lighting Systems Connector End Views			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Ensure that the ambient light sensor is receiving enough light to simulate daylight conditions. 2. Place the headlamp switch in the OFF position. 3. Turn ON the ignition, with the engine OFF. 4. Turn OFF the ignition. Do the headlamps operate normally?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	Are the headlamps ON with the ignition key ON, and then turn OFF when the ignition key is placed in the OFF position?	Go to Step 4	Go to Step 5
4	Test the headlamp relay control circuit of the body control module (BCM) for a short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 15	Go to Step 10
	Disconnect the headlamp relay. Refer to Relay Replacement (Within an Electrical		

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5	Center) or Relay Replacement (Attached to Wire Harness) in Wiring Systems. Do the headlamps turn OFF?	Go to Step 8	Go to Step 6
6	Disconnect the headlamp switch connector. Do the headlamps turn OFF?	Go to Step 7	Go to Step 11
7	Test the headlamp relay output circuit of the headlamp relay for a short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 15	Go to Step 9
8	Inspect for poor connections at the harness connector of the headlamp relay. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems? Did you find and correct the condition?	Go to Step 15	Go to Step 12
9	Inspect for poor connections at the harness connector of the headlamp switch. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 15	Go to Step 13
10	Inspect for poor connections at the harness connector of the BCM. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 15	Go to Step 14
11	Repair the short to ground in the headlamp low or high beam signal circuit. Refer to Wiring Repairs in Wiring Systems. Did you find and correct a condition?	Go to Step 15	-
12	Replace the high beam headlamp relay. Refer to Relay Replacement (Within an Electrical Center) or Relay Replacement (Attached to Wire Harness) in Wiring Systems. Did you complete the repair?	Go to Step 15	-
13	Replace the headlamp switch. Refer to Multifunction, Turn Signal Switch Replacement in Steering Wheel and Column. Did you complete the repair?	Go to Step 15	-

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14	Replace the BCM. Refer to Control Module References in Computer/Integrating Systems for replacement, setup, and programming. Did you complete the replacement?	Go to Step 15	-
15	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 3

HEADLAMPS INOPERATIVE - HIGH BEAMS

Headlamps Inoperative - High Beams

Step	Action	Yes	No
Schematic Reference: Headlights/Daytime Running Lights (DRL) Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Place the headlamp switch in the headlamps ON position. 2. Place the headlamp dimmer switch in the HIGH BEAM position. Do the high beam headlamps illuminate?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 6
3	Is only 1 beam lamp inoperative?	Go to Step 4	Go to Step 5
4	Test the voltage and ground circuit of the inoperative headlamp for high resistance or an open between the U/H fuse block and headlamp. Did you find and correct the condition?	Go to Step 9	Go to Step 7
5	Test the headlamp high beam signal circuit for high resistance or an open between the headlamp switch and U/H fuse block. Did you find and correct the condition?	Go to Step 9	Go to Step 6
6	Inspect for poor connections at the harness connector of the headlamp switch. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 9	Go to Step 8

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7	Replace the headlamp bulb. Refer to <u>Headlamp Assembly or Headlamp Bulb and/or Cornering, Sidemarker, Park, Turn Signal Bulb Replacement (Equinox)</u> or <u>Headlamp Assembly or Headlamp Bulb and/or Cornering, Sidemarker, Park, Turn Signal Bulb Replacement (Torrent)</u>. Did you complete the replacement?	Go to Step 9	-
8	Replace the headlamp switch. Refer to <u>Multifunction, Turn Signal Switch Replacement</u> in Steering Wheel and Column. Did you complete the replacement?	Go to Step 9	-
9	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 6

HEADLAMPS INOPERATIVE - LOW BEAMS

Headlamps Inoperative - Low Beams

Step	Action	Yes	No
Schematic Reference: Headlights/Daytime Running Lights (DRL) Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to <u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
2	1. Place the headlamp switch in the headlamps ON position. 2. Place the headlamp dimmer switch in the LOW BEAM position. Do the low beam headlamps illuminate?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
3	Test the headlamp low beam signal circuit of the body control module (BCM) for an open between the instrument panel (I/P) fuse block and the underhood fuse block. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 6	Go to Step 4

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4	Inspect for poor connections at the harness connector of the headlamp switch. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 6	Go to Step 5
5	Replace the headlamp switch. Refer to <u>Multifunction, Turn Signal Switch Replacement</u> in Steering Wheel and Column. Did you complete the replacement?	Go to Step 6	-
6	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 4

HEADLAMPS INOPERATIVE - LOW AND HIGH BEAMS

Headlamps Inoperative - Low and High Beams

Step	Action	Yes	No
Schematic Reference: Headlights/Daytime Running Lights (DRL) Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to <u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
2	- Place the headlamp switch in the headlamps ON position. - Place the headlamp dimmer switch in the LOW BEAM position. - Observe the headlamps. - Place the headlamp dimmer switch in the HIGH BEAM position. - Observe the headlamps. Do both the low and high beam headlamps illuminate?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
3	Test the headlamp ground circuit of the headlamp switch for an open or high resistance. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 6	Go to Step 4

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4	Inspect for poor connections at the harness connector of the headlamp switch. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 6	Go to Step 5
5	Replace the headlamp switch. Refer to <u>Multifunction, Turn Signal Switch Replacement</u> in Steering Wheel and Column. Did you complete the replacement?	Go to Step 6	-
6	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 3

HEADLAMPS INOPERATIVE - FLASH TO PASS

Headlamps Inoperative - Flash to Pass

Step	Action	Yes	No
Schematic Reference: Headlights/Daytime Running Lights (DRL) Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to <u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
2	1. Place the headlamp switch in the headlamps ON position. 2. Place the multifunction lever in the FLASH TO PASS position. Do the high beam headlamps illuminate?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
3	Inspect for poor connections at the harness connector of the headlamp switch. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 5	Go to Step 4
4	Replace the headlamp switch. Refer to <u>Multifunction, Turn Signal Switch Replacement</u> in Steering Wheel and Column.		

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	Did you complete the repair?	Go to Step 5	-
5	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 3

HIGH BEAM INDICATOR INOPERATIVE

High Beam Indicator Inoperative

Step	Action	Yes	No
Schematic Reference: Headlights/Daytime Running Lights (DRL) Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Turn ON the ignition, with the engine OFF. 2. Observe the high beam indicator on the instrument cluster. Does the indicator illuminate during the bulb check?	Go to Step 3	Go to Step 4
3	1. Place the headlamp switch in the headlamps ON position. 2. Place the headlamp dimmer switch in the HIGH BEAM position. Does the indicator illuminate?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 6
4	Inspect for poor connections at the harness connector of the instrument panel cluster (IPC). Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 9	Go to Step 7
5	Test the headlamp high beam signal circuit for high resistance or open between the body control module (BCM) and the instrument panel (I/P) fuse block. Did you find and correct the condition?	Go to Step 9	Go to Step 6
	Inspect for poor connections at the harness connector of the BCM. Refer to Testing for		

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6	<u>Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 9	Go to Step 8
7	Replace the IPC. Refer to <u>Control Module References</u> in Computer/Integrating Systems for replacement, setup, and programming. Did you complete the replacement?	Go to Step 9	-
8	Replace the BCM. Refer to <u>Control Module References</u> in Computer/Integrating Systems for replacement, setup, and programming. Did you complete the replacement?	Go to Step 9	-
9	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

ILLUMINATED ENTRY LAMPS INOPERATIVE

Illuminated Entry Lamps Inoperative

Step	Action	Yes	No
Schematic Reference: Interior Lights Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to <u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
2	1. Turn OFF the ignition. 2. Lock all of the vehicle doors. 3. Close all of the vehicle doors. 4. Wait 20 seconds. 5. Press the unlock button on the remote keyless entry transmitter. Do the courtesy lamps illuminate?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
3	Does the driver door unlock?	Go to Step 4	Go to <u>Symptoms - Keyless Entry</u> in Keyless Entry

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4	Replace the body control module (BCM). Refer to Control Module References in Computer/Integrating Systems for replacement, setup, and programming. Did you complete the replacement?	Go to Step 5	-
5	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 3

INTERIOR BACKLIGHTING DOES NOT DIM

Interior Backlighting Does Not Dim

Step	Action	Yes	No
Schematic Reference: Interior Lights Dimming Schematics Connector End View Reference: Master Electrical Component List in Wiring Systems			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Place the ignition switch in the ON position. 2. Turn the headlamp switch to the HEAD position. 3. Rotate the instrument panel (I/P) dimmer switch to the high and then low illuminations settings. Do the dimming lamps operate properly?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	Test the instrument panel lamp supply voltage circuit for a short to battery positive voltage. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 6	Go to Step 4
4	Inspect for poor connections at the harness connector of the body control module (BCM). Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 6	Go to Step 5

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5	Replace the BCM. Refer to <u>Control Module References</u> in Computer/Integrating Systems for replacement, setup, and programming. Did you complete the replacement?	Go to Step 6	-
6	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

INTERIOR BACKLIGHTING INOPERATIVE

Interior Backlighting Inoperative

Step	Action	Yes	No
Schematic Reference: Interior Lights Dimming Schematics Connector End View Reference: Master Electrical Component List in Wiring Systems			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to <u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
2	1. Place the ignition switch in the ON position. 2. Turn the headlamp switch to the HEAD position. 3. Rotate the instrument panel (I/P) dimmer switch to the high and then low illumination settings. Do all dimming lamps operate properly?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
3	Do the park lamp and headlamps illuminate?	Go to Step 4	Go to <u>Symptoms - Lighting Systems</u>
4	Is only one dimming lamp inoperative?	Go to Step 5	Go to Step 6
5	Test the supply voltage circuit and the ground circuit of the inoperative lamp for high resistance or an open. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 7

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6	Test the instrument panel lamp supply voltage circuit for high resistance, open, or a short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 8
7	Inspect for poor connections at the harness connector of the inoperative component. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 9
8	Inspect for poor connections at the harness connector of the body control module (BCM). Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 10
9	Replace the inoperative component. Did you complete the replacement?	Go to Step 11	-
10	Replace the BCM. Refer to Control Module References in Computer/Integrating Systems for replacement, setup, and programming. Did you complete the replacement?	Go to Step 11	-
11	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

PARK LAMPS ALWAYS ON

Park Lamps Always On

Step	Action	Yes	No
Schematic Reference: Exterior Lights Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Turn ON the ignition, with the engine OFF. 2. Place the headlamp switch in the OFF position.		Go to Testing for Intermittent Conditions and Poor

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	Are the park lamps illuminated?	Go to Step 3	Connections in Wiring Systems
3	Disconnect the headlamp switch. Are the park lamps illuminated?	Go to Step 4	Go to Step 5
4	Test the park lamp switch signal circuit and the park lamp relay control circuit of the body control module (BCM) for a short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 8	Go to Step 6
5	Inspect for poor connections at the harness connector of the headlamp switch. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 8	Go to Step 7
6	Repair a short to voltage in the park lamp supply voltage circuit. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 8	-
7	Replace the headlamp switch. Refer to Multifunction, Turn Signal Switch Replacement in Steering Wheel and Column. Did you complete the replacement?	Go to Step 8	-
8	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 3

PARK LAMPS INOPERATIVE

Park Lamps Inoperative

Step	Action	Yes	No
Schematic Reference: Exterior Lights Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
		Go to Testing	

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2	Place the headlamp switch in the park lamps ON position. Do all the park lamps illuminate correctly?	for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	Are all of the park lamps inoperative?	Go to Step 5	Go to Step 4
4	1. Disconnect the inoperative park lamp. 2. Turn the headlamp switch to the park lamps ON position. 3. Test the supply and ground circuits of the inoperative lamp for an open or high resistance. Refer to Circuit Testing and Wiring Repairs in Wiring Systems.		
	Did you find and correct the condition?	Go to Step 10	Go to Step 6
5	Test the park lamp switch signal of the body control module for a high resistance or open. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and fix the concern?	Go to Step 10	Go to Step 7
6	Inspect for poor connections at the harness connector of the inoperative lamp. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 10	Go to Step 8
7	Inspect for poor connections at the harness connector of the body control module (BCM). Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 10	Go to Step 9
8	Replace the inoperative lamp. Refer to Headlamp Assembly or Headlamp Bulb and/or Cornering, Sidemarker, Park, Turn Signal Bulb Replacement (Equinox) or Headlamp Assembly or Headlamp Bulb and/or Cornering, Sidemarker, Park, Turn Signal Bulb Replacement (Torrent) , Tail Lamp Assembly and /or Backup, Sidemarker,		

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	Stop, Turn Signal Bulb Replacement (Equinox) or Tail Lamp Assembly and /or Backup, Sidemarker, Stop, Turn Signal Bulb Replacement (Torrent), or License Lamp Bulb Replacement. Did you complete the replacement?	Go to Step 10	-
9	Replace the BCM. Refer to Control Module References in Computer/Integrating Systems for replacement, setup, and programming.	Go to Step 10	-
10	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 3

READING LAMP(S) INOPERATIVE

Reading Lamp(s) Inoperative

Step	Action	Yes	No
Schematic Reference: Interior Lights Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	Place the reading/map lamp switch in the ON position. Does the reading/map lamp illuminate?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	Do the courtesy lamps operate properly?	Go to Step 4	Go to Courtesy Lamps Inoperative
4	Remove the reading lamp bulb and inspect for damage. Is the bulb OK?	Go to Step 5	Go to Step 10
5	1. Disconnect the reading/map lamp assembly connector. 2. Probe the courtesy lamp supply voltage circuit with a test lamp that is connected to a good ground.		

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	Does the test lamp illuminate?	Go to Step 6	Go to Step 8
6	Connect the test lamp between the courtesy lamp supply voltage circuit and the ground circuit. Does the test lamp illuminate?	Go to Step 7	Go to Step 9
7	Inspect for poor connections at the harness connector of the reading/map lamp assembly. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 12	Go to Step 11
8	Repair an open, high resistance in the courtesy lamp supply voltage circuit. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 12	-
9	Repair an open or high resistance in the ground circuit. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 12	-
10	Replace the reading lamp bulb. Refer to Reading Lamp Bulb Replacement . Did you complete the replacement?	Go to Step 12	-
11	Replace the reading/map lamp assembly. Refer to Reading Lamp Replacement . Did you complete the replacement?	Go to Step 12	-
12	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 3

STOP LAMPS ALWAYS ON

Stop Lamps Always On

Step	Action	Yes	No
Schematic Reference: Exterior Lights Schematics Connector End View Reference: Master Electrical Component List in Wiring Systems.			
1	Did you perform the Diagnostic System Check - Vehicle?		Go to Diagnostic System Check - Vehicle in

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		Go to Step 2	Vehicle DTC Information
2	1. Place the ignition switch in the RUN position. 2. Observe the stop lamps. 3. Press and release the brake pedal. Do the stop lamps operate properly?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	Disconnect the stop lamp switch. Are the stop lamps illuminated?	Go to Step 4	Go to Step 5
4	Repair the short to voltage in the stop lamp switch signal circuit. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Is the repair complete?	Go to Step 6	-
5	Adjust or replace the stop lamp switch. Refer to Stop Lamp Switch Replacement . Is the repair complete?	Go to Step 6	-
6	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

STOP LAMPS INOPERATIVE

Stop Lamps Inoperative

Step	Action	Yes	No
Schematic Reference: Exterior Lights Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	Press down the brake pedal. Do all of the stop lamps illuminate?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	Are all lamps inoperative?	Go to Step 5	Go to Step 4
	Test the voltage supply and ground circuits of the inoperative lamp or high mounted		

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4	stop lamp for an open or high resistance. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 15	Go to Step 10
5	1. Disconnect the stop lamp switch. 2. Probe the battery positive voltage circuit of the stop lamp switch with a test lamp that is connected to a good ground. Does the test lamp illuminate?	Go to Step 6	Go to Step 7
6	Connect a 20-amp fused jumper wire between the battery positive voltage circuit of the stop lamp switch and the stop lamp supply voltage circuit. Do the stop lamps illuminate?	Go to Step 8	Go to Step 12
7	Test the stop lamp switch signal circuit of the stop lamp switch for a short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 15	Go to Step 11
8	Inspect for poor connections at the harness connector of the stop lamp switch. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 15	Go to Step 9
9	Inspect the stop lamp switch for proper adjustment. Refer to Stop Lamp Switch Adjustment in Hydraulic Brakes. Did you find and correct the condition?	Go to Step 15	Go to Step 13
10	Inspect for poor connections at the harness connector of the inoperative lamp or high mounted stop lamps. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 15	Go to Step 14
11	Repair an open, high resistance, or short to ground in the battery positive voltage circuit of the stop lamp switch. Refer to Circuit Testing and Wiring Repairs in		

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	Wiring Systems. Did you complete the repair?	Go to Step 15	-
12	Repair an open or high resistance in the stop lamp switch signal circuit. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 15	-
13	Replace the stop lamp switch. Refer to Stop Lamp Switch Replacement . Did you complete the replacement?	Go to Step 15	-
14	Replace the bulb or high mounted stop lamp assembly. Refer to Tail Lamp Assembly and /or Backup, Sidemarker, Stop, Turn Signal Bulb Replacement (Equinox) or Tail Lamp Assembly and /or Backup, Sidemarker, Stop, Turn Signal Bulb Replacement (Torrent) or High Mounted Stop Lamp Replacement . Did you complete the replacement?	Go to Step 15	-
15	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 3

TURN SIGNAL LAMPS AND/OR INDICATORS ALWAYS ON OR FLASHING

Turn Signal Lamps and/or Indicators Always On or Flashing

Step	Action	Yes	No
Schematic Reference: Exterior Lights Schematics Connector End View Reference: Master Electrical Component List in Wiring Systems.			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Turn ON the ignition, with the engine OFF. 2. Observe the turn signal lamps and indicators. 3. Turn ON and OFF the right and left turn signal lamps.	Go to Testing for Intermittent Conditions and	

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	Do the turn signal lamps and indicators operate properly?	Poor Connections in Wiring Systems	Go to Step 3
3	Disconnect the headlamp switch connector. Are any turn signal lamps illuminated?	Go to Step 5	Go to Step 4
4	Test for a short to voltage in the turn signal relay signal circuit. Did you find and correct the condition?	Go to Step 7	Go to Step 6
5	Repair the short to voltage in the supply voltage circuit of the illuminated turn signal lamp. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 7	-
6	Replace the turn signal switch. Refer to Multifunction, Turn Signal Switch Replacement in Steering Wheel and Column. Did you complete the replacement?	Go to Step 7	-
7	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

TURN SIGNAL LAMPS AND/OR INDICATORS INOPERATIVE

Turn Signal Lamps and/or Indicators Inoperative

Step	Action	Yes	No
Schematic Reference: Exterior Lights Schematics			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Turn ON the ignition, with the engine OFF. 2. Place the turn signal lever in the LEFT turn position. 3. Place the turn signal lever in the RIGHT turn position. Do the appropriate turn signal lamps and/or indicators illuminate for each action?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3

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3	Is only one turn signal lamp inoperative?	Go to Step 4	Go to Step 7
4	Is the inoperative lamp a turn signal indicator?	Go to Step 5	Go to Step 6
5	1. Turn OFF the ignition. 2. Disconnect the instrument panel cluster (IPC). Refer to Instrument Panel Cluster (IPC) Replacement in Instrument Panel, Gages, and Console. 3. Turn ON the ignition, with the engine OFF. 4. Probe the inoperative turn signal lamp supply voltage circuit of the IPC with a test lamp that is connected to a good ground. 5. Place the turn signal lever in the position of the inoperative indicator. Does the test lamp illuminate and flash.	Go to Step 15	Go to Step 18
6	Test the supply voltage and ground circuits of the inoperative lamp for high resistance or an open. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 14
7	Is only one complete side inoperative, including front and rear turn signals and indicator?	Go to Step 8	Go to Step 9
8	Test the right or left turn signal lamp supply voltage circuit for the following: • A high resistance • An open • A short to ground Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 16
9	Are the turn signals inoperative while the hazard flashers operate properly?	Go to Step 10	Go to Step 12
	Test the accessory voltage circuit of the hazard flasher switch for the following:		

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10	• A high resistance • An open • A short to ground Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 11
11	Test the turn signal relay signal circuit for high resistance or an open between the turn signal switch and S200. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 16
12	Test the turn signal relay signal circuit and the turn signal relay control circuit for the following: • A high resistance • An open • A short to ground Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 13
13	Test the ground circuit of the turn signal relay for high resistance or an open. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 17
14	Inspect for poor connections at the harness connector of the inoperative lamp. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 19
15	Inspect for poor connections at the harness connector of the IPC. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems.		

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	Did you find and correct the condition?	Go to Step 23	Go to Step 20
16	Inspect for poor connections at the harness connector of the headlamp switch. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 21
17	Inspect for poor connections at the harness connector of the turn signal relay. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 22
18	Repair the following in the inoperative turn signal supply voltage circuit: • An open • A high resistance • A short to ground Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 23	-
19	Replace the inoperative lamp. Refer to <u>Headlamp Assembly or Headlamp Bulb and/or Cornering, Sidemarker, Park, Turn Signal Bulb Replacement (Equinox)</u> or <u>Headlamp Assembly or Headlamp Bulb and/or Cornering, Sidemarker, Park, Turn Signal Bulb Replacement (Torrent)</u> or <u>Tail Lamp Assembly and /or Backup, Sidemarker, Stop, Turn Signal Bulb Replacement (Equinox)</u> or <u>Tail Lamp Assembly and /or Backup, Sidemarker, Stop, Turn Signal Bulb Replacement (Torrent)</u> . Did you complete the replacement?	Go to Step 23	-
20	Replace the IPC. Refer to <u>Instrument Panel Cluster (IPC) Replacement</u> in Instrument Panel, Gages, and Console. Did you complete the replacement?	Go to Step 23	-
	Replace the headlamp switch. Refer to		

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21	<u>Multifunction, Turn Signal Switch Replacement</u> in Steering Wheel and Column. Did you complete the replacement?	Go to Step 23	-
22	Replace the turn signal relay. Refer to <u>Hazard and Turn Signal Flasher Replacement</u> . Did you complete the replacement?	Go to Step 23	-
23	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 3

REPAIR INSTRUCTIONS

STOP LAMP SWITCH ADJUSTMENT

Adjustment Procedure

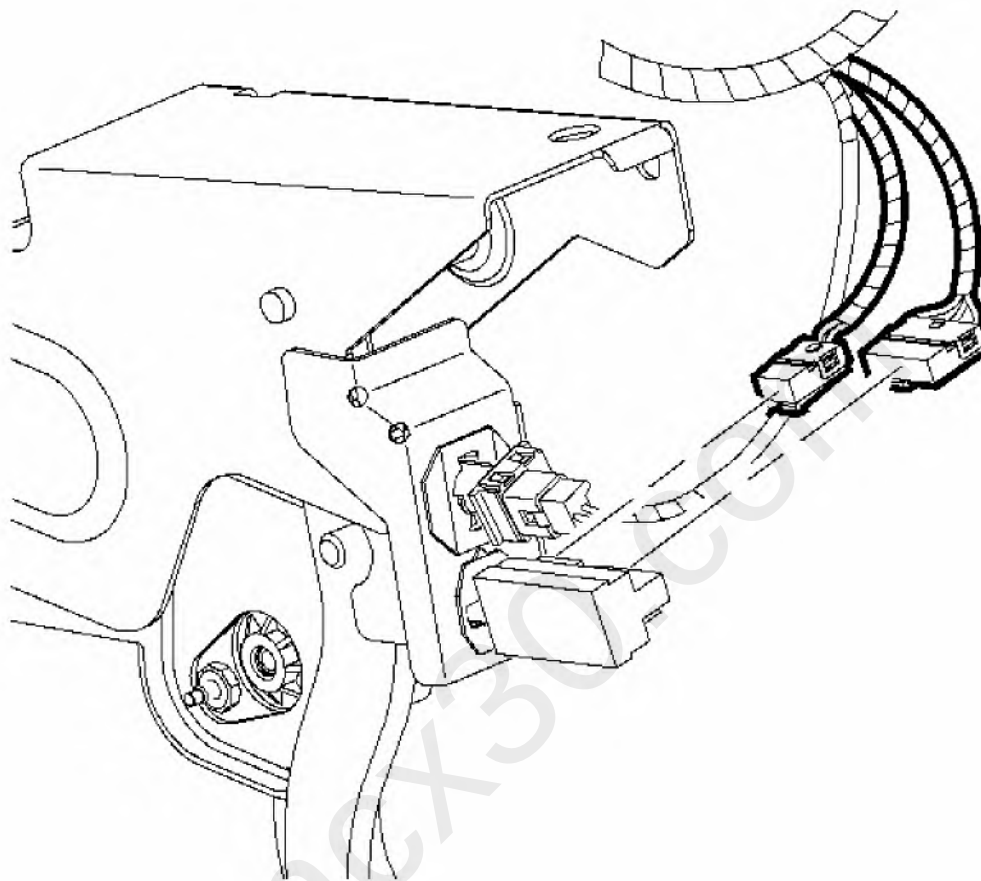


Fig. 16: View Of Stop Lamp Switch
Courtesy of GENERAL MOTORS CORP.

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.

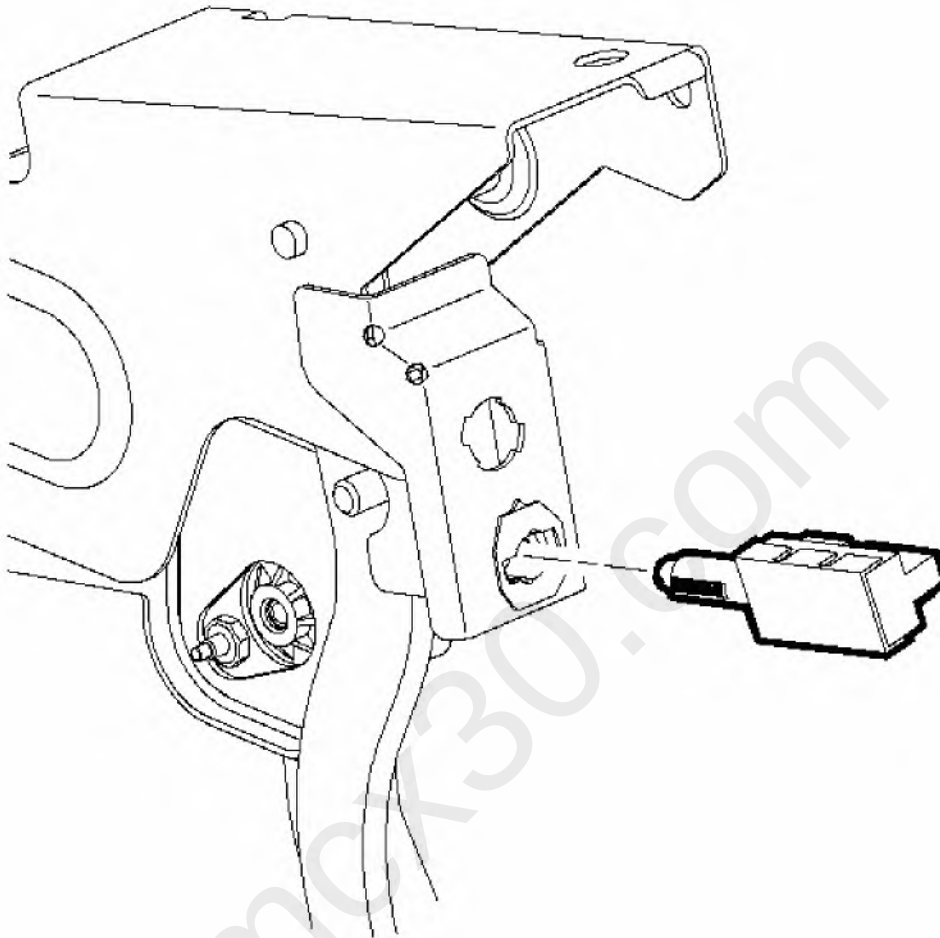


Fig. 17: Removing/Installing Switch To The Bracket
Courtesy of GENERAL MOTORS CORP.

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

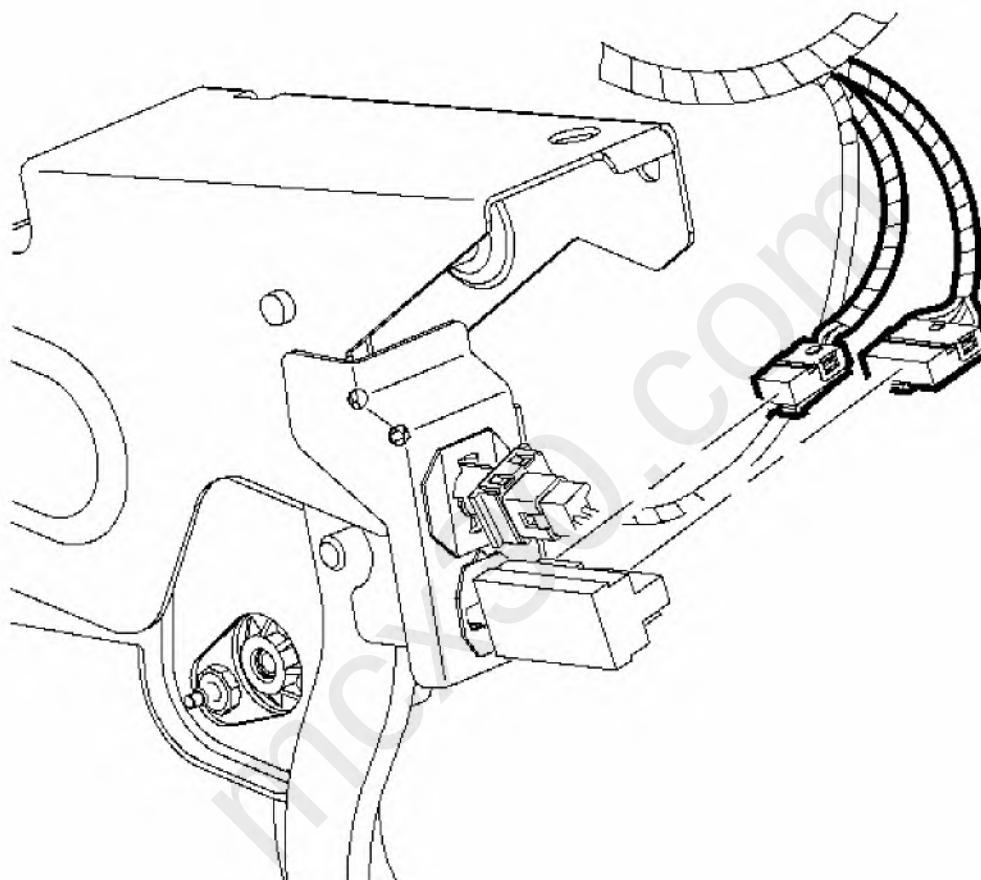


Fig. 18: View Of Stop Lamp Switch
Courtesy of GENERAL MOTORS CORP.

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.

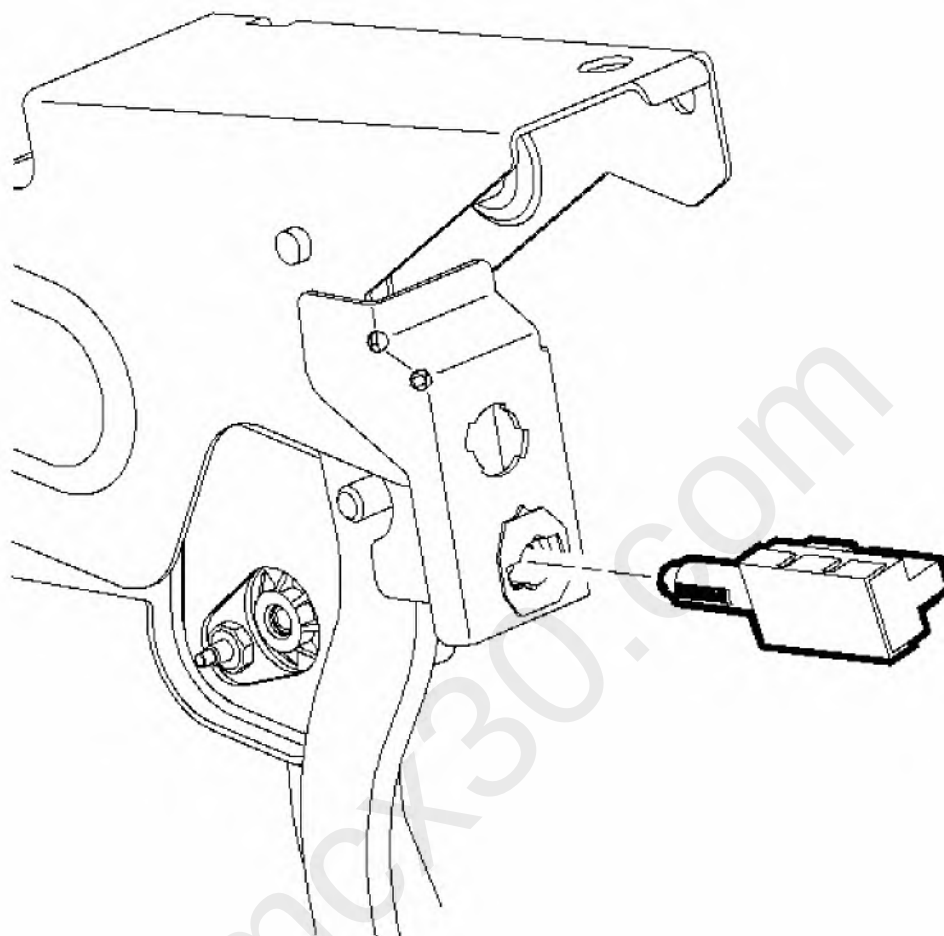


Fig. 19: Removing/Installing Switch To The Bracket
Courtesy of GENERAL MOTORS CORP.

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

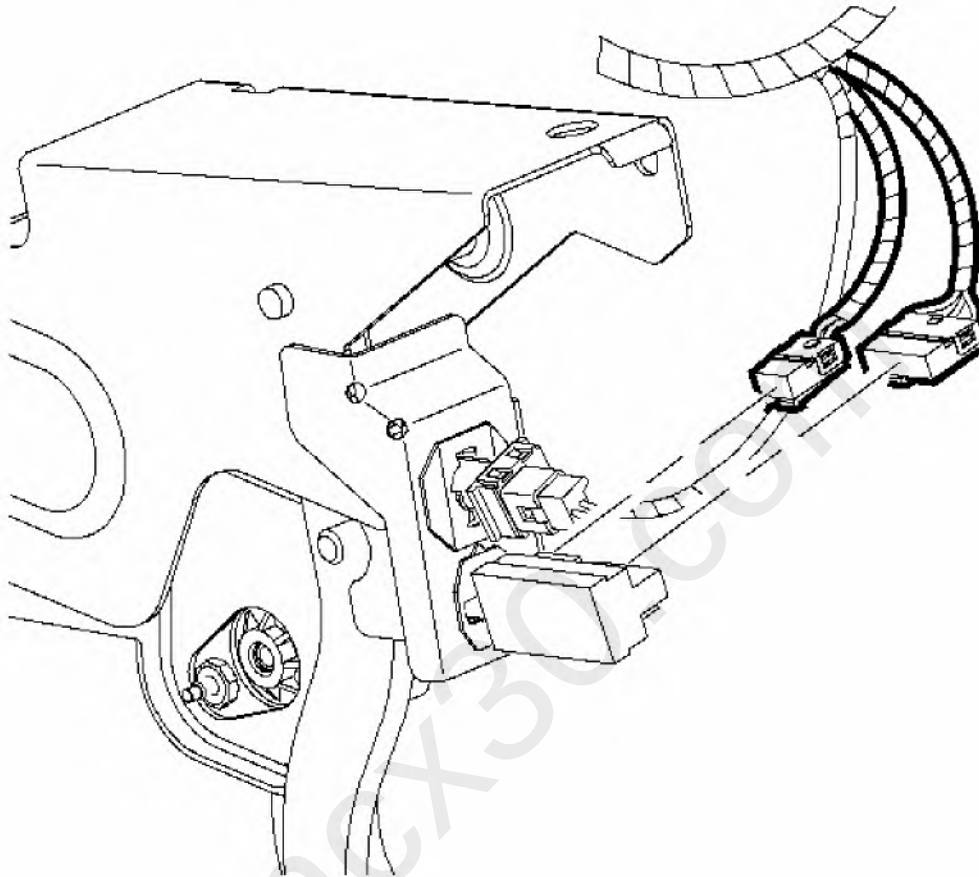


Fig. 20: View Of Stop Lamp Switch
Courtesy of GENERAL MOTORS CORP.

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.

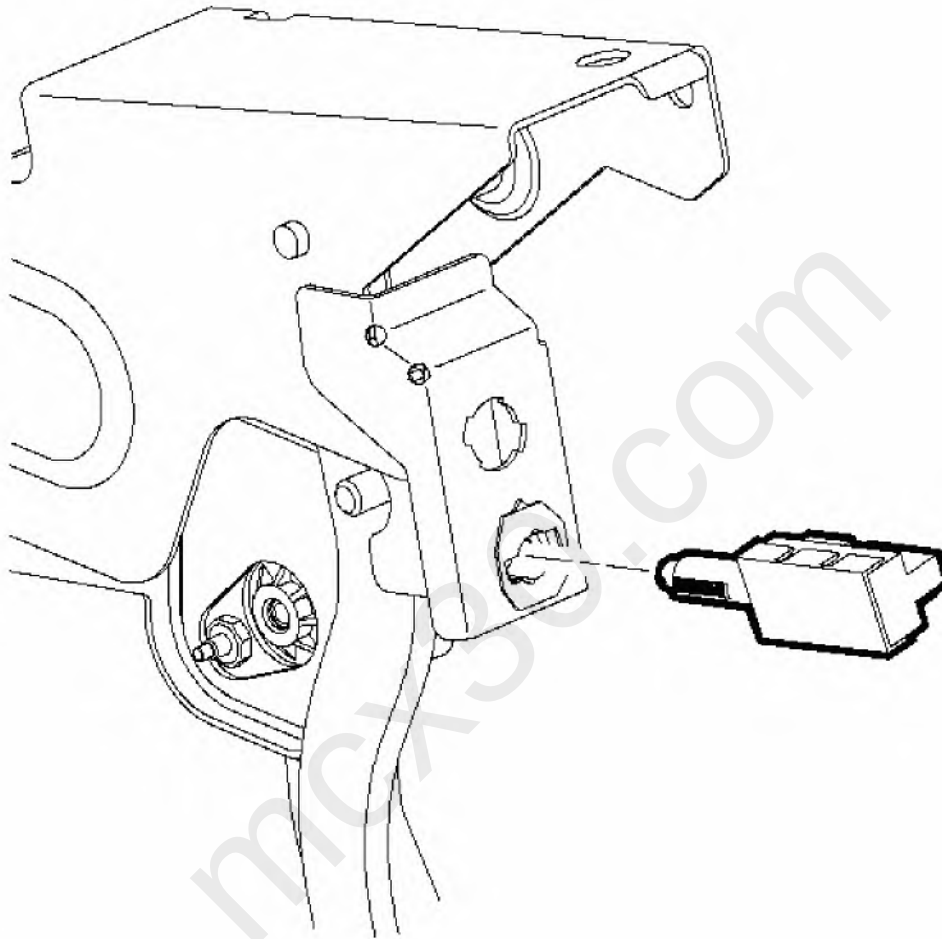


Fig. 21: Removing/Installing Switch To The Bracket
Courtesy of GENERAL MOTORS CORP.

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 bezel from the center stack. Refer to **Trim Bezel Replacement - Center** in Instrument Panel, Gages and Console.

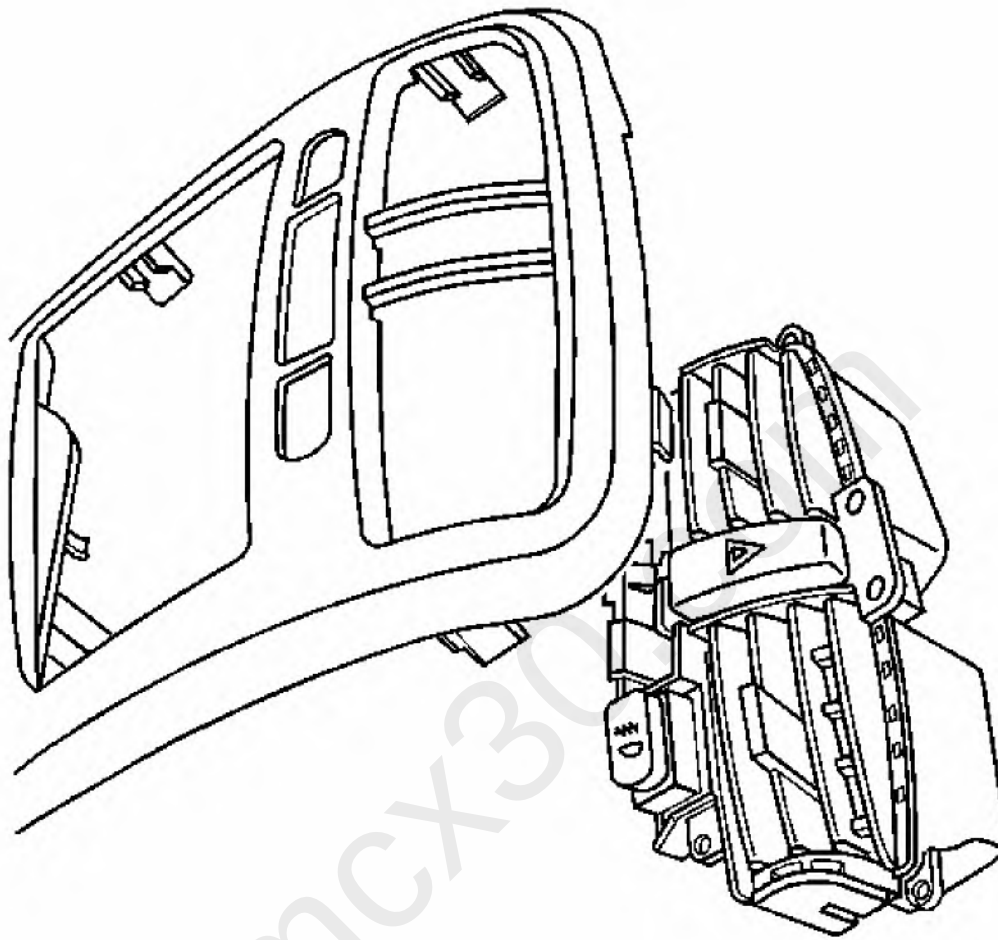


Fig. 22: View Of Center Air Deflector Assembly & I/P Trim Bezel
Courtesy of GENERAL MOTORS CORP.

2. Remove the screw that retains the center air deflector assembly to the I/P trim bezel. Remove the air deflector assembly.

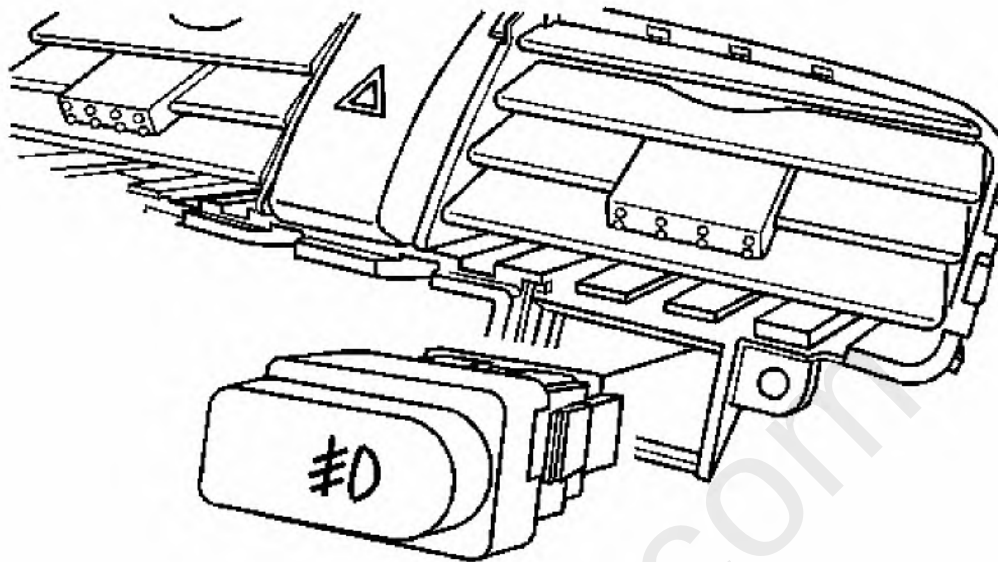


Fig. 23: Removing/Installing Fog Lamp Switch At Center Air Deflector Assembly
Courtesy of GENERAL MOTORS CORP.

3. Use a flat-bladed tool to release the fasteners on the fog lamp switch.

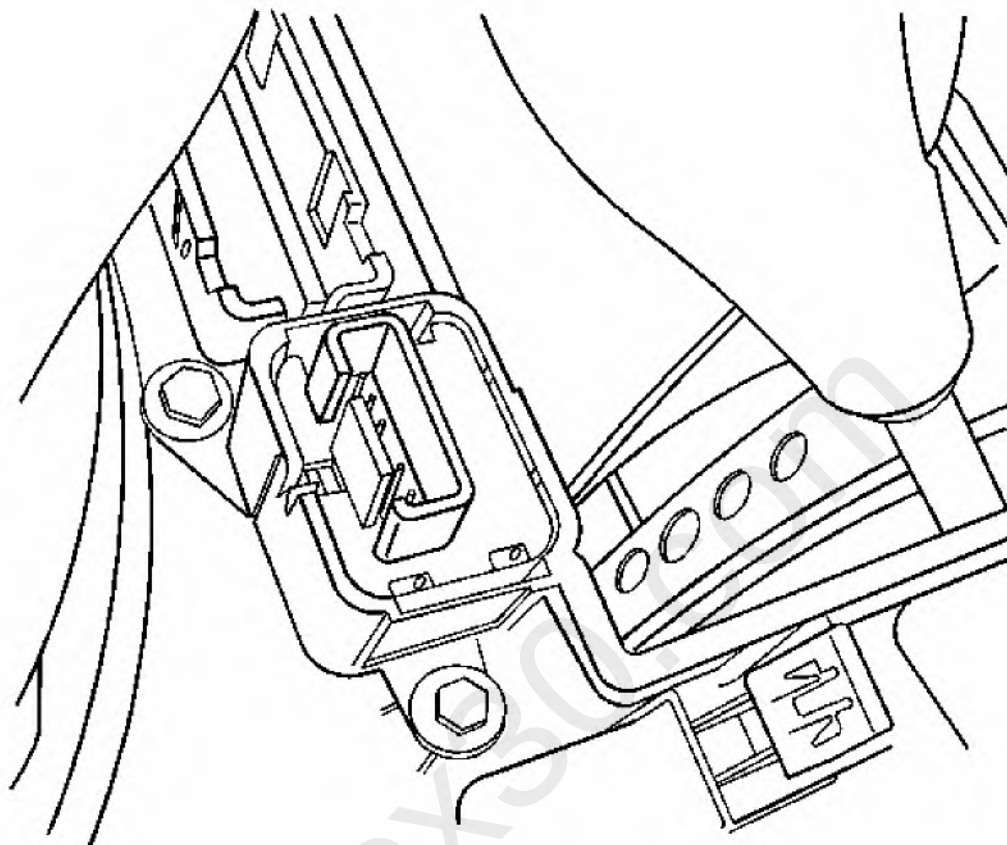


Fig. 24: View Of Front Fog Lamp Switch
Courtesy of GENERAL MOTORS CORP.

4. Disconnect the electrical connector and remove the fog lamp switch.

Installation Procedure

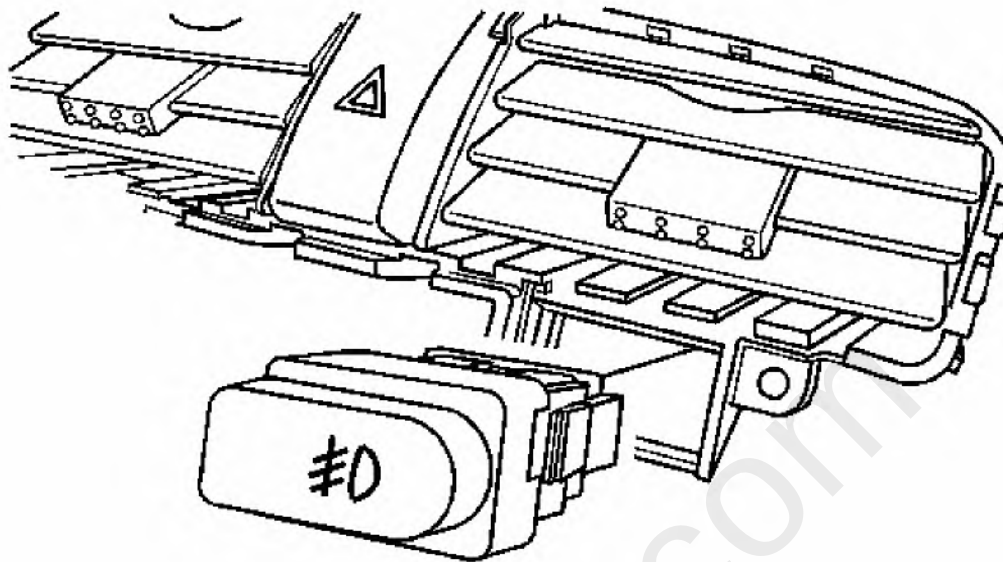


Fig. 25: Removing/Installing Fog Lamp Switch At Center Air Deflector Assembly
Courtesy of GENERAL MOTORS CORP.

1. Align the fog lamp switch with the center air deflector assembly and snap into place.

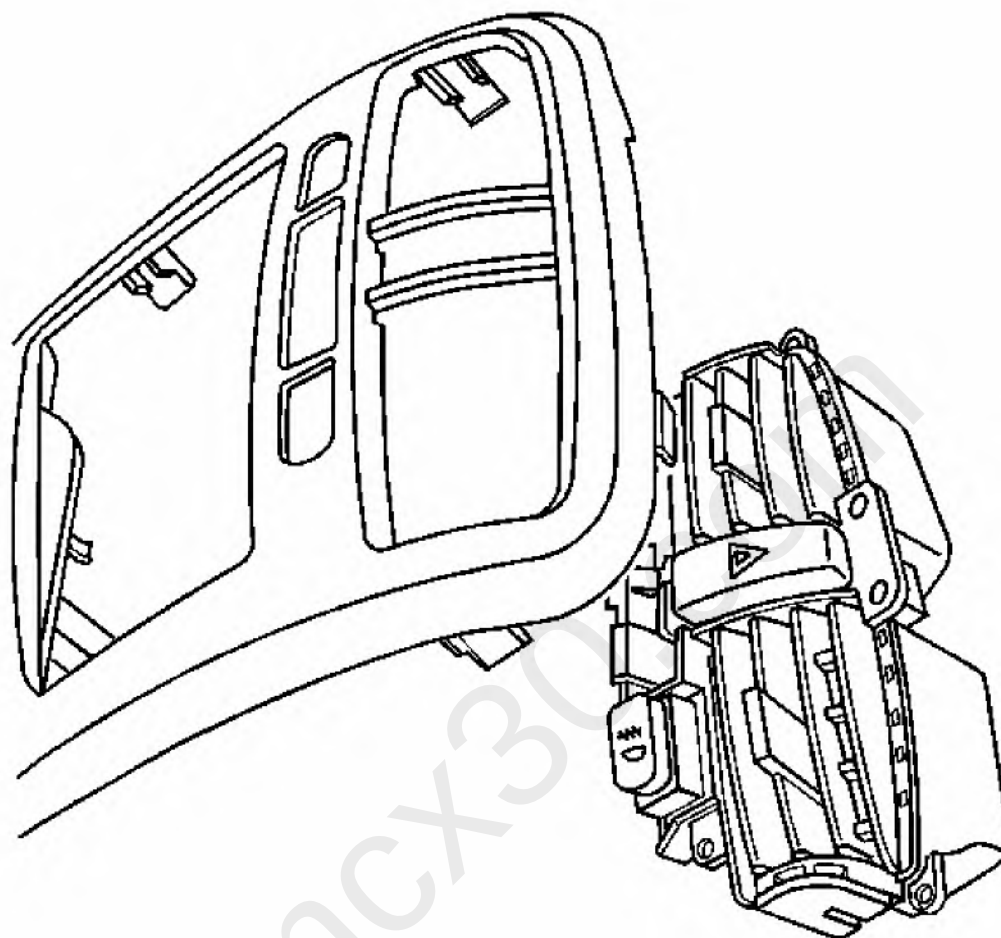


Fig. 26: View Of Center Air Deflector Assembly & I/P Trim Bezel
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the center air deflector assembly to the I/P trim bezel.

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

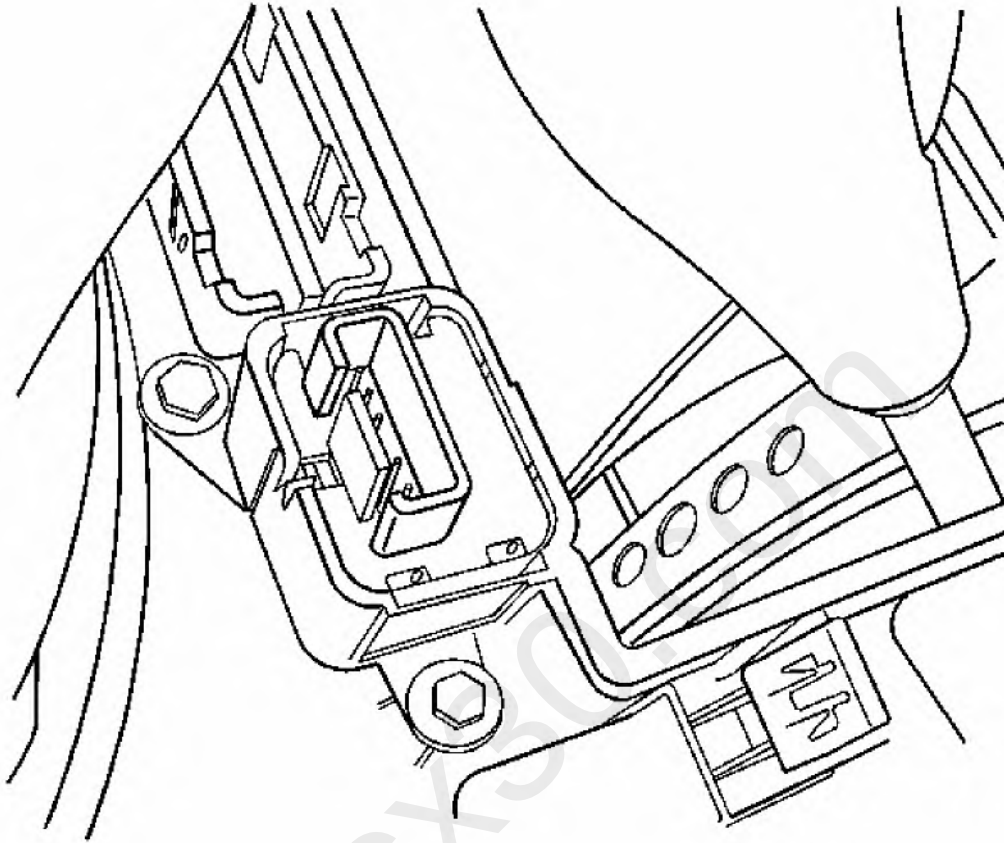


Fig. 27: View Of Front Fog Lamp Switch
Courtesy of GENERAL MOTORS CORP.

3. Connect the electrical connector to the fog lamp switch.
4. Install the I/P trim bezel. Refer to **Trim Bezel Replacement - Center** in Instrument Panel, Gages, and Console.
5. Test the fog lamp switch for proper operation.

INSTRUMENT PANEL (I/P) DIMMER SWITCH REPLACEMENT

Removal Procedure

1. Remove the left side air deflector from the instrument panel (I/P). Refer to **Air Outlet Replacement - Instrument Panel** in Heating, Ventilation and Air Conditioning.

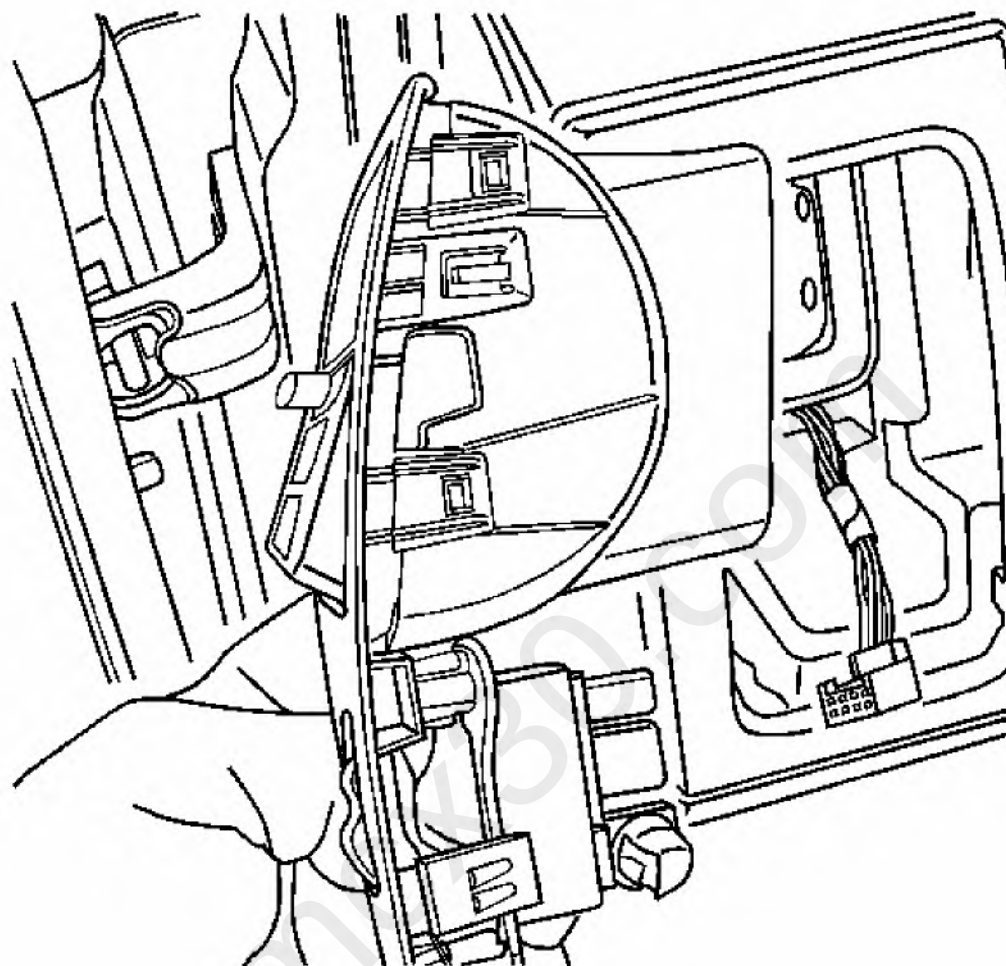


Fig. 28: View Of Power Mirror Switch & Dimmer Switch Panel
Courtesy of GENERAL MOTORS CORP.

2. Disconnect the electrical connector from the dimmer switch.
3. Remove the screw from the I/P dimmer switch.
4. Remove the switch.

Installation Procedure

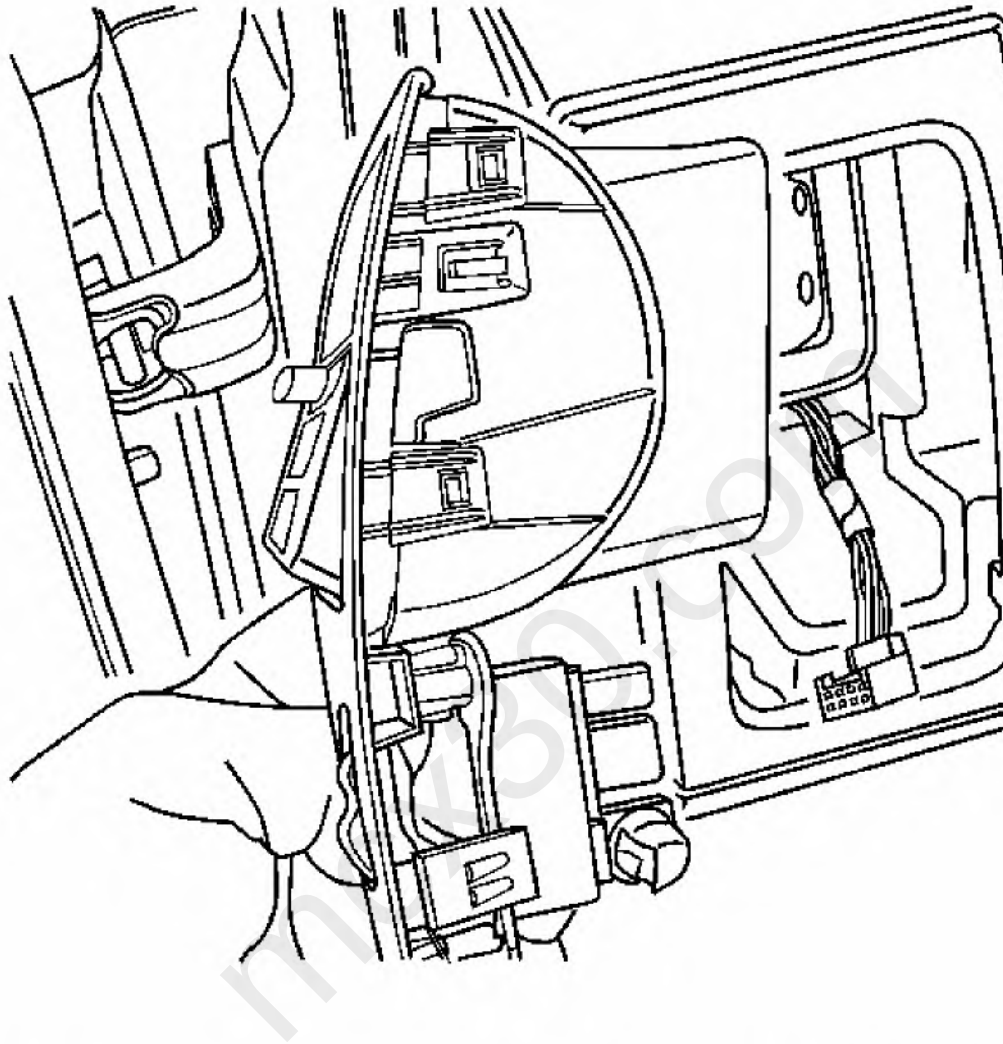


Fig. 29: View Of Power Mirror Switch & Dimmer Switch Panel
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

1. Install the dimmer switch to the left side air deflector panel.

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

2. Install the electrical connector to the dimmer switch.
3. Install the left side air deflector panel to the I/P. Refer to **Air Outlet Replacement - Instrument Panel** in Heating, Ventilation and Air Conditioning
4. Test the dimmer switch for proper operation.

AMBIENT LIGHT SENSOR REPLACEMENT

Removal Procedure

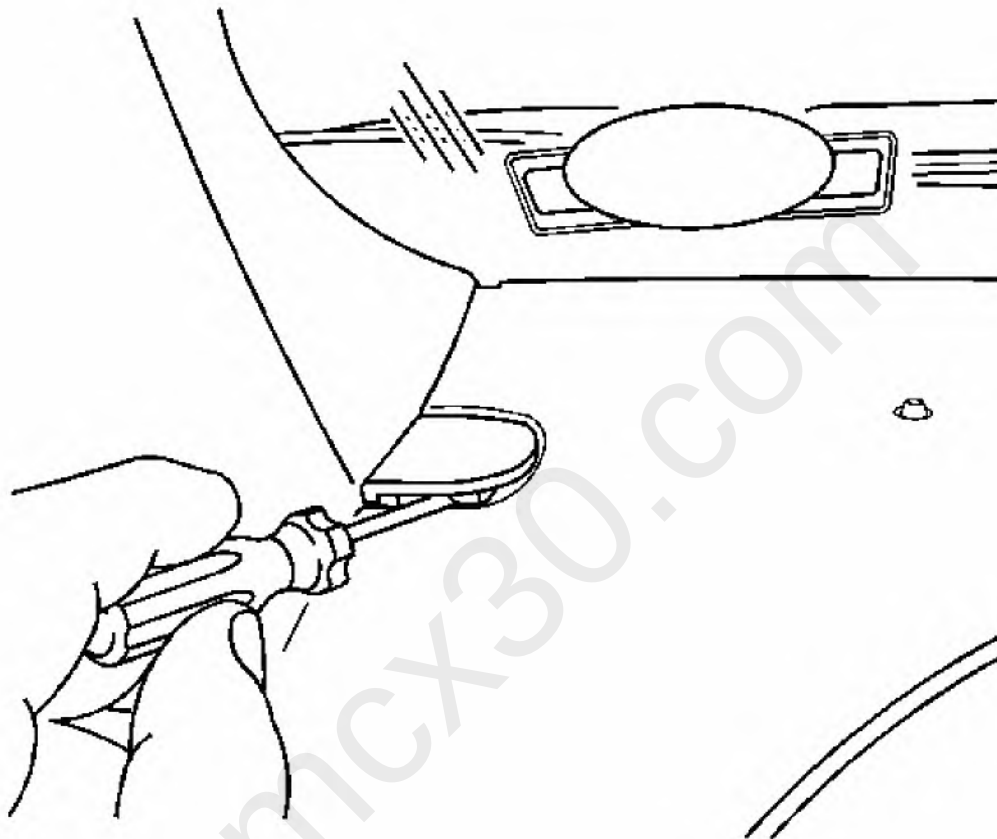


Fig. 30: Removing/Installing Access Panel Covers
Courtesy of GENERAL MOTORS CORP.

1. Remove the access panel covers from the upper trim pad.
2. Remove the I/P cluster trim panel. Refer to **Trim Panel Replacement - Instrument Panel (I/P) Cluster** in Instrument Panel, Gages and Console.
3. Remove the windshield garnish moldings. Refer to **Windshield Upper Garnish Molding Replacement** in Interior Trim.

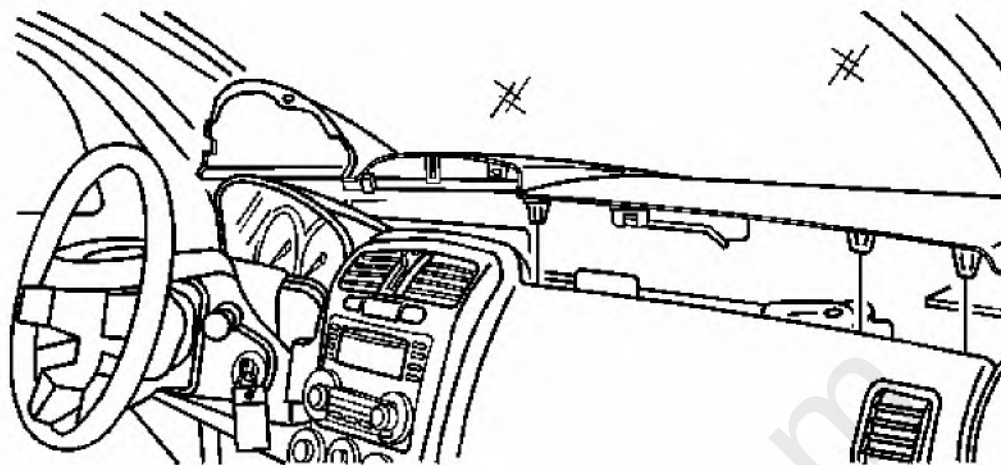


Fig. 31: Removing/Installing Upper Trim Pad
Courtesy of GENERAL MOTORS CORP.

4. Remove the upper trim pad bolts.
5. Lift the upper trim pad to disengage the clips.

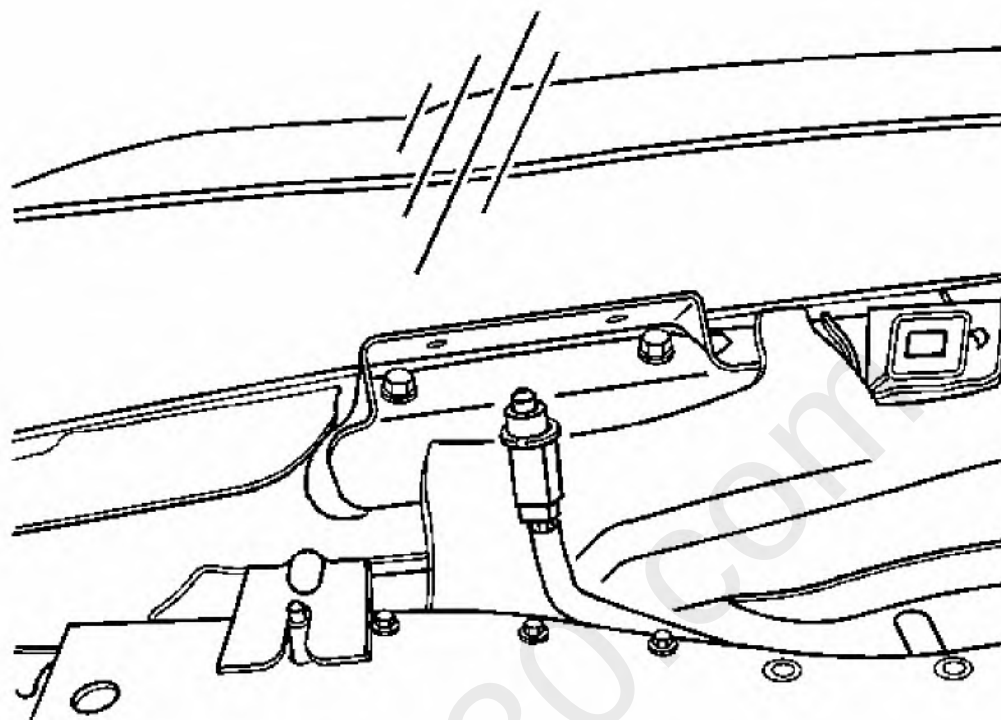


Fig. 32: View Of Ambient Light Sensor At I/P Upper Trim Panel
Courtesy of GENERAL MOTORS CORP.

6. Twist the ambient light sensor to remove the sensor from the upper trim pad.
7. Disconnect the electrical connector from the ambient light sensor.

Installation Procedure

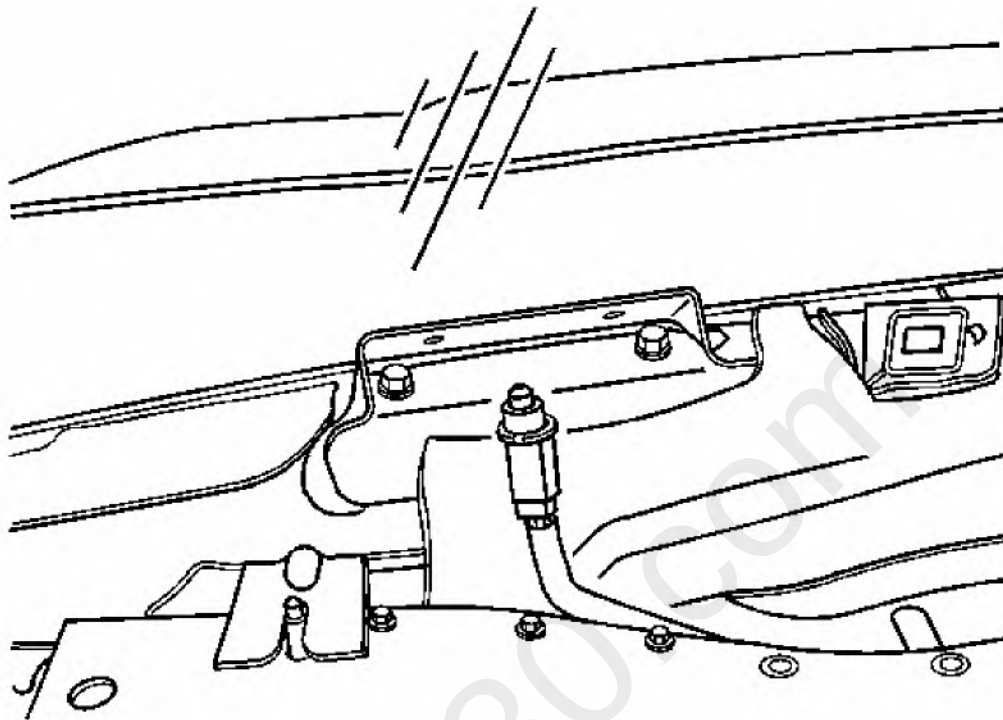


Fig. 33: View Of Ambient Light Sensor At I/P Upper Trim Panel
Courtesy of GENERAL MOTORS CORP.

1. Connect the electrical connector to the ambient light sensor.
2. Align the sensor to the upper trim pad and twist into place.

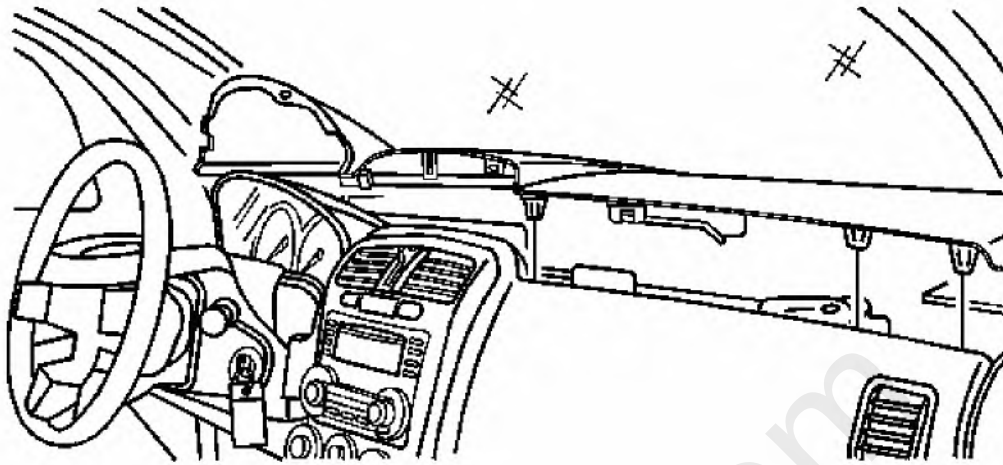


Fig. 34: Removing/Installing Upper Trim Pad
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

3. Align the upper trim pad to the I/P and fasten the bolts in place.

Tighten: Tighten the bolts to 10 N.m (89 lb in).

4. Install the windshield garnish moldings. Refer to Windshield Upper Garnish Molding Replacement in Interior Trim.
5. Install the I/P cluster trim panel. Refer to Trim Panel Replacement - Instrument Panel (I/P) Cluster in Instrument Panel, Gages and Console.

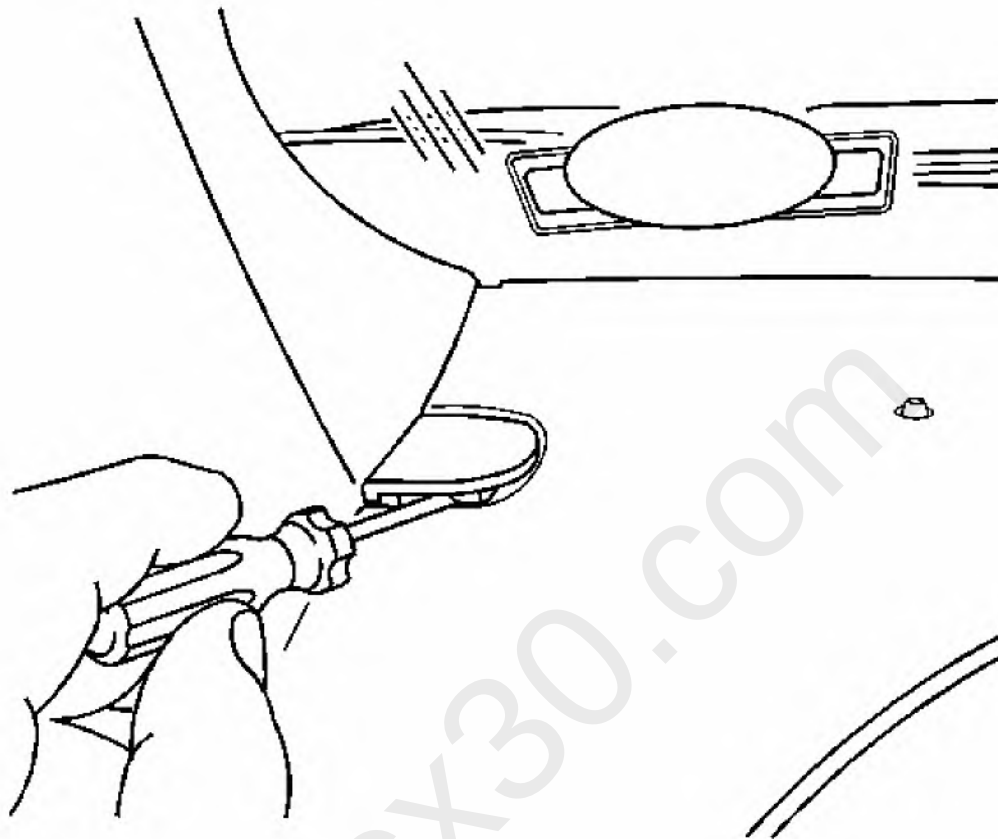


Fig. 35: Removing/Installing Access Panel Covers
Courtesy of GENERAL MOTORS CORP.

6. Install the access panel covers to the upper trim pad.
7. Test the ambient light sensor for proper operation.

HAZARD AND TURN SIGNAL FLASHER REPLACEMENT

Removal Procedure

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

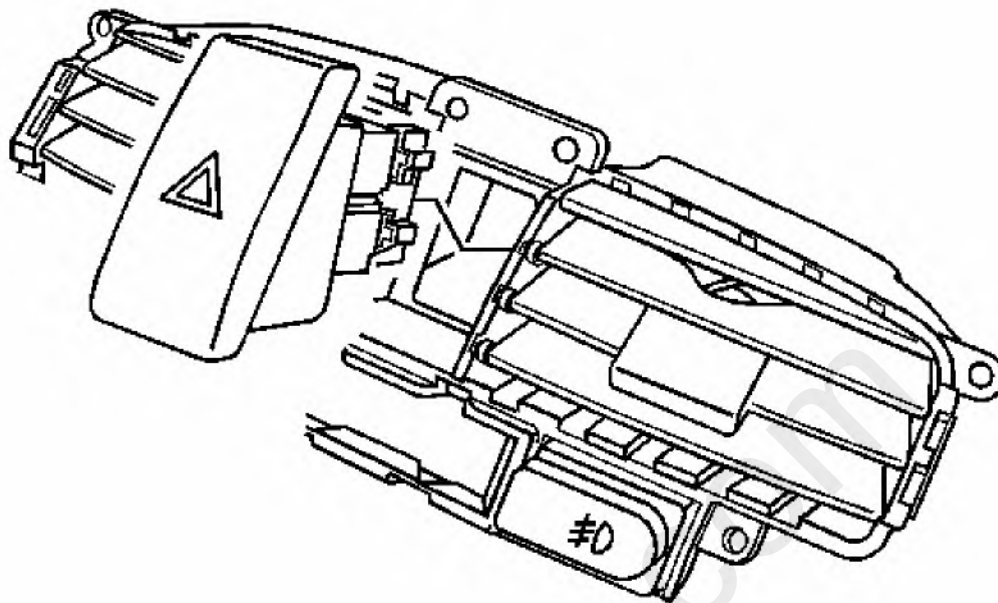


Fig. 36: Removing/Installing Hazard & Turn Signal Flasher Switch At I/P Center Stack

Courtesy of GENERAL MOTORS CORP.

2. Remove the screws that retain the hazard and turn signal flasher switch to the I/P center stack. Remove the switch.

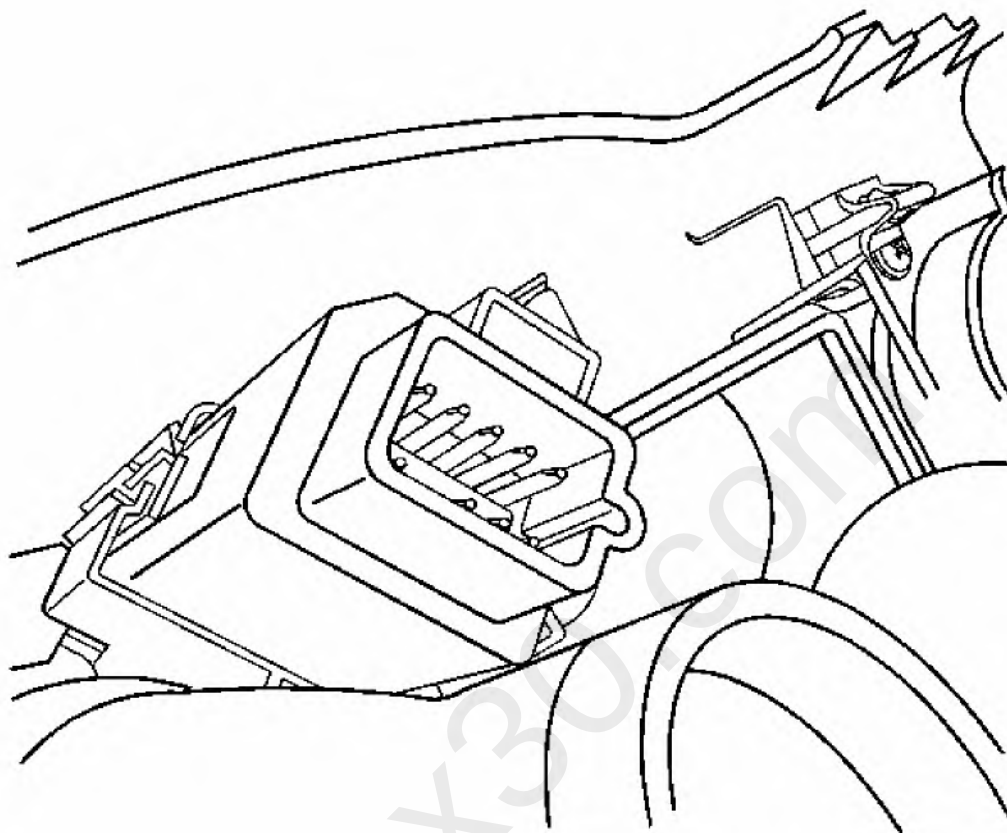


Fig. 37: View Of Hazard & Turn Signal Flasher
Courtesy of GENERAL MOTORS CORP.

3. Disconnect the electrical connector from the hazard and turn signal flasher switch.

Installation Procedure

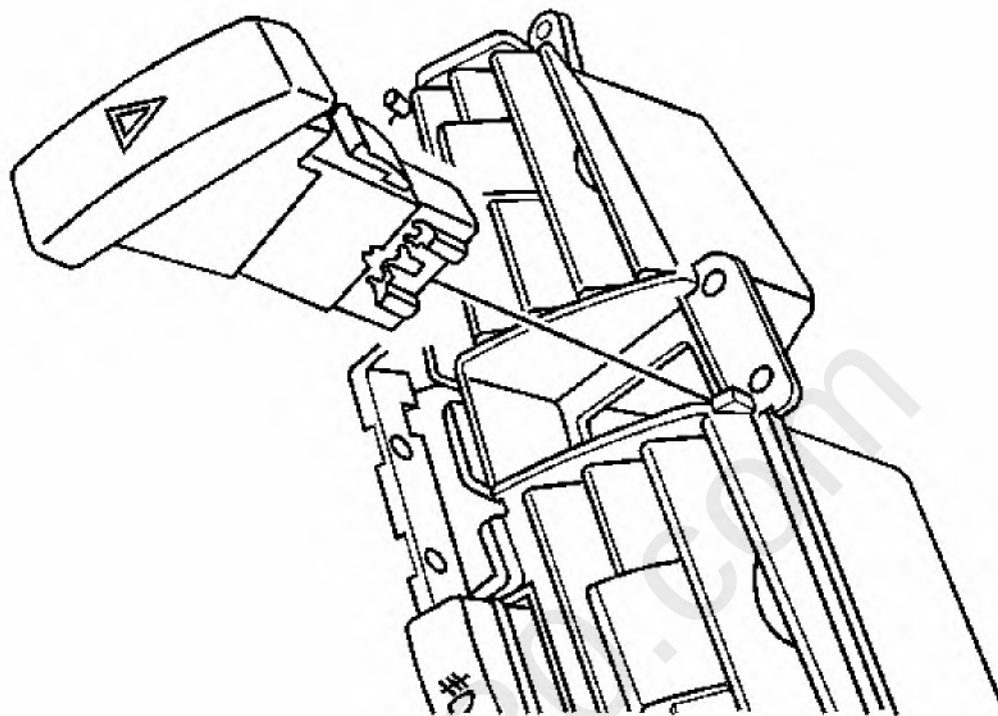


Fig. 38: Aligning Hazard & Turn Signal Flasher Switch With Trim Bezel
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

1. Align the switch with the trim bezel and fasten in place.

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

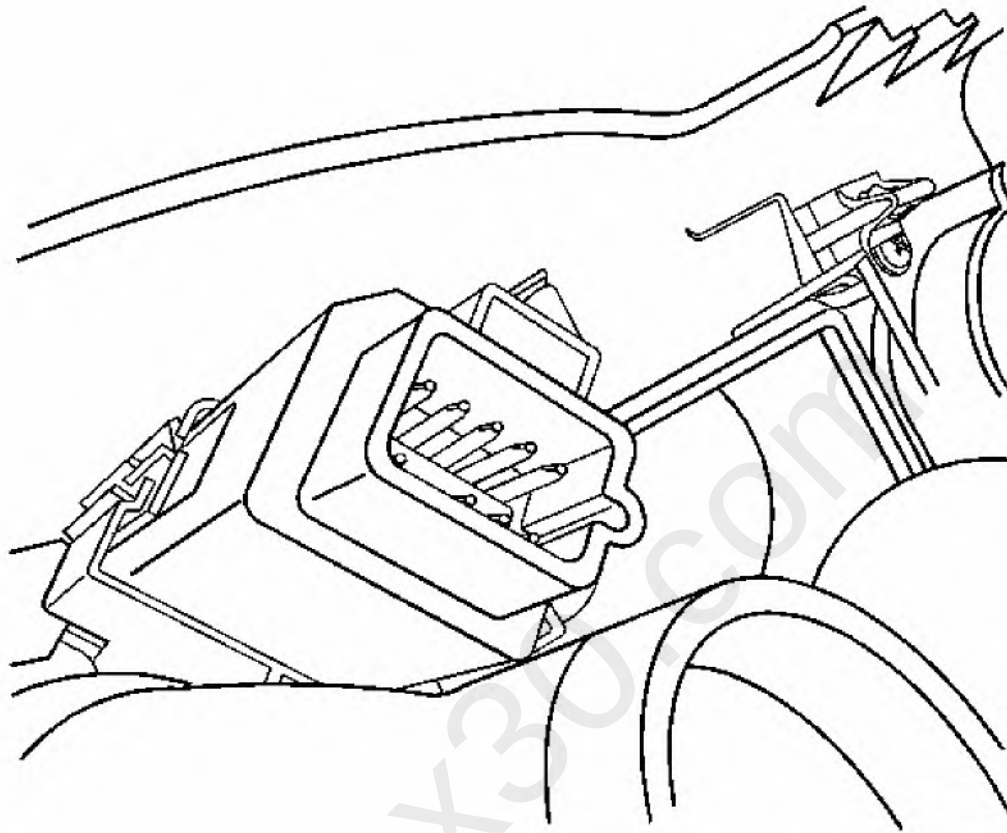


Fig. 39: View Of Hazard & Turn Signal Flasher
Courtesy of GENERAL MOTORS CORP.

2. Connect the electrical connector to the hazard and turn signal flasher switch.
3. Install the I/P center trim bezel. Refer to **Trim Bezel Replacement - Center** in Instrument Panel, Gages and Console.
4. Test the flasher switch for proper operation.

READING LAMP BULB REPLACEMENT

Removal Procedure

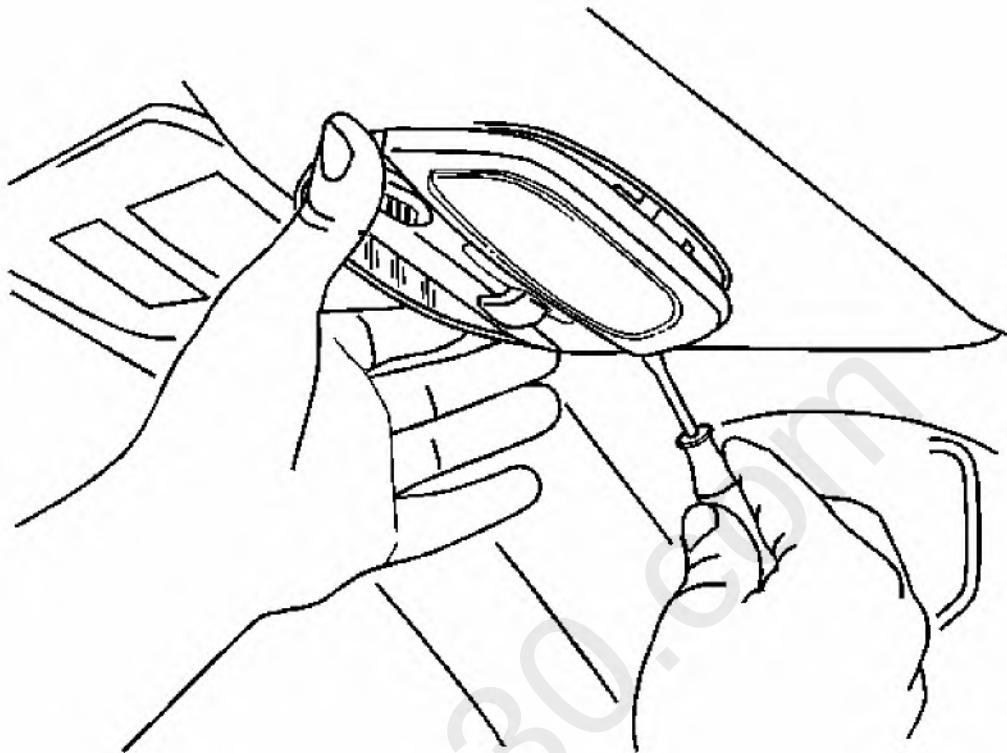


Fig. 40: View Of Reading Lamp Bulb
Courtesy of GENERAL MOTORS CORP.

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

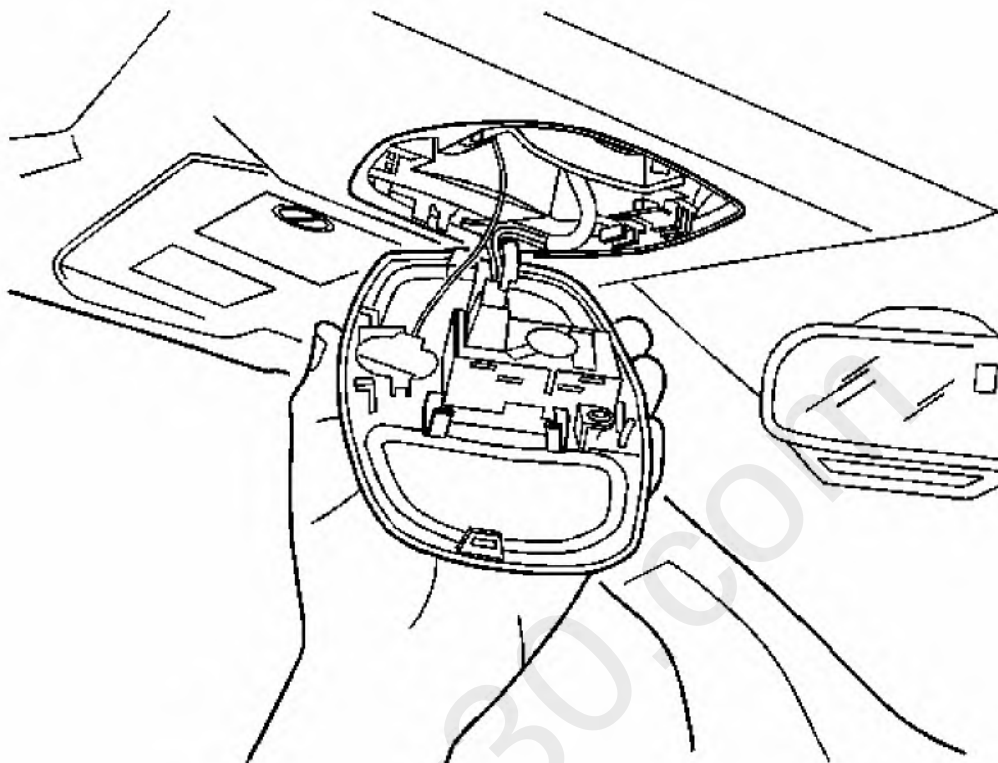


Fig. 41: Removing/Installing Reading Lamp Bulb
Courtesy of GENERAL MOTORS CORP.

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

Installation Procedure

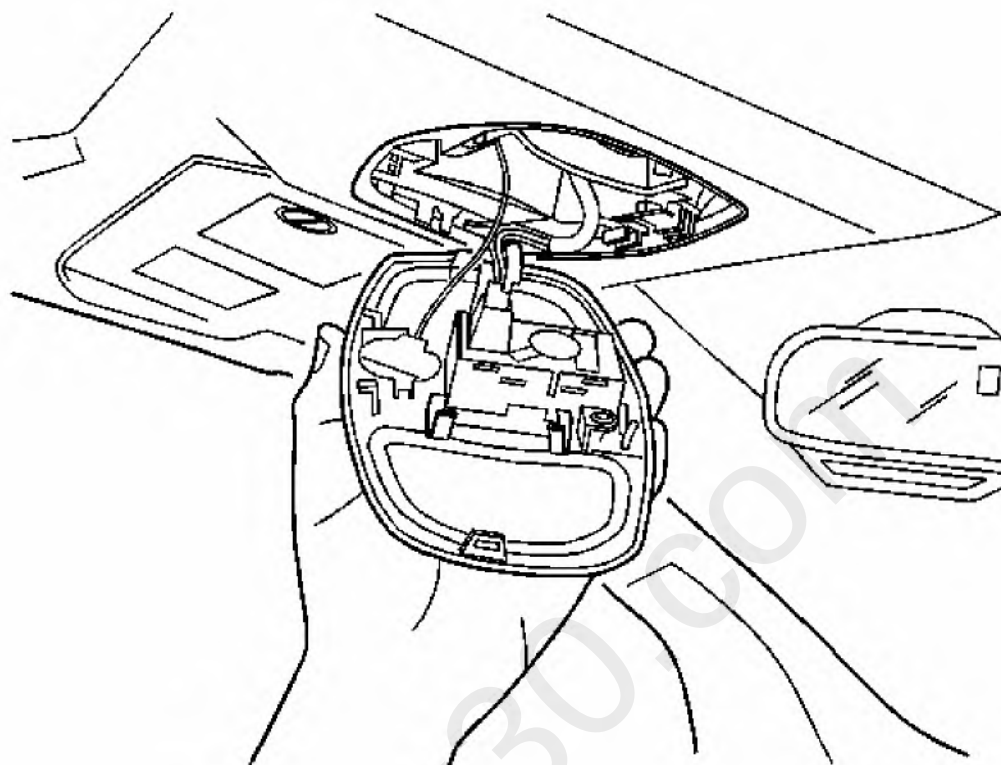


Fig. 42: Removing/Installing Reading Lamp Bulb
Courtesy of GENERAL MOTORS CORP.

1. Install the reading lamp bulb.

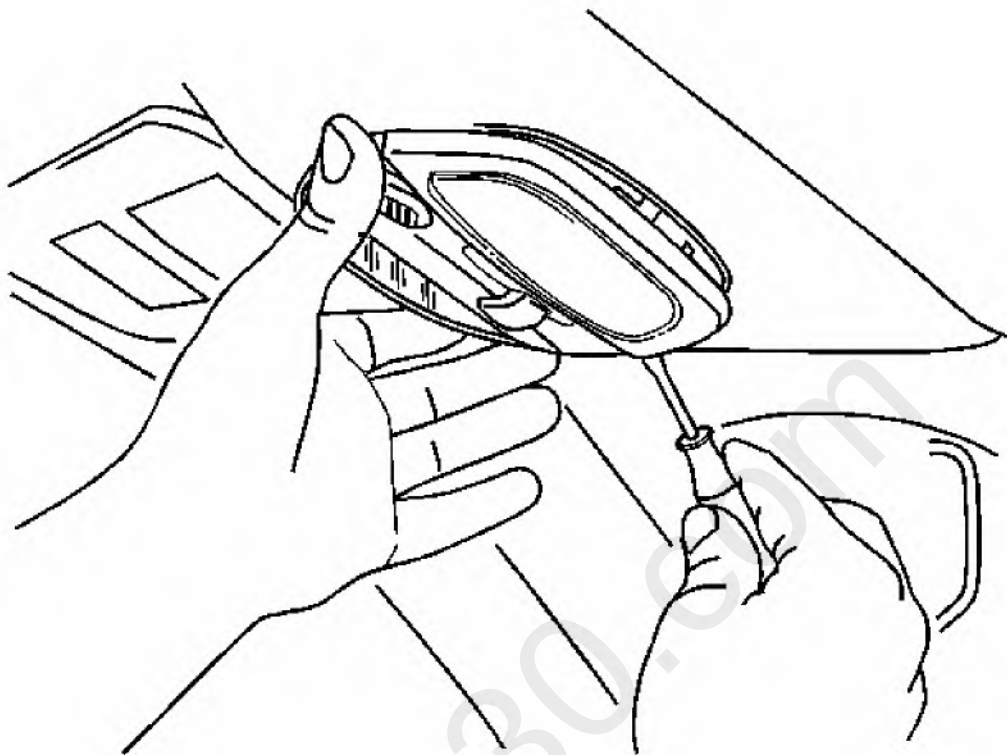


Fig. 43: View Of Reading Lamp Bulb
Courtesy of GENERAL MOTORS CORP.

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.

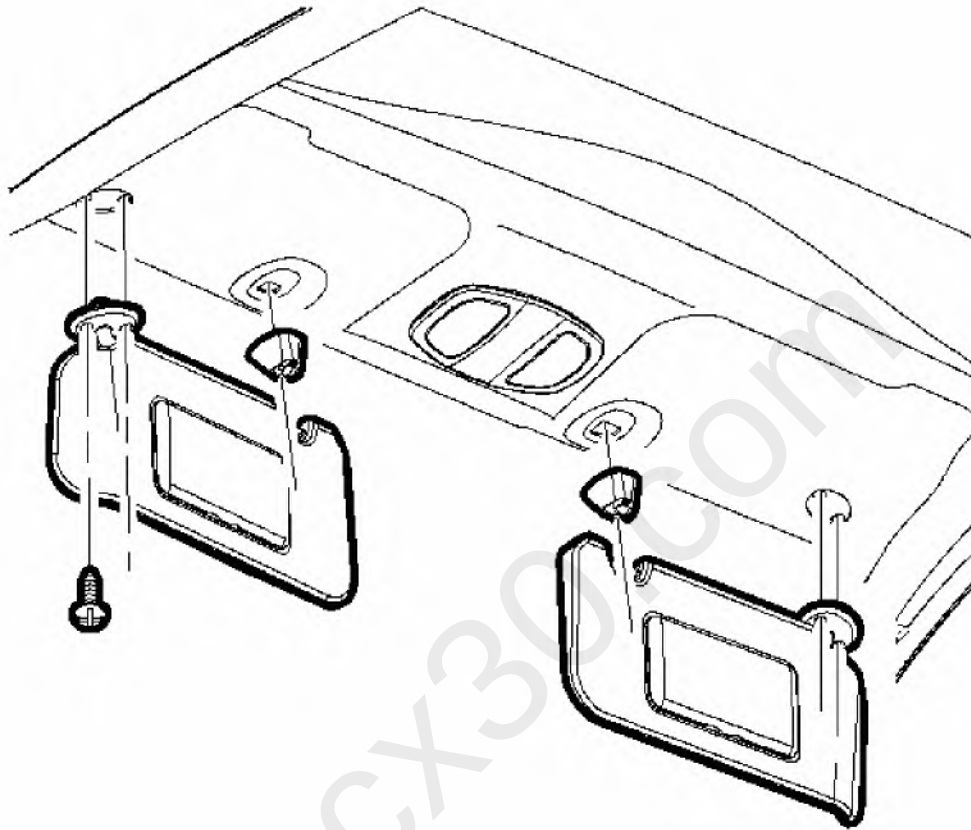


Fig. 44: View Of Sunshade Anchors
Courtesy of GENERAL MOTORS CORP.

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.

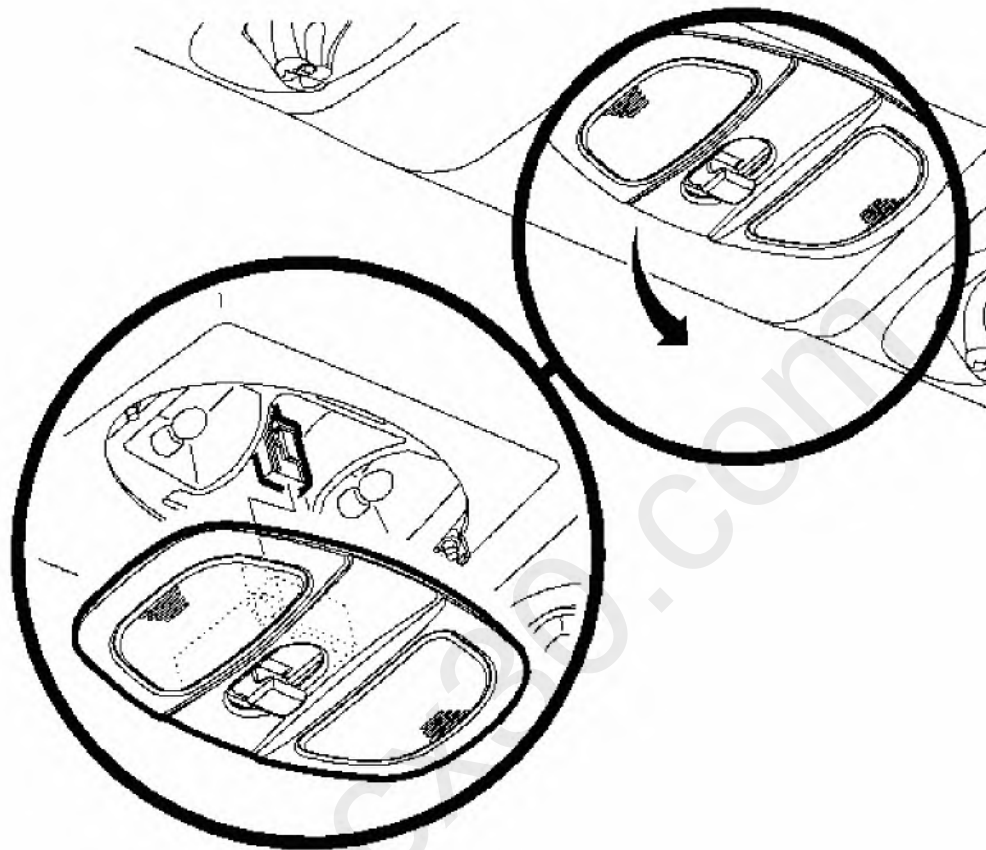


Fig. 45: Disconnecting/Connecting Electrical Connectors At Reading Lamp Cover/Sunroof Switch

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®, 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®, disconnect the electrical connectors.
10. Remove the cover.

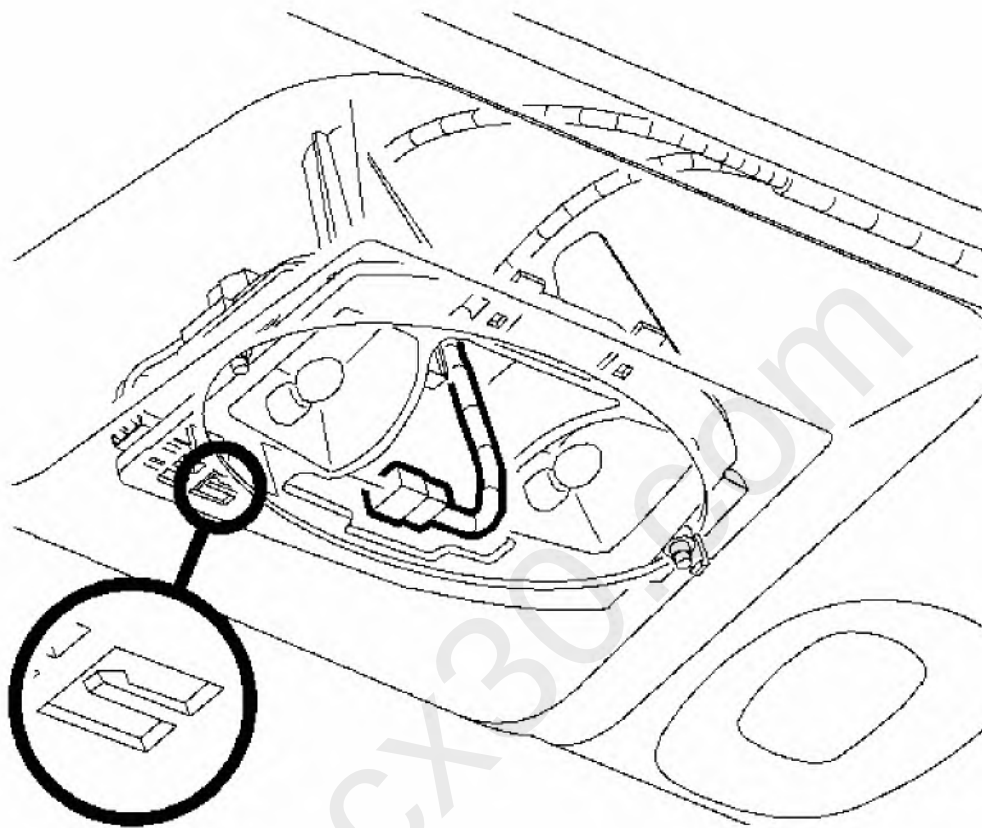


Fig. 46: Disconnecting/Connecting Electrical Connector To The Reading Lamp
Courtesy of GENERAL MOTORS CORP.

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

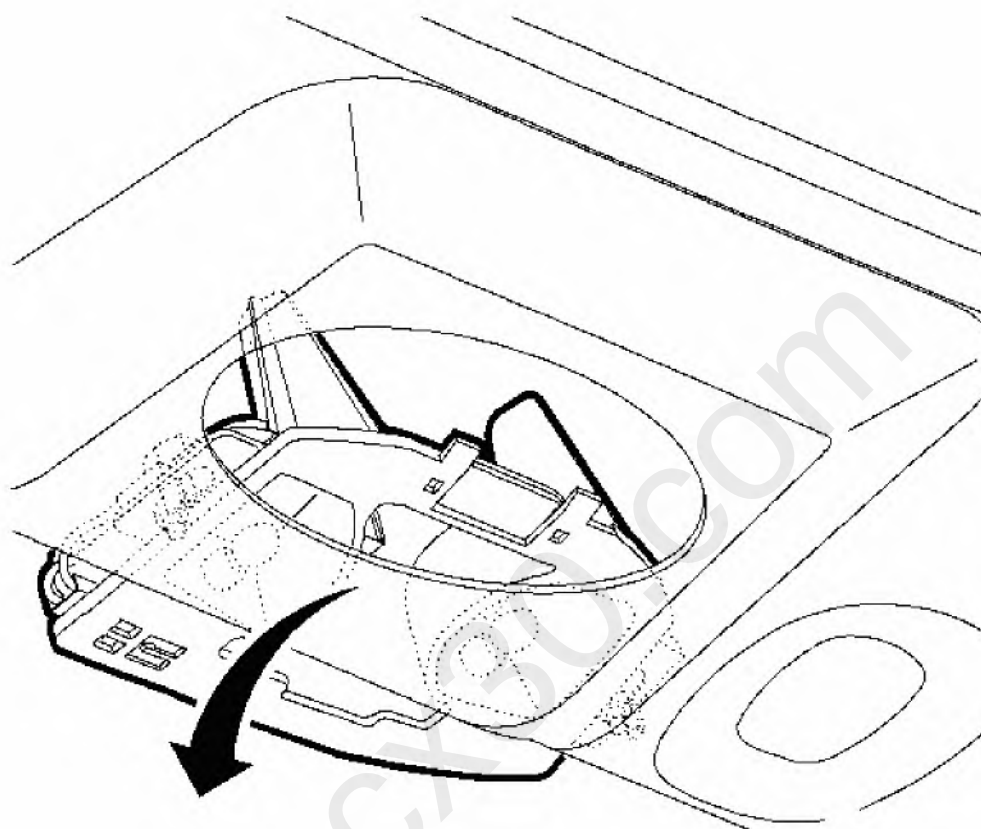


Fig. 47: Pulling Headliner Down Slightly & Slide Forward Reading Lamp
Courtesy of GENERAL MOTORS CORP.

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

Installation Procedure

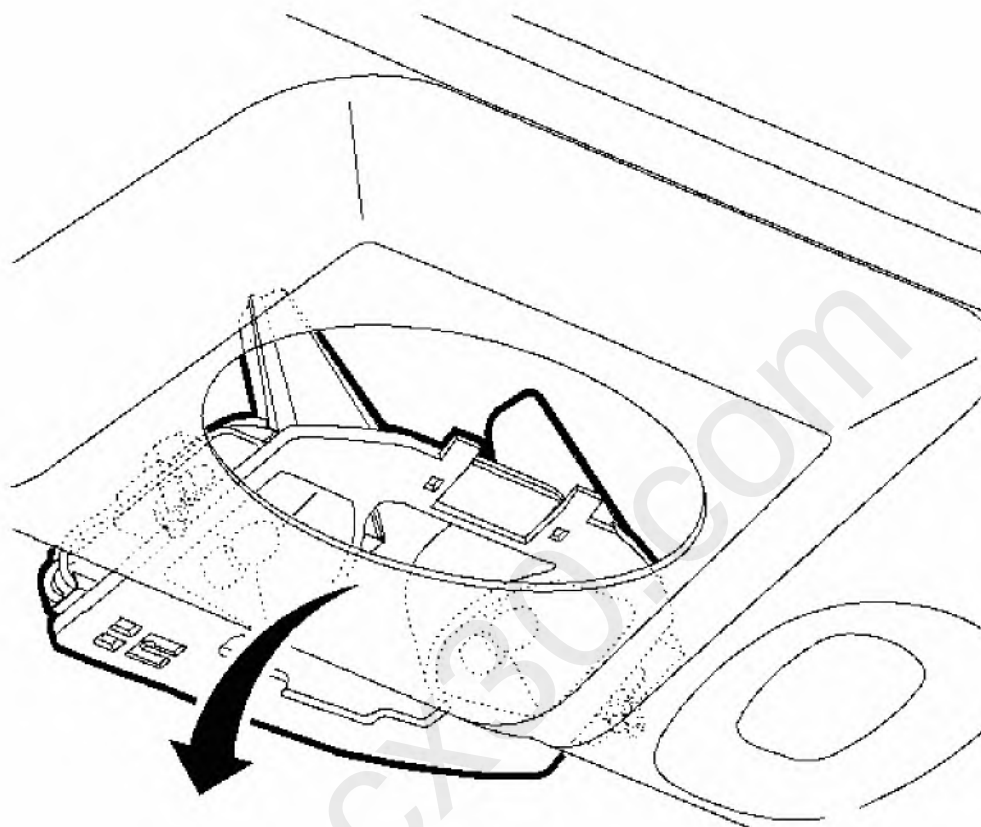


Fig. 48: Pulling Headliner Down Slightly & Slide Forward Reading Lamp
Courtesy of GENERAL MOTORS CORP.

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

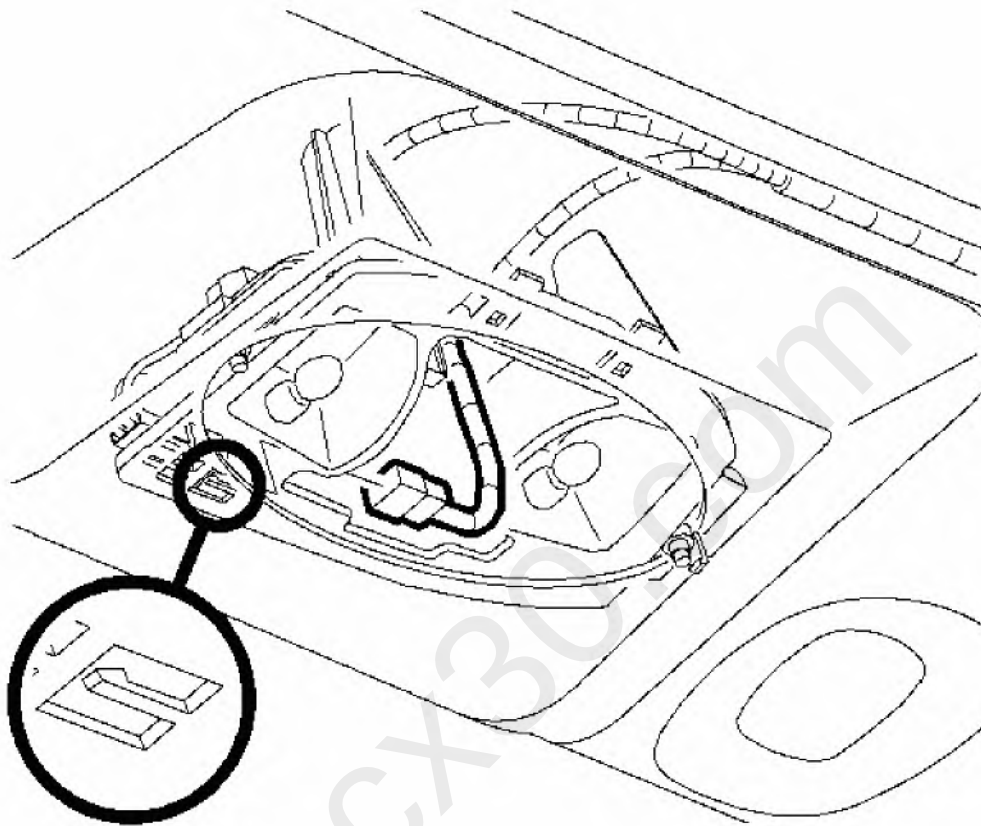


Fig. 49: Disconnecting/Connecting Electrical Connector To The Reading Lamp
Courtesy of GENERAL MOTORS CORP.

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

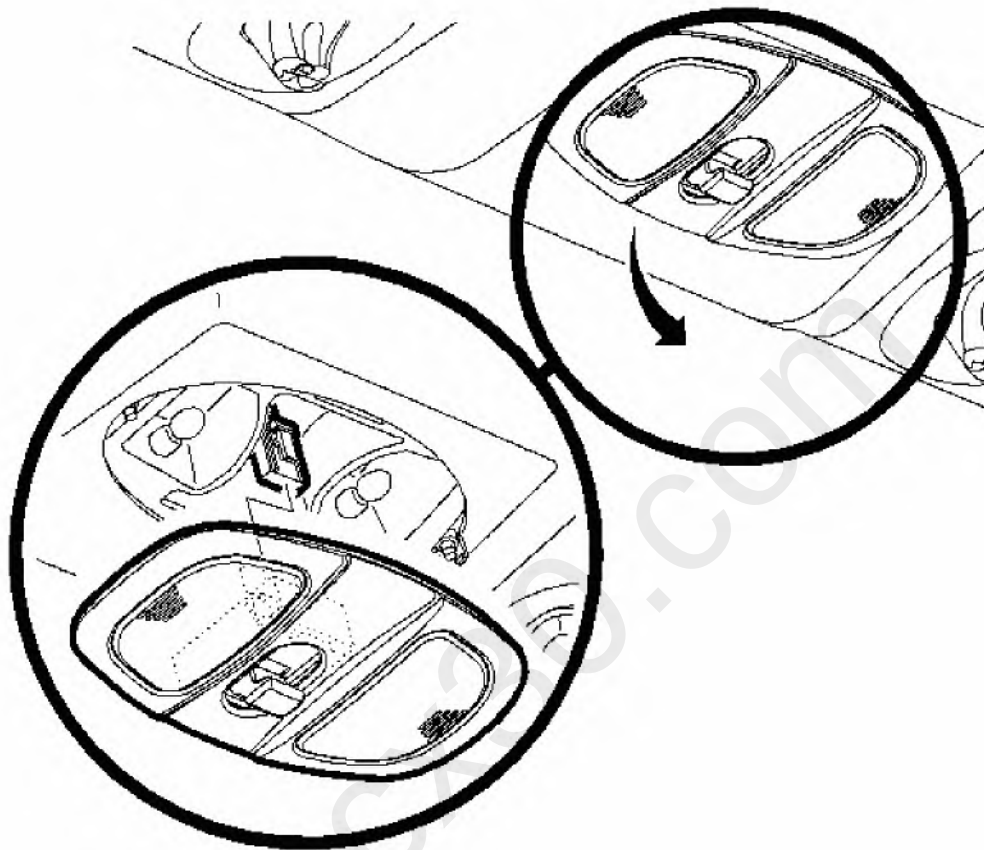


Fig. 50: Disconnecting/Connecting Electrical Connectors At Reading Lamp Cover/Sunroof Switch
Courtesy of GENERAL MOTORS CORP.

4. Position the forward reading lamp cover into the rear attaching hooks.
5. If the vehicle is equipped with a sunroof or with OnStar®, 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.

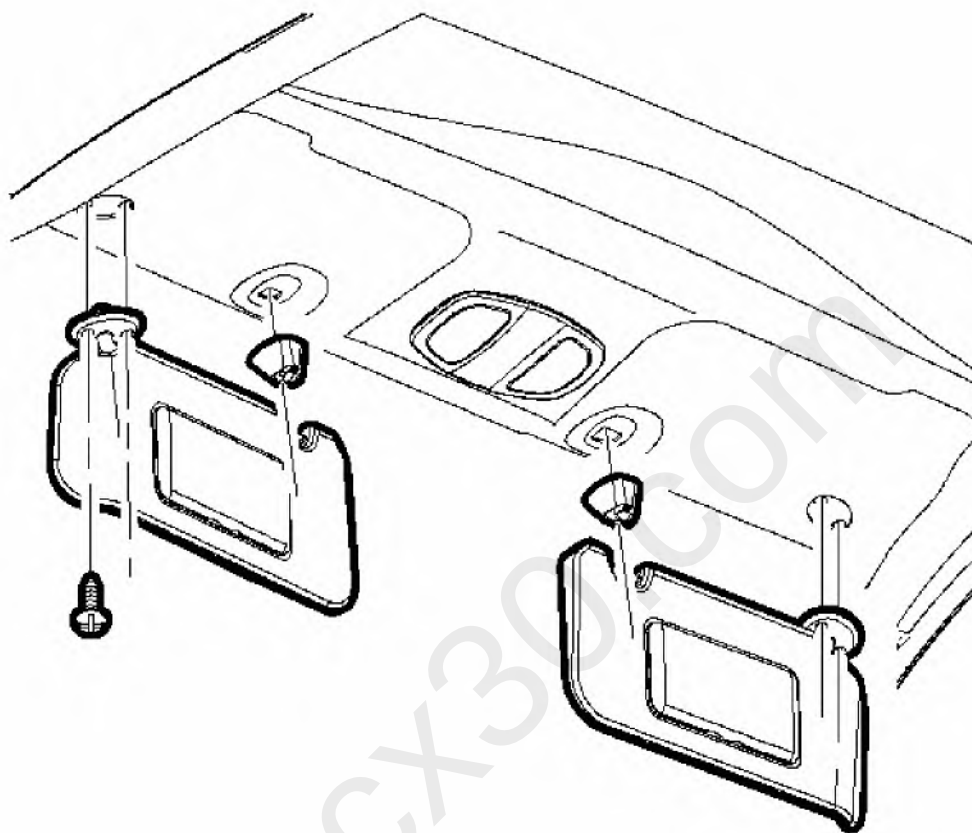


Fig. 51: View Of Sunshade Anchors
Courtesy of GENERAL MOTORS CORP.

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 instrument panel (I/P) trim bezel. Refer to **Trim Bezel Replacement - Center** in Instrument Panel, Gages and Console.
2. Disconnect the electrical connector from the PRNDL assembly.

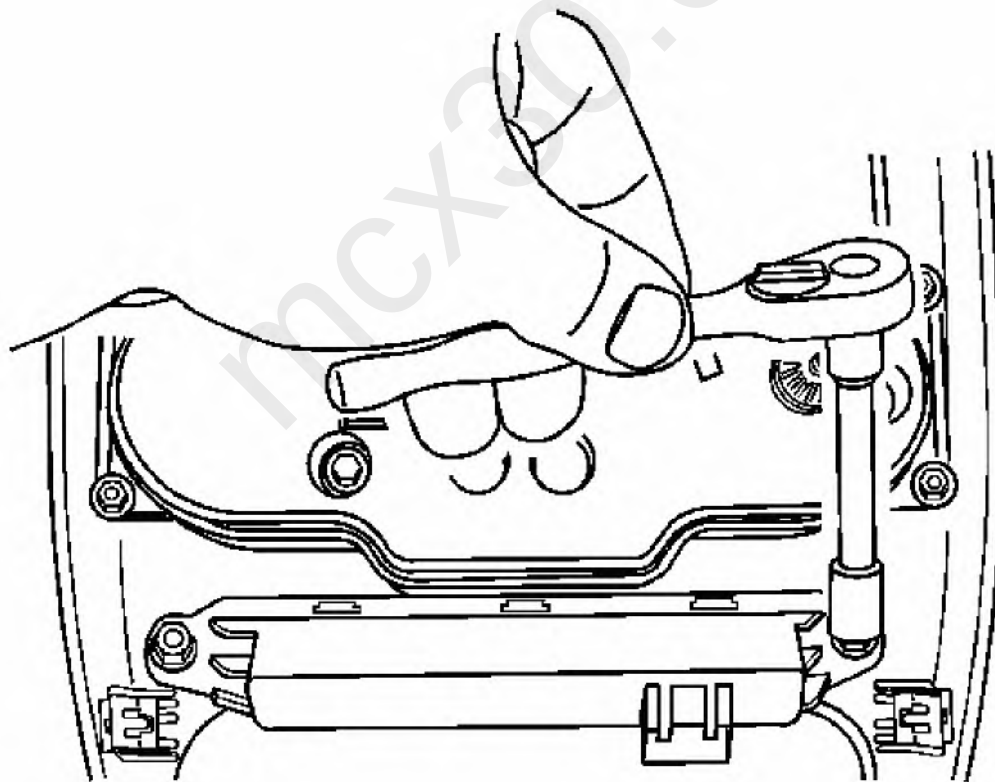


Fig. 52: Removing/Installing PRNDL Assembly Screws
Courtesy of GENERAL MOTORS CORP.

3. Remove the screws that retain the PRNDL assembly to the I/P bezel. Remove the

PRNDL assembly.

Installation Procedure

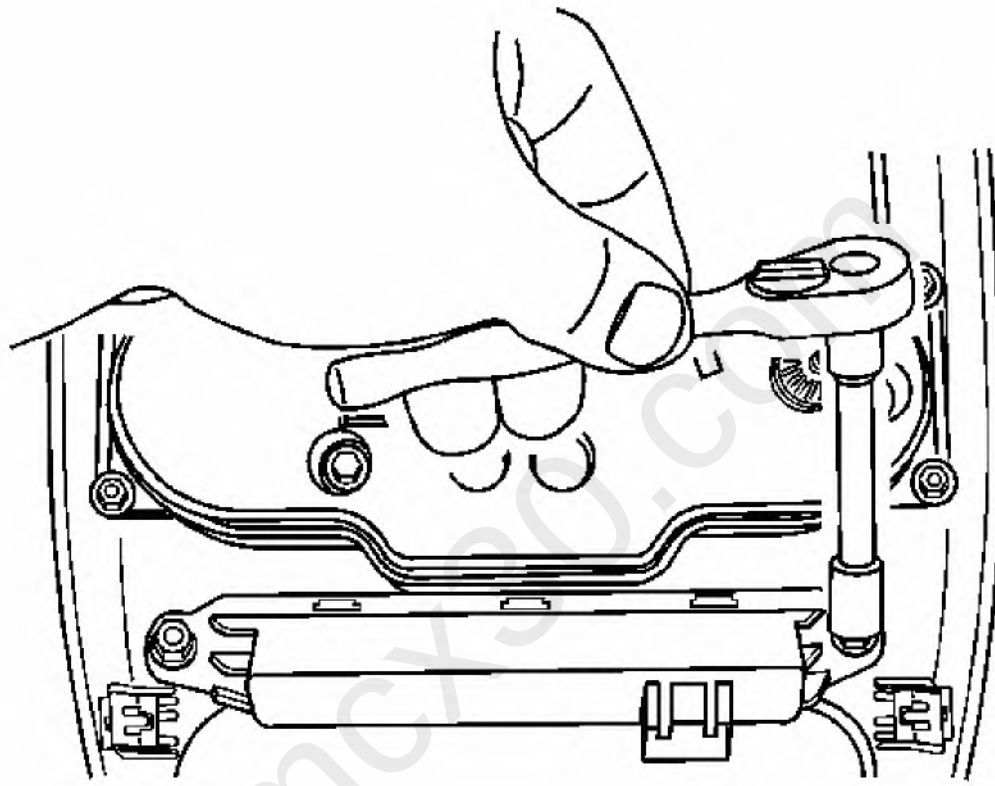


Fig. 53: Removing/Installing PRNDL Assembly Screws
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

1. Align the PRNDL assembly with the trim bezel and fasten in place.

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

2. Connect the electrical connector to the PRNDL assembly.
3. Install the I/P trim bezel. Refer to Trim Bezel Replacement - Center in Instrument Panel, Gages and Console.
4. Test the PRNDL assembly for proper operation.

Removal Procedure

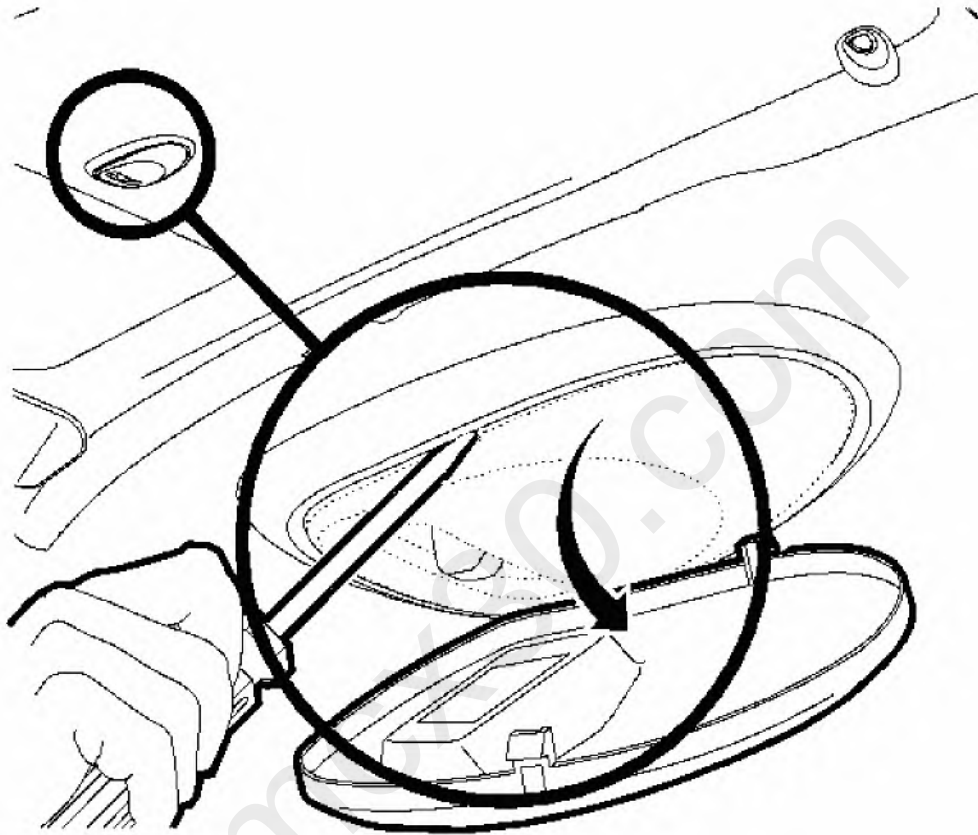


Fig. 54: View Of Dome Lamp
Courtesy of GENERAL MOTORS CORP.

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.

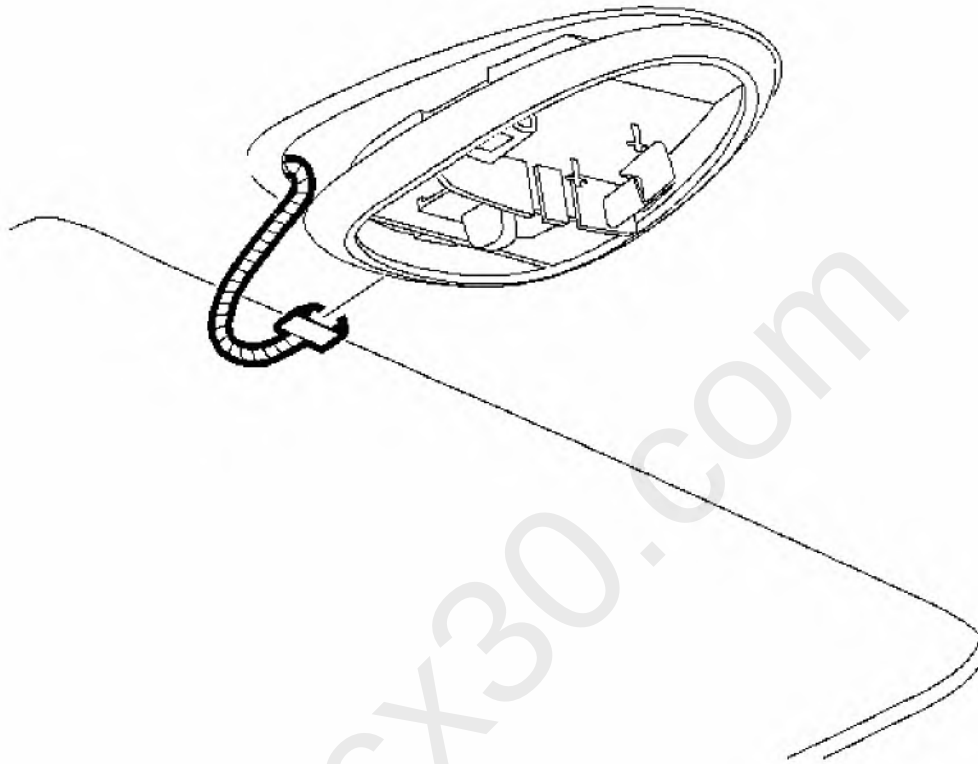


Fig. 55: Disconnecting Dome Lamp Electrical Connector
Courtesy of GENERAL MOTORS CORP.

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

Installation Procedure

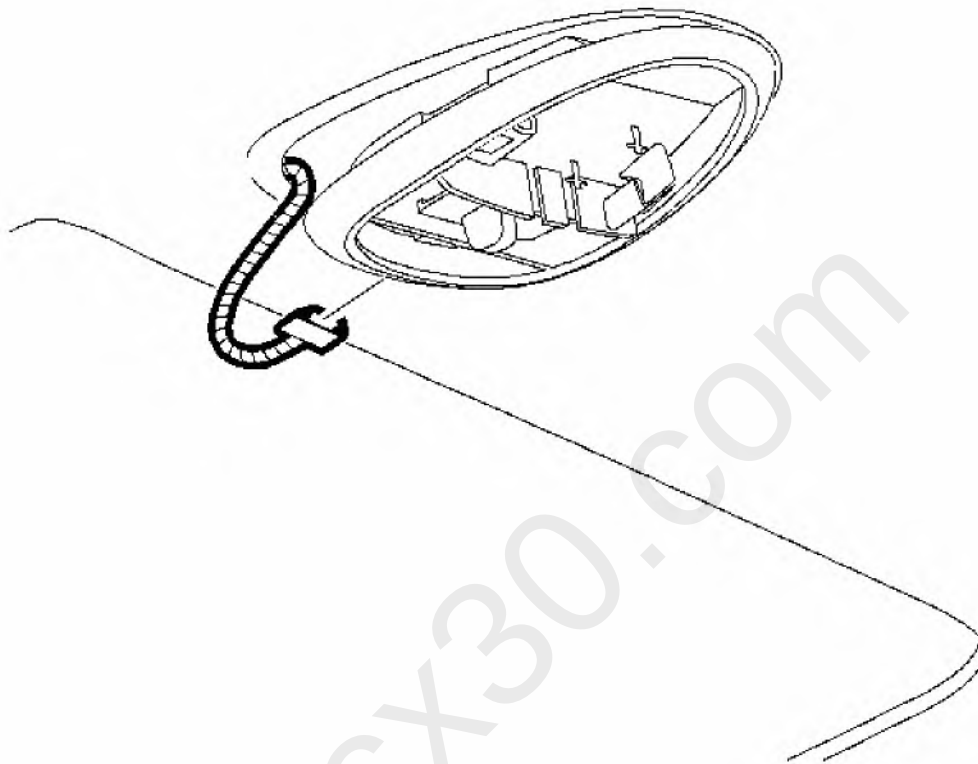


Fig. 56: Disconnecting Dome Lamp Electrical Connector
Courtesy of GENERAL MOTORS CORP.

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

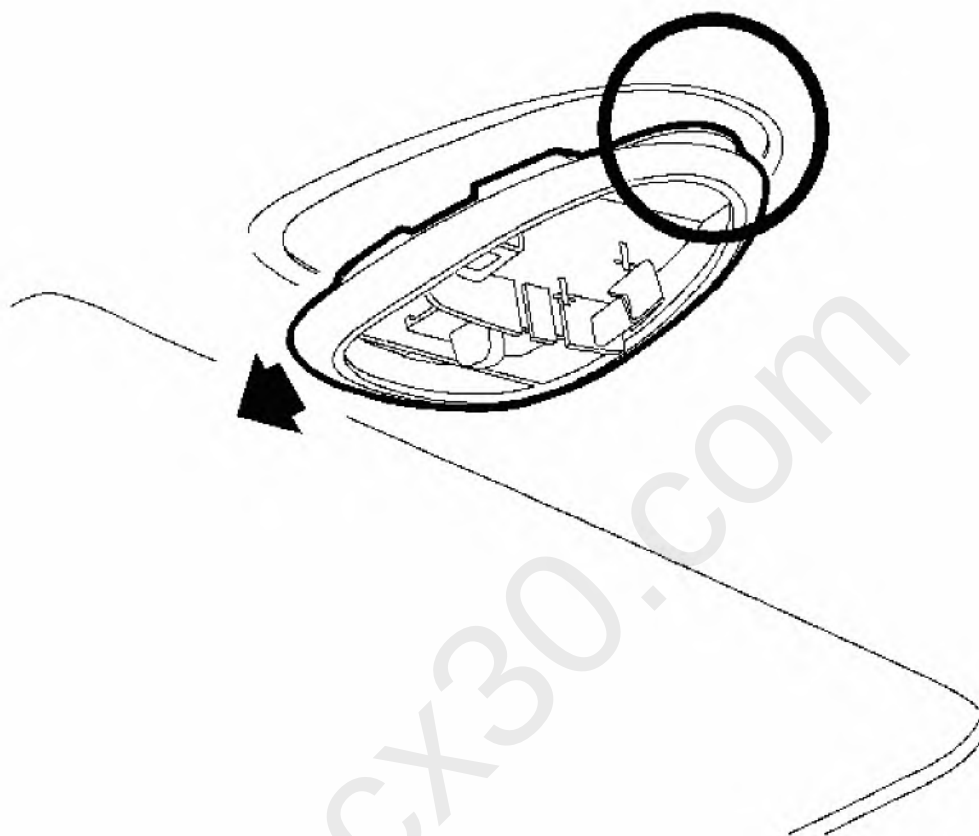


Fig. 57: Snapping Dome Lamp Clips Into Closed Position
Courtesy of GENERAL MOTORS CORP.

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

DOMELAMP BULB REPLACEMENT

Removal Procedure

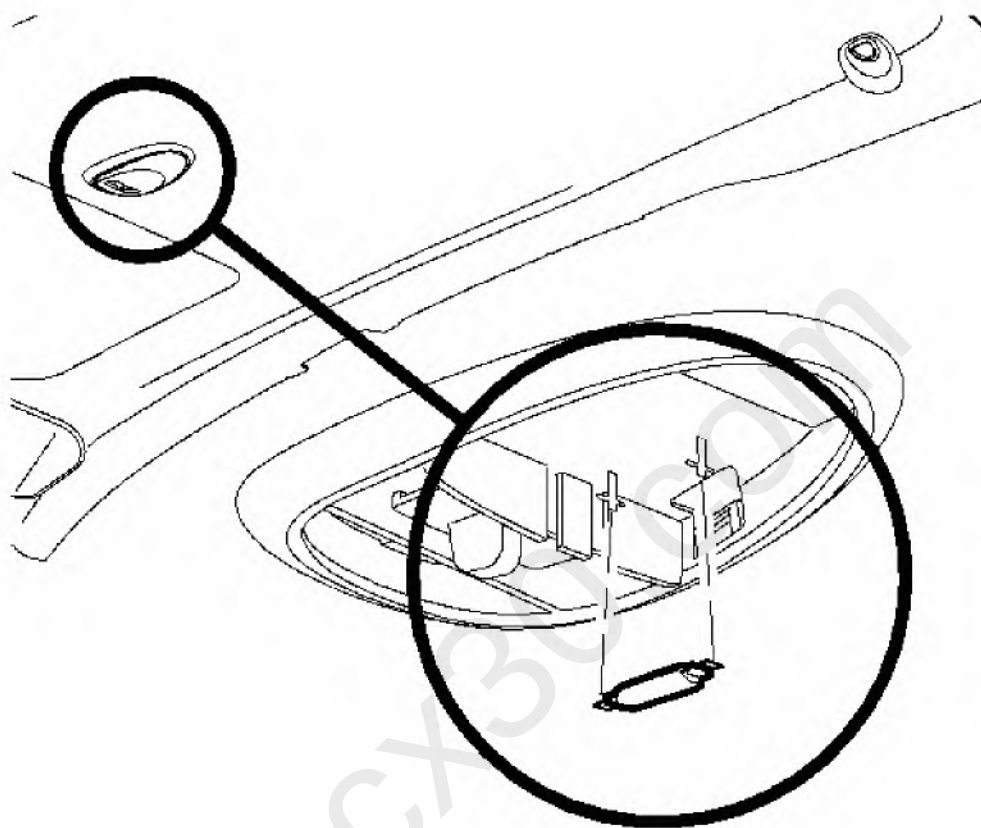


Fig. 58: View Of Dome Lamp Bulb
Courtesy of GENERAL MOTORS CORP.

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

Installation Procedure

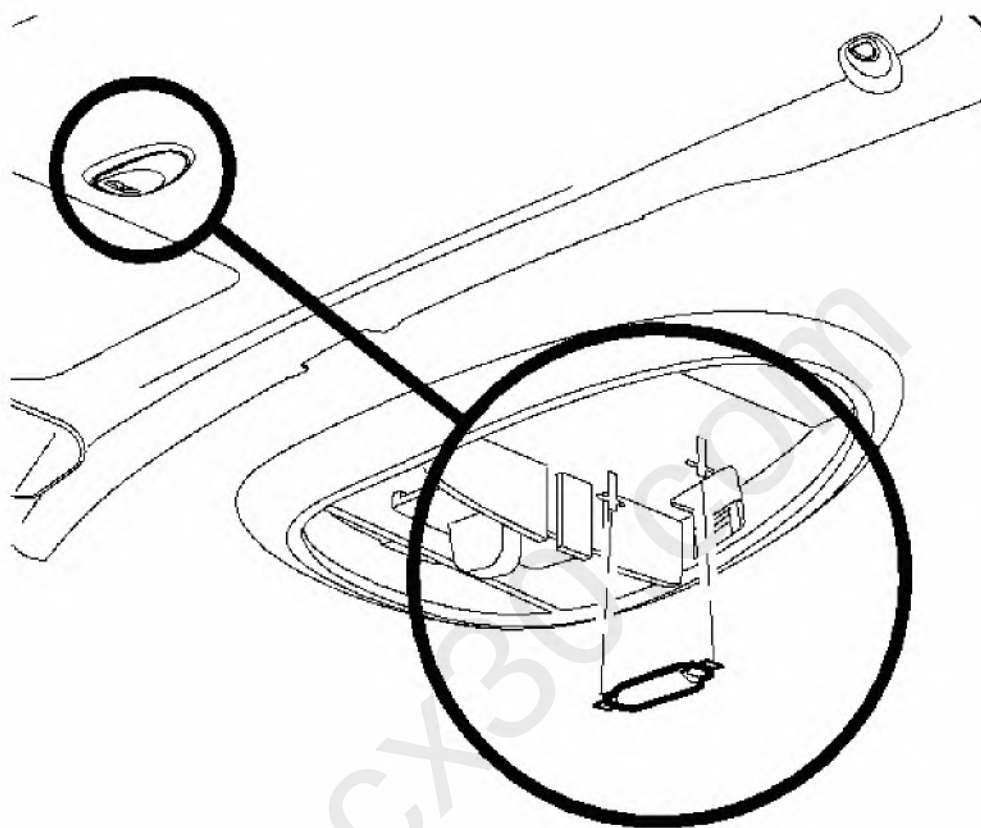


Fig. 59: View Of Dome Lamp Bulb
Courtesy of GENERAL MOTORS CORP.

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 (EQUINOX)**

Removal Procedure

1. Open the hood.

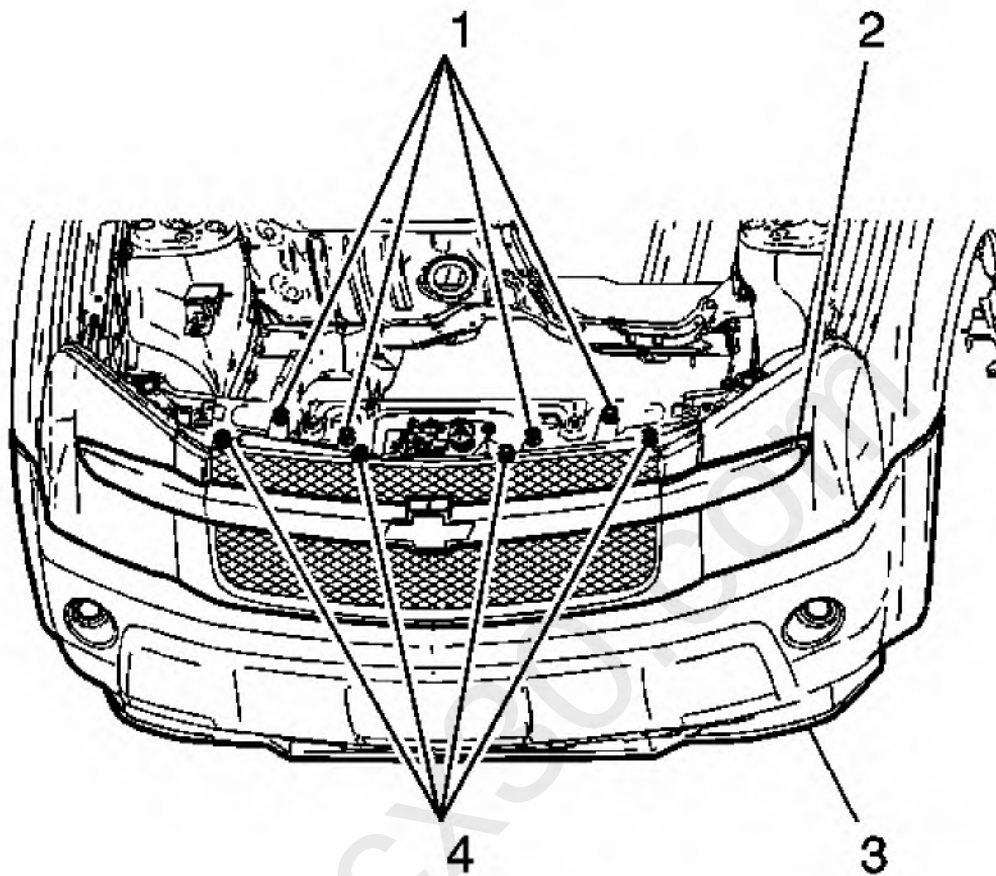


Fig. 60: View Of Fascia To Tie Bar Push-In Retainers, Radiator Grille Strap & Front Fascia Assembly
Courtesy of GENERAL MOTORS CORP.

2. Remove the fascia to tie bar push-in retainers (1).

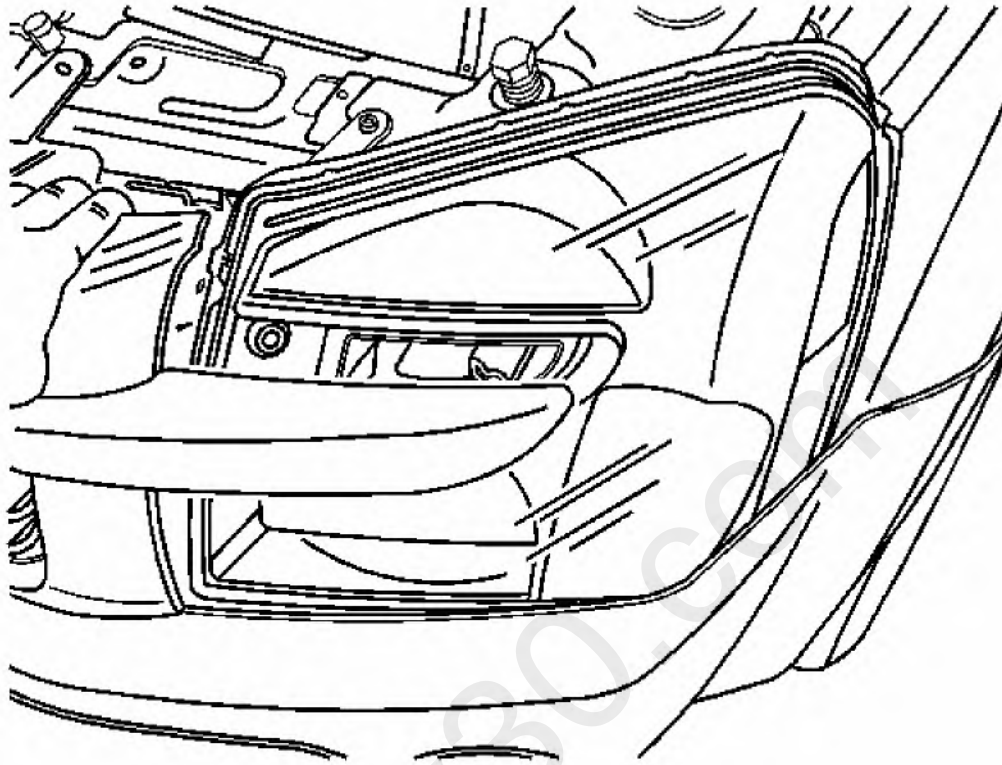


Fig. 61: View Of Fascia At Headlamps
Courtesy of GENERAL MOTORS CORP.

3. Gently pull the top of the fascia assembly several inches away from the vehicle to release the radiator grille strap from the headlamp.
4. Place a piece of tape over the radiator grille strap to headlamp retaining clip to prevent scratching of the headlamp lens.

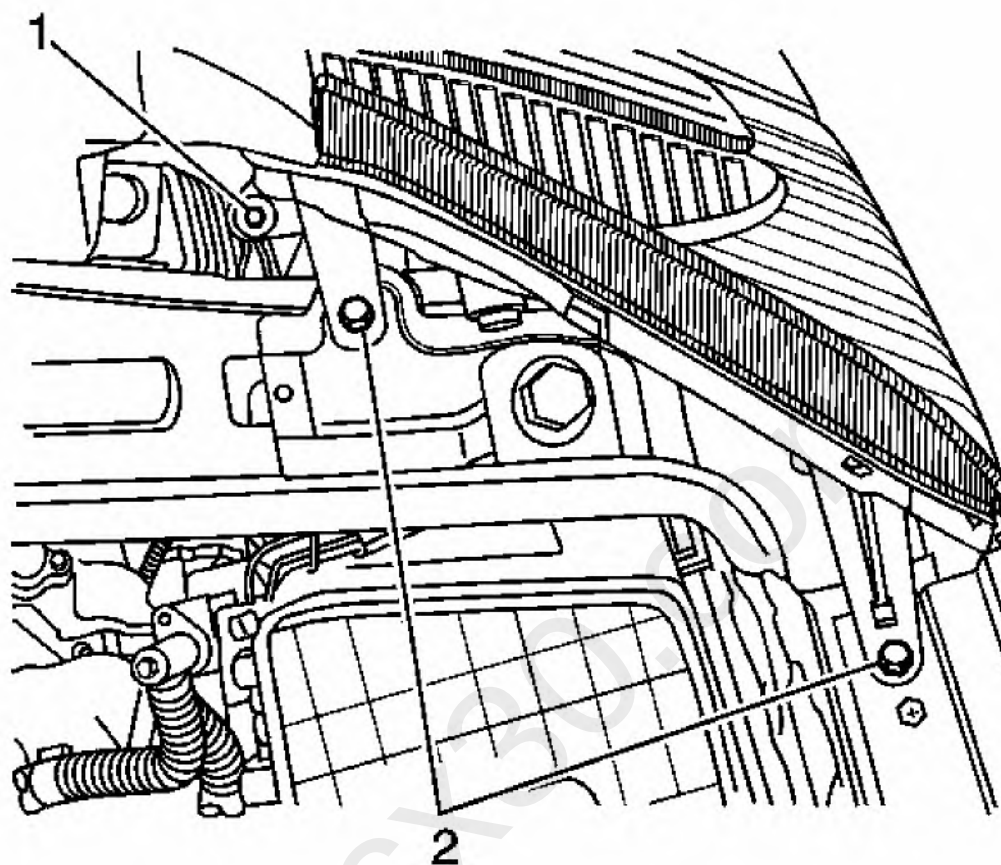


Fig. 62: View Of Headlamp Bolts
Courtesy of GENERAL MOTORS CORP.

5. Remove the headlamp bolts (1, 2).

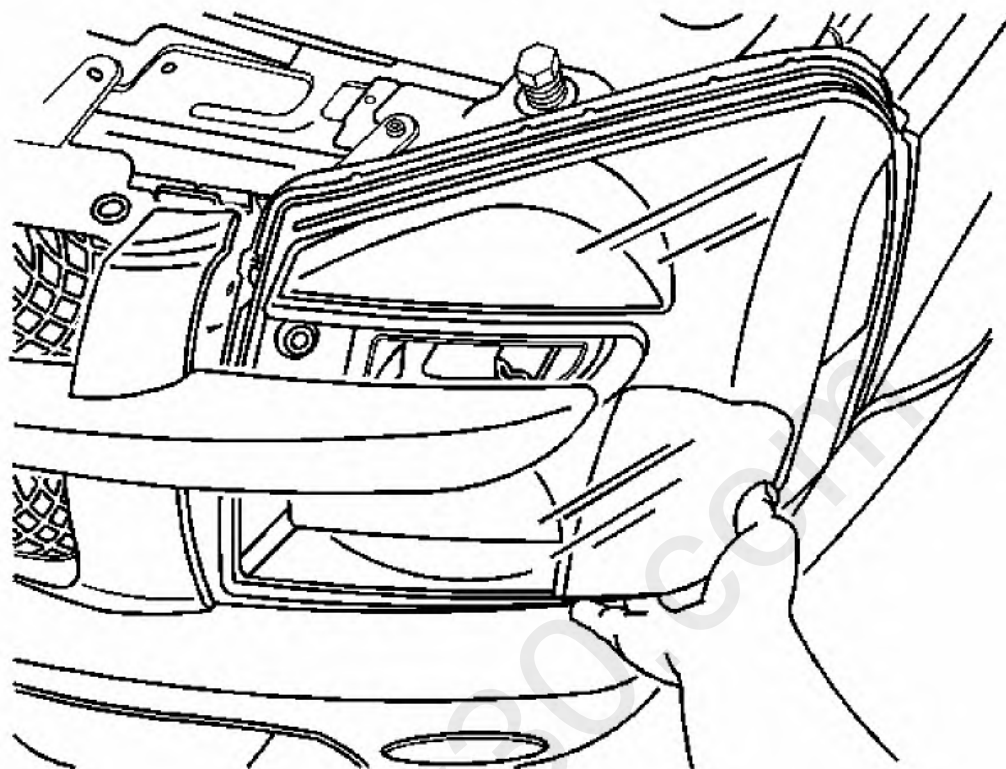


Fig. 63: Disengaging Lower Rear Headlamp Retainer
Courtesy of GENERAL MOTORS CORP.

6. Pull gently on the bottom outboard corner of the headlamp to disengage the lower rear headlamp retainer.

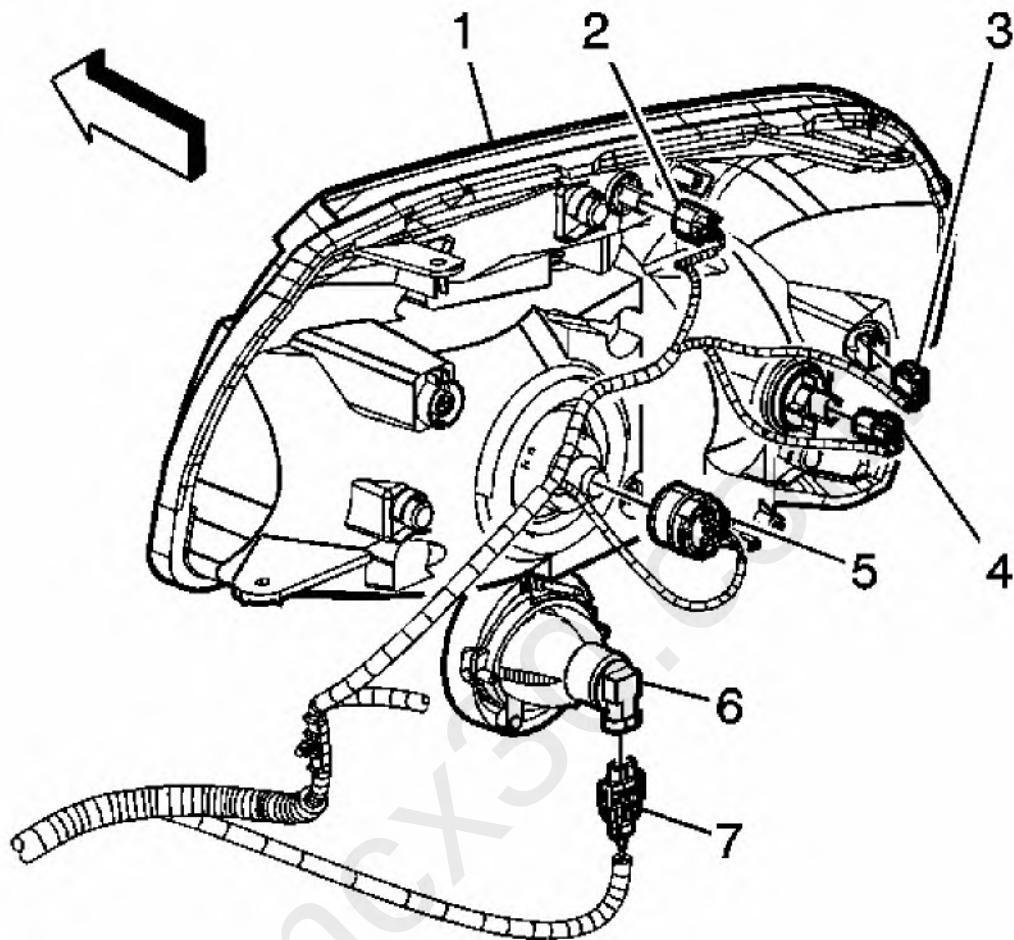


Fig. 64: View Of Headlamp Bulbs
Courtesy of GENERAL MOTORS CORP.

7. Remove the bulbs (2, 3, 4, 5) from the backside of the headlamp.
8. Remove the headlamp from the vehicle.

Installation Procedure

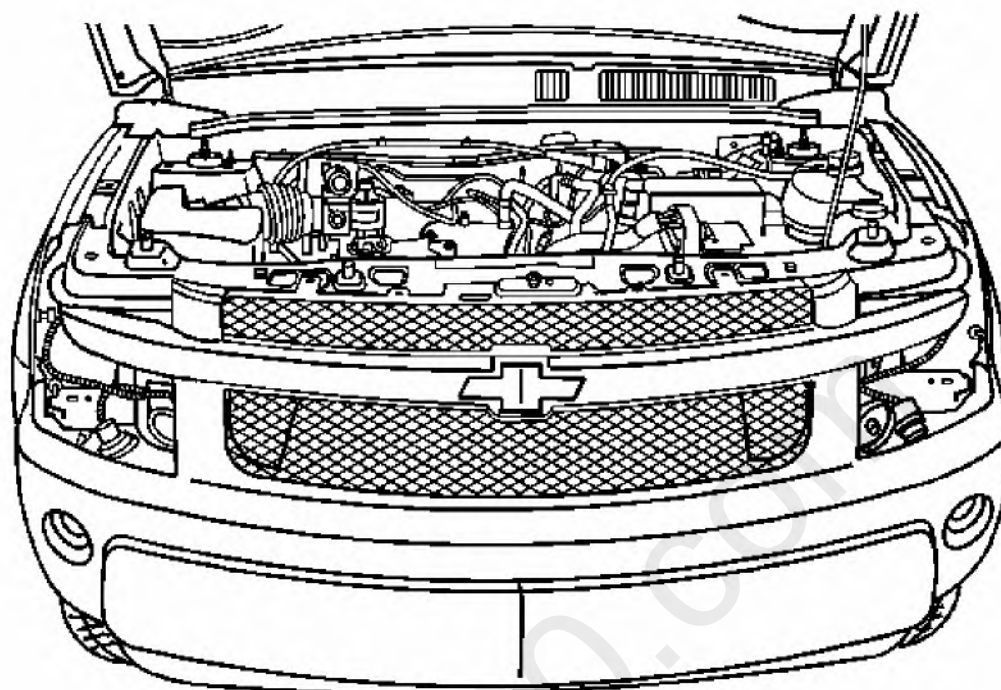


Fig. 65: View Of Headlamp Openings
Courtesy of GENERAL MOTORS CORP.

1. Position the headlamp into the headlamp opening.

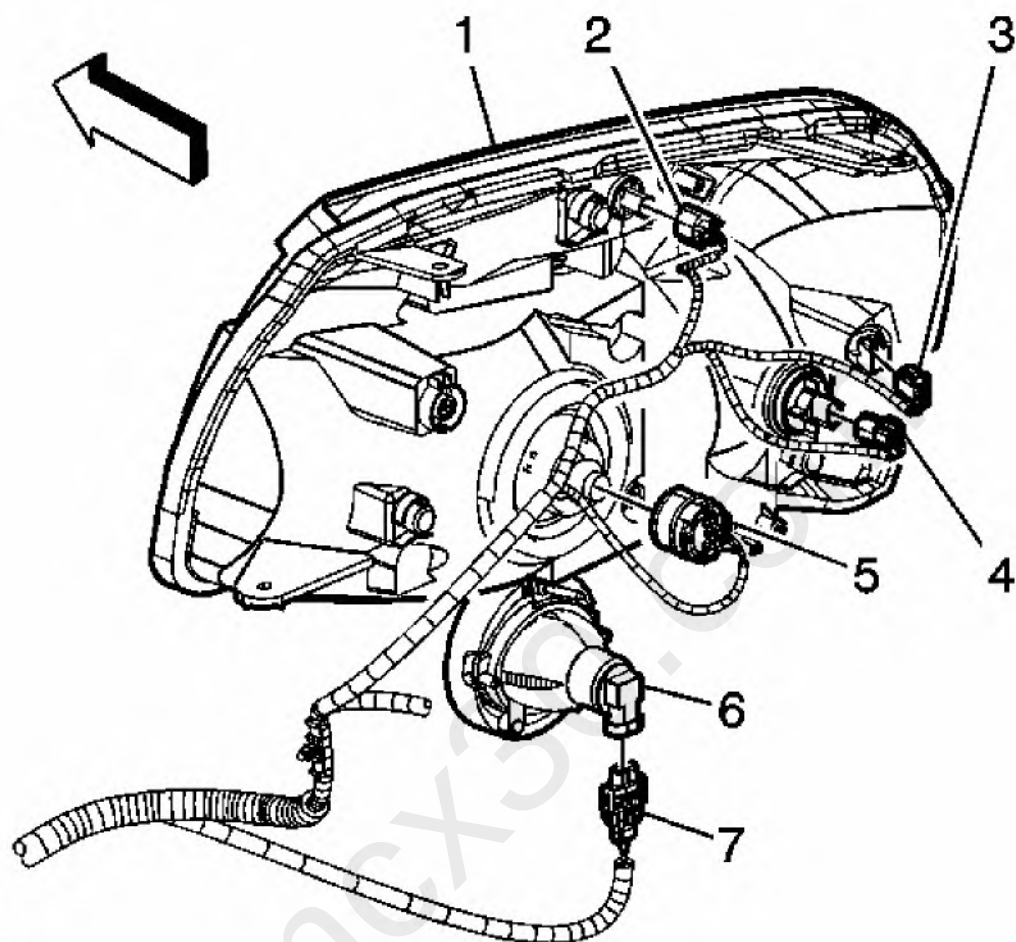


Fig. 66: View Of Headlamp Bulbs
Courtesy of GENERAL MOTORS CORP.

2. Install the headlamp bulbs (2, 3, 4, 5).

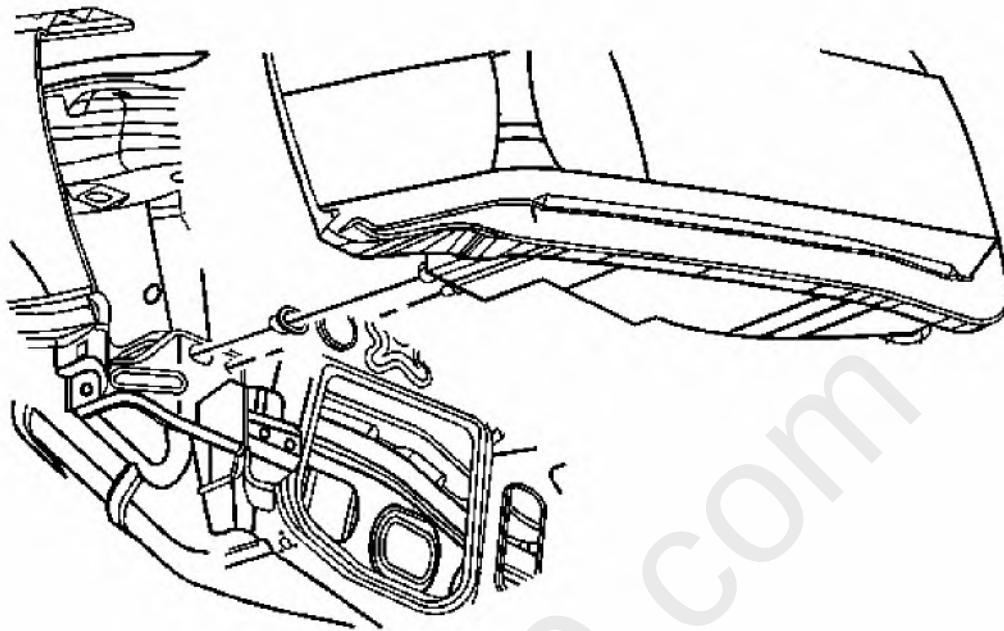


Fig. 67: Pushing Headlamp Into Position
Courtesy of GENERAL MOTORS CORP.

3. Push the headlamp back into position until the lower rear retainer is fully engaged.

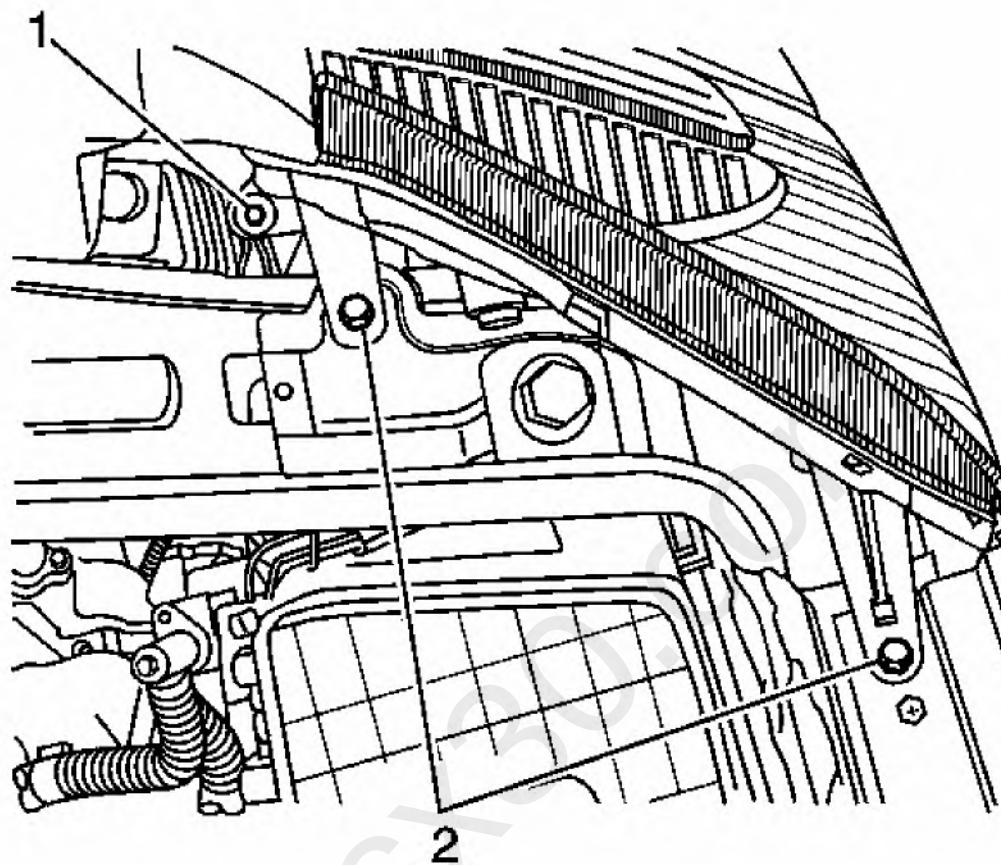


Fig. 68: View Of Headlamp Bolts
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

4. Install the headlamp bolts (1, 2)

Tighten: Tighten the headlamp bolts to 2.5 N.m (22 lb in).

5. Remove the tape from the radiator grille strap retainer.

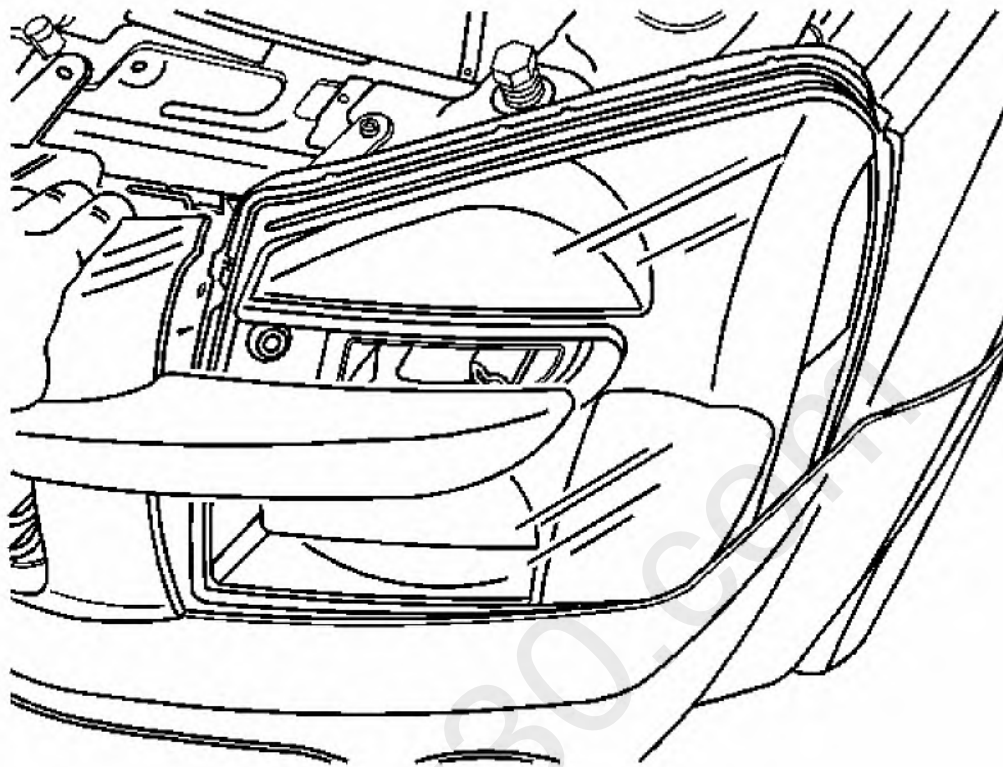


Fig. 69: View Of Fascia At Headlamps
Courtesy of GENERAL MOTORS CORP.

6. Position the fascia assembly and engage the radiator grille strap retainer into the headlamp.

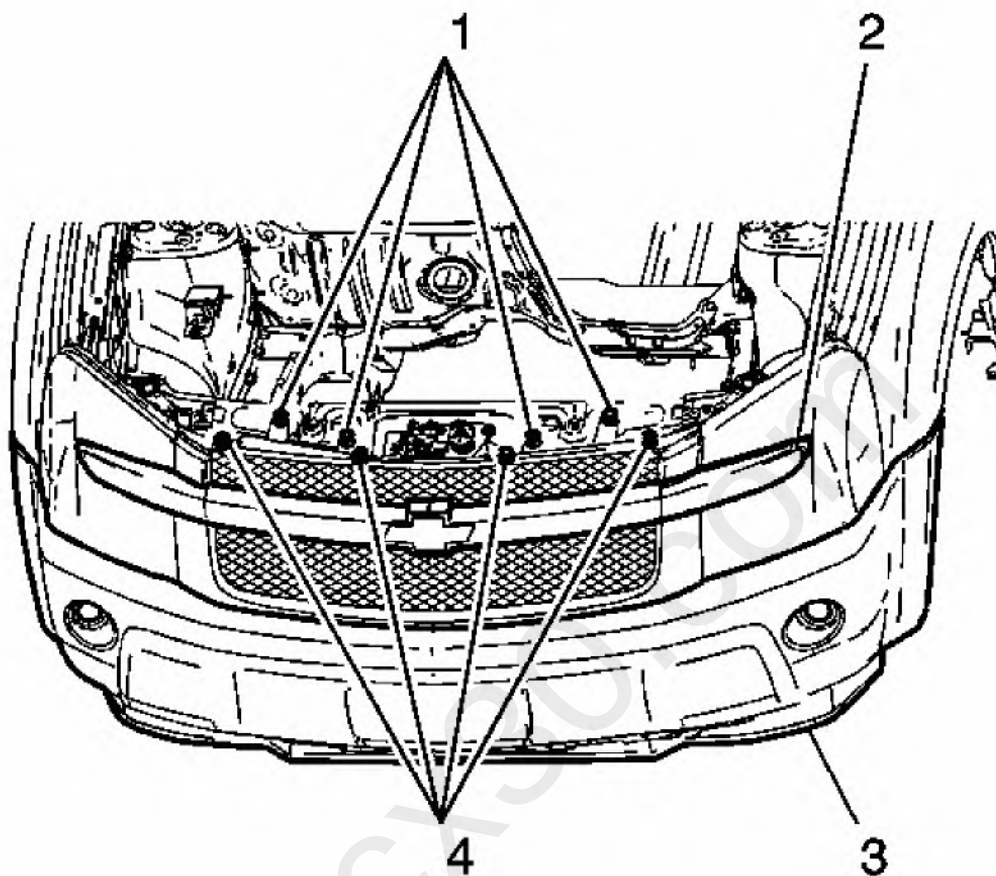


Fig. 70: View Of Fascia To Tie Bar Push-In Retainers, Radiator Grille Strap & Front Fascia Assembly

Courtesy of GENERAL MOTORS CORP.

7. Install the fascia to tie bar push-in retainers (1).
8. Close the hood.

HEADLAMP ASSEMBLY OR HEADLAMP BULB AND/OR CORNERING, SIDEMARKER, PARK, TURN SIGNAL BULB REPLACEMENT (TORRENT)

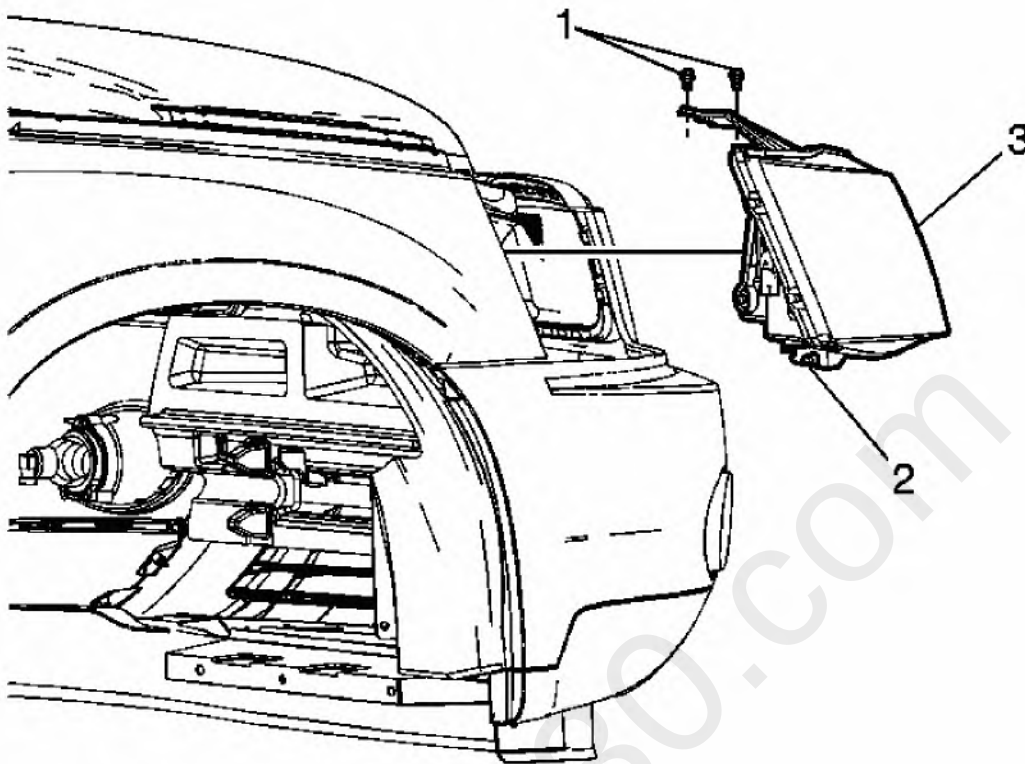


Fig. 71: Headlamp Assembly
 Courtesy of GENERAL MOTORS CORP.

Headlamp Assembly or Headlamp Bulb and/or Cornering, Sidemarker, Park, Turn Signal Bulb Replacement (Torrent)

Callout	Component Name
NOTE: Refer to Fastener Notice .	
Fastener Tightening Specifications: Refer to Fastener Tightening Specifications . Preliminary Procedure	
1. Open the hood. 2. Lower the corner of the front fascia which the headlamp will be removed from. Refer to Fascia Replacement - Front Bumper (Equinox) or Fascia Replacement - Front Bumper (Torrent) .	
1	Headlamp Mounting Bolts (Qty: 2) Tighten: 4 N.m (56 lb in)
	Headlamp Ball Socket Locator Pin

2	1. Pull from the bottom of the headlamp forward in order to release the headlamp locator pin from the front outer corner of the body rail. 2. Disconnect the forward lamp harness electrical connector to the headlamp being serviced.
3	Headlamp Assembly Check and adjust the front headlamp aim after the headlamp has been reinstalled. Refer to Headlamp Aiming.

HEADLAMP BULB REPLACEMENT

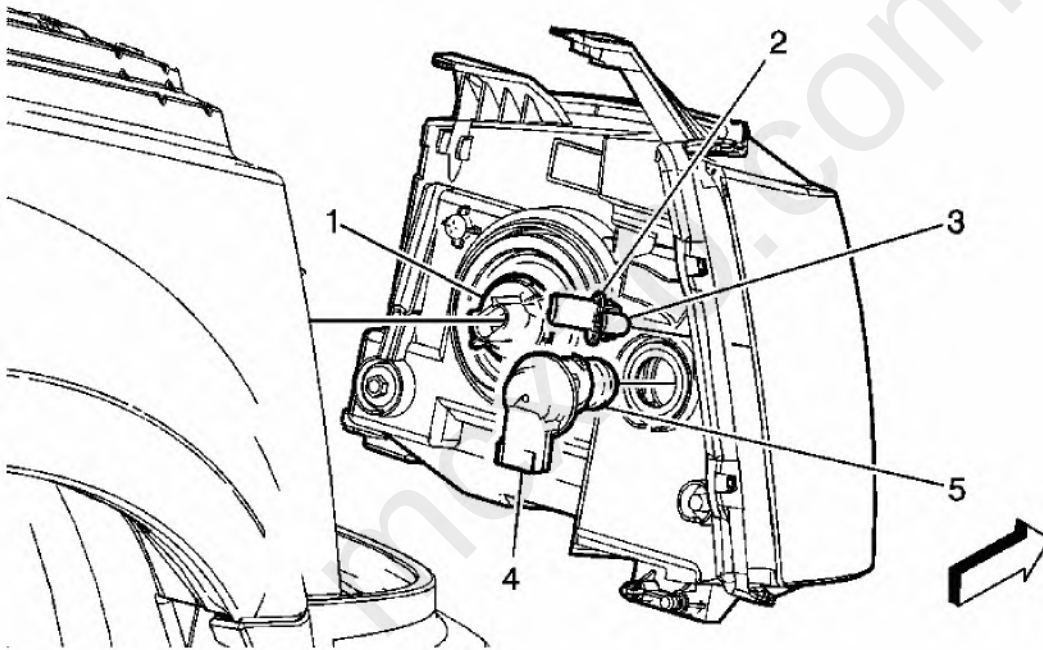


Fig. 72: Identifying Headlamp Bulbs
Courtesy of GENERAL MOTORS CORP.

Headlamp Bulb Replacement

Callout	Component Name
Fastener Tightening Specifications: Refer to Fastener Tightening Specifications . Preliminary Procedure 1. Remove either the LF or RF side of the front bumper fascia. Refer to Fascia Replacement - Front Bumper (Equinox) or Fascia Replacement - Front Bumper (Torrent) . 2. Remove headlamp assembly. Refer to Headlamp Assembly or Headlamp Bulb and/or Cornering, Sidemarker, Park, Turn Signal Bulb Replacement	

2006 Chevrolet Equinox LS

2006 ACCESSORIES & EQUIPMENT Lighting Systems - Equinox & Torrent

(Equinox) or Headlamp Assembly or Headlamp Bulb and/or Cornering, Sidemarker, Park, Turn Signal Bulb Replacement (Torrent).

1	CAUTION: Refer to <u>Halogen Bulb Caution</u> . Headlamp Bulb Socket (High Lo Beam) Tip: Disconnect the electrical connector and twist the bulb socket counter clockwise to remove the bulb.
2	Side Marker Lamp Socket Tip: Turn the socket counter-clockwise in order to remove.
3	Side Marker Lamp Socket Bulb Tip: Pull the bulb straight from the lamp socket.
4	Park Turn Directional Lamp Socket Tip: Turn the socket counter-clockwise in order to remove.
5	Park Turn Directional Lamp Socket Bulb Tip: Remove the bulb by pulling the bulb straight out of the socket.

HEADLAMP AIMING

Aiming Headlamps (Visual Aim)

IMPORTANT: Some state and local laws specify requirements for headlamp aim. All of these laws must be complied with 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 area will consist of a level surface large enough to allow for a vehicle and an additional 7.62 m (25 feet) 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 may be made for moving the screen so it can be aligned 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.

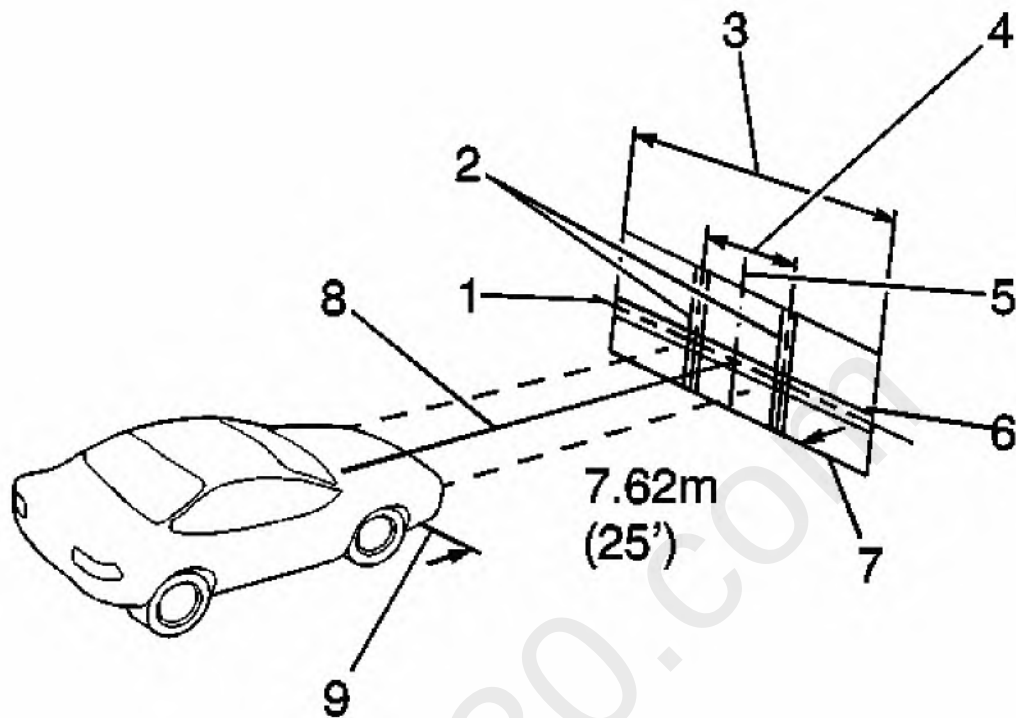


Fig. 73: Headlamp Aiming/Adjusting
Courtesy of GENERAL MOTORS CORP.

- After the aiming screen has been set up in its permanent location, it is necessary to 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.

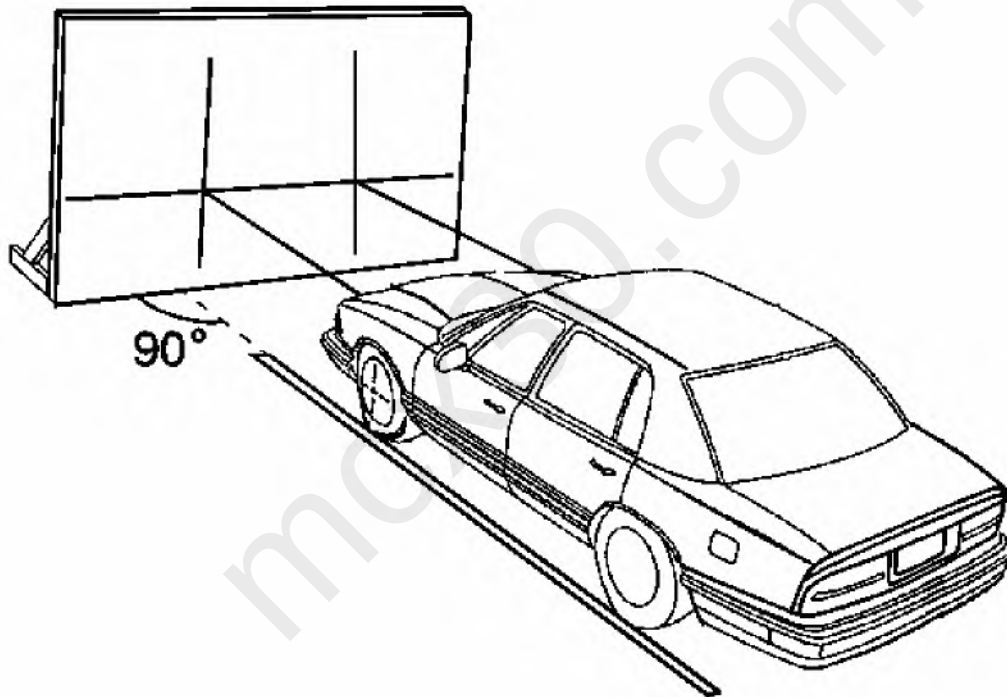


Fig. 74: View Of Headlamp Aiming Screen & Vehicle Alignment
Courtesy of GENERAL MOTORS CORP.

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 one person or 72.56 kg (160 lb) on the driver's 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.

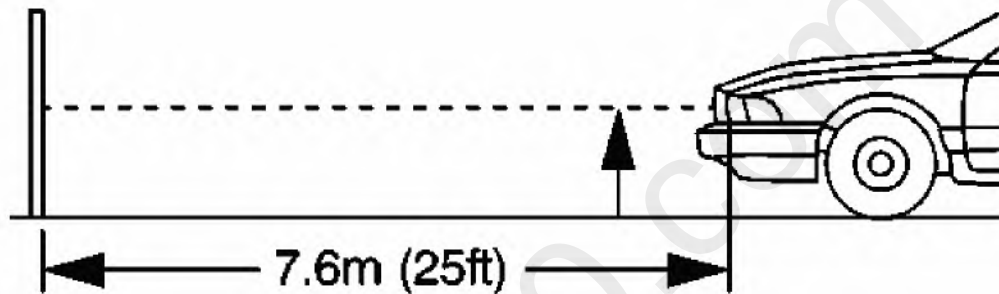


Fig. 75: Measuring Distance Between Headlamps Face & Aiming Screen
Courtesy of GENERAL MOTORS CORP.

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.

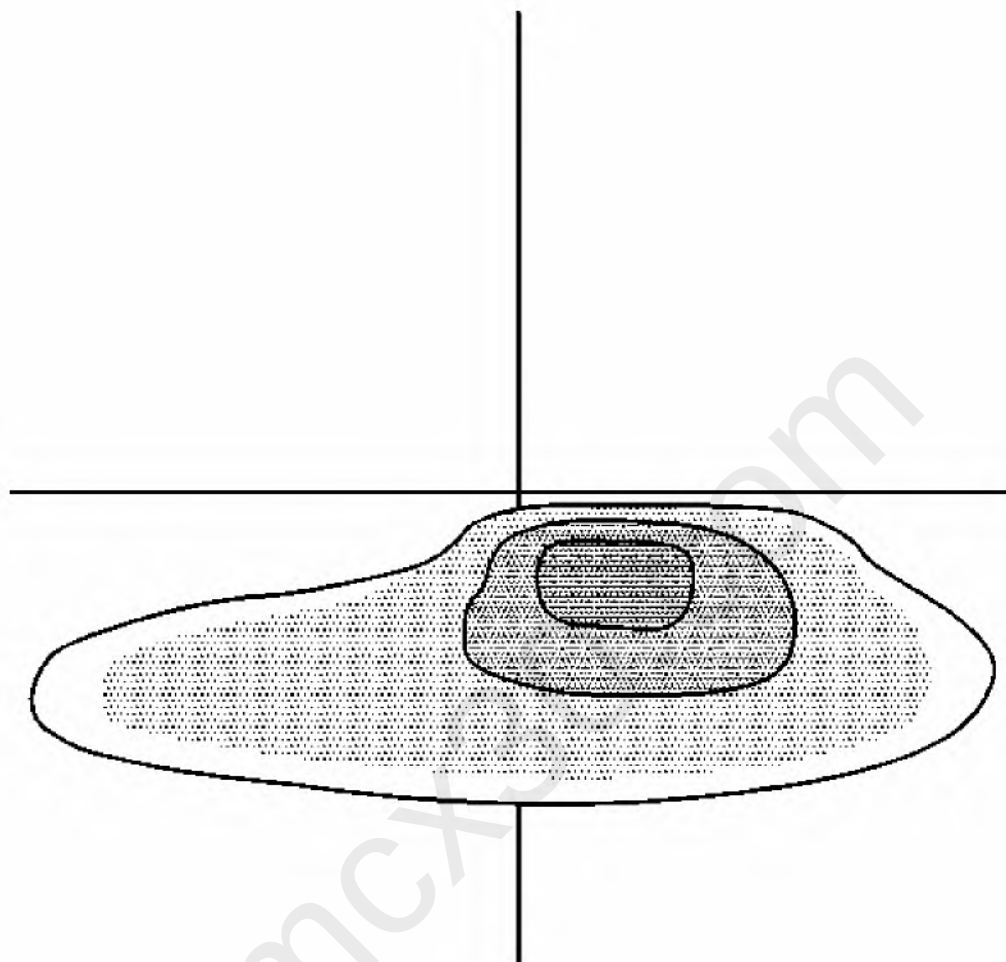


Fig. 76: Right Side Low Beam Proper Screen Positioning
Courtesy of GENERAL MOTORS CORP.

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

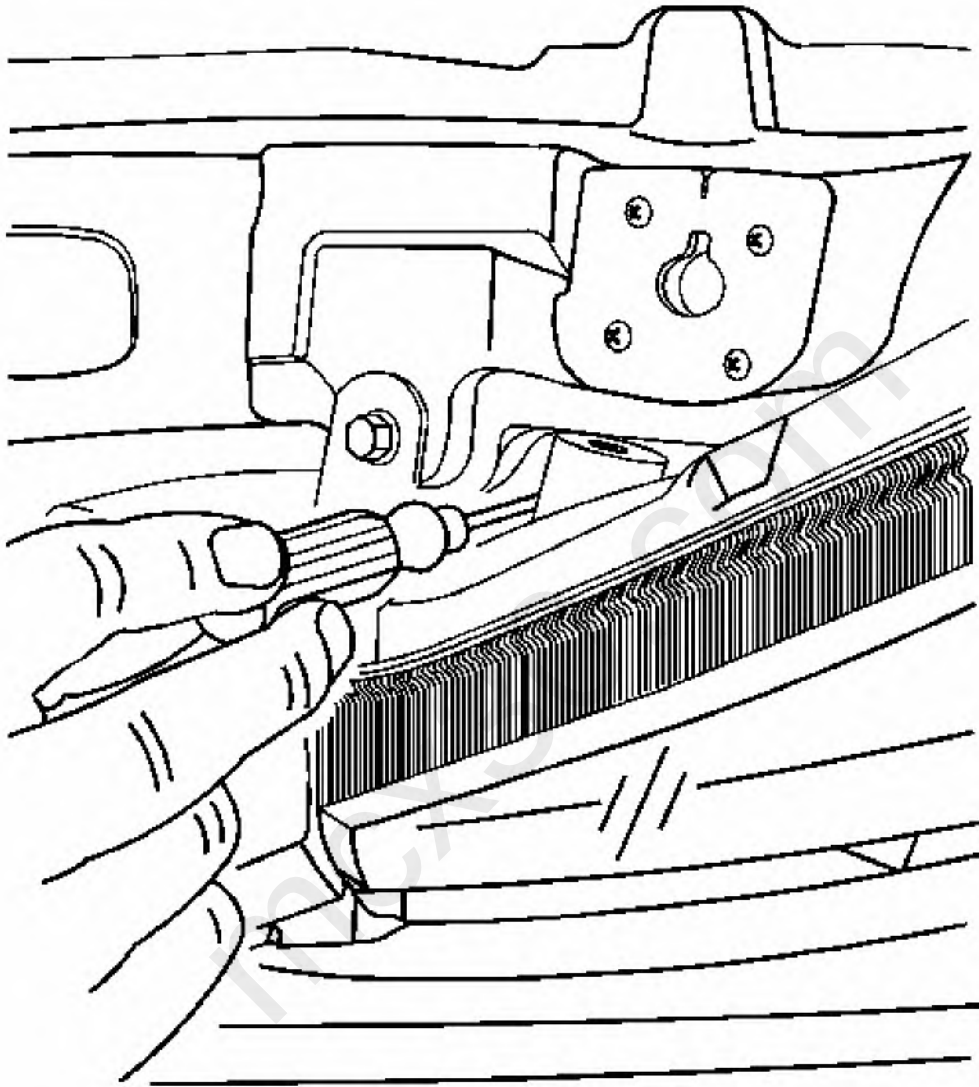


Fig. 77: Adjusting Headlight Vertical Aim
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: Horizontal headlamp adjustment does not exist.

9. Adjust the vertical aim of the headlamps to the specifications required by the state and the local authorities, or as shown in step number 8.
10. Rotate the headlamp adjuster to change the vertical aim of the headlamp.
11. Repeat the aiming procedure for the passenger side headlamp while blocking the light from projecting onto the screen from the driver side headlamp.

12. Close the hood.

FOG LAMP REPLACEMENT - FRONT (EQUINOX)

Removal Procedure

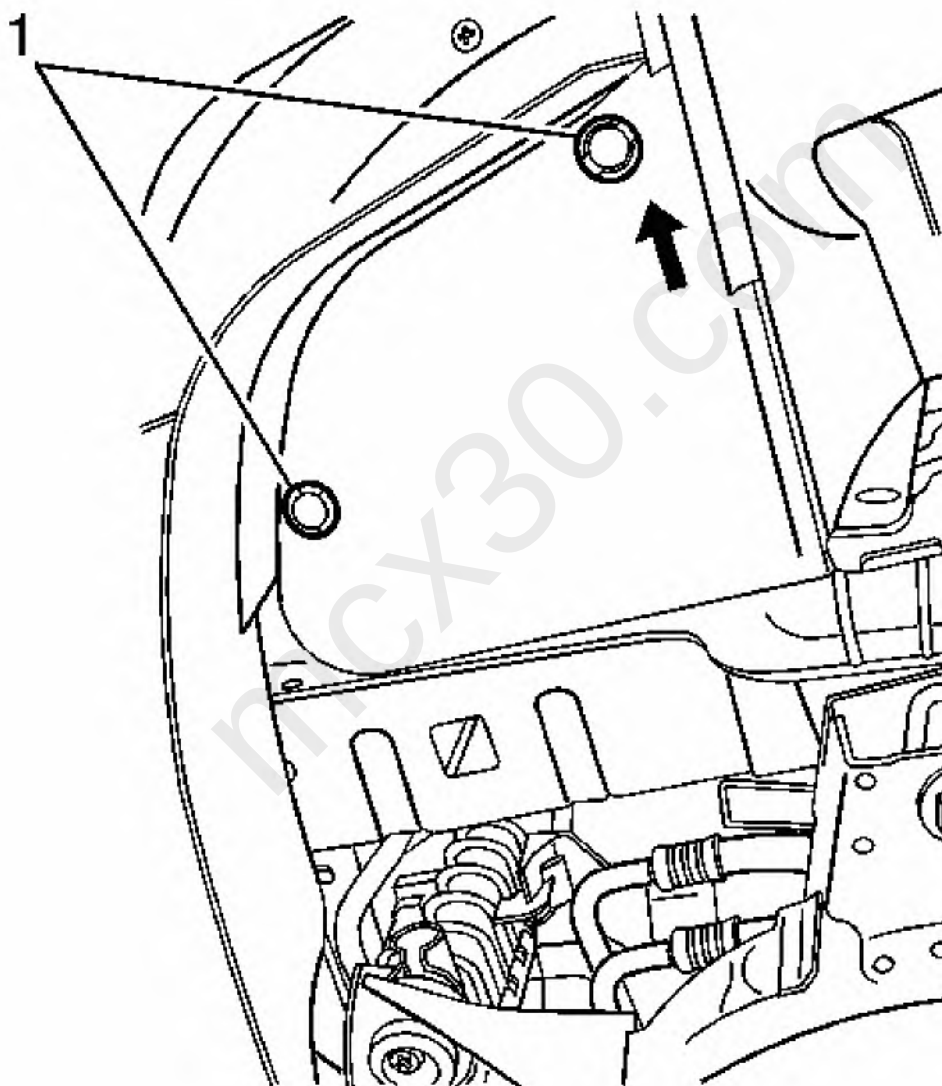


Fig. 78: View Of Fascia To Wheelhouse Liner Push-In Retainers
Courtesy of GENERAL MOTORS CORP.

1. Remove the push-in retainers (1) that hold the front flap of the front wheelhouse liner to the fascia.

2. Bend the front flap of the wheelhouse liner out of the way in order to gain access to the fog lamp.

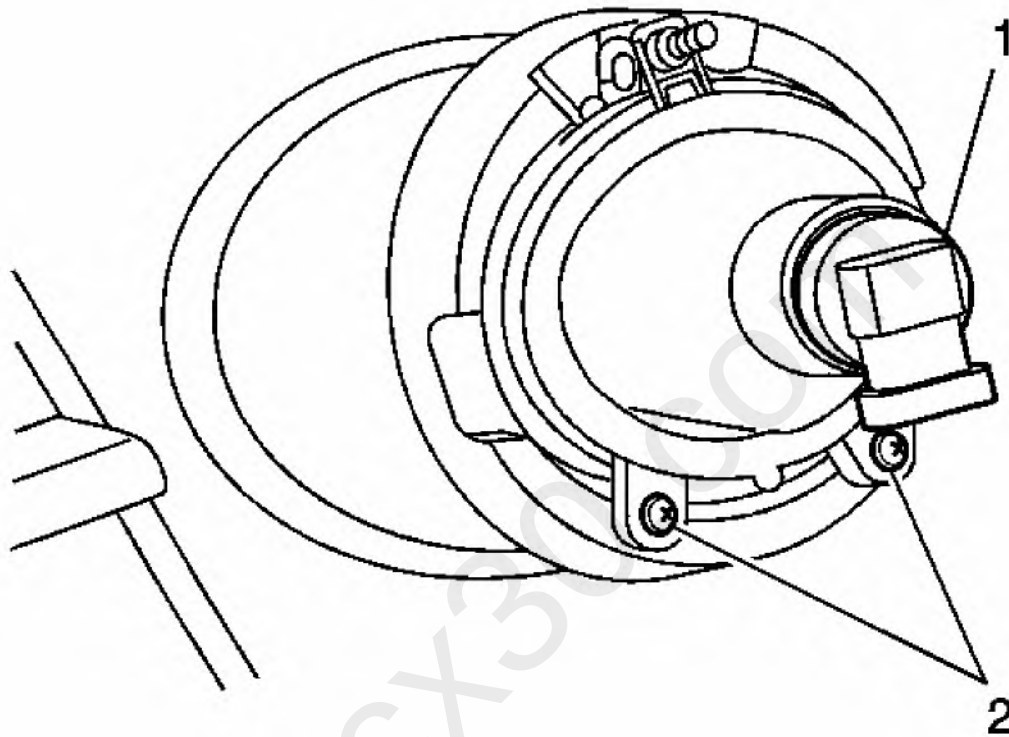


Fig. 79: View Of Fog Lamp Socket & Fog Lamp Housing Lower Screws
Courtesy of GENERAL MOTORS CORP.

3. Turn the fog lamp socket (1) counterclockwise to release the fog lamp socket from the fog lamp housing.
4. If replacing the fog lamp bulb, remove the fog lamp bulb from the socket.
5. Remove the 2 lower screws (2) from the rear of the fog lamp housing.

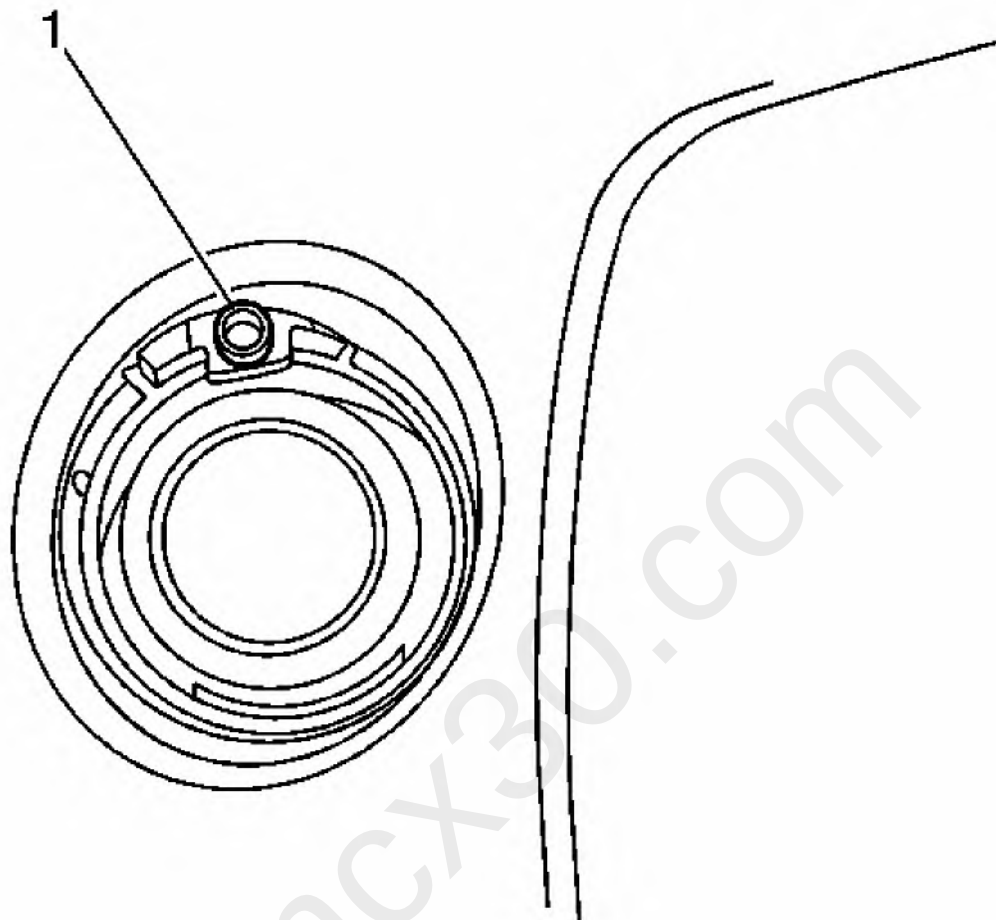


Fig. 80: View Of Front Fog Lamp Adjuster Screw
Courtesy of GENERAL MOTORS CORP.

6. Remove the front fog lamp adjuster screw (1), count the number of turns when removing for installation purposes.
7. Remove the fog lamp housing from the fascia.

Installation Procedure

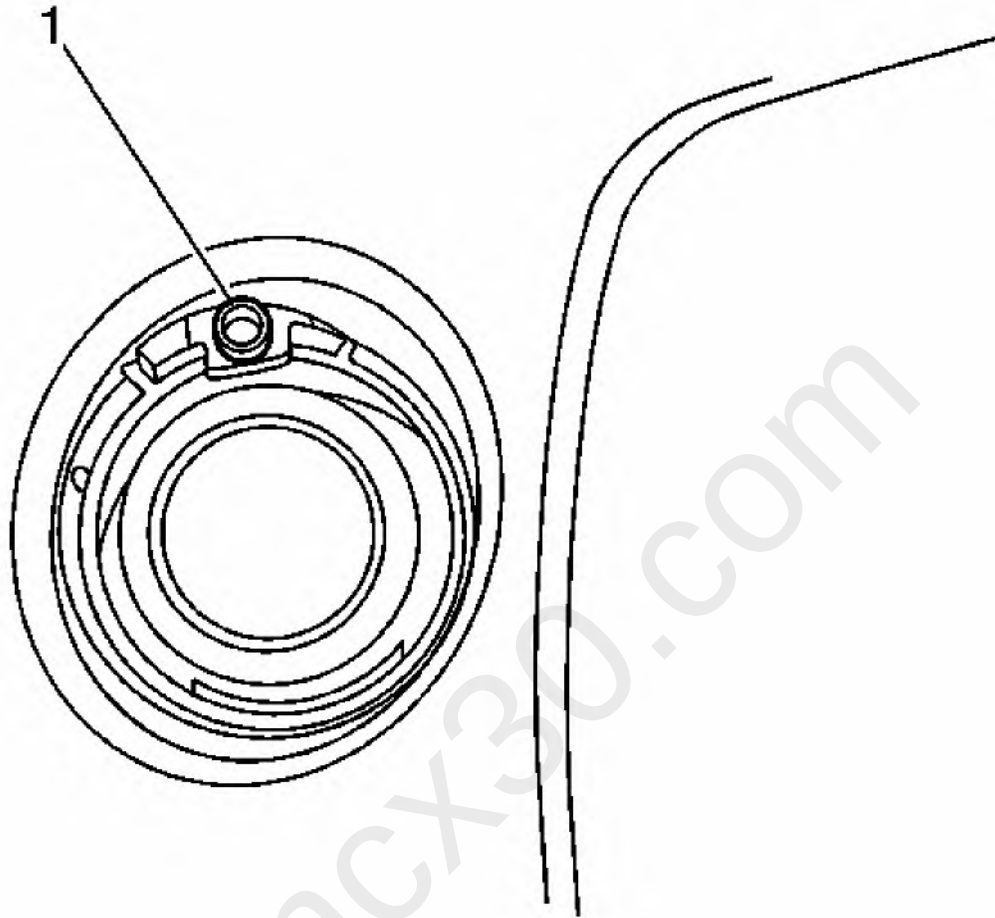


Fig. 81: View Of Front Fog Lamp Adjuster Screw
Courtesy of GENERAL MOTORS CORP.

1. Position the fog lamp housing to the front fascia.
2. Install the front fog lamp adjuster screw (1), turn the screw in the number of turns from documented during removal.

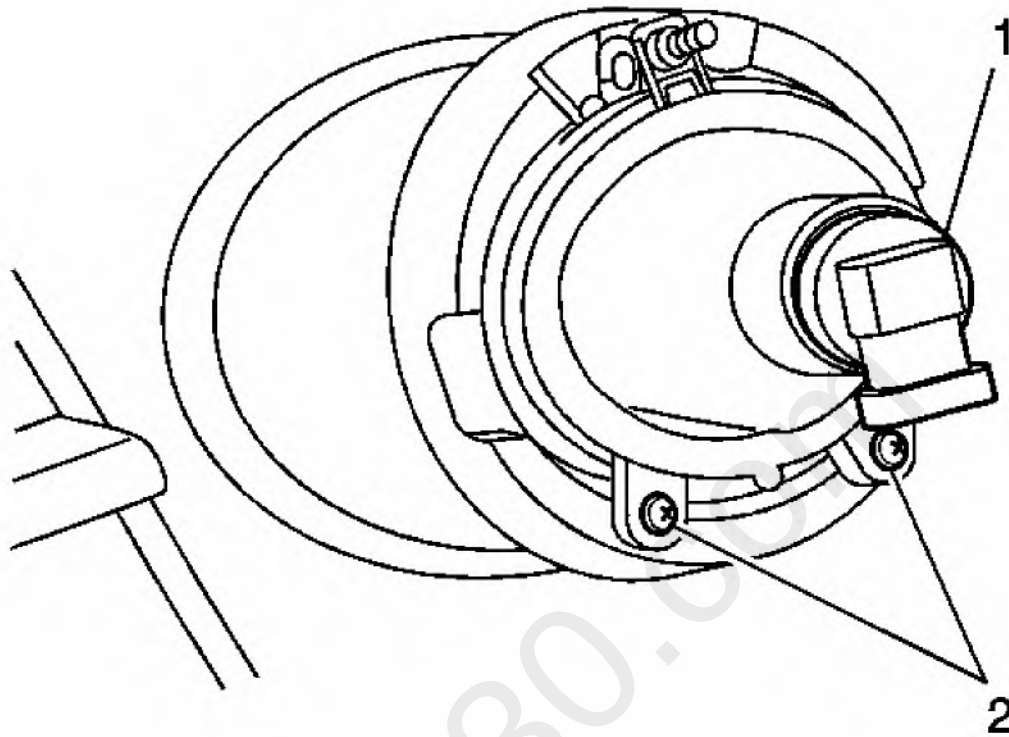


Fig. 82: View Of Fog Lamp Socket & Fog Lamp Housing Lower Screws
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

3. Install the 2 lower screws (2) from the rear of the fog lamp housing.

Tighten: Tighten the screws to 2 N.m (18 lb in).

4. Install the fog lamp bulb into the socket, if needed.
5. Install the fog lamp bulb socket (1) into the housing.

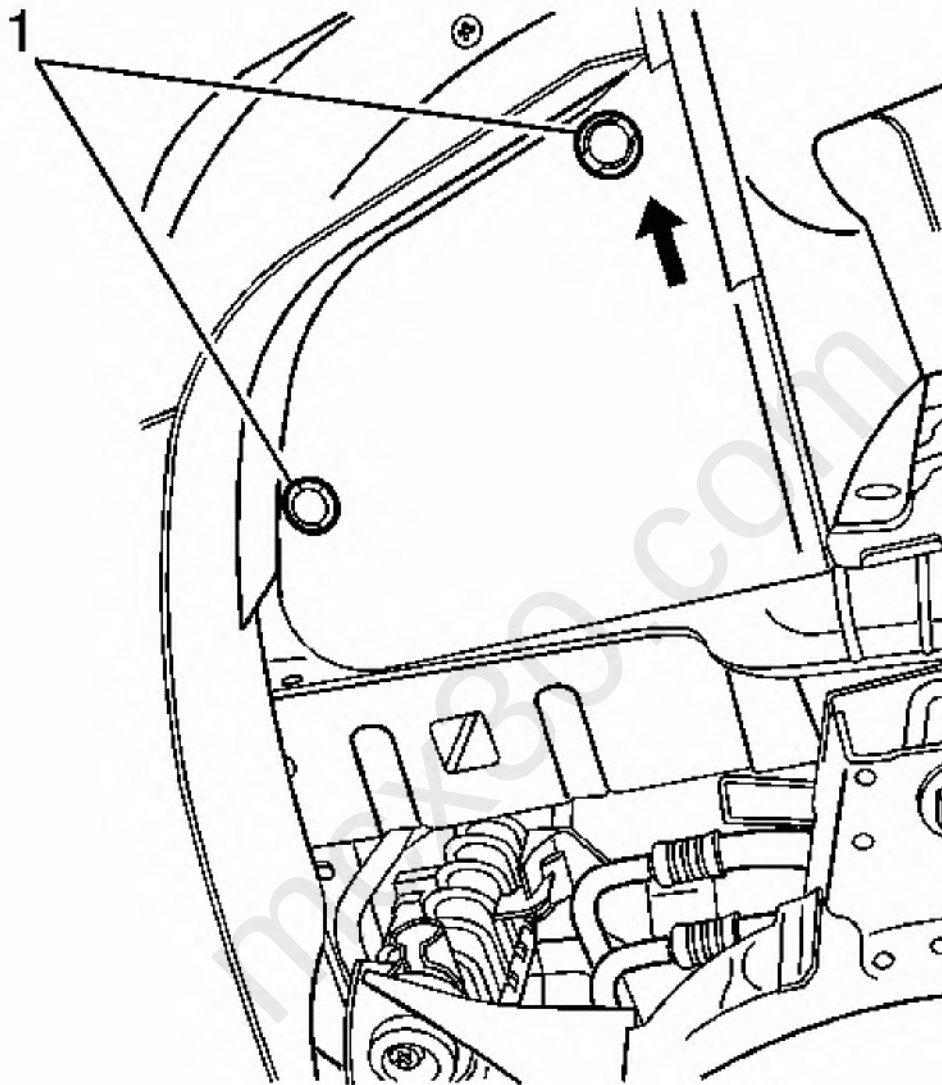


Fig. 83: View Of Fascia To Wheelhouse Liner Push-In Retainers
Courtesy of GENERAL MOTORS CORP.

6. Position the front flap of the wheelhouse liner back into place.
7. Install the wheelhouse liner push-in retainers (1).

FOG LAMP REPLACEMENT - FRONT (TORRENT)

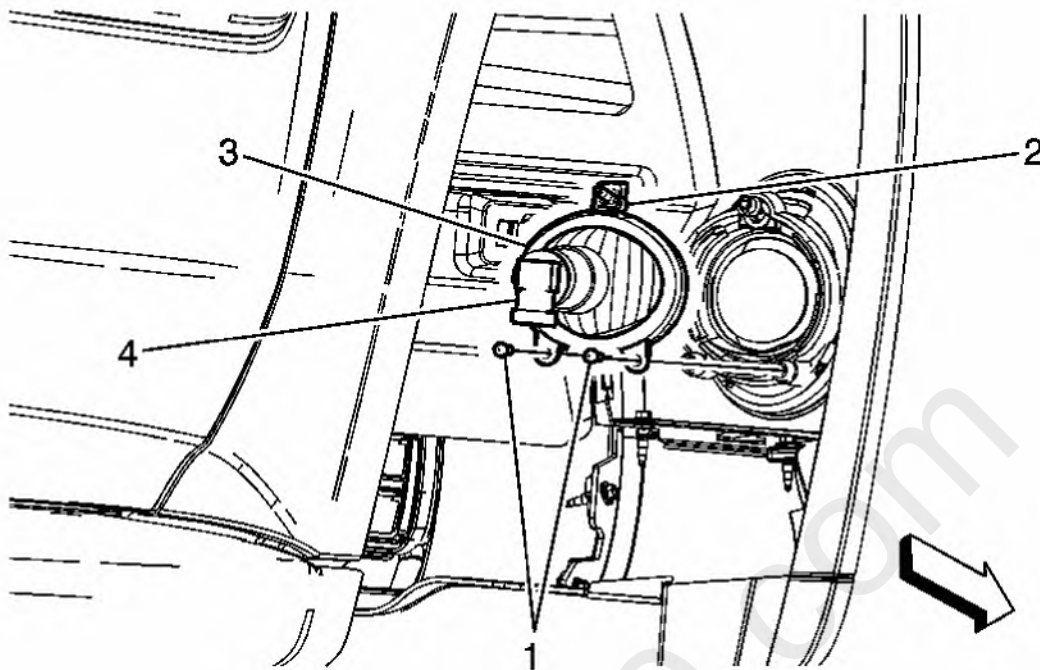


Fig. 84: Fog Lamp Components
 Courtesy of GENERAL MOTORS CORP.

Fog Lamp Replacement - Front (Torrent)

Callout	Component Name
NOTE: Refer to <u>Fastener Notice</u> .	
Fastener Tightening Specifications: Refer to <u>Fastener Tightening Specifications</u> .	
Preliminary Procedures	
1. Raise and support the vehicle. Refer to <u>Lifting and Jacking the Vehicle</u>	
2. Remove either the LF or RF front wheelhouse liner. Refer to <u>Wheelhouse Liner Replacement - Front</u>	
3. Disconnect the fog lamp bulb socket electrical connector.	
1	Front Fog Lamp Screws (Qty: 2) Tighten: 2 N.m(18 lb in)
	Front Fog Lamp Adjuster Screw 1. Remove the adjuster screw from the fog lamp bracket and lamp assembly.

2006 Chevrolet Equinox LS

2006 ACCESSORIES & EQUIPMENT Lighting Systems - Equinox & Torrent

2	- Count the number of turns when removing the adjuster screw for a reference upon installation. - Aim the fog lamps after installation. Refer to Fog Lamp Aiming Procedure.
3	Front Fog Lamp Assembly Tip: Remove the lamp assembly from the fog lamp bracket.
4	CAUTION: Refer to <u>Halogen Bulb Caution</u> . Front Fog Lamp Bulb Tip: Turn the bulb socket counter clockwise and remove from lamp assembly.

FOG LAMP BULB REPLACEMENT - FRONT (EQUINOX)

Removal Procedure

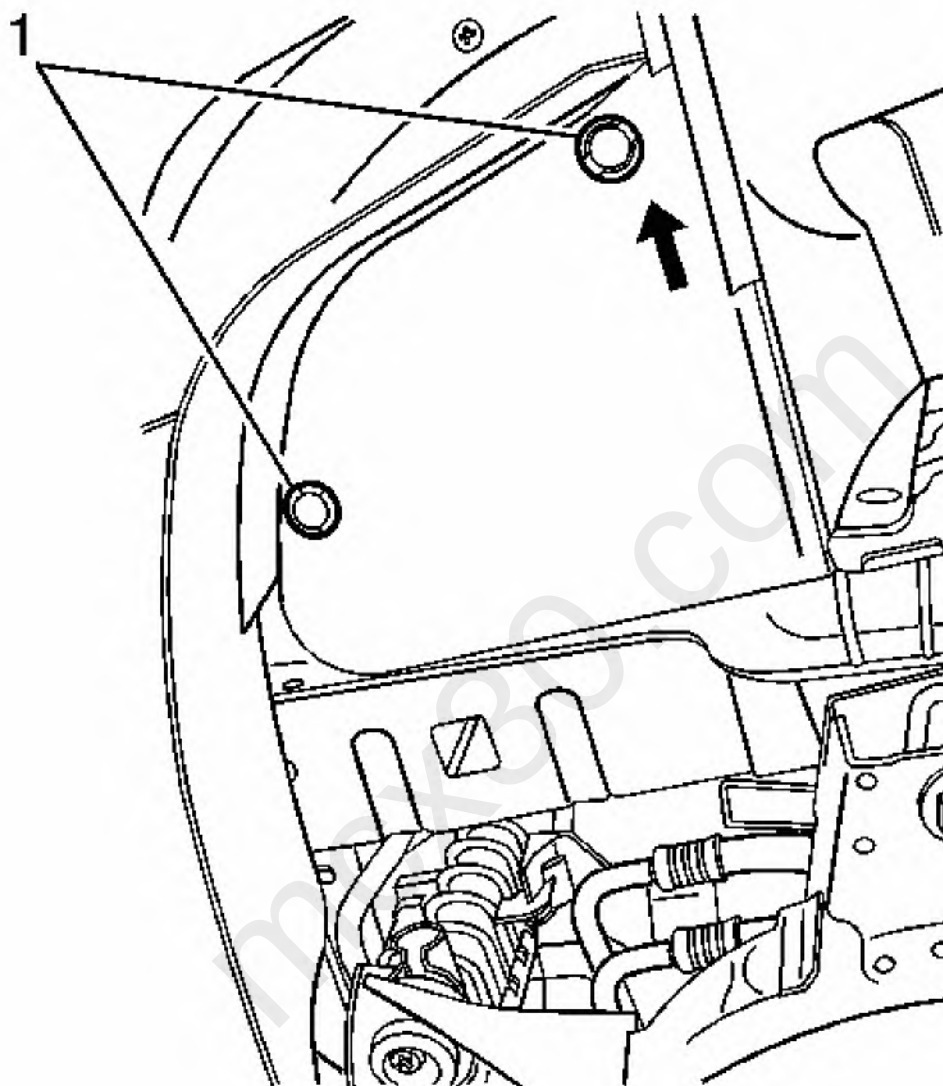


Fig. 85: View Of Fascia To Wheelhouse Liner Push-In Retainers
Courtesy of GENERAL MOTORS CORP.

1. Remove the push-in retainers (1) that hold the front flap of the front wheelhouse liner to the fascia.
2. Bend the front flap of the wheelhouse liner out of the way to gain access to the fog lamp.

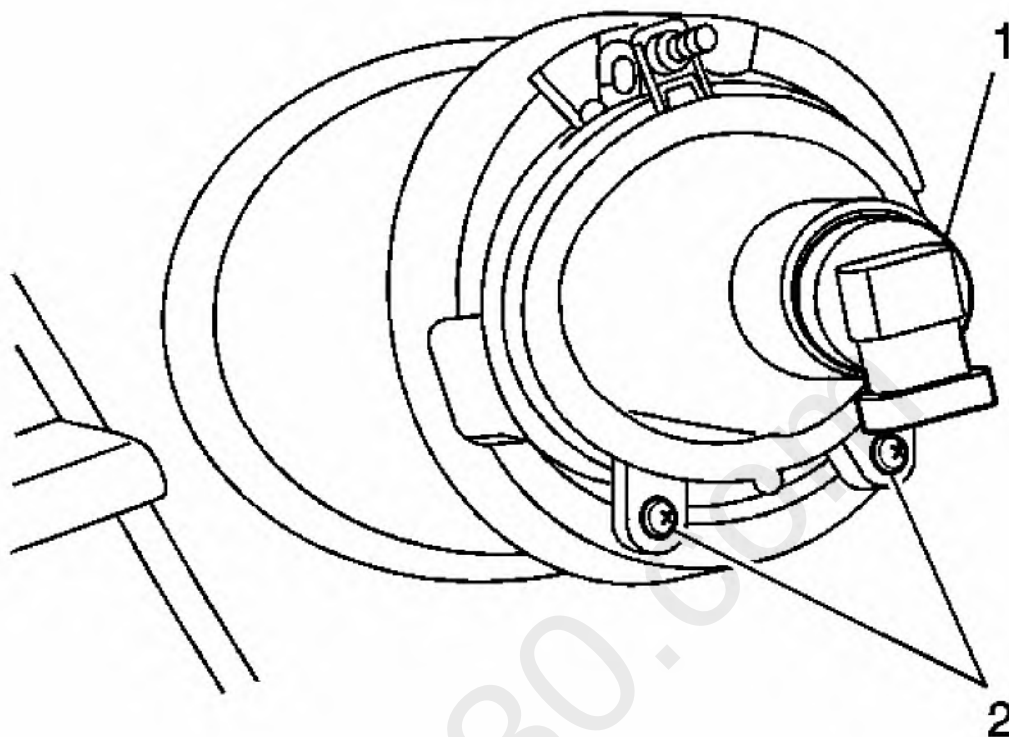


Fig. 86: View Of Fog Lamp Socket & Fog Lamp Housing Lower Screws
Courtesy of GENERAL MOTORS CORP.

3. Turn the fog lamp socket (1) counterclockwise in order to release the fog lamp socket from the fog lamp housing.
4. Remove the bulb from the socket.

Installation Procedure

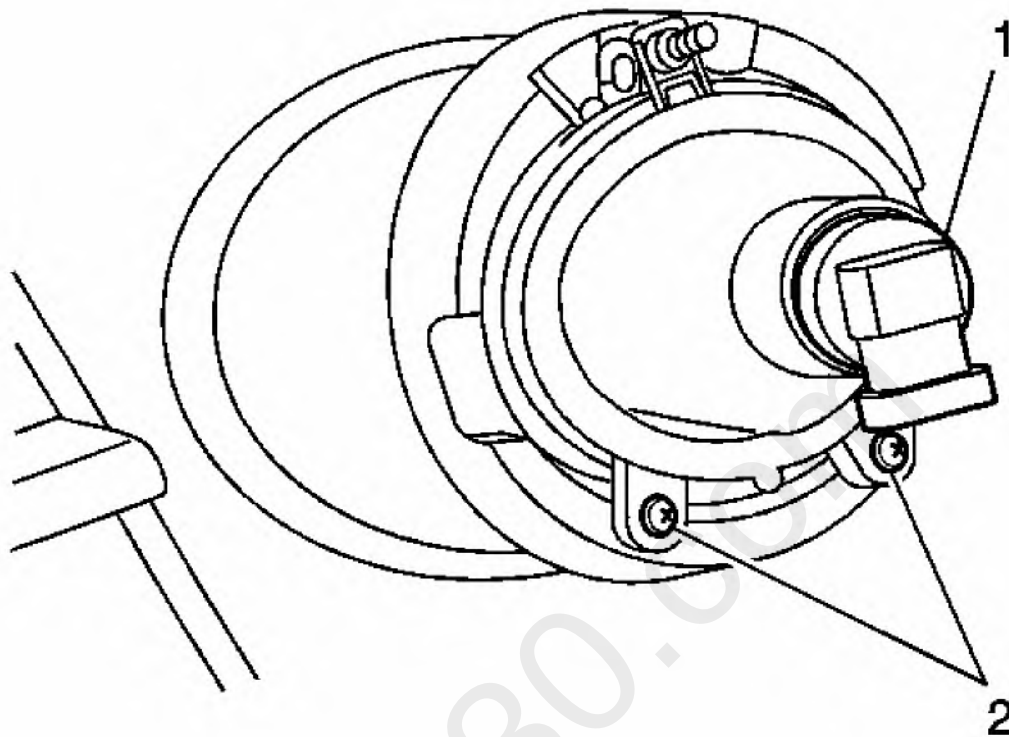


Fig. 87: View Of Fog Lamp Socket & Fog Lamp Housing Lower Screws
Courtesy of GENERAL MOTORS CORP.

1. Install the fog lamp bulb into the socket.
2. Install the fog lamp bulb socket (1) into the housing.

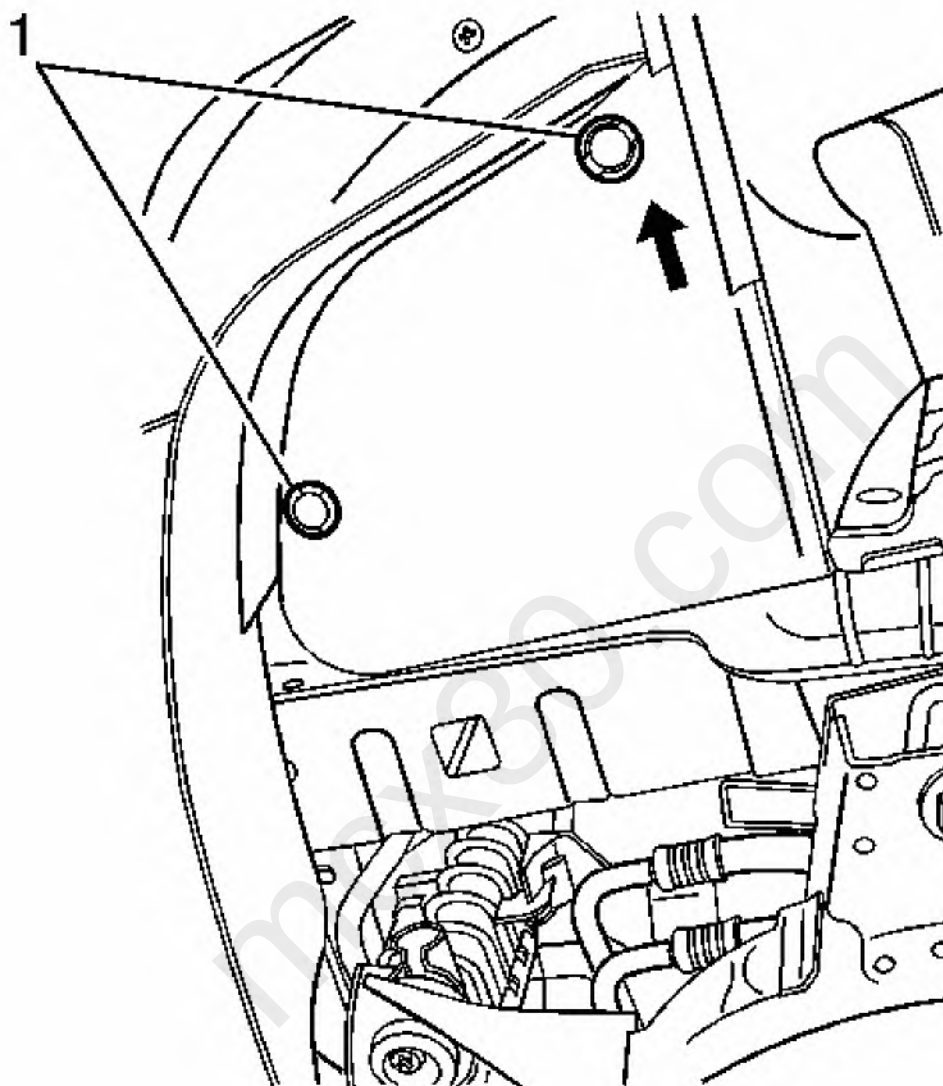


Fig. 88: View Of Fascia To Wheelhouse Liner Push-In Retainers
Courtesy of GENERAL MOTORS CORP.

3. Position the front flap of the wheelhouse liner back into place.
4. Install the wheelhouse liner push-in retainers (1).

FOG LAMP BULB REPLACEMENT - FRONT (TORRENT)

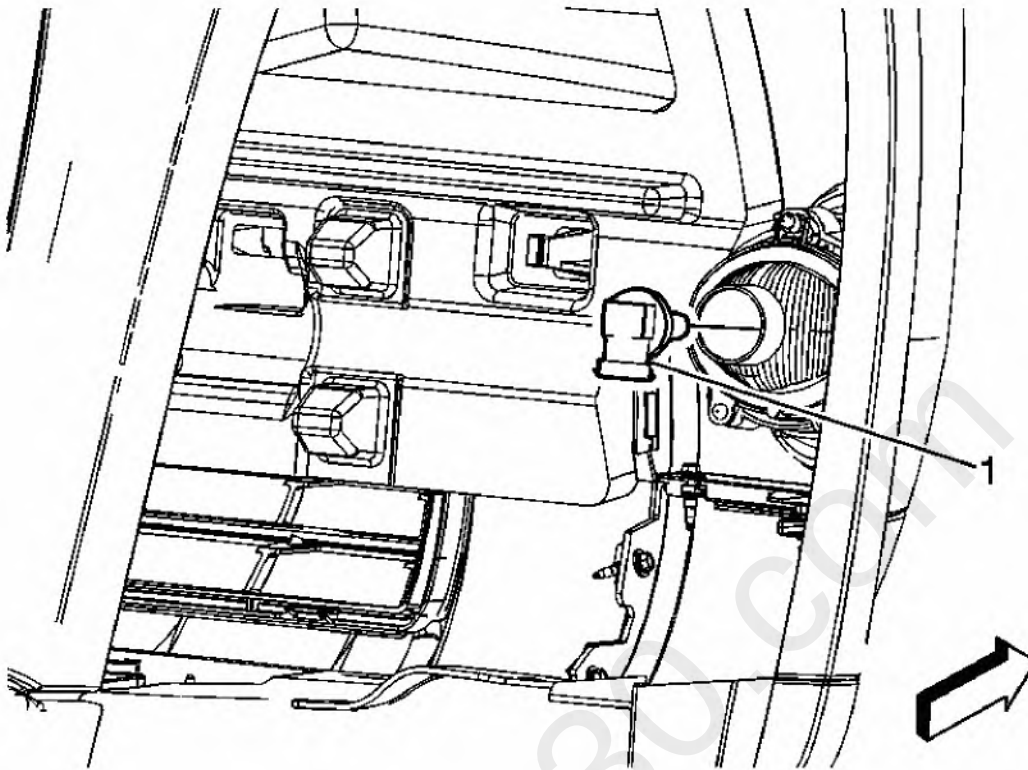


Fig. 89: Identifying Fog Lamp Bulb
Courtesy of GENERAL MOTORS CORP.

Fog Lamp Bulb Replacement - Front (Torrent)

Callout	Component Name
Fastener Tightening Specifications: Refer to <u>Fastener Tightening Specifications</u> . Preliminary Procedures	
1. Raise and support the vehicle. Refer to <u>Lifting and Jacking the Vehicle</u>. 2. Remove the front wheelhouse liner. Refer to <u>Wheelhouse Liner Replacement - Front</u>. 3. Disconnect the electrical connector from the fog lamp bulb socket.	
1	Front Fog Lamp Bulb CAUTION: Refer to <u>Halogen Bulb Caution</u> in Cautions and Notices. Tip: Turn the bulb socket counter-clockwise in order to remove.

FOG LAMP AIMING PROCEDURE

The front fog lamps must be aimed for proper illumination of the road. The front fog lamp aim should be checked when a new front fog lamp assembly is installed, or if service or repairs in the front end area may have disturbed the front fog lamp mounting.

Preparation Procedure

IMPORTANT: Horizontal aim is not adjustable on this vehicle. Vertical aim is done by an adjusting screw located on the front of the fog lamp. Prior to aiming the headlamps, 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 lbs) is in the vehicle driver seat.

Aiming Procedure

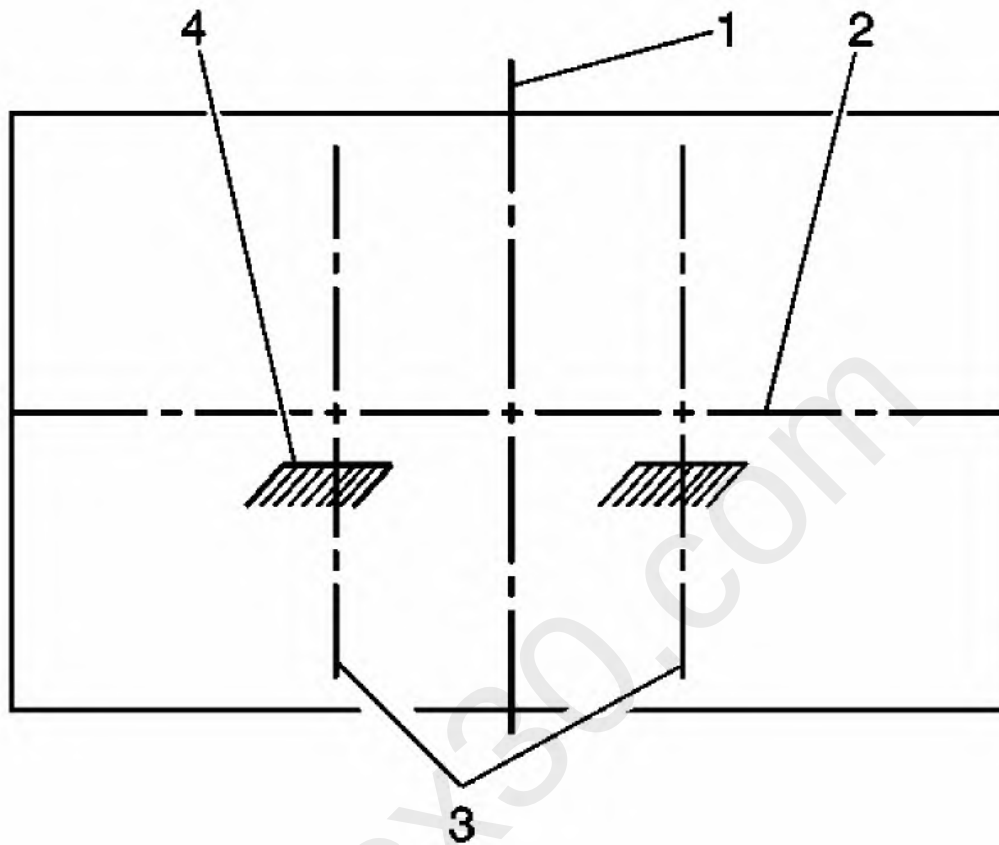


Fig. 90: Locating Alignment Points On Target Screen
Courtesy of GENERAL MOTORS CORP.

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 (2) 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.

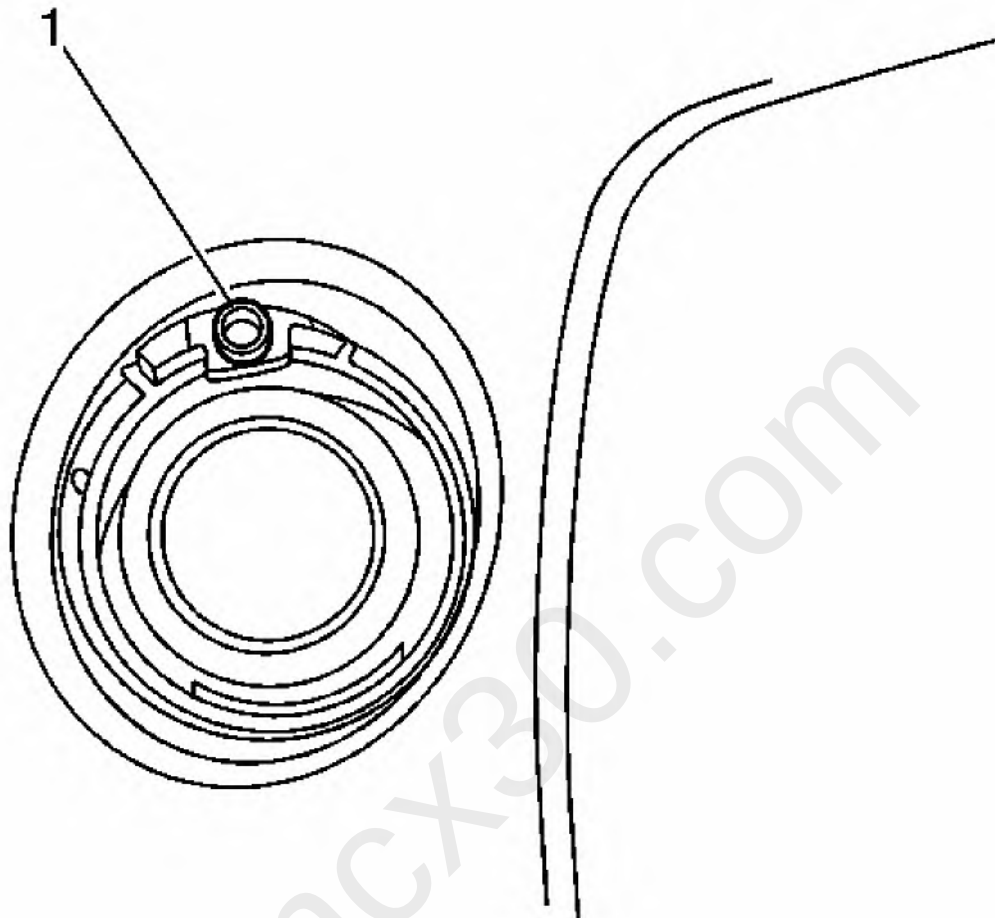


Fig. 91: View Of Front Fog Lamp Adjuster Screw
Courtesy of GENERAL MOTORS CORP.

4. Adjust the fog lamp as required, using the adjusting screw (1) on the top of the fog lamp.
5. Turn OFF the fog lamps.

HIGH MOUNTED STOP LAMP REPLACEMENT

Removal Procedure

1. Remove the spoiler from the liftgate. Refer to **Spoiler Replacement - Rear** in Body Rear End.

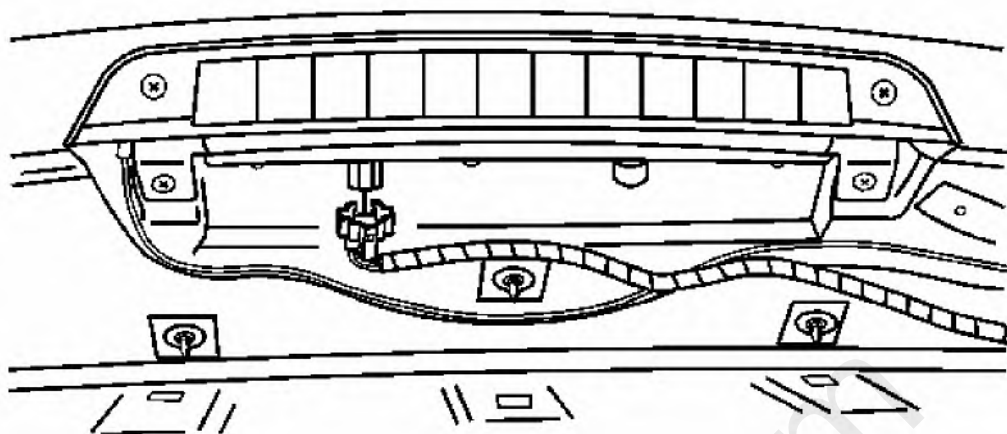


Fig. 92: View Of High Mounted Stop Lamp & Electrical Connector
Courtesy of GENERAL MOTORS CORP.

2. Remove the spoiler to high mounted stop lamp screws.
3. Disconnect the electrical connector.
4. Disconnect the washer hose.
5. Remove the stop lamp from the spoiler.

Installation Procedure

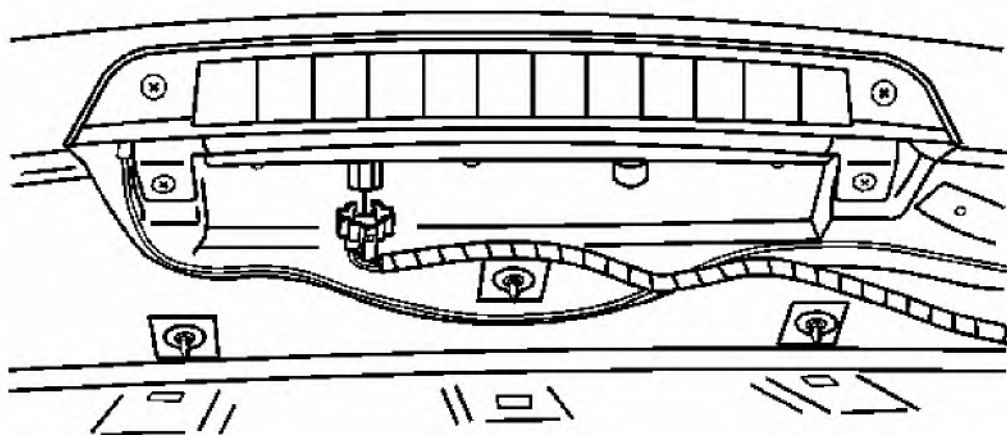


Fig. 93: View Of High Mounted Stop Lamp & Electrical Connector

Courtesy of GENERAL MOTORS CORP.

1. Position the high mounted stop lamp to the spoiler.
2. Connect the washer hose.
3. Connect the electrical connector.

NOTE: Refer to Fastener Notice in Cautions and Notices.

4. Install the spoiler to the high mounted stop lamp screws.

Tighten: Tighten the screws to 2 N.m (18 lb in).

5. Install the spoiler to the liftgate. Refer to Spoiler Replacement - Rear in Body Rear End.

CARGO LAMP REPLACEMENT

Removal Procedure

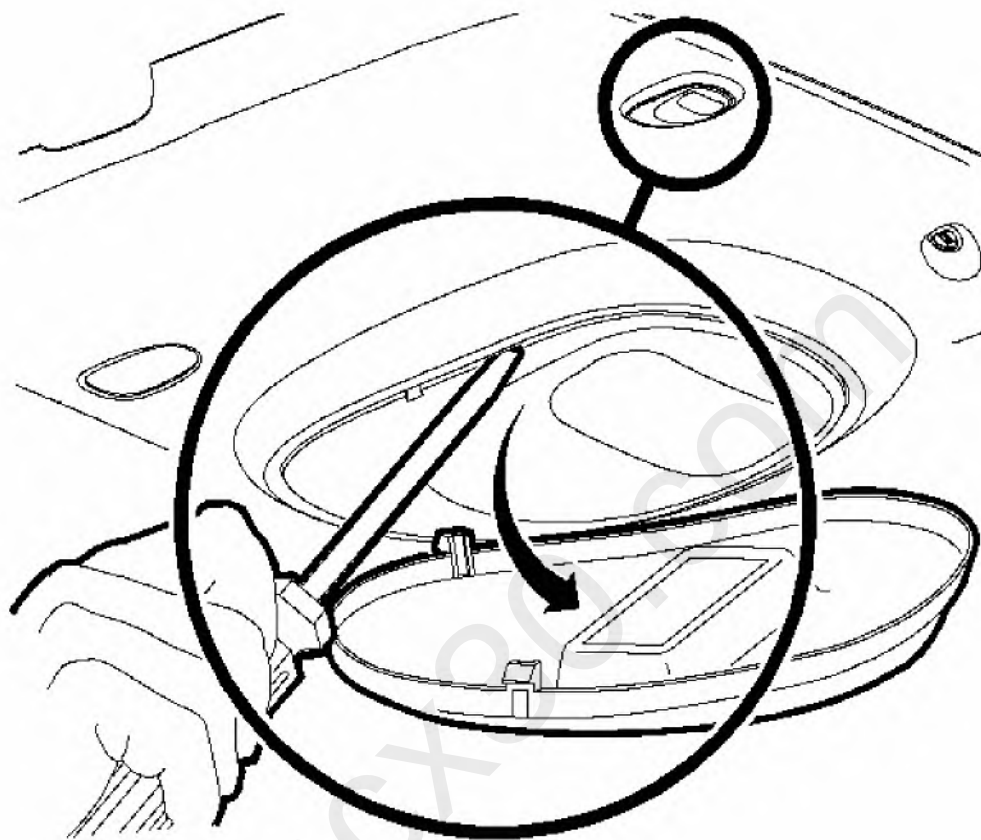


Fig. 94: View Of Cargo Lamp Assembly
Courtesy of GENERAL MOTORS CORP.

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

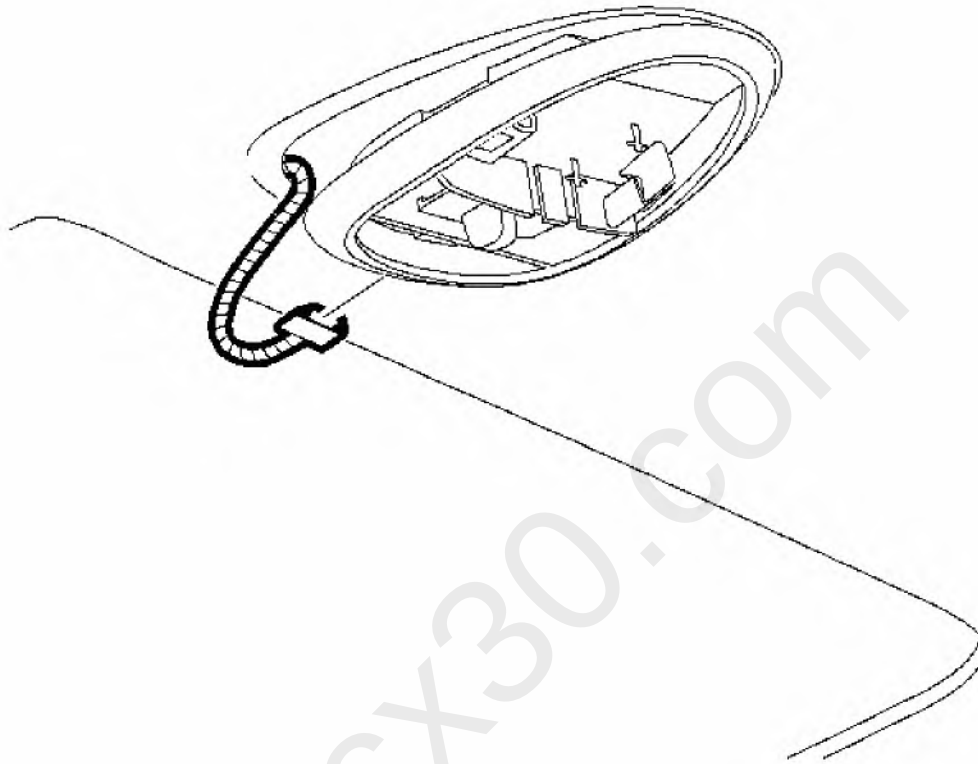


Fig. 95: Disconnecting Dome Lamp Electrical Connector
Courtesy of GENERAL MOTORS CORP.

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

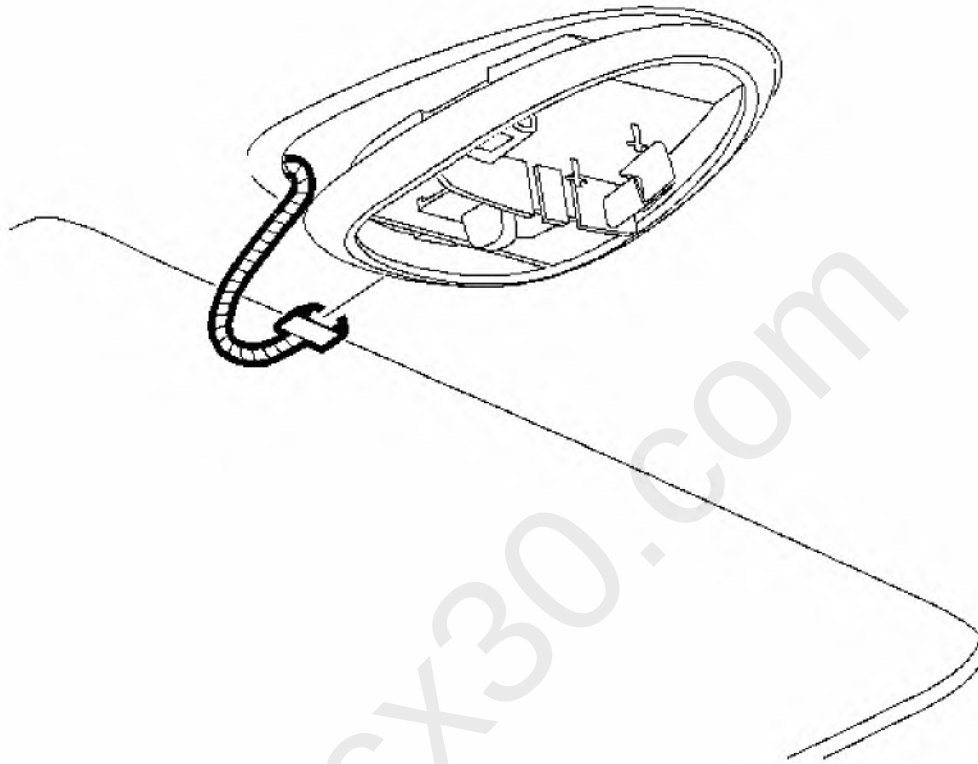


Fig. 96: Disconnecting Dome Lamp Electrical Connector
Courtesy of GENERAL MOTORS CORP.

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

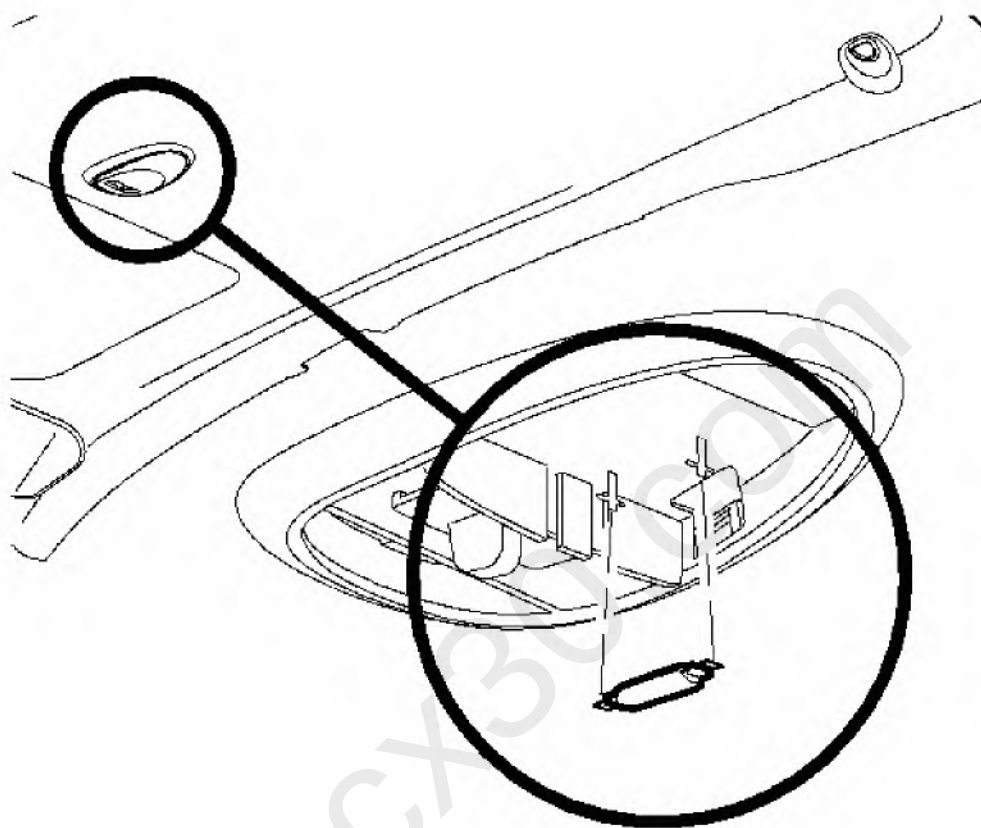


Fig. 97: View Of Dome Lamp Bulb
Courtesy of GENERAL MOTORS CORP.

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

Installation Procedure

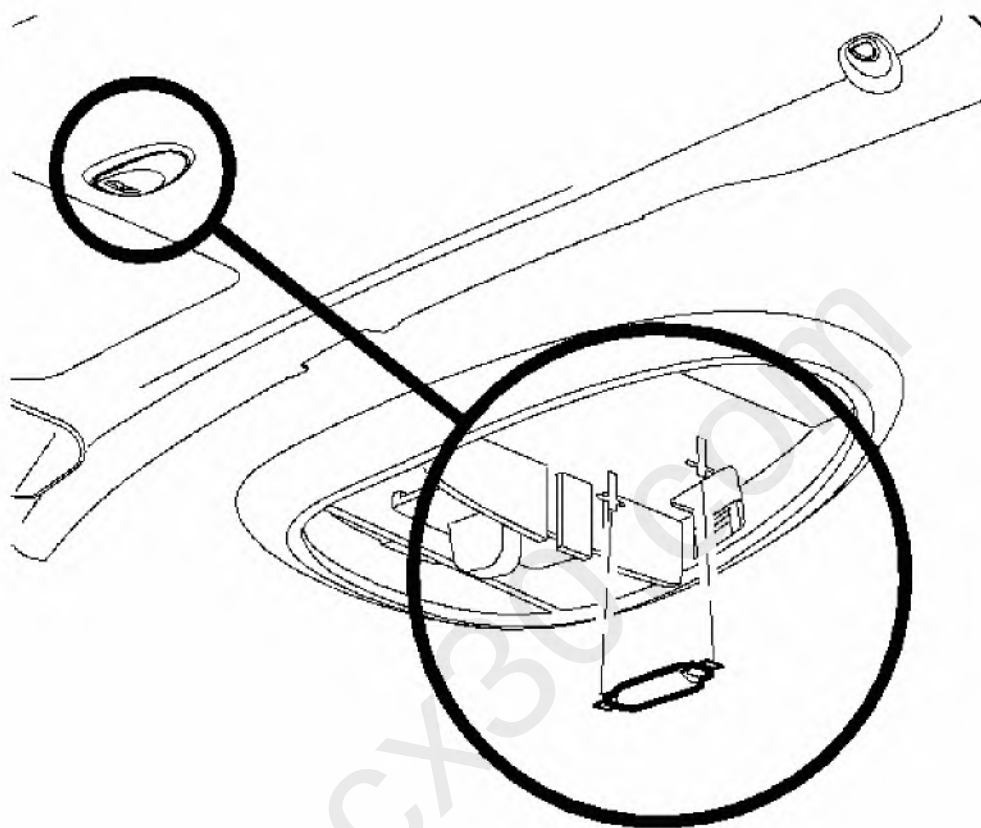


Fig. 98: View Of Dome Lamp Bulb
Courtesy of GENERAL MOTORS CORP.

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

LICENSE LAMP REPLACEMENT

Removal Procedure

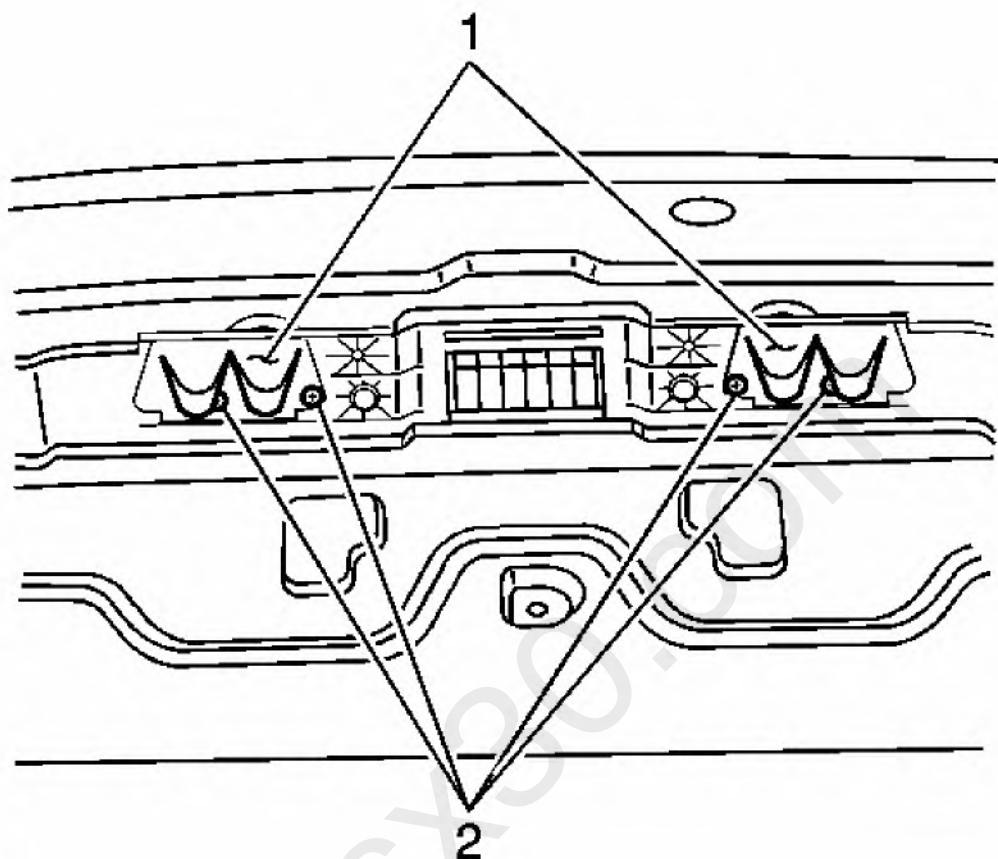


Fig. 99: View Of License Plate Lamp Assembly & Screws
Courtesy of GENERAL MOTORS CORP.

1. Remove the screws (2) attaching the rear license plate lamp assembly to the rear license plate lamp bezel.
2. Lower the license plate lamp assembly (1) from the bezel.

Installation Procedure

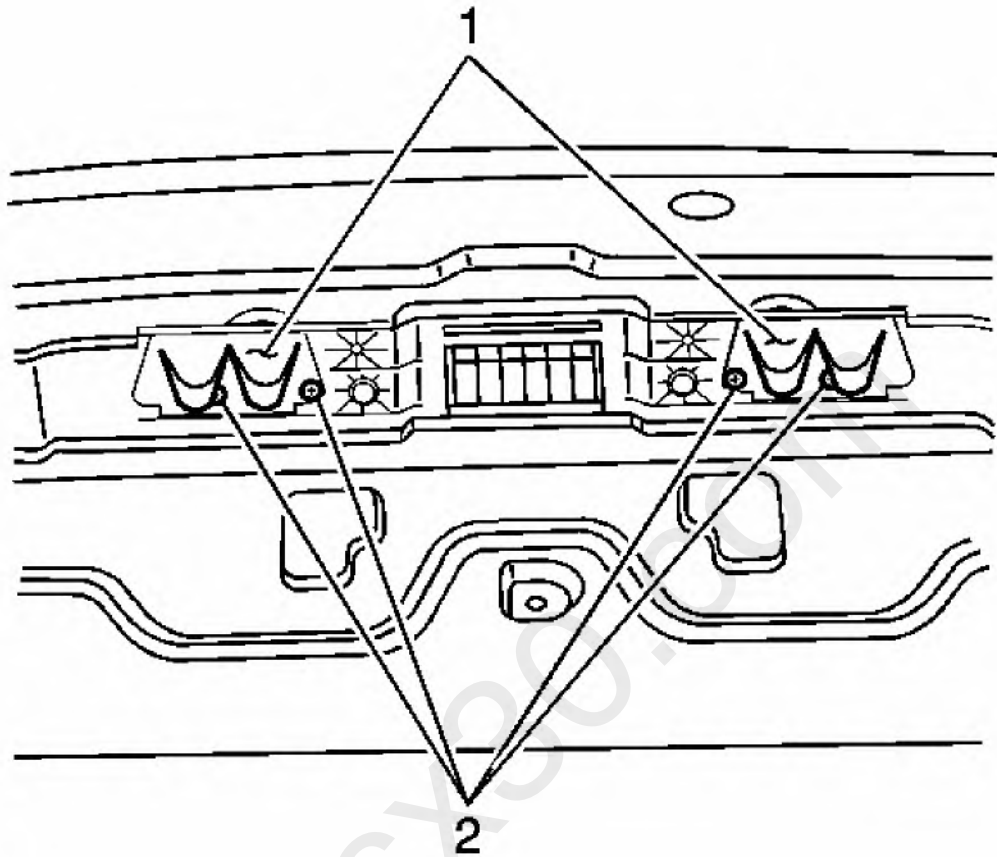


Fig. 100: View Of License Plate Lamp Assembly & Screws
Courtesy of GENERAL MOTORS CORP.

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

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the license plate lamp assembly to license plate lamp bezel screws (2).

Tighten: Tighten the screws (2) to 4 N.m (35 lb in).

LICENSE LAMP BULB REPLACEMENT

Removal Procedure

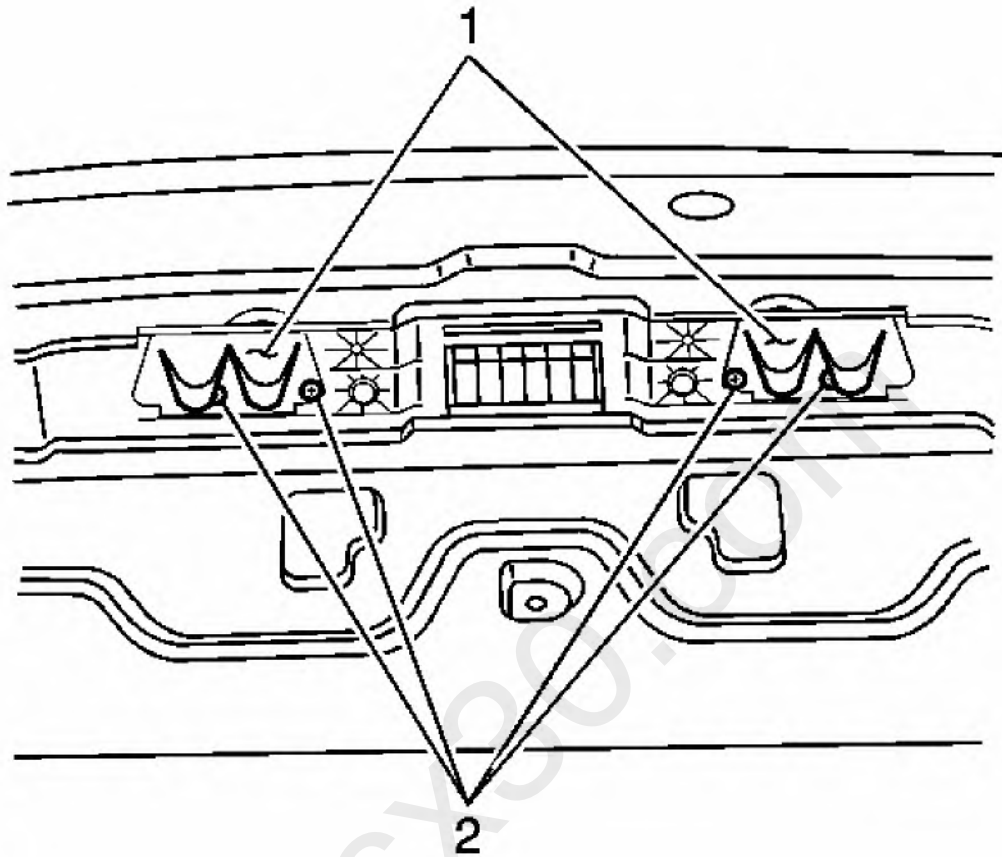


Fig. 101: View Of License Plate Lamp Assembly & Screws
Courtesy of GENERAL MOTORS CORP.

1. Remove the screws (2) attaching the rear license plate lamp assembly to the rear license plate lamp bezel.
2. Lower the license plate lamp assembly (1) 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

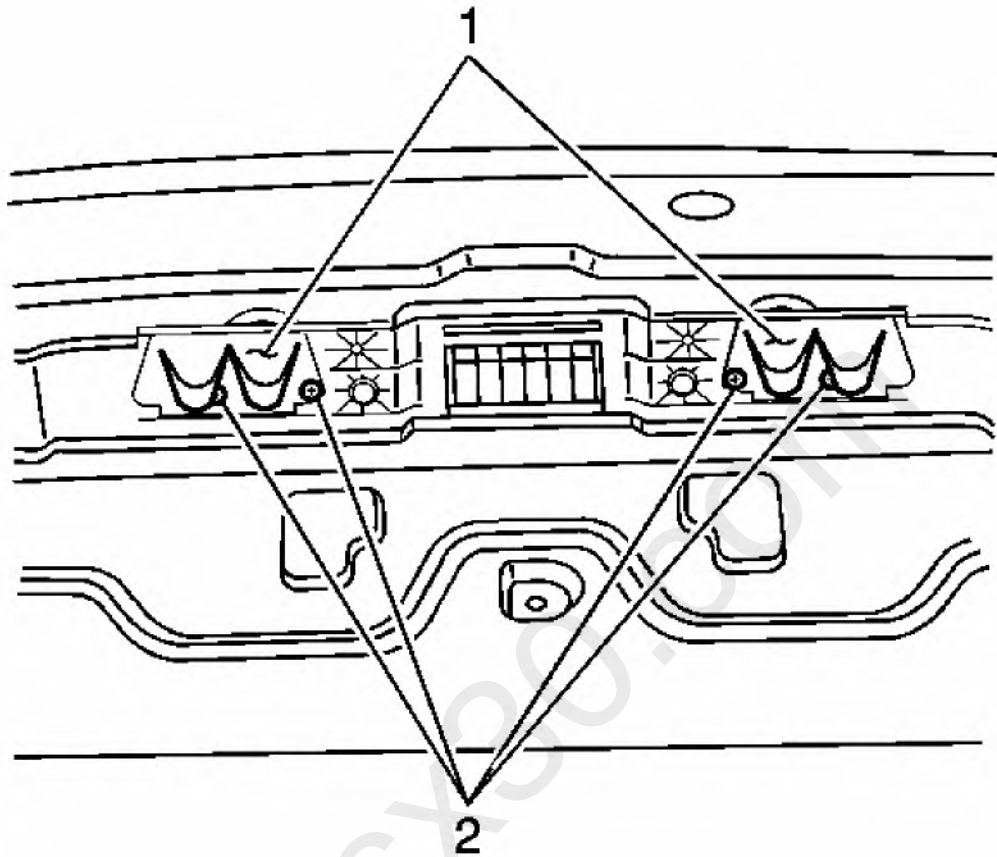


Fig. 102: View Of License Plate Lamp Assembly & Screws
Courtesy of GENERAL MOTORS CORP.

1. Press the license plate lamp bulb into the lamp socket until seated.
2. Install the license plate lamp bulb socket assembly (1) 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 license plate lamp bezel screws (2).

Tighten: Tighten the screws (2) to 4 N.m (35 lb in).

TAIL LAMP ASSEMBLY AND /OR BACKUP, SIDEMARKER, STOP, TURN SIGNAL BULB REPLACEMENT (EQUINOX)

Removal Procedure

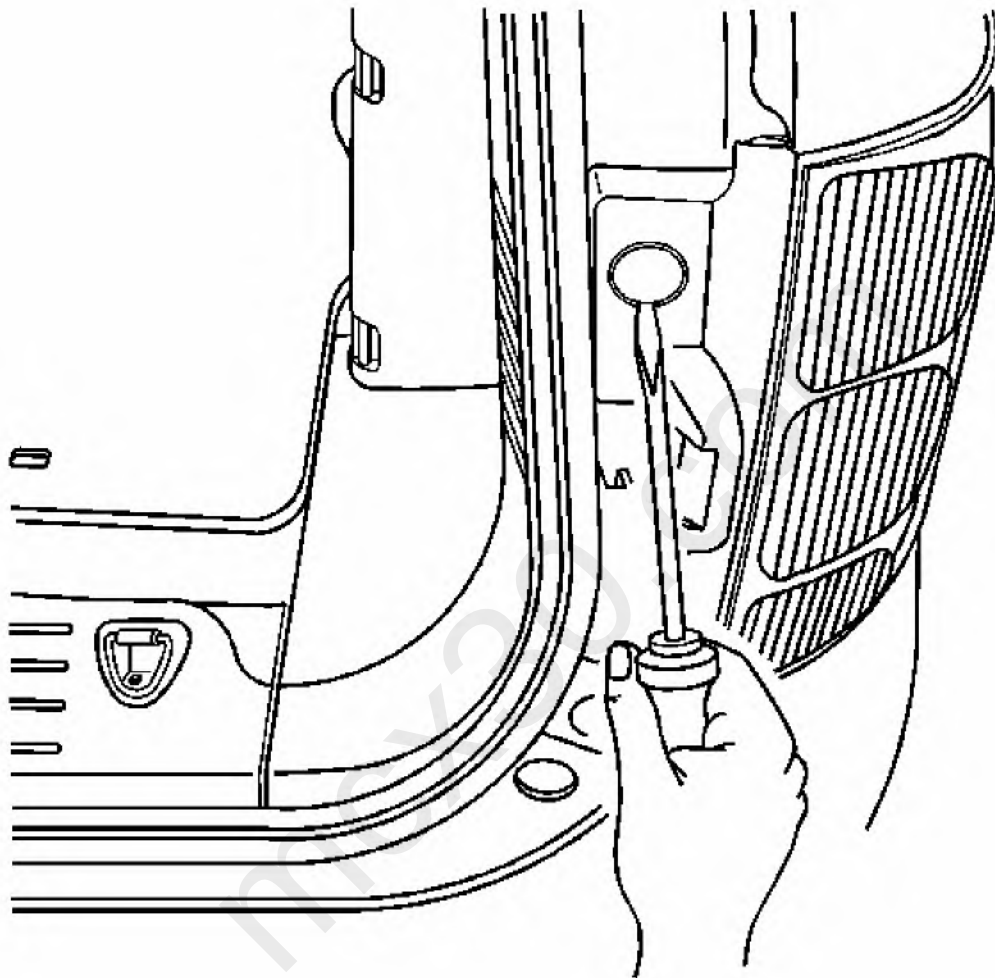


Fig. 103: Removing Tail Lamp Bolt Covers
Courtesy of GENERAL MOTORS CORP.

1. Remove the tail lamp bolt covers.

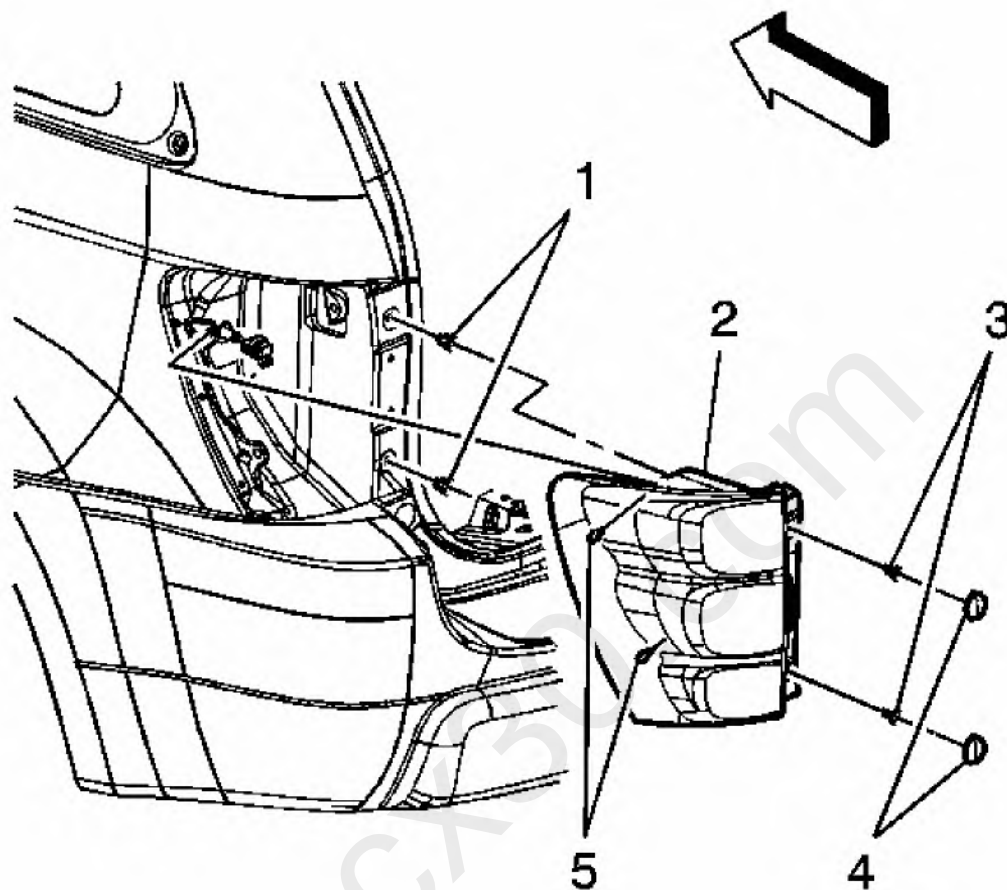


Fig. 104: View Of Tail Lamp, Bolts & Bolt Covers
Courtesy of GENERAL MOTORS CORP.

2. Remove the tail lamp bolts (3).

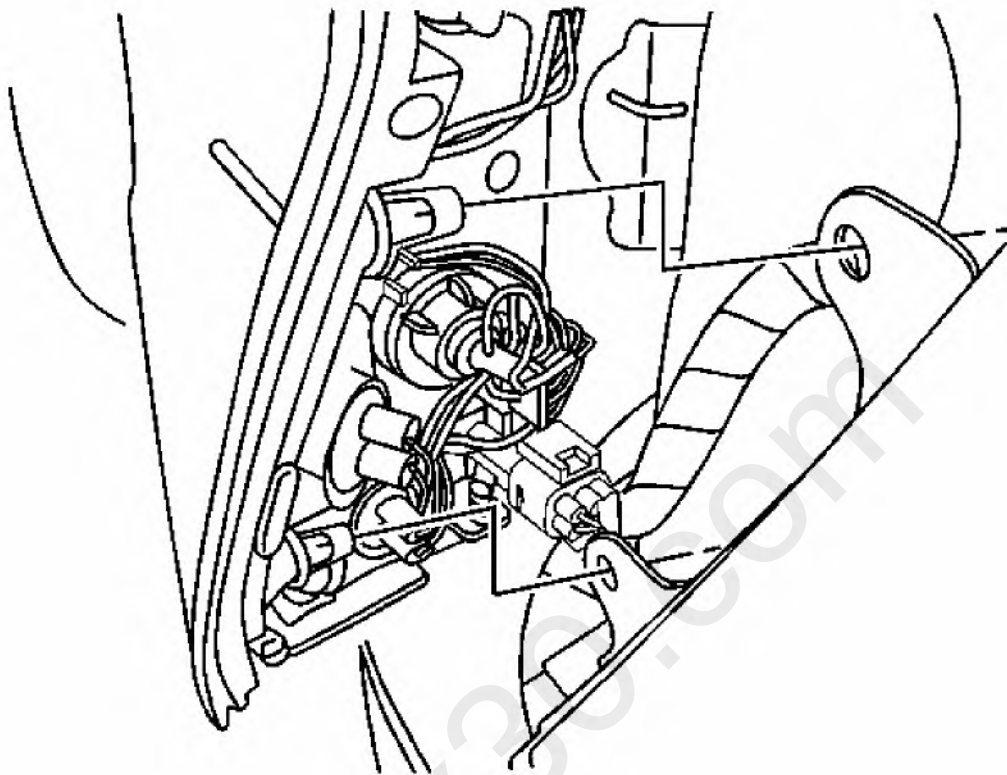


Fig. 105: Removing/Installing Tail Lamp Assembly
Courtesy of GENERAL MOTORS CORP.

3. Pull outward at the front of the tail lamp assembly to disengage the retainers from the body side.
4. Remove the bulbs from the tail lamp assembly.
5. Remove the tail lamp assembly from the vehicle.

Installation Procedure

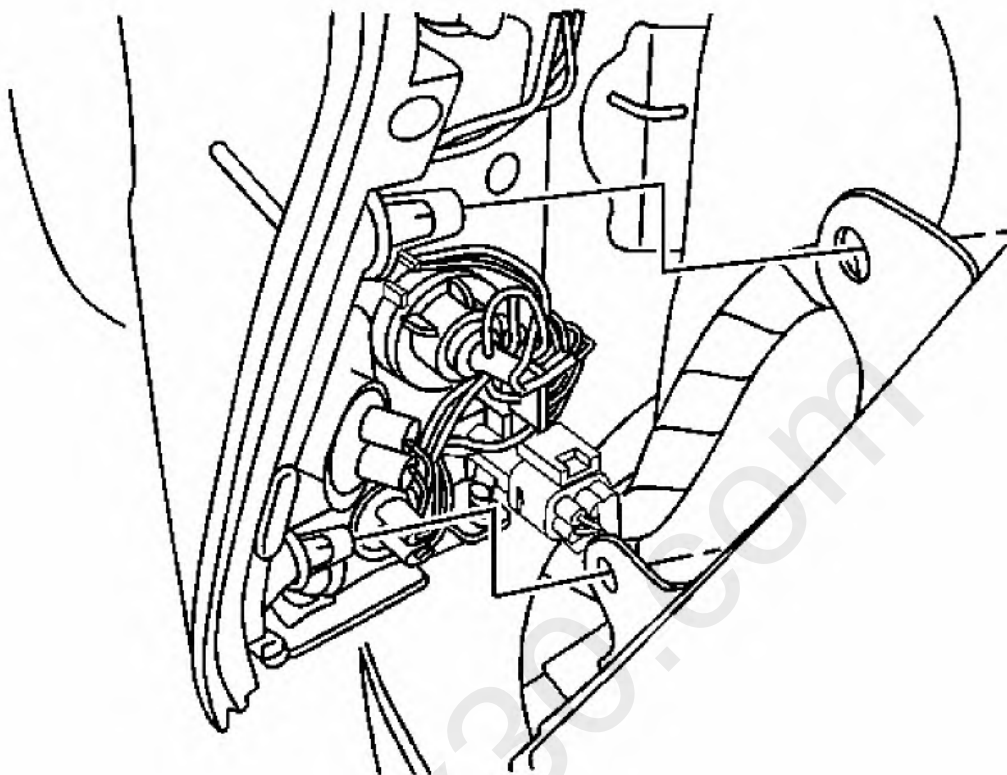


Fig. 106: Removing/Installing Tail Lamp Assembly
Courtesy of GENERAL MOTORS CORP.

1. Position the tail lamp assembly to the vehicle.
2. Install the bulbs into the tail lamp assembly.
3. Push inward at the front of the tail lamp assembly to engage the retainers into the body side.

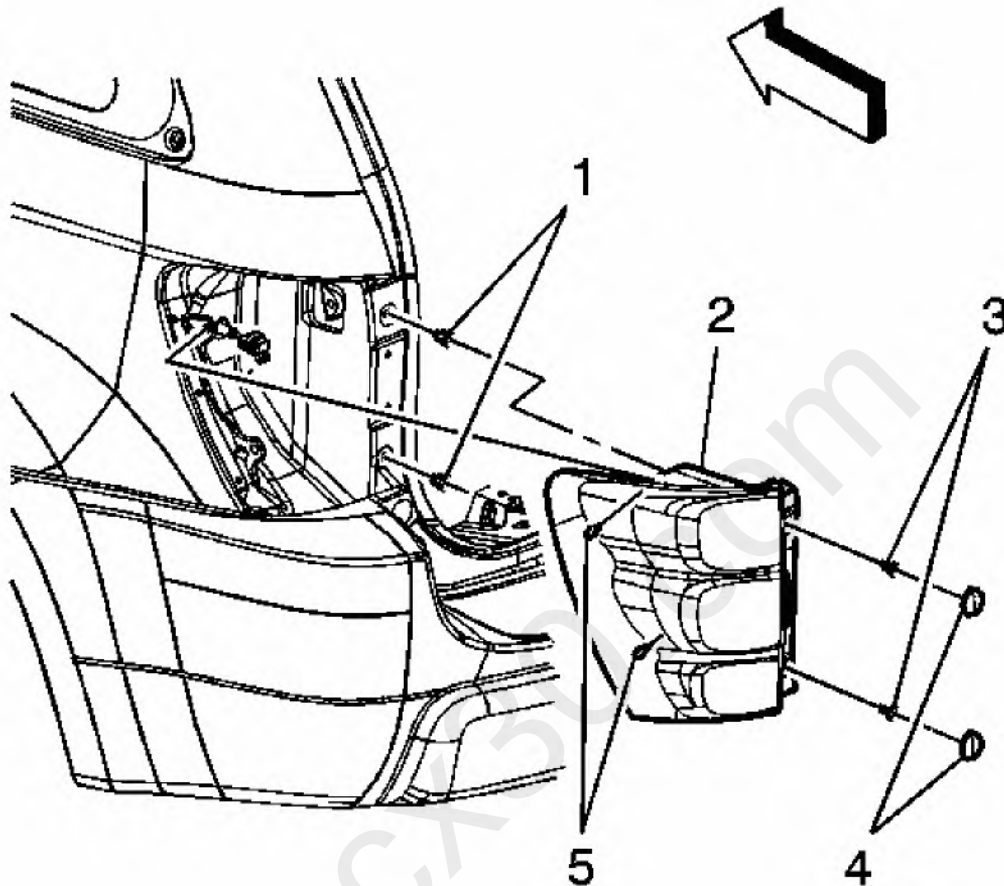


Fig. 107: View Of Tail Lamp, Bolts & Bolt Covers
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

4. Install the tail lamp bolts (3).

Tighten: Tighten the tail lamp bolts to 2 N.m (18 lb in).

5. Install the tail lamp bolt covers (4).

TAIL LAMP ASSEMBLY AND /OR BACKUP, SIDEMARKER, STOP, TURN SIGNAL BULB REPLACEMENT (TORRENT)

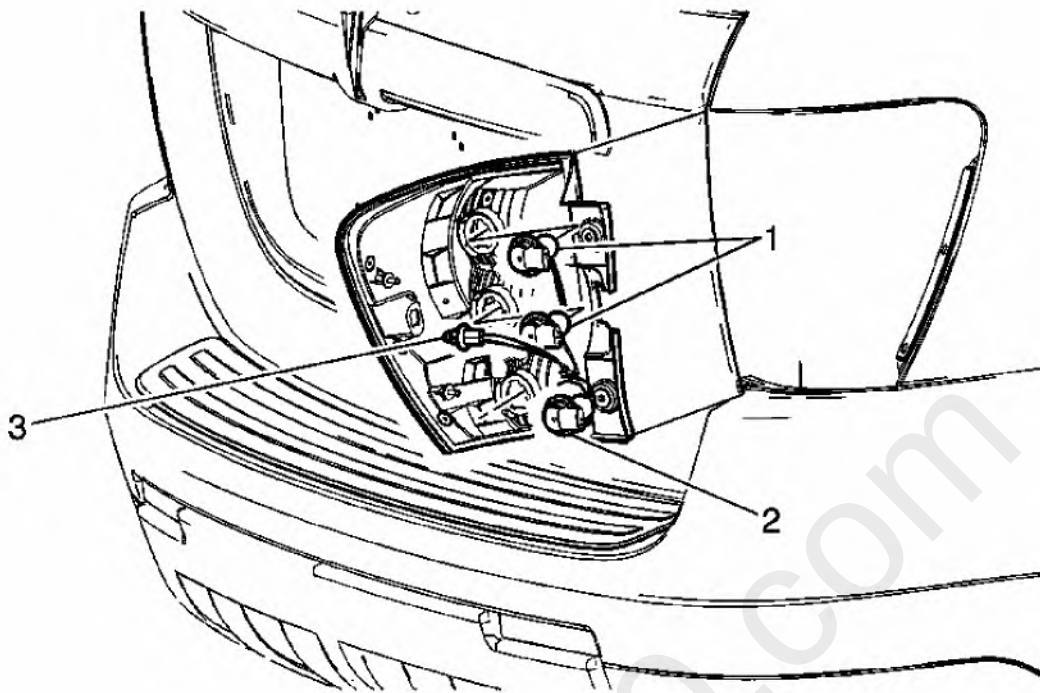


Fig. 108: Turn Signal Bulb Location
 Courtesy of GENERAL MOTORS CORP.

Tail Lamp Assembly and /or Backup, Sidemarker, Stop, Turn Signal Bulb Replacement (Torrent)

Callout	Component Name
NOTE: Refer to Fastener Notice in Cautions and Notices.	
Fastener Tightening Specifications: Refer to Fastener Tightening Specifications . Preliminary Procedure Remove either the LR or RR tail lamp assembly. Refer to Tail Lamp Assembly and /or Backup, Sidemarker, Stop, Turn Signal Bulb Replacement (Equinox) or Tail Lamp Assembly and /or Backup, Sidemarker, Stop, Turn Signal Bulb Replacement (Torrent) .	
1	Park / Turn Directional Bulb (Qty: 2) Tip: Remove the bulb socket from the lens housing by turning the socket counter clockwise a quarter turn and then remove the bulbs.
2	Back Up Lamp Bulb Tip: Remove the bulb socket from the lens housing by turning the socket counter clockwise a quarter turn and then remove the bulb from the socket.
3	Side Marker Lamp Bulb Tip: Remove the bulb socket from the lens housing by turning the socket

counter clockwise a quarter turn and pull the bulb straight out from the socket.

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. First, when the driver places the headlamp switch in the ON position, for manual operation. Second, with the headlamp switch placed in the OFF position activating automatic lamp control (ALC).

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, 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 park lamps.

For ALC operation, 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 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 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. If the park brake is applied after the ignition key is placed in the RUN position the ALC is not effected.

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 side of the DRL relay has a resistor in-line to reduce the intensity of the low beam headlamps for DRL operation. The body control module (BCM) receives a signal from the ambient light sensor indicating a low or high ambient, outside, light level. Under daylight 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 G203. Any time the headlamps are illuminated the DRL will not illuminate. Manual park lamps do not effect DRL operation.

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

- The ignition switch is in the RUN position.
- The headlamps are in the OFF position.
- The park brake is OFF, released.
- The BCM is receiving a high light condition from the ambient light sensor.
- The transmission is not in the PARK position.

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 a momentary voltage signal 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, 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 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. If the park brake is applied after the ignition key is placed in the RUN position the ALC is not effected.

Turn Signal Lamps

The TURN fuse in the fuse block - I/P provides ignition positive voltage to the turn signal relay. 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 turn signal relay output to the turn signal switch assembly. The turn signal relay sends an ON-OFF voltage signal to either the left or right turn signals and their instrument panel cluster (IPC) indicator through the turn signal switch.

Hazard Lamps

The HAZARD fuse in the fuse block - I/P provides battery positive voltage to the turn signal relay. When the hazard switch is activated, the turn signal relay provides an ON - OFF voltage to all of the turn signal lamps and both turn signal indicators through the hazard switch. 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), the powertrain control module (PCM), and the throttle actuator control (TAC) module. 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. 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 body control module (BCM) receives a door unlock command from the remote keyless entry (RKE) transmitter, the 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.