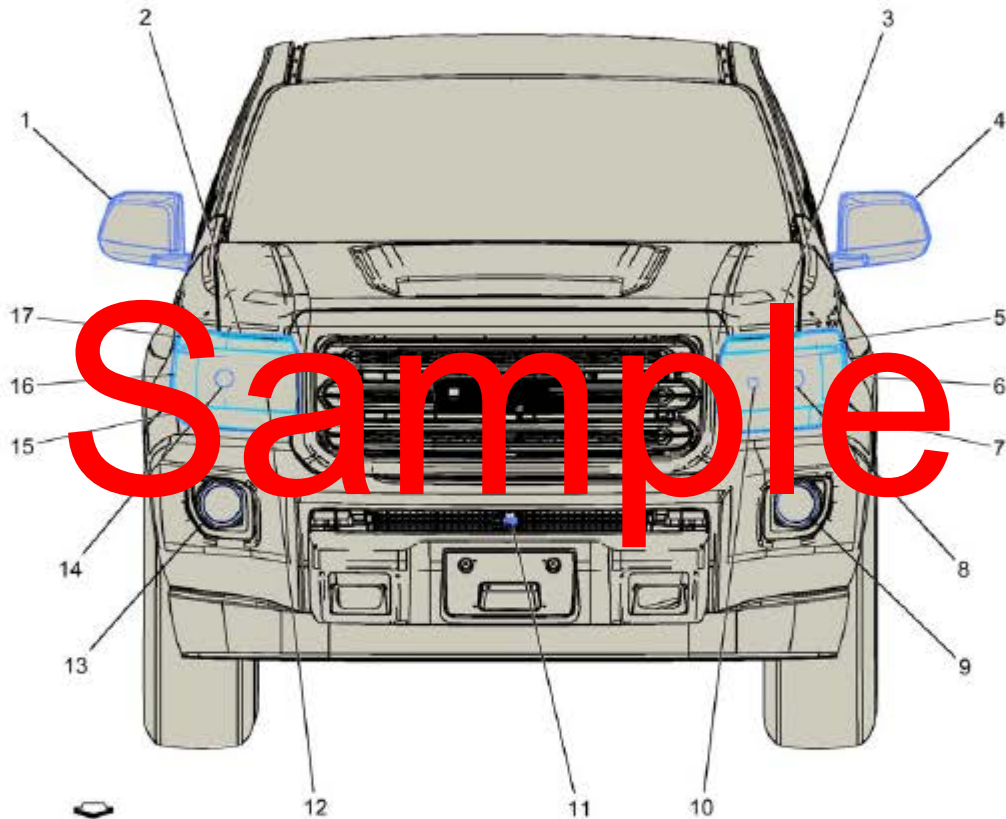


### Items

E29LF Fog Lamp - Left Front (T3U) E29LF Fog Lamp - Left Front (T3U)  
B9 Ambient Air Temperature Sensor B9 Ambient Air Temperature Sensor  
E29RF Fog Lamp - Right Front (T3U) E29RF Fog Lamp - Right Front (T3U)  
E4P Park/Turn Signal Lamp - Right E4P Park/Turn Signal Lamp - Right  
E4F Headlamp - Right High Beam E4F Headlamp - Right High Beam  
E4H Headlamp - Right Low Beam E4H Headlamp - Right Low Beam  
E4K Park Lamp - Right Front E4J Park Lamp - Right Front (X88)

### FRONT OF VEHICLE COMPONENTS (GMC/Z88)

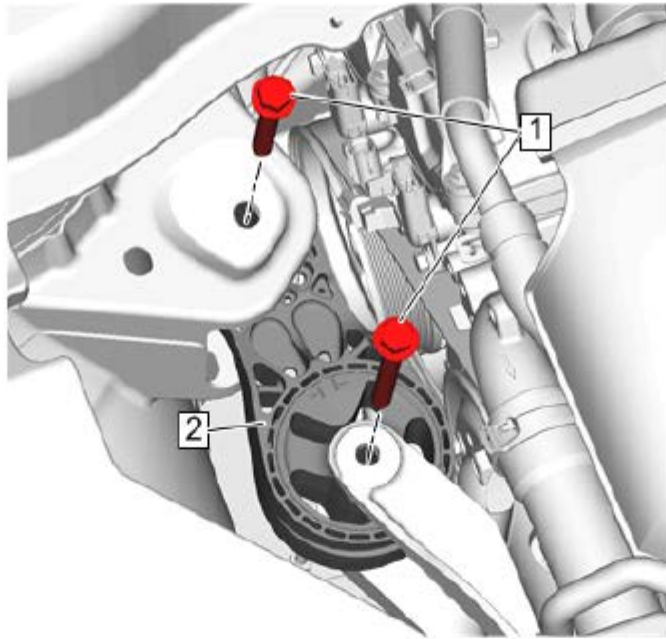


**Fig. 2: Front of Vehicle Components (GMC/Z88)**

Courtesy of GENERAL MOTORS COMPANY

### Items

A9B Outside Rearview Mirror - Passenger  
E13RA Headlamp Assembly - Right  
E13LA Headlamp Assembly - Left  
A9A Outside Rearview Mirror - Driver  
E4AC Park/Daytime Running Lamp - Left (Z88)  
E4N Park/Turn Signal Lamp - Left E4N Park/Turn Signal Lamp - Left



**Fig. 192: Engine Mount Strut Bolts - Bank 1 (Right Side) Exhaust**  
Courtesy of GENERAL MOTORS COMPANY

- 2. Remove Engine Mount Strut Bolts
- 3. Remove Engine Mount Strut Right Side

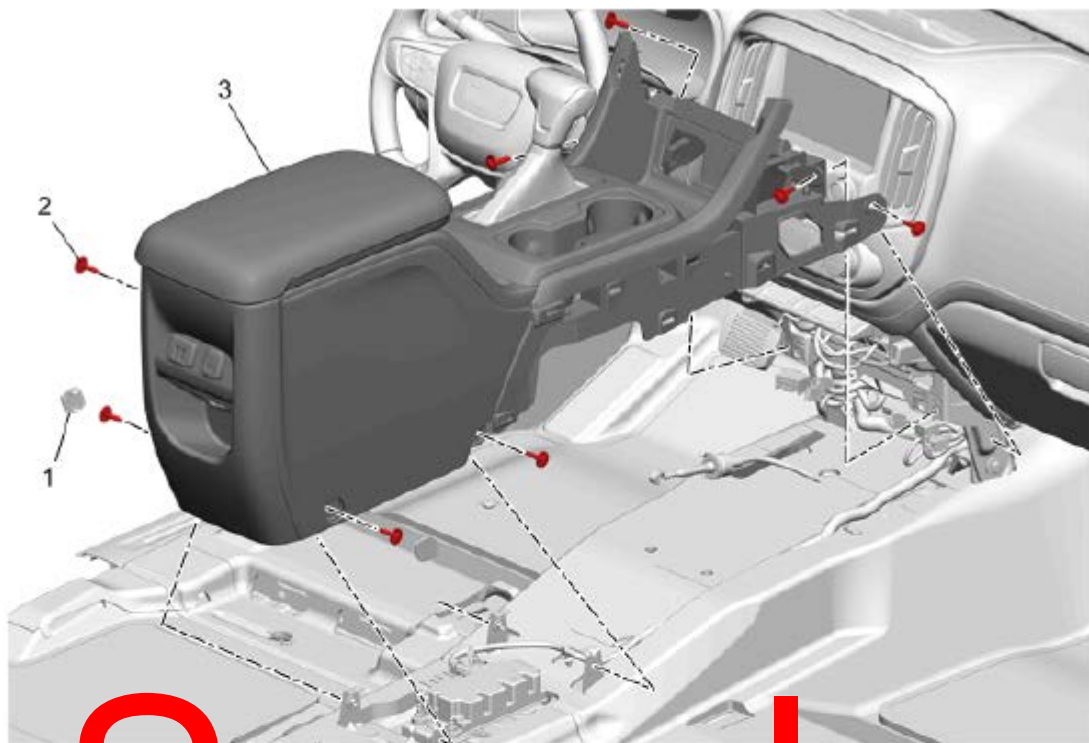
# Sample



**Fig. 193: Air Conditioning Evaporator Tube Clip Nut - Bank 1 (Right Side) Exhaust**  
Courtesy of GENERAL MOTORS COMPANY

- 4. Remove Air Conditioning Evaporator Tube Clip Nut

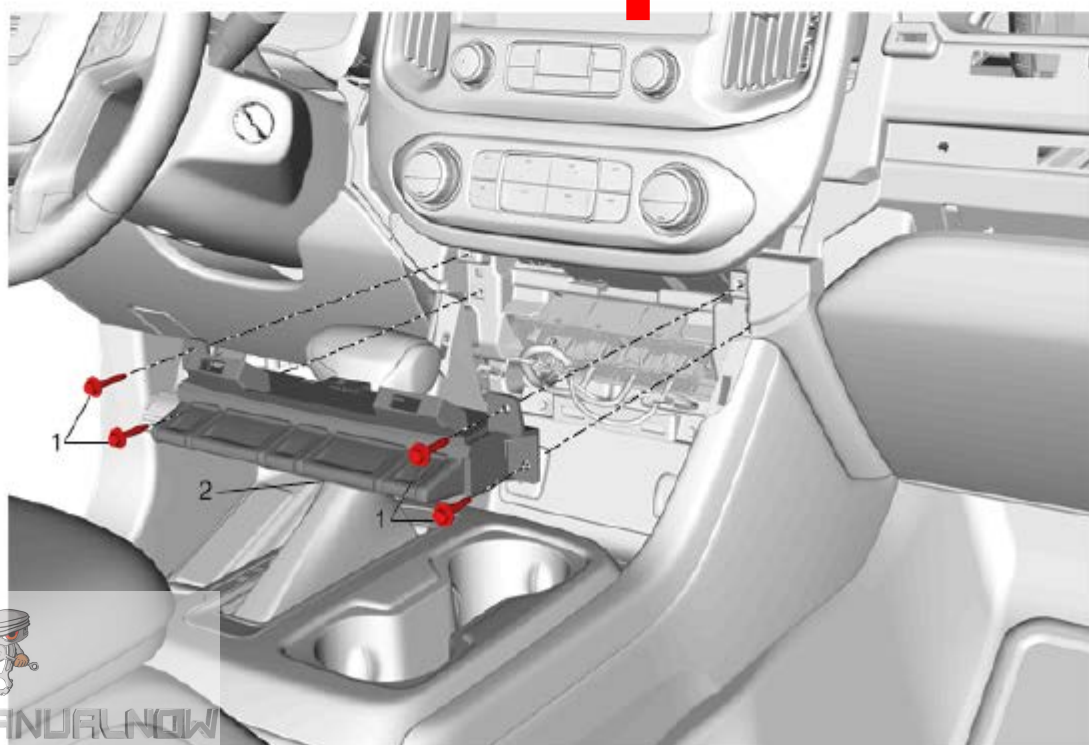
the heater and air conditioning remote control (1). Refer to [Heater and Air Conditioning Remote Control Replacement](#).



**Fig. 35: Front Floor Console**  
Courtesy of GENERAL MOTORS CORP.

# Sample

12. Install the front floor console (3). Refer to [Front Floor Console Replacement](#).



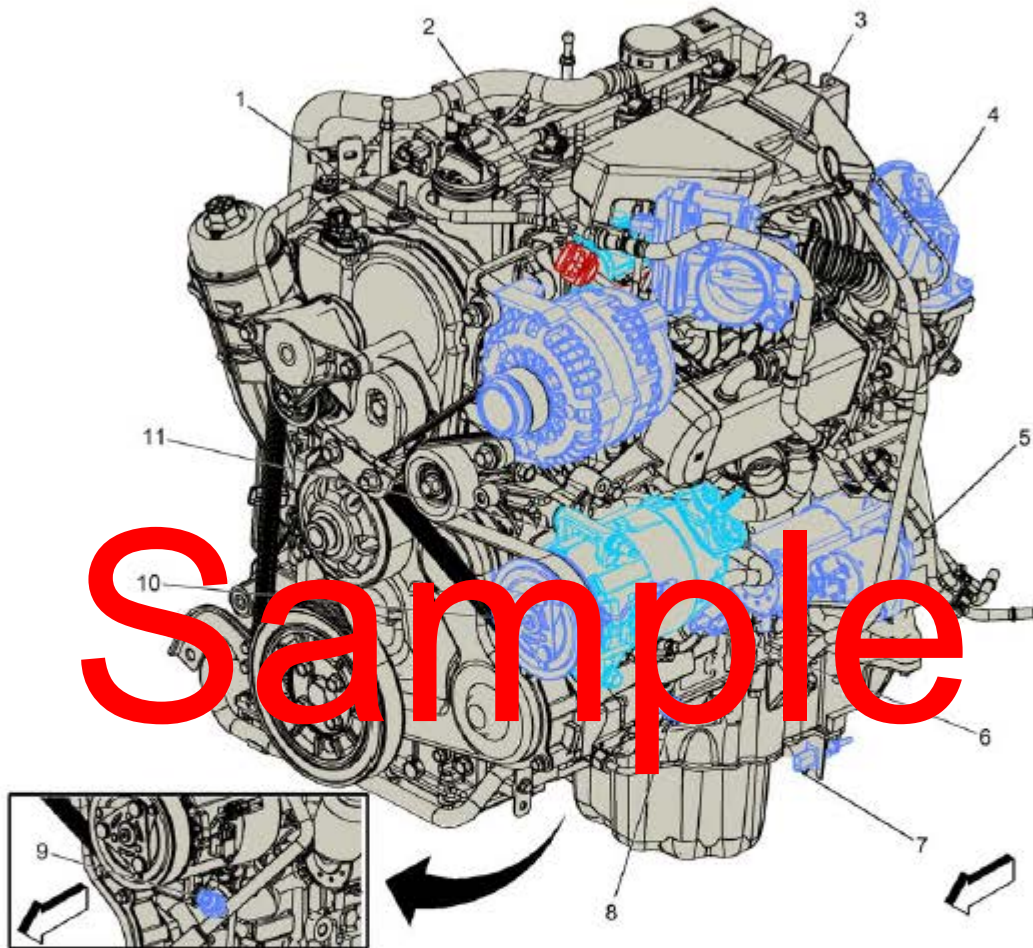
**Items**

G1 A/C Compressor

Q2 A/C Compressor Clutch **Q2 A/C Compressor Clutch**

B1 A/C Refrigerant Pressure Sensor **B1 A/C Refrigerant Pressure Sensor**

**LEFT FRONT OF THE ENGINE COMPONENTS (LWN)**



**Fig. 7: Left Front of the Engine Components (LWN)**

Courtesy of GENERAL MOTORS COMPANY

**Items**

G13 Generator **G13 Generator**

Q18B Fuel Pressure Regulator 2 (LWN) **Q18B Fuel Pressure Regulator 2 (LWN)**

Q38 Throttle Body **Q38 Throttle Body (LWN)**

Q14 Exhaust Gas Recirculation Valve (LWN) **Q14 Exhaust Gas Recirculation Valve (LWN)**

M64 Starter Motor **M64 Starter Motor X1 (LWN) M64 Starter Motor X2 (LWN)**

Q46 A/C Compressor Solenoid Valve **Q46 A/C Compressor Solenoid Valve**

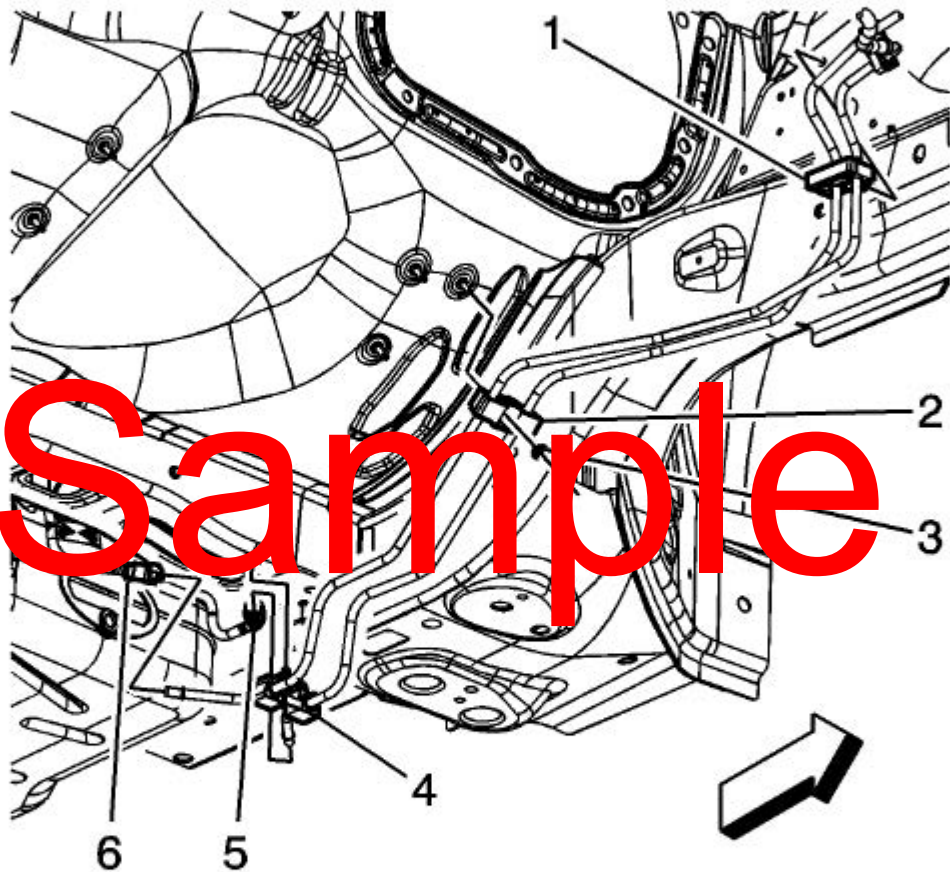
B26 Crankshaft Position Sensor **B26 Crankshaft Position Sensor (LCV/LWN) B26 Crankshaft Position Sensor (LWN)**

Q18A Fuel Pressure Regulator 1 (LWN) **Q18A Fuel Pressure Regulator 1 (LWN)**

B1 A/C Refrigerant Pressure Sensor **B1 A/C Refrigerant Pressure Sensor**

**WARNING:** Do not allow smoking or the use of open flames in the area where work on the fuel or EVAP system is taking place. Anytime work is being done on the fuel system, disconnect the negative battery cable, except for those tests where battery voltage is required.

**WARNING:** Fuel supply lines will remain pressurized for long periods of time after the engine is shutdown. This pressure must be relieved before servicing the fuel system.



**Fig. 69: Fuel Tank Evaporative Emission Canister Vent Front Pipe Quick Connect Fitting**  
Courtesy of GENERAL MOTORS COMPANY

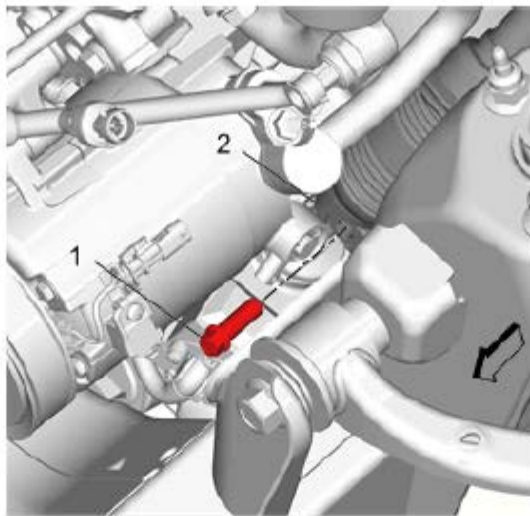
1. Relieve the fuel system pressure. Refer to [Fuel Pressure Relief](#).
2. Drain the fuel tank. Refer to [Fuel Tank Draining](#).

**WARNING:** Whenever fuel lines are removed, catch fuel in an approved container. Container opening must be a minimum of 300 mm (12 in) diameter to adequately catch the fluid.



**CAUTION:** Clean all fuel pipe connections and surrounding areas before





**Fig. 14: Lower Steering Shaft Assembly Lower Bolt**

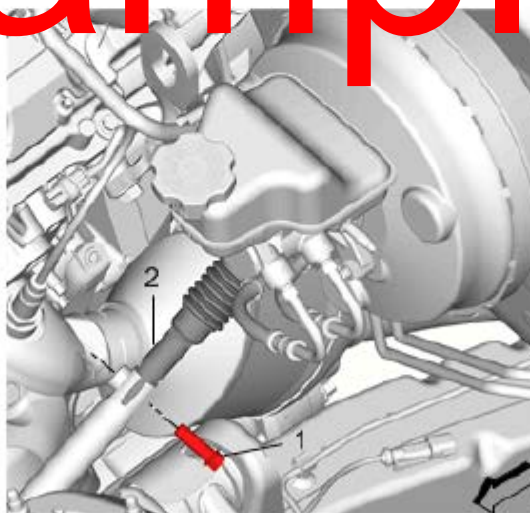
Courtesy of GENERAL MOTORS COMPANY

2. Install Lower Steering Shaft Assembly (2) @Steering Gear.
3. Install Lower Steering Shaft Assembly Lower Bolt (1)
  1. Clean the threads of the bolt with denatured alcohol or equivalent and allow to dry.
  2. Apply thread locking adhesive to the bolt. [Adhesives, Fluids, Lubricants, and Sealers](#)

**CAUTION:** Refer to [Fastener Caution](#)

4. Lower Steering Shaft Assembly Lower Bolt (1) Tighten 10 Nm (37 lbf ft)

Sample

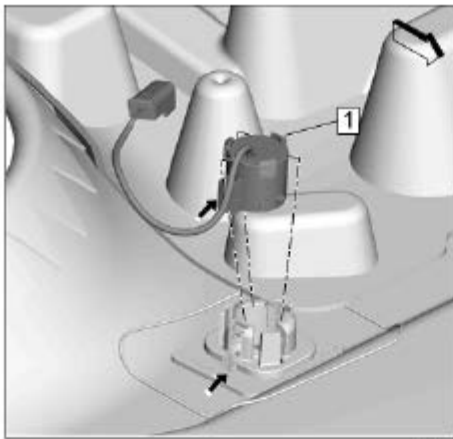


**Fig. 15: Intermediate Steering Shaft Lower Bolt**

Courtesy of GENERAL MOTORS COMPANY

5. Install Intermediate Steering Shaft (2) @Lower Steering Shaft Assembly.
6. Install Intermediate Steering Shaft Lower Bolt (1), but do NOT tighten
  1. Clean the threads of the bolt with denatured alcohol or equivalent and allow to dry.
  2. Apply thread locking adhesive to the bolt. [Adhesives, Fluids, Lubricants, and Sealers](#)



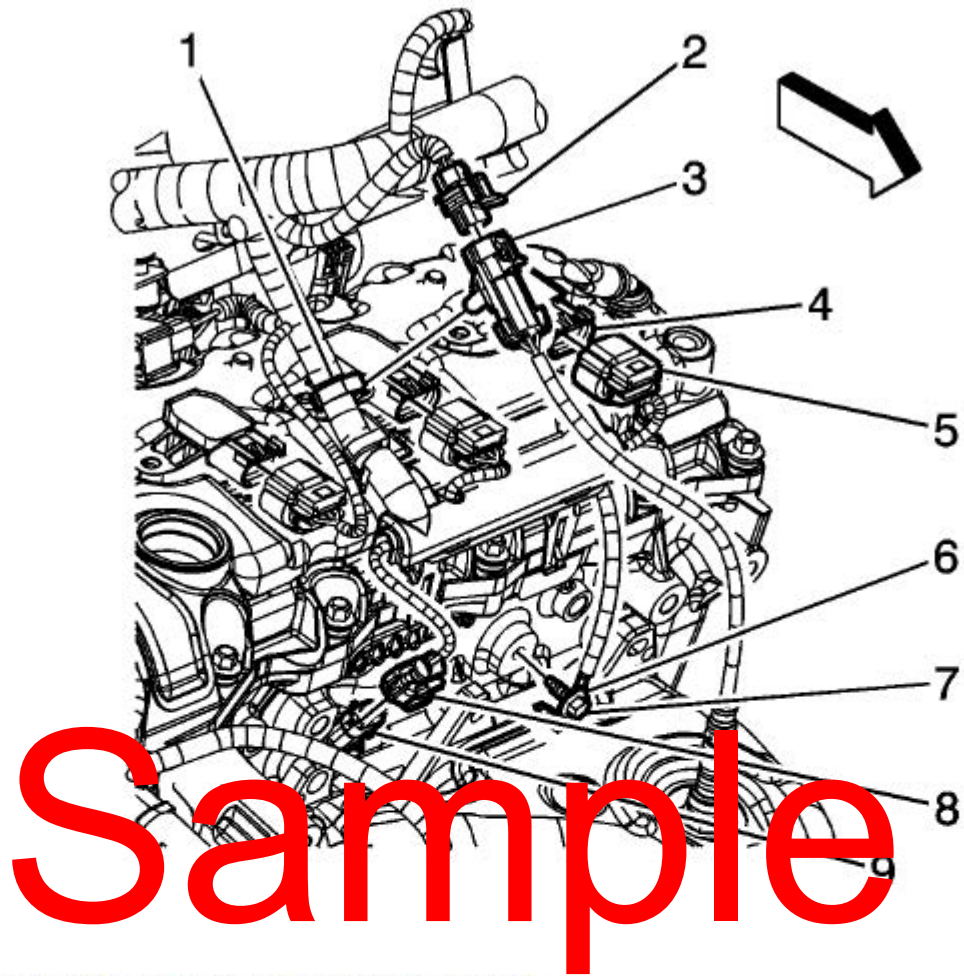


**Fig. 15: Mobile Telephone Microphone**  
 Courtesy of GENERAL MOTORS COMPANY

Sample

Callout	Component Name
<p><b>Preliminary Procedure</b>            It is only necessary to lower the headliner only to those steps of headliner replacement that will lower the headliner enough to gain access to the part. <a href="#">Headlining Trim Panel Replacement</a></p>	
<p>1</p>	<p>Mobile Telephone Microphone</p> <p><b>Procedure</b></p> <ol style="list-style-type: none"> <li>1. Disconnect the electrical connector.</li> <li>2. Depress three tabs to release the microphone from the grille.</li> </ol> <p><b>NOTE:</b>            If installing a new microphone, ensure the arrow on the backplate is facing forward in vehicle position and make the key opening larger to support the larger key.</p>





**Fig. 20: Engine Wiring Harness Electrical Connector**  
Courtesy of GENERAL MOTORS COMPANY

2. Connect the engine wiring harness electrical connector (8) to the ECT sensor (9).
3. Slide the electrical connector heat shield down over the connector.
4. Fill the cooling system. [Cooling System Draining and Filling \(Static Fill\)](#) [Cooling System Draining and Filling \(Vac N Fill\)](#)

## **MASS AIRFLOW SENSOR WITH INTAKE AIR TEMPERATURE SENSOR REPLACEMENT**

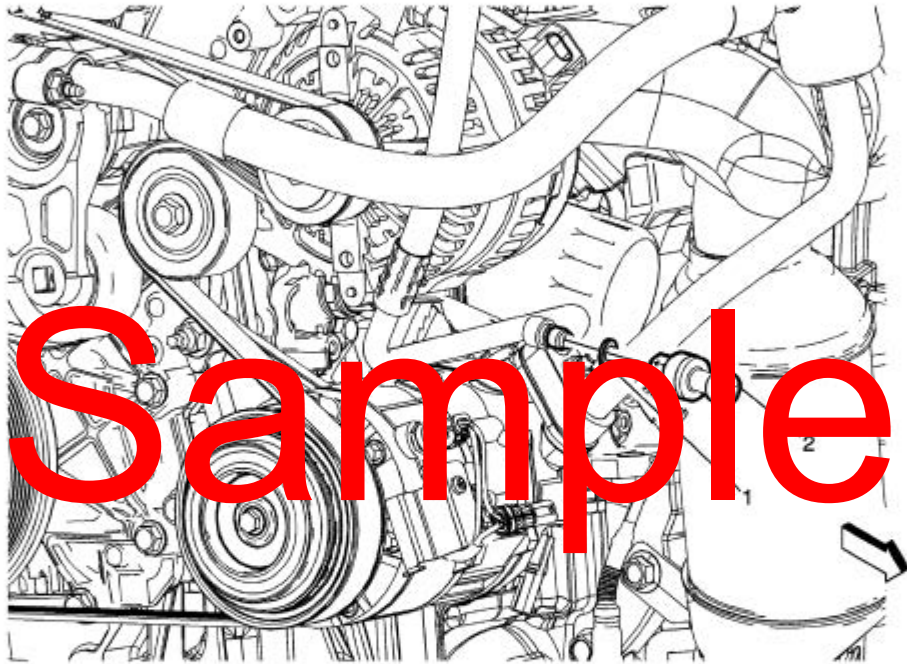
### **Removal Procedure**





Callout	Component Name
	<ol style="list-style-type: none"> <li>1. Use <b>GE-39037</b> socket to remove the air conditioning refrigerant valve.</li> <li>2. Test the system for refrigerant leaks. Refer to <a href="#">Leak Testing</a>.</li> </ol> <p><b>Tighten</b> 2 N.m (18 lb in)</p> <p><b>Special Tools</b> <b>GE-39037</b> Charge Valve Octagon Socket For equivalent region tools, refer to <a href="#">Special Tools</a>.</p>

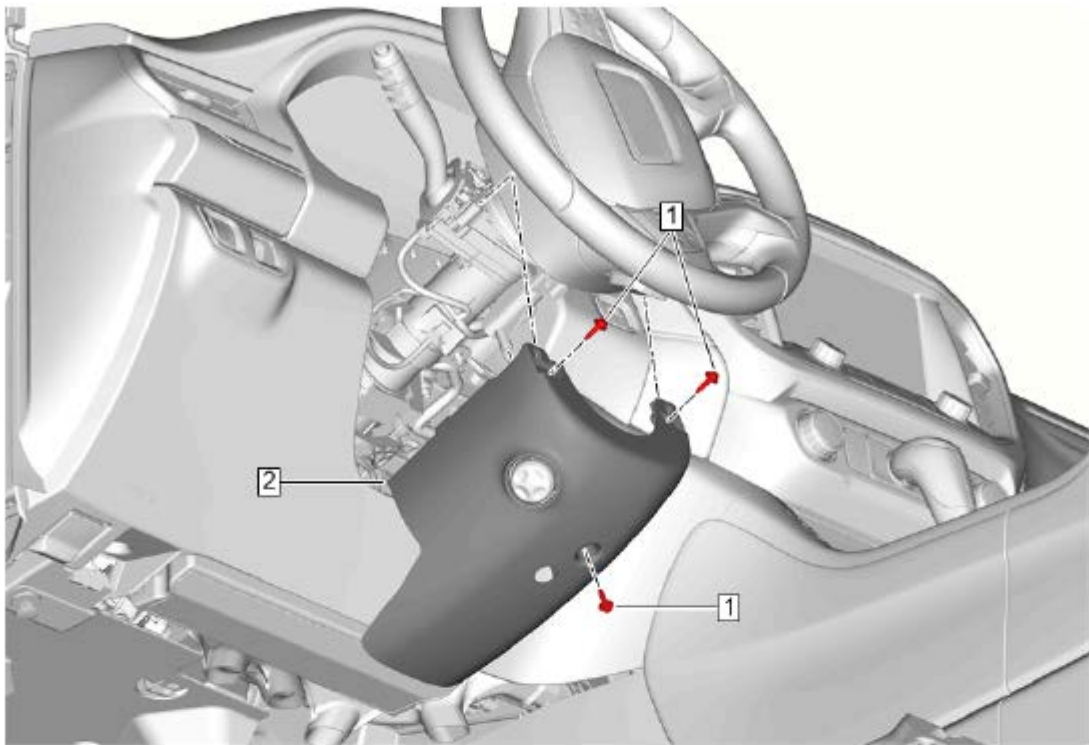
## AIR CONDITIONING (A/C) REFRIGERANT PRESSURE SENSOR REPLACEMENT



**Fig. 39: Air Conditioning (A/C) Refrigerant Pressure Sensor**

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
<b>Preliminary Procedure</b>	
Remove the electrical connector from the air conditioning refrigerant pressure sensor.	
1	<b>Air Conditioning Refrigerant Pressure Sensor O-ring</b> <b>Procedure</b> Remove and discard the old O-ring and replace with a NEW O-ring. Refer to <a href="#">Air Conditioning O-Ring Seal Replacement</a> .
2	<b>Air Conditioning Refrigerant Pressure Sensor</b>  <b>CAUTION:</b> Refer to <a href="#">Fastener Caution</a>



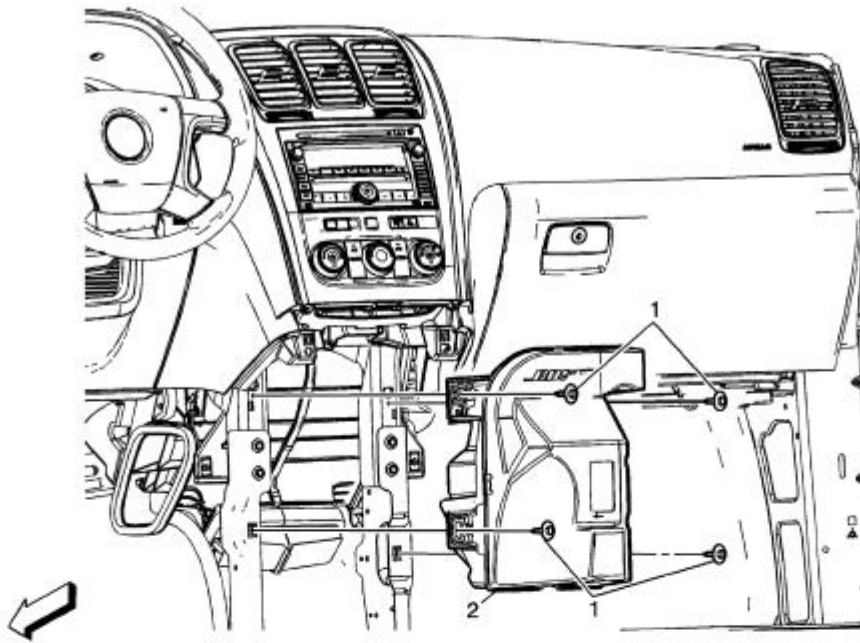
**Fig. 27: Steering Column Lower Trim Cover (RPO N38)**

Courtesy of GENERAL MOTORS COMPANY

Sample

Callout	Component Name
<b>Preliminary Procedure</b> <b>Steering Column Upper Trim Cover Replacement</b>	
1	Steering Column Lower Trim Cover Bolt (Qty: 3)  <b>CAUTION:</b> Refer to <a href="#">Fastener Caution</a> .  <b>Tighten</b> 2.5 N.m (22 lb in)
2	Steering Column Lower Trim Cover  <b>Procedure</b> <ol style="list-style-type: none"> <li>1. Extended the steering column to its furthest point to clear the instrument panel knee bolster.</li> <li>2. Turn the steering wheel left and right to access the fasteners securing the lower trim cover to the turn signal switch bracket.</li> <li>3. Disconnect the electrical connectors.</li> <li>4. Transfer components as necessary.</li> </ol>





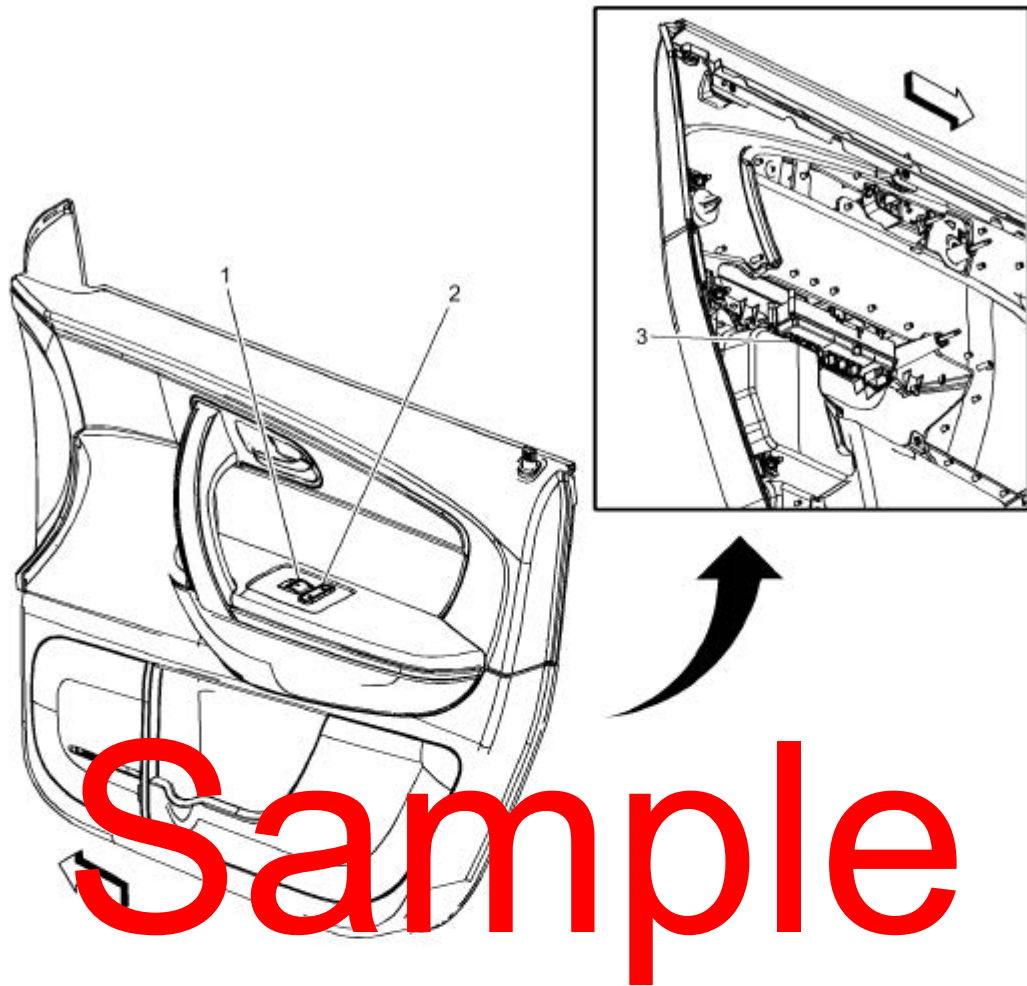
**Fig. 38: Radio Front Floor Console Speaker**  
 Courtesy of GENERAL MOTORS COMPANY

Sample

Callout	Component Name
<b>Preliminary Procedure</b> Remove the front floor console assembly. Refer to <a href="#">Front Floor Console Replacement (Radio Front Floor Console Replacement (Enclave) Front Floor Console Replacement (Traverse))</a> .	
1	Radio Front Floor Console Speaker Screws (Qty: 4)  <b>CAUTION:</b> Refer to <a href="#">Fastener Caution</a> .  <b>Tighten</b> 9 N.m (80 lb in)
2	Radio Front Floor Console Speaker Assembly <b>Procedure</b> Disconnect the electrical connector.

**RADIO REAR SPEAKER REPLACEMENT**





**Fig. 13: Passenger Door Trim Components (Z88)**

Courtesy of GENERAL MOTORS COMPANY

Items
1: S79P Window Switch - Passenger (without AXE)
2: S13P Door Lock Switch - Passenger (without AXE) <a href="#">S13P Door Lock Switch - Passenger</a>
3: S84P Door Switch Panel Control Module - Passenger (AXE) <a href="#">S84P Door Switch Panel Control Module - Passenger X1</a> <a href="#">S84P Door Switch Panel Control Module - Passenger X2</a> <a href="#">S84P Door Switch Panel Control Module - Passenger X3</a>

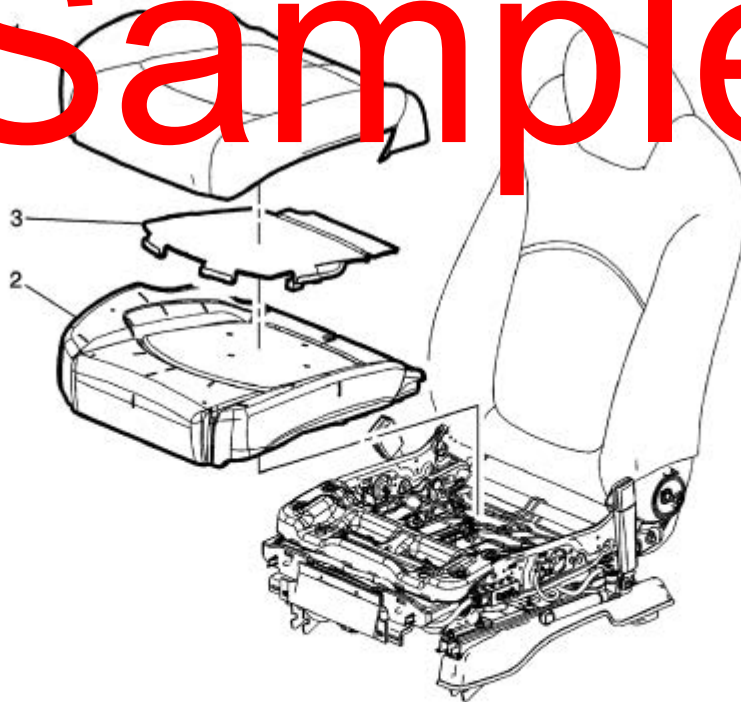
**LEFT REAR DOOR COMPONENTS (W49)**



Callout	Component Name
<u>Presence System Replacement - Front</u>	
1	<p>Passenger Seat Cushion Heater</p> <p><b>Procedure</b></p> <ol style="list-style-type: none"> <li>Using a pair of scissors cut the hog rings and remove the passenger presence system.</li> <li>Remove the heater element leaving the old adhesive strips in tack on the seat cushion. The new seat heater adhesive strips will be placed over the old adhesive strips.</li> </ol> <p><b>NOTE:</b> In case of a broken heating wire, DO NOT repair by soldering the two ends.</p>

**FRONT SEAT CUSHION HEATER REPLACEMENT (DRIVER)**

Sample



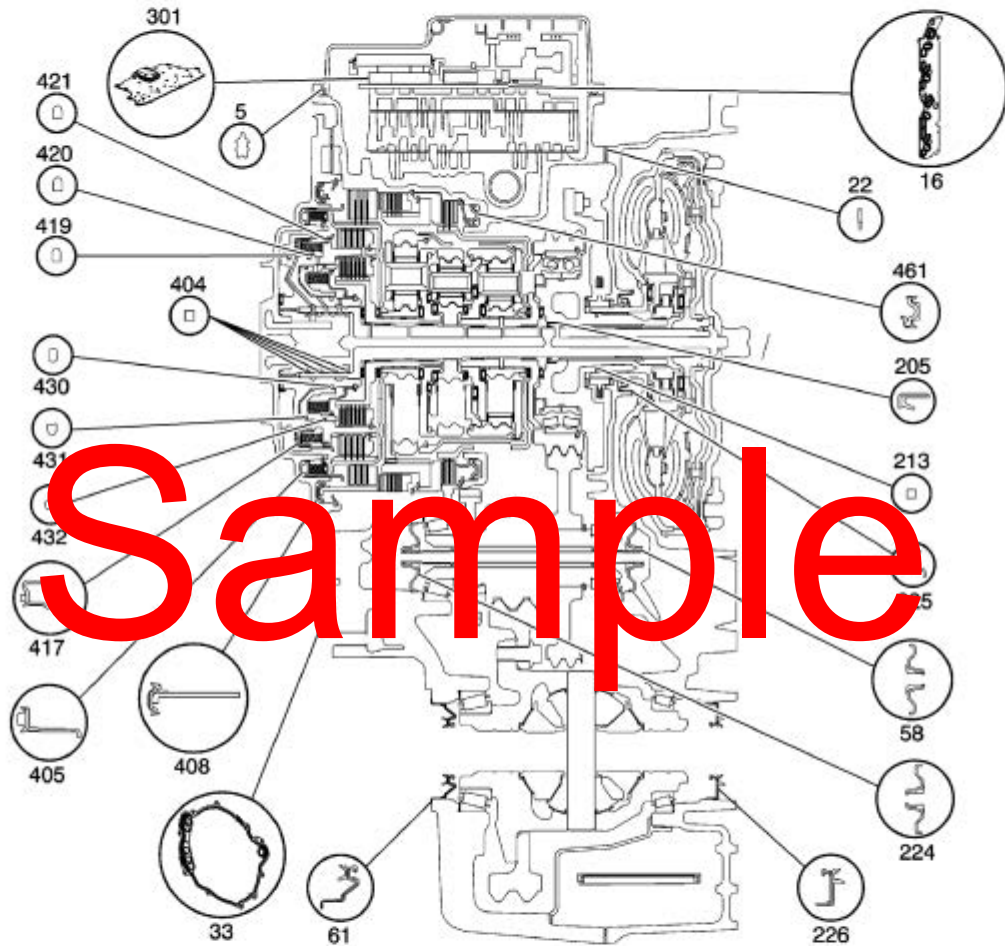
**Fig. 23: Front Seat Cushion Heater (Driver)**  
 Courtesy of GENERAL MOTORS COMPANY



Callout	Component Name
487	Front Differential Carrier Bearing Assembly
488	Front Differential Carrier Thrust Washer
492	Front Differential Side Gear Thrust Washer

## SEAL LOCATIONS

### Seal Locations #1



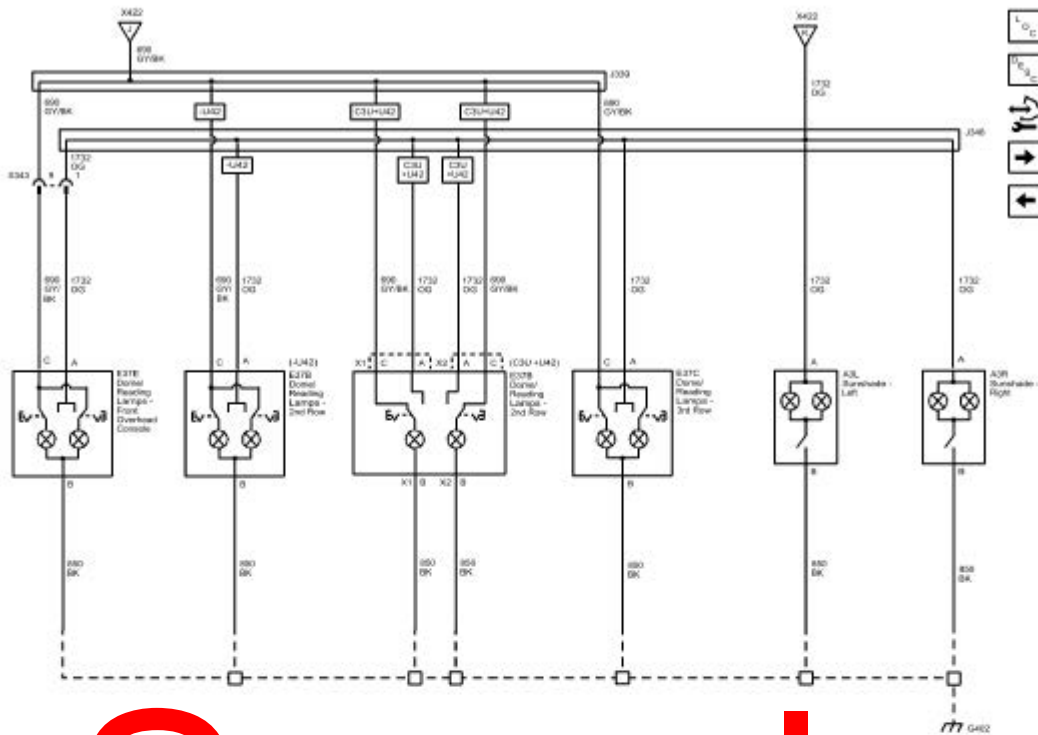
**Fig. 17: Seal Locations (1 Of 2)**

Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
5	Control Valve Body Cover Assembly Gasket
16	Control Solenoid (w/Body and TCM) Filter Plate Assembly
22	Torque Converter Housing Outer Seal
33	A/Trans Case Cover Gasket
61	Front Differential Drive Pinion Gear Lube Dam
405	Front Wheel Drive Shaft Oil Seal Assembly
	Front Differential Transfer Drive Gear Support Seal Assembly







# Sample

**Fig. 34: Headliner Lamps**  
 Courtesy of GENERAL MOTORS COMPANY

**INTERIOR LIGHTS DIMMING WIRING SCHEMATICS**

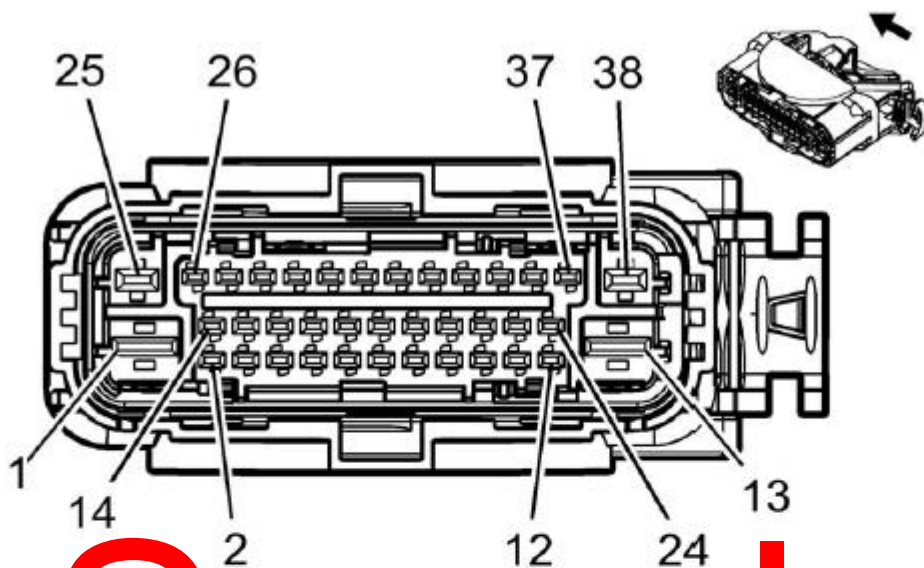
LED Dimming (1 of 3)





# COMPONENT CONNECTOR END VIEWS

## K17 ELECTRONIC BRAKE CONTROL MODULE



# Sample

### Connector Part Information

- Harness Type: Chassis
- OEM Connector: 1928405629
- Service Connector: 19299780
- Description: 38-Way F 1.5, 2.8, 4.8 Series, Sealed

### Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13578852	J-35616-40 (BU)	J-38125-561	Not Available	Not Available	Not Available	Not Available
II	13578853	J-35616-35 (VT)	J-38125-561	Not Available	Not Available	Not Available	Not Available
III	13584537	J-35616-14 (GN)	J-38125-560	Not Available	Not Available	Not Available	Not Available



Pin	Size	Color	Circuit	Function	Terminal Type ID	Option



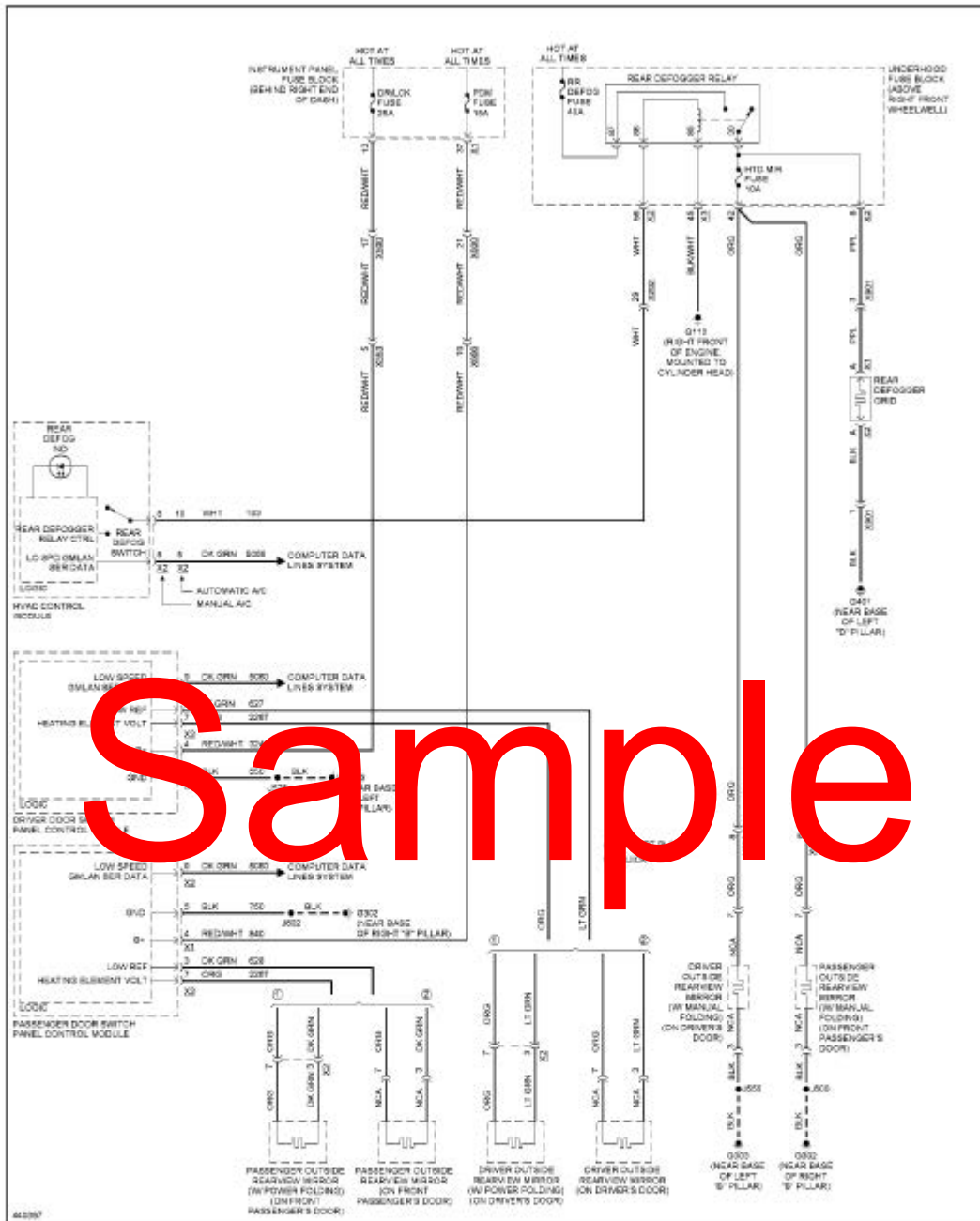


Fig. 18: Defoggers Circuit

## ELECTRONIC POWER STEERING

