SPECIFICATIONS

FASTENER SPECIFICATIONS

Reusable Threaded Fastener Tightening Specifications

NOTE:

All fasteners listed in this table can be reused after removal.

Application	Specification
	Metric (English)
Airbag Front End Discriminating Sensor Bolt	7.5 N.m (66 lb in)
Airbag Rear Side Door Side Impact Sensor Fastener	7.5 N.m (66 lb in)
Airbag Sensing and Diagnostic Module Nut	9 N.m (80 lb in)
Airbag Side Impact Sensor Fastener	7.5 N.m (66 lb in)
Driver or Passenger Seat Belt Anchor Plate Tensioner Fastener	5 N.m (80 lb in)
Driver or Passenger Seat Belt Retractor Fastener	45 N.m (33 lb ft)
Driver or Passenger Seat Belt Tensioner Fastener	45 N.m (33 lb ft)
Front Seat Outboard Seat Back Airbag Nut	3.75 N.m (33 lb in)
Roof Side Rail Inflatable Restraint Module Fastener	9 N.m (80 lb in)

SCHEMATIC WIRING DIAGRAMS

SIR WIRING SCHEMATICS

Power, Ground, Serial Data and Passenger Presence

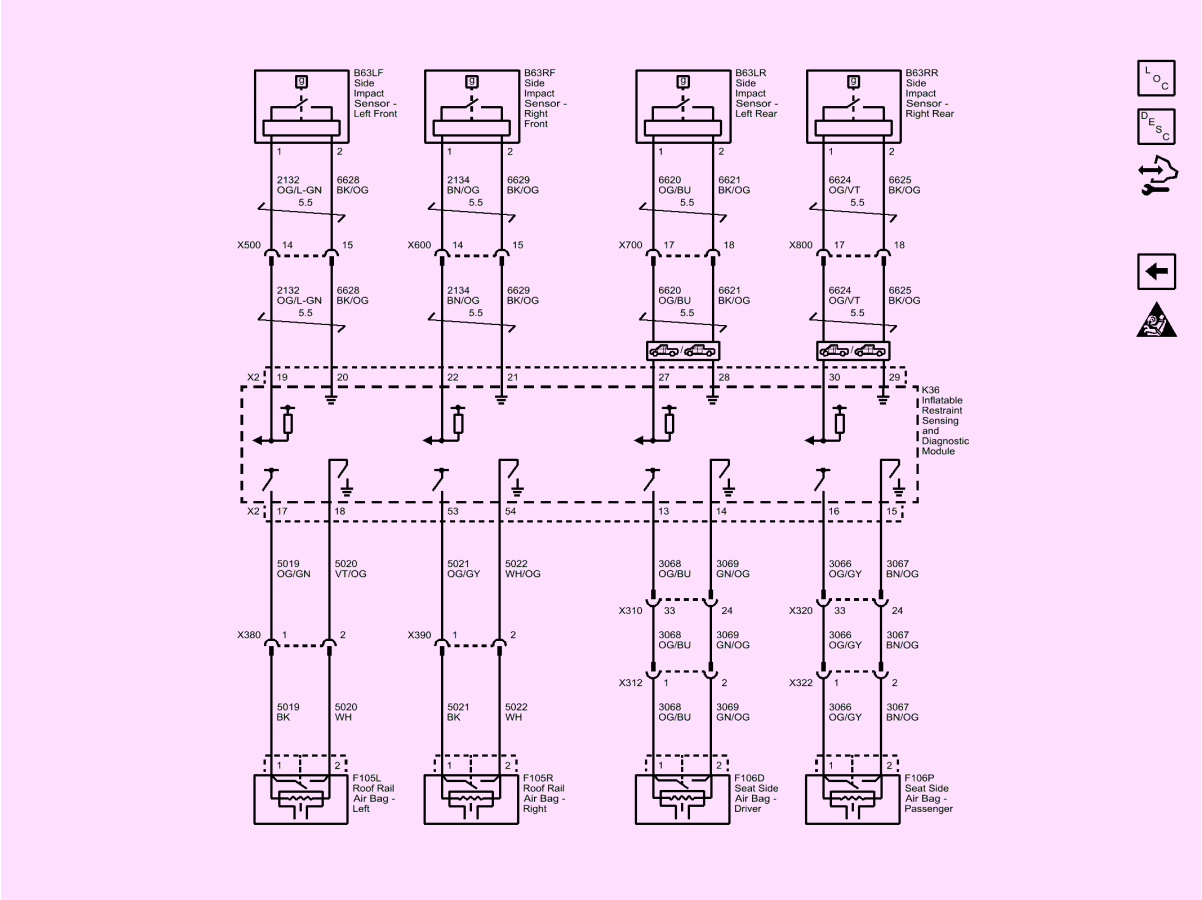


Fig. 6: Side Impact Sensing and Deployment (AY0)
Courtesy of GENERAL MOTORS COMPANY

DIAGNOSTIC INFORMATION AND PROCEDURES

DTC B0012 OR B0013: DRIVER STEERING WHEEL AIR BAG DEPLOYMENT LOOP STAGE 1/2

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category

DTC Descriptors

DTC B0012 01

Driver Steering Wheel Air Bag Deployment Loop Stage 1 Short to Battery

DTC B0012 02

Driver Steering Wheel Air Bag Deployment Loop Stage 1 Short to Ground

DTC B0012 04

Driver Steering Wheel Air Bag Deployment Loop Stage 1 Open

Position	Definition	Character	Description
		V	7,001-8,000 lbs/Hydraulic/Extended Cab
		0	9,001-10,000 lbs/Hydraulic/Standard Cab
		1	9,001-10,000 lbs/Hydraulic/Crew Cab
		2	9,001-10,000 lbs/Hydraulic/Extended Cab
		3	10,001-14,000 lbs/Hydraulic/Standard Cab
		4	10,001-14,000 lbs/Hydraulic/Crew Cab
		5	10,001-14,000 lbs/Hydraulic/Extended Cab
5	Line Chassis	C	4x2
		1	
		K	4x4
		2	
6	Series	L	1500 GMC Sierra Fleet/Base
		M	1500 GMC Sierra SLE
		N	1500 GMC Sierra SLT
		P	1500 GMC Sierra Denali
		R	2500 GMC Sierra Fleet/Base
		S	2500 GMC Sierra SLE
		T	2500 GMC Sierra SLT
		U	2500 GMC Sierra Denali
		V	3500 GMC Sierra Fleet/Base
		W	3500 GMC Sierra SLE
		X	3500 GMC Sierra SLT
		Y	3500 GMC Sierra Denali
		9	GMC Sierra, (Non-US, Non-Canada)
7	Restraint System	C	Active Manual Belts, Airbag - Driver and Passenger - Front (1st row)
		E	Active Manual Belts, Airbags - Driver and Passenger - Front (1st row), Front Seat Side (1st row), Roof Side (all seating rows)
8	Engine Type	B	RPO LC8, Engine Flexible Fuel, (CNG/LGP), 8 Cyl, V8,6.0L, SFI
		C	RPO L83, Engine Gas, 8 Cylinder, 5.3L, SIDI VVT, AFM, E85 MAX, Aluminum
		G	RPO L96, Engine Flexible Fuel, (Gas/Ethanol), 8 Cylinder, 6.0L, SFI, Iron
		H	RPO LV3. Engine Gas, 6 Cylinder, 4.3L, SIDI, V6, VVT, OHV, E85 MAX, Aluminum
		J	RPO L86, Engine Gas, 8 Cylinder, 6.2L, SIDI VVT, AFM, E85 MAX, Aluminum
		P	RPO LV1, Engine Gas, 6 Cylinder, 4.3L, SIDI, V6, VVT, E85 MAX, Iron
9	Check Digit	-	Check Digit
10	Model Year	H	2017
11	Plant Location	F	Flint, Michigan, USA

Parameter	System State	Expected Value	Description
PC Sol. 5 CKT Status	OK or Indeterminate	OK, Open/Short to GND, Short to Volts, Indeterminate	This parameter displays OK, Open/Short to GND, Short to Volts.
PC Sol. 5 Pressure Comm	No	Yes/No	This parameter displays Yes or No. Yes, solenoid pressure is commanded. No, solenoid pressure is not commanded.
Shift Sol. 1 CKT Status	OK or Indeterminate	OK, Open/Short to GND, Short to Volts, Indeterminate	This parameter displays OK, Open/Short to GND, Short to Volts, or Indeterminate.
Shift Solenoid 1	ON	On/Off	This parameter displays the commanded state of the reverse, 1st shift solenoid valve (S1). The scan tool displays On/Off.
Shift Sol. 2 CKT Status	OK or Indeterminate	OK, Open/Short to GND, Short to Volts, Indeterminate	This parameter displays OK, Open/Short to GND, Short to Volts, or Indeterminate.
Shift Solenoid 2	ON	On/Off	This parameter displays the commanded state of the 2-3, 3-4 shift solenoid valve (S2). The scan tool displays On/Off.
TCC PC Sol. Pressure Comm	No	Yes/No	This parameter displays Yes or No. Yes, solenoid pressure is commanded. No, solenoid pressure is not commanded.
TCC Slip Speed	Varies	RPM	This parameter displays the difference between transmission input speed and engine speed. A negative value indicates that the engine speed is less than the input speed, deceleration. A positive value indicates that the engine speed is greater than the input speed, acceleration. A value of zero indicates that the engine speed is equal to the input speed, TCC applied.
TCM Temperature	Varies	Â°C (Â°F)	This parameter displays results in Â°C (Â°F).
TFP Switch 1	HI	HI/LOW	This parameter displays the state of the first clutch oil pressure switch. The scan tool displays HI/LOW.
TFP Switch 3	LOW	HI/LOW	This parameter displays state of the 3rd clutch oil pressure switch. The scan tool displays HI/LOW.
TFP Switch 4	LOW	HI/LOW	This parameter displays state of the 4th clutch oil pressure switch. The scan tool displays HI/LOW.

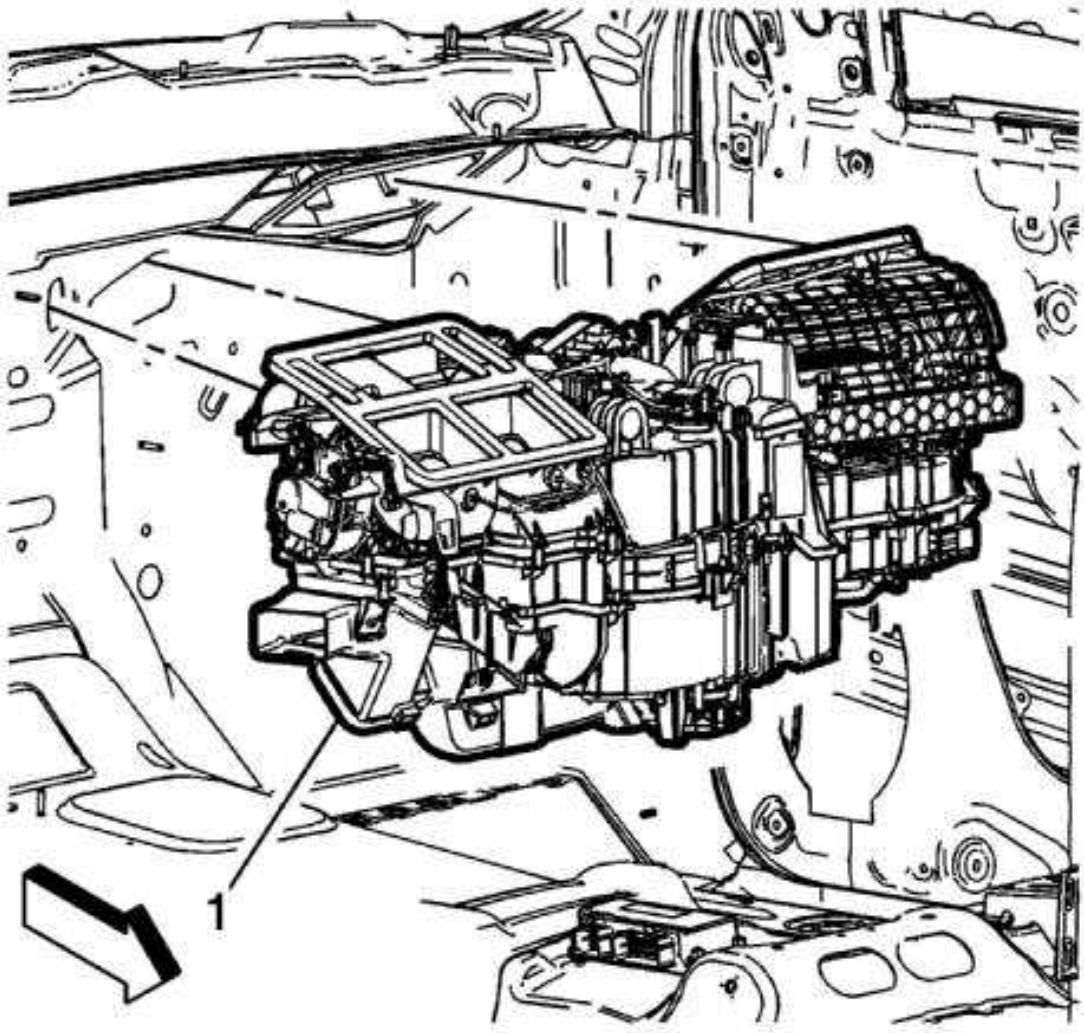


Fig. 172: HVAC Module Assembly
Courtesy of GENERAL MOTORS COMPANY

CAUTION: Refer to HVAC Module Drain Tube Caution .

16. Remove the HVAC module assembly (1) from the vehicle.
17. Transfer all the necessary components.

Installation Procedure

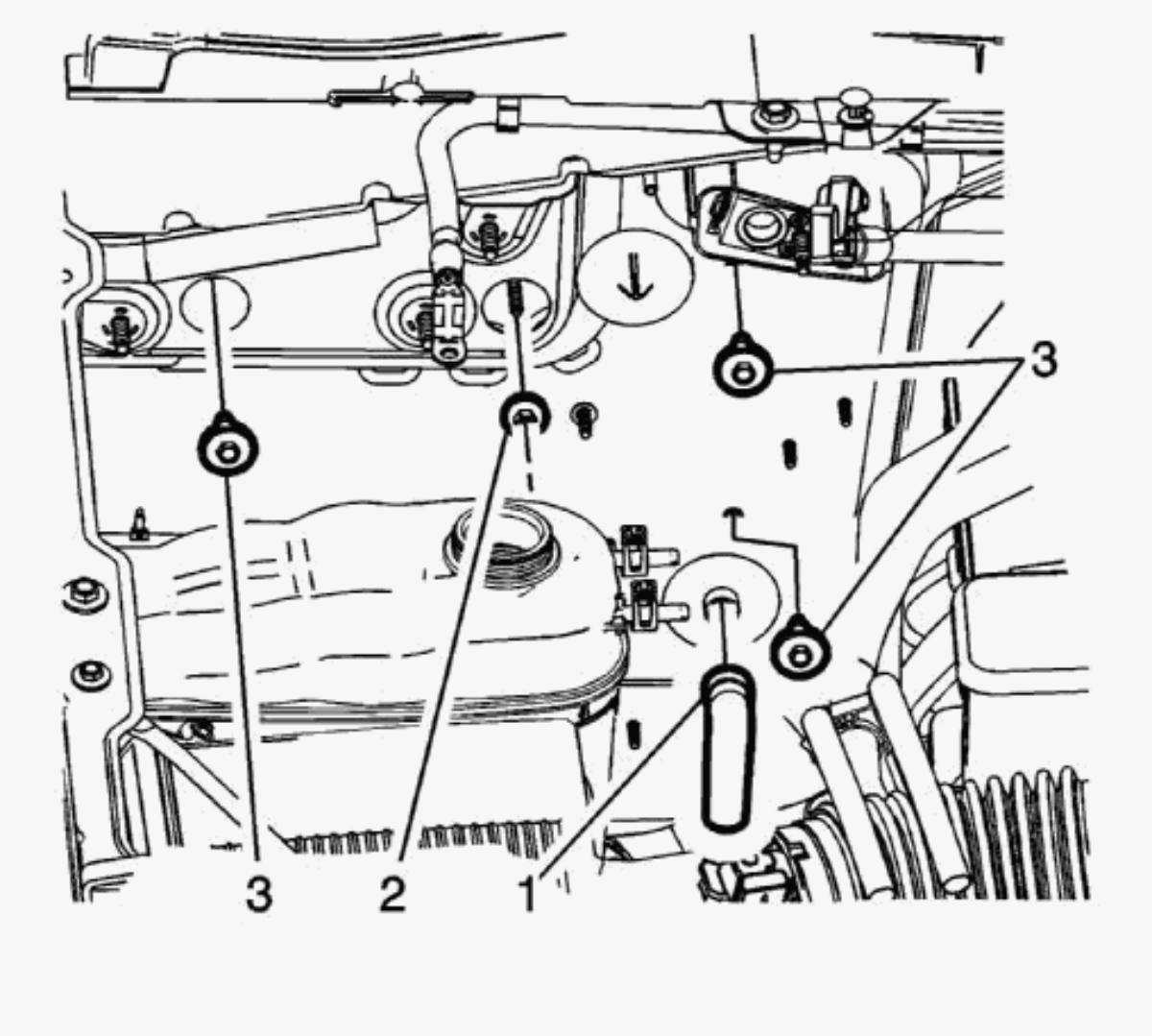


Fig. 176: Air Conditioning Evaporator Case Drain Tube
Courtesy of GENERAL MOTORS COMPANY

15. From within the engine compartment, remove the air conditioning evaporator case drain tube (1) from the heater and air conditioning evaporator and blower module.
16. Remove the heater and air conditioning evaporator and blower module nut, (2) securing the heater and air conditioning evaporator and blower module to the cowl panel.
17. Remove the heater and air conditioning evaporator and blower module bolts, (3) securing the heater and air conditioning evaporator and blower module to the cowl panel.

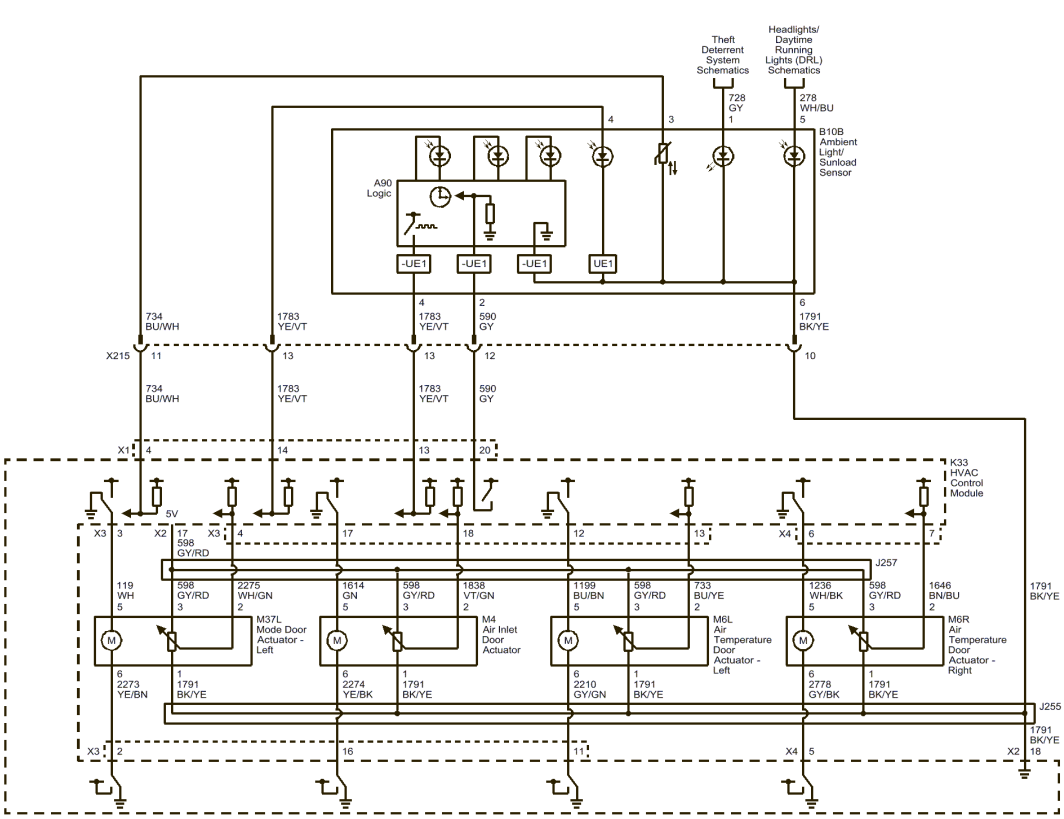


Fig. 3: Ambient Light/Sunload Sensor and Mode Doors

Courtesy of GENERAL MOTORS COMPANY

Auxiliary Heater (C32) and Temperature Sensors

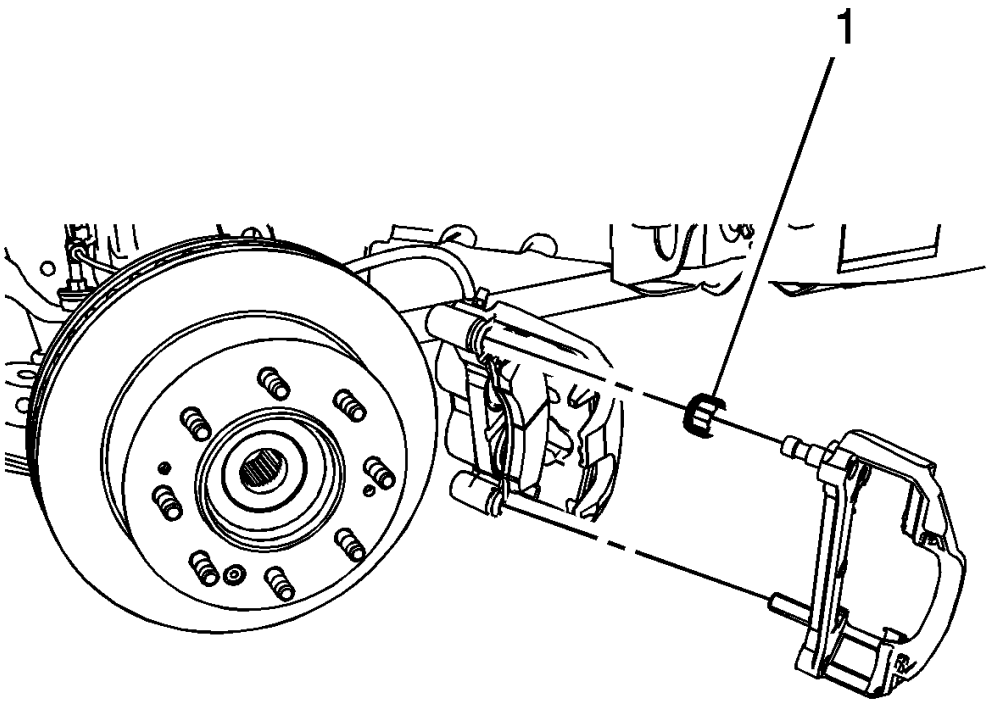


Fig. 30: Upper Brake Caliper Pin Bushing
Courtesy of GENERAL MOTORS COMPANY

3. Install the bushing (1) to the upper brake caliper guide pin.

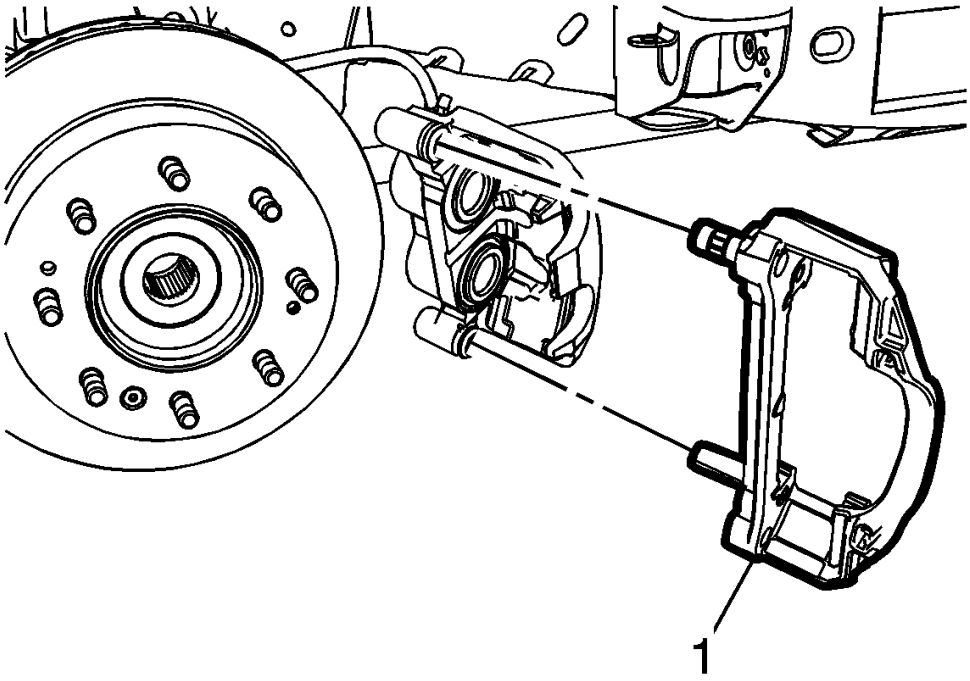
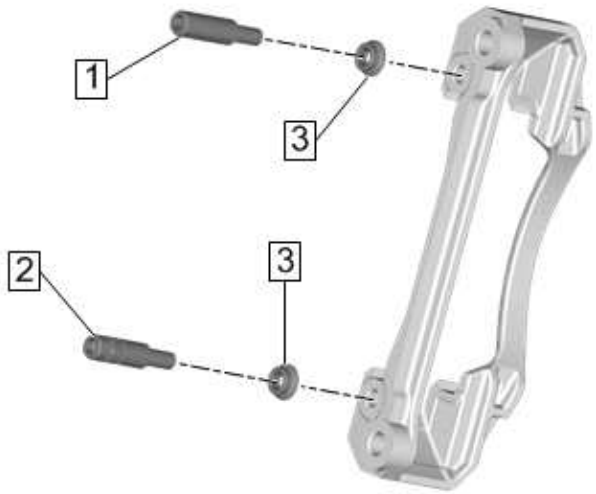


Fig. 145: Identifying Brake Caliper Bracket
Courtesy of GENERAL MOTORS COMPANY

2. Remove the front brake caliper bracket (1) from the caliper.



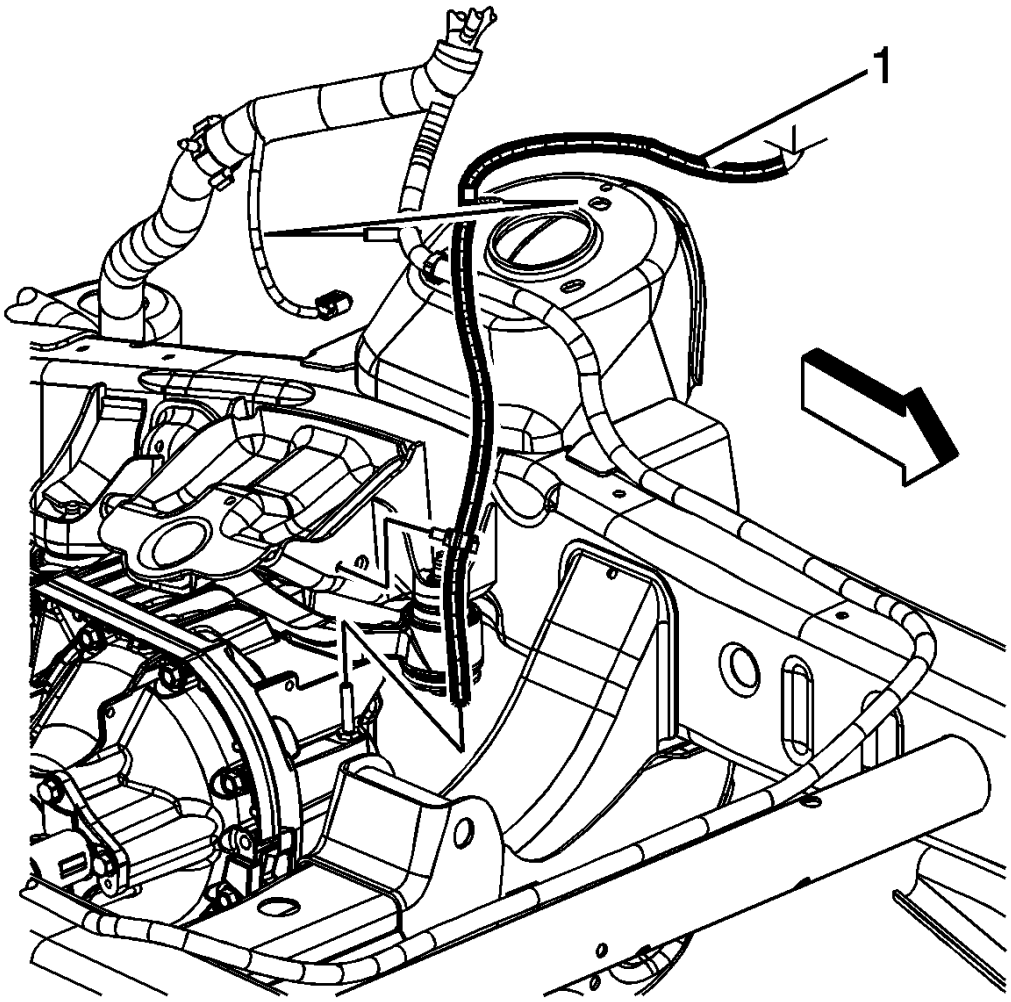


Fig. 36: Locating Vent Hose & Components
Courtesy of GENERAL MOTORS COMPANY

4. Install the vent hose (1) retainers to the frame.
5. Install the steering gear skid shield , if equipped. Refer to **Steering Gear Skid Shield Replacement** .
6. Lower the vehicle.

FRONT AXLE VENT HOSE CONNECTOR REPLACEMENT (9.25 INCH AXLE)

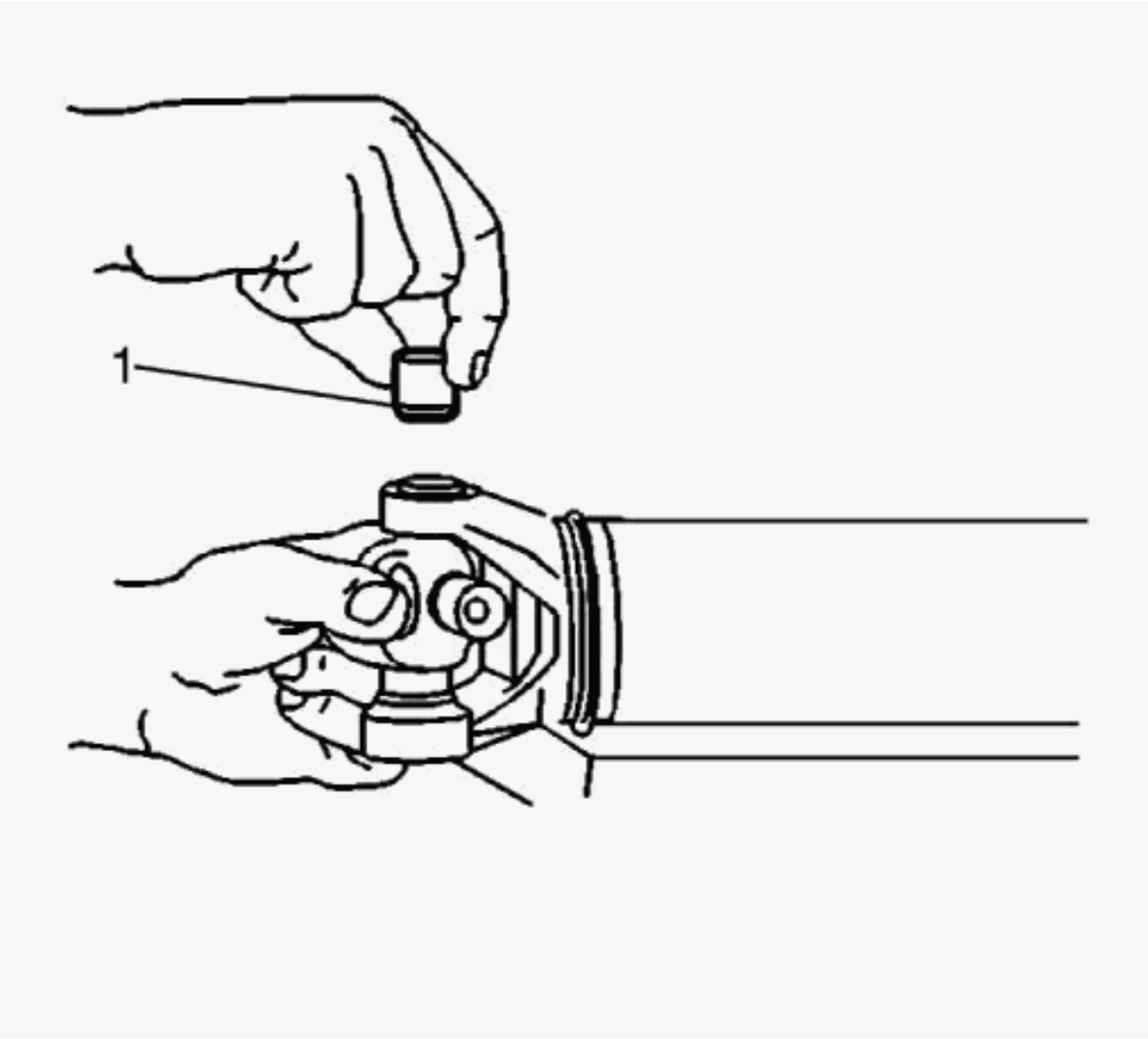


Fig. 62: Installing Bearing Cup Into Yoke Ear
Courtesy of GENERAL MOTORS COMPANY

4. With the trunnion seated in the bearing cup, press the bearing cup (1) into the yoke until the bearing cup is flush with the yoke ear.
5. Install the opposite bearing cup part way into the yoke ear.
6. Ensure that the trunnions start straight and true into both bearing cups.
7. Press the opposite bearing cup into the yoke ear while twisting the spider back and forth, in order to inspect for free unbinding movement of the trunnions in the bearing cups.

Replace the C1 Battery or C1B Battery - Auxiliary.

- **If the test result is not REPLACE BATTERY or BAD CELL-REPLACE**

9. All OK.

Repair Instructions

Perform the **Diagnostic Repair Verification** after completing the repair.

Battery Replacement (Gas) **Battery Replacement (Diesel)**

BATTERY CHARGING

NOTE: **This procedure pertains to charging the 12V battery only. There is no procedure to charge the Hybrid/EV Battery Pack outside of the vehicle.**

Special Tools

EL 50313 Battery Tester

For equivalent regional tools, refer to **Special Tools**

NOTE:

- **The charging area should be well ventilated.**
- **Do not charge a battery that appears to be frozen. Allow the battery to warm to room temperature and test it using the EL 50313 before charging.**
- **An AGM battery may be damaged if charged to more than 14.5 V.**
- **A Flooded Cell battery may be damaged if charged to more than 16.5 V.**
- **Vehicles with dual batteries must be charged individually which will result in two printouts.**

Battery State of Charge

NOTE: **Using voltage to determine the batteries state of charge (SOC) is only accurate after the battery has been at rest for 24 hours. This is enough time for the acid in each cell to equalize. If the battery has been charged or discharged in the past 24 hours, the battery SOC will only be an estimate.**

The maintenance-free batteries SOC is estimated by reading the voltage of the battery across the battery terminals. Because the voltage is affected by current flow into or out of the battery, the engine must be stopped and all electrical loads turned OFF, including parasitic loads, when checking the voltage. The voltage can also be affected if the battery has just been charged or discharged, so it is important to consider what has happened to the battery in the time just before testing. Use the following procedure to determine the battery's state of charge:

1. Be sure all electrical loads are turned OFF.
2. Determine whether the battery has been used in a vehicle or charged within the past 12 hours.
    - If the answer is no, the terminal voltage will be stabilized and no action is necessary before reading the voltage. Skip to step 3.
    - If the answer is yes, terminal voltage will not be stabilized and you should wait 12 hours since the

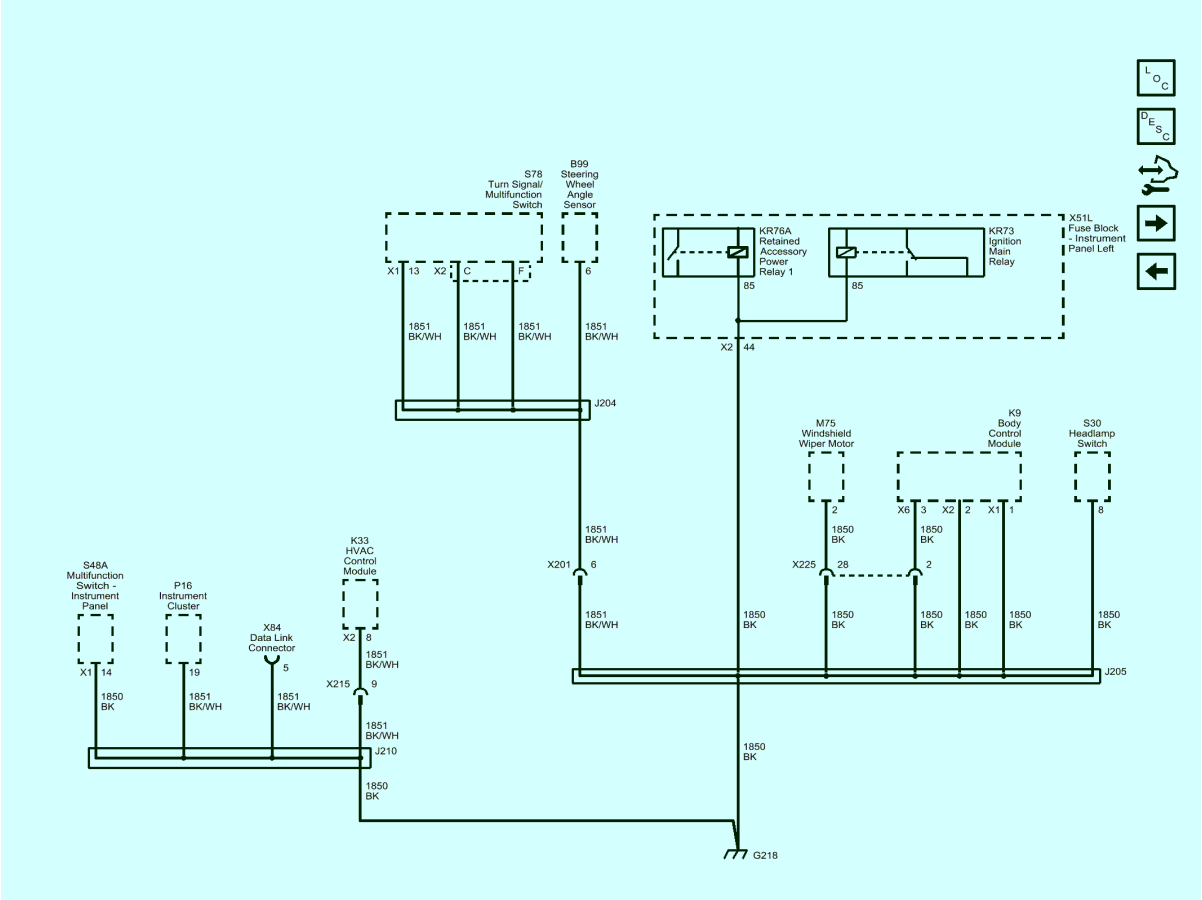
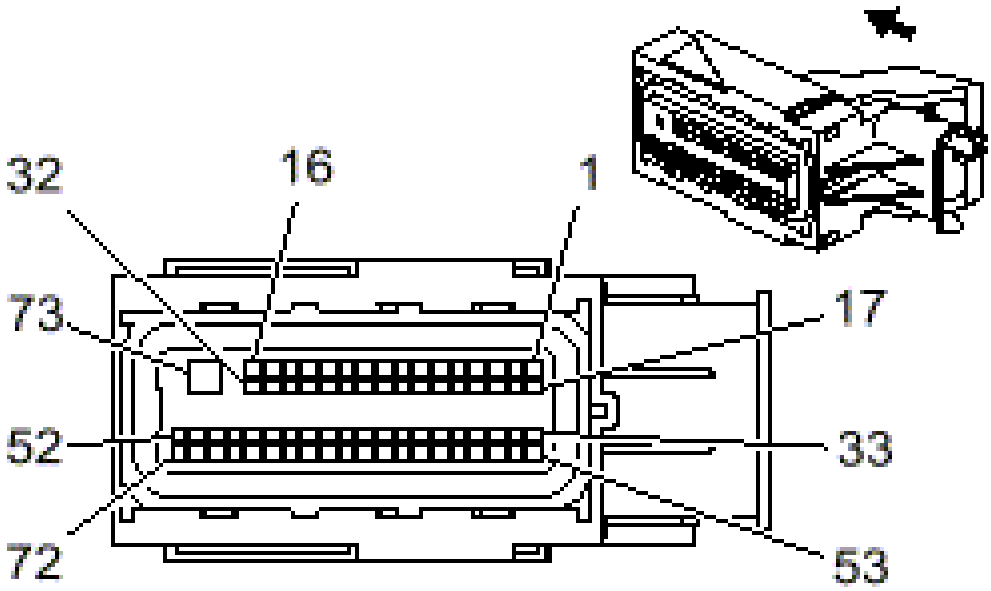


Fig. 9: G218 (1500 with E29)
Courtesy of GENERAL MOTORS COMPANY

G311 (1500)



Connector Part Information

- Harness Type: Engine
- OEM Connector: 13820453
- Service Connector: 19260919
- Description: 73-Way F 0.64, 2.8 Series, Sealed (BK with BU Terminal Position Assurance)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575797	J-35616-4A (PU)	J-38125-11A	7116-4152-02	Yazaki 9	A	5
II	13575812	J-35616-64B (LT BU)	J-38125-213	33467-0003	Delphi 23	Not Available	J

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	-	-	-	Not Occupied	-	-
2	0.5	BU/WH	7446	Fuel Line Pressure Sensor Signal	II	-
3	-	-	-	Not Occupied	-	-
4	0.5	YE/WH	3200	Throttle Inlet Absolute Pressure Sensor Signal	II	-
5	0.5	WH/RD	3201	Throttle Inlet Absolute Pressure Sensor 5V Reference	II	-
6	0.5	GN	380	A/C Refrigerant Pressure Sensor Signal	II	-
7	-	-	-	Not Occupied	-	-

Special Tools

- **EL-38125-550** Terminal Release Tool Kit
- **EL-38125-580** Terminal Release Tool Kit
- **J-38125-213** Terminal Release Tool
- **J-38125-556** Terminal Release Tool

For equivalent regional tools, refer to **Special Tools** .

Terminal Removal Procedure

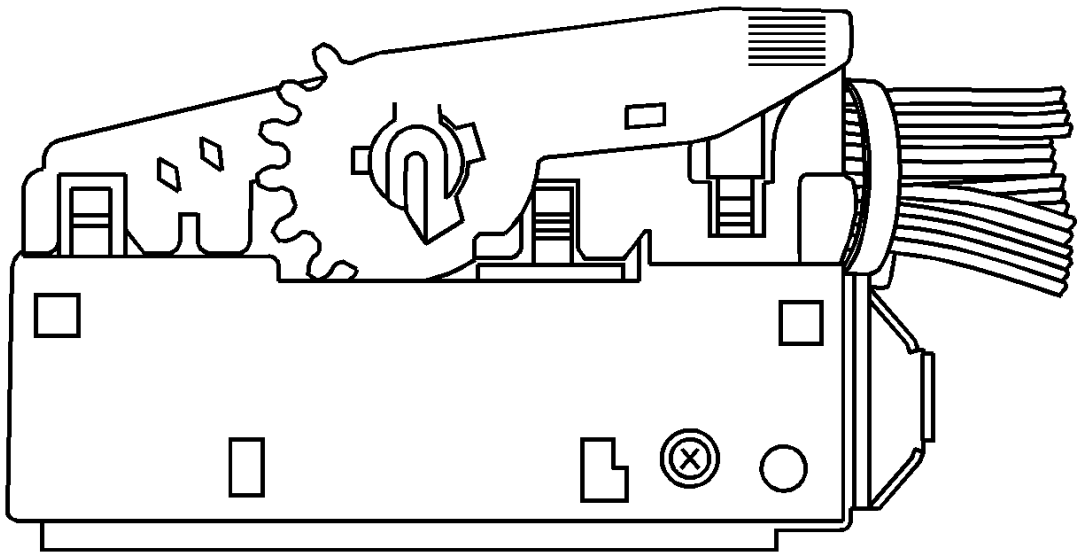


Fig. 39: View Of Bosch Connectors
Courtesy of GENERAL MOTORS COMPANY

1. Locate the assist lever on the top of the connector. Move the assist lever to the forward position.