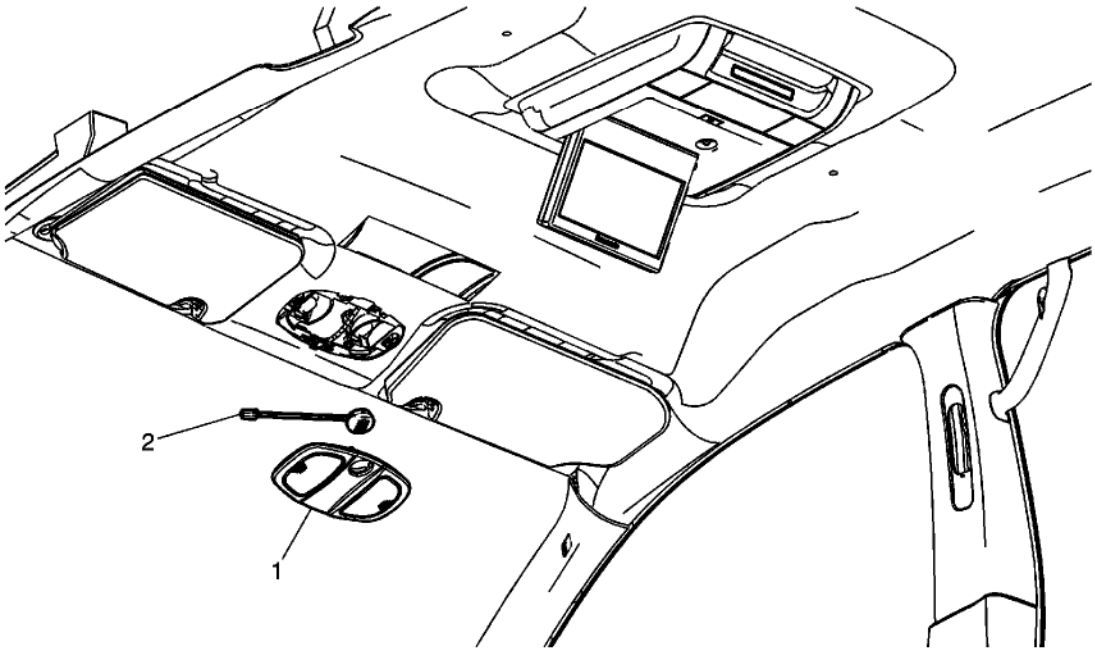
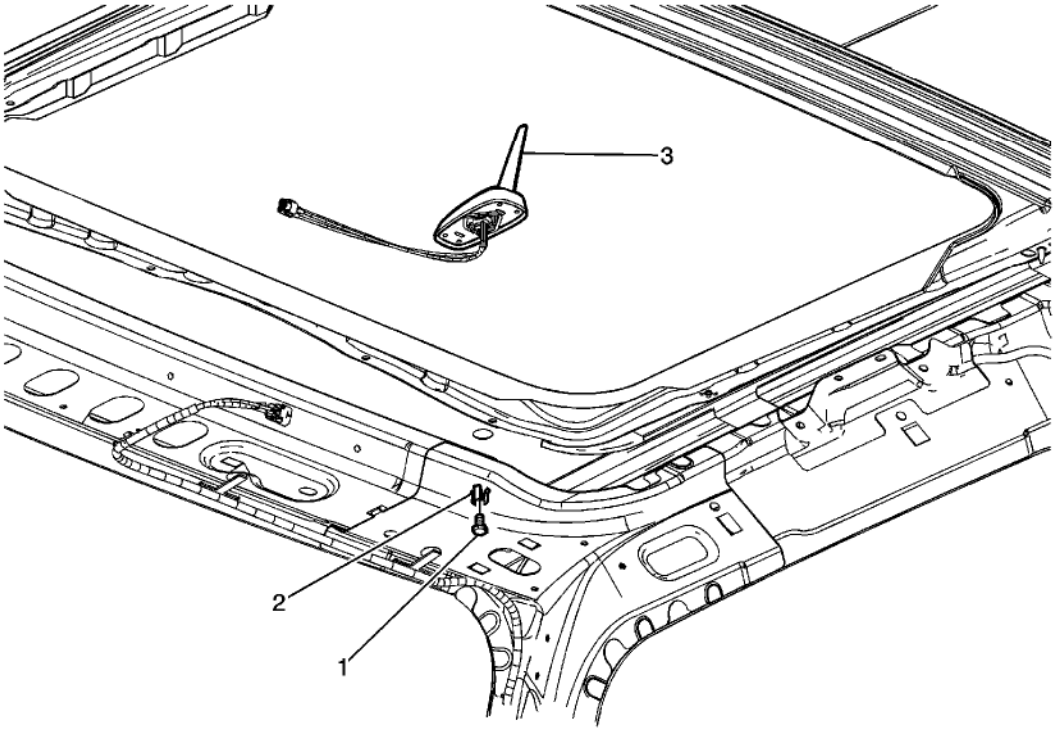
Mobile Telephone Microphone Replacement



Callout	Component Name
Preliminary Procedures 1. Remove the windshield pillar moldings. Refer to Windshield Upper Garnish Molding Replacement. 2. Remove the sunshades. Refer to Sunshade Replacement.	
1	Reading Lamp Assembly **Procedure** 1. Pull gently at the front of the reading lamp cover to disengage the retainer clips. 2. Rotate the cover rearward until the rear attaching hooks are released. 3. Disconnect the electrical connectors.
2	Mobile Telephone Microphone Assembly

Cellular and Navigation Antenna Assembly Replacement

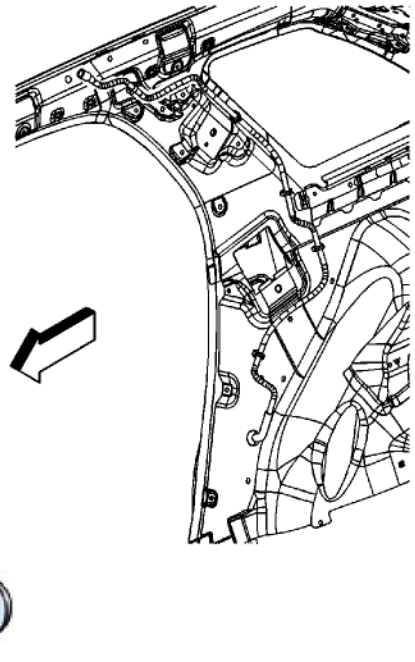


Callout	Component Name
Preliminary Procedure Lower the front of the headliner. Refer to Headlining Trim Panel Replacement.	
1	Mobile Telephone and Vehicle Location Antenna Assembly Bolt **Caution:** Refer to Fastener Caution in the Preface section. **Tighten** 5 N·m (44 lb in)
2	Mobile Telephone and Vehicle Location Antenna Expansion Sleeve
3	Mobile Telephone and Vehicle Location Antenna Assembly **Tip** Disconnect electrical connections.

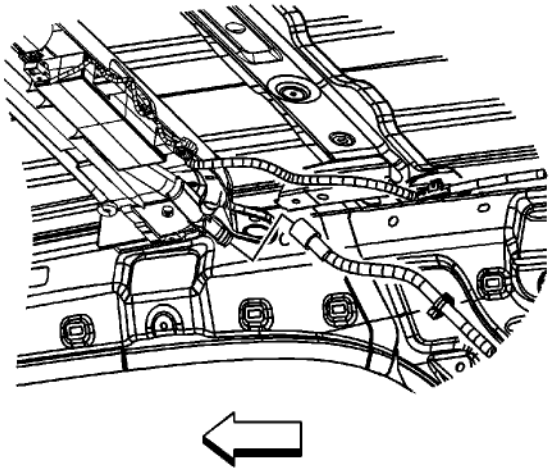
5. Remove the rear side trim panels. Refer to Center Pillar Upper Garnish Molding Replacement .
6. Remove the lower portion of the rear drain hoses from the retaining clips.
7. Pull the rear drain hoses up through the side rail.

Installation Procedure

1. Route the rear drain hose down through the access hole in the side rail.



2. Push the end of the rear drain hoses down into the rear compartment opening.
3. Clip the lower portion of the rear drain hoses into position.
4. Install the rear side trim panels. Refer to Center Pillar Upper Garnish Molding Replacement .
5. Clip the upper portion of the rear drain hoses into position.



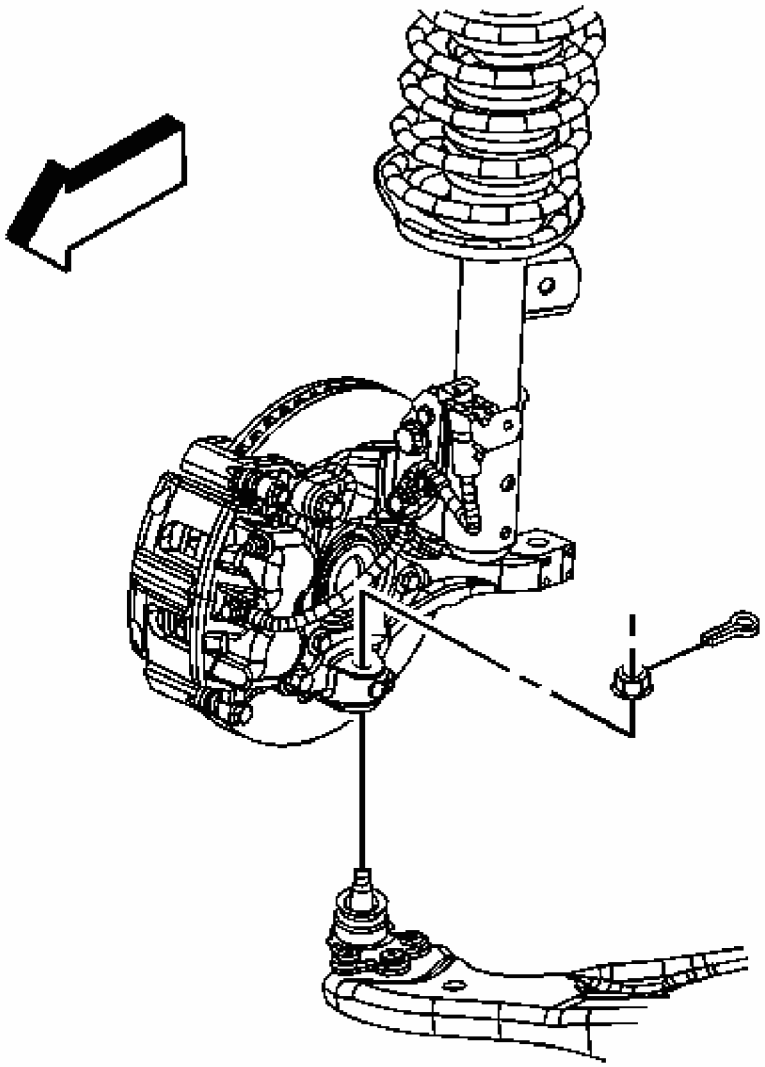


Fig. 223: View Of Lower Ball Joint At Steering Knuckle
Courtesy of GENERAL MOTORS CORP.

32. Install the right and left lower ball joints to the steering knuckles. Refer to **Lower Control Arm Replacement** in Front Suspension.

The bypass is designed to open at 69-83 kPa (10-12 psi).

A priority oil delivery system supplies oil first to the crankshaft journals. The oil from the crankshaft main bearings is supplied to the connecting rod bearings by intersecting the passages drilled in the crankshaft. The passages supply the oil to the crankshaft main bearings and the camshaft bearings through the intersecting vertical drilled holes. The oil passages from the camshaft journals supply oil to the hydraulic lifters.

The hydraulic lifters pump oil up through the pushrods to the rocker arms. The cast dams in the crankcase casting direct the oil that drains back from the rocker arms in order to supply the camshaft lobes. The camshaft chain drive is lubricated by indirect oil splash.

CLEANLINESS AND CARE

An automobile engine is a combination of many of the following surfaces:

- Machined
- Honed
- Polished
- Lapped

The tolerances of these surfaces are measured in the ten-thousandths of an inch. When you service any internal engine part, cleanliness and care are important. Apply a liberal coating of engine oil to the friction areas during assembly in order to protect and lubricate the surfaces on initial operation. Throughout this section, practice proper cleaning and protection procedures to the machined surfaces and to the friction areas.

NOTE: Engine damage may result if an abrasive paper, pad, or motorized wire brush is used to clean any engine gasket surfaces.

Whenever you remove the valve train components, keep the components in order. Follow this procedure in order to install the components in the same locations and with the same mating surfaces as when removed.

CAUTION: Refer to Battery Disconnect Caution in Cautions and Notices.

Disconnect the negative battery cables before you perform any major work on the engine. For more information on the disconnection of the battery, refer to Engine Electrical.

SEPARATING PARTS

In addition to the room temperature vulcanizing (RTV) sealant's sealing capabilities, the RTV sealants may form an adhesive bond between the components. This may make the

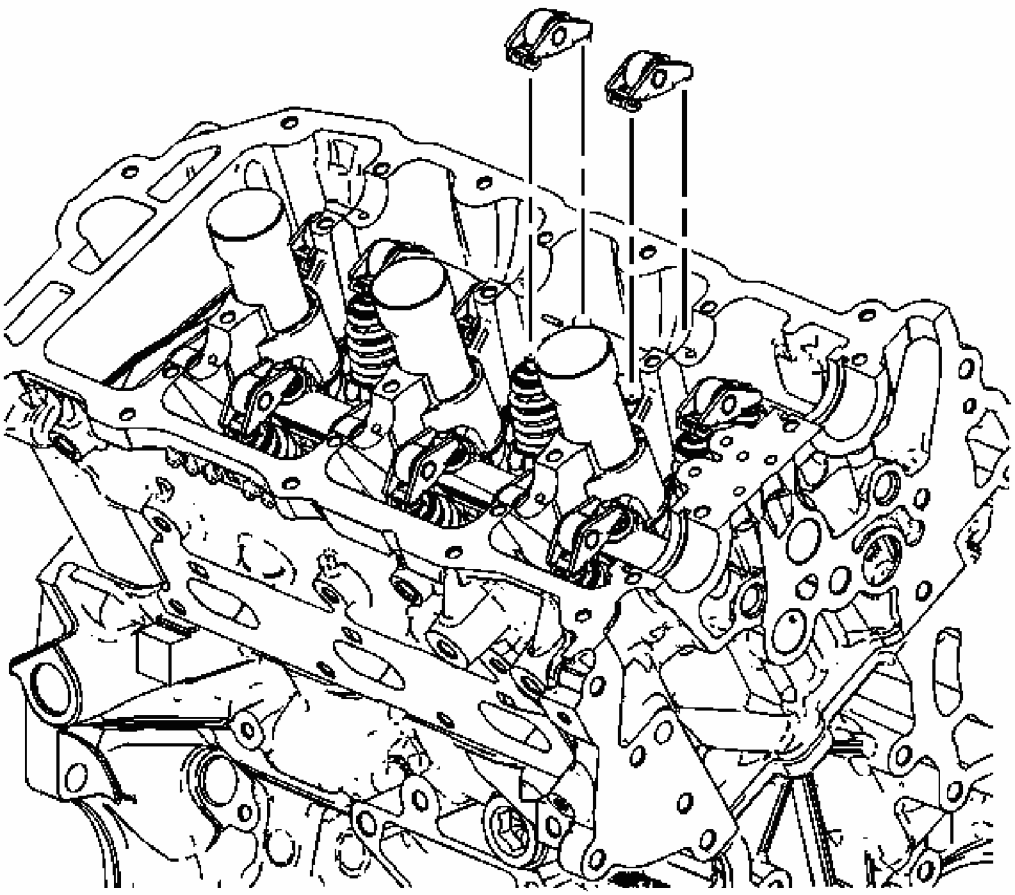
Actuator Installation - Right Side Exhaust (Second Design) .

5. Install the intake camshaft position actuator solenoid. Refer to **Camshaft Position Actuator Solenoid Valve Solenoid Replacement - Bank 1 (Right Side) Intake** .
6. Install the camshaft sensors. Refer to **Camshaft Position Sensor Replacement - Bank 1 (Right Side) Exhaust** and **Camshaft Position Sensor Replacement - Bank 1 (Right Side) Intake** .
7. Install the camshaft cover. Refer to **Camshaft Cover Replacement - Right Side**.
8. Install the upper intake manifold with the lower intake manifold. Refer to **Lower Intake Manifold Replacement**.

VALVE ROCKER ARM REPLACEMENT - LEFT SIDE

REMOVAL PROCEDURE

1. Remove the applicable camshaft(s). Refer to **Camshaft Replacement - Left Side**.



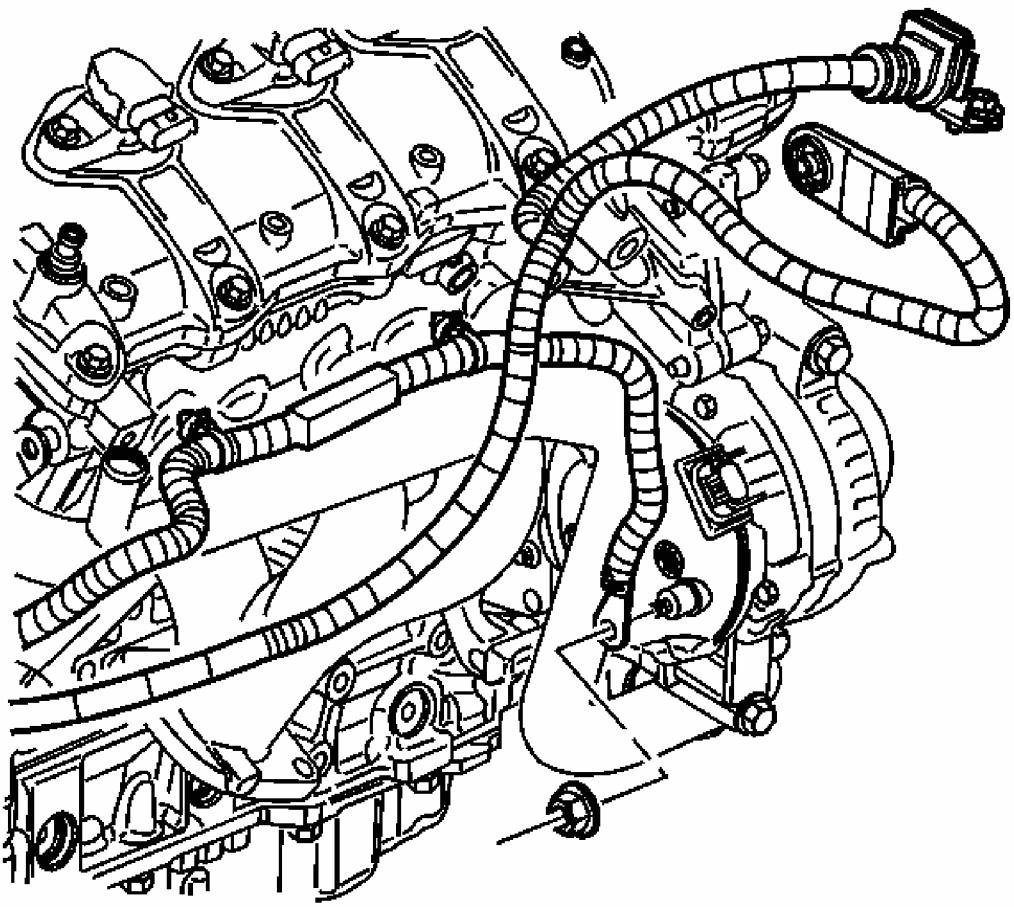


Fig. 41: View Of Generator Battery Cable
Courtesy of GENERAL MOTORS CORP.

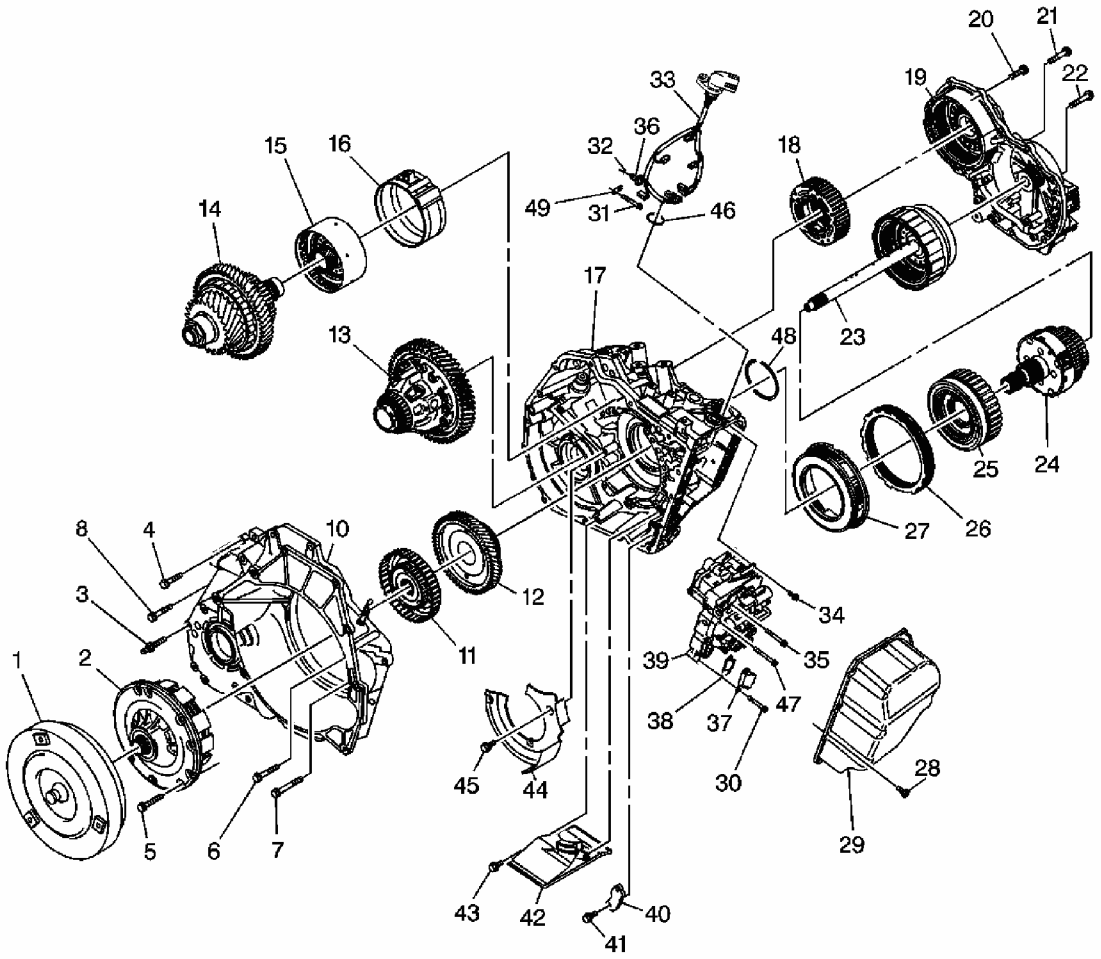
27. Connect the battery cable to the generator.
28. Install the battery cable/generator nut to the generator.

Tighten: Tighten the battery cable/generator nut to 13 N.m (115 lb in).

Callouts For Fig. 3

Callout	Component Name
36	Automatic Transmission Fluid Temperature Sensor
62	Automatic Transmission Output Speed Sensor
73	Automatic Transmission Input Speed Sensor
75	Park/Neutral Position Switch
300	1-2, 2-3, Reverse, Shift Solenoid Valve Assembly (S3)
303	3-4, 4-5 Shift Solenoid Valve Assembly (S4)
305	Reverse Shift Valve Solenoid (S5)
308	2-3, 3-4 Shift Solenoid Valve Assembly (S2)
310	Reverse, 1st Shift Solenoid Valve Assembly (S1)
316	Line Pressure Control Solenoid Valve Assembly (SLT)
339	TCC Lock Up Pressure Control Solenoid Valve Assembly (SLU)
340	Shift Pressure Control Solenoid Valve Assembly (SLS)

DISASSEMBLED VIEWS



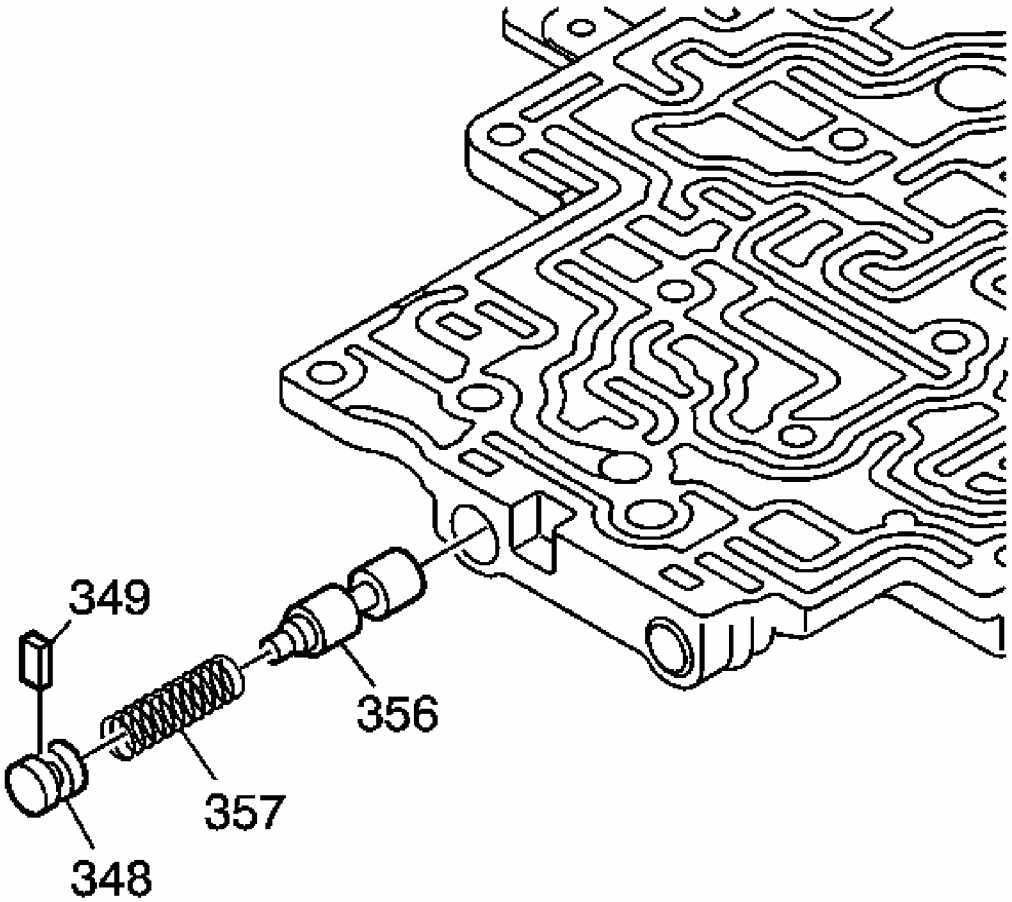


Fig. 376: Exploded View Of Neutral Relay Valve Assembly
Courtesy of GENERAL MOTORS CORP.

13. Remove the sleeve/bore plug retainer (349).
14. Remove the solenoid modulator valve bore plug (348).
15. Remove the neutral relay valve spring (357).
16. Remove the neutral relay valve (356).

2006 BRAKES

Disc Brakes - Equinox & Torrent

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Brake Caliper Bleeder Valve	13 N.m	115 lb in
Brake Caliper Guide Pin Bolt	44 N.m	32 lb ft
Brake Caliper Mounting Bracket Bolt	185 N.m	136 lb ft
Brake Hose-to-Brake Caliper Bolt	44 N.m	32 lb ft

DISC BRAKE COMPONENT SPECIFICATIONS

Disc Brake Component Specifications

Application	Specification	
	Metric	English
Brake Pad Lining Minimum Thickness	2.0 mm	0.080 in
Brake Pad Lining Thickness - New	9.6 mm	0.380 in
Brake Rotor Diameter	296.00 mm	11.654 in
Brake Rotor Discard Thickness*	24.5 mm	0.960 in
Brake Rotor Maximum Allowable Assembled Lateral Runout	0.06 mm	0.002 in
Brake Rotor Maximum Allowable Scoring	1.50 mm	0.059 in
Brake Rotor Maximum Allowable Thickness Variation	0.025 mm	0.001 in
Brake Rotor Minimum Allowable Thickness After Refinish	24.5 mm	0.960 in
Brake Rotor Thickness - New	26.0 mm	1.024 in
* All brake rotors have a discard dimension cast into them. Replace any rotor that does not meet this specification. After refinishing the rotor, replace any rotor that does not meet the minimum thickness specification.		

DIAGNOSTIC INFORMATION AND PROCEDURES

DIAGNOSTIC STARTING POINT - DISC BRAKES

Begin the disc brake system diagnosis with **Diagnostic Starting Point - Hydraulic Brakes**

OSHA, EPA, DOT, and various state or local agencies. Other regulations may also apply in other locations. Always know and follow these regulations when handling batteries.

Batteries that are no longer wanted must be disposed of by an approved battery recycler and must never be thrown in the trash or sent to a landfill.

Batteries that are not part of the vehicle itself, not the battery under the hood, must only be transported on public streets for business purposes via approved hazardous material transportation procedures.

Battery storage, charging and testing facilities in repair shops must meet various requirements for ventilation, safety equipment, material segregation, etc.

The maintenance free battery is standard. There are no vent plugs in the cover. The battery is completely sealed except for 2 small vent holes in the side. These vent holes allow the small amount of gas that is produced in the battery to escape.

The battery has 3 functions as a major source of energy:

- Engine cranking
- Voltage stabilizer
- Alternate source of energy with generator overload

The battery specification label, example below, contains information about the following:

- The test ratings
- The original equipment catalog number
- The recommended replacement model number

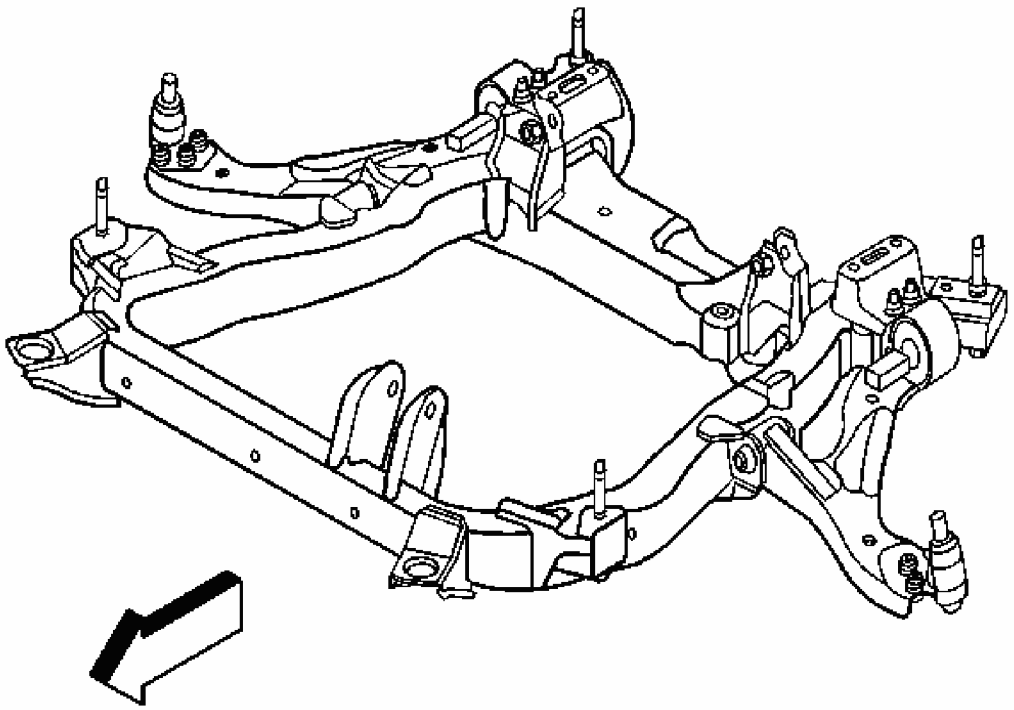


Fig. 8: View Of Frame
Courtesy of GENERAL MOTORS CORP.

14. Remove the frame-to-body bolts. Discard the bolts.
15. Carefully lower the frame from the vehicle.
16. Remove the lower control arms. Refer to **Lower Control Arm Replacement** in Front Suspension.

Installation Procedure

1. Install the lower control arms. Refer to **Lower Control Arm Replacement** in Front Suspension.
2. Raise the frame to the body.

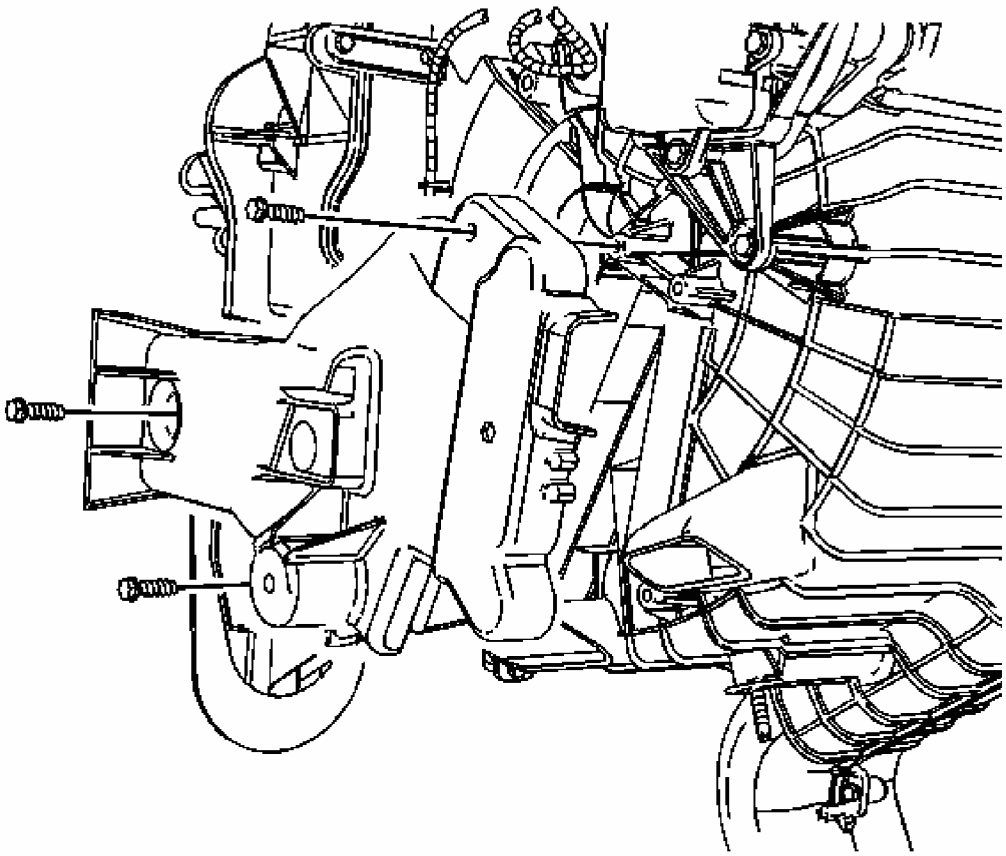


Fig. 201: View Of Heater Core Cover Screws
Courtesy of GENERAL MOTORS CORP.

2. Install the heater core cover to the HVAC module.

NOTE: Refer to Fastener Notice in Cautions and Notices.

3. Install the heater core cover screws to the HVAC module.

   Tighten: Tighten the screw to 1.5 N.m (13 lb in).

4. Install the HVAC module to the vehicle. Refer to **HVAC Module Assembly Replacement**.

SPECIAL TOOLS AND EQUIPMENT

SPECIAL TOOLS

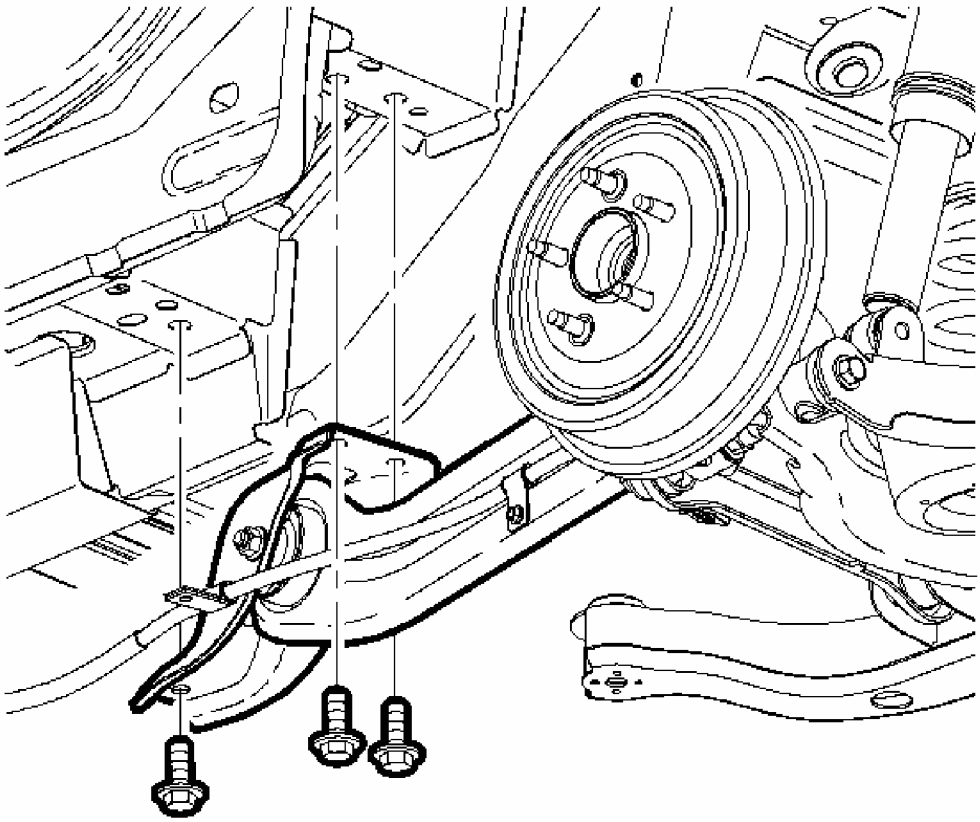
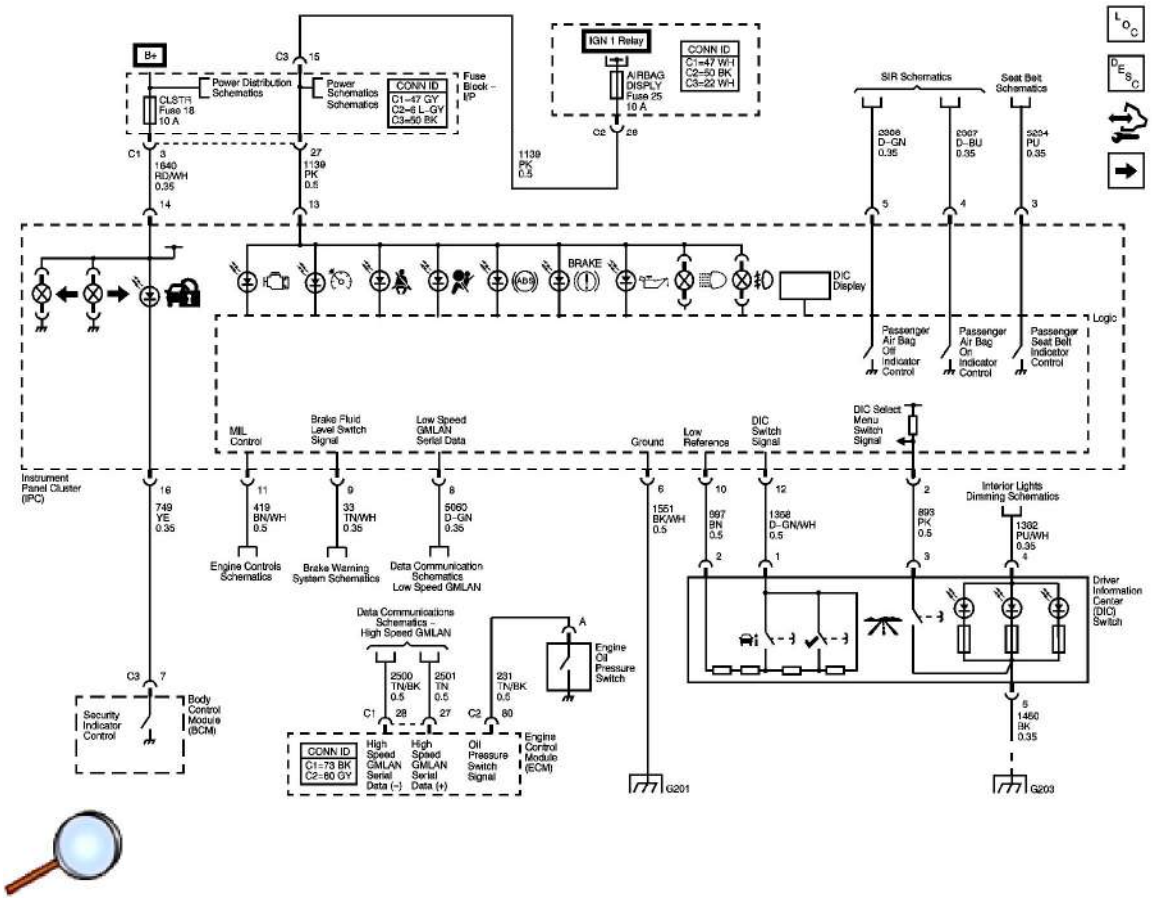


Fig. 65: View Of Trailing Arm Bracket To Body Bolts
Courtesy of GENERAL MOTORS CORP.

4. Remove the trailing arm bracket to underbody bolts.

Indicators


B+
C3
15
Power Distribution Schematics
CLSTR Fuse 18 10 A
Power Schematics Schematics
CONN ID
C1=47 GY
C2=6 L-GY
C3=50 BK
Fuse Block - I/P
IGN 1 Relay
A/RBAG DISPLY Fuse 25 10 A
CONN ID
C1=47 WH
C2=50 BK
C3=22 WH
C1
3
1640 RD/WH 0.35
14
27
1139 PK 0.8
13
C2
28
1139 PK 0.5
SIR Schematics
Seat Belt Schematics
2308 D-GN 0.35
2307 D-BU 0.35
5234 PU 0.35
5
4
3
BRAKE
DIC Display
Logic
Passenger Air Bag Off Indicator Control
Passenger Air Bag On Indicator Control
Passenger Seat Belt Indicator Control
DIC Select Menu Switch Signal
MIL Control
Brake Fluid Level Switch Signal
Low Speed GMLAN Serial Data
Ground
Low Reference
DIC Switch Signal
Instrument Panel Cluster (IPC)
16
749 YE 0.35
11
419 BN/WH 0.5
9
33 TN/WH 0.35
8
5060 D-GN 0.35
6
1551 BK/WH 0.5
10
997 BN 0.5
12
1358 D-GN/WH 0.5
2
893 PK 0.5
Interior Lights Dimming Schematics
1392 PU/WH 0.35
4
Engine Controls Schematics
Brake Warning System Schematics
Data Communication Schematics Low Speed GMLAN
2
1
3
Driver Information Center (DIC) Switch
Data Communications Schematics - High Speed GMLAN
2500 TN/BK 0.5
2501 TN 0.5
C1
28
27
C2
60
231 TN/BK 0.5
A
Engine Oil Pressure Switch
C3
7
Security Indicator Control
Body Control Module (BCM)
CONN ID
C1=73 BK
C2=60 GY
High Speed GMLAN Serial Data (-)
High Speed GMLAN Serial Data (+)
Oil Pressure Switch Signal
Engine Control Module (ECM)
5
1460 BK 0.35
G201
G203