

## 2007 Hummer H3

2007 BRAKES Hydraulic Brakes - H3

### 2007 BRAKES

#### Hydraulic Brakes - H3

## SPECIFICATIONS

### FASTENER TIGHTENING SPECIFICATIONS

#### Fastener Tightening Specifications

Application	Specification	
	Metric	English
Brake Hose to Caliper Bolt, Front	40 N.m	30 lb ft
Brake Hose to Caliper Bolt, Rear	40 N.m	30 lb ft
Brake Pedal Bolt	27 N.m	20 lb ft
Brake Pipe Fittings	19 N.m	14 lb ft
Brake Pipe Fittings, Power Brake Booster Outlet Front Pipe	15 N.m	11 lb ft
Front Brake Caliper Bleed Screw	11 N.m	97 lb in
Front Brake Hose Bracket Bolt	9 N.m	80 lb in
Hose Bracket to Anchor Plate Bolt	25 N.m	18 lb ft
Hose Bracket to Frame Bolt	12 N.m	106 lb in
Hose Bracket to Knuckle Bolt	12 N.m	106 lb in
Hose Bracket to Rear Axle Bolt	22 N.m	16 lb ft
Hose Bracket to Steering Knuckle	9 N.m	80 lb in
Hose Bracket to Upper Control Arm Bolt	9 N.m	80 lb in
Master Cylinder Mounting Nuts	30 N.m	22 lb ft
Master Cylinder Reservoir Bolt	2 N.m	18 lb in
Power Brake Booster Pump Bolts	8 N.m	71 lb in
Power Brake Booster Pump Motor Wire Retaining Screws	3 N.m	27 lb in
Rear Brake Caliper Bleed Screw	10 N.m	89 lb in
Rear Brake Hose Bracket to Jounce Bumper Bolt	9 N.m	80 lb in
Rear Brake Hose to Frame Bolt	2 N.m	17 lb in

### BRAKE SYSTEM SPECIFICATIONS

#### Brake System Specifications

--	--

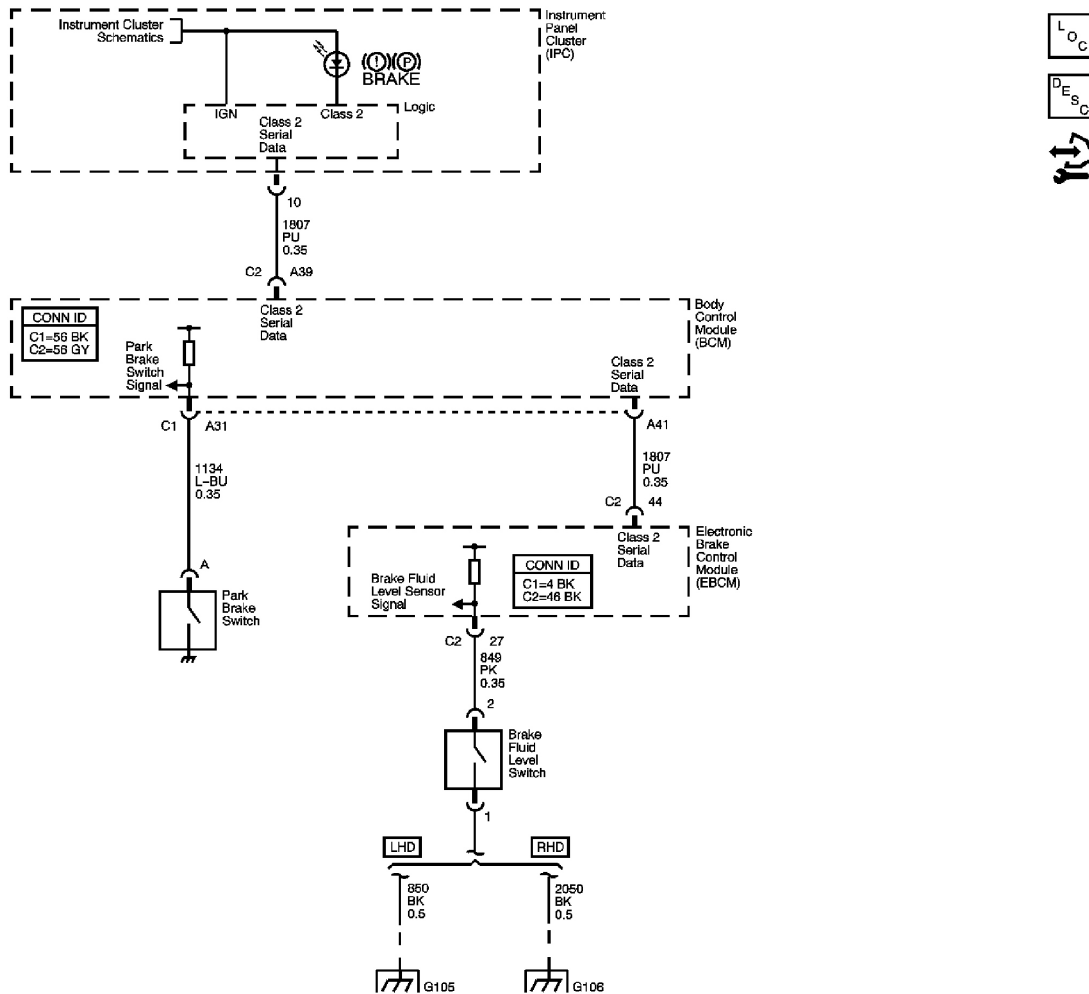
# 2007 Hummer H3

## 2007 BRAKES Hydraulic Brakes - H3

Application	Specification	
	Metric	English
Brake Pedal Maximum Travel*		
<ul style="list-style-type: none"> <li>Hydraulic Power Assist</li> </ul>	61 mm	2.40 in
* Specification with 134 N (30 lbs) of force applied to the brake pedal, the ignition ON and with brakes cool.		

### SCHEMATIC AND ROUTING DIAGRAMS

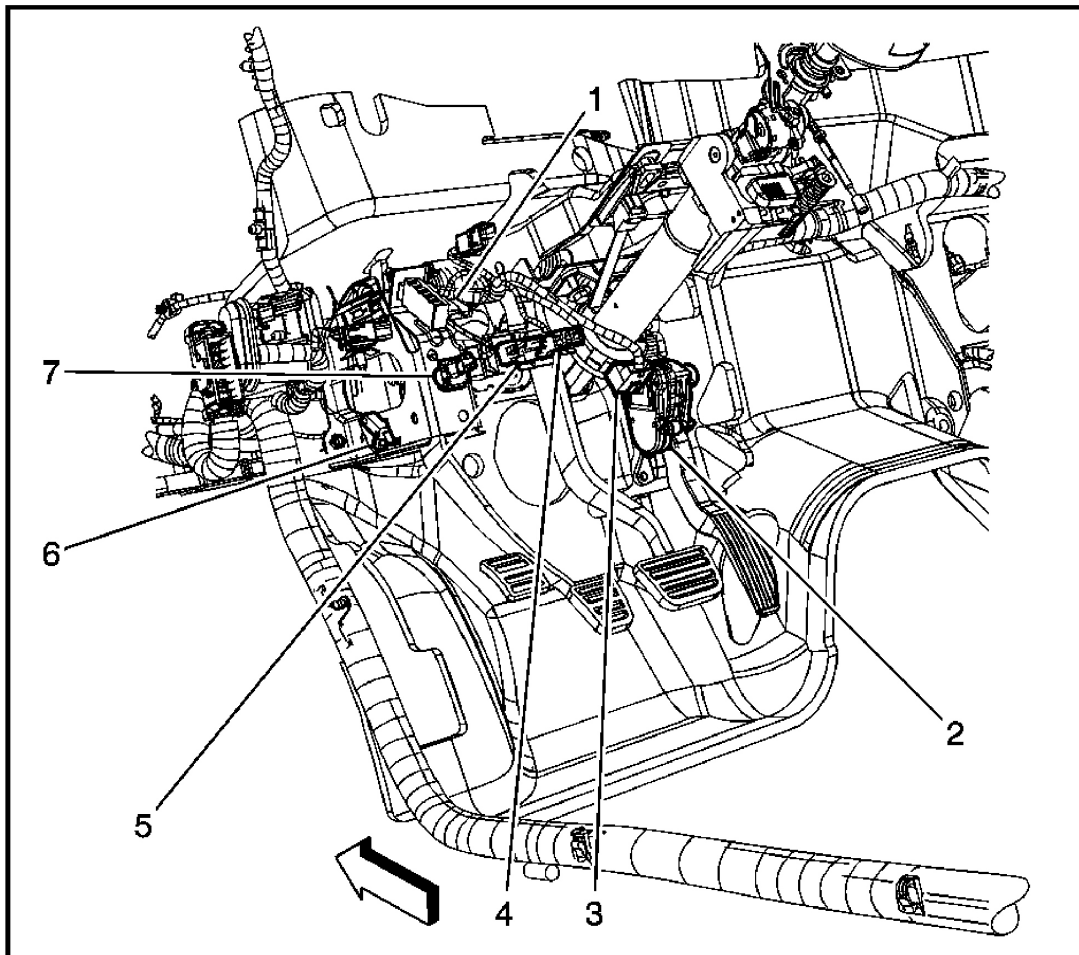
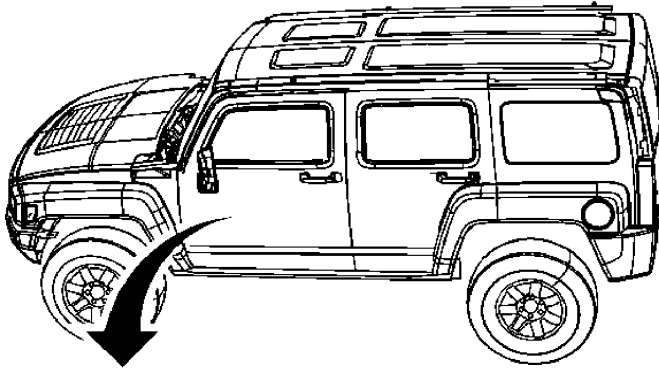
#### HYDRAULIC BRAKE SCHEMATICS



**Fig. 1: Hydraulic Brake Schematic**  
 Courtesy of GENERAL MOTORS CORP.

## COMPONENT LOCATOR

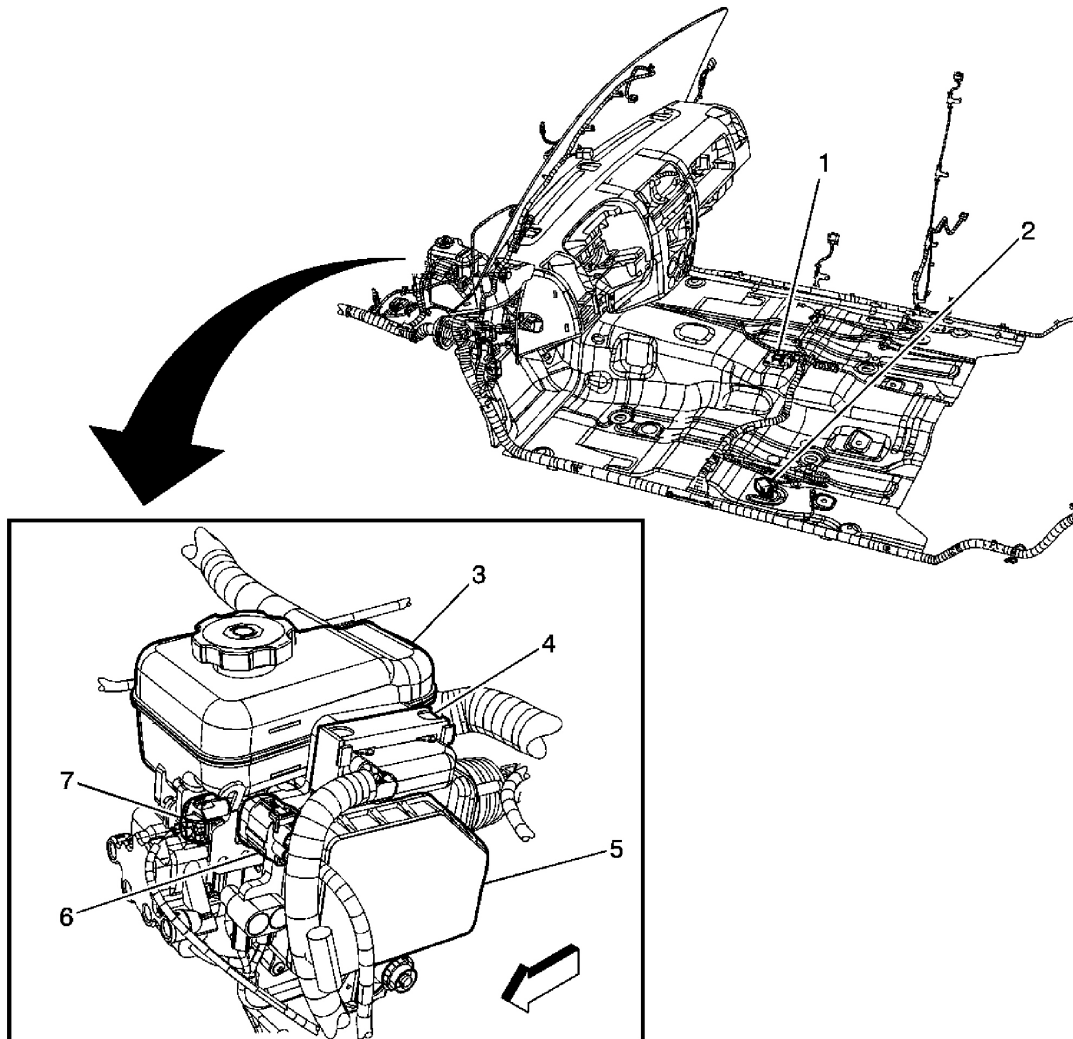
### HYDRAULIC BRAKE COMPONENT VIEWS



**Fig. 2: View Of Components On Lower Left Side Of I/P**  
Courtesy of GENERAL MOTORS CORP.

**Callouts For Fig. 2**

Callout	Component Name
1	Clutch Start Switch (MA5)
2	Accelerator Pedal Position (APP) Sensor
3	Steering Wheel Position Sensor (JL4)
4	TCC Brake/Cruise Release Switch
5	Stop Lamp Switch
6	Park Brake Switch
7	Clutch Release Switch (MA5)



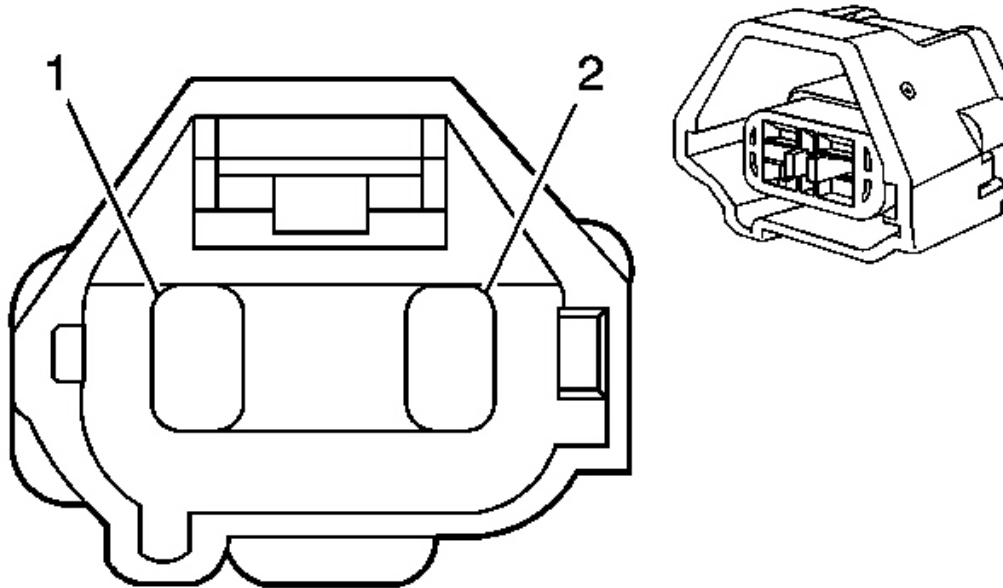
**Fig. 3: Brake Components**  
 Courtesy of GENERAL MOTORS CORP.

**Callouts For Fig. 3**

Callout	Component Name
1	Inflatable Restraint Vehicle Rollover Sensor (ASF)
2	Yaw Rate/Lateral and Longitudinal Accelerometer Sensor (JL4)
3	Brake Fluid Reservoir
4	Electronic Brake Control Module (EBCM) C2
5	Electronic Brake Control Module (EBCM)
6	Electronic Brake Control Module (EBCM) C1
7	Brake Fluid Level Switch

**HYDRAULIC BRAKE CONNECTOR END VIEWS**

**Brake Fluid Level Switch**



**Fig. 4: Brake Fluid Level Switch Connector End Views**  
 Courtesy of GENERAL MOTORS CORP.

**Brake Fluid Level Switch Connector Parts Information**

Connector Part Information
----------------------------

## 2007 Hummer H3

2007 BRAKES Hydraulic Brakes - H3

- OEM: 4F5288
- Service: 15201888
- Description: 2-Way F 2.3 II Series, Sealed (GY)

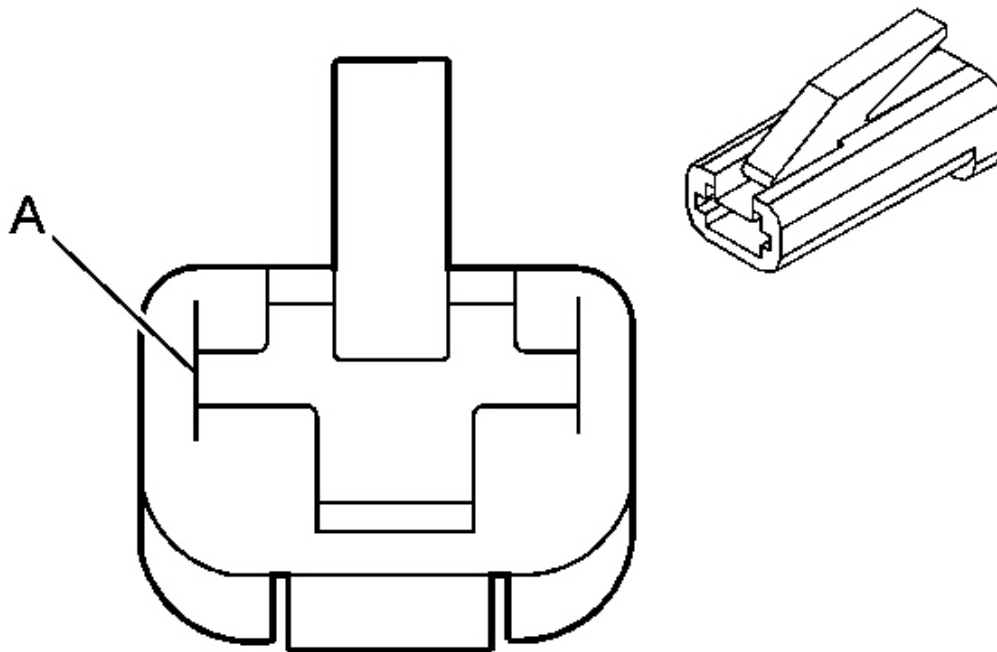
### Terminal Part Information

- Terminal/Tray: 8100-0460/6
- Core/Insulation Crimp: E/1
- Release Tool/Test Probe: 15315247/J-35616-2A (GY)

### Brake Fluid Level Switch Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
1	BK	850	Ground
2	PK	849	Brake Fluid Level Sensor Signal

### Park Brake Switch



**Fig. 5: Park Brake Switch Connector End Views**

## 2007 Hummer H3

2007 BRAKES Hydraulic Brakes - H3

Courtesy of GENERAL MOTORS CORP.

### Park Brake Switch Connector Parts Information

#### Connector Part Information

- OEM: 8911256
- Service: 12102561
- Description: 1-Way F 56 Series (WH)

#### Terminal Part Information

- Terminal/Tray: 12124515/1
- Core/Insulation Crimp: See Terminal Kit
- Release Tool/Test Probe: 12094430/J-35616-42 (RD)

### Park Brake Switch Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
A	L-BU	1134	Park Brake Switch Signal

## DIAGNOSTIC INFORMATION AND PROCEDURES

### DIAGNOSTIC CODE INDEX

#### DIAGNOSTIC CODE INDEX

DTC	Description
<u>DTC C0130</u>	** DESCRIPTION NOT COLLECTED **
<u>DTC C0267</u>	**DESCRIPTION NOT COLLECTED **

### DIAGNOSTIC STARTING POINT - HYDRAULIC BRAKES

Begin the system diagnosis by reviewing the system Description and Operation. Reviewing the Description and Operation information will help you determine the correct symptom diagnostic procedure when a malfunction exists. Reviewing the Description and Operation information will also help you determine if the condition described by the customer is normal operation. Refer to **Symptoms - Hydraulic Brakes** in order to identify the correct procedure for diagnosing the system and where the procedure is located.

#### DTC C0130

#### Diagnostic Instructions

## 2007 Hummer H3

### 2007 BRAKES Hydraulic Brakes - H3

- 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 Descriptor

### DTC C0130

Low Brake Fluid Circuit Open

#### Diagnostic Fault Information

### DTC C0130

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Low Brake Fluid Signal Circuit	C0267	C0130	-	-
Ground	-	C0130	C0130	-

#### Circuit/System Description

The electronic brake control module (EBCM) monitors the brake fluid level switch via the brake fluid level sensor signal circuit. With the switch closed, the signal circuit is pulled to ground indicating low fluid level. When low fluid level is seen, the EBCM will send a serial data message to the IPC illuminating the red brake warning indicator. The body control module (BCM) monitors the park brake switch via the park brake switch signal circuit. With the park brake applied, the switch is closed and the signal circuit is grounded. The BCM will then send a serial data message to the IPC requesting the red brake warning indicator be illuminated.

#### Conditions for Running the DTC

The ignition is ON.

#### Conditions for Setting the DTC

The EBCM detects an open in the low brake fluid circuit.

#### Action Taken When the DTC Sets

- The EBCM disables the traction control system (TCS)/dynamic rear proportion (DRP)/vehicle stability enhancement system (VSES) for the duration of the ignition cycle.
- The Brake Warning indicator turns ON.



- The Stability Caution indicator turns ON.
- The driver information center (DIC) displays the SERVICE STAB SYS message.
- The DIC displays the TRAC FAILED messages.

**Conditions for Clearing the DTC**

- The condition for the DTC is no longer present.
- The EBCM automatically clears the history DTC when a current DTC is not detected in 100 consecutive drive cycles.

**Reference Information**

**Schematic Reference**

**Hydraulic Brake Schematics**

**Connector End View Reference**

**Hydraulic Brake Connector End Views**

**Description and Operation**

**Brake Warning System Description and Operation**

**Electrical Information Reference**

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

**Circuit/System Verification**

Ignition ON, observe the scan tool EBCM Brake Fluid parameter. The parameter should display OK.

**Circuit/System Testing**

1. Ignition OFF, disconnect the harness connector at the brake fluid level switch.
2. Ignition OFF, test for less than 1 ohm of resistance between the ground circuit terminal 1 and ground.

## 2007 Hummer H3

### 2007 BRAKES Hydraulic Brakes - H3

- If greater than the specified range, test the ground circuit for an open/high resistance.
- 3. Ignition ON, verify the scan tool EBCM Brake Fluid parameter is OK.
  - If not the specified value, test the signal circuit terminal 2 for a short to ground. If the circuit tests normal, replace the EBCM.
- 4. Install a 3A fused jumper wire between the signal circuit terminal 2 and the ground circuit terminal 1. Verify the scan tool EBCM Brake Fluid parameter is Low.
  - If not the specified value, test the signal circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the EBCM.
- 5. If all circuits test normal, test or replace the brake fluid level switch.

#### Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

**Control Module References** for EBCM replacement, setup and programming

#### DTC C0267

#### 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 Descriptor

#### DTC C0267

Low Brake Fluid Indicated

#### Diagnostic Fault Information

#### DTC C0267

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Low Brake Fluid Signal Circuit	C0267	C0130	-	-
Ground	-	C0130	C0130	-

#### Circuit/System Description

The electronic brake control module (EBCM) monitors the brake fluid level switch via the brake fluid level sensor signal circuit. With the switch closed, the signal circuit is pulled to ground indicating low fluid level. When low fluid level is seen, the EBCM will send a serial data message to the IPC illuminating the red brake warning indicator. The body control module (BCM) monitors the park brake switch via the park brake switch signal circuit. With the park brake applied, the switch is closed and the signal circuit is grounded. The BCM will then send a serial data message to the IPC requesting the red brake warning indicator be illuminated.

**Conditions for Running the DTC**

The ignition is ON.

**Conditions for Setting the DTC**

The EBCM detects low brake fluid.

**Action Taken When the DTC Sets**

- The EBCM disables the traction control system (TCS)/dynamic rear proportion (DRP)/vehicle stability enhancement system (VSES) for the duration of the ignition cycle.
- The Brake Warning indicator turns ON.
- The driver information center (DIC) displays the BRAKE SYSTEM/SERVICE TRACTION messages.

**Conditions for Clearing the DTC**

- The condition for setting the DTC is no longer present.
- The EBCM automatically clears the history DTC when a current DTC is not detected in 100 consecutive drive cycles.

**Reference Information****Schematic Reference****Hydraulic Brake Schematics****Connector End View Reference****Hydraulic Brake Connector End Views****Description and Operation**

## **Brake Warning System Description and Operation**

### **Electrical Information Reference**

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

#### **Circuit/System Verification**

1. Verify the brake fluid is at the proper level.
  - If the brake fluid is not at the proper level, refer to **Brake Fluid Loss**.
2. Verify the scan tool EBCM Brake Fluid parameter is OK.

#### **Circuit/System Testing**

1. Ignition OFF, disconnect the harness connector at the brake fluid level switch.
2. Ignition OFF, test for less than 1 ohm of resistance between the ground circuit terminal 1 and ground.
  - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Ignition ON, verify the scan tool EBCM Brake Fluid parameter is OK.
  - If not the specified value, test the signal circuit terminal 2 for a short to ground. If the circuit tests normal, replace the EBCM.
4. Install a 3A fused jumper wire between the signal circuit terminal 2 and the ground circuit terminal 1. Verify the scan tool EBCM Brake Fluid parameter is Low.
  - If not the specified value, test the signal circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the EBCM.
5. If all circuits test normal, test or replace the brake fluid level switch.

#### **Repair Procedures**

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

**Control Module References** for EBCM replacement, setup and programming

#### **SYMPTOMS - HYDRAULIC BRAKES**

**IMPORTANT:** The following steps must be completed before using the symptom

## tables.

1. Perform the **Brake System Vehicle Road Test** before using the hydraulic brake symptom tables in order to duplicate the customer's concern.
2. Review the system operation in order to familiarize yourself with the system functions. Refer to the following procedures:
  - **Brake Warning System Description and Operation**
  - **Hydraulic Brake System Description and Operation**
  - **Brake Assist System Description and Operation**
  - **Disc Brake System Description and Operation**

### Visual/Physical Inspection

- Inspect for aftermarket devices which could affect the operation of the Hydraulic Brake System. Refer to **Checking Aftermarket Accessories** .
- Inspect the easily accessible or visible system components for obvious damage or conditions which could cause the symptom.

### Intermittent

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

### Symptom List

Refer to a symptom diagnostic procedure from the following list in order to diagnose the symptom:

- **Brake Warning Indicator Malfunction**
- **Brake Pulsation**
- **Brake System Noise**
- **Braking Action Uneven - Pulls to One Side**
- **Braking Action Uneven - Front to Rear**
- **Brake Pedal Excessive Travel**
- **Brake Pedal Excessive Effort**
- **Brakes Drag**
- **Brake System Slow Release**

- **Brake Fluid Loss**

**BRAKE WARNING INDICATOR MALFUNCTION****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.

**Circuit/System Description**

The electronic brake control module (EBCM) monitors the brake fluid level switch via the brake fluid level sensor signal circuit. With the switch closed, the signal circuit is pulled to ground indicating low fluid level. When low fluid level is seen, a serial data message is sent to the instrument panel cluster (IPC) to illuminate the red brake warning indicator. The body control module (BCM) monitors the park brake switch via the park brake switch signal circuit. With the park brake applied, the switch is closed and the signal circuit is grounded. The BCM will then send a serial data message to the IPC requesting the red brake warning indicator be illuminated.

**Reference Information****Schematic Reference****Hydraulic Brake Schematics****Connector End View Reference****Hydraulic Brake Connector End Views****Description and Operation****Brake Warning System Description and Operation****Electrical Information Reference**

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

**Circuit/System Verification**

1. Verify the park brake is released and the brake fluid is at the proper level.
  - If the brake fluid is not at the proper level, refer to **Brake Fluid Loss**.
2. Ignition ON, perform the scan tool IPC Display Test. The red brake warning indicator should illuminate.
  - If the red brake warning indicator does not illuminate, replace the IPC.
3. Observe the scan tool BCM Park Brake Switch parameter while applying and releasing the park brake. The parameter should cycle between Applied and Release.
  - If the parameter does not cycle between the specified values, refer to Park Brake Switch Circuit Malfunction in **Circuit/System Testing**.
4. Verify the scan tool EBCM Brake Fluid parameter is OK.
  - If not the specified value, refer to Brake Fluid Level Switch Circuit Malfunction in **Circuit/System Testing**.

**Circuit/System Testing****Park Brake Switch Circuit Malfunction**

1. Ignition OFF, disconnect the harness connector at the park brake switch.
2. Ignition ON, verify the scan tool BCM Park Brake Switch parameter is Released.
  - If not the specified value, test the signal circuit terminal A for a short to ground. If the circuit tests normal, replace the BCM.
3. Install a 3A fused jumper wire between the signal circuit terminal A and ground. Verify the scan tool BCM Park Brake Switch parameter is Applied.
  - If not the specified value, test the signal circuit for a short to voltage or an open/high resistance.
4. If all circuits test normal, test or replace the park brake switch.

**Brake Fluid Level Switch Circuit Malfunction**

1. Ignition OFF, disconnect the harness connector at the brake fluid level switch.
2. Ignition OFF, test for less than 1 ohm of resistance between the ground circuit terminal 1 and ground.
  - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Ignition ON, verify the scan tool EBCM Brake Fluid parameter is OK.
  - If not the specified value, test the signal circuit terminal 2 for a short to ground. If the

## 2007 Hummer H3

### 2007 BRAKES Hydraulic Brakes - H3

circuit tests normal, replace the EBCM.

4. Install a 3A fused jumper wire between the signal circuit terminal 2 and the ground circuit terminal 1. Verify the scan tool EBCM Brake Fluid parameter is Low.
  - If not the specified value, test the signal circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the EBCM.
5. If all the circuits test normal, test or replace the brake fluid level switch.

#### Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

- **Parking Brake Indicator Switch Replacement (LHD)** or **Parking Brake Indicator Switch Replacement (RHD)**
- **Control Module References** for BCM, EBCM and IPC replacement, setup and programming

#### BRAKE PULSATION

##### Brake Pulsation

Step	Action	Yes	No
DEFINITION: Fluctuation or pulsation is felt through the brake pedal, steering wheel, seat, floor, and/or in the vehicle ONLY when braking.			
1	Were you sent here from the Hydraulic Brake Symptom table?	Go to Step 2	Go to <b><u>Diagnostic Starting Point - Hydraulic Brakes</u></b>
	<ol style="list-style-type: none"><li>1. Inspect the disc brake system for the following conditions.<ul style="list-style-type: none"><li>● Excessive thickness variation of rotor friction surfaces</li><li>● Excessive assembled lateral runout (LRO) of rotor friction surfaces</li><li>● Hard spots, heat checks, bluing discoloration of rotor friction surfaces; possibly due to brake drag</li></ul></li></ol>		



**2007 Hummer H3**

2007 BRAKES Hydraulic Brakes - H3

2	<ul style="list-style-type: none"> <li>• Excessive corrosion of rotor friction surfaces; including red, gray or black oxidation</li> <li>• Loose, damaged or missing caliper or lining hardware</li> <li>• Bent or damaged caliper or mounting component</li> <li>• Excessive LRO of wheel hub/axle flange; due to damage and/or loose or excessively worn bearings</li> </ul> <p>2. Adjust, repair or replace components as necessary. Refer to <b><u>Disc Brake System Diagnosis</u></b>.</p>		
	Did you find and correct a condition?	Go to <b>Step 3</b>	Go to <b><u>Diagnostic Starting Point - Hydraulic Brakes</u></b>
3	<p>1. Install or connect components that were removed or disconnected during diagnosis.</p> <p>2. Road test the vehicle in order to confirm proper operation. Refer to <b><u>Brake System Vehicle Road Test</u></b>.</p>		
	Is the condition still present?	Go to <b>Step 2</b>	System OK

**BRAKE SYSTEM NOISE**

**Brake System Noise**

Step	Action	Yes	No
DEFINITION: Vehicle exhibits abnormal noise when braking; vehicle may exhibit abnormal noise during motion just after brake pedal release.			
1	Were you sent here from the Hydraulic Brake Symptom table?	Go to <b>Step 2</b>	Go to <b><u>Diagnostic Starting Point - Hydraulic Brakes</u></b>
	1. Inspect the disc brake system for the		

<p>2</p>	<p>following conditions.</p> <ul style="list-style-type: none"> <li>• Lining wear indicator contact with rotor</li> <li>• Debris trapped between rotor and splash shield or backing plate; and/or debris trapped between rotor and linings</li> <li>• Contaminated linings</li> <li>• Aftermarket linings</li> <li>• Glazed linings</li> <li>• Distorted, cracked or damaged linings</li> <li>• Excessively worn linings</li> <li>• Damaged or excessively worn caliper hardware and/or lining hardware</li> <li>• Incorrectly installed, loose or missing caliper hardware and/or lining hardware</li> <li>• Lack of lubrication or excessive corrosion on metal to metal contact surfaces</li> <li>• Bent or damaged splash shield or backing plate</li> <li>• Hard spots, heat checks, blueing discoloration of rotor friction surfaces</li> <li>• Glazed rotor friction surfaces</li> <li>• Bent or damaged caliper or mounting component</li> </ul> <p>2. Adjust, repair or replace components as necessary. Refer to <b><u>Disc Brake System Diagnosis</u></b>.</p>	<p>Did you find and correct a condition?</p>	<p>Go to <b>Step 9</b></p> <p>Go to <b>Step 3</b></p>
	<p>1. Inspect the brake assist system for the</p>		

<p>3</p>	<p>following conditions.</p> <ul style="list-style-type: none"> <li>• Lack of lubrication or excessively worn pushrod or pedal pivots or pivot bushings</li> <li>• Bent or damaged pedal pushrod, pedal or pedal bracket</li> <li>• Damaged or improperly operating vacuum booster and/or check valve, if equipped</li> <li>• Low power steering fluid level, if equipped with hydraulic boost</li> <li>• Improperly tensioned, excessively worn or damaged power steering belt, if equipped with hydraulic boost</li> <li>• Restricted return hose from hydraulic booster, if equipped</li> <li>• Improperly operating hydraulic booster, if equipped</li> <li>• Improperly functioning power steering system, if equipped with a hydraulic booster assembly</li> <li>• Contaminated power steering fluid, if equipped with hydraulic boost</li> </ul> <p>2. Adjust, repair or replace components as necessary. Refer to <b><u>Brake Assist System Diagnosis</u></b>.</p>		
	<p>Did you find and correct a condition?</p> <p>1. Inspect the hydraulic brake system for the following conditions.</p> <ul style="list-style-type: none"> <li>• Improper operation of caliper pistons</li> <li>• Contaminated brake fluid</li> </ul>	<p>Go to <b>Step 9</b></p>	<p>Go to <b>Step 4</b></p>

**2007 Hummer H3**

2007 BRAKES Hydraulic Brakes - H3

4	<p>2. Adjust, repair or replace components as necessary. Refer to <b><u>Hydraulic Brake System Diagnosis</u></b>.</p> <p>Did you find and correct a condition?</p>	Go to <b>Step 9</b>	Go to <b>Step 5</b>
5	<p>Is the vehicle equipped with a drum-in-rotor type of park brake system?</p>	Go to <b>Step 6</b>	Go to <b>Step 9</b>
6	<p>Ensure the park brake shoes are not adjusted too tightly, possibly causing a noise under certain conditions.</p> <p>Are the park brake shoes adjusted too tightly?</p>	Go to <b>Step 7</b>	Go to <b>Step 9</b>
7	<ol style="list-style-type: none"> <li>1. Clean and inspect the park brake shoes for excessive wear and/or damage.</li> <li>2. Inspect the drum portion of the rotors for excessive wear, blueing discoloration, heat spots and excessive radial runout.</li> <li>3. If any of these conditions are present, replace the affected components.</li> <li>4. Adjust the park brake system.</li> </ol> <p>Did you find and correct a condition?</p>	Go to <b>Step 9</b>	Go to <b>Step 8</b>
8	<p>Inspect the park brake system for proper operation. Refer to <b><u>Park Brake System Diagnosis</u></b> .</p> <p>Did you find and correct a condition?</p>	Go to <b>Step 9</b>	Go to <b><u>Diagnostic Starting Point - Hydraulic Brakes</u></b>
9	<ol style="list-style-type: none"> <li>1. Install or connect components that were removed or disconnected during diagnosis.</li> <li>2. Road test the vehicle in order to confirm proper operation. Refer to <b><u>Brake System Vehicle Road Test</u></b>.</li> </ol> <p>Is the condition still present?</p>	Go to <b>Step 2</b>	System OK

**2007 Hummer H3**

## 2007 BRAKES Hydraulic Brakes - H3

**BRAKING ACTION UNEVEN - PULLS TO ONE SIDE****Test Description**

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

**4:** Suspension components that are not operating properly may cause a disturbance to the vehicle during application of the brake system.

**5:** Steering components that are not operating properly may cause a disturbance to the vehicle during application of the brake system.

**Braking Action Uneven - Pulls to One Side**

<b>Step</b>	<b>Action</b>	<b>Yes</b>	<b>No</b>
<b>DEFINITION:</b> Vehicle pulls to one side only when braking.			
1	Were you sent here from the Hydraulic Brake Symptom table?	Go to <b>Step 2</b>	Go to <b><u>Diagnostic Starting Point - Hydraulic Brakes</u></b>
2	<ol style="list-style-type: none"> <li>Inspect the hydraulic brake system for the following conditions. <ul style="list-style-type: none"> <li>• Kinked, pinched or damaged brake pipe or flexible brake hose</li> <li>• Sticking or improperly operating caliper piston</li> <li>• Brake fluid leak</li> </ul> </li> <li>Adjust, repair or replace components as necessary. Refer to <b><u>Hydraulic Brake System Diagnosis</u></b>.</li> </ol>		
	Did you find and correct a condition?	Go to <b>Step 6</b>	Go to <b>Step 3</b>
	<ol style="list-style-type: none"> <li>Inspect the disc brake system for the following conditions. <ul style="list-style-type: none"> <li>• Contaminated linings</li> <li>• Glazed linings</li> <li>• Distorted, cracked or damaged</li> </ul> </li> </ol>		

2007 Hummer H3

2007 BRAKES Hydraulic Brakes - H3

<p>3</p>	<p>linings on one side</p> <ul style="list-style-type: none"> <li>• Loose, damaged or missing caliper hardware and/or lining hardware</li> <li>• Incorrect linings on one side</li> <li>• Hard spots, heat checks, blueing discoloration of rotor friction surfaces; possibly due to brake drag</li> <li>• Glazed rotor friction surfaces</li> <li>• Bent or damaged caliper or mounting component</li> </ul> <p>2. Adjust, repair or replace components as necessary. Refer to <b><u>Disc Brake System Diagnosis</u></b>.</p>		
<p>4</p>	<p>1. Inspect the suspension system for the following conditions.</p> <ul style="list-style-type: none"> <li>• Incorrect tire pressures</li> <li>• Loose suspension component connections</li> <li>• Excessively worn or damaged suspension components</li> </ul> <p>2. Adjust, repair or replace components as necessary. Refer to <b><u>Diagnostic Starting Point - Suspension General Diagnosis</u></b> .</p>		
<p>5</p>	<p>1. Inspect the steering system for the following conditions.</p> <ul style="list-style-type: none"> <li>• Loose steering component connections</li> <li>• Excessively worn or damaged steering components</li> </ul>		

Did you find and correct a condition?

Go to **Step 6**

Go to **Step 4**

Did you find and correct a condition?

Go to **Step 6**

Go to **Step 5**

**2007 Hummer H3**

2007 BRAKES Hydraulic Brakes - H3

	<p>2. Adjust, repair or replace components as necessary. Refer to <b><u>Diagnostic Starting Point - Power Steering System</u></b> .</p>		<p>Go to <b><u>Diagnostic Starting Point - Hydraulic Brakes</u></b></p>
	<p>Did you find and correct a condition?</p>	<p>Go to <b>Step 6</b></p>	
6	<p>1. Install or connect components that were removed or disconnected during diagnosis.</p> <p>2. Road test the vehicle in order to confirm proper operation. Refer to <b><u>Brake System Vehicle Road Test.</u></b></p>		
	<p>Is the condition still present?</p>	<p>Go to <b>Step 2</b></p>	<p>System OK</p>

**BRAKING ACTION UNEVEN - FRONT TO REAR**

**Test Descriptions**

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

**4:** Suspension components that are not operating properly may cause a disturbance to the vehicle during application of the brake system.

**Braking Action Uneven - Front to Rear**

Step	Action	Yes	No
<p>DEFINITION: Braking action or stopping force sensitive or grabbing and/or more pronounced at the front or at the rear axle. Sensitive or grabbing brakes: Excessive brake jump-in force relative to brake pedal input.</p>			
1	<p>Were you sent here from the Hydraulic Brake Symptom table?</p>	<p>Go to <b>Step 2</b></p>	<p>Go to <b><u>Diagnostic Starting Point - Hydraulic Brakes</u></b></p>
	<p>1. Inspect the hydraulic brake system for the following conditions:</p> <ul style="list-style-type: none"> <li>• Improper operation of caliper pistons</li> <li>• Kinked, pinched or damaged</li> </ul>		

2007 Hummer H3

2007 BRAKES Hydraulic Brakes - H3

<p>2</p>	<p>brake pipe or flexible brake hose</p> <ul style="list-style-type: none"> <li>• Brake fluid leak</li> <li>• Improperly functioning proportion valve, if equipped</li> <li>• Improper operation of dynamic rear proportion (DRP) system, if equipped</li> </ul> <p>2. Adjust, repair or replace components as necessary. Refer to <b><u>Hydraulic Brake System Diagnosis</u></b>.</p>		
	<p>Did you find and correct a condition?</p>	<p>Go to <b>Step 6</b></p>	<p>Go to <b>Step 3</b></p>
<p>3</p>	<p>1. Inspect the disc brake system for the following conditions:</p> <ul style="list-style-type: none"> <li>• Contaminated linings</li> <li>• Glazed linings</li> <li>• Distorted, cracked or damaged linings</li> <li>• Excessively worn linings</li> <li>• Aftermarket linings</li> <li>• Damaged or excessively worn caliper hardware and/or lining hardware</li> <li>• Hard spots, heat checks, blueing discoloration of rotor friction surfaces</li> <li>• Glazed rotor friction surfaces</li> </ul> <p>2. Adjust, repair or replace components as necessary. Refer to <b><u>Disc Brake System Diagnosis</u></b>.</p>		
	<p>Did you find and correct a condition?</p>	<p>Go to <b>Step 6</b></p>	<p>Go to <b>Step 4</b></p>
	<p>1. Inspect the suspension system for the following conditions:</p> <ul style="list-style-type: none"> <li>• Loose suspension component connections</li> </ul>		



**2007 Hummer H3**

2007 BRAKES Hydraulic Brakes - H3

4	<ul style="list-style-type: none"> <li>• Excessively worn or damaged suspension components</li> </ul> <p>2. Adjust, repair or replace components as necessary. Refer to <b><u>Diagnostic Starting Point - Suspension General Diagnosis</u></b> .</p>		
	Did you find and correct a condition?	Go to <b>Step 6</b>	Go to <b>Step 5</b>
5	<p>1. Inspect the brake assist system for the following conditions:</p> <ul style="list-style-type: none"> <li>• Binding, bent or damaged pedal pushrod, pedal or pedal bracket</li> <li>• Damaged or improperly operating vacuum booster, if equipped</li> <li>• Damaged or improperly operating hydraulic booster, if equipped</li> </ul> <p>2. Adjust, repair or replace components as necessary. Refer to <b><u>Brake Assist System Diagnosis</u></b>.</p>		
	Did you find and correct a condition?	Go to <b>Step 6</b>	Go to <b><u>Diagnostic Starting Point - Hydraulic Brakes</u></b>
6	<p>1. Install or connect components that were removed or disconnected during diagnosis.</p> <p>2. Road test the vehicle in order to confirm proper operation. Refer to <b><u>Brake System Vehicle Road Test</u></b>.</p>		
	Is the condition still present?	Go to <b>Step 2</b>	System OK

**BRAKE PEDAL EXCESSIVE TRAVEL**

**Brake Pedal Excessive Travel**

Step	Action	Yes	No
DEFINITION: Brake pedal travels further than expected to obtain firm pedal and/or firm			

**2007 Hummer H3**

2007 BRAKES Hydraulic Brakes - H3

pedal cannot be obtained, pedal fades away or pedal is spongy.

1	Were you sent here from the Hydraulic Brake Symptom table?	Go to <b>Step 2</b>	Go to <b><u>Diagnostic Starting Point - Hydraulic Brakes</u></b>
2	<p>Inspect the travel and feel of brake pedal applies. Perform the following:</p> <ol style="list-style-type: none"> <li>1. Apply the brake pedal several times to fully deplete the power reserve.</li> <li>2. With power reserve depleted, apply the brake pedal with light, steady pressure and hold for 15 seconds. Observe pedal travel and feel.</li> <li>3. Apply the brake pedal with light, steady pressure, then without pumping the pedal, reduce pressure and reapply pressure several times. Observe pedal travel and feel for each apply.</li> <li>4. Apply the brake pedal slowly, then release and apply the pedal quickly. Observe pedal travel and feel for each apply.</li> </ol> <p>Did you complete the brake pedal travel and feel inspections?</p>	Go to <b>Step 3</b>	-
	<ol style="list-style-type: none"> <li>1. Inspect the hydraulic brake system for the conditions listed, based on the following symptoms observed during the pedal travel and feel inspections: <ul style="list-style-type: none"> <li>● Pedal feel was spongy <ul style="list-style-type: none"> <li>■ Air in hydraulic system</li> <li>■ External brake fluid leaks</li> <li>■ Soft, weak or damaged hydraulic hoses; expanding</li> </ul> </li> </ul> </li> </ol>		

<p>3</p>	<p>under pressure</p> <ul style="list-style-type: none"> <li>● Pedal fell away and/or traveled to or almost to floor             <ul style="list-style-type: none"> <li>■ External brake fluid leaks</li> <li>■ Poor brake fluid quality; low boiling point</li> <li>■ Internal brake fluid leaks; improperly functioning master cylinder</li> </ul> </li> <li>● Pedal was somewhat firm then dropped slightly or pedal rose with successive applies or pedal travel was different between slow and quick applies             <ul style="list-style-type: none"> <li>■ Internal brake fluid leaks; improperly functioning master cylinder</li> <li>■ Poor brake fluid quality; low boiling point</li> </ul> </li> <li>● Pedal returned to rest slowly after any of the applies             <ul style="list-style-type: none"> <li>■ Internally damaged flexible brake hoses; hindering fluid return</li> <li>■ Binding caliper pistons</li> <li>■ Internal brake fluid leaks; improperly functioning master cylinder</li> </ul> </li> </ul> <p>2. Repair or replace components as necessary. Refer to <b><u>Hydraulic Brake System Diagnosis</u></b>.</p> <p>3. Re-inspect brake pedal apply travel and feel.</p>	<p>Go to <b>Step 8</b></p>	<p>Go to <b>Step 4</b></p>
	<p>1. Inspect the disc brake system for the</p>		

<p>4</p>	<p>following conditions:</p> <ul style="list-style-type: none"> <li>• Cracked, excessively worn or damaged linings</li> <li>• Cracked, excessively worn or damaged rotors</li> <li>• Improperly operating, binding or damaged caliper hardware and/or lining hardware</li> <li>• Loose or missing caliper hardware and/or lining hardware</li> <li>• Excessive assembled lateral runout (LRO) of rotor friction surfaces</li> <li>• Bent or damaged caliper or mounting component</li> </ul> <p>2. Adjust, repair or replace components as necessary. Refer to <b><u>Disc Brake System Diagnosis</u></b>.</p> <p>3. Re-inspect brake pedal apply travel and feel.</p>		
<p>5</p>	<p>Did you find and correct a condition?</p> <p>Inspect for proper brake pedal travel. Refer to <b><u>Brake Pedal Travel Measurement and Inspection</u></b>.</p> <p>Is the brake pedal travel distance within the acceptable limits?</p>	<p>Go to <b>Step 8</b></p> <p>Go to <b>Step 7</b></p>	<p>Go to <b>Step 5</b></p> <p>Go to <b>Step 6</b></p>
	<p>1. Inspect for worn, missing, misaligned, bent or damaged brake pedal system components.</p> <ul style="list-style-type: none"> <li>• For the brake pedal pushrod component inspection, refer to <b><u>Brake Pedal Pushrod Inspection</u></b> .</li> <li>• Inspect the brake pedal bushings for binding, excessive wear</li> </ul>		

**2007 Hummer H3**

2007 BRAKES Hydraulic Brakes - H3

6	<p>and/or damage and inspect the brake pedal for a misaligned, bent, and/or damaged condition.</p> <p>2. Replace the brake pedal system components that are worn, missing, misaligned, bent or damaged.</p> <p>Did you find and replace any worn, missing, misaligned, bent or damaged brake pedal system components?</p>	Go to <b>Step 8</b>	Go to <b>Step 7</b>
7	<p>1. Inspect the brake assist system for the following conditions:</p> <ul style="list-style-type: none"> <li>• Vacuum leaks and/or improperly operating check valve, if equipped with vacuum assist</li> <li>• Damaged or improperly operating brake booster assembly</li> </ul> <p>2. Adjust, repair or replace components as necessary. Refer to <b><u>Brake Assist System Diagnosis</u></b>.</p> <p>Did you find and correct a condition?</p>	Go to <b>Step 8</b>	Go to <b><u>Diagnostic Starting Point - Hydraulic Brakes</u></b>
8	<p>1. Install or connect components that were removed or disconnected during diagnosis.</p> <p>2. Road test the vehicle in order to confirm proper operation. Refer to <b><u>Brake System Vehicle Road Test</u></b>.</p> <p>Is the condition still present?</p>	Go to <b>Step 2</b>	System OK

**BRAKE PEDAL EXCESSIVE EFFORT**

**Brake Pedal Excessive Effort**

Step	Action	Yes	No
DEFINITION: Brake pedal requires an increased amount of input from the driver to obtain			

## 2007 Hummer H3

### 2007 BRAKES Hydraulic Brakes - H3

good braking action and/or stopping distance is increased.

1	Were you sent here from the Hydraulic Brake Symptom table?	Go to <b>Step 2</b>	Go to <b><u>Diagnostic Starting Point - Hydraulic Brakes</u></b>
2	<p>1. Inspect the brake assist system for the following conditions:</p> <ul style="list-style-type: none"> <li>• Vacuum leaks, if equipped with vacuum power assist</li> <li>• Lack of lubrication, binding or excessively worn pushrod or pedal pivots or pivot bushings</li> <li>• Bent or damaged pedal pushrod, pedal or pedal bracket</li> <li>• Damaged or improperly operating brake booster assembly</li> </ul> <p>2. Adjust, repair or replace components as necessary. Refer to <b><u>Brake Assist System Diagnosis</u></b>.</p> <p>Did you find and correct a condition?</p>	Go to <b>Step 5</b>	Go to <b>Step 3</b>
3	<p>1. Inspect the hydraulic brake system for the following conditions:</p> <ul style="list-style-type: none"> <li>• Binding caliper pistons</li> <li>• Internally damaged flexible brake hoses; hindering fluid flow</li> <li>• External brake fluid leaks</li> <li>• Kinked or damaged flexible brake hoses and/or pipes</li> <li>• Internal brake fluid leaks; improperly operating master cylinder</li> </ul>		

2007 Hummer H3

2007 BRAKES Hydraulic Brakes - H3

	<ul style="list-style-type: none"> <li>• Poor brake fluid quality; low boiling point</li> </ul> <p>2. Adjust, repair or replace components as necessary. Refer to <b><u>Hydraulic Brake System Diagnosis</u></b>.</p>		
4	<p>Did you find and correct a condition?</p> <p>1. Inspect the disc brake system for the following conditions:</p> <ul style="list-style-type: none"> <li>• Excessively worn linings</li> <li>• Glazed linings</li> <li>• Cracked, distorted or damaged linings</li> <li>• Contaminated linings</li> <li>• Binding, damaged or excessively worn caliper hardware and/or lining hardware</li> <li>• Lack of lubrication or excessive corrosion on metal to metal contact surfaces</li> <li>• Excessively worn or corroded rotor friction surfaces</li> <li>• Glazed rotor friction surfaces</li> <li>• Hard spots, heat checks, blueing discoloration of rotor friction surfaces</li> </ul> <p>2. Adjust, repair or replace components as necessary. Refer to <b><u>Disc Brake System Diagnosis</u></b>.</p>	<p>Go to <b>Step 5</b></p>	<p>Go to <b>Step 4</b></p>
	<p>Did you find and correct a condition?</p> <p>1. Install or connect components that were removed or disconnected during diagnosis.</p>	<p>Go to <b>Step 5</b></p>	<p>Go to <b><u>Diagnostic Starting Point - Hydraulic Brakes</u></b></p>

**2007 Hummer H3**

2007 BRAKES Hydraulic Brakes - H3

5	2. Road test the vehicle in order to confirm proper operation. Refer to <b><u>Brake System Vehicle Road Test.</u></b>		
	Is the condition still present?	Go to <b>Step 2</b>	System OK

**BRAKES DRAG**

**Brakes Drag**

Step	Action	Yes	No
DEFINITION: Brake system does not fully release or has delayed release; vehicle motion may be hindered by brake system without applying brakes.			
1	Were you sent here from the Hydraulic Brake Symptom table?	Go to <b>Step 2</b>	Go to <b><u>Diagnostic Starting Point - Hydraulic Brakes</u></b>
2	Is the vehicle equipped with an adjustable stop lamp switch and/or an adjustable cruise control release switch?	Go to <b>Step 3</b>	Go to <b>Step 4</b>
3	1. Inspect the stop lamp switch for proper adjustment to ensure that the brake pedal is fully releasing. 2. Inspect the cruise control release switch, if equipped, for proper adjustment to ensure that the brake pedal is fully releasing.  Did you find and correct a condition?	Go to <b>Step 14</b>	Go to <b>Step 4</b>
4	Is the vehicle equipped with a drum-in-rotor type of park brake system?	Go to <b>Step 5</b>	Go to <b>Step 7</b>
5	Ensure the park brake shoes are not adjusted too tightly, possibly causing drag under certain conditions. Are the park brake shoes adjusted too tightly?	Go to <b>Step 6</b>	Go to <b>Step 7</b>
	1. Clean and inspect the park brake shoes for excessive wear and/or		



**2007 Hummer H3**

2007 BRAKES Hydraulic Brakes - H3

6	<p>damage.</p> <ol style="list-style-type: none"> <li>2. Inspect the drum portion of the rotors for excessive wear, blueing discoloration and heat spots.</li> <li>3. If any of these conditions are present, replace the affected components.</li> <li>4. Adjust the park brake system.</li> </ol> <p>Did you find and correct a condition?</p>	Go to <b>Step 14</b>	Go to <b>Step 7</b>
7	<p>Inspect the park brake system for proper operation. Refer to <b><u>Park Brake System Diagnosis</u></b> .</p> <p>Did you find and correct a condition?</p>	Go to <b>Step 14</b>	Go to <b>Step 8</b>
8	<ol style="list-style-type: none"> <li>1. Inspect the disc brake system for the following conditions: <ul style="list-style-type: none"> <li>• Binding, incorrectly installed or missing caliper hardware and/or lining hardware-Ensure free movement of linings and of caliper, if equipped with sliding type caliper</li> <li>• Lack of lubrication or excessive corrosion on metal to metal contact surfaces</li> <li>• Distorted or damaged linings</li> <li>• Damaged or excessively worn caliper hardware and/or lining hardware</li> <li>• Bent or damaged caliper or mounting component</li> </ul> </li> <li>2. Adjust, repair or replace components as necessary. Refer to <b><u>Disc Brake System Diagnosis</u></b>.</li> </ol> <p>Did you find and correct a condition?</p>	Go to <b>Step 14</b>	Go to <b>Step 9</b>
	<ol style="list-style-type: none"> <li>1. Separate the brake booster pushrod from the brake pedal.</li> </ol>		

## 2007 Hummer H3

### 2007 BRAKES Hydraulic Brakes - H3

9	<p>2. Inspect the brake corners to determine if the brake drag condition is still present.</p> <p>Do the brake corners still exhibit the brake drag condition?</p>	Go to <b>Step 11</b>	Go to <b>Step 10</b>
10	<p>1. Inspect the pushrod for improper positioning and/or damage. Correctly position or replace the pushrod if necessary.</p> <p>2. Inspect the brake pedal assembly for damage and replace if necessary.</p> <p>Did you complete the repair or replacement?</p>	Go to <b>Step 14</b>	-
11	<p>1. For vacuum boost systems, disconnect the vacuum check valve from the booster to relieve vacuum reserve.</p> <p>2. Separate the master cylinder from the brake booster. Do not disconnect any brake pipes.</p> <p>3. Inspect the brake corners to determine if the brake drag condition is still present.</p> <p>Do the brake corners still exhibit the brake drag condition?</p>	Go to <b>Step 13</b>	Go to <b>Step 12</b>
12	<p>Replace the brake booster assembly.</p> <p>Did you complete the replacement?</p>	Go to <b>Step 14</b>	-
13	<p>1. Inspect the hydraulic brake system for the following conditions.</p> <ul style="list-style-type: none"> <li>• Improper operation of caliper pistons</li> <li>• Contaminated brake fluid</li> <li>• Internally damaged flexible brake hoses; hindering brake release</li> </ul>		

**2007 Hummer H3**

2007 BRAKES Hydraulic Brakes - H3

	<ul style="list-style-type: none"> <li>• Damaged or improperly operating master cylinder</li> </ul> <p>2. Adjust, repair or replace components as necessary. Refer to <b><u>Hydraulic Brake System Diagnosis</u></b>.</p>		Go to <b><u>Diagnostic Starting Point - Hydraulic Brakes</u></b>
	Did you find and correct a condition?	Go to <b>Step 14</b>	
14	<p>1. Install or connect components that were removed or disconnected during diagnosis.</p> <p>2. Road test the vehicle in order to confirm proper operation. Refer to <b><u>Brake System Vehicle Road Test</u></b>.</p>		
	Is the condition still present?	Go to <b>Step 2</b>	System OK

**BRAKE SYSTEM SLOW RELEASE**

**Brake System Slow Release**

Step	Action	Yes	No
DEFINITION: Brake system releases and returns to rest slowly; vehicle motion is hindered by brake system briefly after release of brake pedal.			
1	Were you sent here from the Hydraulic Brake Symptom table?	Go to <b>Step 2</b>	Go to <b><u>Diagnostic Starting Point - Hydraulic Brakes</u></b>
2	<p>1. Inspect the hydraulic brake system for the following conditions:</p> <ul style="list-style-type: none"> <li>• Improper operation of caliper pistons</li> <li>• Internally damaged flexible brake hoses; hindering brake release</li> <li>• Contaminated brake fluid</li> <li>• Damaged or improperly operating master cylinder</li> </ul>		

**2007 Hummer H3**

2007 BRAKES Hydraulic Brakes - H3

	<p>2. Adjust, repair or replace components as necessary. Refer to <b><u>Hydraulic Brake System Diagnosis</u></b>.</p>		
	<p>Did you find and correct a condition?</p>	<p>Go to <b>Step 5</b></p>	<p>Go to <b>Step 3</b></p>
<p align="center">3</p>	<p>1. Inspect the brake assist system for the following conditions:</p> <ul style="list-style-type: none"> <li>• Binding, bent or damaged pedal pushrod, pedal or pedal bracket</li> <li>• Damaged or improperly operating vacuum booster, if equipped</li> <li>• Restricted return hose from hydraulic booster, if equipped</li> <li>• Damaged or improperly operating hydraulic booster, if equipped</li> </ul> <p>2. Adjust, repair or replace components as necessary. Refer to <b><u>Brake Assist System Diagnosis</u></b>.</p>		
	<p>Did you find and correct a condition?</p>	<p>Go to <b>Step 5</b></p>	<p>Go to <b>Step 4</b></p>
<p align="center">4</p>	<p>1. Inspect the disc brake system for the following conditions:</p> <ul style="list-style-type: none"> <li>• Damaged or excessively worn caliper hardware and/or lining hardware</li> <li>• Distorted or damaged linings</li> <li>• Lack of lubrication or excessive corrosion on metal to metal contact surfaces</li> <li>• Bent or damaged caliper or mounting component</li> </ul> <p>2. Adjust, repair or replace components as necessary. Refer to <b><u>Disc Brake System Diagnosis</u></b>.</p>		<p>Go to <b><u>Diagnostic Starting Point - Hydraulic</u></b></p>

**2007 Hummer H3**

2007 BRAKES Hydraulic Brakes - H3

	Did you find and correct a condition?	Go to <b>Step 5</b>	<b>Brakes</b>
5	<ol style="list-style-type: none"> <li>1. Install or connect components that were removed or disconnected during diagnosis.</li> <li>2. Road test the vehicle in order to confirm proper operation. Refer to <b><u>Brake System Vehicle Road Test.</u></b></li> </ol>		
	Is the condition still present?	Go to <b>Step 2</b>	System OK

**BRAKE FLUID LOSS**

**Brake Fluid Loss**

Step	Action	Yes	No
DEFINITION: Brake fluid level is low not related to lining wear.			
1	Were you sent here from the Hydraulic Brake Symptom table?		Go to <b><u>Diagnostic Starting Point - Hydraulic Brakes</u></b>
2	<ol style="list-style-type: none"> <li>1. Inspect the following hydraulic brake system components for brake fluid leaks: <ul style="list-style-type: none"> <li>• Flexible brake hose connections; threaded and bolted</li> <li>• Flexible brake hose crimp joints</li> <li>• Brake pipe fittings</li> <li>• Caliper piston seals</li> <li>• Wheel cylinder piston seals, if equipped</li> <li>• Master cylinder reservoir</li> <li>• Master cylinder reservoir low pressure hose, if equipped</li> <li>• Brake pressure modulator valve (BPMV) assembly, if equipped</li> </ul> </li> <li>2. Repair or replace components as</li> </ol>	Go to <b>Step 2</b>	

**2007 Hummer H3**

2007 BRAKES Hydraulic Brakes - H3

	necessary. Refer to <b><u>Hydraulic Brake System Diagnosis</u></b> .		
	Did you find and correct a condition?	Go to <b>Step 8</b>	Go to <b>Step 3</b>
3	Is the vehicle equipped with a vacuum brake booster?	Go to <b>Step 4</b>	Go to <b>Step 6</b>
4	<ol style="list-style-type: none"> <li>1. Disconnect the vacuum check valve from the booster to relieve vacuum reserve.</li> <li>2. Separate the master cylinder from the vacuum brake booster. Do not disconnect any brake pipes.</li> <li>3. Inspect the rear of the master cylinder for a brake fluid leak.</li> <li>4. Inspect for brake fluid in the vacuum brake booster.</li> </ol>		
	Did you find a brake fluid leak?	Go to <b>Step 5</b>	Go to <b><u>Diagnostic Starting Point - Hydraulic Brakes</u></b>
5	Replace the brake master cylinder and the vacuum brake booster. Did you complete the replacement?	Go to <b>Step 8</b>	-
6	<ol style="list-style-type: none"> <li>1. Wipe clean the external surface of the master cylinder to hydraulic brake booster area, if equipped.</li> <li>2. Separate the master cylinder from the hydraulic brake booster, if equipped. Do not disconnect any brake pipes.</li> <li>3. Inspect the rear of the master cylinder for a brake fluid leak.</li> </ol>		
	Did you find a brake fluid leak?	Go to <b>Step 7</b>	Go to <b><u>Diagnostic Starting Point - Hydraulic Brakes</u></b>
7	Replace the brake master cylinder. Did you complete the replacement?	Go to <b>Step 8</b>	-
8	<ol style="list-style-type: none"> <li>1. Install or connect components that were removed or disconnected during diagnosis.</li> <li>2. Road test the vehicle to confirm proper</li> </ol>		

**2007 Hummer H3**

2007 BRAKES Hydraulic Brakes - H3

	operation. Refer to <b><u>Brake System Vehicle Road Test.</u></b>		
	Is the condition still present?	Go to <b>Step 2</b>	System OK

**DISC BRAKE SYSTEM DIAGNOSIS**

**Test Description**

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

- 9:** Lubricant leaks from non-brake system components may come in contact with and contaminate brake system components.
- 10:** Lubricant leaks from non-brake system components may come in contact with and contaminate brake system components.
- 12:** Disc brake rotor shields/backing plates that come in contact with disc brake rotors may cause brake system noise.
- 15:** Disc brake rotor thickness variation that exceeds the maximum acceptable level can cause brake pulsation.
- 19:** Disc brake rotor thickness variation that exceeds the maximum acceptable level can cause brake pulsation.
- 22:** Disc brake rotor assembled lateral runout (LRO) that exceeds the maximum acceptable level can lead to thickness variation.

**Disc Brake System Diagnosis**

<b>Step</b>	<b>Action</b>	<b>Yes</b>	<b>No</b>
DEFINITION: This diagnostic table is designed to diagnose ONLY the components of the DISC brake system in order to determine if the DISC brake system is operating properly. You will be directed by the appropriate Symptom table to go to other brake system diagnostic tables as appropriate.			
1	Were you sent here from a Brake Symptom table?	Go to <b>Step 2</b>	Go to <b><u>Diagnostic Starting Point - Hydraulic Brakes</u></b>
	Visually inspect the disc brake pads for the following conditions: Refer to <b><u>Brake Pad Inspection</u></b> .		

## 2007 Hummer H3

### 2007 BRAKES Hydraulic Brakes - H3

2	<ul style="list-style-type: none"> <li>● Lining thickness below specifications</li> <li>● Uneven and/or abnormal wear, edge-to-edge and/or side-to-side</li> <li>● Looseness or damage, including pad hardware</li> <li>● Evidence of contamination from an external substance</li> </ul> <p>Did you find any conditions to indicate a concern with any of the front and/or rear disc brake pads?</p>	Go to <b>Step 3</b>	Go to <b>Step 12</b>
3	Are any of the front and/or rear disc brake pads contaminated?	Go to <b>Step 8</b>	Go to <b>Step 4</b>
4	Are any of the front and/or rear disc brake pads worn unevenly?	Go to <b>Step 7</b>	Go to <b>Step 5</b>
5	Are any of the front and/or rear disc brake pads and/or pad hardware loose or damaged?	Go to <b>Step 7</b>	Go to <b>Step 6</b>
6	<ol style="list-style-type: none"> <li>1. Remove and inspect the worn disc brake pads for glazing, looseness, heat spots or damage.</li> <li>2. Replace the worn disc brake pads as a complete axle set. Refer to <b><u>Front Disc Brake Pads Replacement</u></b> and/or <b><u>Rear Disc Brake Pads Replacement</u></b> .</li> </ol> <p>Did you complete the inspection and replacement?</p>	Go to <b>Step 12</b>	-
	<p><b>NOTE:</b> Support the brake caliper with heavy mechanic wire or equivalent, whenever it is separated from its mount and the hydraulic flexible brake hose is still connected. Failure to support the caliper in this manner will cause the flexible brake hose to bear the weight of the caliper, which may cause damage to the</p>		



brake hose and in turn may cause a brake fluid leak.

**IMPORTANT:**

**Do NOT disconnect the hydraulic brake flex hoses from the calipers.**

1. Remove the front and/or rear disc brake calipers, as appropriate, from the mounting brackets and support the calipers. Refer to **Front Brake Caliper Replacement** and/or **Rear Brake Caliper Replacement** .
2. Inspect the disc brake caliper mounting bracket and the mounting/sliding hardware for the following conditions:

Refer to **Front Disc Brake Mounting and Hardware Inspection** and/or **Rear Disc Brake Mounting and Hardware Inspection** .

- Binding or seized hardware
  - Worn, damaged or missing hardware components
  - Loose, bent, cracked or damaged caliper mounting bracket
3. Replace components as required. Refer to the following procedures, as required:
    - **Rear Brake Caliper Bracket Replacement**
    - **Front Disc Brake Hardware Replacement**
    - **Rear Disc Brake Hardware**

	<p style="text-align: center;"><b><u>Replacement</u></b></p> <p>4. Replace the unevenly-worn, loose or damaged disc brake pads as a complete axle set. Refer to <b><u>Front Disc Brake Pads Replacement</u></b> and/or <b><u>Rear Disc Brake Pads Replacement</u></b> .</p> <p>Did you complete the inspection and replacement?</p>		
8	<p>1. Inspect the disc brake calipers, brake hoses and brake pipes for evidence of an external brake fluid leak.</p> <p>2. Replace any components found to be leaking brake fluid. Refer to the following procedures as required:</p> <ul style="list-style-type: none"> <li>• <b><u>Front Brake Caliper Overhaul</u></b> or <b><u>Front Brake Caliper Replacement</u></b></li> <li>• <b><u>Rear Brake Caliper Overhaul</u></b> or <b><u>Rear Brake Caliper Replacement</u></b></li> <li>• <b><u>Front Brake Hose Replacement</u></b></li> <li>• <b><u>Rear Brake Hose Replacement</u></b></li> <li>• <b><u>Brake Pipe Replacement</u></b></li> </ul> <p>Did you find and correct the source of the leak causing contamination of the pads?</p>	Go to <b>Step 12</b>	
	<p>1. Inspect the wheel drive shaft outer seals, if equipped, for damage and evidence of a grease leak.</p> <p>2. Replace any wheel drive shaft seal that is found to be leaking grease which may be the source of the contamination to the pads. Refer to</p>	Go to <b>Step 11</b>	Go to <b>Step 9</b>

<p>9</p>	<p><b><u>Wheel Drive Shaft Outer Joint and Boot Replacement</u></b> , if equipped.</p> <p>3. Inspect the rear axle seals for damage and evidence of a lubricant leak.</p> <p>4. Replace any rear axle seal that is found to be leaking lubricant which may be the source of the contamination to the pads. Refer to <b><u>Rear Axle Shaft Seal and/or Bearing Replacement</u></b> or <b><u>Front Wheel Hub, Bearing and Seal Replacement</u></b> .</p> <p>Did you find and correct the source of the leak causing contamination of the pads?</p>	<p>Go to <b>Step 11</b></p>	<p>Go to <b>Step 10</b></p>
<p>10</p>	<p>1. Inspect the automatic transmission cooling system lines, if equipped, for damage and evidence of an external fluid leak which may be the source of the contamination to the pads.</p> <p>2. Inspect the power steering system hoses for damage and evidence of an external fluid leak which may be the source of the contamination to the pads.</p> <p>3. Replace any components found to be leaking fluid which may be the source of the contamination to the pads.</p> <p>Did you find and correct the source of the leak causing contamination of the pads?</p>	<p>Go to <b>Step 11</b></p>	<p>-</p>
	<p>1. Clean the remaining disc brake system components to remove any traces of the contaminant.</p> <p><b>NOTE:</b>  <b>Support the brake caliper with heavy mechanic wire or equivalent, whenever it is separated from its mount and the</b></p>		

hydraulic flexible brake hose is still connected. Failure to support the caliper in this manner will cause the flexible brake hose to bear the weight of the caliper, which may cause damage to the brake hose and in turn may cause a brake fluid leak.

**IMPORTANT:**

Do **NOT** disconnect the hydraulic brake flex hoses from the calipers.

2. Remove the front and/or rear disc brake calipers, as appropriate, from the mounting brackets and support the calipers. Refer to **Front Brake Caliper Replacement** and/or **Rear Brake Caliper Replacement** .
3. Inspect the disc brake caliper mounting/sliding hardware for the following conditions:

Refer to **Front Disc Brake Mounting and Hardware Inspection** and/or **Rear Disc Brake Mounting and Hardware Inspection** .

- Binding or seized hardware
  - Distorted, worn, damaged or missing hardware components
4. Replace the caliper mounting/sliding hardware components as required. Refer to **Front Disc Brake Hardware Replacement** and/or **Rear Disc Brake Hardware Replacement** .
  5. Replace the contaminated disc brake pads as a complete axle set. Refer to **Front Disc Brake Pads**

**2007 Hummer H3**

2007 BRAKES Hydraulic Brakes - H3

	<p align="center"><b><u>Replacement</u></b> and/or <b><u>Rear Disc Brake Pads Replacement</u></b> .</p> <p>Did you complete the cleaning, inspection and replacement?</p>	Go to <b>Step 12</b>	
<b>12</b>	<p>Visually inspect each of the disc brake rotor shields/backing plates for evidence of contact with the brake rotors.</p> <p>Are any of the brake rotor shields/backing plates contacting the brake rotors?</p>	Go to <b>Step 13</b>	Go to <b>Step 14</b>
<b>13</b>	<p>Repair or replace the disc brake rotor shields/backing plates as required. Refer to <b><u>Front Brake Shield Replacement</u></b> and/or <b><u>Rear Disc Brake Backing Plate Replacement</u></b> .</p> <p>Did you complete the repair or replacement?</p>	Go to <b>Step 14</b>	-
<b>14</b>	<p>1. Check the thickness of each of the disc brake rotors.</p> <p><b>IMPORTANT:</b> Make the following determination AND ANSWER the question INDIVIDUALLY for EACH rotor.</p> <p>2. Make a determination for each brake rotor if the rotor can be REFINISHED and REMAIN ABOVE the minimum requirements.</p> <p>Refer to <b><u>Brake Rotor Thickness Measurement</u></b> .Does the disc brake rotor meet the minimum requirements for REFINISHING?</p>	Go to <b>Step 15</b>	Go to <b>Step 18</b>
	<p><b>IMPORTANT:</b> Perform the following inspection AND ANSWER the question INDIVIDUALLY for EACH rotor.</p> <p>Inspect each of the disc brake rotors for</p>		

2007 Hummer H3

2007 BRAKES Hydraulic Brakes - H3

<p>15</p>	<p>thickness variation that exceeds the maximum acceptable level. Refer to <b><u>Brake Rotor Thickness Variation Measurement</u></b> .Does the brake rotor exhibit thickness variation that exceeds the maximum acceptable level?</p>	<p>Go to <b>Step 17</b></p>	<p>Go to <b>Step 16</b></p>
<p>16</p>	<p>1. Inspect each of the disc brake rotors for the following surface and wear conditions:</p> <p>Refer to <b><u>Brake Rotor Surface and Wear Inspection</u></b> .</p> <ul style="list-style-type: none"> <li>• Heavy rust and/or pitting</li> <li>• Cracks and/or heat spots</li> <li>• Excessive blueing discoloration</li> <li>• Deep or excessive scoring beyond maximum acceptable level</li> </ul> <p><b>IMPORTANT:</b>  <b>Make the following determination AND ANSWER the question INDIVIDUALLY for EACH rotor.</b></p> <p>2. Make a determination for each brake rotor if the rotor requires refinishing based upon the results of the inspection.</p> <p>If the brake rotor exhibits any of the conditions listed previously, it requires refinishing.</p> <p>Does the brake rotor require <b>REFINISHING?</b></p>	<p>Go to <b>Step 17</b></p>	<p>Go to <b>Step 22</b></p>
	<p>1. Refinish the brake rotor. Refer to <b><u>Brake Rotor Refinishing</u></b> .</p> <p>2. Inspect the brake rotor thickness.</p>		

**2007 Hummer H3**

2007 BRAKES Hydraulic Brakes - H3

17	<p align="center">Refer to <b><u>Brake Rotor Thickness Measurement</u></b> .</p> <p>Were you able to REFINISH the brake rotor within the minimum requirements?</p>	Go to <b>Step 22</b>	Go to <b>Step 21</b>
18	<p>Is the brake rotor at or below the DISCARD requirements?</p>	Go to <b>Step 21</b>	Go to <b>Step 19</b>
19	<p><b>IMPORTANT:</b>  <b>Perform the following inspection AND ANSWER the question INDIVIDUALLY for EACH rotor.</b></p> <p>Inspect each of the disc brake rotors for thickness variation that exceeds the maximum acceptable level. Refer to <b><u>Brake Rotor Thickness Variation Measurement</u></b> .Does the brake rotor exhibit thickness variation that exceeds the maximum acceptable level?</p>	Go to <b>Step 21</b>	Go to <b>Step 20</b>
20	<p>1. Inspect each of the disc brake rotors for the following surface and wear conditions:</p> <p align="center">Refer to <b><u>Brake Rotor Surface and Wear Inspection</u></b> .</p> <ul style="list-style-type: none"> <li>● Heavy rust and/or pitting</li> <li>● Cracks and/or heat spots</li> <li>● Excessive blueing discoloration</li> <li>● Deep or excessive scoring beyond maximum acceptable level</li> </ul> <p><b>IMPORTANT:</b>  <b>Make the following determination AND ANSWER the question INDIVIDUALLY for EACH rotor.</b></p> <p>2. Make a determination for each brake</p>		

2007 Hummer H3

2007 BRAKES Hydraulic Brakes - H3

	<p>rotor if the rotor requires replacement based upon the results of the inspection.</p> <p>If the brake rotor exhibits any of the conditions listed previously, it requires replacement.</p> <p>Does the brake rotor require REPLACEMENT?</p>	Go to <b>Step 21</b>	Go to <b>Step 22</b>
21	<p><b>IMPORTANT:</b> Whenever a brake rotor is replaced, the assembled lateral runout (LRO) of the rotor must be measured to ensure optimum performance of the disc brakes.</p> <p>Replace the brake rotor. Refer to <b><u>Front Brake Rotor Replacement</u></b> or <b><u>Rear Brake Rotor Replacement</u></b> .Did you complete the replacement?</p>	Go to <b>Step 24</b>	-
22	<p><b>IMPORTANT:</b> Perform the following inspection AND ANSWER the question INDIVIDUALLY for EACH rotor.</p> <p>Inspect each of the disc brake rotors for assembled LRO that exceeds the maximum acceptable level. Refer to <b><u>Brake Rotor Assembled Lateral Runout Measurement</u></b> .Does the brake rotor exhibit assembled LRO that exceeds the maximum acceptable level?</p>	Go to <b>Step 23</b>	Go to <b>Step 24</b>
23	<p>Correct the LRO for each brake rotor that was determined to have LRO exceeding the maximum acceptable level. Refer to <b><u>Brake Rotor Assembled Lateral Runout Correction</u></b> . Did you complete the operation?</p>	Go to <b>Step 24</b>	-
24	<p>Install or connect components that were removed or disconnected during diagnosis.</p>	Disc Brake System OK	-



**2007 Hummer H3**

2007 BRAKES Hydraulic Brakes - H3

	Did you complete the operation?		Return to Symptom Table
--	---------------------------------	--	-------------------------

**HYDRAULIC BRAKE SYSTEM DIAGNOSIS**

**Hydraulic Brake System Diagnosis**

Step	Action	Yes	No
<p>DEFINITION: This diagnostic table is designed to diagnose ONLY the components of the HYDRAULIC brake system in order to determine if the HYDRAULIC brake system is operating properly. You will be directed by the appropriate Symptom table to go to other brake system diagnostic tables as appropriate.</p>			
1	<p>Were you sent here from a Brake Symptom table?</p>	Go to Step 2	Go to <b><u>Diagnostic Starting Point - Hydraulic Brakes</u></b>
2	<p>Inspect and adjust the brake fluid level in the brake master cylinder. Refer to <b><u>Master Cylinder Reservoir Filling.</u></b></p> <p>Was the brake fluid level low?</p>	Go to Step 3	Go to Step 4
3	<p>1. Inspect the brake fluid for the following conditions, indicating brake fluid contamination:</p> <ul style="list-style-type: none"> <li>● Fluid separation, indicating 2 types of fluid are present                             <ul style="list-style-type: none"> <li>■ Swirled appearance - oil-based substance</li> <li>■ Layered appearance - silicone-based substance</li> </ul> </li> <li>● Fluid discoloration                             <ul style="list-style-type: none"> <li>■ Cloudy appearance - moisture</li> <li>■ Dark appearance/suspended particles in fluid - dirt, rust, corrosion, brake dust</li> </ul> </li> </ul> <p>2. Inspect the master cylinder reservoir cap diaphragm and the reservoir-to-</p>		

2007 Hummer H3

2007 BRAKES Hydraulic Brakes - H3

	<p>master cylinder grommets for swelling, indicating fluid contamination.</p>		
	<p>Do any of the above conditions exist?</p>	<p>Go to <b>Step 5</b></p>	<p>Go to <b>Step 6</b></p>
4	<p>1. Inspect the brake fluid for the following conditions, indicating brake fluid contamination:</p> <ul style="list-style-type: none"> <li>• Fluid separation, indicating 2 types of fluid are present <ul style="list-style-type: none"> <li>■ Swirled appearance - oil-based substance</li> <li>■ Layered appearance - silicone-based substance</li> </ul> </li> <li>• Fluid discoloration <ul style="list-style-type: none"> <li>■ Cloudy appearance - moisture</li> <li>■ Dark appearance/suspended particles in fluid - dirt, rust, corrosion, brake dust</li> </ul> </li> </ul> <p>2. Inspect the master cylinder reservoir cap diaphragm and the reservoir-to-master cylinder grommets for swelling, indicating fluid contamination.</p>		
	<p>Do any of the above conditions exist?</p>	<p>Go to <b>Step 5</b></p>	<p>Go to <b>Step 12</b></p>
	<p>1. Flush the hydraulic brake system. Refer to <b><u>Hydraulic Brake System Flushing</u></b>.</p> <p>2. If the brake fluid WAS contaminated with an oil-based or a silicone-based fluid, indicated by fluid separation and/or a swollen master cylinder reservoir cap diaphragm and/or swollen reservoir-to-master cylinder grommets, perform the following steps. Refer to the procedures indicated.</p> <p>1. Remove ALL of the following</p>		

5

components listed. Each component contains internal rubber seals/linings which have been contaminated.

2. Clean out the hydraulic brake pipes using denatured alcohol or equivalent.
3. Dry the brake pipes using non-lubricated, filtered air.
4. Repair or replace ALL of the following components listed. Each component contains internal rubber seals/linings which have been contaminated.

- **Front Brake Hose Replacement**
- **Rear Brake Hose Replacement**
- **Front Brake Caliper Overhaul or Front Brake Caliper Replacement**
- **Rear Brake Caliper Overhaul or Rear Brake Caliper Replacement**
- **Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (LHD)**  
**Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (RHD)**

3. If the brake fluid was NOT contaminated with an oil-based fluid, but WAS contaminated with water or

dirt, rust, corrosion, and/or brake dust, replace the brake master cylinder reservoir cap diaphragm which may have allowed moisture or dirt to enter the system.

4. Refill and bleed the hydraulic brake system. Refer to **Hydraulic Brake System Bleeding (Manual)** or **Hydraulic Brake System Bleeding (Pressure)**.

Did you complete the operation and any required repairs and/or replacements?

Go to **Step 9**

1. Inspect the following hydraulic brake system components for external fluid leaks. Repair or replace any of the components found to be leaking brake fluid. Refer to the appropriate procedures:

- **Master Cylinder Replacement**

Brake master cylinder reservoir cap assembly

- **Master Cylinder Reservoir Replacement**

- **Power Brake Booster Inlet Hose Replacement**

- **Power Brake Booster Outlet Front Pipe Replacement**

- **Power Brake Booster Replacement**

- **Hydraulic Brake Booster Accumulator Replacement**

- **Front Brake Hose Replacement**

- **Rear Brake Hose Replacement**

<p>6</p>	<ul style="list-style-type: none"> <li>• <b><u>Brake Pipe Replacement</u></b></li> <li>• <b><u>Front Brake Caliper Overhaul</u></b> or <b><u>Front Brake Caliper Replacement</u></b></li> <li>• <b><u>Rear Brake Caliper Overhaul</u></b> or <b><u>Rear Brake Caliper Replacement</u></b></li> <li>• <b><u>Brake Pressure Modulator Valve Replacement</u></b></li> </ul> <p>2. If you repaired or replaced any of the brake system components listed, bleed the hydraulic brake system. Refer to <b><u>Hydraulic Brake System Bleeding (Manual)</u></b> or <b><u>Hydraulic Brake System Bleeding (Pressure)</u></b>. While bleeding the hydraulic brake system, observe for the following conditions:</p> <ul style="list-style-type: none"> <li>• The presence of air in the system at a bleeder valve location other than at the repair location, except if the brake master cylinder was replaced</li> <li>• An unrestricted and even flow of brake fluid per axle during the bleeding procedure</li> </ul> <p>Did you find and correct a condition?</p>		
<p>7</p>	<p>Was there air in the system at a bleeder valve location other than at the repair location, except if the brake master cylinder was replaced?</p>	<p>Go to <b>Step 7</b></p>	<p>Go to <b>Step 12</b></p>
<p>8</p>	<p>Was the flow of brake fluid unrestricted and even per axle during the bleeding procedure?</p>	<p>Go to <b>Step 19</b></p>	<p>Go to <b>Step 8</b></p>
<p>9</p>	<p>Inspect the hydraulic function of the brake calipers for proper operation. Refer to <b><u>Hydraulic Brake Component Operation</u></b></p>	<p>Go to <b>Step 9</b></p>	<p>Go to <b>Step 10</b></p>

**2007 Hummer H3**

2007 BRAKES Hydraulic Brakes - H3

	<p><b><u>Visual Inspection.</u></b> Was the hydraulic function of the brake calipers operating properly?</p>	Go to <b>Step 21</b>	Go to <b>Step 14</b>
10	Was the flow of brake fluid restricted or uneven through front axle hydraulic components during the bleeding procedure?	Go to <b>Step 13</b>	Go to <b>Step 11</b>
11	Was the flow of brake fluid restricted or uneven through rear axle hydraulic components during the bleeding procedure?	Go to <b>Step 17</b>	-
12	<p>Inspect the hydraulic function of the brake calipers for proper operation. Refer to <b><u>Hydraulic Brake Component Operation Visual Inspection.</u></b> Was the hydraulic function of the brake calipers operating properly?</p>	Go to <b>Step 15</b>	Go to <b>Step 13</b>
13	<p>Determine if the brake caliper is restricting the flow of brake fluid and/or not operating properly:</p> <ol style="list-style-type: none"> <li>1. Raise and support the vehicle. Refer to <b><u>Lifting and Jacking the Vehicle</u></b> .</li> <li>2. Remove the tire and wheel assemblies. Refer to <b><u>Tire and Wheel Removal and Installation</u></b> .</li> <li>3. Open the suspected caliper bleeder valve.</li> <li>4. Using a large C-clamp, compress the caliper piston and observe for an unrestricted flow of brake fluid and for free movement of the caliper piston.</li> <li>5. Close the caliper bleeder valve.</li> </ol> <p>Was the flow of brake fluid unrestricted and did the caliper piston move freely?</p>	Go to <b>Step 17</b>	Go to <b>Step 14</b>
	Repair or replace any brake caliper that was not operating properly. Refer to the appropriate procedure.		

2007 Hummer H3

2007 BRAKES Hydraulic Brakes - H3

<p>14</p>	<ul style="list-style-type: none"> <li>• <b><u>Front Brake Caliper Overhaul</u></b> or <b><u>Front Brake Caliper Replacement</u></b></li> <li>• <b><u>Rear Brake Caliper Overhaul</u></b> or <b><u>Rear Brake Caliper Replacement</u></b></li> </ul> <p>Did you complete the repair and/or replacement?</p>	<p>Go to <b>Step 21</b></p>	<p>-</p>
<p>15</p>	<p>Bleed the hydraulic brake system to observe for the presence of air in the system and to observe for an unrestricted and even flow of brake fluid per axle during the bleeding procedure. Refer to <b><u>Hydraulic Brake System Bleeding (Manual)</u></b> or <b><u>Hydraulic Brake System Bleeding (Pressure)</u></b>.</p> <p>Was there air in the system?</p>	<p>Go to <b>Step 19</b></p>	<p>Go to <b>Step 16</b></p>
<p>16</p>	<p>Was the flow of brake fluid unrestricted and even per axle during the bleeding procedure?</p>	<p>Go to <b>Step 21</b></p>	<p>Go to <b>Step 17</b></p>
<p>17</p>	<ol style="list-style-type: none"> <li>1. Inspect the hydraulic brake pipes and flexible brake hoses for signs of a fluid restriction, such as being bent, kinked, pinched or damaged. Refer to <b><u>Brake Pipe and Hose Inspection</u></b>.</li> <li>2. Replace any of the hydraulic brake pipes and/or flexible brake hoses found to be bent, kinked, pinched or damaged. Refer to the following procedures as necessary: <ul style="list-style-type: none"> <li>• <b><u>Front Brake Hose Replacement</u></b></li> <li>• <b><u>Rear Brake Hose Replacement</u></b></li> <li>• <b><u>Brake Pipe Replacement</u></b></li> </ul> </li> <li>3. If none of the hydraulic brake pipes or flexible brake hoses were visibly bent, kinked, pinched or damaged, replace the hydraulic brake flex hose at the</li> </ol>		

**2007 Hummer H3**

2007 BRAKES Hydraulic Brakes - H3

	restricted location.		
	Did you find and correct a condition?	Go to <b>Step 21</b>	Go to <b>Step 18</b>
18	Replace the brake pressure modulator valve (BPMV), in order to correct the hydraulic brake dynamic rear proportioning mechanical operation. Refer to <b><u>Brake Pressure Modulator Valve Replacement</u></b> . Did you complete the replacement?	Go to <b>Step 21</b>	-
19	<ol style="list-style-type: none"> <li>1. Inspect the hydraulic brake system components for brake fluid seepage at a seal and/or fitting location, which may have drawn air into the system.</li> <li>2. Inspect the hydraulic brake system components for evidence of a recent repair, which may have introduced air into the system.</li> <li>3. Repair or replace any of the components found to be installed incorrectly or seeping brake fluid.</li> </ol> Did you find and correct a condition?	Go to <b>Step 21</b>	Go to <b>Step 20</b>
20	<ol style="list-style-type: none"> <li>1. Inspect the brake master cylinder for internal fluid leaks. Refer to <b><u>Brake System Internal Leak Test</u></b>.</li> <li>2. Repair or replace the brake master cylinder if it is found to be leaking brake fluid internally. Refer to <b><u>Master Cylinder Replacement</u></b>.</li> </ol> Did you find and correct a condition?	Go to <b>Step 21</b>	Return to Symptom Table
21	Install or connect components that were removed or disconnected during diagnosis. Did you complete the operation?	Hydraulic Brake System OK Return to Symptom Table	-



**2007 Hummer H3**

2007 BRAKES Hydraulic Brakes - H3

**BRAKE ASSIST SYSTEM DIAGNOSIS**

**Brake Assist System Diagnosis**

<b>Step</b>	<b>Action</b>	<b>Yes</b>	<b>No</b>
<p>DEFINITION: This diagnostic table is designed to diagnose ONLY the components of the brake ASSIST system in order to determine if the brake ASSIST system is operating properly. You will be directed by the appropriate Symptom Table to go to other brake system diagnostic tables as appropriate.</p>			
1	Were you sent here from a Brake Symptom Table?	Go to <b>Step 2</b>	Go to <b><u>Diagnostic Starting Point - Hydraulic Brakes</u></b>
2	Is the symptom related to brake system noise?	Go to <b>Step 4</b>	Go to <b>Step 3</b>
3	Is the symptom related to the brake pedal travel feel?	Go to <b>Step 12</b>	Return to Symptom Table
4	Check the hydraulic assist system operation for the presence of abnormal noise. Refer to <b><u>Hydraulic Brake Assist System Noise Inspection.</u></b> Did the noise inspection indicate a concern with the power brake booster pump dampers?	Go to <b>Step 5</b>	Go to <b>Step 6</b>
5	Replace the power brake booster pump dampers. Refer to <b><u>Power Brake Booster Replacement.</u></b> Did you complete the replacement?	Go to <b>Step 6</b>	-
6	Did the noise inspection indicate a possible restriction in the power brake booster inlet hose?	Go to <b>Step 7</b>	Go to <b>Step 8</b>
7	Replace the restricted power brake booster inlet hose. Refer to <b><u>Power Brake Booster Inlet Hose Replacement.</u></b> Did you complete the replacement?	Go to <b>Step 8</b>	-
8	Did the noise inspection indicate a possible restriction in the power brake booster outlet pipe?	Go to <b>Step 9</b>	Go to <b>Step 10</b>

**2007 Hummer H3**

2007 BRAKES Hydraulic Brakes - H3

9	<p>Replace the restricted power brake booster outlet pipe. Refer to <b><u>Power Brake Booster Outlet Front Pipe Replacement</u></b>. Did you complete the replacement?</p>	Go to <b>Step 10</b>	-
10	During the inspection, did the hydraulic brake booster pump and motor make abnormal noises?	Go to <b>Step 11</b>	Go to <b>Step 9</b>
11	<p>Replace the hydraulic brake booster assembly. Refer to <b><u>Power Brake Booster Replacement</u></b>. Did you complete the replacement?</p>	Go to <b>Step 20</b>	-
12	<p>Inspect for proper brake pedal travel. Refer to <b><u>Brake Pedal Travel Measurement and Inspection</u></b>. Is the brake pedal travel distance within the acceptable limits?</p>	Go to <b>Step 12</b>	Go to <b>Step 13</b>
13	<ol style="list-style-type: none"> <li>1. Inspect for worn, missing, misaligned, bent or damaged brake pedal system components. <ul style="list-style-type: none"> <li>• For the brake pedal pushrod component inspection, refer to <b><u>Brake Pedal Pushrod Inspection</u></b> .</li> <li>• Inspect the brake pedal clevis for excessive wear and/or damage and inspect the brake pedal for a misaligned, bent, and/or damaged condition.</li> </ul> </li> <li>2. Replace the brake pedal system components that are worn, missing, misaligned, bent or damaged. Refer to the following procedures as necessary. <ul style="list-style-type: none"> <li>• <b><u>Brake Pedal Assembly Replacement (LHD) Brake Pedal Assembly Replacement (RHD)</u></b></li> <li>• <b><u>Master Cylinder Replacement</u></b></li> </ul> </li> </ol>		

**2007 Hummer H3**

2007 BRAKES Hydraulic Brakes - H3

	<p>for a bent or damaged pedal pushrod replacement</p> <p>Did you find and replace any worn, missing, misaligned, bent or damaged brake pedal system components?</p>	Go to <b>Step 14</b>	Go to <b>Step 15</b>
14	<p>Reinspect for proper brake pedal travel. Refer to <b><u>Brake Pedal Travel Measurement and Inspection</u></b>. Is the brake pedal travel distance within the acceptable limits?</p>	Go to <b>Step 16</b>	Go to <b>Step 15</b>
15	<p>Check for air trapped in the hydraulic booster pump and motor assembly. Refer to <b><u>Hydraulic Brake System Bleeding (Manual)</u></b> or <b><u>Hydraulic Brake System Bleeding (Pressure)</u></b>. Did you complete the hydraulic brake system bleeding procedure?</p>	Go to <b>Step 16</b>	-
16	<ol style="list-style-type: none"> <li>1. With the ignition OFF, depress the brake pedal 20 times or until the brake pedal stroke increases.</li> <li>2. Maintain moderate foot pressure on the brake pedal and start the engine. Observe pedal operation.</li> </ol> <p>Did the brake pedal push back, then hold after the engine was started?</p>	Go to <b>Step 17</b>	Go to <b>Step 19</b>
17	<ol style="list-style-type: none"> <li>1. Release the brake pedal.</li> <li>2. Start the engine to pressurize the system.</li> <li>3. Turn the ignition OFF.</li> <li>4. Wait 1 hour, then depress the brake pedal 4 times to check for hydraulic brake booster accumulator reserve leak-down. Observe pedal effort.</li> </ol> <p>Did the brake pedal apply effort significantly increase when the brake pedal</p>		

## 2007 Hummer H3

### 2007 BRAKES Hydraulic Brakes - H3

	was applied the fourth time?	Go to <b>Step 18</b>	Go to <b>Step 20</b>
18	Replace the hydraulic brake booster accumulator assembly. Refer to <b><u>Hydraulic Brake Booster Accumulator Replacement</u></b> . Did you complete the replacement?	Go to <b>Step 20</b>	-
19	Replace the pump and motor assembly. Refer to <b><u>Power Brake Booster Replacement</u></b> . Did you complete the replacement?	Go to <b>Step 20</b>	-
20	Install or connect any components that were removed or disconnected during diagnosis. Did you complete the operation?	Brake Assist System OK Return to Symptom Table	-

#### BRAKE SYSTEM VEHICLE ROAD TEST

##### Preliminary Inspections

1. Visually inspect easily accessible brake system components for obvious damage and/or leaks which may indicate that the vehicle should not be driven until further inspections have been completed.
2. Inspect the brake master cylinder reservoir fluid level and adjust only if necessary for brake system road testing. Refer to **Master Cylinder Reservoir Filling**.
3. Inspect the tire inflation pressures and adjust as necessary.
4. Inspect the tire tread patterns to ensure that they are the same or very similar, especially per axle.
5. Ensure that the vehicle is not loaded unevenly prior to brake system road testing.

##### Road Testing Procedure

**CAUTION: Road test a vehicle under safe conditions and while obeying all traffic laws. Do not attempt any maneuvers that could jeopardize vehicle control. Failure to adhere to these precautions could lead to serious personal injury and vehicle damage.**

1. Start the engine and allow it to idle.
2. Check to see if the brake system warning lamp remains illuminated.

## 2007 Hummer H3

### 2007 BRAKES Hydraulic Brakes - H3

3. If the brake system warning lamp remains illuminated, DO NOT proceed to test drive the vehicle until it is diagnosed and repaired. Refer to **Symptoms - Hydraulic Brakes**.
4. Select a smooth, dry, clean and level road or large lot that is as free of traffic and obstacles as possible for brake system low speed road testing.
5. With the transmission in PARK, lightly apply the brake pedal. Observe both the pedal feel and the pedal travel.
6. If the brake pedal apply felt spongy or the pedal travel was excessive, DO NOT drive the vehicle until it is repaired.
7. If the brake pedal apply did not feel spongy and the pedal travel was not excessive, proceed to step 8.
8. Release and apply the brakes.
9. While continuing to apply the brakes, shift the transmission into DRIVE, release the brakes and allow the engine to idle the vehicle away from the stopped position. Observe for a slow release of the brake system.
10. With the aid of an assistant to observe the vehicle's performance from outside of the vehicle, drive the vehicle at a low speed and lightly apply the brakes while driving past the assistant. Have the assistant observe for brake system noise from the side of the vehicle closest to them, while you observe both the pedal effort and the pedal travel.
11. If the brake pedal apply effort was excessive or the pedal travel was excessive, DO NOT continue to test drive the vehicle until it is repaired.
12. If the brake pedal apply effort was not excessive and the pedal travel was not excessive, proceed to step 13.
13. Drive the vehicle in the opposite direction, at the same low speed and lightly apply the brakes while driving past the assistant. Have the assistant observe for brake system noise from the side of the vehicle closest to him.
14. Drive the vehicle at a low speed and shift the transmission into NEUTRAL without applying the brakes. Observe for a rapid deceleration in vehicle speed, indicating possible brake drag.
15. Select a smooth, dry, clean and level road that is as free of heavy traffic as possible for brake system moderate speed road testing.
16. Drive the vehicle at a moderate speed. Observe for a pull and/or incorrect tracking of the vehicle without the brakes applied.
17. While continuing to drive the vehicle at a moderate speed, perform several light applies of the brakes. Observe the pedal effort and the pedal travel, observe for brake system noise, pulsation and/or brake drag.
18. If the brake pedal apply effort was excessive or the pedal travel was excessive, DO NOT

## 2007 Hummer H3

### 2007 BRAKES Hydraulic Brakes - H3

continue to test drive the vehicle until it is repaired.

19. If the brake pedal apply effort was not excessive and the pedal travel was not excessive, proceed to step 20.
20. While continuing to drive the vehicle at a moderate speed, perform several moderate applies of the brakes. Observe the pedal effort and the pedal travel, observe for brake system pulsation and/or uneven braking action - either side to side or front to rear.

A small amount of vehicle front end dip is expected during a moderate apply of the brakes.

21. If the brake pedal apply effort was excessive or the pedal travel was excessive, DO NOT continue to test drive the vehicle until it is repaired.

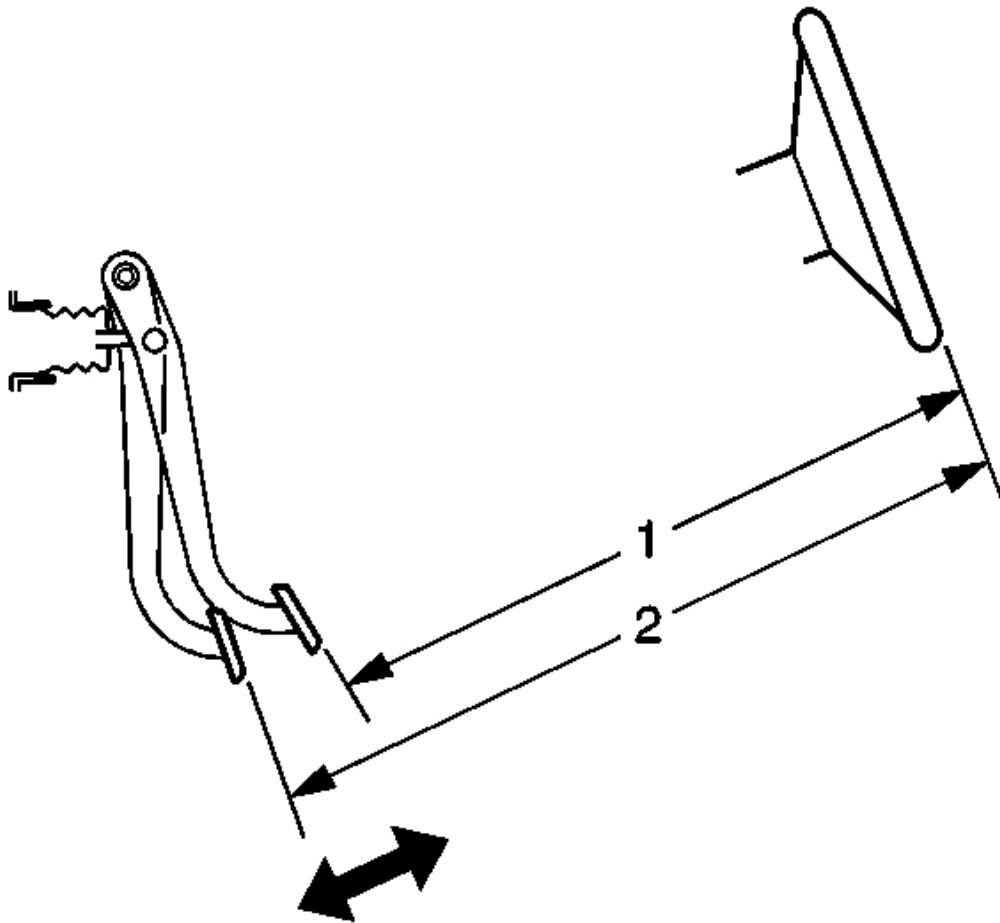
#### **BRAKE PEDAL TRAVEL MEASUREMENT AND INSPECTION**

##### **Tools Required**

**J 28662** Brake Pedal Effort Gage. See **Special Tools**.

##### **Inspection Procedure**

1. Install the **J 28662** to the brake pedal. See **Special Tools**.
2. Release the park brake.
3. Place the engine switch in the ON position.



**Fig. 6: Measuring Brake Pedal Travel**  
Courtesy of GENERAL MOTORS CORP.

4. Measure and record the distance (1) from the brake pedal to the rim of the steering wheel; note the points of measurement.
5. Apply and maintain the brakes with 134 N (30 lb) of force to the brake pedal, as indicated on the **J 28662** . See **Special Tools**.
6. While maintaining 134 N (30 lb) of force to the brake pedal, measure and record the distance (2) from the same point on the brake pedal to the same point on the rim of the steering wheel.
7. Release the brakes and repeat steps 4 and 5 to obtain a second measurement. After obtaining

a second measurement, proceed to step 8.

8. Average the first and second measurements recorded during the two applies of the brakes.
9. Subtract the initial measurement, unapplied (1), from the averaged, applied measurement (2) to obtain the brake pedal travel distance.

**Specification:** Maximum brake pedal travel (measured with the ignition ON and the brakes cool): 61 mm (2.40 in)

## HYDRAULIC BRAKE ASSIST SYSTEM NOISE INSPECTION

### Tools Required

**J 28662** Brake Pedal Effort Gage. See Special Tools.

### Inspection Procedure

1. Install the **J 28662** to the brake pedal. See Special Tools.
2. Start the engine and allow it to idle. Ensure that the wheels are directed straight ahead.
3. Apply and maintain the brakes with 111 N.m (25 lb) of force to the brake pedal, as indicated on the **J 28662** . See Special Tools. Observe for noises.
4. Quickly release the brakes. Observe for noises.
5. Check the pump and motor are running. If the noise is excessive/abnormal, check the following:
  - Damaged high pressure pipe
  - Defective pump and motor mounts
  - Defective pump and motor assembly

**IMPORTANT: Do NOT apply 445 N.m (100 lb) of force or more to the brake system pedal for more than 5 seconds at a time.**

6. Apply the brakes with 178 N.m (40 lb) of force to the brake pedal, as indicated on the **J 28662** , then gradually increase pedal effort up to 445 N. See Special Tools.m (100 lb) of force for not more than 5 seconds at a time. Observe for noises.
7. Quickly release the brakes. Observe for noises.
8. If a hiss noise was apparent and increased during the brake system increasing apply of 178-445 N.m (40-100 lb) of force, the hydraulic brake booster assist system is operating normally from an audible standpoint.
9. If a clunk, chatter, and/or clicking noise was apparent during the quick release of the brakes



following the brake system increasing apply of 178-445 N.m (40-100 lb) of force, the hydraulic brake booster assist system is operating normally from an audible standpoint.

## **BRAKE SYSTEM EXTERNAL LEAK INSPECTION**

**CAUTION: Refer to Brake Fluid Irritant Caution .**

**NOTE: Refer to Brake Fluid Effects on Paint and Electrical Components Notice .**

1. In order to inspect for external brake fluid leaks, first check the fluid level in the master cylinder reservoir.

While a slight brake fluid level drop can be considered a normal condition due to brake lining wear, a very low level may indicate a brake fluid leak in the hydraulic system.

2. If the fluid level is abnormally low, adjust the brake fluid level. Refer to Master Cylinder Reservoir Filling.
3. Start the engine and allow it to idle.
4. Apply constant, moderate foot pressure to the brake pedal.

If the brake pedal gradually falls away while under foot pressure, there may be a brake fluid leak.

5. Turn OFF the ignition.
6. Visually inspect the following brake system components for brake fluid leaks, excessive corrosion and damage. Give particular attention to all brake pipe and flexible hose connections to ensure that there are not any slight brake fluid leaks, even though the brake pedal may feel firm and hold steady:
  - Master cylinder brake pipe fittings
  - All brake pipe connections
  - Brake pipes
  - Brake hoses and connections
  - Brake calipers and/or wheel cylinders, if equipped
  - The brake pressure modulator valve (BPMV)
  - Power brake booster outlet front pipes
  - Power brake booster inlet hose

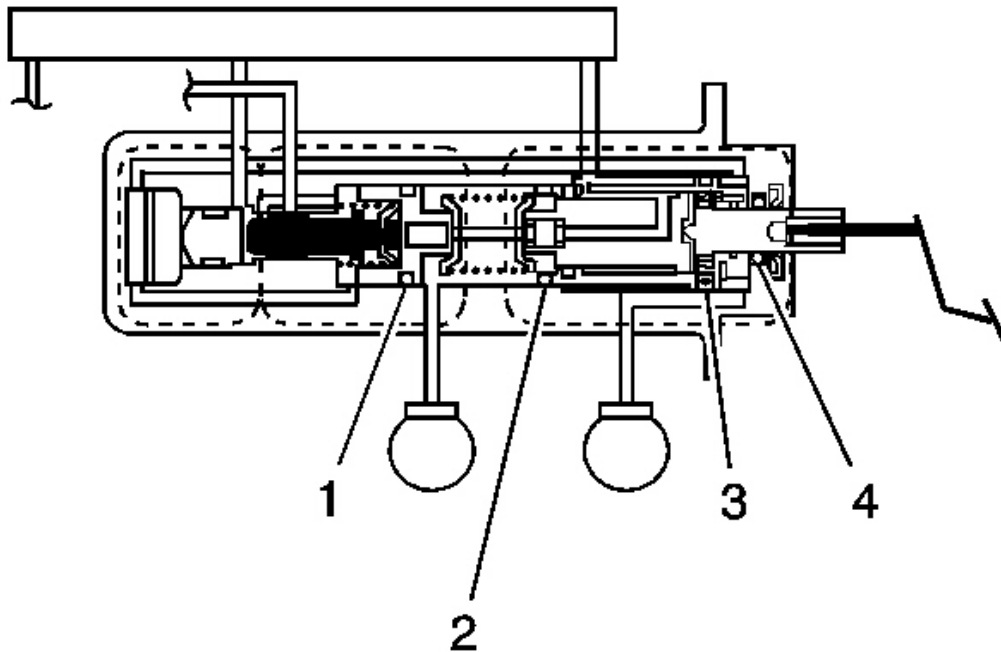
- Hydraulic brake booster
  - Hydraulic brake booster accumulator
7. While slight dampness around the master cylinder reservoir can be considered acceptable, brake fluid leaking from any of the brake system components requires immediate attention. If any of these components exhibit signs of brake fluid leakage, repair or replace those components. After the repair or replacement, reinspect the hydraulic brake system to assure proper function.

#### **BRAKE SYSTEM INTERNAL LEAK TEST**

**CAUTION: Refer to Brake Fluid Irritant Caution .**

**NOTE: Refer to Brake Fluid Effects on Paint and Electrical Components Notice .**

1. Start the engine and allow it to idle.
2. Apply light, steady pressure to the brake pedal. Observe both the brake pedal feel and travel.
3. Release the brakes and turn OFF the ignition.
4. If the brake pedal apply felt spongy, but the brake pedal travel was not excessive, perform the following steps:
  1. Inspect the brake system for external leaks. Refer to **Brake System External Leak Inspection** .
  2. Pressure bleed the brake system in order to purge any air that may be trapped in the system. Refer to **Hydraulic Brake System Bleeding (Manual)** or **Hydraulic Brake System Bleeding (Pressure)** .

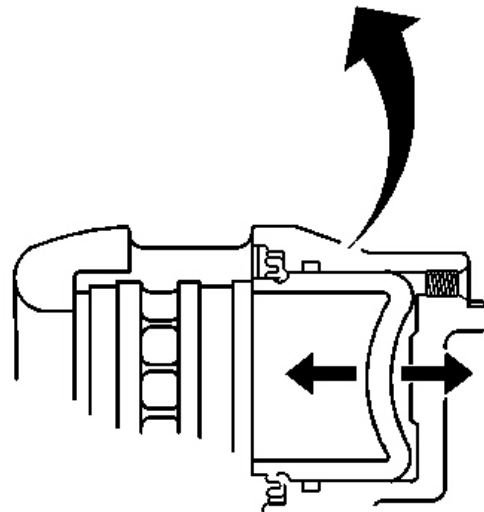
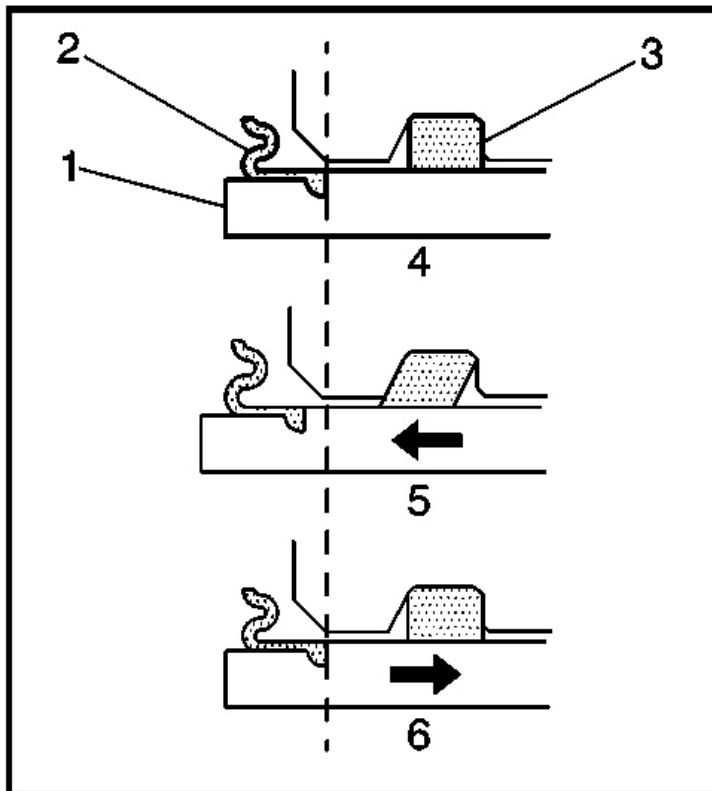


**Fig. 7: View Of Brake Hydraulic Schematic**  
Courtesy of GENERAL MOTORS CORP.

5. Turn the ignition to the ON position.
6. If the brake pedal apply did not feel spongy, but the brake pedal travel was excessive, perform the following steps:
  1. Bleed the brake system.
  2. If the pedal feel did not change, seal (2) is bad.
  3. Replace the master cylinder. Refer to **Master Cylinder Replacement** .
7. If the brake pedal apply did not feel spongy and the brake pedal travel was initially steady and not excessive, then gradually fell, seal (2) has failed. Replace the master cylinder. Refer to **Master Cylinder Replacement**.
8. If the pedal did not feel spongy and the pedal travel was excessive and the motor activated longer than 20 seconds or continuously, seal (3) or (4) has failed. Replace the master cylinder. Refer to **Master Cylinder Replacement**.
9. If the pedal did not feel spongy and travel was initially steady and not excessive, then gradually traveled back toward the unapplied position, seal (1) has failed. Replace the

master cylinder. Refer to Master Cylinder Replacement.

**HYDRAULIC BRAKE COMPONENT OPERATION VISUAL INSPECTION**



**Fig. 8: Identifying Brake Caliper/Pad Inspection Areas**  
Courtesy of GENERAL MOTORS CORP.

**CAUTION: Refer to Brake Fluid Irritant Caution .**

**NOTE: Refer to Brake Fluid Effects on Paint and Electrical Components Notice .**

1. With the tire and wheel assemblies removed and the brake rotors retained by wheel lug nuts, visually inspect the caliper piston dust boot (2) sealing area to ensure that there are no brake fluid leaks.
2. If any evidence of a brake fluid leak is present, the brake caliper requires overhaul or replacement.
3. While the brake system is at rest (4), observe the position of the caliper piston (1) in relation to the caliper housing.
4. Have an assistant apply and release the brake pedal several times while you observe the operation of the hydraulic brake caliper.
  1. Observe the caliper piston (1) for unrestricted and even movement during each apply of the brake system (5).
  2. Observe the caliper piston (1) for an unrestricted and even return motion during each release of the brake system (6).
5. If the caliper piston (1) did not exhibit unrestricted and even movement during brake system apply and/or release, the piston square seal (3) may be worn or damaged and the caliper may require overhaul or replacement.

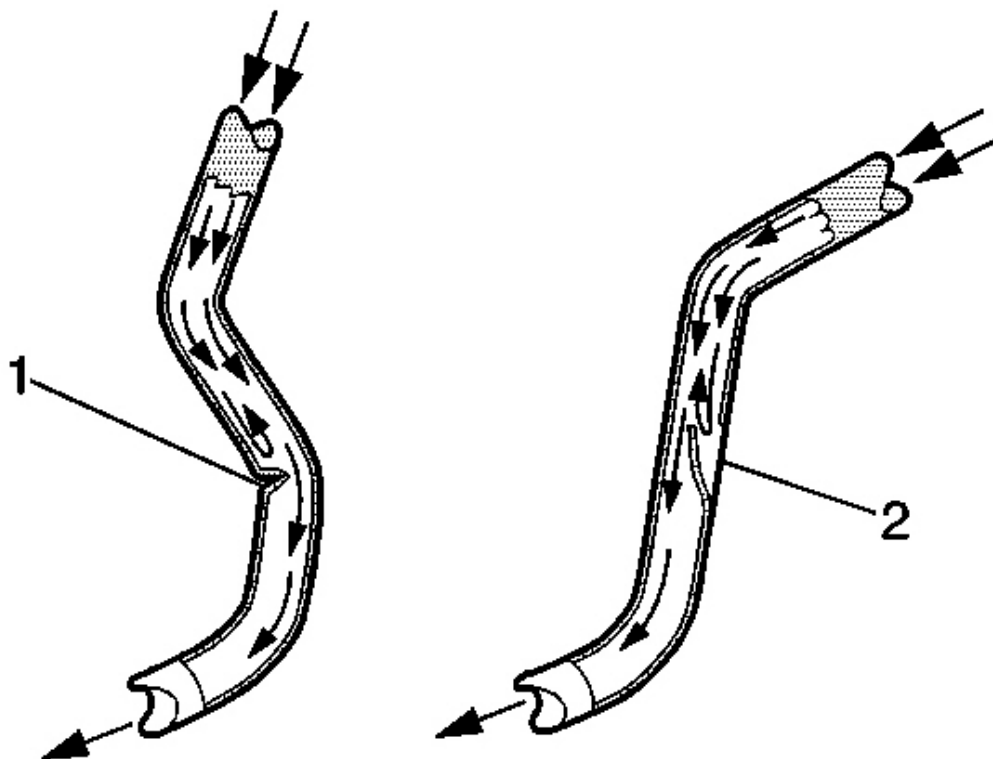
**BRAKE PIPE AND HOSE INSPECTION**

**CAUTION: Refer to Brake Fluid Irritant Caution .**

**NOTE: Refer to Brake Fluid Effects on Paint and Electrical Components Notice .**

1. Visually inspect all of the brake pipes for the following conditions:
  - Kinks, improper routing, missing or damaged retainers
  - Leaking fittings, excessive corrosion

2. If any of the brake pipes exhibited any of the conditions listed, then the identified pipe or pipes, require replacement.
3. Ensure that the vehicle axles are properly supported at ride height in order to maintain the proper relationship of the flexible brake hoses to the chassis.



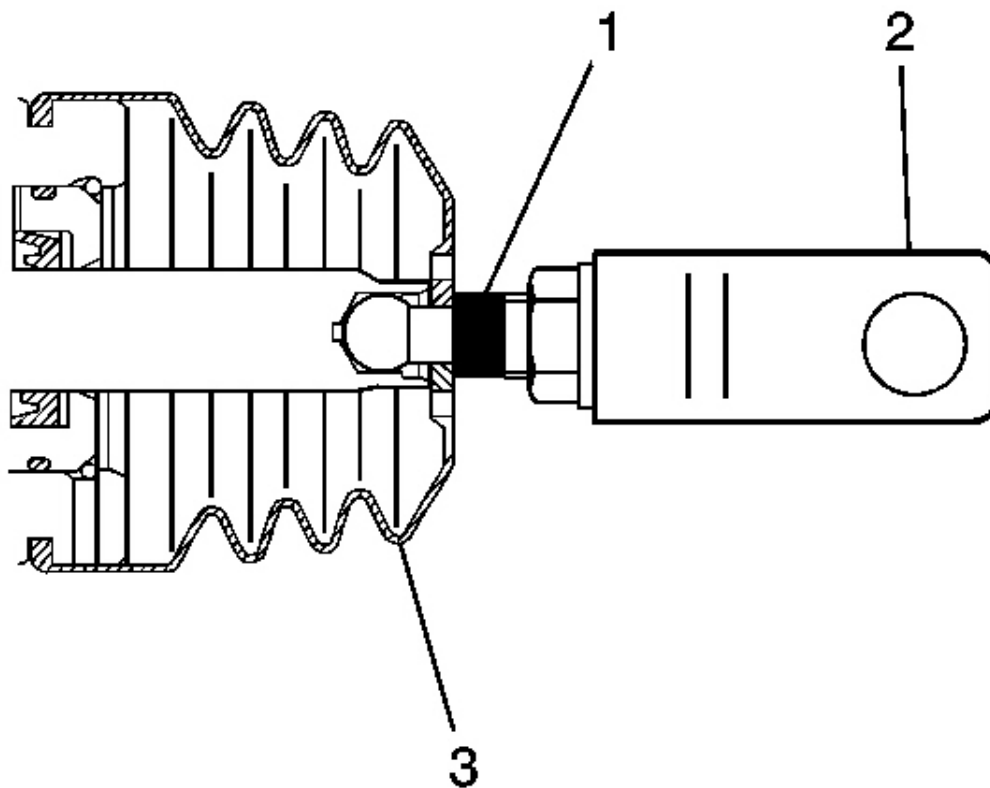
**Fig. 9: Identifying Flexible Brake Hose Failure Conditions**  
Courtesy of GENERAL MOTORS CORP.

4. Visually inspect all of the flexible brake hoses for the following conditions:
  - Kinks (1), improper routing, twists, chafing, missing or damaged retainers
  - Leaking connections, cracking, dry-rot, blisters, bulges
5. If any of the flexible brake hoses exhibited any of the conditions listed, then the identified flexible brake hose or hoses require replacement.
6. Squeeze the flexible brake hoses with firm finger pressure to check for soft spots (2),

indicating an internal restriction. Check the entire length of each flexible brake hose.

7. If any of the flexible brake hoses were found to have soft spots (2), then the identified flexible brake hose or hoses require replacement.

#### **BRAKE PEDAL PUSHROD INSPECTION**



**Fig. 10: View Of Brake Pedal Push Rod And Clevis**  
**Courtesy of GENERAL MOTORS CORP.**

1. Disconnect the brake pedal pushrod (1) from the brake pedal.
2. Inspect the brake pedal pushrod clevis (2), if equipped, for cracks and/or excessive wear.
3. Reposition the pedal pushrod boot (3) toward the front of the vehicle to expose as much of the pedal pushrod (1) as possible.
4. Inspect the brake pedal pushrod (1) for straightness.

5. If the brake pedal pushrod clevis (2) exhibited cracks and/or excessive wear, then the master cylinder requires replacement.
6. If the brake pedal pushrod (1) is not straight, then the master cylinder requires replacement.
7. Return the pedal pushrod boot (3) to its original position on the pedal pushrod (1).
8. Connect the brake pedal pushrod (1) to the brake pedal.

## REPAIR INSTRUCTIONS

### MASTER CYLINDER RESERVOIR FILLING (WITHOUT RPO BRM)

**CAUTION:** Refer to Brake Fluid Irritant Caution .

**NOTE:** When adding fluid to the brake master cylinder reservoir, use only Delco Supreme 11<sup>®</sup>, GM P/N 12377967 (Canadian P/N 992667) or equivalent DOT-3 brake fluid from a clean, sealed brake fluid container. The use of any type of fluid other than the recommended type of brake fluid, may cause contamination which could result in damage to the internal rubber seals and/or rubber linings of hydraulic brake system components.

**NOTE:** Refer to Brake Fluid Effects on Paint and Electrical Components Notice .

**IMPORTANT:** Before checking the HB-Ci Master Cylinder Reservoir brake fluid level, the accumulator fluid reserve must be drained. Depress and release the brake pedal 20 times with the ignition OFF to deplete accumulator reserve. Failure to drain the accumulator prior to checking the brake fluid level can lead to system over filling.

1. Visually inspect the brake fluid level through the brake master cylinder reservoir.
2. If the brake fluid level is at or below the half-full point during routine fluid checks, the brake system should be inspected for wear and possible brake fluid leaks.
3. If the brake fluid level is at or below the half-full point during routine fluid checks and an inspection of the brake system did not reveal wear or brake fluid leaks, the brake fluid may be topped-off up to the maximum-fill level.
4. If brake system service was just completed, the brake fluid may be topped-off up to the maximum-fill level.



5. If the brake fluid level is above the half-full point, adding brake fluid is not recommended under normal conditions.
6. If brake fluid is to be added to the master cylinder reservoir, clean the outside of the reservoir on and around the reservoir cap prior to removing the cap and diaphragm. Use only Delco Supreme 11®, GM P/N 12377967 (Canadian P/N 992667) or equivalent DOT-3 brake fluid from a clean, sealed brake fluid container.

#### MASTER CYLINDER RESERVOIR FILLING (WITH RPO BRM)

**CAUTION:** Refer to Brake Fluid Irritant Caution in the Preface section.

**CAUTION:** DOT 4 BRAKE FLUID CAUTION in the Preface section.

**NOTE:** When adding fluid to the brake fluid reservoir or to the clutch fluid reservoir, use only GM Vehicle Care Brake and Clutch Fluid Super DOT-4, GM P/N 88958860 (Canadian P/N 88901244) or equivalent DOT-4 brake fluid from a clean, sealed container. This polyglycol brake fluid is hygroscopic and absorbs moisture. Do not use fluid from an open container that may be contaminated with water. Improper or contaminated fluid could result in damage to the system components.

**NOTE:** Refer to Brake Fluid Effects on Paint and Electrical Components Notice .

**IMPORTANT:** Before checking the HB-Ci Master Cylinder Reservoir brake fluid level, the accumulator fluid reserve must be drained. With the ignition OFF, wait 15 seconds then depress and release the brake pedal 20 times to deplete accumulator reserve. Failure to drain the accumulator prior to checking the brake fluid level can lead to system over filling.

1. Visually inspect the brake fluid level through the brake master cylinder reservoir.
2. If the brake fluid level is at or below the half-full point during routine fluid checks, the brake system should be inspected for wear and possible brake fluid leaks.
3. If the brake fluid level is at or below the half-full point during routine fluid checks and an

inspection of the brake system did not reveal wear or brake fluid leaks, the brake fluid may be filled to the maximum-fill level.

4. If brake system service was just completed, the brake fluid may be filled to the maximum-fill level.
5. If the brake fluid level is above the half-full point, adding brake fluid is not recommended under normal conditions.
6. If brake fluid is to be added to the master cylinder reservoir, clean the outside of the reservoir on and around the reservoir cap prior to removing the cap and diaphragm. Use only brake and clutch fluid Super DOT-4, GM P/N 88958860 (Canadian P/N 88901244) or equivalent DOT-4 brake fluid from a clean, sealed brake fluid container.

## MASTER CYLINDER RESERVOIR REPLACEMENT

### Special Tools

**CH-47830** Holding Fixture

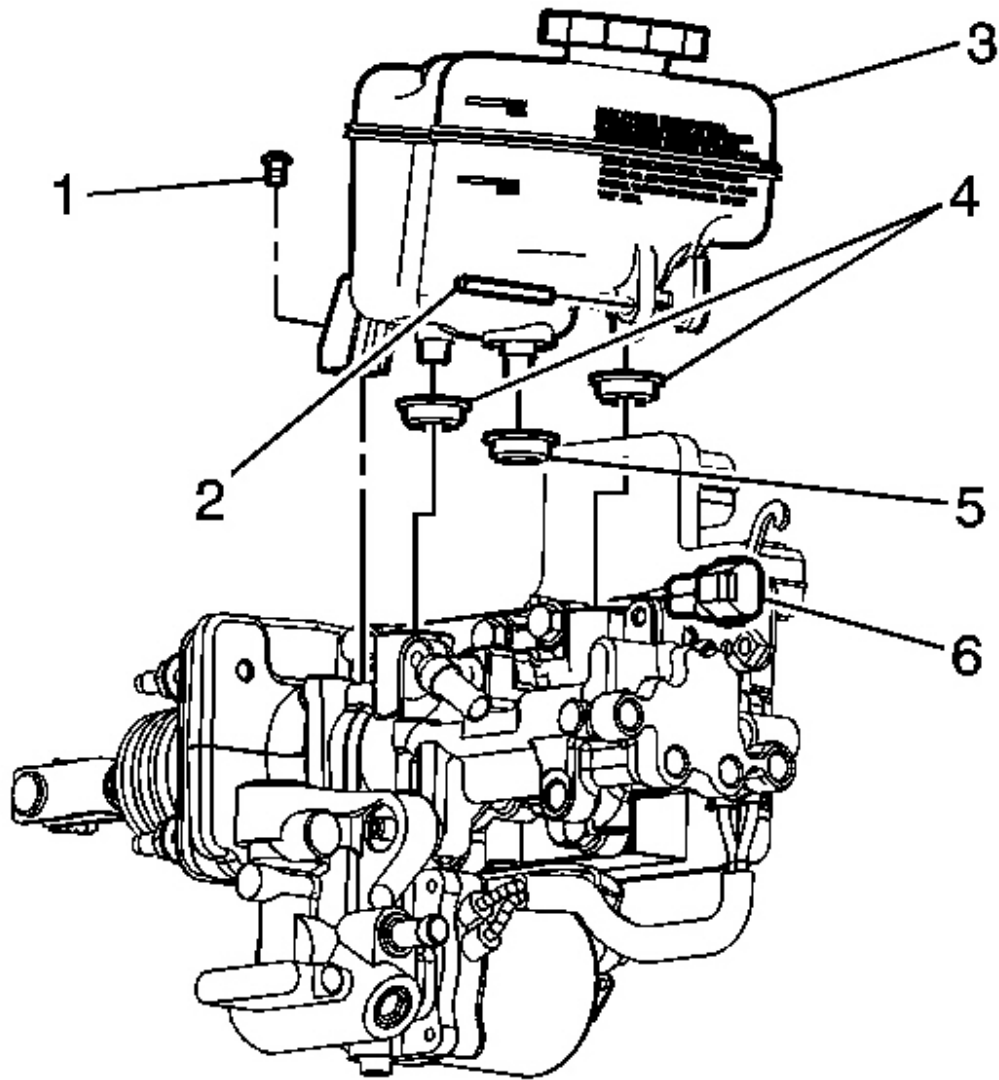
### Removal Procedure

#### **CAUTION: Refer to Brake Fluid Irritant Caution .**

1. Using a suitable tool, remove the brake fluid from the master cylinder reservoir.

Discard the brake fluid into an approved container.

2. Remove the brake master cylinder and power brake booster assembly. Refer to **Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (LHD)** or **Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (RHD)** .
3. Install the **CH-47830** to the master cylinder assembly.
4. Position the **CH-47830** with the master cylinder assembly in a vise.



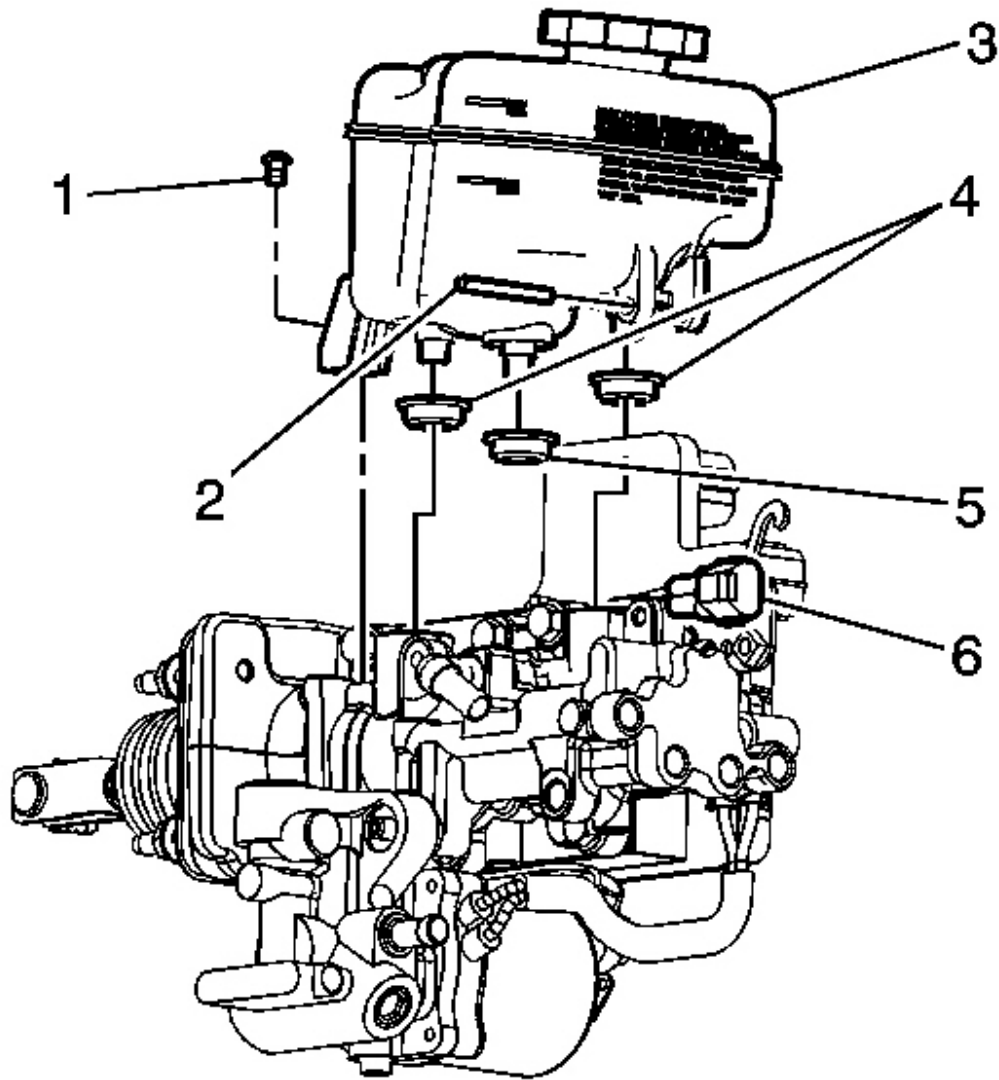
**Fig. 11: View Of Master Cylinder Reservoir & attachments**  
**Courtesy of GENERAL MOTORS CORP.**

5. Release the fluid level sensor electrical connector (6) from the bracket.
6. Remove the master cylinder reservoir bolt (1).
7. Remove the master cylinder reservoir roll pin (2).
8. Remove the master cylinder reservoir (3).

- IMPORTANT:**
- The grommets for the brake master cylinder should remain in the brake master cylinder body.
  - There are 2 different size grommets. The 2 outer grommets are larger than the center grommet.

9. Remove the grommets (4) and (5), if necessary.

**Installation Procedure**



**Fig. 12: View Of Master Cylinder Reservoir & attachments**  
Courtesy of GENERAL MOTORS CORP.

**IMPORTANT:** Apply a small amount of CLEAN brake fluid to the grommets before installation.

1. Install the grommets (4) and (5), if removed.

## 2007 Hummer H3

### 2007 BRAKES Hydraulic Brakes - H3

2. Install the master cylinder reservoir (3).
3. Install the master cylinder reservoir roll pin (2).
4. Install the fluid level sensor electrical connector (6) to the bracket.

**NOTE:** Refer to Fastener Notice .

5. Install the master cylinder reservoir bolt (1).

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

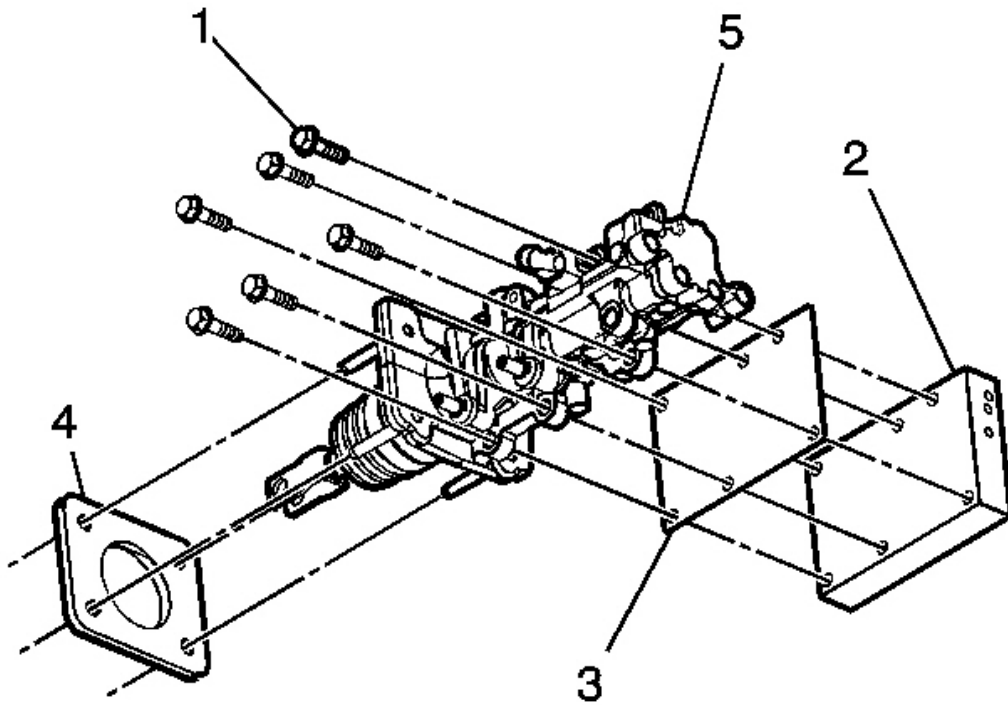
6. Remove the brake master cylinder from the **CH-47830** .
7. Install the brake master cylinder and power brake booster assembly. Refer to Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (LHD) or Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (RHD) .
8. Fill the brake master cylinder reservoir. Refer to Master Cylinder Reservoir Filling.

#### MASTER CYLINDER REPLACEMENT

##### Removal Procedure

**CAUTION:** Refer to Brake Fluid Irritant Caution .

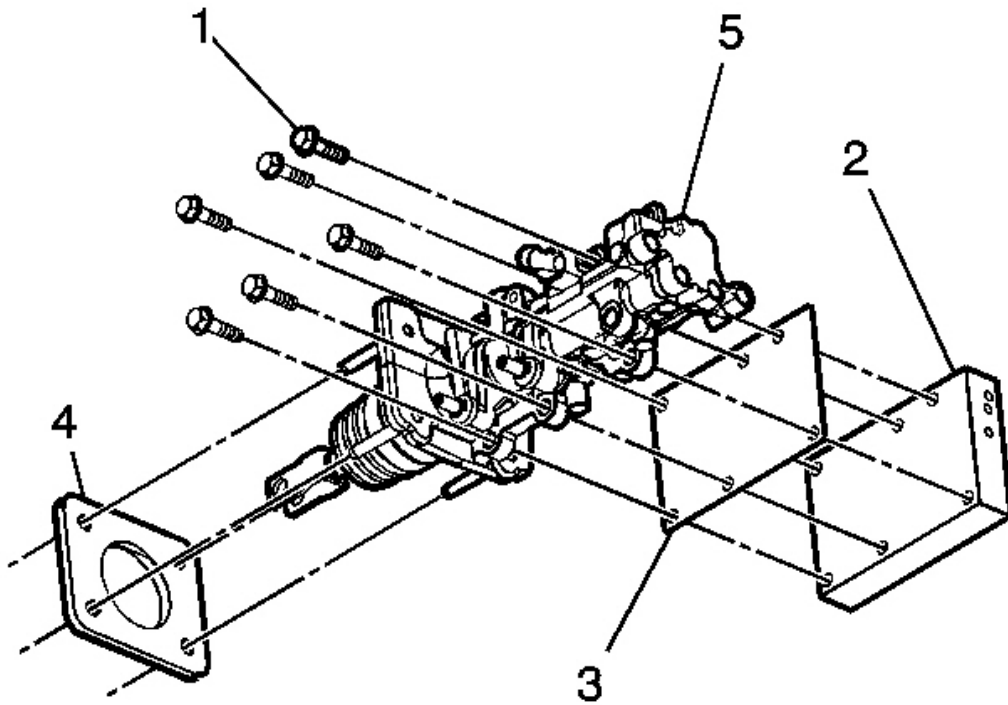
1. Remove the power brake booster. Refer to Power Brake Booster Replacement.
2. Remove the master cylinder reservoir. Refer to Master Cylinder Reservoir Replacement.



**Fig. 13: Identifying Brake Pressure Modulator Valve (BPMV)**  
Courtesy of GENERAL MOTORS CORP.

3. Remove the brake pressure modulator valve (BPMV) (2) from the master cylinder. Refer to **Brake Pressure Modulator Valve Replacement** .
4. Remove the brake master cylinder (5).

**Installation Procedure**



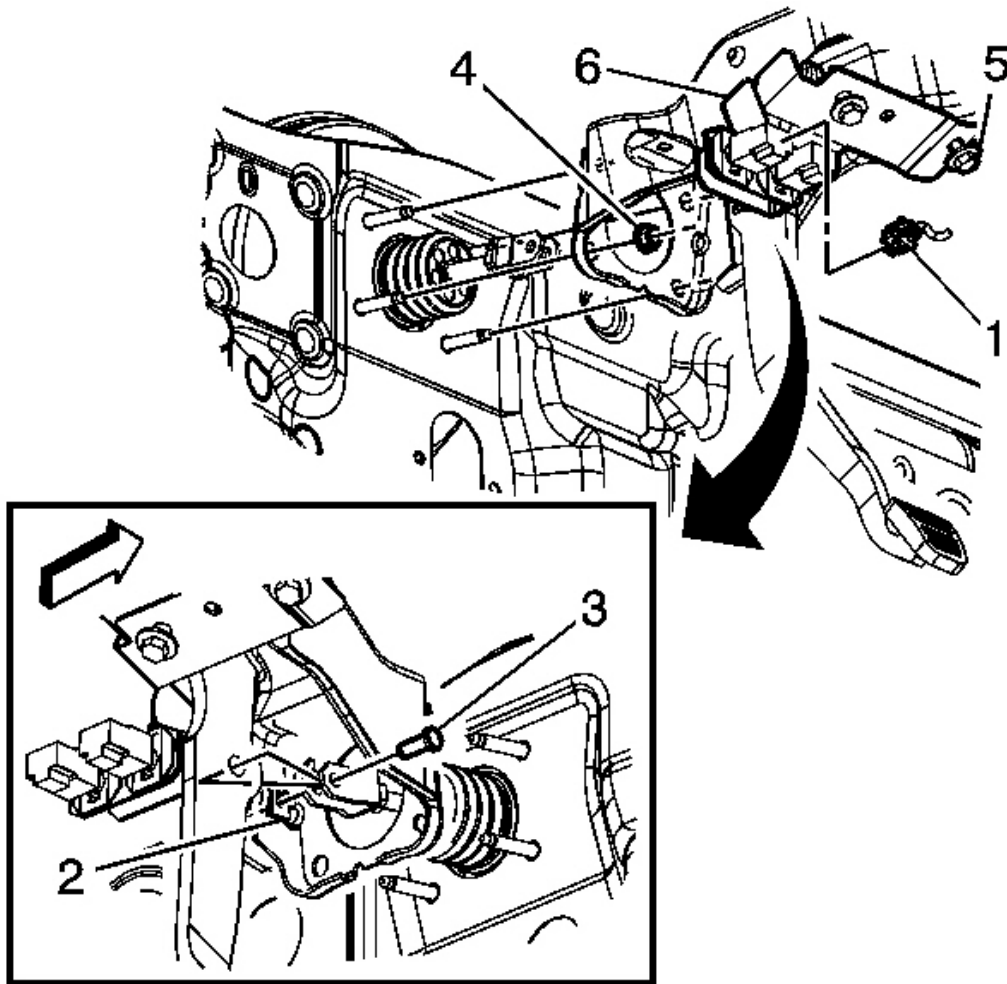
**Fig. 14: Identifying Brake Pressure Modulator Valve (BPMV)**  
Courtesy of GENERAL MOTORS CORP.

1. Install the BPMV (2) to the master cylinder (5). Refer to **Brake Pressure Modulator Valve Replacement** .
2. Install the master cylinder reservoir. Refer to **Master Cylinder Reservoir Replacement**.
3. Install the power brake booster. Refer to **Power Brake Booster Replacement**.

#### **BRAKE PEDAL ASSEMBLY REPLACEMENT (LHD)**

##### **Removal Procedure**



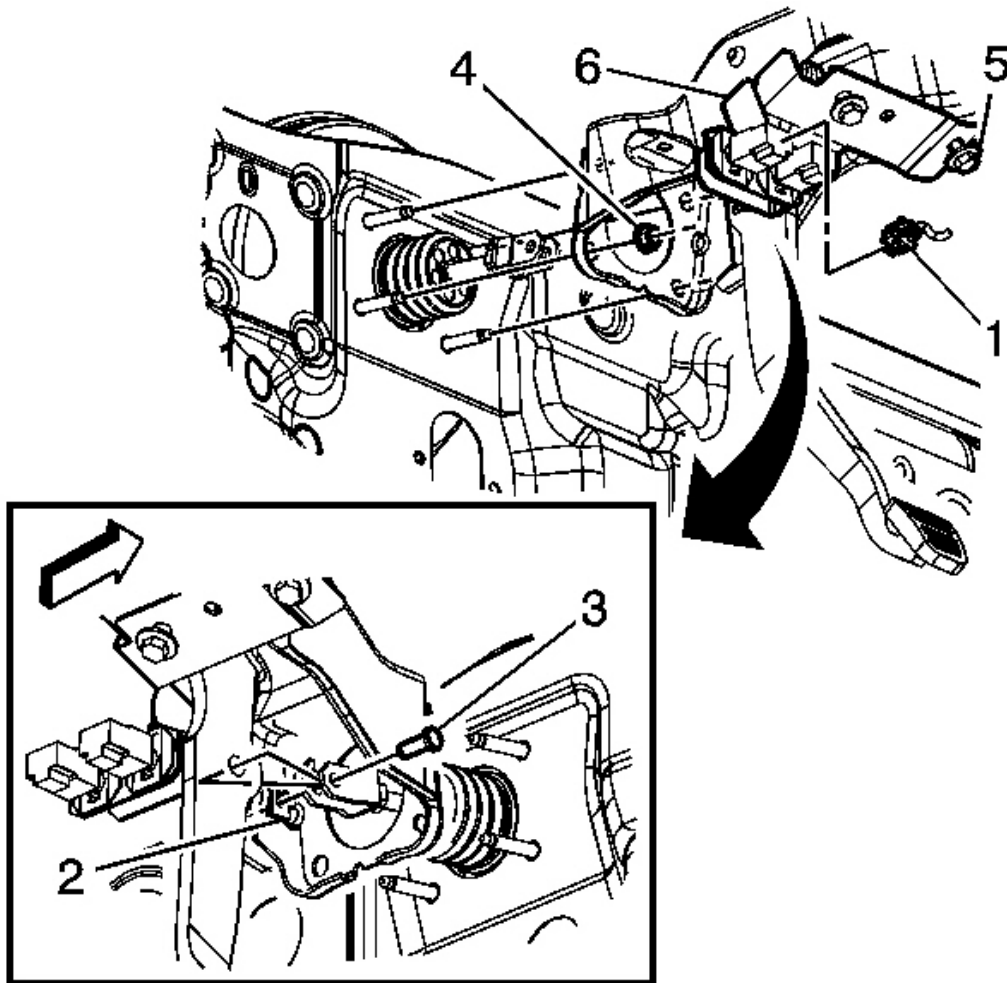


**Fig. 15: Brake Pedal Assembly Removal/Installation**  
Courtesy of GENERAL MOTORS CORP.

1. Remove the knee bolster. Refer to **Driver Knee Bolster Replacement (Left Hand Drive)** or **Driver Knee Bolster Replacement (Right Hand Drive)** .
2. Remove the knee bolster bracket. Refer to **Driver Knee Bolster Bracket Replacement (Left Hand Drive)** or **Driver Knee Bolster Bracket Replacement (Right Hand Drive)** .
3. Disconnect the electrical connectors (1) for the brake switches. Refer to **Stop Lamp Switch Adjustment** .

4. Lower the steering column.
5. Remove the clevis pin retainer (2).
6. Remove the clevis pin (3).
7. Remove the mounting bolts (4) from the brake master cylinder.
8. Remove the mounting bolts (5) from the cowl.
9. Remove the brake pedal assembly (6).

**Installation Procedure**



**Fig. 16: Brake Pedal Assembly Removal/Installation**

**Courtesy of GENERAL MOTORS CORP.**

1. Install the brake pedal assembly (6) on the brake master cylinder studs.
2. Finger tighten the mounting bolt (5) to the cowl.

**NOTE:** Refer to Fastener Notice .

3. Install the mounting bolts (4) for the brake pedal assembly (6).

**Tighten:** Tighten the mounting bolts to 32 N.m (24 lb ft).

4. Tighten the mounting bolts (5) to the proper specifications.

**Tighten:** Tighten the mounting bolts to 32 N.m (24 lb ft).

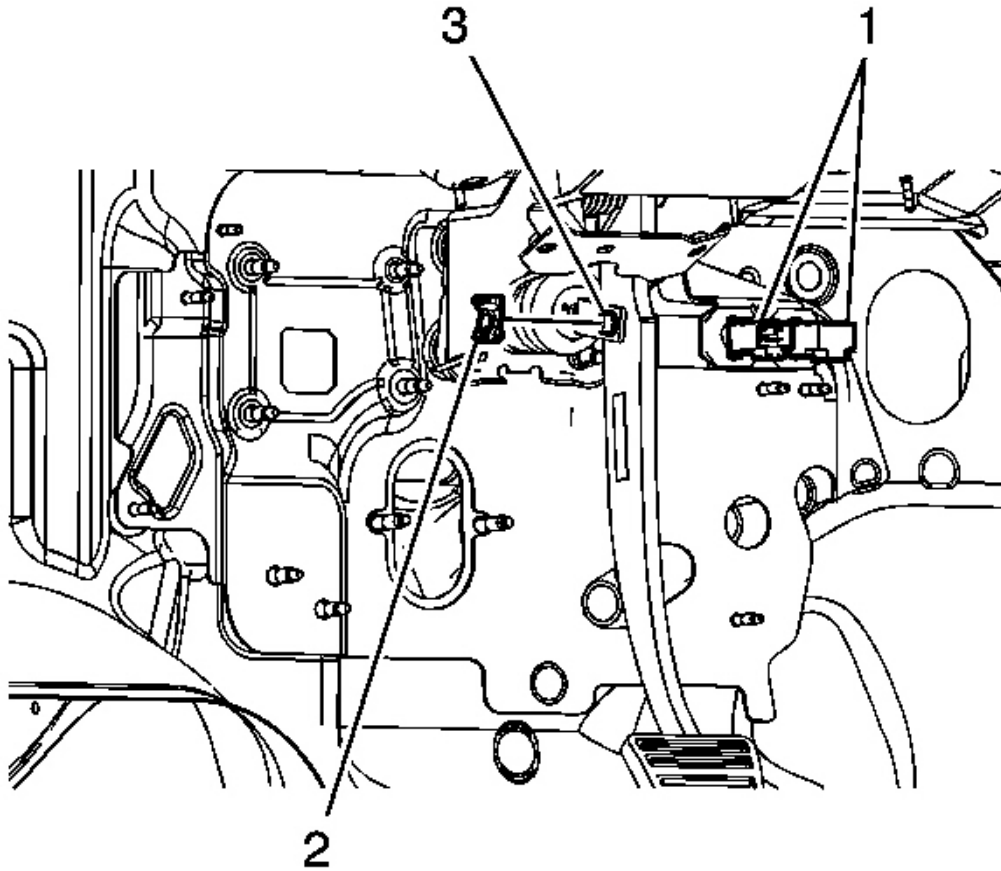
5. Install the clevis pin (3) in the yoke for the brake master cylinder.
6. Raise the steering column.

**Tighten:** Tighten the bolts to 27 N.m (20 lb ft).

7. Install the clevis pin retainer (2).
8. Connect the electrical connectors (1) for the brake switches. Refer to Stop Lamp Switch Adjustment .
9. Install the knee bolster bracket. Refer to Driver Knee Bolster Bracket Replacement (Left Hand Drive) or Driver Knee Bolster Bracket Replacement (Right Hand Drive) .
10. Install the knee bolster. Refer to Driver Knee Bolster Replacement (Left Hand Drive) or Driver Knee Bolster Replacement (Right Hand Drive) .

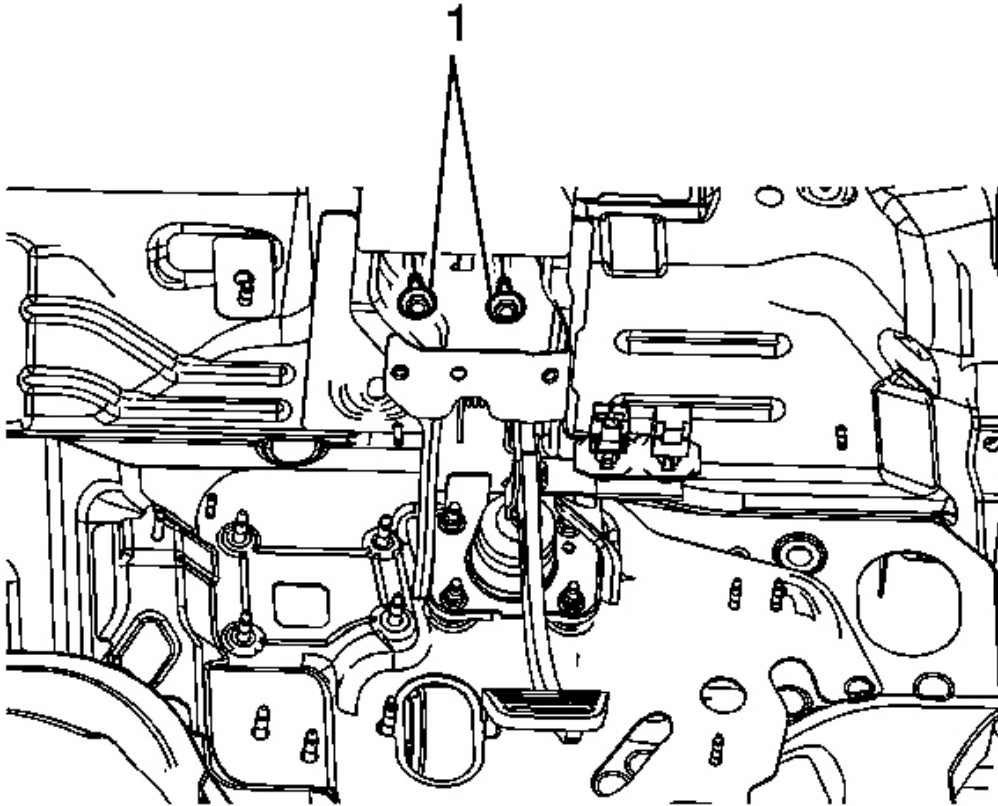
**BRAKE PEDAL ASSEMBLY REPLACEMENT (RHD)**

**Removal Procedure**



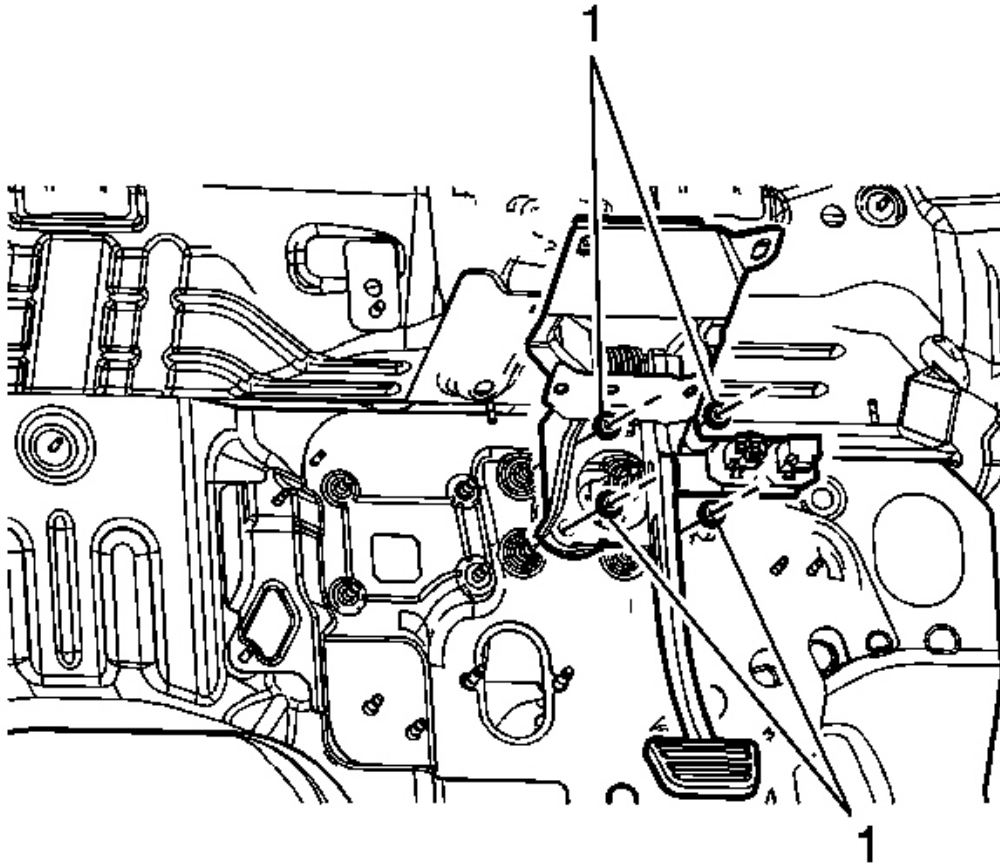
**Fig. 17: View Of Brake Pedal Assembly Components**  
**Courtesy of GENERAL MOTORS CORP.**

1. Remove the driver knee bolster bracket. Refer to **Driver Knee Bolster Bracket Replacement (Left Hand Drive)** or **Driver Knee Bolster Bracket Replacement (Right Hand Drive)** .
2. Disconnect the stoplamp switch and cruise release switch electrical connectors (1).
3. Remove the retainer (2) from the clevis pin.
4. Remove the brake pedal pushrod clevis pin (3).



**Fig. 18: Identifying Upper Brake Pedal Bracket Bolts**  
Courtesy of GENERAL MOTORS CORP.

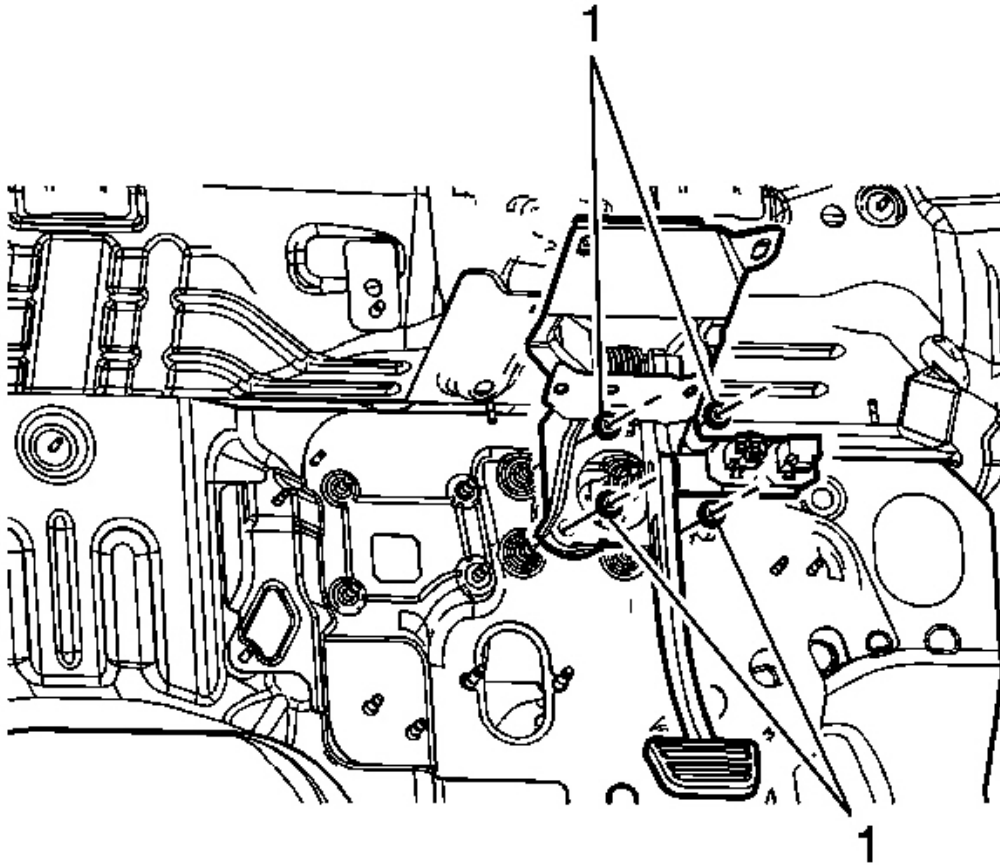
5. Without disconnecting the upper steering column intermediate shaft, lower and support the steering column. Refer to **Steering Column Replacement** .
6. Remove the 2 upper brake pedal bracket bolts (1).



**Fig. 19: Identifying Brake Master Cylinder Nuts**  
**Courtesy of GENERAL MOTORS CORP.**

7. Remove the 4 brake master cylinder nuts (1).
8. Remove the brake pedal assembly.

**Installation Procedure**



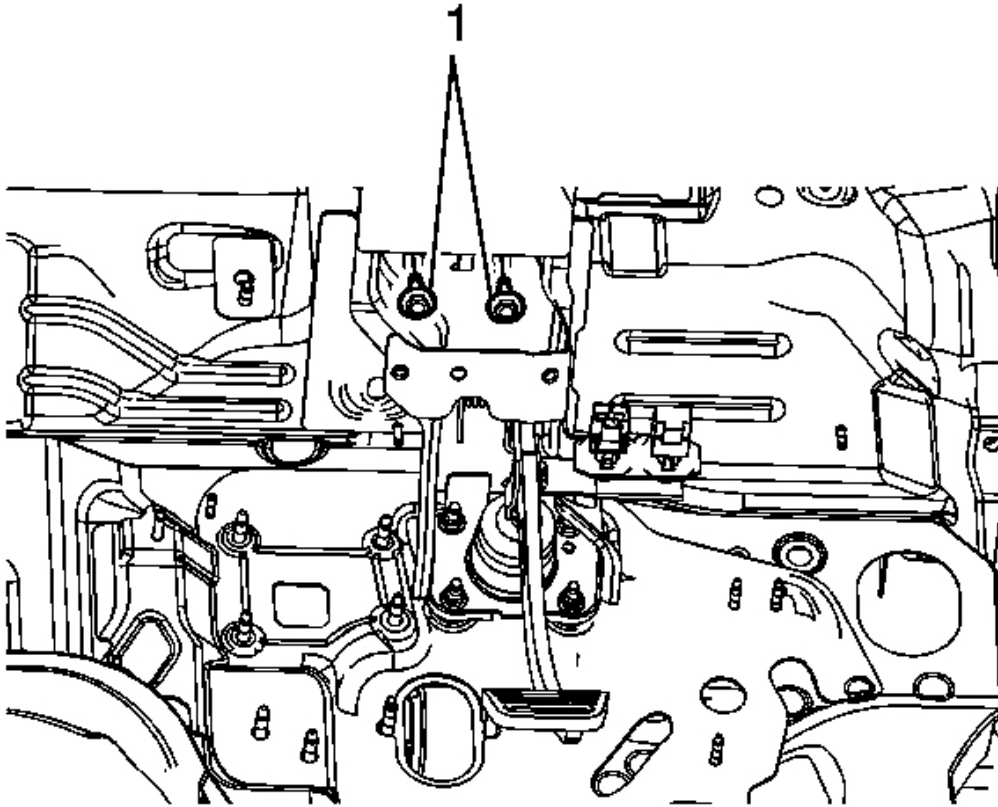
**Fig. 20: Identifying Brake Master Cylinder Nuts**  
Courtesy of GENERAL MOTORS CORP.

1. Install the brake pedal assembly.

**NOTE:** Refer to Fastener Notice .

2. Install the 4 brake master cylinder nuts (1).

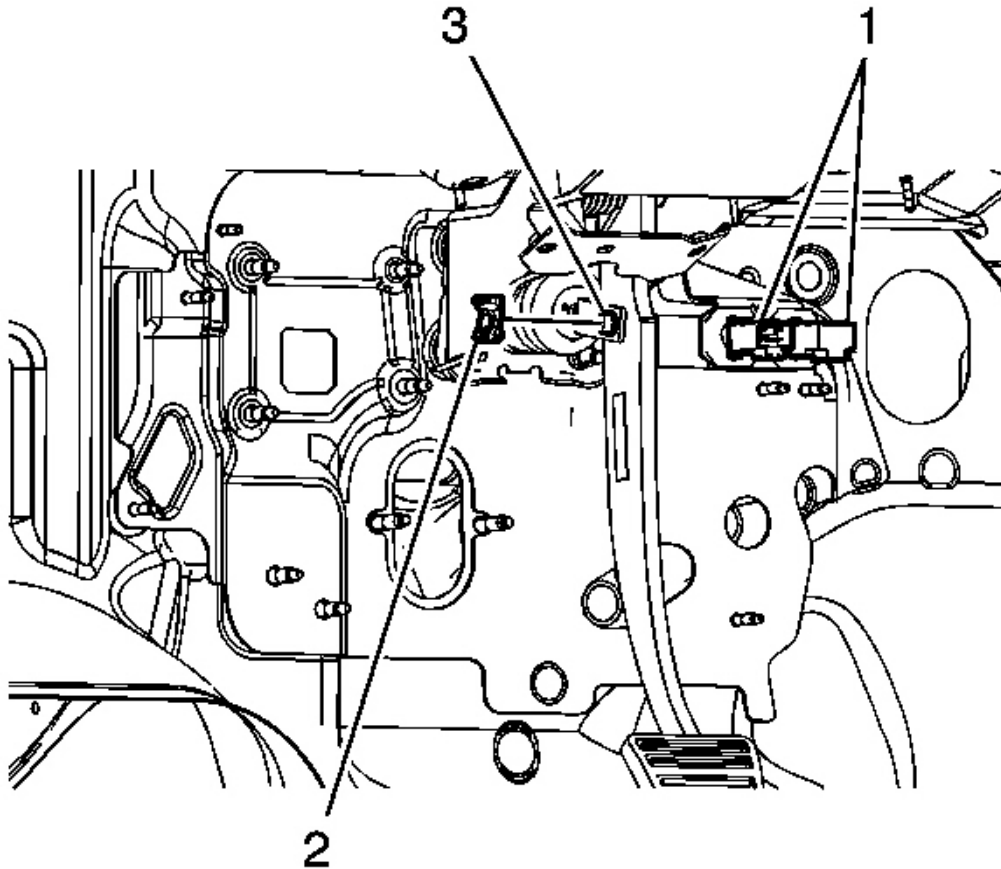
**Tighten:** Tighten the nuts to 27 N.m (20 lb ft).



**Fig. 21: Identifying Upper Brake Pedal Bracket Bolts**  
Courtesy of GENERAL MOTORS CORP.

3. Install the 2 upper brake pedal bracket bolts (1).
4. **Tighten:** Tighten the bolts to 20 N.m (15 lb ft).





**Fig. 22: View Of Brake Pedal Assembly Components**  
**Courtesy of GENERAL MOTORS CORP.**

5. Install the steering column. Refer to **Steering Column Replacement** .
6. Install the brake pedal pushrod clevis pin (3).
7. Install the brake pedal pushrod retainer (2).
8. Verify the correct installation of the retainer by rotating the retainer 360 degrees.

The retainer must rotate freely and not become disengaged from the groove in the clevis pin.

9. Connect the stoplamp switch and cruise release switch electrical connectors (1).
10. Adjust the stoplamp switch. Refer to **Stop Lamp Switch Adjustment** .

## 2007 Hummer H3

2007 BRAKES Hydraulic Brakes - H3

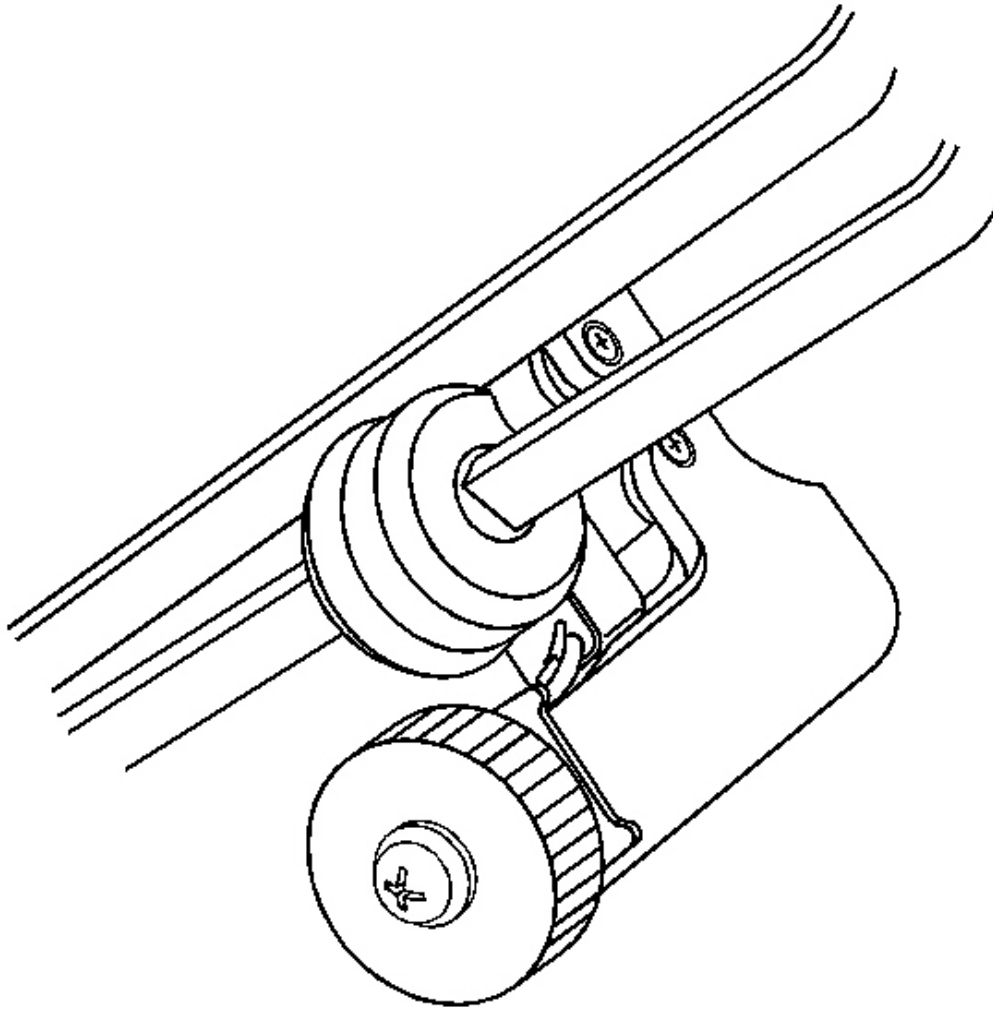
11. Adjust the cruise release switch. Refer to **Cruise Release Switch Adjustment** .
12. Install the driver knee bolster bracket. Refer to **Driver Knee Bolster Bracket Replacement (Left Hand Drive)** or **Driver Knee Bolster Bracket Replacement (Right Hand Drive)** .

### **BRAKE PIPE REPLACEMENT**

#### **Tools Required**

**J 45405** Flaring Tool Kit

#### **Replacement Procedure**



**Fig. 23: Chamfering Pipe Using De-Burring Tool**  
Courtesy of GENERAL MOTORS CORP.

1. Inspect the area of brake pipe to be repaired or replaced.
2. Release the brake pipe to be replaced from the retainers, as required.
3. Select an appropriate location to section the brake pipe, if necessary.
  - Allow adequate clearance in order to maneuver the **J 45405** .
  - Avoid sectioning the brake pipe at bends or mounting points.

## 2007 Hummer H3

### 2007 BRAKES Hydraulic Brakes - H3

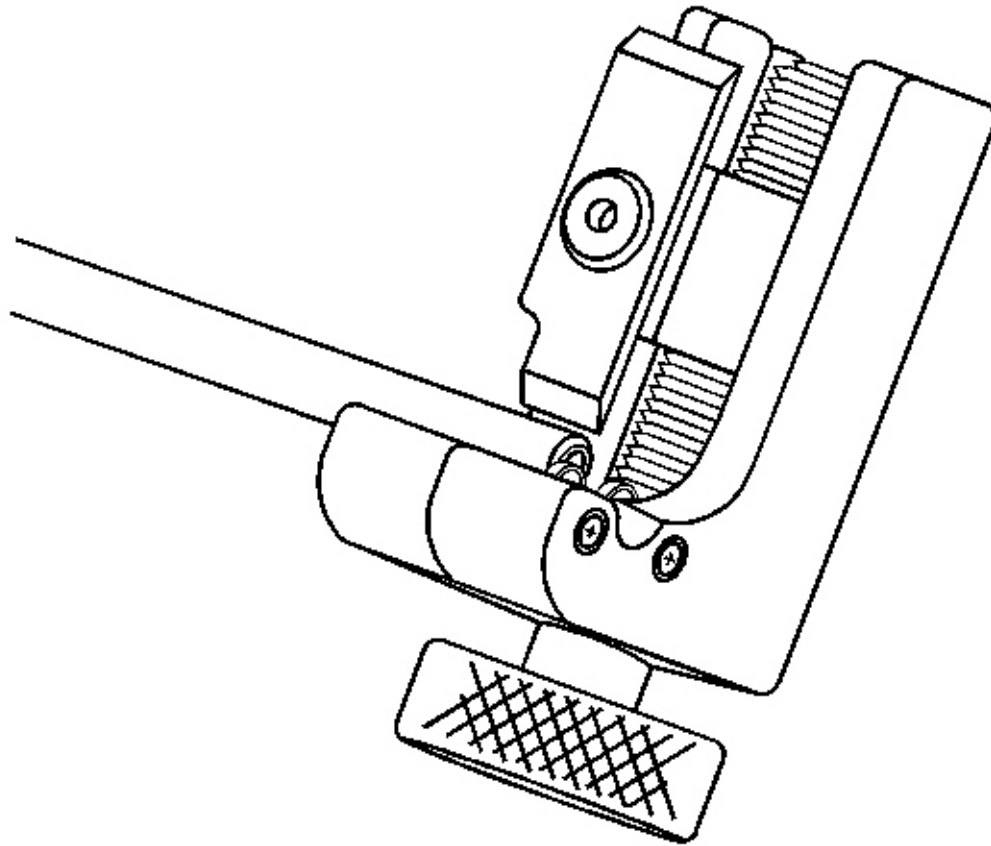
4. Using a string or wire, measure the length of the pipe to be replaced including all pipe bends.
5. Add to the measurement taken the appropriate additional length required for each flare to be created.

#### **Specifications:**

- 6.35 mm (0.250 in) for 4.76 mm (3/16 in) diameter pipe
- 9.50 mm (0.374 in) for 6.35 mm (1/4 in) diameter pipe
- 12.67 mm (0.499 in) for 7.94 mm (5/16 in) diameter pipe

**IMPORTANT: Ensure that the brake pipe end to be flared is cut at a square, 90 degree angle to the pipe length.**

6. Using the pipe cutter included in the **J 45405** , carefully cut the brake pipe squarely to the measured length.
7. Remove the sectioned brake pipe from the vehicle.
8. Select the appropriate size of brake pipe and tube nuts, as necessary. The brake pipe outside diameter determines brake pipe size.



**Fig. 24: Chamfering Pipe Using De-Burring Tool**  
Courtesy of GENERAL MOTORS CORP.

9.
  - Strip the nylon coating from the brake pipe end to be flared, if necessary.
  - Select the appropriate blade on the coating stripping tool included in the J 45405 , by unthreading the blade block from the stripping tool and installing the block with the desired blade facing the tool rollers.
    - 6.35 mm (0.250 in) blade for 4.76 mm (3/16 in) diameter pipe
    - 9.50 mm (0.374 in) blade for 6.35 mm (1/4 in) and 7.94 mm (5/16 in) diameter pipe

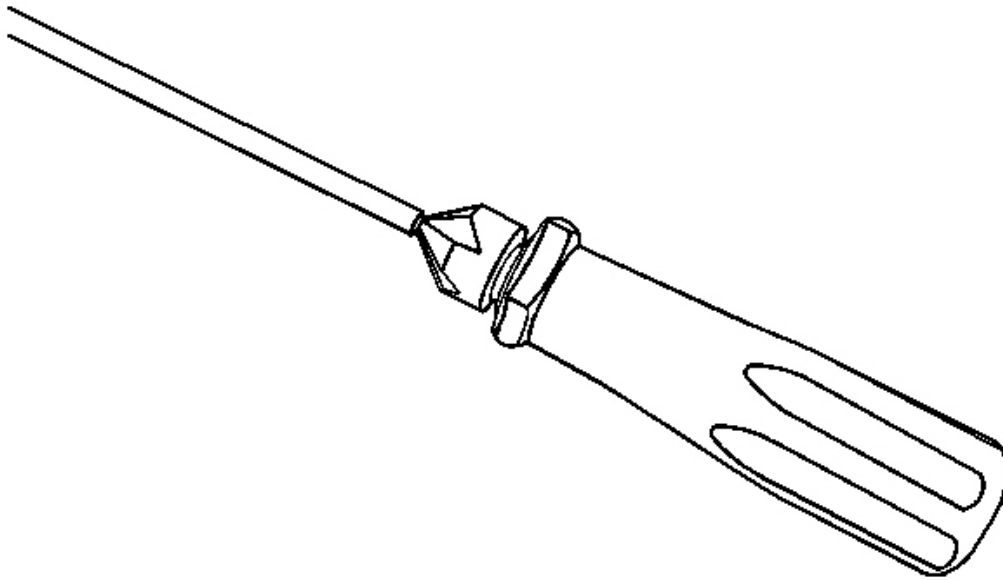
- Insert the brake pipe end to be flared into the stripping tool to the depth of the ledge on the tool rollers.
- While holding the brake pipe firmly against the stripping tool roller ledges, rotate the thumbwheel of the tool until the blade contacts the brake pipe coated surface.

**IMPORTANT: Do not gouge the metal surface of the brake pipe.**

- Rotate the stripping tool in a clockwise direction, ensuring that the brake pipe end remains against the tool roller ledges.
- After each successive revolution of the stripping tool, carefully rotate the thumbwheel of the tool clockwise, in order to continue stripping the coating from the brake pipe until the metal pipe surface is exposed.
- Loosen the thumbwheel of the tool and remove the brake pipe.

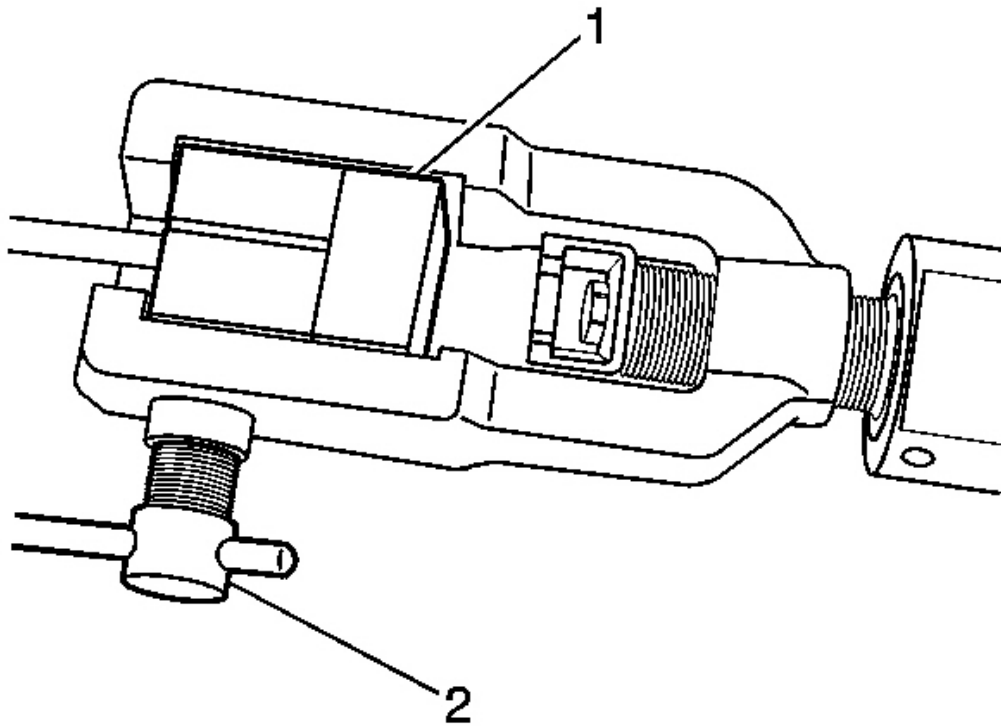
**IMPORTANT: Ensure that all loose remnants of the nylon coating have been removed from the brake pipe.**

- Inspect the stripped end of the brake pipe to ensure that the proper amount of coating has been removed.
  - 6.35 mm (0.250 in) for 4.76 mm (3/16 in) diameter pipe
  - 9.50 mm (0.374 in) for 6.35 mm (1/4 in) and 7.94 mm (5/16 in) diameter pipe



**Fig. 25: Chamfering Pipe Using De-Burring Tool**  
Courtesy of GENERAL MOTORS CORP.

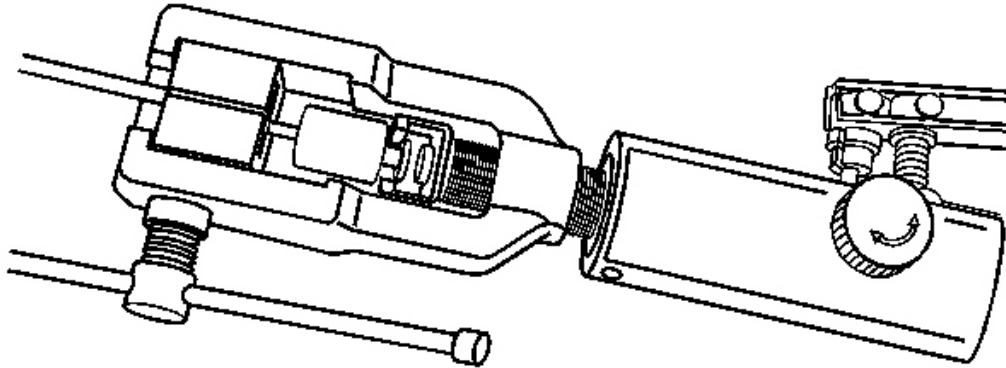
10. Chamfer the inside and outside diameter of the pipe with the de-burring tool included in the **J 45405** .
11. Install the tube nuts on the brake pipe, noting their orientation.
12. Clean the brake pipe and the **J 45405** of lubricant, contaminants and debris.
13. Loosen the die clamping screw of the **J 45405** .
14. Select the corresponding die set and install the die halves into the die cage with the full, flat face of one die facing the clamping screw and the counterbores of both dies facing the forming ram.



**Fig. 26: Rotating J 45405 To Bottom Against Die Cage**  
**Courtesy of GENERAL MOTORS CORP.**

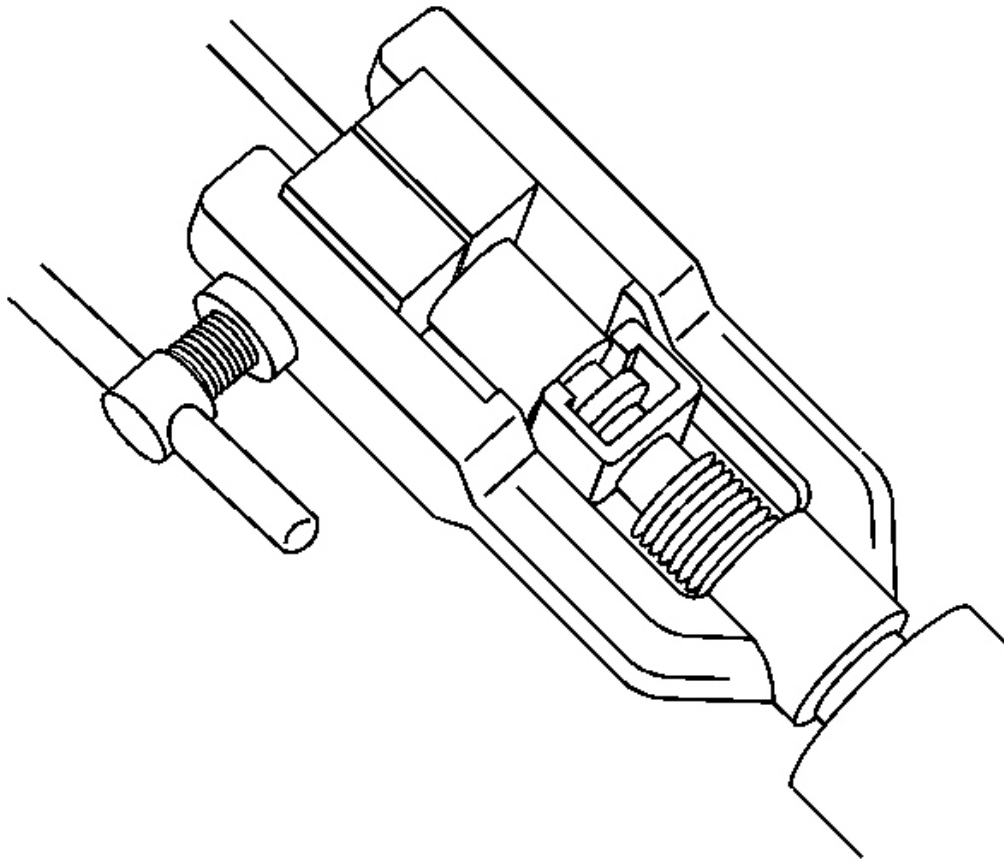
15. Place the flat face of an unused die (1) against the die halves in the clamping cage and hold firmly against the counterbored face of the dies.
16. Insert the prepared end of the pipe to be flared through the back of the dies until the pipe is seated against the flat surface of the unused die (1).
17. Remove the unused die (1).
18. Ensure that the rear of both dies are seated firmly against the enclosed end of the die cage.
19. Firmly hand tighten the clamping screw (2) against the dies.





**Fig. 27: Rotating J 45405 To Bottom Against Die Cage**  
**Courtesy of GENERAL MOTORS CORP.**

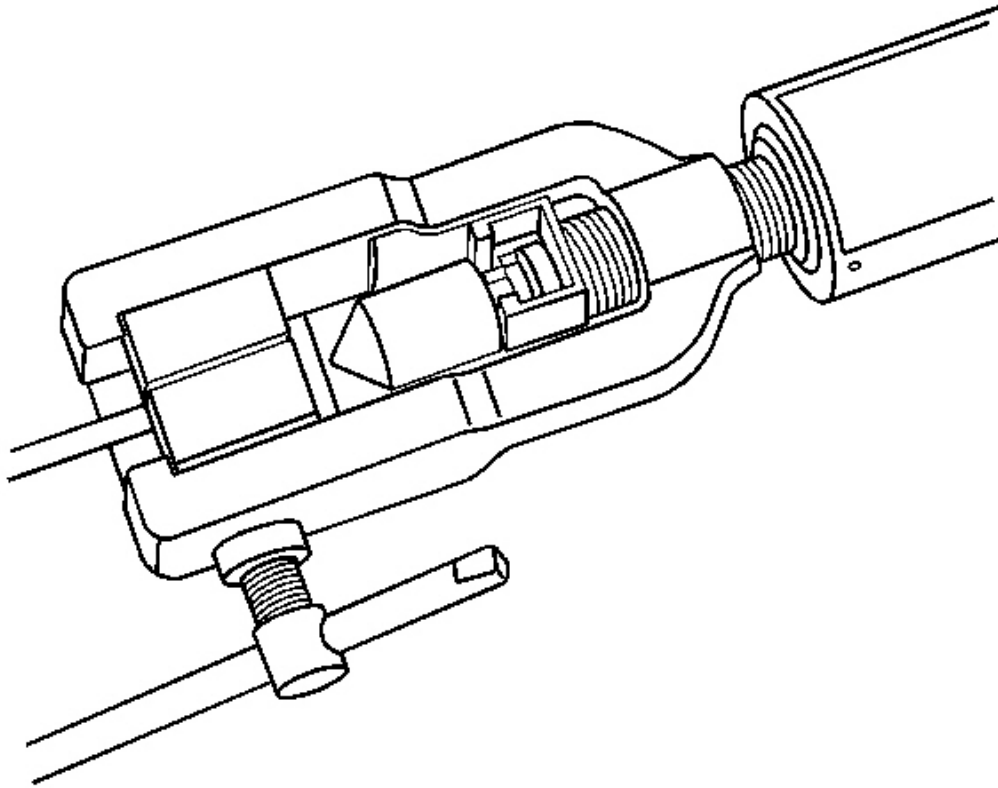
20. Select the appropriate forming mandrel and place into the forming ram.
21. Rotate the hydraulic fluid control valve clockwise to the closed position.
22. Rotate the body of the J 45405 until it bottoms against the die cage.



**Fig. 28: Bottoming Forming Mandrel Against Clamping Dies Using Pipe Flaring Tool**

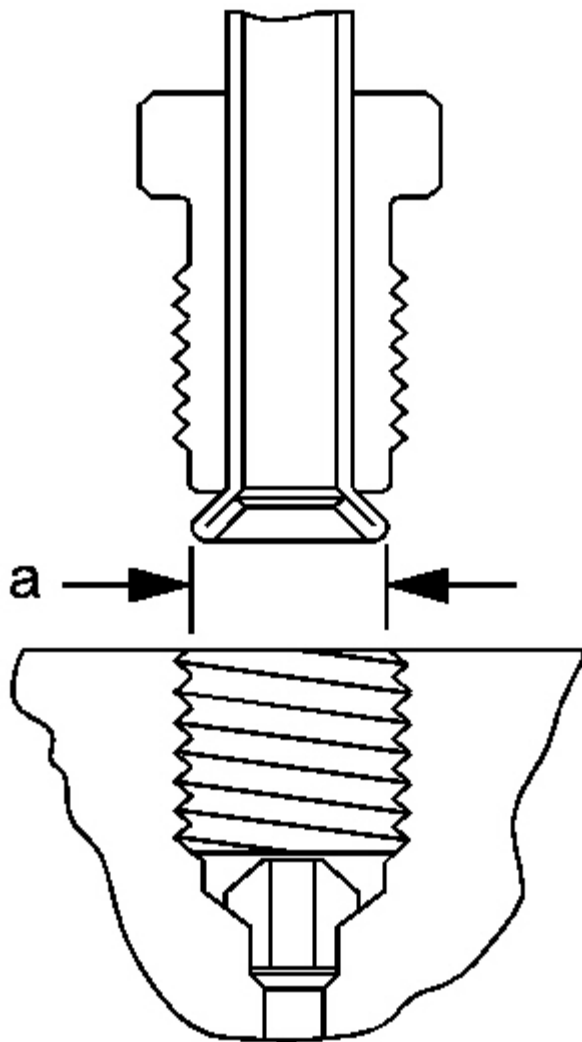
**Courtesy of GENERAL MOTORS CORP.**

23. While guiding the forming mandrel into the exposed end of pipe to be flared, operate the lever of the **J 45405** until the forming mandrel bottoms against the clamping dies.
24. Rotate the hydraulic fluid control valve counterclockwise to the open position to allow the hydraulic forming ram to retract.



**Fig. 29: Using Pipe Flaring Tool**  
**Courtesy of GENERAL MOTORS CORP.**

25. Insert the finishing cone into the forming ram.
26. Rotate the hydraulic fluid control valve clockwise to the closed position.
27. Rotate the body of the **J 45405** until it bottoms against the die cage.
28. While guiding the finishing cone into the exposed end of pipe to be flared, operate the lever of the **J 45405** until the finishing cone bottoms against the dies.
29. Rotate the hydraulic fluid control valve counterclockwise to the open position to allow the hydraulic forming ram to retract.
30. Loosen the die clamping screw and remove the dies and pipe.
31. If necessary, lightly tap the dies until the die halves separate.



**Fig. 30: Identifying Correct Brake Pipe Flare Shape & Diameter**  
Courtesy of GENERAL MOTORS CORP.

32. Inspect the brake pipe flare for correct shape and diameter (a).

**Specifications:**

- .74-7.10 mm (0.265-0.279 in) flare diameter for 4.76 mm (3/16 in) diameter pipe
- 8.57-9.27 mm (0.344-0.358 in) flare diameter for 6.35 mm (1/4 in) diameter pipe

## 2007 Hummer H3

### 2007 BRAKES Hydraulic Brakes - H3

- 10.42-10.79 mm (0.410-0.425 in) flare diameter for 7.94 mm (5/16 in) diameter pipe
33. If necessary, using the removed section of brake pipe as a template, shape the new pipe with a suitable brake pipe bending tool.

**IMPORTANT: When installing the pipe, maintain a clearance of 19 mm (3/4 in) from all moving or vibrating components.**

34. Install the pipe to the vehicle with the appropriate brake pipe unions, as required.
35. If previously released, secure the brake pipe to the retainers.
36. Bleed the hydraulic brake system. Refer to **Hydraulic Brake System Bleeding (Manual without RPO BRM)** or **Hydraulic Brake System Bleeding (Pressure with RPO BRM)**.
37. With the aid of an assistant, inspect the brake pipe flares for leaks by starting the engine and applying the brakes.

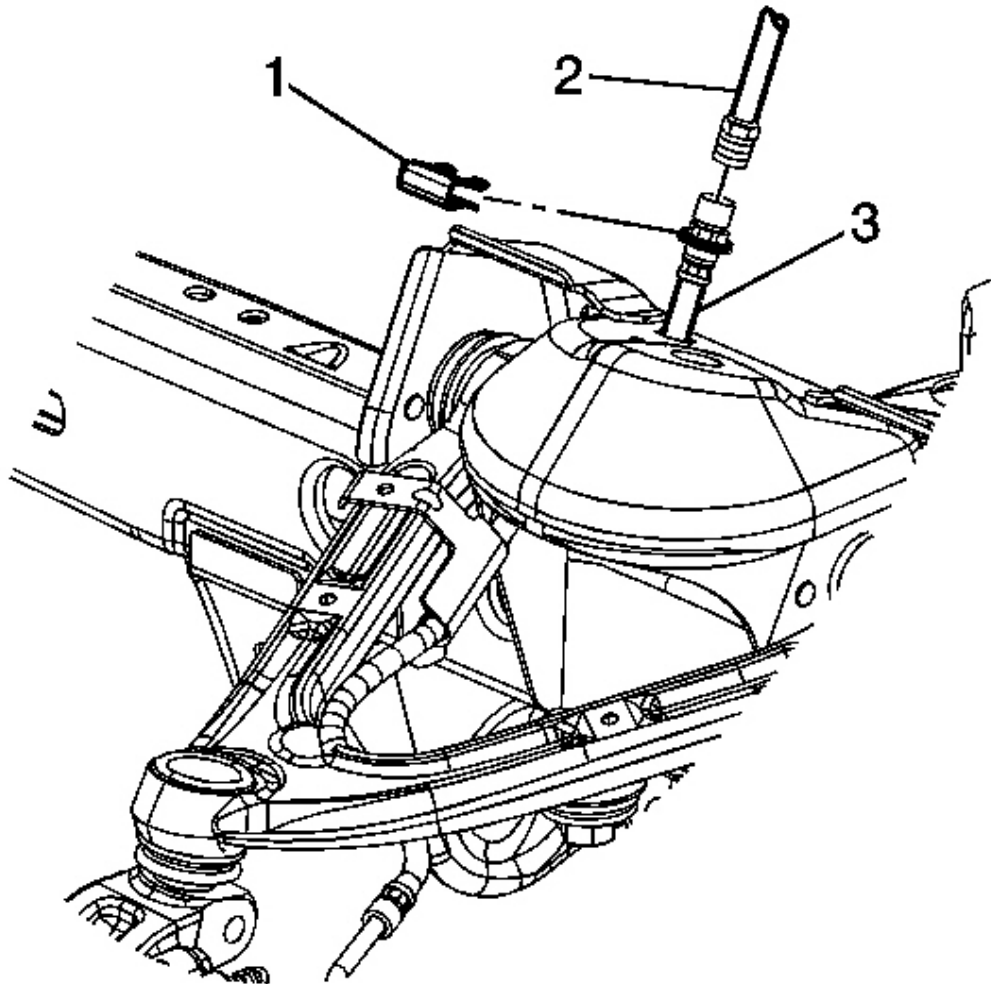
#### FRONT BRAKE HOSE REPLACEMENT

##### Removal Procedure

**CAUTION: Refer to Brake Fluid Irritant Caution .**

**NOTE: Refer to Brake Fluid Effects on Paint and Electrical Components Notice .**

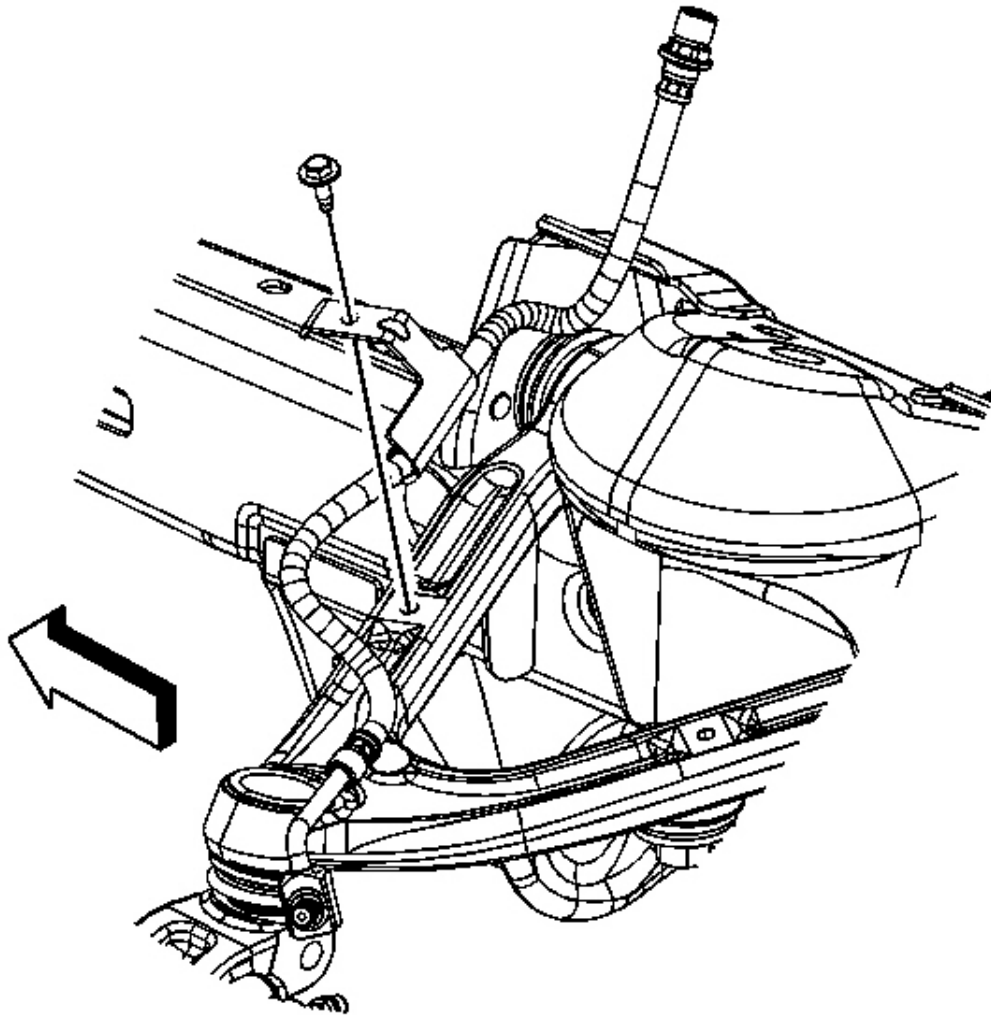
1. Raise and suitably support the vehicle. Refer to **Lifting and Jacking the Vehicle** .
2. Remove the tire and wheel assembly. Refer to **Tire and Wheel Removal and Installation** .
3. Clean all dirt and foreign material from the brake hose and brake pipe fittings.



**Fig. 31: Brake Pipe Fitting Removal/Installation**  
Courtesy of GENERAL MOTORS CORP.

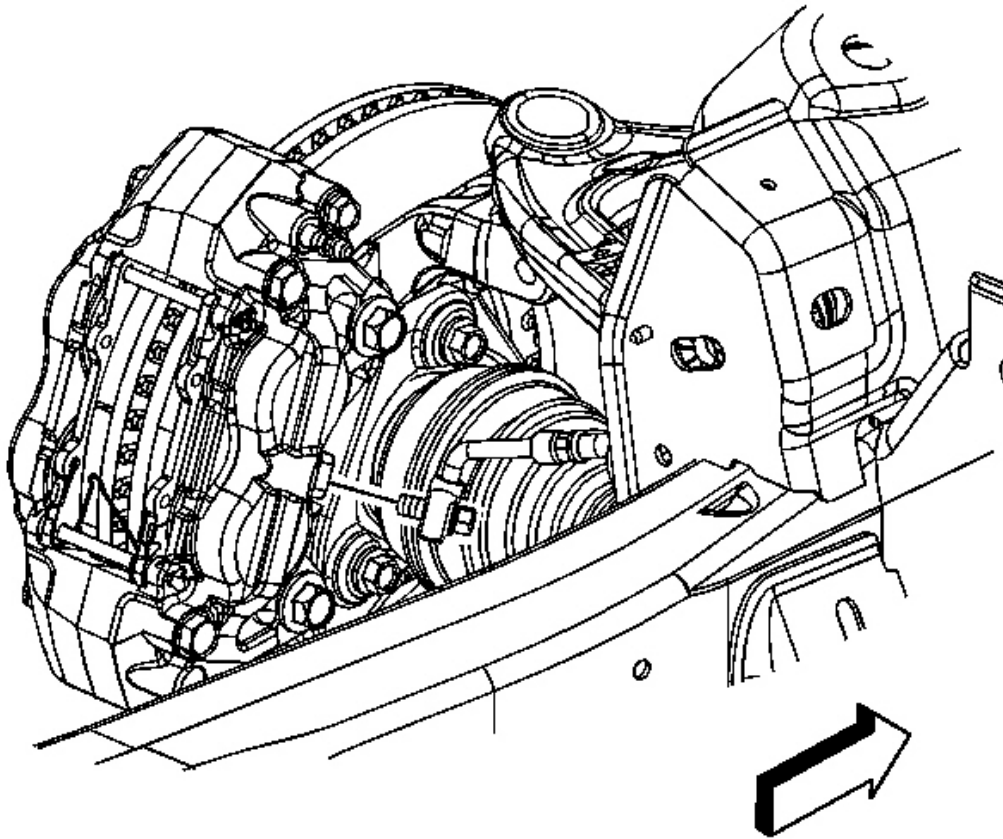
**IMPORTANT: Install a rubber cap or plug to the exposed brake pipe fitting ends in order to prevent brake fluid loss and contamination.**

4. Using a backup wrench on the hose fitting, disconnect the brake pipe fitting (2) from the brake hose (3), then cap or plug the brake pipe fitting end.
5. Remove the brake hose retaining clip (1).



**Fig. 32: Identifying Brake Hose Bracket Bolt**  
Courtesy of GENERAL MOTORS CORP.

6. Remove the brake hose bracket bolt and the bracket from the upper control arm.

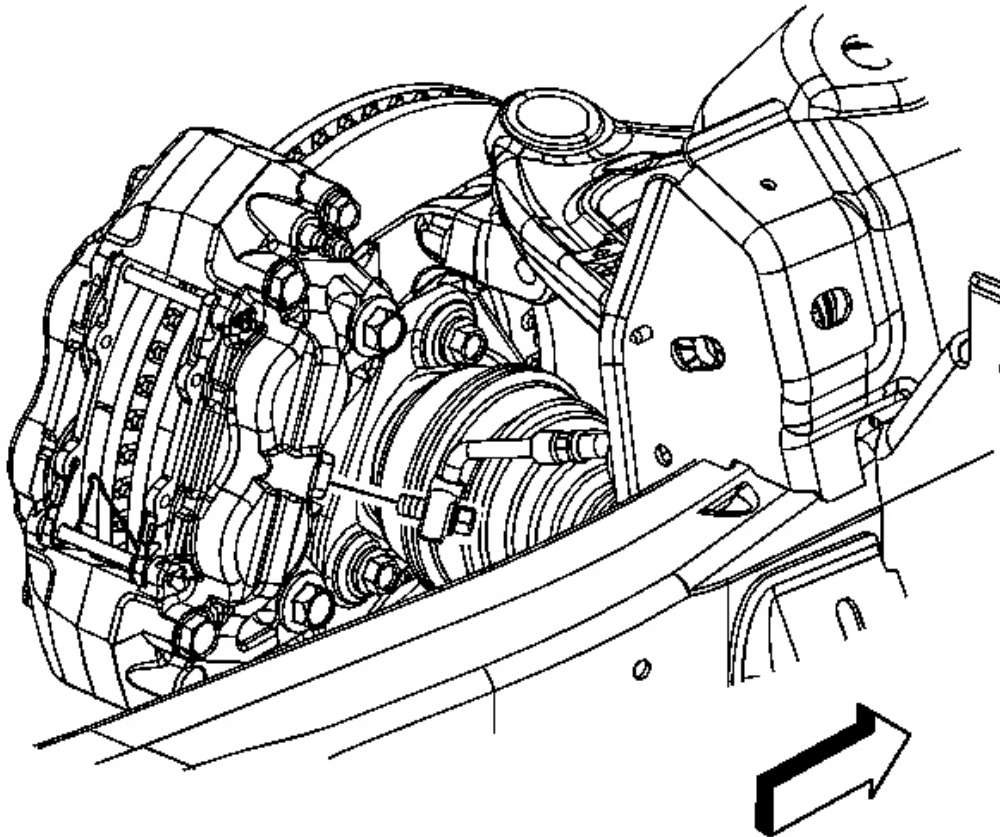


**Fig. 33: Locating Brake Hose At Brake Caliper**  
Courtesy of GENERAL MOTORS CORP.

7. Remove the brake hose bolt from the brake caliper.
8. Remove the brake hose from the brake caliper.
9. Remove and discard the 2 copper brake hose gaskets. These gaskets may be stuck to the brake caliper housing or the brake hose end.

**Installation Procedure**





**Fig. 34: Locating Brake Hose At Brake Caliper**  
Courtesy of GENERAL MOTORS CORP.

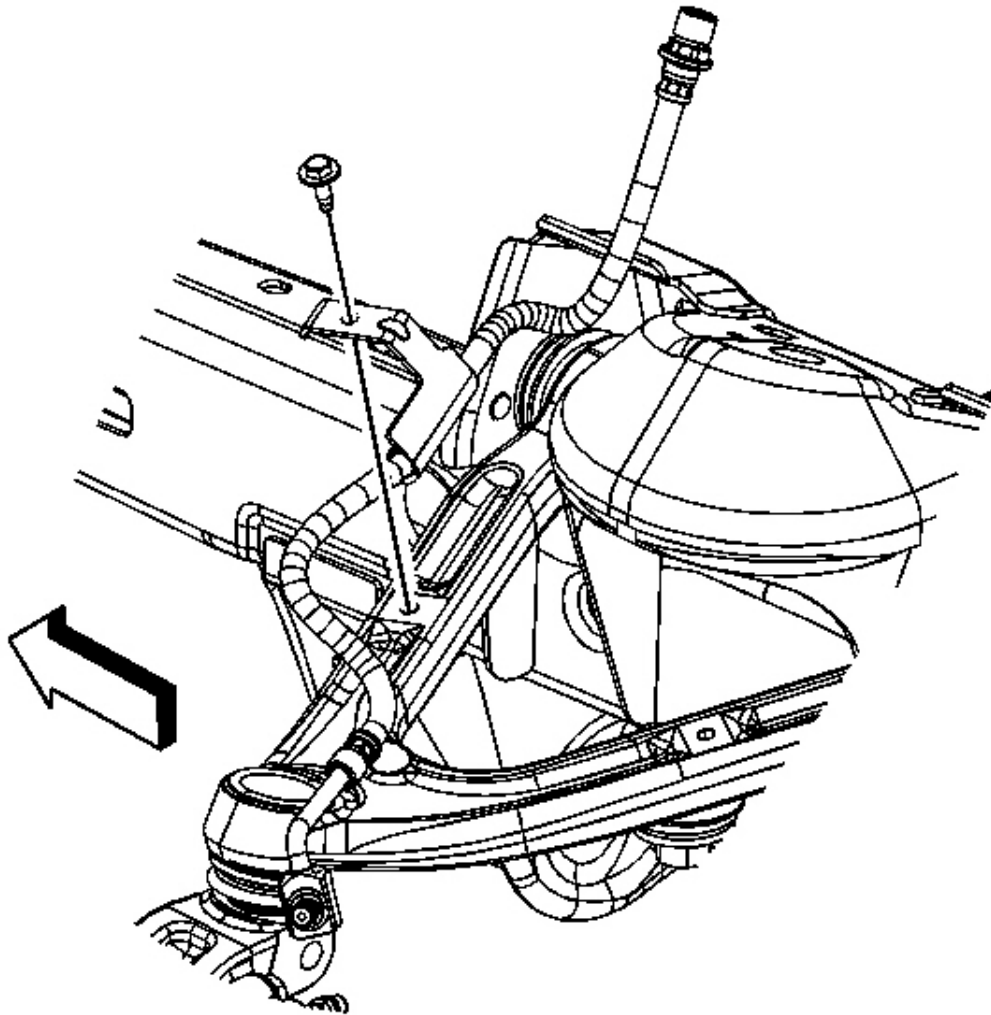
**IMPORTANT:** Install 2 new copper brake hose gaskets.

1. Assemble the 2 new copper brake hose gaskets and the brake hose bolt to the brake hose.

**NOTE:** Refer to Fastener Notice .

2. Install the brake hose bolt and 2 new washers to the brake caliper.

**Tighten:** Tighten the bolt to 40 N.m (30 lb ft).

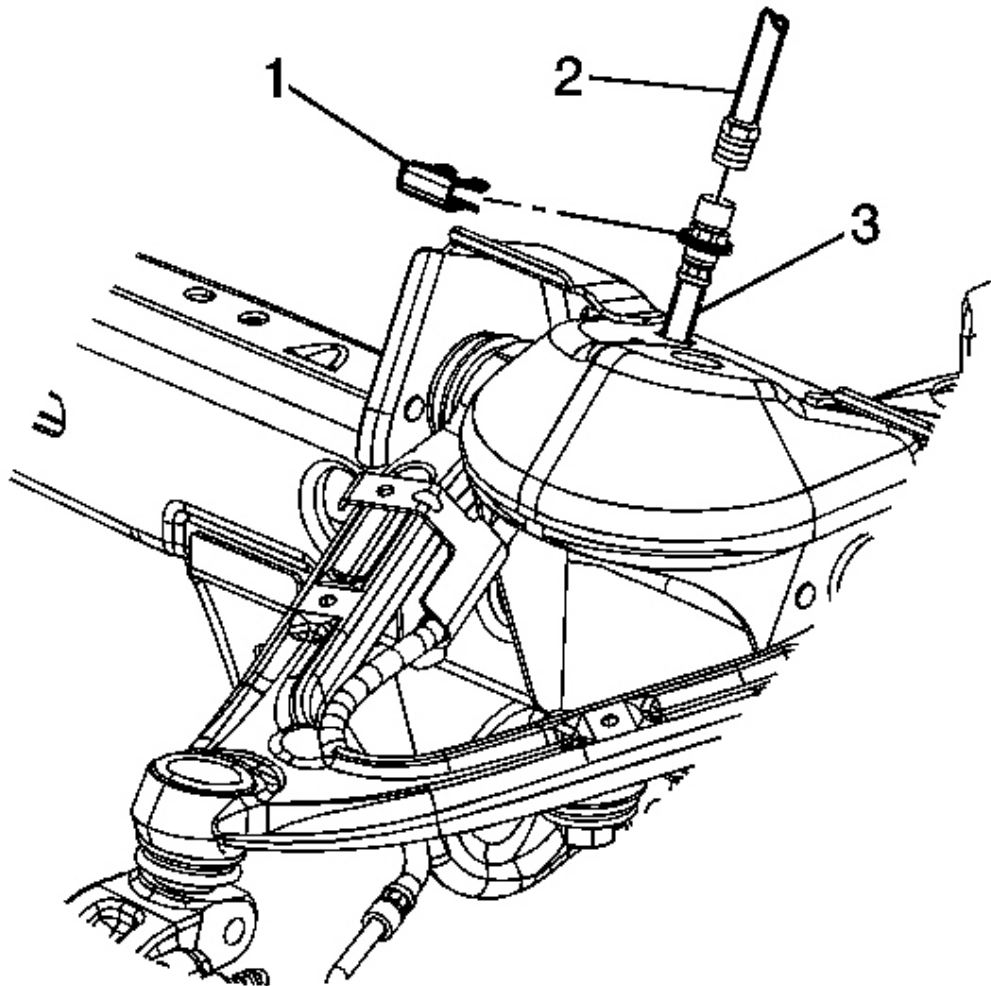


**Fig. 35: Identifying Brake Hose Bracket Bolt**  
Courtesy of GENERAL MOTORS CORP.

**IMPORTANT:** The hose must not be twisted. Make sure the hose is not in contact with any suspension component.

3. With the weight of the vehicle on the suspension, install the brake hose, the bracket and brake hose bolt to the upper control arm.

**Tighten:** Tighten the bolt to 9 N.m (80 lb in).



**Fig. 36: Brake Pipe Fitting Removal/Installation**  
Courtesy of GENERAL MOTORS CORP.

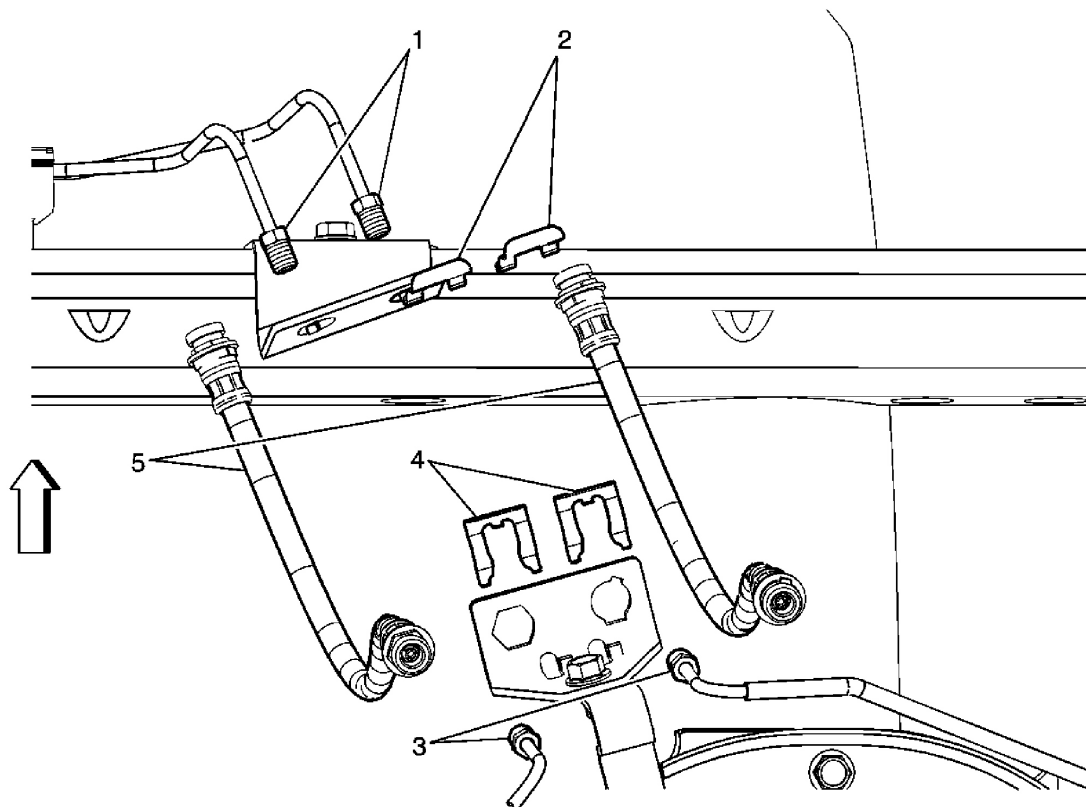
4. Install the brake hose retaining clip (1).
5. Remove the rubber cap or plug from the exposed brake pipe fitting end.
6. Connect the brake pipe (2) to the brake hose (3).
  - Use a backup wrench on the hose fitting.

- Do not bend the bracket or the pipe.

**Tighten:** Tighten the brake pipe nut to 19 N.m (14 lb ft).

7. Bleed the hydraulic brake system. Refer to **Hydraulic Brake System Bleeding (Manual)** or **Hydraulic Brake System Bleeding (Pressure)**.
8. Install the tire and wheel assembly. Refer to **Tire and Wheel Removal and Installation**.
9. Ensure that the hose does not make contact with any part of the suspension or the wheel. Check the hose in extreme right and left turn conditions. If the hose makes contact, remove the hose and correct the condition.
10. Lower the vehicle.

#### BRAKE INTERMEDIATE HOSE REPLACEMENT



**Fig. 37: Brake Hose Replacement - Intermediate**  
Courtesy of GENERAL MOTORS CORP.

#### Brake Intermediate Hose Replacement

## 2007 Hummer H3

### 2007 BRAKES Hydraulic Brakes - H3

Callout	Component Name
<p><b>CAUTION:</b> Refer to <u>Bleed Procedure Caution</u> .</p> <p><b>CAUTION:</b> Refer to <u>Brake Fluid Irritant Caution</u> .</p> <p><b>NOTE:</b> Refer to <u>Brake Fluid Effects on Paint and Electrical Components Notice</u> .</p> <p><b>NOTE:</b> Refer to <u>Fastener Notice</u> .</p> <p><b>Fastener Tightening Specifications:</b> Refer to <u>Fastener Tightening Specifications</u>.</p> <p><b>Preliminary Procedures</b></p> <ol style="list-style-type: none"><li>1. Raise and support the vehicle. Refer to <u>Lifting and Jacking the Vehicle</u> .</li><li>2. Remove the tire and wheel. Refer to <u>Tire and Wheel Removal and Installation</u> .</li></ol>	
1	<p>Nut, Brake Pipe (Qty: 2)</p> <p><b>Tip:</b></p> <ul style="list-style-type: none"><li>• Cap or plug the brake pipe to prevent fluid loss and contamination.</li><li>• Bleed the brake system anytime the system is opened for repairs. Refer to <u>Hydraulic Brake System Bleeding (Manual)</u> or <u>Hydraulic Brake System Bleeding (Pressure)</u>.</li></ul> <p><b>Tighten:</b> 19 N.m (14 lb ft)</p>
2	<p>Clip, Brake Hose Retaining (Qty: 2)</p>
3	<p>Nut, Brake Pipe (Qty: 2)</p> <p><b>Tip:</b></p> <ul style="list-style-type: none"><li>• Cap or plug the brake pipe to prevent fluid loss and contamination.</li><li>• Bleed the brake system anytime the system is opened for repairs. Refer to <u>Hydraulic Brake System Bleeding (Manual)</u> or <u>Hydraulic Brake System Bleeding (Pressure)</u>.</li></ul> <p><b>Tighten:</b> 19 N.m (14 lb ft)</p>
4	<p>Clip, Brake Hose Retaining (Qty: 2)</p>

5 | Hose, Intermediate Brake (Qty: 2)

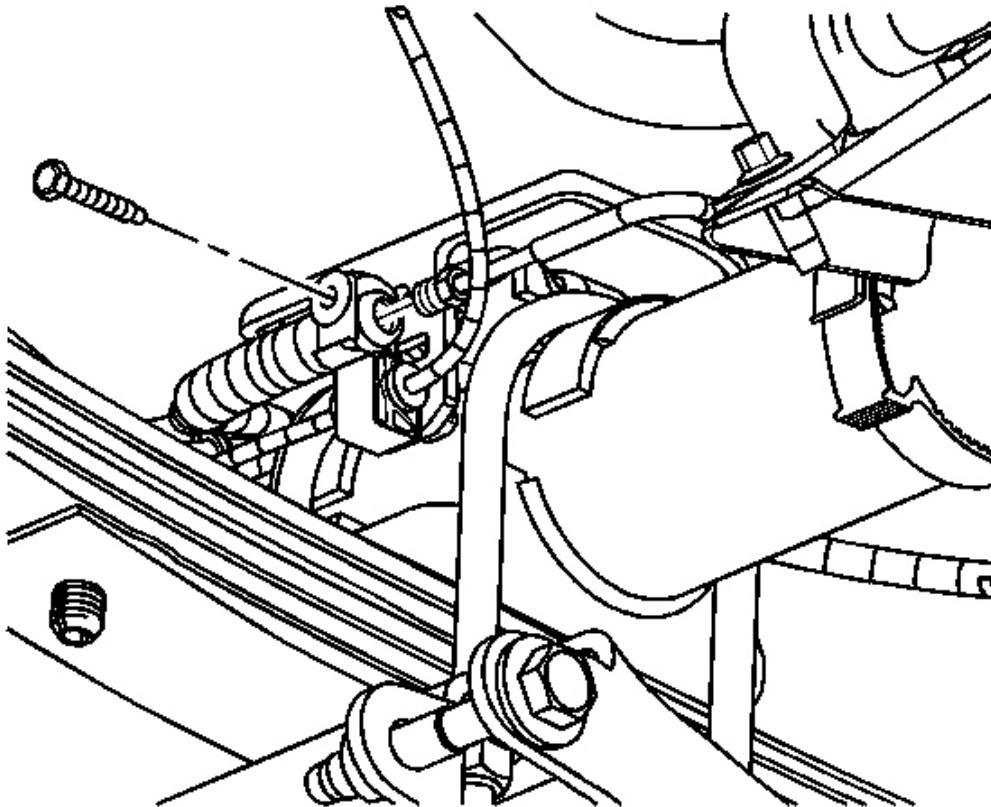
## REAR BRAKE HOSE REPLACEMENT

### Removal Procedure

**CAUTION:** Refer to Brake Fluid Irritant Caution .

**NOTE:** Refer to Brake Fluid Effects on Paint and Electrical Components Notice .

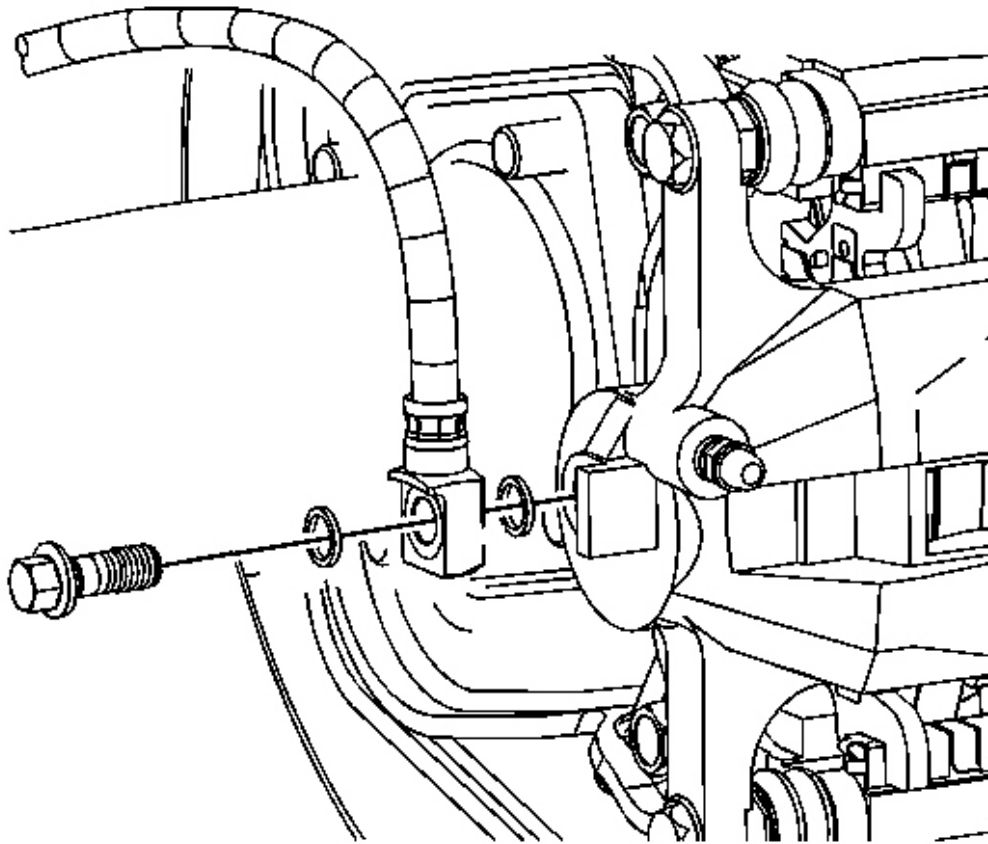
1. Raise and suitably support the vehicle. Refer to Lifting and Jacking the Vehicle .
2. Remove the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation .
3. Clean all dirt and foreign material from the brake hose and brake pipe fittings.



**Fig. 38: Identifying Brake Hose Bolt**  
Courtesy of GENERAL MOTORS CORP.

**IMPORTANT: Install a rubber cap or plug to the exposed brake pipe fitting ends in order to prevent brake fluid loss and contamination.**

4. Disconnect the brake pipe fitting from the brake hose, then cap or plug the brake pipe fitting end.
5. Remove the brake hose bolt from the brake hose.

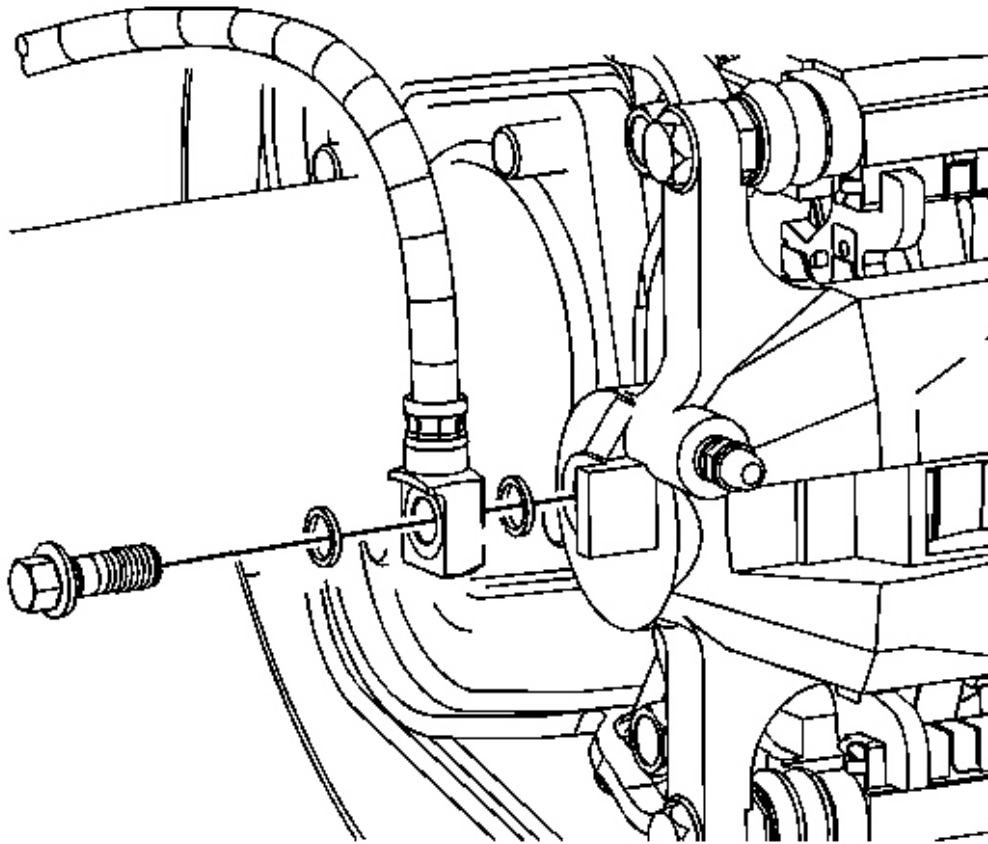


**Fig. 39: View Of Brake Hose Bolt At Brake Caliper**  
**Courtesy of GENERAL MOTORS CORP.**

6. Remove the brake hose bolt from the brake caliper.
7. Remove the brake hose from the brake caliper.
8. Remove and discard the 2 copper brake hose gaskets. These gaskets may be stuck to the brake caliper housing or the brake hose end.

**Installation Procedure**





**Fig. 40: View Of Brake Hose Bolt At Brake Caliper**  
Courtesy of GENERAL MOTORS CORP.

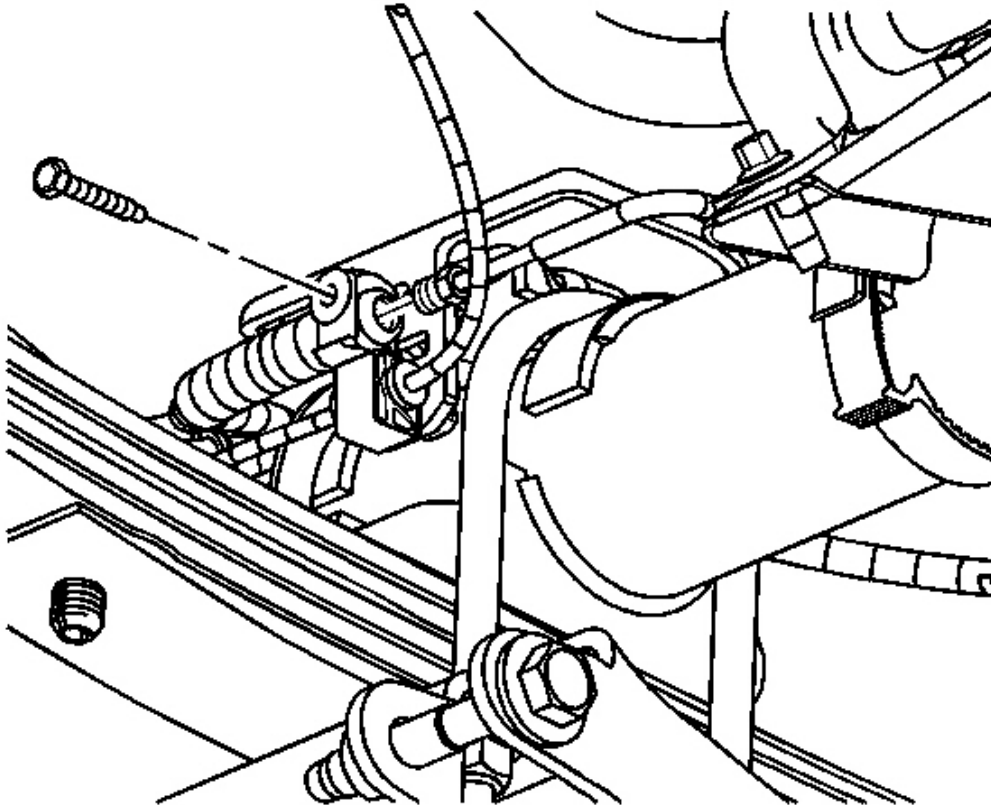
**IMPORTANT:** Install 2 new copper brake hose gaskets.

1. Assemble the 2 new copper brake hose gaskets and the brake hose bolt to the brake hose.

**NOTE:** Refer to Fastener Notice .

2. Install the brake hose bolt and 2 new washers to the brake caliper.

**Tighten:** Tighten the bolt to 40 N.m (30 lb ft).



**Fig. 41: Identifying Brake Hose Bolt**  
Courtesy of GENERAL MOTORS CORP.

**IMPORTANT:** The hose must not be twisted. Make sure the hose is not in contact with any suspension component.

3. Install the brake hose bolt.

**Tighten:** Tighten the bolt to 9 N.m (80 lb in).

4. Install the brake hose retaining clip.
5. Remove the rubber cap or plug from the exposed brake pipe fitting end.

**IMPORTANT:** Do not bend the brake pipe.

6. Connect the brake pipe fitting nut to the brake hose.

**Tighten:** Tighten the brake pipe nut to 19 N.m (14 lb ft).

7. Bleed the hydraulic brake system. Refer to Hydraulic Brake System Bleeding (Manual) or Hydraulic Brake System Bleeding (Pressure).

8. Install the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation .

9. Ensure that the hose does not make contact with any part of the suspension or the wheel. If the hose makes contact remove the hose and correct the condition.

10. Lower the vehicle.

#### HYDRAULIC BRAKE SYSTEM BLEEDING (MANUAL WITHOUT RPO BRM)

**CAUTION:** Refer to Brake Fluid Irritant Caution .

**CAUTION:** Do not remove the reservoir cap while depressing and releasing the brake pedal. If the cap is removed while depressing and releasing the brake pedal, pressurized brake fluid being returned to the reservoir may leave the reservoir. Personal injury or vehicle damage could result.

**NOTE:** Refer to Brake Fluid Effects on Paint and Electrical Components Notice .

**NOTE:** When adding fluid to the brake master cylinder reservoir, use only Delco Supreme 11<sup>®</sup>, GM P/N 12377967 (Canadian P/N 992667) or equivalent DOT-3 brake fluid from a clean, sealed brake fluid container. The use of any type of fluid other than the recommended type of brake fluid, may cause contamination which could result in damage to the internal rubber seals and/or rubber linings of hydraulic brake system components.

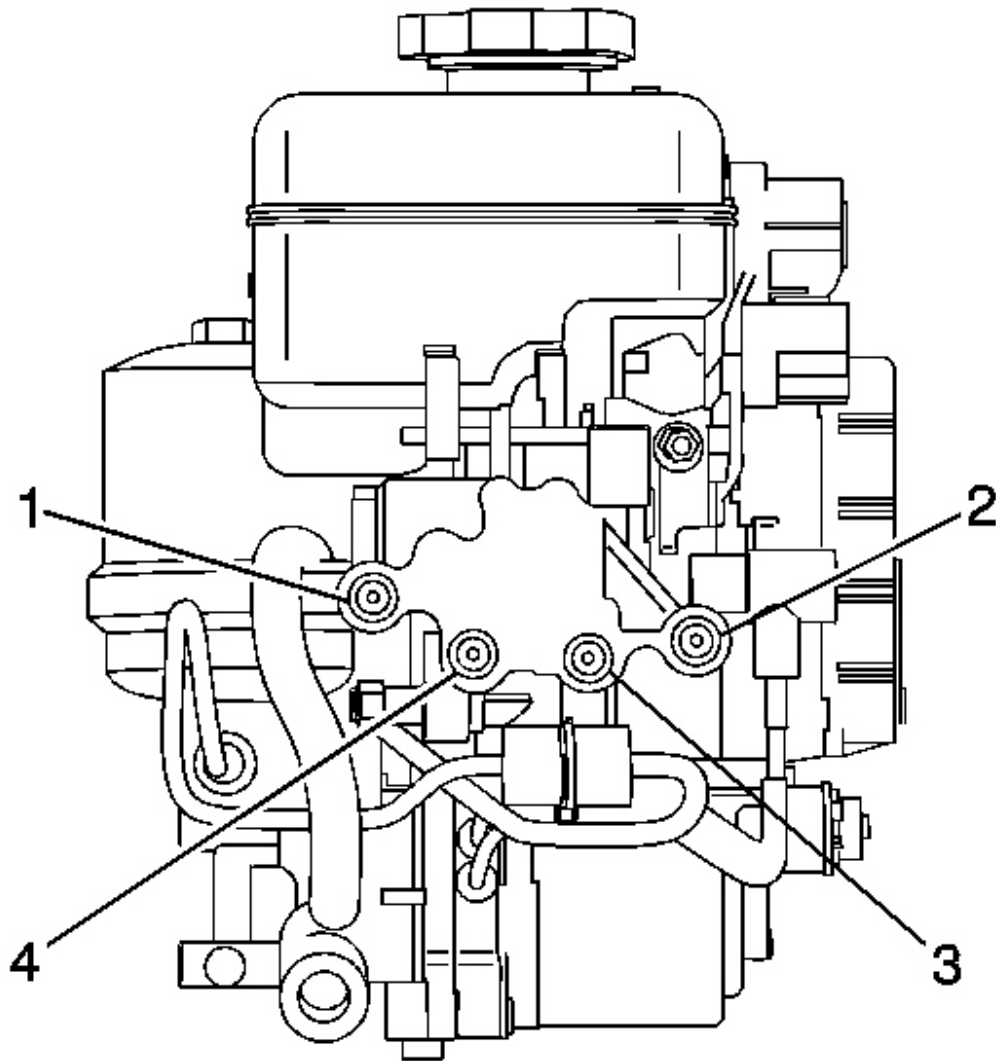
**NOTE:** Do Not allow the HBCi pump and motor to run more than 1 minute continuously. Allow 2 minutes cool down time between pump run times. Extended pump and motor run time could create excessive heat and damage the pump and motor assembly.

## 2007 Hummer H3

### 2007 BRAKES Hydraulic Brakes - H3

1. Place a clean shop cloth beneath the brake master cylinder to prevent brake fluid spills.
2. If you disconnected the brake pipes from the master cylinder, you must perform the following steps:
  1. Ensure that the brake master cylinder reservoir is full to the maximum-fill level. If necessary add Delco Supreme 11® , GM P/N 12377967 (Canadian P/N 992667) or equivalent DOT-3 brake fluid from a clean, sealed brake fluid container.

If removal of the reservoir cap and diaphragm is necessary, clean the outside of the reservoir on and around the cap prior to removal.



**Fig. 42: View Of Master Cylinder And Brake Pipes**  
**Courtesy of GENERAL MOTORS CORP.**

2. With all brake pipes installed securely to the master cylinder, loosen and separate the left front brake pipe (4) from the left front port of the brake master cylinder.
3. Allow a small amount of brake fluid to gravity bleed from the open port of the master cylinder.
4. Reconnect the brake pipe to the master cylinder port and tighten securely.

## 2007 Hummer H3

### 2007 BRAKES Hydraulic Brakes - H3

5. Have an assistant slowly depress the brake pedal fully and maintain steady pressure on the pedal.
  6. Loosen the same brake pipe to purge air from the open port of the master cylinder.
  7. Tighten the brake pipe, then have the assistant slowly release the brake pedal.
  8. Wait 15 seconds, then repeat steps 2.5-2.7 until all air is purged from the same port of the master cylinder.
  9. With the left front brake pipe (4) installed securely to the master cylinder, after all air has been purged from the left front port of the master cylinder, loosen and separate the right front brake pipe (3) from the master cylinder, then repeat steps 2.5-2.8.
  10. Turn the ignition key to the ON position.
  11. With the right front brake pipe (3) installed securely to the master cylinder, after all air has been purged from the right front port of the master cylinder, loosen and separate the left rear brake pipe (1) from the master cylinder, then repeat steps 2.5-2.8.
  12. With the left rear brake pipe (1) installed securely to the master cylinder, after all air has been purged from the left rear port of the master cylinder, loosen and separate the right rear brake pipe (2) from the master cylinder, then repeat steps 2.5-2.8.
  13. After completing the final master cylinder port bleeding procedure, ensure that all of the brake pipe-to-master cylinder fittings are properly tightened.
  14. Turn the ignition key to the OFF position. Depress the brake pedal 20 times.
3. Fill the brake master cylinder reservoir with Delco Supreme 11®, GM P/N 12377967 (Canadian P/N 992667) or equivalent DOT-3 brake fluid from a clean, sealed brake fluid container. Ensure that the brake master cylinder reservoir remains at least half-full during this bleeding procedure. Add fluid as needed to maintain the proper level.

Clean the outside of the reservoir on and around the reservoir cap prior to removing the cap and diaphragm.

4. Install a proper box-end wrench onto the RIGHT REAR wheel hydraulic circuit bleeder valve.
5. Install a transparent hose over the end of the bleeder valve.
6. Submerge the open end of the transparent hose into a transparent container partially filled with Delco Supreme 11®, GM P/N 12377967 (Canadian P/N 992667) or equivalent DOT-3 brake fluid from a clean, sealed brake fluid container.
7. Have an assistant turn the ignition ON, then partially apply and hold the brake pedal. DO NOT pump the brake pedal. Fluid will flow when the bleed valves are opened.
8. Loosen the bleeder valve to purge air from the wheel hydraulic circuit.

9. Tighten the bleeder valve, then have the assistant slowly release the brake pedal.
10. Wait 15 seconds, then repeat steps 7-9 until all air is purged from the same wheel hydraulic circuit.
11. With the right rear wheel hydraulic circuit bleeder valve tightened securely, after all air has been purged from the right rear hydraulic circuit, install a proper box-end wrench onto the LEFT REAR wheel hydraulic circuit bleeder valve.
12. Install a transparent hose over the end of the bleeder valve, then repeat steps 6-10.
13. Turn the ignition OFF. The assistant will now have to pump the brake pedal for fluid to flow from open bleed valves.
14. With the left rear wheel hydraulic circuit bleeder valve tightened securely, after all air has been purged from the left rear hydraulic circuit, install a proper box-end wrench onto the RIGHT FRONT wheel hydraulic circuit bleeder valve.
15. Install a transparent hose over the end of the bleeder valve, then repeat steps 7-11.
16. With the right front wheel hydraulic circuit bleeder valve tightened securely, after all air has been purged from the right front hydraulic circuit, install a proper box-end wrench onto the LEFT FRONT wheel hydraulic circuit bleeder valve.
17. Install a transparent hose over the end of the bleeder valve, then repeat steps 7-11.
18. After completing the final wheel hydraulic circuit bleeding procedure, ensure that each of the 4 wheel hydraulic circuit bleeder valves are properly tightened.
19. Fill the brake master cylinder reservoir to the maximum-fill level with Delco Supreme 11®, GM P/N 12377967 (Canadian P/N 992667) or equivalent DOT-3 brake fluid from a clean, sealed brake fluid container. Refer to **Master Cylinder Reservoir Filling**.
20. Slowly depress and release the brake pedal. Observe the feel of the brake pedal.
21. If the brake pedal feels spongy, repeat the bleeding procedure again. If the brake pedal still feels spongy after repeating the bleeding procedure, perform the following steps:
  1. Inspect the brake system for external leaks. Refer to **Brake System External Leak Inspection**.
  2. Pressure bleed the hydraulic brake system in order to purge any air that may still be trapped in the system.
22. Turn the ignition key ON, with the engine OFF. Check to see if the brake system warning lamp remains illuminated.

**IMPORTANT: If the brake system warning lamp remains illuminated, DO NOT allow the vehicle to be driven until it is diagnosed and repaired.**

23. If the brake system warning lamp remains illuminated, refer to Symptoms - Hydraulic Brakes.

**HYDRAULIC BRAKE SYSTEM BLEEDING (MANUAL WITH RPO BRM)**

**CAUTION: Refer to Brake Fluid Irritant Caution .**

**CAUTION: Refer to DOT 4 BRAKE FLUID CAUTION .**

**CAUTION: Do not remove the reservoir cap while depressing and releasing the brake pedal. If the cap is removed while depressing and releasing the brake pedal, pressurized brake fluid being returned to the reservoir may leave the reservoir. Personal injury or vehicle damage could result.**

**NOTE: Refer to Brake Fluid Effects on Paint and Electrical Components Notice .**

**NOTE: When adding fluid to the brake master cylinder reservoir, use only GM Vehicle Care Brake and Clutch Fluid Super DOT-4, GM P/N 88958860 (Canadian P/N 88901244) or equivalent DOT-4 brake fluid from a clean, sealed container. This polyglycol brake fluid is hygroscopic and absorbs moisture. Do not use fluid from an open container that may be contaminated with water. Improper or contaminated fluid could result in damage to the system components.**

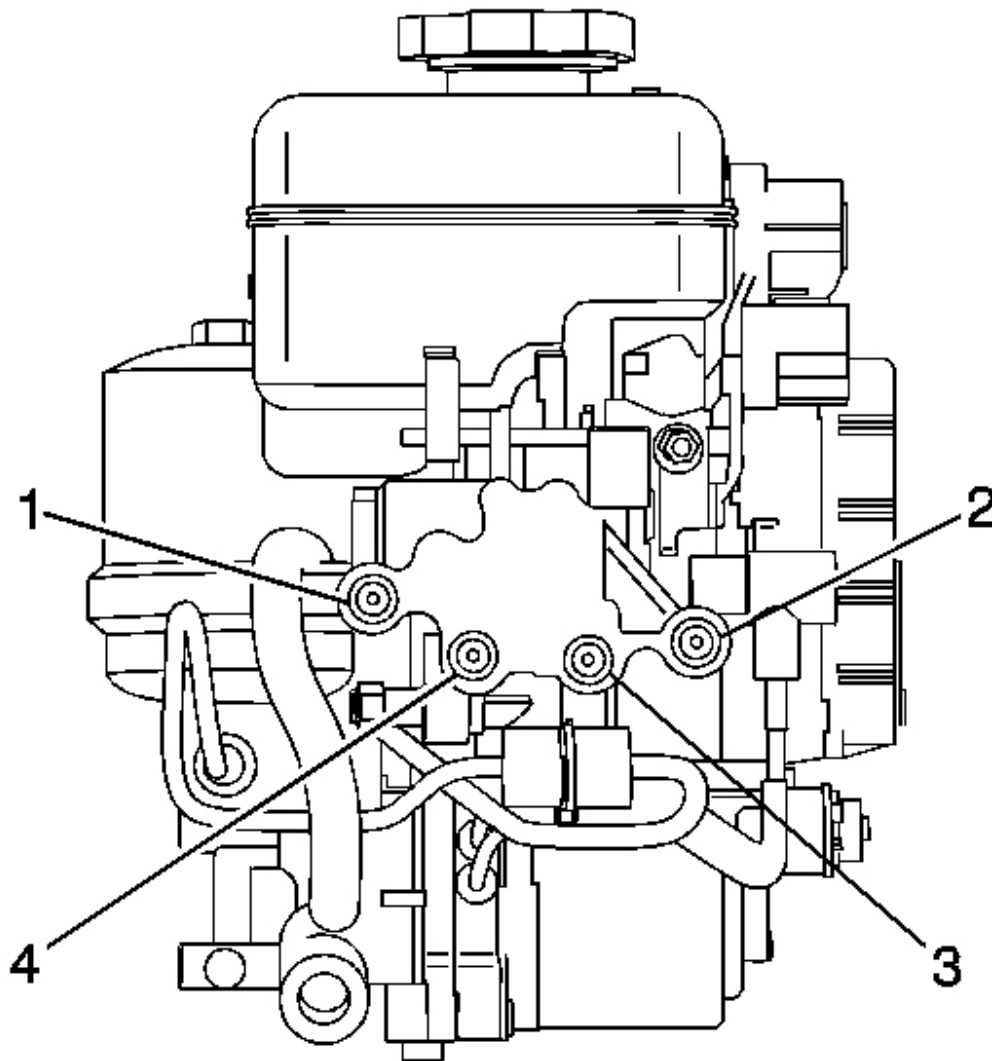
**NOTE: Do Not allow the HBCi pump and motor to run more than 1 minute continuously. Allow 2 minutes cool down time between pump run times. Extended pump and motor run time could create excessive heat and damage the pump and motor assembly.**

1. Place a clean shop cloth beneath the brake master cylinder to prevent brake fluid spills.
2. If you disconnected the brake pipes from the master cylinder, you must perform the following steps:
  1. Ensure that the brake master cylinder reservoir is full to the maximum-fill level. If



necessary add brake and clutch fluid Super DOT-4, GM P/N 88958860 (Canadian P/N 88901244) or equivalent DOT-4 brake fluid from a clean, sealed brake fluid container.

If removal of the reservoir cap and diaphragm is necessary, clean the outside of the reservoir on and around the cap prior to removal.



**Fig. 43: View Of Master Cylinder And Brake Pipes**

**Courtesy of GENERAL MOTORS CORP.**

2. With all brake pipes installed securely to the master cylinder, loosen and separate the left front brake pipe (4) from the left front port of the brake master cylinder.
  3. Allow a small amount of brake fluid to gravity bleed from the open port of the master cylinder.
  4. Reconnect the brake pipe to the master cylinder port and tighten securely.
  5. Have an assistant slowly depress the brake pedal fully and maintain steady pressure on the pedal.
  6. Loosen the same brake pipe to purge air from the open port of the master cylinder.
  7. Tighten the brake pipe, then have the assistant slowly release the brake pedal.
  8. Wait 15 seconds, then repeat steps 2.5-2.7 until all air is purged from the same port of the master cylinder.
  9. With the left front brake pipe (4) installed securely to the master cylinder, after all air has been purged from the left front port of the master cylinder, loosen and separate the right front brake pipe (3) from the master cylinder, then repeat steps 2.5-2.8.
  10. Turn the ignition key to the ON position.
  11. With the right front brake pipe (3) installed securely to the master cylinder, after all air has been purged from the right front port of the master cylinder, loosen and separate the left rear brake pipe (1) from the master cylinder, then repeat steps 2.5-2.8.
  12. With the left rear brake pipe (1) installed securely to the master cylinder, after all air has been purged from the left rear port of the master cylinder, loosen and separate the right rear brake pipe (2) from the master cylinder, then repeat steps 2.5-2.8.
  13. After completing the final master cylinder port bleeding procedure, ensure that all of the brake pipe-to-master cylinder fittings are properly tightened.
  14. Turn the ignition key to the OFF position. Depress the brake pedal 20 times.
3. Fill the brake master cylinder reservoir with brake and clutch fluid Super DOT-4, GM P/N 88958860 (Canadian P/N 88901244) or equivalent DOT-4 brake fluid from a clean, sealed brake fluid container. Ensure that the brake master cylinder reservoir remains at least half-full during this bleeding procedure. Add fluid as needed to maintain the proper level.

Clean the outside of the reservoir on and around the reservoir cap prior to removing the cap and diaphragm.

4. Install a proper box-end wrench onto the RIGHT REAR wheel hydraulic circuit bleeder valve.
5. Install a transparent hose over the end of the bleeder valve.

## 2007 Hummer H3

### 2007 BRAKES Hydraulic Brakes - H3

6. Submerge the open end of the transparent hose into a transparent container partially filled with brake and clutch fluid Super DOT-4, GM P/N 88958860 (Canadian P/N 88901244) or equivalent DOT-4 brake fluid from a clean, sealed brake fluid container.
7. Have an assistant turn the ignition ON, then partially apply and hold the brake pedal. DO NOT pump the brake pedal. Fluid will flow when the bleed valves are opened.
8. Loosen the bleeder valve to purge air from the wheel hydraulic circuit.
9. Tighten the bleeder valve, then have the assistant slowly release the brake pedal.
10. Wait 15 seconds, then repeat steps 7-9 until all air is purged from the same wheel hydraulic circuit.
11. With the right rear wheel hydraulic circuit bleeder valve tightened securely, after all air has been purged from the right rear hydraulic circuit, install a proper box-end wrench onto the LEFT REAR wheel hydraulic circuit bleeder valve.
12. Install a transparent hose over the end of the bleeder valve, then repeat steps 6-10.
13. Turn the ignition OFF. The assistant will now have to pump the brake pedal for fluid to flow from open bleed valves.
14. With the left rear wheel hydraulic circuit bleeder valve tightened securely, after all air has been purged from the left rear hydraulic circuit, install a proper box-end wrench onto the RIGHT FRONT wheel hydraulic circuit bleeder valve.
15. Install a transparent hose over the end of the bleeder valve, then repeat steps 7-11.
16. With the right front wheel hydraulic circuit bleeder valve tightened securely, after all air has been purged from the right front hydraulic circuit, install a proper box-end wrench onto the LEFT FRONT wheel hydraulic circuit bleeder valve.
17. Install a transparent hose over the end of the bleeder valve, then repeat steps 7-11.
18. After completing the final wheel hydraulic circuit bleeding procedure, ensure that each of the 4 wheel hydraulic circuit bleeder valves are properly tightened.
19. Fill the brake master cylinder reservoir to the maximum-fill level with brake and clutch fluid Super DOT-4, GM P/N 88958860 (Canadian P/N 88901244) or equivalent DOT-4 brake fluid from a clean, sealed brake fluid container. Refer to **Master Cylinder Reservoir Filling**.
20. Slowly depress and release the brake pedal. Observe the feel of the brake pedal.
21. If the brake pedal feels spongy, repeat the bleeding procedure again. If the brake pedal still feels spongy after repeating the bleeding procedure, perform the following steps:
  1. Inspect the brake system for external leaks. Refer to **Brake System External Leak Inspection** .
  2. Pressure bleed the hydraulic brake system in order to purge any air that may still be trapped in the system.

22. Turn the ignition key ON, with the engine OFF. Check to see if the brake system warning lamp remains illuminated.

**IMPORTANT: If the brake system warning lamp remains illuminated, DO NOT allow the vehicle to be driven until it is diagnosed and repaired.**

23. If the brake system warning lamp remains illuminated, refer to Symptoms - Hydraulic Brakes.

#### HYDRAULIC BRAKE SYSTEM BLEEDING (PRESSURE WITHOUT RPO BRM)

##### Tools Required

- **J 29532** Diaphragm Pressure Bleeder or equivalent. See Special Tools.
- **J 35589-A** Master Cylinder Bleeder Adapter. See Special Tools.
- **J 44894-A** Brake Bleeder Adapter. See Special Tools.

**CAUTION: Refer to Brake Fluid Irritant Caution .**

**CAUTION: Do not remove the reservoir cap while depressing and releasing the brake pedal. If the cap is removed while depressing and releasing the brake pedal, pressurized brake fluid being returned to the reservoir may leave the reservoir. Personal injury or vehicle damage could result.**

**NOTE: Refer to Brake Fluid Effects on Paint and Electrical Components Notice .**

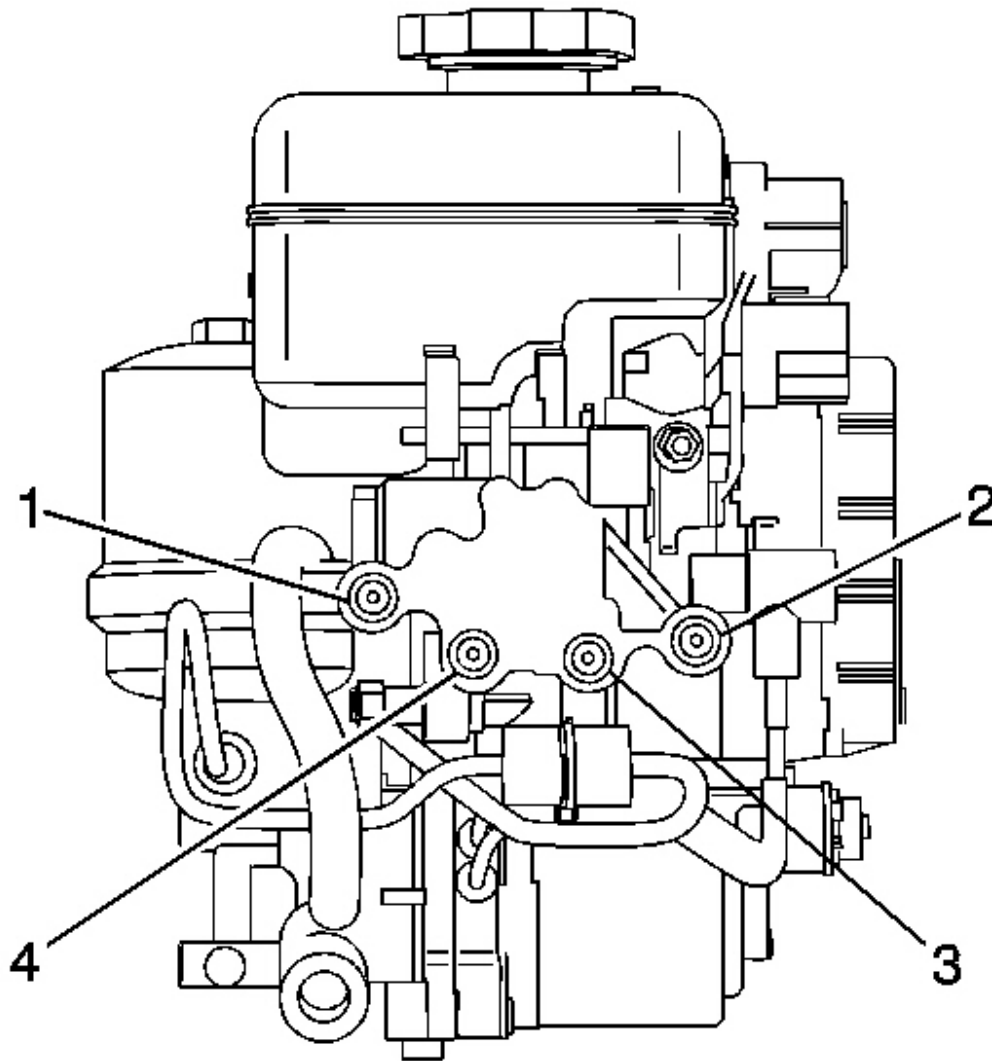
**NOTE: When adding fluid to the brake master cylinder reservoir, use only Delco Supreme 11®, GM P/N 12377967 (Canadian P/N 992667) or equivalent DOT-3 brake fluid from a clean, sealed brake fluid container. The use of any type of fluid other than the recommended type of brake fluid, may cause contamination which could result in damage to the internal rubber seals and/or rubber linings of hydraulic brake system components.**

**NOTE:** Do Not allow the HBCi pump and motor to run more than 1 minute continuously. Allow 2 minutes cool down time between pump run times. Extended pump and motor run time could create excessive heat and damage the pump and motor assembly.

**Bleeding Procedure**

1. Place a clean shop cloth beneath the brake master cylinder to prevent brake fluid spills.
2. If you disconnected the brake pipes from the master cylinder, you must perform the following steps:
  1. Ensure that the brake master cylinder reservoir is full to the maximum-fill level. If necessary add Delco Supreme 11®, GM P/N 12377967 (Canadian P/N 992667) or equivalent DOT-3 brake fluid from a clean, sealed brake fluid container.

If removal of the reservoir cap and diaphragm is necessary, clean the outside of the reservoir on and around the cap prior to removal.



**Fig. 44: View Of Master Cylinder And Brake Pipes**  
**Courtesy of GENERAL MOTORS CORP.**

2. With all the brake pipes installed securely to the master cylinder, loosen and separate the left front brake pipe (4) from the left front port of the brake master cylinder.
3. Allow a small amount of brake fluid to gravity bleed from the open port of the master cylinder.
4. Reconnect the brake pipe to the master cylinder port and tighten securely.

## 2007 Hummer H3

### 2007 BRAKES Hydraulic Brakes - H3

5. Have an assistant slowly depress the brake pedal fully and maintain steady pressure on the pedal.
  6. Loosen the same brake pipe to purge air from the open port of the master cylinder.
  7. Tighten the brake pipe, then have the assistant slowly release the brake pedal.
  8. Wait 15 seconds, then repeat steps 2.5-2.7 until all air is purged from the same port of the master cylinder.
  9. With the left front brake pipe (4) installed securely to the master cylinder, after all air has been purged from the left front port of the master cylinder, loosen and separate the right front brake pipe (3) from the master cylinder, then repeat steps 2.5-2.8.
  10. Turn the ignition key to the ON position.
  11. With the right front brake pipe (3) installed securely to the master cylinder, after all air has been purged from the right front port of the master cylinder, loosen and separate the right rear brake pipe (2) from the master cylinder, then repeat steps 2.5-2.8.
  12. With the right rear brake pipe (2) installed securely to the master cylinder, after all air has been purged from the right rear port of the master cylinder, loosen and separate the left rear brake pipe (1) from the master cylinder, then repeat steps 2.5-2.8.
  13. After completing the final master cylinder port bleeding procedure, ensure that all of the brake pipe-to-master cylinder fittings are properly tightened.
  14. Turn the ignition key to the OFF position. Depress the brake pedal 20 times.
3. Fill the brake master cylinder reservoir to the maximum-fill level with Delco Supreme 11®, GM P/N 12377967 (Canadian P/N 992667) or equivalent DOT-3 brake fluid from a clean, sealed brake fluid container.

Clean the outside of the reservoir on and around the reservoir cap prior to removing the cap and diaphragm.

4. Install the **J 44894-A** to the brake master cylinder reservoir. See **Special Tools**.
5. Check the brake fluid level in the **J 29532** or equivalent. See **Special Tools**. Add Delco Supreme 11®, GM P/N 12377967 (Canadian P/N 992667) or equivalent DOT-3 brake fluid from a clean, sealed brake fluid container as necessary to bring the level to approximately the half-full point.
6. Connect the **J 29532** or equivalent, to the **J 44894-A** . See **Special Tools**.
7. Charge the **J 29532** or equivalent, air tank to 175-205 kPa (25-30 psi). See **Special Tools**.
8. Open the **J 29532** or equivalent, fluid tank valve to allow pressurized brake fluid to enter the brake system. See **Special Tools**.

## 2007 Hummer H3

### 2007 BRAKES Hydraulic Brakes - H3

9. Wait approximately 30 seconds, then inspect the entire hydraulic brake system in order to ensure that there are no existing external brake fluid leaks.

Any brake fluid leaks identified require repair prior to completing this procedure.

10. Install a proper box-end wrench onto the RIGHT REAR wheel hydraulic circuit bleeder valve.
11. Install a transparent hose over the end of the bleeder valve.
12. Submerge the open end of the transparent hose into a transparent container partially filled with Delco Supreme 11®, GM P/N 12377967 (Canadian P/N 992667) or equivalent DOT-3 brake fluid from a clean, sealed brake fluid container.
13. Loosen the bleeder valve to purge air from the wheel hydraulic circuit. Allow fluid to flow until air bubbles stop flowing from the bleeder, then tighten the bleeder valve.
14. With the right rear wheel hydraulic circuit bleeder valve tightened securely, after all air has been purged from the right rear hydraulic circuit, install a proper box-end wrench onto the LEFT REAR wheel hydraulic circuit bleeder valve.
15. Install a transparent hose over the end of the bleeder valve, then repeat steps 13-14.
16. With the left rear wheel hydraulic circuit bleeder valve tightened securely, after all air has been purged from the left rear hydraulic circuit, install a proper box-end wrench onto the RIGHT FRONT wheel hydraulic circuit bleeder valve.
17. Install a transparent hose over the end of the bleeder valve, then repeat steps 13-14.
18. With the right front wheel hydraulic circuit bleeder valve tightened securely, after all air has been purged from the right front hydraulic circuit, install a proper box-end wrench onto the LEFT FRONT wheel hydraulic circuit bleeder valve.
19. Install a transparent hose over the end of the bleeder valve, then repeat steps 13-14.
20. After completing the final wheel hydraulic circuit bleeding procedure, ensure that each of the 4 wheel hydraulic circuit bleeder valves are properly tightened.
21. Close the **J 29532** or equivalent, fluid tank valve, then disconnect the **J 29532** or equivalent, from the **J 44894-A** . See **Special Tools**.
22. Remove the **J 44894-A** from the brake master cylinder reservoir. See **Special Tools**.
23. Fill the brake master cylinder reservoir. Refer to **Master Cylinder Reservoir Filling**.
24. Slowly depress and release the brake pedal. Observe the feel of the brake pedal.
25. If the brake pedal feels spongy perform the following steps:
  1. Inspect the brake system for external leaks. Refer to **Brake System External Leak Inspection** .
  2. Using a scan tool, perform the antilock brake system automated bleeding procedure to



remove any air that may have been trapped in the HBCi. Refer to **Antilock Brake System Automated Bleed Procedure** .

26. Turn the ignition key ON, with the engine OFF. Check to see if the brake system warning lamp remains illuminated.

**IMPORTANT: If the brake system warning lamp remains illuminated, DO NOT allow the vehicle to be driven until it is diagnosed and repaired.**

27. If the brake system warning lamp remains illuminated, refer to **Symptoms - Hydraulic Brakes**.

#### HYDRAULIC BRAKE SYSTEM BLEEDING (PRESSURE WITH RPO BRM)

##### Tools Required

- **J 29532** Diaphragm Pressure Bleeder or equivalent. See **Special Tools**.
- **J 35589-A** Master Cylinder Bleeder Adapter. See **Special Tools**.
- **J 44894-A** Brake Bleeder Adapter. See **Special Tools**.

**CAUTION: Refer to DOT 4 BRAKE FLUID CAUTION**

**CAUTION: Refer to Brake Fluid Irritant Caution .**

**CAUTION: Do not remove the reservoir cap while depressing and releasing the brake pedal. If the cap is removed while depressing and releasing the brake pedal, pressurized brake fluid being returned to the reservoir may leave the reservoir. Personal injury or vehicle damage could result.**

**NOTE: Refer to Brake Fluid Effects on Paint and Electrical Components Notice .**

**NOTE: When adding fluid to the brake fluid reservoir or to the clutch fluid reservoir, use only GM Vehicle Care Brake and Clutch Fluid Super**

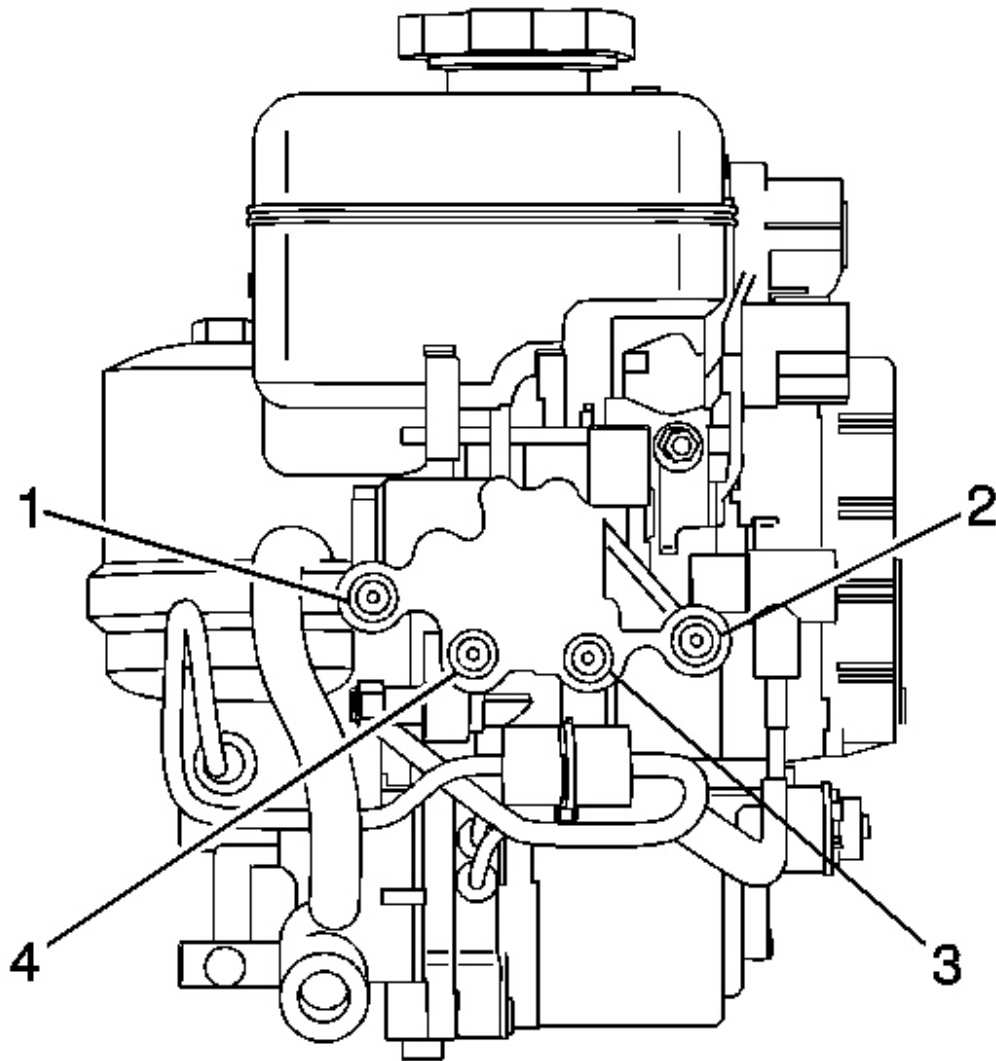
**DOT-4, GM P/N 88958860 (Canadian P/N 88901244) or equivalent DOT-4 brake fluid from a clean, sealed container. This polyglycol brake fluid is hygroscopic and absorbs moisture. Do not use fluid from an open container that may be contaminated with water. Improper or contaminated fluid could result in damage to the system components.**

**NOTE: Do Not allow the HBCi pump and motor to run more than 1 minute continuously. Allow 2 minutes cool down time between pump run times. Extended pump and motor run time could create excessive heat and damage the pump and motor assembly.**

#### **Bleeding Procedure**

1. Place a clean shop cloth beneath the brake master cylinder to prevent brake fluid spills.
2. If you disconnected the brake pipes from the master cylinder, you must perform the following steps:
  1. Ensure that the brake master cylinder reservoir is full to the maximum-fill level. If necessary add brake and clutch fluid Super DOT-4, GM P/N 88958860 (Canadian P/N 88901244) or equivalent DOT-4 brake fluid from a clean, sealed brake fluid container.

If removal of the reservoir cap and diaphragm is necessary, clean the outside of the reservoir on and around the cap prior to removal.



**Fig. 45: View Of Master Cylinder And Brake Pipes**  
**Courtesy of GENERAL MOTORS CORP.**

2. With all the brake pipes installed securely to the master cylinder, loosen and separate the left front brake pipe (4) from the left front port of the brake master cylinder.
3. Allow a small amount of brake fluid to gravity bleed from the open port of the master cylinder.
4. Reconnect the brake pipe to the master cylinder port and tighten securely.

5. Have an assistant slowly depress the brake pedal fully and maintain steady pressure on the pedal.
  6. Loosen the same brake pipe to purge air from the open port of the master cylinder.
  7. Tighten the brake pipe, then have the assistant slowly release the brake pedal.
  8. Wait 15 seconds, then repeat steps 2.5-2.7 until all air is purged from the same port of the master cylinder.
  9. With the left front brake pipe (4) installed securely to the master cylinder, after all air has been purged from the left front port of the master cylinder, loosen and separate the right front brake pipe (3) from the master cylinder, then repeat steps 2.5-2.8.
  10. Turn the ignition key to the ON position.
  11. With the right front brake pipe (3) installed securely to the master cylinder, after all air has been purged from the right front port of the master cylinder, loosen and separate the right rear brake pipe (2) from the master cylinder, then repeat steps 2.5-2.8.
  12. With the right rear brake pipe (2) installed securely to the master cylinder, after all air has been purged from the right rear port of the master cylinder, loosen and separate the left rear brake pipe (1) from the master cylinder, then repeat steps 2.5-2.8.
  13. After completing the final master cylinder port bleeding procedure, ensure that all of the brake pipe-to-master cylinder fittings are properly tightened.
  14. Turn the ignition key to the OFF position. Depress the brake pedal 20 times.
3. Fill the brake master cylinder reservoir to the maximum-fill level with brake and clutch fluid Super DOT-4, GM P/N 88958860 (Canadian P/N 88901244) or equivalent DOT-4 brake fluid from a clean, sealed brake fluid container.

Clean the outside of the reservoir on and around the reservoir cap prior to removing the cap and diaphragm.

4. Install the **J 44894-A** to the brake master cylinder reservoir. See **Special Tools**.
5. Check the brake fluid level in the **J 29532** or equivalent. See **Special Tools**. Add Super DOT-4, GM P/N 88958860 (Canadian P/N 88901244) or equivalent DOT-4 brake fluid from a clean, sealed brake fluid container as necessary to bring the level to approximately the half-full point.
6. Connect the **J 29532** or equivalent, to the **J 44894-A** . See **Special Tools**.
7. Charge the **J 29532** or equivalent, air tank to 175-205 kPa (25-30 psi). See **Special Tools**.
8. Open the **J 29532** or equivalent, fluid tank valve to allow pressurized brake fluid to enter the brake system. See **Special Tools**.

9. Wait approximately 30 seconds, then inspect the entire hydraulic brake system in order to ensure that there are no existing external brake fluid leaks.

Any brake fluid leaks identified require repair prior to completing this procedure.

10. Install a proper box-end wrench onto the RIGHT REAR wheel hydraulic circuit bleeder valve.
11. Install a transparent hose over the end of the bleeder valve.
12. Submerge the open end of the transparent hose into a transparent container partially filled with brake and clutch fluid Super Dot-4, GM P/N 88958860 (Canadian P/N 88901244) or equivalent DOT-4 brake fluid from a clean, sealed brake fluid container.
13. Loosen the bleeder valve to purge air from the wheel hydraulic circuit. Allow fluid to flow until air bubbles stop flowing from the bleeder, then tighten the bleeder valve.
14. With the right rear wheel hydraulic circuit bleeder valve tightened securely, after all air has been purged from the right rear hydraulic circuit, install a proper box-end wrench onto the LEFT REAR wheel hydraulic circuit bleeder valve.
15. Install a transparent hose over the end of the bleeder valve, then repeat steps 13-14.
16. With the left rear wheel hydraulic circuit bleeder valve tightened securely, after all air has been purged from the left rear hydraulic circuit, install a proper box-end wrench onto the RIGHT FRONT wheel hydraulic circuit bleeder valve.
17. Install a transparent hose over the end of the bleeder valve, then repeat steps 13-14.
18. With the right front wheel hydraulic circuit bleeder valve tightened securely, after all air has been purged from the right front hydraulic circuit, install a proper box-end wrench onto the LEFT FRONT wheel hydraulic circuit bleeder valve.
19. Install a transparent hose over the end of the bleeder valve, then repeat steps 13-14.
20. After completing the final wheel hydraulic circuit bleeding procedure, ensure that each of the 4 wheel hydraulic circuit bleeder valves are properly tightened.
21. Close the **J 29532** or equivalent, fluid tank valve, then disconnect the **J 29532** or equivalent, from the **J 44894-A** . See **Special Tools**.
22. Remove the **J 44894-A** from the brake master cylinder reservoir. See **Special Tools**.
23. Fill the brake master cylinder reservoir. Refer to **Master Cylinder Reservoir Filling**.
24. Slowly depress and release the brake pedal. Observe the feel of the brake pedal.
25. If the brake pedal feels spongy perform the following steps:
  1. Inspect the brake system for external leaks. Refer to **Brake System External Leak Inspection** .
  2. Using a scan tool, perform the antilock brake system automated bleeding procedure to

remove any air that may have been trapped in the HBCi. Refer to **Antilock Brake System Automated Bleed Procedure** .

26. Turn the ignition key ON, with the engine OFF. Check to see if the brake system warning lamp remains illuminated.

**IMPORTANT: If the brake system warning lamp remains illuminated, DO NOT allow the vehicle to be driven until it is diagnosed and repaired.**

27. If the brake system warning lamp remains illuminated, refer to **Symptoms - Hydraulic Brakes**.

#### HYDRAULIC BRAKE SYSTEM FLUSHING (WITHOUT RPO BRM)

**CAUTION: Refer to Brake Fluid Irritant Caution .**

**NOTE: Refer to Brake Fluid Effects on Paint and Electrical Components Notice .**

1. Inspect the brake fluid for the following conditions, indicating brake fluid contamination:
  - Fluid separation, indicating 2 types of fluid are present-A substance other than the recommended brake fluid has been introduced into the brake hydraulic system.
    - Swirled appearance-Oil-based substance
    - Layered appearance-Silicone-based substance
  - Fluid discoloration, indicating the presence of moisture or particles that have been introduced into the brake hydraulic system
    - Cloudy appearance-Moisture
    - Dark appearance/suspended particles in fluid-Dirt, rust, corrosion, brake dust
2. Inspect the master cylinder reservoir cap diaphragm and the reservoir-to-master cylinder grommets for swelling, indicating brake fluid contamination.
3. If the brake fluid WAS contaminated with an oil-based or a silicone-based substance, indicated by fluid separation and/or a swollen master cylinder reservoir cap diaphragm and/or swollen reservoir-to-master cylinder grommets, perform the following:
  1. Remove ALL of the following components listed from the vehicle. Each component contains internal rubber seals/linings which have been contaminated by the contaminated brake fluid in the brake hydraulic system.

Refer to the procedures indicated:

- **Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (LHD) Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (RHD)**
  - **Front Brake Hose Replacement**
  - **Rear Brake Hose Replacement**
  - **Front Brake Caliper Replacement**
  - **Rear Brake Caliper Replacement**
2. Clean out all the hydraulic brake pipes using denatured alcohol or equivalent.
  3. Dry the brake pipes using non-lubricated, filtered air.
  4. Repair or replace ALL of the following components listed and install them to the vehicle. Each component contains internal rubber seals/linings which have been contaminated by the contaminated brake fluid in the brake hydraulic system.

Refer to the procedures indicated:

- Clean the brake master cylinder reservoir using denatured alcohol or equivalent, then dry the reservoir using non-lubricated, filtered air. Inspect the reservoir for cracks and/or damage and replace if necessary. Refer to [Master Cylinder Reservoir Replacement](#) .

Replace the brake master cylinder reservoir cap.

- **Front Brake Hose Replacement**
  - **Rear Brake Hose Replacement**
  - **Front Brake Caliper Overhaul** or **Front Brake Caliper Replacement**
  - **Rear Brake Caliper Overhaul** or **Rear Brake Caliper Replacement**
  - HBCi components
4. If the brake fluid was NOT contaminated with an oil-based or a silicone-based substance, but WAS contaminated with water or dirt, rust, corrosion, and/or brake dust, replace the brake master cylinder reservoir cap which may have allowed the moisture or particles to enter the hydraulic system.
  5. Fill the brake master cylinder reservoir to the maximum-fill level with Delco Supreme 11® (GM P/N 12377967) or equivalent DOT-3 brake fluid from a clean, sealed brake fluid container.
  6. Pressure bleed the hydraulic brake system. Begin the procedure with the pressure bleeder

reservoir filled to the maximum-fill level with the correct brake fluid as indicated. Refer to Hydraulic Brake System Bleeding (Manual) or Hydraulic Brake System Bleeding (Pressure).

#### HYDRAULIC BRAKE SYSTEM FLUSHING (WITH RPO BRM)

**CAUTION: Refer to DOT 4 BRAKE FLUID CAUTION**

**CAUTION: Refer to Brake Fluid Irritant Caution .**

**NOTE: Refer to Brake Fluid Effects on Paint and Electrical Components Notice .**

1. Inspect the brake fluid for the following conditions, indicating brake fluid contamination:
  - Fluid separation, indicating 2 types of fluid are present-A substance other than the recommended brake fluid has been introduced into the brake hydraulic system.
    - Swirled appearance-Oil-based substance
    - Layered appearance-Silicone-based substance
  - Fluid discoloration, indicating the presence of moisture or particles that have been introduced into the brake hydraulic system
    - Cloudy appearance-Moisture
    - Dark appearance/suspended particles in fluid-Dirt, rust, corrosion, brake dust
2. Inspect the master cylinder reservoir cap diaphragm and the reservoir-to-master cylinder grommets for swelling, indicating brake fluid contamination.
3. If the brake fluid WAS contaminated with an oil-based or a silicone-based substance, indicated by fluid separation and/or a swollen master cylinder reservoir cap diaphragm and/or swollen reservoir-to-master cylinder grommets, perform the following:
  1. Remove ALL of the following components listed from the vehicle. Each component contains internal rubber seals/linings which have been contaminated by the contaminated brake fluid in the brake hydraulic system.

Refer to the procedures indicated:

- Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (LHD) Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (RHD)



- **Front Brake Hose Replacement**
  - **Rear Brake Hose Replacement**
  - **Front Brake Caliper Replacement**
  - **Rear Brake Caliper Replacement**
2. Clean out all the hydraulic brake pipes using denatured alcohol or equivalent.
  3. Dry the brake pipes using non-lubricated, filtered air.
  4. Repair or replace ALL of the following components listed and install them to the vehicle. Each component contains internal rubber seals/linings which have been contaminated by the contaminated brake fluid in the brake hydraulic system.

Refer to the procedures indicated:

- Clean the brake master cylinder reservoir using denatured alcohol or equivalent, then dry the reservoir using non-lubricated, filtered air. Inspect the reservoir for cracks and/or damage and replace if necessary. Refer to [Master Cylinder Reservoir Replacement](#) .

Replace the brake master cylinder reservoir cap.

- **Front Brake Hose Replacement**
  - **Rear Brake Hose Replacement**
  - **Front Brake Caliper Overhaul** or **Front Brake Caliper Replacement**
  - **Rear Brake Caliper Overhaul** or **Rear Brake Caliper Replacement**
  - HBCi components
4. If the brake fluid was NOT contaminated with an oil-based or a silicone-based substance, but WAS contaminated with water or dirt, rust, corrosion, and/or brake dust, replace the brake master cylinder reservoir cap which may have allowed the moisture or particles to enter the hydraulic system.
  5. Fill the brake master cylinder reservoir to the maximum-fill level with brake and clutch fluid Super DOT-4, GM P/N 88958860 (Canadian P/N 88901244) or equivalent DOT-4 brake fluid from a clean, sealed brake fluid container.
  6. Pressure bleed the hydraulic brake system. Begin the procedure with the pressure bleeder reservoir filled to the maximum-fill level with the correct brake fluid as indicated. Refer to **Hydraulic Brake System Bleeding (Manual)** or **Hydraulic Brake System Bleeding (Pressure)**.

**Special Tools**

**CH-47830** Holding Fixture

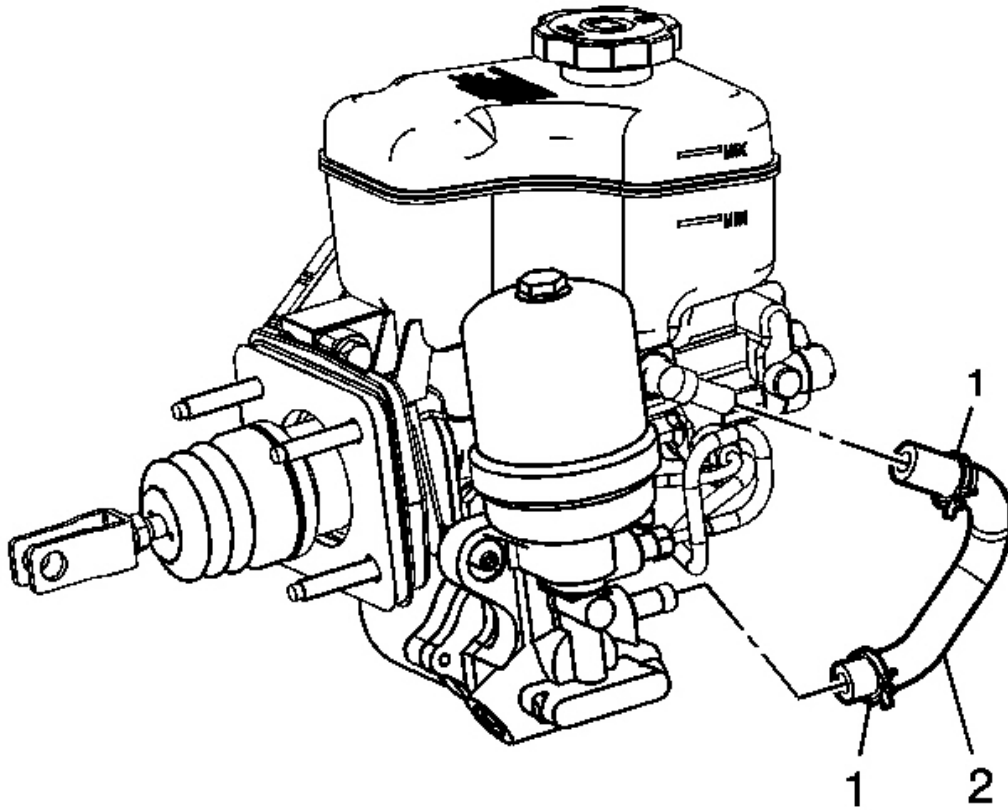
**Removal Procedure**

**CAUTION: Refer to Brake Fluid Irritant Caution .**

1. Using a suitable tool, remove the brake fluid from the master cylinder reservoir.

Discard the brake fluid into an approved container.

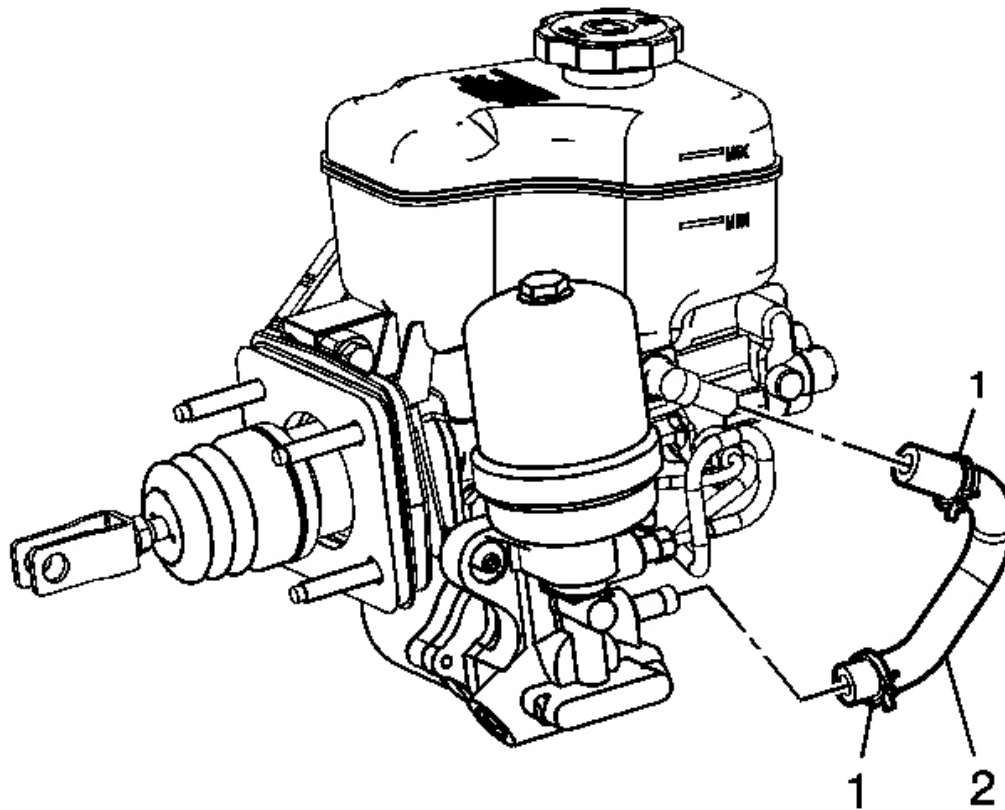
2. Remove the brake master cylinder and power brake booster assembly. Refer to **Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (LHD)** or **Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (RHD)** .
3. Install the **CH-47830** to the master cylinder assembly.
4. Position the **CH-47830** with the master cylinder assembly in a vise.



**Fig. 46: Identifying Brake Booster Inlet/Outlet Hoses**  
Courtesy of GENERAL MOTORS CORP.

5. Release the power brake booster inlet hose clamps (1).
6. Remove the power brake booster inlet hose (2).

**Installation Procedure**



**Fig. 47: Identifying Brake Booster Inlet/Outlet Hoses**  
Courtesy of GENERAL MOTORS CORP.

1. Install the power brake booster inlet hose (2).
2. Install the power brake booster inlet hose clamps (1).
3. Remove the master cylinder assembly from the **CH-47830** .
4. Install the brake master cylinder and power brake booster assembly. Refer to **Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (LHD)** or **Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (RHD)** .

#### POWER BRAKE BOOSTER OUTLET FRONT PIPE REPLACEMENT

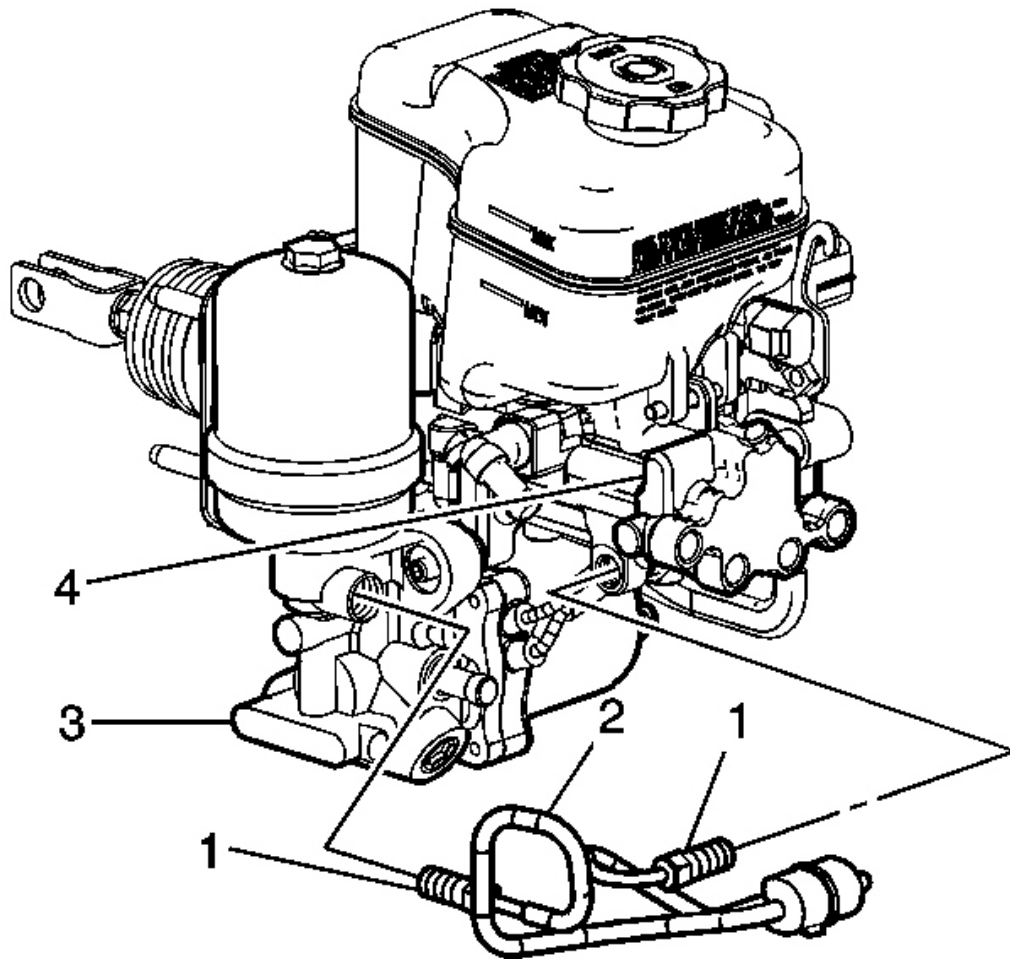
##### Special Tools

## CH-47830 Holding Fixture

### Removal Procedure

**CAUTION: Refer to Brake Fluid Irritant Caution .**

1. Remove the brake master cylinder and power brake booster assembly. Refer to **Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (LHD)** or **Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (RHD)** .
2. Install the **CH-47830** to the master cylinder assembly.
3. Position the **CH-47830** with the master cylinder assembly in a vise.

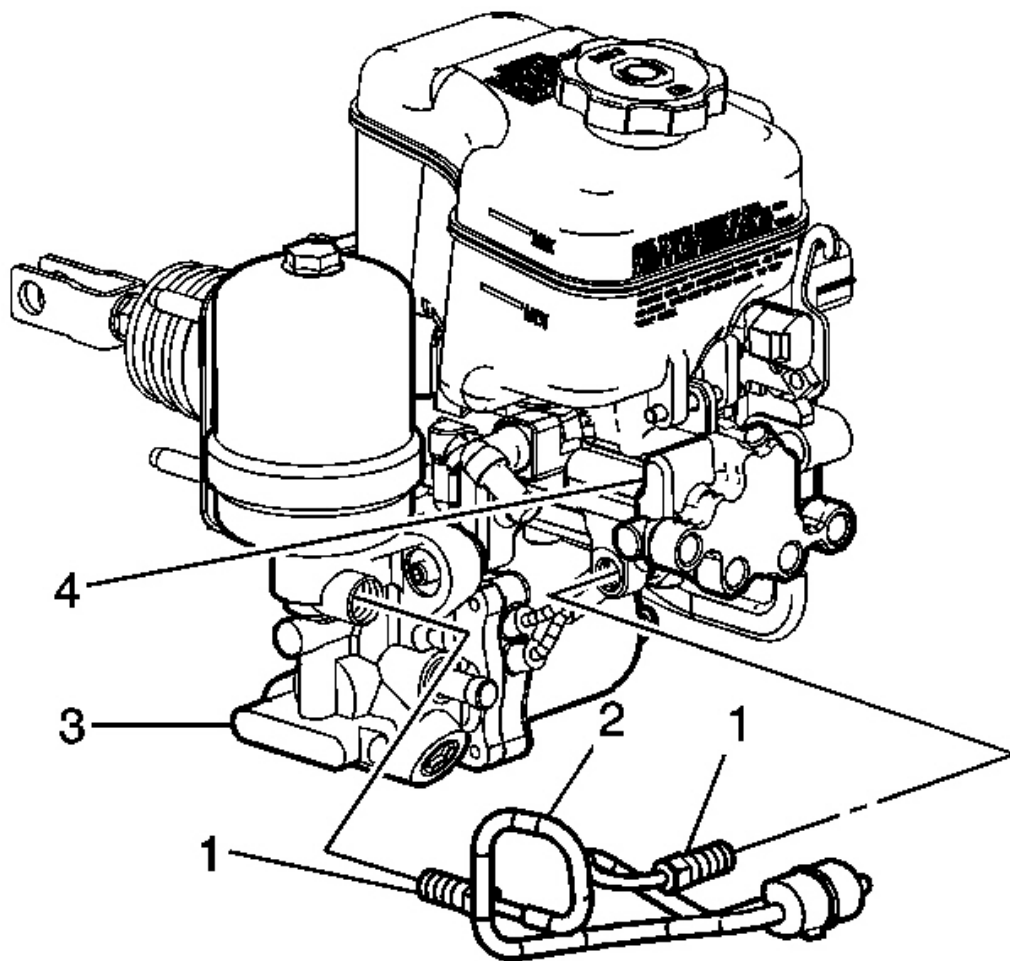


**Fig. 48: View Of Brake Booster Inlet/Outlet Pipes**  
Courtesy of GENERAL MOTORS CORP.

4. Disconnect the power brake booster outlet pipe fittings (1).
5. Remove the power brake booster outlet pipe (2) from the hydraulic brake booster pump (3) and the master cylinder (4).

**Installation Procedure**

**NOTE:** Refer to Fastener Notice .



**Fig. 49: View Of Brake Booster Inlet/Outlet Pipes**  
Courtesy of GENERAL MOTORS CORP.

1. Install the brake pipe fittings (1) of the power brake booster outlet front pipe (2) to the hydraulic brake booster pump (3) and the brake master cylinder (4).

**Tighten:** Tighten the brake pipe fittings to 15 N.m (11 lb ft).

2. Remove the **CH-47830** from the master cylinder assembly.
3. Install the brake master cylinder and power brake booster assembly. Refer to **Brake Master Cylinder with Power Brake Booster and Chassis Control Module**

**Replacement (LHD) or Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (RHD) .**

**POWER BRAKE BOOSTER REPLACEMENT**

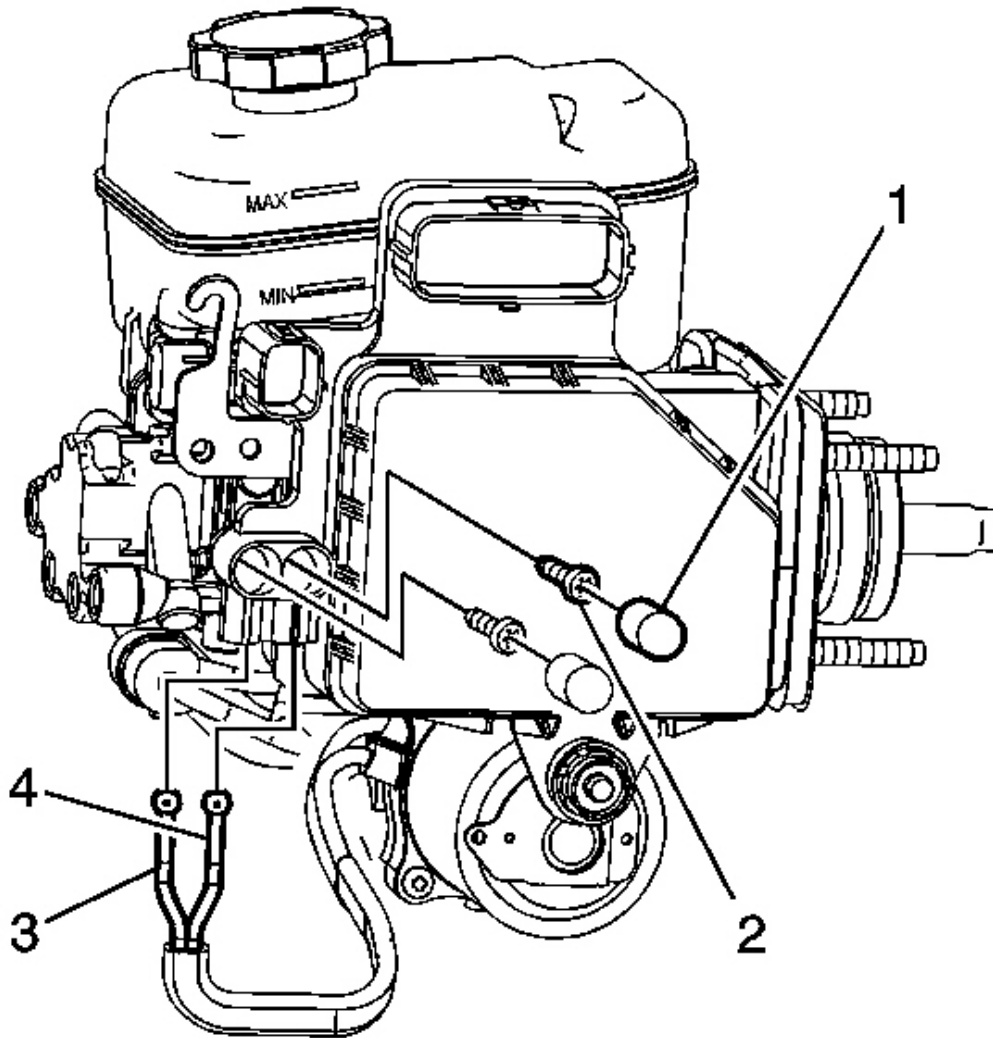
**Special Tools**

**CH-47830** Holding Fixture

**Removal Procedure**

1. Remove the brake master cylinder and power brake booster assembly. Refer to **Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (LHD) or Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (RHD) .**
2. Install the **CH-47830** to the master cylinder assembly.
3. Position the **CH-47830** with the master cylinder assembly in a vise.
4. Remove the hydraulic brake booster accumulator. Refer to **Hydraulic Brake Booster Accumulator Replacement.**
5. Remove the power brake booster inlet hose. Refer to **Power Brake Booster Inlet Hose Replacement.**
6. Remove the power brake booster outlet front pipe. Refer to **Power Brake Booster Outlet Front Pipe Replacement.**





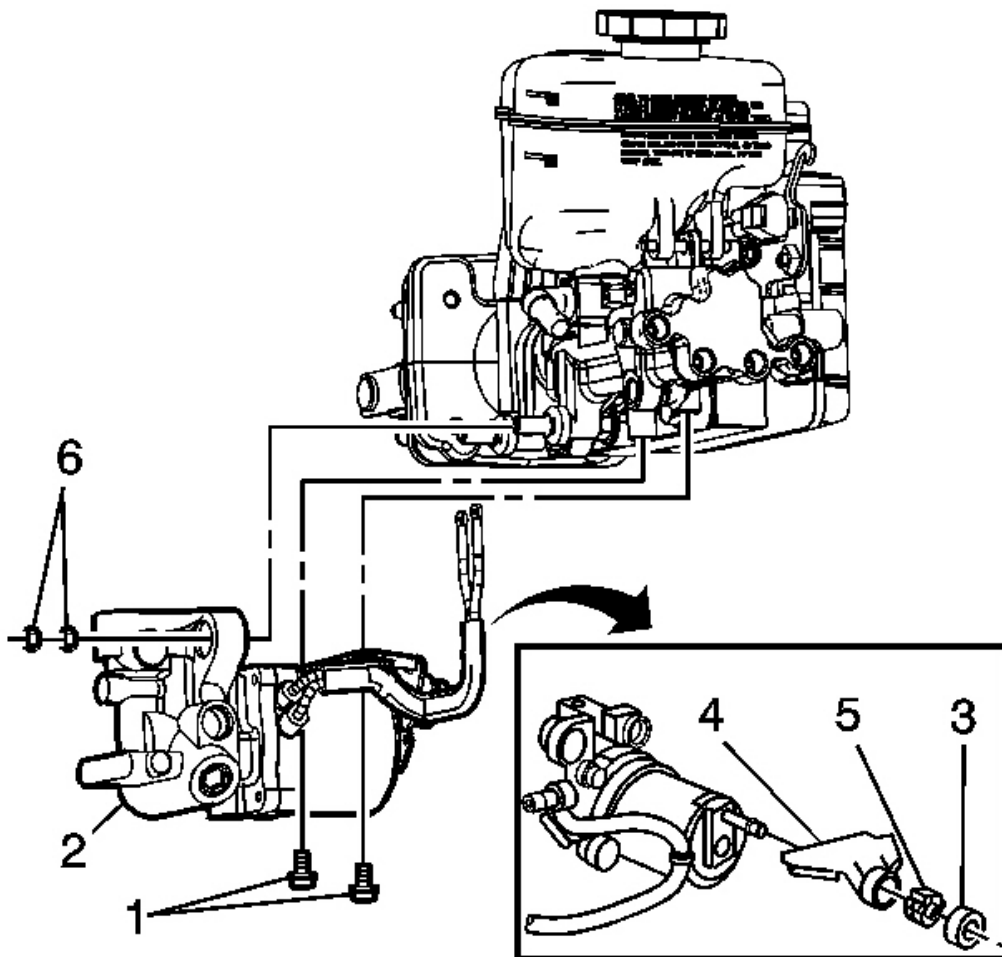
**Fig. 50: Identifying Power Brake Booster Pump Motor, Wires & Retainers**  
Courtesy of GENERAL MOTORS CORP.

7. Remove the plugs (1).
8. Remove the power brake booster pump motor wire retaining screws (2).

**IMPORTANT:** Note the position the black negative wire and the red positive wire. The black negative wire is toward the front of the

vehicle. The red positive wire is facing the rear of the vehicle.

9. Remove the black negative wire (3).
10. Remove the red positive wire (4).



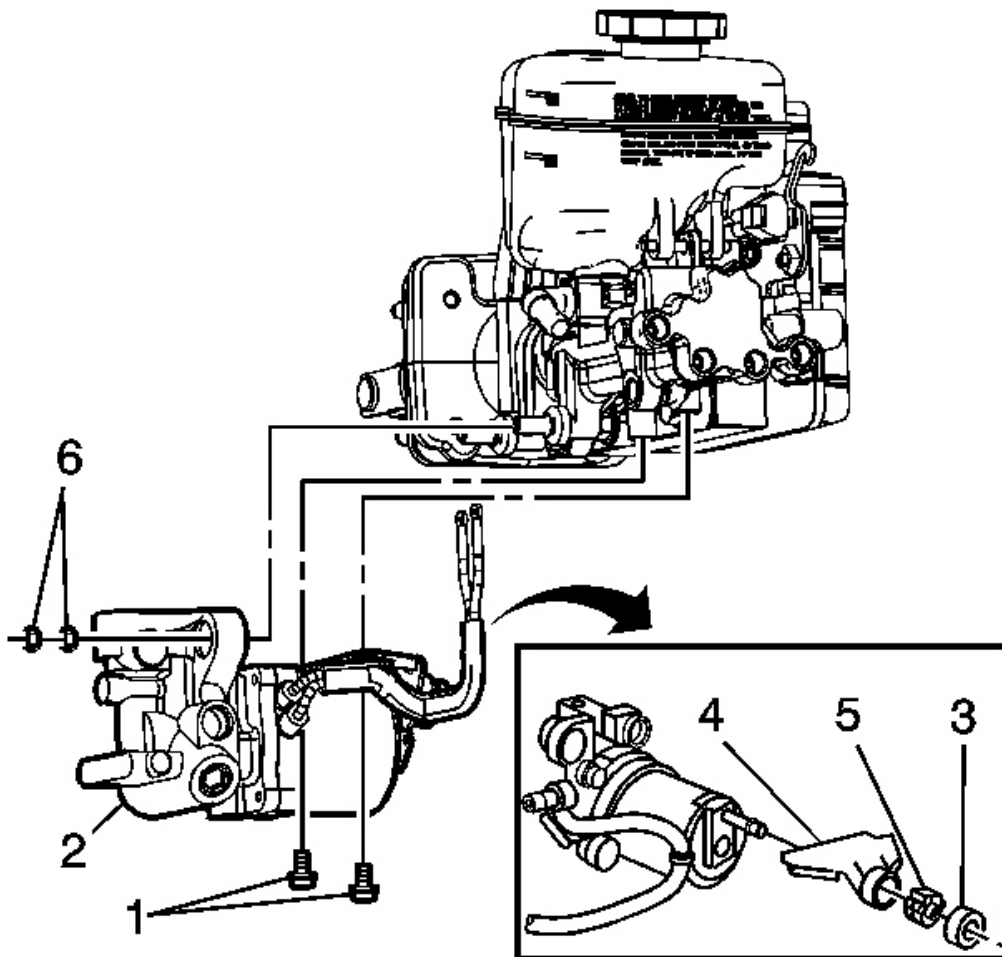
**Fig. 51: Identifying Power Brake Booster Pump Bolts**  
Courtesy of GENERAL MOTORS CORP.

11. Remove the power brake booster pump bolts (1).
12. Remove the power brake booster pump (2).

**IMPORTANT: DO NOT reuse the retainer ring. Replace with a NEW retainer ring.**

13. Remove the retainer ring (3) on the mounting bracket (4) by breaking the retaining ring.
14. Remove the mounting bracket (4).
15. If damaged, replace the dampers (5) and (6).

#### Installation Procedure



**Fig. 52: Identifying Power Brake Booster Pump Bolts**  
Courtesy of GENERAL MOTORS CORP.

## 2007 Hummer H3

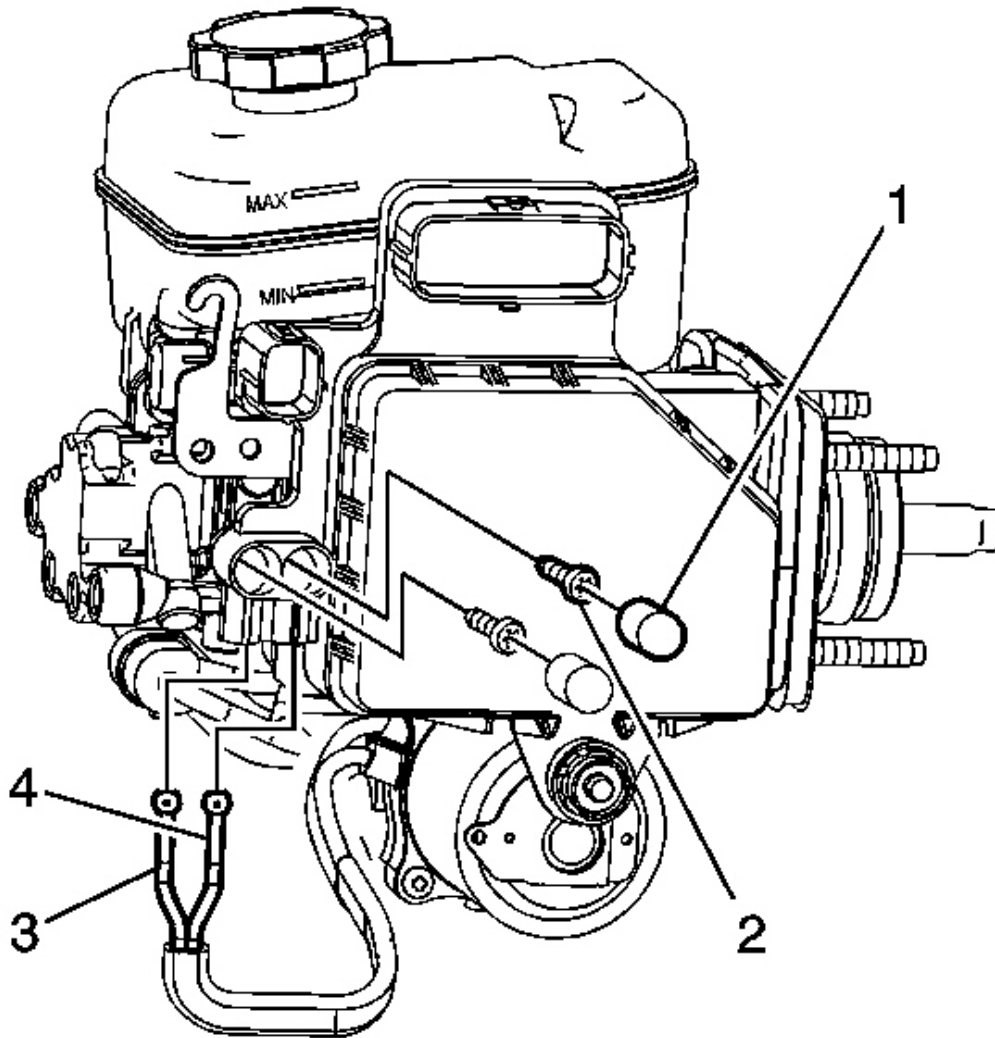
### 2007 BRAKES Hydraulic Brakes - H3

1. Install the dampers (5) and (6), if removed.
2. Install the mounting bracket (4) on the power brake booster pump (2).
3. Install a NEW retainer ring (3).
4. Install the power brake booster pump.

**NOTE:** Refer to Fastener Notice .

5. Install the power brake booster pump bolts (1).

**Tighten:** Tighten the bolts to 8 N.m (71 lb in).



**Fig. 53: Identifying Power Brake Booster Pump Motor, Wires & Retainers**  
Courtesy of GENERAL MOTORS CORP.

6. Install the red positive wire (4).
7. Install the black negative wire (3).
8. Install the power brake booster pump motor wire retaining screws (2).

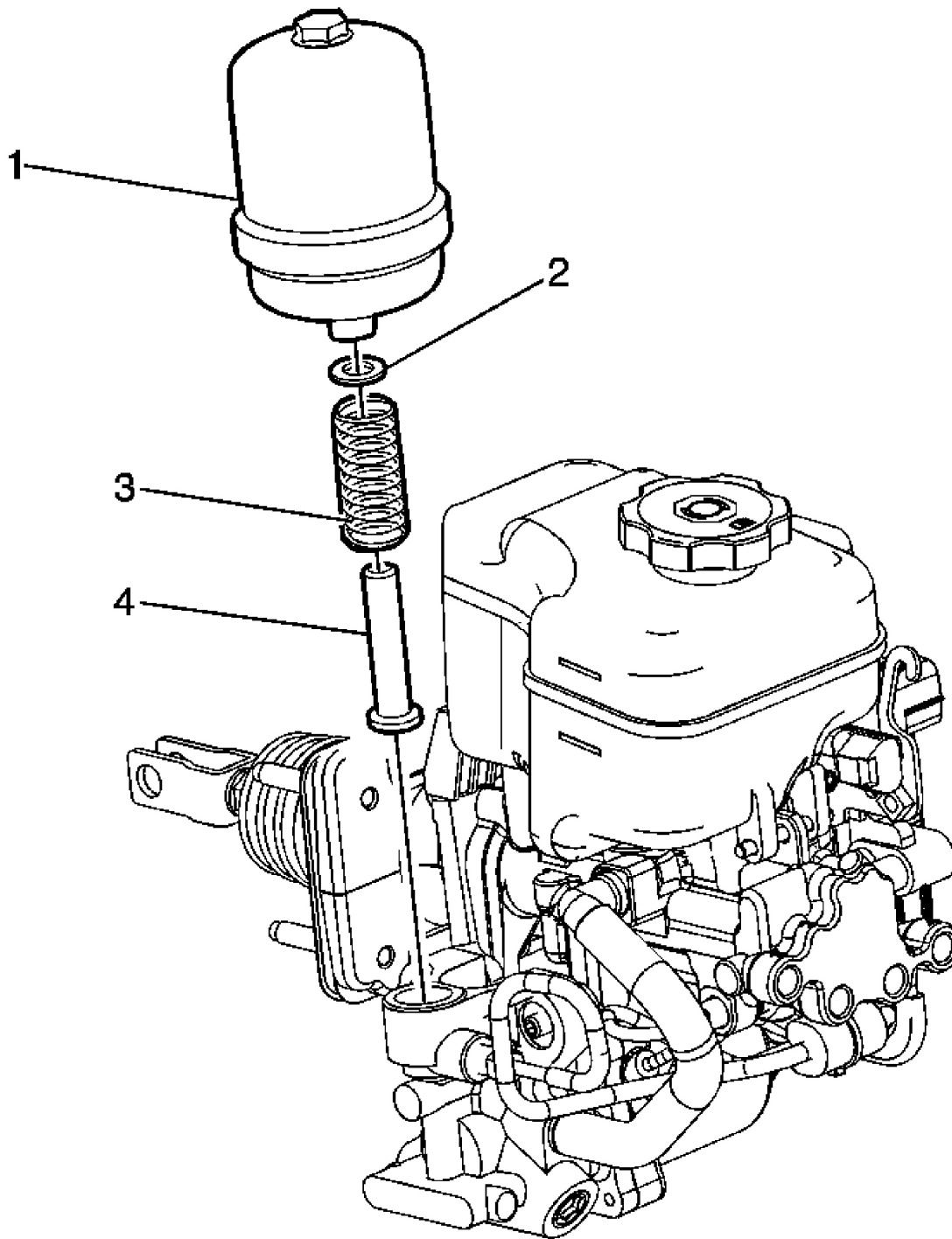
**Tighten:** Tighten the screws to 3 N.m (27 lb in).

## 2007 Hummer H3

### 2007 BRAKES Hydraulic Brakes - H3

9. Install the plugs (1).
10. Install the power brake booster outlet front pipe. Refer to **Power Brake Booster Outlet Front Pipe Replacement**.
11. Install the power brake booster inlet hose. Refer to **Power Brake Booster Inlet Hose Replacement**.
12. Install the hydraulic brake booster accumulator (1). Refer to **Hydraulic Brake Booster Accumulator Replacement**.
13. Remove the **CH-47830** from the master cylinder assembly.
14. Install the brake master cylinder and power brake booster assembly. Refer to **Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (LHD)** or **Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (RHD)** .

**HYDRAULIC BRAKE BOOSTER ACCUMULATOR REPLACEMENT (WITHOUT RPO BRM)**



**Fig. 54: Hydraulic Brake Booster Accumulator Replacement**  
Courtesy of GENERAL MOTORS CORP.

**Hydraulic Brake Booster Accumulator Replacement**

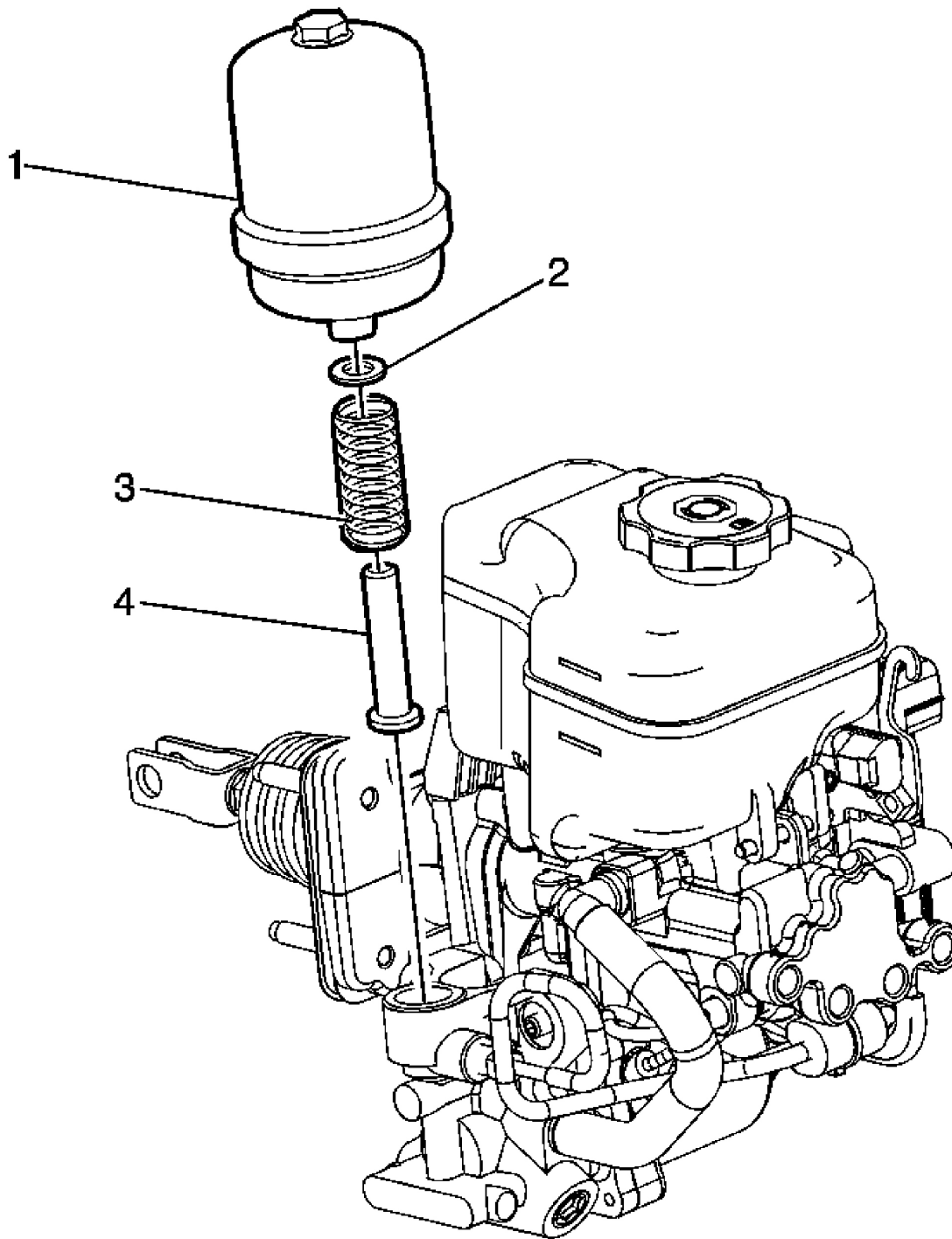
**2007 Hummer H3**

2007 BRAKES Hydraulic Brakes - H3

<b>Callout</b>	<b>Component Name</b>
<p><b>CAUTION:</b> Refer to <u>Bleed Procedure Caution</u> .</p> <p><b>CAUTION:</b> Refer to <u>Brake Fluid Irritant Caution</u> .</p> <p><b>NOTE:</b> Refer to <u>Brake Fluid Effects on Paint and Electrical Components Notice</u> .</p> <p><b>NOTE:</b> Refer to <u>Fastener Notice</u> .</p> <p><b>Fastener Tightening Specifications:</b> Refer to <u>Fastener Tightening Specifications.Preliminary Procedure:</u> Remove the brake master cylinder assembly with power brake booster and chassis control module. Refer to <u>Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (LHD)</u> or <u>Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (RHD)</u> .</p>	
1	<p>Power Brake Booster Accumulator  <b>Tip:</b> Discard the accumulator properly by cutting the accumulator in half and draining the brake fluid. Refer to <u>Power Brake Booster Pump Fluid Accumulator Disposal</u>.  <b>Tighten:</b> 55 N.m (41 lb ft)</p>
2	<p>Power Brake Booster Pump Fluid Accumulator Seal  <b>Tip:</b> Lubricate with Delco®, GM P/N 12377967 (Canadian P/N 992667) or equivalent DOT-3 brake fluid from a clean, sealed brake fluid container.</p>
3	Power Brake Booster Pump Fluid Accumulator Fitting Spring
4	Power Brake Booster Pump Fluid Accumulator Fitting

**HYDRAULIC BRAKE BOOSTER ACCUMULATOR REPLACEMENT (WITH RPO BRM)**





**Fig. 55: Hydraulic Brake Booster Accumulator Replacement**  
Courtesy of GENERAL MOTORS CORP.

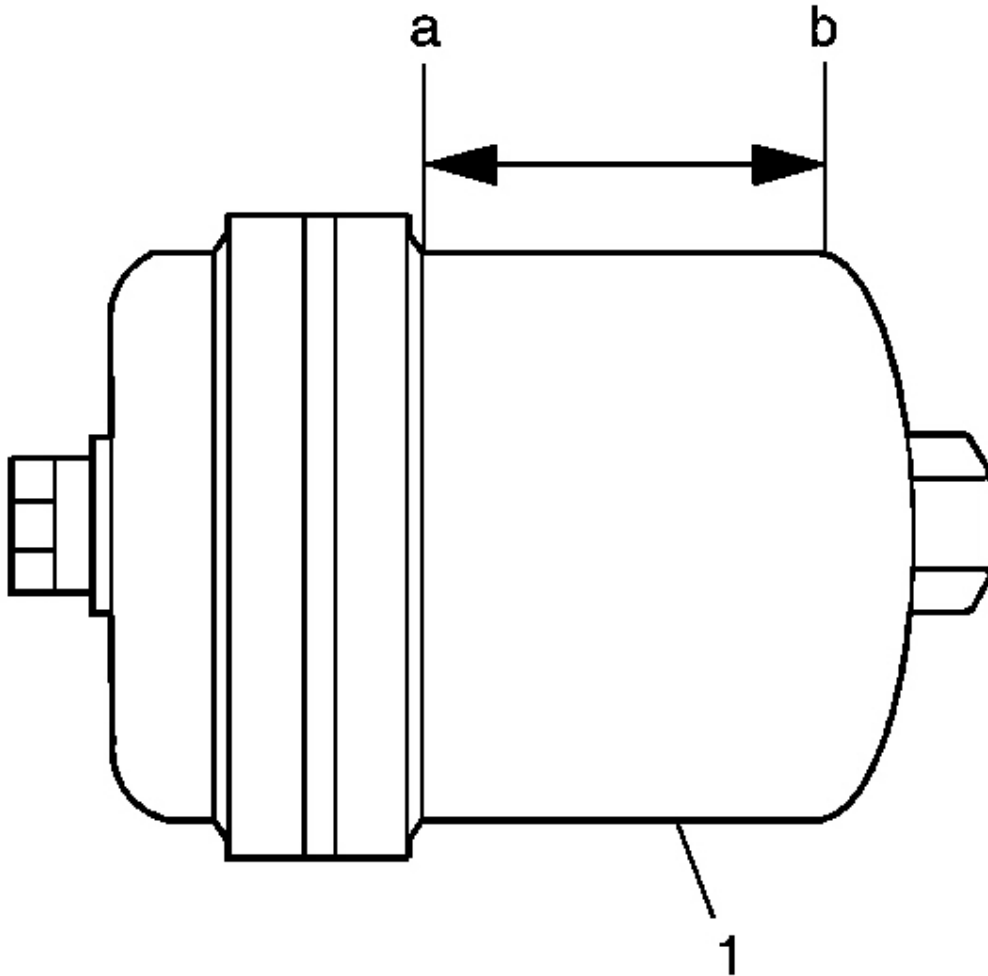
**Hydraulic Brake Booster Accumulator Replacement**

## 2007 Hummer H3

2007 BRAKES Hydraulic Brakes - H3

Callout	Component Name
<p><b>CAUTION:</b> Refer to <u>Bleed Procedure Caution</u> .</p> <p><b>CAUTION:</b> Refer to <u>Brake Fluid Irritant Caution</u> .</p> <p><b>NOTE:</b> Refer to <u>Brake Fluid Effects on Paint and Electrical Components Notice</u> .</p> <p><b>NOTE:</b> Refer to <u>Fastener Notice</u> .</p> <p><b>Fastener Tightening Specifications:</b> Refer to <u>Fastener Tightening Specifications.Preliminary Procedure:</u> Remove the brake master cylinder assembly with power brake booster and chassis control module. Refer to <u>Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (LHD)</u> or <u>Brake Master Cylinder with Power Brake Booster and Chassis Control Module Replacement (RHD)</u> .</p>	
1	<p>Power Brake Booster Accumulator  <b>Tip:</b> Discard the accumulator properly by cutting the accumulator in half and draining the brake fluid. Refer to <u>Power Brake Booster Pump Fluid Accumulator Disposal</u>.</p> <p><b>Tighten:</b> 55 N.m (41 lb ft)</p>
2	<p>Power Brake Booster Pump Fluid Accumulator Seal  <b>Tip:</b> Lubricate with Super DOT-4, GM P/N 88958860 (Canadian P/N 88901244) or equivalent DOT-4 brake fluid from a clean, sealed brake fluid container.</p>
3	Power Brake Booster Pump Fluid Accumulator Fitting Spring
4	Power Brake Booster Pump Fluid Accumulator Fitting

### POWER BRAKE BOOSTER PUMP FLUID ACCUMULATOR DISPOSAL



**Fig. 56: Power Brake Booster Pump Fluid Accumulator Disposal**  
 Courtesy of GENERAL MOTORS CORP.

**Power Brake Booster Pump Fluid Accumulator Disposal**

Callout	Component Name
<p><b>CAUTION:</b>                      Refer to <u>Safety Glasses Caution</u> .</p>	
<p><b>CAUTION:</b>                      Refer to <u>Brake Fluid Irritant Caution</u> .</p>	

**NOTE:**

Refer to Brake Fluid Effects on Paint and Electrical Components Notice .

**Fastener Tightening Specifications:** Refer to Fastener Tightening Specifications.  
**Preliminary Procedure:** Remove the power brake booster accumulator.  
 Refer to Hydraulic Brake Booster Accumulator Replacement.

1	Accumulator, Power Brake Booster <b>Tip:</b> <ol style="list-style-type: none"> <li>1. Cover the accumulator with a cloth.</li> <li>2. Using a hand saw, cut the accumulator body between A and B in order to discharge the gas and fluid inside.</li> <li>3. Discard both accumulator halves in the proper waste container.</li> </ol>
---	--

## DESCRIPTION AND OPERATION

### BRAKE WARNING SYSTEM DESCRIPTION AND OPERATION

#### Brake Warning Indicator

The instrument panel cluster (IPC) illuminates the brake warning indicator when one or more of the following occurs:

- The body control module (BCM) detects that the park brake is engaged. The IPC receives a class 2 message from the BCM requesting illumination.
- The electronic brake control module (EBCM) detects a low brake fluid condition. The IPC receives a class 2 message from the EBCM requesting illumination.
- The EBCM detects an ABS malfunction which disables dynamic rear proportioning (DRP). The IPC receives a class 2 message from the EBCM requesting illumination.
- The IPC performs the bulb check at the start of each ignition cycle. The brake warning indicator illuminates for approximately 3 seconds before turning OFF.
- The IPC detects a loss of class 2 communications with the BCM or with the EBCM.

### HYDRAULIC BRAKE SYSTEM DESCRIPTION AND OPERATION

#### System Component Description

The hydraulic brake system consists of the following:

## **Hydraulic Brake Master Cylinder Fluid Reservoir**

Contains supply of brake fluid for the hydraulic brake system.

## **Hydraulic Brake Master Cylinder**

Converts mechanical input force into hydraulic output pressure.

Hydraulic output pressure is distributed from the master cylinder through two hydraulic circuits, supplying front-rear opposed wheel apply circuits.

## **Hydraulic Brake Pressure Balance Control System**

Regulates brake fluid pressure delivered to hydraulic brake wheel circuits, in order to control the distribution of braking force.

Pressure balance control is achieved through dynamic rear proportioning (DRP), which is a function of the ABS modulator. Refer to [ABS Description and Operation](#) for specific information on the operation of DRP.

## **Hydraulic Brake Pipes and Flexible Brake Hoses**

Carries brake fluid to and from hydraulic brake system components.

## **Hydraulic Brake Wheel Apply Components**

Converts hydraulic input pressure into mechanical output force.

### **System Operation**

Mechanical force is converted into hydraulic pressure by the master cylinder, regulated to meet braking system demands by the pressure balance control system and delivered to the hydraulic brake wheel circuits by the pipes and flexible hoses. The wheel apply components then convert the hydraulic pressure back into mechanical force which presses linings against rotating brake system components.

## **BRAKE ASSIST SYSTEM DESCRIPTION AND OPERATION**

### **System Component Description**

The brake assist system consists of the following:

### **Brake Pedal**

## 2007 Hummer H3

### 2007 BRAKES Hydraulic Brakes - H3

Receives, multiplies and transfers brake system input force from driver.

#### **Brake Pedal Pushrod**

Transfers multiplied input force received from brake pedal to brake booster.

#### **Hydraulic Brake Booster**

Uses accumulator fluid pressure created by the pump and motor to decrease effort required by driver when applying brake system input force.

When brake system input force is applied, pressurized brake fluid is admitted to the rear chamber of an apply piston, providing a decrease in brake pedal effort required. When input force is removed, pressurized brake fluid is blocked off from the piston.

#### **System Operation**

Brake system input force is multiplied by the brake pedal and transferred by the pedal pushrod to the hydraulic brake master cylinder. Effort required to apply the brake system is reduced by the hydraulic brake booster.

### **SPECIAL TOOLS AND EQUIPMENT**

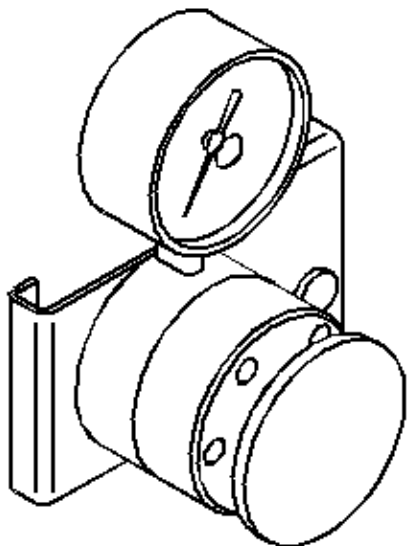
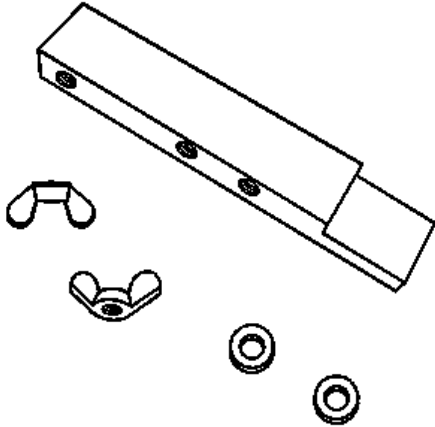
#### **SPECIAL TOOLS**

##### **Special Tools**

<b>Illustrations</b>	<b>Tool Number/Description</b>
	CH-47830 Holding Fixture

2007 Hummer H3

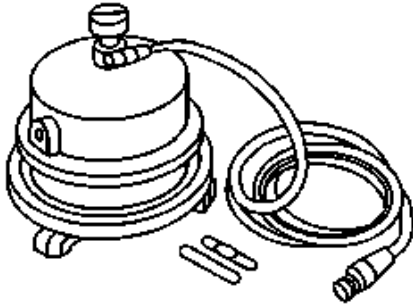
2007 BRAKES Hydraulic Brakes - H3



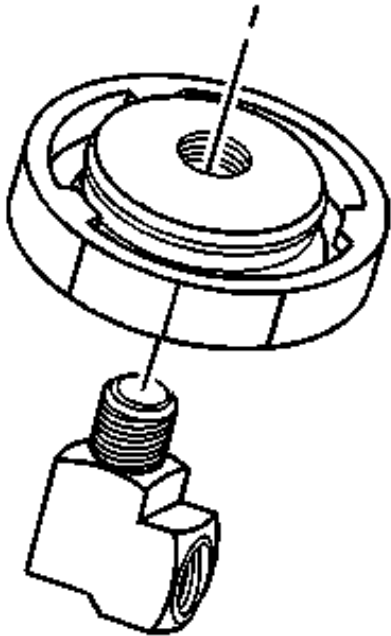
J-28662  
Brake Pedal Effort Gage

2007 Hummer H3

2007 BRAKES Hydraulic Brakes - H3



J-29532  
Diaphragm Pressure Bleeder

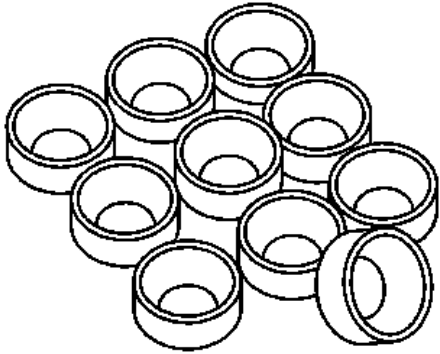


J-35589-A  
Master Cylinder Bleeder Adapter



2007 Hummer H3

2007 BRAKES Hydraulic Brakes - H3



J-44894-A  
Brake Bleeder Adapter