

## SECTION I - TROUBLE SHOOTING & GUIDELINES

### PART I - BLEEDING PROCEDURES FOR HYDRAULIC BRAKE BOOSTER SYSTEMS

**CONTENTS, PART I - Consists of the bleeding procedure for the Hydraulic Brake Booster only.**

The Hydraulic Brake Booster works in conjunction with the Power Steering Pump and the Power Steering Gear.

**CONTENTS, PART II - Consists of bleeding procedure for the Brake System.**

The Brake System consists of the Master Cylinder and the Wheel Cylinders.



The Hydraulic Booster System uses power steering fluid.

#### **IMPORTANT!**

The Brake System uses hydraulic brake fluid.

**THESE SYSTEMS ARE SEPERATE!  
USE OF THE WRONG FLUID TYPE WILL CAUSE SEAL DAMAGE TO OCCUR.  
DO NOT MIX THE TWO SYSTEMS!**

### **PART I**

#### **BLEEDING PROCEDURES FOR THE HYDRAULIC BRAKE BOOSTER**

1. Fill power steering pump reservoir with power steering fluid.
2. Start engine and run for approximately two seconds then shut off engine.
3. Check fluid level; add as required.
4. Repeat steps two and three until (power steering reservoir) fluid retains constant level.
5. Raise the front of the vehicle until the height has cleared the tires.
  - 5-a. Run engine at 1000 to 1500rpm.
  - 5-b. Depress brake pedal several times.
  - 5-c. Turn steering right and left, making light contact with wheel stops.
6. Turn the engine off, recheck reservoir fluid, and add if needed.
7. Lower the vehicle and repeat steps 5-a, 5-b, 5-c and 6.
8. If pedal is up and firm, the vehicle is ready for road testing.
9. If reservoir fluid is extremely foamy, let the vehicle stand with engine off for one hour, then recheck.

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## PART II - ALL VACUUM UNITS - BLEEDING PROCEDURES

IT IS RECOMMENDED THAT ALL BRAKE BLEEDING BE PERFORMED WITH A PRESSURE BLEEDER. IF ONE IS NOT AVAILABLE, USE THE FOLLOWING PROCEDURE:

### FRAME MOUNTED - 2 LINE UNITS.

#### DO NOT RUN THE ENGINE WHILE PERFORMING BLEEDING OPERATIONS.

1. **Fill the reservoir** of the new, rebuilt, or flushed out master cylinder with new, clean, heavy duty brake fluid.
2. **During bleeding** check frequently to make certain that fluid in master cylinder reservoir maintains at least 1/2 inch of fluid. Failure to do so may require starting all over.
3. **Pre-bleed master cylinder** by loosening tube nut and slowly pump master cylinder until fluid runs clear. Retighten nut.
4. **Bleed power unit** as required. Pump pedal slowly to avoid creating air bubbles in fluid. Bleeder screws should be opened on the pressure stroke of the master cylinder and closed on the return stroke.
5. **Continue** around vehicle wheels until all bleeder screws run clear.
6. **Refill master cylinder reservoir** and **slowly** pump pedal with no bleeders open. This allows master cylinder to evacuate any air bubbles that may remain in cylinder bore. Air will escape through compensating port in the bottom of the reservoir.
7. **Start engine** and pump pedal two or three times. Then allow time for fluid to return to the reservoir. If pedal is firm but has excessive stroke, adjust brakes at all wheels. If pedal is "spongy" it still has air in the hydraulic system. See step 8.
8. **Some vehicles** may require "serge" bleeding. To accomplish this, have engine running at idle and make a firm pedal application. Open and close wheel cylinder bleeder screws very quickly. Do not let the pedal go clear to the floor. Repeat this step at each wheel. Remember to check brake fluid level in reservoir.
9. **Proceed** with road test.

**FRAME MOUNTED: 3 LINE UNITS.** Three line units, (with third line connected to master cylinder reservoir) can not be properly bled without a pressure bleeder. Set bleeder pressure at 50 to 60 P.S.I. Be sure reservoir on master cylinder is filled above third line connection port, Do not run engine while bleeding.

**FIREWALL MOUNTED (PUSH THROUGH BOOSTERS) ALL MAKES.** The bleeding procedure is essentially the same except that the engine should be running at the very beginning and through out the entire process (if a pressure bleeder is not used).