

1 3/4 inch over 7/8 inch with High Pressure Pilot Relief Valve
 1 3/4 inch over 1 inch with High Pressure Pilot Relief Valve
 1 3/4 inch over 1 1/8 inch with High Pressure Pilot Relief Valve

Two-stage MASTER CYLINDER



Service Instructions

DISASSEMBLY

(Refer to Figure 1)

NOTE

Most repair kits include a check valve (7), spring (8), and valve seat (6), but not all master cylinders use them. Notice what type master cylinder you have and replace these parts only if your master cylinder uses them.

1. Drain fluid from unit before disassembling.
2. Remove upper tube nut on tubing assembly (28) from fitting (29).
3. Remove line bolt (1), gaskets (2 & 4) and fitting block (3). Tubing assembly (28) need not be removed from fitting block (3).
4. Remove end plug (5). Several parts should follow end plug as it is removed due to tension of spring (12).

CAUTION

End plug is under tension of spring (12).

5. Remove spring (8), check valve (7), and seat (6) from end plug (5). **NOTE: Not all cylinders use spring (8), check valve (7), or seat (6).**
6. Retainer assembly (10) should follow end plug (5) as it is removed. Remove o-ring (11) from housing (22).
7. Remove spring (12) from housing (22).
8. Remove piston assembly (21) from housing (22) by pushing on piston assembly with a wooden dowel from the small diameter end of housing.
9. Remove cups (18 & 20) from piston (19). **NOTE: When removing cups be careful not to scratch or mar piston.**
10. Depress piston (14) and remove retaining ring (13). Hold firmly, spring (17) will force piston (14) out of piston (19) bore. Remove cup (15) from piston.
11. Remove retainer (16) and spring (17).
12. Remove relief valve assembly (27) from housing (22). Remove end cap (26). Remove o-ring (25) from end cap. **NOTE: End cap is under tension of spring (24).**
13. Remove spring (24).
14. Remove filler cap (31) and gasket (30) from housing (22).

ASSEMBLY

(Refer to Figure 1)

LUBRICATE ALL RUBBER COMPONENTS FROM REPAIR KIT WITH CLEAN TYPE FLUID USED IN THE SYSTEM.

1. Clean cylinder bore and all parts thoroughly in clean system fluid.
2. Install retainer (16) on end of spring (17). Install spring, large end first, into piston (19).
3. Install new cup (15) on piston (14).
4. Insert piston (14) into piston (19) with cup (15) against retainer (16). Depress piston and install new retaining ring (13).
5. Install new cup (18) and new cup (20) on piston (19). **NOTE: Be careful not to scratch or mar pistons.**
6. Install piston assembly (21) into housing (22). Note direction of piston assembly.

continued . . .

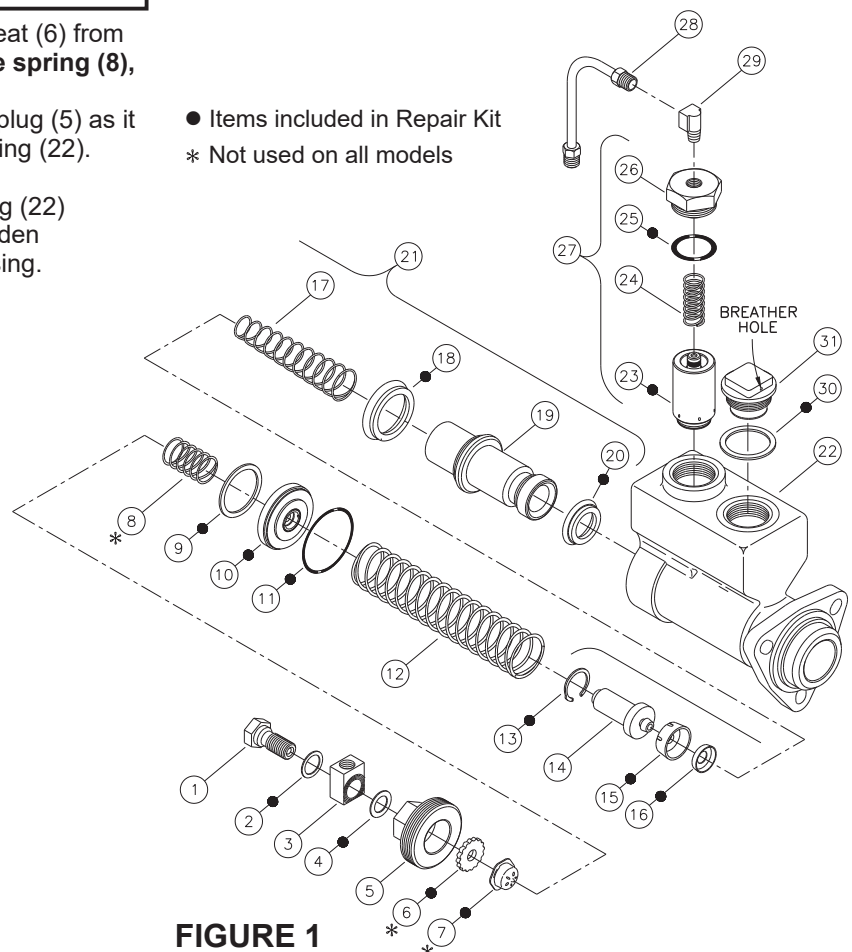


FIGURE 1

7. Install spring (12) over piston assembly (21).
8. Install new o-ring (11) in housing (22) and new seal (9) on new retainer assembly (10). Position retainer assembly (10) on spring (12). Note direction of retainer assembly (10).
9. Lubricate the threads on end plug (5). Assemble new seat (6), new check valve (7), and new spring (8) between retainer assembly (10) and end plug (5).
NOTE: Not all models use seat (6), check valve (7), or spring (8).
10. Carefully guide retainer assembly (10) into housing bore and start end plug (5) threads by hand. Torque end plug (5) to approximately 67.8-108.5 N·m (50-80 ft·lb).
11. Insert piston and body assembly (23) into housing (22).
12. Install new spring (24).
13. Install new o-ring (25) on end cap (26).
14. Install end cap (26) into housing (22) and torque 88.1-101.7 N·m (65-75 lb·ft).
15. Assemble new gaskets (2 & 4), fitting block (3) and line bolt (1) into end plug (5). Torque line bolt 47.5-61.0 N·m (35-45 lb·ft). **NOTE: Hold fitting block (3) in upright fixed position while tightening line bolt.**
16. Install upper tube nut on tubing assembly (28) into fitting (29). Torque upper and lower tube nuts 12.2-20.3 N·m (9-15 lb·ft).
17. **NOTE: Before installing filler plug (31) be sure the filler plug breather hole is free of all contaminants. Use air pressure to clean and dry this hole.** Install new gasket (30) and filler plug (31) on housing (22).
18. Install unit on vehicle and connect fluid lines. Connect push rod. Fill reservoir and bleed system of air. See form 81-001-002 instructions to bleed this master cylinder. Refer to vehicle manufacturer specifications to bleed vehicle brake system. Tighten fittings if leaks occur. Make several applications to be sure brake valve is working properly. **NOTE: All fittings must be inspected for leaks and tightened if leaks occur.**
19. After bleeding is completed, fill reservoir to within 12.7 mm (0.50 in) of top. Torque filler plug (26) 33.9-40.7 N·m (25-30 lb·ft).

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