

# MASTER CYLINDER



## Service Instructions

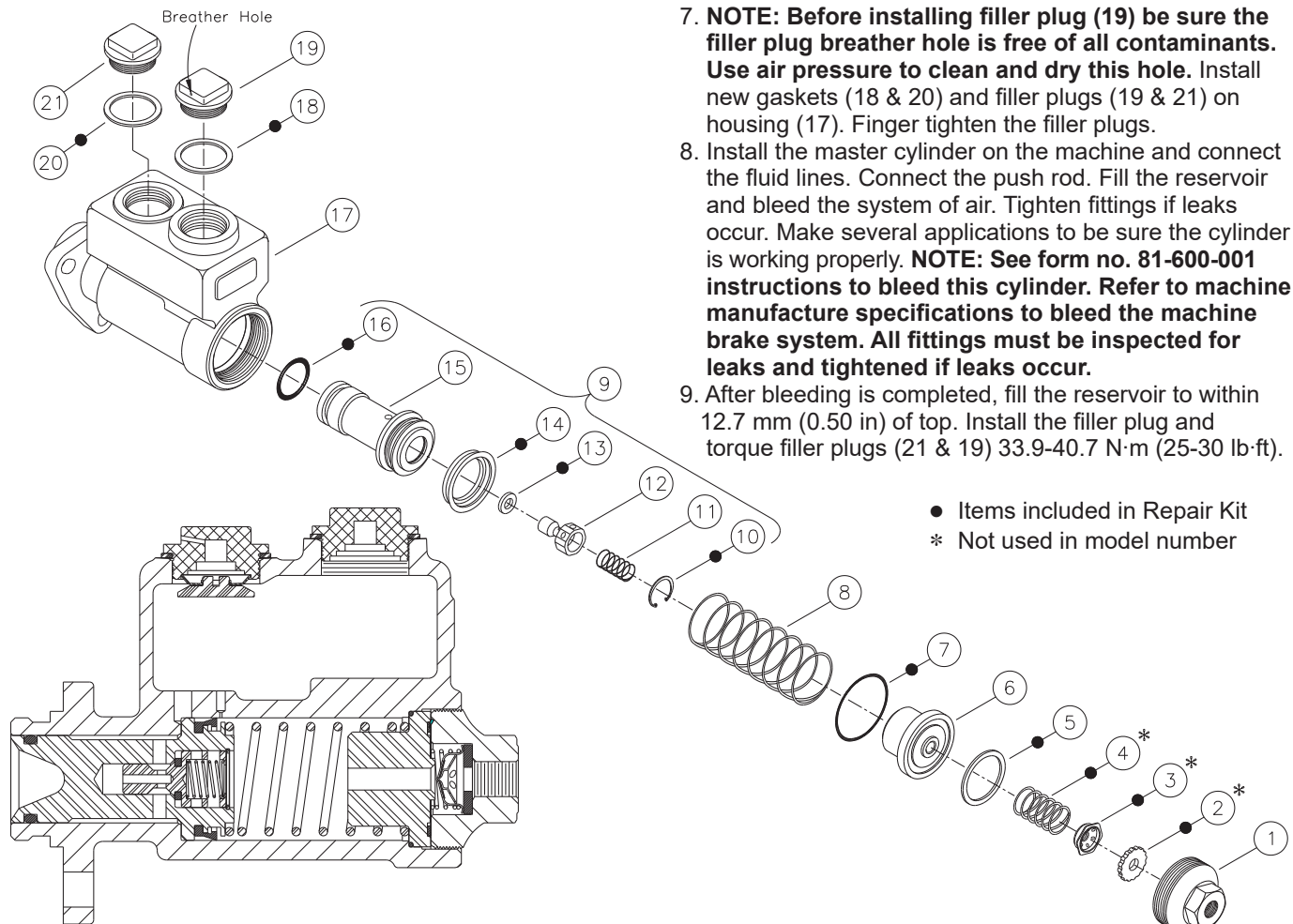
### DISASSEMBLY

1. Remove the master cylinder from the machine by disconnecting the necessary fluid lines. Disconnect the push rod and remove the mounting bolts. Drain fluid from the assembly.
2. Remove end plug (1), spring (4), check valve (3), seat (2), piston (6), and spring (8) from housing (17). Remove seal (5) and o-ring (7) from piston (6).
3. Remove piston assembly (9) from housing (17).  
**NOTE: Model number 03-021-405 does not use seat (2), check valve (3), or spring (4).**
4. Remove retaining ring (10), spring (11), and valve (12) from piston (15). Remove seat (13) from valve (12).
5. Remove cup (14) and o-ring (16) from piston (15). Note direction of cup (14).
6. Remove filler caps (19 & 21) and gaskets (18 & 20) from housing (17).

### ASSEMBLY

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

1. Clean all parts thoroughly before assembling.
2. Install new seat (13) on valve (12). Install valve (12), spring (11), and new retaining ring (10) in piston (15).
3. Install new o-ring (16) and new cup (14) on piston (15). Note direction of cup (14).
4. Install piston assembly (9) in housing (17).
5. Install new o-ring (7) and new seal (5) on piston (6).
6. Lubricate threads on end plug (1). Install spring (8), piston (6), new spring (4), new check valve (3), new seat (2), and end plug (1) in housing (17). Torque end plug (1) 67.8-108.5 N·m (50-80 lb·ft). **NOTE: Model number 03-021-405 does not use seat (2), check valve (3) or spring (4). Do not install these items included in the repair kit when servicing model number 03-021-405.**
7. **NOTE: Before installing filler plug (19) be sure the filler plug breather hole is free of all contaminants. Use air pressure to clean and dry this hole.** Install new gaskets (18 & 20) and filler plugs (19 & 21) on housing (17). Finger tighten the filler plugs.
8. Install the master cylinder on the machine and connect the fluid lines. Connect the push rod. Fill the reservoir and bleed the system of air. Tighten fittings if leaks occur. Make several applications to be sure the cylinder is working properly. **NOTE: See form no. 81-600-001 instructions to bleed this cylinder. Refer to machine manufacture specifications to bleed the machine brake system. All fittings must be inspected for leaks and tightened if leaks occur.**
9. After bleeding is completed, fill the reservoir to within 12.7 mm (0.50 in) of top. Install the filler plug and torque filler plugs (21 & 19) 33.9-40.7 N·m (25-30 lb·ft).



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