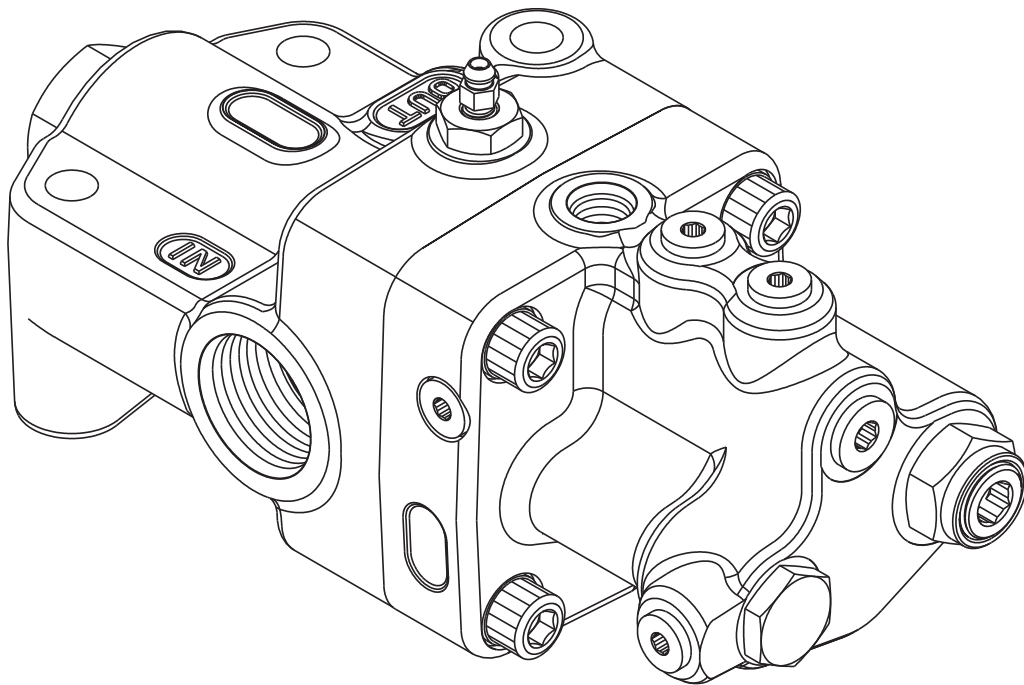


UNLOADING VALVE

Service Instructions

Caterpillar Part Number	Repair Kit Number
397-8133	438-5309



⚠ WARNING

Be sure energy is relieved from all accumulators before removing valve from machine. See machine servicing instructions for procedures to relieve system energy.

DISASSEMBLY

(Refer to Figure 1)

1. See machine service instructions for procedure to properly remove valve from machine.
2. Separate housings (3 & 4) by removing four cap screws (1) and four washers (2). Assembly is under spring (5) tension. Loosen the four cap screws (1) slowly and evenly to relieve spring tension. Remove spring (5), spacer (6) and o-rings (9 & 10).
3. Remove spool (8) from housing (4). Remove quad ring (7) from spool (8). **NOTE: Be careful not to scratch or mar spool (8).**
4. Remove plug (11) from housing (4). Remove o-ring (12) from plug (11).
5. Remove seven plugs (13) from housing (3). Remove o-rings (14) from plugs (13).
6. Remove set screw (15) from housing (3).
7. Remove plug (16) and plug (18) from housing (3). Remove o-ring (17) from plug (16). Carefully remove spool (19) from housing (3).
8. Remove check valve (20) from housing (3). Remove back-up ring (23), o-ring (22), and o-ring (21) from check valve (20).
9. Remove nut (24) and remove screw assembly (26) from housing (3). Remove o-ring (25) from screw assembly (26) from nut (24) side of screw assembly. Remove shim (27), seat (28), washer (29), filter (30), and spacer (31) from housing (3).
10. Remove bleeder screw assembly (34) from housing (4).

ASSEMBLY

(Refer to Figure 1)

CLEAN ALL PARTS THOROUGHLY WITH CLEAN SOLVENT AND DRY. LUBRICATE ALL RUBBER COMPONENTS FROM REPAIR KIT WITH CLEAN TYPE FLUID USED IN THE SYSTEM.

BE SURE THE ENTIRE ASSEMBLY PROCEDURE IS DONE USING CONTAMINATION FREE METHODS.

1. Install new o-ring (12) on plug (11). Install plug (11) in housing (4) and torque 122.0-135.6 N·m (90-100 lb·ft).
2. Install new quad ring (7) on spool (8). Install spool (8) in housing (4) and install spacer (6) on spool (8).
3. Install spring (5) in housing (3). Position new o-rings (9 & 10) in the proper o-ring pockets on housing (4). Apply loctite from kit to the threads of cap screws (1). Assemble housing (3) to housing (4) using four cap screws (1) and four washers (2). Tighten the four cap screws (1) evenly and torque 48.8-59.7 N·m (36-44 lb·ft).
4. Install spool (19) and plug (18) in housing (3). Finger tighten plug (18).
5. Install set screw (15) in housing and torque 12.2-14.9 N·m (9-11 lb·ft). Torque plug (18) 24.4-29.8 N·m (18-22 lb·ft).
6. Install new o-ring (17) on plug (16). Install plug (16) in housing (3) and torque 24.4-29.8 N·m (18-22 lb·ft).

7. Install new o-ring (21), new o-ring (22), and new back-up ring (23) on check valve (20). Note position and order of o-rings and back-up ring. New o-rings (21 & 22) and new back-up ring (23) are in a separate bag within the repair kit. See Figure 1a.
8. Install check valve (20) in housing (3) and torque 20.3-27.1 N·m (15-20 lb·ft).
9. Install spacer (31) on new filter (30) and install filter (30), washer (29), and seat (28) in housing (3).
10. Install new o-ring (25) on screw assembly (26) from nut (24) side of screw assembly.
11. Fully lubricate shim (27) with clean system fluid and adhere shim (27) to the end of screw assembly (26). Install screw assembly in housing (3) and torque 24.4-29.8 N·m (18-22 lb·ft). Install nut (24) on screw assembly (26) and torque nut (24) 43.4-51.5 N·m (32-38 lb·ft).
12. Install new o-ring (17) on bleeder plug (32). Install bleeder plug (32) in housing (4) and torque 38.0-43.4 N·m (28-32 lb·ft). Install bleeder screw (33) in bleeder plug (32) and torque 6.2-7.4 N·m (55-65 lb·in).
13. Install new o-rings (14) on seven plugs (13). Install seven plugs (13) in housing (3) and torque 13.6-19.0 N·m (10-14 lb·ft).
14. See machine service instructions to properly reinstall the valve.

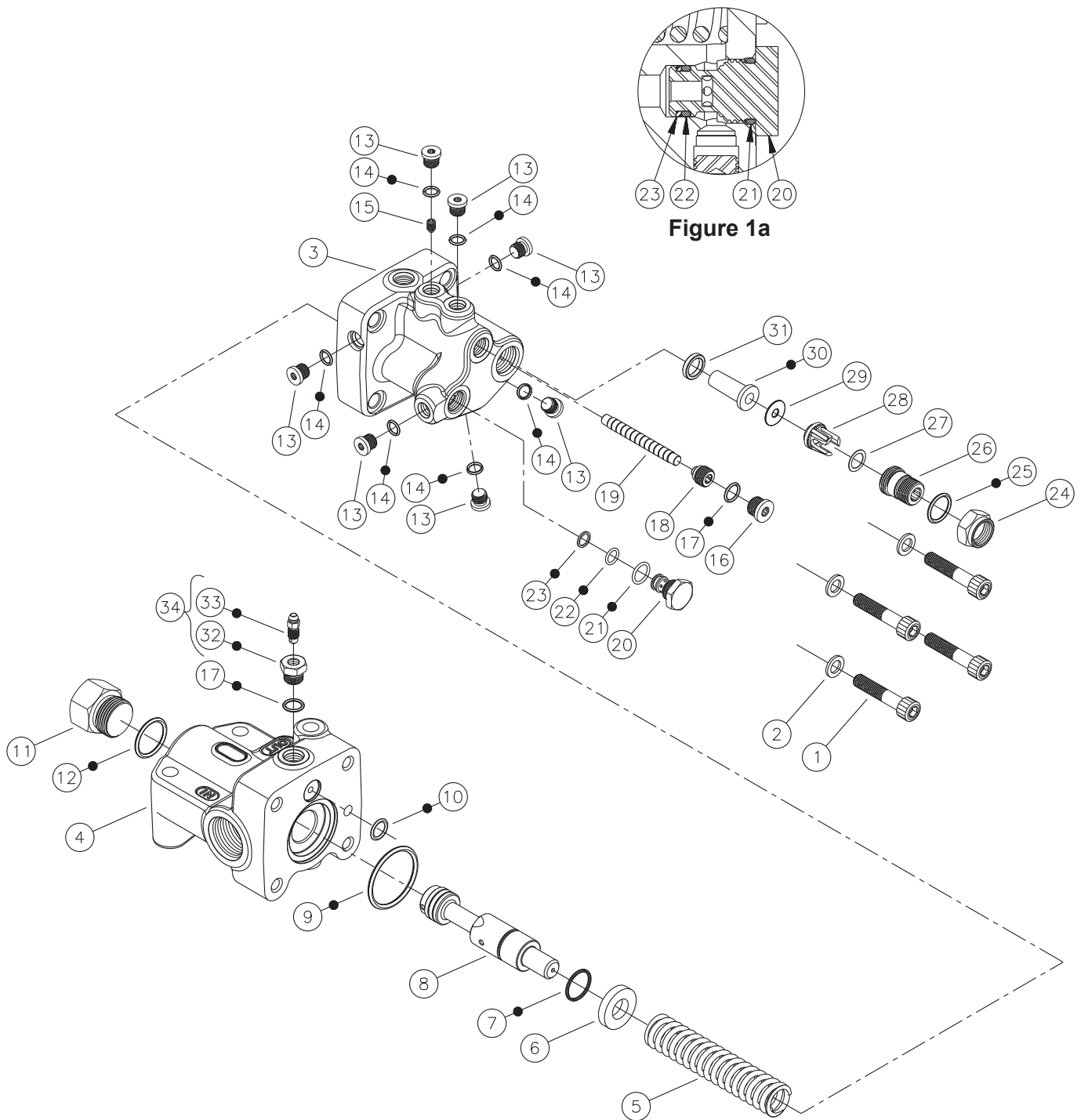


FIGURE 1