

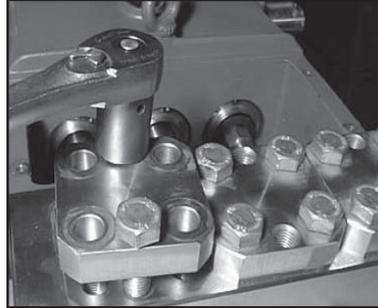
# GP7522 REPAIR INSTRUCTIONS

**NOTE:** Always take time to lubricate all metal and non-metal parts with a light film of oil before reassembling. This step will help ensure proper fit, at the same time protecting the pump non-metal parts (elastomers) from cutting and scoring.

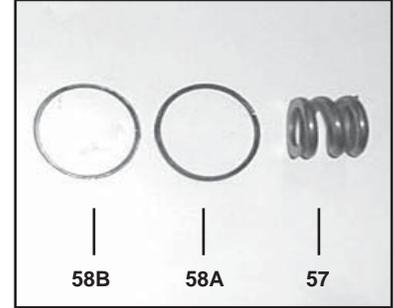
## TO CHECK VALVES



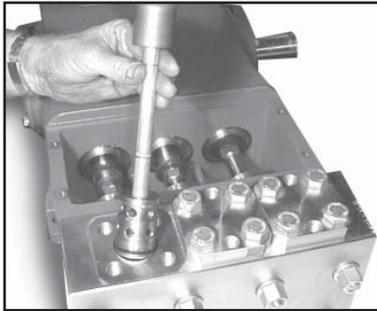
1) Loosen and remove screws (58C) with a 24mm socket wrench.



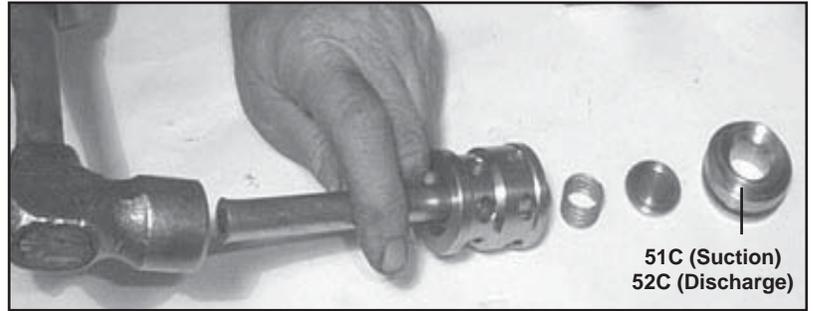
2) Take plugs (58) out of valve casing (50) by tightening screws (58C) against valve casing with two screws.



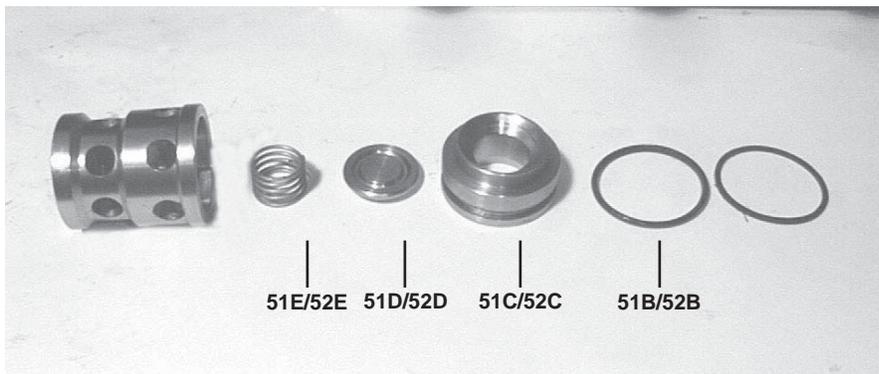
3) Remove the compression spring (57) O-Ring (58A) and support ring (58B).



4) Take out valve assemblies (52 & 51) using either tool (part #07662) or a stud bolt.

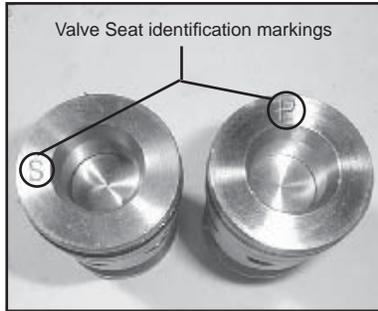


5) Valve seats (51C and 52C) are pressed out of spacer pipes (51F and 52F) by hitting the valve plates (51D and 52D) with a socket extension.



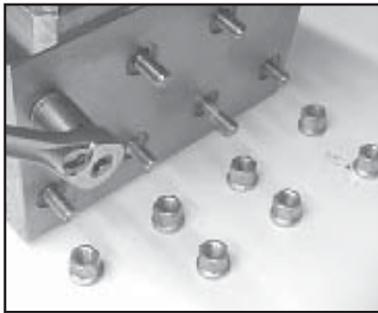
6) Check surfaces of valve plates (51D and 52D), valve seats (51C or 52C) and o-rings (51B and 52B). Replace worn parts.

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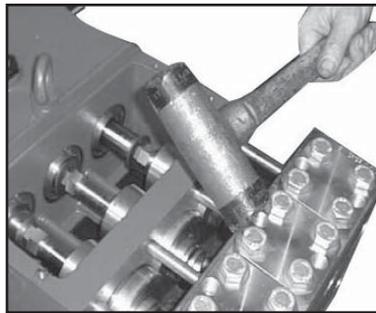


- 7) When reassembling: The inlet valve seat (51C) is 1mm smaller in diameter than the discharge valve seat (52C). Inlet valve seats are marked "S" and always have to be installed first. Discharge valve seats are marked "P" and are always to be installed on top of inlet valve. Plugs (58) are to be tensioned down evenly with screws (58C) and in crosswise pattern at 155 ft.lbs. (210 N-m).

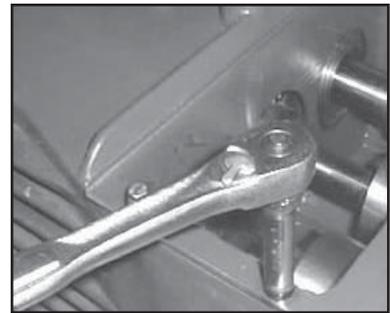
### TO CHECK SEALS



- 8) Loosen nuts (49A) with a 24mm socket wrench.



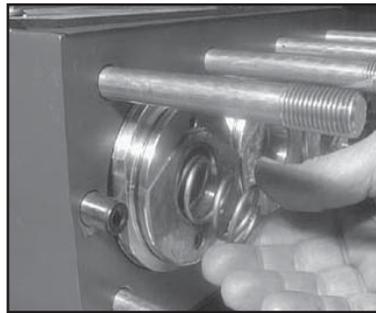
- 9) With a rubber mallet tap the back of the valve casing (50) and pull the valve casing off the stud bolt (49).



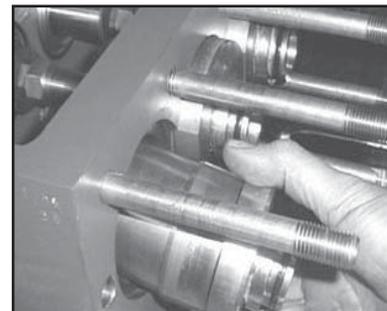
- 10) Remove cover plate (30) with a 10mm socket wrench.



- 11) By gripping hex flats, separate plunger (36) from cross-head (25) by means of two open-end wrenches (size 22mm and 27mm).



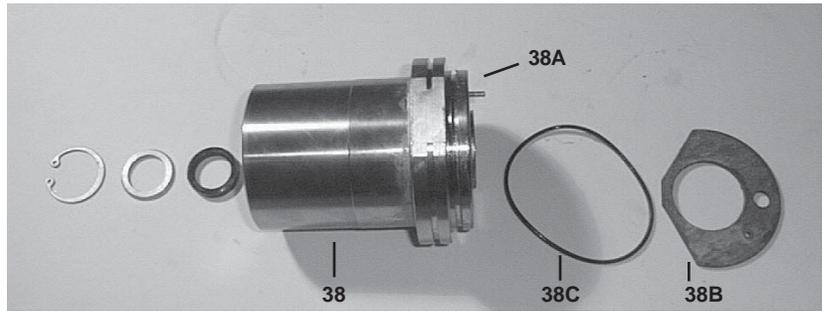
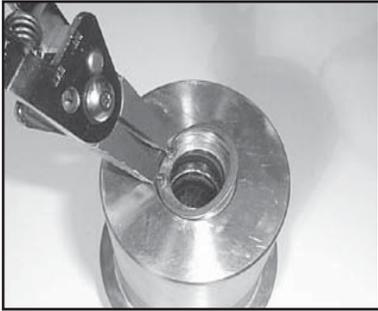
- 12) Remove tension spring (40) from seal retainer (38).



- 13) Pull seal sleeves (38) and plungers (36) out of their fittings in the crankcase (1) using ring groove as a guide.

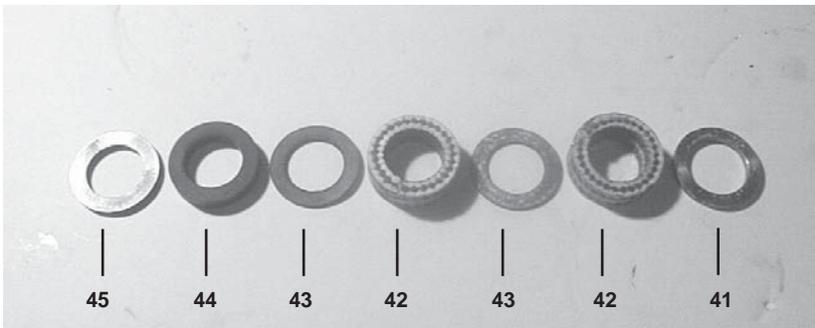
## GP7522 REPAIR INSTRUCTIONS

**CAUTION:** Don't loosen the 3 plunger (36) before the valve casing has been removed otherwise the plunger (36) could hit against the spacer pipe (51F) when the pump is being turned.

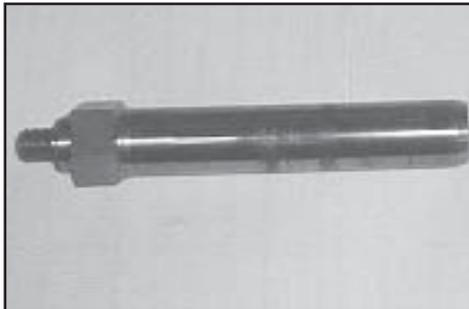


14) Remove circlip ring (48) from seal sleeve (38). Remove spacer disc (47) and seal ring (46) from seal sleeve. Replace worn or damaged parts.

15) Remove leakage gasket (38B) from serrated pin (38A) on the seal sleeve (38). Check o-ring (38C) for damage and replace if necessary. **IMPORTANT!** The 3.2 mm (diameter bore of the leakage gasket (38B) must be inserted directly on the serrated pin (38A) of the seal sleeve (38). The leakage gasket must fit snugly to the seal so that the bevelled surface of the gasket faces outwards.



16) Remove support disc (41) seal unit (42, 43, 44) and pressure ring (45) of seal sleeve (38). Examine seals for signs of wear or cavitation, and if necessary, replace.



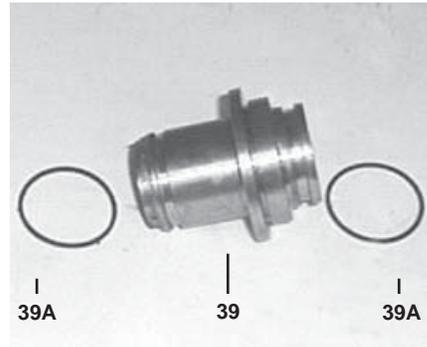
17) Examine plunger (36) for signs of wear or cavitation. If the surface of the plunger is worn, screw out the plunger with a 27mm tool. Clean centering and front surface of crosshead with plunger (25). Thread new plunger carefully through oiled seals in seal sleeve. Coat thread of new plunger lightly with bonding agent (e.g., loctite).

**NOTE:** Seal life can be increased if the pre-tensioning allows for a little leakage. This assists lubrication and keeps the seals cool. It is therefore not necessary to replace seals before the leakage becomes too heavy and causes output and operating pressure to drop.

# GP7522 REPAIR INSTRUCTIONS

## TO ASSEMBLE VALVE CASING

18. Check O-rings (39A) and support rings (39B) on seal case (39). Clean surfaces of seal sleeves (38) in crankcase (1) and sealing surfaces of valve casing (50). Insert seal sleeve with plunger into crankcase guide. Turn crankshaft to (22) until plunger with crosshead (25) pushes against plunger tighten plunger (36) to 26 ft-lbs (33 N-m).



19. Push valve casing carefully over O-rings of seal case and centering studs (50A). Tighten nuts (49A) to space 103 ft-lbs (145 N-m).

## TO DISASSEMBLE GEAR END

20. Take out plunger (36) and seal sleeves (38) as described above. Drain oil.
21. After removing the circlip ring (33B), pry out seal adapter (33) with a screw driver
22. Check seals (32 and 33A) and surfaces of plunger base (25).
23. Remove crankcase cover (4). Loosen inner hexagon screws (24A) on the connecting rods (24) and push con rod halves as far into the crosshead guide as possible.

**CAUTION:** Connecting rods (24) are marked for identification. Do not twist connecting rod halves. Connecting rod is to be reinstalled in the same position on crankshaft journals.

24. Check surfaces of the connecting rod (24) and crankshaft (22).
25. Take out bearing cover (14) to one side and push out crankshaft (22) taking particular care that the connecting rod (24) doesn't bend.
26. Reassemble in reverse order: Regulate axial bearing clearance - minimum 0.1mm, maximum 0.15mm- by means of fitting disc (20A). The crankshaft (22) should turn easily with little clearance. Tighten inner hexagon screws (24A) to 30 ft.-lbs (41 N-m).

**CAUTION:** Connecting rod (24) has to be able to be slightly moved sidewise at the stroke journals.

27. Reassemble cover (4) and seal (5) onto crankcase (1). Fasten with hexagon screws (10).
28. Reinstall shim (33C), and seal adaptor (33) with radial shaft seal (32) and o-ring (33A) onto crankcase (1).
29. Reinstall remainder of fluid end as described above in "To Assemble Valve Casing" section (21 and 22 above).