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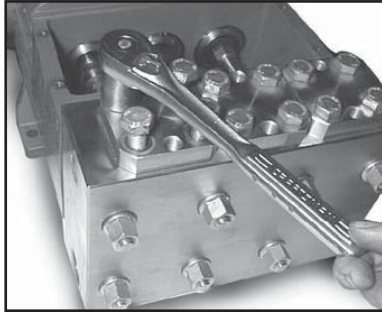
## GP7124A-4000 REPAIR INSTRUCTIONS

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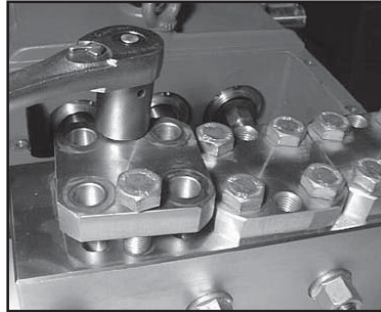
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**NOTE:** Always take time to lubricate all metal and non-metal parts with a light film of oil before reassembling. This step will help ensure proper fit, at the same time protecting the pump non-metal parts (elastomers) from cutting and scoring.

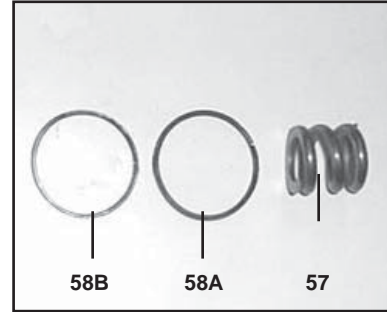
### TO CHECK VALVES



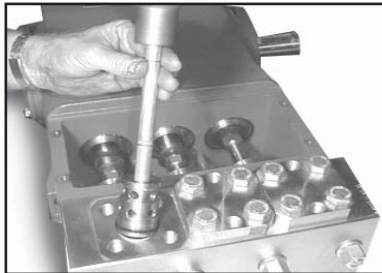
- 1) Loosen and remove screws (58C) with a 24mm socket wrench.



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



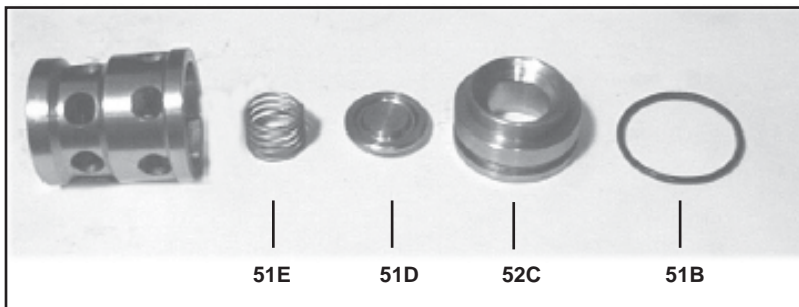
- 3) Remove the compression spring (57) O-Ring (58A) and support ring (58B).



- 4) Take out valve assemblies (51 & 52) using either valve tool (part #07662) or a stud bolt (M16).



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



- 6) Check surfaces of valve plate (51D), valve seat (51C, 52C), O-rings (51B, 58A) and replace worn parts.

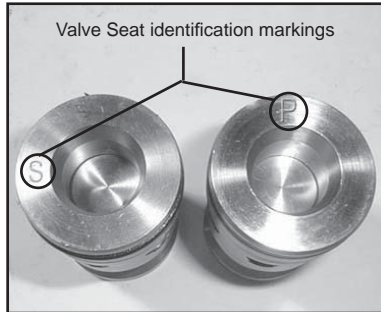
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## GP7124A -4000 REPAIR INSTRUCTIONS

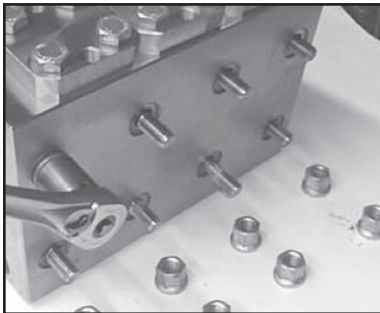
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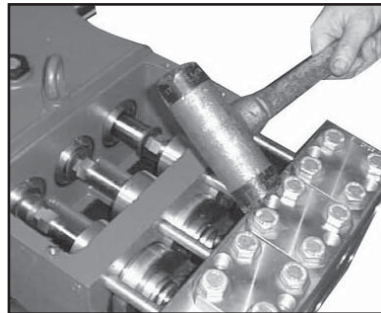


- 7) When reassembling: The inlet valve seat (51C) is 1mm smaller in diameter than the discharge valve seat (52C). Inlet valve seats are marked "S" and always have to be installed first. Discharge valve seats are marked "P" and are always to be installed on top of inlet valve. Plugs (58) are to be tensioned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

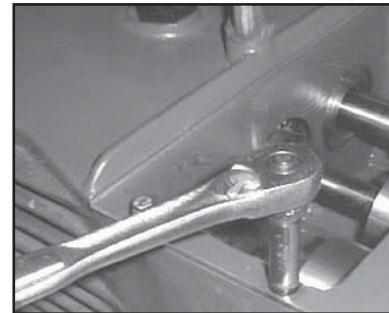
### TO CHECK SEALS



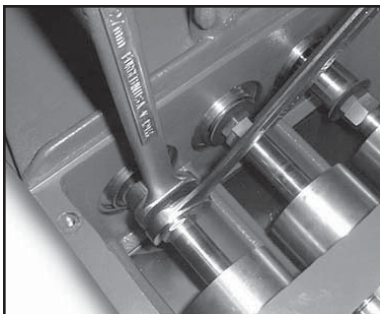
- 8) Loosen nuts (49A) with a 24mm socket wrench.



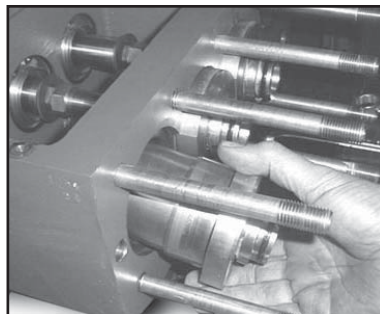
- 9) With a rubber mallet tap the back of the valve casing (50) and pull the valve casing off the stud bolt (49).



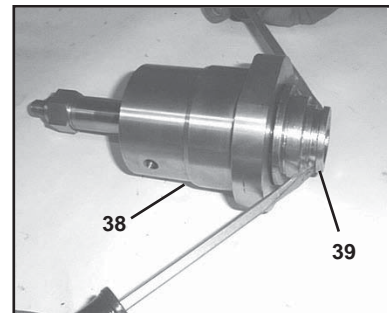
- 10) Remove cover plate (30) with a 10mm socket wrench.



- 11) Using a 27mm wrench, separate the plunger (36) from the crosshead (25). NOTE: DO NOT loosen the three (3) plungers (36) before the the valve casing has been removed otherwise the plunger could hit against the spacer pipe (51F) when pump is being turned.



- 12) Pull seal sleeves (38) out of their fittings in the crankcase (1).



- 13) Use two screwdrivers to pry the seal case (39) from the seal sleeve (38).

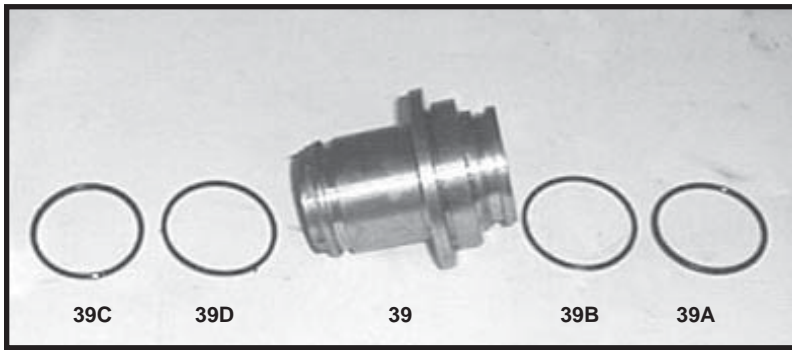
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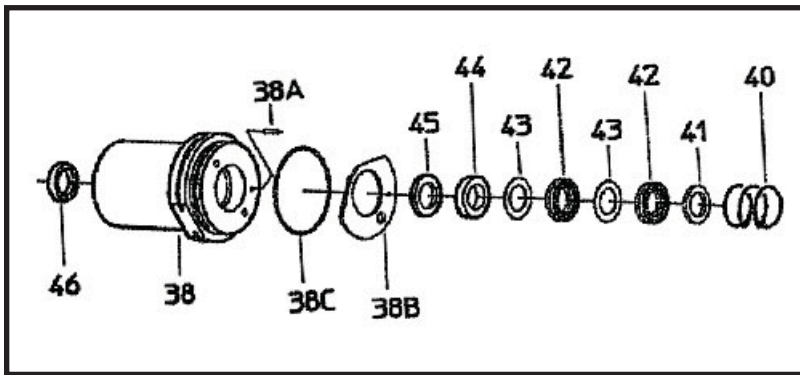
## GP7124A-4000 REPAIR INSTRUCTIONS

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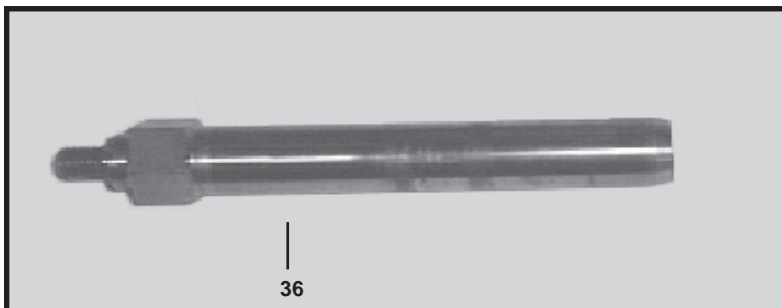
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14) Remove and replace O-rings (39A, 39C) on support rings (39B, 39D).



15) Remove grooved seal (46) from seal sleeve. Take pressure spring (40), support disc (41), seal unit (42, 43, 44) and pressure ring (45) out of seal sleeve (38). Remove leakage gasket (38B) from serated pin (38A) on seal sleeve (38). Replace worn parts from kit # 09224. **IMPORTANT!** The leakage gasket (38B) must be fitted to the seal sleeve (38) so that the bevelled surface of the gasket (38B) faces outward.



16) Check plunger (36) surface. Replace worn seals.

**NOTE:** Seal life can be increased if the pretensioning 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.

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## GP7124A-4000 REPAIR INSTRUCTIONS

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### TO ASSEMBLE VALVE CASING

- 17) Replace seal assembly in reverse order. Insert plunger through the back of the seal sleeve (38) by placing a pipe in the front of the seal sleeve (38) to hold the seal assembly in place.
- 18) Push seal case (39) into seal sleeve (38). Insert seal sleeve with plunger (36) into crankcase guide with weep holes facing down. Tighten plunger(36) to 33 ft.-lbs. (45 Nm) with a 27mm torque wrench.
- 19) Push valve casing carefully over O-rings of seal case and centering studs (50A). Tighten nuts (49A) to space 103 ft.-lbs. (140 Nm).

### 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), o-ring (33A) and surfaces of plunger base (25).
- 23) Remove crankcase cover (4). Loosen inner hexagon screws on the connecting rods (24) and push connecting 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 using the fitting disc (20A). The crankshaft (22) should turn easily with little clearance. Tighten inner hexagon screws to 30 ft.-lbs. (40 Nm).

**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 (17-19).