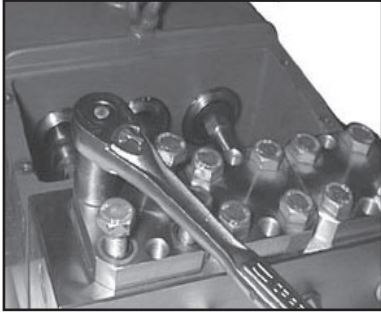


GP7522GBHS-180 REPAIR INSTRUCTIONS

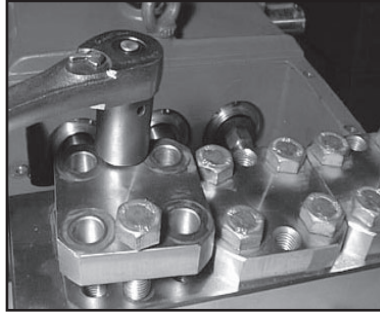
CAUTION: Don't loosen the 3 plunger (36) before the valve casing has been removed otherwise the plunger (36) could hit against the spacer pipe (51F) when the pump is being turned.

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.

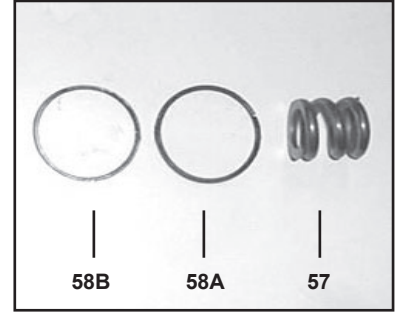
TO CHECK VALVES



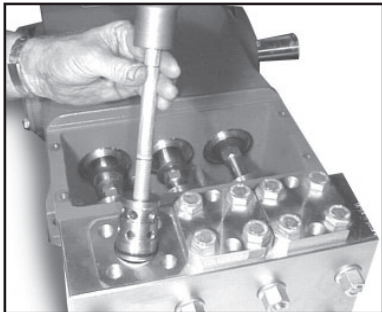
1) Loosen and remove screws (58C) with a 24mm socket wrench.



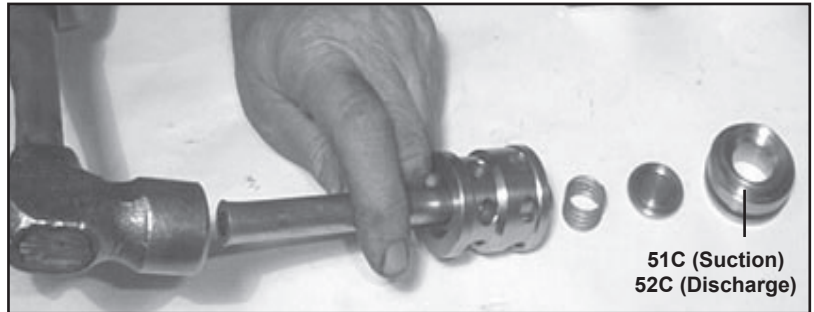
2) Take plugs (58) out of valve casing (50) by tightening screws (58C) against valve casing with two screws.



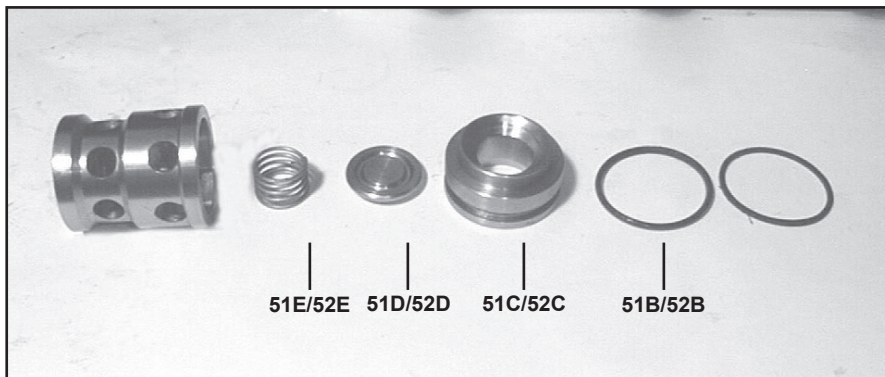
3) Remove the compression spring (57) O-Ring (58A) and support ring (58B).



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

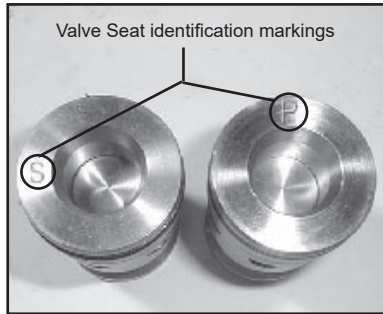


5) Valve seats (51C and 52C) are pressed out of spacer pipes (51F and 52F) by hitting the valve plates (51D and 52D) with a socket extension.



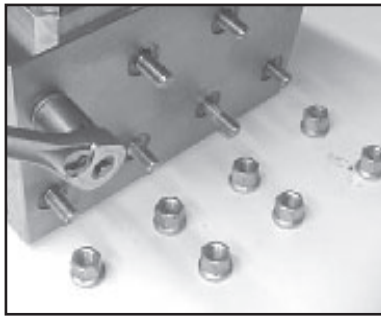
6) Check surfaces of valve plates (51D and 52D), valve seats (51C or 52C) and o-rings (51B and 52B). Replace worn parts.

GP7522GBHS-180 REPAIR INSTRUCTIONS

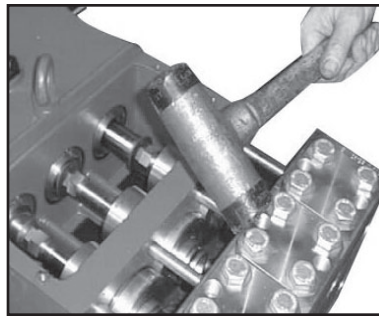


- 7) When reassembling: The inlet valve seat (51C) is 1mm smaller in diameter than the discharge valve seat (52C). Inlet valve seats are marked "S" and always have to be installed first. Discharge valve seats are marked "P" and are always to be installed on top of inlet valve. Plugs (58) are to be tensioned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

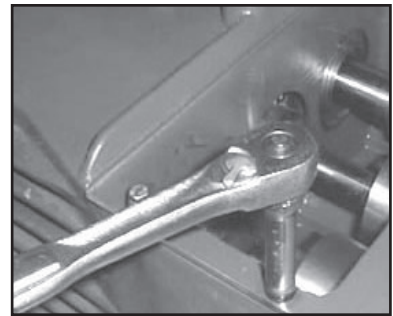
TO CHECK SEALS



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



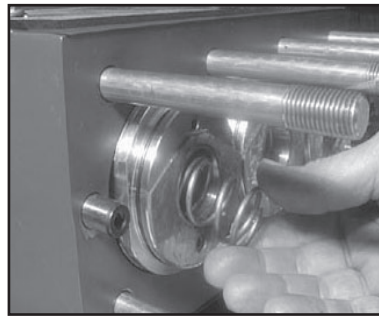
- 9) With a rubber mallet tap the back of the valve casing (50) and pull the valve casing off the stud bolt (49).



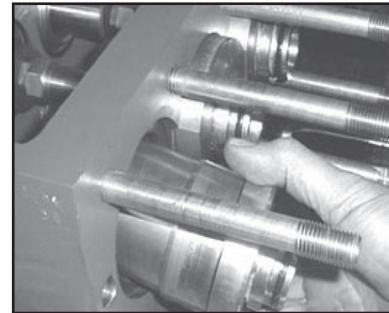
- 10) Remove cover plate (30) with a 10mm socket wrench.



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

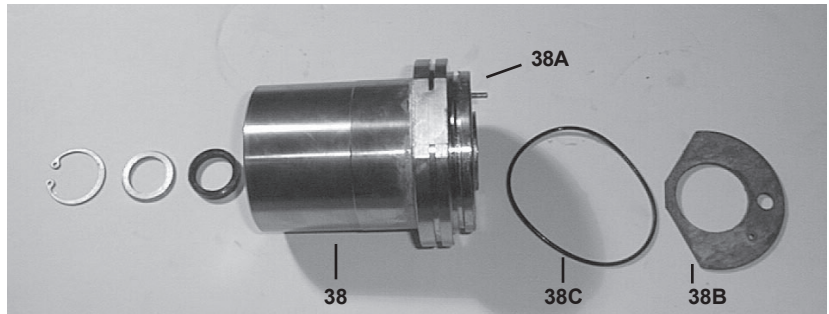
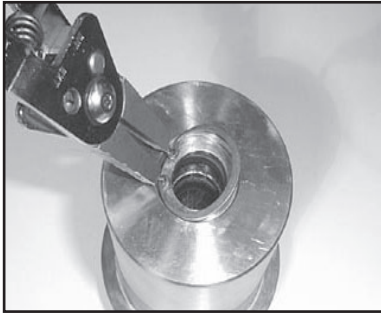


- 12) Remove tension spring (40) from seal retainer (38).



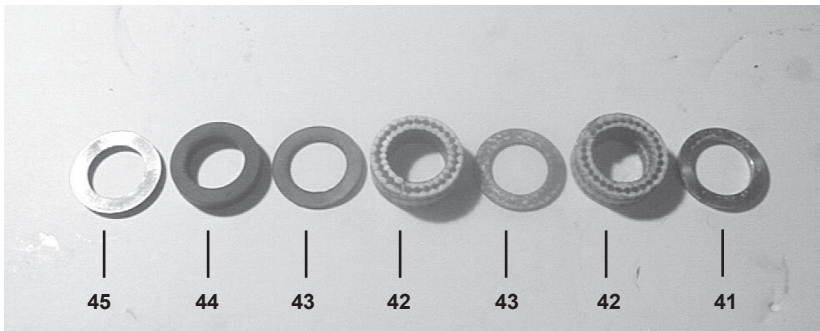
- 13) Pull seal sleeves (38) and plungers (36) out of their fittings in the crankcase (1) using ring groove as a guide.

GP7522GBHS-180 REPAIR INSTRUCTIONS

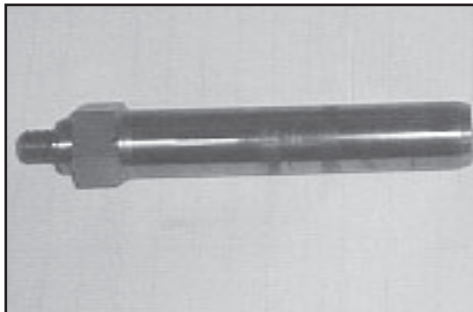


14) Remove circlip ring (48) from seal sleeve (38). Remove spacer disc (47) and seal ring (46) from seal sleeve. Replace worn or damaged parts.

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.



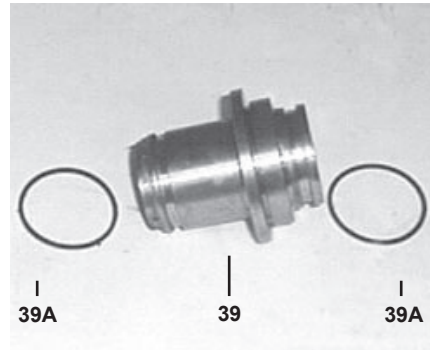
17) Examine plunger (36) for signs of wear or cavitation. If the surface of the plunger is worn, screw out the plunger with a 27mm tool. Clean centering and front surface of crosshead with plunger (25). Thread new plunger carefully through oiled seals in seal sleeve. Coat thread of new plunger lightly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

GP7522GBHS-180 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 33 ft-lbs (45 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 (140 N-m).

TO DISMANTLE REDUCTION GEAR

Remove screws (K4). Remove the gear cover (K2). It may be necessary to tap the cover off with a rubber mallet. Remove screw (K11) and take off the spacer ring (K7) and tension disc (K10). Push the cogwheel (K9) off the shaft by screwing two screws into both thread bores. Unscrew hexagon screws (10) and remove the shaft cover (21) and bearing cover (14). Finally, take the crankshaft (22) out of the crankcase by tapping it towards the bearing cover side, opposite the gearbox, using a rubber hammer.

Check the surfaces of connecting rods (24), crankshaft (22) and crossheads (25). Check the surfaces of the crosshead guides in the crankcase for any unevenness.

Reassemble in reverse order. Regulate axial bearing clearance to a minimum of 0.1mm and a maximum 0.15mm by means of fitting discs (20A). Insert the crankshaft by passing it through on the bearing cover side. Press in the outer bearing ring (20). The crankshaft should turn easily and with little clearance. Fit the bearing cover (14) and tighten screws (24) to 30 ft.-lbs. (40 Nm).

Important! The connecting rod has to be able to slightly move sidewise at the crankshaft journal.

Heat the ball bearings (K13) before pressing them onto the pinion (K12). Slightly press the cogwheel (K9) onto the crankshaft, so that the pinion (K12) together with the bearing (K13) can still be inserted.

When mounting, place the pinion (K12) onto the cogwheel so that they correctly interlock. Carefully tap the cogwheel and the pinion simultaneously onto the crankshaft and into the bearing seat.

Fit tension disc (K10), and spacer ring (K7) and tighten screw (K11) with Loctite.

Fit seal (K14) on to the cylindrical pins (K3).

Push the gear cover (K2) carefully on to the bearing (K13). Make sure the radial shaft seal (K17) does not get damaged during fitting on to the pinion.

Important! Before putting into operation again, turn the reduction gear shaft by hand at least four full turns to make sure that the gear is correctly aligned.