Repair Instructions - GP8035(A) & GP8040(A) Pumps

To Check Valves

Loosen screws (58), lift discharge casing (50B) up and away . Take out pressure springs (57). Pull out assembled valves (51 and 52) with fitting tool (p/n 07662).

Dismantling valves: the spring tension cap (51A, 52A) is screwed to-gether with the valve seat (51B or alternatively 52B). Screw off spring tension cap, take out springs (51E, 52E) and valve plate (51C, 52C). Check sealing surfaces and O-rings (51D/F, 52D/F, 56A).

Replace worn parts.

Coat threads of valve seat with silicon grease or molycote anti-seize Cu-7439 when reassembling. Before re-fitting the valves, clean the sealing surfaces in the casing and check for any damage.

Tighten screws (58) at 155 ft.-lbs. (210 Nm); check torque tension after 8-10 operating hours.

To Check Seals and Plunger Pipe

Screw off hexagon nuts (49A) and hose coupling (K11 and K15), re-move pump head together with seal case (38) and intermediate casing (62) from crankcase (1). If necessary, carefully tap the valve casing (50) past the centring stud (50A) using a rubber hammer.

IMPORTANT! If necessary, support the pump head by resting it on wooden blocks or by using a pulley.

Take off flat leakage seal (62D) and check.

Screw off Plunger (36) from crosshead w. plunger (25) and take seal sleeve (39) together with all mounted parts out of the drive.
Pull plunger out of seal assembly and check for any damage. Clean centring and top-surface of crosshead w. plunger (25). Take out tension spring (45) Lever whole seal unit (41-44) carefully out off the seal sleeve with a screwdriver from the backside. Check plungersurface and seals. Check O-rings (39).

Renew damaged parts.

Check Leakage seal (40) and O-ring (40A) after removing off clip-ring (40C) and pressure ring (40B) and renew if necessary.

IMPORTANT! Be careful not to damage seal sleeve (39) pressure ring (41) and guide ring (41A). Check the inner diameter of the pressure ring and guide ring for wear and if necessary replace together with seals (42) and support ring (44). Clean all parts. New parts should be lightly coated with silicon grease before installation.

Insert the seal unit (41-45) in to the sleeve. Push the plunger (36) care-fully through the seals from the crankcase side. If necessary, the seals can be held tightly using a suitable pipe support held on the other side of the seal sleeve.

Take out the seal case (38) from the intermediate casing (62) and check O-rings (38A) (if necessary secure 2 screwdrivers in the front O-ring groove to extract seal casing from intermediate casing). Coat O-rings with silicon grease before installing.

IMPORTANT! Mounting surfaces of the crankcase,seal sleeves, in-termediate casing and valve casing must be clean and free of damage. The components must lie exactly and evenly on one another. The same exactness applies for all centring positions in the crankcase, intermedi-ate casing, pressure- and valve casing.

Coat the seal sleeve lightly with anti-corrosive grease (e.g. molycote no. Cu-7439) in its fitted area towards the crankcase. Insert seal sleeves in to their crankcase fittings.

IMPORTANT! Watch the even milled surfaces on the seal sleeves. They must stand vertically on each other.

Turn the pump per hand until the plunger (25) rests against the plunger (36). Tighten plunger (36) with 33 ft.-lbs. (45 Nm).

Insert the seal tension spring (45) in to the seal sleeve (39).

Repair Instructions - GP8035(A) & GP8040(A) Pumps

Mounting Valve Casing:

Press seal cases (38) with the stepped OD dia. 65 carefully to its stop in the centring holes of the intermediate casing. Mount flat leakage seal (62D).

IMPORTANT! The flat leakage seal (62D) must be positioned with its ø3 bore onto the notched pin (62C) on the intermediate casing. The leakage return bores in the intermediate casing and in the seal sleeves must stay open by the cut-outs in the seal (62D).

Push valve casing (50) together with intermediate casing (62) carefully on to the centring studs (50A).

Tighten hexagon nuts evenly and crosswise at 266 ft.-lbs. (360 Nm).

IMPORTANT! The torque tension on the screws (49A) must be checked after 8-10 operating hours; the pump must be at zero pressure. Thereafter the tension is to be checked every 200 operating hours.

To Dismantle Crankcase Gear

Take out plungers and seal sleeves as described above.

Drain oil by removing plug (12).

After removing the clip ring (33B), lever out the seal retainer (33) with a screwdriver. Open hose adaptor (K11).

Screw off gear cover (K3) and remove the cooling vane plate (K1) by removing the screws (K4). Screw off connecting rod screws (24).

IMPORTANT! Connecting rods are marked 1 to 3 for identification. Do not twist connecting rod halves or interchange them. When reassembling, the connecting rods must be fitted in their exact original position on the crankshaft journals.

Push connecting rod halves together with the crosshead as far as possible into the crosshead guide.

Take out bearing cover (14/14A) and push out crankshaft taking partic-ular care not to bend the connecting rod.
Check surfaces on the 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.
Thread the long end of the crankshaft together with the inner bearing rings into the crankcase; then mount outer bearing ring .
Mount connecting rod halves in their exact original position and tighten at 37 ft.lbs. (50 Nm).

IMPORTANT! Connecting rods must be able to move slightly sideways on the stroke journals. Mount bearing cover (14A) and tighten screws (17) at 64 ft-lbs. (87 Nm).

Adjust axial play (clearance) on the crankshaft to minimum 0.1 mm / max. 0.15 mm using shims (21A/21B). The shaft should turn easily with little clearance. Connecting rods must sit exactly in the middle of each crank pin. Fit the bearing cover (14) and tighten the screws (17) at 64 ft.lbs. (87 Nm).

IMPORTANT! Possible axial float of the seal adaptor (33) to be compensated with shims (33C).

Mount cooling plate (K1) and gear cover (K3) with their respective seals (K2). When assembling the cooling circuit line, make sure the oil cooler connection (K7) is always joined to the upper connection (K3) of the gear cover.