

GP8065HT-1000 PUMP REPAIR INSTRUCTIONS

To Check Valves

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

Dismantling valves: The spring tension cap (51A, 52A) is screwed together with the valve seat (51B or alternatively 52B). Remove spring tension cap, take out springs (51E, 52E) and valve plate (51C, 52C). Check sealing surfaces and O-rings (51D, 52D). Replace worn parts.

When reassembling, coat threads of valve seat with silicone grease or Molycot anti-seize Cu-7439. Before refitting the valves, clean the sealing surfaces in the casing and check for any damage.

Tighten screws (58) at 133 ft.-lbs. (180 Nm); check torque tension after 8-10 operating hours.

To Check Seals and Plunger Pipe

Remove hexagon nuts (49A), remove valve casing (50) together with seal case (38) from crankcase (1). If necessary, carefully tap the valve casing 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. Remove tension screw (36C) and take seal sleeve (39) together with all mounted parts out of the drive. Pull plunger pipe out of the seal assembly and check all parts for damage. Lever seal rings (40), sleeves (42) and pressure rings (41) out of the seal sleeve with a screwdriver.

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

Press seal unit (41, 42, 43) into the sleeve and place grooved seal (40) in seal retainer (37).

Important: When fitting, do not bend the grooved seal (40). Press it in straight using a suitable rod or pipe. Push the ceramic plunger carefully through the seals from the crankcase side. If necessary, the high pressure seals can be held tightly by also using a suitable rod or pipe held on the other side.

Take seal case (38) out of the valve casing (50) and examine O-rings (38A). If necessary, place 2 screwdrivers in the front O-ring groove. Coat seals with silicon grease before fitting.

IMPORTANT! Mounting surfaces of the crankcase 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, pressure casing and valve casing.

Coat the seal sleeve lightly with anti-corrosive grease (e.g. molycot no. Cu-7439) in its fitted area towards the crankcase. Insert seal sleeves (39) into their crankcase fittings. Coat the threads of the tension screw (36C) lightly with thread glue and insert it together with new O-rings (36F, G) through the ceramic pipe. Turn the pump by hand until the plunger (25) rests against the plunger pipe. Tighten tension screw at 29.5 ft.-lbs. (40 Nm).

IMPORTANT! Thread glue must never come between the plunger pipe (36B) and centring sleeve (36E).

Overtensioning of the plunger pipe by excessive tightening of the tension screw and/or dirt or damage on the mounting surfaces can lead to breakage of the plunger pipe.

Insert the seal tension spring (45) and O-ring (39A) into the seal sleeve (39).

Mounting the Valve Casing:

Put seal cases (38) in the centring holes of the valve casing, then push the valve casing carefully onto centring studs (50A). Tighten hexagon screws (49A) evenly and crosswise at 265 ft.-lbs. (360 Nm).

IMPORTANT! The torque tension on the screws (49A) must be checked after 8-10 operating hours when the pump is 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 clip ring (33B), lever out the seal retainer (33) with a screwdriver. Remove 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 off bearing cover (14/14A) and push out the crankshaft (22) from the drive side, taking particular care not to bend the connecting rods.

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

Reassemble in reverse order.

Mount connecting rod halves in their exact original position and tighten at 37 ft.-lbs. (50 Nm). Press in the bearing outer ring (from 21) on the drive side and fit the bearing cover. Then from the opposite side, thread the crankshaft together with both bearing inner rings (from 21) with the long end first through the bearing bores.

IMPORTANT! When threading the shaft through the radial shaft seal in the bearing cover, be careful that the keyway on the shaft does not damage the lip of the radial shaft seal.

Press in the second bearing outer ring (from 21). Fit the shims and bearing cover and check axial play on the crankshaft. Place shims until the crankshaft turns easily with very little play.

IMPORTANT! A little clearance must exist to enable slight sideward movement of the connecting rod on its journal.

Fit 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 bearing cover (14) and tighten the screws (17) at 64 ft.-lbs. (87 Nm).

IMPORTANT! Possible axial float of the seal adaptor (33) is to be compensated with shims (33C). Fit crankcase cover (K3) together with its seal (K2).