

GP8076A Repair Instructions

To Check Valves

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

Dismantling valves: the spring tension cap (51A) is screwed together with the valve seat (51B). Remove spring tension cap, take out springs (51C) and valve plate (51D). Examine sealing surfaces and o-rings (51D, 51F). Replace worn parts.

Coat threads of the valve seat with silicon grease or molycote anti-seize Cu-7439 when reassembling. 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 the pump head (50) together with seal case (38) from the 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). Then take seal sleeve (39) together with all mounted parts out of the drive. Pull plunger pipe (36B) out of seal assembly and check for any damage. Pull out spiral rings (42), guide ring (41) and support ring (40) and check for any damage. If necessary, replace the spiral rings (42) together with support ring (40) and guide ring (41). Clean parts and coat new parts generously with silicone grease before fitting.

Insert the seal unit (40-42) into the seal sleeve (39). Push the ceramic plunger (36B) carefully through the seals from the crankcase side. If necessary, the seals can be held on the other side of the seal sleeve using a suitable pipe support.

Take the seal cases (38) out of the valve casing (50) and check O-rings (38A, 39A). If necessary, secure 2 screwdrivers in the front O-ring groove (to extract seal casing from valve casing). Coat seals with silicon grease before fitting.

Important! The fitting surfaces on the crankcase (1) and valve casing (50) 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 and valve casing.

Coat the seal sleeves (39) lightly with anti-corrosive grease (e.g. molycote no. Cu-7439) in their fitting area towards the crankcase (1). Insert seal sleeves into their crankcase fittings. Coat the threads of the tension screw (36C) lightly with thread glue and insert it together with a new copper ring (36D) through the ceramic pipe (36B). Turn the pump by hand until the plunger (25) rests against the plunger pipe. Tighten tension screw at 30 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 cause the plunger pipe to fracture.

Mounting the Valve Casing:

Put seal cases (38) in the centring holes of the valve casing (50). Then carefully push the valve casing onto the centring studs (50A). Tighten hexagon screws (49A) evenly and crosswise at 266 ft.-lbs. (360 Nm).

Important! With no pressure in the pump, the torque tension on the screws (49A) must be checked after 8-10 operating hours. Thereafter the tension is to be checked every 200 operating hours.

To Dismantle Crankcase Gear

Take out the plungers (36B) and seal sleeves (39) as described above.

Drain the oil by removing plug (12).

After removing the clip ring (33B), pry out the seal retainer (33) with a screwdriver.

Remove the gear cover (K3) by taking off the screws (K5). Then remove connecting rod screws (24).

Important! The connecting rods are marked 1 to 3 for identification. Do not twist the 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 guides.

Take off the bearing cover (14/14A) and push out the crankshaft (22) [taking particular care not to bend the connecting rods (24)].

Check running surfaces on the connecting rods (24), crankshaft (22) and crossheads (25). Also check the surfaces of the crosshead bores in the crankcase (1) for any unevenness.

Reassemble in reverse order.

Thread the long end of the crankshaft (22) together with the inner bearing rings (21) into the crankcase. Then mount the outer bearing ring.

Fit the connecting rod halves in their exact original position and tighten at 37 ft.-lbs. (50 Nm).

Important! A little clearance must be present to enable slight side-ward movement of the connecting rods on their journals.

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 the 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 gear cover (K3) with the seals (K2).