Pump Repair Instructions - GP8265GB-1000

To Check Valves
Loosen screws (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/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.
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 (50) 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 seal assembly and check for any damage. Pry out seal rings (40) and sleeves (42) 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 seals (40) and (42). Clean all parts. New parts should be lightly coated with silicon grease before installation.
Insert the seal unit (40, 41, 42, 43) in to the seal sleeve (39). Push the ceramic plunger (36B) carefully 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 valve casing (50) and check O-rings (38A) (if necessary secure 2 screwdrivers in the front O-ring groove to extract seal casing from valve casing). Coat seals with silicon grease before installing.

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 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. Coat the step of the plunger pipe cover (36A) lightly with silicon grease and press on to the back end of the plunger pipe. Insert seal sleeves in to 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. Turn the pump per 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 plunger pipe cover (36A). Overtensioning of the plunger pipe by excessive tightening of the tension screw and/or dirt or damage on the mounting surfaces can lead to plunger pipe breakage.
Insert the seal tension spring (45) and O-ring (39A) in to the seal sleeve (39).
Mounting Valve Casing:
Put seal cases (38) in the centring holes of the valve casing, then push valve casing carefully on to 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; 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 taking off plug (12).
After removing the clip ring (33B), pry out the seal retainer (33) with a screwdriver. Open hose adaptor (K11).
Remove gear cover (K3) and remove the cooling vane plate (K1) by unscrewing the screws (K4). Remove connecting rod screws (24).
IMPORTANT! Connecting rods are marked 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.
Remove off bearing cover (14), remove shims (21A/B/C).

To Dismantle Reduction Gear
Remove screws (67). Press off gear cover (66) by screwing two screws into both thread bores. Remove screw (72) and remove spacer ring (71).
Remove the cogwheel (69) from the shaft with a removal tool. Using a rubber hammer, tap out the crankshaft (22) towards bearing cover (14).
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 crankshaft in from the bearing cover side until the bearing rests cleanly in the outer ring on flange (19).
Press in the outer ring from bearing (20) and using shims (21A/B/C), adjust the bearing to be free of play. To achieve this, add shims, screw on cover (14) and turn the crankshaft until it can no longer be turned by hand.
Then remove a shim and establish whether the crankshaft can now be turned. A crankshaft that can be too easily turned may cause damage later to the bearings and connecting rods due to wobble movements in the conical bearing shells.
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 side-ways on the stroke journals.

To Mount Reduction Gear
Heat ball bearings (75 and 74) first before pressing them on to the pinion shaft. Press the cogwheel slightly on to the crankshaft so that the pinion (69) together with the bearing (74) can still be inserted.
Move the pinion (69) against the cogwheel and make them mate perfectly when mounting.Then carefully tap the cogwheel and the pinion simultaneously on to the crankshaft and into the bearing seat.
Fit spacer ring (71), and secure screw (72) with Loctite.
Fit the seal (76) on to the cylindrical pins (68).
Push the gear cover (76) carefully on to the bearing (75). Make sure that the radial shaft seal (73) does not get damaged during fitting on to the pinion.
Mount cooling plate (K1) and gear cover (K3) with their respective seals (K2). When assembling the cooling circuit line, make sure that the oil cooler connection (K7) is always joined to the upper connection (K3) of the gear cover.

IMPORTANT! Before putting in to operation again, turn the reduction gear shaft per hand at least four full turns to make sure the gear is correctly aligned.