GP5132GBHS-5100 Repair Instructions

To Check Valves
Remove inner hexagon screw (48A) and remove plugs (48) with a screwdriver. Check O-rings on plugs (48B). Pull out tension spring (48C). Remove the spring tension disc (47F) from discharge valve lying underneath by screwing in the M10-screw. Take out spring (47E) and plate (47D). Pull out valve seat (47C) by means of an valve puller. Check sealing areas of plate and valve seat for damage and replace worn parts. Check O-ring (47A). Screw spacer pipe (46G) out of spring tension cap (46F) in the suction valve lying underneath. Remove suction valve by screwing in an M10-screw. Check O-ring (46A). If valve seat (46C) remains in the valve casing (43) then carry forth as described for discharge valve. When reassembling, use new O-rings if possible and oil them before installing.
Tighten inner hexagon screws (48A) to 35 ft.-lbs. (47 Nm).

To Check Seals and Plunger Pipe
Loosen the inner hexagon screws (49) and pull off valve casing (43) to the front. Pull seal sleeves (35) out of guides in crankcase (1) and over the plunger pipe (29B). Pull support ring (41), sleeves (40) and pressure ring (39) out of seal sleeve (35).
Check plunger surfaces, sleeves (40) and grooved rings (36). Replace worn parts.
If the plunger pipe is worn out, loosen tension screw (29C) and pull off plunger pipe to the front. Clean contact surfaces of plunger (25) thoroughly. Then place new plunger pipe carefully through the oiled seals into the seal case (37). Check o-rings (35A/35B) on seal sleeves and seal case (37A/37B) and replace worn o-rings. Then push seal sleeve together with plunger pipe into the crankcase guide. Turn gear carefully until plunger (25) comes up against the plunger pipe. Put a new pre-crushed steel ring (29D) onto the tension screw (29C). Cover the thread of tension screw and the gasket with glue and tighten to 22 ft.-lbs. (30 Nm).

Important! Care must be taken that no glue gets between the plunger pipe (29B) and the centering sleeve (29A). The plunger pipe should not be strained by eccentric tightening of the tension screw or through damage to front of surface of plunger, otherwise it will probably break. Tighten the inner screws (49) for the valve casing evenly to 89 ft.-lbs. (120 Nm).

To Dismantle Gear
As described above, remove valve casing (43) and plunger pipe (29B), drain the oil. Remove the gear cover (4) and bearing cover (14). Loosen connecting rod screws (24A) and push the front of the connecting rod (24) forward as far as possible into the crosshead guide.

IMPORTANT! Connecting rods (24) are marked for identification. Do not twist connecting rod halves. Connecting rod is to be reinstalled in the same position on shaft journals.

IMPORTANT! Do not bend the connecting rod (24) shanks. Check crankshaft (22) and connecting rod (24) surfaces, radial shaft seals (15) and taper roller bearings (20).
To remove the oil seals (31) use a wooden rod and sharply hit down on the oil seals from the crankcase (1).
Note: when replacing the oil seals, apply a small amount of locktight to the outside edges of each oil seal before reinserting them into the crankcase.

To Dismantle Reduction Gear
Remove screws (112). Remove top casing (102); it may be necessary to use a rubber mallet. Remove screw (118) and disc (117). Pull gear wheel (105) off of the crankshaft (22). Remove screws (114), bottom casing (101) and centering ring (104).
Turning the crankshaft (22) slightly, hit it out carefully to the side with a rubber hammer.

To Reassemble
Using a soft tool, press in the outer bearing ring until the outer edge lines up with the outer edge of the bearing hole. Remove bearing cover (14) together with radial shaft seal (15) and o-ring (16). Fit crankshaft (22) through bearing hole on the opposite side. Press in outer bearing and tighten it inwards with the bearing cover, keeping the crankshaft in vertical position and turning slowly so that the taper rollers of the bearings touch the edge of the outer bearing ring. Adjust axial bearing clearance to at least 0.1mm and maximum 0.15mm by placing fitting discs (20A, 20B and 20C) under the bearing cover.

IMPORTANT! After assembly has been completed, the crankshaft should turn easily with very little clearance.
Tighten connecting rod screws (24) to 22 ft.-lbs. (30 Nm). Reassemble the fluid end (see instructions above).
If cylinder roller bearing (107) was removed, heat them up (before pressing onto the pinion shaft). Slightly press the gearwheel (105) onto the crankshaft (22) so that remaining portion of the gearwheel set can be positioned in the correct manner. Carefully, tap the gearwheel and the pinion (simultaneously) onto the crankshaft and into the bearing seat. Reassemble remaining gearbox parts making sure not to damage the radial shaft seal (110) or the o-ring (103).

IMPORTANT! Before putting the pump into operation, turn the reduction gear (by hand) at least four times in each direction (to ensure proper alignment). Reassemble shaft cover (14) and crankcase cover (4) and properly torque screws (10).

IMPORTANT! The 1/2” BSP connection in the crankcase serves the purpose of draining leakage water. The connection should not be closed (see the drawing to the right).

