REPAIR INSTRUCTION - LP121-4000HT(C) PUMPS

To Check Valves

Remove tension plugs (48) and remove tension spring (45) with snap-ring tongs or any other pull-out device diameter 22. Take out discharge valves (46), pulling them upwards out of the valve casing (43). Remove suction valves (46) in the same manner.

Loosen valve seats (46A) from spacer pipe (46D) by lightly hitting the valve plate (46B) with a plastic stick. Check sealing surfaces and replace worn parts.

Reassemble (preferably) with new O-rings (44A) and support rings (44B); before installing oil elastomers. Tighten tension plugs (48) to 107 ft.-lbs. (145 Nm).

To Check Seals and Plunger Pipe

Loosen the 8 nuts (49A) and pull off valve casing (43) to the front. Pull seal sleeves (35) out of guides in crankcase (1). Remove seal case (37) and tension spring (42) from seal sleeve.

Check plunger surface and seals (36/40).

If plunger pipe (29B) is worn out, loosen tension screws (29C) and pull off plunger pipe to the front.

Clean front surface of plunger (25) thoroughly.

Then place new plunger pipe carefully through the oiled seals (36/40) and push seal sleeve (35) with plunger pipe into the crankcase guide. Turn gear until the plunger (25) comes up against the plunger pipe.

Put a new copper gasket (29D) onto tension screw (29C). Put a thin coat of glue (Loctite) on the gasket and tighten screw to 26 ft.-lbs. (35 Nm).

IMPORTANT! Care must be taken that no glue gets between the plunger pipe (29B) and the centring sleeve (29A). The plunger pipe should not be strained by eccentric tightening of the tension screw (29C) or through damage to front surface of plunger, otherwise it could break. Tighten the hexagon nuts (49A) for the valve casing (43) evenly at 59 ft.-lbs. (80 Nm).

To Dismantle Gear

After removing valve casing (43) and plunger pipe (29B), drain oil. Remove gear cover (4) and bearing cover (14). Loosen connecting rod (24) screws and push the front of the connecting rod forward as far as possible into the crosshead guide.

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

Turning the crankshaft (22) slightly, hit it out carefully to the side with a rubber hammer.

IMPORTANT! Do not bend the connecting rod shanks. Check crankshaft and connecting rod surfaces, shaft seals (15) and taper roller bearings (20).

To Reassemble

Using a soft tool, press in the outer bearing ring till the outer edge lines up with the outer edge of the bearing hole. Remove bearing cover (14) together with shaft seal (15) and O-ring (16). Fit crankshaft through bearing hole on the opposite side. Press in outer bearing and tension 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/20C) under the bearing cover.

IMPORTANT! After assembly has been completed, the crankshaft should turn easily with very little clearance. Tighten connecting rod screws to 22 ft.-lbs. (30 Nm).

LP121-4000HT(C) PUMP TORQUE SPECIFICATIONS

Position	Item#	Description	Lubrication Info	Torque Amount
1	07759	Crankcase, LP121HT	Molykote Cu-Paste	
1	05198	Crankcase, LP121HTC	Molykote Cu-Paste	
6	07186	Oil Sight Glass Assembly	Loctite 572	29 ft.-lbs. (40 Nm)
10	01010	Hexagon Socket Screw		221 in.-lbs. (25 Nm)
12	07109	Oil Drain Plug		29 ft.-lbs. (40 Nm)
17	07114	Hexagon Screw		221 in.-lbs. (25 Nm)
24	13340	Connecting Rod Screws		22 ft.-lbs. (30 Nm)
29C	13031	Plunger Bolt	Loctite 243	26 ft.-lbs. (35 Nm)
31A	06118	Oil Seal	Loctite 648	
48	06077	Valve Plug		107 ft.-lbs. (145 Nm)
49A	07158	Nut, Stud Bolt		59 ft.-lbs. (80 Nm)
49	07157	Stud Bolt	Loctite 270	

NOTE: Contact Giant Industries for Service School Information. Phone: (419)-531-4600