

REPAIR INSTRUCTION - LP121HT & LP121HTC 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).

LP121HT & LP121HTC 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