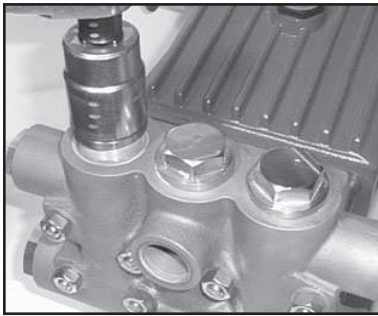
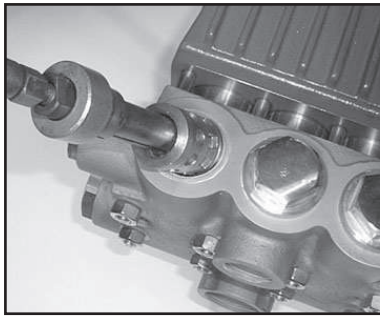


# CLP121A Repair Instructions

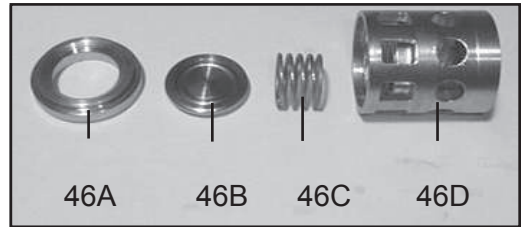
**Note: Do not use mineral oil on seals and o-rings. Use silicone grease only.**



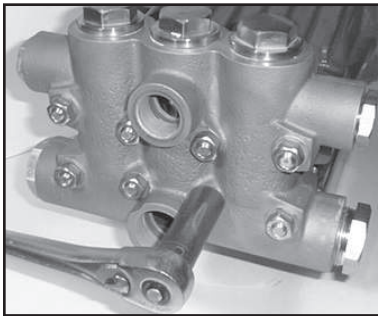
1. With a 30mm wrench, remove the (3) plugs (48).



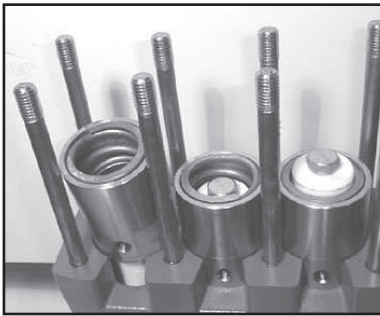
2. Remove the complete valve assembly (46) with valve pullers.



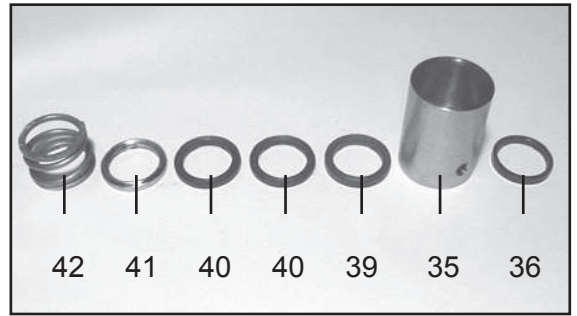
3. Loosen valve seats (46A) from spacer pipe (46D) by lightly hitting the valve plate (46B) with a plastic stick. Check sealing surface and replace worn parts. Reassemble with new o-rings (44A) and oil them before installing. Tighten up tension plugs (48) to 107 ft.-lbs. (145 Nm).



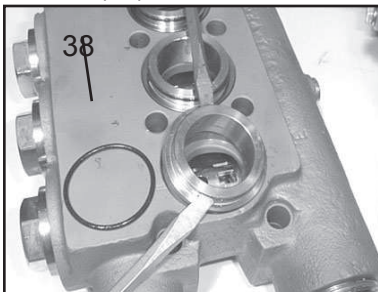
4. Loosen the 8 nuts (49A) with a 19mm wrench. Tap the back of the manifold (43) with a rubber mallet to dislodge and slide off the studs (49).



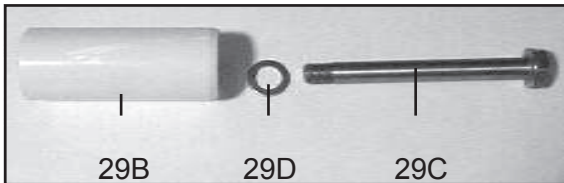
5. Pull seal sleeves (35) out of guides in crankcase (1).



6. Remove the tension spring (42), support ring (41), v-sleeves (40), pressure ring (39), from the seal sleeve (35). Examine seals (36) carefully and replace if worn. Clean all parts.



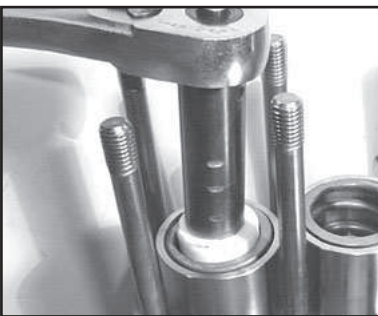
7. Remove seal case (37) from valve casing (43) and inspect o-ring (38).



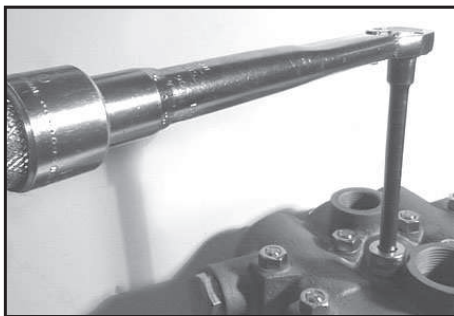
8. Check plunger surface (29B). If plunger pipe is worn, loosen tension screws (29C) and pull off plunger pipe to the front. Clean front surface of plunger (25) thoroughly. Apply a thin coat of Loctite to the tension screw threads (29C). **Note: Care must be taken that no glue gets between the plunger pipe (29B) and the centering sleeve (29A).** Add new copper ring (29D).



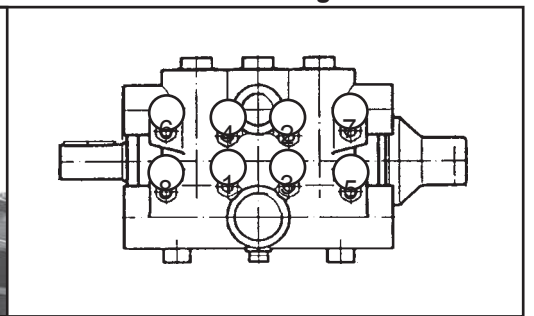
9. Place new plunger pipe (29B) carefully through the oiled seals and push seal sleeve (35) with plunger pipe into the crankcase guide. **Note: Make sure weep hole is facing down.**



10. Tighten the tension screws (29C) to 26.5 ft.-lbs. (35 Nm). The plunger pipe (29B) should not be strained by over tightening of the tension screw (29C) or through damage to the front surface of the plunger; otherwise, it will probably break.



11. Place valve casing (43) over studs and push firmly until seated against the crankcase (1). Tighten the hexagon nuts (49A) in a crosswise pattern (shown above) to 59 ft.-lbs. (80 Nm).



## CLP121A Repair Instructions

### To Dismantle Gear End

After removing valve casing (43) and plunger pipe (29B), drain oil. Remove 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.

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

**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 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 and 20B) under the bearing cover.

**IMPORTANT!** After assembly has been completed, the crankshaft should turn easily with very little clearance. Tighten connecting rod screws (24A) to 22 ft.-lbs. (30 Nm).

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## CLP121A Torque Specifications

<u>Position</u>	<u>Item#</u>	<u>Description</u>	<u>Torque Amount</u>
6	05943	Oil Sight Glass	29 ft.-lbs. (40 Nm)
10	01010/01010-0400	Cylinder Screw	221 in.-lbs. (25 Nm)
12	07109/07109-0400	Plug	29 ft.-lbs. (40 Nm)
17	07114/07114-0100	Hexagon Screw	221 in.-lbs. (25 Nm)
24	13340	Inner Hex Screw, Connecting Rod	22 ft.-lbs. (30 Nm)
29C	05201	Tension Screw, Plunger	26.5 ft.-lbs. (35 Nm)
48	07156	Plug, Discharge	107 ft.-lbs. (145 Nm)
49A	07158	Hexagon Nut, Stud Bolts	59 ft.-lbs. (80 Nm)

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## Pump Mounting Selection Guide

### **Bushings**

**06496** - 35mm H Bushing

### **Pulley & Sheaves**

**07165** - 12.75" Cast Iron - 4 gr. - AB Section

### **Rails**

**07357** - Plated Steel Channel Rails  
(L=11.75"xW1.88"xH=3.00")