Triplex Plunger Pump

SERVICING INSTRUCTIONS



SERVICING PUMP PROCEDURES

Valve Replacement: All inlet and discharge valves can be serviced without disrupting the inlet or discharge plumbing. The inlet and discharge valves are identical in all 66 TSF series models.







To service any valve:

- Remove valve cap (using 30 mm socket) and examine o-ring.
 Replace o-ring if there is any evidence of cuts, abrasions, distortion or wear.
- 2) Remove valve assembly (retainer, spring, valve, valve seat) from valve cavity.
- 3) Remove valve seat o-ring from valve cavity.
- 4) Inspect manifold for wear or damage.
- 5) Install new o-ring in valve cavity.
- 6) Insert valve assembly into valve cavity.
- 7) Replace valve cap and torque to specification.

NOTE: Only one valve kit is necessary to repair all the valves in the pump. The kit includes new o-rings, valve seat, poppet, spring and retainer. All are pre-assembled.

Ref 300872 Rev. C 11-21

















Removing/Installing Manifold:

- 1) Remove fasteners retaining manifold (using 8 mm hex socket).
- 2) Separate manifold from crankcase.

Note: it may be necessary to rotate the crankshaft, or tap the manifold lightly with rawhide mallet to loosen the manifold from crankcase. **Caution:** When sliding head from crankcase use caution not to damage plungers.

- 3) The seal assemblies may come off with the manifold. At this point examine the ceramic plungers. Plunger's surface should be smooth and free from scoring, pitting, or cracks; if not, replace.
- 4) Coat each plunger with grease.
- 5) Align outside pistons in the forward position.
- 6) Reinstall manifold and torque to specifications per sequence described below.

TORQUE SEQUENCE FOR TIGHTENING MANIFOLD:

- · Install all manifold bolts finger tight.
- Torque to 10 foot pounds in sequence as shown.
- Next torque to specification; again, in sequence.

Replacing ceramic plungers:

- 1) Remove the plunger retaining bolts with O-ring (using 14 mm socket).
- 2) Remove the ceramic plunger from piston rod.
- 3) Inspect plunger bolt O-ring and replace as necessary.
- 4) Slide new plunger over the piston rod.
- 5) Apply a drop of removable anaerobic thread sealant to threads of plunger bolt.
- 7) Install plunger bolt and torque to specifications.









TSF Series "66" Servicing Instructions









GENERAL PUMP

A member of the Interpump Group

Replacing Packings:

- 1) Remove manifold from crankcase.
- 2) Insert proper extractor collet through main seal retainer. Tighten collet and extract retainers, packings and head rings.
- 3) Apply grease to the packing assembly before installing in cylinders.
- 4) Place proper insertion tool in cylinder and install packing assembly, retainer and low pressure seal retainer using the proper insertion tool.
- 5) Repeat this sequence for each cylinder.
- 6) Align outside pistons in forward position.
- 7) Coat each plunger with grease.
- 8) Install manifold and torque retainers to specifications.

Changing Oil:

- 1) Remove drain plug (using 17 mm socket).
- 2) Drain oil.
- 3) Replace plug.
- 4) Refill with new oil. Fill to middle of sight glass (33.8 oz).

Recommended Tools/Supplies:

- KINSTSF66 Packing Insertion Kit, 66 Series
- 100783 Complete Extraction Kit

Includes the following tools:

2530016	handle	2530020	15mm sleeve
2530017	bolt	2530021	18mm sleeve
2530018	pin	2530022	20 mm sleeve
		2530023	22 mm sleeve
		2530024	24 mm sleeve

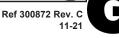
- 190446 Oil Drain Kit
- 100295 General Pump Series 100 Oil (1-16 oz. bottle)

100214 General Pump Series 100 Oil (6-16oz. bottles)

100216 General Pump Series 100 Oil (24-16 oz. bottles)







TROUBLESHOOTING

Pulsation Valve stuck open. Check all valves, remove foreign matter.	PROBLEM	CAUSE	REMEDY	
Faulty pulsation damper. Worn nozzie. Belt slippage. Air leak in inlet plumbing. Relief valve stuck; partially plugged or improperly adjusted valve seat worn. Inlet suction strainer clogged or improperly sized. Worn packing. Abrasaives in pumped fluid or severe cavitation. Inadequate water. Fouled or dirty inlet or discharge valves. Pump runs extremely rough, result of worn and or seals and respective to the control of the crankshaft. Water leakage from under mainfold. Oil leaking in the area of crankshaft pulley. Excessive play in the end of the crankshaft pulley. Water in crankcase. Oil leaking from undersides of the crankshaft pulley. Water in crankcase. Oil leaking from undersides of the crankshaft pulley. Water in crankcase. Oil leaking from undersides of the crankshaft pulley. Water in crankcase. Oil leaking from undersides of the crankshaft pulley. Water in crankcase. Oil leaking from undersides of the crankshaft pulley. Water in crankcase. Oil leaking from undersides of the crankshaft pulley. Water in crankcase. Oil leaking from undersides of crankcase of the crankshaft pulley. Water in crankcase. Oil leaking from undersides of crankcase of the crankshaft seal or improperly installed oil seal o-ring. Excessive play in the end of the crankcase has on drive belt. Worn packing and/or piston rod seals. O-rings on plumger relainer worn. Worn main bearing from excessive tension on drive belt. Water in crankcase. Oil leaking from undersides of crankcase plate on or drive belt. Worn packing and/or piston rod seleve, o-rings on plumger relainer worn. Cracked plunger. Oil leaking from undersides of crankcase or crankcase plate or dealers. Oil leaking from underside of crankcase or crankcase plate or dealers. Oil leaking from underside of crankcase or crankcase plate or dealers. Cracked plunger relainer worn. Cracked pl	Dulastia	Valve stuck open.	Check all valves, remove foreign matter.	
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of crankcase. Scored piston rod. Replace piston rod. Replace cover o-ring, drain plug o-ring, or sight glass o-ring. Loud knocking noise in pump. Pulley loose on crankshaft. Broken or worn bearing on rod(s). Valve stuck open or shut, or not opening enough. Scored, damaged or worn plunger. Overpressure to inlet manifold. Abrasive material in the fluid being pumped. Excessive pressure and/or temperature failure of the packing. Overpressure of pump. Replace piston rod. Replace cover o-ring, drain plug o-ring, or sight glass o-ring. Check key and tighten screw. Replace bearing or rod(s). Replace bad valve. Replace plungers. Overpressure. Install proper filtration on pump inlet plumbing. Excessive pressure and/or temperature of fluid being pumped. Check pressures and fluid inlet temperature; be sure they are within specified range. Overpressure of pump. Reduce pressure. Reduce pressure. Do not run pump without water.		Cracked plunger	Replace plunger(s).	
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