INSTRUCTION BULLETIN

2CT and 2CT-3 Pumpak for 145TC, 184TC and 215TC drive

OVERVIEW:

These instructions pertain to the assembly and installation of a 2CT pump end. Your 2CT pump may have included a driver such as close-coupled electric motor, engine, bearing pedestal or hydraulic motor pedestal that will hereafter be referred to as the driver.

♦ **CAUTION. 2CT pumpaks are shipped with no running clearance between the impeller and housing. 2CT pumpak impeller clearance can only be established after the pumpak has been secured to the driver. See Pumpak Assembly.**

PUMPAK ASSEMBLY: (pump end suitable for mounting to various drivers).

1. Loosen the drive sleeve clamp.

2. Lightly coat the driver shaft with an anti-seize compound.

3. Slide the pump onto the driver by hand. This should not require extreme force.

4. Install and tighten fasteners (4) into the pump adaptor securing the drive.

5. Tighten the drive sleeve clamp fastener to 20 to 26 foot pounds.

6. To establish impeller running clearance:

   Loosen the two opposing nuts that fasten the suction chamber to the pump. Loosen the locknut of one of the three jackscrews. Back-off the cleanout chamber by rotating the jackscrew clockwise ½ turn then re-tighten the locknut. Repeat this step for the other two jackscrews. Re-tighten the suction chamber fasteners.

7. Rotate the shaft to ensure that the pump rotates freely before putting the pump into service.

INSTALLATION:

Optimum performance can be attained by placing the pump as close to the liquid source as possible. Secure the pump by mounting it to a foundation or base plate.

Hose or pipe can be used on the suction and discharge. The suction line must not be reduced in size. If hose is used, reinforced non-collapsible type is recommended. The discharge line must be rated to the maximum pressure developed by the pump.

Avoid kinks in the hose and unnecessary restrictions that may affect pump performance. All pipe connections must be sealed with adequate thread sealant. A small air leak in the suction line will affect priming performance. If a throttling valve is used to adjust the flow rate, it should be mounted to the discharge piping only - never in the suction. A large low restriction de-watering type strainer must be used whenever solids larger than 1.25" spheres are present in the liquid source.

OPERATION:

Fill the pump with liquid prior to starting through a fitting on the discharge piping. The pump housing should be completely full. If the pump has a discharge valve it must be fully open to expel air during priming at initial start-up. Long horizontal suction lines require extra time to prime, 2 additional minutes for every 10 feet of horizontal run.

Start the pump driver. The pump will prime the suction hose and establish flow in about 5 minutes, more or less, depending upon the lift distance and length of horizontal run. After prime, the pump will perform to its full flow capability.

After the initial prime, the pump will retain liquid in the housing and may not need to be refilled after shutdown and restart even if the suction pipe has air in it.

DISASSEMBLY / SERVICE:

To remove the clean-out chamber for the purpose of removing debris refer to instructions identified with an asterisk ❖.

Use the exploded parts view with these instructions and note recommended replacement parts for the rebuild process.

❖ 1. Disconnect power.

❖ 2. Remove drain plug and drain the pump.

3. Disconnect and remove the pumpak from the driver.

❖ 4. Remove the clean-out chamber fastening nuts. Use the jackscrews to back off the clean-out until the o-ring is visible, at this point the clean-out chamber should slide out by hand.

❖ 5. Inspect the wearplate for abrasive wear and replace if necessary using new screws.

6. Remove 4 nuts from the adaptor and disassemble the rotating assembly form the housing.

7. Removing the shaft clamp will allow the impeller/shaft assembly to be removed from the seal housing.

8. Remove the seal components and discard.

9. Inspect the impeller and sleeve for wear. If the edges of the impeller machined surfaces are not well defined replace the impeller.

REASSEMBLY:

1. Replace o-ring on suction clean-out chamber.

2. Lightly coat the outside of the chamber and o-ring with a water-soluble lubricant.

REASSEMBLY Continued:

3. Slide the clean-out into the pump housing. Tighten two fasteners.

4. Tighten clean-out jackscrews until they bottom out, then tighten the locknuts.

5. Install new seal seat into the adaptor with the polished side of the seat facing up by lubricating the adaptor and seat o-ring with a water-soluble lubricant. Install by hand using your thumbs to squarely locate the seats against the shoulder of the adaptors. Wipe the seal faces dry with a rag.

6. Lubricate the impeller sleeve and the seal rotary bellows inner diameters with a water-soluble lubricant.

7. Install the seal rotary onto the sleeve with spring toward the impeller.

8. Lay the pump housing down on a bench.

9. Place the impeller inside the pump housing.

10. Install the housing gasket over the housing studs and position it on the housing gasket face.

11. Slide the seal adaptor over the impeller and studs.

12. Tighten 4 nuts with lockwashers to 28 ft-lbs. with a crosswise pattern.

13. Slide the drive sleeve clamp assembly on the sleeve.

The pump can now be installed to the driver as a pumpak.

♦ **Caution. Impeller running clearance must be set. Refer to section titled Pumpak Assembly.**

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