Disassembly and reassembly of a Continental CP Progressing Cavity Pump with Mechanical Seal
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1. Disconnect pipe or hose at suction and discharge ports.
2. Remove bolts which connect suction housing, #CP1, to discharge housing, #CP3. Remove suction housing and stator, #U5.
3. Remove the rotor, #U4, from the threaded flexible joint, #U2, by rotating counter clockwise or use 3/16” punch to remove the roll pins, #U17, from the pinned flexible joint, #U2, through the discharge port.
4. Remove the threaded flexible joint, #U2, from driveshaft, #U6, by using a 3/16” allen wrench and turn counter-clockwise or use punch to remove the other roll pin, #U17, from the pinned flexible joint.
5. Remove mechanical seal, #U8, off driveshaft, #U6. Carefully remove the seal seat out of the discharge housing, #CP3. NOTE: If any parts of the mechanical seal are worn or broken, replace complete mechanical seal. The parts of each mechanical seal are precision matched and are not interchangeable.
6. The bearings, #U7, and driveshaft, #U6, assembly can be removed from the pump body, #CP3, after retaining ring, #U9, has been removed. To remove assembly, lightly tap the driveshaft at the threaded or pinned end with a soft blow hammer to protect the end of the driveshaft. Then press bearings off of driveshaft, and press on new bearings. When replacing the bearings, always press on the inner race when assembling the driveshaft, and the outer race when pressing into the housing.
7. Press driveshaft assembly into discharge housing, #CP3, and secure with retaining ring, #U9.
8. Install the seal: The illustration below shows how mechanical seal is installed by parts and how it looks after it is complete. Part A is pressed into the discharge housing. Care should be taken to assure that rubbing surfaces of Part A and B are not scratched. Moisten rubber sleeve of Part B with soap and water to permit easy fitting over driveshaft. Part B is then slipped down driveshaft until face fits firmly against face of Part A. Part C is placed against Part B. Flexible joint should then be screwed or pinned into driveshaft against Part C. Use an allen wrench to tighten flexible joint, and then screw rotor onto flexible joint or use pins. It is not necessary to tighten rotor with a wrench as it is self-tightening when the pump starts.
9. Moisten inside of stator with water and slip it over rotor, place stator lip inside the housing groove. Mount suction housing to discharge housing and fasten with body screws. Refill pump with liquid to be handled, connect pipe or hose to suction and discharge ports and pump is ready to run.