

# COMMERCIAL MECHANICAL SEAL PARTS & INSTRUCTIONS

## CRANE TYPES 58U & 59U - SINGLE

### PUMP MODELS: MLN4, MLN4-CS

Effective	May 1991
Replaces	NEW

## MAINTENANCE

**MAINTENANCE AND TROUBLE SHOOTING MUST BE DONE BY AN INDIVIDUAL EXPERIENCED WITH PUMP MAINTENANCE AND THE TYPE OF SYSTEM INVOLVED.**

NOTE: The following instructions include only those steps necessary to remove and replace the Crane Type 58U (8) or 59U (9) single mechanical seal components, or to convert from packing to a Crane Type 58U (8) or 59U (9) mechanical seal. For more detailed and complete instructions on the disassembly and assembly of the MLN4, MLN4-CS pump, refer to Instructions and Parts List No. 106-A00.

### DISASSEMBLY

**Before work is started on the pump, be sure the pressure is relieved and the liquid is drained.**

Clean the pump shaft thoroughly, removing any burrs, nicks, or paint that might damage the mechanical seal O-Rings. NOTE: Applying plastic electrical tape over the shaft keyway will help protect the seal O-Rings from damage.

**When converting from packing to a Crane Mechanical Seal,** remove the packing follower lockouts, and slide the packing follower from the studs. Replace the packing follower locknuts on the studs and tighten against the stud removal nuts. Remove the studs by turning the stud removal nuts counterclockwise against the locknuts. The packing rings can be pulled out with the use of a packing removal tool, or a screwdriver. Extreme care is necessary to avoid scratching the shaft. Remove the packing washer.

Clean the stuffing box and shaft of all traces of packing material. It is important to remove any nicks, burrs or scratches from the shaft, especially in the seal area. It may be necessary to remove the hub for a thorough inspection.

**When servicing pumps already equipped with a Crane Mechanical Seal,** note that a seal follower, attached with capscrews, is used in place of a packing follower.

To dismantle the mechanical seal assembly, the hub assembly must be removed from the head. To do so, first remove the two (2) follower capscrews to release the seal follower from the hub. Next, clean and lightly oil the shaft over which the seal must pass. Remove the pipe plug in the hub, and rotate the shaft to line up the setscrew with the hole. Be sure to loosen all three (3) setscrews before removing the hub. After the setscrews are loosened, remove the hub capscrews. Carefully disengage the hub from the head by uniformly inserting two of the hub capscrews into the jack screw holes in the hub.

Once the hub is removed from the pump, the stationary seat of the seal can then be pulled from the hub with moderate force. Next, remove the rotating assembly from the hub. Particular care should be taken so as not to damage the seal faces during removal.

If the seal has been leaking, it is recommended that a complete, new seal assembly be installed.

## ASSEMBLY

Before reassembly, clean each part thoroughly. Wash out the stuffing box of the hub, and remove any burrs or foreign material.

If any of the O-Rings have been removed or "disturbed" during service (including the hub O-Rings), it is recommended they be replaced with new. When installing, be sure to inspect the O-Ring grooves and remove any burrs or dirt to ensure proper sealing.

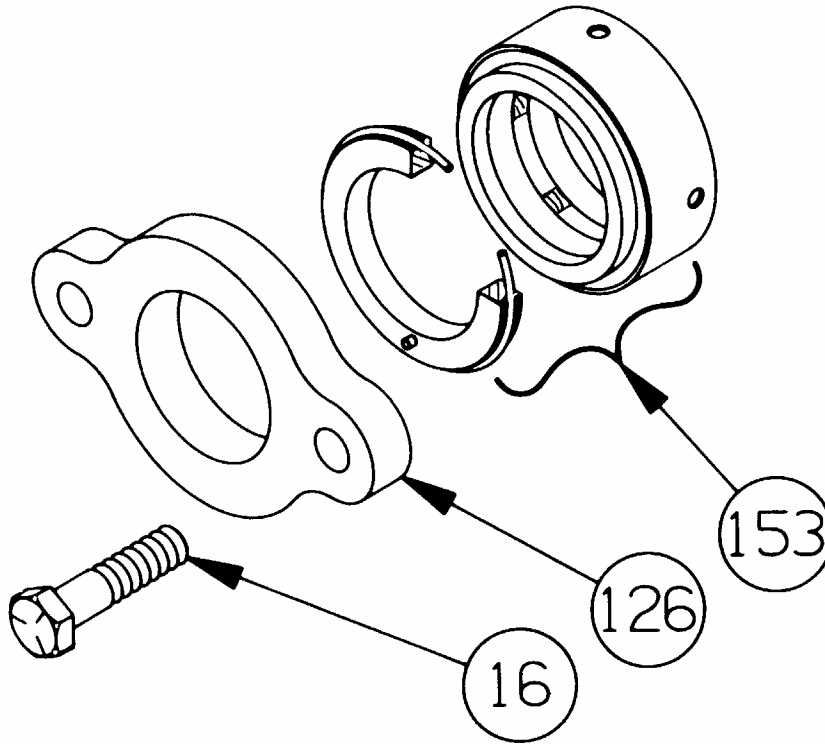
Again, make sure the shaft is clean and free of burrs which might cut or nick the O-Rings. A very thin coating of light grease on the shaft will help the parts slide into place. (Use a grease which is compatible with the product being pumped.)

Before reinstalling the hub assembly, be sure to grease the head chamfers to enable the hub O-Rings to slide into place. Remove the two capscrews from the jack screw holes. Place the hub assembly into the head with the V-notch of the hub towards the bottom of the pump. To pull the hub into place, install and uniformly tighten the hub capscrews.

### To install the mechanical seal components:

**NOTE:** It is important that the polished seal faces of both the rotating and stationary units be kept spotlessly clean during installation. When necessary, a clean tissue and alcohol should be used to clean the seal faces.

1. Remove and discard the holding clips from the mechanical seal, if so fitted.
2. Carefully slide the rotating unit of the seal onto the shaft with the polished face outward. Use a cloth over the seal face to push the unit into the hub without damaging or contaminating the seal face.
3. Line up the allen head setscrews of the rotating unit on the inner edge of the pipe plug hole in the hub (the edge closest to the pump center). After properly positioning, securely tighten the three (3) setscrews, and replace the pipe plug using new sealing compound.
4. Lightly grease the edge of the stuffing box, and slide the stationary seat of the seal and its O-Ring onto the shaft with the locating pin directly up or down. The seal face must be inward to mate with the rotating face. Position the stationary seat flush against the rotating unit.
5. Install the seal follower against the stationary seat, making sure that the locating pin is engaged in the hole in the seal follower. Compress the follower against the stationary seat by tightening the two (2) follower capscrews.



**MLN4 COMMERCIAL MECHANICAL SEAL - OPTIONAL**

Ref. No.	Part Name	Parts Per Pump	Ductile Iron Part No.	Cast Steel Part No.
153	Single Mechanical Seal Assy. Crane type 9 (59U)	1	337022	337022
126	Seal Follower	1	146902	146912
16	Capcrews - Seal Follower	2	920495	920495

**MLN4 COMMERCIAL MECHANICAL SEAL - OPTIONAL**

Ref. No.	Part Name	Parts Per Pump	Ductile Iron Part No.	Cast Steel Part No.
153	Single Mechanical Seal Assy. Crane Type 8 (58U) (FKM O-Rings)	1	337023	337023
126	Seal Follower	1	146902	146912
16	Capscrews - Seal Follower	2	920495	920495

