

BLACKMER
MECHANICAL SEAL PARTS AND INSTRUCTIONS
PUMP MODELS: MLN4, MLN4-CS

966905 **FORM**
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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 Blackmer mechanical seal components, or to convert from packing to a Blackmer mechanical seal. For more detailed instructions on the disassembly and assembly of the MLN4, MLN4-CS pump, refer to Instructions and Parts List No. 185/S.

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.

When converting from packing to a Blackmer Mechanical Seal, remove the packing follower locknuts, 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 Blackmer Mechanical Seal, note that a seal follower, attached with capscrews, is used in place of a packing follower. A seal housing, installed in the stuffing box of the hub, is used to hold the stationary seat of the mechanical seal in place.

To dismantle the mechanical seal assembly, first remove the two (2) follower capscrews. This will release the seal follower from the hub. Next, disengage the seal housing from the hub. The stationary seat will come off with the seal housing, and can be pried loose with the fingers. The rotating half of the seal, including the seal jacket, rotating face and O-Ring, can then be removed from the shaft as a complete unit.

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

ASSEMBLY

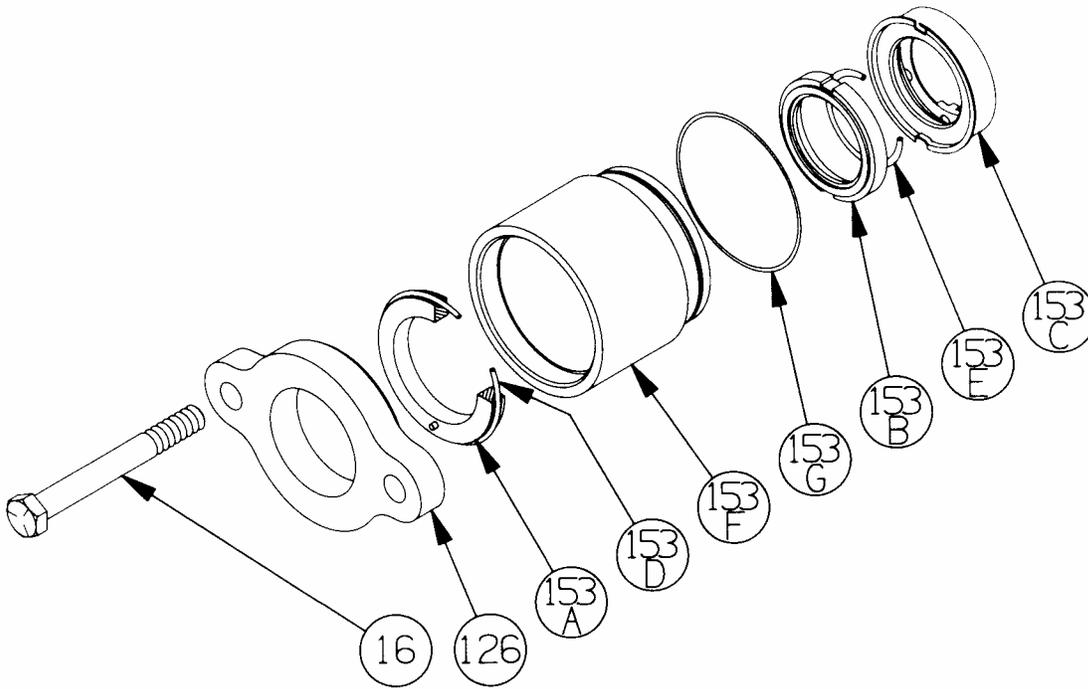
Before reassembly, clean each part thoroughly. Wash out the stuffing box of the hub, and remove any burrs or foreign material.

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.

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. On the inboard end (driven end) of the pump, 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 that is compatible with the product being pumped.)
2. Carefully slide the rotating half of the seal (seal jacket, springs, rotating face and O-Ring) down the shaft with the drive tangs of the jacket inward. Engage the drive tangs into the keyway of the shaft threads. The polished seal face must face outward and be free of all traces of dirt or grease.
3. Lightly grease the cavity in the seal housing where the stationary seat fits. Insert the stationary seat and its O-Ring into the seal housing with the polished face inward. The locating pin of the seat should be outward.
4. Lightly grease the seal cavity of the hub. Insert the seal housing and its O-Ring into the hub with the stationary seat locating pin positioned directly up or down. Be careful not to contaminate either seal face.
5. Place the seal follower against the seal housing, making sure to engage the locating pin of the stationary seat with the hole in the seal follower.
6. Install and tighten the two (2) capscrews to hold the follower in place.



MLN4 BLACKMER MECHANICAL SEAL - OPTIONAL

Ref. No.	Part Name	Parts Per Pump	Ductile Iron Part No.	Cast Steel Part No.
153	Mechanical Seal Assembly	1	337019	337019
153A	Stationary Seat (Hardened Steel)	1	332005	332005
153B	Seal Face (Carbon)	1	331867	331867
153C	Jacket Assembly	1	331886	331886
153D	O-Ring - Stationary (Buna-N)	1	701934	701934
153E	O-Ring - Rotating (Buna-N)	1	711912	711912
153F	Seal Housing	1	336987*	336987*
153G	O-Ring - Seal Housing (Buna-N)	1	701900	701900
126	Seal Follower	1	146902*	146912*
16	Capscrews - Seal Follower	2	920569*	920569*

*Parts not included in Mechanical Seal Assembly

MLN4 BLACKMER MECHANICAL SEAL - OPTIONAL

Ref. No.	Part Name	Parts Per Pump	Ductile Iron Part No.	Cast Steel Part No.
153	Mechanical Seal Assembly	1	337020	337020
153A	Stationary Seat (Hardened Steel)	1	332005	332005
153B	Seal Face (Carbon)	1	331867	331867
153C	Jacket Assembly	1	331886	331886
153D	O-Ring - Stationary (FKM)	1	701921	701921
153E	O-Ring - Rotating (FKM)	1	711962	711962
153F	Seal Housing	1	336987*	336987*
153G	O-Ring - Seal Housing (FKM)	1	701901	701901
126	Seal Follower	1	146902*	146912*
16	Capscrews - Seal Follower	2	920569*	920569*

*Parts not included in Mechanical Seal Assembly

