

FIX-N-FAX #76

CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION

Number 76

Date: August, 1998

Model 18 - Midship Pump Seal

The following instructions are W.S. Darley Company's procedures for replacing their new style mechanical seal ("Smart Seal, Outboard") found in the midship pump in the Model 18.

REFERENCE: EM1500 Pump w/Smart Seal.

1. Remove outboard bearing cap to expose the end of the impeller shaft.
2. Use a puller to remove the bearing from the end of the impeller shaft. Bearing should be replaced if the outer race was used to remove bearing.
3. Remove oil seal from housing.
4. Remove water slinger from impeller shaft.
5. The oil seal bore may have to be opened up a small amount to allow the seal closure to pass through the outboard head.
6. Use a tool, similar to the enclosed drawing, to unscrew the seal closure. A small amount of grease on the face of the tool will help keep the seal closure attached to the tool to aid in removal.
7. Remove shaft seal.
8. Remove O-ring that is located in the outboard head and inspect for cuts or excessive wear.

Assembly of Smart Seal from exterior of pump:

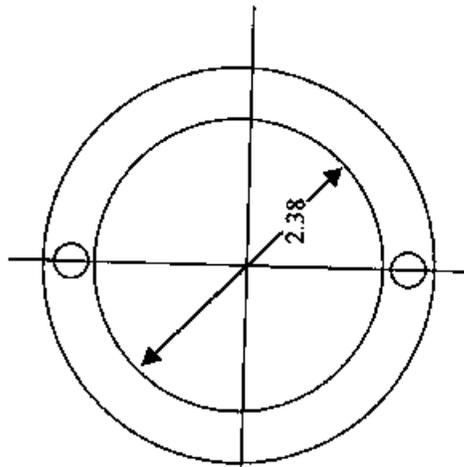
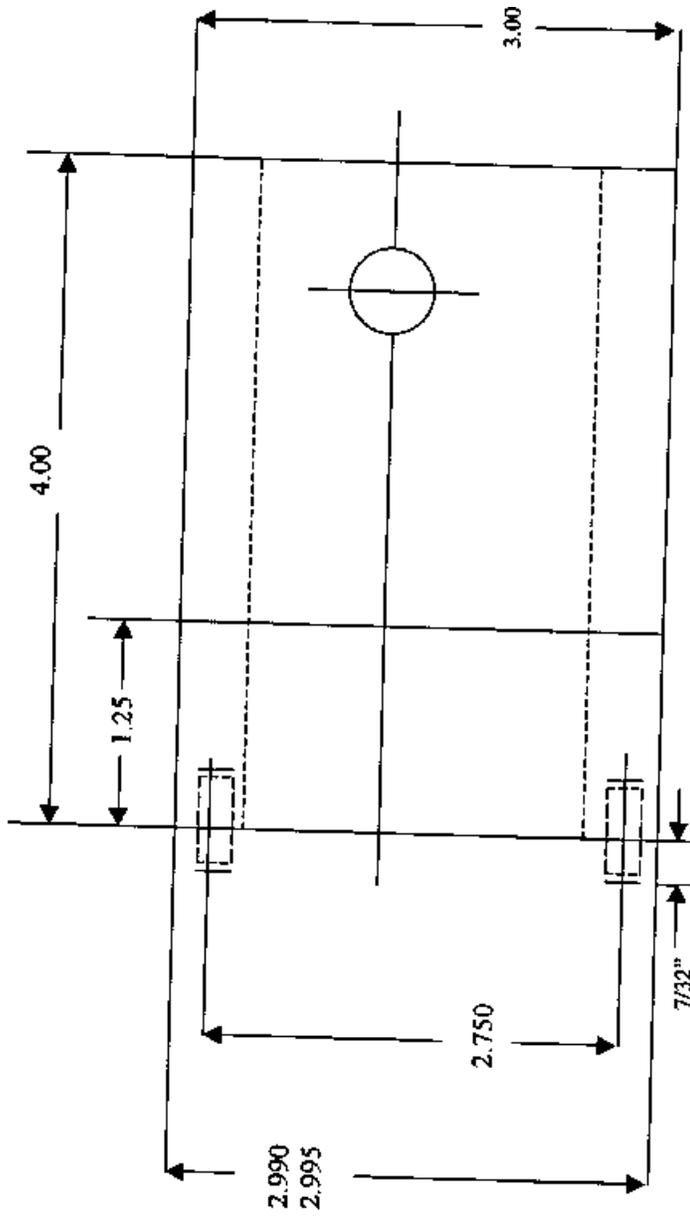
1. Clean the stuffing box and inspect impeller shaft for wear.
2. Install shaft seal into stuffing box. NOTE: slotted side of seal faces toward the impeller.
3. Press water seal into bearing closure. Note position.

4. Install O-ring into outboard head. A suitable lubricant needs to be used on the O-ring to prevent damage when installing seal closure.
5. Place seal closure, with water seal in place, onto tool that was used for removal. Insert through outboard head bore and over impeller shaft. Turn clockwise to start screw threads. Tighten until closure contacts mating part.
6. Install water slinger into impeller shaft groove.
7. Install oil seal into inboard head. A sealing compound (Black Max) may be required to hold oil seal in place, depending on what needed to be done to remove seal closure.
8. Install bearing onto impeller shaft.
9. Apply gasket sealer to bearing cap and install.

Note: This procedure and recommended special tool is only for the outboard end, at opposite end of gear case.

W.S. DARLEY & CO.
200 E. WALNUT ST
CHIPPEWA FALLS, WI 54729
PHONE: (715) 726-2650 OR (800) 634-7812
FAX: (715) 726-2656
ENGINEERING FAX: (715) 726-2655

**INSTALLATION TOOL
(2-3/16" X 1/2" DOWEL PINS)**



NOTE: MATERIAL SHOULD BE BRASS