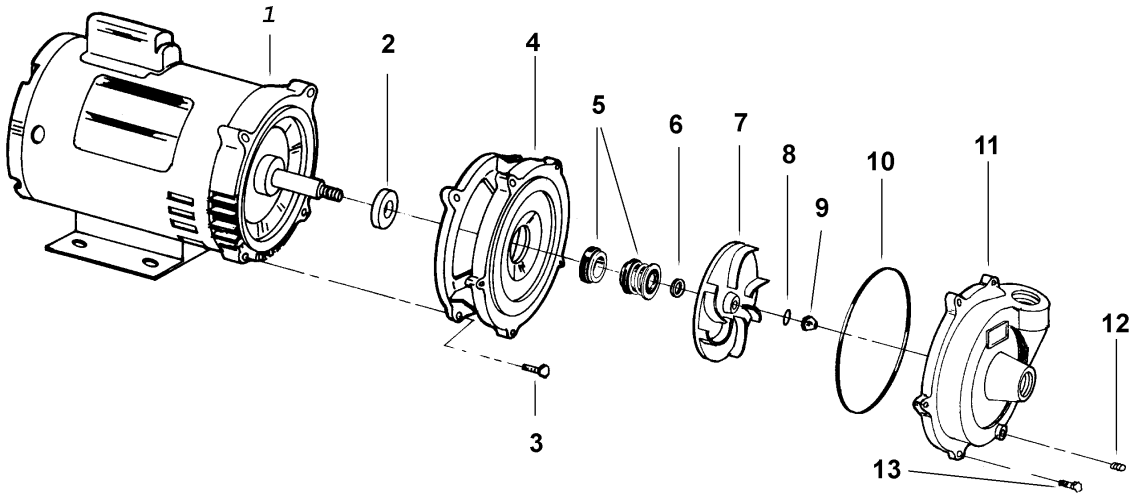
4.6 PUMP MAINTENANCE MODEL: MT

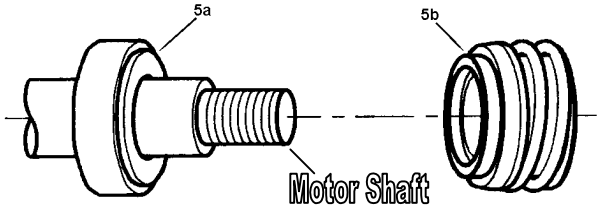
4.6.1 EXPLODED VIEW DRAWING

REF.	QTY.	DESCRIPTION	PART #
1	1	MOTOR	Consult Factory
2	1	5/8 SLINGER WASHER	034115
3	4	3/8-16 x ¾" HEX HEAD CAP SCREW S.S.	Standard Hardware
4	1	ADAPTER	034114
5	1	SEAL ASSEMBLY- SILCONE CARBIDE (SEE NOTE BELOW)	034113
6	1	IMPELLER SHIM SET	034112
7	1	IMPELLER	034111
8	1	# 013 O-RING VITON	034110
9	1	7/16-20 ACORN NUT	034109
10	1	# 243 O-RING	034108
11	1	CASING	034107
12	1	1/8" PIPE PLUG S.S.	017044
13	5	¼ - 20 x 7/8" CAP SCREW S.S.	Standard Hardware

NOTE: WHEN REPLACING SEAL ASSEMBLY (REF 5) A NEW IMPELLER O-RING (REF 8) SHOULD BE USED



SEAL ASSEMBLY DETAIL



4.6.2 SEAL REPLACMENT / MAINTENANCE

WARNING: MAKE CERTAIN THAT THE SYSTEM IS DISONNECTED FROM THE POWER SORCE IN COMPLIANCE WITH ALL LOCAL AND NATIONAL CODES BEFORE ATTEMPTING TO SERVICE OR REMOVE ANY COMPONENTS. NEVER RUN THE PUMP WHEN DRY.

MAINTENANCE:

1. Inspection - Pump should be periodically checked for proper operation. If the system has changed or if the pump is operating noisily or erratically, then the pump should be removed and examined. It should be repaired and parts replaced as necessary.

2. Cleaning - Remove oil, dust, dirt, water, chemicals from exterior of pump and motor. Blow out interior of open motors with clean compressed air at low pressure. Regularly drain moisture from TEFC motors.

3. Draining - If the pump is located in an area subject to freezing temperatures, the pump must drained when not in operation or add sufficient antifreeze.

SEAL REPLACEMENT:

1. Disassembly:

Should the mechanical seal, which consists of seal seat (Ref 5a) and seal head (Ref 5b), require replacement, proceed as follows and refer to Figure 1.

IMPORTANT: ALWAYS REPLACE BOTH THE SEAL SEAT AND SEAL HEAD TO INSURE PROPER MATING OF COMPONENT! ALSO, THE IMPELLER SEAL SHOULD BE REPLACED ANYTIME THE IMPELLER LOCK NUT (REF 9) HAS BEEN REMOVED.

a. Remove five bolts (Ref 13) connecting the casing (Ref 11) to the adaptor (Ref 4)
b. Remove the casing.

CAUTION: Care should be taken not to “pinch” or “shave” the O-ring gasket (Ref 10) between the adaptor and the casing.

c. Use a box and/or socket wrench to remove the impeller nut (Ref 9). Remove the impeller seal (Ref 8) and the impeller (Ref 7).

4.6.2 SEAL REPLACMENT / MAINTENANCE CONT.

IMPORTANT: CARE SHOULD BE TAKEN TO INSURE THAT THE SAME NUMBER OF SHIM WASHERS (REF 6) ARE REPLACED BEHIND THE IMPELLER AS WAS REMOVED. THE SHIM WASHERS ARE LOCATED DIRECTLY BEHIND THE IMPELLER AND BECOME LOOSE AS THE IMPELLER IS REMOVED.

d. The seal head (Ref 5a) can now be pulled from the shaft.
e. Pry the seal seat (Ref 5b) from the adaptor (Ref 4).

2. Reassembly:

CAUTION: The precision lapped faces on the mechanical seal are easily damaged. Handle your replacement seal carefully.

a. Thoroughly clean all surfaces of the seal seat cavity.
b. Using a clean cloth, wipe the shaft and shaft sleeve and make certain that they are perfectly clean.
c. Wet the rubber portion of the new seal seat with a light coating of soapy water. While wearing clean gloves or using a clean light rag, press seal seat squarely into adaptor recess. Avoid scratching the white ceramic surface. If seat will not position properly, place a cardboard washer over the polished surface and use a piece of pipe to press in firmly but gently.
d. Dispose of cardboard washer. Check again to see that ceramic surface is free of dirt and all other foreign particles and that it has not been scratched or damaged.
e. Wet the inside rubber portion of the new seal head with alight coating of soapy water. Slide head onto the motor shaft with the sealing surface facing the seal seat. Reinstall any shims, which have been removed. (See “Shim Adjustment” section).
f. Thread the impeller onto the motor shaft and replace the impeller seal before screwing the impeller nut into place.
g. Reassemble the pump.
h. A short “run-in” period may be necessary to provide completely leak proof seal operation.

3. Shim Adjustment:

When installing a replacement impeller (Ref 7) or motor (Ref 1), it may become necessary to adjust the number of shims (Ref 8) to insure proper running clearance between the impeller and the casing. Proceed as follows:

NOTE: A proper running clearance is between 0.015” and 0.020” (.38mm and .5mm).

4.6.2 SEAL REPLACMENT / MAINTENANCE CONT.

3. Shim Adjustment Cont.

a. For impeller replacement, add one (1) shim in addition to those removed originally.
b. For motor replacement, add two (2) shims in addition to the shims removed during disassembly.
c. Reassemble the pump as described in Steps 2 and 3. (See "Reassembly" section).

IMPORTANT: INSURE THAT THE CASING IS SNUGLY IN PLACE AND CHECK THE SHAFT TO MAKE SURE IT IS TURNING FREELY (USE THE SCREWDRIVER SLOT IN THE MOTOR TO TURN THE SHAFT). IF IT TURNS FREELY, CHECK TO INSURE THAT THE CASING COVER AND CASING FITTED "METAL TO METAL" WHERE THEY MEET ON THE OUTSIDE. IF THEY ARE NOT "METAL TO METAL", TIGHTEN THE FASTENERS (REF 13) AND RECHECK THE SHAFT FOR FREE TURNING. TIGHTEN CAREFULLY TURNING THE SHAFT WHILE TIGHTENING SO THAT THE MOTOR BEARINGS ARE NOT DAMAGED IN THE EVENT THAT TOO MANY SHIMS WERE INSTALLED. IF SHAFT SEIZES BEFORE FASTENERS ARE COMPLETEY TIGHT, DISASSEMBLE THE PUMP AND REMOVE ONE (1) AND REPEAT REASSEMBLY.