

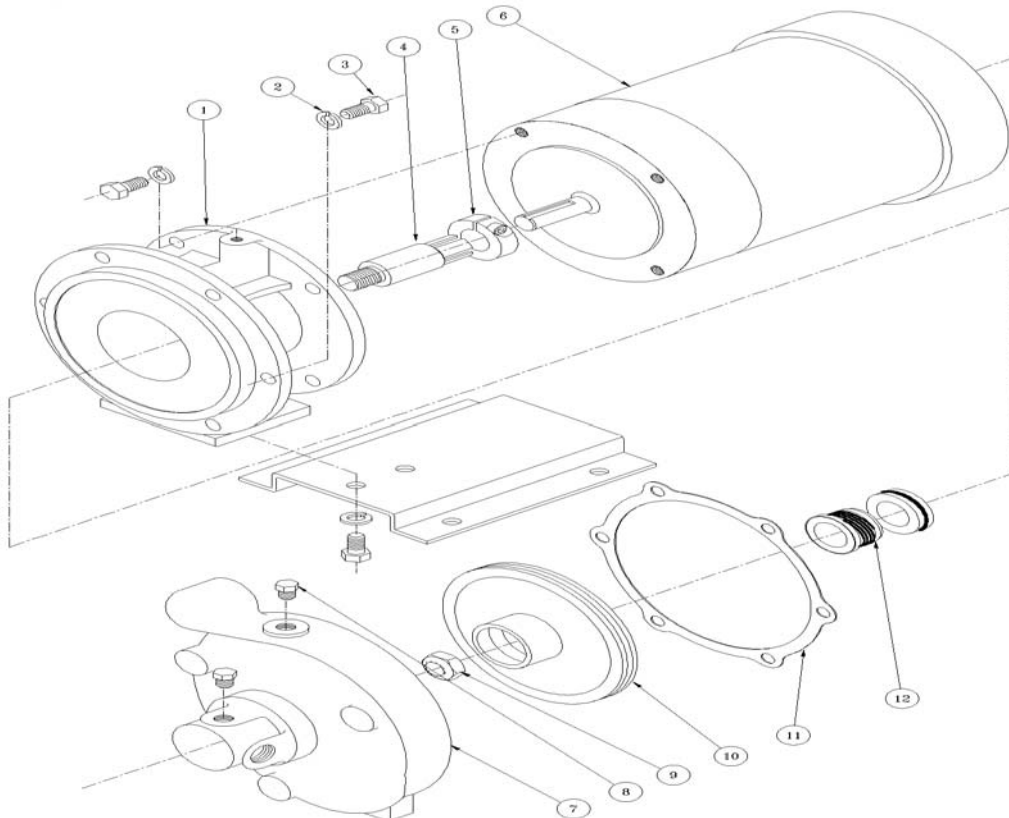
4.4 PUMP MAINTENANCE MODELS: DB, DC, DF, DG, DJ, DL

4.4.1 EXPLODED VIEW DRAWING

REF.	QTY.	DB	DC	DF	DG	DJ	DL	DESCRIPTION	PART #
1	1	✓	✓	✓	✓	✓	✓	ADAPTOR FRAME	034007
2	12	✓	✓	✓	✓	✓	✓	LOCK WASHER 3/8 x 1/8 S.S.	034004
3	12	✓	✓	✓	✓	✓	✓	HEX HEAD CAP SCREW 3/8-16 x 1" S.S.	034009
4	1	✓	✓	✓	✓	✓	✓	SHAFT DRIVE SLEEVE S.S.	034006
5	1	✓	✓	✓	✓	✓	✓	DRIVE CLAMP ASSEMBLY	034020
6	1	✓	✓	✓	✓	✓	✓	MOTOR 56 C FRAME	CF
7	1	✓	✓		✓	✓		HOUSING 1 X 3/4	034021
				✓			✓	HOUSING	034027
8	2	✓	✓		✓	✓		PIPE PLUG / GUAGE PORT	017043
9	1	✓	✓	✓	✓	✓	✓	HEX JAM NUT 5/8 – 18 x 5/16 x 3/8 S.S.	034016
10	1	✓	✓	✓	✓	✓	✓	IMPELLER BRASS 5.9"	034025
11	1	✓	✓	✓	✓	✓	✓	GASKET RM A-56 FLOBOBESTOS	034014
12	1	✓	✓	✓	✓	✓	✓	SEAL ASSEMBLY	034008
	1							SHIM SET .032 (NOT SHOWN)	034018

NOTE: YOUR PUMP MAY LOOK SLIGHTLY DIFFERENT

NOTE: (CF) Contact Factory



4.4.2 SEAL REPLACEMENT / MAINTENANCE

WARNING: MAKE CERTAIN THAT THE SYSTEM IS DISCONNECTED FROM THE POWER SOURCE 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 be drained when not in operation or add sufficient antifreeze.

SEAL REPLACEMENT:

1. Disassembly:
 - a. Turn off the electric power and the water supply to the system.
 - b. Drain the system. Flush if necessary.
 - c. Remove the S.S. bolts (Ref 3) holding the housing (Ref 7) to the adaptor frame.
 - d. Remove the two S.S. bolts mounting the assembly to the Mokon system base plate.
 - e. Remove the cap screws, which hold the adaptor frame (Ref 1) to the motor.
 - f. Loosen drive clamp assembly (Ref 5) and remove the pump.

The seal seat and seat cup will remain in the pump adaptor frame. If not damaged or worn, do not remove. If necessary, remove the adaptor frame counter bore with a piece of wood or a screwdriver handle inserted through the adaptor frame from the drive end. A sharp tap or two is usually sufficient to knock out the seal seat. Use caution when removing the seal seat so as not to damage the face or distort the metal seat.

4.4.2 SEAL REPLACEMENT / MAINTENANCE

2. Reassembly:

- a. Clean all castings with mild cleaning solvent such as kerosene. All dirt and foreign matter should be removed.
- b. The pump seal assembly must be installed over the clamp end of the drive sleeve. The large diameter end of spring goes against the impeller hub. The small diameter end of the spring rests against the seal cage. The small diameter of the seal cage faces the impeller. The large diameter of the seal cage holding carbon washer faces the adaptor frame holding seal.
- c. Make sure the drive sleeve is CLEAN and free of nicks or burrs. Use fine steel wool to polish sleeve. Lubricate the sleeve with soapy water.

NOTE: DO NOT USE OILS OR S.T.P. They allow the seal bellows to set up too quickly on the sleeve, thus preventing free movement of the seal cage after assembly.

- d. Lightly lubricate all internal surfaces of bellows, with soapy water.
- e. Place the spring over the drive sleeve (large diameter end) against the impeller hub.
- f. Place the seal cage over the sleeve with carbon washer facing away from the impeller.
- g. Press cage assembly down far enough to compress spring and release. The seal cage will return to free height.
- h. Lubricate the seal seat cavity with soapy water.
- i. Lubricate the seal seat gasket with soapy water.
- j. Use a wood dowel of sufficient diameter to press the seal seat squarely into cavity on pump frame. HAND PRESSURE ONLY

NOTE: Polished metal surface must face opposite the seal seat cavity on pump frame. Optional ceramic seal assemblies require less pressure to seat squarely, too much pressure will crack ceramic seal.

- k. Place impeller and seal cage assembly in housing as shown in the above figure. Affix the gasket on the frame over the drive sleeve onto housing.
- l. Attach the pump frame to pump head with bolts and secure evenly. Install the shaft clamp onto the shaft and attach entire assembly to motor. Tighten the shaft clamp with an Allen wrench.

See maintenance section 4.4.6 to adjust the pump impeller clearance.

4.4.3 MOUNTING THE MOTOR TO THE PUMP

1. Check the rotation of the motor to be sure it coincides with the required rotation of the pump assembly.
2. Loosen the drive clamp assembly (Ref 5) but do not remove.
3. Slide the pump assembly onto the motor drive shaft, aligning the holes in the adaptor frame (Ref 5) with tapped holes in the motor mounting face, until adaptor frame (Ref 1) contacts the motor mounting face.
4. Install two cap screws (diagonally opposite) and tighten to secure the pump assembly to the motor.
5. Center the drive clamp assembly (Ref 5) and tighten.
6. Proceed to section 4.4.6 to check the impeller clearance.

4.4.4 IMPELLER REMOVAL

1. Remove seal bellows and spring assembly (Ref 12).
NOTE: The seal bellows will be bonded to the shaft sleeve and will require some patience and caution to remove in order not to damage the seal bellows and cage.
2. Place the impeller drive sleeve (Ref 4) between two pieces of wood in a vise. Take care so as not to damage sleeve.
3. Remove the impeller jam nut (Ref 9) from the end of the shaft sleeve. Unthread the impeller (Ref 10) by turning counterclockwise (left hand).

4.4.5 INSPECTION

Check all parts for wear. For ease of reassembly, the shaft sleeve should have all nicks and burrs removed. Replace damaged parts with new parts. Inspect the seal seat and seal cup for grooves; scuff marks, or other deterioration. If a perfect lapped surface remains on the seal seat, it may be reused. If the seal cup is in good condition, it may be reused. If the seal seat, cup, washer, or bellows are damaged or worn, a new seal assembly should be installed (see section 4.4.2).

4.4.6 IMPELLER CLEARANCE ADJUSTMENT

Impeller face and back clearances are not critical. The impeller must be adjusted axially so that it does not rub, that is it should be centered in the space between the adaptor frame and housing.

After the pump has been installed on the motor with two cap screws, the impeller can be adjusted as follows:

1. Center the drive clamp assembly (Ref 5) and tighten.
2. Loosen the two cap screws holding the pump to the motor (not shown).
3. Pull the motor away from the pump and insert the .032" (.813 mm) shims (Ref 12) between the pump adaptor frame (Ref 5) and the motor. Align the holes in the shims so that remaining two cap screws can be installed.
4. Install the remaining two cap screws and tighten all four.
5. Rotate motor slowly by hand to make certain the impeller does not rub the housing or adaptor frame.

If the impeller still rubs, loosen the drive clamp assembly (Ref 5), remove two of the cap screws and shims (not shown), loosen the other two cap screws and repeat above procedure.

If the above procedure does not stop the impeller from rubbing, CONSULT THE FACTORY.