

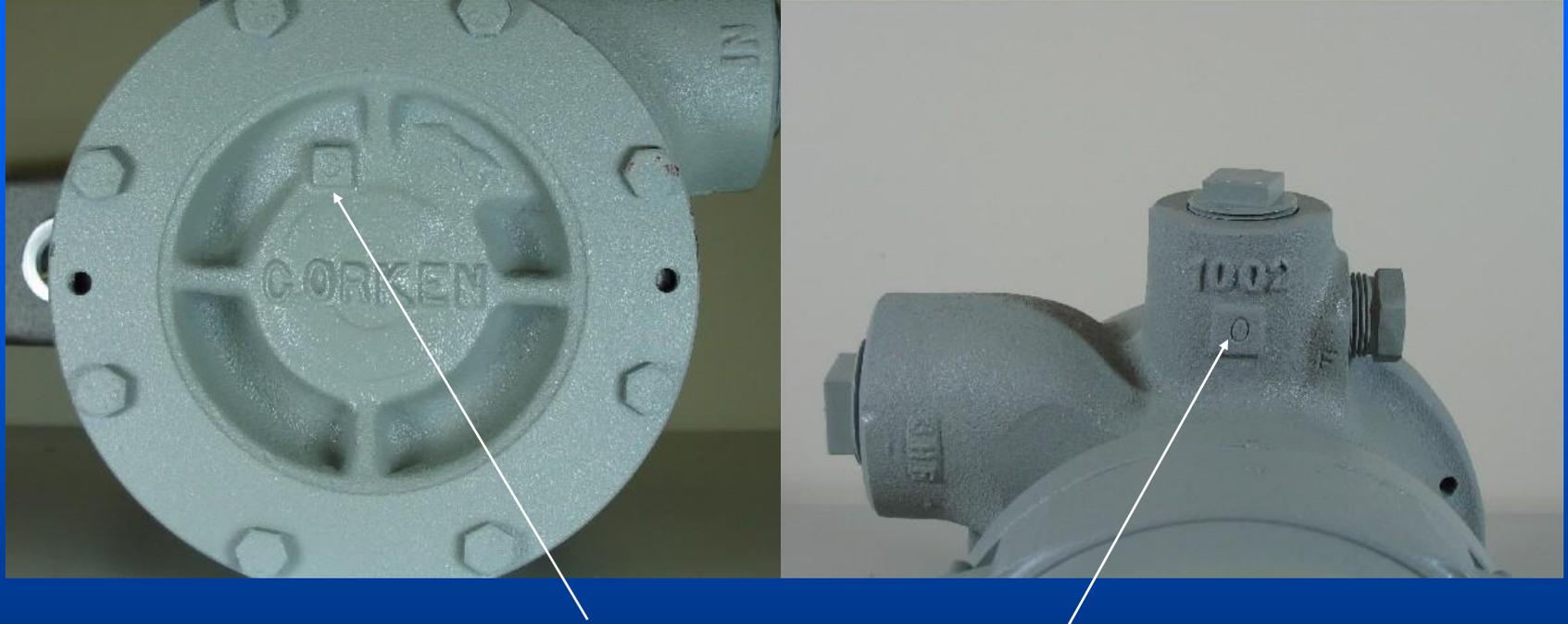
Coro-Flo Pump Service



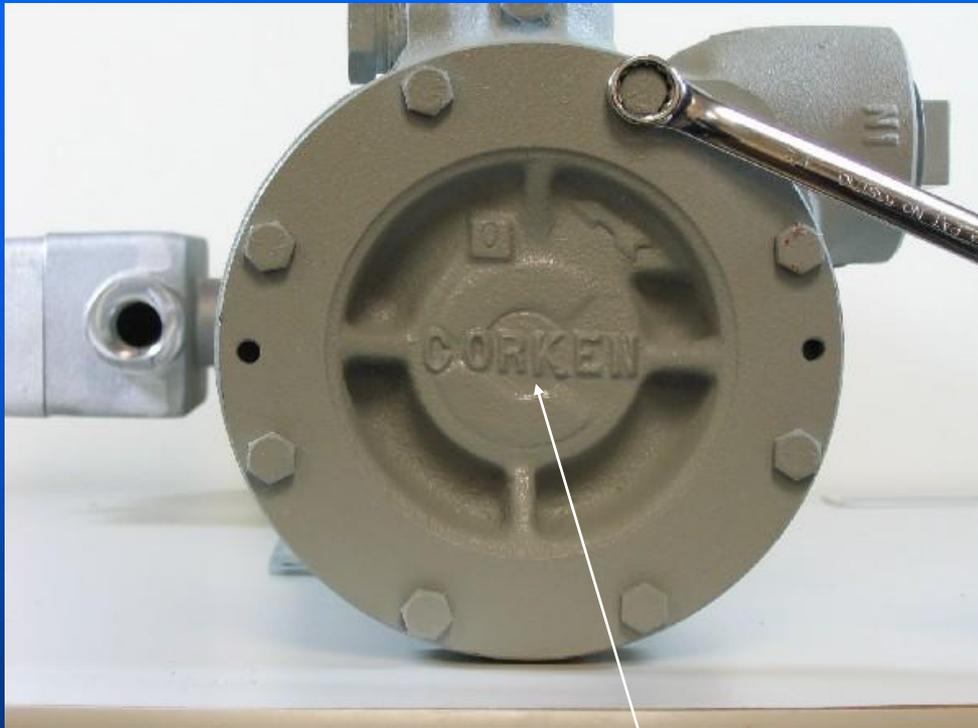
Coro-Flo



The above is a “C” model, but the seal repair is the same for “F”, “DS” and “DL” models.



If the nameplate is missing the pump size can be determined by confirming the number stamped on the case and cover. This is a model "10", so you see a "0" stamped. A model "12" would have a "2", a "13" would have a "3", etc.



Remove the cover bolts and use two bolts to “push” off the cover if necessary. Note cover position and direction arrow. The pump operates “CCW” when facing the cover.

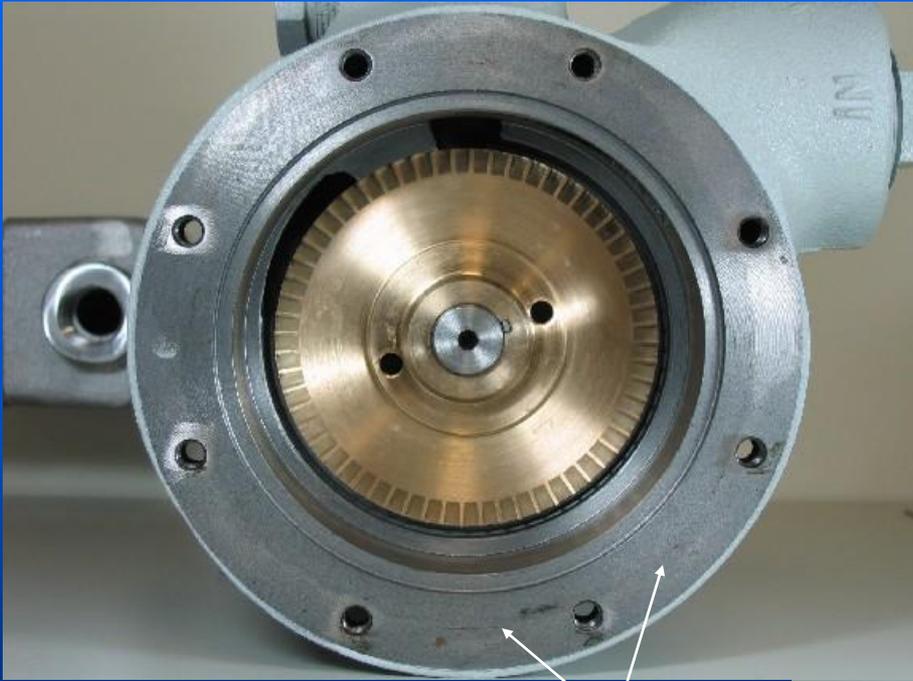
Cover & Shims



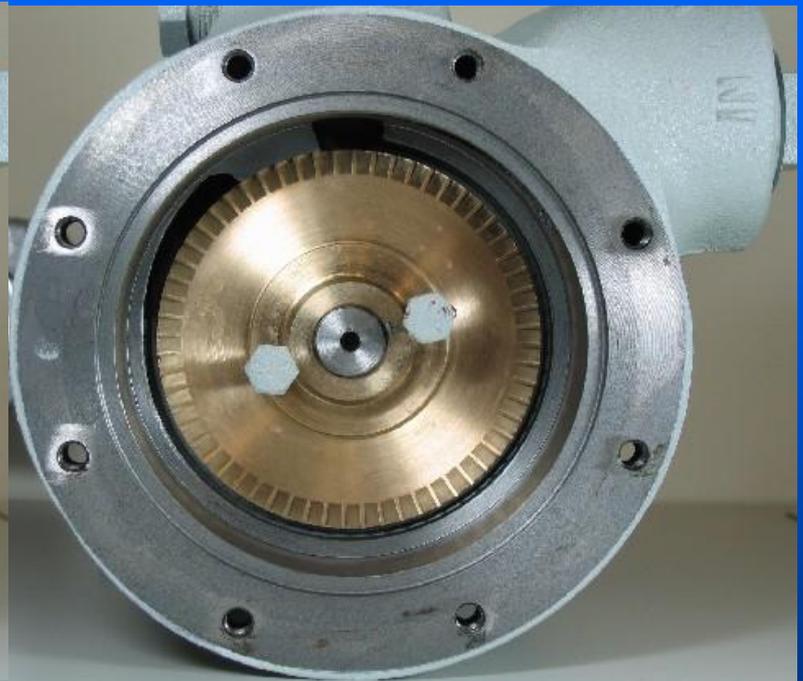
Shims are for adjusting impeller clearance.
Red =0.002 inches Green = 0.003 inches
Proper clearance = Approx. 0.003 inches max.

O-ring seals cover to case. Clean cover and case before reassembly. Clean flat surfaces before shimming.

Impeller clearance is adjusted by removing shims one at a time, and re-installing the cover and turning the pump shaft. When the impeller either drags(rubs) or locks up, a shim should be re-installed with the cover. If the pump rubs but still turns, install a red shim(0.002”). If the pump locks up, install a green shim (0.003”). Proper clearance is approx. 0.003 inches. **The pump should turn free after shimming.**



Cover has been removed. The flat case surface should be cleaned prior to re-shimming the impeller clearance.



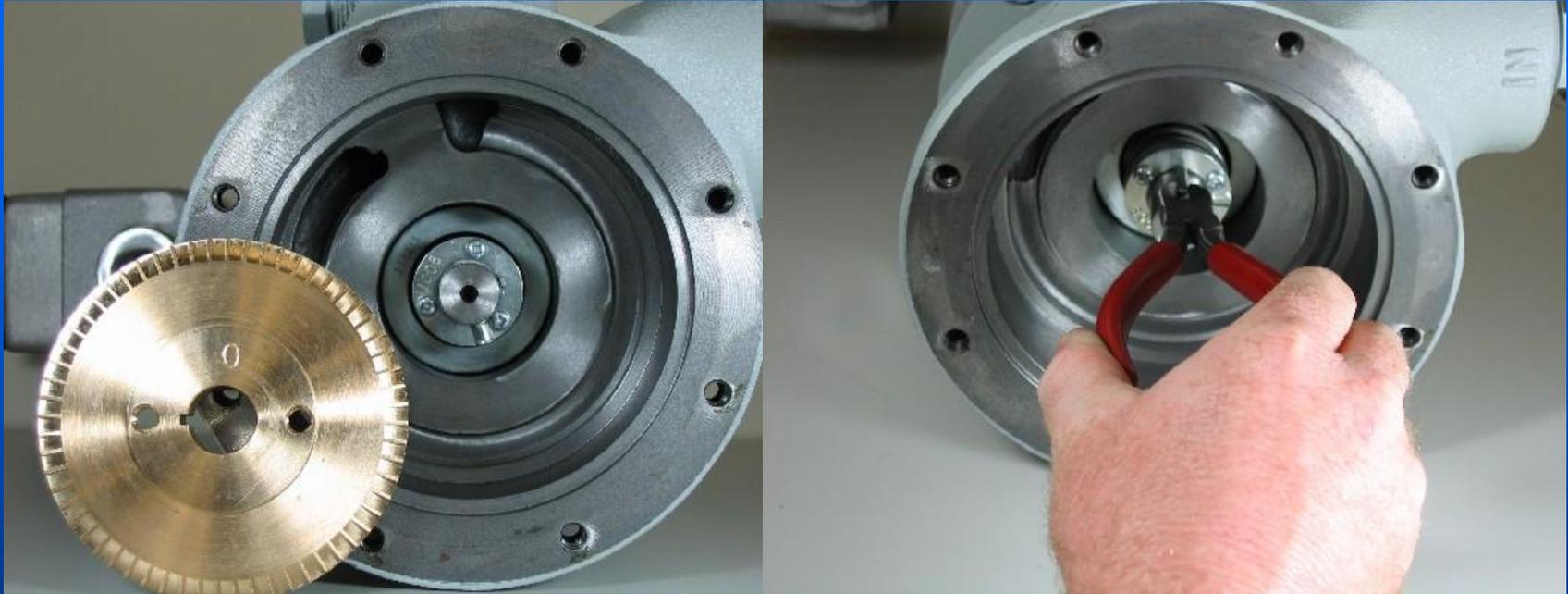
Cover bolts may be used to assist in removing the impeller. It should "float" and slide out easily.

Impeller – Dry Running

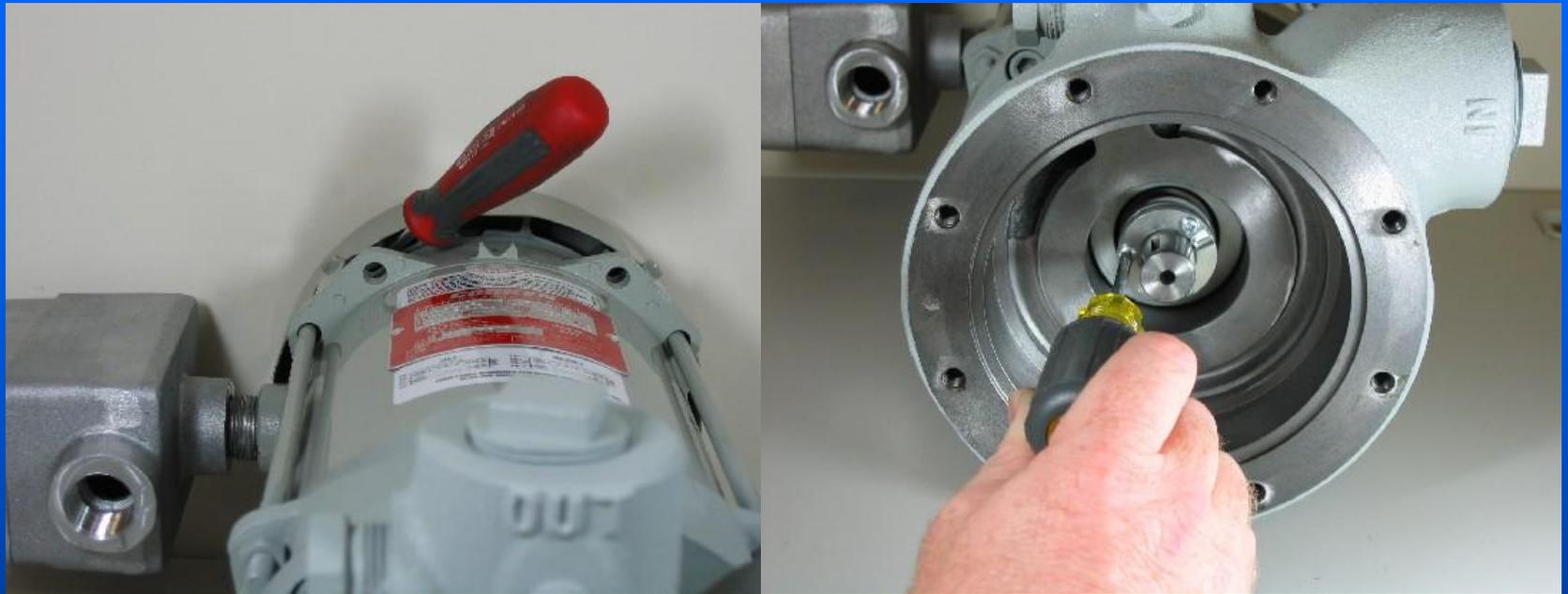


When an impeller is dis-colored such as shown in this photograph, the pump has operated “dry” or without liquid. This can be the cause of a seal failure. Inspect the system, bypass setting and operation to determine the cause of dry running. Note, the impeller may not be damaged if it can be properly shimmed and no “fins” are bent or damaged.

Key Removal



Once the impeller is removed the special key must be removed. A pair of “side-cutters” is an easy way to remove the key. This can be done by gripping the key and applying upward pressure on the side-cutters. This can also be done with a small screwdriver inserted under the “tab” on the special key. Care should be taken to avoid damage to the shaft.

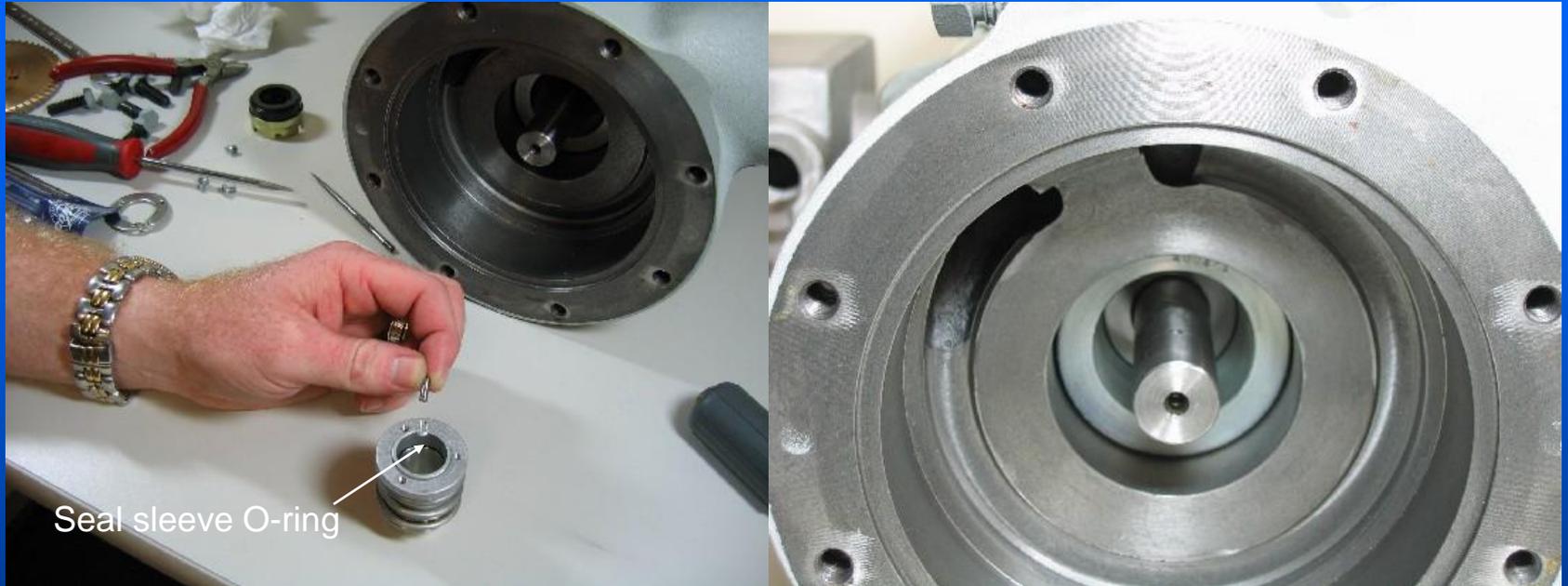


Insert a screwdriver into the motor fan on a “C” model or lock the shaft on a DS, DL or F model pump to remove the seal clamp ring screws. The screws not only hold the pin, but also compress the sleeve O-ring to the shaft. They should be tightened during assembly, taking care not to strip the threads. A screwdriver or other tool should also hold the shaft during assembly.

Pin Removal

The seal pin can be removed by depressing the seal sleeve with a finger or screwdriver while the pin is turned to a down position. In some cases “Needle-nosed” pliers may be needed to remove the pin.





The seal sleeve should slide out easily. If it is difficult to slide off of the shaft, the shaft should be polished to remove any burrs around the pin hole or keyway to allow easy assembly. This can be done using a fine sandpaper or polishing cloth. The shaft should also be cleaned where the sleeve O-ring contacts.

Housing Removal



To remove the seal housing it is necessary to remove the nameplate. Then using a large flat blade screwdriver, pry outward on the housing. The screwdriver is prying on the grooves on the outside diameter of the housing. Holding up on the housing from the inside may assist in the removal.

Housing Shimming



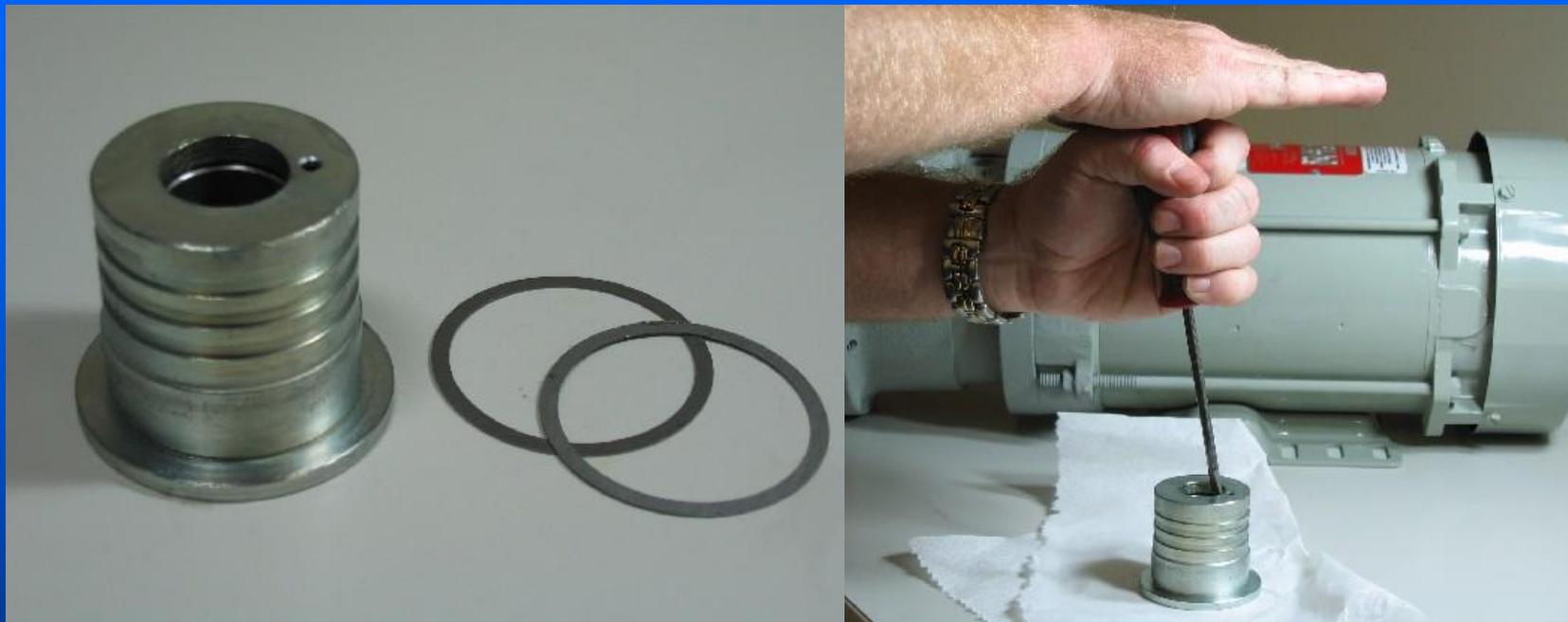
Normally a pump is rebuilt using the same housing shims. To confirm proper clearance:

Compress the seal sleeve behind the pin. Attempt to rotate the sleeve out of the groove in which the pin sits. There must be some movement behind the pin.

If there is no movement behind the pin, confirm that the seal seat pin is not misaligned. You may remove shims to obtain proper movement.

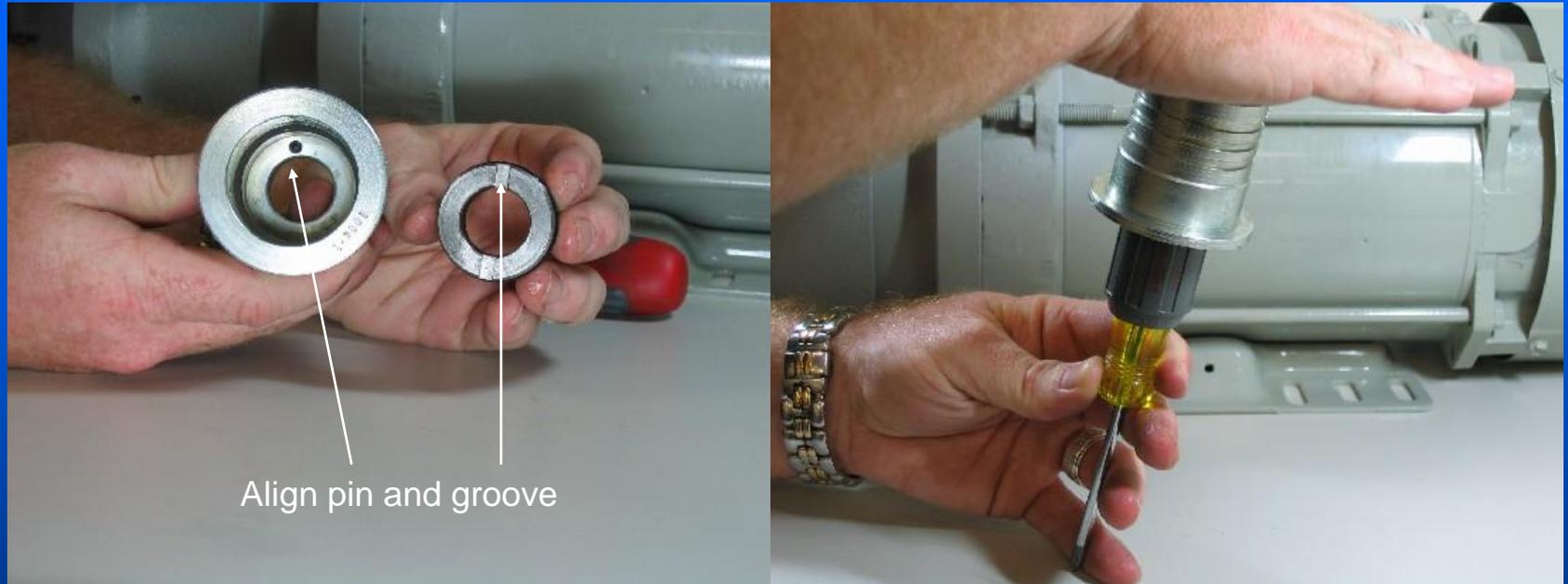
If the pin will not misalign or will misalign and have less than 0.010 inch clearance between the pin and sleeve, it is properly adjusted.

If there is more clearance while misaligned between the pin and sleeve than 0.010 inch, additional shims must be added.



The above photograph shows the housing shims and the removal of the seal seat. These shims must be reused and do not come with a seal assembly. The housing should be cleaned on the outside and inside diameters prior to re-assembly.

Seat Installation

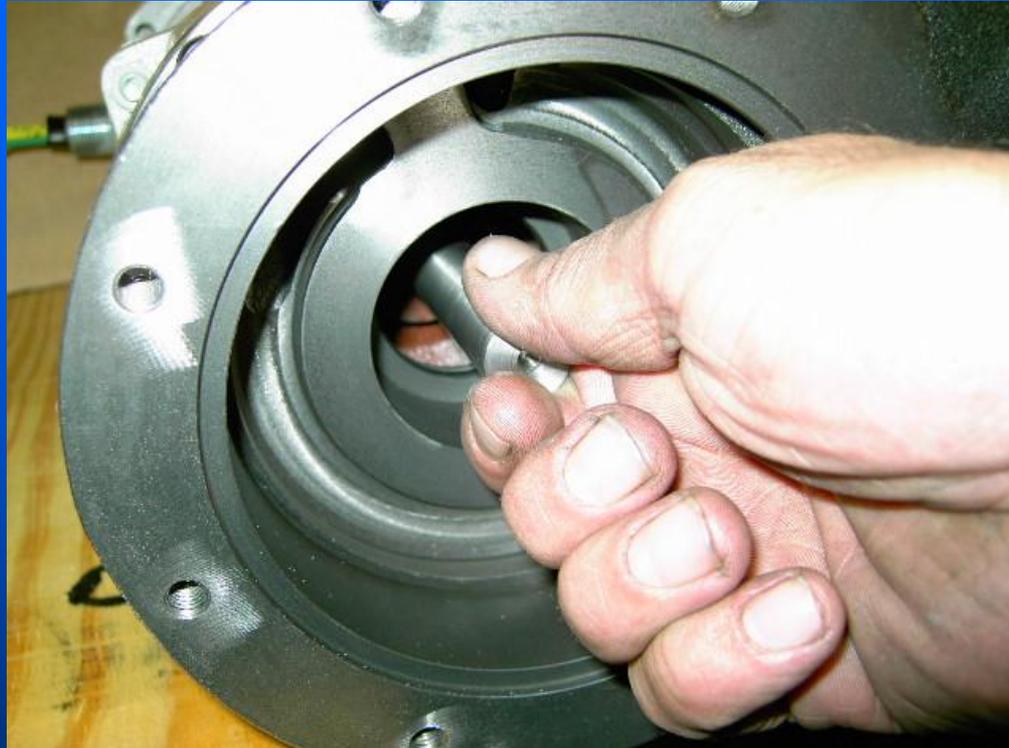


The seal seat should be installed using the “protective” cardboard disc supplied with the seal assembly. This can be done using a wood or plastic handle of a screwdriver or hammer and pressing in by hand. The seal and O-ring may be lubricated with a light oil or spray lubricant. Take special care if dirt or dust is present in the area. The seal is a precision part and debris may cause a leak. **Keep hands clean!**



Remove the casing O-ring using a pick or probe. Once the O-ring is removed, clean the groove using a spray lubricant or air to remove any particles that may have fallen into the groove.

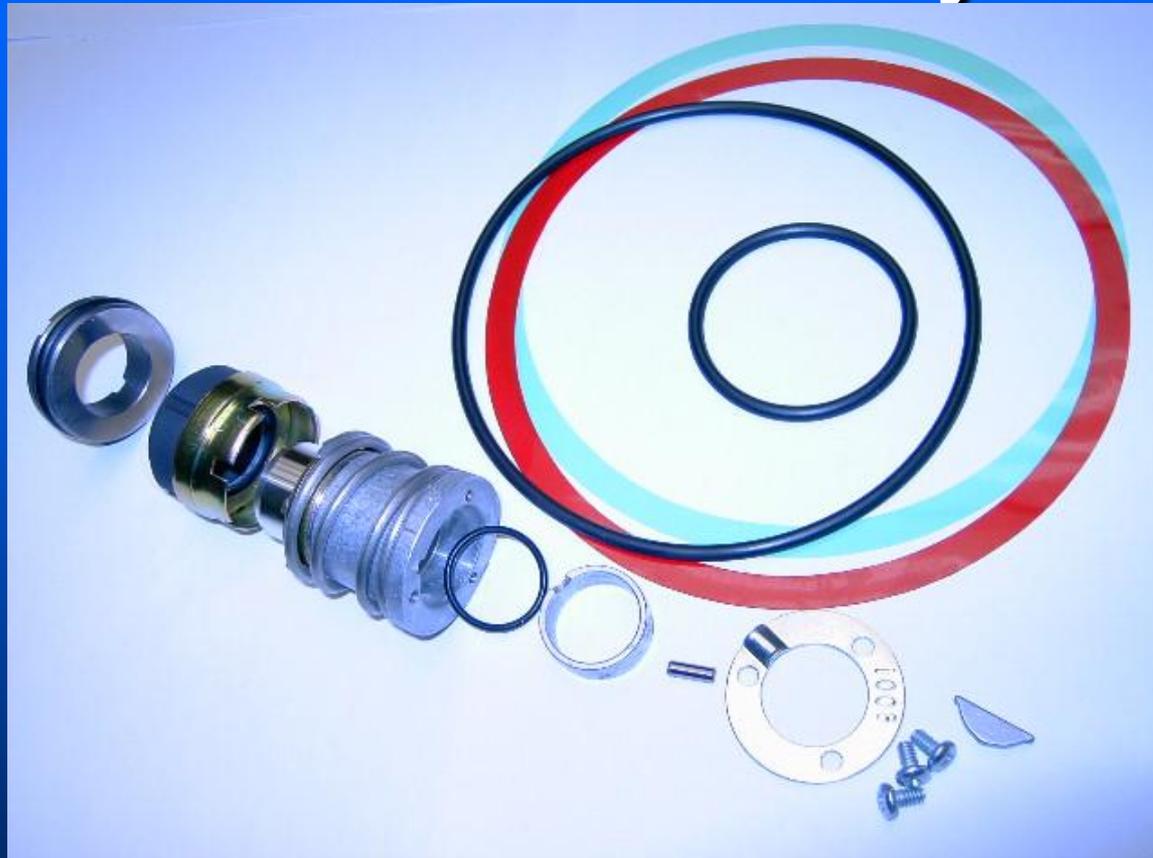
Check Motor/Shaft Bearings



The motor or pump shaft should be checked for any movement either up and down or in and out. The shaft locates the seal and excess movement may cause a seal leak. Also check for any roughness in the motor or frame bearings. Bearings should be changed if movement or roughness is noted.

CLEAN ALL PARTS AND REASSEMBLE THE PUMP.

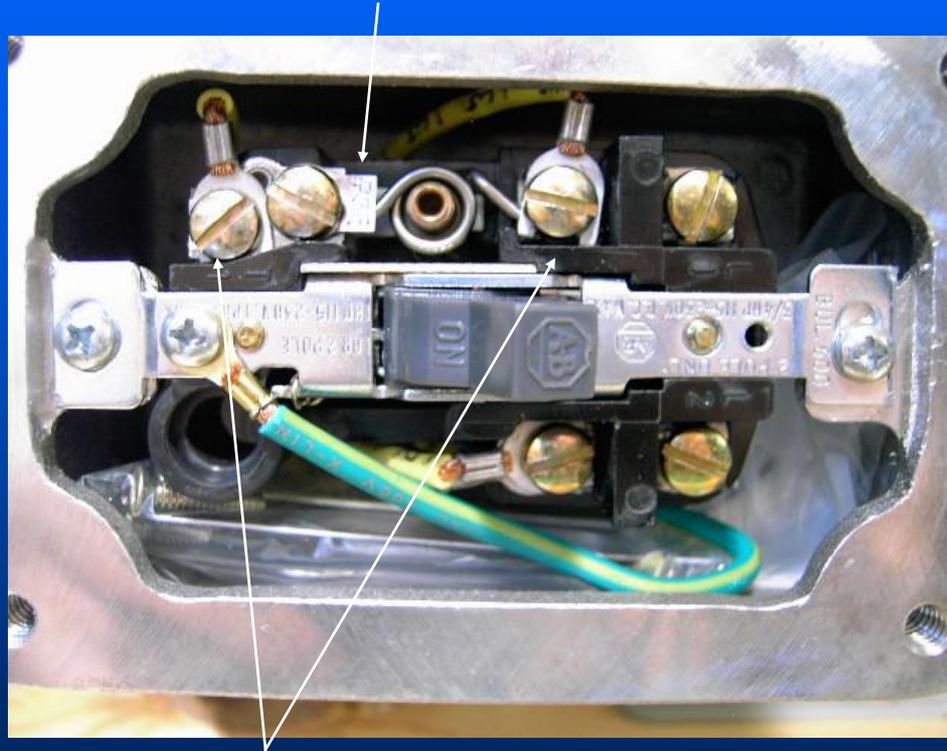
Seal Assembly



A seal assembly kit includes all parts shown above. It does not include housing shims.

“C” Model Switch Box

Note “heater” number on tag. 1 HP 1.5SF(C10,C12) = P32, 2HP(C13) = P36
IT IS CRITICAL TO HAVE THE CORRECT HEATER



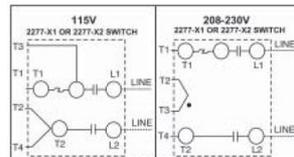
On 115V the wire leads are on either side of the heater for C10-C13.
If both wires are connected to one end it will trip over-loads.

Wire Sizing Chart

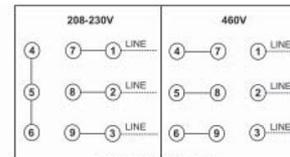
Wire Sizing Chart

Motor				(a) Recommended Wire Size, AWG			
Model	Hp	Motor Phase	Volts	Approximate Full Load Amperes	Length of Run in Feet		
					0-100	to 200	to 300
C9	3/4	1	115	9.0	12	8	6
C10			230	5.0	12	12	12
C12	1	1	115	16.0	8	6	4
			230	8.0	12	12	10
C13	2	1	115	20.0	8	4	2
			230	10.0	12	10	8
C14	3	3	230	8.0	12	12	12
			460	4.0	12	10	8
Pump must rotate in the direction shown on pump case. If not, switch any two of the three incoming 3 phase lines.							
F/DS/DL	3/4	1	115	10.0	12	8	6
			230	5.0	12	12	12
			460	1.4	12	12	12
F/DS/DL	1	1	115	14.0	10	6	6
			230	7.0	12	12	12
			460	1.8	12	12	12
F/DS/DL	1-1/2	1	115	18.0	8	6	4
			230	9.0	12	12	10
			460	2.6	12	12	12
F/DS/DL	2	1	115	24.0	8	4	2
			230	12.0	12	10	8
			460	3.4	12	12	12
F/DS/DL	3	1	115	34.0	6	4	2
			230	17.0	12	8	8
			460	4.8	12	12	12
F/DS/DL	5	1	115	56.0	4	1	1/0
			230	28.0	10	6	4
			460	7.6	12	12	10
F/DS/DL	7-1/2	1	230	40.0	8	6	4
			460	11.0	12	12	12
			3	230	22.0	10	10
F/DS/DL	10	3	230	28.0	8	6	4
			460	14.0	12	12	10
F/DS/DL	15	3	230	42.0	6	4	4
			460	21.0	10	10	8

Page 9 in IOM Manual.

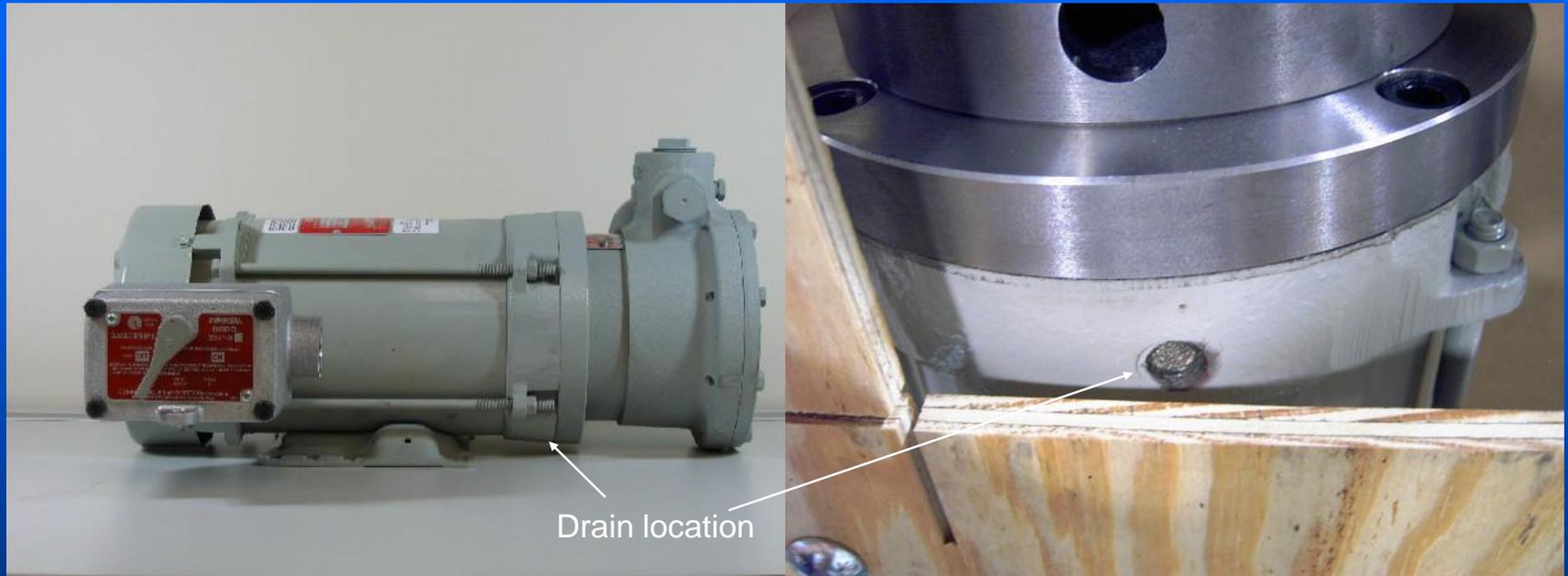


FOR MODELS C9, C10, C12 AND C13



FOR MODEL C14 ONLY

Moisture in Motors



Explosion-proof motors “breathe” and can accumulate moisture. Model C10-C13 pump motors include special drains to help eliminate this problem. Due to the applications most motors run intermittently. To avoid accumulating moisture, periodically operate the pump for 10-15 minutes straight. This will assist in evaporating the moisture. See “Engineering Data” page ED200 for more information.

Thank you!



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