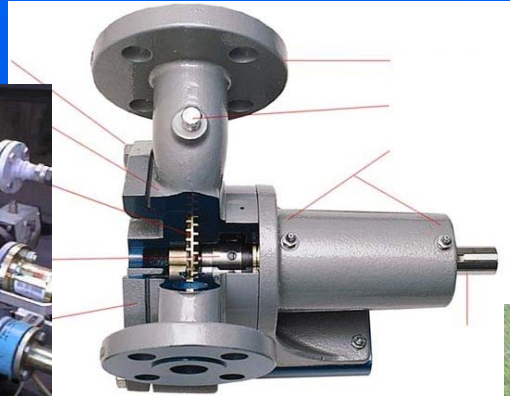
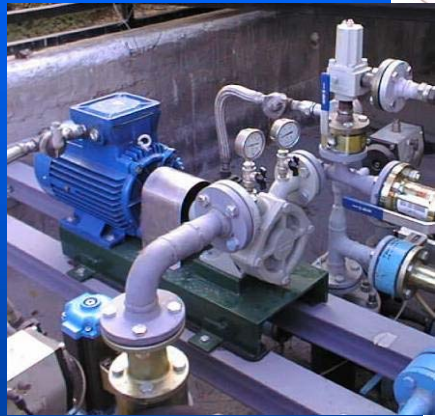
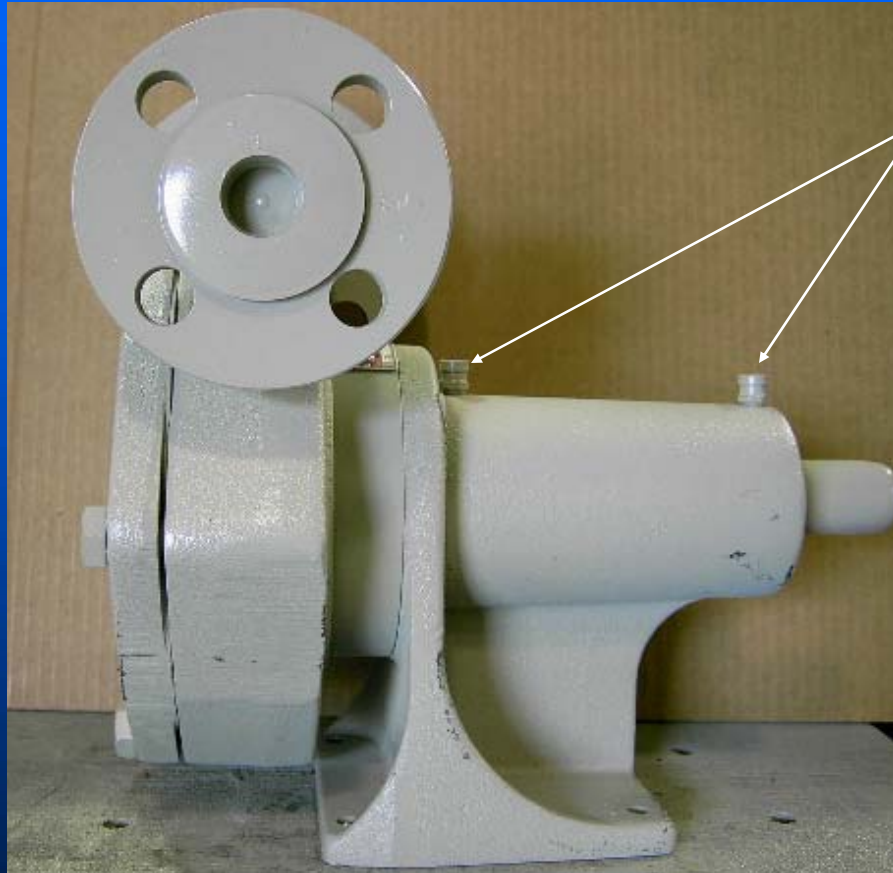


# Autogas Pump Service

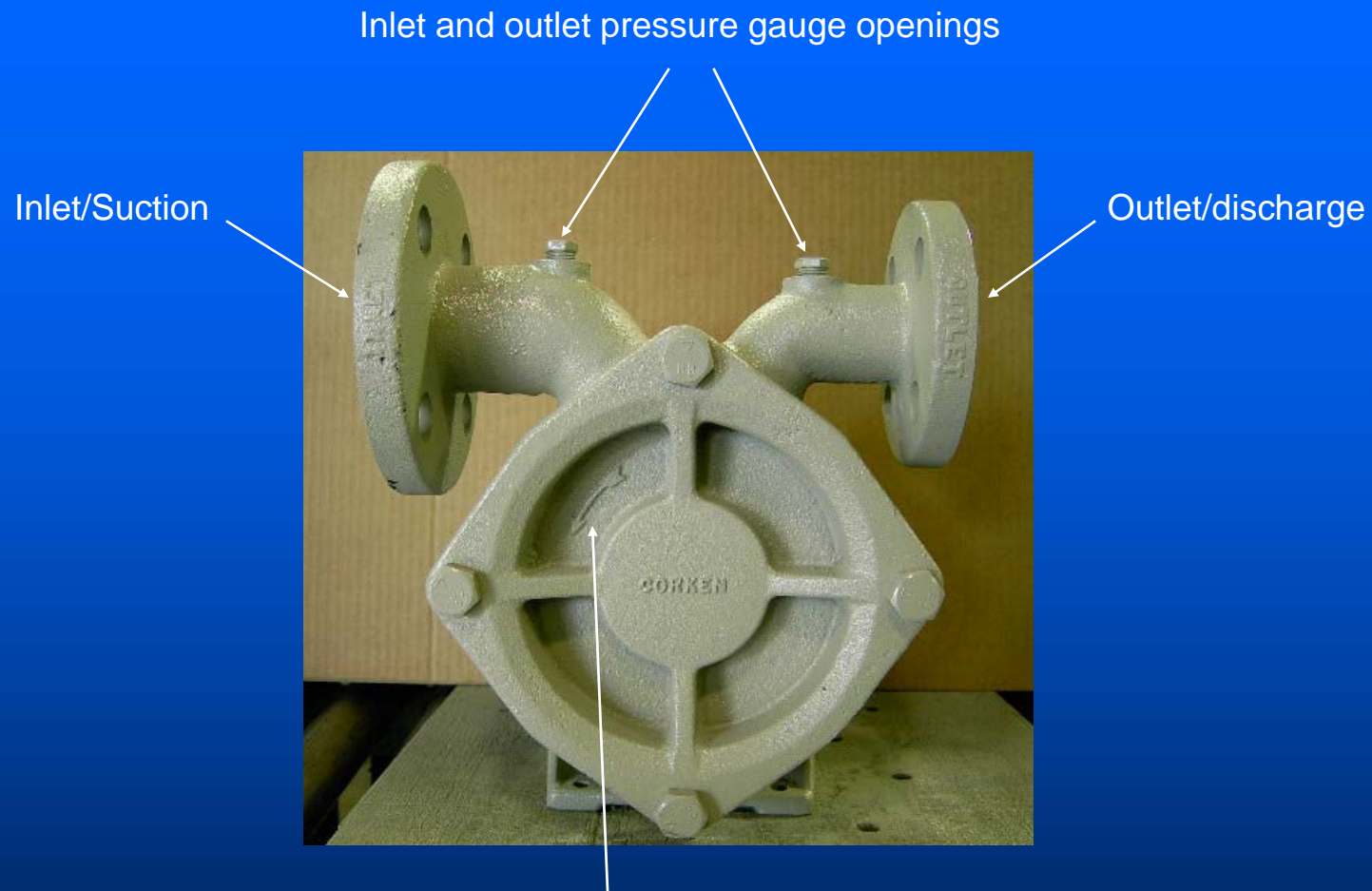


# Autogas Pump Service



Grease fittings - the FF/FD models have two fittings and the DLF/DLD has one.

The pump has grease fittings that must be periodically lubricated. If the pump operates frequently or continuously, it should be lubricated more frequently. The grease specification (MIL-G-10924C) should be a "low temperature" rated.



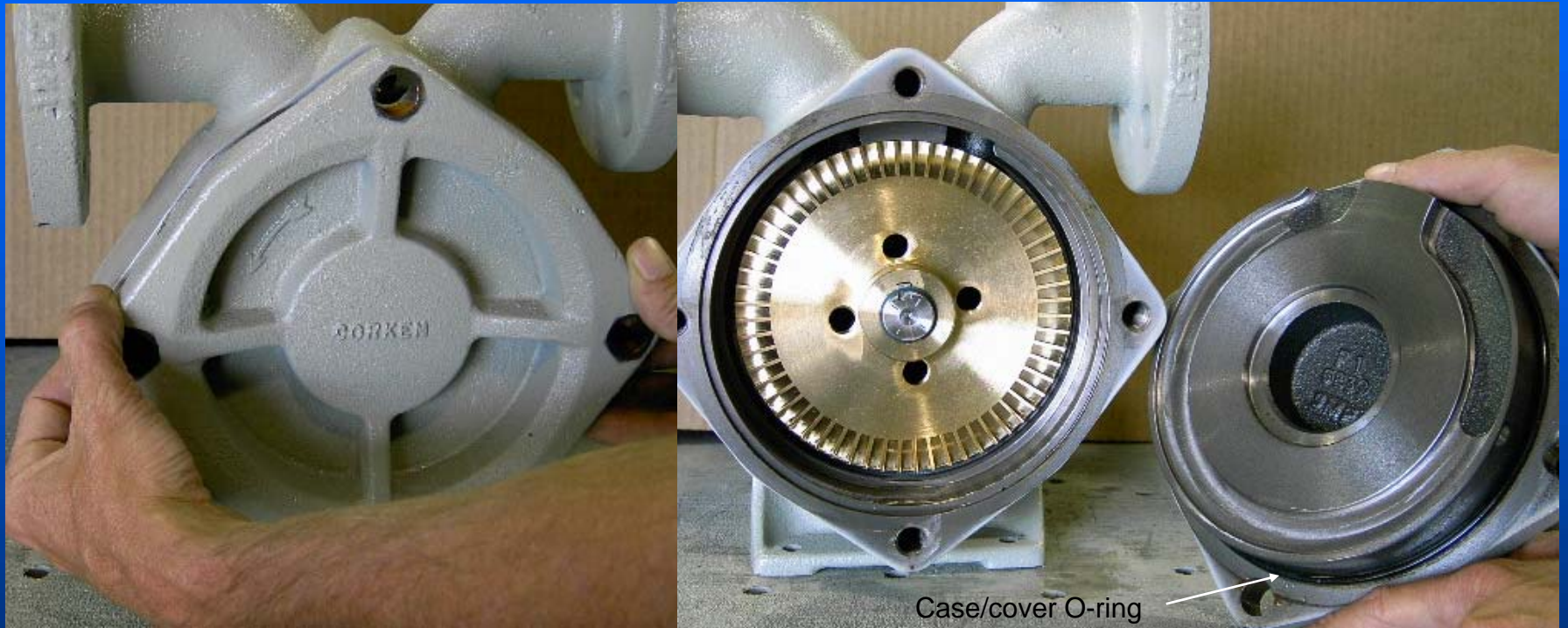
The pump must be rotated the correct direction. Note the direction arrow on the cover

BEFORE ANY SERVICE CONFIRM ALL LIQUID AND PRESSURE HAS BEEN REMOVED!

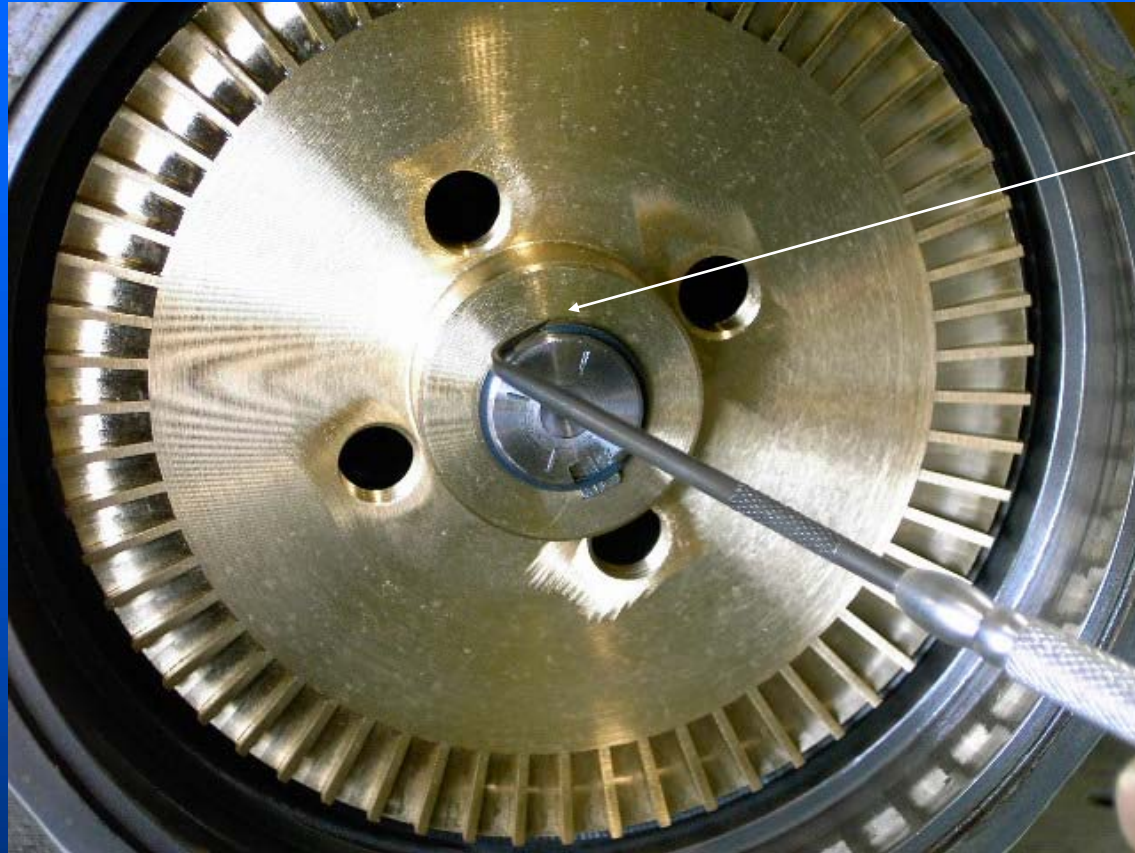


Remove the cover bolts using 20mm wrench or socket. An adjustable wrench may also be used.

# Cover Removal



The cover can typically be removed by hand, rotating the cover during removal will make this process easier. A flat bladed screwdriver may also be needed to pry the cover from the casing. Note the O-ring that seals the cover to the casing. This area should be cleaned before reassembly. Older models may have “plastic” shims between the cover and casing. These shims may be required during reassembly, they are not required on newer models.



The retainer ring has a small undercut to allow for easy removal using a pick or small pointed object.

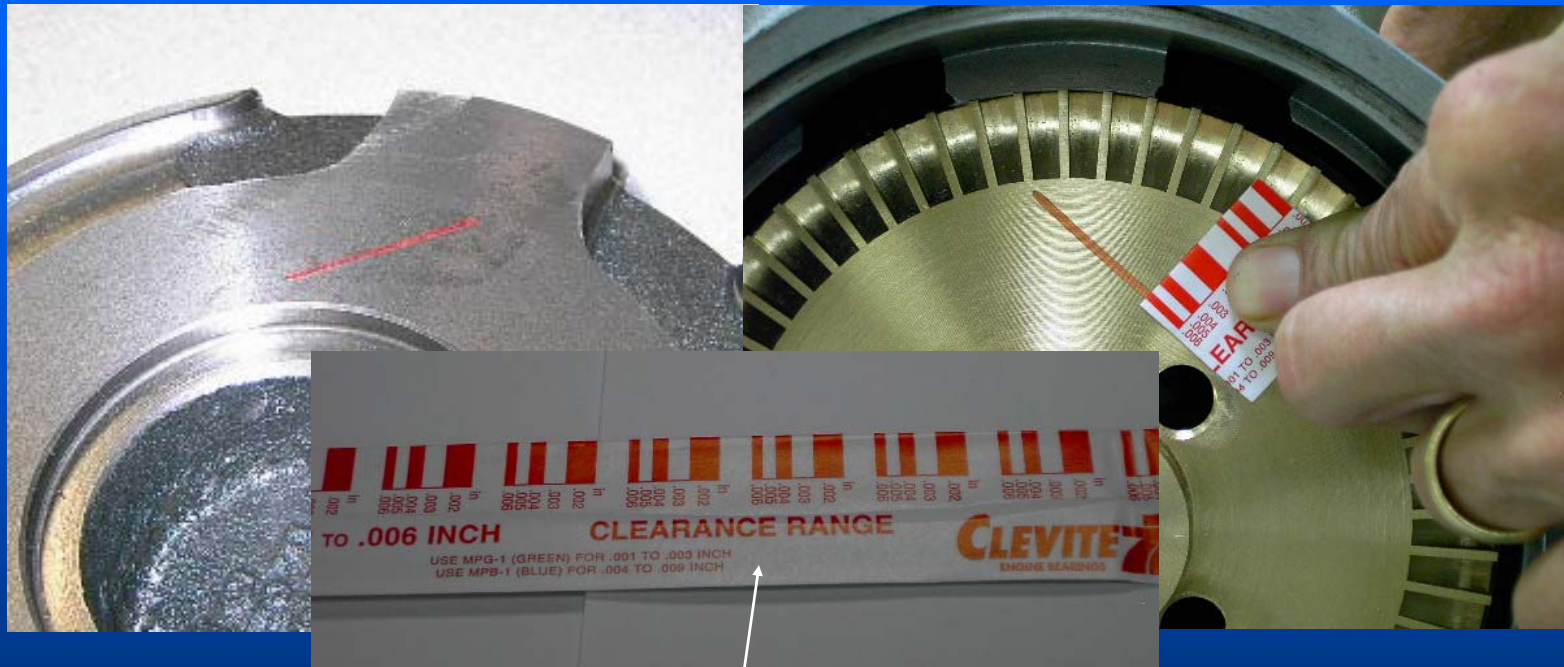
The impeller retainer ring (outer) should be removed using a pick or small screwdriver. This retainer is not on older model pumps, but if the shaft is changed the replacement shaft will require two retainers during assembly.

# Impeller – Dry Running



When an impeller is discolored 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. Inspect the impeller for wear and to be sure no “fins” are bent or damaged. “Plastigage” may be used to confirm proper clearance (0.002 to 0.006 inches).

# Clearance Check

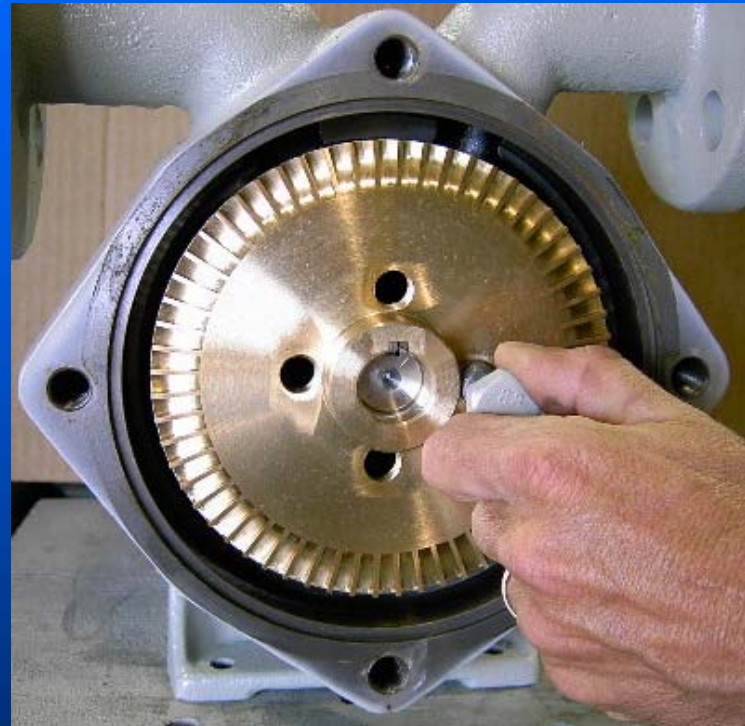


Example of Plastigage

The impeller clearance may be checked using a product like “Plastigage”. (It is available from most automobile parts supply companies.) Stick a small piece of the material to the cover or impeller and bolt on the cover. Remove the cover and compare the width to determine the impeller clearance. The above clearance would be approximately 0.006 inches. This is in “new” tolerance.



# Impeller Removal

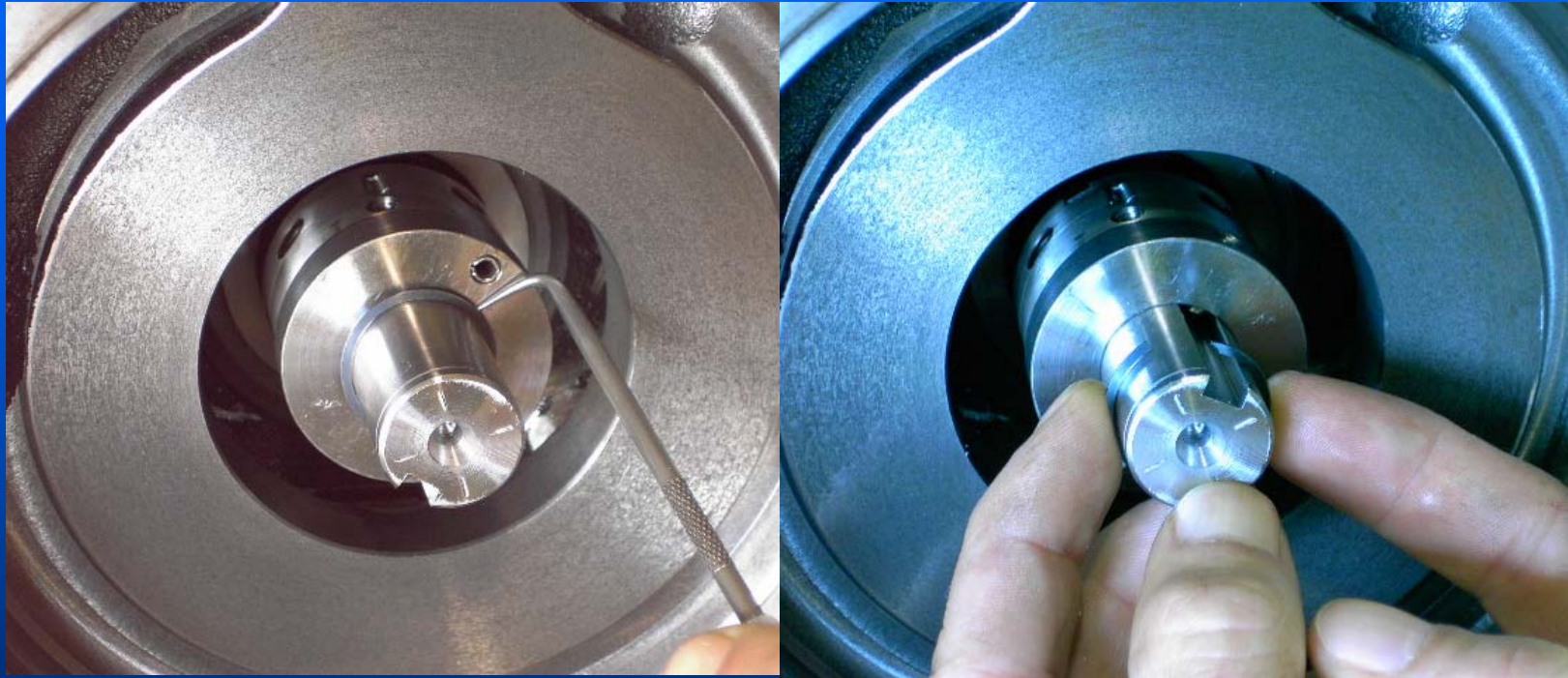


The impeller can typically be removed by hand. A cover bolt may be used to assist in the removal. DO NOT USE THE BOLT TO "PUSH" THE IMPELLER OFF OF THE SHAFT!



The impeller key and seal retainer ring should be removed using a pick or small screwdriver.

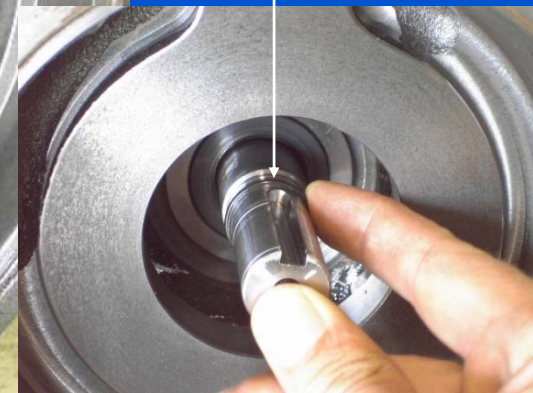
# Seal Retainer Ring Removal



The retainer should be slowly removed taking care not to score the shaft. Slowly work the retainer ring out of the groove. Once the retainer is removed from the groove it can be carefully removed from the shaft.



Inspect the shaft for burrs or marks and polish as needed.



Shaft O-ring

The seal sleeve assembly should be able to be removed by hand. If there are any marks or burrs on the shaft around the retainer ring grooves they may need to be polished before the seal is removed. Remove the shaft O-ring and clean this area before reassembly.

# Housing Removal



Remove the seal housing using a pick or hook tool inserted under the housing (recessed notch). A gentle “prying” action is typically required and it should be done evenly from side to side.



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. Clean all parts, then lubricate and install a new O-ring to begin reassembly.

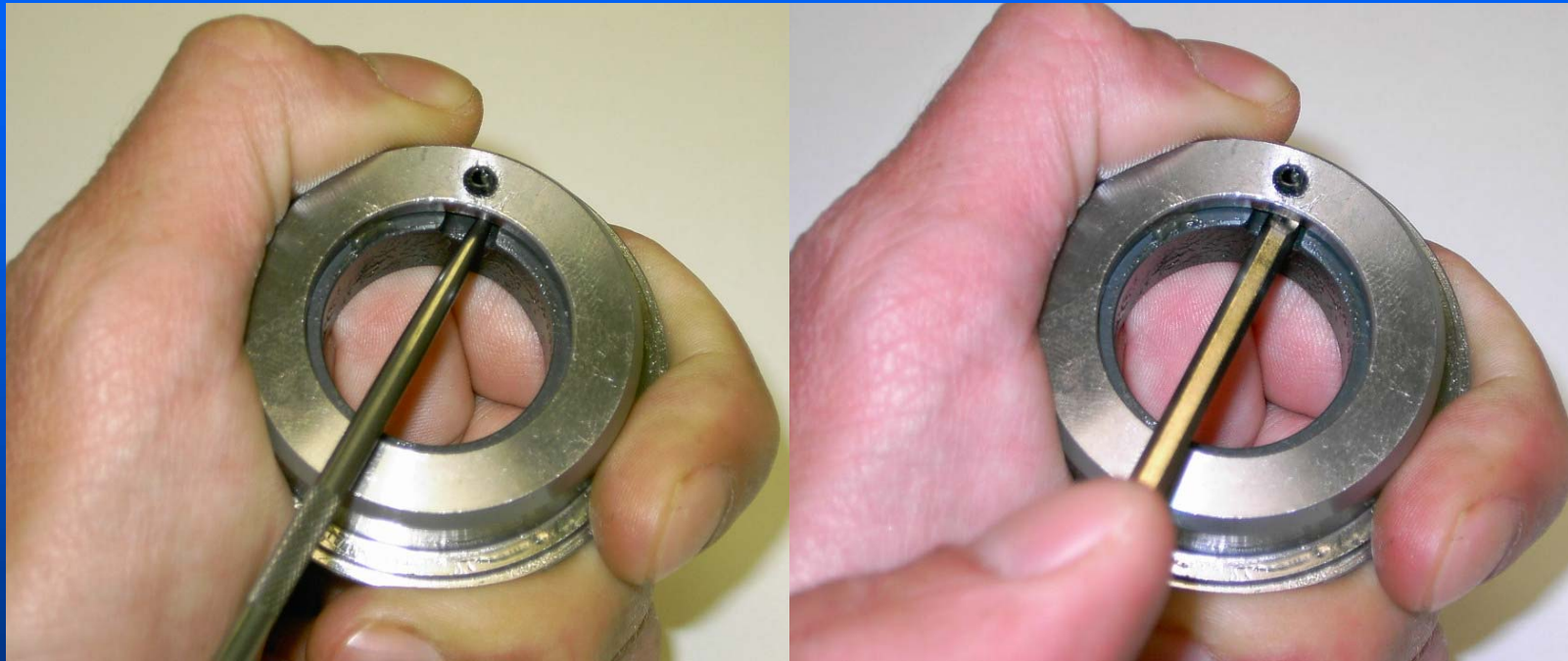
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**CORKEN**  
IPEX

# Check Shaft/Bearings



The 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 frame bearings. Bearings should be changed if movement or roughness is noted. The shaft should be polished to remove any burrs or sharp edges.

# Seat Removal



The seal seat should be removed using a pick or small screwdriver and gently prying the seat out evenly.



Clean inside and outside



Watch pin and notch alignment during assembly



The seal housing should be cleaned on the inside diameter (ID) and outside diameter (OD) before assembling. Be sure to watch pin and notch alignment during 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 and pressing in by hand. The seat 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 pump is being rebuilt. The seal is a precision part and debris may cause a leak. **Keep hands clean!**

# Installing Seat/Housing

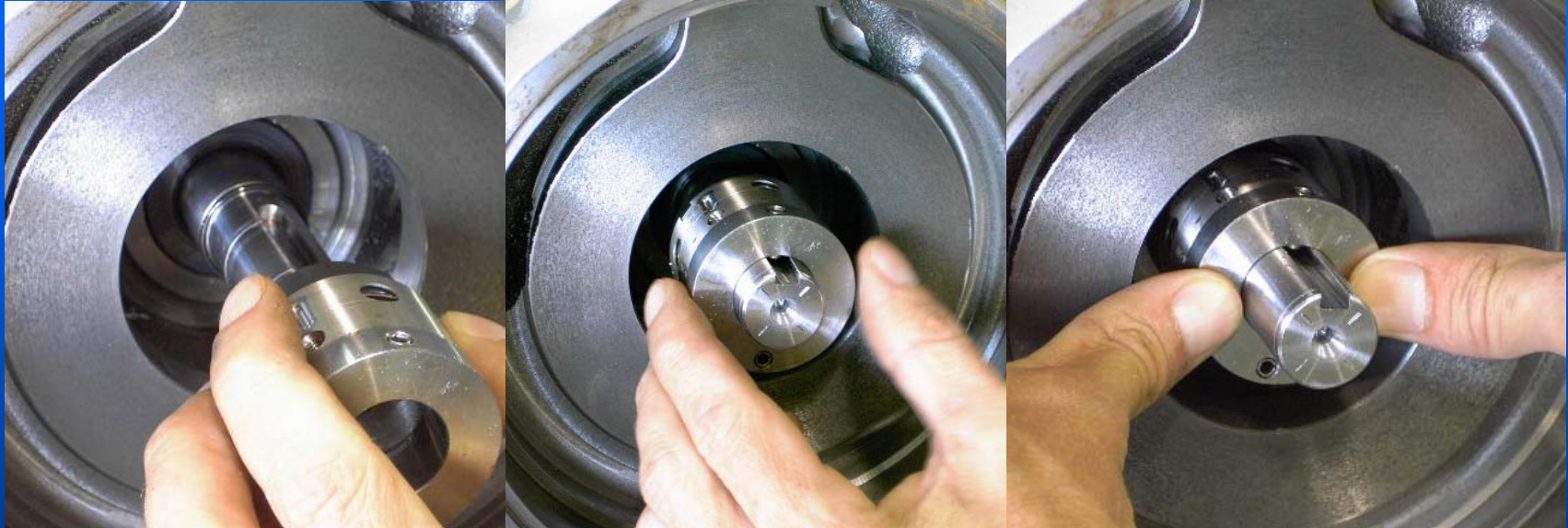


After the seat is installed in the housing, lubricate the housing and carefully install it into the casing. Care should be taken during installation to avoid damaging the seat or O-ring. A tool may be used to assist in this procedure to protect the seal seat.



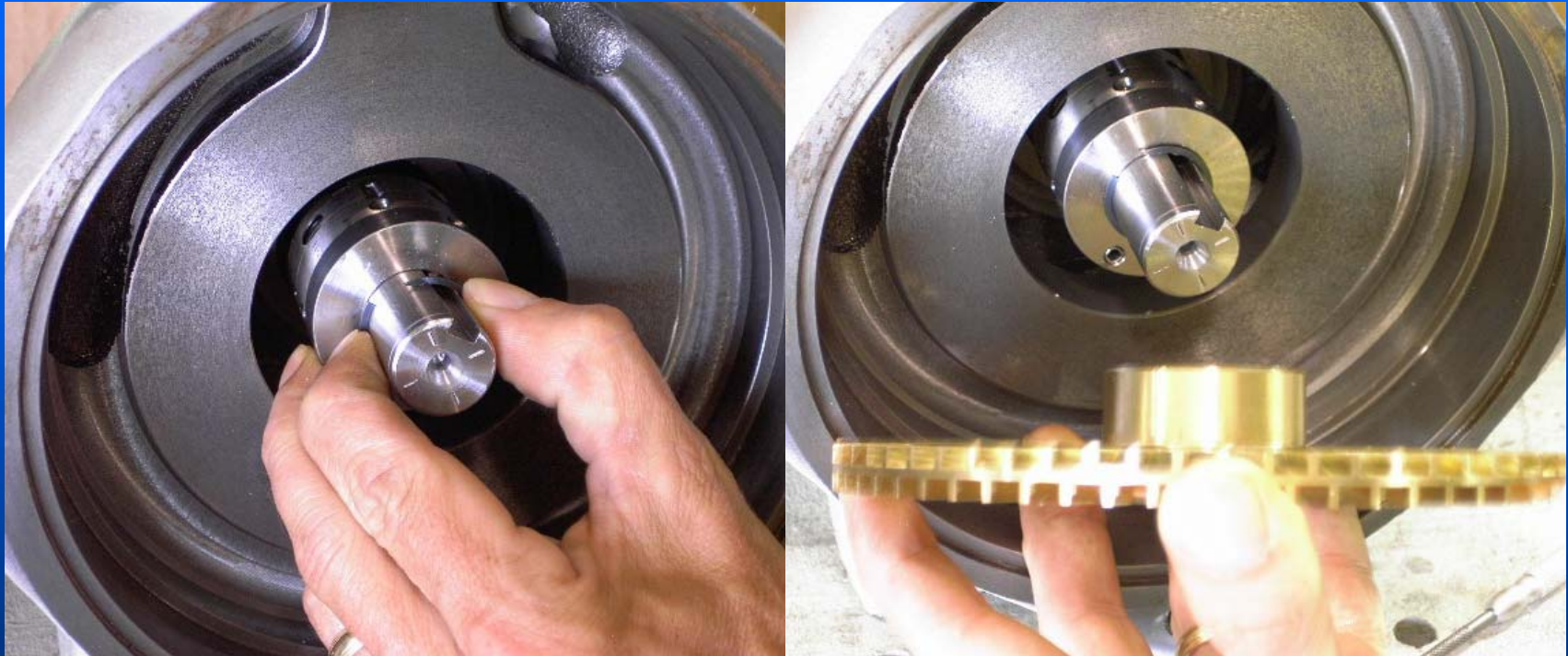
Clean the shaft and carefully install the shaft O-ring making sure it is not damaged by any burrs or sharp edges. It should be installed completely on the shoulder of the shaft prior to installing the seal assembly.

# Seal Installation

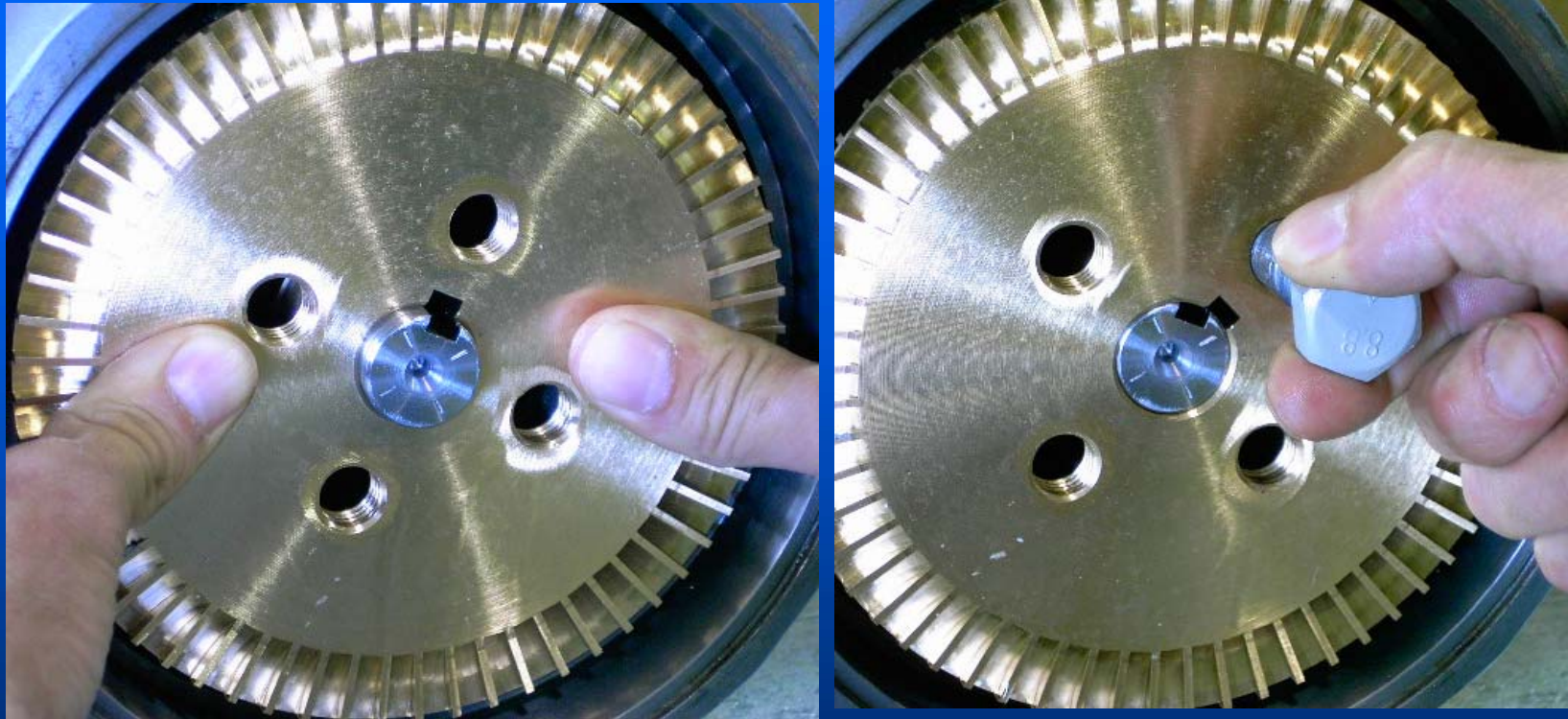


The seal assembly should be carefully installed over the shaft. The pin in the sleeve should align with the keyway in the shaft. Gently press in on the assembly until the retainer ring groove is visible. The seal assembly and O-ring may be lubricated with a light oil or spray lubricant. Take special 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!**

# Retainer Ring Installation

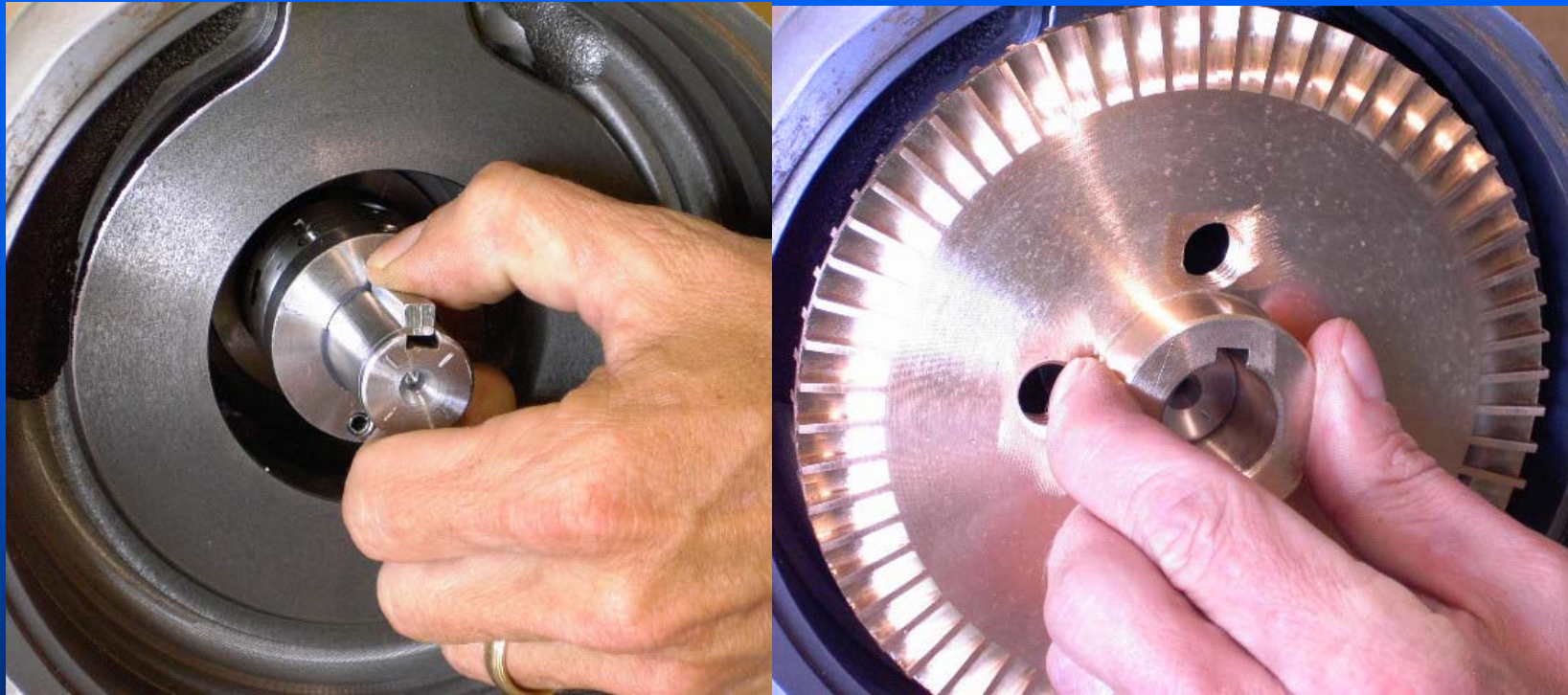


Install the first retainer ring on the shaft near the seal sleeve assembly. Then install the impeller with the hub side in (reversed to correct direction) to be used to compress the seal spring.



The seal spring can be compressed using the impeller to install the (inner) retainer ring. The impeller can then be removed using a cover bolt. The old seal assembly may also be reversed and used for this procedure.

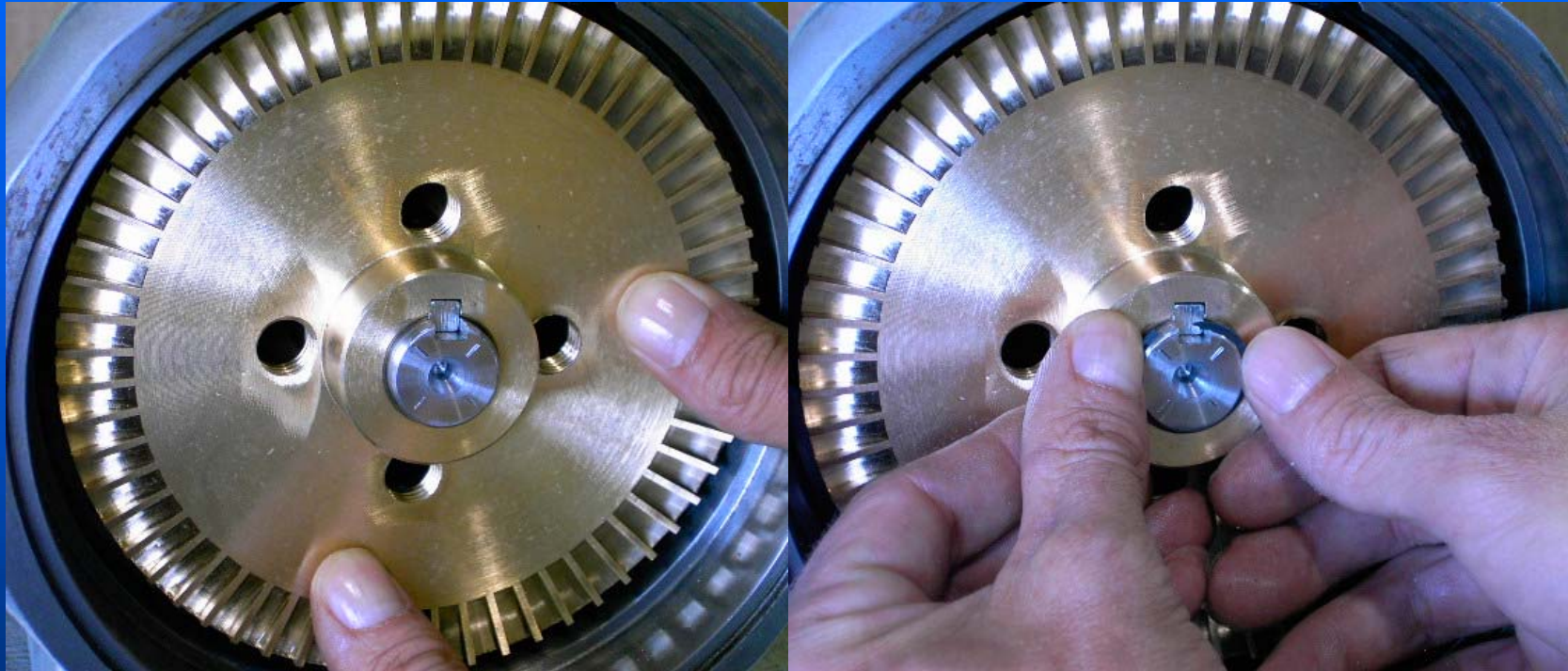
# Key/Impeller Installation



Install the impeller key and impeller. The impeller should slide easily over the shaft and key.

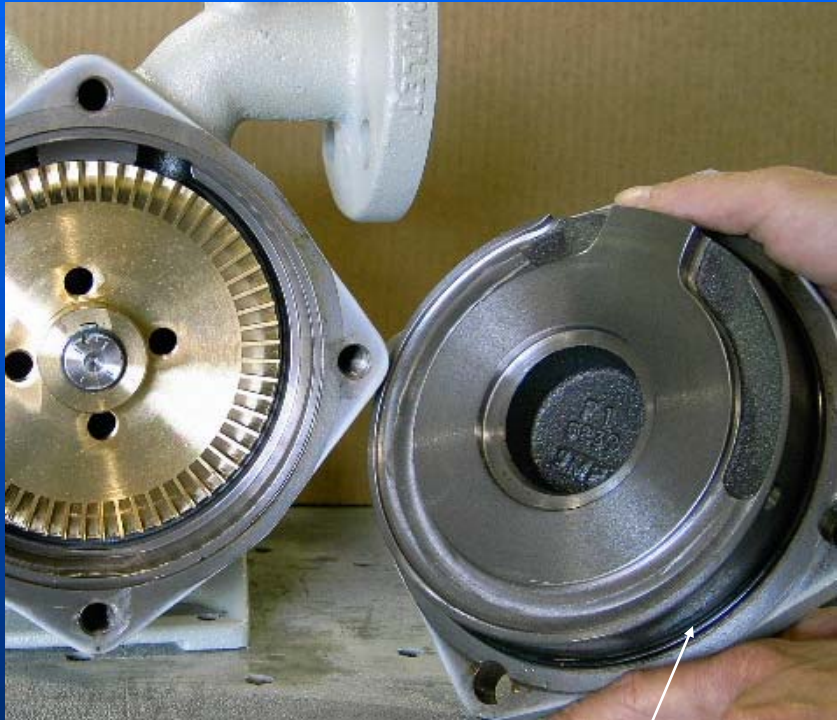


# (Outer) Retainer Installation

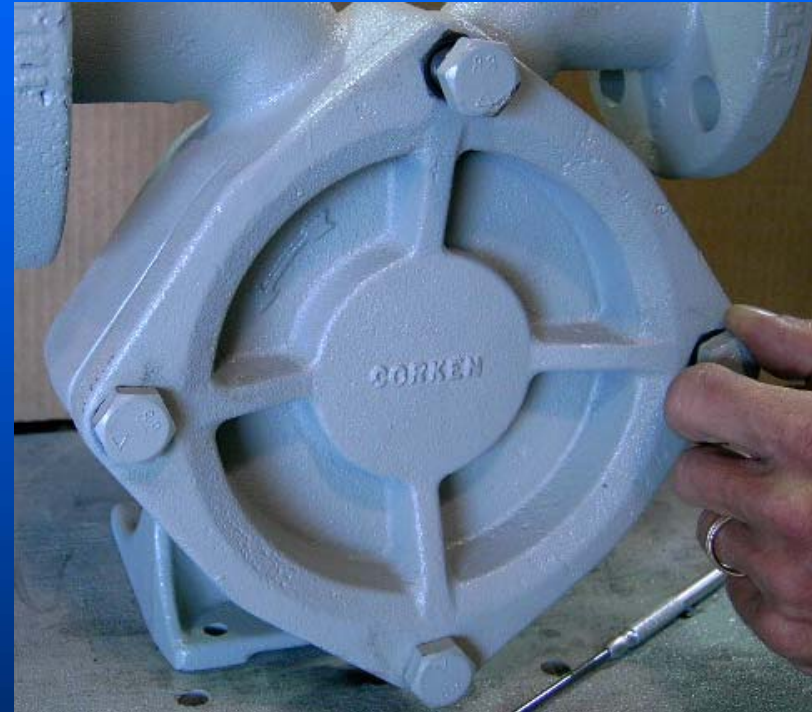


Be sure the impeller is installed completely back to the casing. The outer retainer ring should now be installed (Note this ring is not on older model pumps). It is best to install the retainer ring so that the end is covering the keyway. This allows for easy removal and retains key in the shaft.

# Cover Replacement



Case/cover O-ring



Lubricate and install the O-ring (shim on older models) and slide cover on the pump where the name "Corken" is horizontal. Install and tighten the bolts using a cross pattern.

# Seal Assembly



A seal assembly kit includes all parts shown above. It does not include shims used in older models.

# Thank you for your attention!



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