

SERVICE INSTRUCTIONS

The "Power Flo" Air Shaft Seal when installed on a shaft will transfer air from supply to a rotating member (clutch) without drilling the shaft.

I. OPERATION - SHAFT SEAL

Air is introduced into air inlet of stationary housing, through shaft seal, out rotating member (end rings), through flexible hoses to rotating member (clutch) requiring air for its operation.

II. INSTALLATION - SHAFT SEAL

CAUTION: Do not disassemble shaft seal, test first.

Static test air shaft seal by plugging outlets in rotating end ring and connecting air hose to inlet connection of stationary housing, introduce air, maximum 120 psi.

Shaft must be clean and free of burrs.

Shaft seal adapter bushings must be machined to slip fit shaft seat assembly on shaft. Excessive force or pounding on shaft seal will damage carbon seals in shaft seal. Grind drive keys if required to properly fit keyway slot, must not bind on bottom or sides of keyway slot.

A mounting bracket fastened at mounting pads of shaft seat assembly must support stationary housing concentric with shaft center line, and must support stationary housing in angular alignment with rotating members of shaft seal. To determine if mounting brackets location supports shaft seal assembly concentric with center line of shaft, remove from one side the mounting bolt in seal housing and by moving up and down the stationary housing, check to see if bolt hole in mounting bracket is located vertically in a mean position between high and low movement of the stationary housing. In a similar manner, determine if the mounting bracket supports the stationary housing horizontally in a mean position by moving mounting bracket back and forth. If shaft is allowed to move axially, then the bracket on which the shaft seal assembly is mounted must also allow the stationary housing to float axially. See tolerances on print at end of maintenance instructions.

If shaft moves due to vibration during operation of equipment, then bracket must be attached to a member that moves with this vibration.

It is suggested that bushings and shoulder bolts be used to connect mounting bracket to shaft seal.

Use only flexible air line to and from air shaft seal. Inlet air line must be supported above shaft seal or approach shaft seal at right angles to the rotating shaft, so when air is introduced into shaft seal and air hose has a tendency to stiffen, the hose will not move top of stationary housing axially or tilt it out of vertical alignment.

Seal must be lubricated by installing a lubricator in air line to shaft seal. Use a very light non-detergent oil.

Lubrication in the air line is not detrimental to the "Power Flo" air clutch or brake.

Before operation, check to be sure that shaft seal is free to rotate and has sufficient clearance, so as not to be locked up solid.

III. MAINTENANCE - SHAFT SEAL

Seal must be lubricated by means of lubricator installed in air line to shaft seal.

Use a very light non-detergent oil.

Shaft seal alignment must be maintained to assure maximum service. Should shaft seal be run for long periods without cyclings, then air is introduced, seal may make a popping sound. In this case, remove inlet air line and inject a few drops of light weight non-detergent oil to lubricate friction surfaces. Re-install air line and proceed to operate.

IV. REPAIR PROCEDURE - SHAFT SEAL

Shaft seal can be returned to factory for repair or reconditioned in your plant by following instructions below.

The following parts will be replaced. These can be obtained from the "Power Flo" distributor or from the factory.

Quantity: 2 Carbon Seal Rings
2 Retaining Rings
2 O ring, housing
2 O ring, end ring
6, 8 or 10 Springs (appropriate model)

Part numbers for ordering can be obtained from parts list for the model of shaft seal to be repaired.

Prepare a clean area for disassembly and reassembly. The components of the shaft seal should not be exposed to grinding dust, chips or corrosive atmosphere. EXTREME CAUTION should be exercised in handling of the shaft seal, as the carbon seal rings are extremely fragile. NEVER subject the shaft seal to hammer blows or impacts, as these can damage the sealing components.

Disassembly:

With shaft seal in horizontal position, remove screws, keys and bushings.

Remove retaining ring from seal sleeve (one end only).

Gently slide or pry end ring off of sleeve end - DO NOT FORCE - if end ring binds, realign by lightly tapping on end ring with a rubber mallet and slide end ring off. Remove carbon seal ring, springs, and drive pin. Note location of parts as they are removed. Remove housing and second carbon seal. Remove second end ring and retaining ring from sleeve. Remove o-rings from two end rings, and both sides of housing. Discard o-rings, carbon seal rings, springs and retaining rings.

Degrease all parts and remove any foreign material from grooves etc.

Sealing surfaces on end rings must be relapped to flatness, (and ground if any dents or cuts appear in the sealing surface). Sealing surfaces should be micro-lapped to a tolerance of 6 -10 light bands.

End rings should be THOROUGHLY cleaned and all abrasive removed prior to reassembly.

Reassembly:

Install one retaining ring on seal sleeve.

Using a 00 grade of non-detergent grease. apply a medium coating of grease to 4 o-rings, carbon seal rings and sealing surfaces of end rings.

Install two smaller o-rings in end rings. Install two larger o-rings in housing.

Be certain the o-rings are in their grooves.

With sealing surface of end ring facing up. slide end ring slowly over open end of sleeve and against retaining ring on opposite end. DO NOT COCK END RING as this will cause o-rings to be cut by retaining ring grooves on the sleeve.

Install one carbon seal ring over sleeve (spring holes must face up).

Install housing over sleeve and slide gently over carbon seal until carbon seal bottoms out in housing. The drive pin holes in housing and carbon seal MUST BE ALIGNED.

Install drive pin and springs making certain drive pin is free to move in carbon seal and is bottomed out in carbon seal.

Install second carbon seal with spring holes clown. NOTE; drive pin hole in carbon Seal must be aligned with drive pin. Without compressing the springs, be certain each spring is in its respective counter bored hole in carbon seal. Carbon seal should be resting on the springs and parallel with table surface. If carbon seal appears cocked the springs are not positioned properly in spring holes.

IMPORTANT. Again be certain the drive pin hole in upper carbon is aligned with drive pin in housing before proceeding.

With sealing surface down, slide second end ring, over sleeve and very gently contact upper carbon. VERY GENTLY, slide the end ring down over the sleeve compressing the springs until the upper retaining -ring groove is fully exposed. DO NOT FORCE. This operation may take several tries as the drive pin must slide into the carbon seal. Excessive pressure will crack the carbon seal.

Holding the end ring down, install second retaining ring, release pressure.

Inspect both retaining rings being certain they are completely seated in their respective grooves.

Install pipe plugs in end ring with air outlets - static test - check for audible air leaks and with a soap solution to be certain no o - rings have been cut or carbon seal damaged. A moderate leakage may be expected until carbons seals have seated against end rings during operation.

Align key slots in end rings with slots in sleeve. Install bushings, keys and screws. Seal is now ready for installation.

Be certain air line lubricator and filters are connected with seal prior to operation.

V. SPARE PARTS - SHAFT SEAL

Spare parts or replacement assembly can be obtained from an authorized "Power Flo" distributor, factory representative or The Carlson Co. Inc. , 6045 North Broadway, Wichita, Ks., 67219.

When ordering spare parts or replacement assemblies give serial number, (model number if known) and quantity desired. An identification plate with serial number will be found on outside of stationary housing.

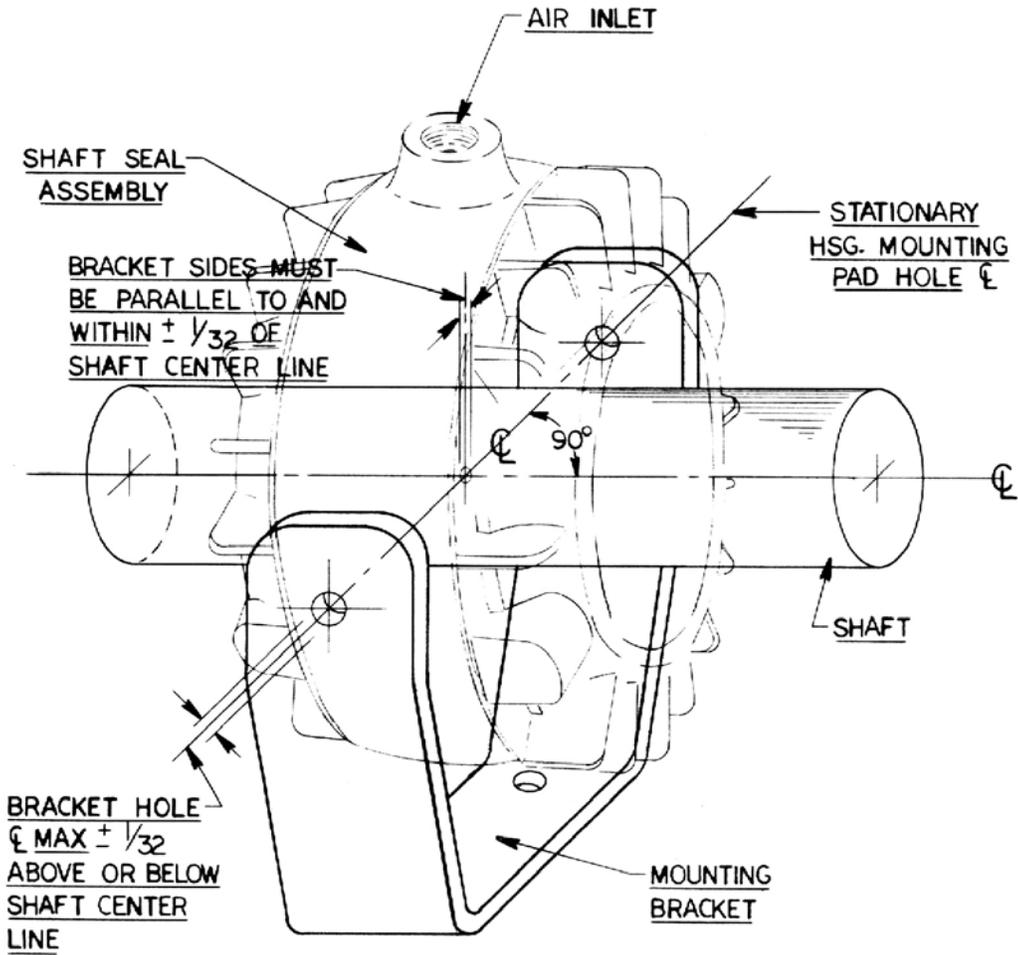
When ordering spare parts or replacement assemblies, state how shipment is to be routed. Furnish shipping address. If shipping instructions are not specified on the order, we will use our judgment, taking in to consideration time as well as cost.

The Carlson Co. Inc. will not be responsible for any charge incurred by this procedure. A 11 shipments will be made F. O. B., factory, Wichita, Kansas.

Any service problems which user may have concerning the shaft seal must be handled through the original equipment manufacturer or distributor from whom the equipment was purchased.

CAUTION: Do not rotate shaft seal until seal is in alignment, drive keys installed and lubricator is functioning.

"PowerFlo" AIR SHAFT SEAL
MOUNTING BRACKET LOCATION



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