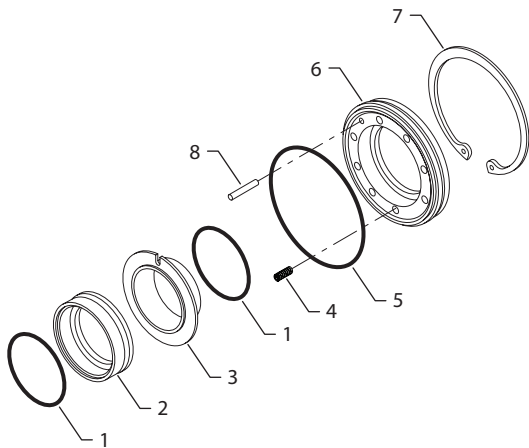


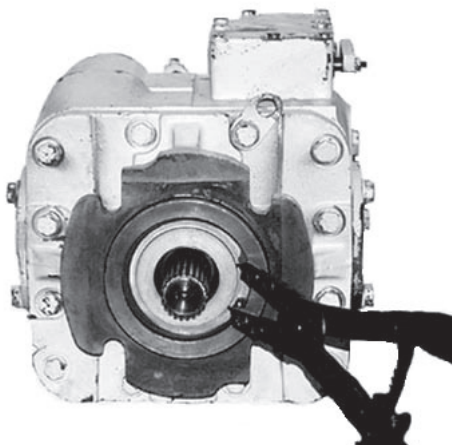
# Service Kit Instructions

## Series 20 pump and motor

### Shaft seal replacement procedure



Item	Description	Qty			
		20-22	23-25	26	27-28
1	O-ring	2	2	2	2
2	Rotating shaft seal, bronze	1	1	1	1
3	Stationary shaft seal, steel	1	1	1	1
4	Spring	6	8	10	12
5	O-ring	1	1	1	1
6	Aluminum seal retainer	1	1	1	1
7	Retaining ring	1	1	1	1
8	Spring pin (permenetly pressed into aluminum seal retainer)	1	1	1	1



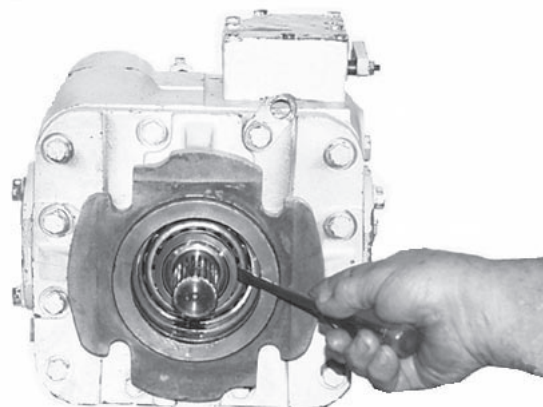
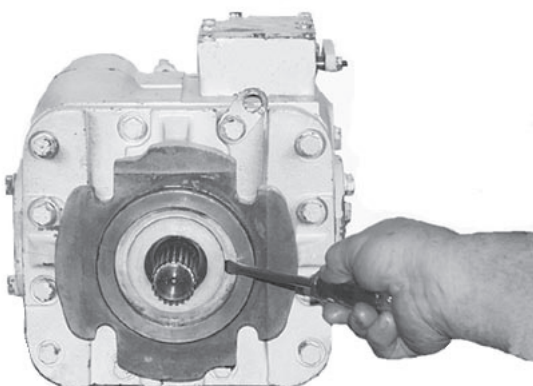
#### Removal:

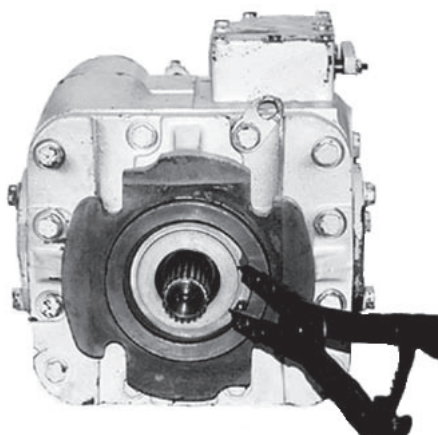
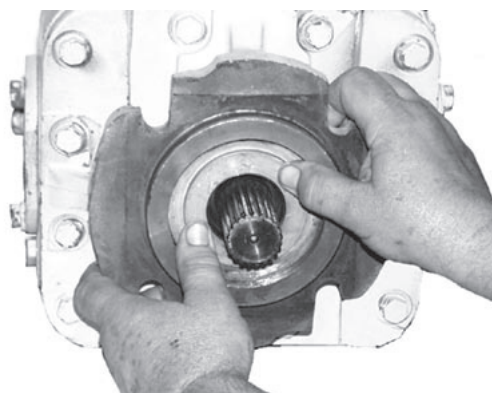
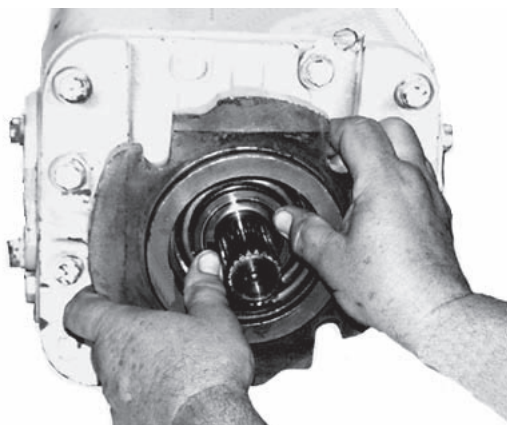
1. Remove the retaining ring (7) from the pump or motor housing, using a snap ring plier. For safety, remove the side opposite the tangs first.

2. The aluminum seal retainer (6) is held in position by the friction of the O-ring (5) on its outer diameter. Remove the seal retainer by prying it out of the pump or motor housing with a screwdriver.

Note: The stationary seal (2) generally comes out with the seal retainer. If it remains on the shaft, remove it. Be sure the seal springs (4) are removed from the pump housing.

3. The bronze rotating shaft seal is held in position by the O-ring (1) on its inner diameter. Carefully pry the seal from the shaft with a screwdriver. Do not damage the sealing surface on the shaft.





## Installation:

Note 1: Make certain that the ID of the pump/motor housing where the seal retainer fits is free of dirt, scale, etc., prior to seal assembly.

Note 2: Always replace both the stationary and the rotating parts of the seal, Do not mix old and new parts. Seal kits include a plastic retainer sleeve to hold all parts in place; this sleeve is to be discarded following seal installation.

1. Lubricate all O-rings with petroleum jelly prior to installation. The sealing surface of the rotating and stationary seals must be clean and completely free of foreign material when the shaft seal is installed.
2. Wrap the splined or keyed portion of the shaft end with a protective covering to prevent damage to the seal and O-rings. Carefully remove the bronze seal from the rest of the kit and install it onto the shaft with the lapped bronze sealing surface out. Do not mar or contaminate the lapped sealing surface.
3. Check the remaining seal assemble to make sure that the springs are all in place, the O-ring (1) is in place and that the notch in the stationary seal (3) is aligned to the pin (8) in the seal retainer.
4. Install the stationary seal (3) and seal retainer (6) assembly over the shaft and into the pump/motor housing so that the lapped steel surface of the stationary seal and the lapped bronze surface of the rotating seal are in contact. Remove and discard the stationary seal retainer sleeve. Press the seal housing (6) inward to compress the seal springs (4) and expose the retaining ring groove in the pump/motor housing. Install the retaining ring (7) into the pump or motor housing with its beveled side out. Install the side of the ring opposite the tangs into the groove first.