

HI-LOAD PISTON RING SEAL KIT (302013-1)

This service procedure is for the installation of the Hi-Load Piston Seal Kit (302013-1) and Rod T-Seals onto a Hi-Load Piston (100176-1 or 100176-2).

The following parts and tools are required to perform this rebuild:

302013-1 (Hi-Load Piston Ring Kit)

302007-3 (Hydraulic Seal Kit, Hi-Load, 60K), or 302007-5 (Hydraulic Seal Kit, Hi-Load, 40K)

4" Ring Compressor (400131-1)

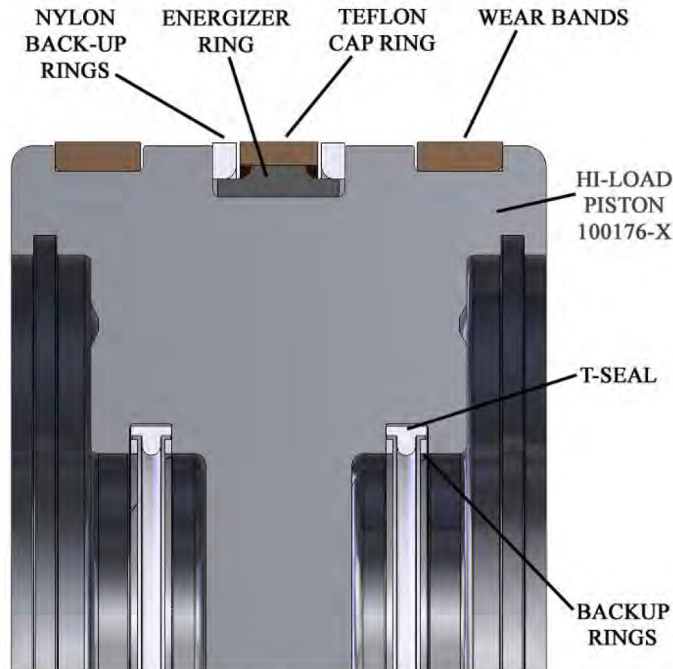


FIGURE 1

Disassembly:

1. Shut down the system.



Place the main electrical disconnect in the OFF position and bleed down all high-pressure lines. Place an "Out of Service" tag on the main electrical disconnect and lock it out. Failure to do so may result in damage to equipment or injury to personnel.

2. Remove Intensifier, disassemble and remove Hi-Load Piston. Refer to the Intensifier Service Manual or Pump Maintenance Manual for detailed instructions.
Note: Some oil will leak out of the hydraulic cylinder. Use an appropriate catch pan to contain the oil.
3. Remove T-Seal and Backup Rings from the ID of the Piston. Remove the Nylon Backup Rings, Teflon Cap Ring, Wear Bands, and Energizer Ring from the OD of the Piston. Do not discard the Wear Bands.

Note: Do not use sharp tools that may damage or scratch the piston on disassembly.

REBUILD INSTRUCTIONS

- Clean and inspect the Piston bore and grooves for burrs, gouges, or scratches that may damage the seals upon installation. Replace as necessary.
- Lubricate the T-Seal with clean hydraulic oil. Install into the piston I.D. groove in the orientation shown in **Figure 2**.

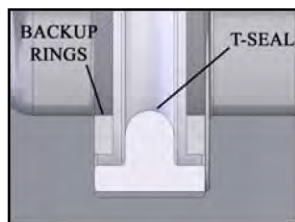


FIGURE 2

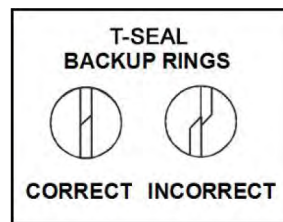


FIGURE 3

- Install the Backup Rings on both sides of the T-Seal as shown in **Figure 2**. Make sure the ends of the Backup Rings do not overlap as shown in **Figure 3**. Orient the ends of both Backup Rings 180 degrees opposite of each other.
- Repeat steps 5 and 6 for the opposite side.
- Re-Install the old Wear Band. Stretch the Energizer Ring over the piston into the center groove as shown in **Figure 4**.
- Place the Teflon Cap Ring in 150° to 200° F [65° -90° C] water for 2-3 minutes to soften and ease installation.
- Immediately upon removal from the hot water, stretch the Teflon Cap Ring over the piston and into center groove. **See Figure 5**.
- Install the Nylon Backup Rings into the center groove on each side of the Teflon Cap Ring. Make sure the radius edge is facing towards the Teflon Cap Ring. Orient the ends of both backup rings 180 degrees opposite of each other. **See Figure 6**.
- Remove the old Wear Band and discard.
- Use a 4" Ring Compressor to compress the stretched Teflon Cap Ring back into its original shape. The Teflon Cap Ring must be compressed for at least 3 minutes. **See Figure 7**.
- Install the new Wear Bands into the two outer grooves. Orient the ends of both Wear Bands 180 degrees opposite of each other.

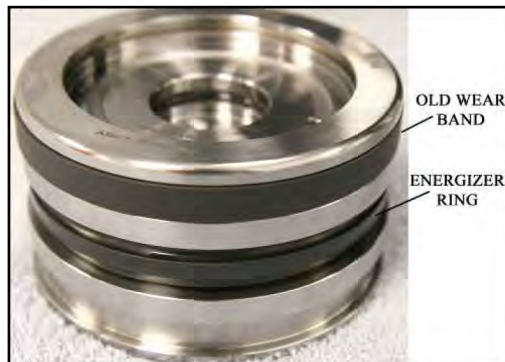


FIGURE 4



FIGURE 5

- After installation, operate the pump at idle 500 psi [34 bar] for 3 to 5 minutes while checking for leaks. Increase the pressure slowly to maximum rated value while checking for leaks. This will purge all air from inside the cylinder, which is necessary for maximum seal life.

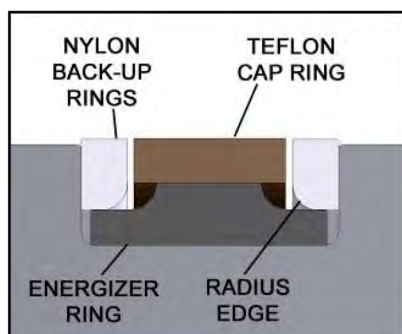


FIGURE 6



FIGURE 7