

# SERVICE BULLETIN 003



## 60 Frame Tool Kit for Plunger and Piston Pumps

Use Seal Tool Kit PN 31173 (see figure 1.) to remove plunger (piston) rod oil seals if there is oil leakage between the inlet manifold and the crankcase.

Prior to using this seal tool kit, please follow these steps on plunger pumps.

### Removal of Plunger (Piston) Rod Oils From Crankcase:

1. Use a hex wrench to remove hex head screws from inlet manifold.
2. Remove complete head from crankcase.
3. Remove low-pressure seal(s) if found on ceramic plunger(s).
4. Remove seal retainers.
5. Use a hex tool to remove plunger retainers with gasket, o-ring and back-up ring.
6. Remove plungers, keyhole washers and barrier slingers.
7. Unthread and remove plunger retainer studs from plunger rod.

### If oil seals for a piston pump are in need of being replaced, then use the following steps:

1. Use a hex wrench to remove hex nuts and washers from discharge manifold.
2. Remove discharge manifold.
3. Remove cylinders, four (4) bolts and four (4) studs.
4. Remove cotter pins and all piston components, including sleeve and slingers.
5. Remove inlet manifold.
6. Remove seal retainers.

### Removal of Oil Seals:

1. Slide tool guide over plunger or piston rod with open end towards oil seal (see figure 2.)
2. Place tool washer over plunger rod and line up with holes on tool guide (see figure 2.)
3. Insert three (3) screws into tool washer, use screw gun to thread into tool guide (see figure 2.)
4. Tighten all three (3) screws until they thread into the plunger or piston rod oil seal.

**NOTE:** Oil seal will be damaged and cannot be reused, it must be replaced.

5. Use a wrench to turn the crankshaft in a forward rotation.
6. As the crankshaft turns, one of the rods will extend out and it will also push the seal tool kit with oil seal away from the crankshaft.
7. Grasp end of seal tool kit and pull over plunger or piston rod to remove seal tool kit and oil seal. Unthread screws to separate from oil seal.
8. Repeat process for remaining two (2) oil seals.

### Reinstalling Oil Seals:

1. Rotate crankshaft so plunger or piston rod is retracted as far back as possible.
2. Install oil seal with spring side of seal facing in to the crankcase.
3. Use tool guide only with large opening facing oil seal and press oil seal into place (see figure 3.)
4. Reinstall all parts in reverse order as stated above for either the plunger or piston pump.

### Cat Pumps

Technical Services Department

