



# 155 ACE PUMP HYDRAULIC SEAL REPLACEMENT KIT JM0061310

## ACE PUMPS PART NUMBER: RK-BAC-75-HYD-L



Rev. 2.22.2021

J&M Manufacturing Co, Inc

284 Railroad Street - P.O. Box 547 | Fort Recovery, OH 45846 | Ph: (419) 375-2376 | Fax: (419) 375-2708 www.jm-inc.com

## Ace Pump Breakdown and Hydraulic Seal Replacement



**Note:** The seal cartridge come on an installation bullet with a small diameter for storage and a loarger diameter for installation. The seal lips curve towards the larger diameter when properly installed on the bullet. The seal should remain on the bullet until installation for best results.

## DISASSEMBLY

- 1. Remove motor from pump by removing four cap screws.
- 2. Remove seal retaining ring from drive plate if installed and discard.
- 3. Remove two 1/4" cap screws (200 series) or four 3/8" cap screws (300 series).
- 4. Scribe a line on motor casing (end plate, drive plate, housing), note orientation, and pull apart.
- 5. Remove idler gear/shaft assembly, drive gear, and drive shaft dowel pin. Note: Failure to remove dowel pin will result in bushing damage.
- 6. Press or tap (non-marring hammer) drive shaft/bearing assembly, and seal cartridge out of drive plate.
- 7. Remove and discard old "O" rings and seal cartridge. Check shaft for wear or grooving under seal and replace if damaged.

## ASSEMBLY

- 1. Place drive shaf/bearing assembly in drive plate.
- 2. Apply a thin film of hydraulic oil to the seal lips and bullet. Insert seal/bullet assembly over shaft tang. Press seal by hand over the installation bullet until the seal casing touches the drive plate.
- 3. Place a 3/4" (200 Series) or 15/16" (300 Series) deep socket over seal and press or tap into seal cavity until seated.
- 4. Remove the installation bullet and discard.
- 5. Lightly grease large "O" rings and insert in plate grooves. (300 series grooves in gear housing)
- 6. Place dowel pin and drive gear on drive shaft.
- 7. Place idler gear/shaft assembly in drive plate bushing.
- 8. Assemble the drive, center, and end plates aligning scribe marks.
- 9. Install two 1/4" cap screws torque 6-8 ft-lbs (200 series) or four cap screws torque 24 ft-lb (300 series). **Caution:** Do not over tighten.
- 10. Remove needle valve, replace thread seal (metal washer with rubber insert), and reassemble.
- 11. Remove seal check cap from drive plate with 5/32" allen wrench (200 series) or 7/8" wrench (300 series), replace seal check cap "O" ring, and reassemble.
- 12. Position coupler in pump shaft slot and seal support spacer around coupler. **Note:** The smaller diameter of the 200 series spacer must face the hydraulic motor. Fill the remaining area of the coupler/spacer cavity with coupler grease, align motor tang with coupler slot, and attach motor with four cap screws - torque 13 ft-lbs.







## Shaft Seal Leak Causes

## HIGH BACK PRESSURE IN THE RETURN LINE:

This is the most common cause of shortened motor seal life. the hydraulic motor seal is rated for 250 pssi of back pressure. However, a continuous return pressure of 100 psi or less is recommended for efficient operation and optimum seal life. The high return pressre is caused by restrictions in hoses, fittings, and tractor plumbing.

## LOOK FOR:

Seal lips pressed tight against the outer seal housing and shaft. There may also be grooves in the shaft where the seal ips touch.

## **PREVENTION:**

The best way to minimize return pressure is to return oil directly back to the tractor reservoir. Most tractor manufacturees now offer a Low Pressure REturn Port option for this purpose. Contact your dealer for the specific options available for your tractor model. Preper hydraulic hose sizing in also important to minimize restriction. A open hose coupling may also be used to reduce restrictions in the return line. Ace recommends 1/2" hose for 200 Series motors and 3/4" hose for 300 series motors. The hoses should be sized larger if individual lengths exceed 15 feet.

### **PRESSURE SPIKE:**

System pressure spikes may also damage the shaft seal and cause leakage. Spikes in the 3000-5000 psi range may result from imporperly synchronized hydraulic valves or quick couplers coming unplugged during operation.

## LOOK FOR:

The seal lips are pressed tight against the outer seal housing and form a right angle between the seal housing and the shaft. In severe cases, the seal lip material may be extruded between the front seal casing and the shaft.

### **PREVENTION:**

Using a Low Pressure Return Port prevents spikes by keeping the return line open back to the reservoir at all times. If not using a low pressure return, the pump should always be turned off by moving the lever to the Float position. When moved to Float, the oil supply valve is shut but the return valve stays open.





