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# RENSON

## SELF PRIMING PUMPS A180 - A350 SERIES

## INSTALLATION AND OPERATING INSTRUCTIONS

Your Renson Self Priming Centrifugal Pump has been quality built and engineered to give you many years of efficient, dependable, corrosion-free service. The advanced design is such that operation and maintenance have been reduced to a minimum.

### 1. GENERAL TIPS AND PUMP INSTALLATION

Locate the pump as close to liquid source as is practical and run suction lines as direct as possible. This cuts down on friction loss through pipe and fittings.

If possible use a suction strainer on the free end of the suction line which has a free area of one and a half to two times the suction pipe area

For electric driven pumps (EL or BEL serial number), ensure that the electrical source available conforms to the motor's voltage, phase and cycle, and that the wire size is adequate for the HP rating and distance from power source.

For Gearbox driven units, mount the pump on the Gearbox mounting lugs and leave the pump head free floating. DO NOT mount on both Gearbox and pump feet.

IMPORTANT: On electric driven units, make sure that the motor rotates the same way as the arrow on the pump shows.

### 2. STARTING AND PRIMING INSTRUCTIONS

Before starting fill pump housing with water up to suction level by using discharge port or priming plug.

NEVER operate the pump without water. Water acts as a coolant and lubricant for the shaft seal and is necessary for priming.

Open all suction and discharge valves and/or attach discharge and suction connections.

Make sure that all pipe connections are correctly tightened. Turn on the power and allow a reasonable time for priming - (priming depends on suction lift and horizontal length of suction pipe).

If pump will not prime, make sure pump housing is filled with water and all suction and discharge valves as well as pipes are open and unobstructed. Also check suction pipes and connections for air leaks.

IMPORTANT on PTO driven units the following starting procedure must be used.

(a) Make sure tractor is at idle speed before engaging PTO drive.
(b) Build up PTO speed steadily until working speed is obtained.
(c) DO NOT engage and disengage PTO drive at working speed.

Failure to carry out these instructions MAY cause severe damage to the Gearbox/pump internal components.

## 3. PUMP MAINTENANCE

### STORAGE DETAILS

(a) Drain pump by removing drain plug.
(b) Flush out housing with fresh water.
(c) Refit drain plug and fill with diesel oil.

## 4. GEAR BOX MAINTENANCE

### PUMP NUMBERS 180PF AND 350PF

Change oil after first 50 hours work and then after each 150 hours running time.

For oil replacement remove oil drain plug and filling plug. After complete drainage replace the drain plug and fill with 1.3 litres of SAE 90 EP oil. Do not use any other oil specification.

IMPORTANT after 25 hours work the Gearbox pinion shaft adjustment MUST be checked, (see section 6 for procedure), and then after every 150 hours running time.

## 5. SEAL CHANGE INSTRUCTIONS

### GENERAL

Before commencing service make sure the power source is switched off and disengaged, remove PTO drive shaft. Exercise extreme care in handling and installing new seat and seal assembly. The lapped and polished surfaces may easily be damaged by dirt or scratching. For safety, service must be performed with power turned off.

Sealing of the pump shaft is made using a mechanical seal containing the following parts: PTFE rotating ring and mechanical seal.

Pump models: A350 use seal - OBT 18 and SIEGE 18
Pump models: A180 use seal - OBT 22 and SIEGE 22

After re-sealing small leakage during starting time is allowable, (any major leak must be dealt with immediately).

SEAL REPLACEMENT PROCEDURE

(a) Remove nuts and screws securing pump body to Gearbox.
(b) Remove Gearbox assembly from pump housing.
(c) Unscrew the impeller locknut then remove impeller and key.
(d) Remove seal and seat.
(e) Clean all recesses and parts to be reassembled. Inspect seal plate 'O' ring and replace all defective parts as necessary.
(f) Clean and lightly lubricate the impeller hub and seal recess in the seal plate with silicone grease or vaseline.
(g) Gently wipe the polished face of the ceramic seat with a soft cotton cloth. Lubricate the rubber gasket on the ceramic seat and press it firmly in to the recess of the seal plate - polished side facing out. Carefully locate PTFE seal on impeller shaft (spring to top), refit impeller and locknut (always use new locknut).
(h) Replace Gearbox on to pump housing, refit all nuts and screws using Loctite cement (do not over tighten pump housing nuts).

## 6. FINAL OPERATION INSTRUCTIONS FOR A180PF AND A350PF

Before re-fitting Gearbox to pump housing the impeller shaft bearing pre-load must be checked/adjusted. This operation is carried out by an adjusting screw which is located in the centre of Gearbox housing under the PTO shaft.

(a) Slacken adjusting screw locknut.
(b) Rotate Gearbox (by hand) using PTO drive shaft. At the same time carefully tighten adjuster until Gearbox stops turning (do not overtighten). Then slacken adjusting screw until the shaft is free to turn (appoximately half a turn)
(c) Re-tighten locknut.

CAUTION if pump wear plate is renewed, the replacement flange screws must be made of stainless steel!