

# SERVICE PROCEDURES

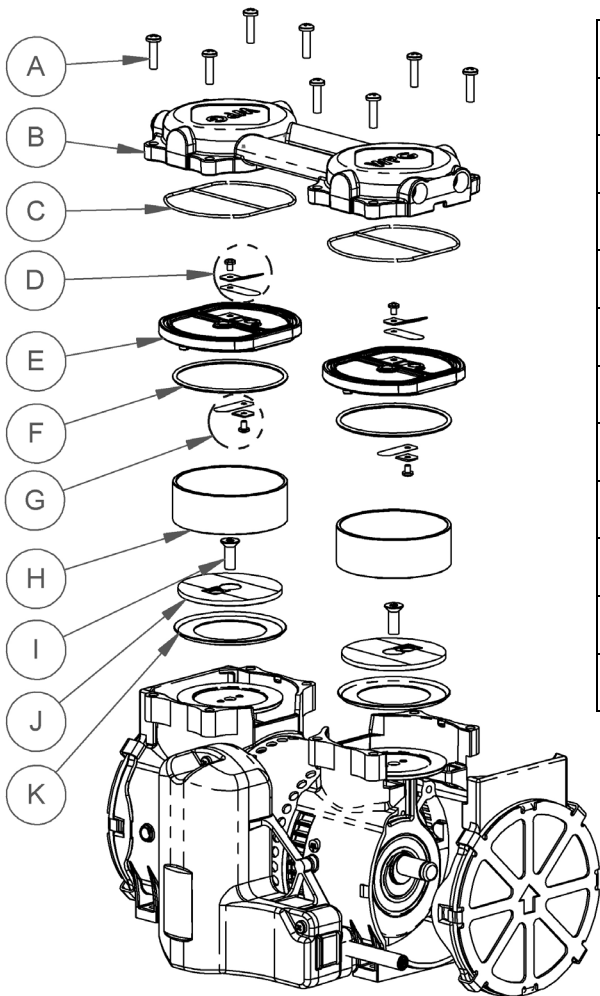
## VACUUM PUMP MAINTENANCE – Model MP27 Instructions #35245



**Before proceeding with any maintenance, disconnect power source.**



If the vacuum pump takes too long to attain full vacuum, clean the exterior of the pump and replace worn parts as necessary to obtain acceptable pump performance (see “REPLACEMENT PARTS”).



Reference	Availability	Quantity	Description
A	☐	8	Head Screw
B	☐	2	Head
C	■	2	Head O-ring
D	■	2	Exhaust Valve Kit (valve flapper, restraint and screw)
E	☐	2	Valve Plate
F	■	2	Sleeve O-Ring
G	■	2	Intake Valve Kit (valve flapper, keeper and screw)
H	■	2	Cylinder Sleeve
I	■	2	Retainer Screw
J	☐	2	Retainer Plate
K	■	2	Piston Cup

☐ Nonstocked Item

■ Included in service kit #66179AM

### 1) Removing the Heads and Valve Plates

- 1.1) Remove the head screws (A) and the pump heads (B). Note the orientation of the heads for reassembly.
- 1.2) Carefully separate the valve plates (E) from the bottom of the pump heads (B) and the top of the cylinder sleeves (H). Note the orientation of the plate tabs for reassembly.
- 1.3) Remove the head O-rings (C) and sleeve O-rings (F), and discard them.

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## 2) Replacing the Intake Valves and Sleeve O-Rings

- 2.1) Remove the old valve screws, keepers and flappers (G) and discard them.
- 2.2) Clean the lower surfaces of the valve plates (E) with a soft cloth.
- 2.3) Install the new valve flappers, keepers (so "X" is visible) and screws (G) as shown. Tighten the screws with 18 in-lbs [2 N-m] of torque.
- 2.4) Install new sleeve O-rings (F) in the valve plates (E). Make sure to seat them firmly in the grooves.

## 3) Replacing the Exhaust Valves and Head O-Rings

- 3.1) Remove the old valve screws, restraints and flappers (D) and discard them.
- 3.2) Clean the upper surfaces of the valve plates (E) with a soft cloth.
- 3.3) Install the new valve flappers, restraints and screws (D) as shown. Tighten the screws with 18 in-lbs [2 N-m] of torque.
- 3.4) Install new head O-rings (C) in the valve plates (E). Make sure to seat them firmly in the grooves, without any twists.

## 4) Disassembling the Piston Assemblies

- 4.1) Remove the retainer screws (I) and discard them. Note the position of the recesses in the retainer plates (J) for reassembly.
- 4.2) Remove the cylinder sleeves (H), retainer plates (J) and piston cups (K). Discard the sleeves and cups.
- 4.3) Clean the retainer plates (J) and tops of the piston rods.

## 5) Replacing the Sleeves and Cups

- 5.1) Place a new cylinder sleeve (H) over one piston rod.
- 5.2) Insert a new piston cup (K) into the sleeve (H) and push the cup down to the piston rod.
- 5.3) Reinstall a retainer plate (J) on the piston rod, making sure to position it correctly.
- 5.4) Install a new retainer screw (I) and tighten the screw with 55 in-lbs [6.2 N-m] of torque.
- 5.5) Repeat steps 5.1–5.4 with the other piston assembly.

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## 6) Installing the Valve Plates and Heads

- 6.1) Make sure the cylinder sleeves (H) are seated firmly against the pump housing. Then place the assembled valve plates (E) in the correct orientation on the sleeves, making sure they fit into the corresponding O-ring grooves.
- 6.2) Place the heads (B) in the correct orientation on the valve plates (E), making sure the plate tabs fit in corresponding head notches.
- 6.3) Install the head screws (A) and tighten them with 55 in-lbs [6.2 N-m] of torque in a crisscross pattern.