THOMAS

A Gardner Denver Product

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MODEL SK660/680

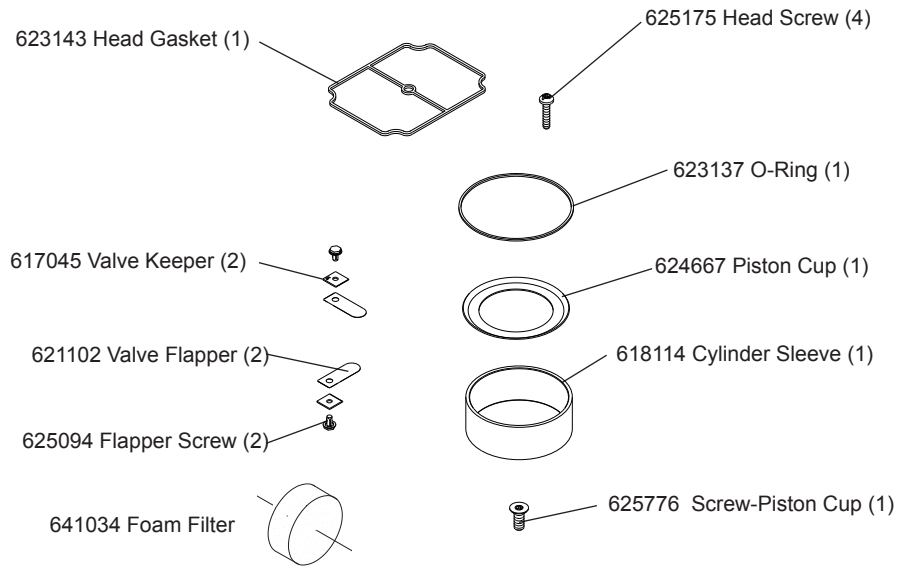
COMPRESSOR SERVICE KIT

For use on 660/680 Model Compressors

⚠ WARNING: Unplug the compressor before beginning disassembly.

⚠ CAUTION: Improper assembly or use of damaged parts may lead to premature failure. To avoid frequent repairs follow the recommended assembly procedures.

This kit includes the following parts:



NOTE: Before you begin, read these instructions thoroughly and assemble the necessary tools. You will need:

- **1/4" Hex Socket attachment for torque wrench**
- **Torx T-27 attachment for torque wrench (for retainer screws)**
- **Torx T-25 attachment for torque wrench (for head screws).**
- **5/32" Allen wrench for torque wrench (eccentric screw)**
- **Flat Screwdriver**
- **Clean Cloths**

Part No.642814 0807

DISASSEMBLY

STEP 1. Clean loose dirt from the outside of the compressor.

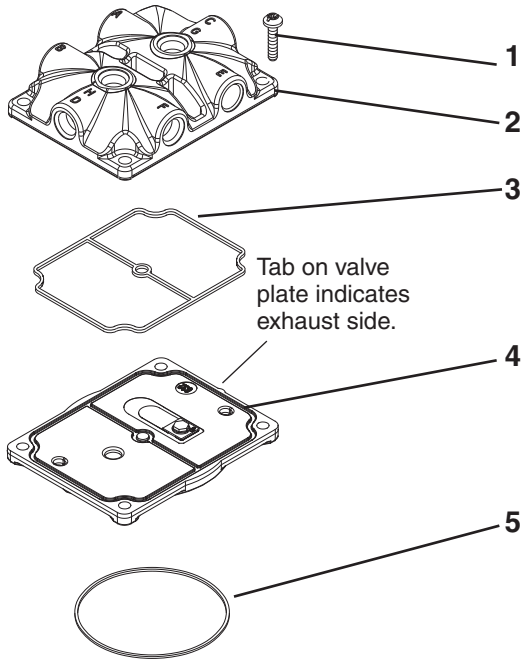
STEP 2. Loosen the 4 head screws (1) and remove the compressor head (2). Note orientation of head for reassembly (very important). Discard head screws.

⚠ Caution: Place capacitor off to side leaving it connected to lead wires.

STEP 3. Carefully remove the valve plate (4) from the bottom of the head, or cylinder sleeve. Note orientation with respect to the tab on valve plate for reassembly.

STEP 4. Remove the head gasket O-ring (3) and discard. Turn the valve plate over. Remove the valve plate O-ring (5) and discard.

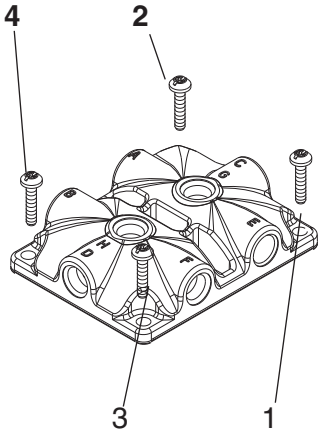
Figure 1



STEP 2. Place head on the valve plates, making sure that the same letter orientation is as was before disassembly. Torque the head screws to 55 inch lbs. in a crisscross pattern.

Numbers indicate tightening sequence

Head Assembly



⚠Caution

To avoid property damage or personal injury, always try rotating the fan by HAND prior to connecting the unit to the power source. Check for suction at the air inlet port by placing your finger over the port as you turn the fan. You should feel a slight suction with each rotation of the fan. If you don't feel suction, or if you feel or hear a thump as you turn the fan, DO NOT CONNECT THE UNIT TO A POWER SOURCE; review the assembly procedure for possible error.

STEP 3. Remove the filter cap from the filter body by prying it with a flat screwdriver. Remove the old foam filter and discard. Replace with the new filter and snap filter cap back into place.

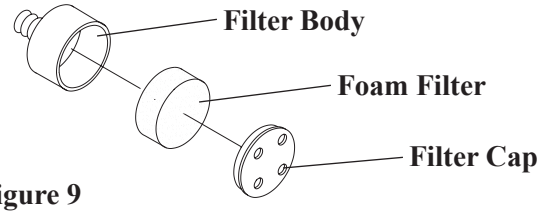


Figure 9

REASSEMBLY

STEP 1. With the sleeves firmly seated on the housing, replace the valve plates in same manner as they were. (See Fig. #8). Make sure the top edge of the sleeve locates in the O-ring groove in the bottom of the valve plate.

⚠CAUTION: Make sure gasket is not twisted when seated in groove.

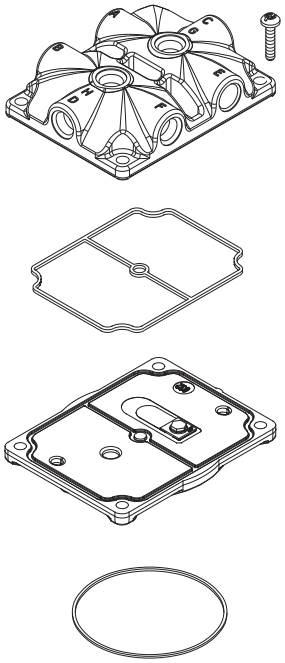


Figure 8

STEP 5. Remove the intake valve flapper (1), keeper (2) and screw from the bottom of the valve plate and discard. Clean the bottom of the plate with a clean, soft cloth. Install the new intake valve flapper, and restraint (if one was removed). The valve keeper should be placed on top of the flapper so that the word "UP" is visible at the 5:00 position (See Fig. #2).

NOTE: Pay close attention to valve assembly. Some parts in kit may not be for your model.

NOTE: Torque new flapper screw to 18 inch-pounds.

STEP 6. Install the new O-ring, seating it firmly into the groove with your finger or blunt object. (See Fig. #2).

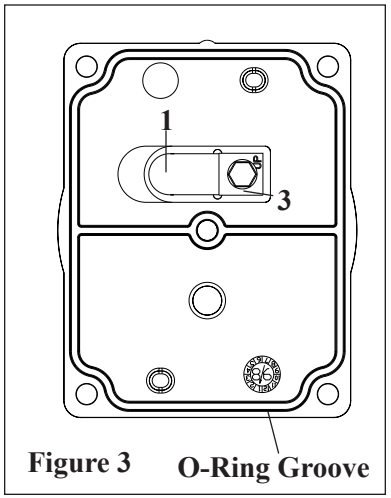


Figure 3 **O-Ring Groove**

STEP 9. Remove the fan by using two flat blade screwdrivers to pry off, making sure screwdriver contact is made with hub back, and not the fan blades. Note fan orientation for reassembly.

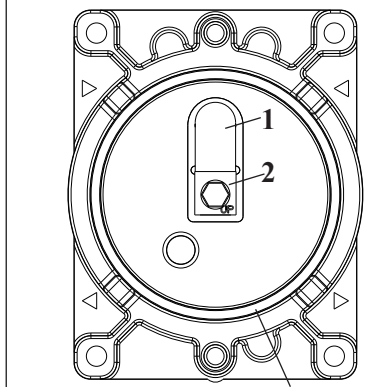


Figure 2 **O-Ring Groove**

STEP 7. Remove the exhaust valve flapper (1), restraint (2) from the top of the valve plate and discard them. Clean the top of the plate with a clean, soft cloth. Install the new exhaust valve flapper and keeper. The valve keeper should be placed on top of the flapper so that the word "UP" is visible at the 1:00 position (See Fig. #3).

NOTE: Torque flapper screw to 18 inch-pounds.

STEP 8. Install the new head gasket, seating it firmly into the groove with your finger or blunt object. (See Fig. #3). Set aside.

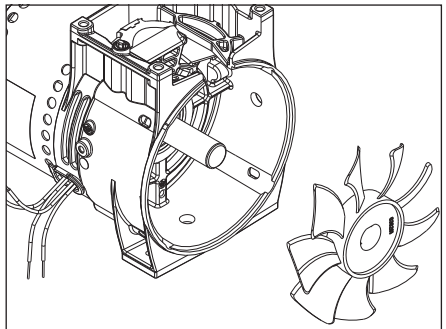


Figure 4 **View of Fan with spring clip facing in**

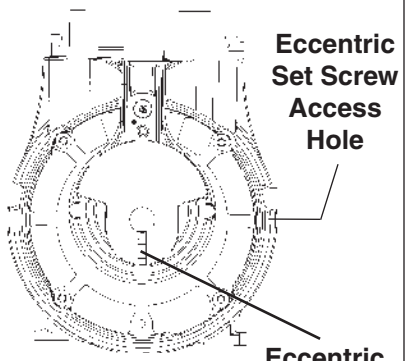


Figure 5

STEP 10. Insert the 5/32" Allen wrench into the access hole in the compressor housing. Loosen the set screw 1/4 turn. Rotate connecting rod to top dead center (180°) and slide the connecting rod/eccentric assembly off the shaft and through the opening in the housing.

STEP 11. Secure the rod assembly in a fixture. Remove the sleeve (1 - discard) from the connecting rod. Remove the screw (2 - discard) from the cup retainer (3 - retain for reassembly). Remove the piston cup (4 - discard) and wipe debris from the top of the connecting rod and retainer with a clean damp cloth.

(2* This retainer screw may be one of two different sizes depending on when it was manufactured. Both of the different screw sizes are supplied in this kit. Compare the screw you removed with the 2 screws from the kit to determine which one to use in this repair. Discard unneed screw.)

STEP 12. Carefully place new sleeve (1) over connecting rod top. Place new cup (4) in center of connecting rod top. Do not damage the cup. Place retainer (3) on top of cup (counterbore up), making sure that the cup inside diameter is seated properly over retaining boss. Note that the retainer has a locating boss that must insert into rod top pilot. Drive new retainer screw to 100 in-lbs. Carefully push sleeve up forming the cup. Stop pushing the cylinder sleeve up when the piston cup is positioned midway inside the sleeve.

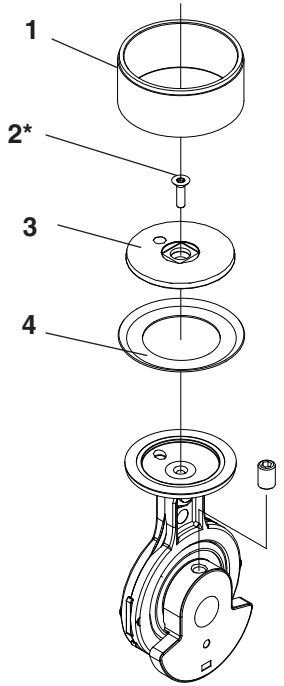


Figure 6

STEP 13. Rotate the rotor shaft so that flat faces up (12:00). Position piston cup at bottom dead center of cylinder sleeve.

STEP 14. Slide the connecting rod assembly onto the shaft until the eccentric face positively stops against the bearing. Align the eccentric setscrew with the flat of the shaft. Rotate the eccentric and shaft 90 degrees so the set screw is visible through the access hole in the housing, and tighten set screw to 125 in-lbs.

STEP 15. Align the flat on the fan with the flat on the motor shaft and slide the fan back onto the motor shaft, making sure you position the fan clip in the same orientation as it was before you removed it. Incorrect orientation of the fan will not provide adequate cooling of the compressor.

CHECK OPERATION

Hold the sleeve down against the housing with one hand, and slowly rotate the fan with the other hand to ensure all components are lined up properly. As the piston travels up and down it will also rock from side to side. This is a feature of the WOB-L Piston.

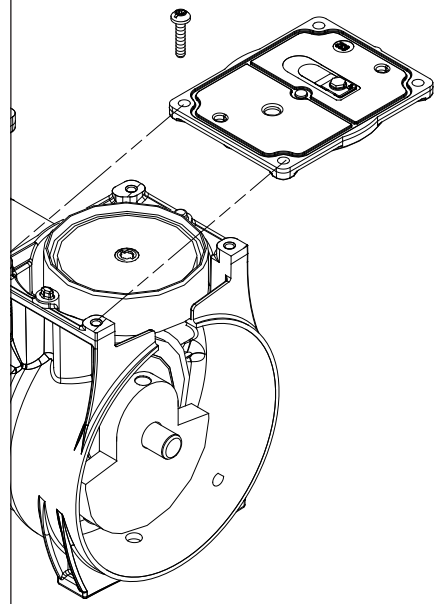


Figure 7