

# HYVAC PRODUCTS, INC.

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## Instructions for Repair Kits

READ COMPLETE BEFORE STARTING.... PLEASE

Rotary vane vacuum pumps such as the HyVac vacuum pumps are relatively simplistic in operation and principle. Because these pumps are chasing gases on a molecular basis, the machined tolerances of the machined parts are relatively tight. This makes for little error allowance on alignment for reassembly.

1. Manual - If you have one, get it out. If you don't, call Hyvac and order one before you start repair kit installation. Review Manual and find exploded view diagram which corresponds with your pump.
2. Dis-assemble pump document parts and order of installation. Clean parts thoroughly if they show dirt, rust etc... Examine all running parts.... stators, rotors, shaft for excessive wear.
3. Replace new "repair kit" parts in order of reassembly and put old parts in a box. Don't throw away yet.
4. Reassemble pump in reverse order of disassembly.

### A. Notes on assembly.

1. Shaft Seals are delicate. Make sure there are no rough edges on shaft before installing new seal. Coat shaft OD and ID of shaft seal with generous coating of vacuum oil before installing.
  - a. If your shaft seal is older style internal type not external shipped on pumps from 1975 and later. Call HyVac and request documentation on shaft seal conversion.
2. Stator and rotor have a .001" shim distance between them on reassembly.
3. We find it advantageous when installing stators and rotor/vane combos to put a wrench on the end of the shaft where the pulley should go and manually actuate as pump is re-assembled reviewing rotation for mis-alignment, tight spots. This is critical and can lead to another disassembly, reassembly task and associated frustration if not performed correctly first time through and potential damage to shaft seal requiring replacement.
4. Flutter Valve - Short valve is on top of long flutter valve.

### B. I done good.

1. Pump is quiet smooth running and has no knocks and rotates freely when actuated. A rubber stopper in the inlet allows review at high vacuum. Pump should not gurgle.
2. Vacuum gauge shows appropriate vacuum pressure. Technically we expect rebuilt pumps to still be below 1 micron vacuum pressure. .001 Torr or 29.9" Hg vacuum. Limitations of gauges and gauging should be considered for literal translation.