

# TEMPEST<sup>™</sup> excellence

## SERVICE LETTER

Service Letter Number: 007

Subject: Wear Port Indicator Instructions

Applicability: 400 Series Dry Air Pumps

- Remove the pump-cooling shroud if necessary.
- Insure the area around the inspection port plug is clean, so that when the plug is removed nothing can fall into the pump.
- Remove Inspection Port Plug AND star washer, Fig. 1. Failure to remove the star washer will cause a false indication.
- While looking into the indicator port, have an assistant slowly move the propeller by hand in the normal direction of rotation, until a vane slot is aligned precisely in the center of the port, Fig. 2. If you go too far, just keep turning to the next slot.  
DO NOT turn the propeller backwards.
- Insert the Vane Wear Indicator Tool, Fig. 3, into the inspection port as illustrated in Figure 3. Hold the barrel securely and squarely against the pump body. With your fingertip, gently push the plunger into the pump. When the plunger touches the vane you may feel the vane move slightly if it is not at the bottom of its slot.

- Observe the plunger's indicating bead land position, Fig. 4. If the indicating bead's land is touching the barrel end, the vane is worn to the service limit. **REPLACE** the pump if vanes are at the service limit.
- If the vanes are within service limit and the pump is otherwise serviceable, clean the threads on the port plug, install a **NEW** starwasher and torque to 45-50 inch-pounds.

NOTE: If the plunger does not slip easily into the slot, DO NOT force it. Remove the indicator tool and check the alignment of the slot and the port.

**DO NOT rotate propeller or pump's shaft when the indicator probe is inserted in the inspection port. Doing so may break or chip the the rotor. If the pump is turned with the probe in the pump replace the pump even if you don't think it is damaged. A cracked or chipped rotor may operate normally for a while then fail without warning.**

BE SURE to REMOVE BOTH the PLUG AND the STARWASHER

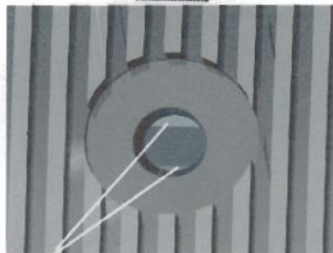


Fig. 1

Leaving the starwasher in the inspection port hole will cause erroneous inspection results



Fig. 2



NOTE: Edges of rotor slot visible in inspection port hole

400 Series Wear Indicating Tool  
P/N 82-50122-2A6



Fig. 3

Insert this end into inspection port hole



Fig. 4.

New Vane Indication



Vane still Good - Land not touching top of barrel



Land TOUCHING Barrel Vane at service limit - Replace Pump



Replace Pump if any vane is at it's service limit.

Pump sectional views - for reference only

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