

OPERATION & MAINTENANCE

1.1 PRE-STARTUP CHECKLIST

Before initial start up or after servicing, perform this checklist:

1. Carefully review all work done on the fan.
2. All foundation bolts, wheel hub set screws and bearing collars must be tight.
3. Access doors should be tightly sealed.
4. All safety devices should be in place.
5. Check bearing alignment and lubrication.
6. Couplings must be in alignment and lubricated.
7. Turn over the fan wheel by hand to check that it runs free and does not bind or strike fan housing.
8. Check electrical wiring to the drive motor.
9. V-belt drive must be in alignment with belts properly tensioned. Use of a belt tension checker is recommended.
10. Duct connections from fan to ductwork must not be distorted. Ducts should never be supported by the fan. Expansion joints between duct connections should be used where expansion is likely to occur or when the fan is mounted on vibration isolators. All duct joints should be sealed to prevent air leaks. All debris must be removed from ductwork and fan.

1.2 INITIAL STARTUP PROCEDURE

After performing prestart checklist, follow this procedure:

1. "Bump" motor to see if fan turns free and check for proper wheel rotation.
2. Bring fan up to speed. If fan does not come to speed in 20 seconds stop fan and investigate cause.
3. At first indication of trouble or vibration, stop the fan and check for the problem.
4. Do not operate in stall.
5. After a run-in-period, usually about eight hours, recheck all alignments and inspect the bearings. Check the lubricant. Check that all bolts and setscrews are tight.
6. After 30 days of operation, all foundations, structures and supports should have stabilized their position, and another check is indicated.

1. A definite time schedule for inspecting all rotating parts should be established. (Typically after 30 days operation and at normal outages). The frequency of inspection depends on the severity of operation.
2. Fan bearing and flexible coupling alignment should be checked at regular intervals. Misalignment can cause overheating, wear to bearing dust seals, bearing failure and unbalance.
3. Fan bearings should be lubricated at regular intervals. Periodical inspections will be necessary.
4. Bearings on high speed fans tend to run hot, 50 to 100 F above ambient. Do not replace a bearing because it feels hot to the touch. Place a contact thermometer against the bearing pillow block and check the temperature.
5. All metal couplings and all gear type couplings require periodic lubrications. Other flexible couplings such as disc-ring type or rubber insert type should be inspected for wear.
6. Foundation bolts and all setscrews should be inspected for tightness.
7. Fans should be inspected for wear and dirt periodically. The wheel might have to be cleaned. Dirt piled in the housing should be removed. Fan wheels having badly worn blades should be replaced or rebuilt. Rebuilt or repaired wheels require careful balancing before being returned to service.
8. On V-belt drive check belt wear, alignment and proper belt tension.
9. If excessive vibration or bearing temperature occurs, it might be due to unbalance, misalignment, loose belts, poor lubrication, dirt build-up on the wheel etc.
10. Repainting of exterior and interior parts of fans and ducts will extend the service life of the installation. Competent advice should be secured when corrosive fumes are present.
11. Never run the fan at a high speed than it designed.

INSTALLATION INSTRUCTION PERTAINING TO WING DRAFT INDUCER CO. TYPE PB & PBA FANS

RECEIVING:

Inspect fan upon receipt. Be sure wheel spins freely and does not bind by turning with hand.

STORAGE & HANDLING:

All fans should be lifted by their bases. They should be stored in a dry area to prevent corrosion. If the fan is to be placed outside, protect it as well as possible from the elements. Be especially careful to keep motor dry and bearings greased.

INSTALLATION:

To insure vibration free operation, the fan needs a solid foundation supported by anchoring bolts. Also to prevent sway of platform-mounted units, a diagonal bracing is necessary.

Be sure fan is leveled on foundation. When vibration isolation is required, mount the motor & fan on a base plate, and then mount the isolators between the plate and the foundation.

STARTING THE UNIT:

Before wiring the motor, check nameplate for proper voltage. Make sure a visual inspection of the unit has been done. Turn the wheel (see that it does not bind), check the belt alignment & tension . Tighten all screws and bolts.

After full inspection proves unit is in order, turn power on. Check for unusual sound. Avoid overloading the motor, by only running a few seconds while unit is not connected to inlet or outlet ducts. Be sure fan speed is correct.

Now inlet or outlet duct can be connected.

MAINTENANCE:

Establish a good maintenance pattern, by regularly scheduling a routine inspection.

If system is for clean air, once every six-month is sufficient; if system is for contaminated air, once a month is advisable. Regular maintenance should include the inspection & cleaning of all fan parts, showing extra attention to the shaft, bearings and belt drive. Belts should be adjusted properly or it will cause unnecessary wear on the belts, motor and bearings.

All grease-lubricated bearings used on our blowers are prelubricated. They must be greased during your regularly schedule inspections. Do not over lubricate. After a complete check of all screws, bearings, belts, motor and wheel. your maintenance inspection has been completed. Refer to specific motor instruction for motor service.