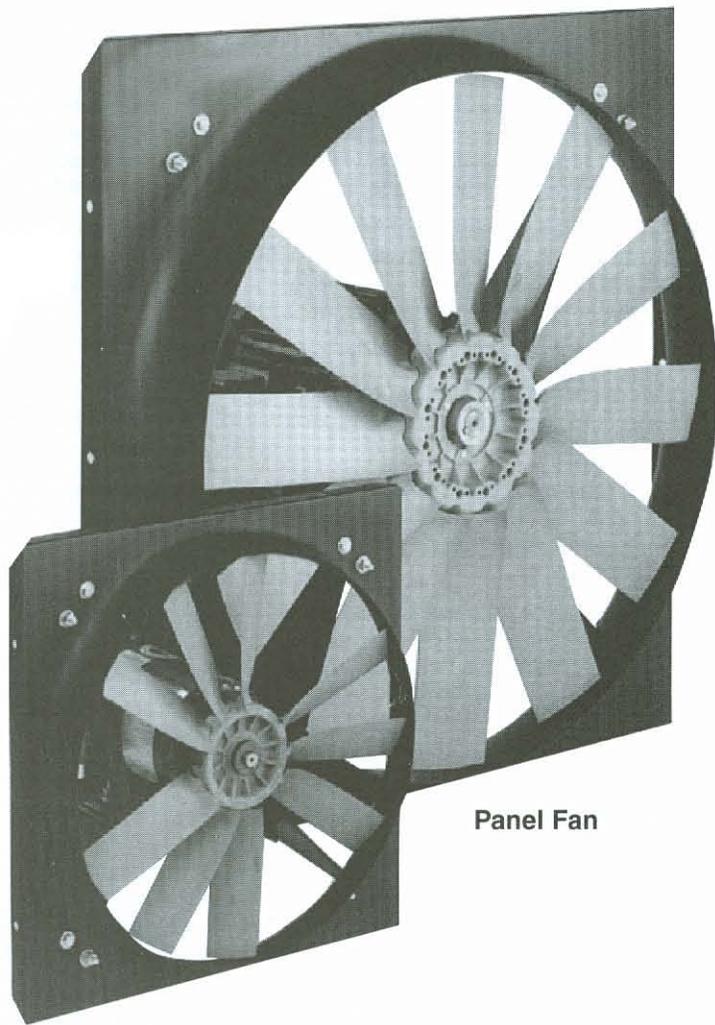


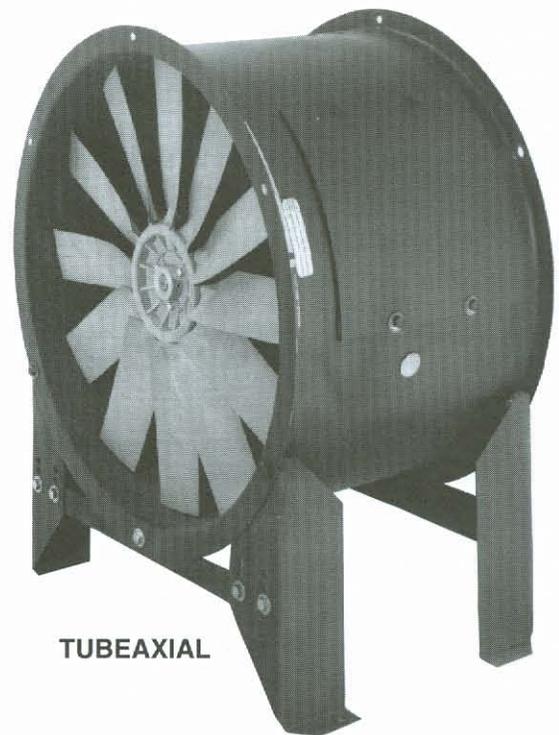


# SAFETY - INSTALLATION - OPERATING AND MAINTENANCE INSTRUCTIONS

## DESIGN 37 AXIAL FANS



Panel Fan



TUBEAXIAL

### TO ORDER SPARE PARTS:

Spare or repair parts may be ordered from your nearest Chicago Sales Engineer by giving the part name and the FAN SERIAL NUMBER taken from the nameplate or the JOB ORDER drawings. Also specify size, number of blades, blade pitch, RPM, and bore diameter with motor frame size. Due to the small number of parts required, spare parts lists are neither necessary nor available. Use these instructions instead.

an ISO 9001 Company



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# INSTALLATION INSTRUCTIONS FOR DIRECT CONNECTED FANS

## RECEIVING:

Chicago Blower Corporation equipment is prepared for shipment in accordance with the Uniform Freight Classification. It is thoroughly inspected at the factory, has usually been run tested, and, barring damage in transit, should be in perfect condition.

When a carrier signs the Chicago Blower Corporation's bill of lading, the **carrier accepts the responsibility** for any subsequent shortages or damage evident or concealed, and **any claim must be made against the carrier by the purchaser**. Evident shortage or damage should be noted on the carrier's delivery document before signature of acceptance. Inspection by the carrier of damage evident or concealed must be requested. After inspection, issue a purchase order for necessary parts or arrange for return of the equipment to CBC factory for repair.

Chicago Blower Corporation Design 37 fans are shipped completely assembled. These units may be handled and moved using good rigging techniques, being careful to avoid concentrated stresses that will distort any of the parts.

## STORAGE:

If the fan is not to be installed promptly, store in a dry place with the motor and wheel protected against moisture, dust, corrosion and physical damage. Contact the Motor manufacturer for special instructions. For extended periods call Chicago Blower for instructions.

## SAFETY PRECAUTIONS:

The fan which you have purchased is a rotating piece of equipment and can become a source of danger to life or cause injury if not properly applied. The **maximum operating temperature** for which this fan is designed **must not be exceeded**. These limits are given in our catalog, in the order write-up, or on Chicago Blower Corporation drawings.

Personnel who will operate this fan, or those who will perform maintenance thereon, **must be given this bulletin to read and warned of the potential hazards of this equipment**.

This pamphlet contains general recommendations, but specific requirements may apply to the individual installation. Such requirements are outlined in federal, state and local safety codes. Strict compliance with these codes, and strict adherence to these installation instructions are **the responsibility of the user**.

The environment unique to your installation will determine if blade and/or motor guards are required - therefore all guards are available as optional accessories.

## INSTALLATION:

1. Good results **require proper mounting**. The support structure should be rigid, and of sufficient mass for the equipment.
2. Shim the fan support points before tightening mounting bolts. Do not distort or twist the equipment.
3. Make sure the power is locked "OFF".
4. Check wheel-to-housing clearance to make sure it has not shifted during shipment or handling. There should be approximately equal blade tip clearance all around. Rotate wheel by hand to check that it runs free.

If the wheel is striking, correct it by loosening the motor support bolts and recentering the wheel to the "eye" of the orifice so it does not hit. Retighten all set screws and bolts and test for clearance again.

5. Check motor wiring and fusing in accordance with the National Electrical Code and local requirements. Follow wiring diagram on the motor nameplate.
6. Chicago Blower requires that all appurtenances, including ductwork or stacks, which are attached to the fan inlet or outlet, be independently supported, unless prior approval has been obtained from Chicago Blower. Excess dead loads or wind loads can distort the fan housing causing misalignment and possible failure. Flexible connections are also necessary to prevent duct expansion or movement from adding loads to the fan.

## OPERATION OF FAN:

After installing the fan per these instructions and those of the manufacturers of components, **make final safety checks** to prevent injury to personnel or damage to the equipment.

1. Be sure all personnel are well clear of the fan so that extremities or clothing will not be pulled into the rotor.
2. Make sure the wheel track and any ductwork is clean and free of debris.
3. Bump start the fan to check proper rotation which is determined by the rotation arrow molded on each blade. If the wheel turns in the wrong rotation, reverse motor rotator per the motor instructions, usually by interchanging any two leads on a three phase motor.
4. Start and allow unit to reach full speed, then shut down. During this short period, check for vibration, any unusual noise, or overheating of the motor, and that the airflow direction is correct. Check the motor amps drawn against the nameplate rating.
5. After the trial run lock the power "OFF".
6. Recheck tightness of hold-down bolts, all set screws and keys, and retighten if necessary. Recheck again after 8 and 24 hours of actual operation.
7. The run-in period should be at least eight hours. Check the motor bearings and motor heating a minimum of once each hour. Do not overgrease motor bearings. Relubricate per motor manufacturer's instructions.
8. When Design 37 fans are furnished with adjustable pitch propellers, a POWERSET pitch setting card is included. See the POWERSET card for instructions on changing the propeller blade pitch setting. **CAUTION: SO NOT INCREASE PITCH SETTING BEYOND MOTOR CAPACITY.**

## MAINTENANCE:

Should excessive vibration or motor temperature later develop, check the following possibilities: (1) Buildup of dirt or foreign matter on wheel; (2) Bolts on motor or fan housing foundation loose; (3) The wheel eroding or corroding; (4) Wheel set screws loose; (5) Vibration coming from source other than the fan; (6) Foundation settled; (7) Clearance between wheel and housing has changed and wheel is hitting.

If the fan is to remain idle for an extended period, protect motor and exposed surfaces. Follow the motor manufacturer's recommendations for storage and rotate the shaft by hand several revolutions each month.

## WARRANTY:

The warranty on Chicago Blower fans is our standard warranty. The warranty on the motor is that extended by the motor manufacturer.