

# Installation Instructions For Type SQBA - SQB - SQDA Square In-Line Centrifugal Fans

OPERATION AND MAINTENANCE INSTRUCTIONS -- REVERSE SIDE

## PRE-INSTALLATION CHECK

Before installation, a careful inspection of the units should be made to detect any concealed shipping damage. If damage is found, contact and file a claim with the delivering carrier. Pulley alignment and belt tension should be checked prior to start-up (see the reverse for further information). Before connecting to the power source, check to make sure that the wheel turns freely without striking anything. CHECK TO MAKE SURE THAT THE DATA ON THE MOTOR NAMEPLATE AGREES WITH THE ELECTRICAL SERVICE THAT IS GOING TO BE APPLIED, DOUBLE CHECKING VOLTAGE AND PHASE. Also, check the wiring diagram to make sure that proper connections are made for the electrical service being applied. Note direction arrow for correct wheel rotation when power is applied. If a backdraft damper is being used, make sure that it is installed with sufficient clearance and that it functions properly when the unit is energized.

## INSTALLATION

From an operational standpoint, SQ fans may be mounted in any position. For convenience in wiring and service, it is recommended that the fan be mounted so that the motor is easily accessible.

Make sure that the fan is rigidly mounted. The SQ units are designed with slip-fit duct connectors as standard. Flexible duct connections or transition pieces may be used in mounting the fan. However, make sure that proper duct design is maintained so as not to obstruct air flow. For ease of installation, duct flanges and round duct connectors are available. If the fan is not adequately supported by duct work or otherwise, mounting brackets should be used. See Form 750-61 for mounting bracket installation information.

When installing the fan, make the following checks:

1. Turn the fan wheel by hand to make sure that it turns freely. If there is interference:
  - A: Fans with radial interference between inlet and wheel—  
Loosen the motor/bearing plate bolts, and/or bearing bolts (for belt drive units). Adjust position so that there is even clearance between the inlet and the wheel.
  - B: Fans with axial interference between inlet and wheel—  
Loosen the wheel on the shaft and adjust its position axially so that there is running clearance.
2. Make certain that the hub bolts and key are secure.
4. Make certain that all motor and bearing mounting bolts are secure. For belt drive units, make sure that the sheaves are at right angles to the shaft.
5. Give a short, supervised running test after tightening down all hardware.

## WHEELS

All wheels are computer balanced at the factory. Under particularly dirty conditions, materials may adhere to the fan wheel. The wheel should be checked and cleaned periodically since this could cause a build-up of material causing the wheel to become unbalanced.

ALUMINUM WHEELS ARE LIMITED TO 300° F. Motors have lower limits. Check with the factory before exposing these fans to elevated temperature.

## MOUNTING BACKDRAFT DAMPER

Check all dimensions to be sure that the damper will fit into the proposed location. Dampers must be installed so that the blades open in the same direction as the air flow for both automatic and motorized dampers.

## LIMITED WARRANTY

In the sale of its products, American Coolair Corporation agrees to correct, by repairs or replacement, any defects in workmanship or material that may develop under proper and normal use during a period of one year from the date of shipment from the factory. Any product or part proving, upon American Coolair's examination, to be defective during limited warranty period will be repaired or replaced, at American Coolair's option, f.o.b. factory, without charge.

Deterioration due to wear caused by chemicals, abrasive action or excessive heat shall not constitute defects.

Motors are guaranteed only to the extent of the manufacturer's warranty.

American Coolair's limited warranty does not apply to any of its products or parts that have been subject to accidental damage, misuse by the user, unauthorized alterations, improper installation or electrical wiring, or lack of proper lubrication or other service requirements established by American Coolair.

Repairs or replacements provided under the above terms shall constitute fulfillment of all American Coolair's obligations with respect to limited warranty.

THIS LIMITED WARRANTY STATED HEREIN IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, STATUTORY OR IMPLIED, INCLUDING WITHOUT LIMITATION THAT OF MERCHANTABILITY AND FITNESS. NO LIABILITY FOR REINSTALLATION COST OR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OF ANY NATURE IS ASSUMED OR SHALL BE IMPOSED UPON AMERICAN COOLAIR.

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## CLEANING AND ADJUSTMENT

The entire fan should be cleaned as necessary to remove accumulated dust, dirt and other foreign matter which may collect on the blades and other parts. On belt drive units, belts should be inspected and tension adjusted (see below). Check for belt misalignment which will cause excessive wear and premature failure. This same inspection of belts and adjustment of tension should be made frequently during the first 24-48 hours of operation after installation. If rust or corrosion is found anywhere on the fan, the affected areas should be thoroughly cleaned and refinished.

### BELT REPLACEMENT, TENSION AND ADJUSTMENT (SQBA, SQB MODELS)

1. For convenient access to the unit, remove the sides of the unit. (Three of the four sides are removable.)
  2. To install new belt(s), loosen the motor bracket and belt tension bolts and remove the old belt(s) from motor and fan pulleys. Thread the new belt(s) onto the pulleys.
- CAUTION: DO NOT THREAD THE NEW BELT ONTO THE PULLEYS UNDER TENSION. THIS WILL CAUSE DAMAGE TO THE BELT.**
3. Position new belt(s) on fan pulley and motor pulley. Adjust belt tension and retighten motor bracket bolts (see following paragraph). Check belt alignment between the fan and motor pulleys.
  4. To check the belt tension, push belt(s) inward about 1/4" to 1/2" at approximately 5 lb. force for proper tension. Ideal tension is the lowest tension at which the belt will not slip under peak load conditions. Keep belts free from foreign material which may cause slippage. Make periodic belt and drive inspection and re-tension when slipping occurs. Do not overtension.

## LUBRICATION

Fan bearings are factory lubricated for extended service and operation. These pillow block bearings should be lubricated annually or more frequently depending on usage and operating conditions. For best results, use a #2 consistency lithium base grease such as Shell Alvania #2 lubricant or equivalent. Motor bearings should be lubricated according to the motor manufacturer's instructions.

## REPAIR PARTS

1. Belts — Belts are standard V-belts used on industrial machines and replacements can be obtained through local industrial supply houses. Make sure the replacement belts are the same section (4L, A, AX, BX) and length as the original belts. If more than one belt is used on the fan, replace with matched sets. See previous instructions for belt replacement.
2. Blades — If one or more of the blades on the wheel is damaged, the entire wheel will need to be replaced.
3. Bearings — Pillow block bearings may be replaced in the field.
4. Motors — Motor repairs should only be performed by an authorized motor repair facility. Contact either the motor manufacturer or American Coolair Corporation for locations.

**CAUTION: DO NOT RETURN DAMAGED OR DEFECTIVE PARTS TO AMERICAN COOLAIR CORPORATION WITHOUT PRIOR AUTHORIZATION. IF REPAIRS UNDER WARRANTY ARE CLAIMED, SEE WARRANTY TERMS ON THE REVERSE OF THIS PAGE. CLAIMS FOR WARRANTY REPAIRS REGARDING THE MOTOR SHOULD BE MADE DIRECTLY WITH THE MOTOR MANUFACTURER.**

### WARNING



### CAUTION

**DO NOT** INSTALL FAN WITH MOVING PARTS WITHIN 8 FEET OF FLOOR OR GRADE LEVEL WITHOUT A GUARD THAT COMPLIES WITH OSHA REGULATIONS. **DO NOT** USE UNLESS ELECTRICAL WIRING COMPLIES WITH ALL APPLICABLE CODES. **DO NOT** WIRE WITHOUT PROVIDING FOR A POWER SOURCE DISCONNECT AT THE FAN ITSELF. **DO NOT** SERVICE EXCEPT BY A QUALIFIED MAINTENANCE TECHNICIAN AND ONLY AFTER DISCONNECTING THE POWER SOURCE. FAILURE TO OBSERVE THESE PRECAUTIONS CAN RESULT IN SERIOUS



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