

SOUND FIGHTER FANS™



TRIANGLE ENGINEERING
OF ARKANSAS, INC.

www.trianglefans.com • 1-800-255-9014

Tube Axial Fans

INSTALLATION, OPERATING AND MAINTENANCE MANUAL

Model TAD, TAB, VAD and VAB fans are thoroughly inspected and test run at the factory, however, damage may occur during handling and shipping. Consequently, it is important that the unit be carefully inspected for visible and concealed damage before beginning installation. Report any damage to the shipper immediately. In addition, assure all accessory items are accounted for.

INSTALLATION

LIFTING

Attach two suitable chains or straps around the entire tubular fan housing, one near each duct flange, when lifting large horizontal mount fans. Secure the fan housing to prevent the weight of a top or side mounted motor from rotating the housing while being lifted.

For vertical hanging installations, attach a suitable lifting device to the fan housing or inlet/outlet flange.

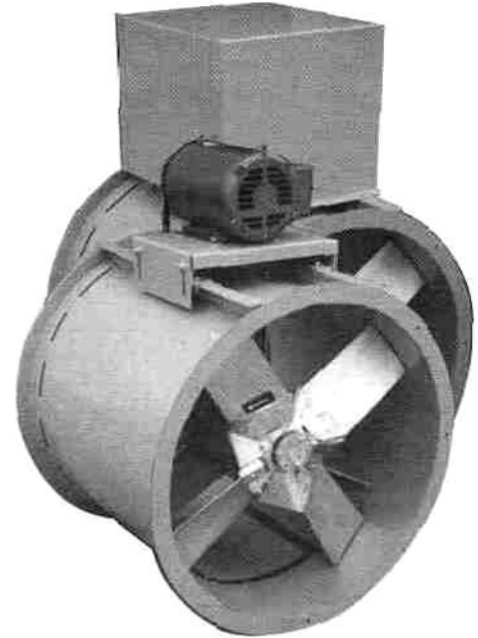
The fan should never be lifted by the motor, belt tube, propeller, shaft or accessories.

MOUNTING

Tube axial fans for horizontal base mount are available with rotatable mounting feet as an optional feature. By removing fasteners attaching the mounting feet to the inlet and outlet flanges, the tubular housing may be rotated to position the motor on either side or the top of the fan (belt drive units).

In applications where the fan is to be suspended horizontally or vertically from the ceiling, optional hanging brackets are welded to the fan housing. Fans can be suspended with motors on top or bottom. The installer must provide suitable rods for hanging installations.

Triangle Engineering recommends use of base or hanging vibration isolators on all tube axial installations. Do not support ductwork, etc. on isolators designed to support weight of the fan only.



ELECTRICAL CONNECTION

The electrical supply must be compatible with the fan motor with regard to voltage, phase and amperage capacity. Moreover, the electrical supply line must be properly fused and conform to local and national electrical codes.

For belt drive units, the electrical supply line is routed to the optional safety disconnect switch (if supplied) and then to the motor. Direct drive units have a prepunched wiring hole in the fan housing. The electrical supply may be connected to an optional safety disconnect switch or a junction box may be installed for direct connection to the motor wires.



SOUND FIGHTER FANS™

TRIANGLE ENGINEERING OF ARKANSAS, INC.

1101 N. Redmond Rd., Jacksonville Arkansas 72076

www.trianglefans.com • 1-800-255-9014 • Fax (501) 982-5691

WARNING
DISCONNECT AND SECURE TO THE "OFF" POSITION ALL ELECTRICAL POWER TO THE FAN PRIOR TO INSPECTION OR SERVICING. FAILURE TO COMPLY WITH THIS SAFETY PRECAUTION COULD RESULT IN SERIOUS INJURY OR DEATH.

Before installing the ductwork, check all fasteners and set screws for tightness. This is especially important for bearings and propellers. Rotate the propeller by hand to assure it turns freely and does not rub on the tubular housing.

Direction of propeller rotation should be checked by turning the unit on momentarily. Rotation should be in the same direction as the rotation decal affixed to the unit. To reverse rotation on three phase installations, simply interchange any two of the three electrical leads. For single phase installations, follow the wiring diagram located on the motor.

ROUTINE MAINTENANCE

See WARNING above.

Once the fan has been put into operation, periodic maintenance should be scheduled to preserve its reliability and performance.

Items to be checked are:

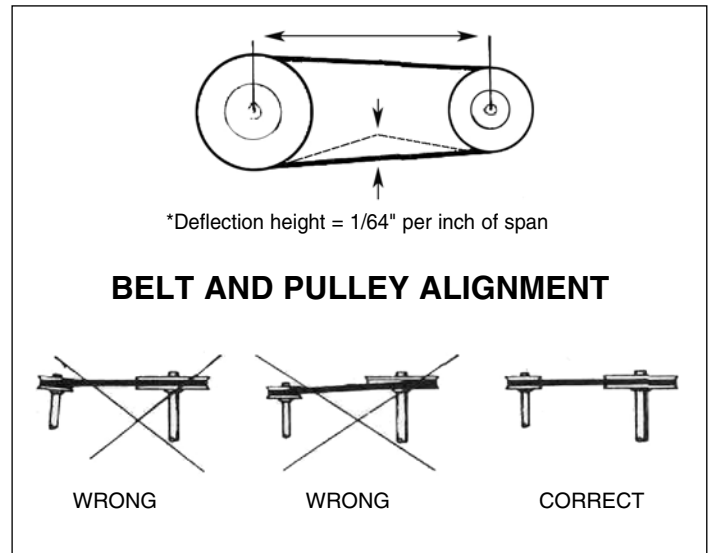
1. Belts
2. Bearings
3. Fasteners and Set screws
4. Lubrication
5. Removal of dust and dirt

1. BELTS (BELT DRIVE)

Premature belt failures are most frequently caused by improper belt tension (either too tight or too loose), misaligned pulleys or prying belts on or off pulleys.

The proper tension for operating a V-belt is the lowest tension at which the belts will not slip at peak load conditions. For initial tensioning, the proper belt deflection is 1/64" for each inch of belt span, measured half way between pulley centers. For example, a belt span of 32 inches should have 32/64 or 1/2 inch of deflection using moderate thumb pressure at midpoint of the drive. Check belt tension after the first 24 hours of operation, after 100 hours of operation and periodically thereafter. Belt tension

can be adjusted by loosening the motor plate bolts and adjusting the jack screws as required.



It is very important that the drive pulleys remain in proper alignment after adjustments are made. Misalignment of pulleys will result in premature belt wear, noise and loss of fan efficiency.

2. BEARINGS (BELT DRIVE)

The pillow block ball bearings installed on model TAB fans are grease lubricated, self aligning and selected for a minimum average life in excess of 200,000 hours. However, bearings are one of the most critical moving parts of a fan and should be inspected at regular maintenance intervals. Locking collars, set screws and fasteners attaching the bearings to the fan, in addition to general condition of the bearings, should be checked

3. FASTENERS AND SET SCREWS

Fan vibration has a tendency to loosen mechanical fasteners. Periodic inspection should include checking all fasteners and set screws for tightness.

4. LUBRICATION

(BELT DRIVE) Bearings operating in a clean environment and temperatures between 32 degrees F and 200 degrees F should be lubricated semi-annually using a high quality lithium based grease. Bearings operating outside these temperature parameters require special high or low temperature grease. If contaminated or high moisture conditions exist, more frequent lubrication is required.

Some model TAB fans may be equipped with extended lubrication lines as optional equipment. The grease fittings are located on the exterior of the fan housing next to the motor cover and should be wiped clean before adding grease.

When adding grease to fan bearings, rotate the fan shaft while slowly operating a manual grease gun. Be careful not to unseat the bearing seals by over-lubricating or using excessive pressure. Stop pumping when a very slight resistance is felt at the grease gun.

(BELT AND DIRECT DRIVE) Greasing of motors is intended only when fittings are provided. Many fractional horsepower motors are permanently lubricated for life and require no further lubrication. Motors supplied with grease fittings should be greased in accordance with the manufacturer's directions on the motor nameplate.

5. REMOVAL OF DUST AND DIRT

Model TAD and TAB fans require very little attention when moving clean air. If exhausting dirty or contaminated air, the propeller should be cleaned periodically. If left to accumulate, dirt on the propeller blades may cause an unbalanced condition resulting in excessive vibration and premature failure of the fan. Some fans are supplied with an optional access door for inspection, servicing and cleaning of fan components.

Periodically, the optional motor cover should be removed (if supplied) and dirt removed from the motor. Cleaning should be limited to exterior surfaces. Removing dust and dirt accumulation on the motor housing assists motor cooling. Motors should never be sprayed directly with water, steam or solvents.

WARRANTY

WARRANTY Upon payment of this invoice in full, the seller warrants those goods manufactured by it and sold hereby to be free of defects in material and workmanship only if properly installed, cared for, and operated with competent supervision under normal conditions as specified to us in writing. The seller's obligation under this warranty is limited to replacing or repairing at its option and at its own factory any defective part or parts thereof which shall, within one year after shipment by it to the original purchaser, be returned to its factory with transportation charges prepaid. Upon such repair or replacement all obligations under this warranty shall be deemed fulfilled and terminated. Triangle Engineering makes no warranty whatsoever in respect to parts or accessories not supplied by or installed by Triangle Engineering. The seller shall not be liable for any loss or damage whatsoever to any person, firm, or corporation, and shall not be liable or responsible for any repairs made outside of its own factory. There are no other warranties or representations, express or implied, made or effective upon this sale. The above warranty supersedes and is in lieu of all other warranties express or implied which extend beyond the description contained herein. No person, firm, corporation, agent, or dealer is authorized to make any warranties on behalf of Triangle Engineering nor to assume for Triangle Engineering any liability in connection with any of Triangle Engineering's products.

All quotations are subject to acceptance within sixty (60) days. Prices in quotation covering Triangle Engineering's manufactured products are firm for one year from date of order. All orders are subject to approval by Triangle Engineering of Arkansas, Inc.

All customer purchase orders are hereby made subject to the provisions of this acceptance and the seller's failure to object to provisions contained in customer's purchase orders or other communications shall not be deemed a waiver of the terms and conditions hereof nor acceptance of such provisions. No representations or guarantees other than those contained herein shall be binding upon Triangle Engineering unless made in writing and signed by an official of Triangle Engineering.

NOTICE The Purchaser agrees, in exchange for the pricing schedules used in this transaction, that any litigation of any nature arising from this transaction, or in any other way related to the relationships involved herein shall be exclusively subject to venue, in personam and subject matter jurisdiction in any other court or courts in any other county or state are hereby waived; further, any transaction in which the Purchaser is a corporation, other than a corporation with publicly traded stock, is recognized to include the guaranty of performance from and by the principal shareholders thereof whose authorization of such guaranty is represented to have been secured prior to the first and subsequent transaction and which guaranty is evidenced through the corporation's purchase.



SOUND FIGHTER FANS™

TRIANGLE ENGINEERING OF ARKANSAS, INC.

1101 N. Redmond Rd., Jacksonville Arkansas 72076

www.trianglefans.com • 1-800-255-9014 • Fax (501) 982-5691