

INSTALLATION INSTRUCTIONS TYPE NBF, NCF, NEF, & AL EXHAUST FANS

1. **Dimensions of Wall or Other Opening for Mounting Fan.** The NBF, NCF, NEF, & AL fans are designed for all angle usage and may be mounted in any position, when face mounted to a wall, the wall opening should be approximately 3" less than O.D. of the fan frame. If fan frame is to be recessed into the wall, opening should be 1/4" larger than O.D. of fan frame. Shutter installation must be a minimum of 4" from fan blade exhaust. Shutters must have a net opening equal to or larger than the diameter of the fan being used. (See dimensions on Coolair form 910-10).
2. **Air Exhaust or Air Supply Usage.** The NBF, NCF, NEF, & AL fans are designed primarily for use as a wall exhaust fan. If supply fan usage of a NBF, NCF, NEF, & AL model is required, it is recommended that the entire fan unit be mounted in a sheet metal or plywood sleeve and attached to the wall location with fan position reversed 180 degrees from normal wall position. See Coolair form 910-10 for accessories and application data for wall supply installation. All NBF, NCF, NEF, & AL fan models may be electronically reversed for temporary or emergency use. Fan will not perform efficiently when electrically reversed.
3. **Pre-Installation Check of Fan.** Before installation of fan, check carefully for shipping damage which may result in blade misalignment, deformed parts or other damage. After motor has been mounted on belt drive models, check pulley alignment and belt tension (see instructions below). Before connecting the power source, check motor nameplate to be sure of correct phase, voltage, and hertz. Make sure propeller turns freely without striking fan frame or any foreign object which may interfere with its operation. Note direction arrow on orifice to make sure propeller is rotating in correct direction when power is applied.
4. **Motor Mounting and Belt Adjustment (Belt Drive Models).** All belt drive models of the NBF, NCF, NEF, & AL fans are shipped in two packages. The fan assembly, motor bracket and belt(s) comprise one package; the motor and pulley comprise a second package. The following information should be used in mounting the motor to the fan frame and making correct belt adjustments.

A. **Motor Mounting- NBF, NCF, NEF, & AL Models (See Figure 1)**

1. Remove motor bracket from its shipping position on fan frame. Attach motor bracket to motor (See Figure 1 for correct positioning of bracket to motor).
2. Place fan in upright position with bracket mounting holes in uprights below center of fan.
3. Hang motor and bracket from belt by placing motor pulley on belt and temporarily supporting back of motor as necessary.
4. Select correct bracket holes so that slots in motor bracket will allow adjustment up and down.
5. Fasten motor to uprights with four bolts provided. Make sure motor base remains level. Do not tighten bolts until belt tension is adjusted.
6. Adjust belt tension by loosening bolts slightly and tapping motor brackets up or down as necessary. Check motor pulley alignment with drive wheel and adjust position on motor shaft if necessary.
7. Retighten pulley set screw (if necessary) and motor bracket bolts. **Important:** Motor bolts must be secured to maintain proper belt adjustment.

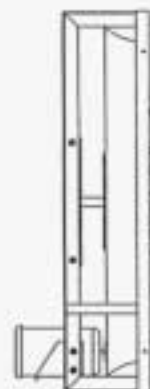


Figure 1

B. **Belt Tension Alignment**

After a few hours of fan operation, belt tension should be rechecked and adjusted if necessary. To check proper belt tension place a finger midway between fan wheel and motor and push belt inward about 1/2" (not more than 3/4") for proper tension. Adjustment beyond the slots in the motor bracket may be necessary. If so, remove motor bracket bolts and replace in next hole location in fan uprights. This will allow additional belt adjustment as necessary. Caution should be exercised in use of tension adjustment bolts. Excessive tension can break belt fibers and caused belt failure.

5. **Fan Cleaning and Adjustment.** Fan should be cleaned as necessary to remove accumulated dust, dirt and other foreign matter which may collect on the blades or other fan parts. Shield bearings and allow to cool before washing fan. Do not spray motor or fan bearings. Electrical power to fan must be turned off via breakers. If belt drive, belt(s) should be inspected and tension adjusted (see below). Be sure to check for belt misalignment which can result in excessive wear and premature failure. If rust or corrosion is found, the affected area should be thoroughly cleaned and refinished.
6. **Fan Speed Adjustment.** Some belt drive models are equipped with adjustable pitch motor pulleys. The pitch setting made at the factory operates the fan at the safe load for the motor. Do not close pulley to increase fan speed as this will overload motor and cause damage to motor or trip-out. Pulley may be opened to reduce fan speed and thus decrease CFM. An information sheet which shows fan RPM at several pulley settings is with each fan shipped from the factory. If this information is not available, please contact the factory for it.
7. **Belt Replacement and Tension Setting (Belt Drive Models Only).**
 - A. Belts should be inspected and tension adjusted at regular intervals. For belt replacement on styles NBF, NCF, NEF, & AL detach entire blade assembly from frame by removing bolts which connect shaft to X-brace. Tilt or lift blade assembly just enough for belt to clear end of shaft. If fan location makes detachment difficult, it may be possible to remove old belt and replace new one by slipping belt over blade tips - one at a time. First loosen bolts which connect shaft to X-brace, this procedure is easier.
 - B. To check belt tension, place a finger midway between fan wheel and motor pulley and push belt(s) inward about 1/2" (not more than 3/4") for proper tension. To adjust tension on NBF, NCF, NEF, & AL models, loosen motor bracket bolts and tap bracket up or down as necessary. Retighten all motor bracket bolts to maintain proper tension. Recheck alignment of belts, motor pulley and drive.
8. **Lubrication.**

On all belt drive models, fan bearings are factory lubricated for extended service.
9. **Repair Parts**
 - A. **Belts** - Belts are standard V-Belts used on industrial machines and replacements may be obtained through local industrial supply houses. If more than one belt is used on the fan, be sure to replace matched sets. To install belts, see instructions above for belt replacement.
 - B. **Blades** - If one or more blades on propeller are damaged, it is recommended that the entire blade assembly be removed and returned to the factory for necessary repair and re-balancing. On NBF, NCF, NEF, & AL, detach shaft from X-brace on fan frame and return the completed propeller bearing assembly and shaft. For convenience in shipment, individual blades may be removed from the disc. It may be possible to remove a damaged blade if a blade opposite the damaged blade can also be removed to maintain a balanced propeller. Temporary operation of the fan at somewhat reduced capacity may then be possible. If the modified blade assembly is obviously out of balance, the fan should not be operated until repairs are made.
 - C. **Bearings** - Field replacement of bearings on NBF, NCF, NEF, & AL models is not recommended. Return entire blade assembly to factory for repairs. A one year warranty is provided with a factory repaired blade assembly.
 - D. **Motor** - Motor repairs should be performed only by an authorized motor repair station. Contact the motor manufacturer or American Coolair Corporation for its location.

CAUTION:

Do not return damaged or defective parts to Coolair without prior authorization. If repairs under warranty are claimed, see warranty terms in Coolair catalog or contact the factory in Jacksonville, Florida. Claims for warranty repairs to electric motor should be made direct to the motor manufacturer.