

Installation Instructions for Type P Power Roof Ventilators

OPERATION AND MAINTENANCE INSTRUCTIONS – OTHER SIDE

1. **Pre-Installation Check of PRV.** Before installation of an American Coolair PRV, a careful check should be made for shipping damage which may affect operation of the unit. Concealed damage to the base is a possibility. If damage is found, file a claim immediately with delivering carrier. On belt drive units, pulley alignment and belt tension should be checked (see paragraph 3 under Operation and Maintenance). Before connecting to power source, make sure propeller turns freely without striking frame or any foreign object. Check motor nameplate to be sure correct phase and voltage are being used. Note direction arrow on orifice for correct propeller rotation when power is applied. If a backdraft damper is used, be sure it is properly installed and provides sufficient clearance for mounting the PRV above it (see paragraph 2(e) below).

2. **Installation Procedures.** The Type P PRV is shipped in two packages for quick assembly and installation on roof curb.

(a) **Installation of Base of PRV.** The major component of the Type P PRV is the base which contains curb cap, propeller and motor (Figure 1). Verify curb dimensions and securely attach base to curb.

(b) **Assembly and Installation Hood.** Hood component consists of hood and support angles for attachment to base. First, attach angles to hood supports on base (Figure 1) using $\frac{3}{8}$ hardware. Hardware for this purpose is in a carton with other fasteners shipped with the hood(s). With angles securely attached to base, assemble hood to unit with $\frac{5}{16}$ hardware at each end of support angle (Figure 2). Hardware for this purpose is in a carton with other fasteners shipped with the hood(s). Hoods of model P54 and larger use four support angles. Make sure all four support angles are installed. Two angles will be installed with legs up and two angles with legs down (Figure 3).

(c) **Special Packaging of Multiple Units.** When two or more Type P PRVs, which use the same hood size, are shipped to the jobsite, the hoods are nested and the support angles are shipped in the same crate as the hoods. When hoods arrive nested, they will be assembled as indicated in (b) above.

(d) **Assembly of Bird Screen.** When a bird screen is provided, it is tightly rolled and attached within the base of the PRV. To install, pivot hood and support angles into vertical position – or temporarily remove from base. Bird screen should be wrapped around the circular section of the base which projects above the curb cap. Small bolts are supplied to fasten the ends of the bird screen to hold it securely in position. Hood and support angles may then be repositioned and bolted in place.

(e) **Use of Backdraft Damper.** Due to the low-silhouette design of the Type P PRV, a backdraft damper cannot be mounted within the base. If one is required, it will be necessary to provide a location for it below the curb. Check all dimensions to be sure damper will clear end of motor. Install damper so it opens in the same direction as airflow.

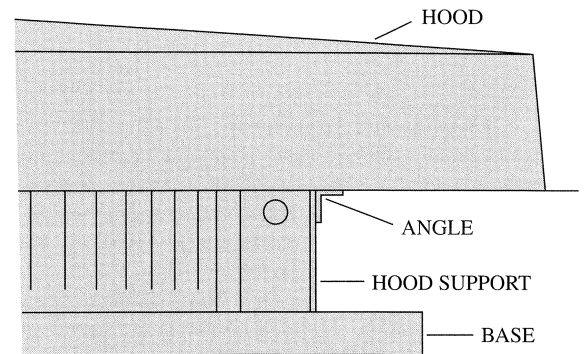


FIGURE 1

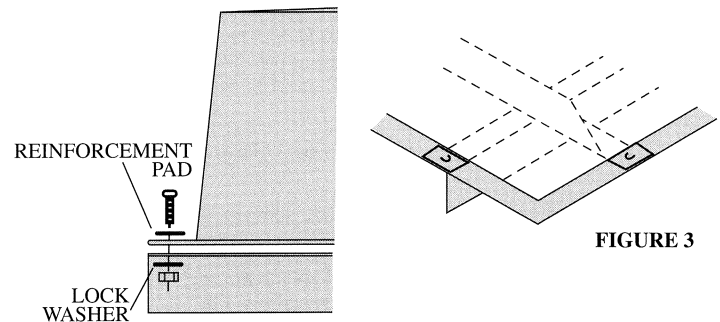


FIGURE 2

FIGURE 3

NOTE: All local, state and federal codes should be checked to make sure all wiring, guarding and intended usage of the PRV unit(s) comply with all applicable codes. The proper type and class of PRV and motor should be used for air being handled such as explosive or other hazardous air mixtures.

AMERICAN
Coolair®

P.O. Box 2300 Jacksonville, Florida 32203
Phone (904) 389-3646

Operation and Maintenance Instructions for Type P Power Roof Ventilators

INSTALLATION INSTRUCTIONS – OTHER SIDE

1. Cleaning and Adjustment. The entire PRV should be cleaned as necessary to remove accumulated dust, dirt and other foreign matter which may collect on the blades or other parts. On belt drive models, belts should be inspected and tension checked (see below). Check for belt misalignment which will cause excessive wear and premature failure. This same inspection of belts and tension should be made after first 8-10 hours of usage following installation. If rust or corrosion are found anywhere on the PRV, the affected area should be thoroughly cleaned and refinished.

2. PRV Style. Type P PRVs are divided into several "styles." It may be important for you to know which style you have. Check the model number on the PRV. The letter preceding the size number is the style of that PRV. Example: Model PBH42P is Style H 42" size.

3. Belt Replacement, Tension and Adjustment (Belt drive only).

(a) For convenient access to unit, remove the hood section or rotate it to an upright position.

(b) To install new belt(s), loosen motor bracket bolts and remove old belt(s) from motor and fan pulley. On Style H, thread old belt over the end of blades on propeller. Thread new belt on to propeller by reversing the procedure. Loosening bolts holding shaft to X-brace makes this easier. When replacing belts, do not roll new belts over pulleys under tension. This practice can damage belts severely.

(c) Position new belt(s) on fan pulley and motor pulley. Adjust belt tension and retighten motor bracket bolts (see paragraph (d) below). Check belt alignment between motor pulley and fan pulley.

(d) To check belt tension, place a finger midway between fan pulley and motor pulley and push belt(s) inward about 1/2" (at approximately 5 lb. force) for proper tension. To adjust tension on Styles H and C, loosen motor bracket bolts and utilize Tension Adjustment Bolts to obtain correct belt tension. Retighten all motor bracket bolts to maintain correct tension. Recheck alignment of belts, motor pulley and fan pulley. **CAUTION:** Use of tension adjustment bolts makes it easy to overtighten belts. When this occurs belts will soon fail. Do not overtension.

4. Blade Pitch Adjustment. On Style C (both direct and belt drive), the propeller has blades on which the pitch may be adjusted. The blade pitch is factory set for specified performance. As any change in blade pitch will affect motor load, contact factory for instructions before making any field adjustment of blade pitch. **DO NOT ATTEMPT TO CHANGE BLADE PITCH WITHOUT FACTORY INSTRUCTIONS.**

5. Lubrication On all belt drive models, fan bearings are factory lubricated for extended service. On Style H, fan bearings are permanently lubricated and relubrication as a part of regular maintenance is not necessary. On Style C, pillow block type bearings are used. Relubrication annually or more frequently is recommended depending on application. For best results use Shell Alvania No. 2 lubricant or equivalent. For lubrication of electric motor, see instructions supplied by motor manufacturer.

6. 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 with 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 entire blade assembly be removed and returned to the Factory for necessary repair and rebalancing. On Style H, remove shaft from X-brace on fan frame and return the complete propeller, bearing assembly and shaft. For convenience in shipment, individual blades may be removed from the wheel. On Style C, remove propeller from the motor or drive shaft.

(c) **Bearings** – Field replacement of bearings on Style H models is not recommended. Disassemble and return entire blade assembly to the factory for repairs. Pillow block bearings on Style C may be replaced in the field.

(d) **Motor** – Motor repairs should be performed only by an authorized motor repair station. Contact the motor manufacturer or American Coolair for location of repair station.

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

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