

Operation and Maintenance Instructions for Types PE, PS, & RP Power Roof Ventilators

Installation Instructions—Other Side

Cleaning and Adjustments. The entire PRV should be cleaned as necessary to remove any accumulated dust, dirt and other debris that may collect on the blades and other parts. Belts should be inspected and tension adjusted (see below). Check for belt misalignment which may cause excessive wear or premature belt 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 are found anywhere on the fan, the affected area should be thoroughly cleaned and refinished.

Power Roof Ventilator Style. Types PE, PS and RP PRVs are divided into several styles. To determine the specific product style, check the model number printed on the PRV. The letter preceding the size number is the style of the PRV.

Example: Model PEBH42P is style 'H', size 42".

Belt Replacement and Tensioning.

Applicable for Belt Drive units only

- a) For convenient access to the unit, remove the hood section or rotate it to an upright position.
- b) To change the belt(s), loosen the motor bracket bolts and tension adjustment bolts. Remove belt(s) from the motor and fan pulleys. On Style H units, thread the old belt over the end of the blades on the propeller. Thread the new belt on to the propeller by reversing the procedure. Loosening the bolts holding the shaft to the X-Brace simplifies this procedure. When replacing belt(s), do not roll them over the pulleys under tension, as this may damage the belt(s) and cause premature failure.
- c) Position the new belt(s) on the fan and motor pulley. Adjust the belt tension and re-tighten the motor bracket bolts. Check the belt alignment between the motor pulley and the fan pulley.
- d) To check the belt tension, place a finger midway between the motor pulley and push the belt(s) inward about 1/2" at approximately 5 lbs of force for proper tension. To adjust the tension, loosen the motor bracket bolts and tap the bracket up or down as necessary. Re-tighten all of the motor bracket bolts to maintain proper tension. Recheck the alignment of the belts, motor pulley and fan pulley.

CAUTION: Over tensioning the belts will cause belts and bearings to fail in a short period of time. **Do not over tension.**

Blade Pitch Adjustment. Style 'C' PRVs have adjustable pitch blades. The blade pitch is factory set for specified performance. As any change in blade pitch will affect the motor load, contact American Coolair for instructions before making any field adjustments. **Do not attempt to change blade pitch without factory instructions.**

Lubrication. On belt drive models, fan bearings are factory lubricated for extended service and operation. On Style 'H' models, fan bearings are permanently lubricated and re-lubrication as part of regular maintenance is not necessary. On Style 'C' models, pillow block bearings are used. Pillow block bearings should be re-lubricated annually or more frequently if operated in severe conditions such as high humidity or dirty environments. An NLGI Grade 2 grease is recommended. For lubrication of the electric motor, see the instructions supplied by the motor manufacturer.

Repair Parts.

Belts. Belts are standard V-Belts used on industrial machines and replacements can be obtained through local industrial supply houses. If more than one belt is used on the fan, be sure to purchase a matching set of replacement belts. To install belts, see instructions above for belt replacement.

Blade Assembly. If one or more of the blades of the blade assembly is damaged, contact American Coolair. If an unbalanced condition develops, thoroughly clean the blades to remove dirt and other build up. If unbalance persists, contact American Coolair.

Bearings. Field replacement of bearings on Style 'H' models is not recommended. Disassemble and return the entire blade assembly to the factory for repairs. Style 'C' models use pillow block bearings that may be replaced in the field.

Motor. Repairs should only be performed by an authorized motor repair facility. Contact either the motor manufacturer or American Coolair for locations.

Notice: Do not return damaged or defective parts to American Coolair Corp without prior authorization. If repairs under warranty are claimed, see warranty terms. Claims for warranty repairs regarding the motor should be made directly with the motor manufacturer.



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Operation & Maintenance Instructions — Other Side

Pre-Installation Check of PRV. Before installing an American Coolair PRV, carefully check for shipping damage which may affect operation of the unit. Concealed damage to the base is possible. If damage is found, file a claim immediately with delivering carrier. On belt drive units, check for proper pulley alignment and belt tension (as described on the reverse page), and adjust as necessary. Before connecting to power source, make sure the propeller turns freely without striking the orifice or any foreign object. Check the motor nameplate to be sure that the correct phase and voltage are being used. Note the directional arrow adjacent to propeller and make sure rotation is correct when power is applied. If a backdraft damper is being used, ensure that it is properly installed and provides sufficient clearance for mounting the PRV above.

Installation Procedures. Types PE, PS & RP PRVs are shipped in two packages for quick assembly and installation on roof curb. The PE is assembled for use as a roof exhauster; the PS is assembled as a supply air ventilator; the RP is reversible for both exhaust and supply.

a) **Installation of Base of PRV.** The major component of the PRV is the base section made up of curb cap, fan and motor (Figure 1). Verify curb dimensions and securely attach base to curb.

b) **Assembly and Installation of Hood.** The hood component consists of a hood and support angles to be attached to the base (Figure 2). Attach the angles to the hood supports on the base (Figure 3) using the 3/8" hardware supplied.

With the angles securely attached to the base, attach the hood to the unit with 5/16" hardware supplied at each end of the support angle. Each bolt uses a reinforcement pad on the top of the hood flange (Figure 4).

c) **Assembly of Additional Support Angles (48" and larger).** Models PE48, PS48 and RP48 and larger include two additional support angles for increased hood support and rigidity. After attachment of support angles as shown in Fig. 3, the two additional support angles are placed into position as shown in Figure 5. They are *not* attached to the other support angles. With the hood properly positioned, use hardware to attach it to all four support angles as shown in Figure 6.

d) **Special Packaging of Multiple Units.** When two or more PRVs that use the same hood size are shipped together, the hoods will be nested together and support angles will be shipped in the same crate as the hoods.

e) **Assembly of Bird Screens.** When a bird screen is provided, it is shipped as a package of multiple pieces with the necessary fasteners. It should be assembled and installed before the hood is attached. The pieces form a four-sided guard which is then attached to the hood's support angles. For assembly instructions, see the form that is included with the birdscreen.

f) **Mounting Backdraft Damper.** If an American Coolair prefabricated curb is utilized, a backdraft damper may be mounted within this curb for Models PE, PSB and PSD. Models RP and PSU require the damper to be mounted below the roof curb. If the damper is motor operated, one side of the PRV base is removable for access. Without an American Coolair prefab curb, it will be necessary to provide a location for the damper in or below the curb. Check all dimensions to be sure the damper will clear the end of the motor on PE models. Counterbalanced dampers, those used with PE and PS PRVs must be installed so that the damper blades open in the same direction as airflow. Blades should open upward on exhaust models and downward on supply models, both for automatic and motorized dampers. Install RP center pivot dampers with damper motor below damper.

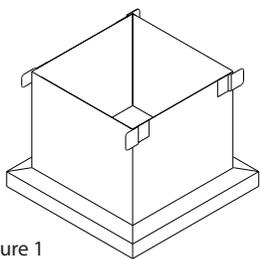


Figure 1



Figure 2

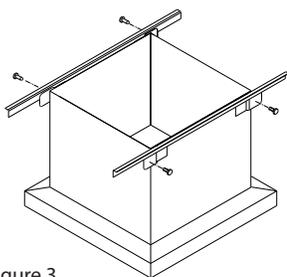


Figure 3

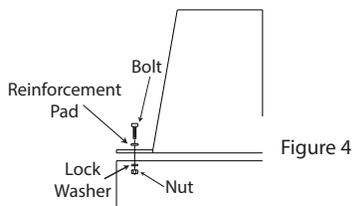


Figure 4

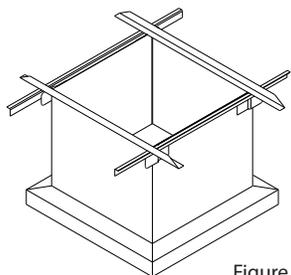


Figure 5

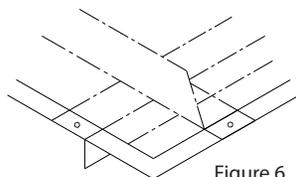
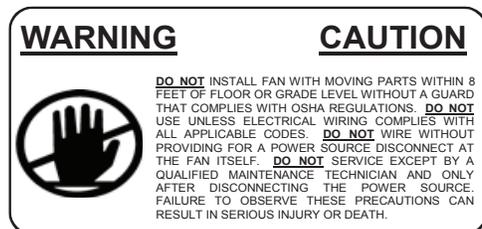


Figure 6

Installation Figures



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.