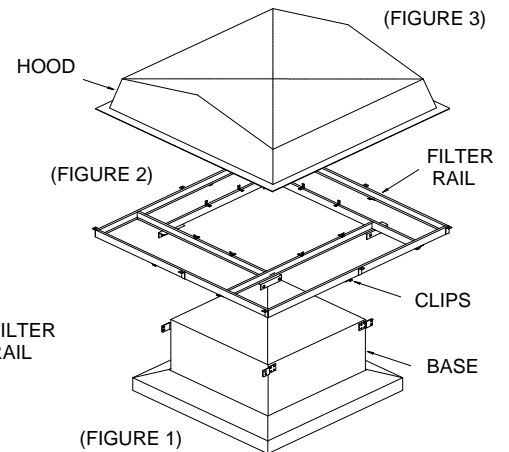
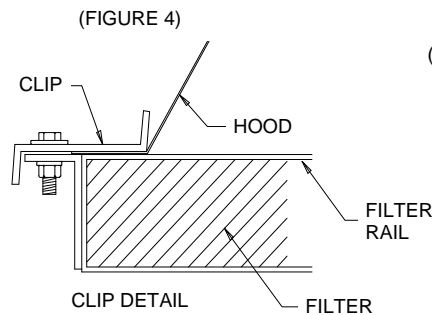
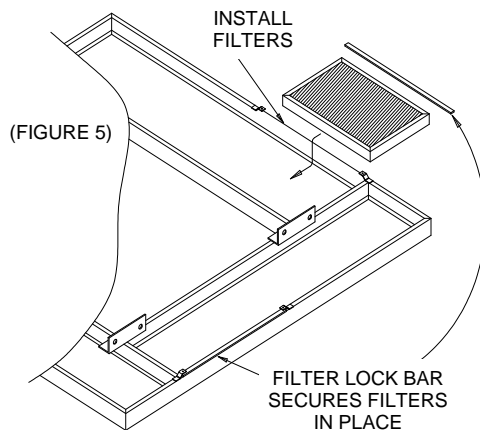


Installation Instructions for Type PSF Power Roof Ventilators

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. Check filter rails and filters for dents or perforations. 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(f) below).



2. **Installation Procedures.** The PSF PRV has three basic components: the base section which includes curb cap, fan and motor; the filter rail; and the hood.

(a) **Installation of Base of PRV.** The major component of the Type PSF PRV is the base section (Figure 1). Verify curb dimensions and securely attach base to curb.

(b) **Assembly and Installation of Filter Rails and Hoods.** Position filter rails on top of base and attach to base (Figure 2). Hardware for this purpose is in a bag tied to base section. Mount hood to rails by placing hood flange on filter rails (Figure 3). Secure all sides of hood to filter rail using clips (Figure 4). Tighten all clip bolts to secure. Caulk any gaps between the hood flange and the filter rail.

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

(d) **Installation of Filters.** Filters are not installed in filter racks at factory prior to shipment. They are packaged separately to prevent shipping damage. After PRV is assembled, filters can be installed in each side of filter rail. A section of the filter rail has been cut out to permit insertion of filters at this point (Figure 5). With filters installed, place Filter Lock Bar into position and tighten set screws.

(e) **Use of Filter Gauge.** If a filter gauge is ordered with PSF PRV, it is factory installed on the base of the unit and pre-set for the recommended filter load. It is necessary to electrically connect the gauge to the power supply and a signal light (transformer not furnished).

(f) **Use of Backdraft Damper.** There is no provision for mounting damper in the base of the Type PSF PRV. Use of American Coolair's prefabricated curb will allow damper to be mounted in the curb. In the absence of this arrangement, it will be necessary to provide for mounting damper below curb. Check all dimensions to be sure of clearance for proper operation of fan and damper. Damper blades should open in same direction as airflow.

NOTE: All local, state and federal codes should be checked to make sure all wiring, guarding and intended usage to 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.

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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Operation and Maintenance Instructions for Type PSF Power Roof Ventilators

Installation Instructions—Other Side

1. Cleaning and Adjustments.

(a) **Filters.** Standard filters furnished by American Coolair are permanent, recleanable type. The recommended maximum filter load for efficient performance is 0.40# AFI dust per net sq/ft of filter area. Use of American Coolair's filter gauge with signal light at PRV control switch is recommended. To clean standard filters, remove and flush the filter with a stream of water. After flushing, allow filter to drain. **DO NOT USE CAUSTICS IN CLEANING WATER.** For maximum filter efficiency, coat the filters with a filter coat adhesive after cleaning.

(b) **PRV.** 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 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 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 PSF PRVs fans 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 PSBH42PF is a Style H, 42" size.

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

(a) For convenience in servicing remove the entire hood and filter rails from the base of PRV.

(b) To install new belt(s), loosen motor bracket bolts and remove old belt(s) from motor pulley 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 belt(s), do not roll new belt(s) over pulleys under tension. This practice can damage belt(s) severely.

(c) Position new belts(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 Style H models, loosen motor bracket bolts and tap bracket up or down as necessary. Retighten all motor bracket bolts to maintain proper belt tension. Recheck alignment of belts, motor pulley and fan pulley. On Style C, loosen motor bracket bolts and utilize Tension Adjustments Bolts where supplied or tap bracket up or down as necessary to obtain correct belt tension. Retighten all motor bracket bolts to maintain correct tension. Recheck alignment of belt(s), motor pulley and fan pulley. **CAUTION:** Use of tension adjustments 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. 3 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 bearing 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's authorized repairs centers.



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