

# **Installation Guide**



CV–XLP CV–XLP PRO model series fans



**ATTENTION:** PLEASE READ THROUGH THIS ENTIRE INSTRUCTION GUIDE BEFORE PROCEEDING WITH YOUR INSTALLATION. MAKE SURE YOU HAVE THE REQUIRED TOOLS AND MATERIALS TO COMPLETE THE INSTALLATION OF YOUR SOLAR ATTIC FAN BEFORE BEGINNING.

## **Getting Started**

Your Solar**PRO**<sup>™</sup> solar attic fan is designed for easy installation with composite shingle roofs or other low-profile roofing materials which may accommodate self-flashing roofing products. For installation of your Solar**PRO**<sup>™</sup> fan, weatherproof roof caulking and self-tapping mounting screws are included with your product.

Solar**PRO**<sup>m</sup> fans include integrated automatic temperature control, as well as a fire safety switch. You do not need to adjust the temperature controller, it will automatically activate the fan when the attic temperature reaches roughly 75°-80°F (24°-27°C) and will stop fan operation when the attic temperature reaches roughly 65°-70°F (18°-21°C).



**KEEP SOLAR PANEL COVERED DURING INSTALLATION!** When exposed to sunlight, your Solar**PRO**<sup>™</sup> solar attic fan may begin to operate, potentially causing damage and/or personal injury.

**Roofing Knife** 

Marker or Carpenter Pencil

Ladder

### What's Needed



Cordless Drill with Nut Driver

Reciprocating Saw

Measuring Tape

## **Safety Information**

Safety precautions should be taken when performing the roofing work described in this installation guide. You can significantly reduce your risk of danger by following the below recommendations:

- Do not perform roofing work in wet or windy conditions
- Tie-off both yourself and your equipment when working on steep pitched roofs to avoid falls
- Wear safety glasses and protective gloves when using power tools
- Always wear slip-resistant shoes when working on the roof
- Do not cut through any rafters or structural members of the roof during installation
- Leave the solar panel covered until your installation is complete

### **Choosing the Right Location**

Choose a location to install your solar attic fan that allows for balanced air flow throughout the attic space. The solar fan should be installed roughly centered on the roof and 3-4 feet below the ridge line. For optimum performance, choose an area on the south side of your roof that is not shaded or blocked from the sun for extended periods throughout the day. If a location on the southern side of your roof is not available, you may raise the solar panel mounting bracket and face the fan unit toward the south for better sun exposure. Your solar attic fan should not be installed any closer than within 10 feet to an existing passive vent, ridge vent, or additional fan unit.

#### **Ventilation Requirements**

In order for your Solar**PRO<sup>M</sup>** solar attic fan to operate at maximum performance, your attic must have enough intake ventilation (net free area) to support the amount of air that your fan is moving. We recommend a minimum of 5 square feet of net free area intake ventilation for optimum fan performance.

## **Installing the Fan**

## Step 1 - Cut the Hole

STOP

o'clock

After choosing the location where your solar attic fan will be installed, find the closest rafter to that location and determine if your roof has either 16" on center or 24" on center rafter spacing. If your roof has 24" on center rafter spacing, find the center point between two rafters and mark it as the center of the vent hole. For roofs with 16" on center spacing, mark the rafter itself as the center of the vent hole. Using the cardboard template included in the SolarPRO<sup>™</sup> box, trace out a 16" diameter circle as shown in Figure 1. Next, use a reciprocating saw to cut out the traced hole pattern from the roof decking and remove the decking material from the hole as needed.



Figure 2 - Releasing the Shingles

5"cut

12 o'clock

Figure 1 - Cutting the Hole

### **Step 2 - Release the Shingles**

<sup>6</sup> o'clock

Insert the reciprocating saw sideways between the shingles and roof decking. Starting at the 3 o'clock position of the vent hole, begin cutting in a sweeping motion under the shingles, sawing through any roofing nails or staples. Continue cutting counter-clockwise around the vent hole until reaching the 9 o'clock position. Using a roofing knife, cut a 5" horizontal slit in the shingles at the 9 o'clock and 3 o'clock positions of the hole, allowing the fan's flashing to slide underneath the shingles.

## Step 3 - Mount the Fan

Apply weatherproof caulking to the bottom of the fan's flashing (see Figure 3). If the fan unit is mounted on a southern facing roof, align the fan with the vent hole so that the label "solar panel lifts from this side" points toward the ground-side (6 o'clock position) of the fan. For mounting on any other roof orientation, align the label pointing toward the north direction. Slide the fan underneath the shingles until the fan reaches the top of the vent hole.

Next, secure the fan flashing to the roof with self-tapping screws through the pre-drilled holes in the base flashing. Apply caulk around the fan unit where the shingles meet the flashing, across the 5" slit cuts, and over any exposed screw heads to weatherproof your installation. Remove the cardboard cover from the solar panel and your Solar**PRO™** fan should begin working immediately if the attic temperature is above roughly 75°-80°F (24°-27°C).





Figure 3 - Mounting the Fan

## **Adjusting the Solar Panel**

The solar panel on your Solar**PRO**<sup>™</sup> solar attic fan may either be left down in the horizontal mounted position as received from the factory, or the solar panel bracket may be raised to tilt the solar panel toward the south for better sun exposure.

To raise the solar panel, first loosen the set bolts on the solar panel mounting brackets using a 7/16" wrench as shown in Figure 4. Raise the solar panel to the desired tilt angle using the provided adjustment slots and then tighten the set bolts.



**DO NOT OVER TIGHTEN THE SET BOLTS!** You may damage the solar panel bracket if too much torque is applied to the set bolts.



**ATTENTION:** Do not raise the solar panel if installing this product in an area of either Florida or Texas that has been designated as a high velocity wind zone area. The solar panel must remain in the flat horizontal position due to building code requirements.





## **Warranty Registration**

Cardinal Ventilation offers an industry leading 25-year standard parts warranty on your new Solar**PRO**<sup>™</sup> solar attic fan. For more information about the terms and conditions of our warranty, please see our website for details.



**YOUR WARRANTY MUST BE REGISTERED WITHIN 90 DAYS OF INSTALLATION.** Please visit our website at www.cardinalventilation.com to register your warranty.