

# Solar Powered Roof Exhaust Fan

## **Installation and Mounting Guide**



- \* For normal sloped, asphalt shingle or wood shake roofs.
- \* Also works well with flat concrete tile, slate or metal roofs.

Before beginning the installation of your new Solar Powered Roof Exhaust Fan, please read through the entire installation instructions and contact us if you have any questions.

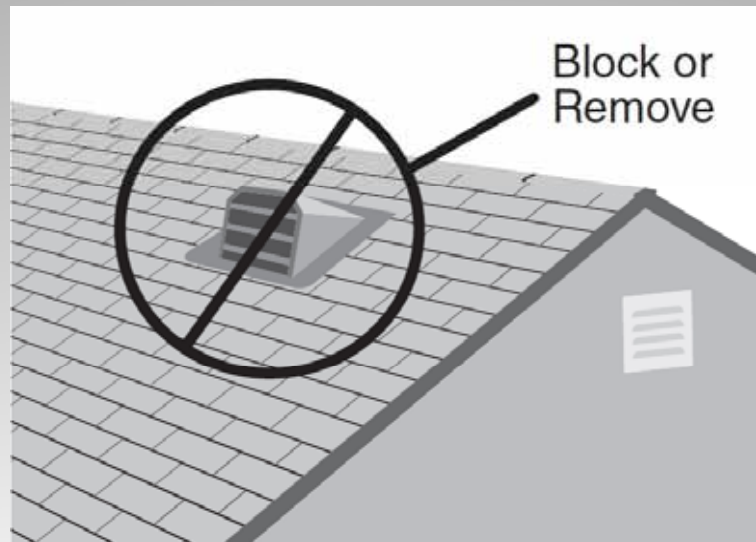
## TOOLS REQUIRED

- Ladder
- Reciprocating saw (or jig saw)
- Power drill with a 1/2" – 1" drill bit
- 1" – 2" deck screw and screw bit
- Hammer & roofing nails (or self tapping galvanized screws)
- Caulk gun with waterproof roofing sealant
- Measuring tape
- Permanent marker (or chalk / crayon)
- Roofing knife (or box cutter)
- Flat pry bar



## ***8 Steps Installation Instruction***

It is advised that you prepare the mounting hole prior to bringing the fan up on the roof. Always secure the fan on the roof to avoid injury or having the fan slide off the roof and get damaged.



*(fig. 1)*

### **Step 1 - Ventilation Clearance**

To maximize the solar fan's effectiveness, you're suggested to remove or block any existing rooftop static vents and ridge vents. If there is already a turbine type vent, simply remove the old vent and use the same hole for the new installation, or block it completely. *(fig. 1)*

*\* Make sure you have proper intake ventilation at the eave or fascia. Use a ratio of 1 sq. ft. of intake ventilation for every 600 sq. ft. of attic space.*



*(fig. 2)*

## **Step 2 – Positioning the Solar Fan**

For optimum performance, position the solar fan due south or southwest, and position it on an area of roof where the sun is not shaded or blocked, so as to capture direct sunlight and extended sunlight periods throughout the day. *(fig. 2)*

Then pitch upon the position that is 18 – 24 inches from top of the roof peak and as close to the mid-point of your house as possible.

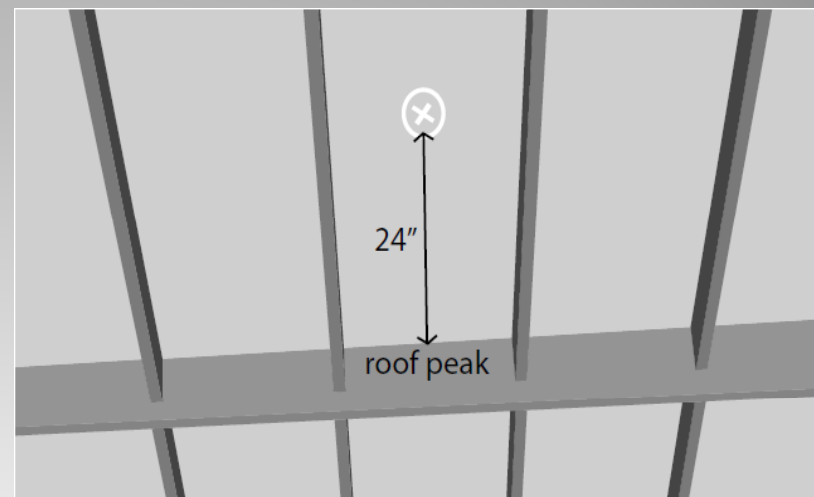
*\* In the case that 2 or more fans are getting installed, each fan should be separated by at least 15 feet to optimize ventilation.*



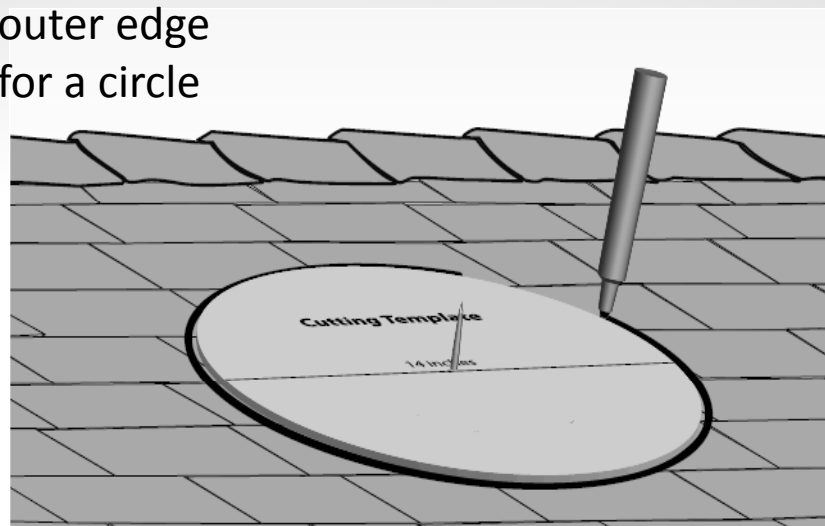
### Step 3 – Marking the Ventilation Hole

From inside the attic, measure approximately 18-24 inches down from the roof peak and center this spot between two rafters (*fig. 3-1*). Through this mark, drill a screw into the plywood and roof shingle to have it located from on top of the roof.

A Cutting Template cardboard is included in the package. Take out this template and puncture it from Center Hole over top of the screw, then trace a circle around outer edge of the template with any marker for a circle at 12" or 14" diameter. (*fig. 3-2*)



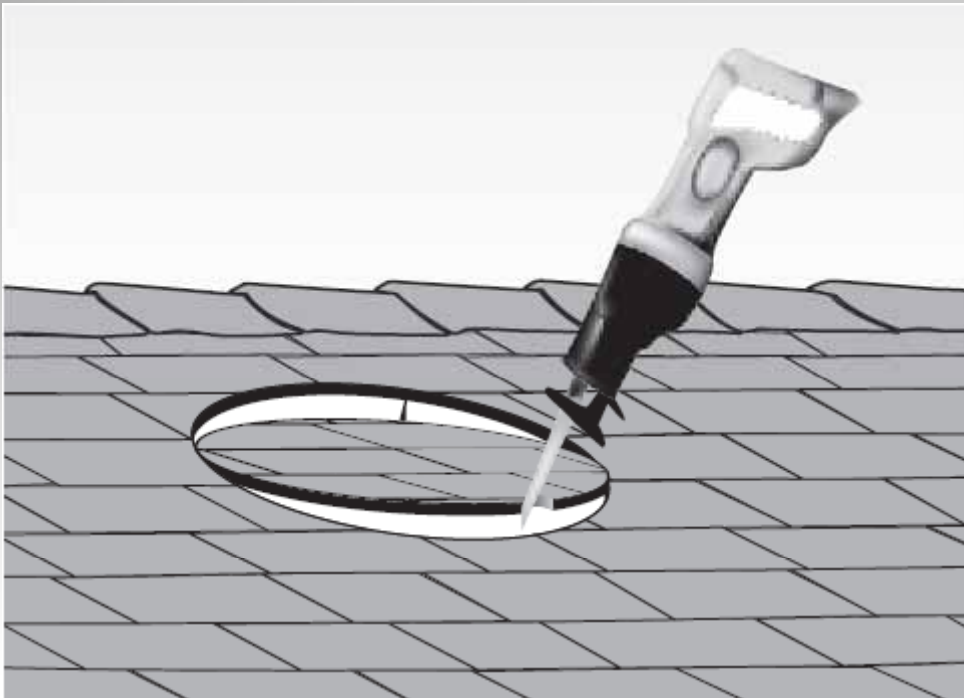
(*fig. 3-1*)



(*fig. 3-2*)

## Step 4 – Cutting the Hole

Bore a pilot hole with your power drill anywhere along inside of the marked circle. Then insert the saw blade into that pilot hole, and cut a complete hole into the roof following the circle pattern. *(fig. 4)*



*(fig. 4)*

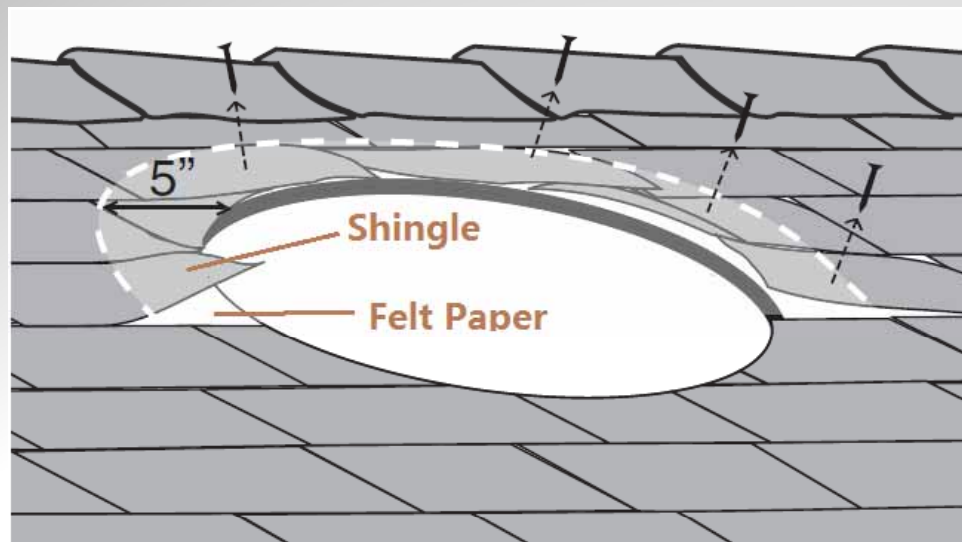
### **NOTE:**

- *Do not cut through any roofing rafters or framing materials. Only cut and remove the roof sheeting and shingles.*
- *Prior to cutting the hole, make sure there is no any wires or waterlines in the area that you are cutting.*
- *Try to secure the removed materials before completely cutting out the circle, so that they do not fall into the attic space.*

## Step 5 – Lifting the Shingles to Slide Up the Attic Fan

To slip the solar fan smoothly on top of felt paper and underneath shingles on the roof, the nails located 5" above and to the side of that hole will need to be removed. Use a pry bar or reciprocating saw to loosen or cut those nails. *(fig. 5-1)*

In some cases, the builder may have used large washers to install the felt paper, if it does not slide easily into place when slipping the solar fan, a nail is most likely blocking the bottom. In this case, lift up on the shroud cover slightly to position the solar fan directly over the hole and under the shingles. *(fig. 5-2)*



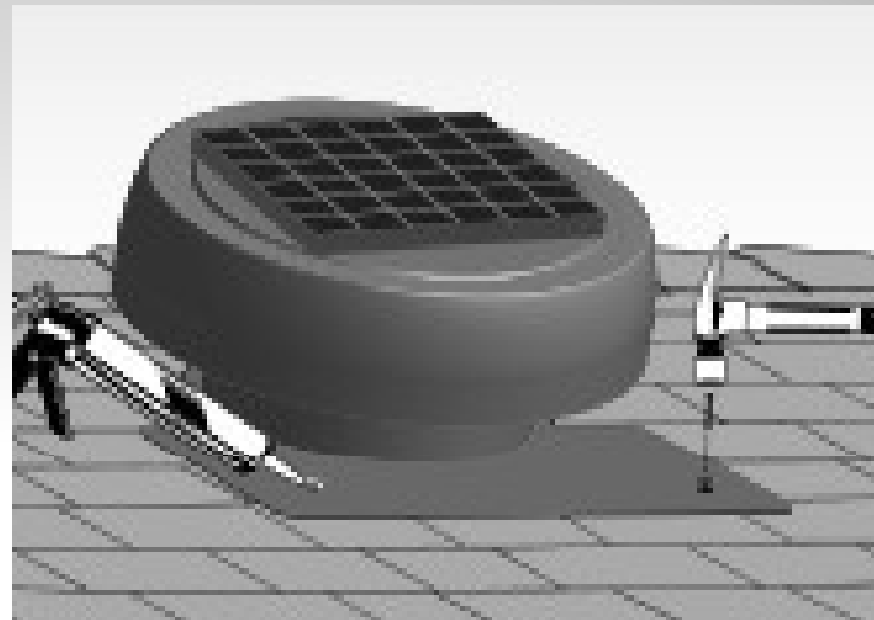
*(fig. 5-1)*



## Step 6 – Securing the Solar Fan

Get some proper screws or nails and drive them through the visible pre-drilled holes on bottom board to secure the solar fan to the roof. Then apply waterproof roofing sealant to the screw heads to prevent water percolation. *(fig. 6)*

*Any shingles that remain loose should be fixed as well, use roofing nails to secure them and apply waterproof roofing sealant to the backside of shingles or the nail heads that have been added.*



*(fig. 6)*



**Step 7** *(for those solar panel adjustable models only)*

**– Installing the Angel Adjustment Bracket**

Attach the provided screws and brackets left from package box to the unit. Install the angle adjustment brackets by securing one end to the regulating plate and the other end to the solar panel frame. *(fig. 7)*

- *This fan has the solar panel adjustment design at 3 angles: 15 °, 30 ° & 45 °, set the angle properly to capture most direct sunlight in your area.*
- *The fan also has a horizontal adjustment platform design for the solar panel turning from 1 ° to 180 °, regulate the solar panel direction for it to enjoy all-day sunbath.*



*(fig. 7)*

## **Step 8** *(for those solar panel adjustable models only)*

### **– Adjusting the Solar Panel**

The fan's solar panel should be adjusted to maximize exposure to the sun's path during the day. The optimal adjustment is to have the panel 90 ° to the midday path of the sun.



**The sun's path at midday.**



*\* You can re-adjust the panel during winter or summer seasons if desired.*

# CAUTION

This solar fan will start working automatically whenever the sun shines on the solar panel, so it's always wise to exercise caution when approaching the fan.

Use appropriate attire or equipment, like safety glass, glove, hard hat etc. during operation to avoid accidents.

Installation work and electrical wiring must be done by qualified persons and in accordance with all applicable building codes and standards, including fire requirements.

To prevent back drafting of any fuel burning equipment in the attic, sufficient air is needed for proper combustion and exhausting of gases through the flue of fuel burning equipment... ..