Installation and Mounting Guide

Florida Building Product Approval and Texas Department of Insurance (TDI) Approval. Use all 8 flashing screws included in package to comply with severe weather building codes. Includes Solar Controller™ for after dark operation.

BEFORE YOU INSTALL - Install only one type of exhaust vent and remove or plug any existing vents (gable vents, roof louvers, ridge vents and turbines). Install adequate intake ventilation for a Balanced System (50% Exhaust & 50% Intake) in accordance with state and local code requirements. Intake vents must be installed low at the roof’s edge or in the soffit/under-eave. Products such as Air Vent’s Continuous Soffit Vent, Vented Drip Edge, Under-eave Vents and The Edge™ Vent provide the necessary intake ventilation for optimum performance.

WARNING - Read all warning messages and instructions before starting installation of this fan. Failure to follow these safety instructions can result in injury or even death.

ROOF PITCH - Fits roofs with 4/12 to 8/12 pitches.

TOOLS REQUIRED

- Ladder
- Reciprocating saw or jig saw
- Power drill with a 1/2” – 1” inch drill bit (only one needed)
- 1 – 2” deck screw and screw bit
- Hammer, roofing nails and staples
- Caulk Gun with Waterproof Roofing Sealant
- Measuring tape or ruler
- Permanent marker, sidewalk chalk or crayon
- Roofing knife or box cutter
- Flat pry bar

Mounting the Fan

Step 1 – Positioning of the Solar Fan

The solar fan should be positioned to face south or southwest for optimum performance and should be positioned on an area of the roof that is not shaded or otherwise blocked from the sun for extended periods throughout the day. The solar fan should be installed 18 – 24 inches from the 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 you should separate the fans by at least 1.5 feet to optimize ventilation. (fig. 1)

Step 2 – Marking the Hole

From inside the attic, measure down from the roof peak approximately 18 to 24 inches and center this spot between two rafters. Drill a screw through this mark into the plywood and roof shingle so it will be easily located from on top of the roof.

Some models include in the box a template for cutting out the hole. It is printed on the cardboard protecting the base of the fan. Punch out the template. From on top of the roof, locate the screw and place the cardboard template over the top of the screw aligning it in the center hole of the template. Using a pen or marker, trace a circle around the outer edge of the template, resulting in a circle with a 14” diameter. (fig. 2) If your product box does not include the template, simply use a 7” string, one end attached to the previously drilled screw and the other tied to a pen or marker to create a 14” diameter circle.

Step 3 – Cutting the Hole

Using a power drill equipped with a ½ - 1” drill bit, drill a pilot hole anywhere along the inside of the circle. Insert the saw blade into the pilot hole and follow the circle pattern to cut the hole into the roof. (fig. 3) Do not cut through any roofing rafters or framing members! Only cut and remove the roof sheeting and shingles. Prior to cutting the hole, make sure you do not have any wires or waterlines in the area that you are cutting. Before completely cutting out the circle, secure the removed material so it does not fall into the attic space.
Step 4 – Lifting the Shingles
The nails located 5” above and to the side of the hole will need to be removed for the solar fan flashing to slip between the felt paper and the shingles – (fig. 4) You should use a pry bar or reciprocating saw to loosen or cut any nails and/or staples.
Do not attempt to force the unit into place. If it does not slide easily into place, a nail is most likely obstructing the flashing. In some cases the builder may have used large washers to install the felt paper. In this case lift up on the flashing as you are sliding it under the shingles.

Step 5 – Installing the Solar Fan
Position the Solar Fan so that it is directly below the hole (fig. 5a) using the “Up” label as a guide for orientation. Begin sliding the flashing of the Solar Fan underneath the shingles and on top of the felt paper at the mid-point of the hole (fig. 5b). Continue sliding the solar fan upward (making sure that the top of flashing is facing toward the top of the roof) until it is positioned directly over the attic hole (fig. 5c). To comply with Florida Building Codes and TDI, remove shingles from all around the flashing and secure all 8 holes.

Step 6 – Securing the Solar Fan
Using the provided steel screws, secure the solar fan to the roof. The solar fan should be secured across the bottom and on the sides of the flashing by driving screws through the visible pre-drilled holes at the bottom edge of the flashing. To comply with Florida building codes and TDI, secure in all eight holes. Apply waterproof roofing sealant to the screw heads (fig. 6). Use roofing nails as needed to secure any shingles that remain loose. Apply waterproof roofing sealant to the backside of any loose shingles or nail heads that have been added.

Mounting the Solar Panel

Step 7A – Mounting onto the Solar Attic Fan
Loosen and remove screw A on the solar panel (both sides) to allow the panel to swing away from the base. Set the screws aside. (fig. 7) Pull the wire from the top of the fan housing through the hole in the center of the panel base and lay the panel down so the bolts come through the adjusting slots in the panel base. (fig. 8 and fig. 9) Tighten the bolts on the panel base at the desired angle for optimal panel direction (fig. 10).

Step 7B – Mounting Remotely (AV9930TRS Model)
Use the Quick Connector cable coming through the top of the solar attic fan dome (fig. 12) and connect the wire extension directly to this cable. Use the other end of the extension wire to attach to the solar panel. Use roofing staples to secure the extension cable to the roof.
Choose a location for the solar panel that will receive optimal afternoon sun, preferably southwest facing, and free of shade from trees or other buildings.
Loosen and remove screw A on the solar panel (both sides) to allow the panel to swing away from the base. Set the screws aside. (fig. 13)
Mount the solar panel base using four 3” galvanized screws, (fig. 14) making sure to seal the screw holes with a waterproof roofing sealant as shown (fig. 15). Tilt the panel away from the base while installing the screws. If the panel is to remain flat against the base when installed, it is recommended that you allow the waterproof roofing sealant to completely dry before contacting with the panel.

fig. 4
fig. 5a
fig. 5b
fig. 5c
fig. 6
fig. 7
fig. 8
fig. 9
fig. 10
fig. 11
fig. 12
fig. 13
fig. 14
fig. 15
The sun’s path at midday.

**Maintenance Tip:** The solar panel is most effective when clean and free of dust, leaves, and debris. Normally, rainwater will cleanse the solar panel and keep it operating at peak efficiency. If necessary, simply hose off the solar panel between rain showers.

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**Adjusting the Fan**

**Step 8 – Adjustments**

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 degrees to the midday path of the sun. You can re-adjust the panel during winter or summer seasons if desired. (fig. 16)

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**To adjust the tilt of the panel**

Remove screw “A” on both sides of the panel assembly and set aside. (fig. 17) Lift the panel and swing panel braces up to desired position and re-attach screw “A” in the appropriate holes. There are 3 positions to choose from. (fig. 18)

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**To adjust the rotation of the panel**

Loosen nut “B” (there are four) (fig. 19), then rotate the panel base to the desired position (fig. 20) and re-tighten the nuts. The panel base can be rotated up to 360 degrees by completely removing nuts “B”, lifting the assembly off the bolts and re-positioning accordingly. Re-attach the nuts and tighten when completed.

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**The Solar Controller™** has a built-in thermostat and humidistat that will measure the attic temperature and humidity and allow the fan to have extended run time in the evenings or when no solar is available. Refer to Solar Controller for installation instructions.

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**WARNING:**

This solar fan will automatically start whenever the sun shines on the solar panel. Always exercise caution when in the vicinity of the fan. To avoid accidents, use appropriate attire: safety glasses, gloves, hard hats, restraints and other appropriate equipment.

Use this product only as indicated by Air Vent Inc. Any questions on appropriate applications, call 1-800-AIR-VENT (247-8368).

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

To prevent back drafting of any fuel burning equipment in the attic, such as a gas furnace, sufficient air is needed for proper combustion and exhausting of gases through the flue of fuel burning equipment. Follow the requirements made by the heating unit’s manufacturer. Additionally, follow safety standards set forth by the National Fire Protection Association (NFPA), the American Society for Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), and the local code authorities.

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For warranty information refer to enclosed document or visit www.airvent.com

NOTE: Air Vent’s written warranty for this product will be invalid in any instance in which the product was not properly installed in accordance with the instructions.