

Green Machine™ Solar-powered Ecosmart Gable Vent Installation Instructions

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GREEN MACHINE™ SOLAR-POWERED ECOSMART GABLE VENT INSTALLATION INSTRUCTIONS

Safety Considerations and Warnings

1. Use appropriate safety glasses, gloves, hard hats, restraints, and other equipment to avoid injury.
2. Wear durable work gloves while handling the unit during installation. This product has sharp edges that can cause injury.
3. Observe all applicable building codes in your area.
4. Do not damage electrical wiring or other hidden utilities when cutting or drilling.
5. Before servicing the unit, disconnect power leads from solar panel to prevent accidental operation.
6. Make sure blade is on tight and the set screw is securely tightened.

7. Use this unit only in the manner intended by GAF. If you have any questions, please contact Master Flow® Technical Services at 1-800-211-9612.
8. Ducted fans must always be vented to the outdoors.

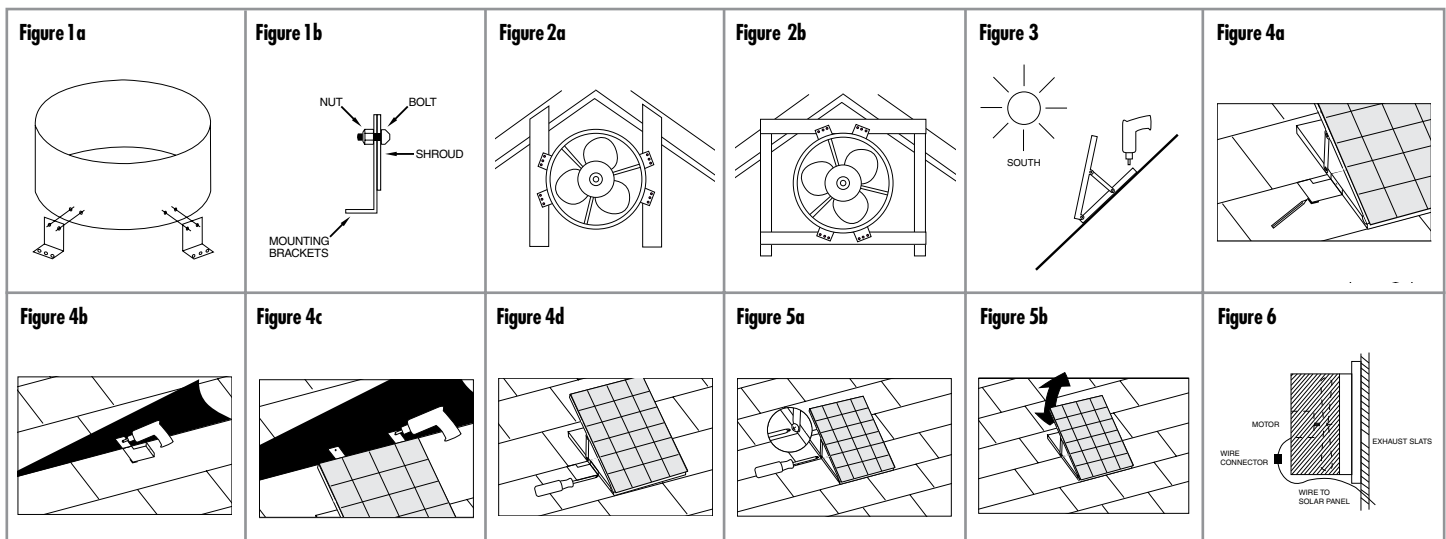
Important: Your solar panel configuration may differ slightly from the one shown in the illustrations. The performance of all configurations is the same.

CAUTION: THIS UNIT IS FOR GENERAL VENTILATING USE ONLY. DO NOT USE TO EXHAUST HAZARDOUS OR EXPLOSIVE MATERIALS OR VAPORS. THIS FAN HAS AN UNGUARDED IMPELLER. DO NOT USE IN LOCATIONS READILY ACCESSIBLE TO PEOPLE OR ANIMALS.

Notice: If parts and/or accessories are missing, of this product does not operate correctly, contact Master Flow® Technical Services. Do not return to the retailer or distributor.

Tools Required

- Drill • Extension cord • 3/8" Socket wrench • 7/16" Socket or adjustable wrench • Utility knife • Wood screws • Power saber or jig saw and hand saw • Safety eyewear • Hard hat and other safety equipment • Fall restraint equipment • Caulking gun • ASTM D4586 Type 1 or 2 Asphalt roofing cement or ASTM C920 urethane sealant • Work gloves • Ladder • Phillips head screwdriver • Pencil or marker



1. Determine Location

Place Solar-Powered Gable Vent behind an existing gable wall louver or install a Master Flow® Gable Louver. The fan should be approximately 3" (76 mm) to 4" (102 mm) away from the exterior louver.

2. Attach Mounting Brackets To Unit

Carefully remove unit and mounting accessories kit from the carton. The fan mounting kit included (8) bolts, (8) Nylok® nuts, and (4) mounting brackets. Take the mounting brackets (long side) and align with the 2 holes on the shroud. With holes aligned, take 2 bolts with the head on the inside of the shroud and push through each hole. Take the Nylok® nuts and fasten to each bolt. Repeat this process until all 4 mounting brackets are firmly fastened to shroud (Figure 1a & 1b).

3. Mounting the Unit

Place mounting brackets so end is flush with the stud. For studs 16" (406 mm) on center, mounting brackets are predrilled to this size. Screw or nail unit to framing through pre-punched holes in mounting brackets (Figure 2a). For studs over 16" (406 mm) on center, install two 2" x 4" (51 mm x 102 mm) supports, 14" (357 mm) apart. Mount the unit to the two 2" x 4" (51 mm x 102 mm) support through the pre-punched holes in the mounting brackets (Figure 2b).

4. Determine Location and Mount Solar Panel

Locate solar panel on the part of the roof closest to the gable fan as possible. Be sure the solar panel faces to the south for optimal power. Make sure the location is

not shaded by trees or other nearby structures during the day (Figure 3).

Remove the included solar panel mounting kit from the carton. The kit contains deck screws, (2) 1/4-20 bolts, (2) nylock nuts, and (2) "L"-shaped wings.

Place the solar panel in the desired location, making sure that the top rails extend at least 1.5" (38.1 mm) above shingle course overlap. Align the "L"-shaped wings making sure that the bolt hole in each "L"-shaped wing is in the center of the short slot in the rail. Use a grease pencil or chalk to trace the outline of the "L"-shaped wings on the shingle as shown in (Figure 4a).

Note: To avoid possible weather infiltration, do not place the "L"-shaped wings or the top rails on the vertical spaces between the shingle tabs.

Remove the "L"-shaped wings from the shingle and lay the solar panel aside. At the location traced above, carefully pry up the shingles and slide each "L"-shaped wing under a shingle and align each wing with a deck screw. Release and press the shingles into place (Figure 4b). Apply roofing cement or urethane sealant under the shingles to secure them to the roof.

Carefully pry up the shingles where the top rails will attach. Determine this location by aligning the solar panel frame between the installed "L"-shaped wings and centering the short slots in the rails with the mounting holes in the "L"-shaped wings. Slide the top rails under raised shingles and attach each rail to the roof deck with a deck screw. Release and press the shingles into place

(Figure 4c). Apply roofing cement or urethane sealant under the shingles to secure them to the roof. Finish by attaching the "L"-shaped wings to the rails with the bolts and nuts provided and tighten them securely (Figure 4d).

Note: Excessive application of asphalt roofing cement or urethane sealant can cause blistering of shingles.

5. Adjust Solar Panel

When adjusting the solar panel, be sure to tilt the panel to maximize direct exposure to the sun. To tilt the solar panel, loosen the two screws/nuts (Figure 5a) on the rail mount/linkage connection. Then raise the panel to desired location and re-tighten (Figure 5b).

Note: The optimum angle can be calculated by using the approximate latitude of the house plus 20 degrees. The solar panel should face south, when possible.

6. Connect Solar Panel to Gable Vent

Run included wire from solar panel to the gable vent fan through an open slot in the exterior louver. Be sure to route the wire around the gable fan housing and to the motor (Figure 6). Complete connection by aligning and fastening the two ends of the wire connector.

CAUTION: THIS FAN AUTOMATICALLY STARTS WHENEVER A LIGHT SOURCE SHINES ON THE SOLAR PANEL. ALWAYS EXERCISE CAUTION WHEN IN THE VICINITY OF THE FAN.