

Master Flow[®] Wind Turbine Installation Instructions

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MASTER FLOW® WIND TURBINE INSTALLATION INSTRUCTIONS

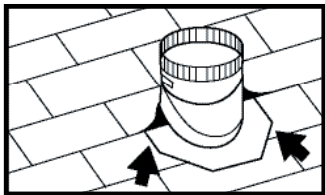


Figure 4

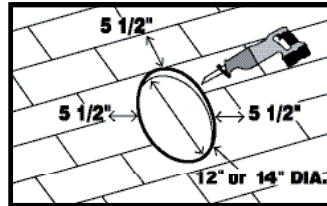


Figure 1

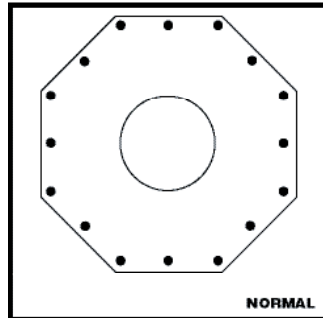


Figure 5A

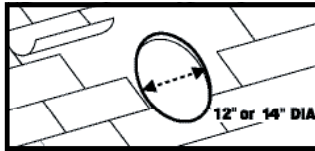


Figure 2

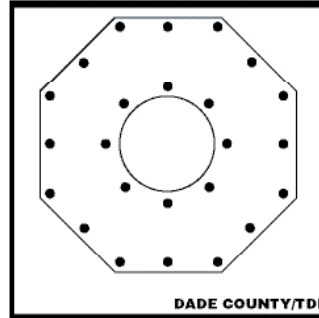


Figure 5B

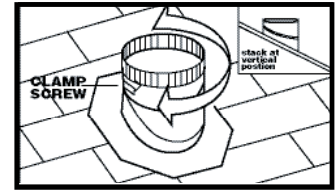


Figure 3

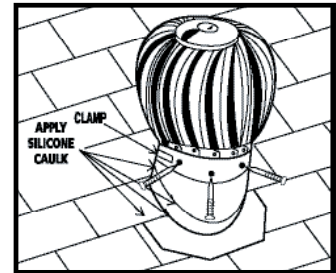


Figure 6

Tools & Materials Required

- Level
- Safety Eyewear
- Utility Knife
- Drill
- Power Sabre or Jigsaw and/or Handsaw
- Extension Cord
- Work Gloves (Wear durable work gloves while handling this unit. This product has sharp edges that can cause injury.)
- Galvanized Roofing Nails
- Ladder
- Safety Eyewear
- Hard Hat and Other Safety Equipment
- Claw Hammer
- Snips (for cutting shingles)
- Caulking Gun
- Clear Silicone Caulk
- ASTM D4586 Asphalt Roofing Cement Type 1 or 2 or ASTM C920 Urethane Sealant
- Screw Driver
- Pry Bar
- Trowel
- Fall Restraint Equipment

CAUTION: THIS WIND TURBINE VENTILATOR IS A PRECISION BALANCED UNIT. BE CAREFUL WHEN HANDLING AND DURING INSTALLATION TO AVOID DAMAGING OR MISALIGNING ITS ROTOR AND BEARING ASSEMBLY. THIS TURBINE IS FOR VENTILATION PURPOSES ONLY. NEVER INSTALL ON A CHIMNEY OR ANY OTHER HOT STACK OR VENT SUCH AS A DRAFT INDUCER. THE HEAT WILL QUICKLY DAMAGE THE TURBINE. FOR MAXIMUM EFFICIENCY OF OPERATION, LOCATE THE TURBINE FULLY EXPOSED TO PREVAILING WINDS AND AS HIGH ON THE ROOF AS POSSIBLE WITHOUT EXTENDING OVER THE RIDGELINE. DO NOT LOCATE THE TURBINE BEHIND ANY OBSTRUCTIONS.

Note: 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.

Measure and Cut... Choose location on the roof, approximately 16" from the ridge line and centered between two rafters. Cut a 12" or 14" diameter hole, depending on the size of the turbine unit, through shingles and sheathing boards using the template (located on the carton). Mark on the roof 5 1/2" up from the top and 5 1/2" to the left and right of the 12" or 14" diameter cutout. (Figure 1)

Prepare Hole... Starting with shingle course closest to the horizontal center of the 12" or 14" cutout, carefully roll up all shingles in the area between your marks, working upward. Remove all shingle nails within this area. (Figure 2)

Adjust... This adjustment must be made BEFORE anchoring base flashing to the roof. Loosen clamp screw. Place base unit flat on the roof and turn the upper adjustable stack section to a vertical position (see inset). Depending on the roof pitch, the vertical seam may or may not align toward the bottom of the roof. In many cases it does not. Tighten clamp screws to fasten in position. (Figure 3)

Mount Base... Separate each layer of shingles around perimeter of hole. Coat the underside of the base flashing with ASTM D4586 roofing cement or urethane sealant. Use light troweling, as heavy troweling may blister shingles. In its pitch-adjusted position, carefully slide the upper half of the flashing up roof beneath rolled back shingles until base is centered over 12" or 14" cutout. Roll back any additional shingles where necessary and recheck pitch (using a level) for vertical alignment. Figure 4

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

(For increased weather protection on new construction or reroofing applications, use a 36" x 36" piece of GAF Weather Watch® Leak Barrier or GAF StormGuard® Leak Barrier. Center the leak barrier over the hole. Remove release film, press into place, and cut away the leak barrier spanning the hole.)

Secure Base... Secure the base to the roof using roofing nails (long enough to penetrate through the roof sheathing) approximately 1" from the exterior edge at all eight corners and at the center of all sides (see Figure 5A). For Miami-Dade and Texas Department of Insurance required installations, nail approximately 1" from the exterior edge at all eight corners and the center of all sides. Also, nail 1" from the stack at every 45 degrees (see Figure 5B). The bottom half of the flashing will be installed on top of the shingles. Exposed nail heads must be sealed with clear silicone caulk, roofing cement, or urethane sealant.

(Apply roofing cement or urethane sealant to underside of the shingles overlapping the flashing and press down firmly onto the flashing. Seal inside of the stack between the roof and flashing.)

Attach Turbine Head... Set the turbine unit firmly on the crimped base collar. Attach with three (3) sheet metal screws (included) through holes in the turbine base ring. Apply clear silicone caulk, roofing cement, or urethane sealant between the turbine unit and stack and all around sheet metal screw heads. (Figure 6)

Important: Apply clear silicone caulk, roofing cement, or urethane sealant to exposed flashing edges and to the junction of the stack and flashing, the bead joining the upper and lower stack sections, the vertical seam in the upper and lower stack sections, and all exposed nail heads.* (Figure 6)

**Clear silicone caulk is recommended for visible applications to maintain appearance.*