## Solar Powered Ventilation

## Pivot Bracket Installation Guide

The Pivot Bracket is designed for use with Attic Breeze ${ }^{\oplus}$ solar powered ventilation products featuring a unit mounted solar panel. This bracket will allow the solar panel to be tilted in any of four directions at an angle of up to 45 degrees from horizontal for optimum sun exposure.

## Pivot Bracket Kit

The following parts are included with your Pivot Bracket Kit:
(2) pre-assembled stainless steel bracket arms
(6) $1 / 4$ " stainless steel hex head bolts
(6) $1 / 4^{\prime \prime}$ stainless steel lock washers
(4) stainless steel neoprene bonded washers
(4) $1 / 4 "$ " stainless steel fender washers
(6) $1 / 4 "$ " stainless steel flat washers
(2) $1 / 4 "$ stainless steel hex nuts

## Getting Started

Begin by removing the solar panel from the solar attic fan unit. To remove the solar panel, simply remove the four wing nuts which retain the solar panel in place. These wing nuts can be accessed from the under side of the vent housing cover. Please note that pliers may be required to loosen the wing nuts as they are tightly secured during manufacturing.

When all four wing nuts are removed, lift the solar panel off the vent housing cover and unplug the power cord from the panel. Next, lay the solar panel on a flat surface for bracket assembly. If the solar panel is painted, make sure to protect the painted finish while working on the panel.

Next, remove the four rubber bonded washers from the solar panel attachment bolts. These washers may be discarded after removal. Using a 7/16" nut driver and wrench, remove all four hex nuts from the attachment bolts and retain for later use. Make sure to leave the attachment bolts in place on the solar panel for use in the next step.

## Bracket Assembly

Place the pre-assembled pivot bracket arms over the solar panel in the desired mounting direction (bracket arm with adjustment holes should face away from solar panel). Line up the mounting holes on the pivot bracket arms with the solar panel attachment bolts as shown in Figure 1.

Slide the solar panel attachment bolt up through the bracket mounting hole and secure in place with a flat washer and hex nut. Do the same for the remaining solar panel attachment bolts. Adjust the brackets on the solar panel as needed and tightly secure all attachment bolts using the $7 / 16$ " nut driver.

With the pivot bracket arms securely fastened to the solar panel, insert a bolt with lock washer through the pivot bracket mounting hole opposite of the solar panel attachment mount. The bolt should be facing outward, away from the solar panel. Secure the bolt and lock washer to the bracket by sliding a rubber bonded washer (rubber side facing away from solar panel) onto the exposed mounting bolt. Repeat for the remaining three mounting holes on the bracket arms.


Figure 1 - Bracket Assembly

## Mounting the Bracket

Pick up the entire solar panel bracket assembly and mount the assembly onto the attic fan vent housing. The bracket assembly mounting bolts should line up with the mounting holes on the vent housing. After mounting the bracket assembly to the vent housing, allow the pivot bracket to completely tilt to one side.

Next, secure the bracket assembly to the vent housing by installing a fender washer and wing nut onto to each of the mounting bolts. For ease of installation, hold the fender washer and wing nut in place on the mounting bolt from the underside of the vent housing cover with one hand. Using the $7 / 16$ " nut driver with your other hand on the topside of the vent housing, securely tighten the mounting bolt in place. Do the same for the remaining mounting bolts, tilting the solar panel to access the remaining bolts as needed.

## Adjusting the Solar Panel

With the solar panel bracket assembly securely fastened to the vent housing, tilt the solar panel to the desired direction and angle (see below for additional information). Lock the pivot bracket arm in place by inserting a bolt with flat washer through the overlapping bracket adjustment holes. Secure the bolt with a lock washer and hex nut. Repeat for the opposite bracket arm and securely tighten all pivot bracket adjustment bolts. Reconnect the power cord to the solar panel upon completion of installation.

## Mounting Angle \& Orientation

For optimum performance in locations throughout North America, the solar panel on your solar attic fan should always be installed facing toward the south. This will give the solar panel the best average sun exposure throughout the day (see Figure 2).

Determining the optimum angle of inclination will depend on your specific location and time of year. As a general rule, the solar panel should be inclined to the same angle in degrees as your latitude coordinates. For most locations in North America, this angle will be between 35-45 degrees from horizontal for obtaining the best average performance throughout the year. If the solar attic fan will be operated mainly during the summer months, you may subtract roughly 10-15 degrees from this angle to obtain maximum seasonal performance.


Figure 2 - Solar Window

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