

EcoOnline™

Solar Roof Mounted Fan Manual



Installation Manual - Revised 18/02/2016



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1 Key Terms

This manual was written to follow guidelines and recommendations given in:

- 'HAZPAK' produced by the work-cover authority
- Incolink Safety Handbook

Please take the time to read the entire manual before starting any work. Particular attention should be given to text contained in the following key terms.

Please note EcoOnline has a strong product safety policy; do not install products without reading safety guidelines in the manual. Please report any product safety issues or near misses to info@EcoOnline.com.au no matter how trivial.



DANGER

Indicates a **SAFETY** issue that **is likely to** cause injury or death if the user does not follow the instructions.



WARNING

Indicates a **SAFETY** issue that **may** cause injury or death if the user does not follow the instructions.



CAUTION

Indicates a **SAFETY** issue that **may** cause injury or property damage if the user does not follow the instructions.



Read Carefully

Refers to **critically important** information related to the **correct functioning** of the unit.











Tip

Refers to useful information for the **optimal operation** of the unit.

2 Pre-Installation Suitability & Safety Checklist

The following outlines mandatory suitability and safety requirements for installing an EcoOnline™ Solar Attic Fan. Please read carefully, if any of the following requirements cannot be met this unit should NOT be installed.

	Due to the potential of falling from heights, we recommend that the installation of the unit on a roof should only be undertaken by a professional installer unless you are accustomed to and confident of performing the work safely.
	At present this fan system is not recommended for installations in cyclonic regions C or D, or on houses situated on top of hills exposed to extreme winds. It is the responsibility of the installer to consider wind loading issues as per see AS/NZS1170.2.2011.
	Warning: this unit is rated not for bush fire prone areas.
	When installing this unit air intake eave grills MUST be installed. Failure to do so could create negative pressures in the roof cavity and house which could interfere with proper fluing of carbon monoxide stemming from combustion heating appliances.
	This unit is to be installed on standard “custom orb” corrugated metal roofs ONLY, not recommended for highly modulated roof tiles due to the difficulty of flashing.
	Building regulations vary from state to state and MUST override any instructions supplied in this manual. It is the responsibility of the purchaser/installer to check that installations comply with any relevant state laws and regulations.
 Read Carefully	The EcoOnline™ Solar Attic Fan requires access to the roof cavity for maintenance purposes.
 Read Carefully	For metal roofs the unit requires the installation of about 4 eaves grills per unit to aid air flow.



3 Warranties

EcoOnline™ offers the following Warranties on the solar attic fan:

- 2 year return to base Motor Warranty
- 2 year return to base Thermostat Warranty
- 20 year return to base solar PV panel Warranty

See EcoOnline.com.au [Terms and Conditions](#) page for further details.

4 Included Components

Ventilation Unit	Silicon
	
1 × 20W Solar Fan	1 × Silicon sealing tube

5 Tools Required

- Leaver action tin snips
- Hand powered drill with sockets and drill bits
- Marking pen
- Industrial Ladder (with means to secure the ladder at the base and top)

6 Extra Materials Required

- Silicon gun and sealant (with masking tape)
- Eve grills (air inlets)

7 Safety When Working at Heights



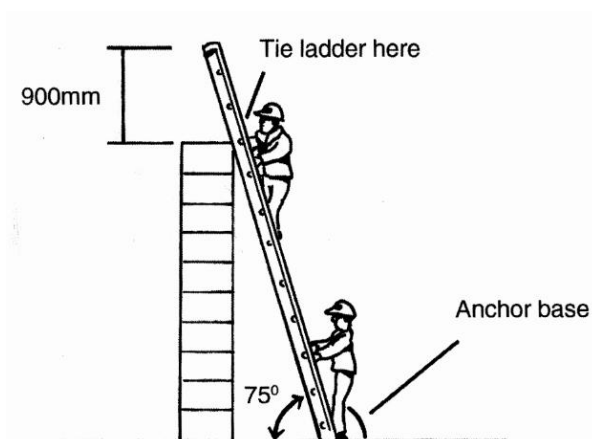
DANGER

WHEN WORKING AT HEIGHTS - SAFETY COMES FIRST. A person can easily fall off a ladder or roof and be seriously injured. For installations on a roof pitch greater than 22° and/or a double story house we strongly recommend a highly competent professional installer install your solar attic fan. The installer **MUST** use an appropriate safety harness.

The installer should always take the necessary safety precautions:

- Choose an appropriate day: cool, dry, calm and partly cloudy.
- Plan out your install: make sure you have all required components, tools and have plenty of allocated time.
- Only work at heights when you are well rested and alert.
- Never work alone, always work with at least one other person.
- Always use a safety harness or fall arrest system attached to appropriate roof anchor points.
- Wear clothes that fit well but that do not restrict movement.
- Use proper non-slip shoes.
- Use sunscreen.

7.1 Ladder Safety



The chance of a falling from a ladder should never be underestimated. Use only solid **industrial grade** ladders in good repair that have been checked for faults.

Note: even a small unexpected movement of the ladder, such as a small slip, can cause loss of balance and result in a fall.

The ladder should be placed on solid ground and should **ALWAYS** be securely anchored at the base and secured at the top to prevent slipping. Always have one person

8 Choosing a place to install the Solar Attic Fan

When choosing a location for your attic fan you should consider the following:

- You'll need roof cavity access to fasten attachments under the unit.
- Unit should be free from shading (this includes overhead cabling or TV antennas).
- Should be installed preferably between roof rafters.
- The unit should be installed as high up on the roof as possible.
- The flashing base should go under the ridge cap.

9 Optimal Solar Panel Orientation

The solar panel should be orientated so that peak power production coincides with the maximum temperatures in the daily diurnal cycle in summer (which typically peaks at between 2-3pm). Hence, the panel should be tilted at about $L - 10^\circ$ (where L is your latitude) and tilted west toward the sun's position at between 2-3pm.

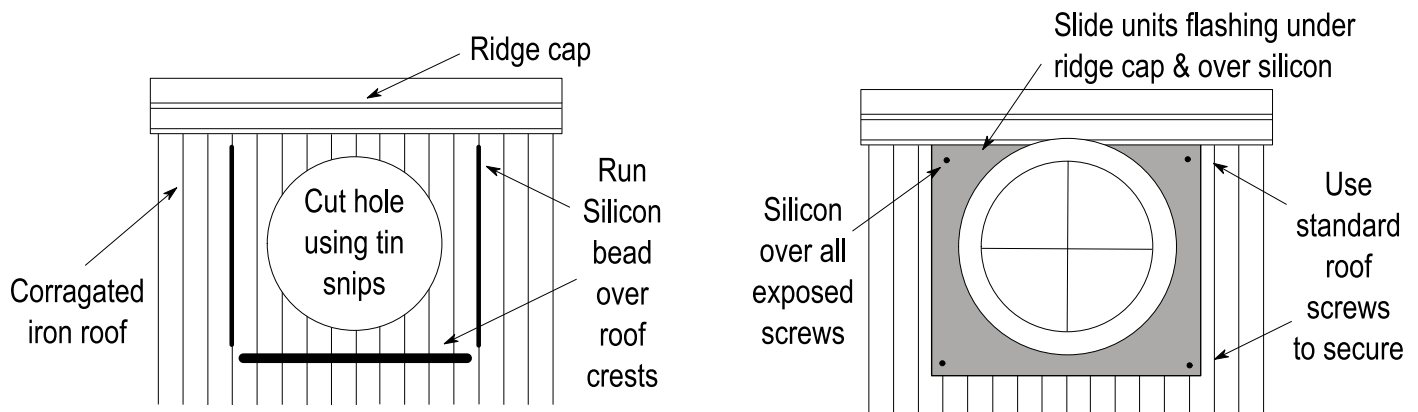
10 Installing the Unit



WARNING

When working with power or hand tools always follow the safety instructions.

- Where appropriate wear the recommended personal protective equipment, such as **gloves, safety glasses, respiratory and hearing protection**.
- Make sure electrical cables are kept away from any water and from foreign objects which pose a **potential cable severing or crushing hazard**.
- When using glues, solvents or sealing agents make sure **you know and seek the proper first aid** in case of an accident.



1. Always plan your installation first and make sure you have all required elements.
2. Firstly, tape a piece of paper over the solar panel to prevent the fan from coming ON.
3. Unscrew the end fixing screws keeping the solar panel flat. Using the supplied struts angle the solar panel as required. **It's important that all solar panel screw holes be sealed inside and outside with silicon, to prevent any potential for rusting of the frame.**
4. Mark and cut a 300mm diameter hole in the roof.
5. Run silicon beads all around the base of the flashing area.
6. Slide the unit in place over the silicon beads.
7. Fix the corners of the units by screwing through to the corrugated roof valleys **ONLY**.
8. **Finish by sealing over with silicon, every exposed screw on the flashing and on the unit itself.**



CAUTION

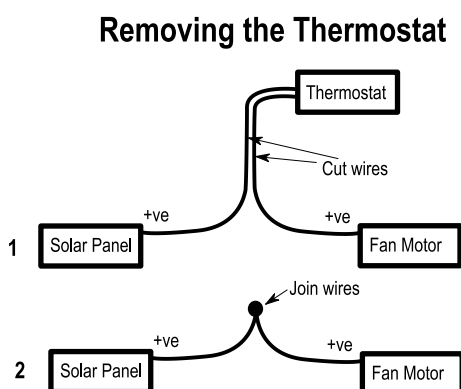
During the installation the solar panels must be disconnected to prevent the unit from inadvertently activating during the install. The motor can be burn out if the unit activates while the fan blades are not free to move.

11 Adjusting the Thermostat (if supplied)

The activation temperature of the fan can easily be adjusted using the existing (27°C) fixed temperature thermostat. For example if you require the unit to activate more often (i.e. at a lower roof cavity temperature) simply cut and extend the thermostat wire and situate the thermostat higher in your roof cavity.

On the other hand situating the thermostat lower in your roof cavity will result in the thermostat sampling cooler air - in this case the unit will not come on as often.

If a complete removal of the thermostat is required simply cut off the thermostat and join the two resulting wires (see figure below).



WARNING

Note: when extending/altering wiring, the extra wire should be **double insulated dual core PVC cord with minimum copper area 0.75m²**. All solder joins must be sealed using a **good quality adhesive lined heat shrink**.



WARNING

Never run a 12-24V cable near or in the same compartment or conduit as other 240V cables due to the chance of mistaking the two cables at some later point in time during installation or servicing.

12 Trouble Shooting

Problem	Cause	Solution
Unit in full sun and not working	Thermal switch prevents the unit from activating below 27°C	No fix required