



**IMPORTANT:** Please take the time to read through the **ENTIRE** instructions prior to starting any work. These instructions include the installation of the Solar Attic Fan unit which is sold separately.

**PLEASE NOTE:** The Natural Light Solar Attic Fan Garage Vent Kit is available in two kit options: Standard or with a Radiation Damper. A radiation damper is required in some locations to protect against fire and heat radiation. Please check with your local building codes to see if your installation requires a radiation damper.

## TOOLS/MATERIALS NEEDED

- |                 |                        |                 |
|-----------------|------------------------|-----------------|
| ■ Caulk         | ■ Marking Pencil       | ■ String        |
| ■ Caulking Gun  | ■ Measuring Tape       | ■ Stud Finder   |
| ■ Driver & Bits | ■ Phillips Screwdriver | ■ Utility Knife |
| ■ Drywall Saw   | ■ Reciprocating Saw    | ■ Wire          |
| ■ Ladders       | ■ Safety Goggles       |                 |

## PRECAUTIONS:

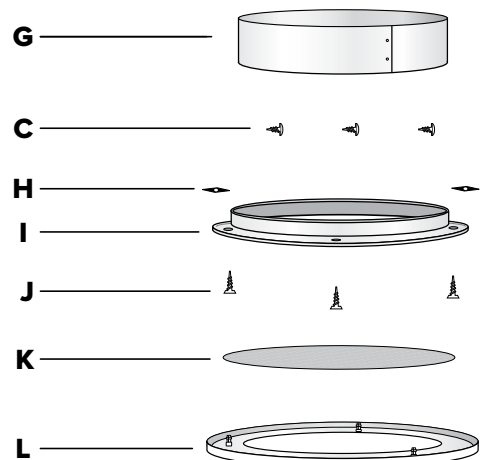
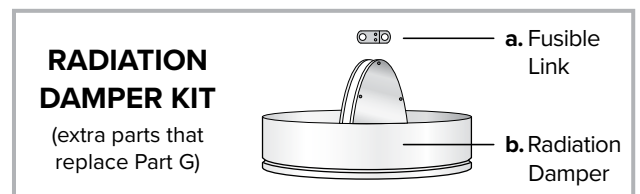
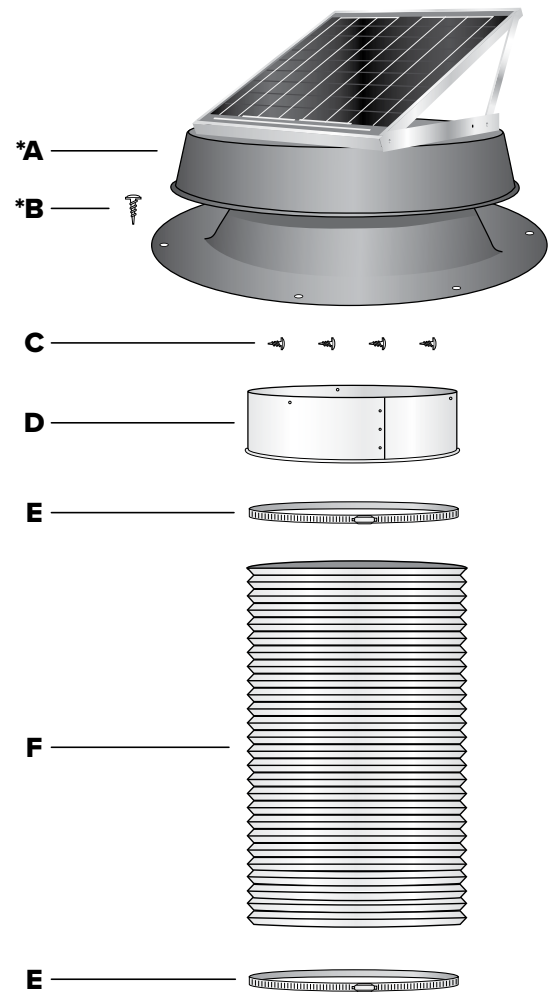
1. The solar attic fan is fully functional out of the box. **THE FAN WILL OPERATE AS SOON AS THE SOLAR PANEL IS EXPOSED TO THE SUN. PLEASE USE CAUTION AND AVOID THE FAN BLADES DURING INSTALLATION.**
2. Ensure normal safety precautions are taken when using tools, ladder and walking on roofs.
3. Do not cut any structural members in the house.
4. Install only in dry weather.

## PARTS LIST

- A.** Solar Attic Fan Unit
  - B.** (6) Phillips Head Stainless Steel 1 1/2" Screws
  - C.** (7) Phillips Head Stainless Steel 1/2" Self-Tapping Screws
  - D.** 5" Adapter Sleeve
  - E.** (2) Stainless Steel Straps
  - F.** Flexible Duct Pipe - 8 feet
  - G.** 3" Adapter Sleeve
  - H.** (3) Black Speed Nuts
  - I.** Ceiling Ring
  - J.** (3) 1 1/2" Flat Head Phillips Screws
  - K.** Mesh Vent Screen
  - L.** White Powder Coated Aluminum Trim Ring
- \*A and B are part of the Solar Attic Fan unit (sold separately)

## Additional Parts for Radiation Damper Kit Installation:

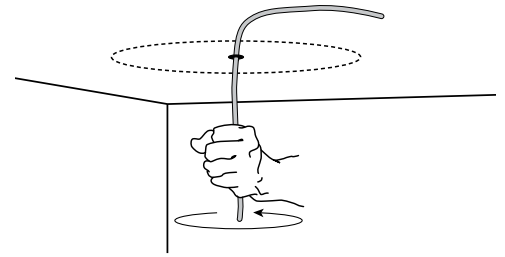
- a.** U.L. Listed Fusible Link (212°F)
- b.** Damper Sleeve (Replaces 3" Adapter Sleeve/Part G in the Standard Kit)



**CHOOSING A LOCATION FOR UNIT:** Southern exposure is best - If a southern exposure is not feasible, the fan can be installed on any other exposure and the solar panel adjusted to capture maximum sunlight. The center of the unit should be about 2 feet down from the ridge. The ceiling ring vent should be installed directly under the unit to maximize venting capacity.

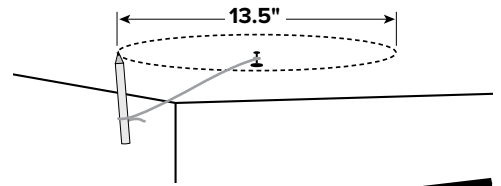
### STEP 1

Find the desired location for the ceiling trim ring vent and ensure that there are no obstructions in the attic space between the roof and ceiling. With a stud finder locate the ceiling joists and center the ceiling ring between joists as close to the desired installation area as possible. If you cannot check visually for obstructions, mark the center of the ceiling ring, drill a hole and insert piece of wire bent at a 90 degree angle. Rotate the wire around 360 degrees. While rotating, feel for resistance that could indicate wire runs or other obstructions.



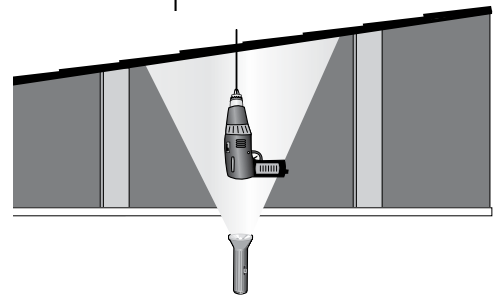
### STEP 2

If there are no obstructions, tap a nail to the center of the location where the unit will be installed. Attach a string to the end of the nail and to a pencil measuring 6.75". Scribe a circle on the ceiling and using a drywall saw, cut out a 13.5" circle.



### STEP 3

For the roof penetration, place a step ladder under the ceiling hole and place a flashlight on top of the ladder, the resulting flashlight beam will mark the location for the centering hole of the flashing unit on the roof. With a drill bit and appropriate extension rods, drill a pilot hole in the marked location on the bottom side of the roof. If the attic space is accessible, a plumb-bob may also be used.



### STEP 4

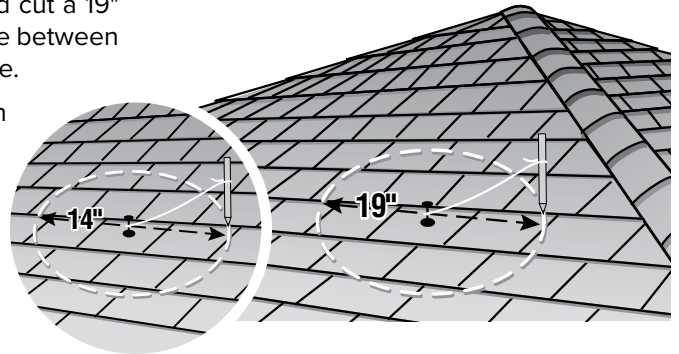
#### DETERMINE SIZE OF HOLE NEEDED FOR YOUR INSTALLATION:

On 24" on center construction, center the fan between the rafters and cut a 19" hole. On 16" on center construction, the installer can either cut a 14" hole between the rafters or cut a 19" hole with the roof rafter running through the hole.

Hammer a nail at the center of the location chosen for the solar attic fan between rafters. The center of the unit should be about 2 feet down from the ridge.

**19" HOLE:** Attach a string to the nail. Measure 9.5" of string and attach a marking pen to the string, see diagram. Scribe a 19" circle onto the roof shingles.

**14" HOLE:** Attach a string to the nail. Measure 7" of string and attach a marking pen to the string. Scribe a 14" circle onto the roof shingles.



### STEP 5

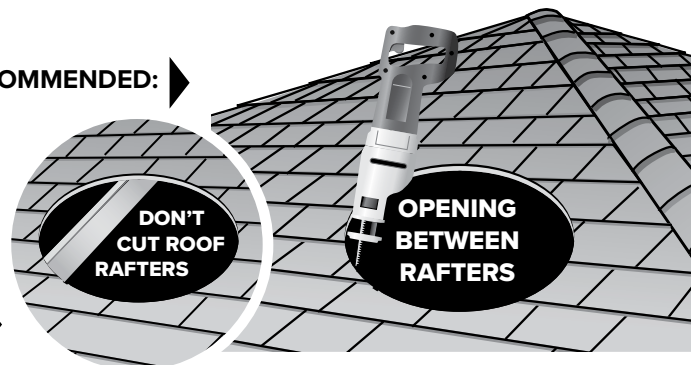
With a reciprocating saw, cut the diameter of the hole. **NEVER CUT THROUGH ANY ROOF RAFTERS. LEAVE ALL FRAMING MEMBERS IN PLACE.**

**IMPORTANT:** The solar attic fan must be installed between the roof rafters OR over a roof rafter. **DO NOT CUT THROUGH ANY FRAMING MEMBER.**

Only remove roof sheathing.

**RECOMMENDED:**

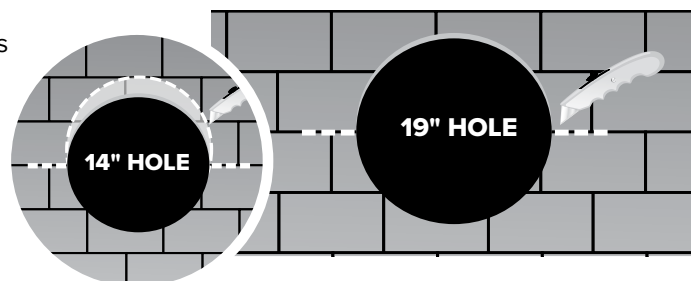
**OPTION:**  
16" ON CENTER  
WITH 19" HOLE



### STEP 6

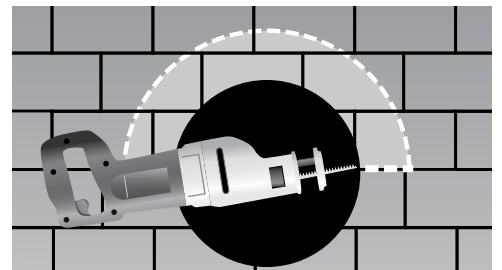
**19" HOLE:** With a razor knife, cut a four inch slit through the shingles and tar paper at the three and nine o'clock positions of the flashing. This allows for the foot print of the flashing to be inserted under the shingles.

**14" HOLE:** Additional shingles may also need to be removed on the high side towards the ridge to allow the flashing to slide over the hole (see inset).



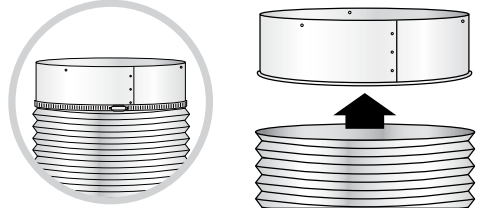
### STEP 7

Insert the reciprocating saw blade sideways at the three o'clock position and commence cutting the roofing nails up and around to the nine o'clock position. This process removes the nails that will prevent the flashing footprint from sliding up underneath the shingles.



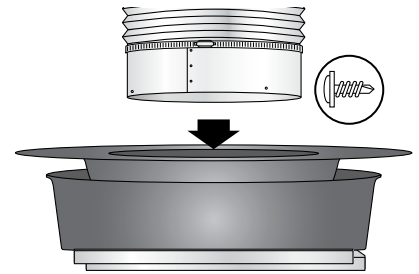
### STEP 8

Slip on one end of the flexible duct pipe (F) over the end of the 5" adapter sleeve (D) with the grooved edge. Loosen clamp on one of the stainless steel straps (E) using a Philips head screwdriver. Slide strap over the end of the flexible pipe where it meets the adapter sleeve and secure strap (see inset).



### STEP 9

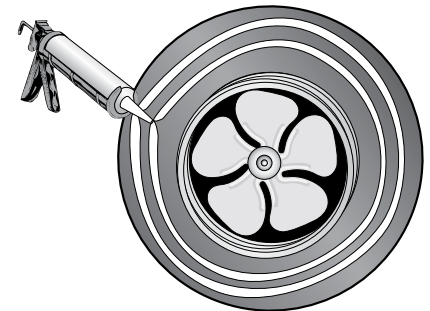
Carefully turn the unit upside-down and place it on a soft cloth to prevent damage to the solar panel. Grab the 5" adapter sleeve assembled in the previous step, and slide it into the opening on the bottom of the solar attic fan. Push the adapter sleeve until it stops on the fan housing brackets inside the attic fan. Using (4) 1/2" self-tapping screws (C), attach the adapter sleeve to the side of the solar attic fan through the pre-drilled holes on the tube adapter.



### STEP 10

Assure that the flexible pipe is compacted and sitting directly over the fan opening of the solar attic fan unit. Caulk the underside of the flashing. Two concentric rings of caulking material is sufficient.

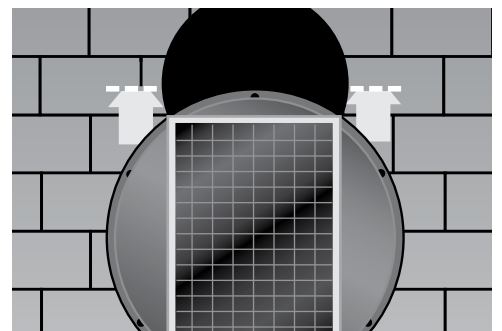
**NOTE:** Installation on tile roofs will require the use of a Flashing Skirt.



### STEP 11

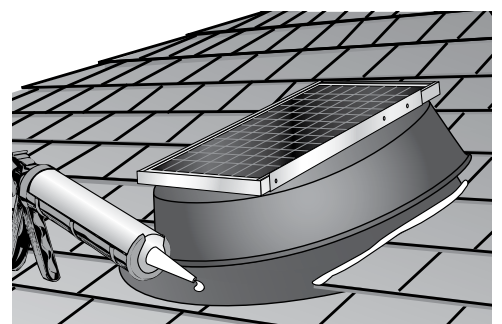
With the flexible pipe compacted as much as possible and taking care not to smear caulk on the exposed shingles, slide flashing under tar paper and shingles and force flashing up until the shingles come in contact with the raised portion of the flashing. The bottom side of the flashing will be on top of the shingles. Secure flashing with provided (6) Philips head screws (B) through the pre-drilled holes on the flashing footprint. (If needed, additional screws can be added by installer.)

**NOTE:** The flexible pipe should fall through the attic roof opening making it accessible from the garage ceiling.



### STEP 12

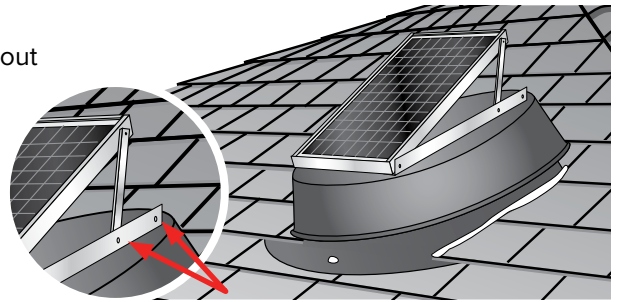
Caulk over the screw heads that are exposed to the weather. Use the remaining caulk to seal the areas where the 4" slits were made and around the area where the shingles meet with the raised area of the flashing.



### STEP 13

Adjust the solar panel to the position it will collect the most sunlight throughout the day. (The panel can be left in the down position.) To adjust the solar panel, remove the (2) self-tapping screws on either side of the bracket. Lift up the solar panel and line up the pre-drilled hole on the bracket arm to one of the two pre-drilled holes on the L-bracket attached to the housing as illustrated. Re-attached the (2) self-tapping screws on both sides.

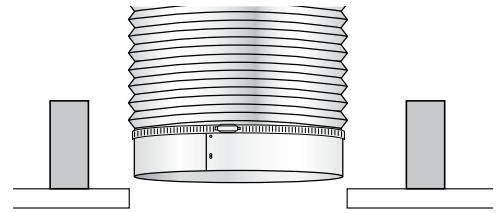
**NOTE:** Prior to an anticipated hurricane or high wind event, the solar panel must be secured with screws in the flat position.



**IMPORTANT:** USE STEP 14 FOR A STANDARD KIT INSTALLATIONS AND USE STEPS 14A AND 14B FOR INSTALLING THE RADIATION DAMPER KIT. THIS STEP CAN BE DONE FROM THE INSIDE THE ATTIC IF THERE IS ACCESS.

### STEP 14 (Standard Kit Only)

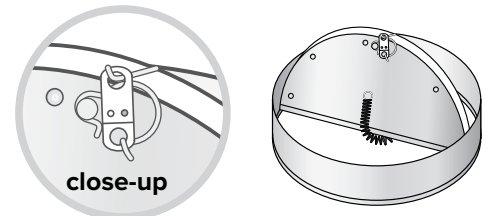
Inside the garage, place the other 3" adapter sleeve (G) and the other stainless steel strap (E) through the hole cut in the ceiling and temporarily place off to the side in the attic space. Locate the flexible pipe that should be hanging from the solar attic fan unit on the roof. Slip the flexible pipe over the end of the 3" adapter sleeve. Loosen clamp on the stainless steel strap (E) using a Philips head screwdriver. Slide strap over the end of the flexible pipe where it meets the adapter sleeve and secure strap. (Continue to Step 15.)



### STEP 14A (Radiation Damper Kit Only)

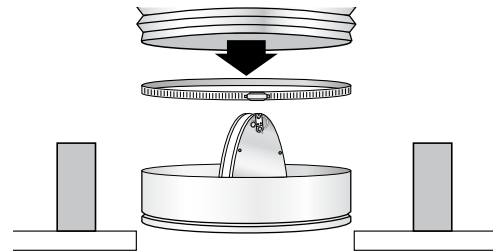
Remove the gold colored fuse link (a) from the plastic bag and attach it to the radiation damper (b). With one hand, firmly grab the radiation damper and with other hand squeeze the spring load damper blade halves together and hold. Thread one of the holes on the fuse link through the loop hook on the damper blade and the other hole into the top hook on other blade (see inset).

**NOTE:** Use caution when working the damper blades – they are spring-loaded and can snap shut if not held firmly.



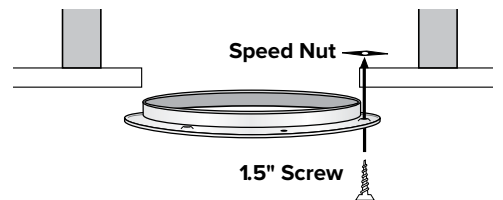
### STEP 14B (Radiation Damper Kit Only)

Inside the garage, place the assembled radiation damper and a stainless steel strap (E) through the hole cut in the garage ceiling and temporarily place off to the side in the attic space. Locate the flexible pipe that should be hanging from the solar attic fan unit on the roof. Slip the flexible pipe over the end of the radiation damper with the grooved end down. Loosen clamp on one of the stainless steel straps using a Philips head screwdriver. Slide strap over the end of the flexible pipe where it meets the radiation damper and secure strap.



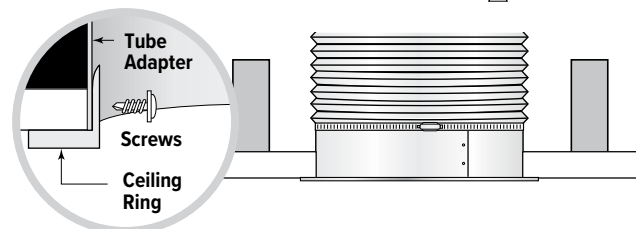
### STEP 15

Secure the ceiling ring (I) to ceiling by inserting a screw (J) into one of the three smaller non-dimpled pre-drilled holes and screwing it up through the drywall into one of the speed nuts (H) provided. Repeat this process for all three screws.



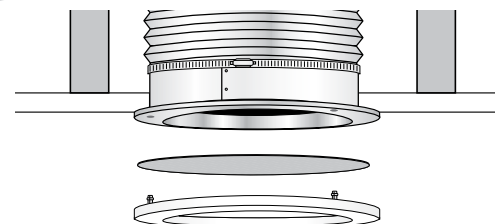
### STEP 16

Reach through the ceiling collar up into the attic and grab the adapter sleeve (or radiation damper) assembly. Slide the adapter sleeve (or damper) over the outside of the ceiling collar (see inset). Secure the ceiling collar to the adapter sleeve (or damper) using (3) 1/2" self-tapping screws (C) through the pre-drilled holes.



### STEP 17

Place mesh vent screen (K) into the white trim ring (L). Line up the three steel pins on the trim ring with the holes on the bottom of the ceiling collar. Push up on trim ring to snap into place.





## Solar Attic Fan Limited Lifetime Warranty

Natural Light Energy System (hereinafter NLES) warrants any solar attic fan manufactured by NLES to be free from defects in materials and workmanship to the original residential purchaser (hereinafter CONSUMER) from the date of purchase. All aspects of the Warranty are subject to the following limitations, terms and conditions.

### 1. DURATION OF WARRANTY

If a NLES solar attic fan (hereinafter "Equipment") is determined to have a defect in material or workmanship, NLES will, at its sole discretion, repair or replace the defective part at NO CHARGE to the CONSUMER, (excluding labor, and applicable shipping and handling costs) for the duration of the CONSUMER'S ownership of the original equipment (hereinafter "LIFETIME").

### 2. LIMITATIONS OF COVERAGE

This Warranty extends only to the CONSUMER for damage resulting from defects in materials and workmanship, it does not extend to damage caused by the CONSUMER'S neglect or abuse, or by accident, to damage caused by wind, hail or abnormal weather conditions, or to damage caused by acts of God, civil insurrection or extraordinary circumstances which are beyond the control of NLES.

NLES shall not be liable for any direct or indirect damage resulting from the use of the Equipment, and in no event shall the extent of the Warranty coverage exceed the purchase price of the Equipment.

NLES assumes no liability for the determination of the proper equipment necessary to meet a CONSUMER'S requirements, nor does it authorize others to assume such obligations on its behalf.

### 3. MISCELLANEOUS

In order to be considered for validation, all claims for Warranty coverage must be accompanied by a copy of the purchase agreement indicating the date of initial installation, NLES reserves the right to inspect the solar attic fan prior to honoring any Warranty claim.

This Warranty gives you specific legal rights, and you may have other rights which may vary from state to state. Any and all inquiries or claims under this Warranty must be submitted in writing to **Natural Light Energy Systems, Attn: Warranty Department, 10821 N. 23rd Avenue, Phoenix, AZ 85029** or by e-mail to [info@nltubular.com](mailto:info@nltubular.com).



To register your Solar Attic Fan, please visit  
[www.solaratticfan.com/customer-service/warranty-registration/](http://www.solaratticfan.com/customer-service/warranty-registration/)



**REGISTER NOW**