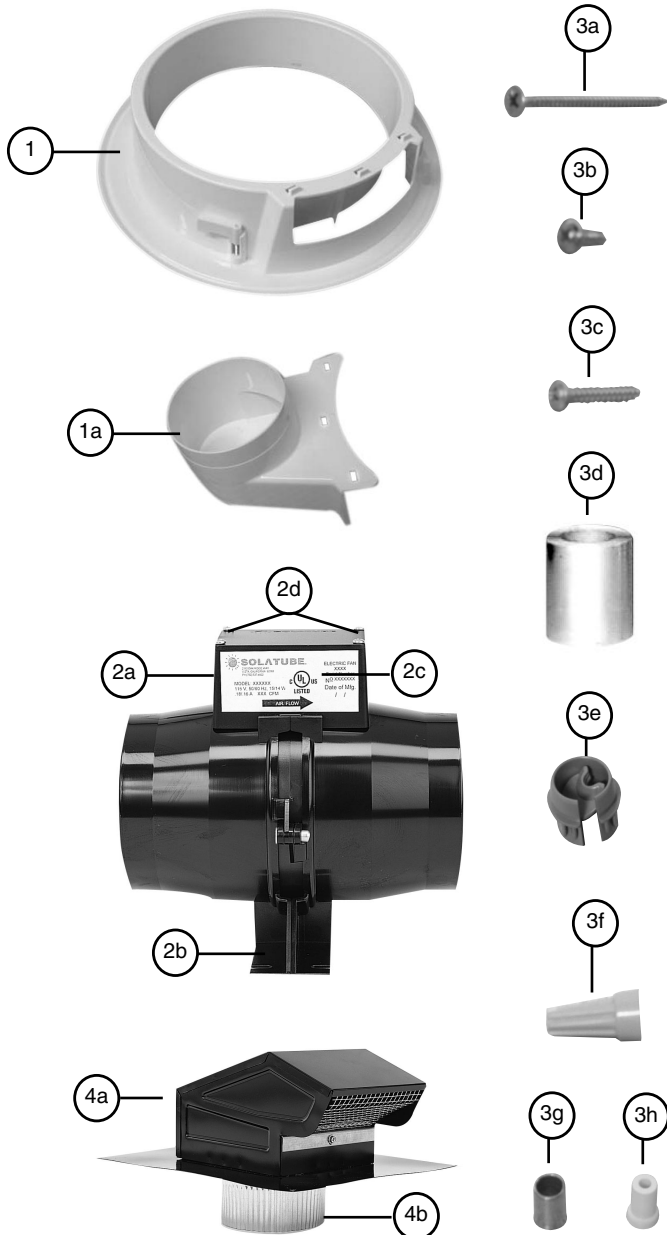


# Solatube® Ventilation Add-On Kit Installation Instructions



## PARTS LIST

	<b>Quantity</b>
1. Ventilation Cowl (with integrated fastening clamps)	(1)
a. Ventilation Inlet	(1)
2. In-line Fan Motor Assembly including	
a. Wire Junction Box	(1)
b. Mounting Bracket	(1)
c. UL Label	(1)
d. Wire Junction Box Screws - #6 x 1/2 in (15 mm)	(4)
3. Ventilation Fastener Kit including	
a. Ceiling Ring Screws - #6 x 1 5/8 in (40 mm)	(8)
b. Duct Screws - #8 x1/2 in (15 mm)	(12)
c. Fan Motor Mounting Screws - #8 x 1 in (25 mm)	(4)
d. 2 in (50 mm) Foil Duct Tape – 6 ft (1.8 m) long	(2)
e. Cable Connector	(1)
f. Wire Nut	(2)
g. Ground Crimp Connector	(1)
h. Ceiling Ring Spacers	(8)
<i>NOTE: Not all items are shown or are to scale.</i>	
4. Optional Ventilation Cap including	<i>sold separately</i>
a. Ventilation Cap with flashing	(1)
b. Duct Connector	(1)
5. Additional material recommended	<i>not supplied</i>
a. Extra Caulk	
b. Extra Roof Sealant for Ventilation Cap	
c. 2 in (50mm) Flashing Screws for Ventilation Cap	(4)
d. 4 in (100mm) Insulated Air Duct (Class 1)	(1)

## OVERVIEW

These instructions are for installing the Solatube® Ventilation Add-On Kit with the Solatube Brighten Up® Series 160 DS (10 in/250 mm Daylighting System). The Solatube Light Add-On Kit may also be installed in conjunction with the Ventilation Add-On Kit. Refer to the Solatube Brighten Up Series and the Solatube Light Add-On Kit instructions to complete the installation.



# WARNING



**Do not proceed with the installation until you have read the entire instructions, including these warnings.**

**CAUTION: For general ventilating use only. Do not use in kitchens. Do not use to exhaust hazardous or explosive materials and vapors.**

**WARNING: To reduce the risk of fire, electrical shock, or injury to persons, observe the following:**

1. Use this unit only in the manner intended by the manufacturer. If you have any questions, contact the manufacturer.
2. Before installing, servicing or cleaning unit, switch power off at service panel and lock service panel to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.
3. Installation work and electrical wiring must be done by qualified persons in accordance with all applicable codes and standards including fire-rated construction.
4. When cutting or drilling into a wall or ceiling, do not damage electrical wiring and other hidden utilities.
5. Exhaust fans must always be vented to the outdoors.
6. If this unit is to be installed over a tub or shower, the circuit must be marked as appropriate for the application and be connected to a GFCI (Ground Fault Circuit Interrupter) - Protected Branch Circuit.
7. Never place a switch where it can be reached from a tub or shower.
8. Do not use this fan with any solid-state speed control device.
9. Insulated Air Duct contains fiber glass wool which has been classified as a possible cancer hazard by inhalation. Fiber glass wool may cause temporary irritation to skin and or respiratory tract. Take appropriate precautionary measures when handling.

**NOTE: Understand the following before beginning installation:**

1. Read and understand both the Solatube® Brighten Up® Series and the Solatube Ventilation Add-On Kit installation instructions.
2. Follow all electrical codes and building code requirements within your jurisdiction.
3. Use appropriate safety glasses, gloves, hard hats, restraints and other equipment to avoid unnecessary accidents.
4. Motor is impedance protected. If motor becomes jammed or if another condition causes overheating, an internal fuse will fail.
5. Use house wiring suitable for 90° C and run it from wall switches to Fan Motor Assembly Junction Box and/or to Light Add-On Kit Junction Box location. Fan Motor Assembly Junction Box to be used only for wiring Solatube Ventilation Add-On Kit or Solatube Light Add-On Kit. Fan Motor Assembly Junction Box not to be used for other fixtures. Fan Motor Assembly suitable for residential and non-rated residential assemblies only. For romex connections use one (1) 14/3, one (1) 12/3 or two (2) 14/3 cables only.
6. Use Ventilation Add-On Kit only as a component of Solatube Daylighting System products, including Light Add-On Kit.
7. Any alteration or misuse of Solatube products will void warranty.

**SPECIFICATIONS: 10" Ventilation Add-On Kit**

Fan Motor Assembly:4"	(102mm) in-line
Motor:	Impedance protected
Supply:	115 volt – 50-60Hz or optional 230 volt – 50-60Hz
Amps:	0.36 Amp or optional 230 volt – 0.19 Amp
Airflow:	110 cfm (cubic feet/minute)
Insulation:	IC (Insulation may contact Fan Motor Assembly)
Moisture:	Suitable for wet or damp locations

**Flexible Duct:**

- 1) 4" (102mm) diameter air duct (Class 1).
- 2) Local building codes may require air duct (Class 0) for certain fire-rated installations.

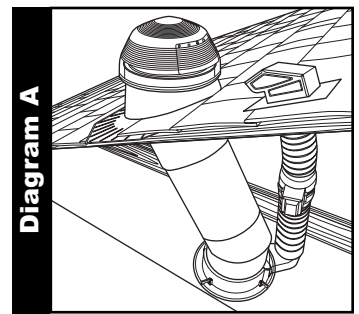
**Installation:**

- 1) Service access is required to the Fan Motor Assembly Junction Box.
- 2) Space requirements: Minimum 12 1/2 in (320 mm) between ceiling joists and minimum 8" (203mm) vertical clearance above ceiling is required.
- 3) Ventilation fan should remain on for a minimum of 10 minutes in a bathroom after a shower.

## MARKING LOCATION

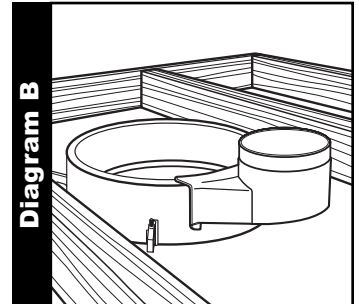
**Step 1:** Refer to the Solatube Brighten Up Series instructions, Step 1 and Step 2, to mark ceiling and roof location of the Daylighting System.

**Step 2:** In the attic, look for possible mounting locations for Fan Motor Assembly. Check that wiring can be run to the planned location. Ensure Insulated Air Duct will reach planned location of roof or side-wall vent. **(Diagram A)**



## VENTILATION COWL INSTALLATION

**Step 3:** Cut a 12 1/2 in (320 mm) diameter hole and remove the drywall/ceiling material. Remove the four (4) integrated fastening clamps from the 160 DS ceiling ring. Attach vent inlet to ventilation cowl. Install Ventilation Cowl in ceiling opening and tighten the four (4) fastening clamps **(Diagram B)**.

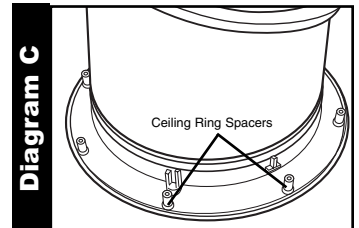


## ROOF FLASHING AND TOP TUBE INSTALLATION

**Step 4:** If no extension tubes will be installed, complete steps 5-8 only of Solatube Brighten Up Series instructions. If extension tubes will be installed, complete steps 5-12 of Solatube Brighten Up Series instructions. NOTE: In step 9, aim top tube at Ventilation Cowl opening instead of bottom tube.

## VENTILATION COWL AND BOTTOM TUBE INSTALLATION

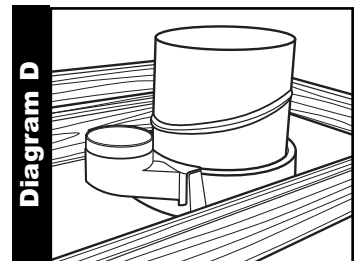
**Step 5:** Attach the eight (8) ceiling ring spacers from ventilation kit to the receptacles on the top side of ceiling ring of the bottom tube **(Diagram C)**.



**Step 6:** Insert bottom tube through ventilation cowl and adjust/align with top tube opening **(Diagram D)**.

**Step 7:** Secure the bottom tube to the ventilation plate with six (6) #6 x 1 5/8 in ceiling plate screws.

NOTE: Remove the two spacers that are located at the ventilation inlet **(Diagram E)**.

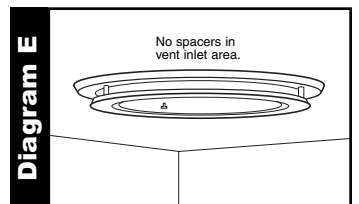


## EXTENSION TUBE ASSEMBLY AND INSTALLATION

**Step 8:** Measure distance between the openings of the bottom and top tubes and add 4 in (100 mm) to account for the overlap of the extension tubes into the bottom and top tubes. With this measurement, determine the amount of extension tubing needed. Extension tubes have both deep and shallow notches at each end so that they may be formed into tapered tubes. Weave opposite side of tube through one deep notch, center notch, and shallow notch. Smaller end of tube is always oriented down. **(Diagram F)**.

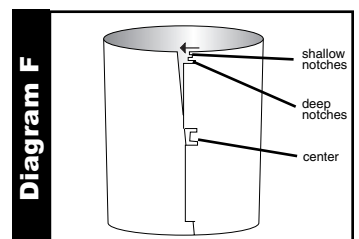
### 1. INSTALLING MORE THAN ONE EXTENSION TUBE.

**Remove protective liner** from tube interior of extension tube and bottom angle adaptor and compress extension tubes together sufficiently to fit between the top and bottom tubes. Apply expansion joint seal 1/4 in (6 mm) from upper end of the top extension tube. Expansion joint seal should lap approximately twice around the tube to seal out bugs and dust. Insert the assembly into the bottom tube and telescope assembly up into the top tube. All joints should have a minimum 1 1/2 in (40 mm) overlap. Firmly apply foil tape to vertical seams, bottom tube angle adapter and tube rivet seams. All overlapping tube joints (except top tube expansion joint) need to be fastened with two tube screws **(Diagram G)**.



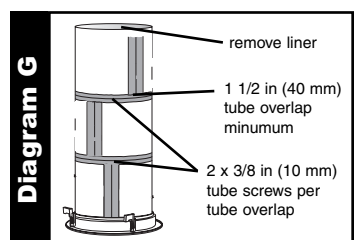
### 2. INSTALLING ONE EXTENSION TUBE. (NOTE: Do not assemble tube)

**Remove protective liner** from tube interior of extension tube and bottom angle adaptor and apply a 2 in (50 mm) piece of tape at the upper (wide end) seam. Apply expansion joint seal as previously described. Compress the small diameter end to a smaller diameter, insert tube into bottom tube and extend to fit into the top tube. Assemble bottom opening of extension tube. Firmly apply foil tape to vertical seams, bottom tube angle adapter and tube rivet seams. All overlapping tube joints (except top tube expansion joint) need to be fastened with two tube screws **(Diagram H)**.



### 3. INSTALLING WITHOUT EXTENSION TUBE.

Perform steps 5-7 of the Ventilation Add-On Kit Installation Instructions, then proceed to the roof. Reach down through the flashing, adjust bottom tube to match top tube. Apply tape to bottom tube rivet seams and rotating gore. Apply expansion joint seal 1/4 in (6 mm) from upper end of the bottom tube. Expansion joint seal should lap approximately twice around the tube to seal out bugs and dust. Continue with steps 9-12 of the Solatube Brighten Up Series instructions to install Top Tube **(Diagram I)**.



## DIFFUSER INSTALLATION

Upon completion of the extension tube installation, snap diffuser dress ring over the ceiling ring.

## MOUNTING FAN MOTOR ASSEMBLY

**Step 9:** Select a suitable Fan Motor Assembly location approximately 3 to 4 feet (1 m) from Ventilation Cowl intake hole toward roof or side-wall vent. Fan Motor Assembly can be installed at any angle without affecting performance. The arrow printed on UL label on Fan Motor Assembly Wire Junction Box shows airflow direction. Point arrow away from Ceiling Cowl intake toward roof or side-wall vent (**Diagram I**).

**Step 10:** To secure Fan Motor Assembly, screw four (4) 1 in (25 mm) screws through Mounting Brackets on Fan Motor Assembly into building structure. (**Diagram I**).

## DUCT ASSEMBLY

**Step 11:** Install 4 in (100 mm) Insulated Air Duct fully extended. Run Air Duct from Ventilation Inlet to Fan Motor Assembly. On the other side of the Fan Motor Assembly, run Air Duct to Duct Connector of Ventilation Cap. For best venting performance, make Air Duct run as short as possible with minimum bends.

**Step 12:** After desired length is determined, cut completely around Air Duct with scissors or knife. Cut wire with wire cutters (**Diagram J**).

**Step 13:** Pull back Air Duct jacket and insulation from Air Duct core. Slide at least 1 in (25 mm) of Duct core over Vent Inlet intake, Fan Motor Assembly flange and Duct Connector. Tape core with at least one wrap of Foil Duct Tape and secure with three 1/2 in (15 mm) Duct Screws (**Diagram K**). To prevent condensation from collecting on ventilation cowl, form a "P" trap shape in duct between ventilation cowl and fan motor.

**Step 14:** Strap Air Duct to framing every 5 ft (1.5 m).

## WIRING

**Step 15:** Disconnect power before proceeding. If power disconnected switch is not in sight, lock it in the off position, and tag it to prevent unexpected application of power.

**Step 16:** To open Fan Motor Assembly Junction Box cover, remove the four (4) screws.

**Step 17:** Feed house wiring (with ground) from wall switch to Junction Box located on the Fan Motor Assembly. Use Cable Connector provided to fasten cable to Junction Box. Use crimp sleeve to connect motor ground wire (green) to house ground wire. Use wire nuts provided to connect the two (2) hot (black) and two (2) common (white) wires of Fan Motor Assembly to corresponding house wiring (**Diagram K1**). For wiring the Ventilation Add-On Kit and the Light Add-On Kit see (**Diagram K2**).

**Step 18:** Replace Junction Box cover and screws.

## INSTALLING OPTIONAL SOLATUBE VENTILATION CAP

**Step 19:** Locate the flashing a minimum of 5 ft (1.5m) from an operable window or skylight, 16 in (400 mm) from a ridge or hip, and 24 in (600 mm) from a valley. Ventilation Cap may be side-wall mounted.

**Step 20:** In the attic, mark vent location by running a screw up through the roof.

**Step 21:** Find the location on roof and cut a 6 in (150 mm) round hole through the roof.

**Step 22:** Using flat bar, loosen the asphalt sealing tabs of the shingles and carefully pull out the staples or nails above the midpoint to the upper edge of the hole. Remove enough shingles to expose the roofing felt.

**Step 23:** With a caulking gun, apply a 1/2 in (15 mm) bead of roof sealant (not provided) around the underside of the flashing base.

**Step 24:** Secure the flashing with four screws (2 in (50 mm) recommended, not provided) at least 1 in (25 mm) from edge of flashing flange. Seal all screw heads with sealant.

**Step 25:** When securing Insulated Air Duct to Ventilation Cap, use the Duct Connector (**Diagram L**). Thread flanged end of the Duct Connector to the Ventilation Cap by turning it counterclockwise into the vent opening on the underside of the flashing. Flange will lock into place after (1) revolution. Connect Air Duct per instructions above.

