

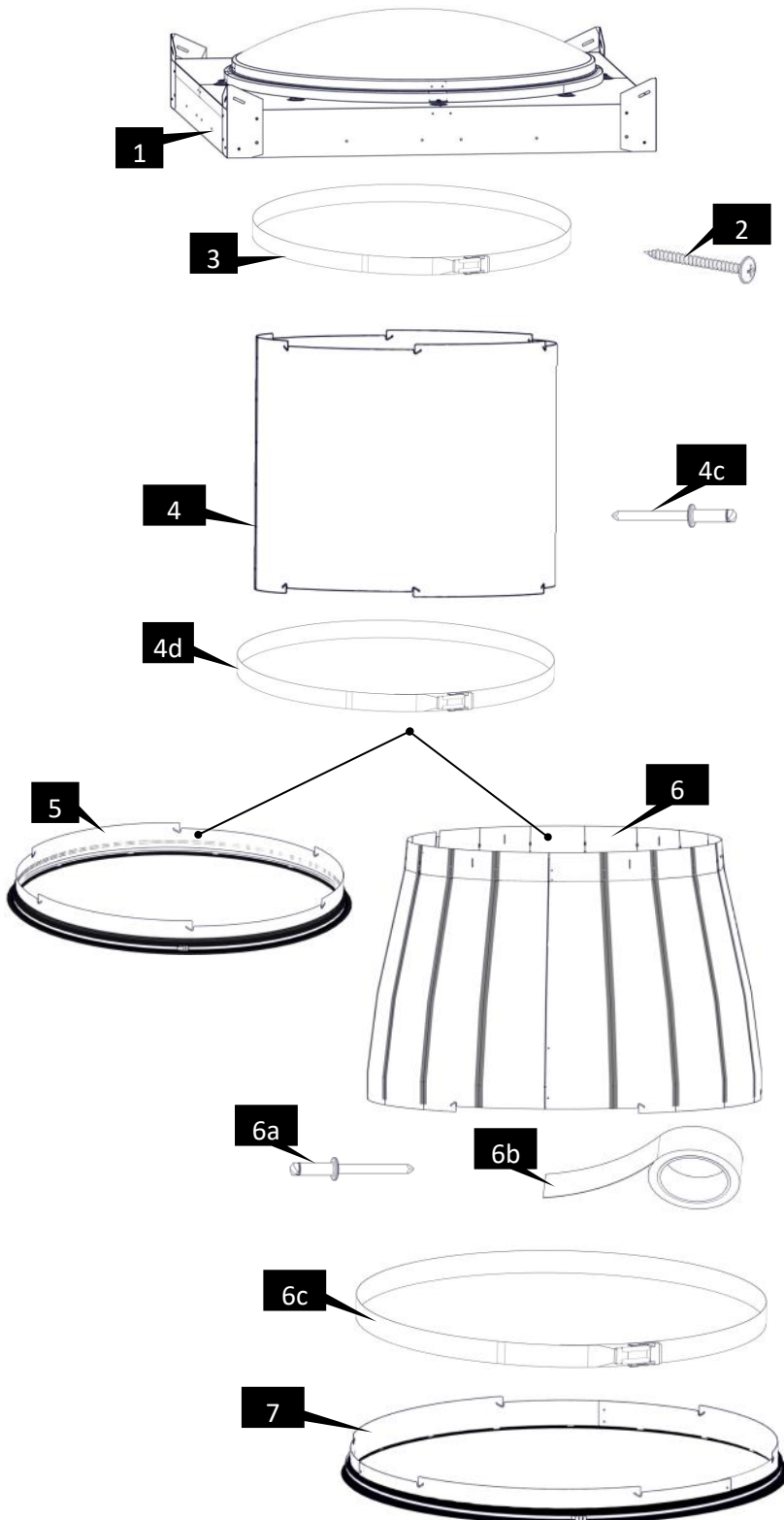


SOLATUBE
Innovation in Daylighting.

Solatube® SkyVault™ Series

Solatube® M74 DS Daylighting System

Installation Instructions



Parts List		Quantity
	Pre-Assembled Roof Assembly Options ***	(1)
1	a. M74 DS Single Dome Roof Assembly with Insulated Curb Cap Flashing *†	
	b. M74 DS Dual Dome Roof Assembly with Insulated Curb Cap Flashing *†	
	c. M74 DS Single Dome Roof Assembly with Insulated Curb Cap Flashing and Security Guard *†	
	d. M74 DS Dual Dome Roof Assembly with Insulated Curb Cap Flashing and Security Guard *†	
2	Flashing Screws - #10 X 2 in (50 mm)	(16)
3	Tube Belt with Belt Latch	(1)
4	Spectralight® Infinity Tubes with Tab Locks	
	a. 24 in (610 mm) Extension Tube with Tube Fastener Kit	(1)
	b. 48 in (1220 mm) Extension Tube with Tube Fastener Kit	(1)
	c. Tube Rivets	(15)
	d. Tube Belt with Belt Latch	(1)
5	Pre-Assembled Diffuser with Retainer Band*†	(1)
6	Amplifier Assembly *†	(1)
	a. Amplifier Rivets	(15)
	b. 3/4 in (19.5 mm) Foil Tape - 10 ft (3.0 m)	(2)
	c. Amplifier Belt with Belt Latch	(1)
7	Pre-Assembled Amplifier Diffuser with Retainer Band*†	(1)

Required Tools:

Tape Measure	Rivet Gun
Screw Gun with Phillips Head	Required Safety Equipment
Level	

* All M74 DS Options Meet High Velocity Hurricane Zone (HVHZ) Requirements.

*† Components shown not included in all kits, see label on box.

*** These products are



and meet criteria for UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings.

WARNING



Do not proceed with the installation until you have read the entire instructions, including these warnings. (Use of materials or methods not authorized by Solatube International will result in an invalid warranty.)

Solatube International, Inc. (seller) assumes no responsibility or obligation whatsoever for the failure of an architect, contractor, installer, or building owner to comply with all applicable laws, ordinances, building codes, electrical codes, energy codes, fire and safety codes and requirements, roof warranties and adequate safety precautions. Installation of this product should be attempted only by individuals skilled in the use of the tools and equipment necessary for installation. Protect yourself and all persons and property during installation. If you have any doubt concerning your competence or expertise, consult a qualified expert before proceeding.



Install at your own risk!

Solatube product installations may be dangerous and include the potential for death, personal injury and property damage. The hazardous conditions include but are not limited to the following:

- **During installation, the Solatube Daylighting System's reflective tubes may focus sunlight, causing intense heat or fire. Remove protective film only after the parts have been installed. Prior to and during installation, do not leave tubes in contact with combustible materials or unattended, especially near direct sunlight. Avoid skin burns.**
- Solatube Daylighting System and Solar Star products may have sharp edges. Always wear leather or canvas gloves while handling and installing products.
- Solatube product installations require climbing and working at dangerous heights, including on ladders, scaffolding, roofs and in attic spaces. Risk of death, personal injury and property damage may result from a fall, or from falling objects. Use extreme caution to minimize risk of accidental injury, including, but not limited to the following procedures:
 - Clear area below your work space of all people, animals and other items.
 - Avoid working on surfaces that are slippery or wet.
 - Use foot-wear with excellent traction.
 - Use only strong, well supported ladders.
 - Work only in calm dry weather.
 - When in the attic, ensure that your weight is supported at all times with structurally sound framing; drywall material is not designed to carry a person's weight.
- To reduce the risk of fire, electric shock, and personal injury, basic safety precautions should always be followed when using electric tools, including always wearing safety goggles or other suitable eye protection, and ensuring work area is clear of all electrical wires, gas pipes, water pipes, and other obstacles.
- When working in the attic or other dusty areas, use of a mask or respirator is recommended to avoid lung irritation. Attic spaces may be dark, confined, and subject to extreme temperatures. Beware of sharp protruding objects. Do not attempt installation without having someone within range of your voice or close enough to come to your aid if necessary.
- Solatube products are not designed to withstand the weight of a person, tools or other objects. Walking or placing objects on the system could cause personal injury and property damage. If the product is damaged, the structural capacity may be weakened; therefore the system should be repaired immediately. For safe installation and use, do not deviate from these installation instructions.
- Additional support is recommended for long vertical and all horizontal tube runs. Review local building requirements and consult with appropriate building code official for proper material and placement of additional support. Avoid galvanic reaction (corrosion) if dissimilar metals are used.

Electrical Components

- Before installing, servicing, or cleaning unit, switch power off at service panel and lock service panel to prevent power from becoming 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.

Re-Roofing

- Solatube products require special care if removed for re-roofing. In order to ensure proper removal and re-installation, please contact your Solatube International representative.

Please refer to the installation tips for the appropriate product below:



Daylighting Systems Installation Tips

These instructions are a step-by-step guide for the installation of a Solatube Daylighting System in the following conditions. For other roof types, please contact your Solatube International representative for additional information.

Built Up Flat Roof - Single Ply/Membrane - Asphalt Shingle - Low/No Pitched - Pitched - Prefabricated Curbs - Metal Roof Panels

For the most current Installation Instructions, please visit www.solatube.com/instructions

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Daylighting Systems Installation Tips (Continued)

- Allow 1/2 hour (30 min) for the installation excluding curb fabrication, particularly if this is your first installation.
- During the day, turn off all the lights in the room to see how much natural light comes in through the windows, and determine the best position for the Solatube Daylighting System. To light a specific area, place the system over the area, not in the center of the room. This will prevent the desired area from being shaded by tall objects in the room.
- Measure the distance from curb to diffuser level. If you don't have enough tubing, contact your Solatube International representative for additional tubing.
- Avoid roof locations shaded by trees, ridges and chimneys, or near water channels or valleys. Also avoid roof areas with obstructions such as fire sprinklers, HVAC equipment, gas, water or drain pipes, air ducts or flues and make sure that the roof is adequate to endure an installation without damaging its waterproofing properties or weakening the building structure.
- All adhesives and seals are recommended to be applied to a clean and dry surface at a minimum of 70°F (21°C) for maximum performance.
- For installations where high levels of soot or debris may be present it may be necessary to use foil tape to seal all joints and tube seams to prevent excess debris from entering the tubing.
- It is recommended to use foil tape to seal all joints and tube seams for installations in cold climates or where humid conditions may be present in order to prevent warm or moist air from entering the tubing.
- Uninstalled product that is stored and exposed to excessive heat and or humidity can experience damage. Store product prior to installation in a cool dry place.
- FM (Factory Mutual): All SkyVault roof assemblies (Excluding Collector Cylinder Assembly) meet requirements for FM Approvals.



- UFC-4-010-01: All SkyVault roof assemblies (Excluding Collector Cylinder Assembly) meet requirements for United Facilities Criteria (UFC) DoD minimum antiterrorism standard for buildings.

M74 DS Installation Instructions

1 Place Pre-Assembled Roof Assembly onto Curb

Note: Curb provided by others.

Note: To prevent scratches do not remove protective liner from dome until installation is complete.

35 5/8 in (904 mm) inside dimension

35 5/8 in (904 mm) inside dimension

Curb by others (allow for counter flash roofing material)

Roof opening must be round with diameter 29.5 in (749 mm)

For ease of tube assembly and attachment, invert Roof Assembly and place onto curb.

Curb Construction Details: Curb provided by others.

Curb OD: 34 3/8 in (873 mm) x 34 3/8 in (873 mm) to allow for 0.5 in (13 mm) waterproofing membrane.

Metal Curb OD: 35 in (890 mm) x 35 in (890 mm). If membrane layer is to be applied to outside of metal curb, use curb OD above.

Framing Member Thickness: 1.5 in (38 mm) minimum 2.5 in (64 mm) maximum including insulation.

Curb Height: 7.5 in (191 mm) minimum. Refer to local building code requirements.

Curb Aspect: Level curb top and plumb curb walls. For sloped roofs add cricket to divert water.

2 Assemble Extension Tube

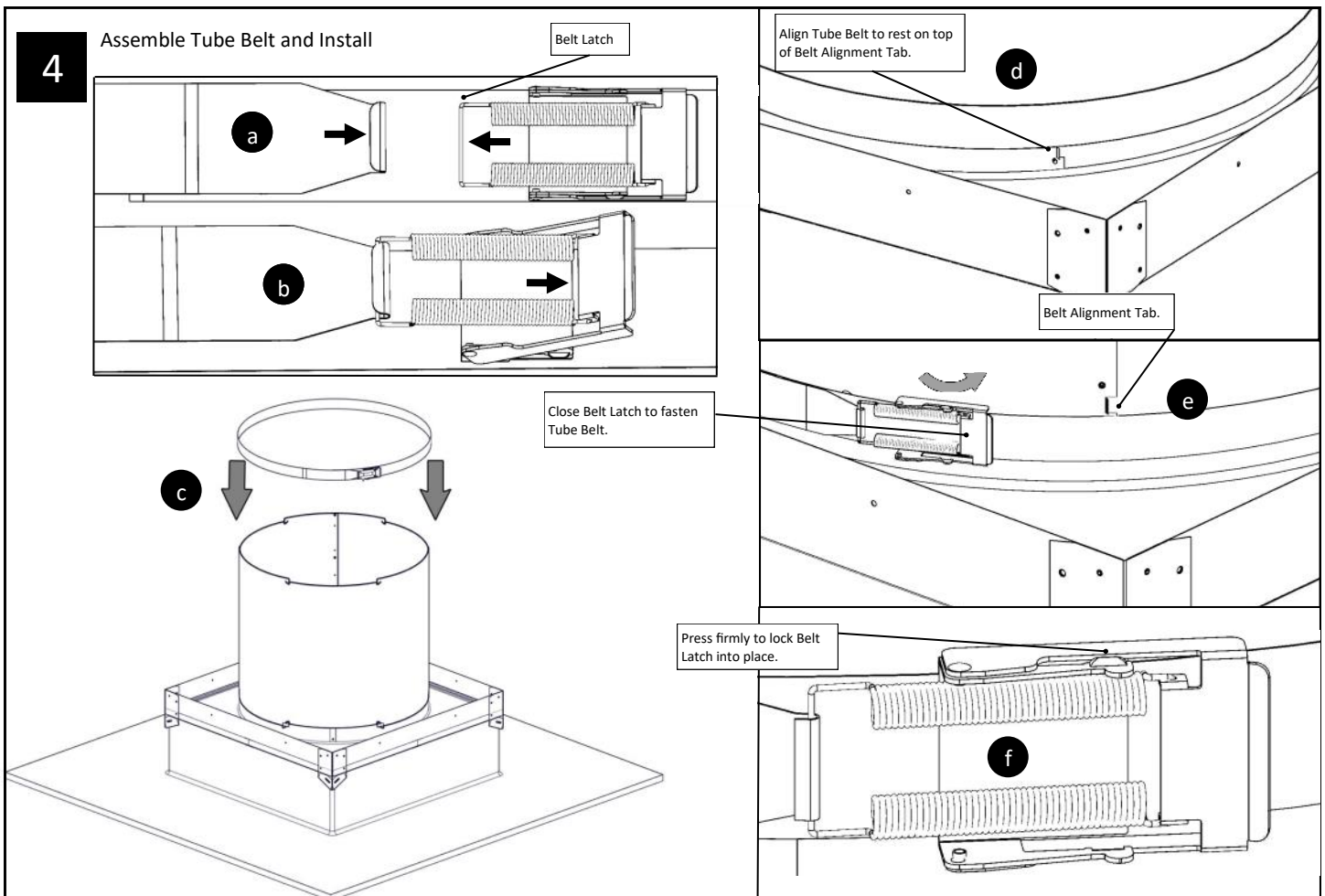
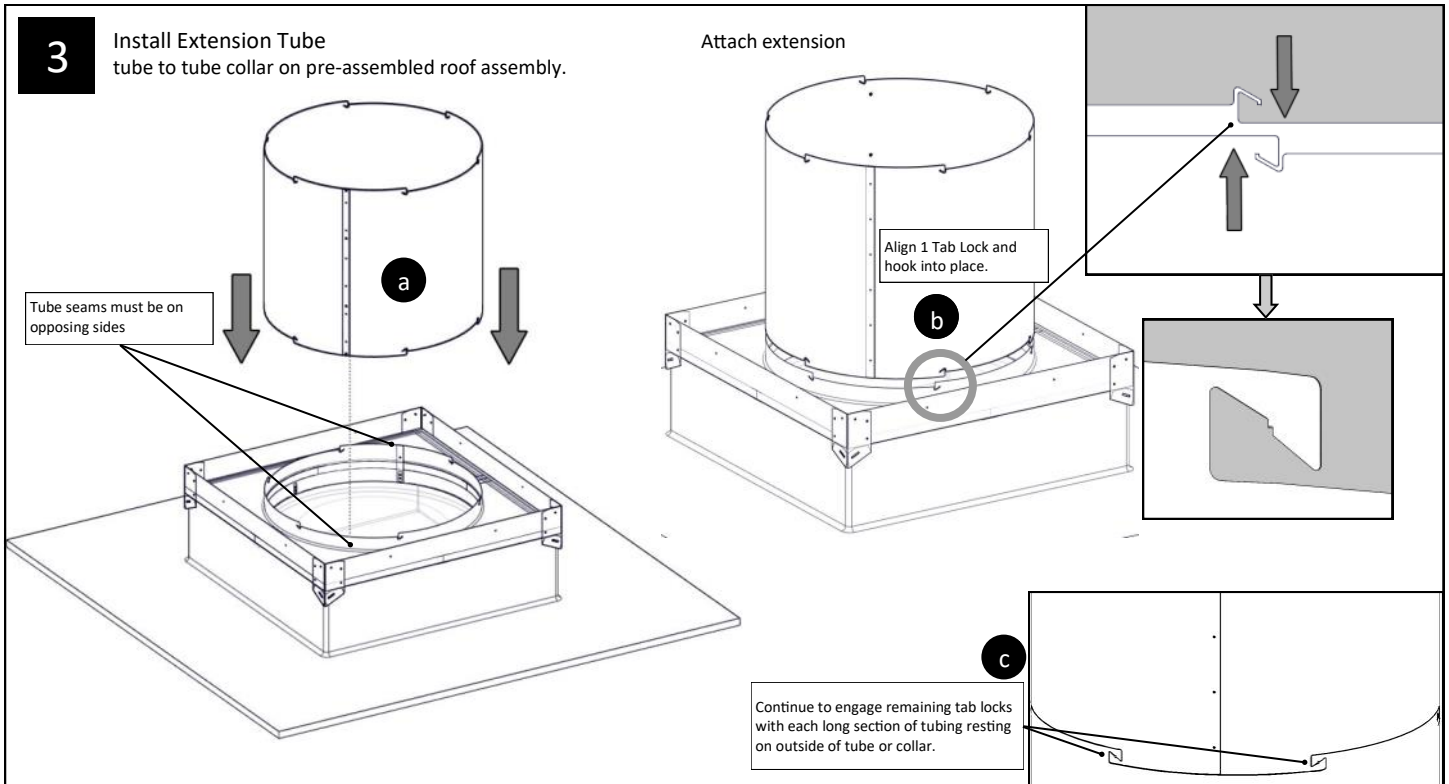
Align pre-punched holes and install rivets.

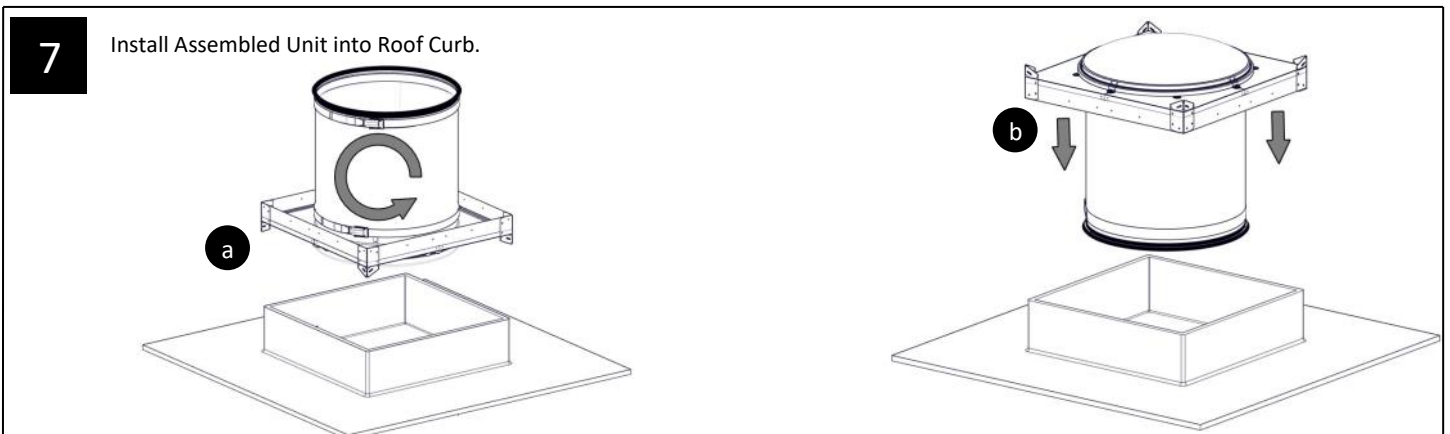
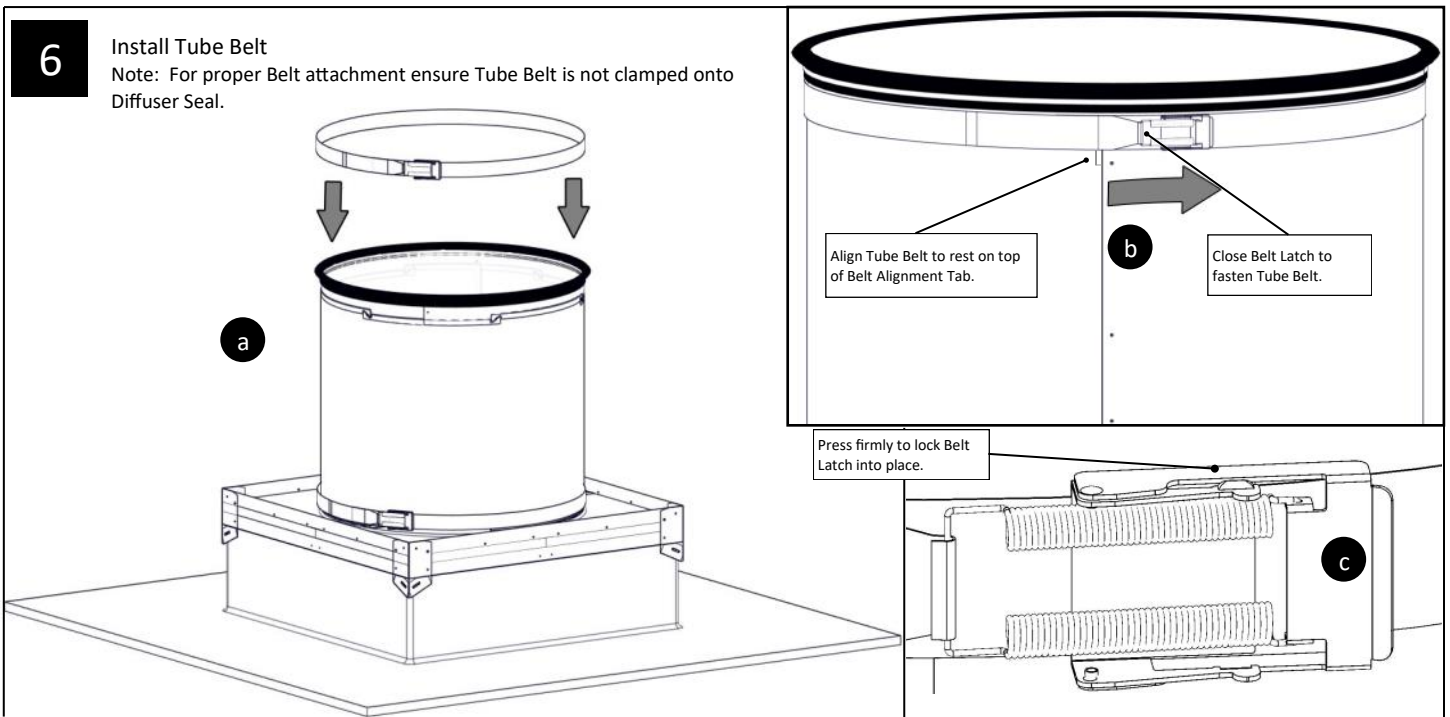
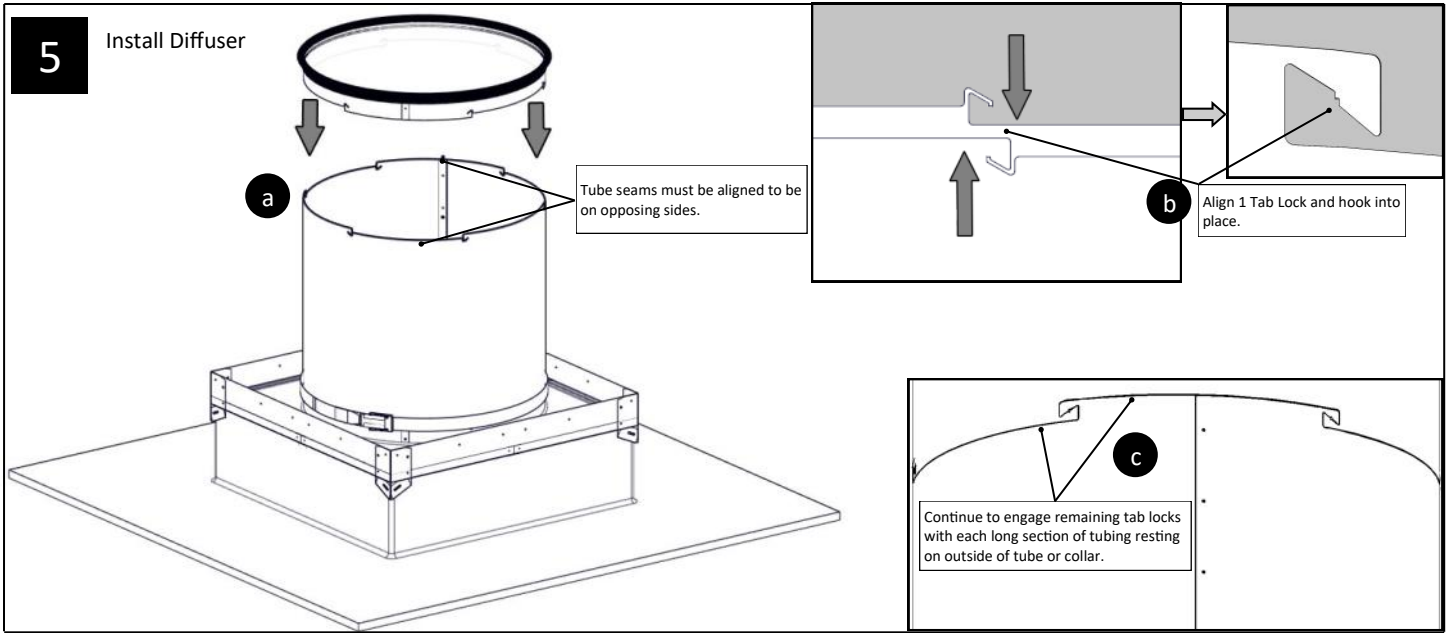
Remove Protective Liner

Bend tabs out 90 deg for proper belt alignment.

Use rivet gun to fasten rivets.

For the most current Installation Instructions, please visit www.solatube.com/instructions

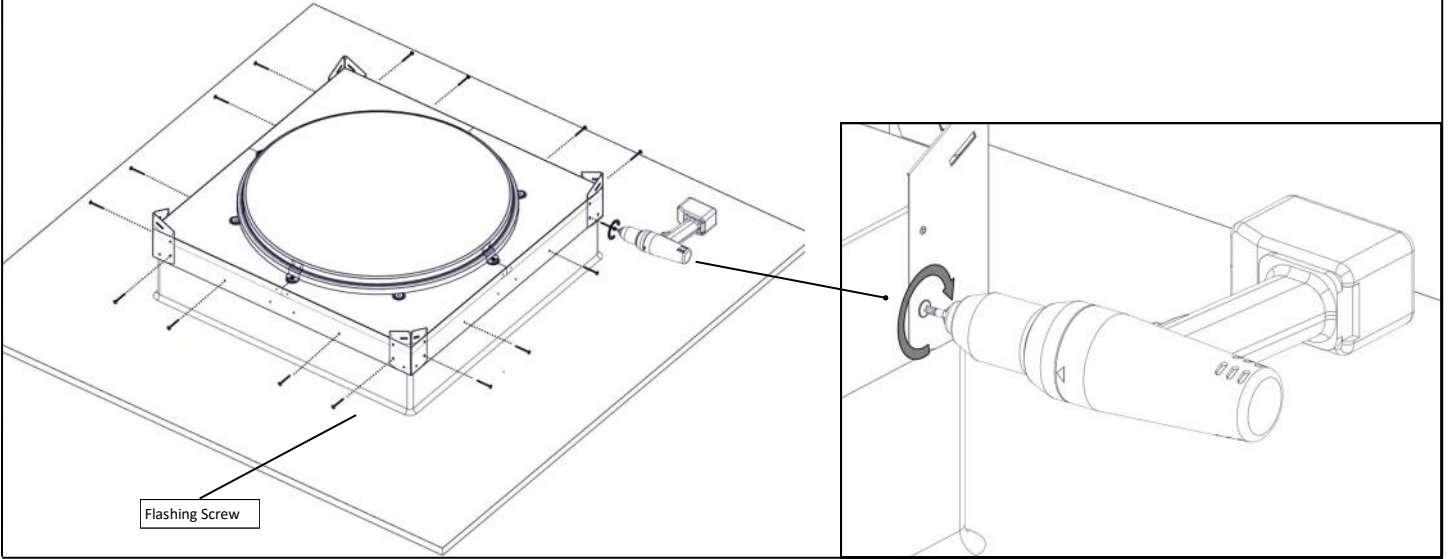




For the most current Installation Instructions, please visit www.solatube.com/instructions

8

Fasten Roof Assembly to Curb
Remove Protective liner from dome.

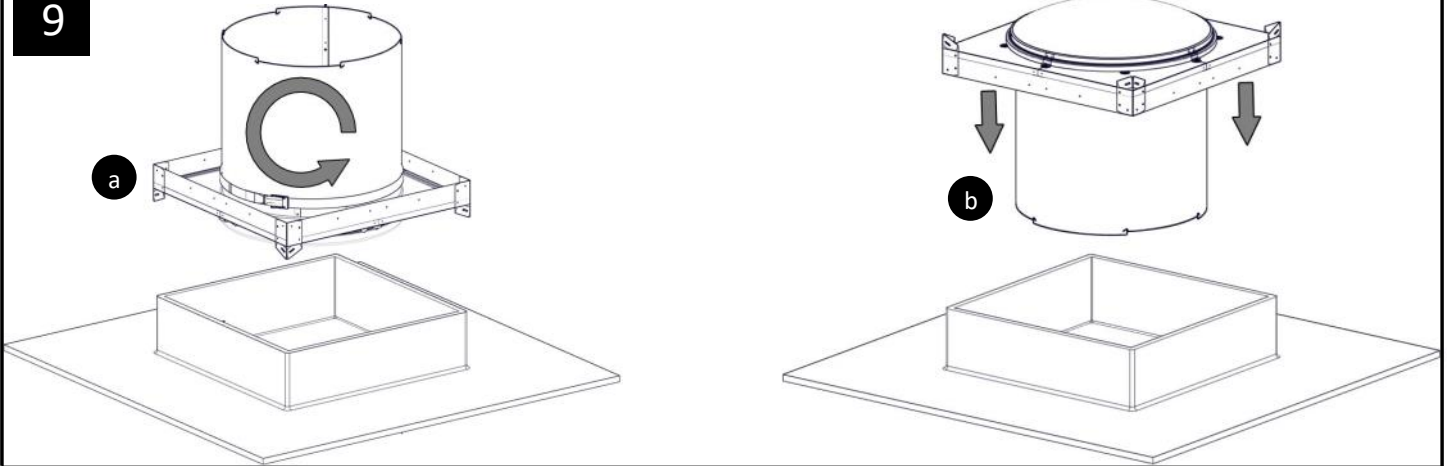


Alternate Instruction for Multiple Tube Attachment

Note: If installing more than 48 in (1220 mm) of tubing use the following steps.*

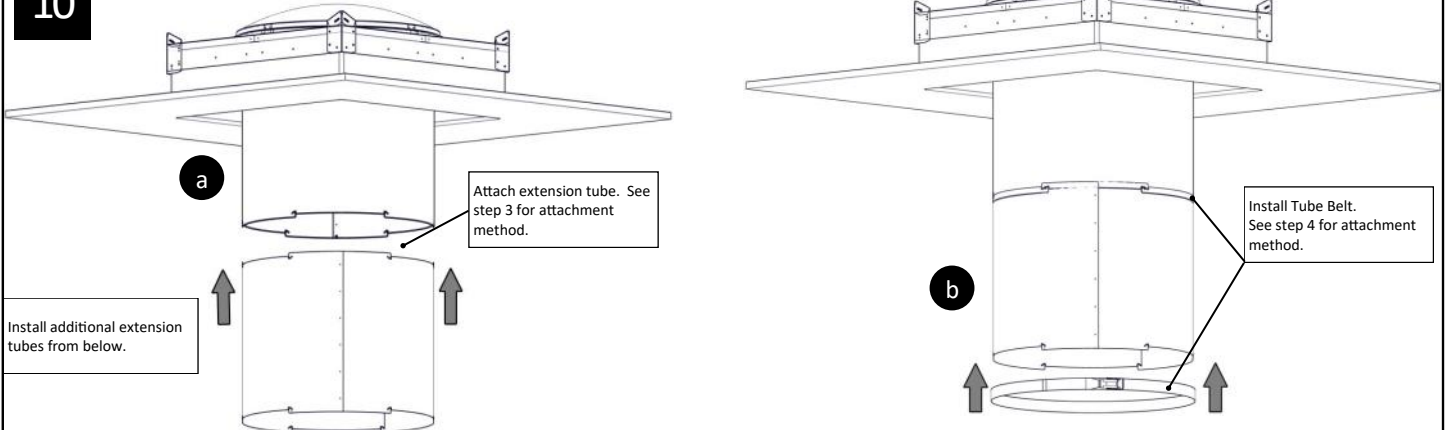
9

Install Assembled Unit into Roof Curb.



10

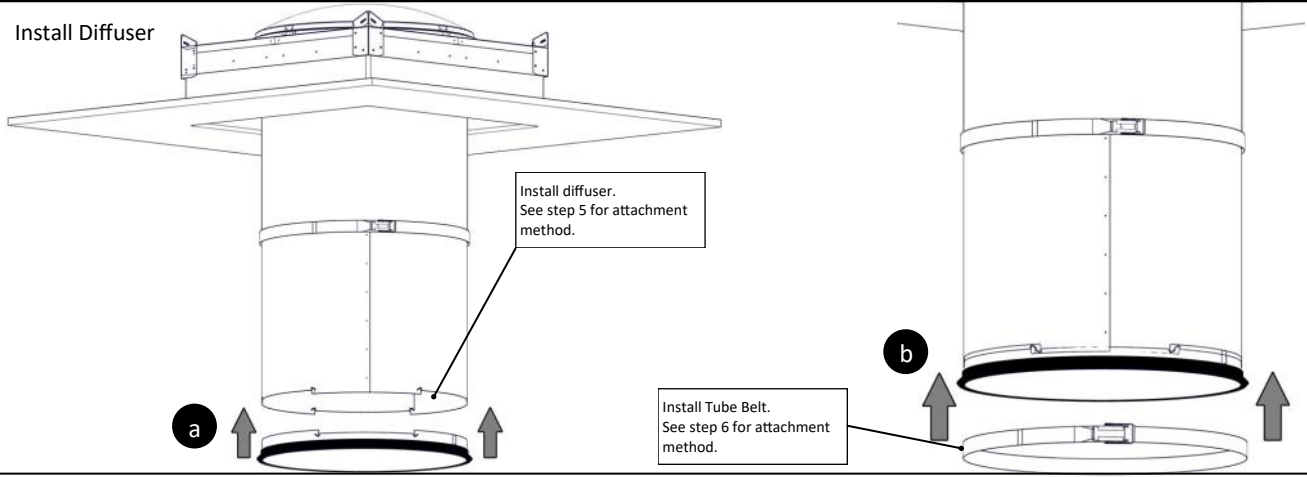
Install Additional Extension Tubes



For the most current Installation Instructions, please visit www.solatube.com/instructions
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11

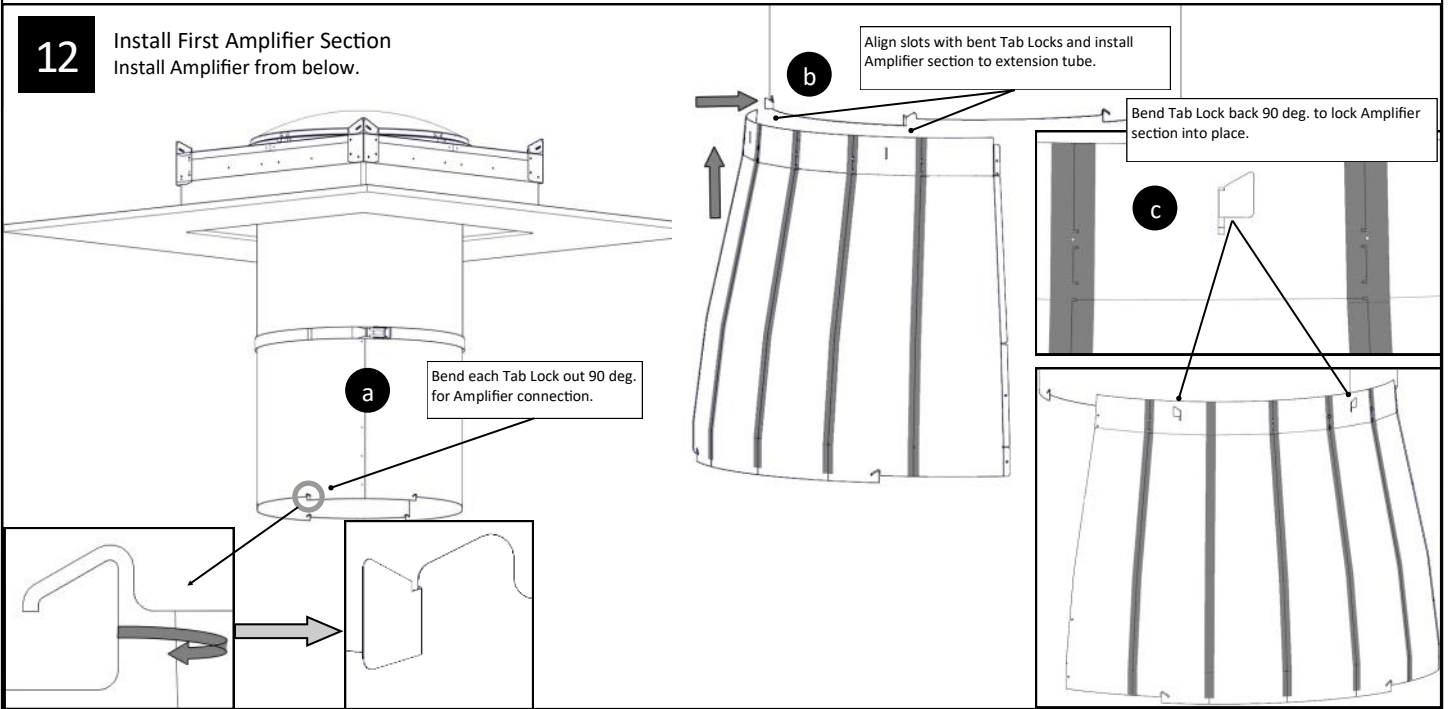
Install Diffuser



Amplifier Installation Instructions

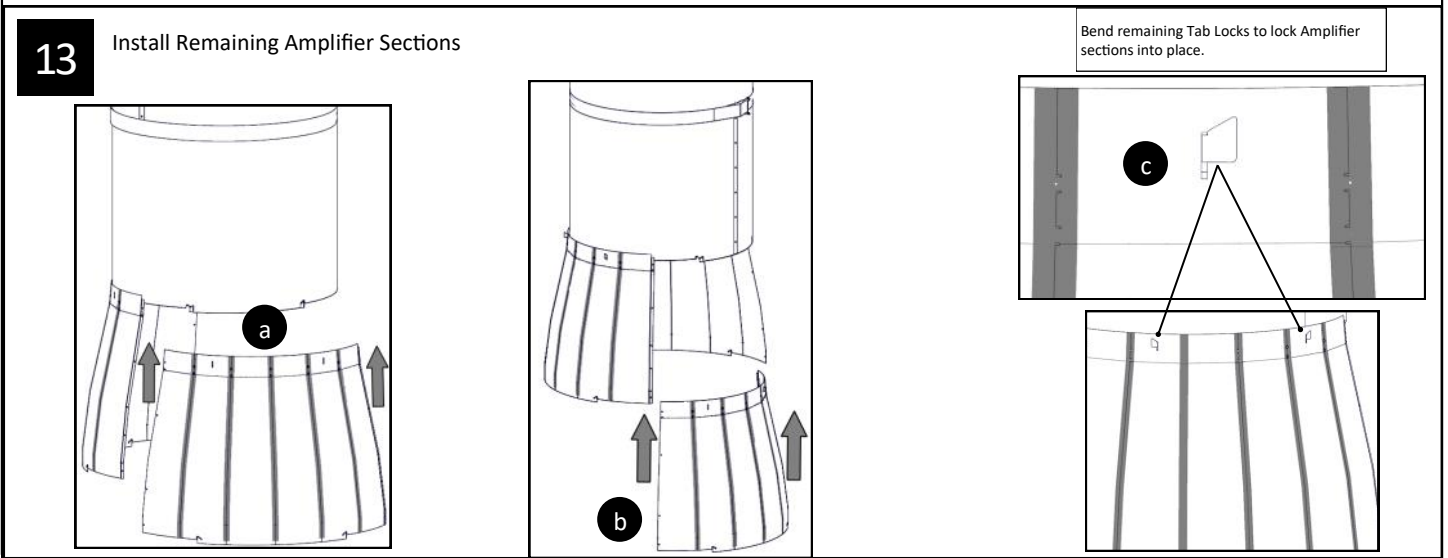
12

Install First Amplifier Section
Install Amplifier from below.



13

Install Remaining Amplifier Sections



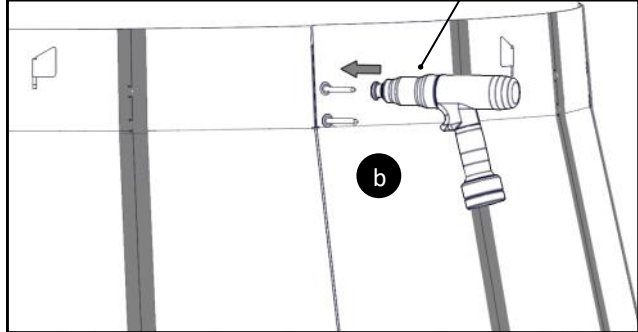
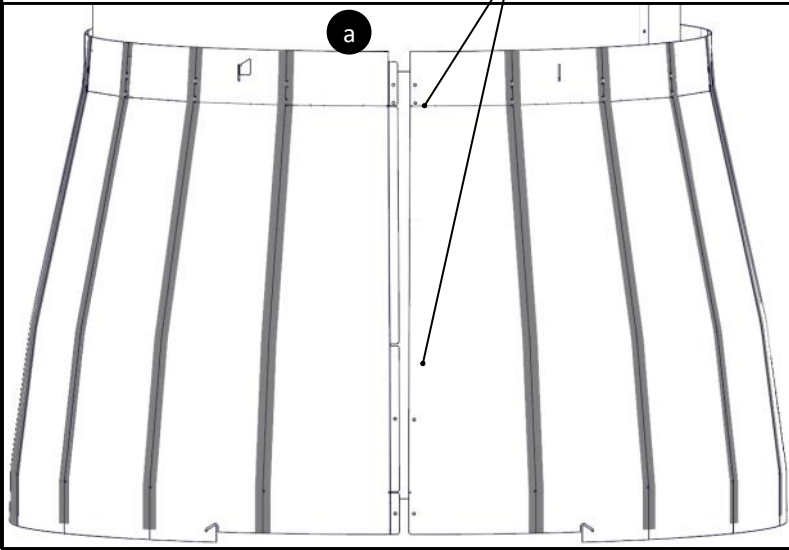
For the most current Installation Instructions, please visit www.solatube.com/instructions

14

Fasten Amplifier Sections
Align pre-punched holes and install rivets.

Align Amplifier sections to ensure flat section overlaps to sit on top of offset.

Use Rivet gun to fasten rivets

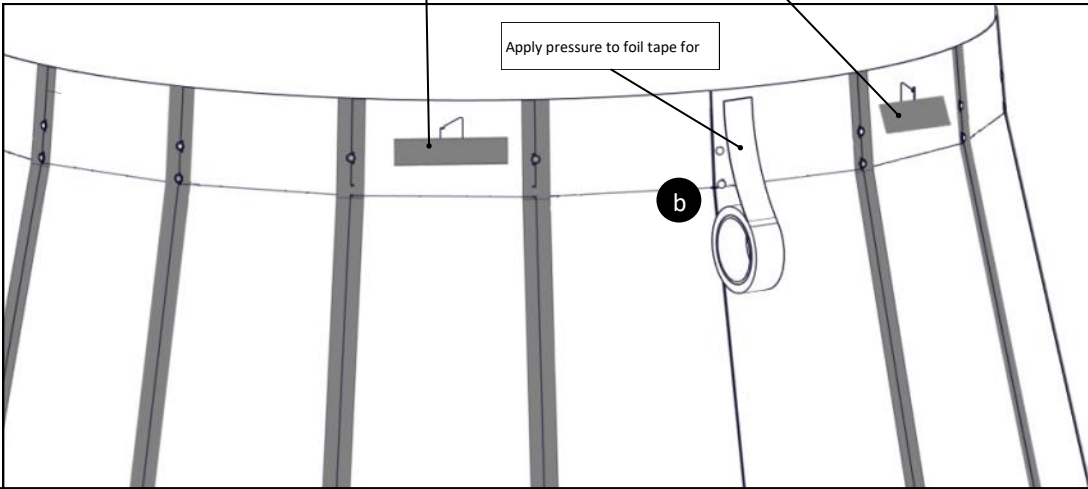
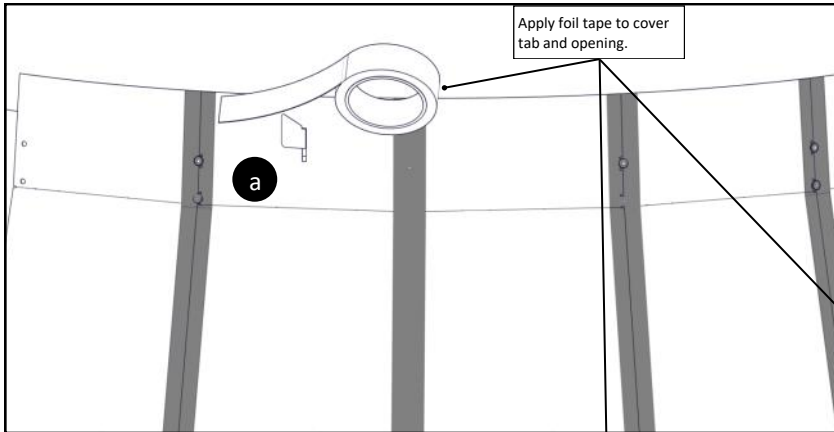


15

Apply Foil Tape

Apply foil tape to cover tab and opening.

Apply pressure to foil tape for



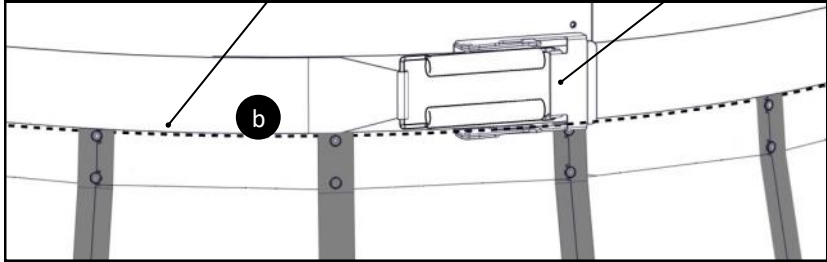
16

Install Tube Belt and Amplifier Diffuser

Align belt just over top edge of rivets.

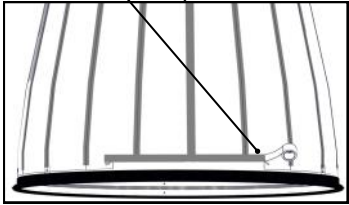
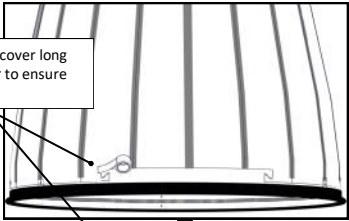
Install Tube Belt. See step 4 for attachment method.

a

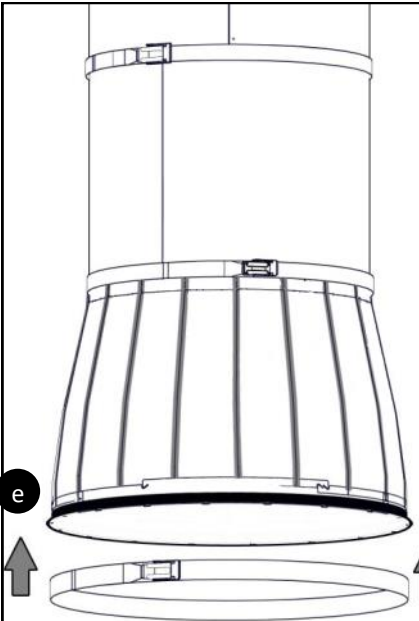


Apply foil tape to cover long section of diffuser to ensure proper seal.

d



e



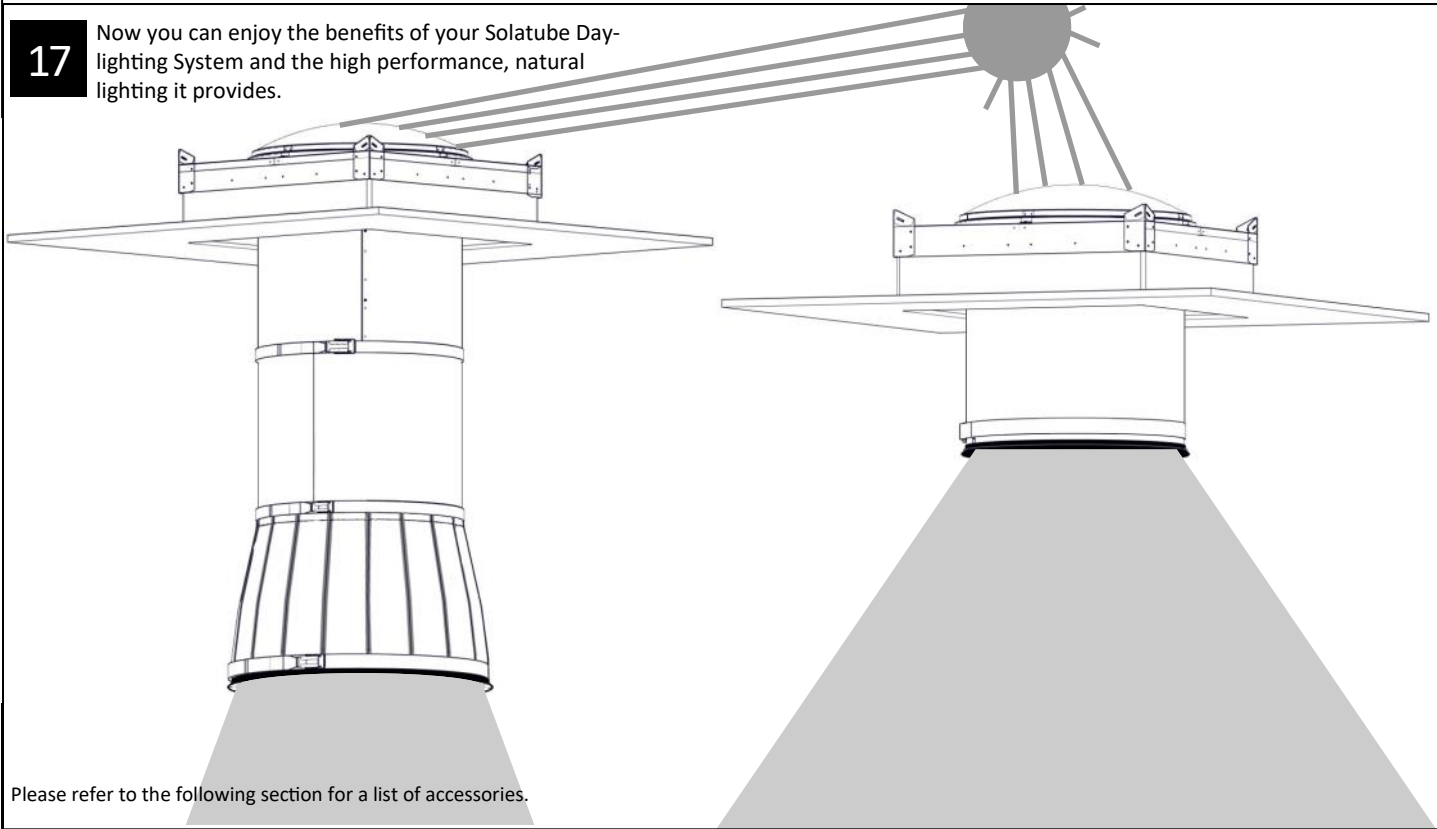
c

Install Amplifier Diffuser. See step 5 for attachment method.

Install Amplifier Belt to rest on edge of diffuser seal.

17

Now you can enjoy the benefits of your Solatube Day-lighting System and the high performance, natural lighting it provides.



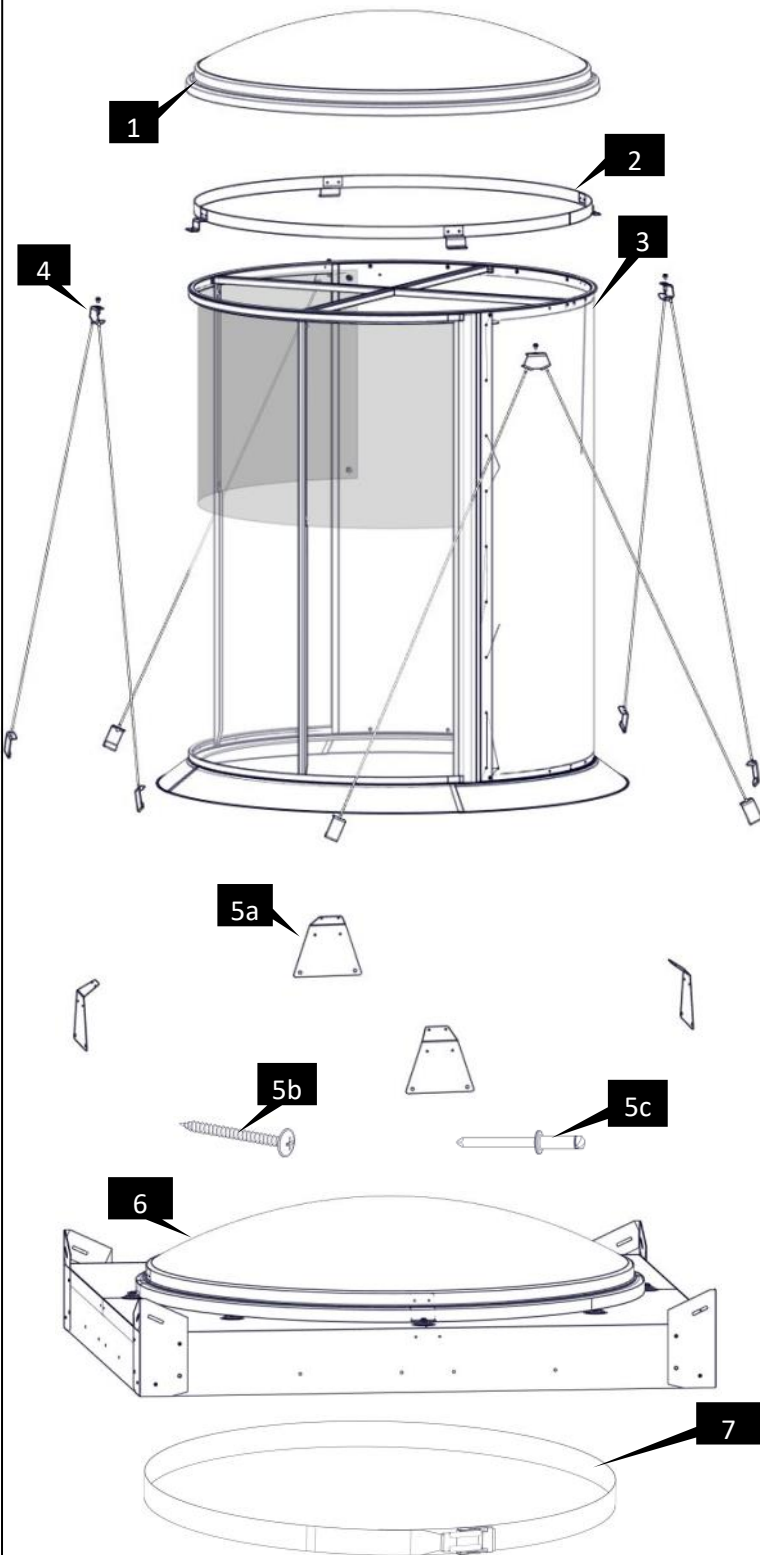
Please refer to the following section for a list of accessories.

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10

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Collector with Raybender HD Installation Instructions Appendix



Parts List		Quantity
1	M74 DS Dome	(1)
2	Dome Retainer Band Assembly	(1)
3	M74 DS Cylinder Assembly with Raybender HD* **†	(1)
4	Wire Rope Bridle Assembly	(4)
5	Cone Fastener Kit	
	a. Cone Clamp	(4)
	b. Flashing Screws - #10 X 2 in (50mm)	(24)
6	c. Cone Clamp Rivet	(17)
	Pre-Assembled Roof Assembly Options **	(1)
	a. M74 DS Single Dome Roof Assembly with Insulated Curb Cap Flashing *†	
	b. M74 DS Dual Dome Roof Assembly with Insulated Curb Cap Flashing *†	
7	c. M74 DS Single Dome Roof Assembly with Insulated Curb Cap Flashing and Security Guard *†	
	d. M74 DS Dual Dome Roof Assembly with Insulated Curb Cap Flashing and Security Guard *†	
7	Tube Belt with Belt Latch	(1)

Required Tools:

Tape Measure	Rivet Gun
Screw Gun with Phillips Head	Required Safety Equipment
Drill Bit #30	Nut Driver 3/8 in (15.875 mm)

* M74 DS Cylinder Assembly Meets High Velocity Hurricane Zone (HVHZ) Requirements.

** All M74 DS Options Meet High Velocity Hurricane Zone (HVHZ) Requirements.

*† Components shown not included in all kits, see label on box.

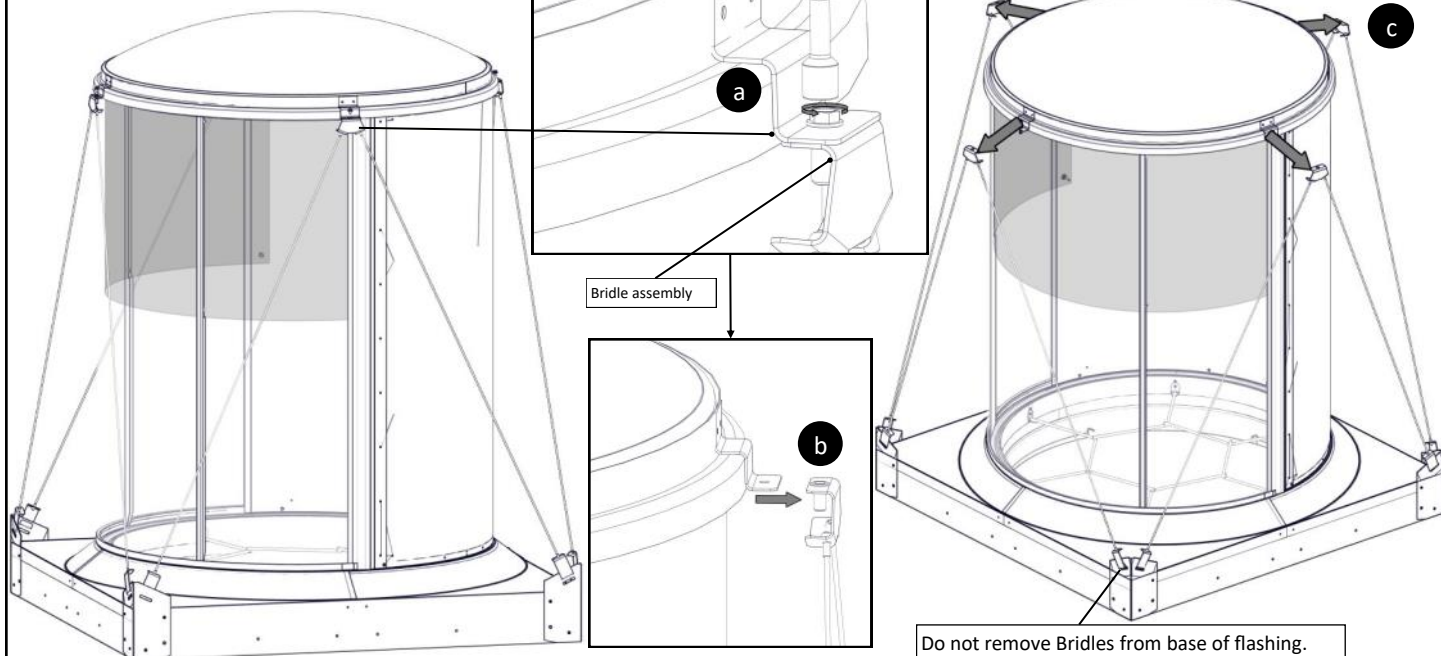
**† M74 DS Collector Cylinder Assembly Does Not meet requirements for FM Approvals or UFC-4-010-01

1

Remove Bridle Assembly

Remove all 4 Bridle Assemblies

Note: To prevent scratches do not remove protective liner from Collector until installation is complete.

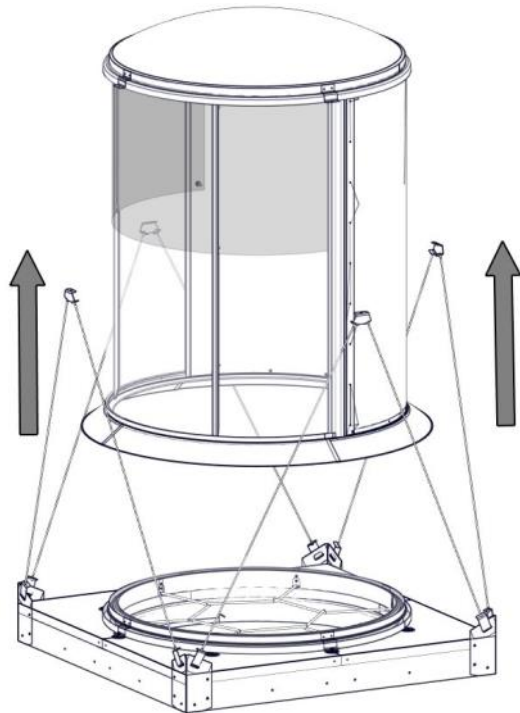


CAUTION: Unassembled Bridle Assemblies are a Trip Hazard. Use Caution During This Step.

2

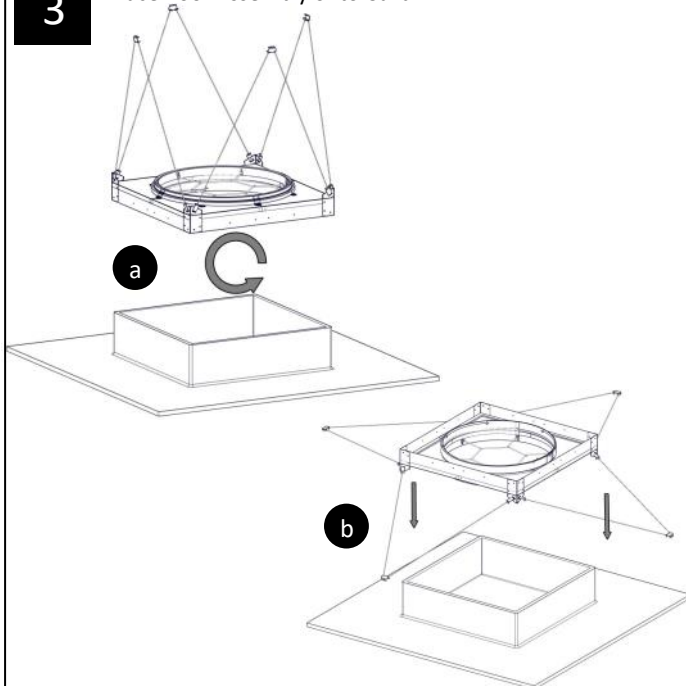
Remove Collector from Flashing

Remove collector and set aside.



3

Place Roof Assembly onto Curb



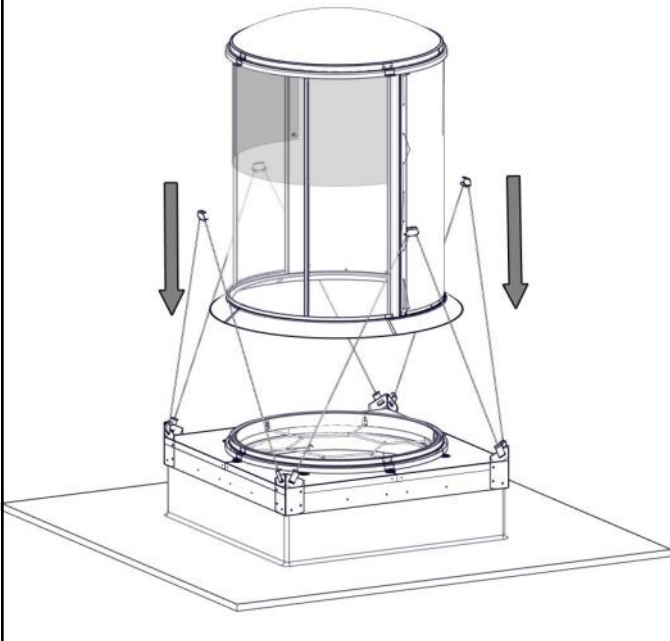
CAUTION: Unassembled Bridle Assemblies are a Trip Hazard. Use Caution During This Step.

Please return to step 2 of the SkyVault Series installation instructions for tubing and diffuser attachment before proceeding to step 4 of these instructions.

4

Re-Install Collector

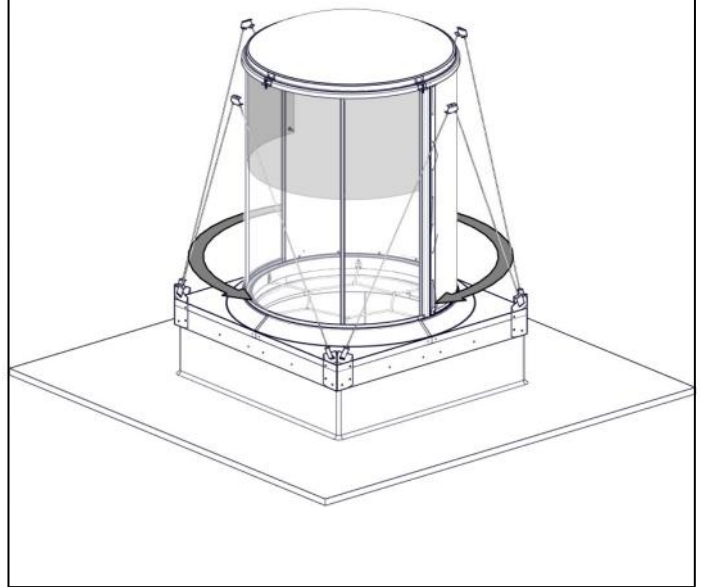
Carefully place and center collector over roof assembly.



5

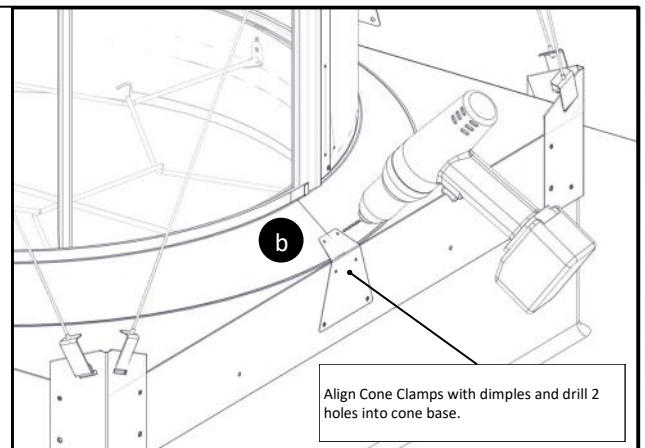
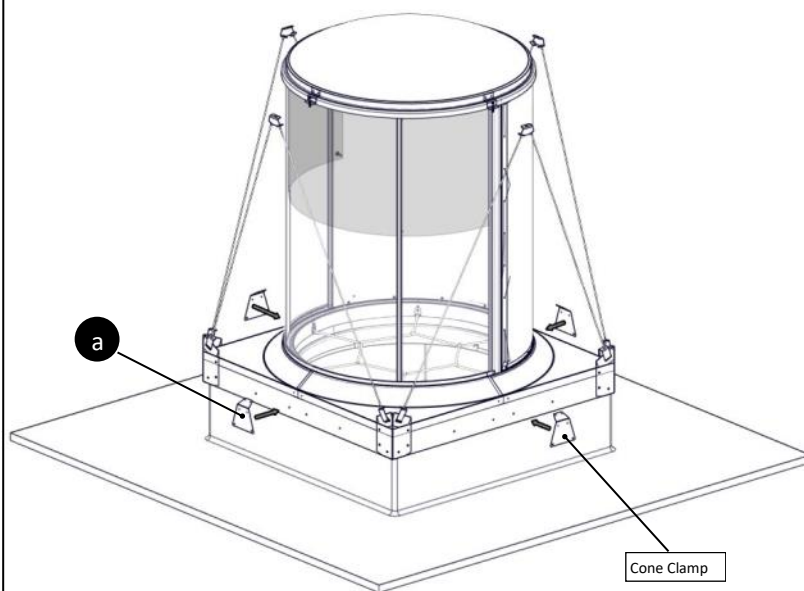
Adjust Collector Position

In the Northern Hemisphere position the Collector so the reflective side of the Light Tracker is facing due South (North in the Southern Hemisphere).

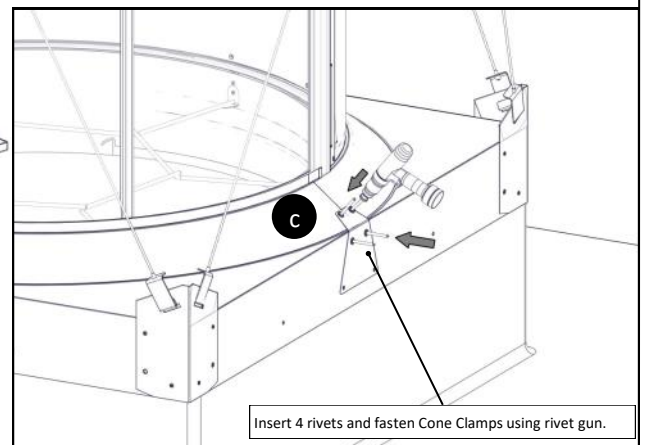


6

Fasten Cone Clamps

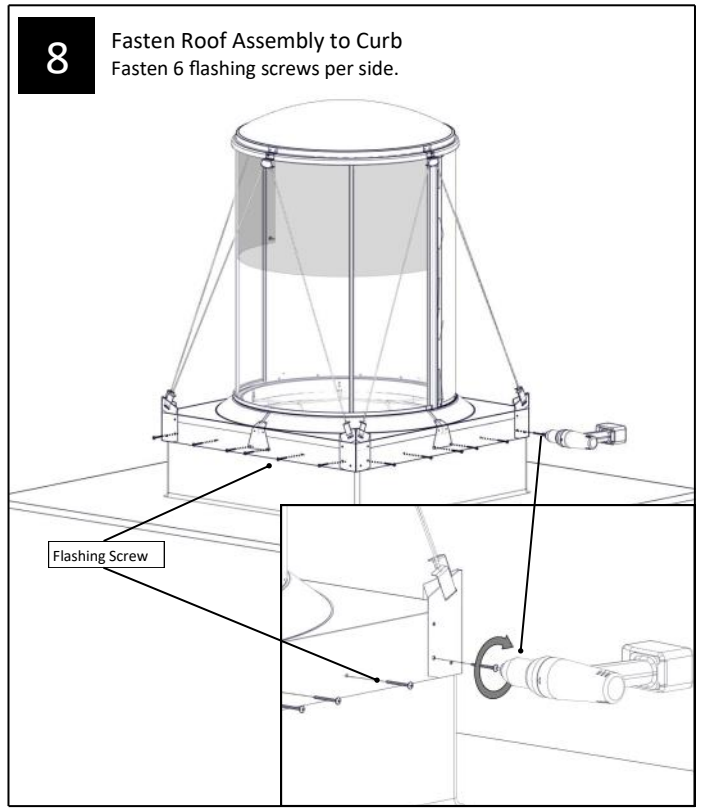
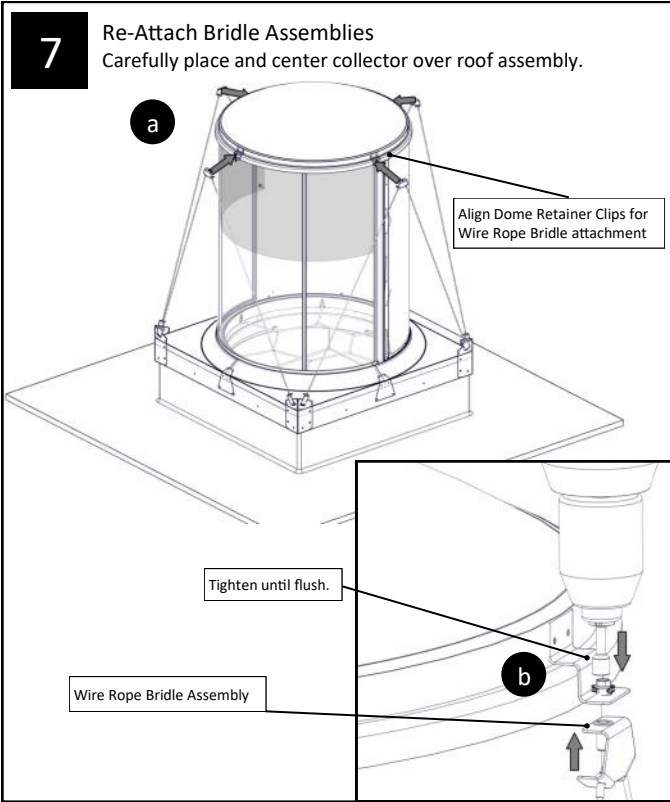


Align Cone Clamps with dimples and drill 2 holes into cone base.

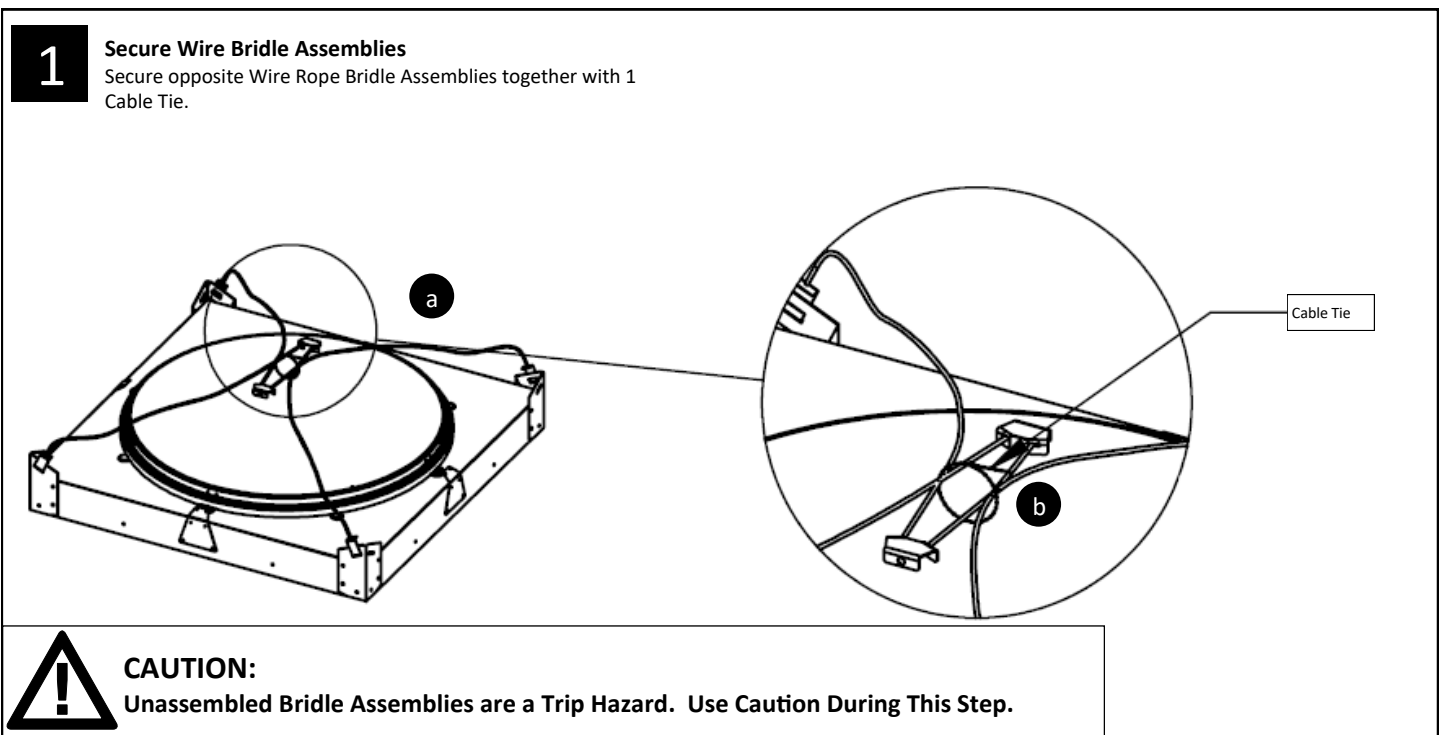


Insert 4 rivets and fasten Cone Clamps using rivet gun.

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Wire Bridle Assembly Installation Instructions Appendix



Thermal Insulation Panel (TIP)

Installation Instructions Appendix

Parts List	Quantity
1 Thermal Insulation Panel (TIP)	(1)
2 12 in (305 mm) Transition Tube	(2)
3 Tube Rivets	(6)
4 Foil Tape 2in (50 mm) 18ft (5.5m)	(1)
5 Tube Screws -#8 X 9/16 in (14mm)	(11)
6 Tube Belt	(1)

Parts List	Quantity
1 Screw Gun with Phillips #2 Screw Drive Bit	
2 Rivet Gun	

Note: For best thermal performance, install the Thermal Insulation Panel within the roofing assembly insulation level.

1 Assemble Transition Tubes
Align pre-punched holes and install rivets.

Remove Protective Liner

2 Install Transition Tube

Refer to step 3 in the main set of M74 DS instructions (949990) for tab lock connection.

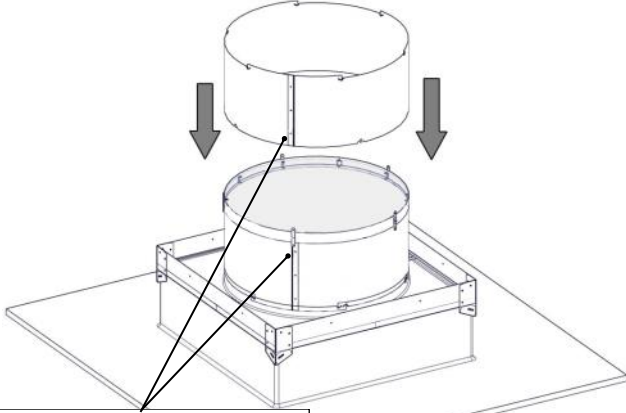
3 Install Thermal Insulation Panel
Place Thermal Insulation Panel on top of Transition Tube. Transition Tube will rest on inside of TIP.

For the most current Installation Instructions, please visit www.solatube.com/instructions
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4

Install Transition Tube

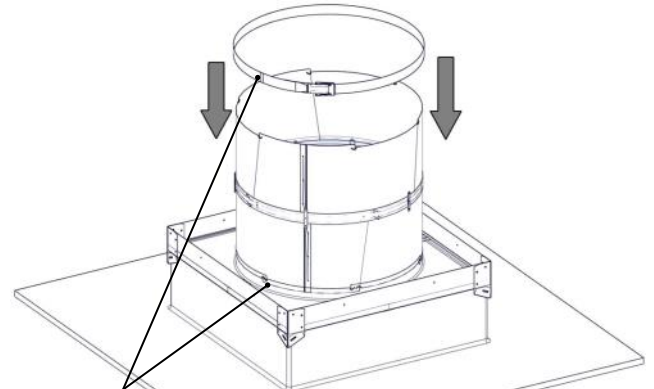
Place Transition Tube on top of Thermal Insulation Panel . Transition Tube will rest on inside of TIP.



Align Transition Tube seams to ensure Tab Locks are properly aligned.

5

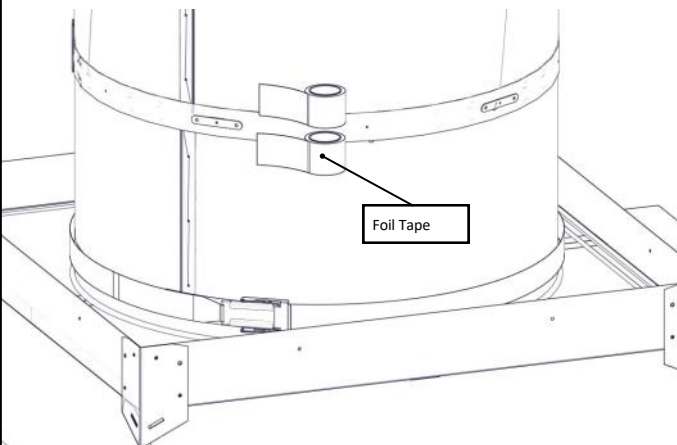
Install Tube Belt



Refer to step 4 in the main set of M74 DS instructions (949990) for Tube Belt connection.

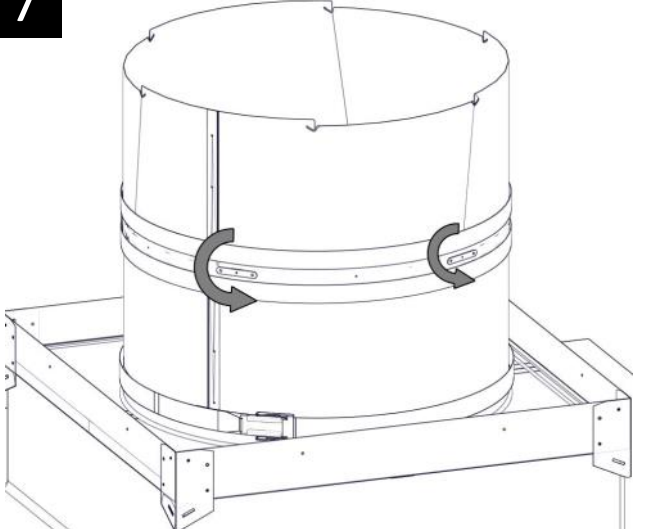
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Apply Foil Tape



7

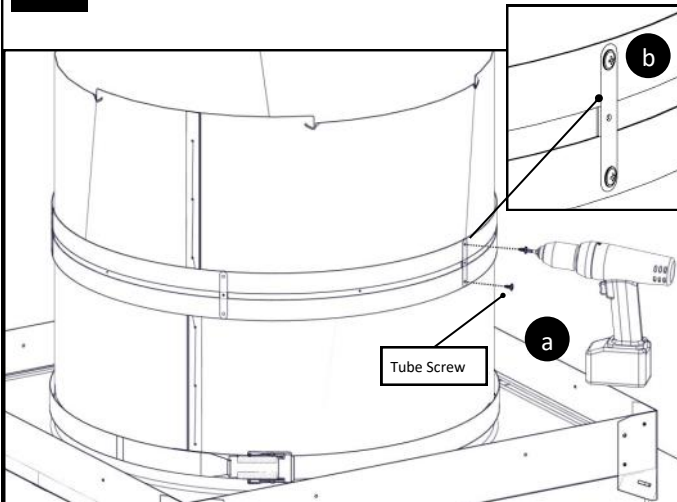
Rotate Fastening Straps



8

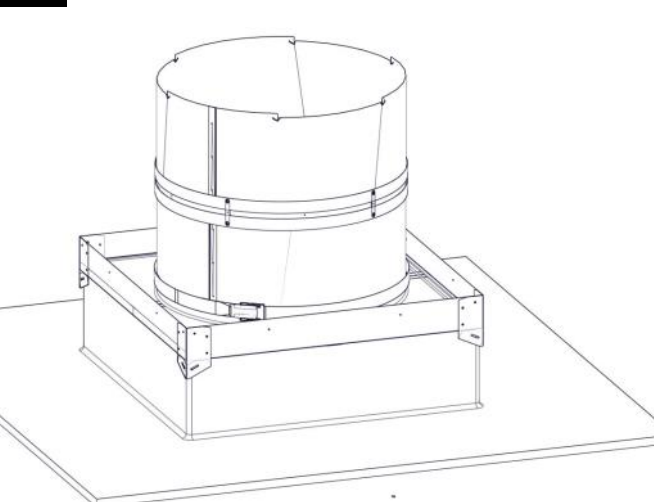
Install Fastening Screws

Secure each Fastening Strap to upper and lower Transition Tubes



9

Return to Main Set of Instructions for Additional Tube Attachment



For the most current Installation Instructions, please visit www.solatube.com/instructions