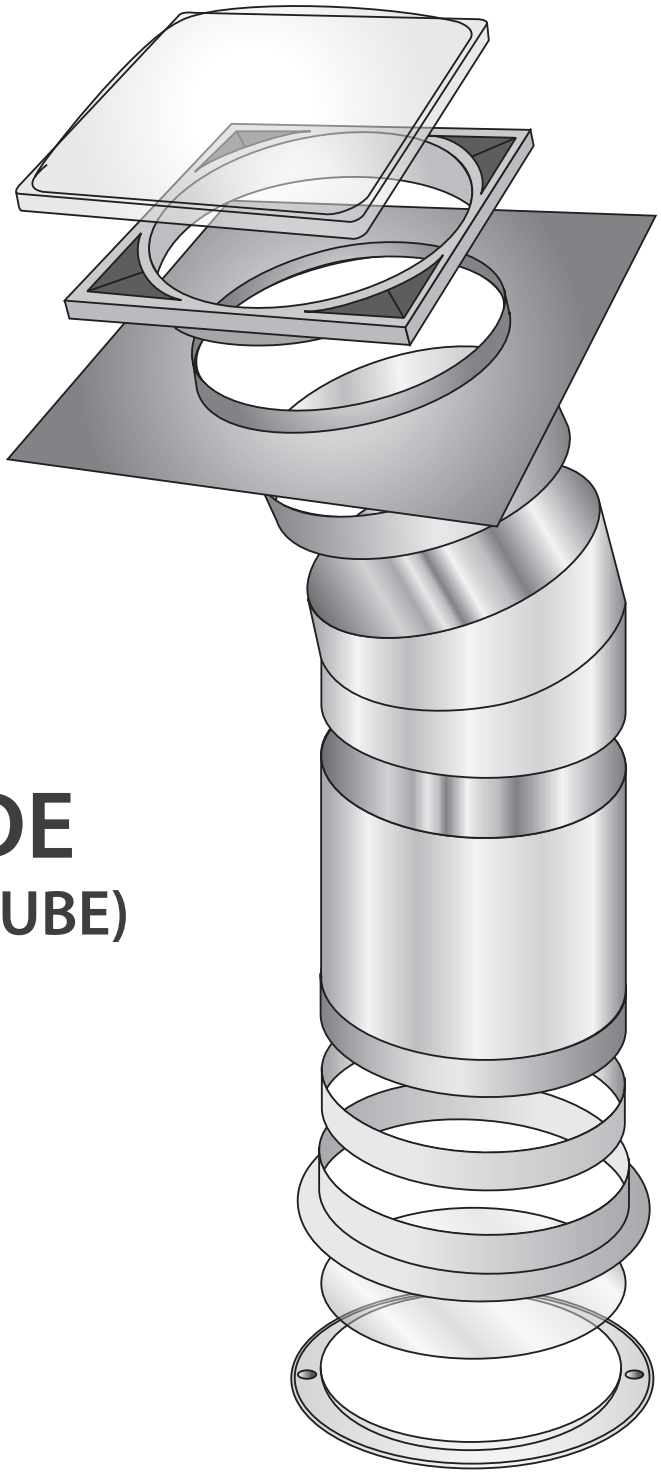
SkyTunnel XL²

TUBULAR SKYLIGHT

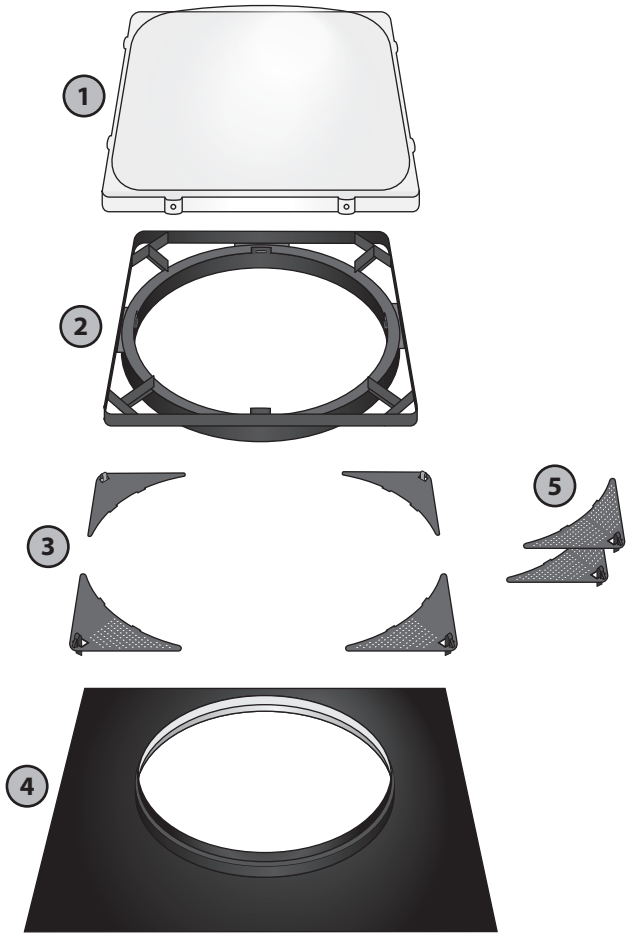


INSTALLATION GUIDE
(WITH CEILING USING RIGID TUBE)

PARTS LIST

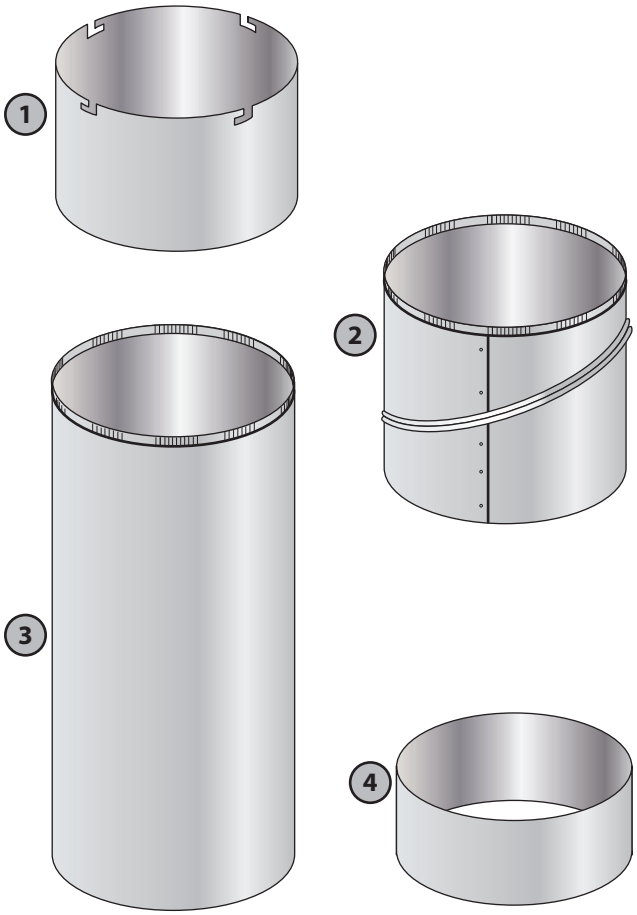
I. ROOF PARTS ASSEMBLY

1. Dome— Clear Acrylic fixed to the breather frame
2. Breather Frame—molded plastic attached to the tray
3. Tabs (Blank/Blank & Blank/Vent)— triangular plastic mould attached to the breather frame
4. Soaker Tray—Black coated metal sheet
5. Vent Tabs (auxiliary)— extra tabs (Vent/Vent) for an option to vented skylight.



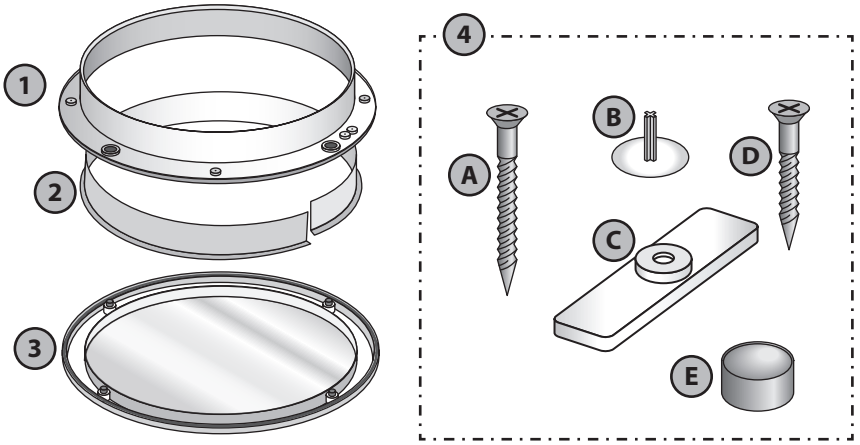
II. RIGID TUBE ATTIC PARTS

1. Rigid98 Upper Ring
2. Rigid98 Angle Adaptor
3. Rigid98 Tube (1250mm or 1000mm or 625mm)
4. Rigid98 Lower Ring



III. CEILING PARTS

1. Ceiling Frame
2. White Plastic Flexi-tube Locking Ring
3. Diffuser/Diffuser Holder
4. Screw Packet— consists of:
   A. Ceiling Frame Screws
   B. Screw Caps
   C. Plastic Lugs
   D. Locking Ring Screw
   E. Diffuser Magnet (auxiliary)



INSTALLATION GUIDE FOR SKY TUNNEL™
(With Ceiling Using Rigid Tube)

⚠ ATTENTION

ALL WORK CARRIED OUT BY THE INSTALLER SHOULD BE IN ACCORDANCE WITH LOCAL LAWS & SAFETY REGULATIONS.

- Care must be taken when handling skylight components.
- Protect yourself from the ends and edges of materials since they are sharp.
- When working on the roof, ensure that the weather is dry and calm, and use appropriate safety harness.
- Prepare the tools and materials needed (see parts list and checklist on the APPENDIX) before going on to the Roof and remember to return tools/materials used on the roof afterwards.
- **Read Installation Guide carefully prior to execution of work.**

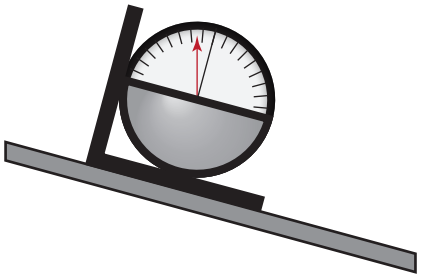
I. PREPARING THE ANGLE ADAPTOR

1. First decide approximately where you would like your Sky Tunnel located in the building. You may wish to check the floor plan of the building to be able to have a clearer view on where the exact location would be.

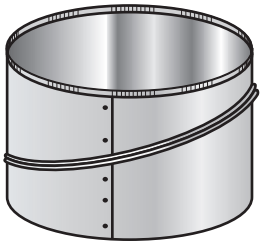
   Now, do the survey on the roof and check if there are any obstructions that may interfere with the installation such as ventilators, air conditioners, etc.

   If back flashing is to be used, work out what is required before cutting any holes in the roof.

2. Using a protractor or any similar device, measure the angle of inclination of the roof. This will dictate the angle of your Rigid Tube Adaptor.

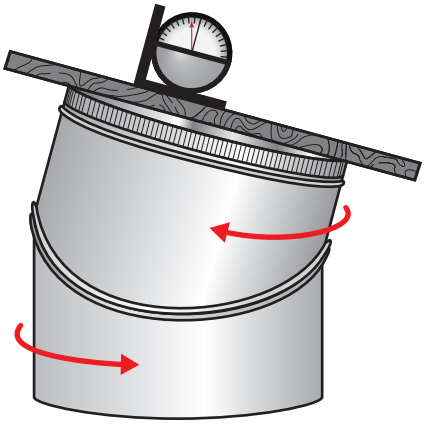


3. Knowing the angle of the roof, you may now set the angle of your Rigid Tube Adaptor. You need a protractor, level bar, and duct tape to perform this task.



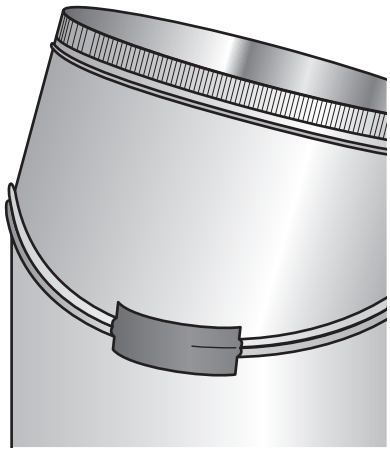
Rigid Tube Adaptor set at 0 degree (the riveted joints of upper and lower parts are aligned).

4. Put the Adaptor on top of a flat level surface. Put a level bar and protractor on top of the Adaptor (swaged part) as shown in the picture.



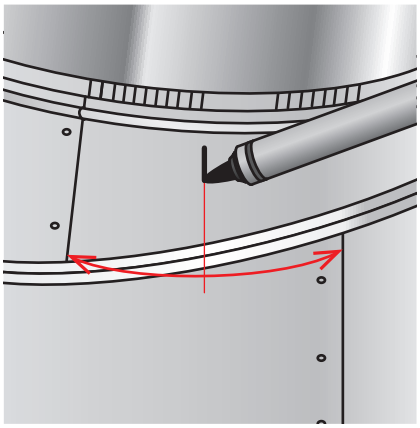
Twist upper part (with swaged) against the lower part of the Rigid Tube Adaptor until the pre-measured angle of the roof has been reached.

5. After setting the angle, put a piece of duct tape on the joints of the two parts to hold the two temporarily.



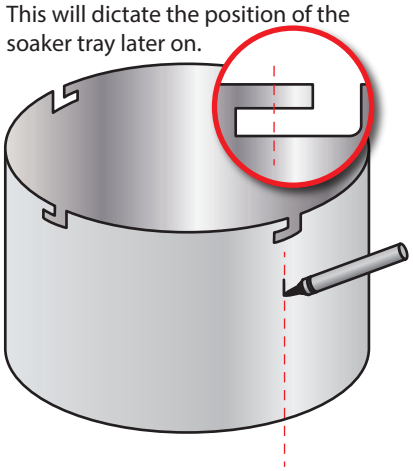
6. Mark the middle of the two riveted joints and take note of the distance of the two joints if you are installing more than one SkyTunnel.

   The middle mark will be the lowest point of the Adaptor in the installed position while the exact opposite (12 o'clock from the mark) of it is the highest point.

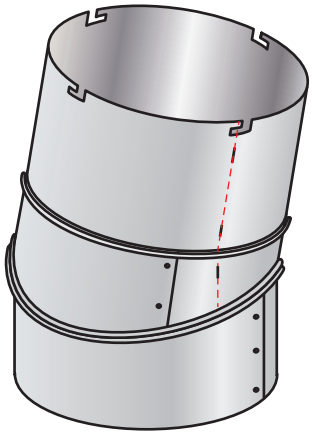


7 Now, get the Rigid Tube Upper Ring and mark the centre on one of the notches all the way down. Mark also the exact opposite notch.

This will dictate the position of the soaker tray later on.

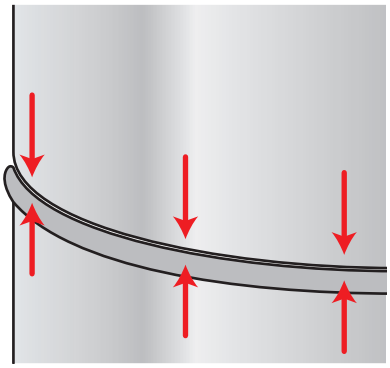


8 Put the Rigid Tube Upper Ring on top of the Rigid Tube Adaptor. Align the marking of the ring to the marking of the adaptor as shown on the picture.

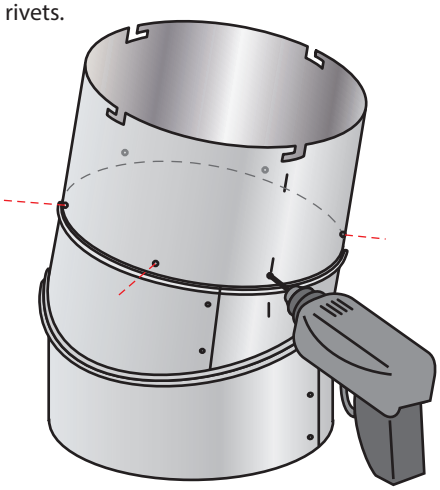


IMPORTANT

Make sure that the Upper Ring is installed evenly and that the edge of it is just leaning on the stopper of the Rigid Tube Adaptor prior to popping the rivet.

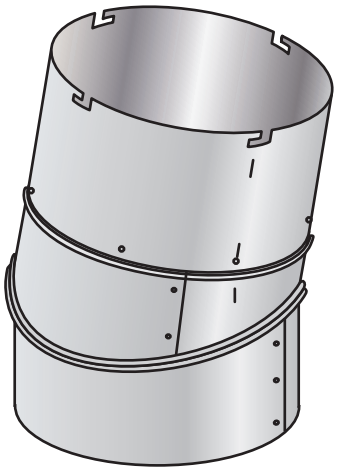


9 When you are assured that those marks were properly aligned, drill 6 holes for rivets.



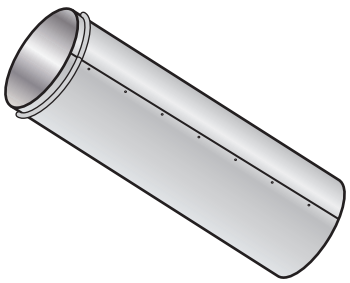
Mark 6 equal locations of the hole around the perimeter of the bottom of the Upper Ring starting at the centre mark.

10 Install the 6 rivets as required. End result should look like in the picture below.

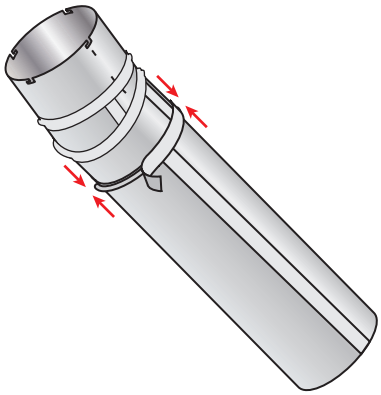


INSTALLATION TIP

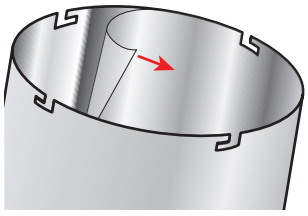
For rigid tube lengths longer than 1.2m, it is advisable to attach the rigid tube with the roof parts to eliminate using small ladders or stands in the attic while assembling or riveting. Get the rigid tube and rivet the whole length.

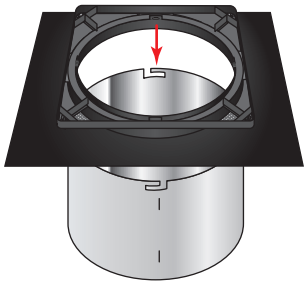


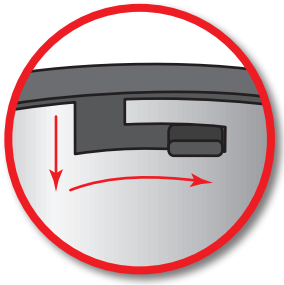
11 Attach the rigid tube to the angle adaptor. Rivet both pieces. Then place foil tape on the joints including the riveted lengths.



12 Remove protective sheet of the Rigid Tube Assembly then install the Soaker Tray Assembly into it. Ensure that the Sky Tunnel logo is along the low side.



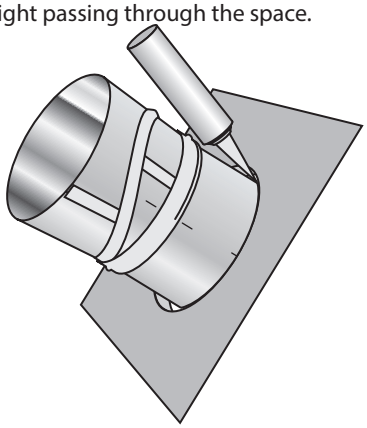




Twist the Tray in such way that it will fit the locking pin into the notch of the upper ring and lock it into position.

13 Seal around the space between the tray and the Rigid Tube Upper Ring with any sealant then smooth it with your finger (using finger protection such as a latex glove).

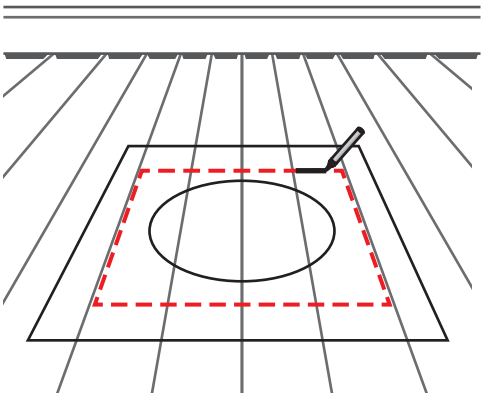
Sealing it will prevent insects entering the Sky Tunnel and block light passing through the space.



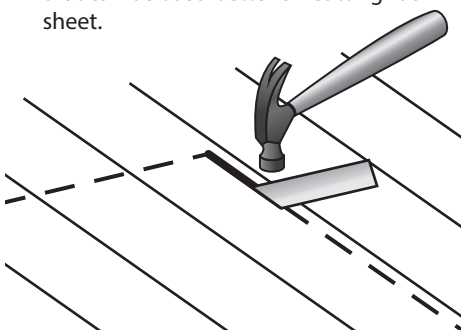
II. ROOF INSTALLATION

1. On the roof, mark the hole where Sky Tunnel is to be installed. Hole should be at least the following size:

343mm$^{\Theta}$ Sky Tunnel	500mm X 500mm
457mm$^{\Theta}$ Sky Tunnel	550mm X 550mm
535mm$^{\Theta}$ Sky Tunnel	650mm X 650mm

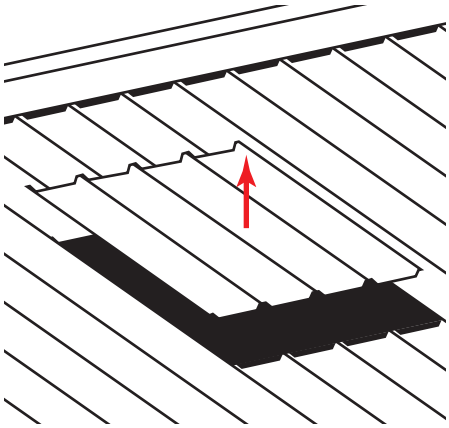


2. Cut the Roof Sheet by following the mark/line through the use of sharpened steel and hammer or any similar device that can be used better on cutting roof sheet.

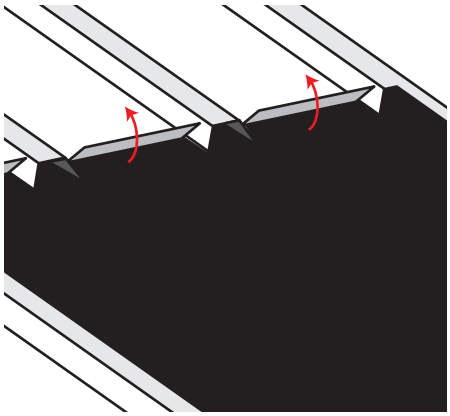


⚠ Do not use an angle grinder as this leaves swarf (filing) that will cause the roof to rust.

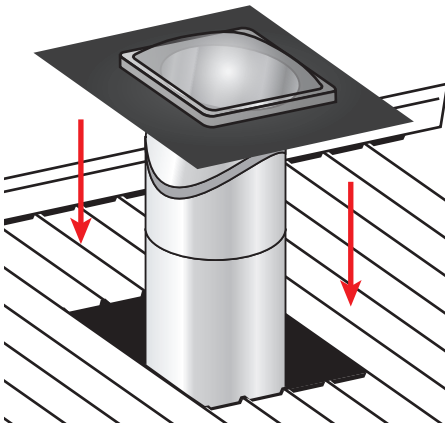
3. Remove the cut roof and any insulation. Take extra precautions handling the sheet as the edge of it is sharp.



4. Using wide-mouth vise grips or pliers, bend up all of the lowest point on the corrugations of the roof (on top and bottom of the hole). This helps improve waterproofing.

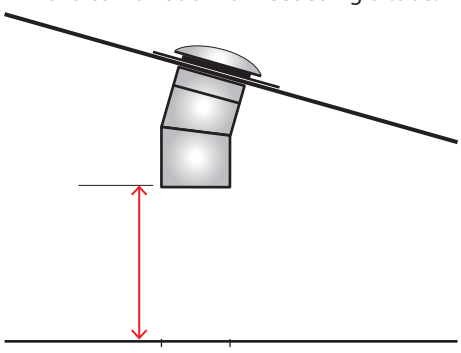


5. Insert and fit the soaker tray on the roof together with the upper ring and angle adaptor. For tube lengths longer than 1.2m, rigid tube is already attached.

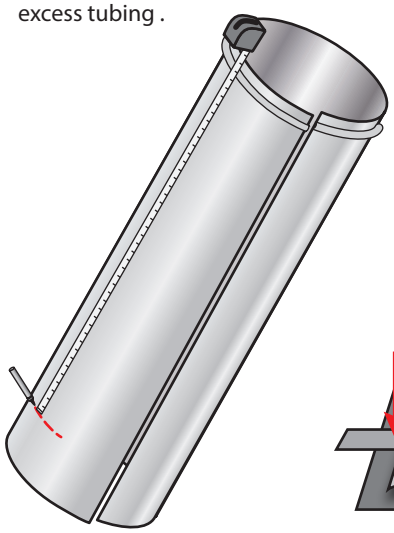


III. RIGID TUBE LENGTH MEASUREMENT AND CUTTING

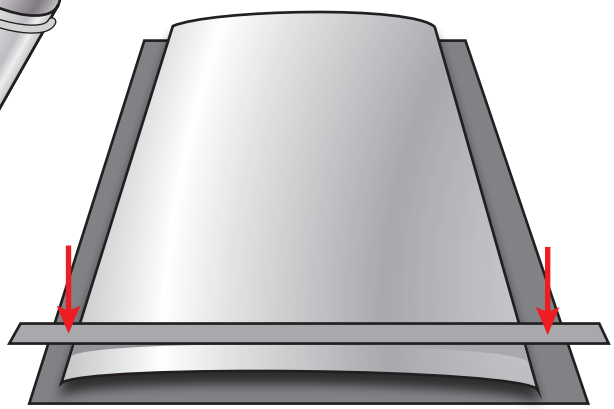
1. After the roof parts, ceiling parts and attached rigid tube are in place, measure the length of rigid tube needed from the edge of the angle adaptor or rigid tube to the ceiling. After length is determined, choose from the available tube lengths or a combination for needed rigid tube.



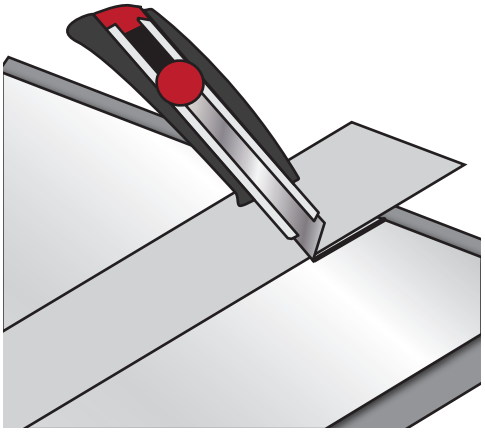
2. If measured length is shorter than the available tube lengths, then cutting is required. To cut, measure and mark the excess tubing .



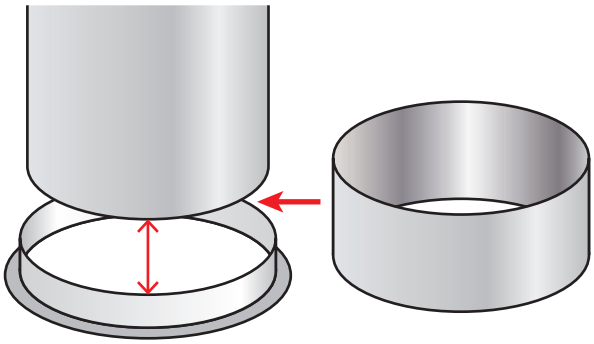
3. Then lay the rigid tube as shown. Be careful not to scratch the inner portion of the rigid tube. Place soft material such as carton for precaution.



4 Use a straight edge as a guide and align it to the previously marked portion. By using a cutter-blade, cut and remove the excess portion.



5 However, if the available rigid tube falls short of less than 100mm, then use the lower ring to fill the gap.

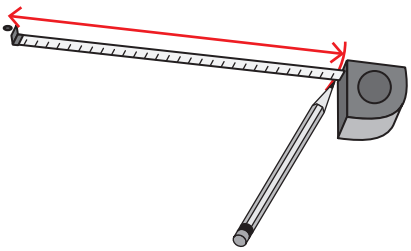


CEILING INSTALLATION

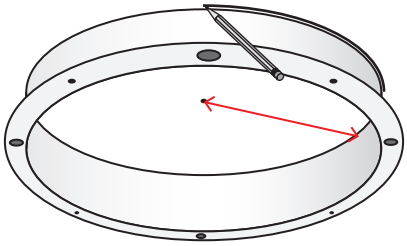
1 Locate the hole guide on the ceiling and measure the appropriate cut hole radius (from guide hole to the edge of the cut hole):

343mm dia - 178mm
457mm dia - 235mm
535mm dia - 274mm

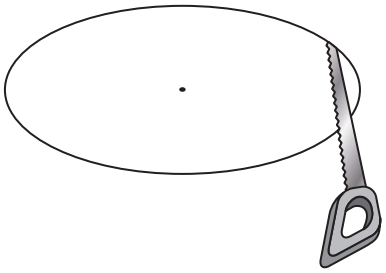
This is to have a mark on the boundary of the Ceiling Frame.



2 Using the up-stand of the Ceiling Frame as a template, or using the template in your Ceiling Parts Box, mark the hole size on the ceiling with a pencil, ensuring the marked boundary is on the edge of the up-stand (outer) and the hole guide is at centre.



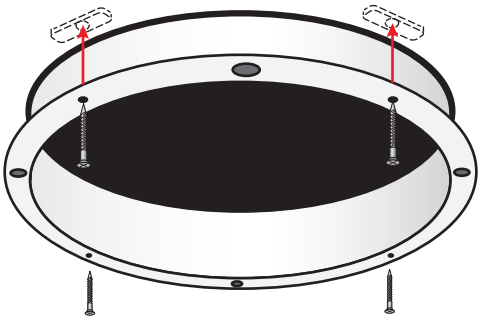
3 Cut neatly along the pencil line on the ceiling with a keyhole or saber saw.



IMPORTANT

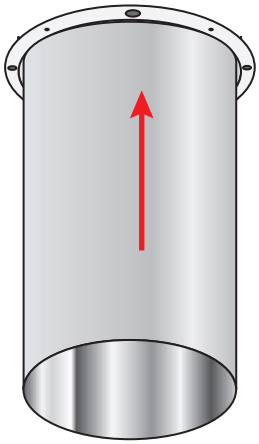
You should wear protective equipment such as Safety Glasses and mask where possible, as dust and debris may fall whilst cutting. Hold the middle of the circle you are cutting when nearing the end to stop the panel falling out.

4 Insert the Ceiling Frame and attach with the Ceiling Frame Screw and plastic lugs provided. The plastic lugs are placed on the top side of the ceiling (inside the cut hole). Fasten the screws through the holes in the ceiling frame, the ceiling and into the white plastic lugs tighten.

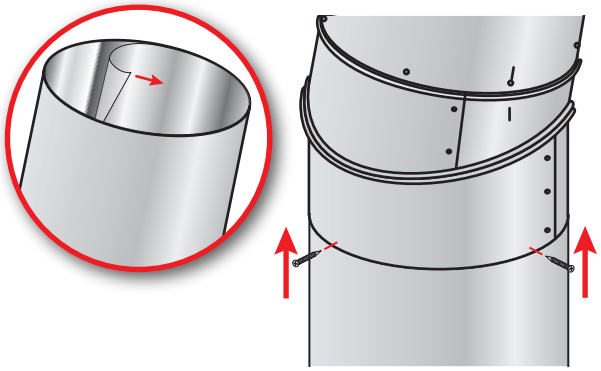


ASSISTANCE IS ADVISED FOR THE FOLLOWING PROCEDURES

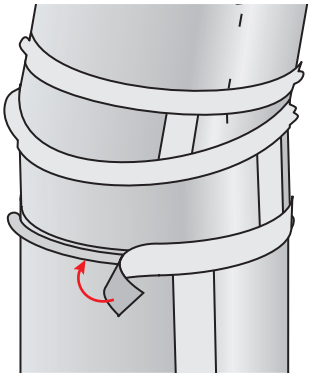
5 Get the rigid tube and pass it through the ceiling frame previously installed or to an access if possible.



6 Remove the protective film of the rigid tube. Fit the rigid tube to the angle adaptor or other rigid tube of the soaker tray and let someone hold it steady while drilling the screws. Same with lower ring to rigid tube if used.

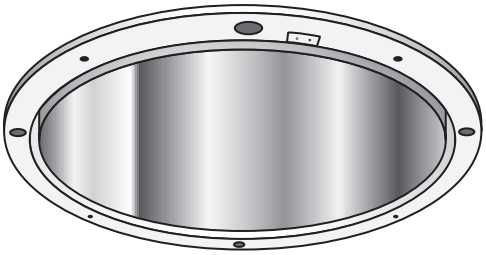


7 Then wrap around with foil tape covering the screws and the joint of the rigid tube and angle adaptor. Include the lower ring joint if used as well.

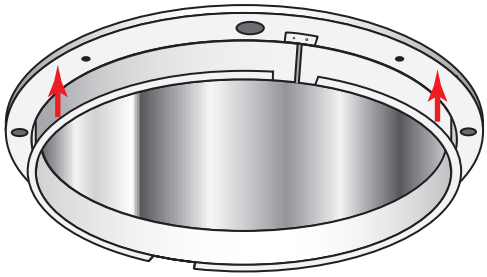


FINISHING

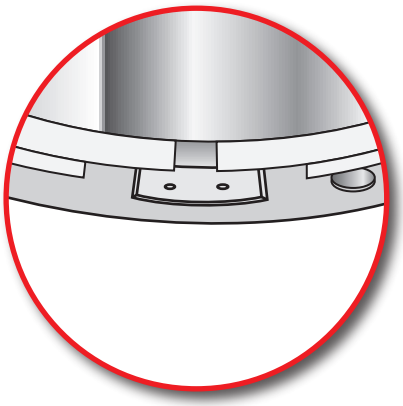
1 After installing the rigid tube with or without lower ring, you should be able to reach a condition like so.



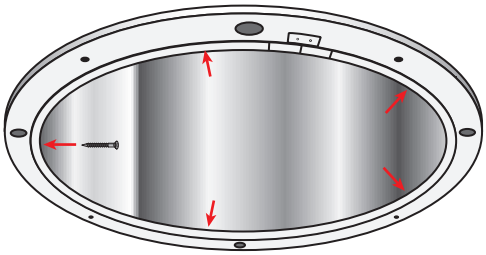
2 Insert the locking ring in between the ceiling frame and the rigid tube.



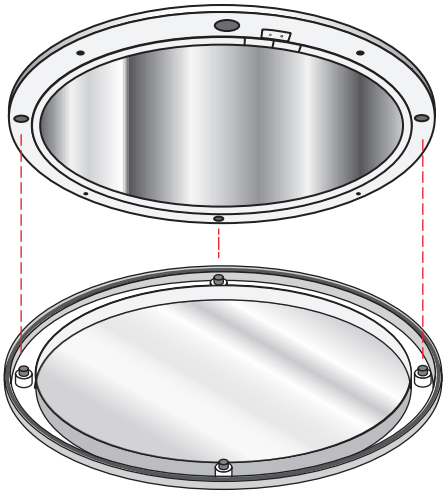
3 Take note that the notches of the locking ring line up with the notches of the ceiling frame.



4 Screw the rigid tube/lower ring and locking ring to the ceiling frame like so using 5 screws. Then remove all remaining protective film.

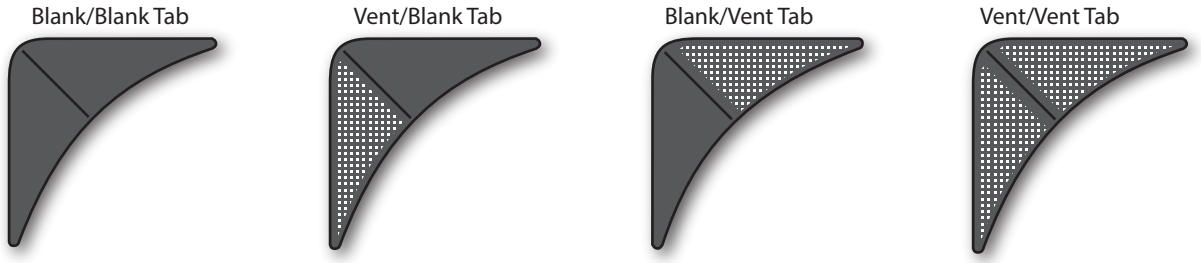


5 Fit the Diffuser into position. Ensure you line up the Magnets in the Diffuser Holder with the Magnets on the face of the Ceiling Frame.



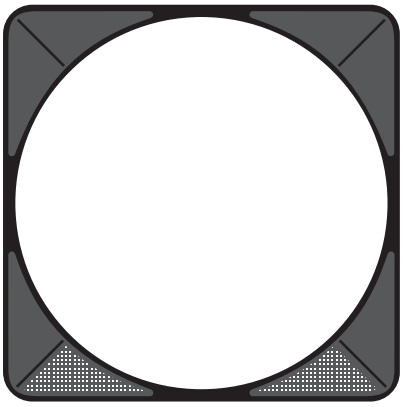
OPTION FOR VENTED SKYLIGHT

KINDS OF TABS

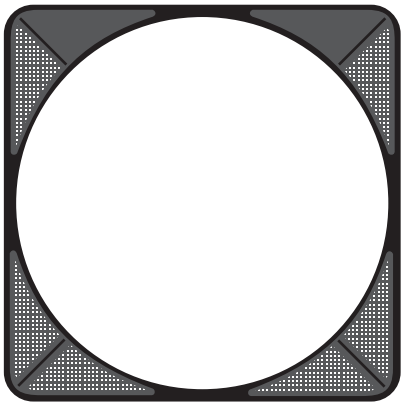


Replace the two "Blank/Blank Tabs" installed in the Breather Frame of the Roof Parts into "Vent/Vent Tabs" provided in the kit. They are to be placed as per the following diagrams.

NON-VENTED SKYLIGHT
- Blank/Blank Tabs both used at the top
- Vent/Blank and Blank/Vent Tabs used at the bottom
- Vent/Vent Tabs not used

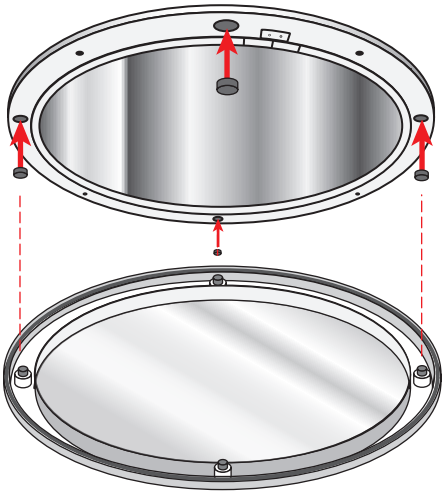


VENTED SKYLIGHT
- Vent/Blank and Blank/Vent Tabs used at the top
- Vent/Vent Tabs both used at the bottom
- Blank/Blank Tabs not used



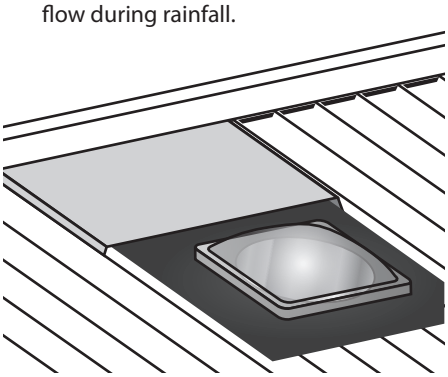
INSTALLATION TIP

If the Sky Tunnel is vented, place the extra magnets provided as a spacer between the Diffuser Holder Magnets and Ceiling Frame Magnets.

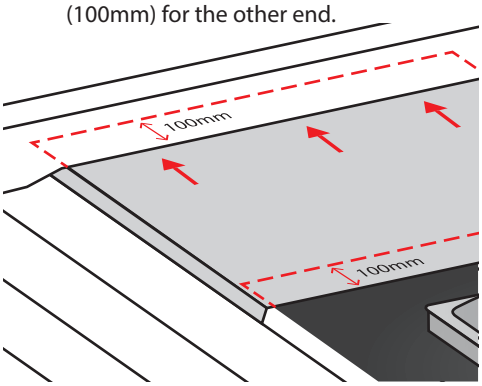


RECOMMENDED BACKFLASHING FOR METAL DECK ROOF'S

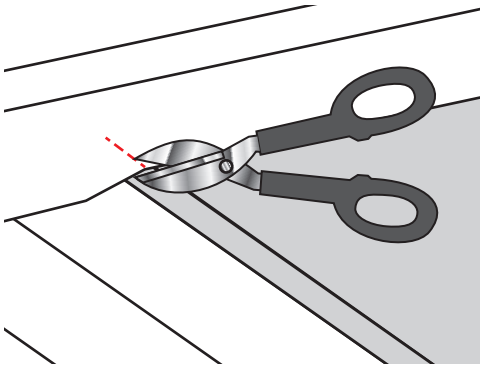
1. You may use a back flashing (a flat roof sheet folded on both sides with the same height as the Soaker Tray) to seal in the Roof Parts Assembly out of the water flow during rainfall.



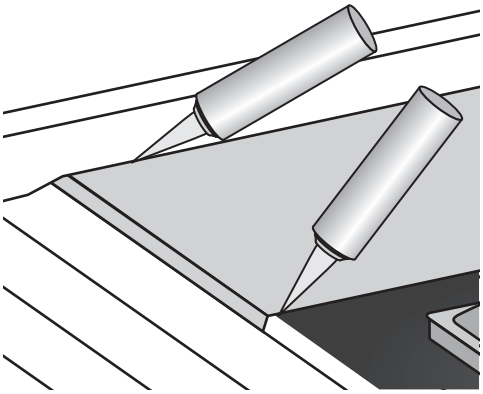
2. Insert the flashing end for about 100mm underneath the Ridge Capping (peak of the roof) and on top of the Soaker Tray (100mm) for the other end.



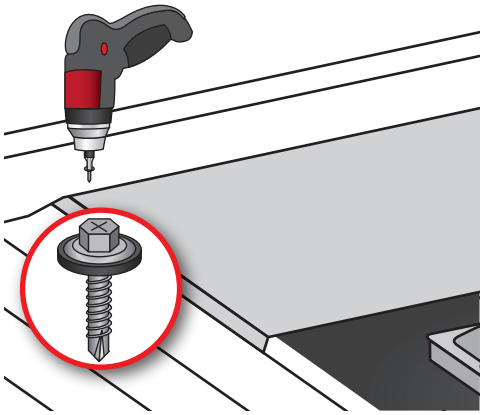
3. Cut ridge capping with tin snips for bending.



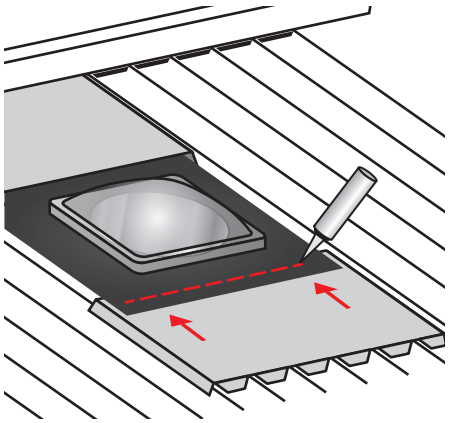
4. Apply a bead of Roofing Sealant underneath the Ridge Capping then on its cut corners. Apply Roofing Sealant as well on every overlap of the back flashing to the Soaker Tray in between.



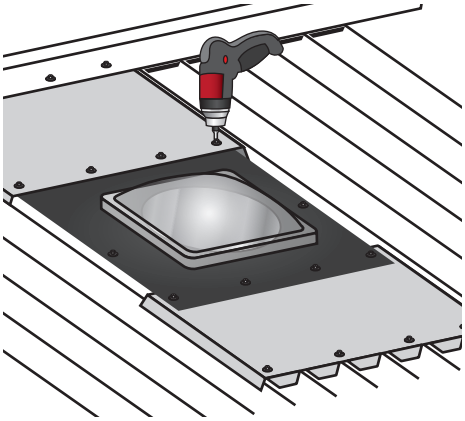
5. Bolt the back flashing and the Ridge Capping together using Hex screw. It is recommended to use Self Drill Hex Metal Screw with Seal (14x20).



6. Put another back flashing (close on one end) underneath the low end of the Soaker Tray. On the close end of the flashing, cut it on according to the corrugation of the roof to make it fit.

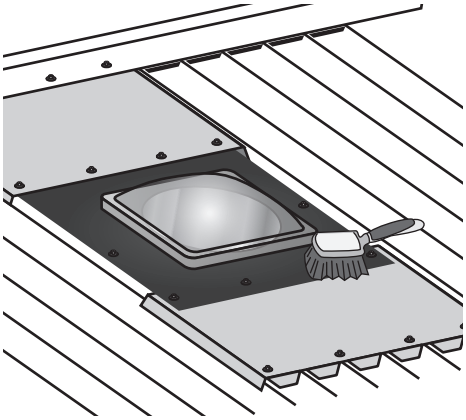


7. Bolt the Soaker Tray to the roof with Hex screw (used in step 5) on every highest point of the roof sheet. Put an extra screw also at the both middle edge of the tray. Do the same thing on the back flashing.



INSTALLATION TIP

Clean any filings created by drilling holes on the roof sheets. This will tend to corrode the roof in time.



8. Remove the protective film after all activities have been carried out.