



## Retrofitting Insulation (Roof and Walls)

1. In order to add insulation to a yurt that has already been installed you will need to first disconnect the side cover and remove the dome and top cover. The first step in doing this is to remove the screws at the bottom of the side cover that secure it to the platform. Then the wing nuts on the inside of the door frame should be loosened as much as possible without removing them so the side cover can be pulled out of the door frame. Remove the lacing cord running horizontally through the valance (lowest portion of the top cover that overhangs the side cover). With the valance cord removed, the valance can be folded up to gain access to the roof-to-wall connection that is under it. **Note:** If the side cover was made *after July of 2001* and has our current roof-to-wall connection and you should simply unclip the side cover from the 3/16" cord it is attached onto. If your side cover was made *prior to July of 2001* it will be fastened to your top cover with some nylon cord zigzagging between grommets on the side cover and grommets on the top cover.
2. Using the 'S' hooks provided, **temporarily** hang the side cover from the steel tension cable. Once this is done, the zigzag lacing cord that attaches the side cover to the top cover can be cut and removed (only if you have the old roof-to-wall connection). New cord has been provided to replace it when reattaching the side cover to the top cover. Do not cut the cord if your side cover has the clip-on system.
3. Using a step ladder or scaffolding in the center of the yurt, disconnect the dome skylight from the center ring. Attach a strong cord through two of the eye bolts on the inside of the dome and carefully slide it down the roof to a helper down at the perimeter of the yurt. Be sure to place a blanket or cardboard under the dome when sliding it down so as not to damage the top cover.
4. Now your helper can disconnect the twist locks (metal fasteners that connect the top cover to the door frame). While standing on the ladder or scaffolding in the center of the yurt, face away from the main door and pull the top cover up toward the center ring. Once the valance is up to you, pull it over your head and push it down toward your main door. What you are doing is folding the entire top cover in half. Your helper can work from below at the perimeter to pull the portion of the top cover you just pulled over your head down until you have the top cover neatly folded in half with the center at the main door. Next, you will start at the ends of the folded top cover and fold it in towards the door, where it will be slid down off the rafters. Have your helper make folds that are approximately one foot wide, while up at the center ring your folds will start at only 1"-2" wide. Fold until you reach the center of the door, then start from the other end and work back to the center of the door again. At this point the top cover should be folded into a long, thin triangle that can easily be slid off the rafters.

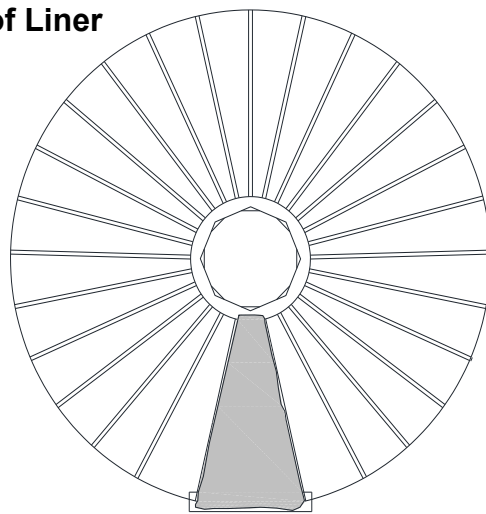
### Roof Insulation and Liner Facing

**Note:** If you purchased the 2/3, 1/3 roof insulation (which is typically used with a Solar Skylight Arc) please refer to the instructions under "Custom 2/3, 1/3 roof Insulation".

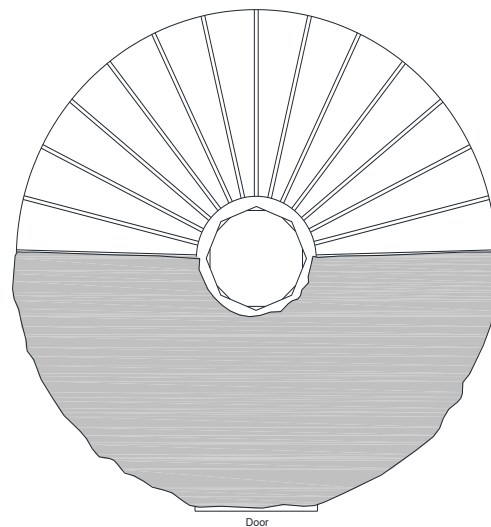
1. Choose a day for installation that is not too windy as this may cause the liner to blow away before it is properly secured. Locate the fabric liner facing. It is a small bundle of ivory colored fabric in clear packaging. Note that the fabric liner facing is not sewn onto the insulation as with the wall insulation. Working from the ladder (or scaffolding) in the center of the yurt, unfold the liner facing with the seamed edges facing up and the finished edge facing down, and then pull the hemmed edge down over the rafter ends (see illustration on next page) Be sure the liner is installed evenly and overlaps the rafter ends equally around the yurt perimeter. In windy conditions the liner can be secured by using a staple gun and 5/16" staples to staple through the liner into a few evenly spaced rafter ends. This should hold the liner down tight.

2. Push the reflective insulation up onto the roof from below, placing it on top of the liner. Another person should handle the upper end at the center ring. Carefully unfold the insulation and bring both ends around to the other side. Check the insulation for fit. **Do not** trim the insulation that overlaps the side wall. It will overlap the side insulation for a draft free seal.
3. When the insulation seam is properly aligned use the foil tape provided to secure the open seam. Tape the top half from the ladder at the center ring and tape the bottom half from a ladder down below. **Helpful Hint:** On large yurts you can reach the middle of the roof to seal the foil tape by using a stick or broom handle.
4. Trim excess insulation at center ring so it does not show from below. It can be easily trimmed using sharp scissors. Go to “Installing Top Cover” for instructions on putting the top cover back on.

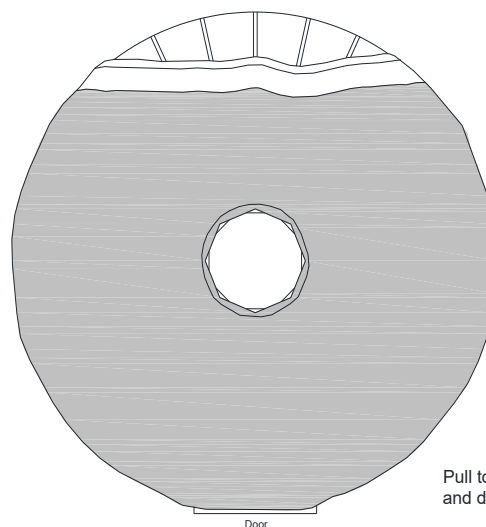
## Unfolding Roof Liner



Slide liner down rafters



Unfold liner



Pull top layer over center ring and down to perimeter

### Custom 2/3, 1/3 Roof Insulation (Optional):

This option is typically used when your top cover includes a Solar Arc. If you did not purchase this option skip to Installing Top Cover (below).

1. Choose a day for installation that is not too windy as this may cause the liner facing to blow away before it is properly secured.
2. Locate the fabric liner facing. It is a small bundle of ivory colored fabric in clear packaging. Note that the fabric liner facing is not sewn onto the insulation as with the wall insulation. Using a ladder under the center ring, or scaffolding, unfold the 2/3 liner with the seamed edges facing upward. Position the center of the liner opposite the center of the Solar Arc position. Starting in the middle and working out to the sides, fasten the liner facing with staples at the ring and ends of rafters. It is not necessary to use a lot of staples. Liner facing should overlap the outside edge of center ring by no more than 2". Leave the ends of the liner loose. There will be a few inches excess which will be folded back over the insulation and stapled to the top of the nearest rafter.
3. Push the reflective insulation up onto the roof from below, placing it on top of the liner. Another person should handle the upper end at the center ring. Unfold the insulation over the liner and secure it with staples at the ring and rafter ends, as you did with the liner. Insulation should overlap the outside edge of the center ring no more than 2".
4. Install the top cover carefully so that the insulation and liner facing will not be moved out of position during the installation (see "Installing Top Cover" at bottom of page).
5. After the top cover is in position, determine a satisfactory ending point for the insulation over the nearest rafter on either end of the Solar Arc. If necessary, carefully trim the insulation (**not the liner**) with scissors along the edge of the rafter being **very** careful not to damage the top cover. To protect the top cover from being accidentally cut during this process put heavy cardboard between the top cover and the insulation being cut.
6. Fold the excess fabric liner neatly back over the insulation and use thumb tacks every few feet along the top of the rafter for a neat finished appearance.

**Note:** When you are ready to install the 1/3 insulation section in the Solar Arc area, two people (one on a stepladder, one working by the lattice wall) will need to carefully pull the insulation between the rafters and the top cover and tuck it above the previously installed insulation. You may need to loosen the side cover to allow more room for the insulation to slide between the rafter and top cover. The 1/3 liner is installed in the same way to cover the insulation. On the larger models this process is awkward and it will be necessary to unlace this side of the top cover and pull it up for better access.

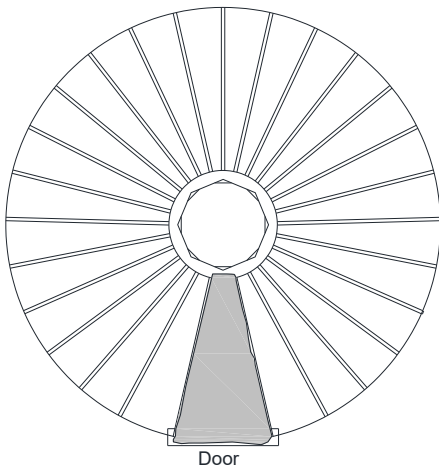
### Installing Top Cover

You will be installing the top cover in the same manner it was removed, but in the opposite order.

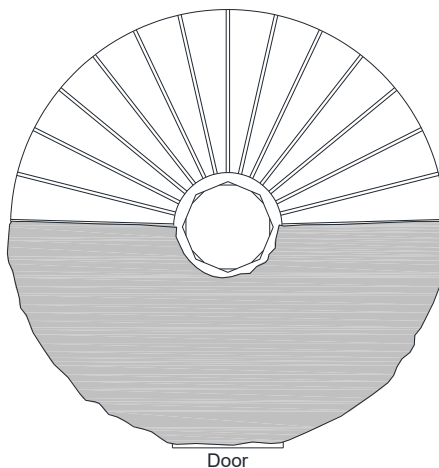
1. Using a step ladder set up under the center ring, carry the top cover up through the center ring opening and slide the wider end of the long triangle shape down towards the main door. On the 30' model it is strongly recommended to use 10' scaffolding for this process because of the extra weight of the top cover. **Caution:** The Premium top covers are especially heavy and require 3 people to lift the cover to the scaffolding platform. Two people on the scaffolding to hold and unfold the top cover are recommended. **Hint:** Using some baby powder between the top cover and insulation can make installation and adjustments easier.

2. At this point look for the door cut-out opening in the top cover valance. It is easily identified by the series of oval grommets around it. This cut-out must be kept centered over the door frame during the rest of the installation process.
3. Now, working with another person facing you outside at the wall perimeter, unfold the top cover to either side until it is halfway unfolded and covers half of the roof. Attach the top cover to the twist-lock connectors on your door frame. This will help keep the door cut-out aligned while you get the top cover into position.
4. Now the person at the top of the scaffolding or ladder should pull the upper half of the top cover up over their head (and center ring) and down the other side. Finish by pulling the outside edge down snugly around the ends of the rafters. Be sure that the top cover is centered and pulled down evenly around the perimeter. This can be checked by noting where the top cover grommet strip rests on the rafter ends and then pulling the cover into position so that it is uniform all the way around.

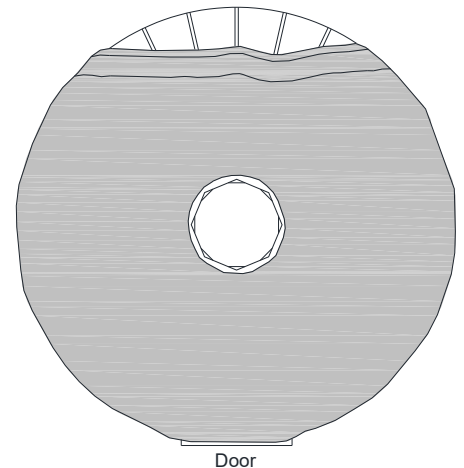
## Unfolding Top Cover



Slide top cover down rafters



Unfold top cover



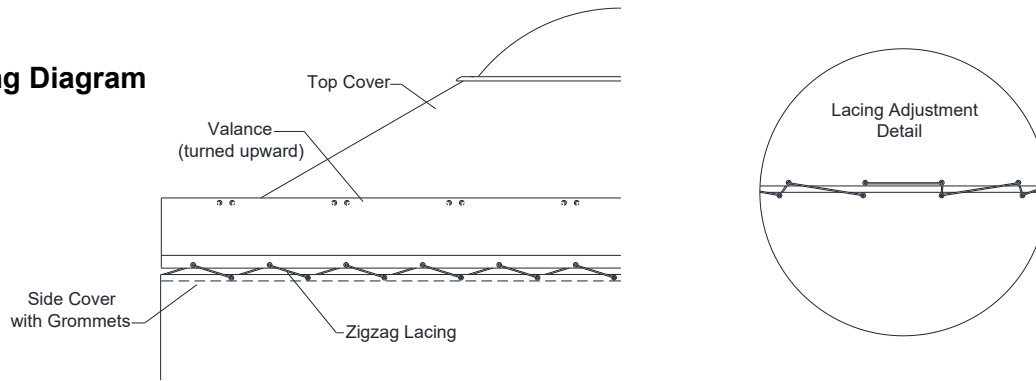
Pull top layer over center ring and down to perimeter

## Reconnecting The Side Cover

**Note:** If the side cover was made *after July of 2001* and has our latest roof-to-wall connection using white clips, you will not need to do the zigzag lacing described below. You can remove the 'S' hooks from the tension cable that temporarily held the side cover in place, clip the side cover back onto the 3/16" cord (under the top cover valance) and skip to installing Wall Insulation with Liner Facing on the next page.

1. Fold up the top cover valance. Now proceed to lace the grommets along the top of the side cover in a zigzag pattern to the grommet strip on the inside of the top cover (see diagram on next page). It is easier to do this if you cut the 50' hanks of cord into two or three lengths and then tie them together once the lacing is done. It works best to start at the back of the yurt (opposite the door) and work towards the door on one side then the other (or use 2 people). With multiple doors, start in the middle of the lattice sections and work toward the doors. You should have a gap of approximately 1" between the top cover grommet strip (under the valance) and the side cover's top hem after the lacing is done. **Do not lace anything to the steel tension cable.**

## Lacing Diagram

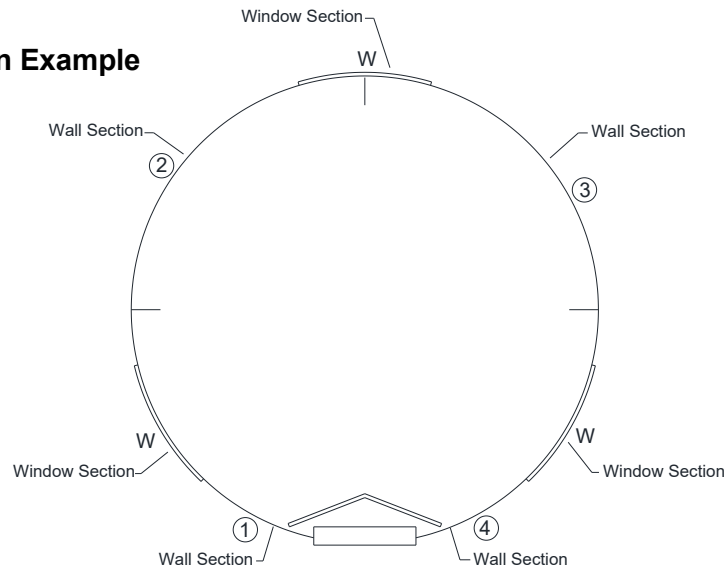


2. Ideally the grommets on the top and side cover would be off-set to create a zigzag pattern in the lacing. If the grommets start to line up instead of being offset see Lacing Adjustment Detail diagram. Once the lacing is finished temporarily tie off the cord ends at the door. The vinyl windows should be attached properly to the side cover before pulling the lacing tight. This prevents stretching the window openings. **You can now remove the 'S' hooks** from the tension cable that temporarily held the side cover in place while you laced it. Now check the gap between the grommet strip and the side cover to be sure it is still approx. 1", then tie the cord ends securely to the last grommet on the top cover at the door.

## Wall Insulation With Liner Facing

1. Locate and open your wall insulation roll. A diagram of the window and door placement is taped to the foil side of the roll. This corresponds to the window placement you requested on your order. The insulation wall is made with the window sections separate from the wall sections. This approach allows you to locate the windows to match the side cover more exactly. There is a number on the foil side of the **wall sections only** that will match the number on the diagram. All window sections are interchangeable (unless vertical or horizontal windows were ordered), so they are not numbered. Use the diagram on your insulation to help facilitate putting your insulation up in the correct order. **The diagram on the next page is an example only.**
2. Starting with the first section of insulation at the edge of the door hang it **temporarily** (outside the lattice wall) from the steel tension cable with a few of the 'S' hooks provided. This can be done by slipping the section of insulation under the side cover and having a helper on the inside of the yurt hook it to the tension cable. Grommets are installed at the top of the liner for this purpose, but do not use an 'S' hook on every grommet. Keep in mind that the 'S' hooks will be removed and the wall insulation secured to the tension cable after the side cover has been clamped into the door frame.
3. Work around the yurt clockwise hanging the wall and window sections according to your diagram. Overlap each of the sections approximately 10". This allows adjustment later to match your side cover window position should this be necessary for a better fit. **Note:** The overlap may not end up being 10" when you are finished. **Hint:** If you have the **vinyl** side cover, applying baby powder to the foil side of the insulation before tightening the side cover will make it easier to adjust and achieve a tight fit.

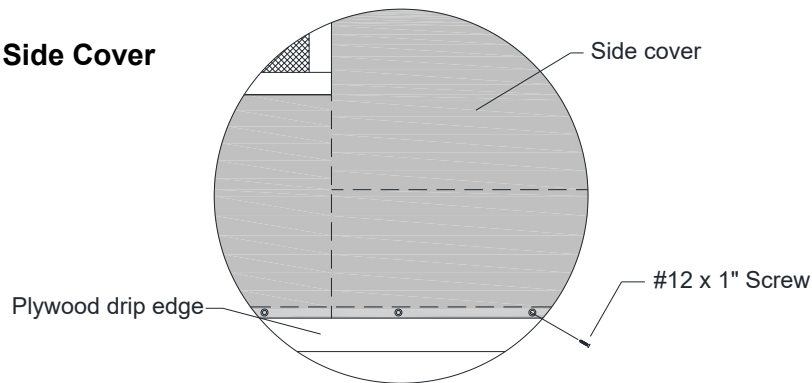
## Wall Insulation Example



Layout is an example only

4. In order to secure the side cover overlap into the door frame you will need to loosen the wing nuts as much as you can without removing them. It helps to slide the insulation piece next to the door to the side while securing the side cover into the door frame. You can slide it back after the side cover is secured in place. Fold the side cover overlap around the door sticker (2 pieces of lath labeled "door sticker" which were clamped inside the door frame) so that the excess fabric is between the side cover and wall insulation. Insert the door sticker into the side of the door frame (between the door frame and the wooden clamp) until it butts against the bolts. **Note:** Do not make the mistake of wrapping the side cover around the door sticker many times and then trying to fit it all into the door clamp. Just bring the fabric around the door sticker once, adjust the positioning for a tight fit and then insert into the door clamp. **Hint:** Attaching the excess side cover fabric to the cord (under the valance) before tucking the door sticker into the door frame will help hold it straight and avoid wrinkles. Adjust the side cover so there are no wrinkles, and then tighten the wing nuts **very securely**. Pull all slack in the side cover around to the other side of the door frame before securing it. This will provide a tight side cover installation and be much more aesthetic. Now follow the procedure described at the beginning of this paragraph to secure the side cover into the other side of the door frame.
5. The vinyl windows should be attached properly to the side cover before fastening the bottom of the side cover. This prevents stretching the window openings. The side cover should be secured to the drip edge at the grommets with #10 x 1" Phillips head screws as shown on the diagram on next page. **Note:** Bottom of side cover should end up 3"-4" below the interior floor. A variable speed electric drill with a Phillips head driver works well for this and saves a lot of time. It is best to secure the side cover grommets starting at the back of the yurt and working around to the door. Keep the side cover an even distance from the bottom of drip edge for a good appearance. If the wall insulation is hanging below the side cover you will need to pull it up from inside the yurt before installing the screws. **Note:** If a tighter seal between the side cover and the platform's drip edge is desired, foam weather stripping (available at local hardware store) can be used. Adhere the foam to the drip edge at the grommet line and drive the screws through it when securing the side cover. Be sure the side cover fabric that hangs *below* the floor level next to the door frame is folded neatly and pulled straight down from the edge of the door sill, then put a screw through it to create a good seal and prevent air from entering at this point.

## Securing The Side Cover



6. Align the insulation window sections with the windows if necessary, then remove all 'S' hooks. Secure the insulation window and wall sections onto the steel tension cable with a few evenly spaced plastic cable ties (provided). It is not necessary to use a cable tie on every grommet. Make sure the insulation panels end at the edge of the door frame. **The insulation does not get clamped into the door frame.**
7. **Fold down the top cover valance and lace cord through the valance grommets horizontally.** Pull the cord as tight as possible and secure the ends of cord around onto the eye screws in the edge of the door frame (or onto the twist-locks). This cord cinches the top cover valance tight against the wall for a good seal.

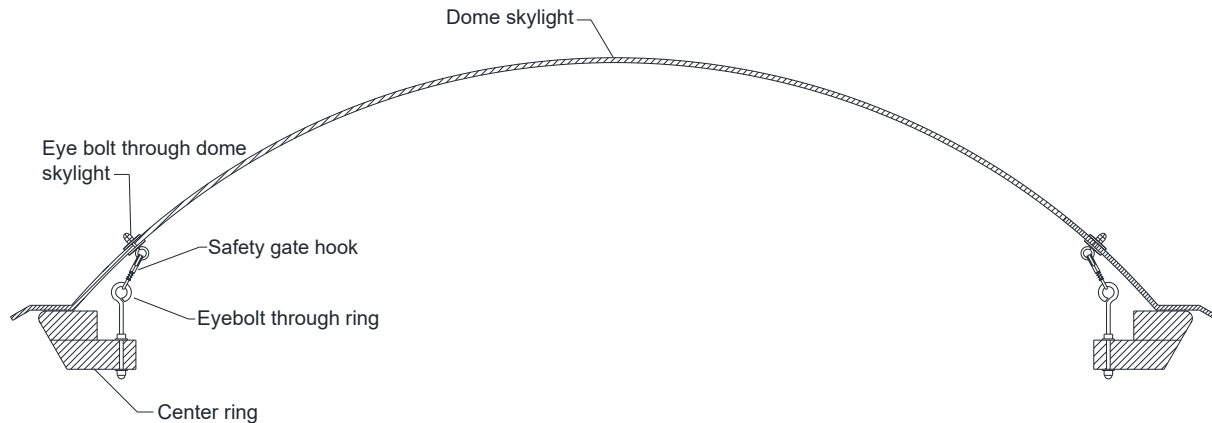
## Reinstalling the Dome Skylight (Without Opener)

If you purchased the dome opener option go to the next section for installing the dome skylight. If you do not have the dome opener option continue.

1. Lay a blanket or cardboard on the top cover to protect it when sliding your dome skylight into position.
2. Working from scaffolding or a step ladder in the center of the yurt, toss a strong cord or rope to a helper outside the perimeter of the yurt and have them tie it to two of the eye bolts inside the dome.
3. Have the person at the perimeter set the dome on the blanket or cardboard so you can pull the dome up the roof of the yurt to the center ring (using the cord) then remove the cord.
4. Line up the hooks on the center ring with eyebolts on the dome and snap the hooks on **(see diagram next page)**. Be sure to align the numbers on the dome with the numbers on the ring.

# Side View of Completed Assembly

## Non-Opening Skylight



## Dome Skylight (With Opener)

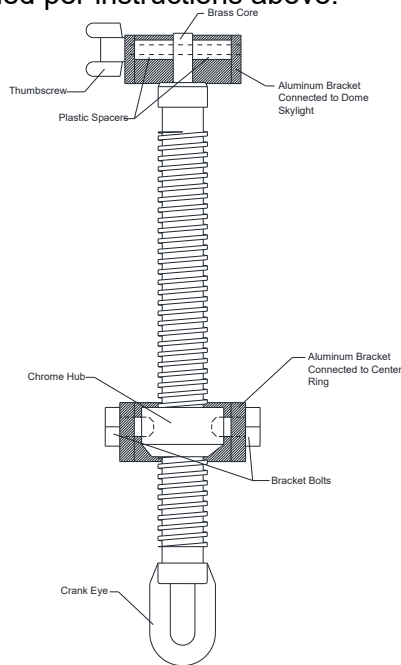
1. Lay a blanket or cardboard on the top cover to protect it when sliding the dome into position.
2. Working from scaffolding or step ladder in the center of the yurt, toss a strong cord or rope to a helper outside the perimeter of the yurt and have them tie it to two of the eye bolts inside the dome.
3. Have the person at the perimeter set the dome on the blanket or cardboard so you can pull the dome up the roof of the yurt to the center ring (using the cord) then remove the cord.
4. Align the aluminum bracket on the dome skylight with the aluminum bracket on the center ring and attach the three springs to the eyebolts on the dome.
5. Attach the dome opener (threaded chrome spindle) by removing the thumbscrew on the aluminum dome bracket and aligning the hole in the brass core of the spindle with the thumbscrew and securing the thumbscrew again (see diagram on next page). The brass core will attach on to the thumbscrew **between** the two plastic spacers. **Make sure the inner brass core of the spindle is screwed all the way into the chrome portion.**
6. Loosen the bracket bolts on the center ring's aluminum bracket and align the holes in the chrome hub with these bolts. **It is very important that the brass core remains all of the way inside the chrome spindle as you do this.**
7. Tighten the ring's bracket bolts so they hold the chrome hub in position (see diagrams on next page).



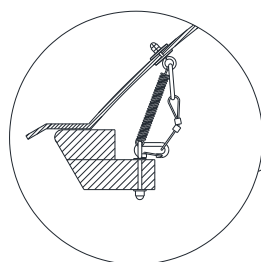
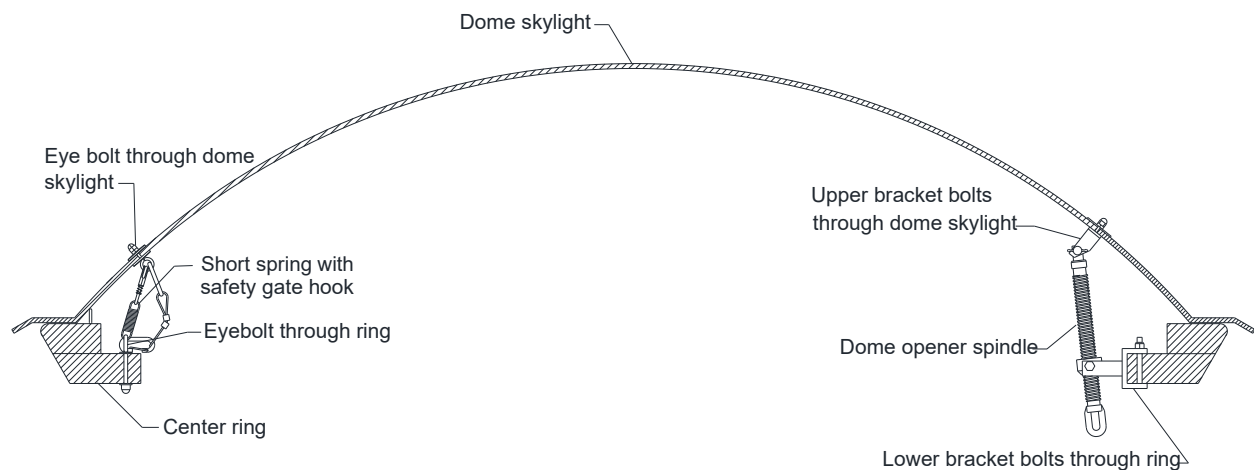
8. Crimp the ends of the springs closed with a pair of pliers so they don't pull off the eyebolts.
9. Attach the short safety cables to the eyebolts on the dome (see diagram at bottom). The safety cables will help hold the dome even if the wind stretches your springs. **Note: Be sure to keep the dome closed when you leave the yurt or during high winds.**

**EXTREMELY IMPORTANT:** When closing the dome skylight the opener should not continue to turn once the dome is closed. It should bottom out, which prevents overtightening that can result in a cracked or broken dome. If opener does not bottom out, it is installed improperly and should be removed and reinstalled per instructions above.

### Dome Opener Spindle



## Side View of Completed Assembly Opening Skylight



90 degrees to either side of the dome opener spindle are long springs with safety cables.