

outside face of the ring, and the structure should be strong enough to resist gusty winds.

ROOF PEAK

Materials

8	¾-in. x ¾-in. x 27-in. pieces of wood
8	1½-in. x 1¾-in. x 26½-in. pieces of wood
1	4-in. x 4-in. x 6-in. piece of wood
1	6½-in. diameter circle of 18-gauge metal
8	¾-in. x 2½-in. hardwood dowel

ALTHOUGH NOT ESSENTIAL to the yurt, a frame for the roof peak will allow you to cover the smoke hole and keep out unwanted rain. If well built, it will also add a lot of character to the final look of the structure. Rather than ruin that look with plexiglas, you may want to cover this frame with skins or oiled fabrics, so it still allows light inside, but repels water.

To build this conical frame, you will create another hoop that sits on top of the yurt's structural hoop. This circle, however, is made from overlapping pieces of ¾-in. wood as shown. The hoop should be glued and clamped until the ¼-in. carriage bolts have been tightened into place (see sketch).

The eight frame pieces that constitute the peak should be cut at angles corresponding to those shown in the illustration. The bottom of each piece is bolted (with washer and nut) to the new ring, and the top attaches to the wooden cylinder by means of a ¾-in. dowel as shown in the detail. If you can't find a ready-made, eight-sided cylinder you will need to create that hub from a section of 6x6-in. beam. Try your local landfill. Such small but useful sections of wood often end up there. For precise instructions on how to mill such a column, try Harold Payson's book *Build Your Own Instant Boats*, or just mark the end of a chunk of wood and start cutting. After the cylinder is complete, drill holes as shown to accept the dowel. Make sure the dowel is glued on both ends.

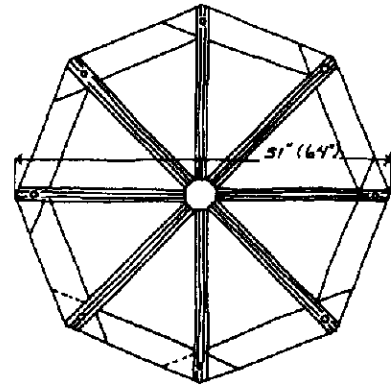
Finally, cut that metal disc as shown, and make a cone to fit the top of the frame. Use the other pattern to create a cloth or leather covering for the opening. You may want to create a system for opening and closing that peak flap from within the tent.

THE COVER

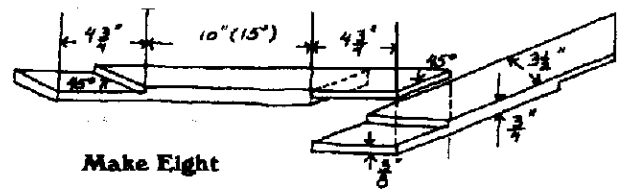
Materials

60	yards of 1¼-in. cotton webbing
50	square yards of 13 ounce waterproof canvas (or wool felt)
140	feet of ¼-in. manila rope or ¼-in. cable
190	¾-in. grommets (about half that if you use ties for base of the walls)
2	½-in. x 2-in. x 30-in flat sticks for door support stays

Also: Several spools of "Dual Duty Plus" polyester core thread

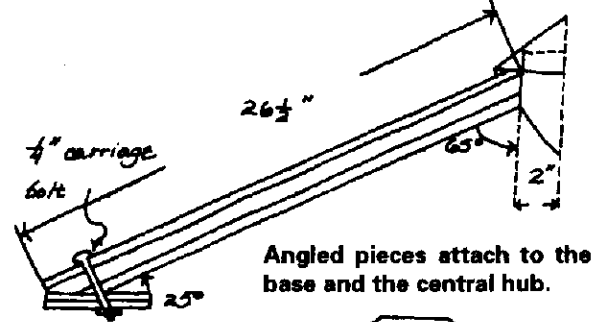


Top view of finished skylight frame

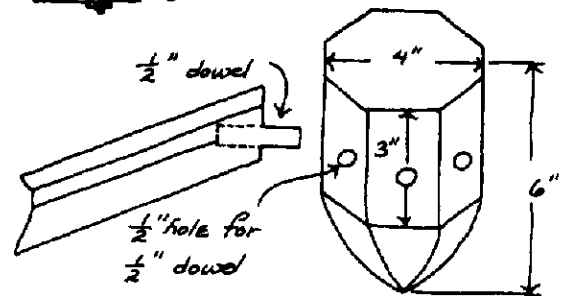


Make Eight

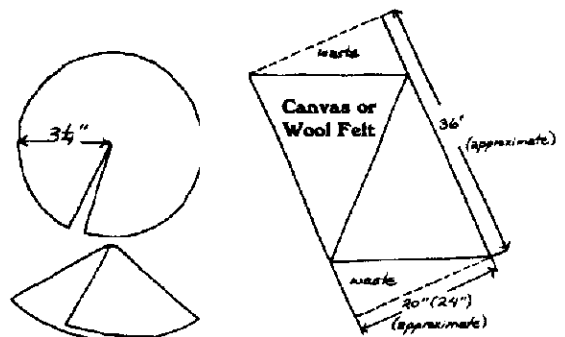
Segments of the base of the skylight frame (make 8)



Angled pieces attach to the base and the central hub.



Central hub



Tin cap for hub

Frame Cover

This design is for a tailored cover that is made in three pieces: the wall and two roof sections. The wall piece is a simple rectangle with reinforcing grommets on the bottom for fastening to the vertical edge of the floor. Other grommets on top allow for fastening to the roof pieces, and the ones on the end fasten the cover to the door frame.

The roof cover extends down the wall 8-in. Its bottom edge is fitted with grommets or loops for fastening it to the wall cover. You will probably have a better looking yurt if you use ties, rather than grommets. Space them every foot or so, attached to the bottom edge. The top edge is tied to screw eyes set in the central ring. The two roof sections overlap and are laced together.

All sewing of loops, ties, reinforcements and hems that can be done should be finished before sewing the pie-shaped roof panels to each other. The bottom edge of the roof is sewn on last.

First, make one roof panel to use as a template. This is the triangular section marked "panel" in the illustration. To create this piece, measure in 1-in. from the edge of the fabric and use a piece of string 113-in. long to draw the base arc (marked as "R1 line"). The other arc, marked as "R2 line" has a radius of $24\frac{1}{2}$ -in. Once you have marked both of these lines, measure as many $12\frac{1}{2}$ -in. segments on the R1 arc as will fit. You should end up with about 4 segments per complete panel. Be certain to leave an extra inch on each side of each segment to serve as a seam. Thus each segment is really $14\frac{1}{2}$ -in. Next, divide up the R2 arc into the same number of $2\frac{7}{8}$ -in. segments, adding 1-in. on each side of the panels for the seam. After marking both arcs, join the lines with a long straightedge and cut. One of the panels should be cut an extra 10-in. longer. It will serve as a drip-edge for the door. Pockets are sewn into this drip edge so that it can be supported by two wooden stays.

You will need a total of 48 segments to create all of the main panels, along with one flap on the end of each half. If you get 4 segments to a panel, this means you will end up with 12 full-sized panels. Don't get confused at the distinction between panels and segments. As long as you have a total of 48 segments (and overlap flaps), the cover should fit fine.

Double stitch the panel segments together using the method shown, sewing first on the inside of the pieces, then again from the outside. Do not sew the main panels together until you have sewn all of the

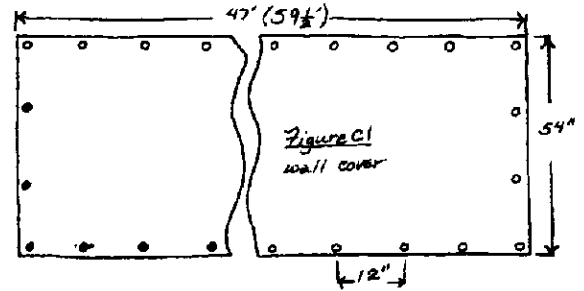


Figure C1
wall cover

Cut the walls as a simple rectangle and add cotton webbing to all edges to reinforce the grommets.

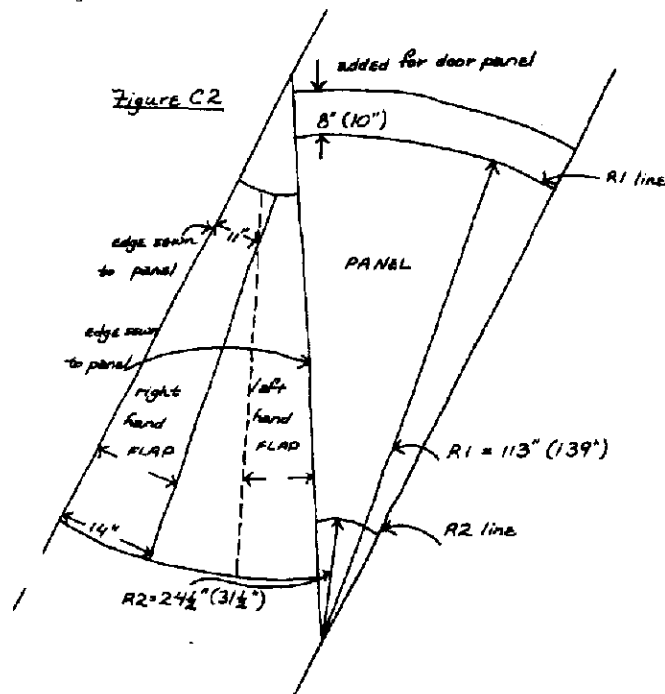
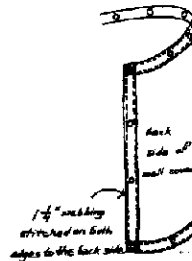
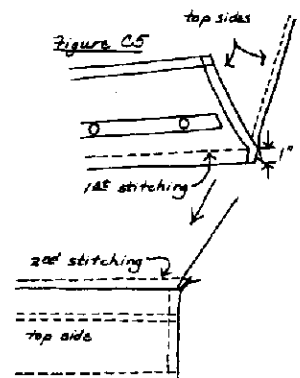


Figure C2

Cut the triangular roof panels using the pattern shown, and cut additional flaps for where the halves meet.

Stitch each seam twice, once to join them - then flip over and sew the seam down flat.



segments into panels first. Once you have 12 panels ready to go, sew one panel at a time, adding to the main body. Remember, the roof is in two halves, so each half will include 6 panels, along with an overlap flap on each end.

The overlap flaps depicted should include a 1-in. seam and hem allowance, like the other segments, and are cut with the same radius as the main panels. You will need a total of 4 of these flaps, one for each end of each half of the roof. If your canvas is coated on one side, you will need two right-and and two left-hand pieces.

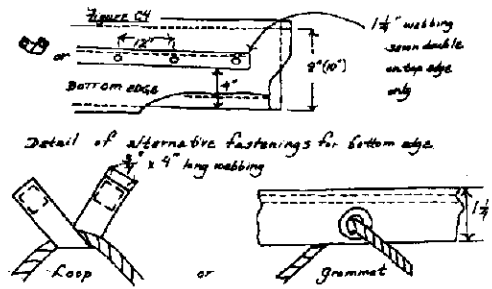
In addition to that extra-long door panel, you will need three 10-in.-wide bottom edge pieces (see overhead view) that will be sewn to the roof cover. These pieces are sewn on either side of the door panel, and continue to the end of that half of the roof cover. *Measurements are not given, because you measure these lengths after the roof panels are sewn together to ensure a proper fit.* Be certain to add a 1-in. overlap at each end for the seam. Fold over and sew the top of the bottom pieces to the inside of the base of the roof cover. For the strongest seam, fold the bottom edge of the roof cover under and the top edge of the bottom piece over so the two pieces interlock. Pin or tape temporarily, then double stitch. To finish the bottom pieces, hem the ends and bottom edge, and double stitch a strip of 1 1/4-in. cotton webbing to the center of each piece, stitching only the top edge of the webbing. Insert grommets into the webbing, spaced every 12-in.

For joining the two halves of the roof cover together, first cut 4 pieces of 1 1/4-in. webbing slightly less than the length of a roof panel. Insert grommets at each end of the strips, and space them 12 inches apart thereafter. Next, sew one section of webbing to the top

of the end roof panel, 4-in. from the outer edge (don't count the flap). Double-stitch only one edge of the webbing (the one furthest from the edge of the panel) so the grommets can be threaded easily. Sew the other grommets to the inside of the other half of the cover. Repeat this whole process where the other ends of the two roof covers meet.

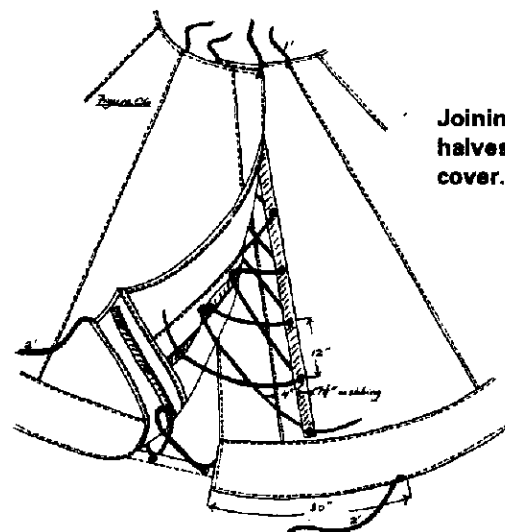
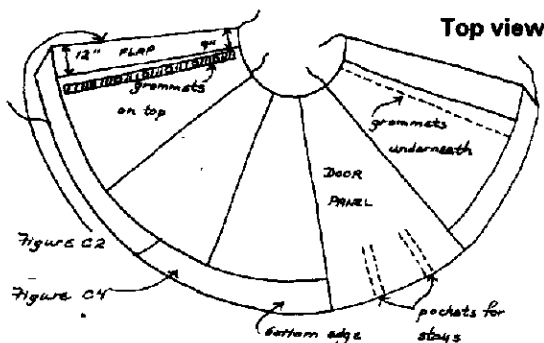
Finally, fasten 2-ft. lengths of 30-in. cord to the lower corners of the overlapping roof covers and 30-in. from the ends of the underlying sides (see illustration). These cords, along with the optional 1-ft. pieces at the top of the roof, can be tied together to hold the overlapping flap inside. You may also want to add ties on the tops of other roof panels to hold the peak frame in place.

Grommeting detail



Now stitch everything together, and you're ready for final assembly. Optionally, you may want to use a section of rope to scribe a circle on the ground with a 7-ft.10-in. radius. Next, erect the wall. Bolt the door frame into place. Stake the walls temporarily to the ground if you wish. Run the rope or cable around the top of the wall. Plug two rafters into the central ring about 120 degrees apart. Count the holes in the ring between the rafters and set them properly on the rope/cable hoop. One rafter goes between each wall section. Insert a third rafter into the hoop between the first two. With the other rafters resting on the rope, raise the central ring. Note that 3 rafters are over the door frame.

Tie the cover in place and relax. You're home.



Joining the two halves of the roof cover.