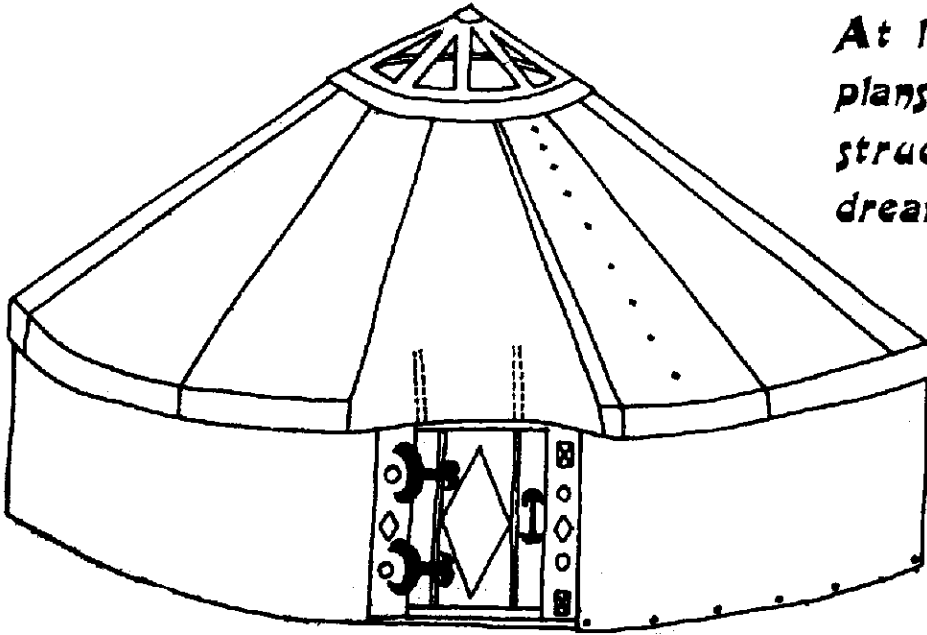


At last, complete plans for the construction of your dream yurt...



The Mongolian Yurt

THE TRADITIONAL YURT can be dated at least as far back as the 13th century, when Genghis Khan was turning Mongolia upside down. The original form would be quite similar to the one described below. It would have a frame of wood, with a covering of wool felt. Nomadic families would live in yurts of various sizes along with their livestock and their few personal belongings.

I would like to emphasize another aspect of the yurt, however – the aspect that will make this space come alive. Anybody can build a yurt, but it takes a special effort to capture the historic and sacred context of the space.

To the Mongol, the yurt was more than a tent. It was a symbolic representation of the universe. For example, the square fire pit in the center of the floor symbolized a gate to the Underworld. Along with the pit, items of each of the main elements of the universe – earth, metal, wood and fire – had to be present in the hearth at all times. These would include a wooden frame that sits on the earth, an iron pot filled with water, placed on top of a metal grate.

Mongols adhered to certain strict religious rules of behavior. Every morning, they made an offering by pouring tea on the hot iron grate, so the steam would

rise with the smoke or “World Tree” connecting earth to heaven.

Furnishings in the yurt also followed a predictable pattern. Opposite the main entry, they would always place a shrine or altar that might consist of a special table or just a wooden box. Inside the box they would put sacred icons or offerings. The skin of a cow or yak would be sewn together and used to store liquids. Other boxes and racks near the walls would hold the daily necessities – clothing, tools and the like.

Whenever entertaining, an exchange of gifts is expected – in most cases snuff boxes. Neither party should inspect the gift too closely, however. Another tradition is for guests to make inquiring small talk – ask their hosts about their health, the family, the livestock, the quality of grazing lands, etc. The host, of course, must answer positively to all inquiries no matter how terrible his affairs. Courtesy dictates that when inside the yurt, the host (and guest) kneel on the right knee with the other knee up.

Finally, when sleeping in the yurt, all household members sleep with their heads toward the altar – and the yurt of the head of the family or tribe should be placed at the right, front corner of the camp, with the doorway facing to the south.

CONSTRUCTION

(Adapted from a 1974 publication by Jay and Laurel Cox)

WALLS

Materials

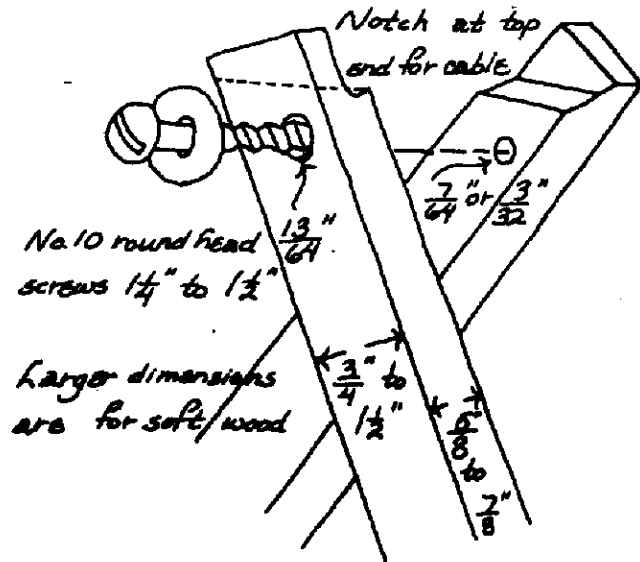
325	fasteners (Either 10-penny galv. nails, rivets or nuts & bolts)
325	washers
86	68-in. hardwood pieces, $\frac{5}{8}$ - x $\frac{7}{8}$ -in min. ($\frac{3}{4}$ - x $1\frac{1}{2}$ -in, if softwood)
4	13-in hardwood pieces, $\frac{5}{8}$ - x $\frac{7}{8}$ -in min. ($\frac{3}{4}$ - x $1\frac{1}{2}$ -in, if softwood)
4	35-in "
4	57-in. "
50-ft	$\frac{1}{2}$ -in natural hemp rope (or metal cable if you want more strength)
2	$\frac{1}{2}$ -in rope or cable clamps

THE WALL OF THE YURT is a large pantograph (expandable baby gate) that folds into a compact cylinder 6-ft. long and 2-ft. in diameter. When extended, the $\frac{5}{8}$ -in. x $\frac{7}{8}$ -in. hardwood pieces are angled at about 60 degrees. The circle has a total length of 46 ft. The pieces should be relatively free of knots and fractures.

Drill holes for fasteners 1-in. from the ends of each stick, and 11 inches from each other. Holes should be drilled slightly larger than the fasteners, so that the pieces will move easily even when the wood swells. The fastest way to drill the holes is to create a template from $\frac{1}{4}$ -in. paneling and lay it on top of each stick to center the holes. To connect the wood pieces, the cheapest option is to use 10-penny galvanized nails. Just place a sturdy piece of metal under the flat head and bend the other side flat against the wood. This sounds crude, but it's the same method Vikings used to create their flexible warships. The more expensive and more attractive method is to use long rivets.

The top ends of each wall piece should be notched to receive the rope that will run around the perimeter of the wall. To give the wood a finished appearance and ward off splinters, finish all of the pieces before assembly. Round the edges slightly with a rasp or wood file, then sand them lightly. To preserve them, you may want to apply some water-based stain, linseed oil or other non-toxic finish. Remember, however, that whatever you use may rub off on the tent covering.

When ready to assemble, lay the pieces on a smooth surface with the rope notches facing in the same direction. The notch on the top pieces should face down, and the notch on the piece in contact with the ground should face up. The shorter pieces will be used at each end of the wall, as shown in the door frame illustration. They can be permanently sandwiched between the vertical pieces that define each side of the door frame. If using bent over nails as fasteners, the bent side should face to the exterior. To speed assembly, fasten the pieces one at a time, starting at one end of the "fence."

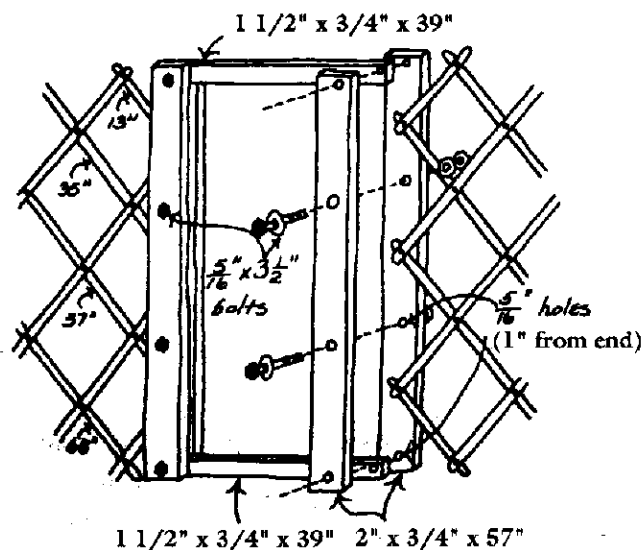


DOOR FRAME

Materials

4	wood pieces $\frac{3}{4}$ -in x 2-in x 5-in. long
2	wood pieces $\frac{3}{4}$ in. x $1\frac{1}{2}$ -in. x 39-in. long
8	machine bolts $\frac{5}{16}$ -in. x $3\frac{1}{2}$ -in. with wing nuts and 2 washers for each

CUT THE DOOR FRAME PIECES as shown in the illustration. Drill holes $\frac{5}{16}$ -in. in diameter 1 in. from the ends of the boards. Assemble the frame loosely over the ends of the wall pantograph. As you tighten the bolts, the boards will clamp onto the wall pieces, holding them securely in place. For better appearance, you may want to select brass nuts and wingnuts or specialty fasteners.



RAFTERS

Materials

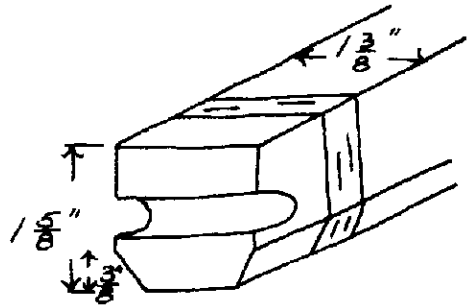
48	wood pieces 7 ft. x 1 1/8 in. x 1 1/8 in.
48	5-in. x 1/4-in. steel pins
1	roll of 1-in. strapping tape (100 ft.)
1	roll of masking or colored tape (100 ft.)

The rafters may be cut from any fairly clear, straight grained wood. The dimensions given make full use of 2x8 construction grade spruce or hemlock, which is 1 5/8-in. thick. With care, you can get 5 rafters from a single 2x8 with no waste except sawdust. Try to find pieces with few or small knots. Cut the rafters as illustrated.

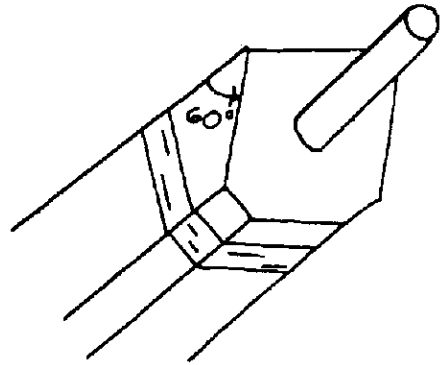
Next, drill a 1/2-in. hole 1/2 in. from one end of the piece, and use a flat chisel to chip out the hole and make a notch. This notch will fit onto the rope hoop that surrounds the top of the wall.

Bevel the other end of the piece at 60 degrees, then drill a centered hole 3-in. deep using a 3/32-in. bit. The hole will accept the steel pin, and should run perpendicular to the board, not to the angle of the bevel. Before you drive in the pin, wrap a piece of 1-in. strapping tape around both ends of the rafter (to prevent splitting.) Paint will not adhere to this tape, so you must either cover it with masking tape or a colored tape to your taste. When you're ready, hammer in the metal pin. It shouldn't require glue.

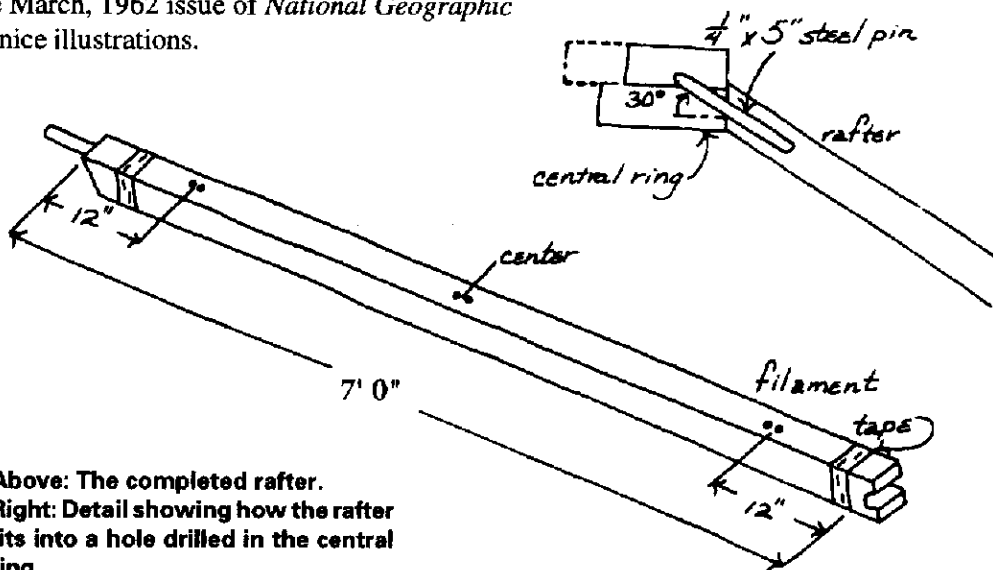
To finish, chamfer (bevel off) the bottom edges and sand the whole piece to remove splinters and sharp edges. Classic Mongolian yurts used red paint on the red rafters. If you want ideas for more elaborate decoration, the March, 1962 issue of *National Geographic* has some nice illustrations.



Bottom end of rafter showing notch where rafter rests on perimeter hoop.



Top end of rafter, showing metal rod that inserts into the central ring.



Above: The completed rafter.

Right: Detail showing how the rafter fits into a hole drilled in the central ring.

CENTRAL RING

Materials

26	linear feet of 2x4 lumber
16	$\frac{5}{16}$ in. x 2 $\frac{3}{4}$ -in. carriage bolts
1	pint of "Weldwood" plastic wood glue

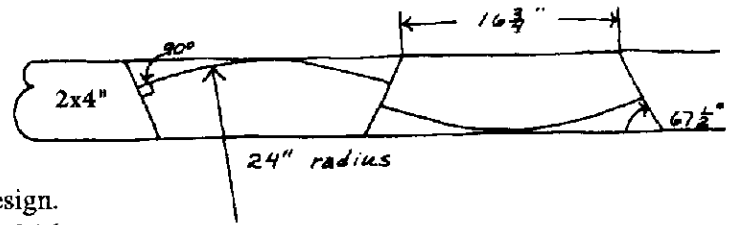
This is the most complex part of the yurt design. To create the wooden ring, you will cut a total of 16 curved pieces from the 2x4 stock. The cutting illustration depicts a 2x4 lying flat on the ground. Each of the linear cuts shown must be made at an angle of $67\frac{1}{2}$ degrees. They may be accomplished with either a hand-saw and mitre box or an electric "chop saw." For the curved cuts you may use a sharp chisel, a jigsaw or a bandsaw, depending on your level of affluence. The best way to cut these curves, however, is to wait until the ring is assembled, then cut the whole perimeter at once, provided you have the tools. You may need an extra-long blade for your jigsaw.

The 16 pieces form two separate rings, each with eight pieces. To connect the rings together, mix and add the waterproof glue, then clamp them into position – offset as shown – and drill small pilot holes for the carriage bolts. Screw the bolts in with a ratchet wrench, placing them about 4 in. from each end of the top segments.

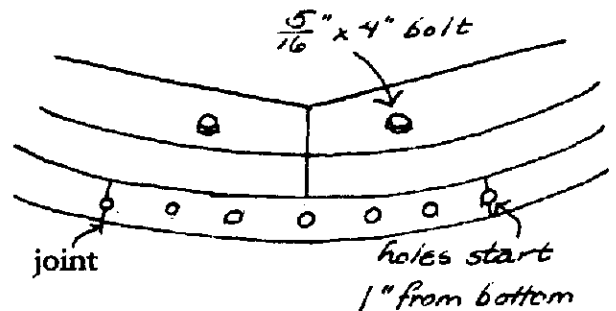
To find the right angle for the outer perimeter, use a yardstick or piece of string to draw a circle with a 24-in. radius on a piece of newspaper or building paper. Cut out the circle and center it on top of your wooden hoop to mark the cut.

Once you have finished cutting, drill 48 equally spaced $\frac{1}{4}$ -in holes in the outer edge of the hoop. Each hole should start 1 in. from the bottom of the hoop, drilled at a 30-degree angle from horizontal. To get this angle right, you may want to improvise a simple jig - a block of wood cut at 30 degrees that attaches to the side of your work table, for example. Space the holes equidistant around the perimeter of the hoop, using the joints (on the bottom ring where the individual segments meet) to get your bearings. Thus each segment gets 5 holes, plus one at each end, as shown in the illustration.

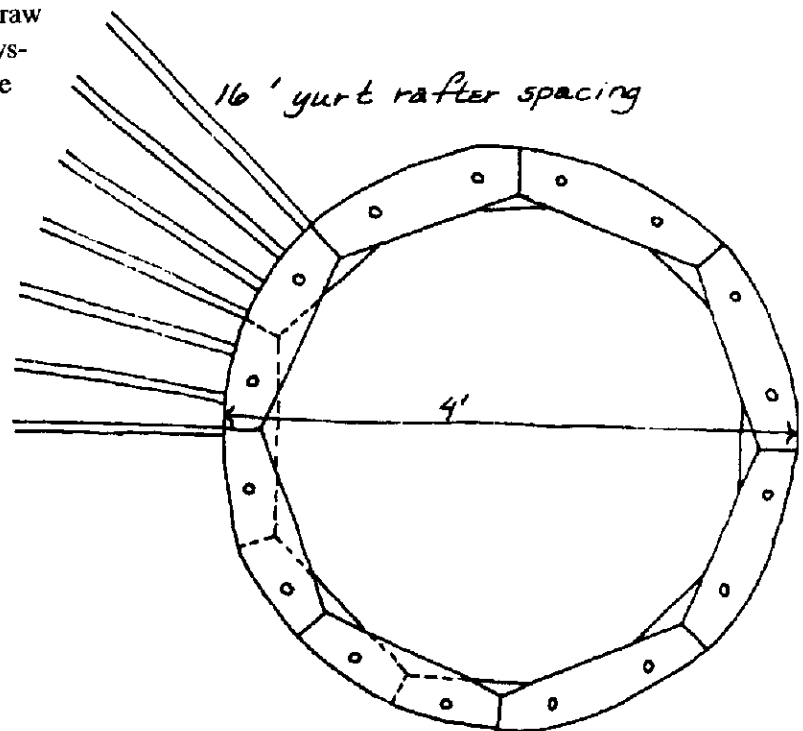
When you're finished, each of the 48 rafters should fit snugly against the



This illustration shows the cut pattern to be used when creating the central ring. Mark the pieces on a 2x4, using a string to find the 24-in. radius.



Bolting/Drilling Pattern



Top View of Central Ring