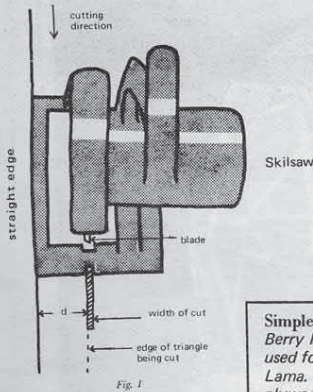


### Cutting jig

Setting up a jig insures that you cut each piece of wood accurately, and alike. Sometimes, especially without a lot of skilsaw experience, it's hard to follow a pencil line. A jig or a straight edge gives you something to run the skilsaw guard against.

In fig 1, "d" shows the distance from straight edge to *outside* of blade, which makes the actual plywood cut. Also, set the blade depth so it doesn't cut through the jig.

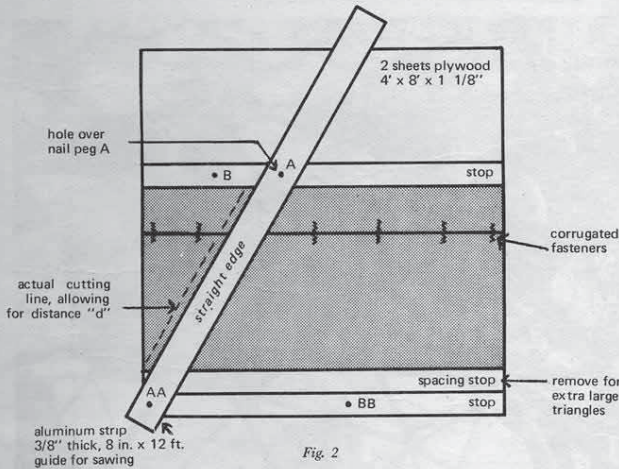


### Simple Jig

Berry Hickman told me about a method they used for cutting pieces of plywood at Lama. Steve clamps a number of sheets of plywood together, using wood clamps, then skilsaws through as many thicknesses as the blade depth will allow. You can do this by eye, or rig up an aluminum strip for a straight edge that the saw guard will run along, as below in Bill's jig. When you remove the cut pieces, there will be a slight line along the next piece of plywood from the blade that you can use as a guide.

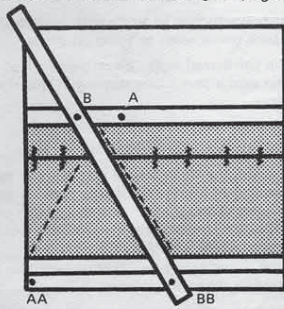
### Bill's jig:

This jig works best on a concrete floor. The stops hold the plywood snug for cutting. Make them of the same thickness as the plywood you are cutting and nail them on. Shaded area is where you flop the plywood to be cut.



The aluminum strip has holes in it so it can be held in place by pegs (16d nails with heads cut off) which are pounded into the stops. Carefully draw a master triangle on the jig and then position the aluminum and nails, not forgetting distance "d".

After cutting one edge, aluminum on nails A and AA (fig. 2), flip the metal onto nails B and BB and cut the other side of the triangle. (Fig. 3)



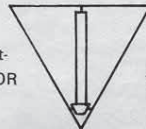
Wear ear guards and goggles while cutting.

### Treating Patched Pieces and Plywood Edges

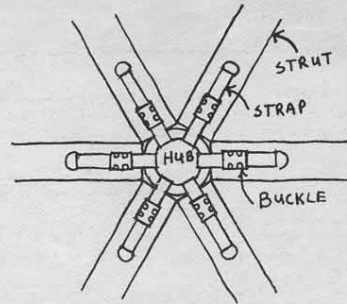
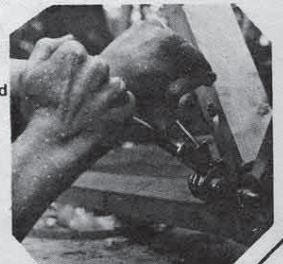
You should also prime the edges of plywood triangles before nailing onto dome. This will prevent moisture from delaminating plywood.

The patched pieces are the worst potential trouble spots. When the dome expands and contracts, they tend to open, and consequently leak. You can do two things:

insert wood strips to nail edges to. Leave enough space for struts. Tape outside, after painting.



fiberglass tape inside, use either fiberglass or other type tape outside, after painting.



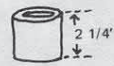
### Hubs

We built 3 domes with metal pipe hubs, 4 with plastic pipe hubs. The plastic hubs around the base of the domes deformed when plywood was nailed on. The advantage of the plastic hubs is that they're cheap and easy to cut—you use a hand saw. However, they'll be weak where there are large window patterns, and metal will be better if you can obtain the right size.

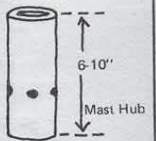
The best way to cut metal hubs is on a power hack saw; perhaps you can have it done in a machine shop. The inside edges should be filed off to prevent the strap from being cut by the sharp edge.

If you use different sized pipe for hubs, adjust strut size accordingly.

Cut in approximately 2 1/4" sections.



There are 60 regular hubs in this dome, and one mast hub.



The mast hub goes at the top, in center of pentagon, and is used for throwing your climbing rope over. See p. 117 on climbing.

Drill holes for straps.

**Strapping:** Here the cost of the strapper and crimper (about \$70) was justified for us as we built several domes. Here's how to use them:

Learn to use the strapper with instructions that come with it.

Assemble prefab components on a big table with a few people helping you hold struts.

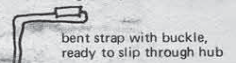
Once you determine the proper length strap you can cut a number of them.

We doubled strap where it grips the hub so the metal wouldn't cut into the strap.

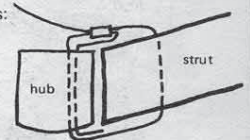
Six people work well in preassembling strut sections:

- one cuts straps
- one bending
- two assembling (putting straps, hubs and struts together)
- two strapping

After bending, strap looks like this:



This is then slipped through strut and hub like this:



Strapper is engaged.

Crank toward hole until it is tight.

Crimp buckle.

Break off end of strap by twisting strapper back and forth.

