

FORMING THE SPAR CAPS

J. DALE WILSON, MADISON, WI

I made my table of 2x4's--16 feet long as per plan, but it is only 2' wide and that way I had more room in the garage. It is large enough for everything. I glued the plywood skin top and bottom then drilled a hole in one 2x4 for my vacuum cleaner hose. I drilled small holes in one face so I could use vacuum to hold the spar skin for scarfing with a router or sander. We made several spars on this table.

In laying out this spar, the dihedral is 5° or 4.72 inches in 54". We layed out the spar at an angle in the center of the work table. Remember, all the bending must be in the center 42" of the spar. Next we made brackets of 1x2 and scrap plywood triangles to brace the caps. We used 3 brackets each side and two opposite, so to make eight of them.

Clamps were made of 2x2 about 8" long, with cheap $\frac{1}{2}$ " x 6" bolts to tighten the 2x2's. When drilling the bolt holes put the lower ones $\frac{1}{2}$ " up then a space of $4\frac{1}{2}$ ", leaving about 2" sticking up. We needed 12 of these. Screw the brackets to the table on bottom side of the line, have the screws started for the 2 on the opposite side. If using aerolite, WRITE ON EACH SURFACE OF THE SPAR MATERIAL, which aerolite part you intend to apply to that face. Hardner to hardner doesn't work any better than glue to glue! Get two helpers and your wife. When the laminations are covered with sticky stuff and hardner, and your nerves are straining, trying to finish within the set up time, pick up the slippery, sliding laminations and place them into the brackets, pull in the center and screw in the opposite brackets. If they are not tight enough, do not move screws, but shim to get the right bend. Clamp the laminations with the 2x2 clamps tight enough so the 2x2 wood fibers (white fir) crackle under the washers on each end. While your pants are sticking to the table after you unsuccessfully tried wiping the sticky off your hands onto your pants leg, DO NOT try to slap the fly that landed on your bald spot, it'll only make matters worse. That's what your wife is there for. have her swat the thing. Now before you take the main spar cap out of this jig, make the rear spar cap in the same manner, clamping it to the 2x2 box clamps, that way front and rear are identical curvature. Of course you reverse all the brackets for the top cap.

When making the 1x2 frames to box up the spars make them $7\frac{1}{8}$ ", then shim with cardboard to the required 7". That way when you want to remove the frames, you pull out the cardboard and the frames slip right off even though you might have one little fat spot.

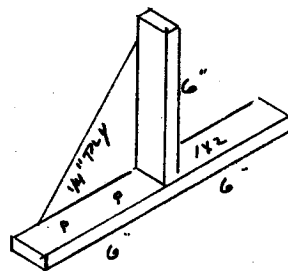
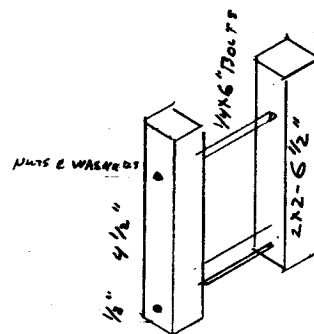
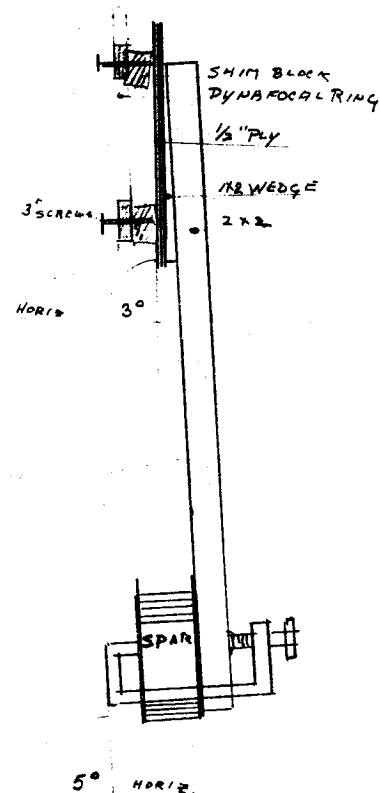
As I built parts I wrote on them as I went along. The date, who helped, or I cut my finger or the sewer backed up. Made covering the plane interesting, reading the major events of the past six years.

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BUBBLE CANOPY AVAILABLE!

A bubble canopy has been developed for the Osprey by The Airplane Factory at 7111 Brandt Vista Ave, Dayton Ohio, 45424. The prices at this time are:

Bubble	\$290.00
Bubble and rear windows	\$330.00
Standard set	\$199.00

Price does not include shipping cost or tinted glass

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