8/5/15

Young America 1853 – POB 1:96
Part 12 – Stem/Keel/Sternpost 1

The stem assembly, keel and sternpost on the POB model are virtually identical to their counterparts on the framed model except for scale and the deletion of a few unnecessary internal structural parts. Unlike the framed version that started construction with this work, on the POB model they were made and installed after the hull was shaped.

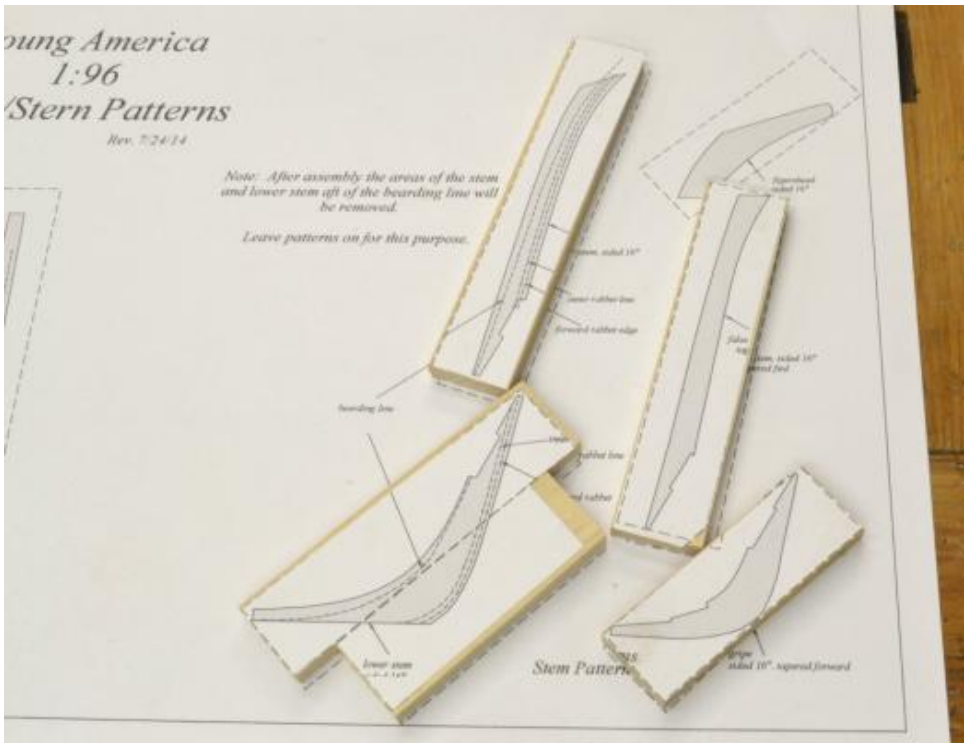
In keeping with the concept of simpler tools and readily available materials for this version, scale members were all cut from ¾" (4/4) material. For the stem/keel/sternpost, hard maple was used – with pieces selected for straight grain. Because of its visible grain pattern I would only use maple where work will be painted or metal sheathed.

The POB model did not require the thickness sander or band saw. Members were sized using circular saws. If ¾" hardwood can be ripped on an available 4" model circular saw, ripping stock to required dimensions is just a matter of setting the rip fence and cutting. On the full-sized (10") table saw that I used, a different method was adopted. The first picture shows stock for the 16" wide keel about to be ripped off of a piece of 3/4" maple.

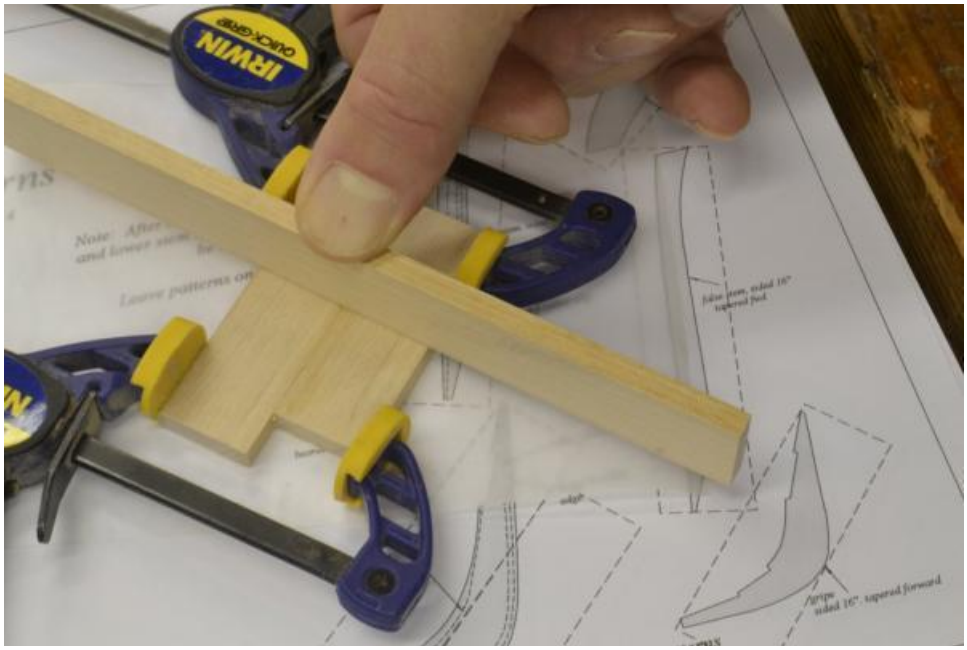
Although cutting sized strips away from the rip fence as shown takes a bit more setup time, it is much safer and eliminates damage to small thicknesses left between the fence and the blade. It also avoids having them come out of the saw at high velocity. The blade in the picture is an ultra-thin kerf (.080"), 40-tooth carbide blade that leaves a very clean surface on the strip. The Plexiglas® table insert was specially made for close clearance to this blade. The next picture shows the ripped 16" strip being checked for size.

I usually start with a very small cut into the plank and measure what will be the resulting strip thickness, then adjust the fence if necessary before cutting off the whole strip. This was then repeated for each cut. The ¾" strips were then used to make sections of the keel and the other components.

In the next picture the POB stem pieces are shown on a copy of the pattern sheet.

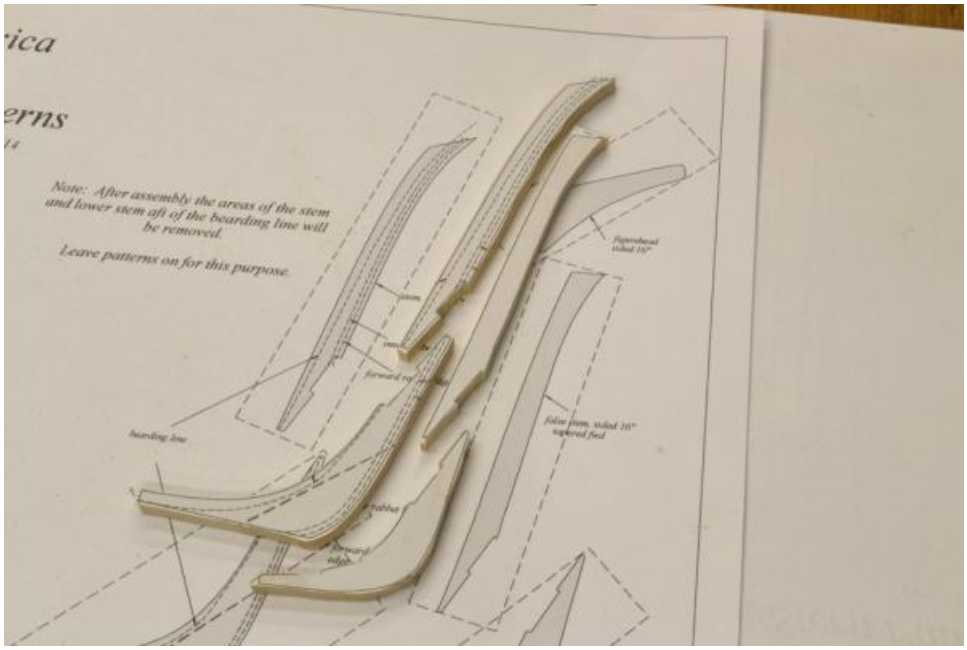


All were able to be cut from the ¾” inch stock except for the lower stem as shown above. On the original ship this piece would have been cut from a very large piece of compass timber – probably live oak for strength. On this model, two pieces of edge-glued ¾” maple were used. The next picture shows the two pieces used for this being edge glued.



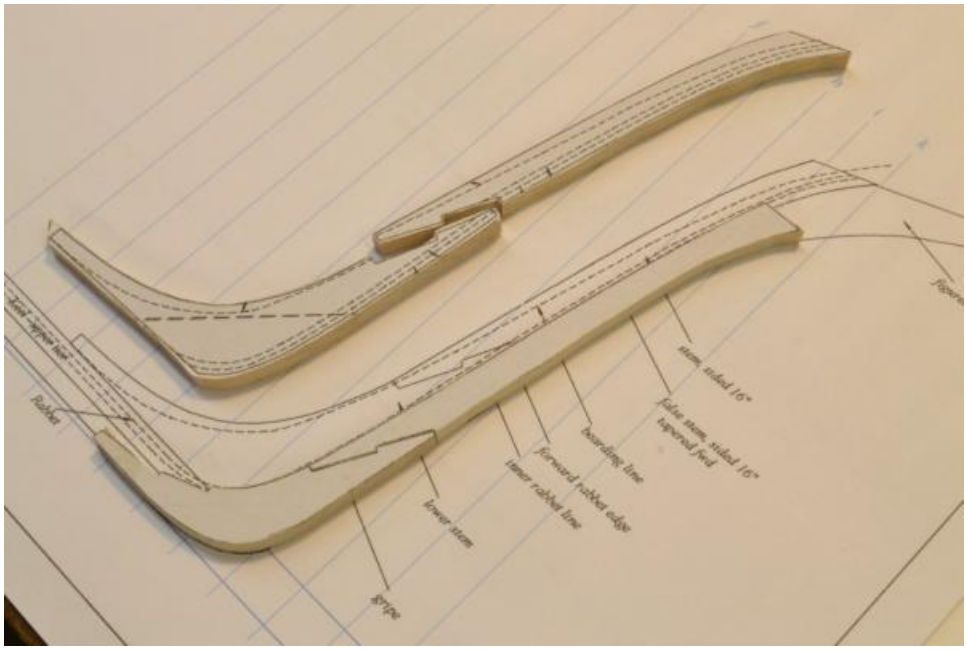
Undarkened Titebond® was used for this to minimize joint visibility, although on this model all this will be covered by metal sheathing. The long straight piece in the picture is being used to make sure the two glued pieces lie flat.

The next picture shows the four stem pieces cut out and ready for fitting. Dashed lines around the patterns show ¾” stock.

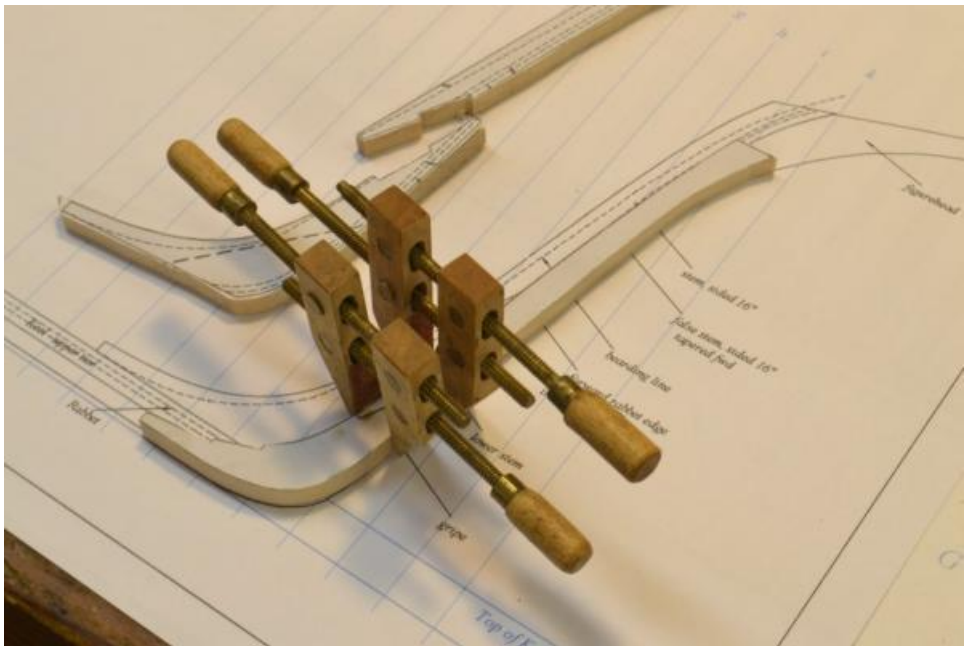


The pieces were cut on the scroll saw very close to the pattern lines, then dressed with a file for final fitting – as shown below.

The patterns were left pasted on for all of this work. In the next picture, the false stem (the members forward of the stem proper) have been fitted and aligned on the drawing.



The false stem pieces are being glued in the next picture.



Alignment is again provided by the drawing. To be continued…