

Bomb Vessel Log

Part 6 – Mortar Pit and Deck

5/19/2013

On to the Mortar Pit. I'm going to use Oak for it, since it needs all the strength to resist firing. Nothing fancy about the base except the trenails, all 156 of them! Dug through my old tools and found some hole saws, one of which was the correct size. Times it's handy to have a large drill press.



Illustration 1: Drilling Mortar Pit Turntable Hole



lace

I then cut and fit the Mortar Pit Support Beams. Note that they are flat in the center and only crowned on the ends.



Illustration 3: Mortar Pit floor in place

Advanced Notice- Since these several modifications (bo-bo repairs) have made the hull “Dimensionally Challenged” (pc for short) something has to give. The Hanging knees (43/9 and 43/10) and the Mortar Pit Support Standards (42/1) will have to be trimmed to fit. In effect the between deck space has been lowered. As far as length is concerned, I am going to reduce the width of one end deck beam.

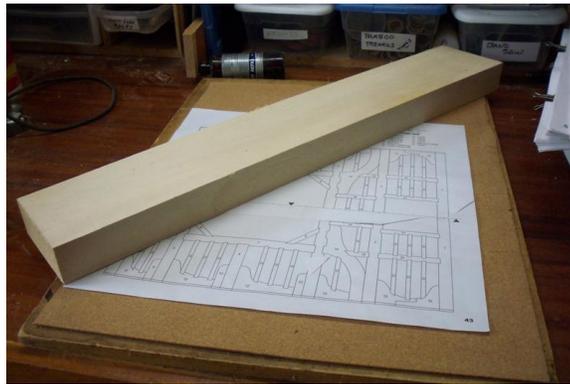


Illustration 4: Start with a block of Wood

Now to tackle the main deck. If any of you do not like jigsaw puzzles, then you better get a 'sub-contractor' to do it for you.

First of all the changes. I am not the greatest notch carver in the world and am seriously concerned about all the chisel work that has to be done. So - I am going to make the deck beams of two layers of wood with all the notches possible cut in the top layer and then laminated to the lower layer. I've done a sample and at a reasonable distance the glue joint is invisible. As far as the deck beams are concerned, if they are milled and then glued together the correct curve will be maintained. I'd suggest that you do several

samples since each type of wood will require a different amount of curvature to hold its shape. There is always a little spring back, but with a weak wood like basswood, it is minimal. The pieces could also be steam bent.



Illustration 5: Samples of different bending distances on the jig

The next shot is the jig in action. A mark is made at the center between the two ends and another mark at the correct distance for the bend. This worked out to about the same as shown on the plans, there was no spring back. A couple of scrap pieces, a nail and a little ca is all it takes. The end pieces should be the same width apart as the hull and you should use slightly longer beams to allow trimming and fitting to the clamps. Because of the shape of the hull sides the beams have to be slid in from the ends. If you trim them, so you can insert them from the top, there will be a gap at the ends. These gaps are covered by the waterways. You could also use a spreader to separate the sides for a snug fit.

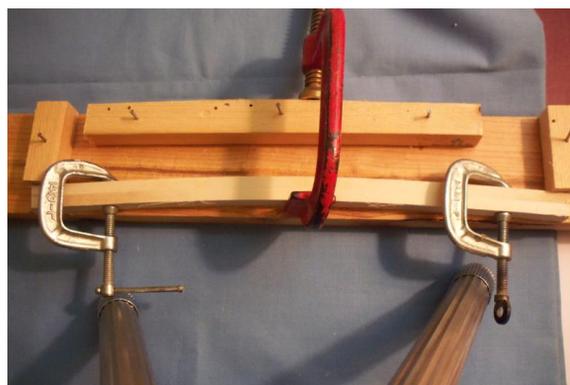


Illustration 6: Bending Beam for deck

Started making the components of the deck. I did not fasten the clamps so they can be used as guides for the beams. The plan shows the curve that is necessary as the bow is approached, but the framework is square to the

center-line. I will set the curves in the clamps as I place the deck into it's final position. First were the Upper Deck Beams (45/1,2,3,5,6) and their associated notches.

There are no calibration markings on the Jim Saw but a piece of tape will suffice. I wanted all my notches to start out the same depth. The other picture shows a pair of beams after being cut.



Illustration 8: Calibration mark



Illustration 7: Pair of beams after being cut

The Half Beam (45/4) can be cut full thickness, rather than laminated and then cut to size. When at all possible cut the two beams that share carlings at the same time which will make alignment easier. The next parts are the Trimmer Beams (45/7).

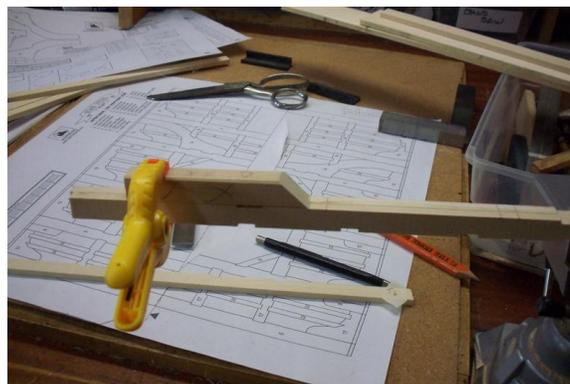


Illustration 9: Angle jig for 45 degree notches in trimmers and deck beams

The diagonal notches required to seat the Angled Carlings (45/8) are not too difficult since I made a small support block to get the right angle on the razor saw.

With these main beams completed it is time to start the dry assembly. I

will not glue anything until the entire deck framework is completed and the laminated beams made.

All the rest of the deck components should be cut to length and fitted individually to account for any 'slight' errors. Then cut the notches for the connecting carlings. I started at the middle and worked out which would allow me to make any minor corrections 'on the way'. Starting from one end might incur some sort of a cumulative error.

With two of the beams fitted to the two trimmers I did the angled carlings. Of course there was a little difference in the width of the angled notches so I made the width of the angled carling stock the same as the widest notch and trimmed the outboard end of the notches to fit. Adjusting the inboard ends would make the angle inconsistent. I used my needle files for this and had a brass brush handy for cleaning the files since soft wood clogs them up pretty fast.

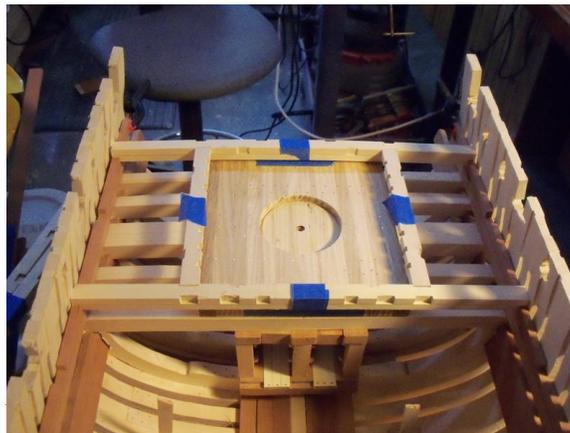


Illustration 11: First Try on hull

After the trial I went back to the pattern and fitted the rest of the pieces.

I remembered that I had a corner clamp and used it to keep the frame square while I was assembling it dry.

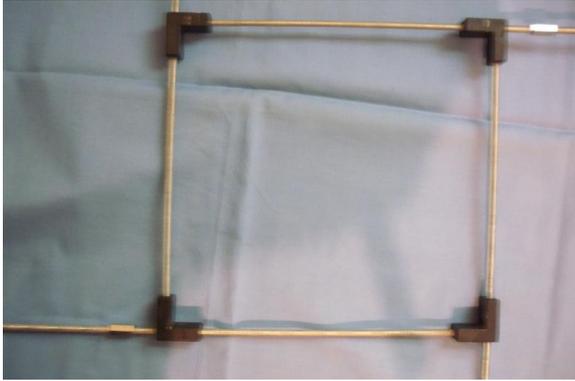


Illustration 13: Corner clamp

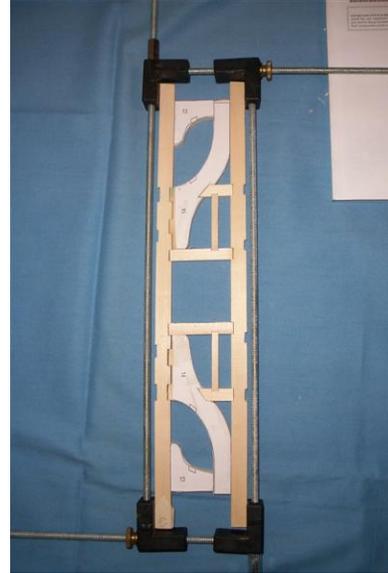


Illustration 12: In use

One note – the lodging knees (45/12) show 4. Make sure and use BOTH patterns numbered 12 since one pair is longer than the other. The assembly is rather straight forward. The plans remind you to check the carling lengths. I suggest you don't even cut them until you are assembling the deck on the model.

I made a couple of changes to the carlings. I made all of the small ones the same width and all the carlings were 1/4" thick. This was to go along with my laminated beams which were made up of two 1/4" pieces. I cut slots rather than having to cut pockets.

Next I laminated the beams and when they were dry, cut them to the correct length.

Assembling the deck on the model was the next step. After placing the ledges, I started with beams 2 and 5 and then worked outwards. I inserted knees first and then carlings that had notches in them.

One of my old Parallel clamps that I used in my misspent youth helped clamp the deck as it was drying. Sideways pressure was accomplished with wedges between the side of the hull and knees.

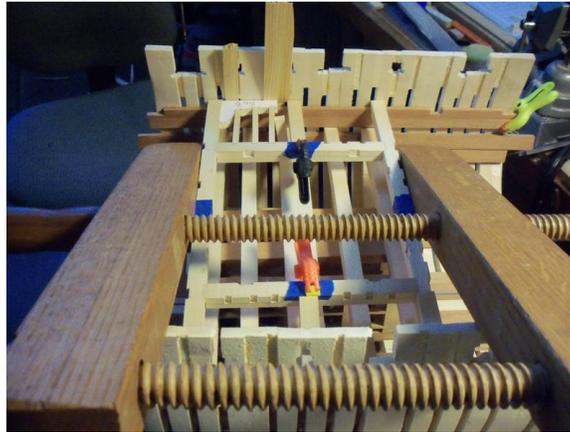


Illustration 14: Parallel Clamp in use on hull

Fitting the carlings so they looked good was a chore until I found an easy way to cut and fit each one. The carling stock is measured to fit the openings plus about 1/8". Then sand the ends of the carlings at an angle so that the edge view of the carling looks like a trapezoid. The picture is an exaggerated example.

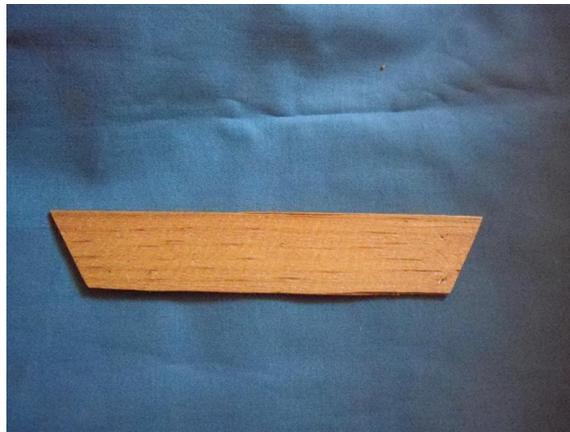


Illustration 15: A trapezoid

Of course the angle on the carling is not as extreme. The carling is placed and should partially fit. The end can be tweaked until the carling fits neatly. The taper will be hidden in the slot.

Looking back on the process, I believe I would do things a bit differently. I'd notch the deck beams and laminate them as above. Then start on the ship itself and fit the beams and knees first, but without glue. Then

mark out all the carling slots with the beams on the boat and remove for cutting. The framework is dead square and any that are out of alignment will show.



Illustration 16: Deck Framework in place