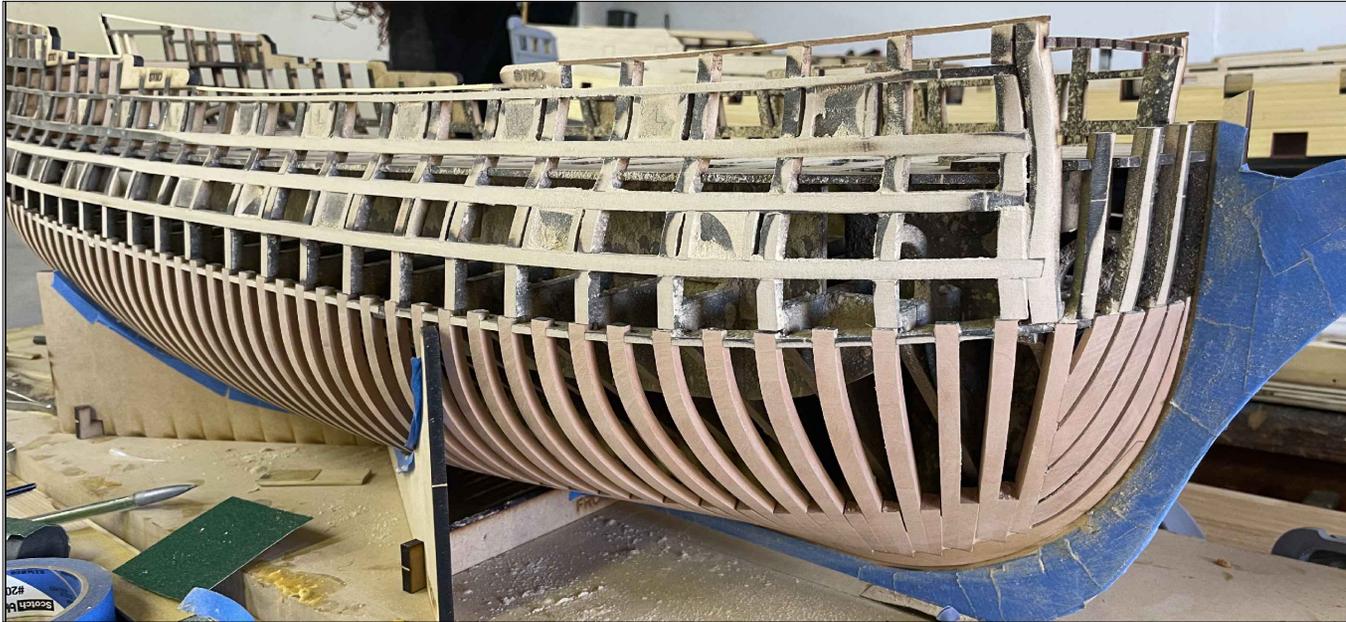


Moving on to chapter 2, we are going to get the hull faired and ready for some planking. There is a lot of sanding to do so be prepared. I used an assortment of sanding paper and tools to get my hull smooth, with sandpaper ranging from 80-220 grit. I also went to the automotive finish store and picked up some nice semi-ridged foam blocks. Take your time with fairing the hull and be especially careful with the frames as they will break free if you hit them with a hard edge. When using a block I always radius the leading edge of the block so it can't catch an edge.



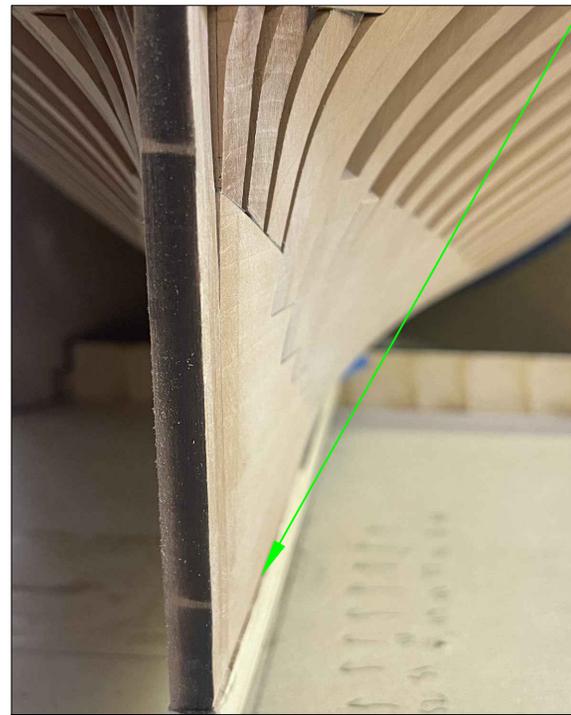
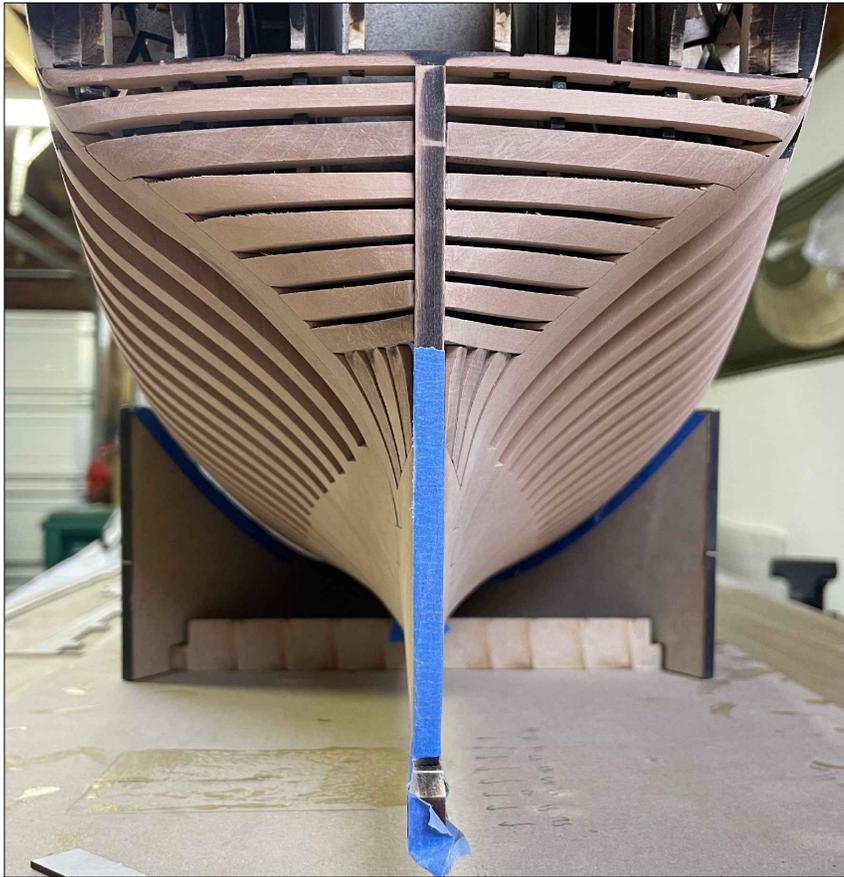
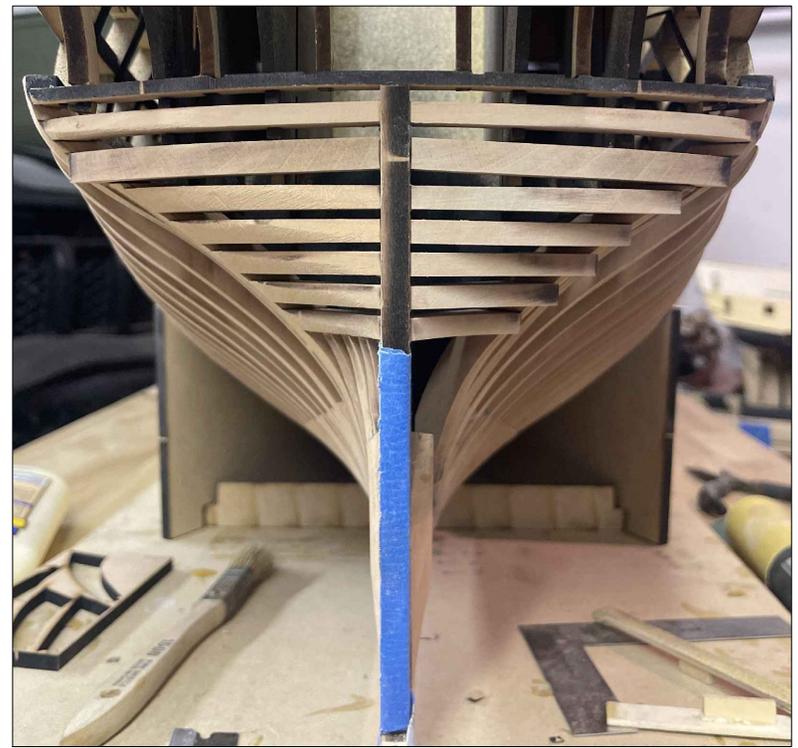
Working my way forward to aft, you can still see plenty of exposed char remaining, also I have all the AYC on the knee and keel parts protected with blue tape, I would frequently notice myself sanding into the tape and would replace it often so be careful!

I'm sure everyone has their own methods when it comes to sanding and fairing. To the right you can see a few examples of the foam blocks I used, when it comes to the aft cant frames and concave curves such as the upper gunports a foam tube sander is quite handy.



The model is pretty straight forward to fair in the middle and throughout most of the fore and aft cant frames but it does get a little tricky at the stern around the wing transoms. I purposely cut them with a lot of material for proper fairing and the final angle at which they finish requires it. To the right you can see the port side in the early stages of being faired and the stbd transoms as installed.

The image below shows the transoms, fillers and aft cant frames all faired, you can see how much material was removed but also notice how all the frames flow together nicely, this is what your model should look like.

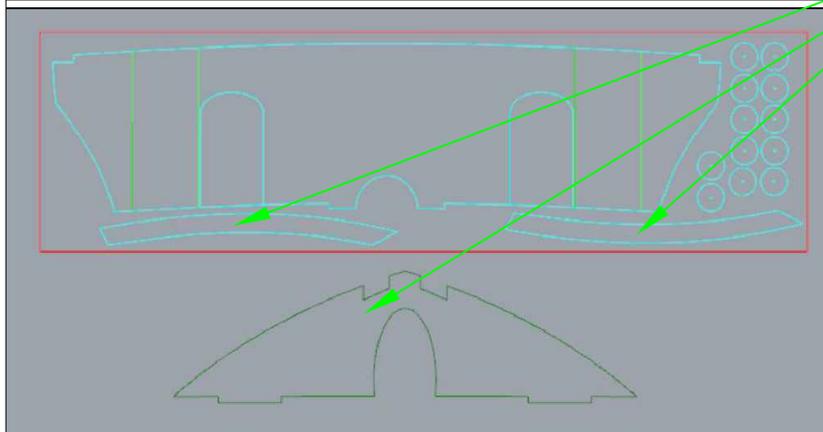


Notice the deadwood is sanded back from the keel to allow for planks, whether or not you decide to add some planks from the keel up, your model should have this feature. I will be adding 2-3 planks on my model

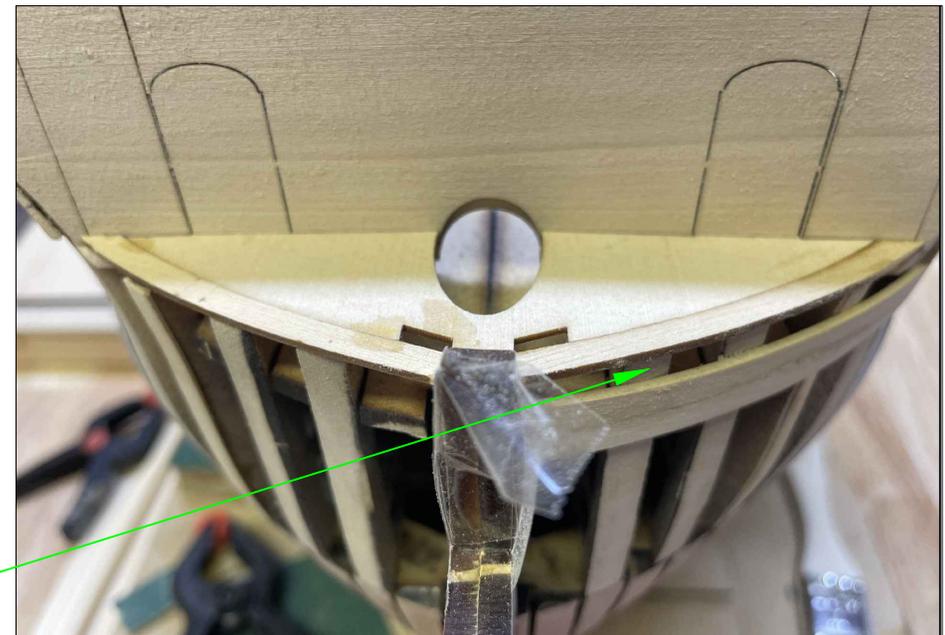
Before we start sanding on the upper part of the bulkheads in the front we need to temporarily install the beakhead bulkhead for sanding reference. The bulkhead should almost snap into place if you installed it correctly with the fairing caps in chapter 1. Just keep it in place for now with clamps as seen to the left, for the actual sanding i moved mine to the top of the bulkhead. Next we can move onto the temporary subdeck, this will help with fairing the MDF hawse pieces so your planking will be in the right spot to catch the grating later in the build.



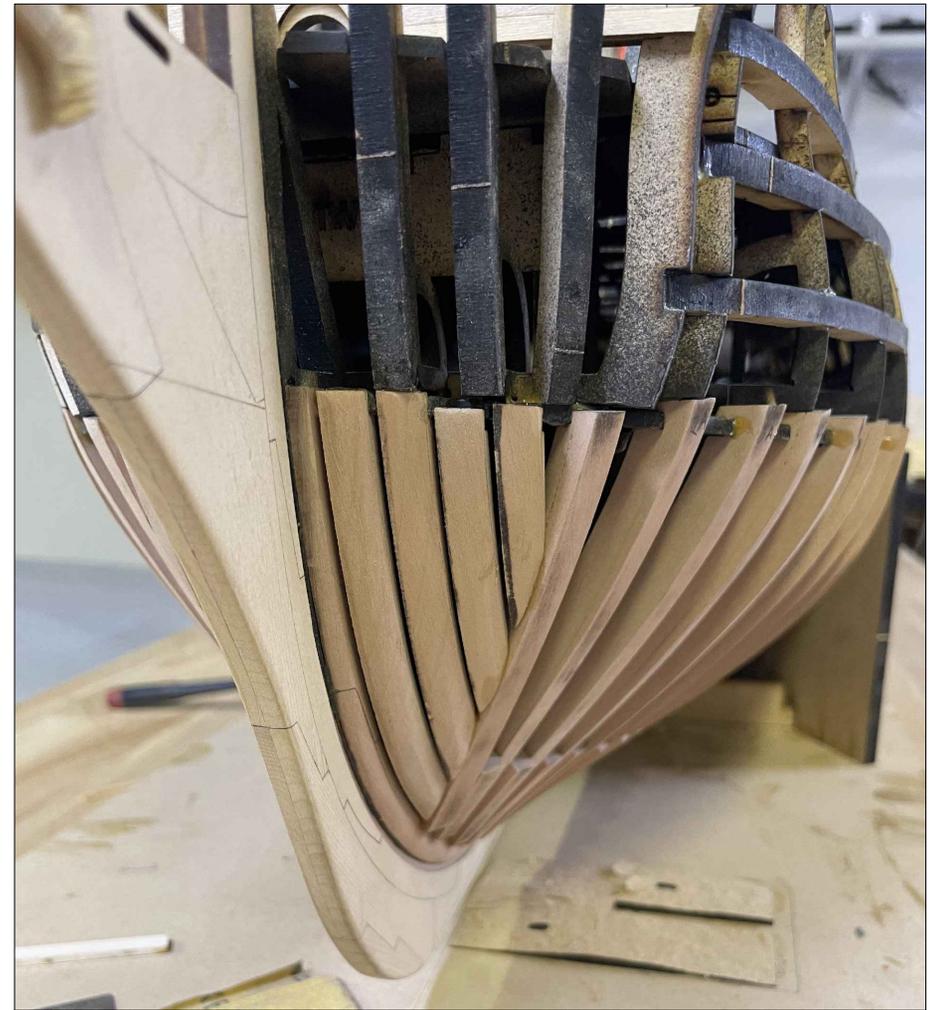
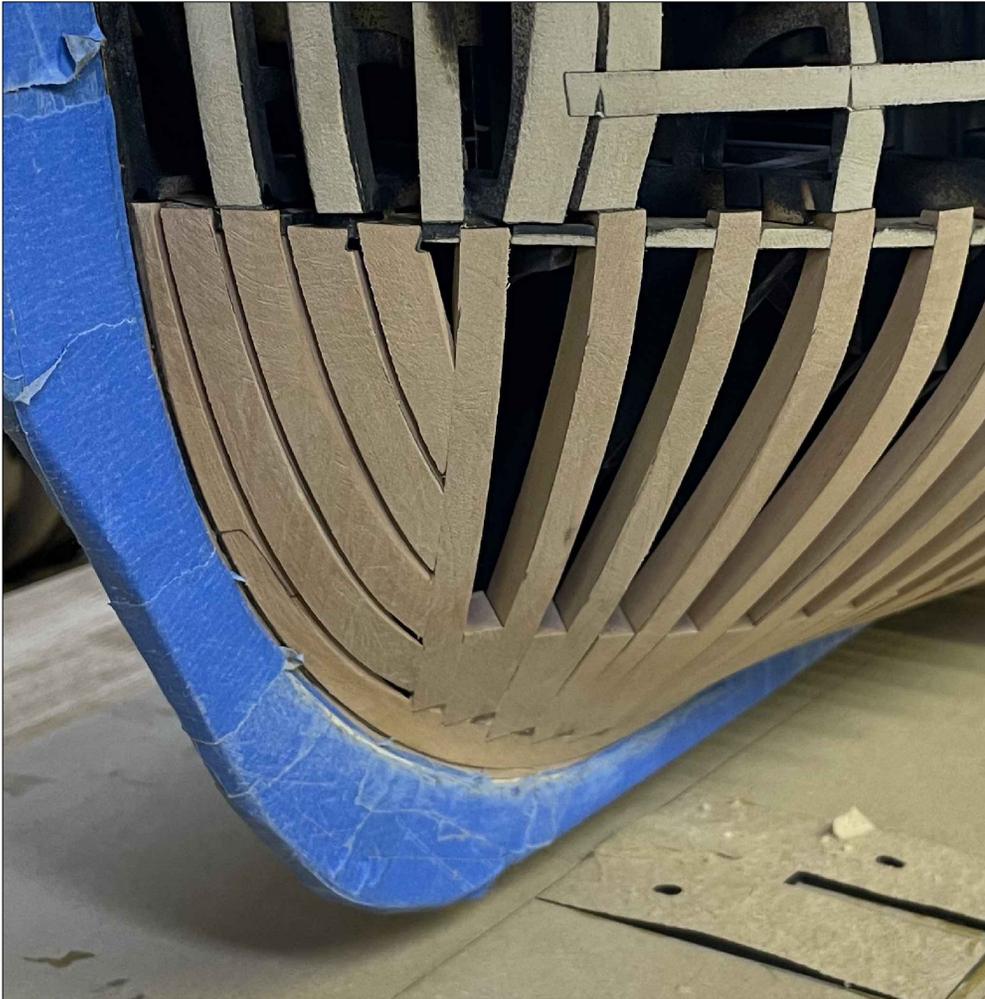
Included in chapter 1 with your beakhead bulkhead and fixed block rollers you have the false grating pieces and the subdeck for the beakhead. The grating pieces are $\frac{3}{64}$ " and the subdeck is $\frac{1}{32}$ ".



To the right you can see the subdeck in place, it should self align with tabs that fit under the doors and between the bulkhead. Do not glue it down, it should fit snug up against the back of the knee, you will need to take it on and off several times to fair the hawse pieces. I faired my hawse pieces down so the false grating piece hangs over about $\frac{1}{32}$ ", later in the build our grating will end up landing on top of that plank.



Moving on to the hawse pieces and the apron, I have them cut with fairing reference marks to give you a head start. To the right you can see the hawse pieces and frames installed rough. These require a lot of sanding and shaping so take your time. Below the model is close to being completely faired, notice how the hawse pieces fair into frame 1a almost seamlessly. Also notice how the upper frame bracket is almost bare of laser char at frame

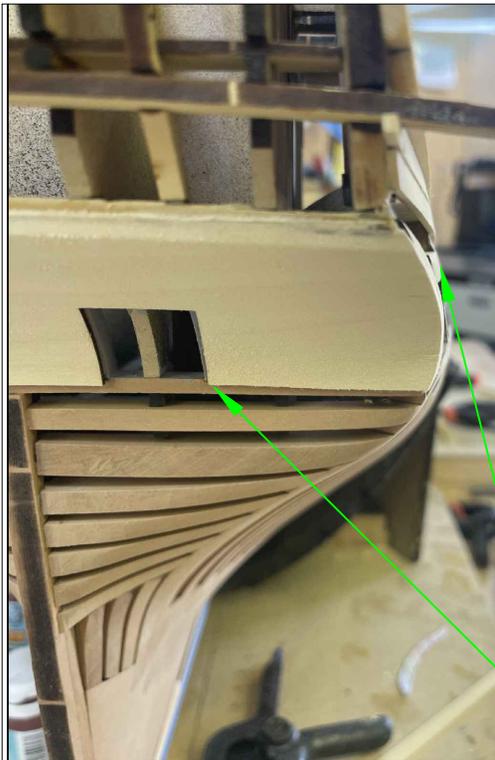


1a, once the char is gone you are pretty close to being finished sanding in that area, try not to sand too far beyond this point once you get here.

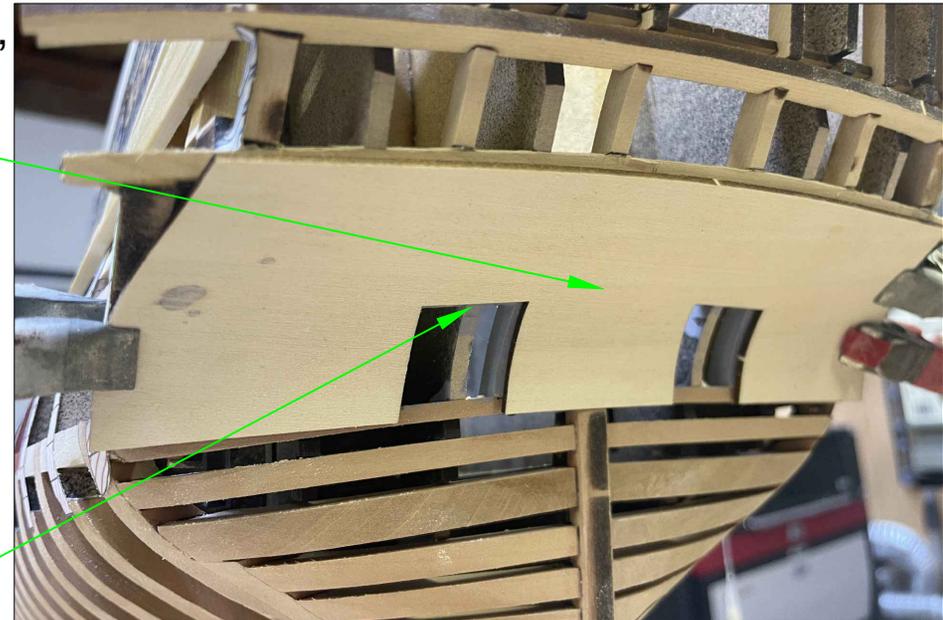


Lets move forward with installing the lower counter, this piece was also included with chapter 1 and is laser cut. First off we need to fair up the lower counter, this is made easy with a semi ridged foam tube sanding block, once completed you can finish your stern chaser frames as seen to the left (in primer) but you will have them semi obstructed by the stern frame jig. Go ahead and place the counter on with a couple of clamps, I wetted mine on the backside so it would naturally curl in the right direction, the goal is to get it centered over the gunport framing. The counter has some extra material on it in every direction so don't

worry too much about where it lands on other pieces, you will end up sanding it off later.



Once you have the counter in place go ahead and glue it down, i used CA and glued it from the back side with an extension tube. Be very careful not to glue it to any jig parts!! Also keep in mind the chaser ports are similar to our other gunports with no edge at the top.



The completed counter, you can see how it follows frames 52 a/b and also stbd 3 gundeck upper gunport longitudinal terminates into the fillers and helps define its shape as well. Carefully trim the bottom of the counter to just under the top of the wing transom. I also tube sanded my counter down to about $\frac{3}{64}$ " once it was in place.

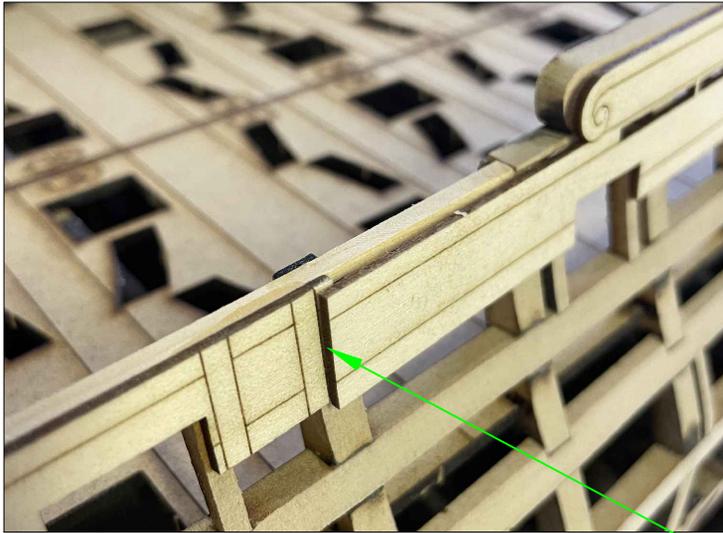
Moving on to the frieze panels, they are two pieces each and are laser cut, this will save hours of planking and all of it will be covered up with friezes, moldings QG's or paint. We need to first fair down the tops of the hance pieces so everything is on a horizontal a small line of char left on the inside edge. Its best to use a



a long board that spans the beam. After you finish the tops of all the hance pieces you can proceed with clamping the forward panel on and aligning it with the gunport frames, on Portland we will be planking all the way to the edge of the gunports on the upper deck with the exception of the last two so they should line up with the edges, some may require a little piece of strip wood if gaps do appear. After the forward one is clamped on you can go ahead and fit the aft panel, you'll notice that the aft panel is slightly long so you will have to trim until they butt together with a tight joint. Once they fit together well go ahead and run a batten down the length of the model. I did this primarily to make sure there is a fair curve below these panels for the planks to run on, especially at the joint, these are pretty long panels and could create an unfavorable discontinuity. Once you are



satisfied with how you panels fit you can glue them down, i found it best to glue them with CA while they are clamped in place that way you don't risk losing the position you have them in.



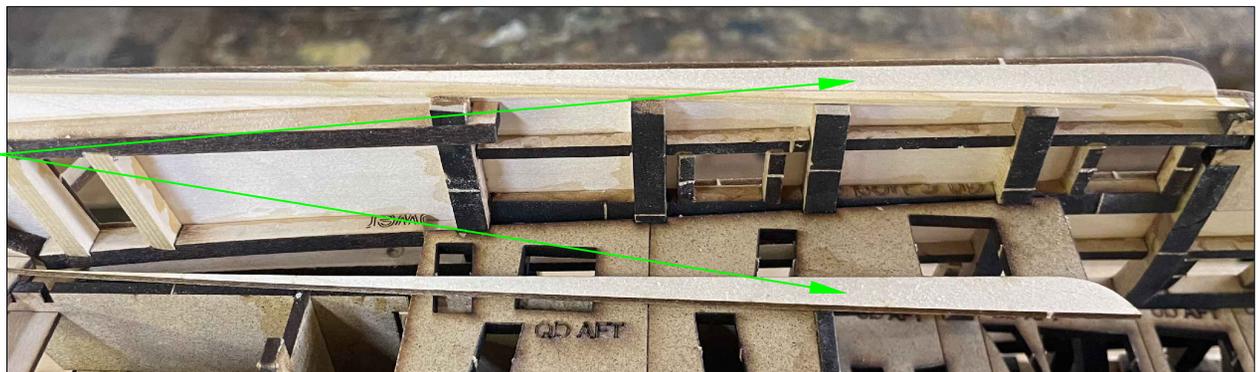
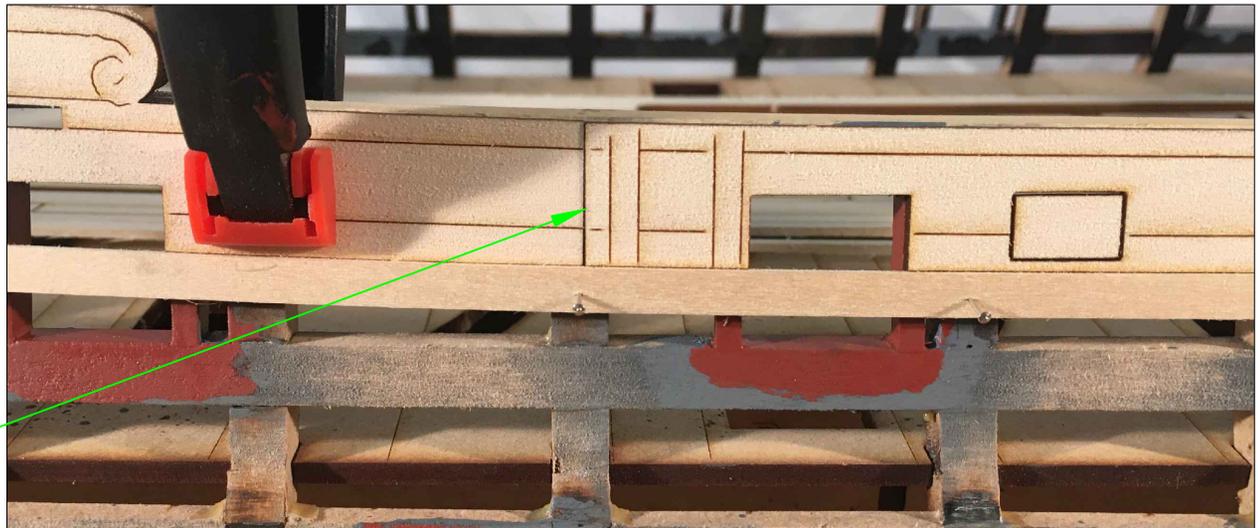
You can see the overlap in the aft frieze panel, trim the aft panel until they fit tight as seen to the right.

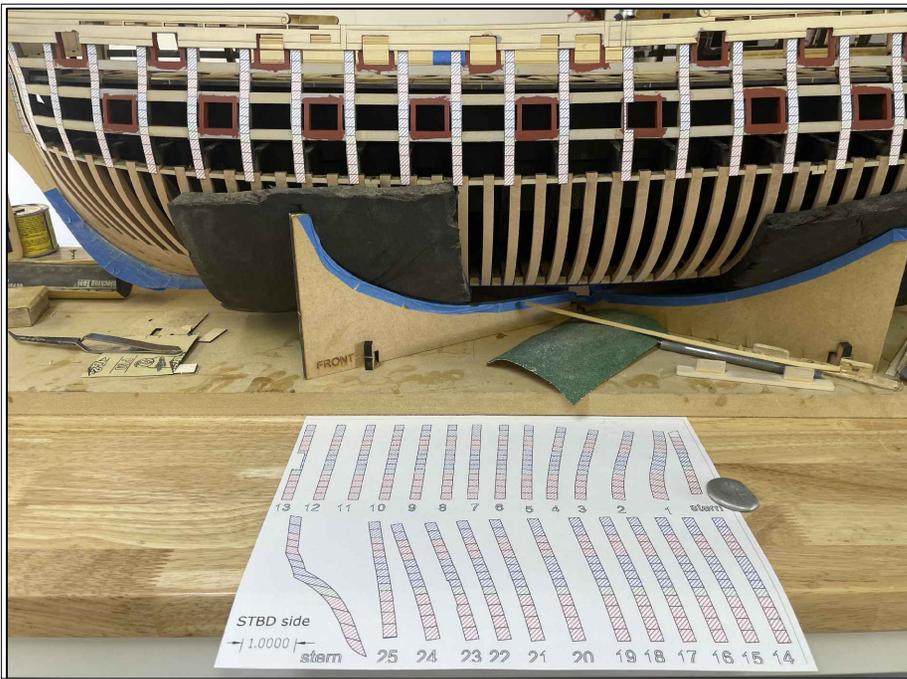
With the batten in place make sure your joints at the panels are good and most importantly that there are no gaps between the batten and the panels especially at the joint.

Once your frieze panels are installed you can add the laser cut upper filler pieces. I added two to each side, most of them will be sanded off when fairing the outside and inside of the hull.



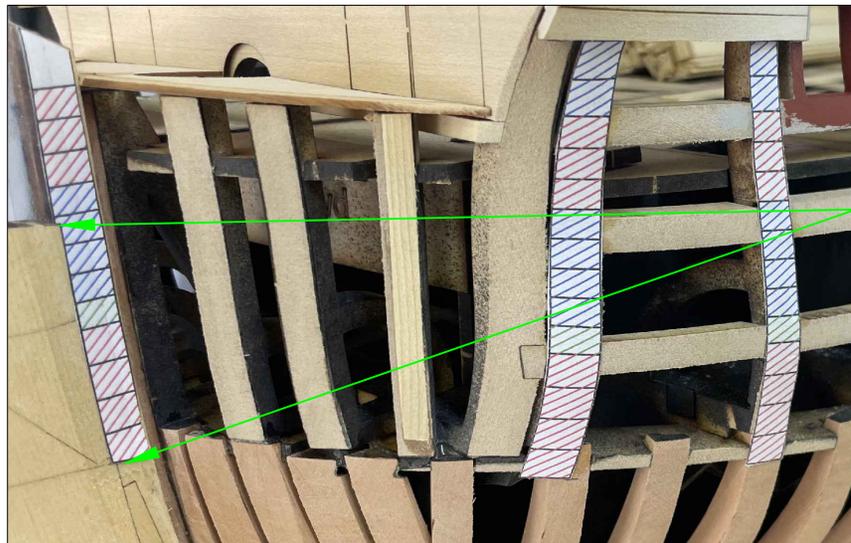
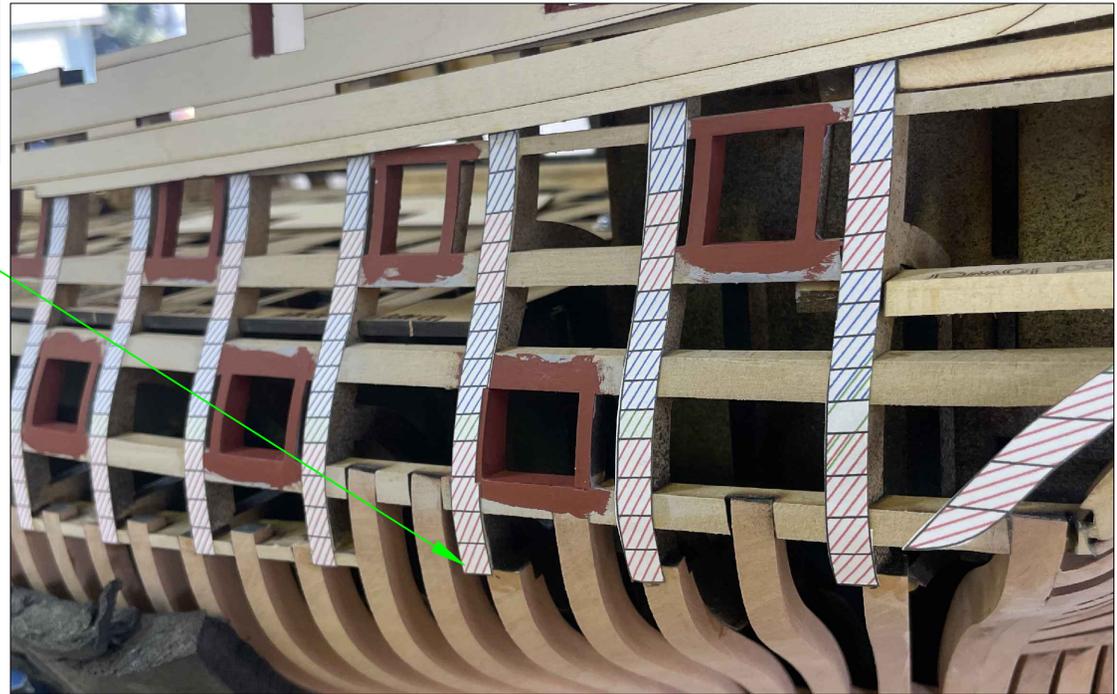
Batten running the length of the frieze panels. Make sure there is a fair curve.





Finally we move on to the planking strips, these are pretty straightforward, each strip has a number below it that corresponds to the bulkhead that it belongs to, I just marked where they stopped on the bulkhead extension and applied PVA and attached them. They should fit right up against the bottom of the frieze panels and follow the extensions straight down.

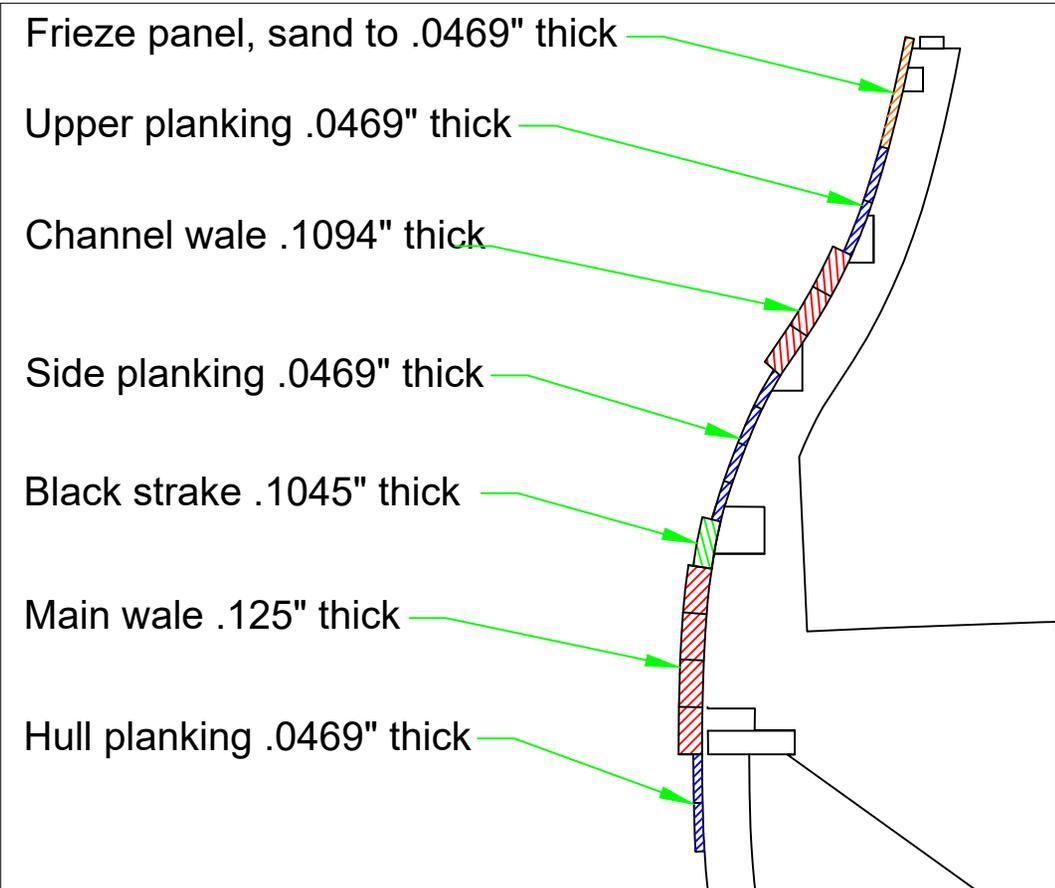
I have my planking strips going down to the main wale, the strips included will go down to two planks below the wale, i recommend planking at least one plank below the wale to avoid seeing the edge of the gundeck.



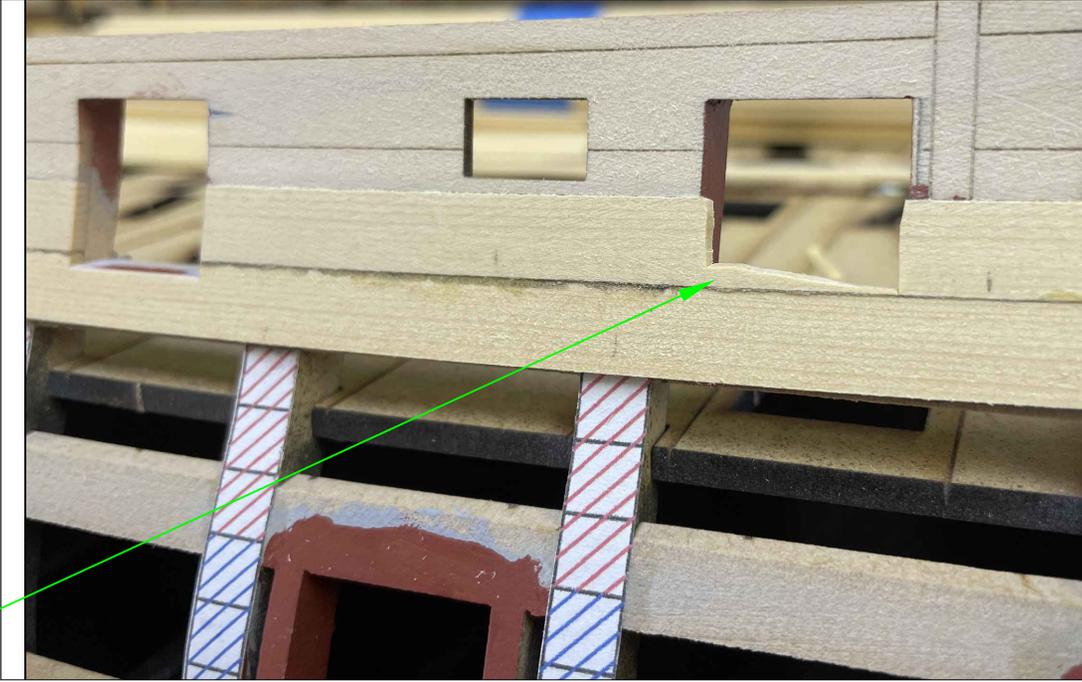
Notice that the strip on the stem has a notch that matches up with the top of the knee, also notice that the main wale ends on the laser etched reference line on the knee. I used clear packaging tape to temporarily attach this strip as it will be removed after planking.

A simple diagram at bulkhead 13, showing the planking from the frieze panel down to two hull planks below the main wale. I cut my planks a bit thick so i have material to block sand them down after each belt. I began at the upper planking and just planked straight across the port as it was easier to cut and sand the planking down afterwards, after this belt was completed i block sanded it and treated it with WOP. **Note that the last two aft upper deck gunports will require doors so plank with $\frac{1}{32}$ " set back around the side and the bottom of the ports.**

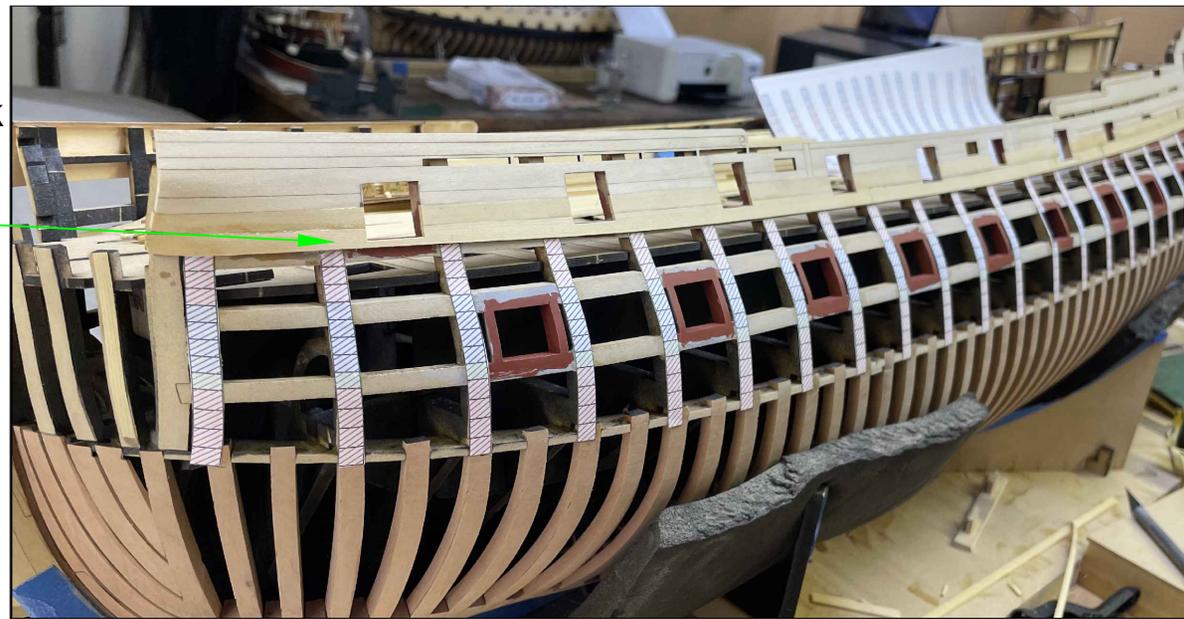
A clamp was used to hold down the frieze panel and plank at the forward and, CA was used on the backside and allowed to set.



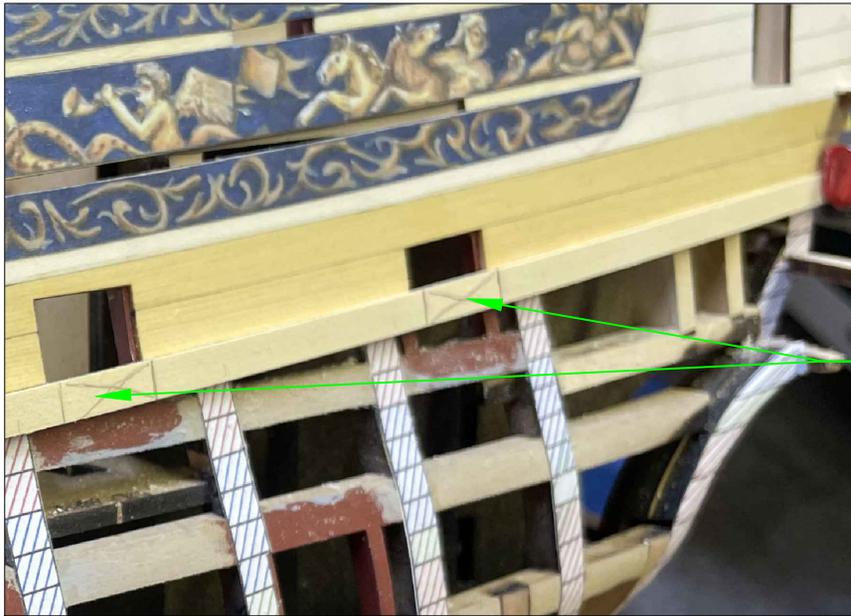
The first belt completed before sanding and showing the ports now being opened up, a No. 11 blade and some block sanders with various grits were used to open the ports.



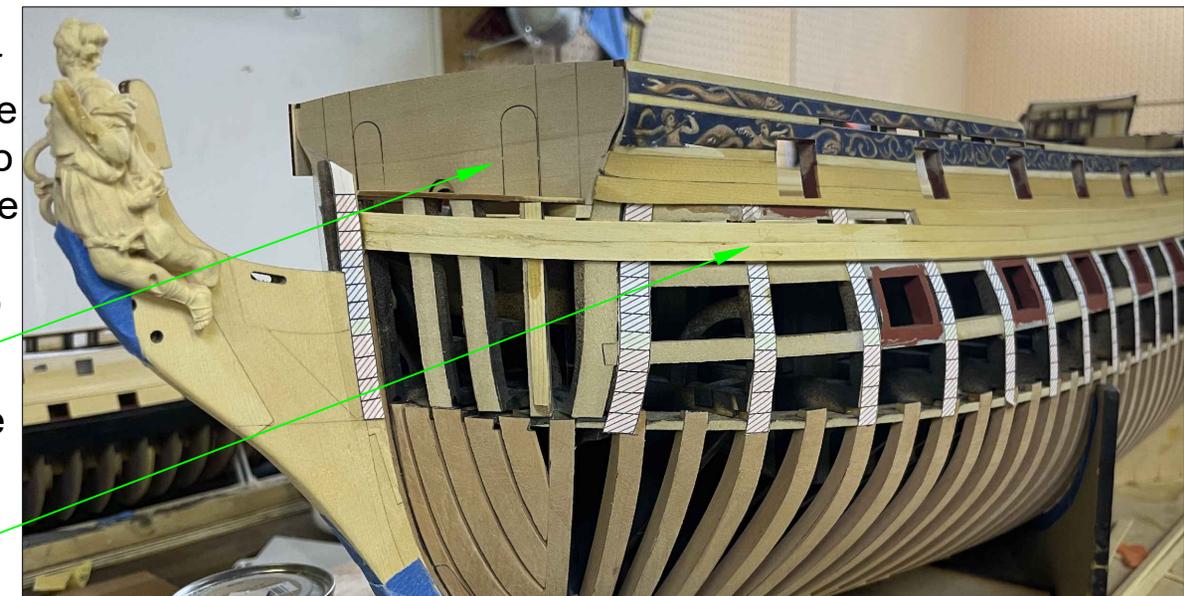
The first belt before sanding, i choose to complete each belt and treat with WOP before i started the next one. It was much easier to block out the frieze panels and planking without the channel wale in the way.



The last two gunports require doors you can see the sills on the upper planking and a channel wale plank temporarily in place. I found that if tapered one whole plank to fit and cut it after its shaped that they fit much better than trying to make individual small planks to fit. Note this plank is only clamped on. Also note that I have attached the Friezes at this point, although not necessary at this stage, they will be required later.

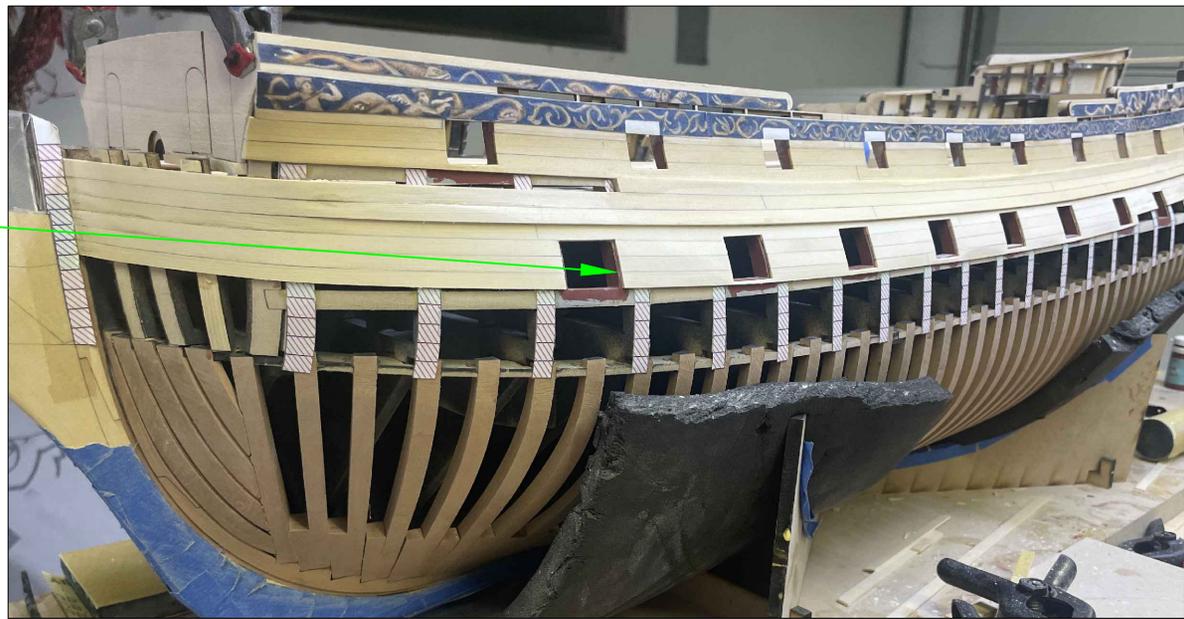


The channel wales almost completed, it is necessary to leave the uppermost channel wale plank out until our planking is complete, the inner forward hawse frames need to be sanded and the beakhead beam and subdeck requires removal to do so as well as the inner jigs. If we do this before the MDF hawse frames are secured by planking then they will be unsupported and very difficult to sand.



I began tapering the channel wale planks and the main wale planks down to $\frac{3}{64}$ " at bulkhead 2. When they meet the stem they should be the same thickness as the hull planking.

Following the channel wale is the side planking, same as the upper planking however all the gundeck ports require doors so we will be planking $\frac{1}{32}$ " short of the frame edges on the sides and the bottom of the ports.



Finally the black strake and main wale, before attaching the black strake I painted each piece black, I did not want to risk any chance of paint on the planking. Finally the wales followed, since they are being painted black we don't need to worry about simulated caulking.





With the wales completed you can go ahead and paint them black. To be safe i made sure that everything above the black strake had WOP on it to seal the wood in the event that paint found its way up there, also make sure to mask off the frames as well, if you end up getting a bit of black on a frame close to the wale you should be ok as we will be planking over this area.

With the main wales out of the way we just need to finish the two strakes of lower planking but first we need to remove the jig structure and finish that pesky channel wale that we left behind earlier in the build. Removal of the forward jig and mid jigs is pretty self explanatory, refer back to their assembly in chapter 1 if necessary. Go ahead and remove those two sections and lets get working on fairing the forward inner part of the model.



I had to make a slight notch in the forward diagonal MDF hawse piece in order to carefully remove the beakhead bulkhead beam, carefully remove it and set it aside for now.

Now that we have the beam out of the way we can begin work on clearing bulkhead extension supports and start fairing this area.

There are several ring hoop supports that I had to add to some of the bulkheads to support them through the build process, now that the hull is planked it is very ridged and these can be removed without compromising the bulkhead structure.

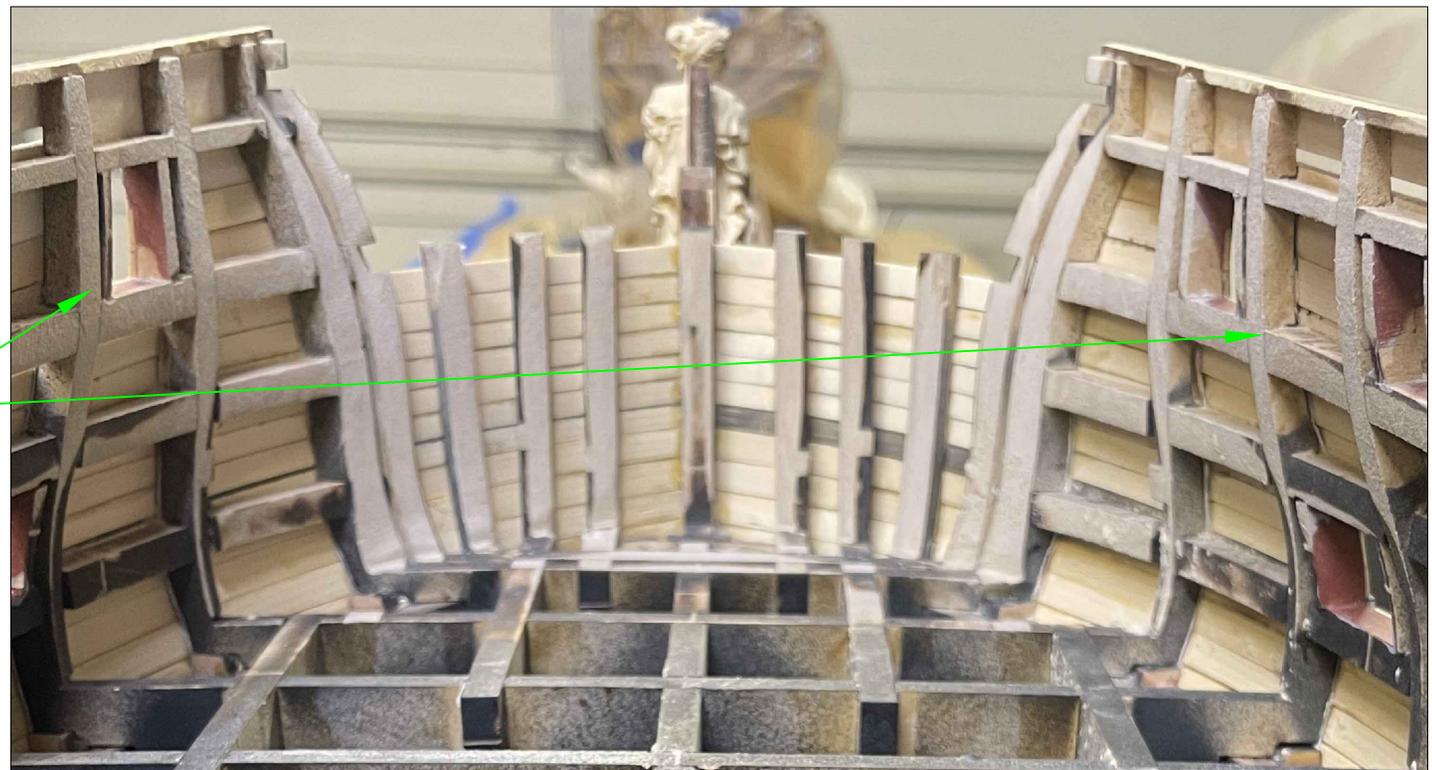


Several hoops require removal before we can start fairing the inner bulkheads



A small exacto saw blade works perfect cutting through the MDF, I cut them as close to the base of the bulkhead as possible.

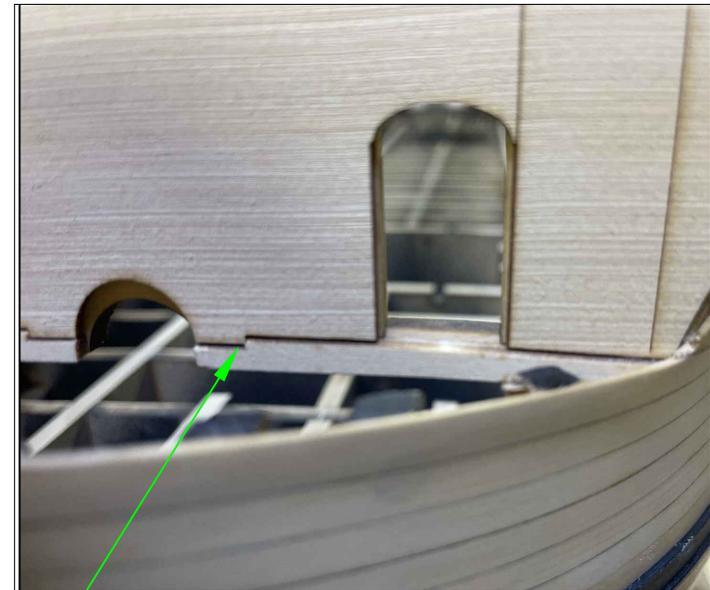
I focused on the area mostly forward of the beam as it will be really difficult to reach once the beam is permanently installed, but as you can see in this photo i took the fairing back to bulkhead 3 so i didnt have to worry about this area much at all once i begin fairing the rest of the hull.



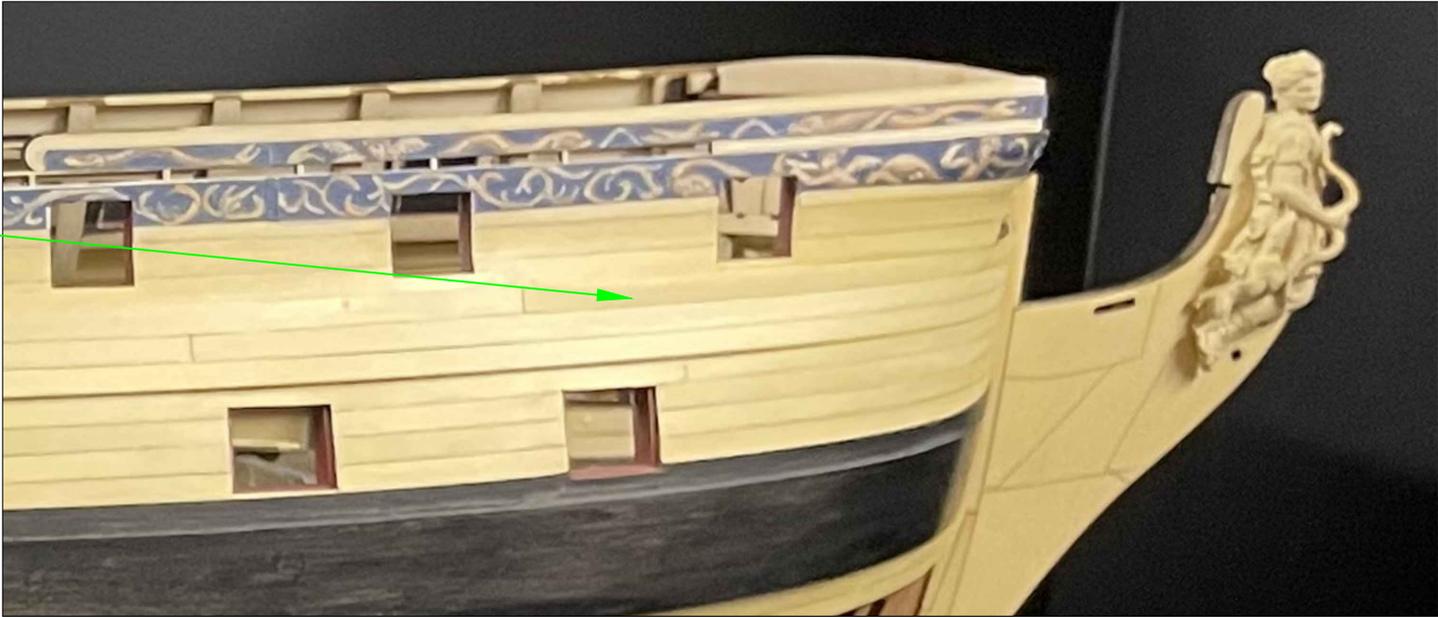
I sanded down the forward MDF hawse pieces to about $\frac{5}{32}$ ", make sure to also keep them square at the bottom corners.



Once satisfied with your fairing work and before you add the last channel wale piece go ahead and reinstall your beakhead beam and use the bulkhead to center it perfectly, make sure it is flush with the beakhead bulkhead frame and that the bulkhead is also sitting flat against everything. when everything is lined up go ahead and permanently glue the beam in place in its respective slots. Dont glue the bulkhead down yet!



Now that the beakhead bulkhead beam is secured lets finish the channel wale. Carefully fit the last forward plank that finishes the channel wale.



Moving aft, lets start preparing the stern jig to be removed, this is a little more involved and will require some careful cutting away of select pieces. I started with the upper part of the structure, rather than try and soften the glue and pull the whole upper piece out i decided it was just easier to cut it in half and remove the section holding the bulkhead extensions. To the right you can see the part coming out, go ahead and saw it in half as shown and carefully remove the piece, repeat on the other side.

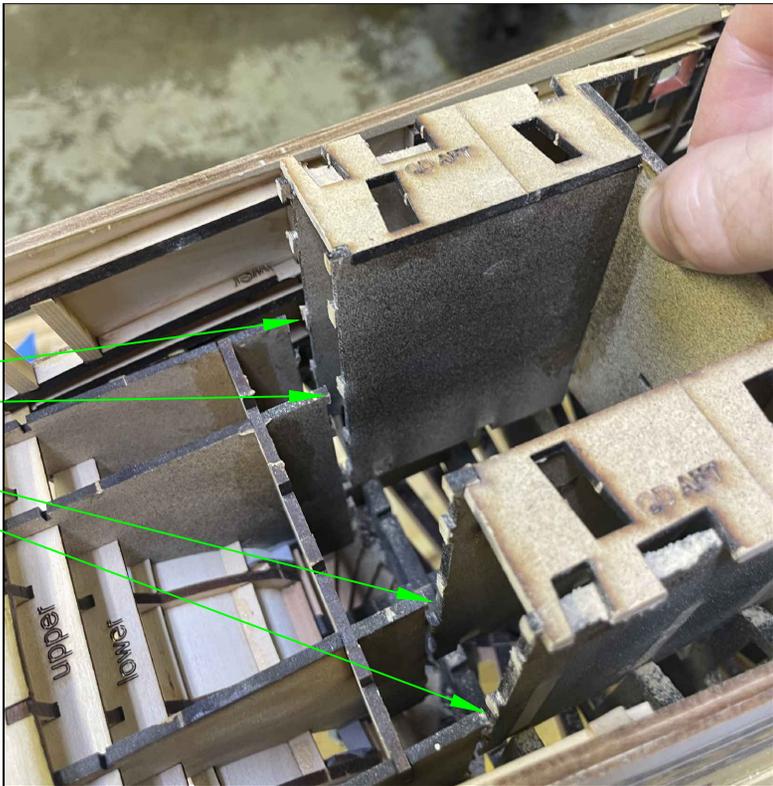


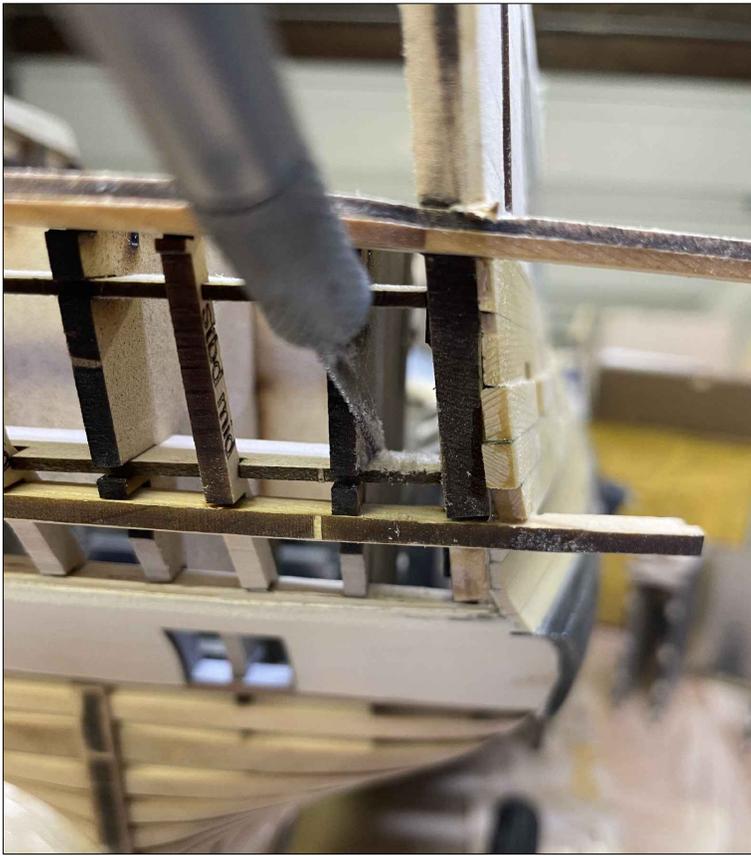
With the upper extension jig removed on both sides, it will allow us to lift part of the jig straight off the model, but not yet, we will have more parts to cut before this happens.

Next lets move to the perforated part of the jig as seen to the right, this requires cutting and separation from the aft most part of the jig, there are 4 longitudinal pieces that have these cut perforations. The exacto mini saw made quick work of these. Below you can see both port pieces cut at the perforations, make sure to get all the way to the bottom of the lowest one. Repeat this on the stbd side



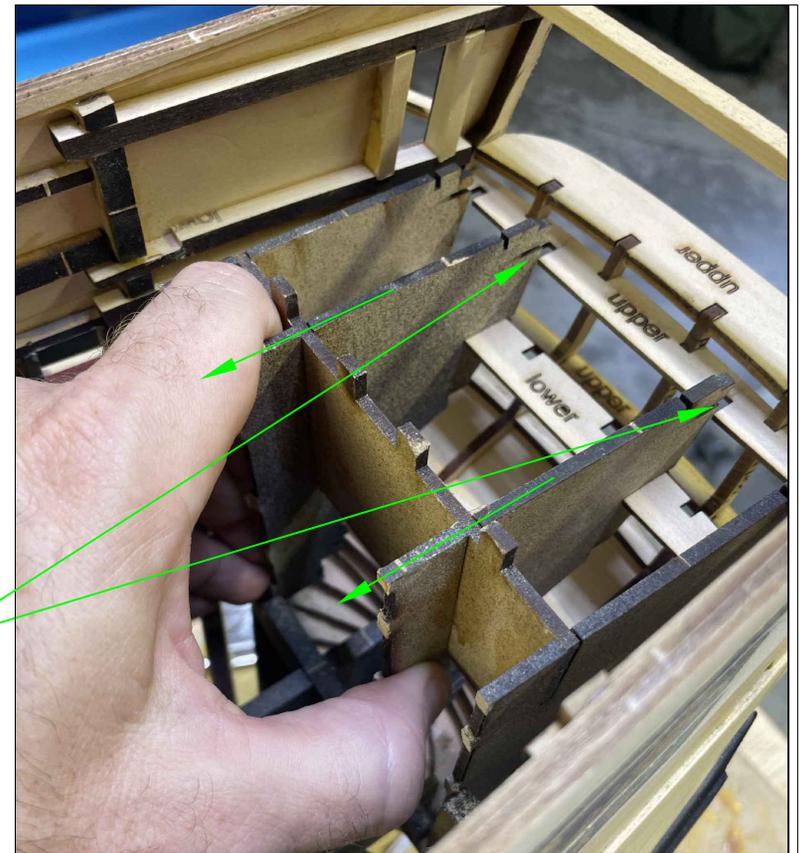
With all four pieces of the jig cut free from the aft part you will now be able to carefully lift the assembly out, now remember it fit pretty snug into the slots on the bulkheads so it might take some persuasion to lift out so just take your time and work it up slowly.



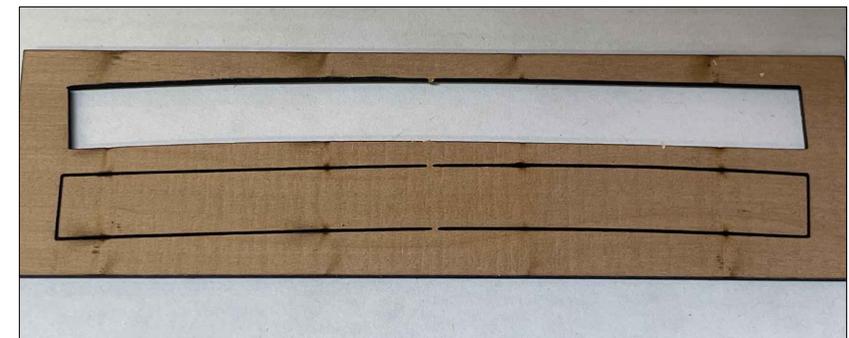
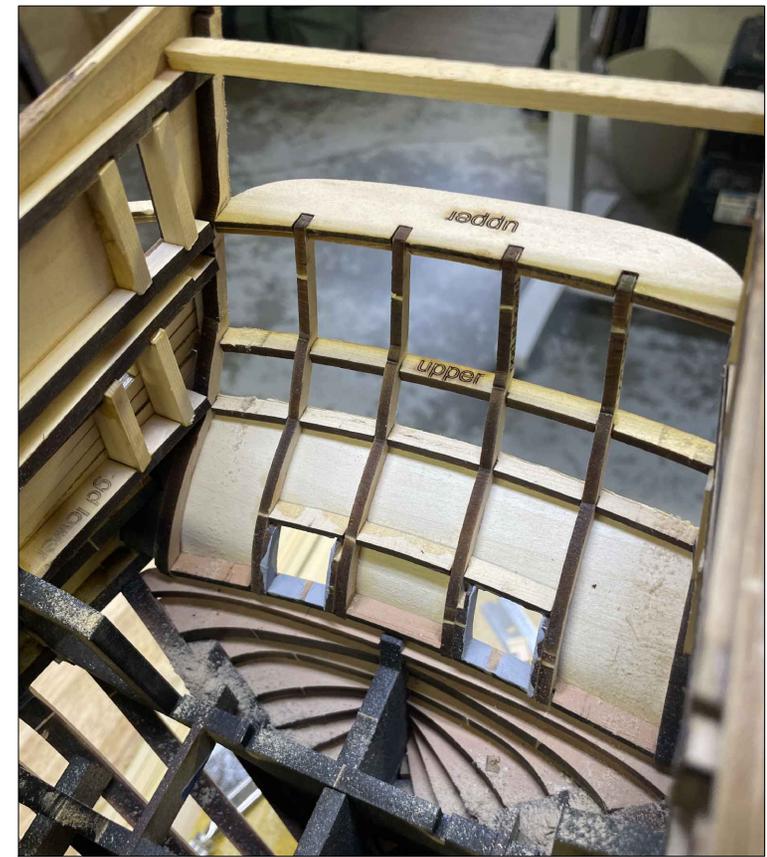


The final part of the jig cannot be lifted out, if you try it will destroy your stern uprights and the counter structure, this part, when separated from the forward part of the stern frame jig, was designed to slide out going forward. In theory it should pull right out as soon as you remove the other part but with so many fragile parts back there I decided to cut it free even more. To the left you can see I have begun to cut it free from the horizontal pieces that carry the uprights, this reduces the chances of breaking anything. I cut the outer ends first and that was enough, it released easily after that.

The remaining jig pulling away from the stern assembly towards the front of the model, as long as you did not glue any of the frames to the upper and lower horizontal pieces it should come out pretty easily.

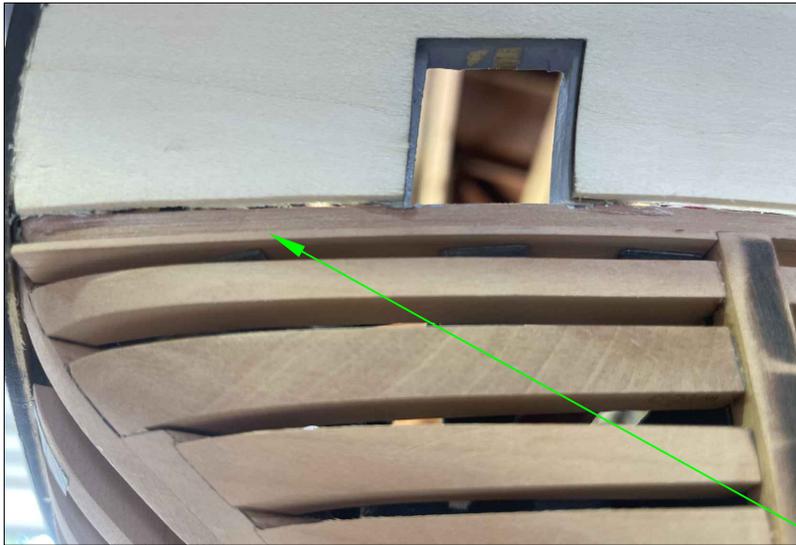
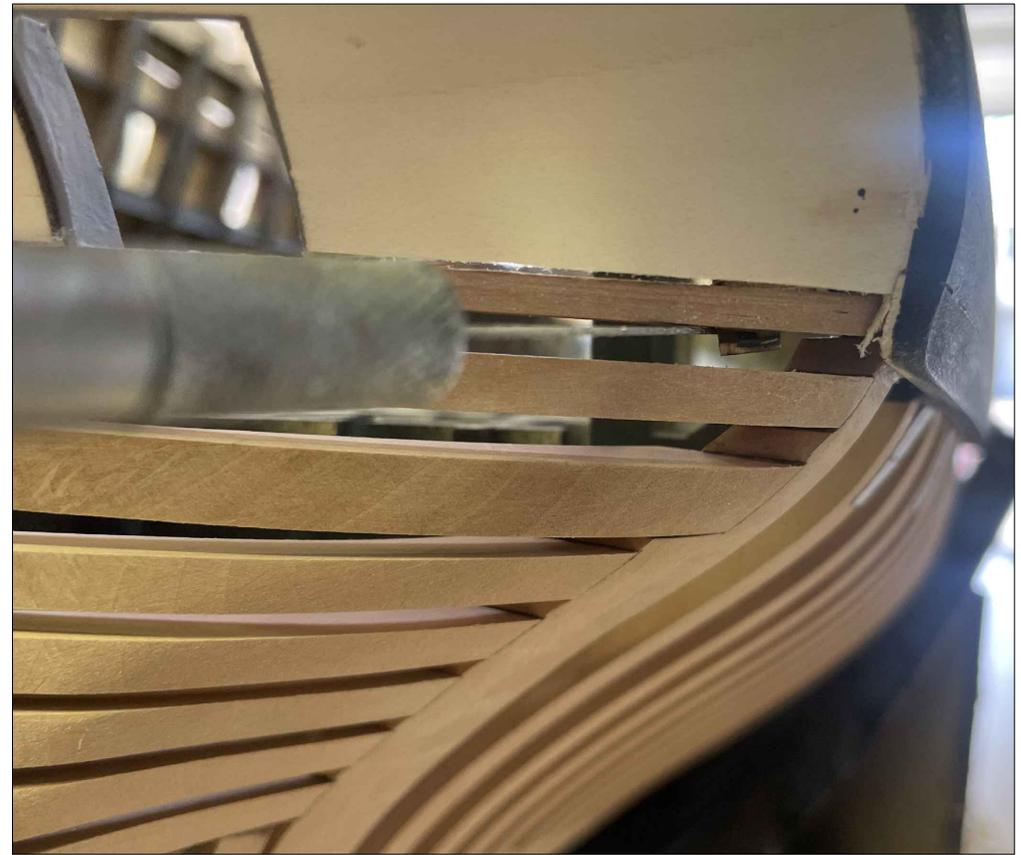


With all the jigs removed you should now have an open Portland hull down to the main gun deck level. We can now begin work fairing inside the hull. But first lets finish our planking below the wales. In order to finish the planking we need to add a thin pear laminate to the bottom of wing transom #8. Before we start lets prep the transom for the laminate.



The wing transom laminate above is $\frac{3}{64}$ " (.046875") and laser cut.

We can now access this area of the model, shown to the left i trimmed the ends of the frames off where they attach to the wing transom. Once you cut the ends off you can then carefully, with a sanding stick sand them down flush with the bottom surface of the wing transom. Now you can go ahead and dry fit the laminate as shown below. Make sure it fits nicely up against the stern post and that it sits tight against the wing transom you are gluing it to.



I test fitted the laminate piece until i was happy that it was going to glue tight with no gaps. its fine to leave an edge, i think i left $\frac{1}{32}$ " hanging out. will be sanded off later. I used clamps and PVA to glue mine in but also made some wedges out of scrap to help with any possible gaps on the outside.





The port side with the laminate piece in place and sanded, its hard to tell its there and if not, it will be covered up later with a boxwood molding anyway. But now we dont see the bottom of the stern frames anymore and the gap between the two wings has closed up as shown on the painting. Lets now move onto the planking below the wales.



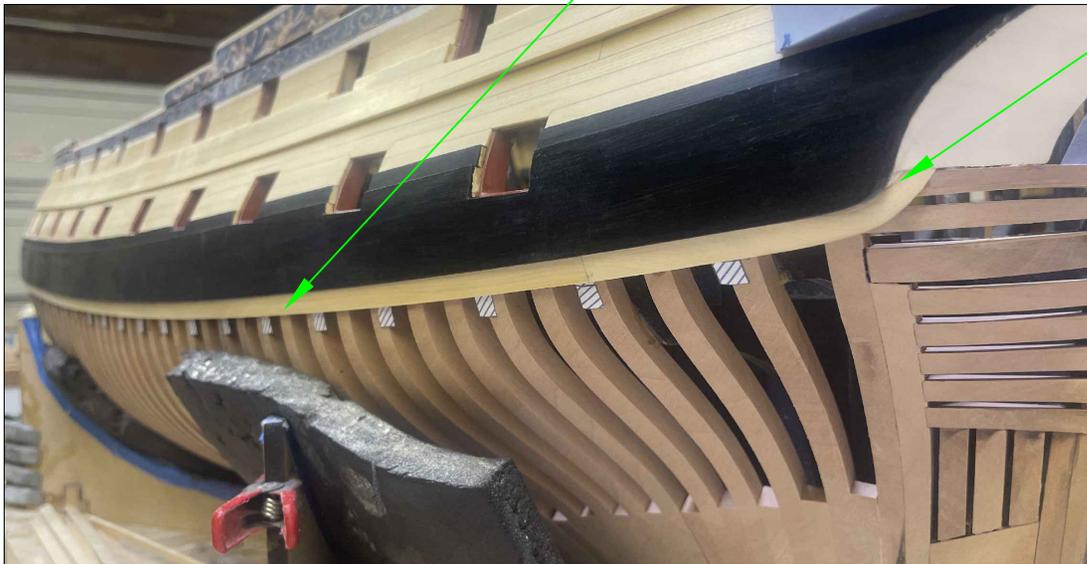
The remaining planking is pretty straight forward, just follow the planking strips. I started at the bow and worked my way back until about the second to the last plank, from there i switched to the stern and made the complicated plank at the counter and then ran it to its termination on frame 49.



Here you can see the last plank on the strake going on before the second to the last one, i find it easier to make this complicated plank first and then fit the second to the last in between. Note the small gap in the corner between the wale and the plank as well.



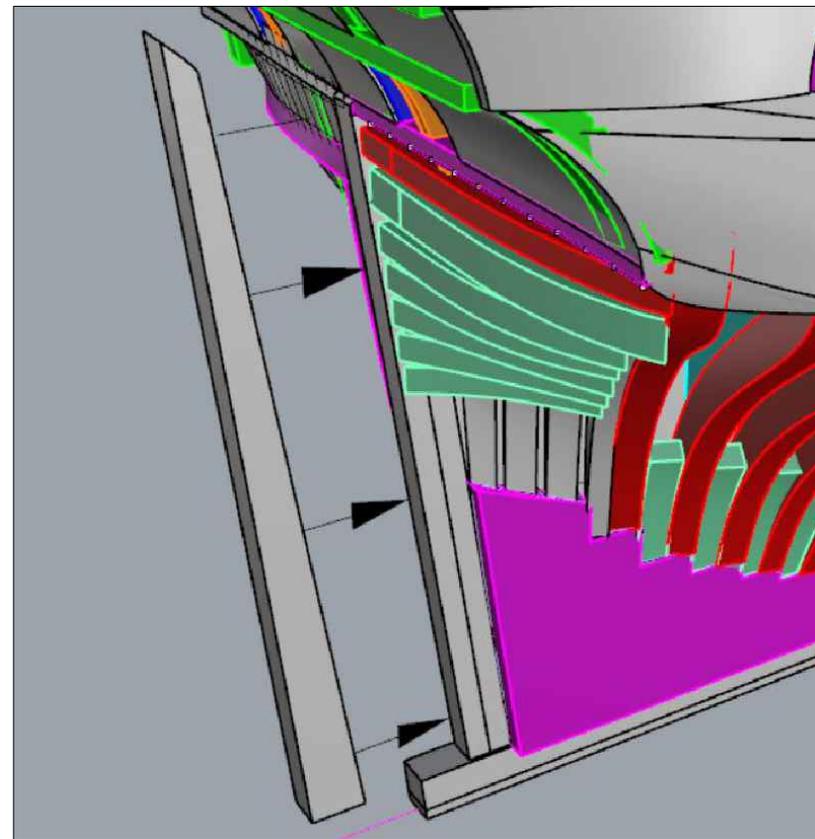
Its much easier to make this plank and squeeze it in rather than trying to do it at the counter.



The first strake completed, one more to go. Note the gap mentioned above is now filled, I have seen this on contemporary models but technically you don't have to fill this one as we will cover it with molding but i did anyway, why chance it!

We can now add the outer stern post, this is made from two $\frac{5}{32}$ " AYC pieces. The outer post is slightly long so you will have to sand and shape it to fit the lower counter. Center it against the inner post and glue it in place when you have a nice fit. Make sure to sand the char off the before you attach it to the inner post otherwise it will be seen as we are not going to butt planks up against it. Once dry and in place to ahead and block sand the false keel to match the post. Also add a slight taper to the bottom of the post.

With this complete the lower counter frieze work can be added, those of you Winnie builders are familiar with this process, simply print, cut and glue in place. I used a slightly diluted PVA and brushed it on, I was able to slightly manipulate it exactly how I wanted it with it a little wet from the glue.



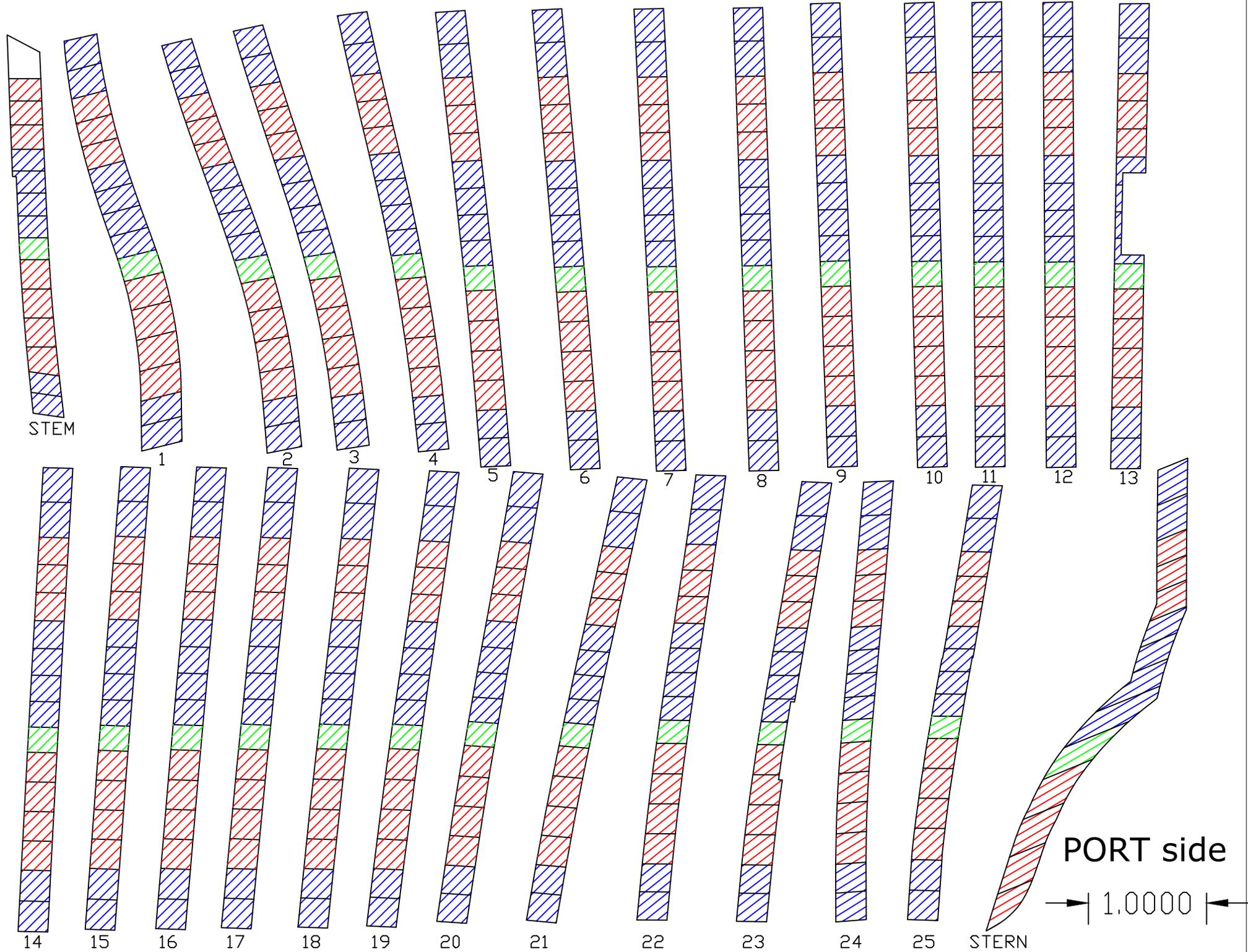
Be sure to slightly taper the outer post at the bottom along with the false keel. Leave enough material as if you were going to plank it. Dry fit and taper the deadwood down if necessary before attaching.

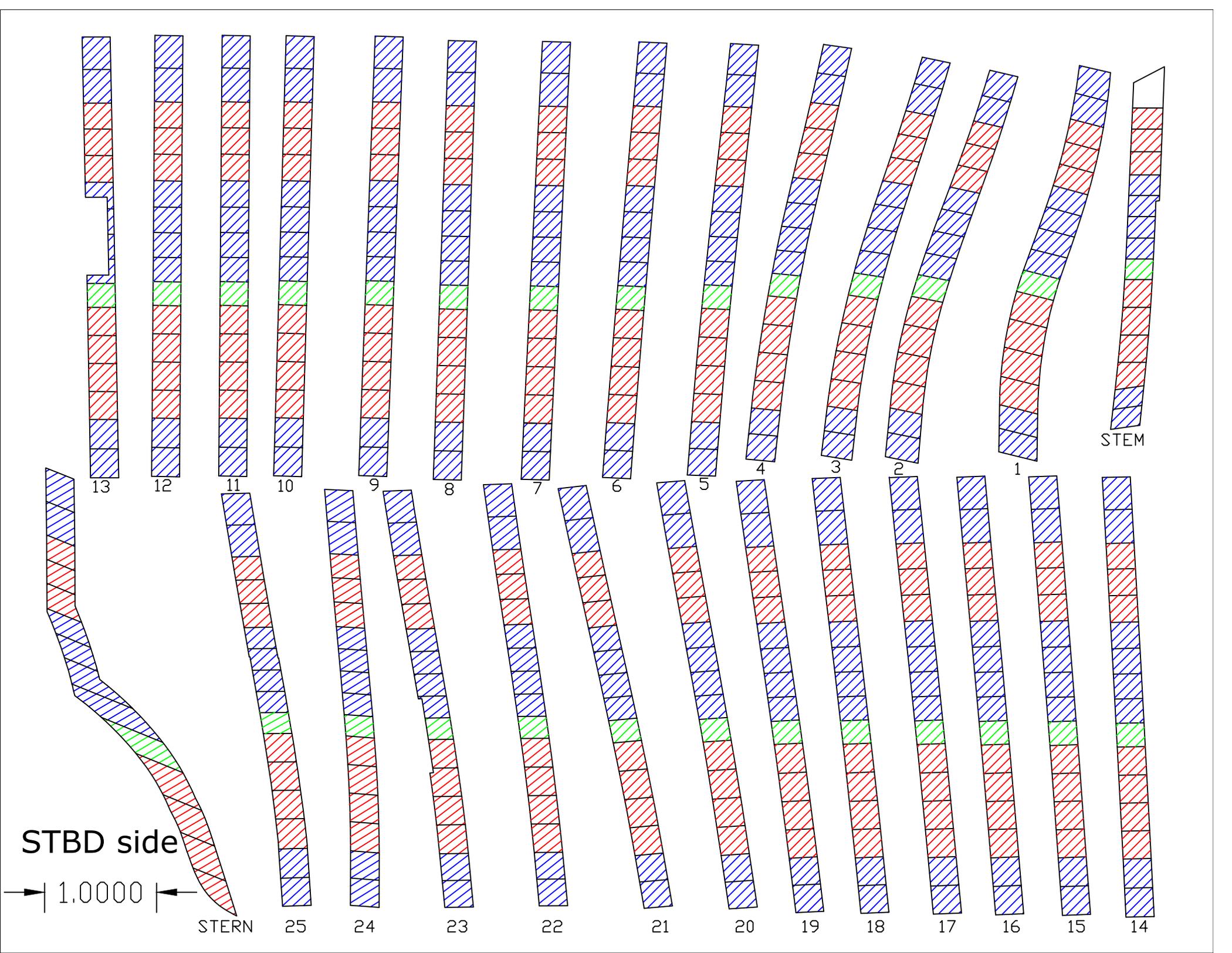
Attach the printed frieze, you'll need to trim it to fit around the outer post. Trim as necessary around the wales.



This concludes Chapter 2, in chapter 3 we will begin fairing the inside of the hull, make a gigantic mess and then begin working on the exterior hull including adding the 3D printed quarter galleries, you can see I already have a prototype one in place with some carvings attached.









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