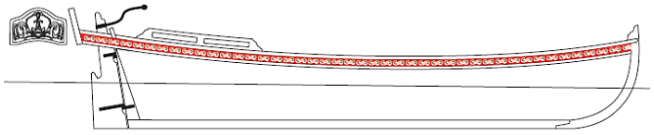

21’ FOOT ENGLISH PINNACE

(Circa 1750-1760)

Limited Edition Kit produced exclusively for the

30th North East Ship Model Conference

Saturday, April 28, 2012

Hosted by the Ship Model Society of New Jersey

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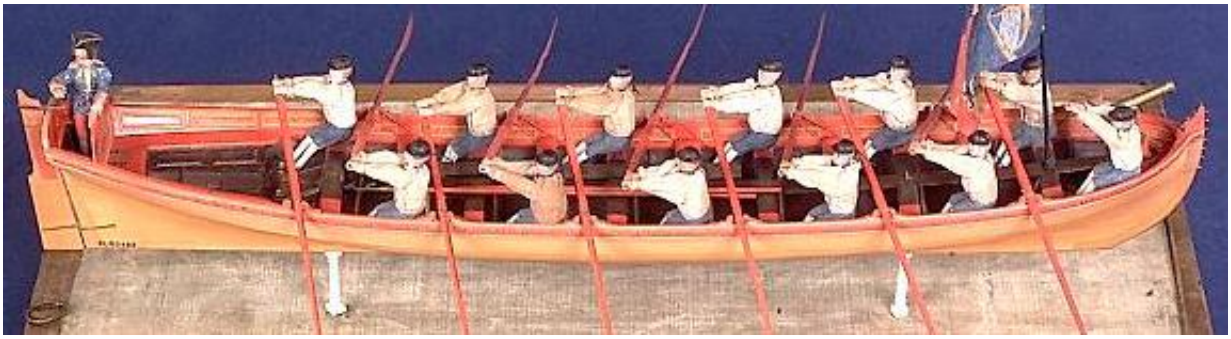
A model of a 21 foot pinnace from around 1750 that became the inspiration for this project.

I have been working away on my latest project for 6 months now. It's a large English 32 gun frigate called the Winchelsea (1764). I have only partially completed the planking on this POB model to date. I was showing the model at one of my local club meetings in New Jersey; and to my surprise, I was asked to speak at the 2012 Northeast Joint Clubs Conference. I was asked to speak about my experiences researching designing kits for Model Shipways. After thinking about what to talk about, I thought it would be a fun diversion from my current project to build a small ship's boat. I thought it would be neat to design a mini kit and present it to the attendees of the conference as I discuss my experiences as a kit designer. It would need to be small in order to keep the expenses down. It would need to be elegant in order to make it a worthwhile subject. So I began looking for a suitable subject.

Searching for inspiration, I came across some models for 18th century pinnaces. There were large 32 foot pinnaces and many smaller examples to look at. I was particularly fond of a model from the NMM in Greenwich. It was a model of a 21 foot long single banked pinnace from around 1750. It would make an excellent subject for this mini project. It has a paneled interior and some decorative merits. I found an original draft on the NMM website that was almost identical to this small 4 oared pinnace. Things were started to come together nicely.

I wasn't necessarily thrilled with the color scheme shown on this model (pictured above) so I continued looking for some decorative alternatives. The pinnace was used a means of transport for a ship's captain or other officers. It was not intended to be used to perform any other task. Tasks such as transporting water and other stores were normally left for the larger and heavier built boats like the longboat or launch. It was basically an officer's private transport. It was designed to be rowed although larger pinnaces could be sailed. It wasn't very seaworthy and was designed for primarily shore duties. After all, the officers did need a stylish way to get from their anchored ship to the dockyard. As such, the decorations were usually added much later at the officer's and captain's own expense.

The pinnace was almost indistinguishable from what were called barges during this same time



A larger model of an Admiral's barge that was used as the inspiration for the paint colors and friezes.

period. These were lightly built, carvel planked boats designed for rowing as well. The pinnace and the barge were very long boats in comparison to their beam. What determined there designation was merely the number of oars. Any boat with these distinct characteristics that had more than ten oarsmen was called a barge while those designed with fewer were referred to as pinnaces.

So I searched for more models of either a pinnace or a barge that was more appealing to me as far as painting and decorations were concerned. I wasn't looking for anything that was too elaborate as the smaller pinnaces were rarely as richly decorated as the larger admiral's barge. The model pictured above shows a larger Admiral's barge from around 1750. I was much more satisfied with the simple red panels inboard and painted frieze outboard on this model. I decided to pattern my little model to look very similar.

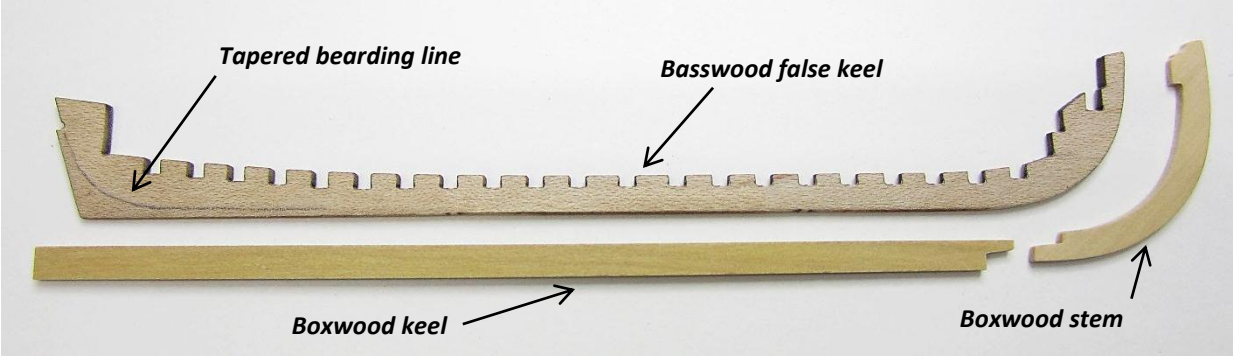
It didn't take too long before I had a working set of plans that contained all of the parts for this model. At ¼" scale, a model of a 21 foot pinnace is not even six inches long. But I think it will make a very nice model fit for display on your office desk or end table. Had I designed this kit for Model Shipways I probably would have scaled it up to ½" but I need to keep the cost low while maintaining the highest quality possible. Only 20 kits will be produced in this limited edition for the ship model conference. I think it will be an interesting and fun kit to build and shouldn't take longer than just a couple of weeks to build.

The bulkheads and frames are laser cut from basswood and all of the other components and planking is provided in boxwood.

Getting started…

To begin, examine the laser cut sheets for the bulkheads and keel parts. These are the two 1/16" thick sheets that are laser cut for you. The sheet containing the bulkheads is basswood and the keel parts are cut from boxwood. You will notice that there is some laser char on both sides of each sheet. There will be a lot more laser burning on one side vs. the other. This is because the side that faces down on the laser cutter usually receives more burning than the other side. Before you remove any of the parts from either sheet, sand both sides of each sheet smooth with some 320 grit sandpaper to remove this laser char.

Remove the slotted false keel from the basswood sheet. Then carefully remove the stem and keel strip from the boxwood sheet. A



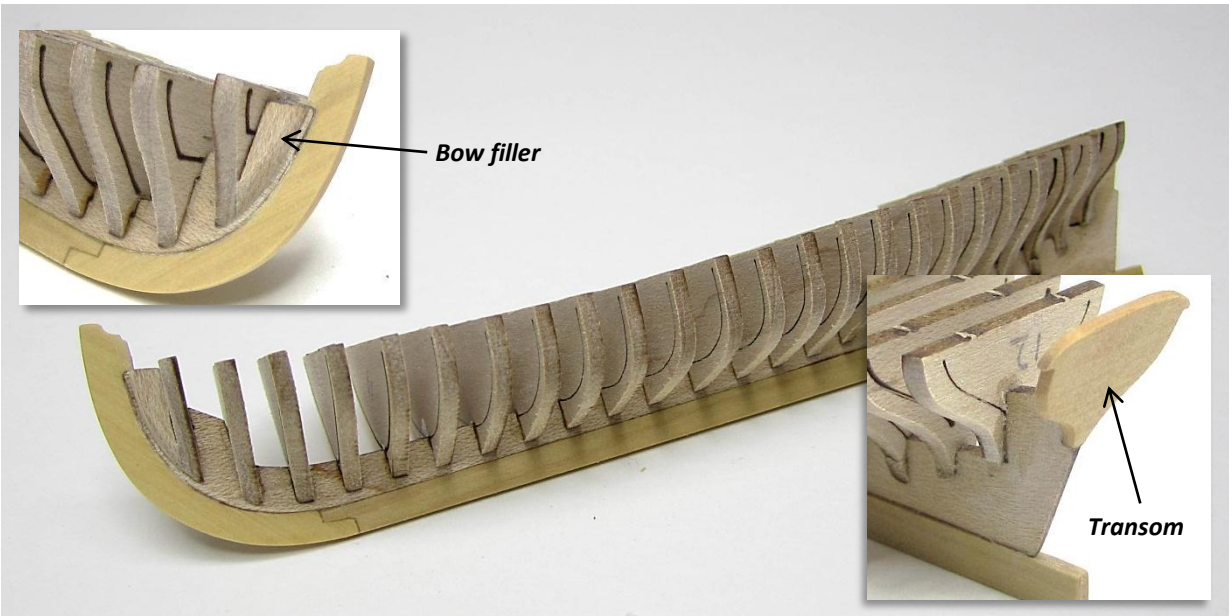
picture is provided that shows these parts prior final assembly. Sand the laser char from the edges of each piece. It isn't necessary to do this for each slot in the false keel. In fact, it's probably better not to sand them at all. You don't want to enlarge these slots so the bulkhead frames would be loose. This mini kit was actually designed so the frames would fit snug into each slot. If any adjustment is required it would be better to wait until it's time to install them.

You will notice in that same photo above that the bearding line has been referenced in pencil. This detail should be transferred to both sides of the false keel from the plans. It would be very difficult to build a small model like this in the exact same way that the full sized pinnace was built. But it is very important that some of the construction features are designed into the model. It would be very difficult to properly plank the boat if the keel is not tapered at the stern. You will need to gradually taper the false keel from the bearding line towards the outside edges. This sheet is only 1/16" thick but it will be necessary to gradually reduce its thickness along the edges of the false keel. It should be reduced to slightly LESS than1/32" thick. I realize that this sounds incredibly difficult and you would think that it would become too fragile. But that will not be the case. This is crucial in order to have the planking sit flush against the keel and stern post. If the false keel isn't reduced in thickness, the planking will actually stand proud of the keel and stern post which would look just awful. You will only need to taper the area near the bearding line as shown. There is no need to carry the bevel all of the way towards the stem.

Once the false keel is tapered on both sides as described, you can glue the keel and stem into position. Be careful to center the keel along the bottom of the false keel. This will create a consistent *rabbet* at the stern for the planking. Allow the boxwood keel to run beyond the aft end of the false keel. You can trim it to the proper length after the planking and stern post is added.

Adding the bulkhead-frames…

The bulkheads were designed in basswood for a specific reason. The softer wood will allow you to snap the center tabs of each bulkhead to remove them after the planking is completed. Once the center tabs of each bulkhead are removed, it will leave the frames intact and simulate an actual framed appearance. To do this, the wood grain actually runs across each bulkhead. This makes is easier to snap each center tab free to remove them. Do not remove the center tabs of each bulkhead until after you plank the hull.

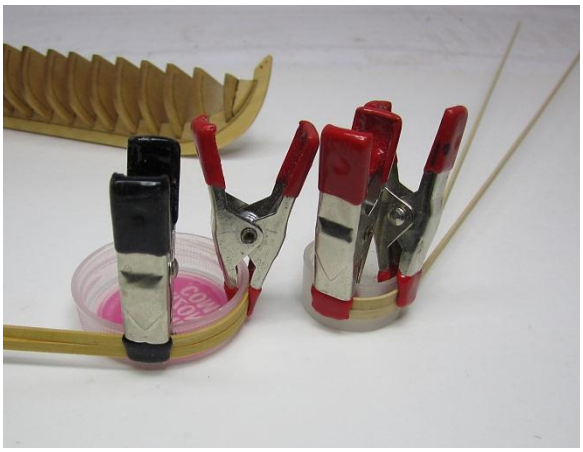


There are 24 laser cut bulkheads for this model. They are 1/16" thick. They should be glued into their respective notches along the false keel. THIS IS WORTH REPEATING: Make sure you leave the center of each bulkhead intact when you glue them into position. The center of each bulkhead is held in place with three small tabs, one on the bottom and one on each side of the top of each bulkhead. Test each bulkhead to see if it will fit into each notch of the false keel properly. They shouldn't be loose and they shouldn't be too tight. They should be a snug fit. If you think they fit too tightly, a little filing of each notch will do the trick.

As you are adding each bulkhead, make sure you view each of them from the bow and stern. Look down the keel to make sure they are all centered and lined up correctly. This is a tricky and important step. You should have enough time before the glue dries to make sure that a bulkhead isn't leaning crooked to one side. You can draw a reference line down the center of each bulkhead if it will help you keep them all lined up with keel properly. The flat tops of the bulkhead centers are another good focal point for observation. They should all be straight and consistent with one another as you glue more of them into position. This is important as the hull will not be faired properly if they are not lined up. You should view the bulkheads from above to make sure they are glued in at a right angle to the keel and spaced evenly apart as well. You might consider using yellow wood glue for this because the open time is longer. This will give you more time to make adjustments before the glue sets permanently.

After the hull is faired, you can add the transom (1/32" thick boxwood). This piece was added after the hull was faired because it is only glued to the edge of the false keel. It might split or break off otherwise. It is only 1/32" thick but still needs to be faired with the bulkheads. Please use a very light touch. Carefully glue it to the back edge of the false keel. There is a small notch to help you line it up correctly. Just sit the bottom of the transom on top of the notch. Make sure it is straight and at a right angle to the keel before the glue dries. Drawing a line down the center of the transom should help you line it up with the edge of the false keel.

At the bow, there are two basswood filler pieces that will help make the hull planking easier. These 1/16” thick pie-shaped pieces should be glued to the sides of the false keel at the bow. A photo is provided that shows these two pieces glued into position along with the transom. Fair the two bow fillers to get a smooth run of your planks onto that first bulkhead. It’s a tight area to work in but this is essential if you want to create the correct shape of the bow while planking. Pay close attention to the front edge of the filler pieces at the bow. It should have a 1/32” wide space between it and the boxwood stem. This space should be consistent along the length of the stem. See the detail photo on the previous page.



Planking the Pinnace…

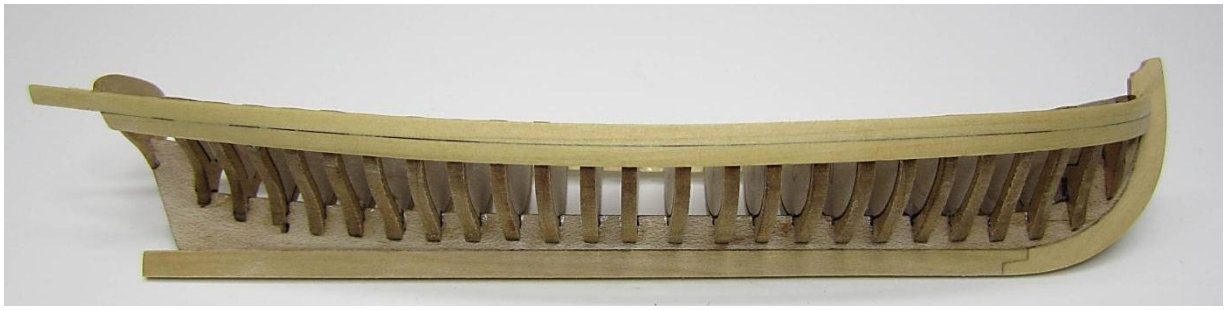
The hull will be planked using 3/32” x 1/32” boxwood strips. It will accommodate 10 strakes on each side, although there may be a need to use a wider strake to complete the planking effectively. What follows is a description of how I planked my prototype for this mini-kit.

Some might argue that the only way to properly plank a small boat like this would be to spile each plank individually. Because it is presented as a kit, most folks are accustomed to receiving pre-milled strips for their planking. It is indeed very possible to plank a small hull like this using pre-milled strips. It will just require that each strip be pre-bent to the proper shape and possibly tapered to get the job done.

I dip my planks in a glass of water for about 10 seconds. Then I clamp them to various jigs and shapes in order to mold them. While they are clamped into the shape required, I quickly dry them using an old blow dryer. The hair dryer is turned up to its hottest setting and used to heat up the planking strip. In just a minute or two, the strip is completely dry. I will give it another minute to cool down before they are removed from the jigs. Each strip should hold their shape well with minimal spring-back.

The boxwood strips can be clamped around a bottle cap as shown, or clamped to a flat surface to achieve an edge-wise bend. Both types of bending will be required in order to properly shape each strake so they will lie flat against each bulkhead frame.

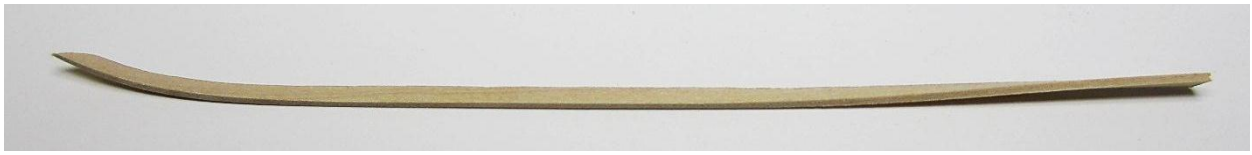
To begin, glue one strake along the sheer of the hull. This first strake should extend well past the transom at the stern. The decorative cast “second-transom” (for lack of knowing the proper term for it) will be glued directly to the ends of these two planks. Examine the plans to determine how long this first plank should extend past the transom.



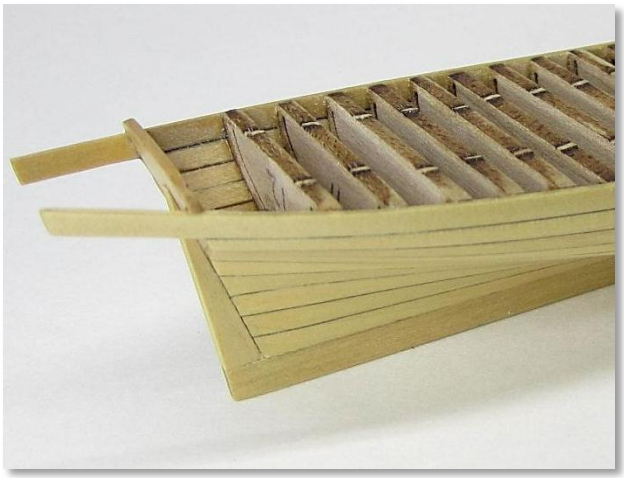
Immediately below this sheer strake, glue another. This one will not extend beyond the transom. I simulated the caulking between each strake using a soft #2 pencil. I ran it down one edge of each seam. Each strake was glued to the hull in one length from bow to stern. These two initial strakes of planking are very important. You will see how strong the hull becomes after they are completed. Make sure you use plenty of glue to secure these strakes to each and every frame. You must create a strong bond for them. It will help immensely when trying to remove the bulkhead centers later. If they are not glued to each frame securely, the thin and fragile framing might split as you try and cut through the tabs on each side holding them in place.

Then I began planking the hull from the keel upwards. I added two strakes against the keel. The first strake (the garboard) has quite a twist in it as it progresses towards the stern. Each strip was allowed to extend past the stern post. I filed them neatly flush against the false keel afterwards. Examine the photos on this page which show the planking process progressing.

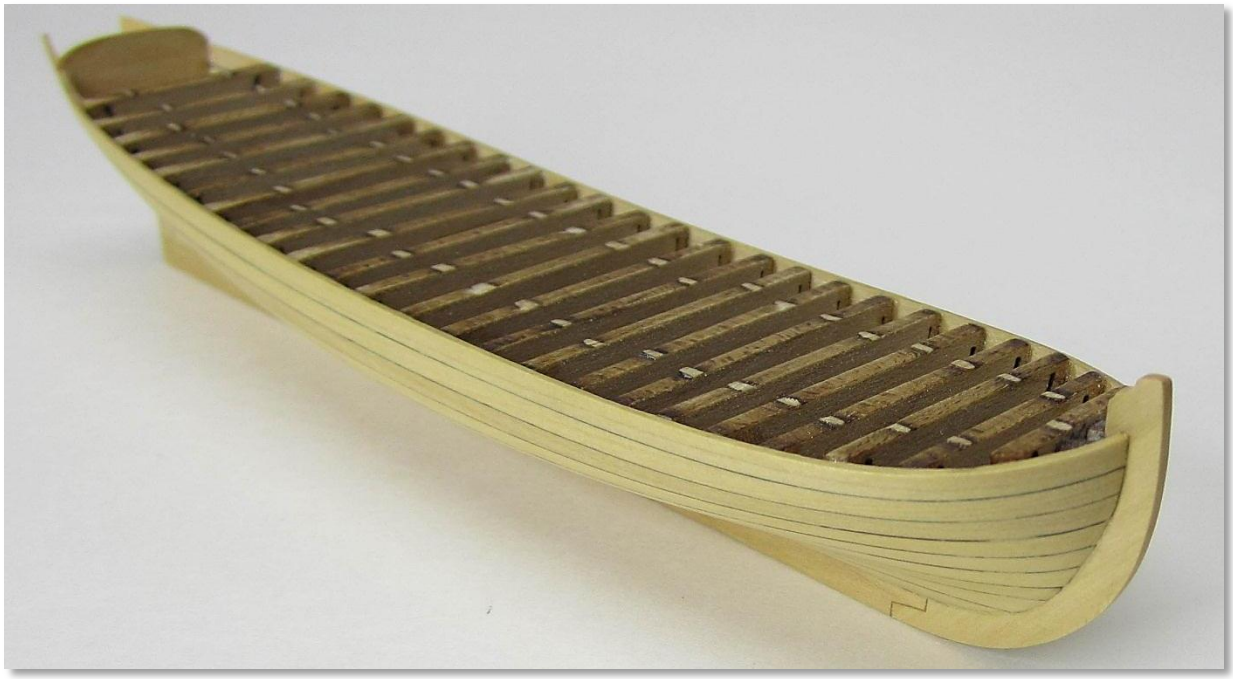
I progressed with the planking adding two more planks under the sheer and then alternated again by adding two more working up from the keel. By planking in this manner, I was able to meet in the middle. Note in the photo below how each plank was pre-shaped as described earlier. You can see the pre-formed curve for the bow and the twist of the plank needed for the stern. As you start to close up the hull you will finally reach the point where only one strake remains to be added. This space will not be consistent at all. In all probability it will be wider than 3/32" (Especially at mid-ship). A wider 5/32" x 1/32" strip is provide in the kit for this purpose. Carefully shape this final plank to fit the opening on your hull. Because it is in the middle of the hull where it begins curving



towards the keel, the wider plank won't be noticeable when viewing the model from port or starboard.



Sand the hull smooth and apply a finish. I used some MinWax Wipe-on Poly. I have posted a few photos of the hull to show the planking completed. Please note that the stern post was added at this time. The planks were filed flush against the false keel. Then the laser cut boxwood stern post was glued into position. The keel was cut flush to the aft edge of the stern post to finish it off.



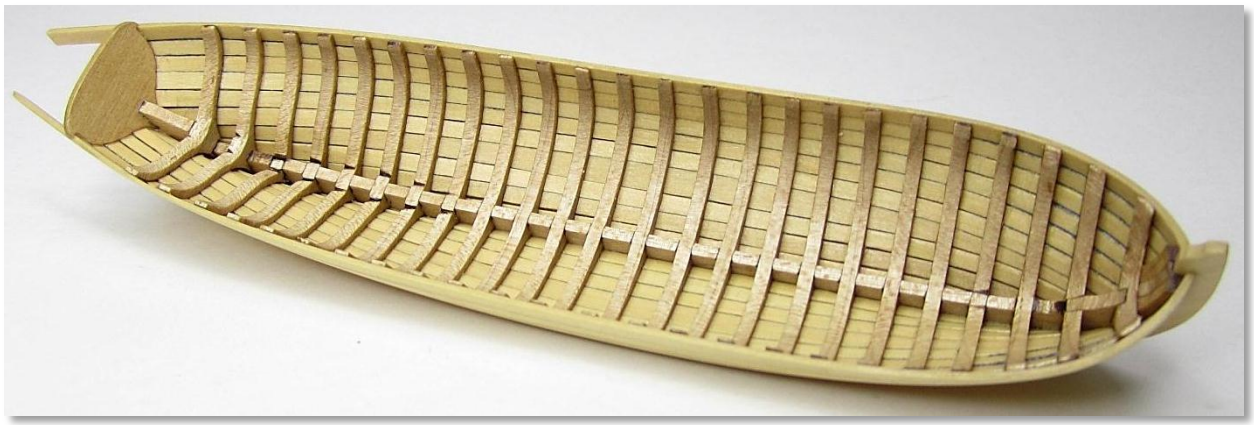
Removing the Frame Tab Centers…

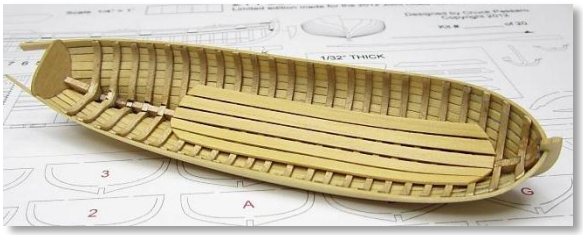
I realize that it can be a bit worrisome when it comes time to remove the bulkhead centers. Basically you have to cut through the top of each bulkhead down to the laser cut line on each side. Then bend the center so it snaps off at the base. I recommend using a needle file as shown in the photo above. I had tried using a mini razor saw but it pulled too much and split the wood along the top of the frames. Use a gentle stroke while not applying too much downward pressure.

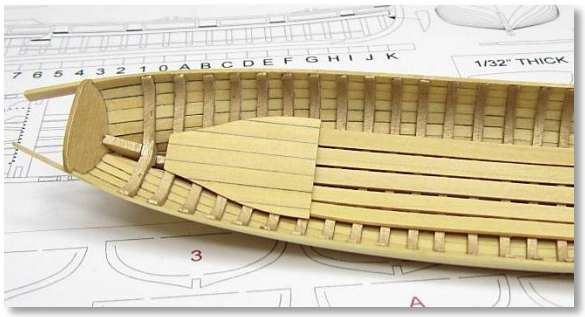
I am right-handed so I hold the model in my left hand while filing the tabs. I place my thumb from my left hand on the top of the bulkhead I am filing to stabilize it. You want to restrict the fore and aft movement. This is especially true when filing the first tab on one side. As you make your final pass to free the first side, the center will want to bend forward or aft which will split the other side you have yet to file. So make sure you stabilize the bulkhead from moving with your thumb as you file. I would also give all of your bulkheads a "wiggle" before you even start filing. Make sure you have firmly secured the first two planks to the bulkhead. If you fins that the bulkhead wiggles and isn't secure, add a drop of glue to be safe.

Once all of the centers are removed, you must fair the inside of the hull. This is a messy chore but not very difficult. I used some 220 grit sandpaper. Try and clean up the inside edge of the frames as well as reduce their overall thickness. The hull will be fairly rigid at this point so don't worry too much about crushing the hull. Examine the photo below which shows my hull after it was faired. You can get a sense of how thin my frames are along the sheer line. They gradually increase in thickness as they curve towards the keel.

I scraped any excess glue between the frames off of the planking that squeezed out during the planking process. That cleaned up the interior even more and then I applied a wipe-on poly finish.







Adding some inboard details…

As shown above, the floorboards were added next. The floorboards are 1/8" x 1/32" boxwood strips cut to length. Start by gluing one down the center of the false keel. Then add two on each side of that initial strip.

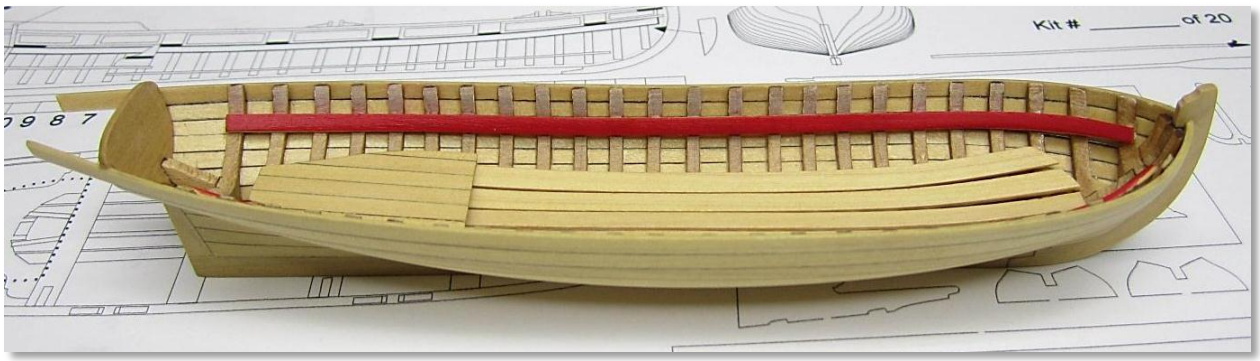
The aft platform was made by gluing 7 small strips of 1/8" x 1/32" strips together edgewise. I simulated the caulking between the seams using a #2 pencil. I created a paper template from the plans to test the shape of the platform as drafted. I recommend you do the same. I placed the paper template in the boat to test how well it fit. I tweaked that paper template until I was satisfied. The goal here is to make sure the platform will sit as low in the hull as possible, and just above the floorboards. Then I traced my paper template onto the wood I glued together. Cut out your platform and glue it into position.

Installing the Risers…

The risers are long strakes that are nailed to the inside of the hull. The seats (thwarts) sit on top of these strakes. They run almost the entire length of the hull. These two boars are one of the most important parts of this model. Poorly placed risers will affect so many of the future parts of the project. Use 1/32" x 3/32" boxwood strips for the risers.

The importance has to do with the position of the risers. They must be placed an equal distance from the sheer line. They must also NOT be placed too high on each side or you won't have enough room to create the panels above them. Examine the plans carefully before you glue these into position. As a guide, use the external planking to help you establish the run for these strips. They should be positioned along the third exterior planking strip. Use this as your reference. In fact the risers might even be placed just a hair lower (about 1/64") but following the run of that third exterior plank. I have posted a photo of my prototype below.

You will notice that I placed my risers just a little bit too high in relation to the third exterior plank. Unfortunately I didn't realize it until it



was too late. This will make life somewhat more difficult when it comes time to create those panels. I placed mine about 1/32" too high. My panels will now have to be slightly narrower when I get to that stage of construction.

I painted the risers red after they were installed. I didn't bother with trying to paint the underside of each riser since it won't be seen. But painting them will be a lot tougher once the thwarts are installed next. These strips should be pre-bent to shape just like the outside planking was. Carefully align both risers port-to-starboard so they are the same distance from the sheer line. Otherwise your seats (thwarts) will be crooked and uneven.

Adding the Thwarts and Cockpit Seats…

The photo above shows the thwarts and cockpit seats in position. The first thing I added at this stage was the seatback for the cockpit area. This can be a tricky piece to add. The back of the seat has been laser cut for you and is 1/32" thick. It will not fit properly after you remove it from the sheet. The shape is only approximated. Depending and how you faired the interior and at what height you placed the risers there will be too many variables from model-to model to laser cut them perfectly.

My solution was to pop the laser cut seatback from the sheet and trace it onto some card stock. I used the card stock template as my working pattern. I tested it on the model. Try and establish the correct angle when testing your card stack template. The seatback reclines as shown on the draft. Slowly and carefully tweak your template so your seatback fits over the risers. It should fit snug against the side the hull above the risers too which means you will have to notch your template accordingly.

Once you are satisfied, place the template over your laser cut piece and trace its refined shape. File and sand your seatback to match the card stock template and glue it into position.

Bypassing the cockpit seats for now, I added the five thwarts first. The thwarts sit on top of the risers as I mentioned earlier. The thwarts are made by cutting a 5/32" x 1/32" strip to the lengths needed. They were glued into position and evenly spaced as shown on the plans. Forward of the first thwart, there is a small platform. Before gluing this thwart into place at the bow, I created the platform first.

The platform was made by gluing three small lengths of 1/8” x 1/32” boxwood strips together edge-wise. No need to simulate the caulking this time since the platform will be painted. I created a card template to create the shape for the platform just like I discussed for other aspects of the build earlier. Once I was sure it fit properly I cut the platform to shape and glued it into position. Then I glued the first thwart on the model. The thwart actually butts against the platform and sits flush with it.

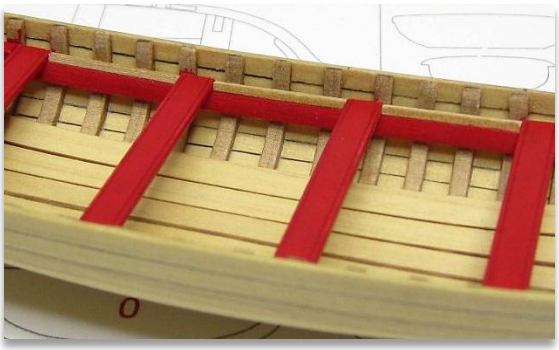
Note: The thwarts can have a small detail added to them. If you look at contemporary models of ship’s boats, the thwarts have a decorative groove on each side. This creates a nice beaded edge. I decided to include this detail and you might consider it as well. I created the groove by using a sharp awl. I ran the sharp all down the edge of the boxwood strip before I cut each thwart to length. I used a metal straight-edge for a guide. Just a few passes with the awl can create a nice groove along the edge of the strip. Here is a model of another ship’s longboat I built a few months back. You can see the decorative grooves well on these unpainted

thwarts. They are a little hard to see in the photos of the painted thwarts on this pinnace. But trust me, they are there. Give it a try!!

Returning to the cockpit seats, these were finally cut to shape and glued into place. These three seats are not laser cut for you because there are too many variables that might affect there placement. Once again, always start by using the plan as a guide to create a template. Then trace the template onto the supplied 1/32” thick boxwood sheet. There are two sheets supplied. Use the smaller sheet to cut these parts. These are pretty straight forward although you will have to remember to bevel the aft edge so they fit flush against the seatback. As you can see, I painted all of these parts soon after installing them. I try to paint as I go. Some folks prefer to paint each part before they are glued into position. I prefer the opposite and paint most of these parts after gluing them in place.

Planking above the Thwarts…

The interior of the boat will be planked above the thwarts and then the paneling will be added on top of that. To begin, add short lengths of 1/32” x 1/32” boxwood strips between the thwarts (just above the riser). See the photo provided that shows these strips glued in position. They will need to be pre-bent to accommodate the curved bow.



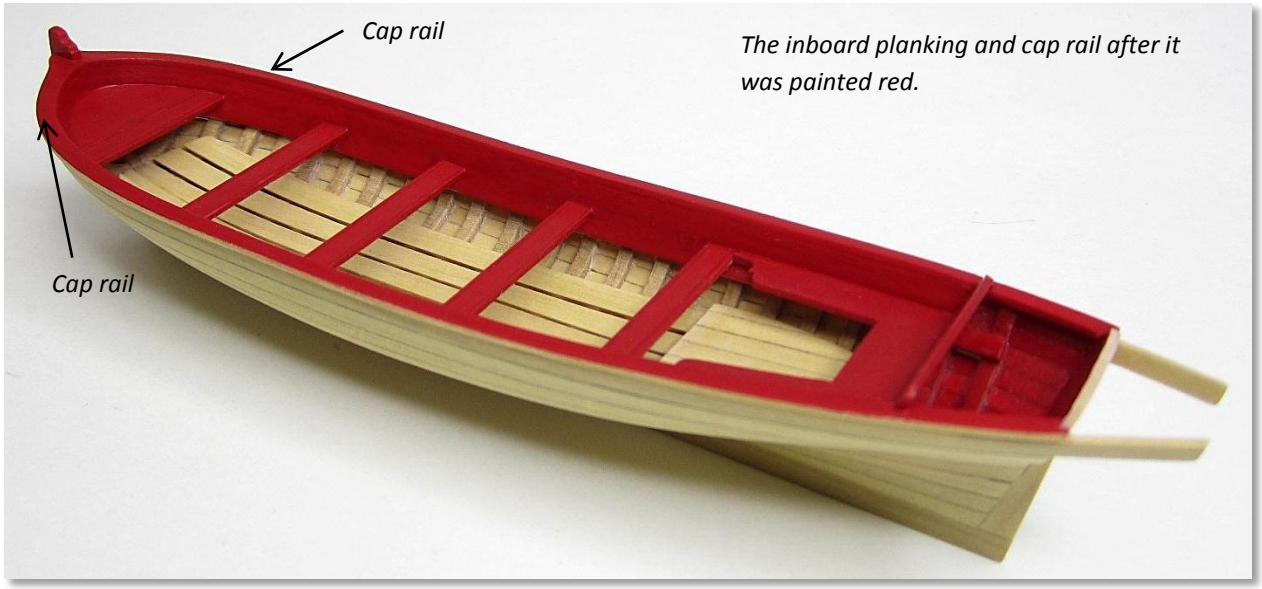
Note the 1/32" x 1/32" boxwood strips placed between the thwarts. They sit on top of the riser strip.

Then plank the interior to the top of the sheer using the 1/32" x 1/16" strips. You could use a wider strip so only one strake is needed but I find that it is much easier to bend the narrower strips. This is especially true at the bow. The strips should be pre-bent at the bow to fit against the frames. After the planking is finished, sand the interior smooth. This will be painted red so feel free to use some wood filler to fill any gaps. The thickness of the hull along the sheer was just 1/16" after sanding the planking inboard and outboard. It was sanded to create a uniform thickness from bow to stern. The photo below shows the planked bulwarks and the cap rail installed. The interior planking and the top of the cap rail was painted red afterwards.

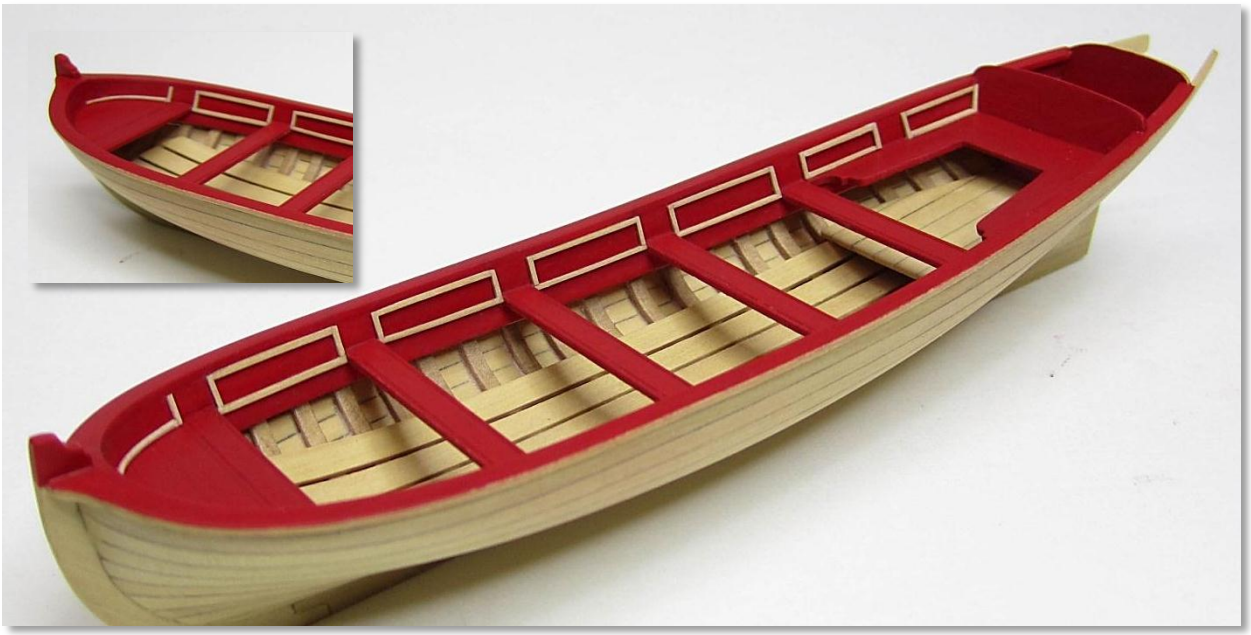
To add the cap rail, use the larger 1/32" thick boxwood sheet. You can press the sheet down on the top of the hull and simply trace the outboard shape of the hull. Then create another line about 1/8" inside of that traced reference. This will create the approximate shape for your cap rail. I used a sharp blade to cut out the cap rail from the sheet. It's thin enough that a scroll saw isn't needed. Just slowly freehand the cut in multiple light passes. Don't try and cut through the sheet with one pass of the blade. I cut just outside of the reference lines I made because the cap rail should over-hang the exterior planking by 1/32". In contrast, the inboard edge of the cap rail should be sanded flush with the interior planking. The final width of the cap rail was 3/32" after it was sanded. This was true except for the cap rail at the bow. You can shape the cap rail at the bow by following the plans.

Adding the Interior Panels…

As you can see from the photos, I painted the bulwarks red before adding the panels. You don't have to do the same. There are pros and



The inboard planking and cap rail after it was painted red.



The paneling is finished on the starboard side. Note how only a few segments at the bow were added at this time.

cons to either approach. If you paint the bulwarks ahead of time, you increase the risk that you will scuff up and mar the painted surface. Painting it after the panels are added and you will need to carefully paint around each thin strip. This is a tricky decision.

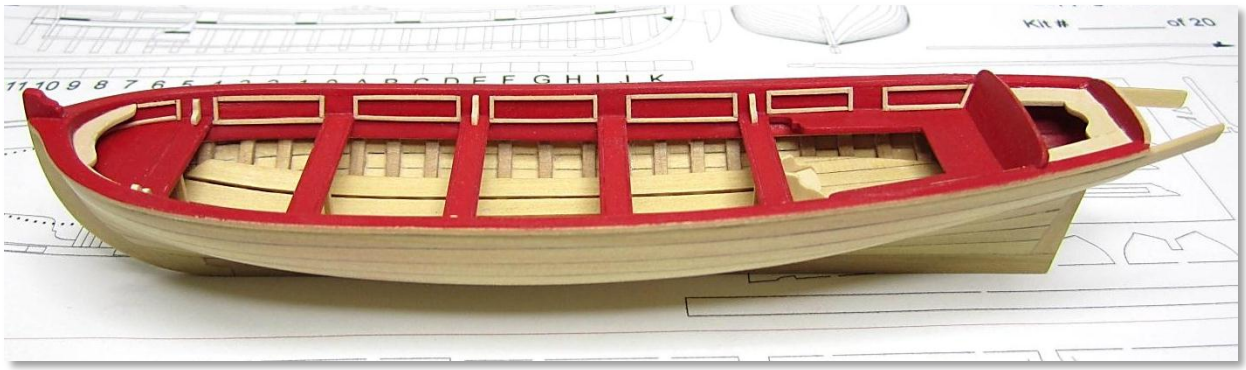
The panels are made using thin strips of boxwood. The kit is supplied with 1/32" x 1/32" strips for this detail. But they are too big and will appear heavy and clunky. The strips should be carefully reduced down to 1/64" x 1/64". I realize that this is awkward and time consuming, but milling strips that thin is almost impossible. At least it is for me. What I did was take a 3' or 4' length of the heavier strips and gradually reduce them to a size that would look better at this scale. I used some 220 grit sandpaper and just pulled the strips through it. I turned the strips after every two or three passes to sand all four edges until it was reduced to the proper dimensions. These small lengths of wood will be very, VERY fragile. Handle them with care.

I started by adding the bottom of each panel between the thwarts. I used yellow carpenter's glue that was watered down to adhere them to the bulwarks. Once in position I cleaned up any excess glue that squeezed out with a small paint brush dipped in water.

The sides were added next. These are tiny pieces. The tops of these were spaced 1/32" below the top of the cap rail. To finish off each square panel, the horizontal top strip was then glued into position. As you can see from the photo and the plans, the panels are 1/32" below the top of the cap rail when completed. At the bow, only the bottom and sides where added at this time. Those panels will be completed after the knee is added at the bow.

Adding the Remaining Inboard Details…

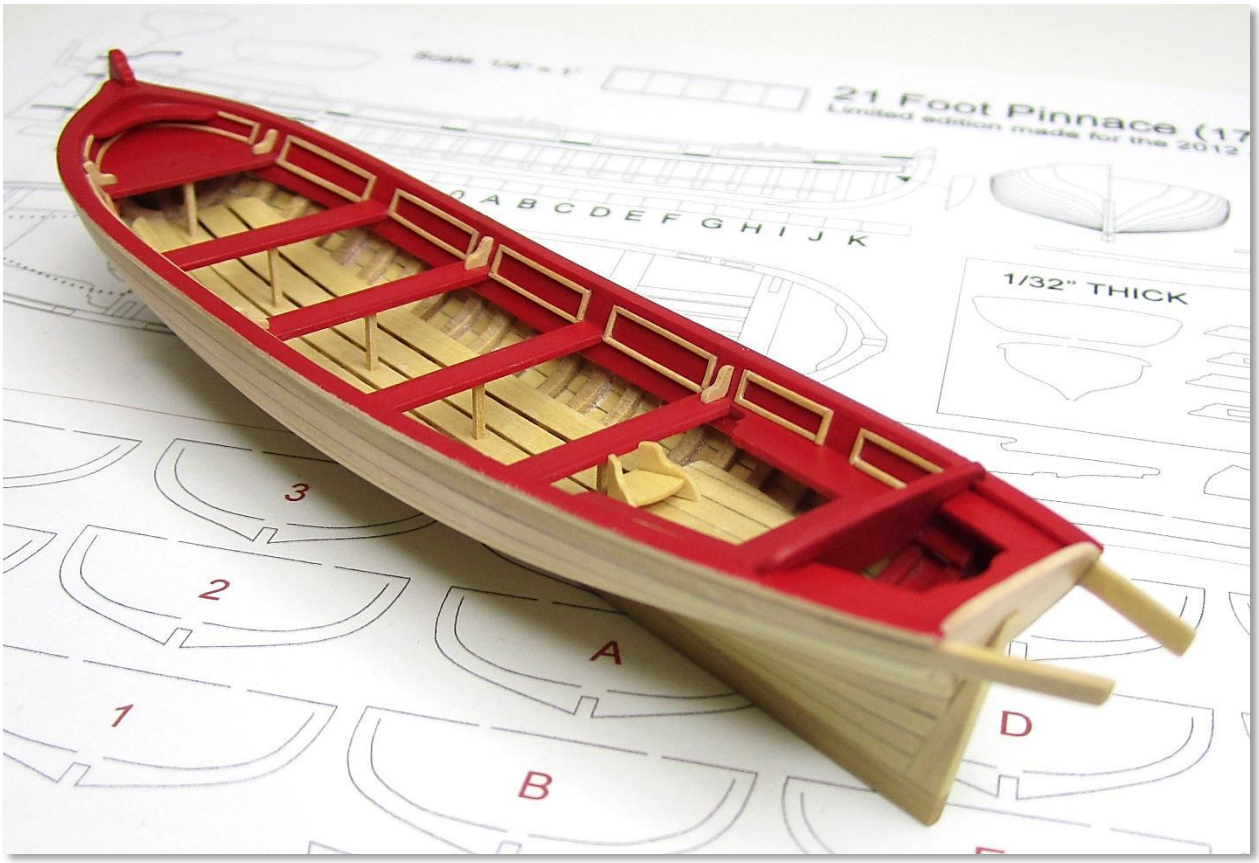
To finish off the interior details, several knees are added. The photo on the next page shows three small knees on each side of the hull. They are placed on top of the thwarts as shown on the plans and against the bulwarks. These six

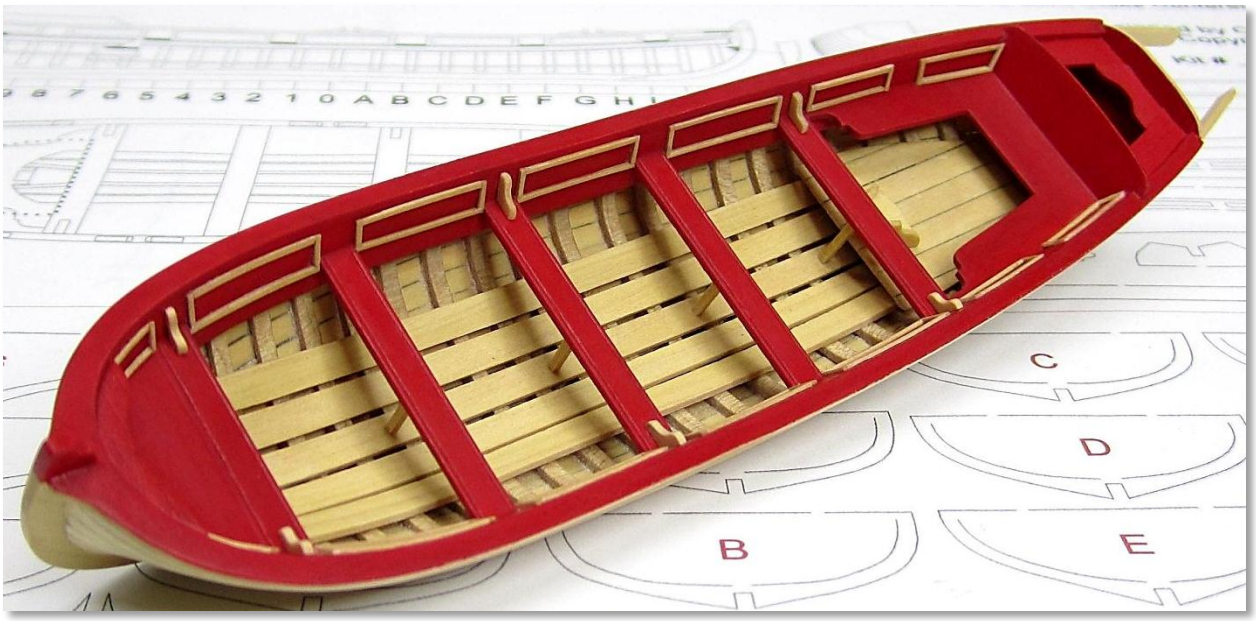


knees are optional. I have seen quite a few contemporary models that show a pinnace with them and also without them. They were cut from some scrap lengths of 1/32” x 1/8” strips and shaped as shown. These details were not painted in the photos so they would be easier to see. The decision to paint them is entirely up to you.

At the bow, you can see the larger knee in position. I made a paper template using the plans as a guide. The template was tweaked until it fit on my model. Then I used it to cut the knee from the remnants of the 1/32” sheet of boxwood supplied. It was placed 1/32” below the top of the cap rail. Once glued into position, the panels at the bow were completed by adding a tiny, pre-bent strip to fill in the area between the knee and the side of the panels.

The photo below shows the stanchions which were positioned under the center of each





thwart. 1/32” x 1/32” strips were used for the stanchions. They were cut to length and glued into place. Carefully center them under the thwarts.

Examine the plans and photos provided and you will notice a small step in the cockpit area. Abaft of that last thwart is a step down into the cockpit. I guess the pampered officers couldn’t handle the steep 14” step and required a more gradual and pampered way to enter the cockpit. It does add a nice detail to the model however.

The parts for the step are laser cut for you and are 1/32” thick. They will, in all likelihood, require some tweaking to fit your model. There are many variables that could affect a proper fit. Depending on how high you placed your thwarts and how low you placed the cockpit platform, you will most likely have to adjust the height of the step. I would also shorten the length of the step to suit after you determine the proper height for your model. I assembled the step completely while it was off the model and then installed the final assembly. Before I glued the three pieces to make to step assembly I decided to sand them down to reduce their thickness slightly. This will give the step a more scaled appearance. I just rubbed each piece on the top of some 320 grit sandpaper. This also helped clean up the rough surface for painting or finishing. On my model, I decided to leave the step natural rather than paint it.

The three pieces that create the seats for the helmsman were shaped using the plans as a guide. They were cut from the remnants of the 1/32” thick boxwood sheet. These three pieces are pretty straight forward to create. The two side seats should be cut a little longer so you can periodically test them for a snug fit against the cockpit seat-back and the transom. The ends for these two pieces are beveled to sit flush against them. Then I added the center section against the transom to finish it off. The aft edge of this piece was also beveled to sit flush against the inboard side of the transom. These seats and the knee at the bow were painted red, but you can pick another color scheme should you prefer something different.

To finish off the inboard details, there are three ringbolts which need to be created. Examine

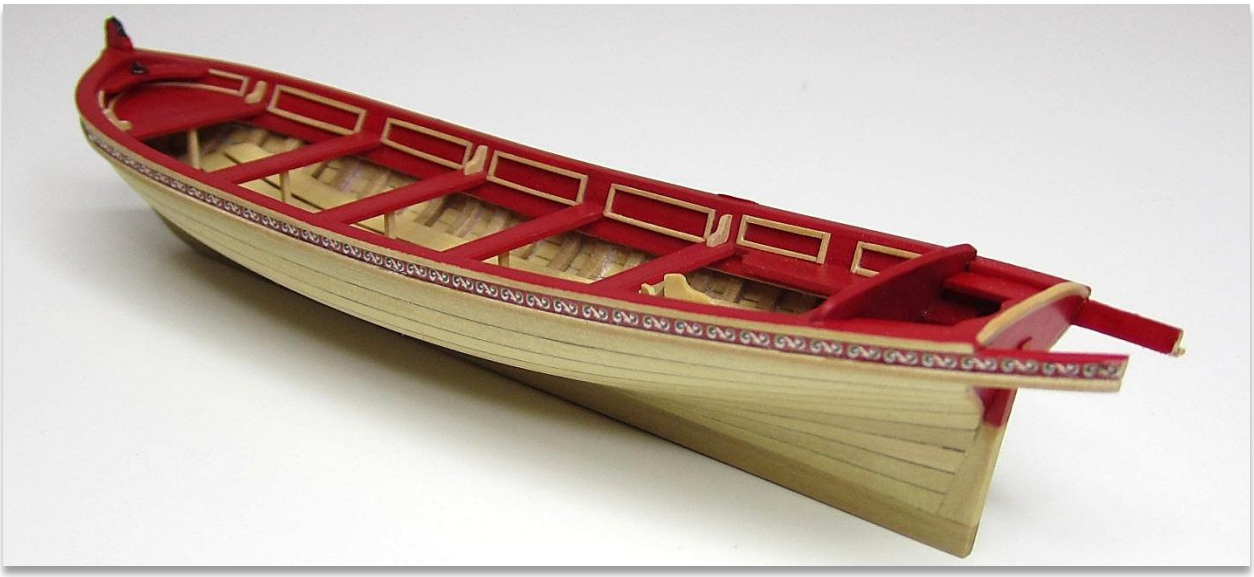
the plans to find the locations for them. These were made using the 28 gauge black wire supplied with the kit. There are two positioned along the center floorboard and another on top of the knee at the bow. A photo is provided that shows the ringbolts before they were glued into pre-drilled holes. Take a small length of wire and bend it around the ring as shown. Use a needle-nose plier to crimp the wire onto itself. Then cut the two lengths which form the pin on an angle to create a pointed pin. This should be inserted into the pre-drilled hole. Some model builders will use an eyebolt and place the ring in the eye of the eyebolt. This looks out of scale and shouldn't be the method used. Simply crimping a length of wire tightly around the ring will create a more historically accurate

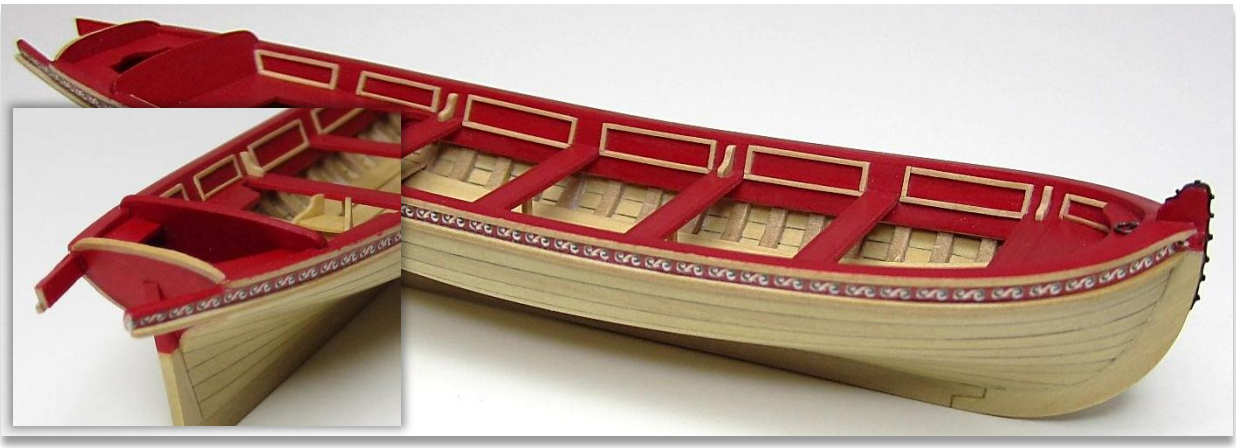
assembly that looks to scale.

Outboard detailing….

It is time to shift our attention outboard. I added the friezes just below the cap rail. These are printed sheets that were created on my inkjet printer. Before you cut them out, it would be a good idea to apply some sort of fixative. One approach that is effective without having to go out and buy some would be to use some hairspray. This is an old and cheaper trick used by starving artists to preserve their work. The UV protection also prevents the colors from fading over time.

The frieze is just 1/26" wide. Carefully cut it out





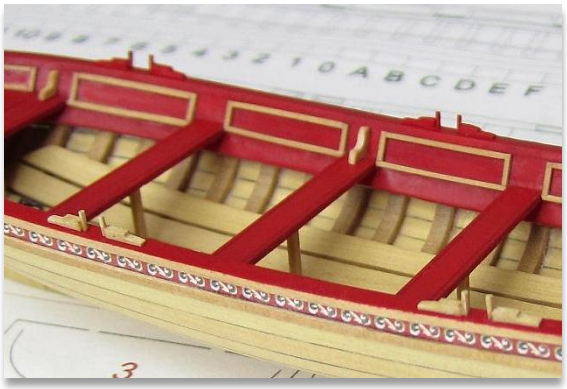
using a sharp blade. Some extras were provided just in case. I glued them to the hull using a child's glue stick. I have three kids that use them a lot and I find they work well for gluing paper onto wood. Apply the glue to the back of the frieze strip and position it below the cap rail.

Just below the frieze, add a strip of 1/32" x 1/32" boxwood as a molding. You can use the edge of the frieze strip as a "stop" and guide while you are gluing it into place. I did run some sandpaper down the strip to reduce its size slightly. It wasn't much but I prefer a more elegant look so I try hard to keep the details like this thin and delicate if possible. See the photos provided that show the frieze and molding in position.

Note how the outboard edge of the cap rail is kept natural. I also painted the transom at this time which is shown in the photo on the previous page. It was painted red but the top edge and outline was kept natural. I created a 1/32" strip around the outside of the entire transom.

At the bow, you can see the iron strip that was bolted to the front of the stem. It was actually bolted to the top as well. This was both a decorative element and also protected the stem like a bumper. I used a strip of heavy paper painted black. It was just a hair narrower than the stem. Once glued on the model, I drilled some holes into the stem and through the paper. They weren't very deep at all. I inserted a length of 28 gauge black wire into each hole and snipped off the excess. The wire was left slightly proud of the surface so it would simulate a bolt head. This is a feature that can be seen on most contemporary models of barges and pinnaces.

Oar Locks and Cap Rail Details…



The oar locks are finicky little bits. Each segment is made up of two parts. The horizontal part was filed to shape from a 1/32" x 1/32" strip of wood. The stepped profile was filed into to shape prior to cutting it free from the larger strip. The vertical pin was also fashioned from the 1/32" x 1/32" strip. It was

however thinned down to 1/64” x 1/64” like the strips for the inboard panels. These pins should be smaller than the other portion of each oarlock as can be seen in the photo above. Glue them along the cap rail as shown on the plans. Carefully place each pair while maintaining a consistent gap between them for the oar. They were painted red to match the cap rail.

There are two decorative splash guard panels on top of the cap rail. You can see them positioned on both sides of the cockpit area. Each panel is laser cut for you in two layers (1/32” thick boxwood). Glue the two layers together to create the panel. The “assembly” will now be 1/16” thick. This is too thick and should be thinned down to look in scale and elegant. I just sanded both sides down with some 320 grit sandpaper. Reduce both sides to make the final assembly just 1/32” thick. Otherwise the splash guards will look too heavy and clunky.

Each panel needed to be bent ever so slightly to match the curve of the cap rail. The assembly was dampened and then carefully bent while drying with the blow dryer. Don’t apply too much pressure when bending them because they will break easily. Each splash guard was painted before being glued into position once I was sure the correct bend was established.

NOTE: You may need to cut back the cockpit seat a bit in order to allow the splash guard to be centered on top of the cap rail. Just shave the sides of the seat until the splash guard fits.

Constructing and Installing the Rudder…

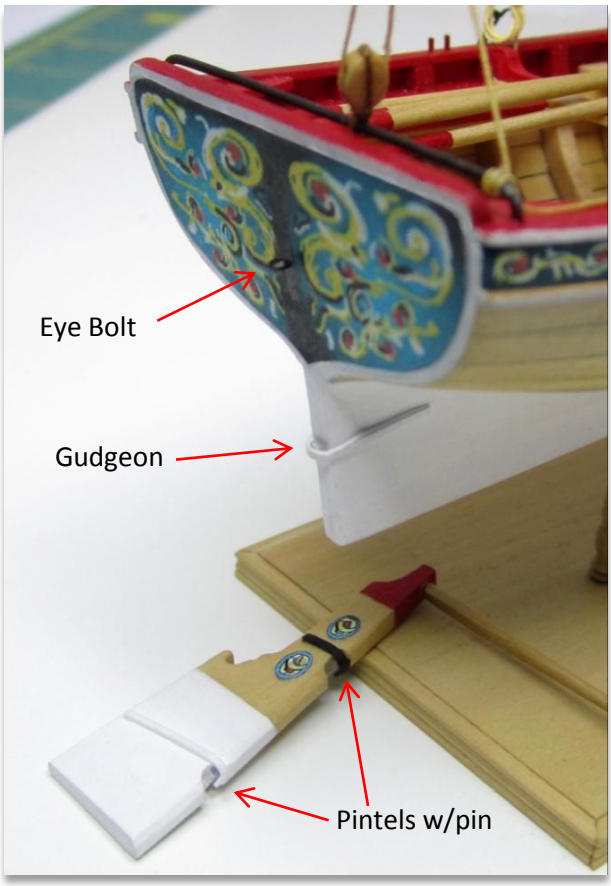
The rudder is laser cut for you. After sanding away the laser char from the edges of the rudder, shape it as shown on the plans. The rudder blade should taper aft and gradually be reduced in thickness to 1/32”. The forward edge of the rudder should be beveled on each side rather than be left flat. File a slight bevel as indicated on the plans. You can see a profile section of the rudder on the plan sheet.

The gudgeons and pintels (rudder hinges) were made from the same paper used to make the

iron strap at the bow. I cut strips that were 3/64" wide. The paper hinges were glued onto the rudder. The hinges should be placed at a right angle to the forward edge of the rudder. Then I drilled holes through them to simulate the bolts just as I did with the iron strap at the bow. I used 28 gauge black wire for the bolts. With the hinges in position already, I still needed to glue the hinge pins into place. I took the tiniest lengths of 28 gauge black wire and glued them into the hinges on the forward side of the ruder. Both pins faced downward as shown on the plans. An additional iron band was simulated with the paper strip where the tiller will be inserted. To finish off the rudder, I painted a red panel on each side of the rudder. I left about 1/64" of wood showing along the edges of the panel. See the photo above.

The shape of the tiller was drawn onto a scrap of 1/32" x 5/32" boxwood. The tiller needs to be very thin or it will look too chuncky. I crefully filed way the boxwood until only the slender tiller remained. I must admit that I broke two on previous attemts because it is very easy to split it along the grain. The tiller was rounded off with a very light tough using some 320 grit sandpaper. You could use a length of 22 gauge wire painted to look like wood if you wanted to. This would be much easier but I was hell-bent on making it from boxwood. Drill a small hole throughthe iron band and insert the tiller.

To install the rudder, a corresponding hinge (the gudgeon) will be placed on the hull to secure the bottom of the rudder. Unforunately, photos of the rudder before it was installed on the pinnace were terribly out of focus. But I have supplied an image of the same set-up for my model of a longboat. You can see the pintels with their pins (on the rudder) and the gudgeon on the hull. To establish the proper position for the gudgeon, hold the rudder against the stern post and mark its location. The paper strip used for the gudgeon should be place on the hull at a right angle to the stern post. Simulate the bolt heads as described earlier.



Temporarily place the rudder in position by inserting the lower pintel pin into the gudgeon. This should allow you to easily mark the location for the eyebolt. The upper pintel pin will be inserted into the eyebolt. Drill a small hole and glue the eyebolt into place. With this completed, you can permanently position the rudder. I actually glued the pintel pins into the gudgeon and eyebolt. This secured the rudder so it wouldn't swing freely or fall off. Unfortunately, this is the reason why I couldn't remove the rudder to take additional photos once I discovered how poorly focused the originals were. It would have damaged the paper hinges so the whole installation would need to be done over again. Sorry about that.

Installing the Decorative Transom…

The decorative transom is proved for you as a resin casting. You can paint it before you glue it to the model. See the photo provided. I actually glued it on the model first and painted it afterwards. Its small size made it difficult to paint otherwise because I couldn't hold it without screwing up my paint job. It was easier for me to gently hold the entire boat while painting it. I painted the entire transom red at first. Then I carefully painted the raised areas to match the natural wood color. The transom should be angled as shown on the plans. I used white glue to secure it to the two planks so I had enough time to move it around before the glue dried. I pushed it around until it was center and level.

Making the Oars…

The four oars are made in two pieces. The blade is made by using a length of 1/32" x 1/8" boxwood. The handle is made starting with a 1/16" x 1/16" boxwood strip. The photo below shows the steps I used to make them. The square area of the handle was marked in the strip. Then I chocked the strip in my Dremel. On a low speed, I was able to shape the handle and round it off until it was just a hair larger

than 1/32" in diameter. I used various needle files and sandpaper to turn the square stock in this "poor man's lathe". I filed a notch in the blade and glued the two parts together. To finish it off, I shaped the blade to match the plans and reduced the thickness of it gradually towards its end. I reduced the thickness quite a bit as it needs to be less than half its thickness on the extreme end of the blade. The four oars were painted and glued into the pinnace as shown.

Building the Grapnel….

The body of the grapnel is made up of two laser cut pieces. The boxwood pieces are very fragile. Before removing the longer piece, drill a tiny hole for the rigging line on the end of the shaft. It would have been too difficult to laser cut such a small hole. Drilling it before you remove it from the sheet will help prevent it from splitting. I used a #76 drill bit for this hole. Lightly sand the laser char from each piece with some needle files. Hold the pieces gingerly while doing so. These pieces will be painted black anyway so it is just a matter of removing the heavy char. It takes a very light touch. Test fit the two pieces together. Don't force them together. If the notches are too snug, file them down so they fit easily together.

The four flukes on each end of the grapnel were made with tiny shavings from some left over boxwood. These are very tiny little triangles that were glued to the ends to complete the grapnel.

Paint the completed grapnel black and seize the rigging line to it. Only seize a 2" length to the end of the grapnel. Then glue the grapnel into the pinnace. The loose end of the line can be naturally draped so you can create a rope coil

with the remaining rigging line. Glue the rope coil over the end of the shorter section so it

looks like a naturally draping and coiled rope.

That completes the model!!! You could also paint the bottom of the pinnace white up to the waterline should you prefer that look. I was happy with my planking and decided to leave it all natural. Two crutches are provided for mounting your completed model. I decided to use some thin pedestals instead. You might prefer that as well. I turned 3/32" boxwood strips in my Dremel. They are quite thin and fragile but do the trick. Two holes were drilled into the bottom of the keel to except them.

Here are a few photos of my finished model.