

## Chapter Four

### Preparing the hull for the gun port framing...

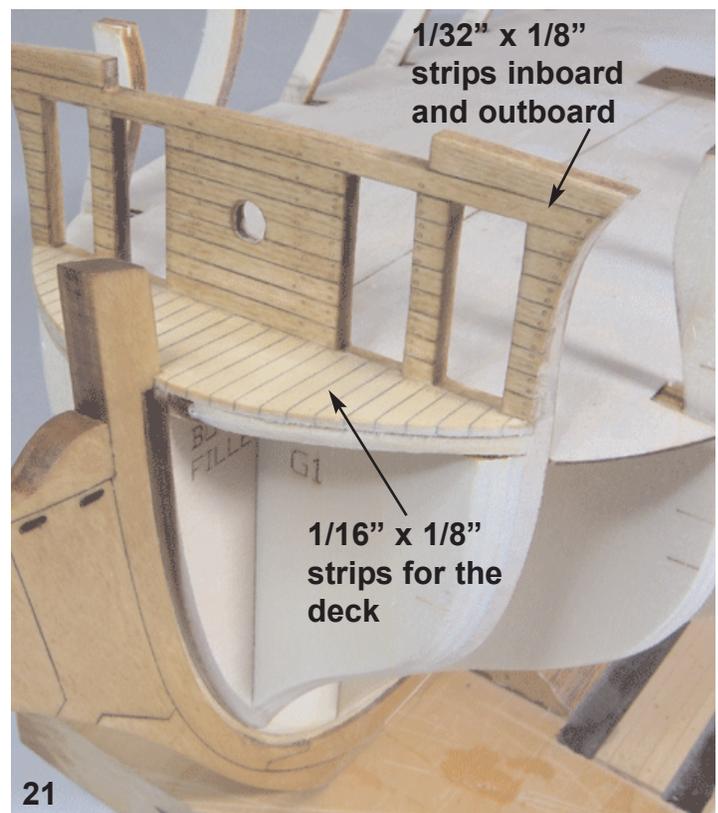
Before you begin framing the ports on both sides of the hull, it would be a good time to plank the beakhead bulkhead at the bow. It will be easier to plank the inboard side before the port framing makes access to it more difficult. Start by planking the deck with 1/8" x 1/16" basswood strips. If you chose to show the caulking seams between each plank, remember to color the plank edges black with a soft pencil first. The top of the planked deck should be level with the top of the threshold sill for each door opening. Once again it would be good to mention how the deck would be a lighter color than the hull planking. After the deck is sanded, you can apply the finish of your choice. In the case of the prototype model, the decks were simply finished with satin polyurethane. You can also treenail the deck planks but it would be best to wait until the beakhead bulkhead is planked before doing so.

The beakhead bulkhead will be planked with 1/32" x 1/8" strips. Plank the inboard and outboard sides of the bulkhead. See the photo provided. Cut the planks flush with the openings for each doorway. If you want to add some extra detailing to the model at this point, you could line the top, and sides of each doorway with thin strips of wood for the door jambs. Run a 1/64" x 1/32" strip down the center of the door framing to simulate the door jambs. On the prototype model the planks were stained with MinWax Golden Oak wood stain. This color created a nice contrast against the lighter deck color.

Treenails were wooden pegs that helped secure the planks to the ship's frames. There were also wooden plugs that covered recessed bolt heads in some areas as well. Simulating this look will add an interesting texture and richness to your model. Drill some tiny holes into your deck and beakhead bulkhead planking. The treenail pattern is shown on the plans. You may opt for a simplified approach for your treenail pattern and create only one hole for each plank rather than

the two shown for each frame on the plans. Proceed slowly and try your best to keep your holes lined up in a row as you proceed. You can draw some light pencil lines as a guide before you start to drill your holes.

There are several ways to create the treenails that will fill these holes. One method would be to pull small strips of wood through a metal draw plate. The holes in the draw plate would get progressively smaller. You would pull the wood through many holes working your way to the smallest so the strips will fit into the tiny treenail holes. Place a small amount of watered down white glue onto the end of each wooden treenail and insert it into each hole. Then snip it off close to the hull with a nail clippers. When all of the holes are filled, sand the treenails down flush with the hull planking. Stain the surface with the color of your choice to finish it up. This method works well but can be very time consuming. Another alternative (which was used on the prototype) would be to fill the holes with some water based wood filler. Then sand the planking and stain. Elmer's wood filler works well for this application. Be careful not to make the treenails too large or too dark. A 0.65 bit was used to drill the holes on the prototype.



A batten strip (1/16" x 1/8") is used along the laser-etched reference lines to establish a clean run for the gun port sills.



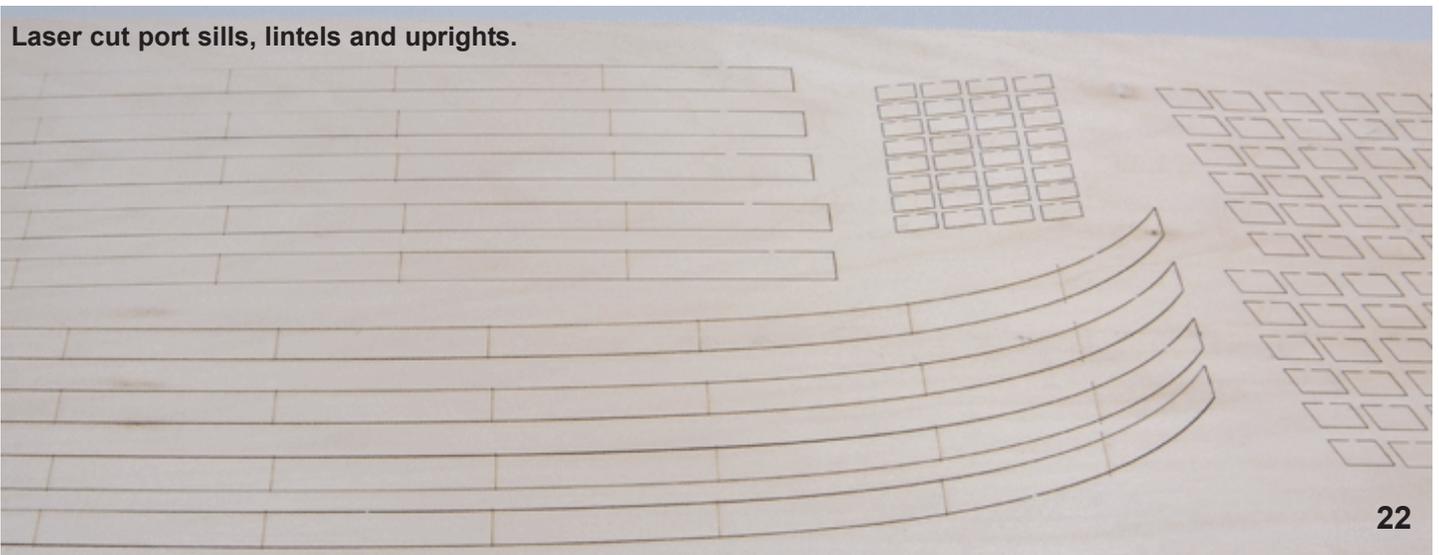
### Framing the Gun Ports...

The sills for the gun deck ports will be framed first. There are laser etched reference lines on the bulkheads that approximate the top of the port sills. In order to make sure that the sills are placed at their proper height, a batten should be utilized first. You will soon see that this model makes extensive use of the temporary batten to make sure the ports and planking run smoothly across the hull. Take a planking strip and use it as your temporary batten. Pin it into position at each bulkhead using the laser etched reference marks as a guide. Once pinned into place you should view the batten at many different angles. Check for dips. When looking at the strip from the stern you should see a smooth run for the

batten as it works its way towards the bow. You may have to tweak the batten a little bit here and there. When you are satisfied, mark each bulkhead along the top of the batten. Then remove the batten strip.

The port sills and lintels have been laser cut for you. The sills are the bottom frames for each port opening. The lintels are the top frames for each port. Each segment has been laser cut a little longer than needed and you will have to trim them to fit between the bulkheads. They are 3/32" thick. You can see in the picture that the sills and lintels have been cut on a curve that matches the shape of the hull. Start placing the sills into position at the stern between bulkheads 7 and 8. Hold the appropriate section against

Laser cut port sills, lintels and uprights.





the hull using the reference marks you made. Mark each side of the sill with pencil and cut it to length. Don't make the sills too tight or you will force the bulkheads out of alignment. They should be a good close (snug fit). Line up the top of the sill pieces with your reference marks. When all of the sills have been glued into position, you can fair them until they are flush with the bulkheads. See the photo provided.

### Gun port Lintels...

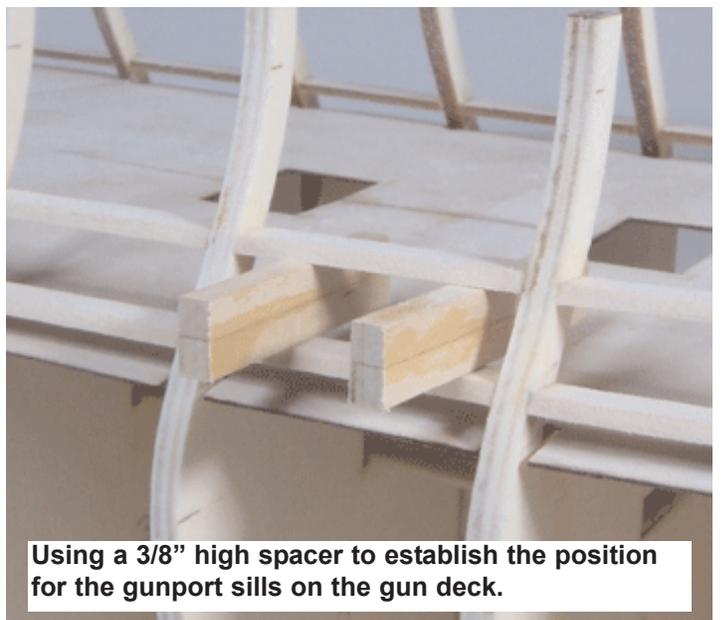
Once the sills are completed on both sides of the hull for the gun deck, you can add the lintels for the ports. Use the same laser cut pieces for them. You will have more than enough pieces to complete the port framing. The gun ports are 3/8" high. If you were to just use a ruler to measure the height for the ports they would end up too short. The curvature of the hull makes it very difficult to consistently and properly measure the height. The best way to establish the height would be to use a spacer.

A 3/8" x 5/16" strip is provided for you to use as a spacer. See the photo provided. On the prototype, two 3/16" strips were glued together but the 3/8" strip provided makes it even easier. You can actually cut the strip to length so it is long enough to sit on top of both sills port and starboard at the same time. Using two spacers will

make positioning the lintels even easier. With the spacers positioned on both ends you can glue the lintels into place fairly quickly. Be careful not to glue your spacers to your port sills or lintels in the process. Your port openings will be very consistent using this technique. See the photo that shows all of the port lintels glued into position on the port side.

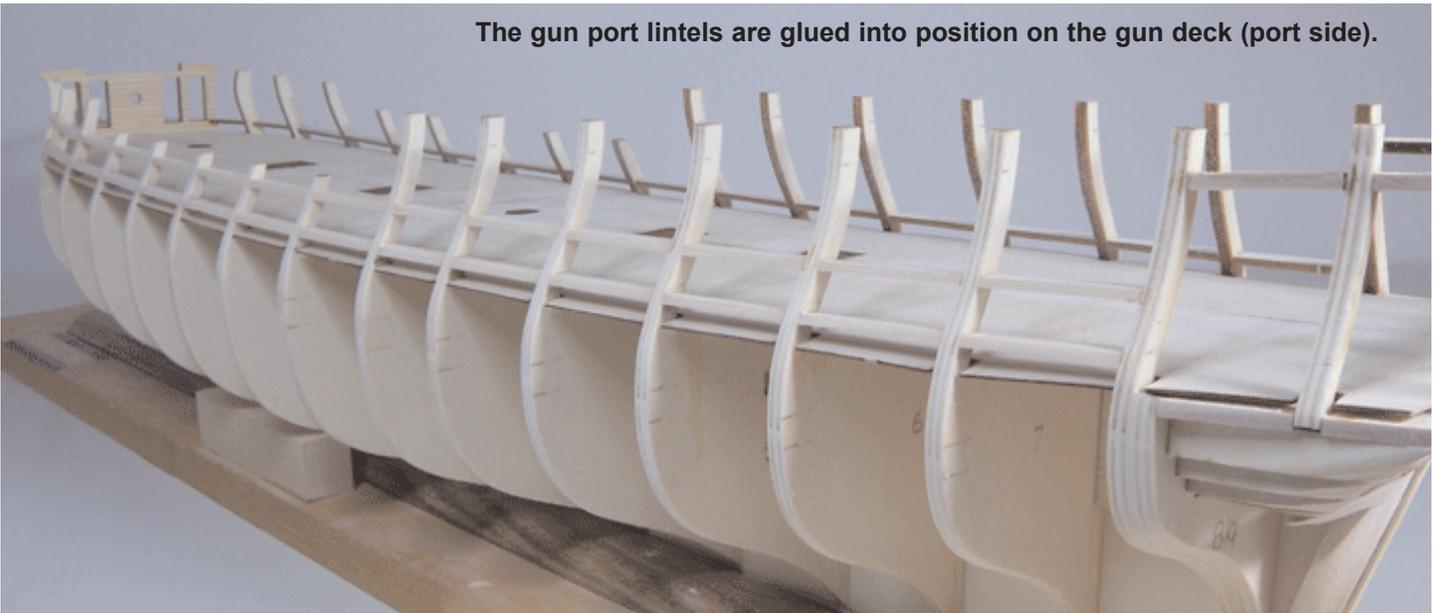
### Quarter deck sills and lintels...

The Quarter deck sills are done the same as those for the gun deck. Use a batten first to establish a smooth run for the sills. See the photo provided. Then glue the sills into position.



Using a 3/8" high spacer to establish the position for the gunport sills on the gun deck.

The gun port lintels are glued into position on the gun deck (port side).



You will notice how the batten lines up with the laser cut piece HH that was used while framing the stern. That will become the sill for the two aft-most port openings. You only need to put the sills between the bulkheads where there will be a gun port on the quarter deck. But you will see in the other photos that follow that they were used between all of the bulkheads on the prototype. The extra framing will help strengthen the entire hull. The extra sills are optional but highly recommended.

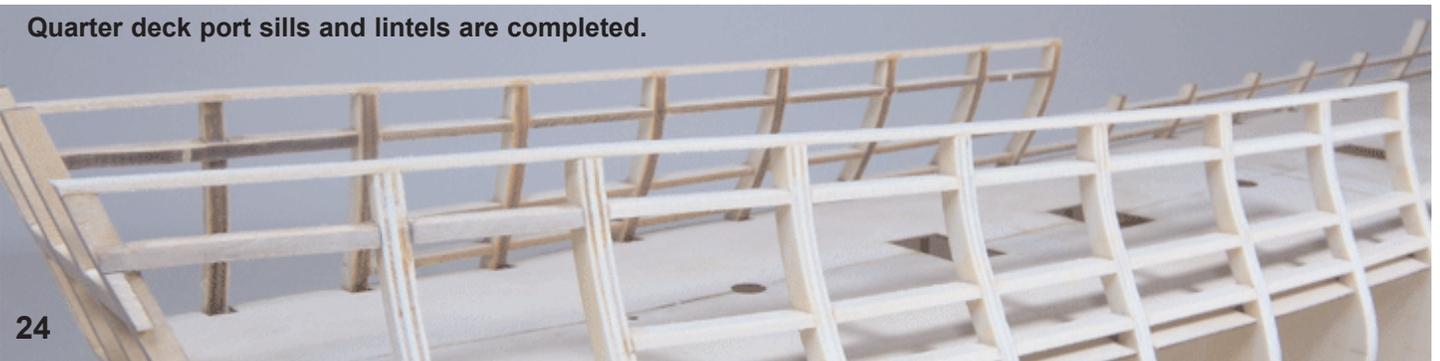
The lintel for the quarter deck is made by placing a 3/16" x 1/16" strip on top of the bulkhead

extensions. You can see this in the photo provided. Before doing so, a batten can still be used to establish a smooth run for the strip. The tops of the bulkhead extensions need to be sanded on an angle in order to establish the correct, smooth run for the lintel strip. A batten will help you establish how much of each bulkhead needs to be sanded down. Don't sand too much. The aft side of each extension should remain unsanded. The bulkhead extensions should slope downward toward the bow. Fair all of these pieces so they are flush with the hull afterwards.

Using batten strips to find a smooth run for the quarter deck port sills.



Quarter deck port sills and lintels are completed.





### Framing the sides of each Gun Port...

The uprights that frame the sides of each gun port are also laser cut for you. The thicker ones are for the gun deck ports. You will be using the printed templates provided to establish the locations for each upright frame. Two templates are provided for each deck (one each for the port and starboard sides). Cut the templates out with a sharp blade. While doing so, cut the templates out without the sills and lintels showing. You should have a thin strip with only the uprights showing.

Start by using the quarter deck framing templates. Tape them to the hull. Line up the template on the hull with bulkhead number eight. Lining it up with bulkhead number eight will ensure that your port openings are consistently spaced port and starboard. The only way this would not work is if bulkhead #8 wasn't squared with the bulkhead former. If it is squared with

the bulkhead former then your ports will be spaced properly, even if the remaining bulkheads are not squared with the keel. See the photo provided that shows the quarter deck template taped to the hull.

Use a pencil to mark the locations for each port upright. Place the reference marks on the port sills and lintels. In some cases a bulkhead will actually be used for the port upright. Remove the template and start positioning the laser cut port uprights. They have been cut a little longer than needed so they can be trimmed for a perfect fit. When you glue them into position, make sure they stick out a little bit on the outboard side. This way you can fair them flush with the rest of the hull when you are finished. The uprights are cut on an angle that closely matches the hull shape. Another photo provided shows the port framing completed for the quarter deck gun ports.

The quarter deck port uprights are glued into position.



Removing bulkhead 6 where it runs through the quarter deck gun port using a fine-toothed blade.



You will notice that bulkhead #6 is actually running through the center of one of the quarter deck gun ports. This portion of the bulkhead needs to be removed and cut away. As scary as that may seem, it is really not at all difficult. With the port uprights in position, the framing has become quite sturdy. An easy way to cut the bulkhead out would be to use a fine-toothed scroll saw blade. Cut a blade in half with some wire cutters. Then place half of the blade in the handle of your hobby knife. You can see this being done in a photo provided. Don't try and cut the bulkhead close to your sills or lintels. Leave a little room for yourself. The excess material can be sanded away later once the bulkhead has been cut away. The trick is to go slow. Don't apply too much pressure. Make slow, gentle and deliberate strokes with the blade. Before you know it the bulkhead will pop free. Start by cutting the top of the extension first.

When the bulkhead has been removed, you can sand the sill and lintel with a sanding stick. You can make a sanding stick very easily and they work fantastic. Glue a strip of sandpaper to a 1/8" x 1/8" strip of basswood. When it dries you will have made yourself a sanding stick. It has a perfectly flat edge and should be used to sand down the remaining part of that bulkhead extension. Sand it flush with the sill and lintels. You can see in the second photo what the port open-



The same port opening after it was cleaned up with a sanding stick.

ing looks like after it was cleaned up with a sanding stick. There will be a need to repeat this process for another port opening on the gun deck as well.

Frame the gun deck port uprights the same way. Line up that template with bulkhead #8 as well. Mark the positions for each upright along the sills and lintels. Then trim the laser cut uprights to fit between them. Be sure to position each upright as vertical as possible. All of the port uprights are perfectly vertical. Check the framing plan for details before you start. The very first gun port (the bridle port) will also need to have a portion of the bulkhead extension cut away. You can do this after the uprights are glued into position or even do it ahead of time. You can see in the photo provided that the bulkhead on the prototype model was actually removed before the uprights were glued into position. Either way, the framing is strong enough to hold together. Just remember to go slowly and not apply too much pressure on the scroll saw blade while sawing. Use your sanding stick to clean it up after you are finished. Also note that the uprights for the bridle ports are not aligned with the bulkheads. All of the other uprights are perpendicular to the bulkhead former. The uprights for the bridle ports however are angled so the port faces outward along the curvature of the bow. Examine plan sheet one for clarity. You can see that the cannon is angled while run out

Establishing the locations for the gundeck port uprights using the template. It should be lined up with bulkhead eight.

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Sides of the gun deck ports have been completed using the laser cut pieces provided.



Bridle port bulkhead extension cut free before adding the two uprights to complete the sides of the port.



and the sides of the port are shown at the same angle when viewed from above.

### Adding the Hance Pieces...

With the gun port framing completed, you can now add the hance pieces (XX and YY). These pieces will be added to the waist of the model (port and starboard). They create the underlying shape for the sides of the hull where the scroll-work will eventually be added. Remove the laser cut pieces from the basswood sheet. You will notice that there are four copies for each laser cut piece. You must glue two pieces together for XX and YY first before gluing them into position. This will give you the overall thickness you need. Set these pieces aside for the moment.



Hance pieces are doubled up and added on top of a 1/8" x 3/16" strip.

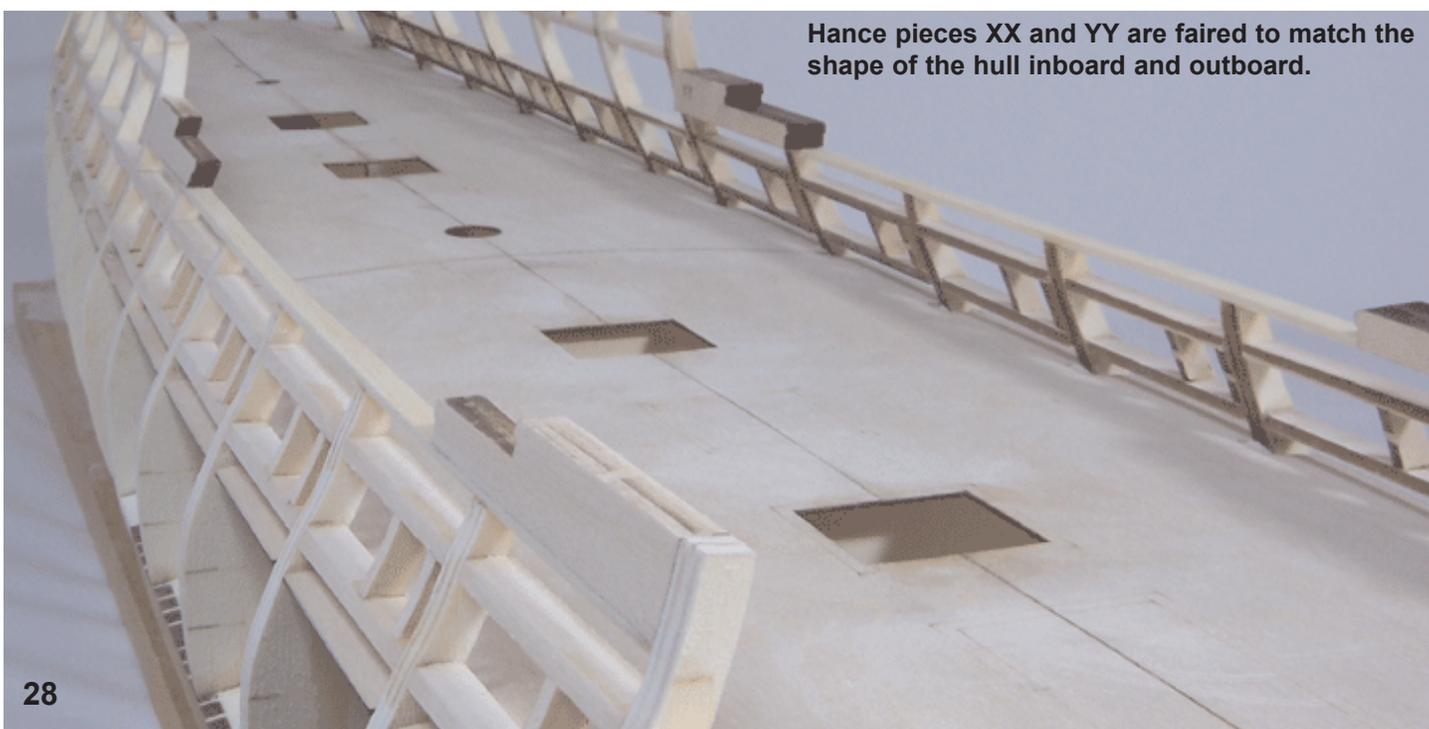
Before gluing the hance pieces XX and YY into position, you must first add a 1/16" x 3/16" strip along the tops of the bulkhead extensions at the waist. Just as you did when adding the strip along the quarter deck bulkheads, you will need to bevel the tops of these so the strip lies nicely on top of them. The beveling is not as severe as was needed on the quarter deck, but it must still be done to ensure that the strip lies with a nice smooth curve. Once the strip is in position you can add the hance pieces on top of that strip. Glue the hance pieces YY on the aft side of the waist. The pieces marked XX should be glued on the fore side of the waist. See the photo pro-

vided that shows YY in position before it faired. You will see that it sticks out outboard and inboard. You must fair these pieces flush with the hull shape afterwards. Another photo shows the pieces faired properly on the starboard side. Also examine the framing plan before completing these steps.

### Framing the Sweep Ports...

Examine sheet one of the plans and the framing plan. Just above the wales you will see a row of sweep ports. Because this deck will not be detailed on our model, there is no need to frame these ports like the gun ports above them on the gun deck. You will see that two laser etched reference lines remain on each bulkhead. The lower reference line represents the top of the wales. The reference line above that marks the location for the BOTTOM of the sweep port frames. As you have done numerous times, run a batten across these reference lines to ensure a smooth run for these sweep port frames. Make your adjustments to the batten to ensure a smooth run across the hull. Then mark the outside of each bulkhead with a pencil when you're satisfied.

The sweep port frames are 3/8" x 5/16". The 3/8" side should face outboard when you are glu-



Hance pieces XX and YY are faired to match the shape of the hull inboard and outboard.



**Measuring the sweep port strips to fit into position after establishing a clean run for them with a batten.**



ing them into position. Hold the strip against the hull following your reference marks. Then indicate the angle that you will need to cut the strip so your sweep port frames fit properly. See the photo provided that shows a sweep port frame being measured. Glue the frames into position on the port and starboard sides of the hull. Remember, the reference marks on each bulkhead represent the **BOTTOM** of these sweep port frames. Glue them into position accordingly. You will also notice that there is a larger port opening mid-ship. This port was called the ballast port. It was used to load the ballast directly in hull so it didn't need to be taken down the hatches from above. An additional sweep port frame will be needed to accommodate this larger ballast port. Place a second frame under the strip already in position. This should be done between bulkheads 0 and A. When you are finished, the frames should be sanded flush to the



**Using a batten to establish a smooth run for the sweep ports.**

**Using the sweep port template to transfer the port openings onto the frames.**



bulkhead edges. Take your time here. This will be the last time you have to fair the hull before planking begins.

### **Using the Sweep Port templates...**

Additional templates are provided so you can mark the locations for each sweep port. You will be using these templates as a stencil to draw the port openings onto the sweep port framing you just completed. Before you cut the template from the plan sheet, you should remove all of the sweep ports from the template first. Cut the sweep ports out so you have a series of open boxes along the template. This will be harder to do if you try and cut the boxes out of the very

thin strip of paper. So create the openings first using a sharp blade and steel ruler as a guide. Then cut the entire strip from the plan sheet. Tape the template to hull as shown in the photo provided. Like all of the other templates, this one will be lined up with bulkhead #8 also. Tape it down securely at intervals along the sweep port frames. It will need to be very secure so it doesn't move around while you are tracing each port opening onto the frames. You can see the results in the second photo provided. There are a series of port openings drawn along the sweep port frames. When you start planking the hull later, you will need to cut the planking around these sweep ports. Then the port lids will be added by popping them into the openings creat-

**Sweep ports have been transferred to the frames using the stencil you created.**





ed. These are very important reference lines. Be very careful while drawing them. Draw them dark enough to see. Make sure the lines are straight with crisp, hard corners to making planking around them easier.

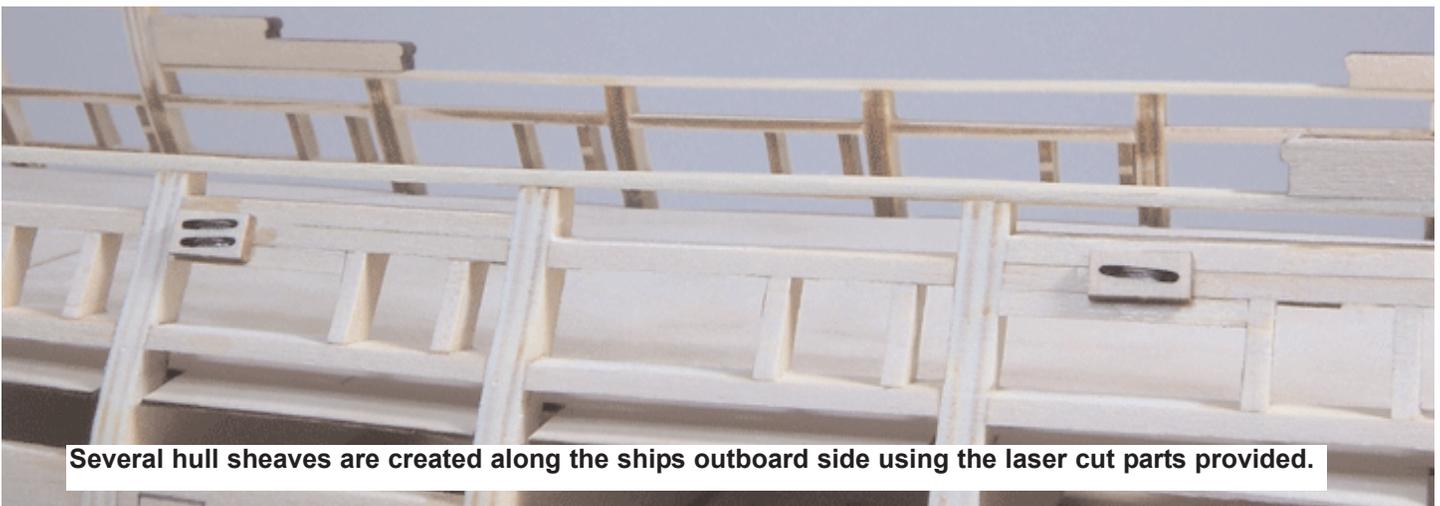
### **Adding the Hull Sheaves...**

Examine plan sheet one and the framing plan. You will see that there are three hull sheaves shown along the hull. There are two double hull sheaves and one single hull sheave. These are usually created on most kits after the planking is completed. The builder simply drills a hole through the bulwarks to allow the rigging lines to pass through. In actual practice, the sheaves were created separately. The shells for them were let into the hull frames before the planking was started. This is how the Confederacy kit was designed, although it will only simulate the shells for the sheaves. This will add an extra level of authenticity and detail to your model. The shells for the sheaves have been laser cut for you. They are 1/16" thick. Match the shells

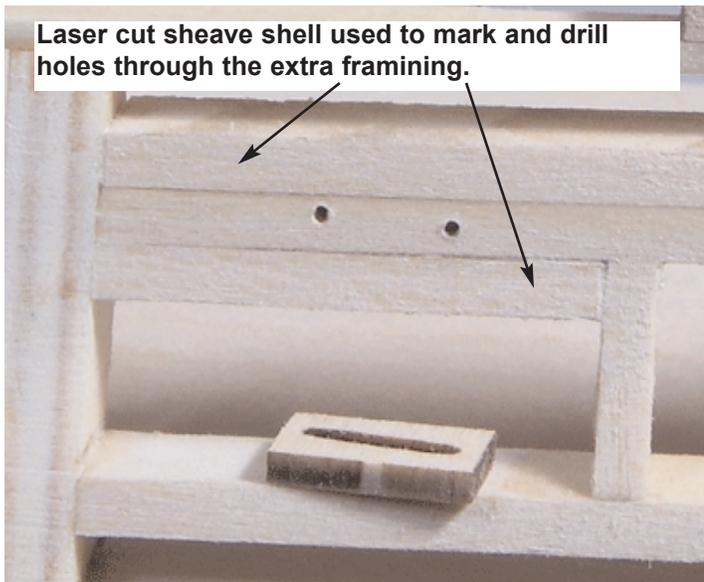
against the framing plan to ensure that you are using the correct ones in each location. The shapes for each shell are different for the two double hull sheaves.

You will also notice that some additional framing will be necessary to create a foundation for each sheave. You should have some laser cut lintels and sills left over which can be used for these additional frames. Examine the photos provided and you will see the additional frames in position. These should be added first following the framing plan. Sand them flush with the hull when you have finished.

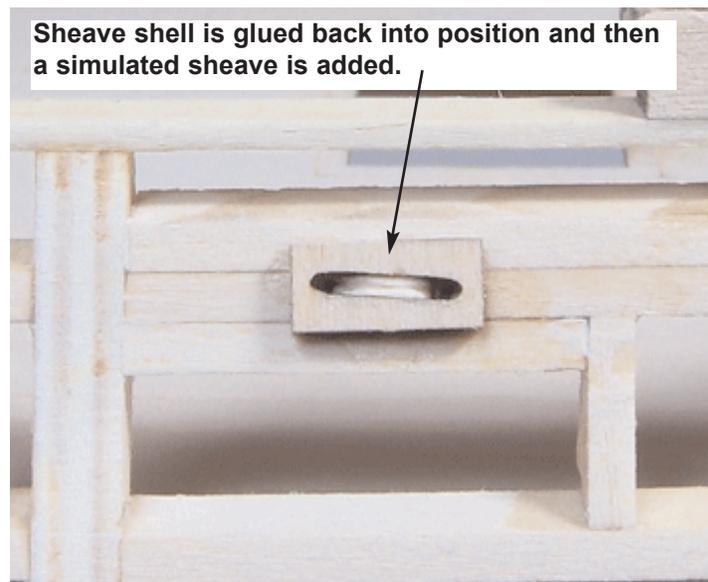
To begin, hold the shell for the sheave against the hull. Mark the location of the sheave slot with a mechanical pencil. Concentrate on marking the locations for the ends of the sheave slots. A small dot on each end of the slot will do the trick. You will need to drill some holes through the frames in these locations. See the photo provided. Drill the holes all the way through the hull.



**Several hull sheaves are created along the ships outboard side using the laser cut parts provided.**



Laser cut sheave shell used to mark and drill holes through the extra framing.



Sheave shell is glued back into position and then a simulated sheave is added.

Then glue the shell onto the hull permanently. Carefully line up the holes you drilled with the slot in the sheave shell. An additional photo shows the sheave shell glued into position. A second corresponding shell will be glued on the inboard side of the hull later. That will be done after you fair the inboard side of the bulkheads much later in the project.

To finish it up, a simulated sheave should be fit into the slot of the shell. For this, use a 1/32" x 1/16" strip. Cut a small piece of the strip and round off the outboard side. You are trying to shape this tiny piece of wood so it looks like a portion of the circular sheave that would have

actually been placed in the slot. You're just trying to fake the look of a round sheave. Push this sliver of wood into the slot. Center it so it looks like an actual sheave. See the same photo of the completed hull sheave. Double-check that your holes are not obstructed and a rigging line can still pass easily through them. When planking the sides of the hull later, you will plank around the sheave shells. This will look much more authentic than simply drilling a hole through your planking. If you skip ahead in these instructions you are sure to see how good they look after the hull planking has been completed. See the many photos that show the hull sheaves detailed.