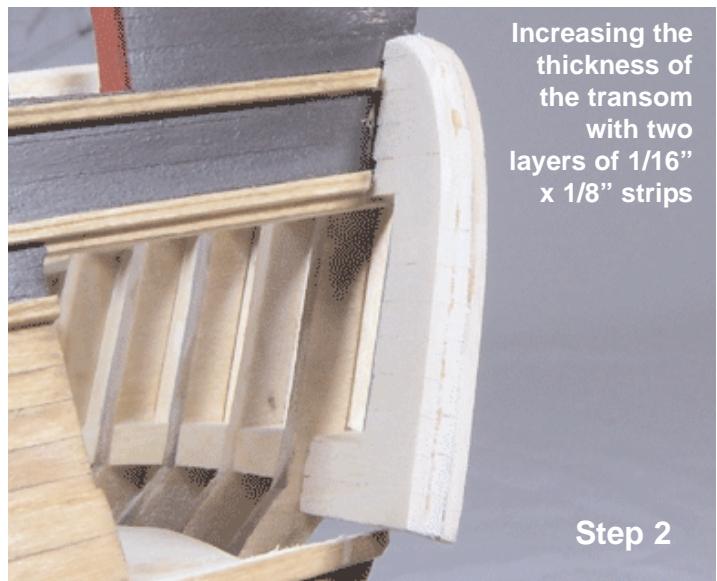


Step 1



Step 2

Chapter Seven

Constructing the Stern and Quarter Galleries...

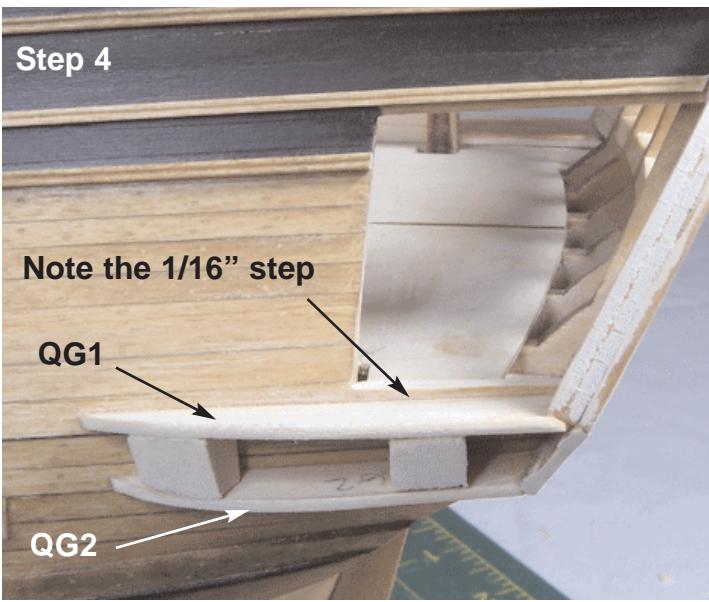
Step One- Glue the 1/16" thick laser cut transom in position. You will notice two reference lines etched on one side which were provided to help you align the transom. They should be lined up with the two center stern frames. You should carefully position the transom using the opening for the stern lights as a guide. The term "light" is the proper name for the stern windows. The opening on the laser cut transom should line up with the sills and lintels for the stern lights. Try not to sand the opening taller because the seven laser cut stern lights will no longer fit properly when the time comes to install them. Instead,

adjust the spacing between your lintels and sills if you need to so they match the opening created by the laser cut transom. See the photo provided. Once the transom is in position, you can cut and glue the uprights (1/16" x 1/8" strips) onto the outboard side of each stern timber to finish it off.

Step 2- Increase the thickness for the outer ends of the stern transom. There are many ways to do this, but because the transom is curved, two layers of 1/16" x 1/8" strips were built up to thicken the areas on the prototype. You will need to cut away a portion of your double beaded hull molding first. Add your strips on the fore side of the transom working from the bottom upward. Complete one layer at a time. The strips can simply run into the openings of outer-most stern lights. After each layer is completed, file the strips flush with the sides of those outside stern lights. Note in the second photo provided, how the ends of the lower strips butt against the last stern frame. You will also notice that the two layers are completed but they are still not as thick as the stern frames. Before moving ahead, the stern frames, lintels and sills must be sanded down to match the thickness you achieved on the outside ends of the transom. Carefully reduce the thickness and fair the stern frames so they are flush with the two extra layers of planking strips. The stern transom should be about 3/16" thick when you are done



Step 3



Step 3- Plank the upper counter of the stern with $1/8" \times 1/16"$ strips between the transom and lower counter. See the photo provided. You will notice how the outside ends of the upper counter extend beyond the sides of the transom. The ends of the upper counter will be shaped after the counter of the quarter galleries is framed in the next step. You should extend the stern's upper counter past the ends of the transom by about $1/8"$. DO NOT build the up the thickness of the upper counter on each end like you did the transom. Only one layer of planking will be used for the upper counter of the stern. Examine the detailed drawing on plan sheet four carefully before moving forward.

Step 4- Framing the counter for the quarter galleries. Two $1/16"$ thick laser cut pieces (QG1 and QG2) will be used to frame the counter of the quarter galleries. The piece QG1 should be glued to the hull as shown in the photo.

Important note: See how this piece is $1/16"$ below the entrance to the galleries? QG1 is also glued so its aft end is placed below the two layers of thicker transom planking. Examine that detailed drawing on plan sheet four. Both laser cut pieces QG1 and QG2 will follow the run of your hull planking. This will help you establish the correct angle for these pieces when gluing them to the hull. Once QG1 is in place, glue QG2 into position under it. The aft edge of this piece (QG2) should line up with the bottom of the upper stern counter. Carefully position this piece so there is equal spacing between it and

QG1 along its entire length. Then cut a few scrap pieces of wood to use as filler between them. These packing pieces will be a big help when you plank the counter in the next step. Sand them to match the shape of the counter after you glue them into position. With the QGallery counter framing completed, you can now shape the ends of the upper stern counter. Sand them to shape using the outside edge of QG2 as a guide. It will ensure that the angles you create for the ends of the upper stern counter are consistent and correct on both the port and starboard sides.

Step 5- Plank the counter of the quarter galleries with $1/8" \times 1/16"$ strips. Then make a few strips of $1/16"$ double bead molding using the photo etched scrapers provided with the kit. Glue the molding along the top and the bottom edges of the upper counter of the stern first. Then do the same for the counter of the quarter galleries trying to keep the distance between them consistent. You can miter the corners that transition from the stern onto the quarter galleries. See the two photos (5a and 5b) that show the counter completed and painted. The upper counter should be painted black between the two molding strips.

SIDE NOTE: Examine the second photo where you can see that the stern frames were sanded down flush to match the thickness of the transom ($3/16"$) as instructed in step 2.

In fact this is probably a great time to fair the inside of hull completely. Before you add any more details to the stern, start reducing the thickness of the bulwarks and fair the inboard sides of the hull. The inboard side of the stern frames should already be reduced to about 3/16" thick as stated. Fairing the inboard bulwarks now will prevent the outboard details from getting damaged or scuffed later. Don't be afraid to use a very coarse sand paper to INITIALLY reduce the thickness of the bulwarks. They should gradually taper to a maximum thickness of 5/32" wide at the cap rail. The unplanked bulwarks don't need to be this thin at deck level. They should however gradually taper to the final thickness. The prototype was sanded to 1/8" thick including the external planking. See the photo provided that shows the reduced and faired hull interior. It will make a lot of dust and this is the reason why it should be done now before moving ahead with more finished details.

The bow area will be the most challenging. Proceed slowly and don't apply too much pressure while you are sanding. You don't want to break the bulkhead extensions at this point in the project. Using a long piece of sandpaper folded in half is helpful. Use a piece that is long enough to span across several bulkhead edges. This step will take some time and effort and it shouldn't be rushed. Thicker bulwarks will not

Reduce the thickness of the bulwarks inboard to a maximum 7/32" thick. If you can go thinner that is even better.



give the finished model its delicate and elegant look that was so common with contemporary models of the time. Once the inboard side of the hull is planked, it will be between 3/16" and 7/32" thick. On the real ship this would translate to 1 foot – 14" thick along the cap rail. When you finish fairing the hull inboard, you can move ahead to step six below in order to complete the stern and quarter galleries.

Step 6- Adding the Cap Rail to the Stern Transom. There are many ways to shape the cap of the stern transom. You could cut the curved pieces for the port and starboard sides from a solid block of wood. You could also laminate two





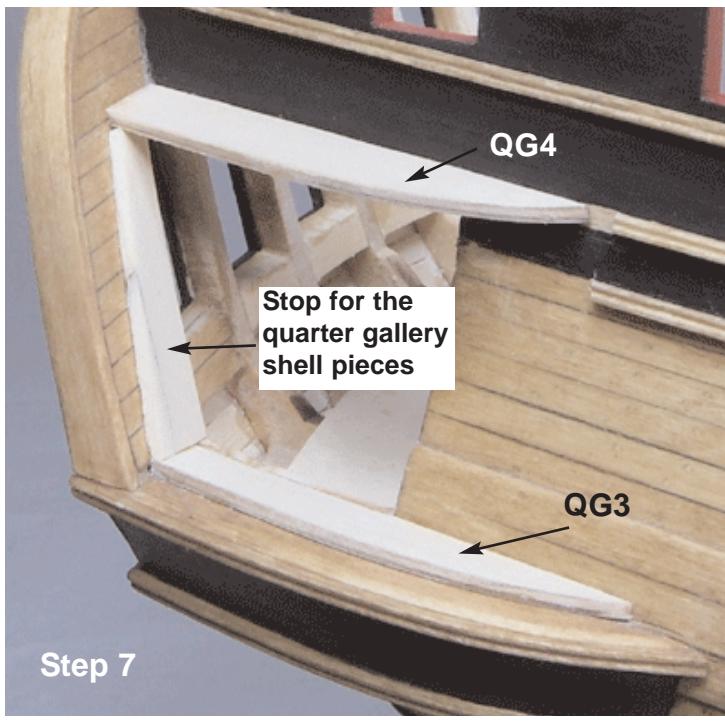
thinner strips of wood together with some glue. With the bend established it would hold its shape after the glue sets. On the prototype however, the two side pieces were bent to shape. A $\frac{1}{4}$ " x $\frac{1}{16}$ " strip of basswood was soaked in water. It was then bent over the transom as shown in the attached photo. Two strips were used (one for the port and one for the starboard sides). The lower ends of each strip were clamped securely. Then each strip was SLOWLY and carefully bent towards the center of the stern. A piece of string was used to secure it in position. Both

strips were allowed to dry overnight. When released they held their shape with a minimal amount of spring back.

This technique could get finicky. Several of the strips split while trying to bend them to the extreme curve of the transom. But after several attempts, two intact strips were secured in position and allowed to dry.

The curved pieces will only cover the outer ends of the stern. You can see a seam in the second





Step 7

photo (6B) where the curved section was cut to butt against the hull planking. It was glued along the top edge of the stern with a 1/32" overhang on the aft side. The forward side of the cap rail was sanded flush to the transom afterwards. While sanding, you should be careful to keep the cap rail a consistent width. The finished width of the cap rail should be 7/32" wide (maybe just a hair less if you wanted to).

Once the two end pieces are completed, a strip of 3/32" x 1/16' basswood was cut to fit between them. Try to create a nice tight seam between this middle section of the cap rail and the two curved sections. Maintain a consistent overhang on the aft side. The forward edge of this center strip will sit flush against the stern frames. The completed cap rail was sanded smooth and stained afterwards. Then the entire outboard side of the stern was painted black as you can see in that same photo.

NOTE: After much consideration and contemplation a decision was made to laser cut the two outer sections of the cap rail. You will see two laser cut pieces named SCR (1/4" thick sheet) which are cut to the approximate curve of the transom. They were provided slightly longer than needed to compensate for small difference from model-to-model. Hold them in position and mark them to fit your model. Glue them on per-



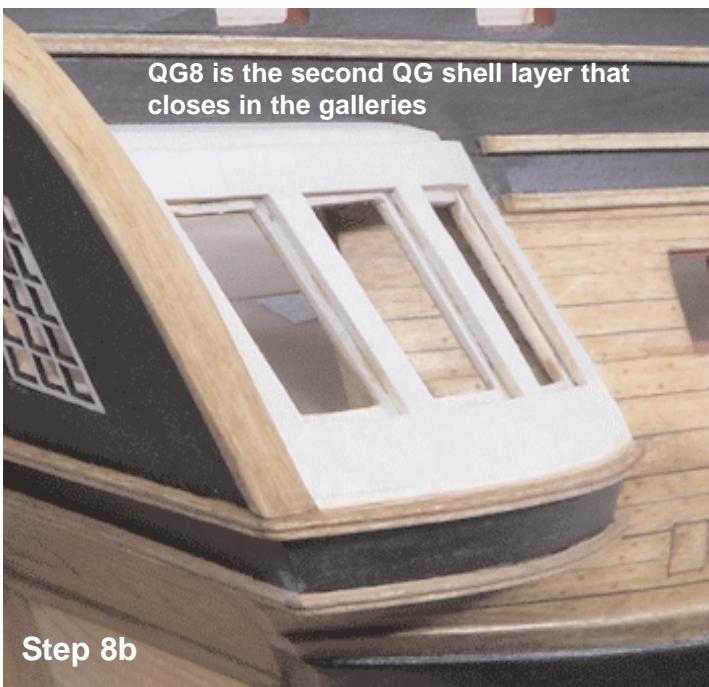
Step 8a

QG7 is the first QG shell layer that closes in the galleries

manently afterwards with the same small overhang described earlier. They have also been laser cut slightly thicker than needed so you can sand off any laser burn marks while matching the thickness to the center section of the cap rail. This can be done after you glue them into place.

Step 7 – Continued construction of the quarter galleries. Remove the two laser cut pieces (QG3 and QG4) from the 1/16" sheet. Glue QG3 into position on top of the counter of the quarter galleries. The top of this piece should sit flush with the bottom the hull opening. This was the reason for leaving that little gap while completing step four earlier. Then glue QG4 along the top of the gallery opening following the run of your hull planking. You will need to remove more of the beaded molding to do this. See the photo provided.

Then, take some scrap basswood strips and glue them together edgewise. You will need a piece that will be at least 3/8" wide when you're done. It will also need to be long enough to fit between the two pieces (QG3 and QG4). You are creating a "stop" against the inboard side of the transom so you can glue the quarter gallery shells into position in the next step. Test this extra wide piece so you can slide it between QG3 and QG4. Line up the inside edge of this "stop" with the side of the outermost stern window. Then draw

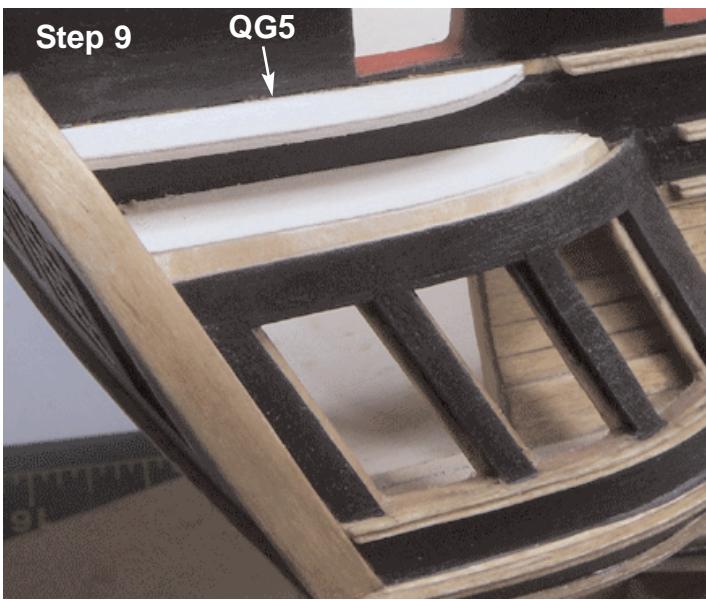


a straight line from the corner of QG3 up to the corner of QG4. Remove the piece and cut it along this reference line. Glue it permanently into position to complete this step. All of these pieces should be stained before moving forward to step 8.

Step 8 - Closing in the Quarter Galleries. You will be closing in the quarter galleries using two laser cut layers. The first layer (QG7) is 1/32" thick. Be careful with these as the wood grain runs up and down so they will bend very easily. Both layers are cut to the approximate shape you will need. This is a very complex curve and every model will be slightly different. The fit will differ depending on how well the hull was faired, and what the run of your planking is, along with the established angle of the counter for the galleries. All of these elements and many others will make it impossible for the laser cut shell to fit precisely without tweaking it to fit your model. You should test the first layer (QG7) in position so its aft edge sits flush against the stern transom and the "stop" you made in the previous step. Then bend it gently so the forward edge can be marked and shaped properly. It should be notched over the gunwales and sit flush against the hull. Try to maintain a consistent space (width) under and over the gallery windows. The first shell layer was cut a little taller than needed so you can sand it down flush with

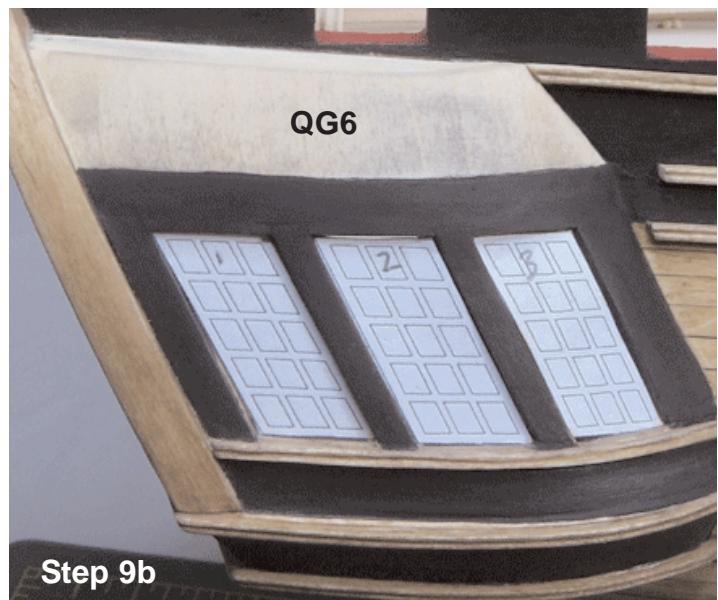
the top of piece QG4 after the glue dries. See the photo for step 8 that shows this first layer glued in position. You should stain the inboard side of this first layer before you glue it onto the model permanently. It will be very difficult to do afterwards.

The window openings are cut somewhat smaller than the actual windows on that first shell layer (QG7). These same openings on the second layer (QG8) were cut larger and are the actual size of the quarter gallery lights. When this second layer is placed on top of the first, it will create a rabbet on all four sides of each opening. This will prevent the windows from falling into the galleries when you glue them into position later. At this time however, you should position the second layer (1/16" thick) so the rabbets on all four sides of each window opening are REASONABLY consistent. Shape the forward edge of QG8 just like you did for the first layer. Then glue it into position. In photo 8b, note how second layer also leaves a rabbet along the top of the quarter galleries. This will be addressed later but was mentioned now so you are aware that it is OK and intentional. You can see in the photo 8C that the galleries were painted black at this point and a double beaded molding strip was added along the bottom of the window openings. You don't have to paint your galleries at this point but it was done on the prototype to make the



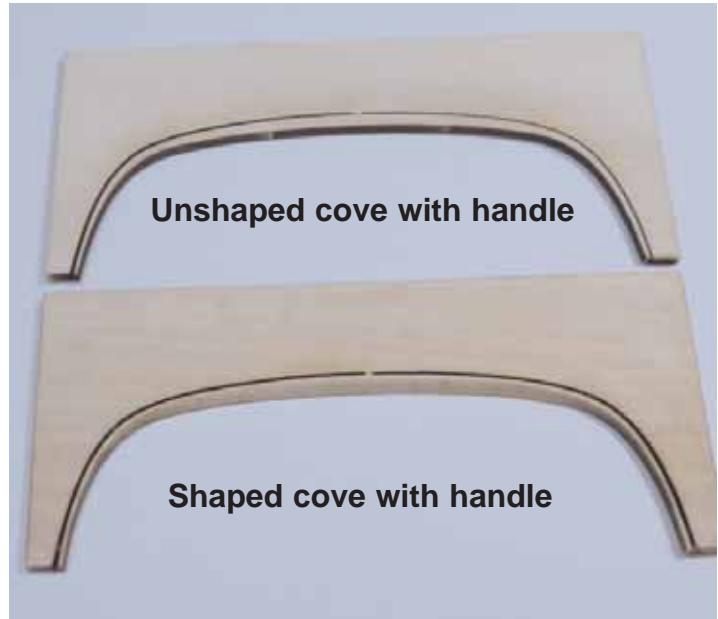
details in the next group of photos easier to see. A photocopy of the quarter gallery windows was made and they were popped into the openings to test their fit. Small adjustments were made to the gallery shells if they were needed.

Step 9 - Building the roof for the quarter galleries. Laser cut piece QG5 is also 1/16" thick. This should be placed against the hull following the run of the double beaded molding. It forms the top of the quarter gallery roof. Once you remove a portion of the molding as shown in photo 9 it will leave an unpainted hull stripe that you can use as a guide when gluing it into position. The last laser cut piece (QG6) is 1/16" thick. This is the shell that will enclose the roof of the quarter galleries. Just like the two shell layers earlier, this piece will need to be tweaked



in order to fit nicely against the hull. Shape the forward edge so it sits flush against the hull. Then glue it into position. Sit this piece into the rabbet that runs along the top of the quarter gallery. Once again this piece has been cut a little taller so you can sand its top edge flush with the roof after the glue dries. See photo 9B. You can use wood filler to hide any gaps or seams between any of the quarter gallery pieces before you paint them.

Step 10 – In this final step, three more strips of double beaded molding are glued across the quarter gallery roof. Add the top stretch of molding first. This is important. It should connect with the beaded molding already on the hull. See photo 10. Then measure the height of the photo etched decorations that will be glued in





**Shaped cove installed
on the model with a
molding strip under
the stern lights**

**The laser
cut stern lights
have also been
glued into position.**

that top section of the roof. When you glue the next strip of molding along the roof, you need to make sure that you leave enough room so these decorations will fit between them. You should do the same before you glue the lowest strip of molding into position as well. Make sure the photo etched decorations will fit between these molding strips before you glue them onto the galleries. The galleries are painted all black with the molding strips stained Golden Oak. This completes the initial construction of the quarter galleries and stern.

Adding the final details to the stern and quarter galleries –

After the initial construction for the stern and quarter galleries is completed, you can add some of the finer details to finish it up. First, you will add the cove on the stern. The cove is the thicker piece of molding that the carved stern figures will sit on. It defines the area between the stern lights and the carved figures around it. This has been laser cut from an 1/8" thick basswood sheet. Note in the photo provided, that the



cove has been laser cut so it will have a handle still attached to it after you remove it. The cove needs to be beveled along its lower edge. Note in that photo that the cove shown on top has not been beveled yet. The one below it has been beveled and shaped. It was sanded on an angle almost creating a concave profile. Do not cut the cove free of its handle until after you have shaped it. The handle was provided to help prevent the cove from breaking while you shape it. It will be very delicate and could split along the wood grain. The cove would have been hard to hold while sanding without the handle assisting you. After you shape it like the lower example in the photo, you can cut it free of its handle. Don't attempt to sand the top of the cove until after you glue it onto the stern transom. It may still break as it is very fragile. Sand the top of the cove to remove the laser "char" after the glue dries and stain it golden oak.

Then add a 1/16" thick strip of double beaded molding along the bottom of the stern lights between the ends of the cove. The thickness of the cove should gradually be reduced to match the thickness of the double beaded molding strip. The top of the cove should remain 1/8" deep. But as it curves downward along each side it should be sanded to match the 1/16" depth of the molding under the windows. You will also notice in the photos provided that the laser cut windows (stern lights) have also been glued into position. Be careful with these as they are only 1/32" thick. Sand them on both sides to remove the laser burn BEFORE you cut them free from the laser cut sheet. Don't worry about sanding the laser char off the inside edges of each window pain. The windows are far too delicate for that and the difference in color won't be noticeable after everything is glued into position and stained.

Do not throw the empty laser sheet away after you remove the stern windows. You will use the openings from the windows on this sheet as a stencil. To simulate the glass panes of the stern lights, trace the window openings onto a piece of paper. Then tape a sheet of clear acetate over the traced window outlines. Use the tracing as a guide to cut the acetate to shape. You should

now have perfectly sized pieces of acetate that can be glued into position to simulate the glass window panes. Apply just a little bit of glue to the inboard side of your laser cut windows. Then pop the acetate into position from the inboard side. Make sure they are firmly glued into position and can't fall out. But be careful with the glue so you don't stain and smear the acetate. You should try and keep the windows as clean as you can.

Quarter Gallery Windows and Drops

The laser cut windows for the quarter galleries can now be glued into position as well. This time however, the acetate that simulates the glass should be inserted first. Remove the laser cut windows from the 1/32" thick ply sheet. Set them aside for the moment. Use the empty sheet to trace the window openings and cut your acetate windows as you did earlier for the stern lights. Then take the acetate windows and position them in their proper gallery openings. The rabbet around each window opening should prevent them from falling into the quarter galleries. These don't have to be glued in place. Just place them in each opening. Then take each laser cut window and glue them into position right on top of the acetate. You only need to use glue along the outside edges of each laser cut window. That should be enough to keep them secured while making it less likely that the acetate becomes smeared with glue.

The decorative drops are provided as metal castings. These may need minor clean-up to remove any mold flashing before you paint them. Test how they fit under the quarter galleries and against the hull. The back of each drop is notched to fit over the wales and black strake. But as mentioned many times previously, everyone's model will vary slightly and the back of each drop may need to be filed down so they fit properly. When you are satisfied with how they fit, prime and paint the drops to look like stained wood. Glue them into position and fill any seams between them and the hull. Do any paint touch up that might be needed after a final examination.



Photo etched details and figurative stern castings

You can now add some of the photo etched details to your stern and quarter galleries. Examine the photos provided to see how they look on the prototype. All of the photo etched garlands and scrollwork were painted to look like wood. The etched garlands were glued between the stern lights and quarter gallery lights. Additional etched details were glued between the

molding strips on each quarter gallery roof and below the quarter gallery windows. These pieces should be pre-bent before being painted to prevent the finish from getting scuffed. Bend them so they fit well and can be glued easily into place after they are painted. The decorations along the top row of the quarter gallery roof are very small. They are provided as individual pieces. Carefully and evenly position them across the quarter gallery roof. The photo etched carving just forward of the quarter gallery is supplied in three





pieces. Pre-bending the lowest section is important.

The last length of photo etched detailing is the long strip placed below the stern transom lights. It should fit between the molding strips as shown in the photos provided. You could also add the ships name to the upper counter at this time. I would not however, apply the stern port hinges until after the rudder is installed in the next chapter. This will decrease the chances that those painted surfaces will get scratched while mounting the rudder.

It may be easier for some folks to glue these stern elements into position if the model is turned upside down. Make sure you support and raise the model properly so the stern frames and bulwarks don't break. Many of the details will be easier to add with the model upside down. It is recommended that you add these pieces now so you won't have to flip your model over again when there are more elements that could get damaged in the process.

The stern figures and castings were also painted to look like carved wood. There are 7 castings that make up the decorative sculpture on the stern. Once painted, position them as shown on the plans. The three central figures were glued into place first. But before you add them, test them in position so you can mark the locations where their heads overlap the cap rail. Then notch out the overhang of the cap rail so the three figures sit flush against the stern. You can fill in any gaps with wood filler. You should note in the pictures provided that the figure of NEPTUNE is holding a trident. This element has been photo etched for you. Paint the trident and then glue it into position so it looks like Neptune is naturally holding it. It should rest against his left shoulder at the appropriate angle.

Then add the four remaining castings. The two figures should overlap the edge of the stern transom just a little bit. You may decide to notch out the cap rail for these two figures as well although it wasn't necessary on the prototype.