

Admiralty Models Workshop

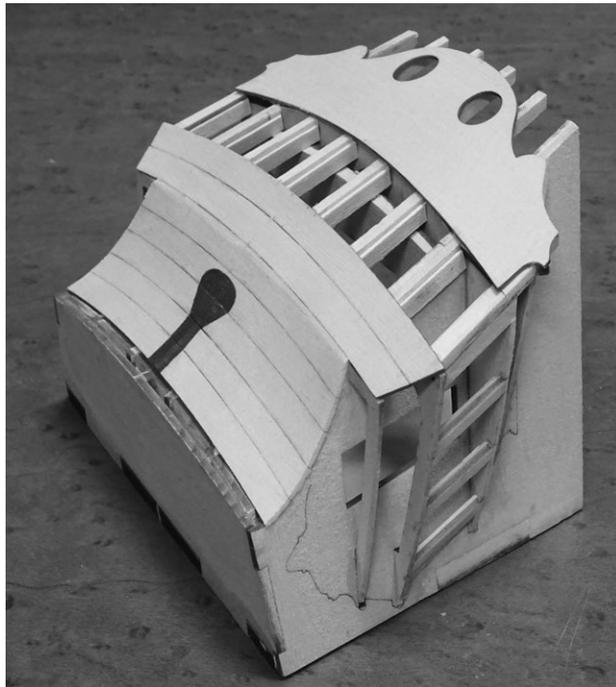
October 6 and 7, 2018

Mid-18th century ships' sterns

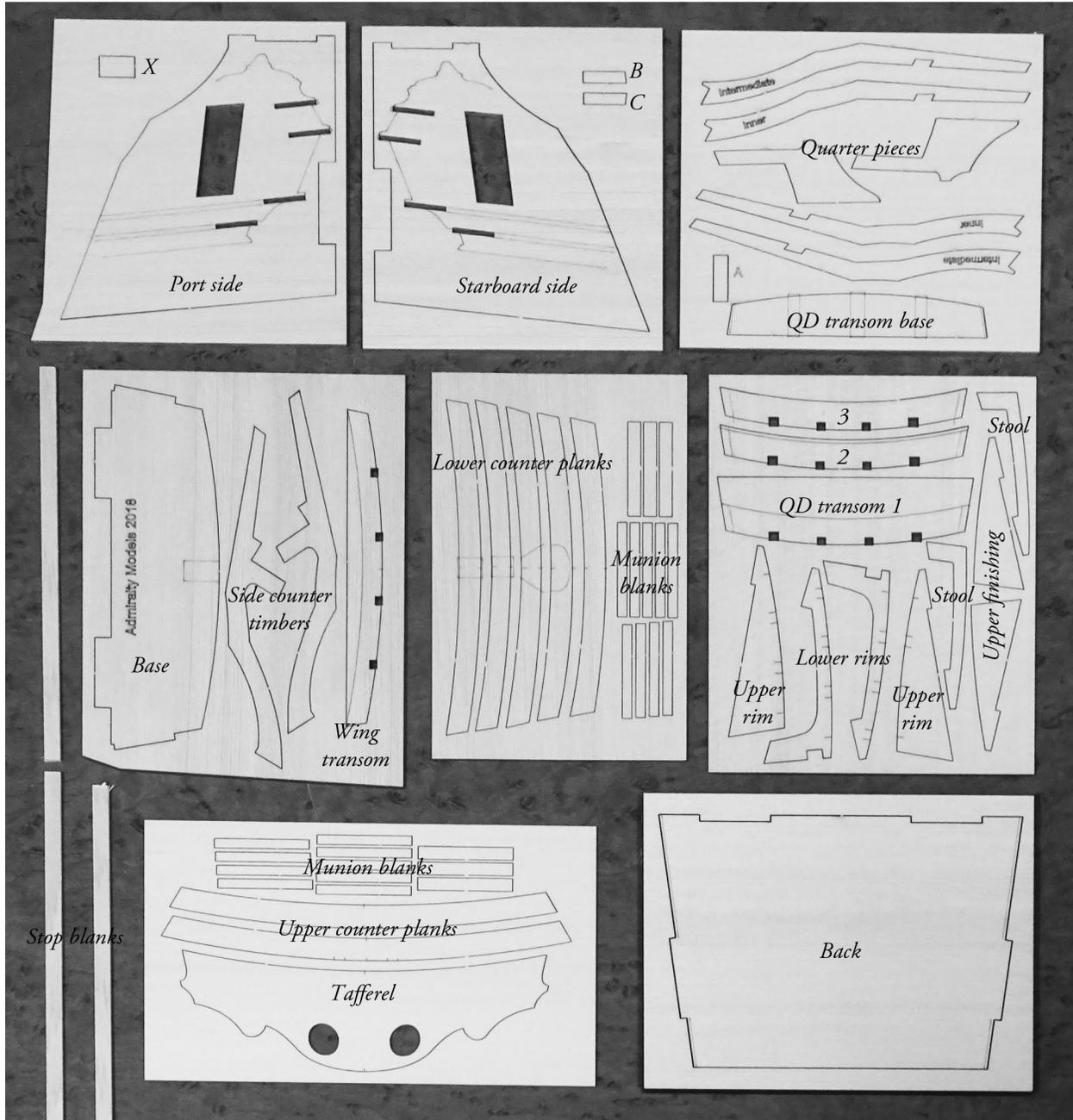
This workshop will cover just some of the difficult areas of constructing a ship's stern and quarter galleries. There are many variations on this theme, so we will use a fairly typical example; that of the 16 gun ship-rigged fireship *Comet* of 1783.

The kit you have been provided with, laser-cut by Chuck Passaro of the Syren Ship Model Company, makes up into a simplified 1:48 version of *Comet's* stern. Please take time to assemble this carefully before coming to the workshop in October. **Give yourself enough time!** It will make a good base for the exercises in making frames for the lights and other details, as time permits.

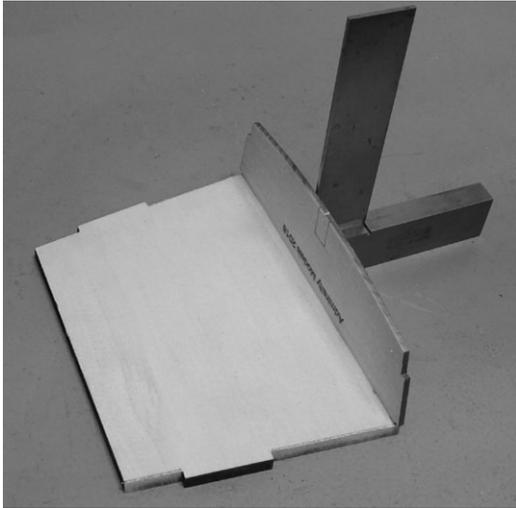
So, to work. Several sheets of different thicknesses are provided. Most parts are easy to identify, but several are labelled so that you do not confuse them with each other. You will need sanding sticks that will be described, white glue, various small clamps and rubber bands, a square or pillar Swiss file and a little patience. Water and a small brush for glue will be useful



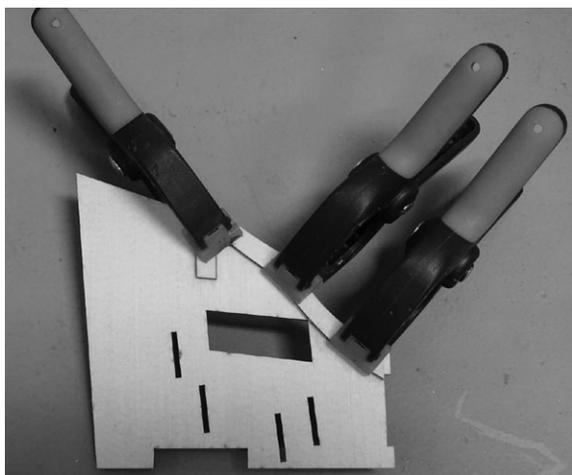
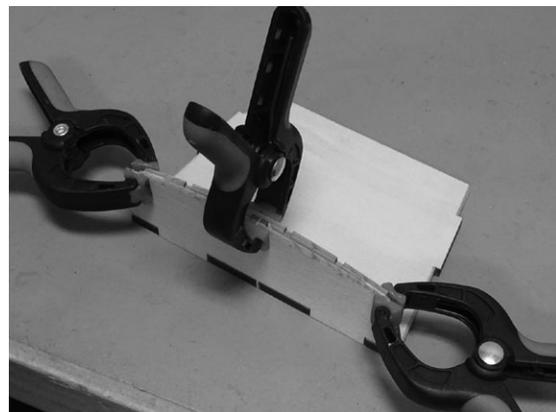
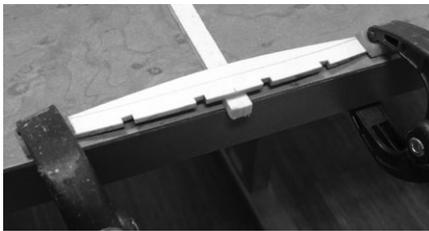
A few modifications have been made since the prototype model was photographed, and these minor changes will be noted as we move along. *Greg's additional comments will be added in italics. I will post numerous photos of the "difficult" areas on our website www.admiraltymodels.com below the link to this document.* The first step is to identify the back and base pieces of the model, press them loose and clean up the edges. See the key illustration, below to identify all the parts.



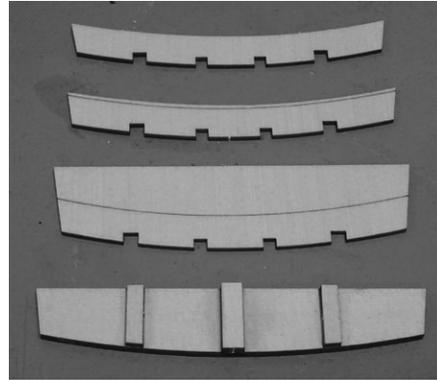
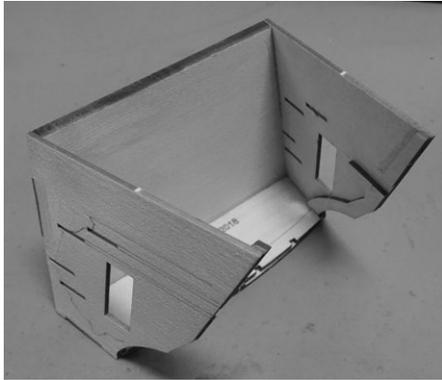
Assemble them with white glue as shown, and ensure that these pieces are at right angles to each other. Allow the glue to dry thoroughly. Clamp the assembly in a vise and use a flat sanding stick to bevel the sides of the backing piece to the same angle as the sides of the base. (Don't worry about beveling the tab for now.)



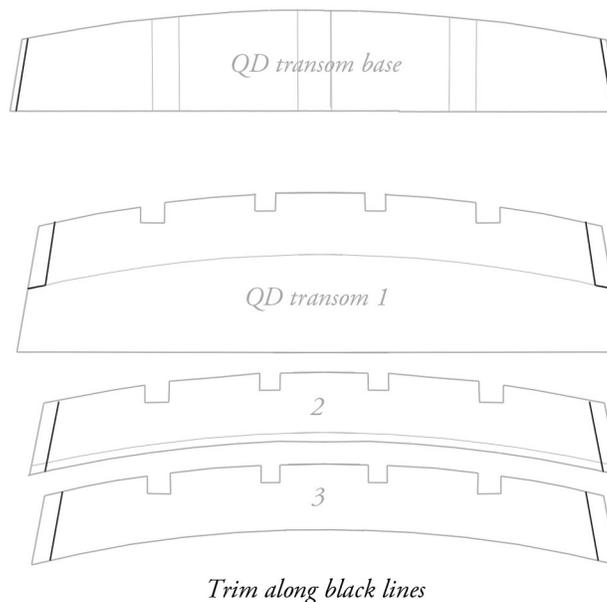
The next step is to locate the wing transom piece, soak it in hot water for a few minutes, then bend and clamp it until dry over a scrap piece about $\frac{1}{4}$ " thick (below left). While this is drying, press out the small rectangular piece X, $\frac{1}{16}$ " thick, and glue it in position on the center of the base. Next, attach the wing transom piece as shown.



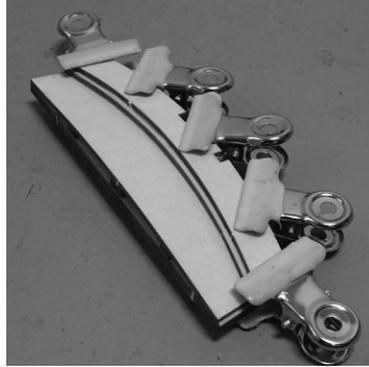
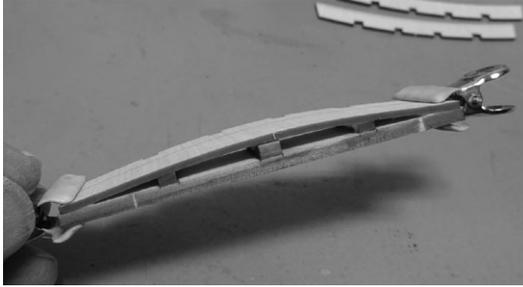
Take the two side pieces and glue the side counter timbers to the *inside* of these pieces. **Note:** The revised pieces are full length, not in two parts as in the prototype shown here.



Glue the completed sides to the base and back pieces. The outside distance across the top aft corners should measure no less than $2\frac{1}{2}$ " or more than $2\frac{9}{16}$ ". Next, select the quarter deck transom pieces and base (above right). These will need to be trimmed at their ends as shown below. Use the illustration as your pattern for this.

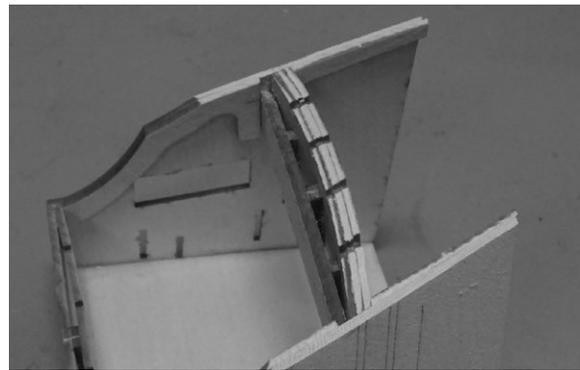
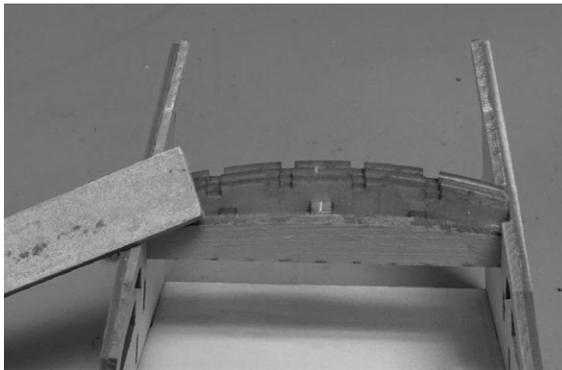


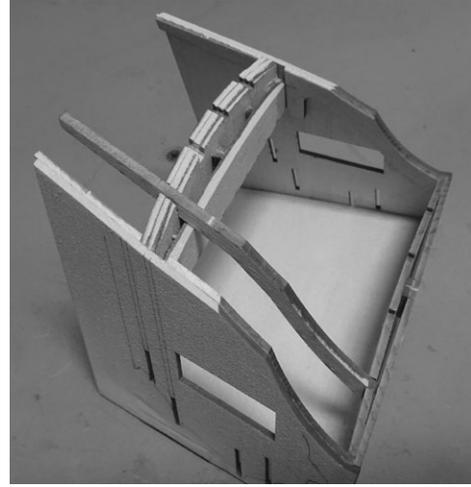
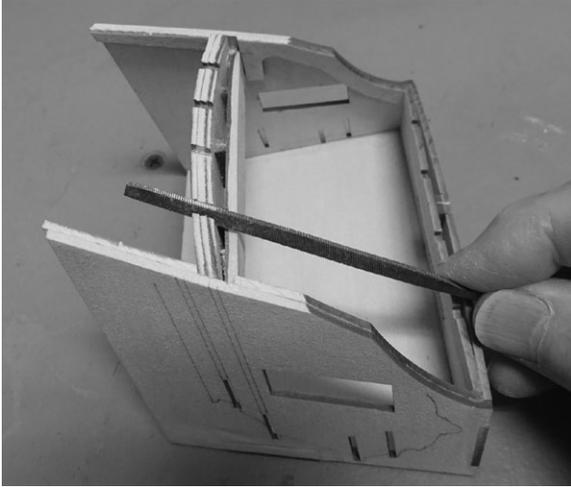
Glue the three small spacers to the base, as shown, top right. The central one is identified by the letter A and the outer ones, B and C, have beveled ends. Refer to the key illustration on page 2.



Bend each transom layer and glue them together, one layer at a time. The first layer lines up with the fore (straight) side of the bottom piece. Align each layer in turn with the guide line on the layer below. The aft side of each will overlap the layer below, as seen in the photographs.

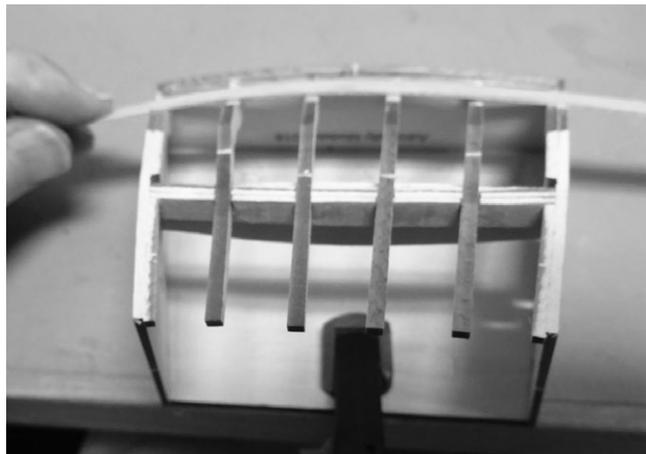
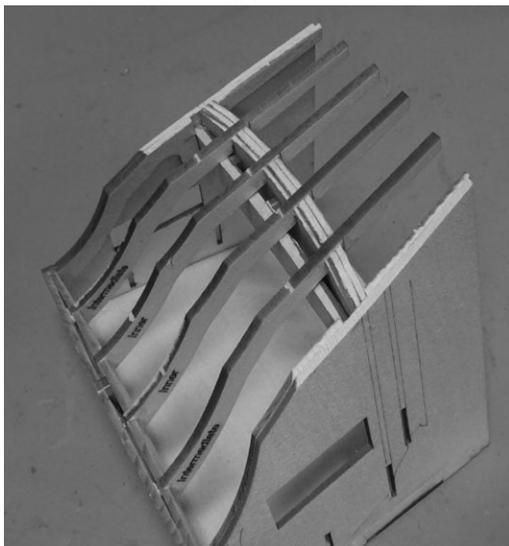
The transom assembly may need beveling at both ends so that it seats nicely all the way aft. *Make sure that the sides are not pushed apart. Check measure across the top for the side pieces. The transom should be a nice sliding fit.* Glue the assembly in place between the side counter timbers, sliding it aft from forward. Now, using a sanding stick, bevel the aft face of the transom parallel to the sides of your model (see below).



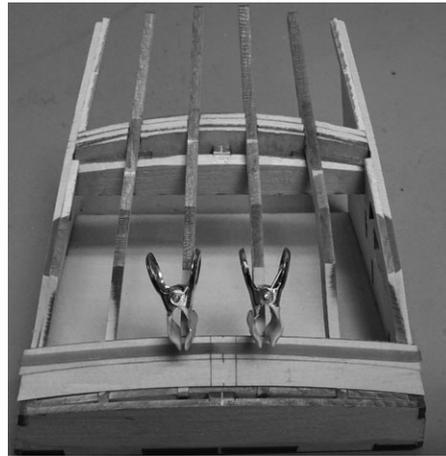
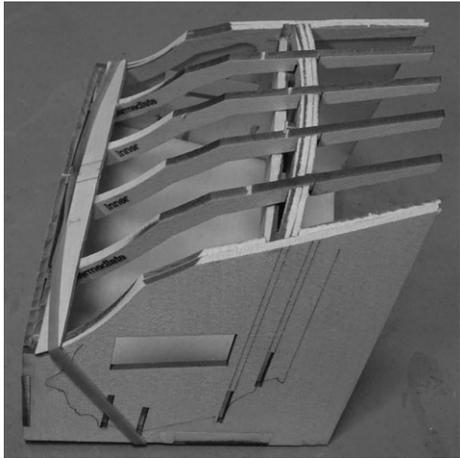


The next procedure requires some care. Take either a square or pillar style Swiss file and open out each slot in the quarter deck transom at an angle. You can eyeball this by lining up the file with the slot in the wing transom piece. Deepen the slot as necessary. Check frequently until the intermediate counter timber slide nicely into place without its inboard edge being proud of the quarter deck transom. Continue by fitting the two inner counter timbers in turn, then the other intermediate one (below left). Make sure that these timbers sit on the square, that is to say in the plane of the centerline as viewed from above.

Now take a flexible wood batten and glue or rubber cement a piece of sandpaper to it. I used a 180-grit paper for this. Clamp the assembly to your workbench so that both hands are free, then sand the counter timbers until a smooth curve results on each counter (below right). Be very careful on the upper ends of the counter timbers: it is very easy to break them off. Take care not to sand away the outer counter timbers too much!

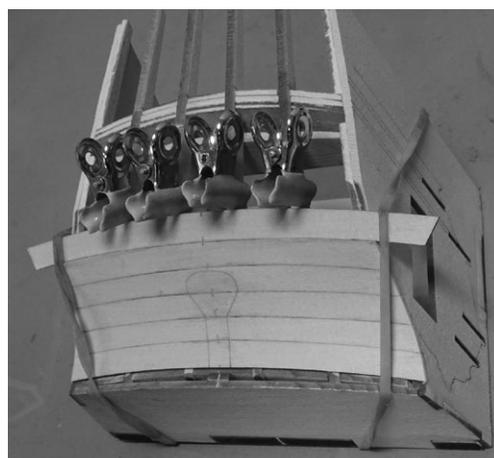
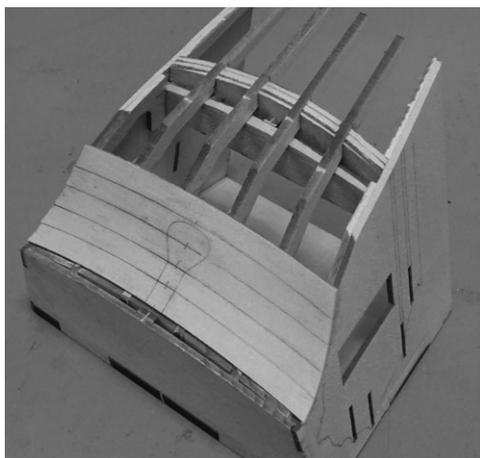


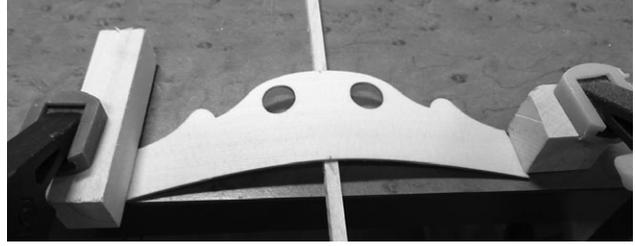
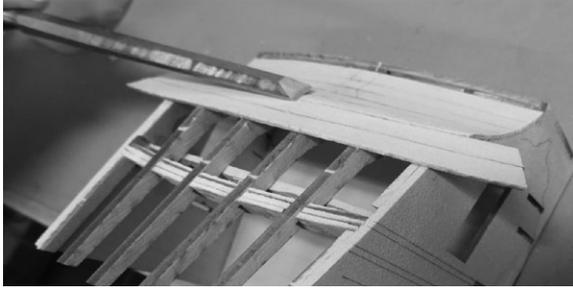
Now comes a test of ingenuity. To install the lower counter planking you will need to hold the planks in place without pinning them down. I use elastic bands as a convenient way to hold the planks down while glue sets (below left). Begin with the lowest plank. Clean up the edges and fit it so that its lowest edge lies along the *upper* edge of the wing transom piece (below right). If you place this any lower, there will be issues later. Dampen the plank to make it more flexible and glue it on.



Clean up the second plank, dampen it, then glue on. All spiling has been done for you. *However, you may have small gaps in the center of the plank. These can be eliminated by lightly sanding the mating edges until the entire plank fits snugly.* As long as the edges of each plank are in firm contact, all will be well. Proceed to add planks up the counter. The uppermost plank should project by a couple of (scale) inches out past the knuckle. Sand the ends of the planks flush to the outer counter timbers. You will notice that the counter has a compound curve that would be impossible to cover in a single piece. *Your uppermost plank may not precisely match the line of knuckles across the counter timbers but this is not important.*

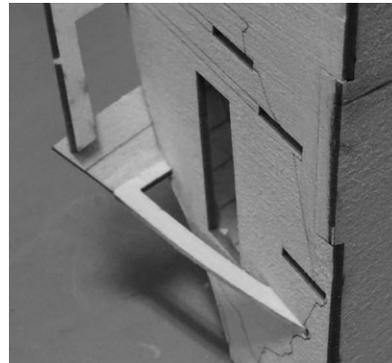
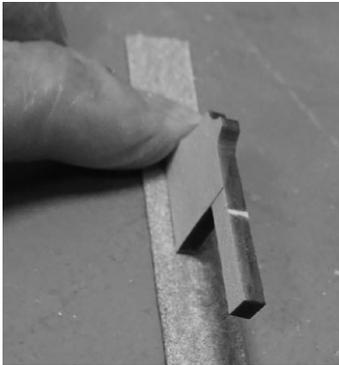
Add the two planks of the upper counter as shown (below right). The lower plank should butt against the lip formed by the plank immediately below it. *This will most likely require some careful fitting but it is important that the plank fits tightly against the counter plank so gaps don't appear later during final shaping.* Note the elastic band and clips.



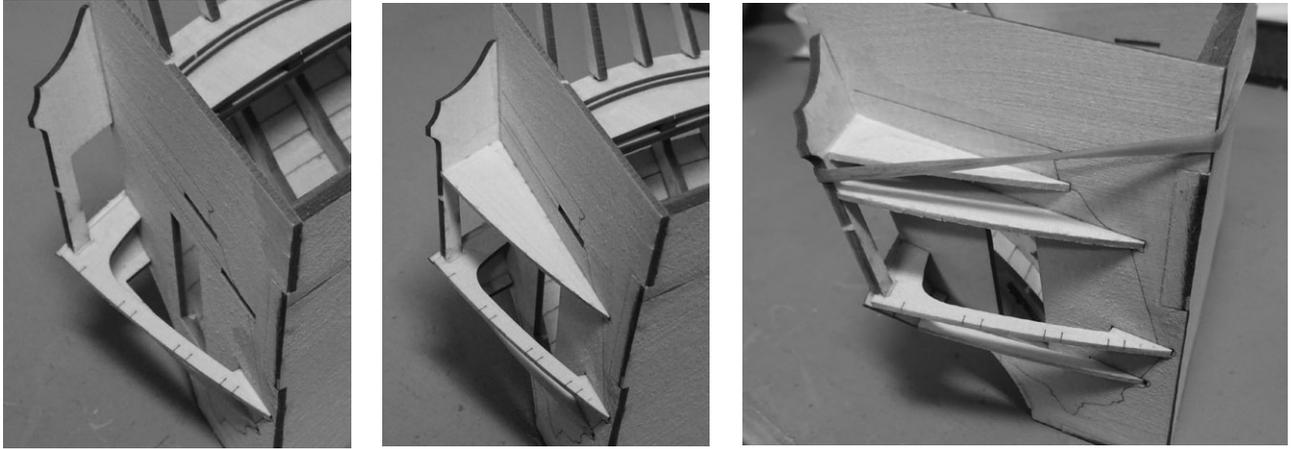


After the second plank has been added to the upper counter, the projecting edge of the top plank of the lower counter can be either shaved off using a chisel or sanded down (above left). I recommend clamping the model to the work bench so that both hands are free to control the tool. *Your second plank may not precisely follow the curve of the counter timber knuckles. Try to make sure the top of the second plank is in contact with as many counter timbers as possible in a smooth curve. Do not force part of the plank down to meet a counter timber. Small gaps can be shimmed with scrap wood if necessary.*

The tafferel base piece can be soaked and bent as shown, above right. While it is drying, attention can turn to the quarter galleries. Free the quarter pieces and sand their inner edges to suit the model. Use a sanding stick laid flat on the work bench (below left). When laid in position against the ship's side, the downward projections should align against the fore sides of the upper counter plank (below right). Next, the stool of the quarter gallery is fitted in its slot and the aft face beveled to fit against the lower edge of the upper counter (below right). *I found it convenient to install the tafferel piece first. This made it easier to orient the stool correctly. The timber forming the top of the light should follow the same smooth curve as the wing transom.*

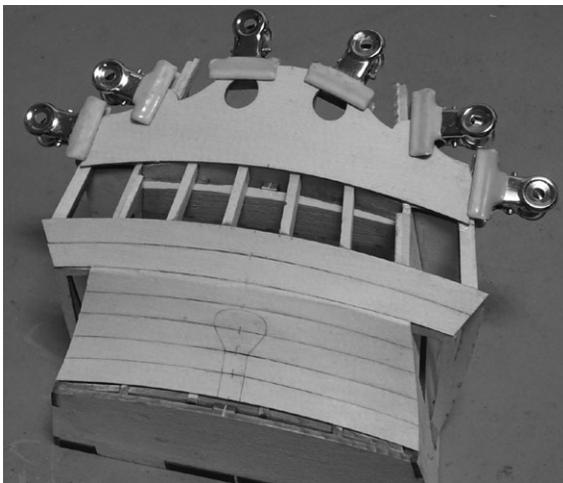


Important: Note that this piece, as well as all the other quarter gallery rims, sit parallel to the lower edge of the counter, *not* horizontally. Put another way; they slope downward conforming to the round-up of the upper counter. In the real ship, the only part of the quarter gallery that sits in another plane is the floor, whose slope conforms to that of the deck inside the doorway. (This piece, as well as that deck, is omitted from this model.)



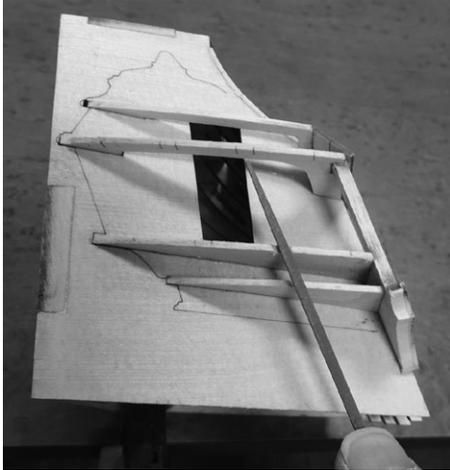
The lower rim of the quarter gallery is next. It is fitted and shaped in the same way as the stool (above left). Again, its slope aligns with the upper edge of the upper counter. The upper rim needs attention. **Note:** It should be fitted so that the tick marks are on the *underside* of this piece. If you get this wrong, I'll know that you don't read instructions and will treat you accordingly during the workshop. Shape and fit this to the quarter piece as before (above, center).

The last piece of the quarter gallery to fit is the upper finishing piece (above right). Note the elastic band holding the assembly while gluing up. Obviously, all these pieces are representative only. The real ship or model would have moldings running along the edges. The important thing to note is that the gallery rims both have the same curve and lengths, so that the three lights will be all at the same angles to each other and in the same plane. This is something that many modelers fail to understand, so have great difficulty with resulting twisted and distorted lights. *If you're lucky enough to have a disk sander with a tilting table this is quite easy to accomplish. If not, the use of a sanding stick is recommended. This is relatively soft wood, so 220-grit is the safest way to go.*

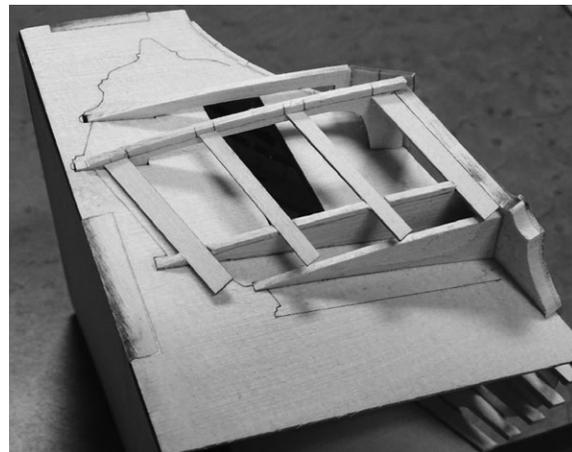
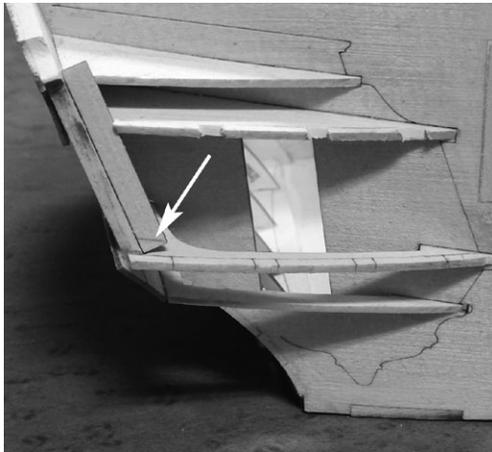


Once all the quarter gallery pieces have been completed on both sides of the model, the tafferel base may be added. Glue and clamp the piece in place, making sure that the lower edge runs parallel to the upper edge of the upper counter (left).

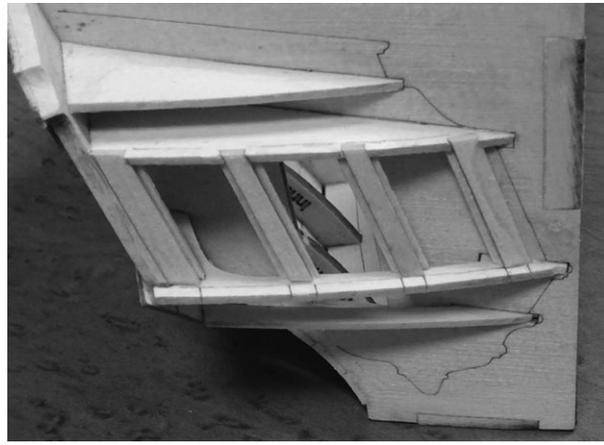
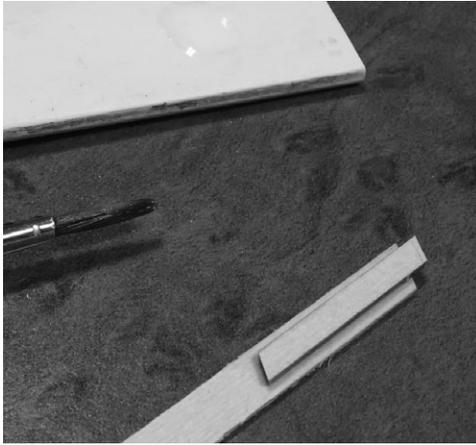
If you wish, file or sand the edges of the tafferel piece and the quarter pieces flush with each other, filing their surfaces parallel to the sheer of the stern.



Now it is time to turn attention to the quarter galleries again. First lightly clamp the model on your workbench, one side up, top towards you. The upper rim needs to have angled scores filed into it for each munion. Use the marks on the lower rim to align the file correctly (above left). A square or pillar style Swiss file works best. The score or notch should be just deep enough so that the munion is flush to the rim. *I find that a new X-acto blade worked well here as the wood is relatively soft.* Helpful pencil lines (arrowed, above right) were drawn on both upper and lower rims. Note that the line along the lower rim is drawn to the *inside* of the guide marks. *Use a compass to for this, set against the outside edge of the gallery rim.*



Fit a wider strip of $\frac{1}{16}$ " munion blank into the aftermost notch against the quarter piece. Mark the angle at the lower end (above left). Using a very sharp chisel, cut this at a slight under bevel. Repeat this for each of the munions (above right). Use the narrower strips for the two center munions and another wide one for the fore one. *It is likely that your munions may differ from the above photo. The important point is that the distances between the laser markings be preserved, both top and bottom. Adjust your strips accordingly to fit. On my model the aft three munions were the same width. The foremost munion*



is problematic in that it needs to follow the pencil mark and the side hull surface gets in the way. I angled the fore surface of this munion to fay (blend) into the hull. In your kits I am including stock that worked on my model for the three aft munions and slightly wider stock for the fore munion. Do not glue these in place yet! Mark their top edges, remove and cut them to length.

Each strip needs to be backed by a $\frac{3}{16}$ " wide strip of $\frac{1}{32}$ " wood, supplied (stop blank stripwood). These form stops for the lights. The middle munions have a piece centered on the inner surface of the munion (above left). Note that the upper end of the munion should project at least the thickness of the upper rim beyond the backing piece. (If it is a little more, this will not be an issue.) Clean off excess glue with a brush and water so that a clean rebate results. Cut the backing strip flush to the lower end of the munion. *I have included $\frac{1}{32}$ " stop blank strips (the ones on the wood sheet were too narrow for my model). The one glued under the foremost munion were also angled to fit against the hull. The important thing here is that the bottom of all munions follows the curve of the pencil line.*

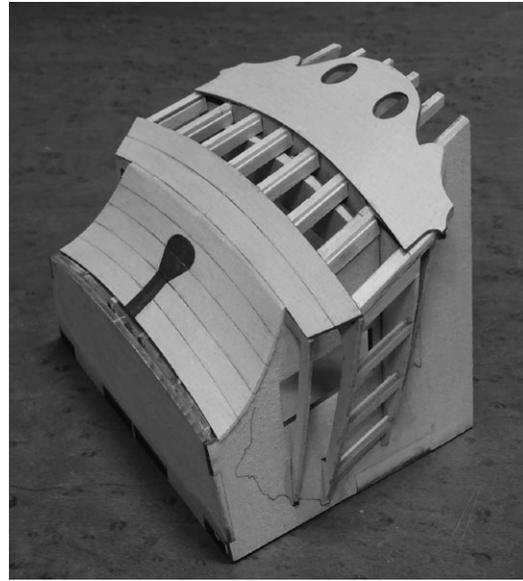
The fore and aft end munions have a rebate on the one side only (above right). Glue the completed munions in place, making sure that the lower ends sit along the pencil line. When the glue has dried, file the top ends flush with the upper rim (above right). Clean up as necessary.

Repeat this series of operations on the other quarter gallery, if you have the time and inclination. We will only work on one side during the workshop.



*Stern light
stop pattern*

The last items to take care of are the stops for the stern lights. Take a strip of $\frac{1}{32}$ " wood and cut a piece $\frac{1}{8}$ " wide. From this cut pieces $\frac{5}{8}$ " long, cut at an angle as shown on the diagram, left. You will need 14 pieces in total. As these small parts are awkward to handle and place, I recommend turning the model on its side and using tweezers. I use white



PVA glue, slightly diluted. This gives time to maneuver the pieces into position. They should be inset by $\frac{1}{32}$ " (above left). Use a piece of scrap as a gauge to get this right. *The stern light patterns are for those strips ending on the lower rim (outer two stops). The rest end up under the counter planks so just extend them below the plank edge. No fancy measuring required here. When gluing them in it is important to precisely locate their depth. I made a simple jig as follows. A $\frac{1}{4}$ "x $\frac{1}{4}$ " by $\frac{1}{2}$ " blank was cut. A $\frac{1}{8}$ " wide by $\frac{1}{32}$ " deep mortise was made in the center. After applying diluted white glue to the stops, they were positioned lightly against the inside faces of the counter timbers. The jig was placed and the stops pressed into place. This works fine for the inner six counter timbers. For the wider outside two stops remove one edge of the jig then you can use it. Clean up the model and that is your homework completed, folks!*

OK, so you noticed that I embellished the prototype by painting the helm port and sternpost areas on the lower counter. After the workshop, you may choose to play – I mean work on – the model to complete it further. You could fill in the lower finishing and between the lower stool and lower rim, the upper finishing and cistern. You might want to cut moldings and attach them. The model may also be painted and, if you are really ambitious, you could add the various carved works. Or, maybe not.

Either way, constructing this model will give you an idea of the geometry of the stern and how it all comes together.