With an ample supply of pre-formed planking strips, you can start gluing them onto the hull. Instead of cutting them into smaller lengths, you can glue one continuous strip from bow to stern. Place it along the ledge you carved into the hull’s side. The individual plank lengths are simulated. I drew some reference lines onto each side of the hull. The lines were spaced 10mm apart. The first line was drawn at station #4. You can see these lines in the photo on the previous page. After each strip was firmly in place, I took the flat edged (#17) Xacto blade and scored each strip at specific intervals along the plank. Each plank segment was 6 reference lines in length. When this was finished, I glued the next strip onto the hull.

This is a very effective method for smaller models. It is by no means the only way to achieve a satisfactory result. It is just as easy to cut the planks to their actual lengths before you glue them into place. However, one continuous strip will make the creation of the bulwarks much easier. This will make more sense as you read through the next few paragraphs.

As you can see in the photo below, the simulated joints look just fine. Work your way up the hull until you get to the surface of the deck at midship. Make sure that you scribe these simulated joints into each strip before moving ahead to the next one. When you get to the planking strip at the deck level, it should extend above the deck’s surface. See the diagram above that my daughter was kind enough to color in with some crayons. You can see the arrow pointing to the plank that extends above the decks surface.

Using one continuous strip makes it easier to create the bulwarks for the bow and quarter deck.

After you glue this plank into position, it will be time to place the first plank on the inside of the bulwarks. The overlap should give you enough surface area to glue this plank onto it. Notice how they follow the contour of the hull’s shape.

After the glue for this plank dries, place the next strip on the outside of the hull. Continue in this fashion until you have reached the desired bulwark height. Always remember to alternate one strip on the outside of the hull followed by another on the inside of the bulwarks. As long as you maintain the overlap with each plank, the process should go smoothly. Take the measurements for the bulwark height from the plans.

Remember to add an extra 1/16” to this measurement because we haven’t added the deck planking yet. The deck planking will be 1/16” thick. See the photo below which shows one side of the hull planked. Also note how the plank joints were staggered from row to row. This is in keeping with the planking techniques employed during that time period. Sand the top of the bulwarks to the correct shape afterwards.
Some of you might be wondering why I didn’t plank the entire model. If you wanted to do this it would have been just fine. There are truly no limits to how far you can “bash” a kit. I just keep reminding myself, “if I was going to modify this kit to such an extent, I might as well have built the model from scratch”. So I back off just a little bit. The results are still leaps and bounds better than a model straight out of the box. I don’t want any of you to hold back if you see something that you absolutely must modify. The beauty of this hobby is that there are no set guidelines.

I also prefer the bottom of the hull be smooth when finished. It creates a nice contrast with the texture of the planking above it. Once painted, the bottom of the hull really shows the lovely shape of this schooner. This is my own personal preference but I hope you will agree.

With that said, I will turn to the art of trunnel making. Instead of making wooden trunnels, I chose to use a different technique. After the hull was planked, I drilled a series of holes for the trunnels. You can see the locations in the photo below. Then I filled the holes with some Elmer’s wood filler. I thinned the wood filler (which is water-based) down with some water. Then I smeared it into each trunnel hole with my fingers. When the filler was dry, I sanded the sides of the hull. The effect is quite good, and I believe on par with the time-consuming method of producing wooden trunnels. If ever there was a project to try this technique, the Sultana kit is the perfect choice. The counter was also planked and trunnelled. See the photo above. I sanded the hull smooth and stained it. I used MinWax Golden Oak stain. I prefer the golden hue over other colors. I hope you will agree that all of the hull carving was worth it. The model will look much better this way. It has a much richer look. I wouldn’t have been satisfied after painting the hull with some yellow ochre acrylic paint.

I did paint the hull below the planking. It was painted white. The white paint simulates the tallow that was used to protect the wood below the waterline. This was the first of what will end up being many, many coats of paint. I will sand the bottom of the hull with sandpaper between each coat. If the white is too stark for your tastes, then stain can be applied over it and buffed off. This reduces the brightness of the white paint. When painting the bottom of the hull be sure to thin the paint before you use it. When the paint is too thick it leaves heavy brush strokes. Sanding between coats will help prevent this.
Keel, Stem and Sternpost...

The stem will be added first. The measurements and shape of the stem can be traced from the blueprints. The tracing should be transferred to a piece of wood that is large enough to fit its shape. The wood should be 4mm thick. I am using the basswood strips that came supplied with the kit. Three pieces of this strip were glued together so I would have enough surface area to work with. See the photo above (left). The stem was cut out with a sharp #11 Xacto blade. A scroll saw could also be used for this and would probably cut your working time down significantly. The stem was test fit on the hull and adjustments were made with some sandpaper. When I was satisfied with how the stem fit, it was tapered to 3mm thick on its outside edge. This feature is shown on the plans. In my opinion the taper shown on the plans is too severe. The taper I gave the stem was less pronounced.

Before I glued it onto the hull, the slot for the bowsprit gammoning was drilled through it. It was much easier to do this while the stem was off the model. The hole for the bobstay was also drilled at this time.

After gluing it to the hull, the keel was cut to length from a piece of 4mm x 4mm basswood strip supplied with the kit. Then the sternpost was shaped and added after the keel was glued onto the model. The sternpost needed to be cut from a larger piece of wood (still 4mm thick) because it is wider at its base than it is near the counter.

When all of the pieces were glued permanently to the hull, they were sanded smooth. The bottom of the hull was also sanded again. It was all painted white. Several more thin coats of white acrylic paint were used. When I was happy with that finish, the topsides were also resanded and restained. See the photo below.
The Transom...

Now that the planking is completed we can turn our attention to the transom. The hole for the rudder will be drilled before we begin. The rudder will follow the angle created by the stern post. This hole must be drilled through at the same angle. Draw the shape of this hole onto the counter. See the photo above. Use a drill bit smaller than the hole’s actual size. I used a typical cordless drill. The bit used was extra long. I happened to have a drill bit that was 6” long. The extra length allowed me to follow the correct angle along the stern post without the drill getting in the way. The hole was cleaned up with some needle files afterwards. It was filed to match the shape of the hole as originally drawn.

I examined the drawing of the transom shown on the plans. It is a safe representation of the transom for the Sultana. I have seen several different interpretations during my research. Some were quite elaborate. They had carved scrolls and fancy molding. I decided to stick with a more cautious rendition. I will make the transom similar to the replica in Maryland.

I photocopied the transom from the plans. The copy was taped to the model to check its fit. The width of the transom was correct. However the height was not. A second copy of the transom was altered as shown above. The height was extended by 3/16". The altered transom was also test fit on the model. I was happy with how it looked. The photo below shows the template taped to the model. You can see that I also altered the height of the curved areas above each window. Several more copies of the altered transom were made. We will need them during the next few steps.

The transom was made from two layers of 1/32” basswood sheet. To create the first layer, tape a copy of the template to a sheet of wood as shown in the photo below. Cut each window out with a sharp blade (including the window frame...
molding). Then cut the entire transom free from the sheet by scoring it along the outside edge.

The second layer was made from a new sheet in the same manner. However, this layer only has the three larger shapes removed. See the photo below that shows the second layer glued into position. They will not be glued together at this time. The window frames need to be created first.

I wanted the windows to appear more realistic on the model. I didn’t want to paint them onto the transom. I wanted the window panes to appear more glass-like. I took a sheet of clear acetate and placed it on top of a drawing of the transom. Using some automotive pinstripe tape, I placed some thin strips on top of the window molding. The automotive pinstripe tape comes in many different colors and widths. It is self adhesive and made of a strong nylon material. The tape I used was 1/8” wide. I cut the tape into small strips. Each strip was less than 1mm wide. See the photo (right) for details. I placed a green piece of paper under the film so it would show more clearly in the photograph.

The first layer of the transom was placed on top of this film to check the position of the windows. See the photo below. When I was satisfied I painted the reverse side of the acetate black. When viewed from the front side it reflected the light nicely. This is difficult to see in the photos, but I am sure you will like the results. The acetate was trimmed closer to the window frames and glued to the back of first transom layer. This first layer was then glued onto the model. The second layer was glued into position afterwards. If I had glued the second layer onto the first one before it was placed onto the model, it may have been too thick. I was afraid it would have been too difficult to bend the entire assembly to the shape of the transom. The transom has a distinct convex curve and there isn’t much surface area for the glue to take hold (especially along the bulwarks).

The transom is not completed yet. There is still some work to be done. The photo below shows how it looks up to this point. The transom was stained and the overall shape was adjusted with some sandpaper.
A basswood strip was glued to the edge of the transom for the cap rail. It was a kit-supplied strip that was 4mm wide and 1mm thick. The wood was soaked for 15 minutes and bent to shape. A small overhang was left on the outboard side of the transom when I glued it into place. No overhang was made inboard. The cap rail was sanded and painted black. See the photo above.

The two molding strips shown in the photo (above) were added next. They were very thin strips of wood that came supplied with the kit. The wood was very dry and rough. They needed to be sanded and stained before being used. They were eventually painted black but the stain kept the wood strips from becoming too stringy.

They were painted before they were glued onto the model.

To make the stern a little more interesting, I added some trim as shown in the first photo. A manila office folder was used. I often use these folders for trim on my models. The color is very consistent with the wood being used. Thin strips were cut from the folder. The strips were stained the same color as the transom. They were stained before I glued them onto the model. The glue changes the porosity of the paper folder and causes the stain to set unevenly. If done first, the strips will take the stain beautifully. The center of these framed panels were painted black. I finished the transom by staining the pinstripe tape (window frames) as well.
The wales...

The wales were added next. Wooden strips are included with the kit. They are 4 mm wide and 1 mm thick. The strips were soaked in water and pre-formed in the plank bending jig. The fashion pieces were also shaped from this material. You can see the fashion piece in the photo on the previous page. The fashion pieces were glued onto the hull first. Then the wales were glued into position afterwards.

Some people may find it easier to paint the wales and fashion pieces before gluing them onto the model. These photos can be misleading. The model is not very large and painting the wales neatly is a challenge. I am much too lazy to mask out the surrounding areas. I must admit that sometimes I can’t wait to glue them onto the model. I can’t fight the urge to see how the model will look with these elements in place. However, I often regret my impatience when it comes time to paint them.

The Cap Rail...

The bulwarks were painted red prior to creating and installing the cap rail. The cap rail was cut from a sheet of basswood that was 1/32” thick. I bought it at a local hobby shop. It was 6” wide and 12” long. This was not supplied with the kit. I find it much easier to create the cap rail from a sheet rather than bend a strip to the hull’s shape. Simply place the hull (deck-side down) on top of the basswood sheet. Press the sheet firmly against the hull and trace the outline of its shape. Measure the width of the cap rail from the plans. The cap rail will be 4mm wide. I drew another line on the inside of the traced outline keeping them a distance of 4mm apart.

Each section of the cap rail was cut free with a sharp #11 blade. I cut outside of the reference lines producing a larger unfinished rail that was about 6mm wide. I sanded it to the correct width after I glued it to the top of the bulwarks.
There will be a slight overhang inboard and outboard. Keep this in mind while sanding the cap rail to it’s finished width. I rounded the edges of the rail with some sandpaper before painting them black. The edges should not be left sharp.

When completed, add a 1/32" x 1/32" strip of molding as shown in the photo above. It will need to be glued into place before we can add the decorative scrolls in the next step. Blend the end of this molding into the small section of cap rail as shown. It should be sanded so the seam between the two is not visible.

Decorative scrolls (Volutes)...

The scrolls can be created in many different ways. It is unfortunate that this detail is not mentioned in the kit-supplied instructions. The scrolls are very important to the look of the finished model and require careful attention. Normally I would carve these details out of pearwood or basswood. I have a variety of micro chisels bought over the years. But these scrolls are tiny. *Really Tiny.* So I thought another technique would work even better. I will create the scrolls out of **Sculpey.** Sculpey is a clay that hardens after placed in the oven for 15 minutes at 275 degrees. It is readily available at most hobby and craft stores. Sculpey is inexpensive and comes in many colors. I chose a tan color that closely resembled unfinished wood.

I have never used Sculpey on a model before and wanted to give it a try. After some experimentation, this is how the scrolls were made. I worked the clay with my fingers until it became soft. Then I rolled it into a tube-like string by rubbing it across a flat surface with my finger. Wax paper helped to keep the Sculpey from sticking. See the photo above for details. The tube was rolled into a scroll very easily. It was like baking miniature sticky buns. You will need twelve scrolls for the Sultana. Half of them should be made going clockwise. The other half should go counter clockwise.
After thirty minutes I had made 20 small scrolls. I made a few extra just in case. They were placed into a pre-heated oven for 15 minutes at 275 degrees. When the scrolls cured they weren’t the consistency and texture I had imagined. They were somewhat rubbery and flexible. This was OK with me. They looked just great. Had I decided to carve them out of wood, the first scroll still wouldn’t be finished. It would have taken me days to carve the 12 scrolls out of wood. I consider myself to be an experienced wood carver but I don’t think they would have looked as nice as the Sculpey scrolls.

I picked the best looking scrolls from the litter and glued them onto the model. See the photo on the previous page for details. They were placed inboard and outboard. The flexibility of the Sculpey made it easy to work the scrolls into position. There will be a space between the two scrolls that should be filled. I used some Elmers wood filler for this. They were sanded when dry. I used very fine sandpaper to blend the scrolls into the surrounding areas so the seams would not be noticeable.

When I was satisfied with the results, I painted the cap rail and scrolls black. Four or five coats of thinned acrylic paint were used. I sanded between each coat which also helped to conceal any seams between all of these elements.

**Quarter Badges...**

The quarter badges were also made from Sculpey. They were a little more difficult to make than the volutes. I wanted to add many details but their small size made it a challenge. I created some home made tools while experimenting with the badges. Small diameter wooden dowels were sanded to a sharp point. These dowels were used like a pencil to sculpt the clay. I found it was easier to take small pieces of Sculpey and add it to the badge a portion at a time. The additional clay was pushed and molded with the point of the wooden dowels until I was satisfied.

The quarter badge were sculpted on top of a photocopy I made from the plans. This helped me keep the badges at their correct scale and shape. With a little more practice these badges would have turned out even better.

The windows were made the same way as the those for the stern. Automotive pinstripe tape was adhered to a clear acetate sheet. The reverse side of the acetate was painted black. It was glued behind the completed quarter badge and placed onto the model. (see below) The same photo also shows the double bead molding that I added to the hull. The breaks in run of the molding are where the channels will be located. The channels will be added later. The beaded molding could have been made from scratch but I bought it from a local hobby shop.
Before Moving Ahead...

A hole needs to be made on deck. This will be used for the ladder of the only open hatch on the model. Adding more details to the model now would make it more difficult to create. I intend to mount the rudder next and wouldn’t want it to get damaged.

The hole was made using the cutting bit shown in the photo (above). It was placed into the flexible shaft of my Dremel. The wood was extremely soft. It didn’t take very long to cut this hole to a depth of 1”. The hole was made slightly larger than the actual size of the hatch. This made an awful mess. The corners were squared off with some needle files.

Making the Rudder...

The rudder was traced from the plans and transferred to a piece of wood. The wood supplied with the kit was 4mm thick. The rudder as shown on the plans, lacks many details. The drawing is very crude. I researched different rudder styles for a schooner of this size and time period. I have a copy of Harold Hahn’s “The Colonial American Schooner”. There were several photos that showed the rudder for his model of the schooner Halifax. This is the design I chose to replicate.

The photos (1A & 1B) below show the rudder after I cut it from the wood with a sharp #11 blade. It was sanded to shape afterwards. The carved detail in the same photos was carved with the same #11 blade. Make sure the rudder is long enough so it will protrude through the hole on deck. It should extend 5/16” above the deck’s surface. Before you add any more details, test the rudder on the model to see how it will fit. The rudder hole should be large enough that the rudder can swing naturally after it is mounted. Make the rudder hole larger if you need to.

Photo 2 shows some molding that I used to create a rabbet down the face of the rudder. This is a nice little detail that was common on rudders at this time, especially the schooners intended to be used for pleasure.
The rudder is attached to the stern post with hinges called “pintles and gudgeons”. These are the two halves of each hinge. The pintle being that which is attached to the rudder and the gudgeon is attached to the hull.

The kit-supplied instructions suggest that they can be made from cardboard. This simply won’t do the job. It also says that the brass strip supplied with the kit can be used. This strip is a little wide and out of scale to be seriously considered. I purchased some sheets of copper years ago and have enough to last me a lifetime. I have many thicknesses available. I chose an appropriate thickness and will use it to create the gudgeons and pintles. Unfortunately, you will need to buy some sheets of raw material or strips of brass at the correct scale. I cut the copper sheet into strips about 1/32” wide as measured from the blue prints.

Photo #3 on the previous page shows the steps for creating the gudgeons and pintles. The copper strips are thin enough so they can be bent over a piece of 22 gauge wire. Six strips were bent over the wire as shown in the photo. The six strips were then bent around a block of wood that was the same thickness as the rudder. This created the final shape for our gudgeons and pintles. They are identical except the pintles will have a small length of 22 gauge wire glued into place.

The rudder was painted white below the waterline. I painted the first coat before gluing the pintles into position. The pintles were glued onto the rudder at a right angle to the inside edge of the rudder. This angle is clearly shown on the plans and in the photo above. You can also see that I simulated the heads of the iron nails securing the pintles to the rudder. I took a piece of the 22 gauge wire and dipped it into some super glue (cyanacrylate). Carefully place a small drop of glue onto each pintle, it will dry in the shape of a droplet. Try to space these drops an equal distance apart. Once they are painted the drops will look like the heads of iron nails.

I decided to paint the gudgeons and pintles white. You could also paint them black. This decision was based on my own tastes. I am not here to debate historical accuracy. Either color will do the trick.

The gudgeons were gingerly coaxed into position on the rudder assembly. The photo above (left) shows the completed assembly. It was test fit on the model. As you can see in the same photo, the gudgeons were left longer than needed. The finished assembly can be test fit on the hull and the lengths for each gudgeon measured and marked. You will notice in the photo above (right) that the bottom gudgeon is the only one that was extended onto the hull. The top two were only made long enough to cover the stern