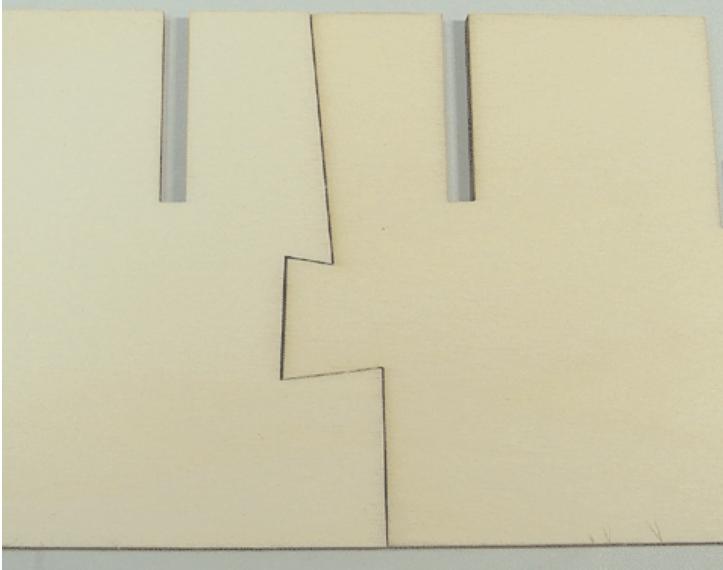


Two halves of the bulkhead former fit together



## Chapter One

### Assembling the bulkhead former, keel and stem...

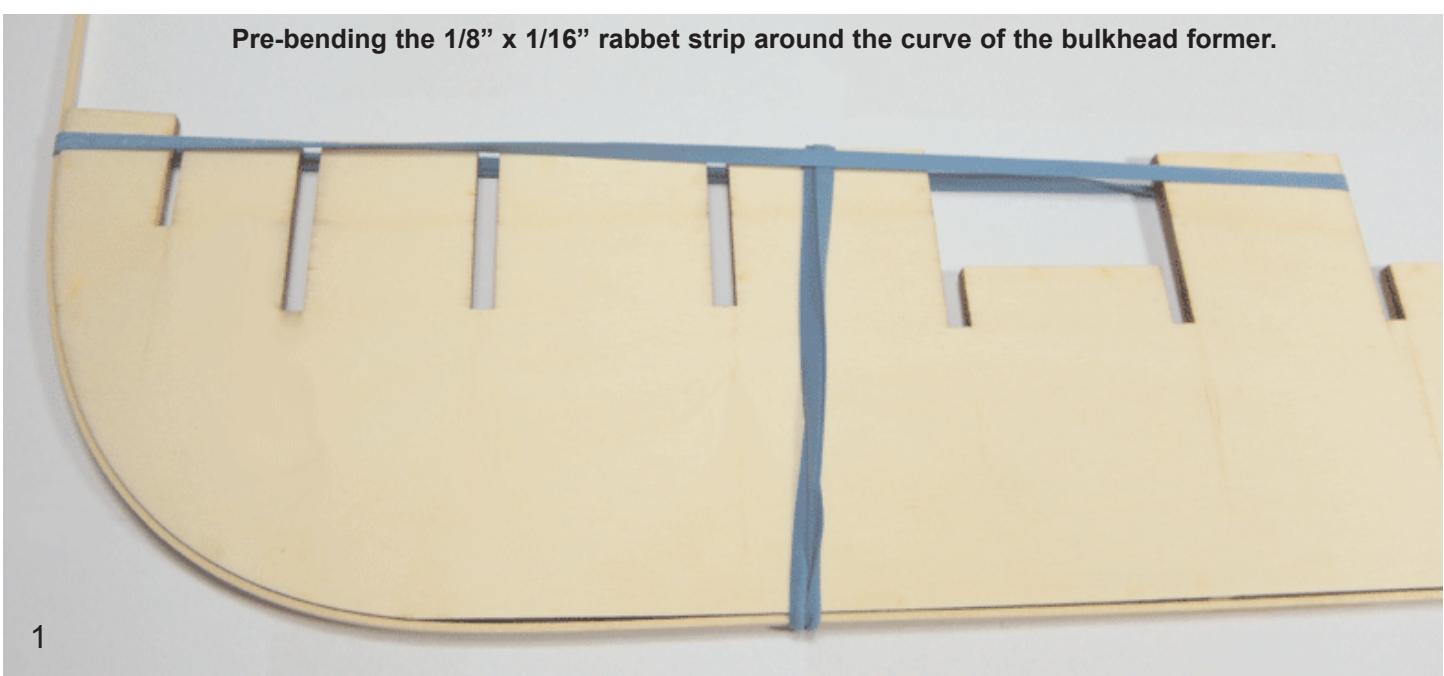
Before you begin building your model we recommend that you read several chapters ahead in this instructional guide. You should also familiarize yourself with the plans by examining them very closely. Examine plan sheet two in particular as this sheet contains the framing plan. The first few chapters will cover the assembly of Confederacy's framing or "skeleton" and plan sheet two will be your blueprint for building it.

Building the skeletal foundation for any ship model is the most important part of the project. A poorly framed foundation can only lead to other problems down the road. It is understandable that most model builders prefer to work on those wonderful little details like assembling the gun carriages or adding the decorative carvings. But take your time building the skeleton for Confederacy. Go slowly and double check your measurements and part placement before you glue anything into position permanently.

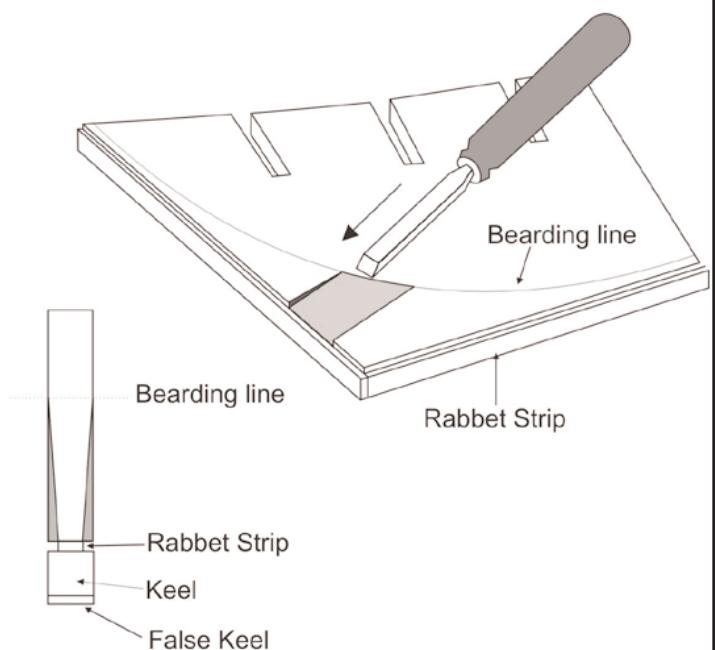
To begin, remove the two halves of the bulkhead former from the laser cut sheet (3/16" thick). Use a sharp blade in your hobby knife to cut the little tabs that hold them in the sheet. Do not try and simply push them out of the sheet as this may damage the pieces. Glue the two halves together. But before you do so, test how well the "puzzle piece" joint fits together. It may need some light sanding to fit together properly. A light sanding will also remove some of the burn residue left behind by the laser cutter. Your parts will accept the glue better if you sand this laser char off the edges of each piece first. Don't sand the parts to aggressively though. You don't want to change the shape of that joint to the extent that it will no longer fit together well. Only a light sanding is really needed.

When you glue the two halves together it is best to do so on a very flat surface. You want the

Pre-bending the 1/8" x 1/16" rabbet strip around the curve of the bulkhead former.



**Carving the rabbet from the bearding line into the rabbet strip**



“back bone” of your model straight and true. Using a sheet of plate glass is the ideal surface for assembling the two halves of the bulkhead former. See the photo on the top of the previous page. Sand the joint lightly after the glue dries.

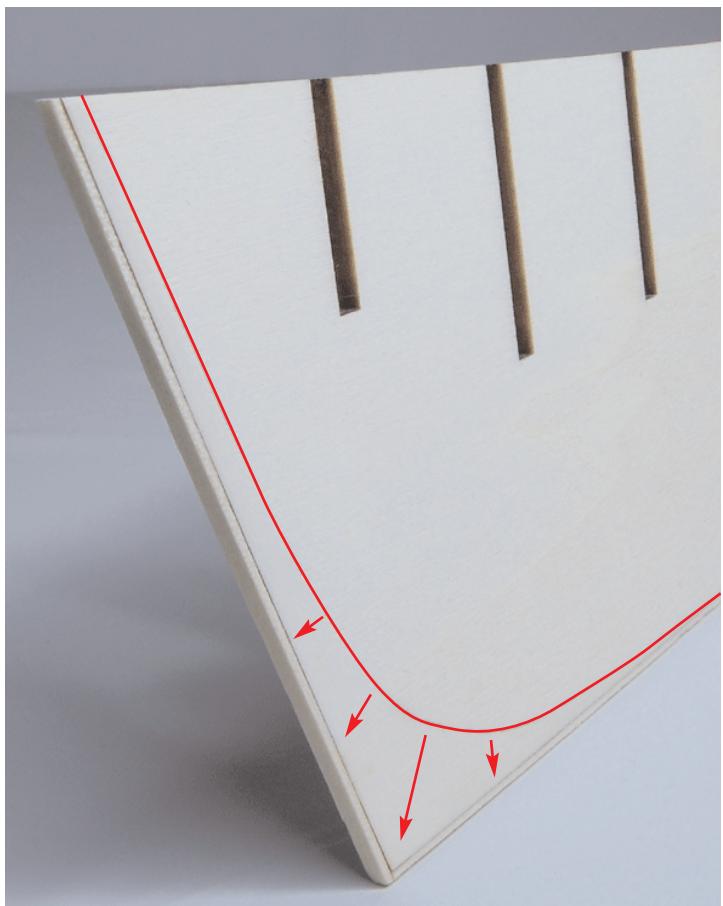
The next step will be to add the “rabbet strip”. You will be using a  $1/8" \times 1/16"$  basswood strip as the rabbet strip. This strip is glued to the bottom edge of the bulkhead former. An additional piece should also be glued onto the back (or stern post) edge of the former. Check plan sheet two for the details. The rabbet strip is not as wide as the thickness of the bulkhead former. The strip should be centered along the edge leaving a  $1/32"$  rabbet on both sides.

Bending the strip up the “bow” of the bulkhead former while you are trying to glue it into position can be tricky. It will be easier if you pre-bend the strip to conform to the curve before you attempt to glue it on. To do this, soak the strip in some warm water for about 5 minutes. Then carefully and slowly bend the strip around the curve of the bulkhead former (remember...no glue yet).

Secure the strip tightly against the curved section of the bulkhead former with some elastic bands. See the photo provided. Set it aside for a couple of hours until the strip has dried thoroughly. Once the rabbet strip dries you can remove it. It should hold the curved shape with only a minimal amount spring back. Not having to forcefully bend the strip while at the same time trying to glue it exactly on the center of the former’s edge should make this step a lot easier. You will need to use more than one strip to cover the entire length of the bulkhead former. The Confederacy was a very long ship.

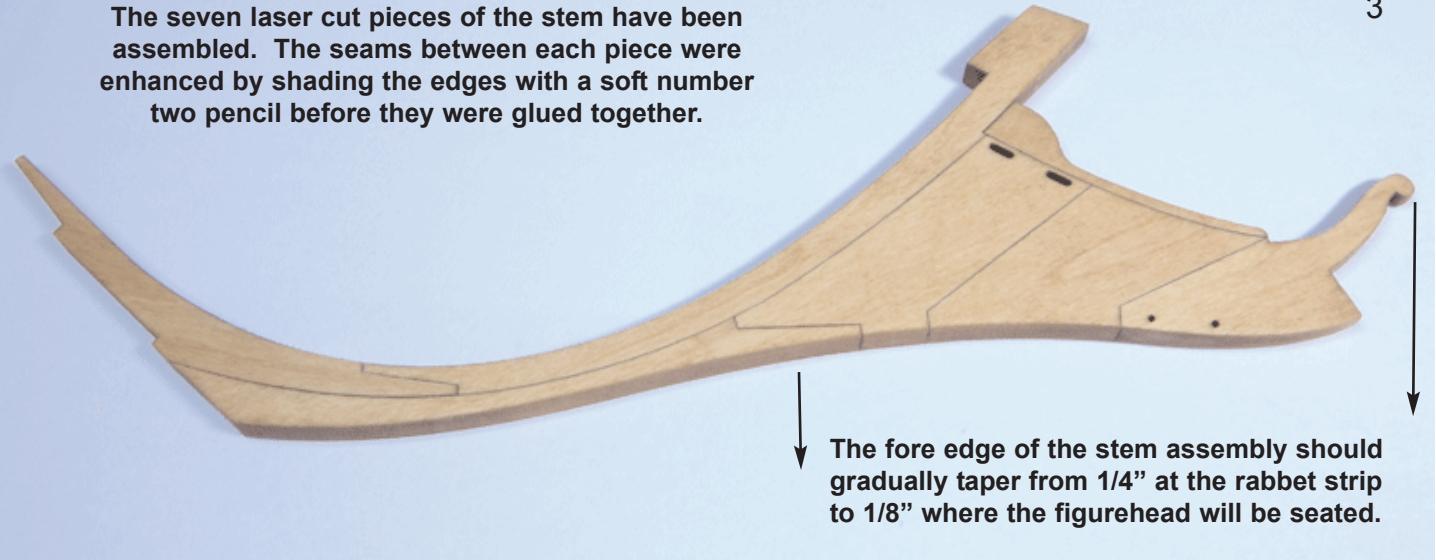
**Tapering the bulkhead former into the rabbet strip...**

You have probably already noticed that there are two curved reference lines laser etched on one side of the bulkhead former. They are close to the edge at the bow and stern ends of the former. You will see these etched reference lines on many parts of the kit as you move forward. Unfortunately the laser cutter can only etch these



*Sand or carve a taper from the bearding line into the rabbet strip. This taper should be gradual as shown in the photo above.*

The seven laser cut pieces of the stem have been assembled. The seams between each piece were enhanced by shading the edges with a soft number two pencil before they were glued together.



The fore edge of the stem assembly should gradually taper from  $\frac{1}{4}$ " at the rabbet strip to  $\frac{1}{8}$ " where the figurehead will be seated.

lines on one side of the pieces being cut. In this case, the two reference lines represent the "bearding line". The bearding line marks the location where the bulkhead former should begin to gradually taper into the rabbet strip. It needs to taper into the strip so there is no longer a hard rabbet along the edge in these areas. When you are planking the hull this will allow the planks to smoothly transition into the keel, stern post and stem. You must first copy the reference lines onto the other side of the bulkhead former. After you are finished transferring the bearding lines you can start tapering.

You can carve or sand the bulkhead former into the rabbet strip. Both methods will work and you should choose the one that you feel most comfortable with. See the illustration and photo provided that shows the stern tapered into the rabbet strip. The farther the bearding line is away from the rabbet strip the more gradual the taper becomes.

### Assembling the stem...

The stem for this model is assembled using seven  $\frac{1}{4}$ " thick laser cut pieces. Once they are assembled the stem will closely resemble the "built-up" stem configurations used on the actual ship. This is however a more simplified version.

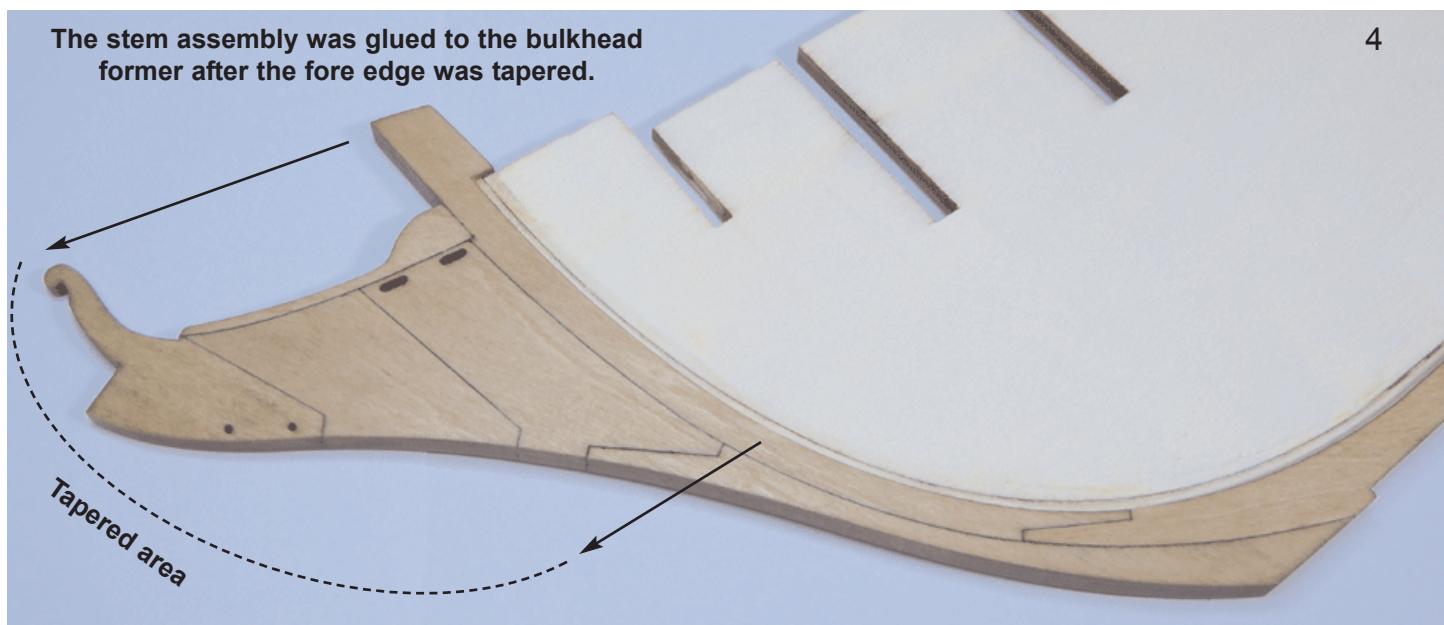
Carefully remove the laser cut pieces (S1, S2, S3, S4, S5, S6 and S7) from the sheet. The pieces are not laser etched with the part num-

bers as this would have damaged the surface of each piece. But they are so uniquely shaped you shouldn't have a hard time locating them. Lightly sand the laser cut edges to remove some of the burn residue. Dry fit the pieces together to ensure a tight fit along the seams of each stem element. When you are satisfied with how they fit together, stain each piece with the finish of your choice. MinWax Golden Oak stain was used to finish the stem pieces on the prototype. You want to stain the pieces before you glue them together. Any glue residue left on the surface of the stem will soak into the soft wood and change the way the wood absorbs it. This can lead to a blotchy uneven finish if the assembly was stained after gluing the pieces together.

You might also consider darkening the edges of each piece to hi-light the seams between each section. Simply darken the stem edges with a soft #2 pencil before you glue them together. You can see the results by examining the photo provided which shows the stem assembly glued together.

### Tapering the stem assembly...

The stem should be tapered in the area shown in that same photo. It should gradually be reduced in thickness from  $\frac{1}{4}$ " to approximately  $\frac{1}{8}$ " where the figurehead will eventually rest. The easiest way to taper the stem would be to use a large sanding block. Sand both sides carefully to achieve the same taper on both sides of the stem



assembly. Do not reduce the thickness of the stem along its aft edge. This should remain  $\frac{1}{4}$ " thick. The tapering will of course remove the stain from stem's surface so once you have finished apply another coat. Once it's dry, glue the stem assembly onto the front of the bulkhead former. Carefully center the stem along the edge of the rabbet strip leaving  $\frac{1}{16}$ " on both sides. See the photo provided.

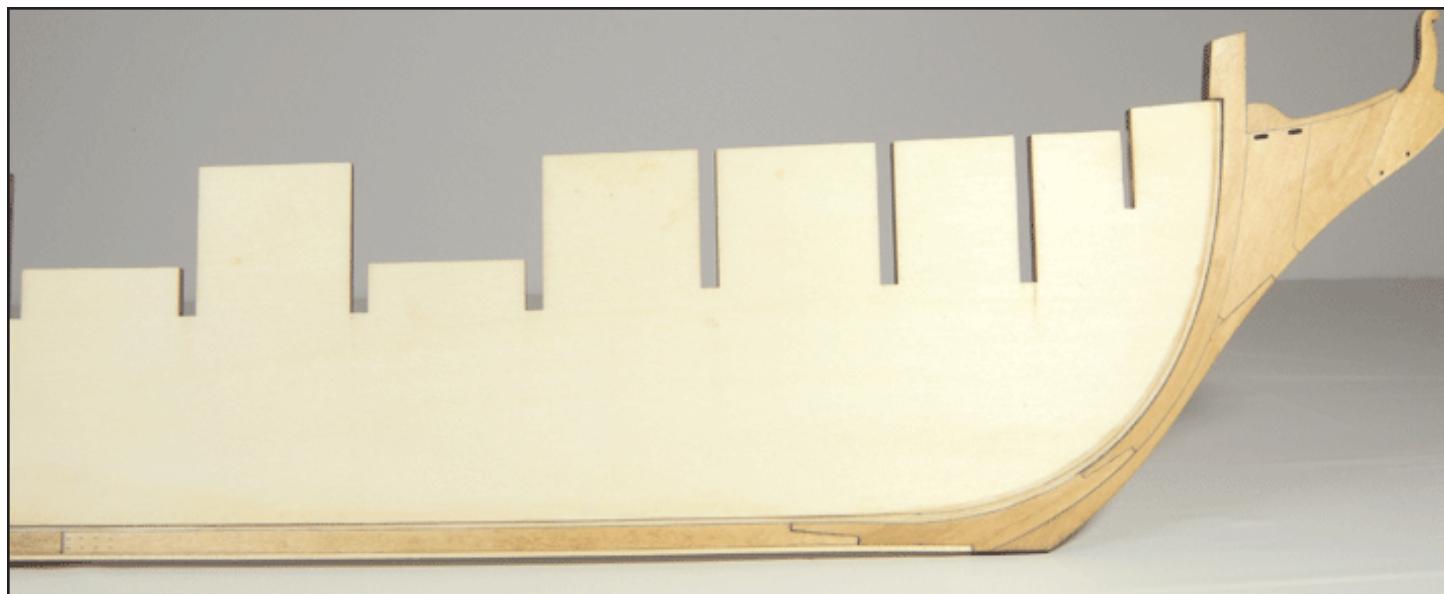
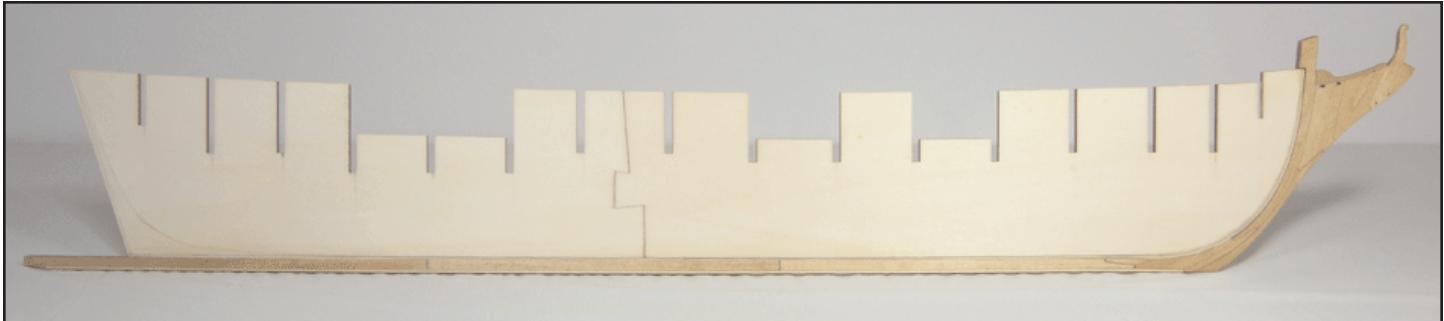
### **Adding the keel...**

Remove and lightly sand the three laser cut keel pieces (K1, K2 and K3). See the photo provided. You will notice that K1 has been designed with a scarf joint on one end. This should be test fit to see how well it joins with the corresponding scarf on the stem assembly. It should fit well with minimal sanding. Glue this keel section to the rabbet strip. Once again, carefully center it along the rabbet strip leaving a  $\frac{1}{16}$ " overlap on each side. Then glue the remaining keel pieces into position. These pieces would also

have a scarf joint between each section. But this time the scarf was actually vertical rather than horizontal. Seeing as only one side of the model can be viewed at a time, a simple butt joint will do the job of simulating this well enough.

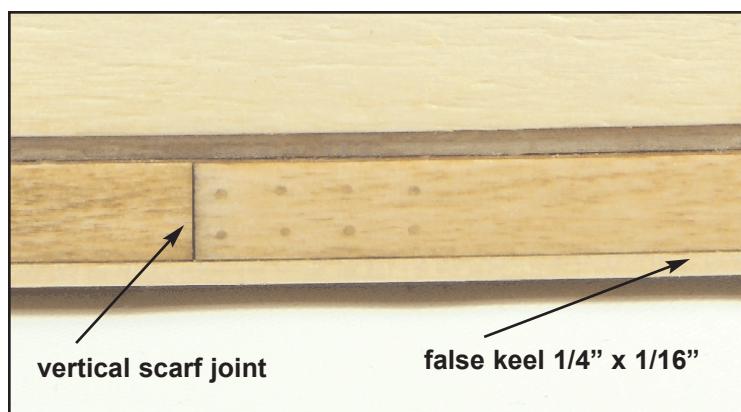
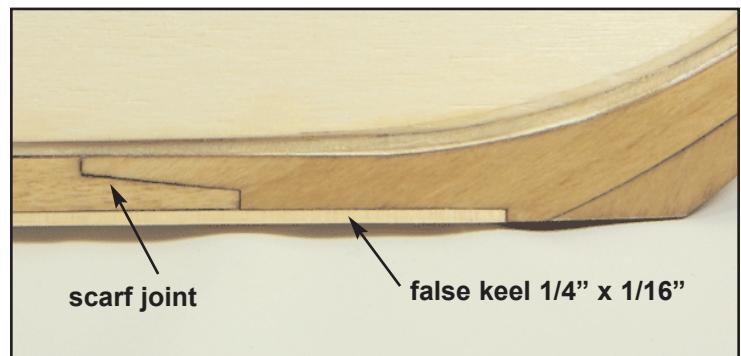
You will notice in the photos provided that the last piece (K3) was left extra long and continues off the back of the bulkhead former. Leave this section longer as shown. You will not be adding the stern post at this time. That will be done after the hull is planked. This last section of the keel will be trimmed to length at that time. It will be much easier to run your hull planking off the back of the stern rather than cut them to fit into the rabbet. This would have been the case if the stern post was positioned now. Once you complete the hull planking, it will be trimmed flush with the rabbet strip and then the stern post will be added. This will create a tighter/cleaner seam. The keel will be trimmed shortly after.





Each arm for these vertical scarf joints would have been bolted together. Eight bolts were commonly used and they would be a nice detail to show on your model. The bolts were roughly  $1\frac{1}{2}$ " in diameter. On the prototype model a #70 drill bit was used to drill the eight holes. Don't drill all the way through the keel as this technique only simulates the bolts. You don't need to go very deep. Drill the eight holes on each side of the keel. Lightly sand the holes and fill them with some wood filler afterwards. This will do a good job of simulating the eight bolts along each keel scarf joint. Examine the photos provided which show this detail completed.

To complete this step a false keel ( $1/4$ " x  $1/16$ " strip) is glued to the bottom of the keel. It fits into the notch at the bow and continues the full length of the keel. This strip is also left longer than needed. The false keel was used to protect the actual keel from damage. It was lightly fastened to the underside of the keel and easily replaced should the need arise.



*Note the eight simulated bolts that fasten the two vertical scarf joints.*