Armed Virginia Sloop - Part 4 – Deck Fittings

With the deck planking completed, I planked the quarterdeck bulkhead and painted the inside of the bulwarks (but not the outside of the hull). Then I moved on to building the cannons and various bits of deck furniture. These pieces can be built in any order; do whatever suits your fancy at the time. I would recommend, however, that you do not permanently attach anything to the deck (other than eyebolts) until after you rig the cannons. The deck furniture will just be in the way when you try to rig the cannons.

The Cannons

Throughout the process of building the cannons, you'll want to refer to Dr. Feldman's work for measurements. Don't forget, however, that you'll have to convert actual sizes to our quarter-inch scale size since his model was built at three-eighths inch scale.

There are, I believe, several modifications that should be made to the cannons. On the cannon barrel itself, the trunnions are too thin. At this scale, they should be one-sixteenth inch in diameter. You could cut off the cast trunnions, drill a hole and install a piece of brass rod. I found it just as easy to slip a piece of brass tubing over the existing trunnions. You'll find that the trunnions axes (the half-round slots in which the trunnions rest) on the carriages are too far forward. They should be 5.77 scale inches (about 3mm) back from the forward edge. You'll note that the cap squares are longer forward of the trunnions than they are aft.

Before you start to assemble the carriages, you might want to drill the holes for the eye- and ring-bolts to be added later. I made up a simple jig to help me assemble the carriages more easily and consistently. You can see a carriage positioned in the jig in Photo 1.

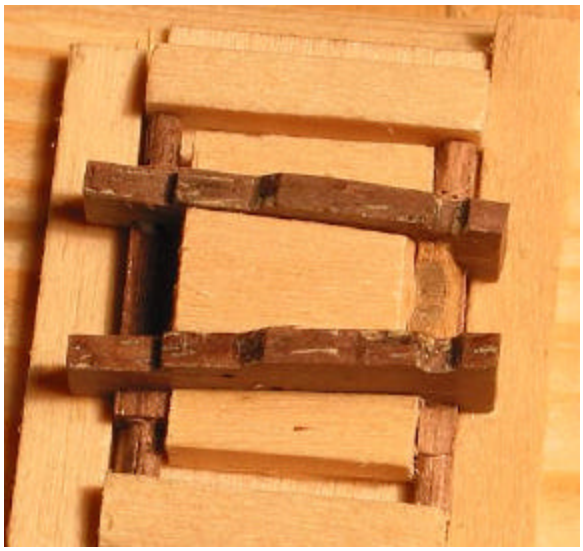

Photo 1: Carriage assembly jig

Note that you'll have to round the ends of the axletrees. I found a piece of brass tubing with an inside diameter that matched the required outside diameter of the axletrees. I carved the ends of the axletrees to the approximate shape with my hobby knife, then shoved the brass tubing over them. That rounded the ends perfectly.

The laser-cut trucks were too small. The fore trucks should be 5mm in diameter and the aft trucks should be 4.45 mm in diameter. The kit-supplied trucks might have been large enough if they'd been perfectly round, but the laser-cutting process can't produce a perfectly round piece this small. Once I'd sanded them round, they were just too small. I made new fore trucks (cut from dowel stock) and was able to use the larger of the kit-supplied trucks on the rear axletrees.

I made up a little jig for shaping the cap squares from brass. I filed a piece of one-sixteenth inch brass rod to a half-round shape, then soldered the rod to a piece of flat brass stock. I positioned a piece of annealed brass strip over the half-round rod and clamped both into a machinist vise (Photo 2). I then shaped the strip around the brass rod using pliers and the result was perfectly formed cap irons. In case you have not annealed brass before, it's easy to do. Simply hold the strip in a flame (use pliers!) until it turns cherry red, then allow it to cool naturally. The brass will be much easier to bend to shape once it's annealed.

Photo 2: Shaping the cap irons.

It was my intention all along to make the quoins. In the end, I didn't. I made up a test quoin from some scrap and when I put it into place under the barrel, I felt that it depressed the forward end of the barrel too much. I preferred a more elevated angle on the barrel, so that meant leaving the quoins out. I suspect that few people will miss them.

The train tackle presented a small problem. Each block should be stropped with a thimble and there should be a hook in the thimble to attach the blocks to the eyebolts on the bulwarks and carriage. When I set a cannon in place and measured the distance between the eyebolts, I found I had about 13mm of space. When I made up blocks with thimbles and hooks, they took up more than 16mm of space. Clearly, that wouldn't work. After various experiments, I finally ended up using a simple ring under the block strap (see Photo 3). I added a line, 6 scale fathoms long, to the end of the single block.

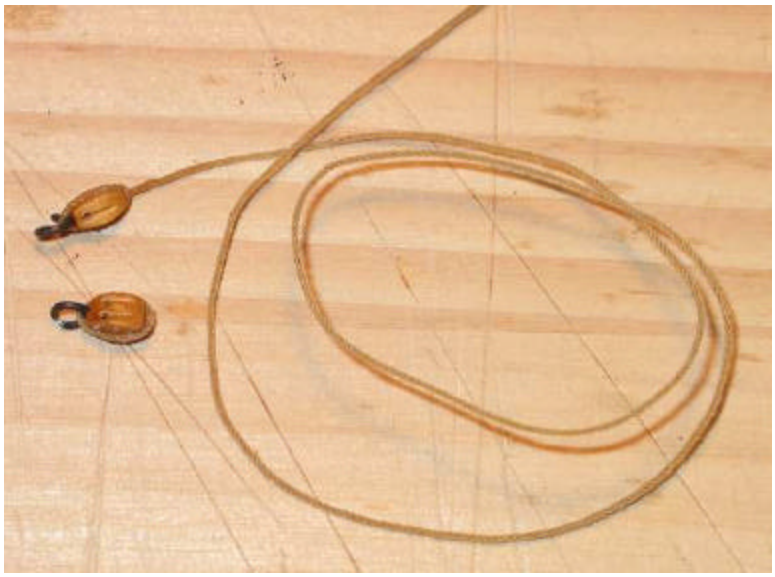

Photo 3: Blocks and line for train tackle

In making the cut splice in the breeching rope, I generally followed Dr. Feldman's method, but used a one-sixteenth inch piece of brass rod to form the eye rather than a paint brush handle (again – remember the difference in scale). I decided to use a half hitch on the end of the breeching rope rather than an eye splice. Either is historically accurate. Once I'd run the breeching rope through the ring bolts on the carriage, I tied the half hitch at the appropriate distance and seized the bitter end of the rope to itself. Note that the breeching rope should not be taut but not overly long either. After attaching the single block and line for the train tackle to the carriage, the cannon was ready to install (Photo 4).

Photo 4: Cannon ready to install with breeching rope in place.

I began the installation process by attaching the breeching ropes to the ring bolts on the bulwark. Then, I glued the trucks to the deck to make sure the cannon wouldn't move and finally made up the train tackle. I formed the excess train tackle line into a coil, which I glued to the deck with some dilute white glue. One down and only five more to go!


Photo 5: The first cannon installed

Making and Installing Deck Furniture

Again, there is no particular order for building the deck furniture. Stage 5 of the instructions suggests mounting various fittings as you make them, but I have found that some things are better left for a later time. For example, although I made up the anchors and anchor buoys and the swivel guns, they were almost the last things I mounted on the ship. I had the boat completely painted, rigged, and mounted on its permanent base before I installed these items. They just get in the way of trying to rig the boat later on. In addition, I recommend that you not mount the swivel gun posts that are just above the channels. Until you get the shrouds installed, it's hard to tell exactly where those posts need to be.

I also suggest that you don't permanently install the riding bitts until after you've rigged the spreader yard horse in Stage 8. It's much easier to reeve the deadeye lanyard if the riding bitts aren't in the way.

I didn't much care for the cast metal steering wheel that came with the kit, so I decided to try making my own. I'd never made a ships wheel before so I thought it would be an interesting experience. The result shown in Photo 6 was my second attempt. The first didn't come out too well. The second isn't that great, but I like it better than the cast metal wheel. Dr. Feldman provides good instructions for building a wheel and I largely followed them. I don't own a lathe, so to make the handles, I chucked small pieces of boxwood into a Dremel tool and shaped them using files.

Photo 6: Ships wheel

The binnacle and companionway are much easier to build if you first shape a block of wood to the inside dimensions. That way, you can glue the various bits and pieces to solid wood that is already square. Note, that for the binnacle, you'll need to make up the block in three pieces in order to leave a space behind the window.

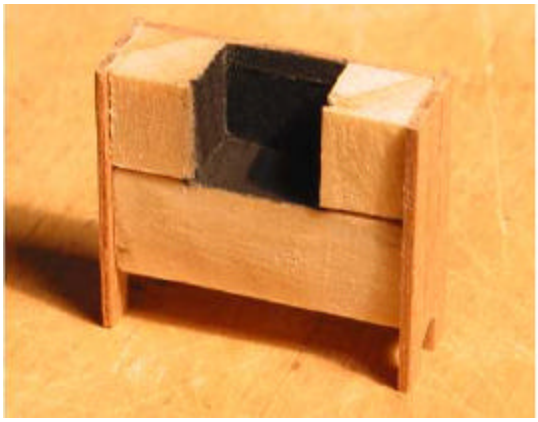

Photo 7: Binnacle

The anchor buoys turned out to be fairly difficult. I made 10 attempts before I figured out a workable method and got one I was satisfied with. I used very thin line (#50 DMC cotton crochet thread). I first made a small circle of the thread and carefully glued the ends together using white glue. I tried using CA, but it soaked into the thread and made it too hard. You want to be sure here, that the circle is small enough to only go so far down the end of the buoy – about one quarter of the way. Next, I glued two pieces of thread onto the circle to fashion the rest of the sling. Be sure that you glue one of these threads over the glue joint in the circle, both to hide the joint and to strengthen it. When you glue on these pieces, loop the ends so that the cut end is inside the circle. When the sling is on the buoy, the cut ends will be hidden.

This is the tricky part – the loops have to be just the right length so that when the circle slides down over the end of the buoy, the loops can be seized at the opposite end to make an eye of the correct size. Once you've got the first loop done, you have only to do this three more times for each buoy! Once you've got the buoys made up, you can seize on the two lines and then attach the longer one to the anchor. The drawing in the instructions is not very clear about how the buoy line should be attached. I'd suggest you buy a copy of *The Young Sea Officer's Sheet Anchor* by Darcy Lever and take a look at page 68. This book will serve you well for a multitude of rigging tasks that will come later.

Photo 8: Completed anchor buoy attached to anchor

At this stage, you should check the plans several times over to make sure you install all the needed eyebolts on the deck and rails. It's easy to miss these and once you start rigging, where they will be required, it can be hard to install them. You can seize blocks onto many of these eyebolts at this point, but be aware of which blocks need line attached to a becket on the block. Seizing the line to the becket is best done off the model when possible. The drawback is that you can have a lot of lines lying around that tend to get in the way if you attach the blocks to the eyebolts at this point. I think it's best, when you need a block with a line attached, to seize the block and line to the eyebolt later in the rigging stage.

The instructions mention ways to strop blocks, as does Dr. Feldman. I have my own approach that seems to work for me. I have posted a complete tutorial on my method on the techniques section of my web site at http://www.modelboatyard.com.

I replaced the kit-supplied blocks with ones purchased from Warner Woods West. Although this adds a fair amount of expense to building the model, the improvement in appearance was well worth it for me. If you're really tenacious and like doing fiddly work, you could, of course, make your own blocks.

Painting the Hull

This is probably as good a time as any to paint the outside of the hull. Of course, the choice of colors is entirely up to you as it would have been to the captain or owner of the real ship. If you plan to deviate from the colors listed in the kit instructions, you would do well to spend some time researching paint used in the late 1700s.

Prior to painting the hull, I'm not too concerned about setting the boat down on my workbench. But once painted, the hull has to be protected. I usually make up a working cradle by copying the outline of a couple bulkheads onto some scrap wood. I cut out the shape of the bulkhead then mount the two pieces to a base. I line the cutouts with some sort of soft material that won't scratch the paint. I use this right up until the end when I permanently mount the model on its finished base.

Photo 9: Working hull cradle

This is also a great time to think about how you want to mount the model. As you can see from the photo of the finished model, I chose to use brass pedestals (actually lamp finials cut to the desired length) rather than the launching ways provided in the kit. Using pedestals means drilling holes in the keel and that's more easily done now than later when the mast and rigging is in place

Sails or No Sails?

It may not be immediately obvious, but this is where you have to decide whether or not you're going to put sails on the model. You'll note that the mast has a boom jaw rest at the bottom and trestle trees at the top. That means that mast hoops have to go on before both ends of the mast are closed off. (My own preference is to build the trestle trees first.) If you're adding a main sail, you pretty much have to sew the mast hoops onto the sail before the hoops are on the mast. If you try to wait until after the mast is stepped and the standing rigging is in place to sew the sail onto the hoops and lace it to the boom and gaff, you are going to find it damn near impossible.

So, now is the time to face the question of sails. If you are relatively new to the hobby, I hope I can persuade you to forego sails on this model. It adds quite a bit of complexity to building the boat and as a novice, you have so many things to learn, it is probably not a good thing to add sails to the list. Just sewing the sails is quite a chore in and of itself. It took me 5 attempts to get a mainsail I was reasonably happy with. The fifth one took me 7 hours to make. And my sails are hardly a stellar example of the sailmakers art (these were my first attempt at making sails for a model).

If you choose to add sails to your model, you have to work around the mainsail all through the rigging process because it has to go on the mast before the mast is stepped. You need to add the gaff peak halyard before you lace the sail to the gaff, so you've got that line hanging around all the time. It's just a mess and one that a novice builder really should avoid. If you are determined to add sails regardless, there are some good articles on sailmaking on the SIS CD set. I used unbleached muslin for my sails – they are not dyed or stained.

Making the Mast and Spars

I followed the kit instructions in making the masts and spars. I used the kit-supplied dowels and made the various stop chocks out of boxwood. All were given two coats of orange shellac with the ends of the yards, boom, gaff, and jibboom painted black.

The metal castings used to hold the jibboom onto the bowsprit don't come together all the way under the bowsprit. To fill this gap to make it look like a continuous iron band, I used a two-part product called J. B. Weld that dries almost to the color and strength of steel. I attached the jibboom to the bowsprit using some thin CA under the castings. Then I applied J. B. Weld to fill the gap and finally filed the mix to shape once it had cured.

The heel lashing isn't well described in the instructions. There is an illustration of one on page 58 of *The Masting and Rigging of English Ships of War 1625-1860* by James Lees. This lashing requires a hole in the bowsprit. Tie a knot in the end of the line and run the line down through the hole all the way to the knot. Wrap the lashing in a figure-8 pattern for 5 or 6 turns, then bring the free end of the line up and make a half-hitch around the middle of the "8" (between the jibboom and the bowsprit) to finish it off.

In the next part, we'll rig the boat and finish up. Additional pictures of my AVS are available on my web site at http://modelboatyard.com. Feel free to contact me by email at jhearl@modelboatyard.com if you have questions.