

## Bluenose II – Part 7

In Part 6 of this series, we completed building and painting the hull and rigged the bowsprit. Now, we're ready to make up the masts and spars.

### Making the Spars

I prefer to make up all the spars before starting any rigging. As it turns out, the lengths for spars shown in AL's plans actually match those of the spars on the real vessel, so you can follow the plans for length.

I would encourage you to not use the supplied boom/gaff jaws (or what AL calls "crab jaws"). The pieces in the kit are unrealistic and it's easy to make much better ones from scrap wood. Again, refer to pages 116 and 117 of the Jenson book for the appropriate shape of the jaws as well as for the tapers of the spars. You can add as much detail as you like to the jaws. There are rectangular wooden pieces called clappers in the jaws. These pieces ride against the mast and pivot on a bolt. There are also visible bolts holding the jaws onto the masts. I didn't add either of these features myself. One thing I did add was the trucks – small beads that are tied between the jaws. These help to reduce friction when raising or lowering the sails. I found some small, black glass beads with a matte finish in a craft store. The beads are about 2mm in diameter.

Note that many of the spars taper on both ends. I made the jumbo boom, fore boom, and both gaffs from 3/16" birch dowel stock. I used 1/4" stock for the main boom. The lower masts were made from 5/16" dowels and the upper masts from 3/16" dowels. All masts and spars were stained with red oak stain and varnished with satin varnish.

Tapering the spars is not too difficult. Use a small block plane to bring the spar down close to the desired dimension, then use sandpaper to finish it off and make the spars round. Many experienced modelers recommend first planing the part of the dowel to be tapered square. Then slice off the corners of the square to get an octagon. Then slice off those corners again. Finally make the spar round with sandpaper. If you happen to own one, an electric drill can greatly speed the latter process. I like to wrap masking tape around the part of the dowel inserted in the drill chuck to protect the dowel. A slow speed seems to work best for me.

As you are making up your spars, you'll want to add the necessary bands and eyebolts to which blocks for rigging will be added. You can add the blocks to the spars before you rig, but definitely do not add blocks to the lower masts above the trestle trees until after rigging the shrouds. They will be in the way of fitting the shroud eyes.

You will also need to think about how much running rigging you'll want to put on the model. I strongly encourage you to not put sails on this model. It's very difficult to make good looking sails at this scale and bad sails will be the first thing people see when they look at your model. Without sails, much of the running rigging is unnecessary. For example, you may not want to install the jib and topsail halyards, you can't install any jib sheets, etc. My practice is to not add blocks for rigging that won't be installed because I don't care for the look of an unused block hanging off a spar. You can make your own choice, of course.

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Let's also talk for a moment about the blocks themselves. It's not possible to make accurate blocks using the ones supplied in the kit. The blocks on the real Bluenose II are internally stropped whereas the ones provided in the kit are meant to be externally stropped. You could replace the blocks with cast Britannia metal blocks (check Bluejacket Shipcrafters) but this can get a bit expensive. I chose to ignore the inaccuracy and strop my blocks with 24 gauge black annealed wire. This wire is a bit heavy for the purpose, but I've found that 26 gauge is too thin to hold the shape of eyes and becket. Besides, I just like the look. Photo 1 illustrates how I like to strop these blocks. If the block needs a becket I make a small loop in the wire before bending it around the block.

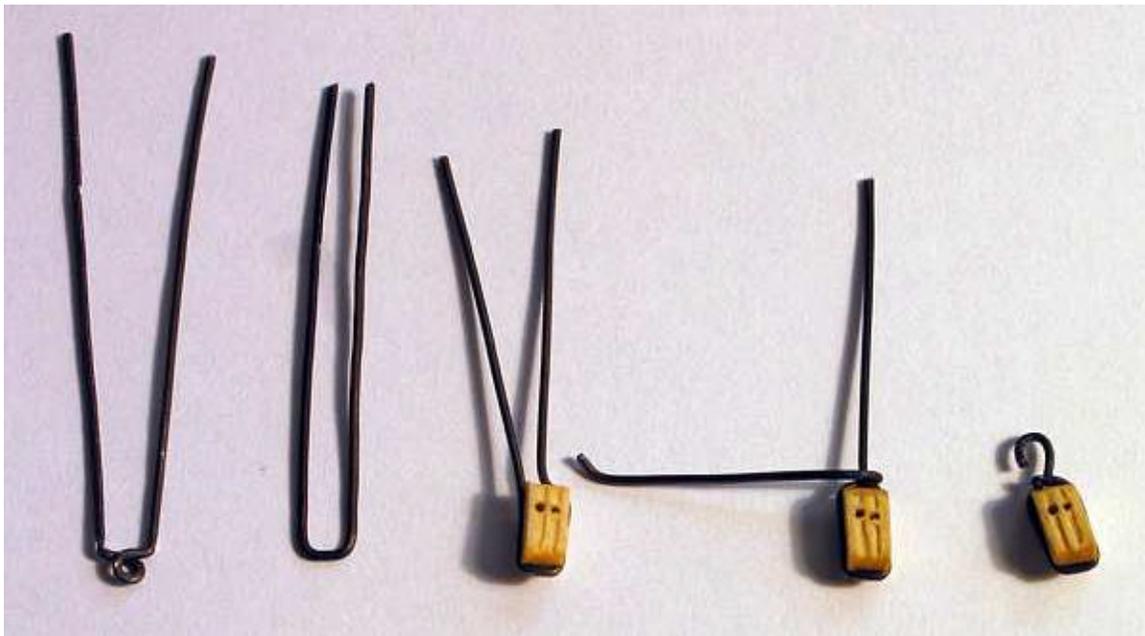


Photo 1: Stropping blocks

There are a couple of important variations from AL's plans with regards to the spars. First, AL doesn't even show a jumbo boom but it should certainly be added to the model. In the drawing on page 117, you'll also notice a rectangular block on top of the bowsprit towards the rear. This is used for the jumbo boom horse (see also page 36 in the Jenson book and Photo 2 in this article). You can make this easily from a bit of scrap.

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Photo 2: Jumbo boom horse

The fore boom is shown in AL's plans as having jaws and resting on a saddle (the ring around the mast). While this is correct for the main boom, it is incorrect for the fore boom. You'll find the best diagram of the fore boom on page 28 of the Jenson book. I simulated this fitting using two narrow bands with a small piece of wire between them. An eye on the end of the boom slides along the wire traveler on the mast. **IMPORTANT NOTE:** Don't add the two bands around the mast or the wire traveler until after you've put the mast hoops on (to be covered later).

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Photo 3: Foreboom iron work

The main boom has a few modifications also to accommodate later rigging. You'll want to add a small cleat to the port side of the boom about  $\frac{1}{4}$  of the way back from the jaws. This cleat is used for tying off the flag halyard. I fashioned a simple cleat out of brass because there are no cleats included in the kit. If you find this to be more than you want to tackle, then you could consider tying off the halyard on the fife rail around the main mast. I wouldn't tie it to either of the pin rails at the shrouds as AL shows. If the halyard was belayed on the port-side pin rail and the gaff suddenly swung out to the starboard side, it could snap the halyard in two.

You'll also need to drill a small hole in the main boom from top to bottom to simulate a sheave about 12 mm from the aft end. This will be used for rigging the main boom topping lift later.

You may want to consider making a simplified sheet horse band (also called a main sheet wye) for the main sheet on the main boom. I made mine by wrapping a paper band around the boom, then drilling holes in either side. A semi-circular wire was shaped and inserted into the holes and the block hung from a split ring on the wire. This needs to be a triple block, by the way, which is not included in the kit. It's easy to make from scrap

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wood though. You can see the sheet horse band and triple block in Photo 4. There is a similar sheet horse band on the fore boom as well.



Photo 4: Main sheet and boom rest

Notice also that I added a boom rest at the stern. This is shown on page 110 of Jenson. Jenson also shows one forward of the steering box, but I decided not to add that one on my model. You need at least one boom rest to help hold the main sheet rigging down tightly. The boom rest that AL shows on its plans on top of the main cabin is not there on the real boat so don't add it. The boom rest should be sized so that the boom lies more or less parallel with the deck.

### Making the Masts

With the spars finished, you can turn your attention to the masts. There will be some minor modifications here as well. First, put your mast material into the hole in the deck and mark the deck level. Use that mark to measure the required length for the mast (the lengths shown on AL's plans are fine). The trestle trees, cross trees and hounds as shown on the plans are also fine, but before gluing the bits together, drill holes in each of the cross trees (AL's part number 156) for the futtock shroud braces. These braces are not

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shown on AL's plans (they incorrectly show deadeyes for the futtock shrouds). Refer to page 121 of Jenson for a good picture of where the braces should be located. Note that the braces do not go all the way to the ends of the forward cross trees. You may find that the wood has a tendency to split when you try to drill the hole. Soak the ends of the cross trees in thin CA, allow to dry before drilling, and that will solve the problem. The braces are made from 0.021 inch brass wire with an eye on the top end of each. The bottom of each brace is inserted into a hole in the band (futtock collar) just below the hounds. This band can be made from brass or paper as discussed earlier. Also, before gluing everything together, file a small notch on the ends of the forward cross trees. These will hold the outriggers in place later.

You will note in Photo 5 that I made up a mast cap out of soldered brass strip rather than using the wood supplied in the kit. If you want to try your hand at this pleasant little job, you shouldn't find it too difficult and it will certainly improve the look of the model. You'll need one for each mast, of course. Simply make two brass bands sized to fit the upper and lower masts. Enclose them completely with a piece of the same sized brass strip and solder everything together. Epoxy the mast caps to the tops of the lower masts. The upper masts will slide down through the forward bands later. Note as well that I added a piece of wire called a "bail" to the mast cap. This is used for the attachment of stays. AL simply has you make an eye in the end of the stay and place it over the upper mast. If you go to the trouble of making brass mast caps, then you'll want to add the bails and even if you use the kit supplied wood caps you could probably add the bails.

Finally, add the mast bands, cross trees, and all the necessary eyebolts. Note that the foremast needs three mast bands and the main mast needs four. Photo 5 shows the completed foremast top before painting. Everything shown here will be painted white (except, of course, for the masking tape below the futtock collar).

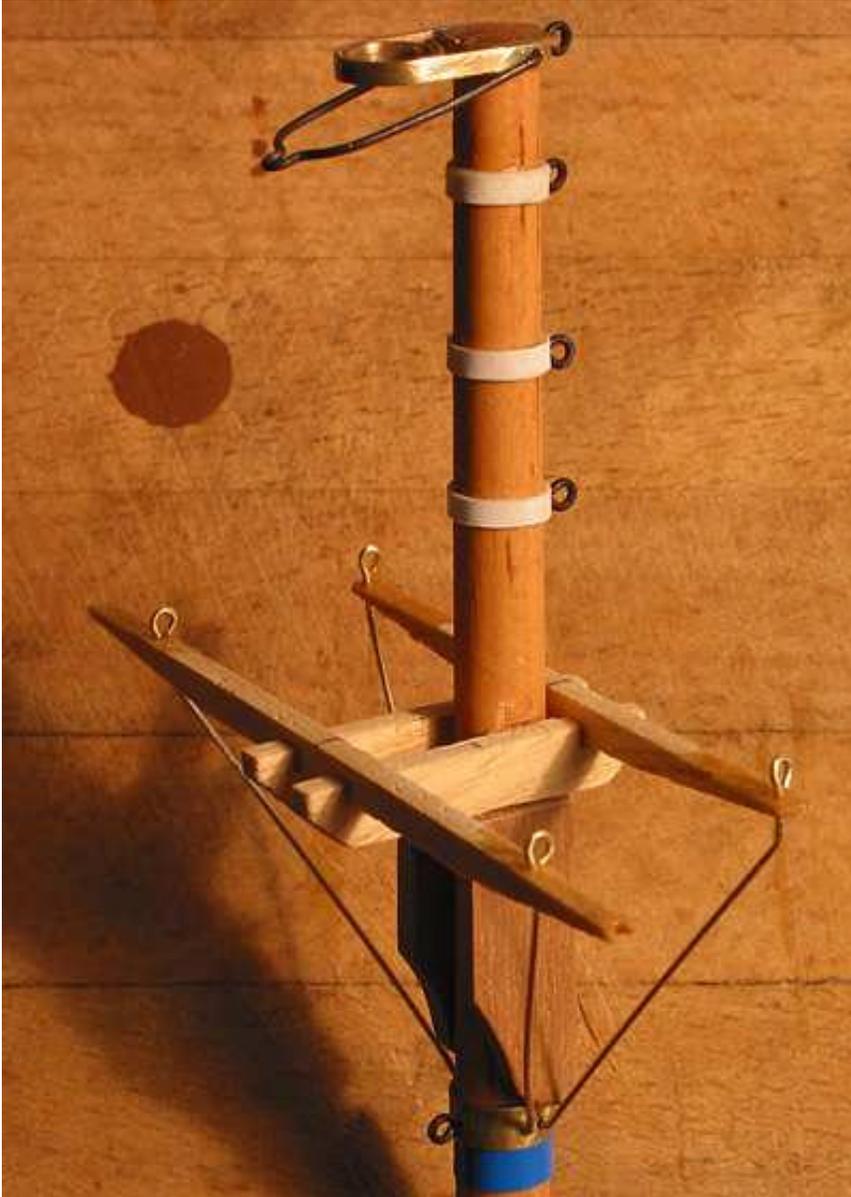


Photo 5: Upper section of mast

### Mast Hoops

Before finishing the masts, you need to make the mast hoops. Go to your friendly lumber store and pick up a length of clear pine about a foot long and  $\frac{3}{4}$ " thick. Use your razor plane to take a thin shaving off the narrow edge of the board. Apply yellow glue to one side of the shaving and wrap it tightly around a wax paper covered  $\frac{3}{8}$ " dowel. Making a tight wrap is important. Gaps will make the hoops unusable. Allow to dry thoroughly (overnight), then cut into narrow slices with a single-edged razor blade or a razor saw. Sand the edges, stain the hoop, and you've got a very good representation of the real thing. Photo 6 shows various stages of the process. On the far right is a hoop that is unusable because it was not wrapped tightly enough.

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Photo 6: Making mast hoops

There are 14 hoops on the fore mast and 15 on the main although you could get by with a few less if you like. You'll follow the same procedure later to make mast hoops for the upper masts. The only difference is that you'll make the hoops on a 1/4" dowel and you'll need only 9 for the foremast and 11 for the main.

### Stepping the Masts

You're ready now to finish the masts. Put the mast hoops on the lower masts. Add the saddle and braces to the main mast and the bands and traveler to the foremast. Paint and varnish the mast as required. You'll also want to shape and paint the mast coats. These are supplied as simple wooded rings. Round over the top edge by sanding, then paint white. Slide them onto the masts but don't glue them in place.

If you are determined to add sails to your model, you need to add the main and foresail before stepping the masts. It's much easier to sew the sails to the mast hoops before the mast hoops are on the mast. You'll also need to sew these two sails to their respective booms and gaffs – again something that's more easily done before stepping the masts. The kit box top shows furled sails, which are another option. Again, I think they are too difficult to make well at this scale (as evidenced by the picture on the box top!). But if you're determined to do this to your model, you'll need to make up and install the main and foresail before stepping your masts. Whatever option you choose, the supplied sail material in the kit is much too coarse and thick. Please – don't use it! Look on the Ships in Scale CD sets for a variety of articles on making sails.

Set the mast into its hole and align it so that it's square from side to side and follows the rake shown in the plans. A straight piece of wood laid across the rails forward of the mast will give you a level surface on which to set your square. Put small wedges of wood

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around the base of the mast to hold it firmly in place. Once you're sure it's all aligned properly, cut the wedges off at deck level and put a few drops of thin CA on the wedges so they are glued to the mast, but don't glue the mast itself into the hole. If you ever need to repair a broken mast later, refraining now from gluing the mast in place will make the job much easier in the future. The standing rigging will be all that's needed to hold the masts in place permanently. Finally, slide the mast coat down over the wedges and glue the mast coat to the deck.

If you wish, you can install the anchors now or wait until after you've completed the rigging. I didn't like the anchors included in the kit. The Bluenose II appears to carry kedge anchors as a matter of course. I ordered a pair of 1" kedge anchors from Model Expo (part number MS29157). If you feel up to it, try making a small shackle from 24 gauge black wire to attach the chain to the anchor. There are two sizes of chain supplied in the kit. Use the larger of the two for the anchor. The small chain can be used to secure the anchor to the catheads. It's a bit large for the purpose, so you might want to consider looking for something smaller. Run the end of the anchor chain under the bowsprit shroud, through the hawse hole, over the windlass (between the drum and the side) and down into the pipe. It might seem more logical to run the anchor chain around the windlass drum, but on the real vessel, there is a special casting on the axle of the drum that is made to fit the anchor chain links. There's a very clear picture of this on the video of the 1997 cruise.



Photo 7: Anchor and chain

At last, you're ready to start rigging and that's what we'll do next time.

End of Part 7.