

Notes on bowsprit replacement

I pulled a few posts off the old forums that seemed pertinent here.

1. By Jim

Ok, What's under the old paint? I don't know about your bowsprit but my bowsprit on my DE38 is Douglas fir or Spruce; no hardwood and no laminations.

I am a professional woodworker and I have worked on vintage yacht restorations and boat building. I have replaced old bowsprits and booms as well as planking and interior casework. I also keep quite a few books on lumber and traditional boatbuilding for reference. On this particular subject I believe I have some practical experience.

Your best wood spar material is Spruce from the great Pacific Northwest, (if you can get it). There is truly nothing better in all the world! Your second choice is clear, vertical grain Douglas Fir (VG Doug Fir, and a close cousin to Spruce). You should start with a solid 8X8.

About the grain...

You remember the oval mark on the old wood baseball bat? That's supposed to turn the grain of the wood on edge when it makes contact with the ball. Otherwise the bat would split and break...Now the same thing for the bowsprit. We need the grain on edge for strength. We don't need the surface hardness of an Oak or Ash baseball bat but instead the flexibility and strength of long-grain Spruce.

If you set the grain flat you will have too much flexibility and not enough strength. It's the same thing with structural timbers or the wood joist in your house; you always set them with the grain vertical...Well I am rambling on here.

The great sailing vessels and square-riggers of the past were often built with Oak planks and frames but almost never for the spars. It's just too heavy and brittle.

Ok, if you still like the idea of a hardwood bowsprit then I recommend White Oak, (never Red Oak). White Oak has the closed cellular structure while Red Oak is a sponge. You will never find a White Oak timber so you will have to laminate it.

Shall we talk about glue?

Epoxy is generally not good for pressure-laminating (and that's what you really need to do). Resorcinol is the professional choice and lots of bar clamps. I know you probably won't have them and that's why some people consider Epoxy. Epoxy doesn't require heavy clamping, in fact you would squeeze all the Epoxy out if you do. There is "thin-set" type Epoxy which is better but still not nearly as good as a regular pressure glue-joint.

If you do choose to laminate your bowsprit, install the laminations vertical. The grain will be correct and you won't be flexing the glue lines.

Sorry about the novel I seem to be writing.

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One more thing...

Is your bowsprit repairable? The answer is "no" if there is any dry rot, termites or spongy wood. Stick it with an awl here and there to determine the condition of the wood. Breaks, cracks or even a missing chunk can often be repaired by a good-wood dude.

Well this was fun. Let us know how it goes.

Jim

2. Gene

I just did a complete overhaul of my bowsprit. I stripped all the paint off which only takes a couple of hours with a heat gun and scraper. It was made of three laminated pieces of mahogany.

I found some rot around the holes and lots on the sampson posts which to my amazement were made of some kind of softwood. I remade the sampson posts out of white oak which is hard and very strong and almost as rot resistant as teak. The rot around spar holes I repaired by chipping it out and then a treatment with a watery epoxy like git-rot. Then I completely filled the holes with thickened slow cure West System epoxy and redrilled them. I consider this better than new because now the holes are completely lined with epoxy so there is no exposed wood for rot to occur again.

Keep in mind that most of the loading on a bowsprit is in compression mode and side loads are transferred via rigging to other places. By far the weak link is how the spar is attached to the deck. This is by several 1/2" bolts into the forepeak and through the sampson posts to the aft bulkhead of the forepeak. Focus on these points/joints where all the loads are concentrated. Rot or looseness at any of the attachment points will compromise all the rest and ultimately lead to rig failure. Also remove the crane iron fitting and check under it for rot. Mine had none but I saw another post from someone who did. Serious rot under the crane iron might be reason to remake the entire spar but I can't imagine rot elsewhere that couldn't be repaired somehow if your spar is a hardwood like mine.

Regarding the use of spruce--yes it is an excellent spar material, especially in compression or tension. Stika (i.e. Alaska) spruce is the spruce of choice for such things as wooden airplane propellers and spreaders. It's especially good for spreaders because it is very lightweight. I used it for my spreaders a few years ago but it's very hard to find and expensive. And it is very prone to rot and must be meticulously sealed, painted, epoxied, etc. For a bowsprit, I was very happy to find that mine was made of mahogany--strong and reasonably light and rot resistant. If you are looking for any of these woods, I would start here. www.seafarermarine.com (They also laminated and rough-cut my white-oak sampson posts)

I'll be posting a how-to on my complete bowsprit overhaul in the coming months but if anyone has questions in the meantime please email me at headquarters. www.downeasteryachts.org/contact.html

Regards to all.
Gene