

## Take Five

1977 Pearson 323

#77

### Mast and Boom Refinish

Since the boat was going to be trucked from Marinette, WI to Bayfield, WI in the spring. I had the mast removed at haul out. I brought my fifth wheel RV along and we had the yard hoist the mast to the top of the RV after we removed the standing rigging. The boom went in the "Living Room" of the RV. The whole thing made the 275 mile trip to my home without a hitch.

It took five of us, two on the roof, one on a ladder and two more on the ground to get the mast off the RV. It only weighs about 250lb, but is pretty ungainly. I stored it on my ATV trailer while building a dolly to hold it during the refinishing. I brought the boom and spreaders into my shop to start stripping paint.

The first step was to remove all of the hardware from the boom and spreaders. I took lots of digital pictures of the hardware on the boom so I would be sure of getting everything back where it belongs. The end caps were particularly hard to remove. There are 4 10-32X ½ inch screws in each end cap. The screws are threaded through both the boom and the cap plug inside. I finally wound up getting an impact driver kit with 3/8 inch bits. That made pretty easy work of all but one screw. That one resisted all attempts to loosen it. I used penetrating oil, heat and even twisted the straight screw bit on the impact driver. I finally wound up grinding the head of the screw off and drilling it out.

I used a product called Zip-Strip Semi-Paste to remove most of the paint. The black bubbled up pretty well and about 80 percent of it wiped right off. The rest required another application of stripper, along with some elbow grease and 3M Scotch-Brite pads. Underneath the paint was a cream-colored primer coat that mostly came off with the combination stripper/pads. I finished up the job by using 3M Sandblaster pads on my Makita palm sander.

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Both spreaders had small cracks toward the outer ends. These were caused by the PO storing the mast on wooden cradles on the boat for two years before I bought it. This would be fine, but he left the spreaders on and water got into them, froze and made small cracks. It also got into the bottom section of the furler foil and split that like a banana. I had to get another section of foil to replace it. The spreaders were fixed by having the cracks welded and then grinding them down. There were also screw holes from old spreader lights that I had removed that were welded over and ground down. When finished, I couldn't even find where any of them were.

Now the boom extrusion, spreaders and small parts are all cleaned up and ready to paint. The paint I used is PPG DP-40 (Gray/Green) Epoxy Primer with DP-401 Catalyst. The color coat (Black) is PPG Concept DCC Acrylic Urethane. I have a FINEX (by Sharpe) Model FX-300 HVLP gravity feed spray gun. My shop is pretty well sealed, heated and ventilated and I used a good respirator system. I have painted a couple of small airplanes as well as some small boats in this shop when it was below zero outside.

Since my shop is only 20X30 feet, I had to come up with a way to get half the mast (47') inside at a time since it was already late November and I didn't want to wait until it was warm enough outside. I bought two 4X8 sheets of Styrofoam insulation, which I cut to fit the garage door opening. The mast sits on the cradle at a height of about 31/2 feet, so I cut an opening in the top of the foam and brought the garage door down on it with the mast sticking through the hole. The top and bottom of the foam were covered with carpet padding to seal up any unevenness. This way I could get approximately 27 feet of the mast inside the shop at a time.

By late March, as it turned out, the insulation idea worked very well and I was able to get the mast completely stripped – 1/2 at a time in cozy warmth. A trip to Jamaica in January, a party (in the shop), and winter ennui got in the way of actually painting. I did want to get the inside of the mast completely free of the foam and other junk that was in it and that is an outside job.

I finally finished that job by Easter 2005. I had been trying various methods of getting the foam out. It was impossible to pull the existing wiring out through the foam. I even tried hooking the winch on my ATV up to the wire and pulling with it. The wire would not move. The next step was to use a screwdriver through the holes in the mast (two of which were apparently drilled specifically for application of the foam) and breaking it up as much as possible. I was also able to snag the wires with a hook fashioned from an old screwdriver and pull sections of wire out through the holes. I finally managed to get all of the wire out this way along with much of the foam. I still couldn't see through the whole mast, though.

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My next idea was to use 3 10' 1 1/2" PVC pipe sections joined together with unions, screwed instead of glued so I could work with smaller sections if need be. The "business end" consisted of an end cap that had notches, or "teeth", cut in it to make a cutting bit. On the other end, I drilled a hole through a union and fashioned a hook out of an eye bolt opened up

enough to get it in around the bolt. I chucked this up in the cordless drill and proceeded to auger. I managed to cut some pretty good holes in the foam this way, from both ends, but still wasn't getting enough foam out to be able to see light.

I finally got the idea to make a block, roughly the same shape as the inside of the mast, out of two layers of 2 X 6 glued together (Gorilla Glue – fantastic stuff!). I put three eyebolts in it in a triangular pattern to which I attached a harness of rope. Now I had to get something all the way through the mast so I could attach a line to the block harness and pull it through – hopefully bringing the remaining foam with it. I used a 65' electrical snake through the pvc pipe. By hand-turning and pushing the pvc through, I finally got the snake all the way through the mast. I then pulled a small messenger line back through the mess to the base of the mast, attached the big line to that and pulled that through. With the big line attached to the block harness, I pulled the block as far into the mast by hand as I could.

Of course, I couldn't actually move the mass by hand, so I enlisted the help of my two brothers after Easter dinner. We used a piece of 1/2" conduit through the hole in the mast where the shroud attachments are with a large rope around each side and back to a tree. Luckily, the mass of foam was below this area of the mast. On the other end, we tied a loop in the big rope, hooked up the winch on the ATV and started pulling. At first I thought we were going to have trouble, but kept the pressure on and, sure enough, it started moving smoothly. Eventually, everything came out in a pile on the ground and you could now see all the way through the mast. It's surprisingly clean in there, too.

I painted the mast partially in my hangar, where I used to keep my small airplane (B.S. – Before Sailing ;-)

The hangar is only 35 feet long but it has a 24' X 10' door on one end and 10' X 10' double doors on the other, so I could get most of the mast in out of the breeze while spraying. Then it was just a matter of putting all the fittings back on and getting the mast to the boat for launch. See my blog for that stuff.

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