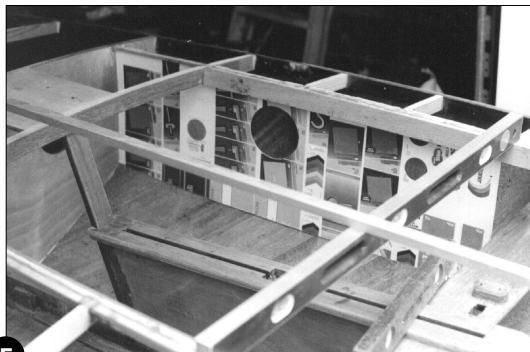
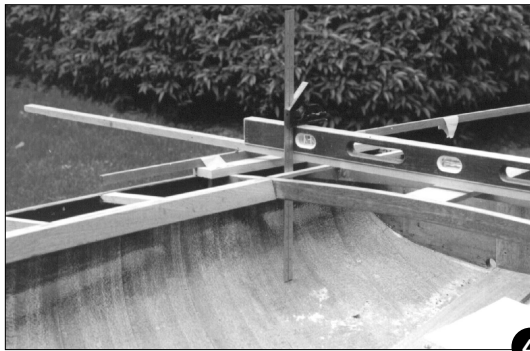


TANKING A WOOD JET



Ralph Hansen, photos

I want to tank my boat. If you have said this to yourself and are seriously considering the undertaking, I think you might ask yourself a few questions first. Do I have sufficient time and energy to complete the project? Do I have an adequate work area for the job? Do I have or have access to some power tools: table saw, jig saw, router, disc sander, orbital sander, plus basic hand tools? What is my woodworking experience? Could I use the tools in accomplishing the task? If you answered yes to these questions, maybe it's time to get started. I chose early March 1993 thinking the boat would be ready for the Parramore Regatta. Actually it was ready for Surf City in September. In any event, give yourself time. It will probably take longer than you think.

Before you begin, spend some time planning the job. Make sure what you do is going to suit your sailing needs – i.e. through-deck spinnaker lead access, etc. Examine the deck carefully. Unless it is in super condition, I would replace it. Doing so will make your overall task much easier.

I began by removing the old rub rail and all the old fasteners that held the deck in place. Then, with a router, I set a $\frac{3}{4}$ " carbide cutter to a depth of $\frac{1}{4}$ " and removed the old deck along with the shear and deck beams, taking it off in sections (fig.1). After examining the deck supports, I decided to remove everything except the shear and rebuild the entire framework (fig. 2). You do not want marginal deck supports. Removing the old deck beams made it easier to take off the old finish inside the hull. A gallon or so of liquid stripper and a good carbide furniture scrapper got the finish off pretty well. I then sanded the inside clean and applied two coats of West epoxy with #207 hardener, rolling it on. It is vital that the inside surfaces of the hull are completely sealed because once the tanks are in place, there is no way to repair water damage inside.

In replacing the deck beams and supports, I copied what I removed. The new beams are $\frac{3}{4}$ " western red cedar. Cedar is light and relatively strong. It is what was there previously. The new structure has the same deck crown as the original. I found it easy to copy the curve for the new beams by using the old ones as templates. This part of the job is easier if you have access to at least an 8" diameter disc sander with a tilting table. It makes the job of contouring the beams and fitting the myriad of butt joints to the shear much less time consuming. I did not use any metal fasteners. All joints are West epoxy mixed with #105 hardener and with West #403 microfibers added.

Take your time with the installation of the deck supports. They must be strong and need no future maintenance. Make sure when you are fitting and installing the various deck beams pieces that you are able to sand the top surfaces so that they are all on the same plane. I set the beams fractionally above the shear and used a coarse sanding block to fair them in. A long straight piece of wood provided a useful reference. A word of warning: If you remove all the old deck beams and replace them as I did, be sure your hull is adequately supported and level, so that you maintain the shear line and don't develop a twist in the hull.

Next comes the tanking job. I installed five tanks, four side tanks and a bow tank. The tank panels are all $\frac{1}{8}$ " Okoume mahogany plywood reinforced on the inside with thin strips of red cedar. Before cutting the panels, I decided to level the boat and take measurements to where the panels would attach to the hull and then make cardboard templates which could be fitted quite accurately. By leveling the boat and using a combination square, marks can be made along the hull line, useful for fitting the templates and later the plywood panels. (figs. 3, 4,

and 5, plus detail of the inspection port and template). The tank panels in 555 are vertical and follow the line of the cockpit carlins. They are spaced away from the carlins about 3/4" to provide finger room when carrying the boat from the sides.

After the templates were completed, the panels were cut slightly oversized, then fitted by sanding the edges until the contours matched the hull shape at the point of attachment (fig. 5). All tank seams were sealed with the same West system used on the deck beams. It is important to form a substantial meniscus of bonding material along all seams. It is insurance against leaks and/or a seam opening up at a future time. I chose to apply the bulk of the bonding material to the inside area of the tank with just a small bead of clear epoxy along the outside.

You might think about putting in some horizontal supports between the hull and the inside tank wall. It could help reduce damage from an accidental kick to one of the tank panels (fig. 7).

Some thoughts about designing the tanks for your boat. You will want to provide an inspection port and a drain plug in each tank. I placed inspections ports opposite the chain plates so that the plates could be accessed for maintenance. Put a support ring around the inside of the inspection port hole so mounting screws can be well anchored. I chose not to seal the thwart inside any of the tanks, thinking it might reduce the maintenance work at some future time. It also provides an easy exit for through deck spinnaker sheeting.

If you've gotten this far, the rest is easy. I did not find decking the boat a difficult job (fig 9). I used 1/4" Okoume plywood and laid the deck down in four sections: two forward, two aft with a 2 1/2" Sitka spruce strip down the center. As with the tanks, make the templates and lay them out on the plywood panels for best grain match. I cut them oversized leaving plenty of material for trimming later. Before the deck is secured, give all the raw wood inside the tanks two coats of West epoxy, same as the hull. This includes the bottom side of the deck panels. my deck is locked down with the same West epoxy used for the other construction. Epoxy was applied to all the deck beams and the shear, then the deck screwed down along the edges with #6 x 3/4" long stainless flatheads, about six inches apart. Sink the screws deep enough so holes can be plugged. Plugging tools are available. Doing one panel at a time gives you plenty of pot life for the epoxy.

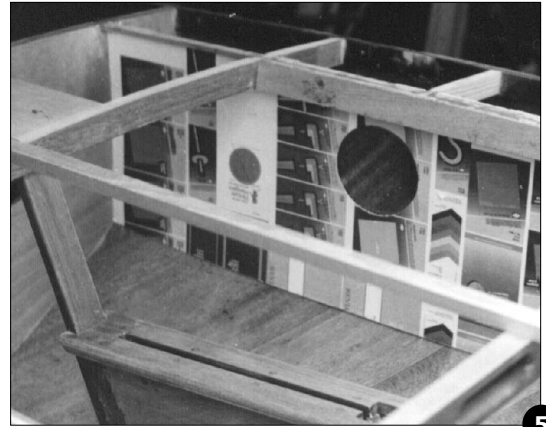
The rest is just finishing work, trimming and sanding. Put at least two coats of West epoxy with #207 hardener on the deck. The #207 hardener reduces the tendency of the epoxy to turn the wood dark. A rub rail might save your hull if you are T-boned some day. I used 3/4" half-round mahogany.

To finish my boat, I applied two coats of West polyurethane two-part varnish, which they no longer sell. There are some excellent finishes on the market though. I believe Interlux makes a good two-part clear coat.

One of the things that concerned me in adding the tanks was the possibility of increasing the boat's weight too much. When I weighed the boat after it was finished, however, I found I'd just added three or four pounds. If you use red cedar for any underdeck construction and 1/8" Okoume for the tanks, plus the 1/4" for the deck, you should be okay. The Okoume plywood is about 25-percent lighter than Philippine mahogany. The wood for the deck beams was purchased at Condon's in White Plains, New York, and the deck and tank panel material from Harbor Marine in Baltimore, Maryland.

Well, if you think it is the right time to do your boat, it can be fun, frustrating, time consuming, enjoyable and in the end quite rewarding.

Ralph Hansen • Jet 555



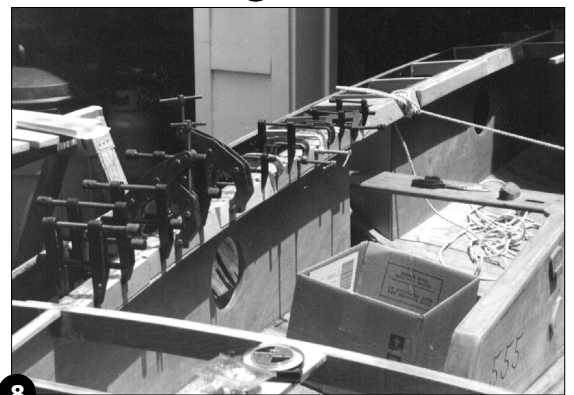
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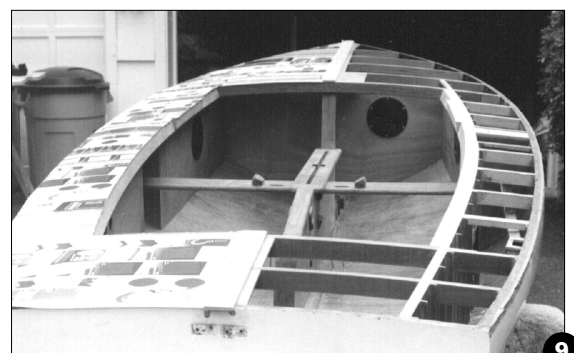
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