Making A Fiberglass Hatch Mold

shared by Dave Beaty of Fort Myers, Florida in 2008 - all photos by author

They say "necessity is the mother of invention"or in this case at least the mother of preventing my sinking due to a missing front hatch on my classic Scupper. Unfortunately, my kayak had not weathered hurricanes Charley, Wilma and Fay here is SW Florida well. Left outside in the wind, the front hatch was long gone after it became separated from the straps which pulled off old oxidized rivets.

I decided I needed to find a new hatch, but a fruitless search online and calling shops around Florida led me to the conclusion that this Scupper is no longer supported and parts are hard to come by, or impossible. Tom Holtey told me "Mold one from fiberglass, even paper machete works." Now, I had trouble with the idea of a paper mache hatch, but fiberglass would work if I could learn how to do it. Later I learned Tom meant paper mache to form a mold for the fiberglass - for a minute there I thought he'd been around to many fiberglass resin fumes.

So I began learning about fiberglass mold making and layup - putting the fiberglass cloth down with the polyester resin. There are a bunch of web based tutorials. Look up TAP plastics, or even Youtube. A project like this took me about 2 days including a screw up and it cost me about $50 plus another $40 for the new trim-lok and new straps.

I had the other original hatch and thankfully both front and back are the same. So, I decided to use the inner surface of my remaining hatch as the female mold. I learned about mold release agents - wax or a liquid vinyl that you put down on the mold surface to prevent sticking, gelcoat, the thick resin that has the color pigments of your choice, this will be the surface of the new part once it's removed from the mold, and the fiberglass cloth and mats as well as activator called MEKP - Methyl Ethyl Karin Petunia or something like that.

I had to mail order the black gelcoat, as no one around here had anything but white. I found the carnauba car wax, polyester resin and mat fiberglass cloth as well as acetone for cleanup at Ace hardware. I also bought the liquid PVA or poly-vinyl-alcohol mold release agent via a supplier. The materials cost me about $50, but I could probably make 3-4 hatches with all the extra. I also could have saved by not using the gelcoat - a purely cosmetic touch.

One thing about the chemicals and resins - they are a serious mess and health hazard. Be warned and get a respirator if you can. I opted for a face mask style painters filter. But felt the effects of the styrene based fumes. The stuff can be absorbed through skin, too. I wore yellow latex gloves with disposable vinyl gloves over them for quick replacement once they were totaled (I went through about 10 pairs)...read the warnings and heed them.

My first hatch was a disaster. Sort of the mutant clone hatch. Bubbles and fiber strands sticking out this way and that - just waiting to give you the itches. But I leaned an important lesson. The ratio of activator to resin is VERY IMPORTANT. It's tied to 1) Volume , 2) Temperature/humidity and 3) Moon Phase. Not sure about 3, but it seems like it.

The wax, PVA and gelcoat went down first, no probs. Then all hell broke loose. I started layup by mixing 2cc's MEKP per 4 oz of resin. I figured this small amount of resin would allow me to not waste to much. The stuff was literally hardening in about 60 seconds.

As I pushed the cloth down in the mold it froze. "Uh-oh". I looked down and the cup with resin was hard. "Oh S#@#" Next, followed a mad rush to pour more resin, add the right amount of MEKP from a syringe and stir it in good to complete the layup. You can imagine, the sticky resin and stray fiberglass gets all over. My hands looked like Chubaka.

So anyway... while the outside of the hatch looks fine, the inner surface of version 1.0 is not pretty. On my second attempt, the next day I used 1cc MEKP per 4ozs resin. The outside temps had come down from 80s to around 72.

It all helped make this version a winner and gave me about 15-20 minutes to mold. I added two layers of the heavy mat cloth. Pushing out the bubbles and making it "black" with the saturated resin.

After about an hour of curing I used shears to cut the extra overlap fiber. After it hardens fully, it's next to impossible to cut without a saw.

The next day I used a paint stirrer to pry the edges out and popped out the new hatch. A bit of sanding and I was able to attach the trim-lok seal parts from The Topkayaker Shop. Next, the new straps went in and it looks good as new.

I'm glad I never tried those paper mache hatches, Tom.

At the time of publication permission, Dave Beaty worked as an award winning videographer and editor for Dreamtime Entertainment.

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