

## How to Build a Teak Forward Hatch

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When I became the owner of Cay of Sea, the old black-framed smoked plastic forehatch was missing both dogs, and the old attachment points on the frame for the dogs. It let in very little light, due to its very dark tint, and made the forepeak very dim. Add to these factors the risk of stepping on it and cracking it, and the need to replace it was obvious.

I read an article by John Harris (owner of Chesapeake Light Craft) in Good Old Boat (November/December 2002) which detailed the construction of a hatch in hardwood, and decided to give it a try.

John gives a very basic step-by-step discussion of how to build the hatch, and provides excellent illustrations. I followed them for the most part, adding the particular dimensions for my forehatch.

The first step is to carefully measure hatch opening. I left the old plastic hatch frame in place, as the flange it provided was serviceable. The only defect being that the dog flanges had broken off - these I can reconstruct with plastic, wood, and epoxy. I measured so as to exceed the dimensions of the flange by a quarter-inch in every direction. You can then apply rubber gasket material in that space, and pull down the hatch with dogs for a water-tight seal.

I constructed the frame according to John's instructions - using lap joints - and made a mock-up with cheap pine. I excelled in producing the mock-up! I was so proud of my skill with pine. Naturally, when I cut the expensive teak, my skills seemed to diminish significantly. It is a relief to know that many mistakes and poor skills can be hidden with epoxy thickened with the appropriate material (I used wood flour from the teak sawdust).

I cut the laps with my table saw set to the correct height, but was unable to duplicate the stunning success in teak that I enjoyed in pine - the corner laps, combined with the angled stock, proved difficult to get right, so I filled with thickened epoxy and sanded to shape, which actually looks very good now.

Prior to assembling the frame, I cut an eighth-inch rabbet to

accommodate the sub deck of marine ply. On to this subdeck was laid the teak strips embedded in thickened epoxy.

Here is where my experience - or lack thereof - may benefit another builder. I had acquired some unfinished teak lumber at fire sale prices. All I needed to do was mill it to the correct dimensions... Yes, well I don't own a planer, and didn't realize until much later that I should have milled the lumber across the opposite dimension to achieve a consistent, stable grain. So, as you can see in the photos, the grain is not as clear as premium milled decking lumber. I milled it to 1/4 inch thickness on the table saw. I do not recommend this method, and I have chosen in subsequent projects not to do it this way again for reasons of safety. You must be very careful milling such thin strips with a table saw. I still have all the body parts I was born with, but it made me nervous getting my hands that near the blade (I actually used "pushers" and other tools to feed the stock, but it still made me nervous).

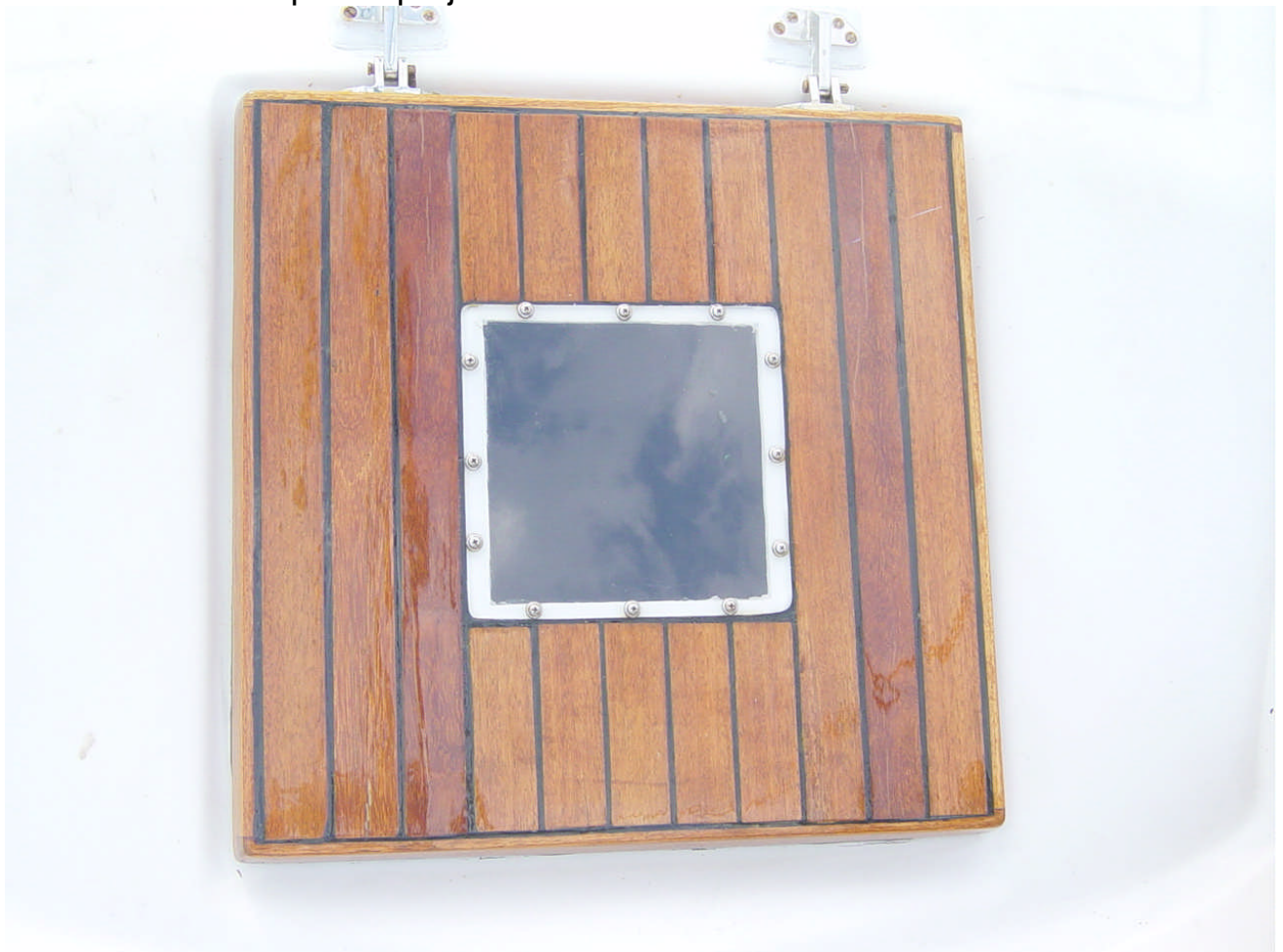
After milling the appropriate number of decking strips, I dry-fit them on the sub deck to assure myself of a reasonably consistent eighth-inch seam, then epoxied them to the sub deck. I actually "floated" the decking in place with no spacers. In a subsequent project, I chose rather to use screws in the gaps to both hold down the decking, and keep the eighth-inch gap consistent. After the epoxy cured, I filled the seams with black 3-M 5200, after having first masked off most of the teak decking in between. When the 5200 had cured - took about five days because my garage is unheated in winter - I sanded off the excess with a belt sander then refilled the inevitable voids that were visible and sanded again.

I departed from John's design by incorporating a Plexiglas window in the middle. It is about 9 inches square, set into the sub deck and is flush with the decking. I set the plexi in silicone, and loosely secured it with screws and washers, tightening after the silicone cured to provide a water tight gasket. However, I would do it differently next time: I would use a wider rabbet around the plexi (set into silicone), and secure with a teak molding and mitered corners. This would provide a cleaner, more traditional appearance.

I epoxied wooden riser flanges into the correct locations, drilled through to accept securing pins, then painted the inside white. Mounting hinges were a bit of a challenge, and I could probably improve on the solution I arrived at. The hinge style I chose resulted in the additional complexity of having to raise the deck side of the hinges with teak wedges to accommodate both the angle of the deck, and the angle of hatch frame stock. It works very smoothly, and is very strong, but not as elegant as I could have wanted. Still, the hinges

used are very robust, and they are the traditional hardware application for this purpose. The hinges are through-bolted both to the deck and the hatch frame. I covered the inside overhead bolt holes with 1/4 inch teak rectangles.

So, I had planned to leave the hatch finished only in Cetol, like the rest of the teak on my boat, but a few days in the Florida sun (we lived in Jacksonville at the time) produced cracks in the decking - remember that I cut the stock on the wrong bias? The wood is dimensionally less stable milled like this, and the thin strips cracking under the dry sun was the result. I emailed John, and asked him what to do. His very prompt and polite reply directed me to fill the cracks with thickened epoxy, and encase the entire project in epoxy resin, then varnish - which I did and the result was very satisfactory. I have had no more problems with cracking. My wife Ruth sewed a wonderful green Sunbrella cover for the hatch to slow down UV degradation - matches our other canvas on the boat. Photos of the completed project follow.















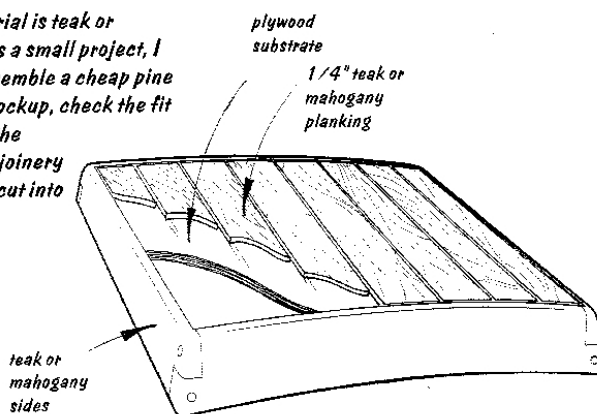
# Build a wooden forehatch

Swapping out your old fiberglass forehatch for a wooden one adds sparkle to your boat and it's easy. This manageable "bench project" for the average craftsman doesn't require renting time in Norm Abram's woodworking shop.

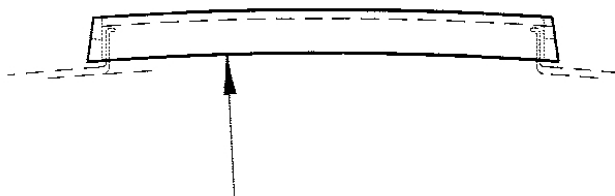
by John Harris

1.

The best hatch material is teak or mahogany. Since it's a small project, I suggest you first assemble a cheap pine mockup. With the mockup, check the fit of the new hatch on the boat, and get a little joinery practice before you cut into the expensive wood.



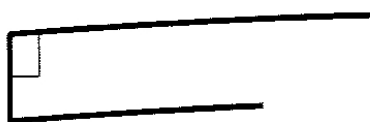
2.



Our first trick: establish how the wooden hatch fits over the existing hatch rim. Inside clearance is critical, and you may have to move the hatch hinges. Make a cardboard template of the athwartships deck radius. Use this to draw a full-sized plan.

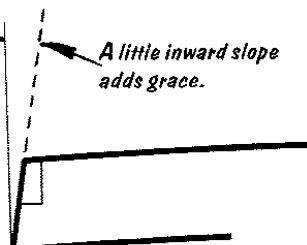
3.

Avoid vertical sides. This can look clunky.



4.

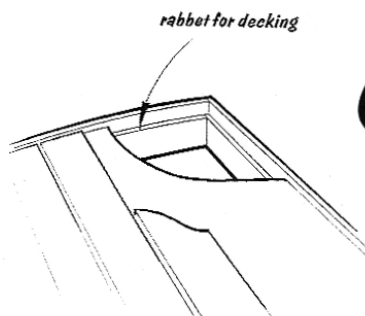
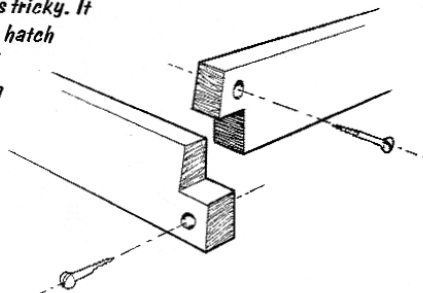
A little inward slope adds grace.





# 5.

The joinery of the four hatch sides is tricky. It must be a very strong joint since the hatch is subject to racking loads. Dovetail joints are too tricky for most of us; a simple miter isn't nearly strong enough. A modified lap joint is a simple, strong compromise. It's easy to cut, offers plenty of gluing surface, and looks fine under oil or varnish. Fill the screw holes with wooden plugs.

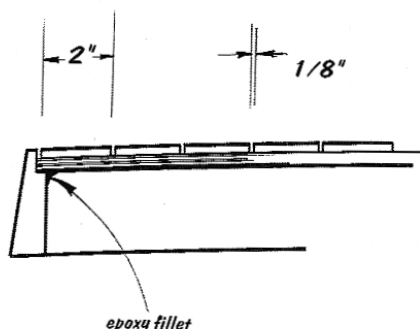


# 6.

The top should be strong enough to stand on. I recommend a layer of 3/8" marine plywood overlaid by 1/4" thick strips of teak or mahogany. The rabbet around the inside top edge of the hatch frame forms a gluing surface for the plywood. Use a router to cut a 3/8" wide rabbet.

# 7.

Hatch cross section, showing the rabbet and the plywood decking. I recommend a nice fat epoxy fillet between hatch frame and the plywood for extra strength.



# 8.

Glue the teak or mahogany strips to the plywood with epoxy. Leave an even 1/8" gap between each plank and the edges of the hatch frame. When everything's dry, fill the gaps with black seam compound such as SikaFlex 231. When the seam filler is dry, use a beltsander to sand the top of the hatch smooth. Finish the hatch with many coats of oil or varnish.

