1979 Mutineer

Centerboard Trunk Removal

Duffy Brook (duffybrook.com)

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Before I dig into the actual repairs you should know a few things.

1. Before undertaking this project I had previously amassed maybe 25 hours working on boats. Most of that applying varnish to brightwork, or pounding out dents in camp canoes. This job took close to 8 hours over the course of 3 days (to allow for drying time between coats of varnish).
2. I'd rather be sailing than tinkering.
3. I'm cheap—sometimes to a fault—unless there's risk of injury, or worse.
4. I may use some incorrect terminology. Such is life.

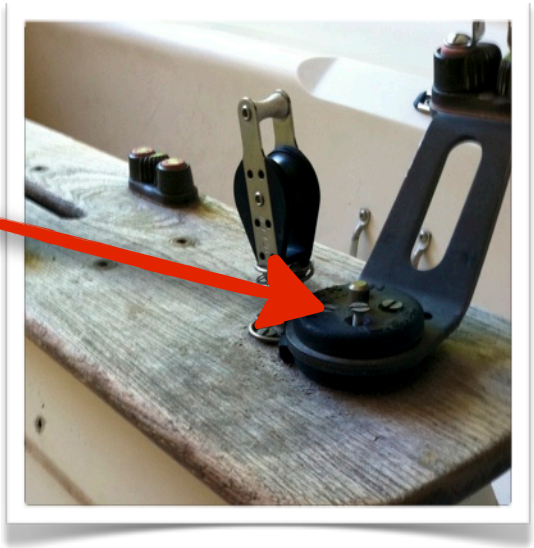
Tools used:

> Cordless Drill and a variety of bits, hammer, screwdriver(s), snips, vice grips, hack saw, pliers, assorted wrenches, nail set, pop rivet gun, orbital sander, and a vacuum cleaner.

So why bother putting this "how-to" guide together when I'm clearly no expert?

Because if I can do it. You can do it. But it's probably going to take twice as long as you think.

Also because if your Mutt is as old as mine, and you think it needs to be done, it does. And not doing it could lead to your mainsheet block violently freeing itself at the most inopportune time.



So here's what I did... Let me back up... Here's what I did wrong.

I tried to remove the mainsheet block. That didn't work, so I tried loosening the swivel cleat base. And when that didn't seem to want to come off I unscrewed the six pairs of screws alongside the centerboard slot.

Then I had that sinking feeling you get when you realize that there's more to it than meets the eye.

Yep. The mainsheet block and swivel base are bolted through not only the teak cap but also through a hidden metal backing plate that is secured to the fiberglass base of the centerboard trunk.

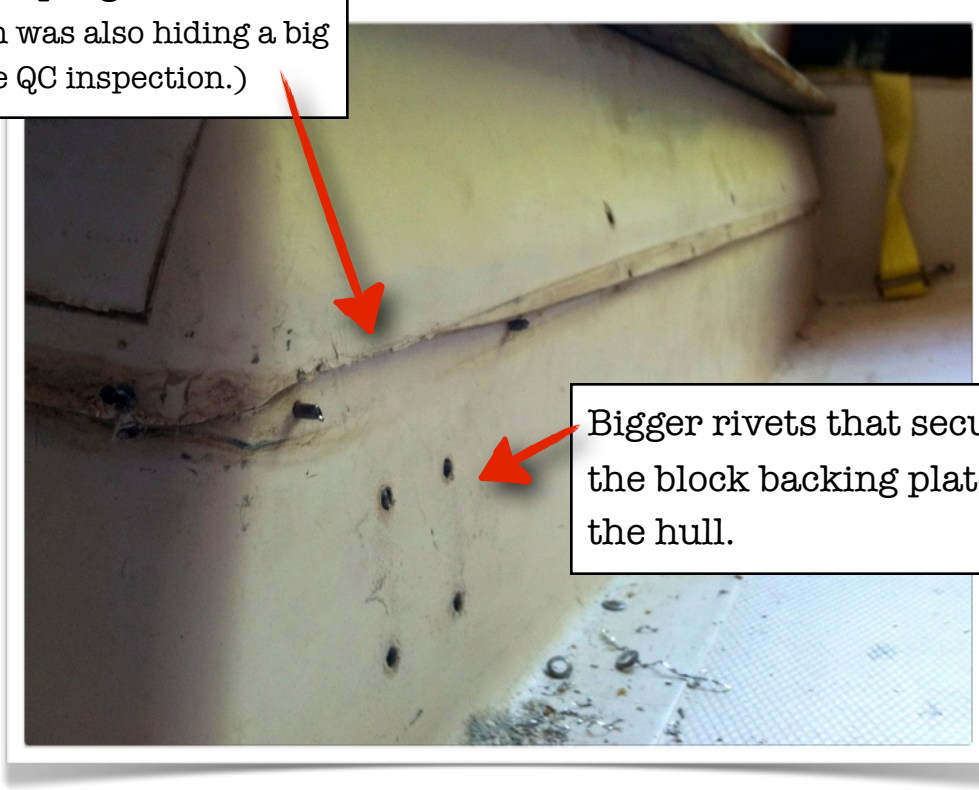
You've been very patient. Now for more pictures...

Step 1: Remove the 6 sets of Stainless wood screws that secure the cap to the centerboard trunk.

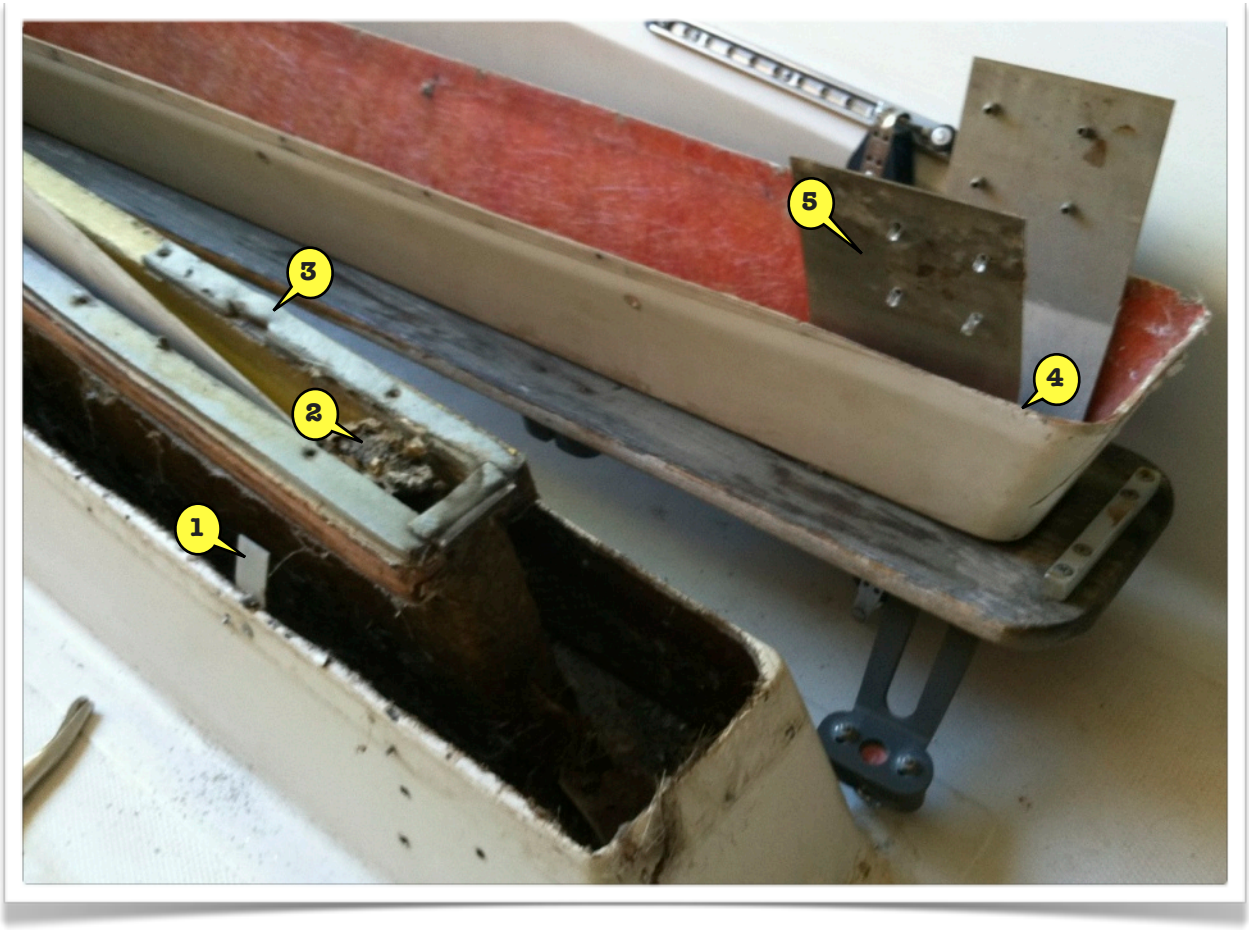
Step 2: Carefully drill out the tops of the ⅛" rivets that hold the aluminum trim hiding the cap overlap with the bottom.

Step 3: Replace the bit with something larger to drill out the tops of the 3/16" rivets that perform the real task of securing the cap to the hull. They live above the trim strip in a few places and below at the aft end where they secure the block backing plate to the hull.

Rivet removal in progress.
(It seems the trim was also hiding a big "whoops" from the QC inspection.)

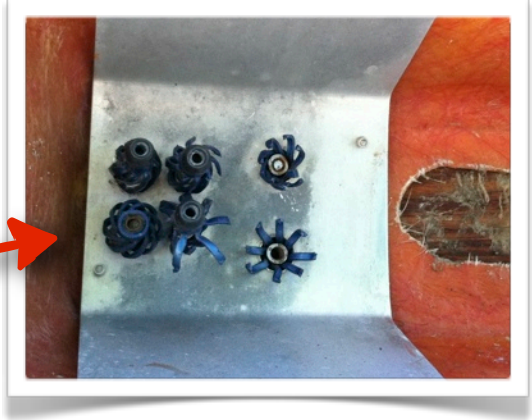


Bigger rivets that secure the block backing plate to the hull.

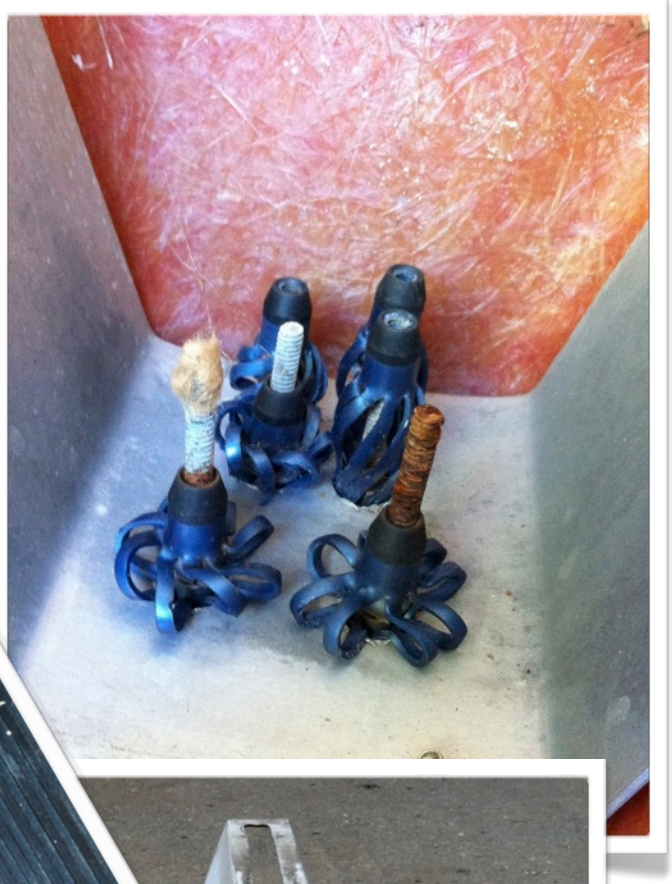


The photo above has several worth noting.

1. You can see one of the metal tabs that connect the bottom to the top.
2. The ugly clump of stuff in the centerboard slot is an old yellow jacket nest. I'm so glad they had left town long before I arrived.
3. A strip of closed cell foam (weatherstripping) material was used to provide a seal between the centerboard slot and the cap top, presumably to prevent water from getting into the hull here. It was actually sticking to both sides and before I figured out that I needed to remove the eight (4 on each side) rivets for the block backing plate I thought the top was actually glued to the bottom.
4. Rough fiberglass edges are murder on knuckles; so is sheet metal.
5. Check out how the blocks are fastened to the backing plate. Truly cringe-worthy.



Obviously not stainless. Instead of nuts and washers, what you see here are plastic doo-dads and rusted bolts.



Furthermore, those plastic doo-dads acted as ¼" deep spacers in the fiberglass and metal backing plate.

My hardware store shopping list just got a little more interesting.

Note the orientation of the swivel base...

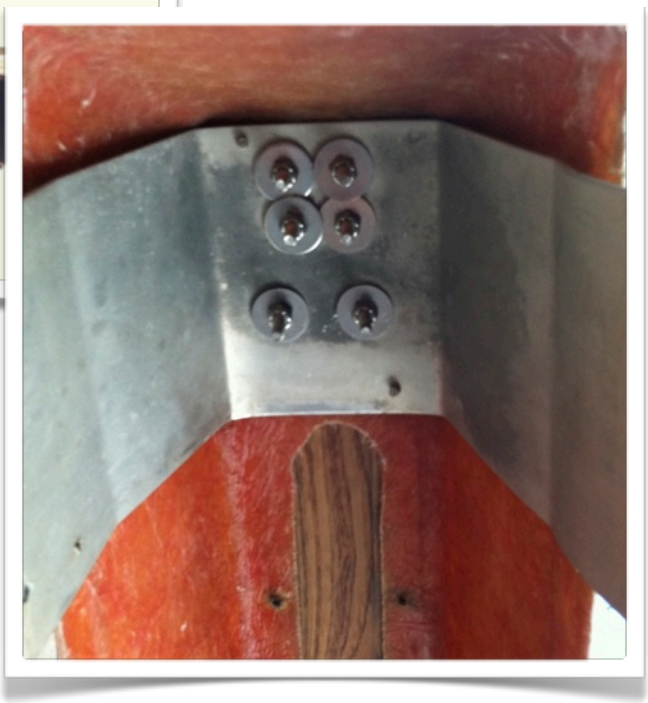
The stoppers (black tabs at 11:00 and 1:00) keep the swivel cleat from interfering with the mainsheet block.

Step 4: The wood is now ready for re-finishing, fasterners replacing, and cleats cleaned and re-conditioned if necessary.

Note I thoroughly cleaned the Harken cam cleats, but didn't take the opportunity to rebuild them. http://www.harken.com/pdf/4685.pdf

The top layer of Delrin® ball bearings really need to be replaced. They use 5/32" bearings also available at www.harkenstore.com

Step 5: I bought ½" nylon spacers, 2" long, with 3/16 inch holes pre-drilled and cut them to fit into the holes left behind.



Finishing up: Replace the weather-stripping; reinstall the main-sheet block and swivel cleat/block with new stainless fasteners; re-rivet the cap to the base, or go big and use stainless screws instead of pop rivets. I used ⅛" and $^{3}/_{16}$" aluminum rivets.

Final note: If I ever have to get back into the space below the cap, say to replace the blocks or something expensive like that, I would seriously consider cutting a window right here to get access without going through the rivet gauntlet again.

Hope this info helps someone somewhere...