

Removal and Repair of Rhodes 22 Diamond Board on Lillipelli

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I have my 2004/2012 Rhodes 22 “Lillipelli” (she/her) on Lake Waco, and given the climate, I am generally able to sail year-round. Certainly, I avoid very cold days, but I’ve sailed in every month of the year. As such, the boat stayed in the water from 2012 to 2018 or so. I pulled her out to powerwash the bottom, noticed extensive blistering, and made plans to remedy this. I brought her home in 2019 to start work. The blisters and bottom were a huge pain to do, made worse by the fact that I really don’t like such hard work.

While under the boat, I noted that the centerboard (diamond board edition) appeared quite rough. Reaching my hand into the centerboard trunk, I was able to feel up the centerboard. Nothing inappropriate, mind you, but enough to confirm that it needed refinishing. What follows is a diligent and purely factual account of the work accomplished.

Denial

There’s a great write-up here on removing the centerboard from the top:

<http://www.rhodes22.org/rhodes/r22boardtrunk.pdf>

This approach was frightening due to the aforementioned aversion to hard work and the massive disassembly required. I’m pretty good at taking things apart, but reversing the process can be another matter. I was sure there was a better way. I spent weeks trying to come up with one. I did think of some elaborate options, but nothing that seemed both easy and safe. So, I began taking apart the interior.



Removing the interior

Helpfully, I didn’t photograph this process at all. I took out the large teak “U” that makes up most of the visible teak in the cabin. This wasn’t as hard as I expected, although maneuvering it out of the cabin and off the boat required some help. See it to the right after removal, resting in the garage (photo 1).

The last of the interior that had to come out was the box that surrounds the centerboard cap and supports the “U” where you step into the cabin. I left it connected to the part of the sole it was attached to and removed it as a unit. You can see it resting on a workhorse in my driveway (2). My grass looks good!



I subsequently removed the rest of the cabin sole to refinish, since I came to dislike the carpet the boat came with, but that wasn’t needed to get to the centerboard. You’ll see it out in later pictures, so keep in mind that that was a separate project.

I didn't take a photo of the centerboard with the cap on at this point. Here's one from after it is reinstalled (3). Note that the bolts are flipped (with the head on the bottom). This isn't how it was at first, but I found this much easier to work with.

With your boat out of the water: Remove all of the bolts and lift. Mine was stuck down really well, so I had to work my way around gently with a putty knife and rubber hammer, trying not to damage the gasket. With luck, I only hurt my foot.

Lifting the centerboard

Maybe the first thing to know is that the centerboard is *heavy*. I was able to position two (purple) moving straps around it, but straining to lift it with my keyboard-sculpted physique did nothing. You can probably sense the surprise, disappointment, and stabbing back pain in photo 4.



Back to Harbor Freight! I grabbed a chain hoist and used a laughably heavier-than-needed beam I made for something else to lift the centerboard (5-7).

The beam just rested on the cabin top, on top of towels to prevent any scuffing.





Once on the cabin sole, the pivot pin (8) drops right out and appears to be made from a resin of some sort. It seems a bit odd, but I guess it works. I worried that changing it to something better (like stainless steel) could wear on the slot it fits in the trunk over time.



It was at this point that I realized I had no clear plan on what I would do with the centerboard next. I was unreasonably optimistic that I could lift it into the cockpit myself, but was quickly frustrated in that endeavor.

There's no easy way to say this: I was forced to ask for help once again. I reached out to a regular-strength friend and he helped move the centerboard out of the cabin. We lowered it carefully over the side of the cockpit on top of moving blankets to avoid any damage and onto a moving dolly.

Once on my garage floor (9), I was able to assess the board. This was my first good look at a part of my boat that I'd owned for 7 years. It wasn't pretty, but there was no major damage, and I couldn't detect any voids or water intrusion.

The pendant to lift the board is attached via a small hole at the rear of the board (10). It is simply knotted to keep it in place (11).

Given that I was going to replace the pendant anyway, and because my feeble fingers couldn't undo the knot, I cut the line to remove it.



Refinishing the centerboard

I sanded the board and faired it using epoxy. Small areas of damage were fixed either with thickened epoxy or Marinetex (12). I recall using Gluvit as well, mainly because I liked saying the name.

I repainted it using a copper-based anti-fouling paint (Sea Hawk?) and something white at the top. Not sure what I used now, but it looked good (13).

You might be able to tell, but the board is suspended via a section of 2x6" laid across the open attic hatch.





Returning it to my boat

This represented another challenge to my honor. I had no choice but to call upon the same friend for assistance. I had worked out a process for us to move and lift it back on the boat. After appearing to listen carefully, he hefted the board onto his shoulder and walked it up the ladder and onto the boat! Outwardly I was appreciative, but inside I seethed. He had obviously prepared for this humiliation over the prior month while I was sanding and singing “Gluvit! Gluvit! Gluvit!” in my head.

Once I collected myself, we carefully lowered the board back into it's trunk (14) and I replaced the original gasket, which appeared to be in okay shape.

At this point, **make sure to run the pendant line up through the centerboard cap!** If you manage to bolt the cap on without doing this, you'll have to take it back off.

Bolting it in place

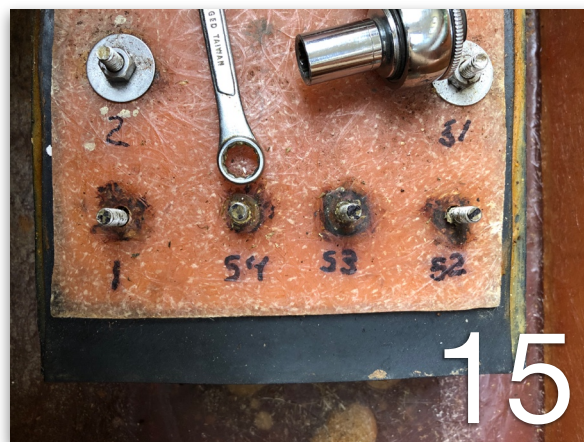
At some point, while removing these bolts previously, I realized that they weren't all identical. Most of them were 7/16", but not all. That was a



surprise, and I wish I had noticed it earlier. My cap is secured with 54 stainless bolts (15). Note that I didn't actually number the holes until later (which foreshadows difficulties to come).

When replacing them, I switched the direction of the bolts so that the heads were now down. I found it easier to attach a wrench to the bottom while ratcheting the nut from the top (16).

Finding bolts that would fit through the holes was troublesome, and I ended up having to buy some extra stainless bolts to fit. Some of the holes didn't line up vertically, which added to the challenge. The amount of room that you have to



hold and maneuver tools under the flange is quite limited, and your access to the rear of the centerboard cap (i.e., toward the stern) is also restricted.



I also spread a bit of Dolphinite on top of the trunk flange before laying the gasket on top. If you see what looks very much like peanut butter in the pictures, that's the Dolphinite. I thought that the condition of the gasket was marginal and this might help it seal. I also wanted to work with Dolphinite to see what it was like. Now that I have, I don't have any further desire to do so. It doesn't spread easily and is very sticky. Do you remember when Mr. Incredible was stopped from accessing Buddy's control center by super-sticky globs of

expanding goo? It's like that, only you have to fight the constant desire to lick it off your fingers.

Everything is ready to reassemble!

Stuck centerboard

Except, I had the idea that I should *test* to see if I could raise and lower the centerboard via the pendant. Just to make sure everything is copacetic. It should have about 2" is travel when sitting on my trailer. So, I gave it a shot. I grabbed the pendant and pulled straight up. **The centerboard would not budge.** I checked below and confirmed that it was resting on the rubber roller on the trailer, so it should be able to move up a bit. I thought that this might be a moment when I'd need to dig deep and lift with extra determination. As it turns out, that doesn't help. I know you might be thinking that this would be a good time to reach back out to my regular-strength friend and, really, that is a disreputable thought.

Instead, I reached out to the list. Fortified by several glasses of wine, I struggled to submit the following plea in April 2019:

I've got a 2004 (recycled in 2012) boat with the "diamond" (center) board. I pulled the boat out of the lake (Waco) the last time I thought it was flooding to do some maintenance. I ended up lifting the diamond board out to refinish it as it was in surprisingly rough shape. I've relied on

the great notes here: <http://www.rhodes22.org/rhodes/r22boardtrunk.pdf>, although this describes an older centerboard design.

Anyway, I dropped the renewed diamond board back in place with help, but I don't think it seated correctly. I didn't realize until after replacing the fiberglass hood that I couldn't raise the board with the pennant. The bottom of the board is resting on a rubber roller on the trailer, but I should be able to pull it up a couple of inches. Any advice would be greatly appreciated.

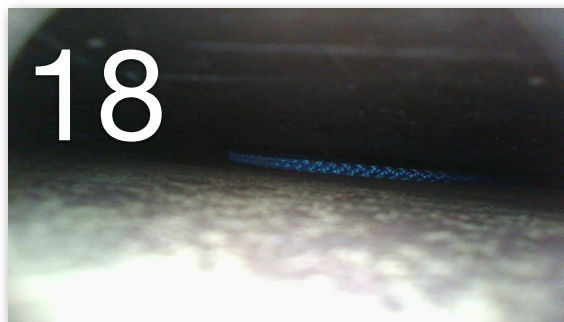
Should I:

1. remove the hood, raise the board and try to reseat it?
2. jack the board up from the bottom to see if I can budge it to reseat?
3. wait until the boat is floating to drop the board and hope it re-seats correctly?

I am loathe to do 1 and don't want to if it is really unnecessary. Any advice or ideas?

John Carlson
2004/12 Rhodes 22 Lillipelli

All humor aside, I received some great feedback and ideas. I bought a camera to allow me to peek down the pendant tube (17) and up the trunk from below (18). I had hoped to find something obvious, like a wasp nest, that was blocking the free movement of the board. I could see a bit of pendant from below, which was out of place. But there wasn't anything I could take action on. Well, I pointed the power washer down the pendant tube to blow out the debris, but that didn't help.



Ultimately, I decided to remove the centerboard cap /hood and see what was going on.

Also, because I am suspicious of my ability to reassemble things, I numbered the holes and removed each bolt/nut/washer combo into a labelled baggy. That's actually what picture 15 above is showing (I didn't number the holes until this point, but that was the best picture I had to show the bolts from the top). I left as many bolts in place at the bottom as would stay (19). You can see I tried to tape them in place, with marginal success.

After gently placing the unbolted centerboard cap to the side, I again tried to lift the board. It moved up and down without issue.

It looks like the board hadn't settled quite right and had pinned a bit of pendant, jamming it against the trunk. Floating the boat would have almost certainly resolved the issue.

I took the opportunity to add two bits of garden hose on either side of the board (19), above the pin in its slot (this was discussed on the list as what some boats had from the factory to reduce centerboard clatter).

I replaced the bolts and tightened everything down to get back to where I was (20).



The "I hate the carpet" side-quest

As noted earlier, I have come to dislike the use of carpet in the cabin. It is practical, but it is difficult to clean. I prefer a surface I can wipe down or mop. I had thought to install faux teak flooring, but thought perhaps a good first step would be to paint the cabin sole.

However, it was in somewhat poor shape. It badly needed sanding and a bit of fairing before being painted. So, I removed the rest of the sole and took it to the garage. I cleaned the bilges and realized they needed some attention as well. There were some large bubbles and areas where the mat wasn't affixed to the resin. So, they looked better after some cleaning, sanding, maybe some grinding, and epoxying (21-22). Oh, I definitely used more Gluvit as well!



The end-goal was to have relatively smooth and painted surfaces under the sole and also under the bench (23). At some point, I realized that the shape of the bilge adjacent to the main centerboard trunk would easily fit several bottles of wine on their side (23). This epiphany led to

the addition of the *Rhodes Wine Cuddy*™ in the port side bilge. I made it fairly small and routed drainage around it, so I hope it won't cause any issues. If it does, at least I'll have the wine.



You can also see the refinished sole boards going back in. I used Total Boat "Total Tread" (I think that's what it is called) on any places I would step and like it quite a bit.

All of the teak that I took out was cleaned, re-stained with "Restor-a-Finish," and coated with their wax finish. Here's a side-by-side of a finished (left) board with an unfinished one (on the right) (25).



Wrap up

For reference, at least on my Rhodes, the bolts that ended up fitting are shown in 26. Obviously, yours may differ.

All buttoned back up, my cabin looks pretty good (27). The sole is grippy but reasonably easy to clean. We'll see how it holds up.



Finally, I took the boat the Corpus Christi and sailed for a few nice days last summer. On my first sail out into the bay, **a new friend followed me** for a while (28), which was awesome. Then I realized the main wouldn't wholly unfurl.

