

Tartan 37 Technical Resources

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Chapter 2: Sails and Rigging

Section 3: Chainplate Islands

An idea proposed by Don Casey in a March 2009 'Good Old Boat' article

Court Crosby # 249 Dragonfly

I suspected a problem, the port aft lower chainplate was not as clean as the starboard one, though it looked like that one had been replaced. The bolts are through the bulkhead between the head and saloon so I thought it would require two people to remove them. Having a cutter rig, I moved the running backstays forward on the track for the jib sheet and put off the work until the boat came out for bottom paint and I could get some help. That was a mistake, it should have been removed as soon as possible rather than when it was more convenient. Ultimately, I was lucky, the chainplate did not fail. (Also see Andy Schell's November 2010 'Good Old Boat' article on Tartan 37 chainplate replacement.)



With the trim removed, this looked a lot worse. What I had originally thought was varnish from the trim was rust.



The trim in the head had to be removed to get to the bolts.



Vice-grips on one side and a wrench on the other allowed me to remove the bolts alone (although two of them had to be cut off).

I took the port chainplate to a full service boatyard to have a new one fabricated. The starboard chainplate had failed at some time earlier, I could tell by the still evident smile in the deck where it had torn when the chainplate came through, and that chainplate looked new compared to the port side. I had to pull it anyway to make an island. To my surprise, it had been repaired, not replaced. It was about to fail again, and when it had been repaired it hadn't been completely straightened out. To make it fit the installer had cut the bottom surface and core out of the deck! I changed my order to two opposite hand chainplates, and had a nut welded to the second hole from the bottom on the starboard one because there was no way to get fingers to it behind the trim.



This is the starboard chainplate, welded where it had apparently broken just above the bottom hole. It was about to fail again just above the weld.

Materials required for the islands: epoxy resin and hardener, thickening additive, two boxes of childrens modeling clay from a craft store, scraps of wood the size of your chainplates, paint, duct tape and masking tape.

Tools required: rotary tool, hand drill and bits the diameter of the chainplate thickness, flush cut saw, syringe, sandpaper and sanding block, paint brush.

The first step was to mask the deck around the proposed island, about ¼ inch larger than the chainplate escutcheon, and grind the gel coat off where the island would stand.

Then two layers of fiberglass were added to the bottom of the deck on starboard side.

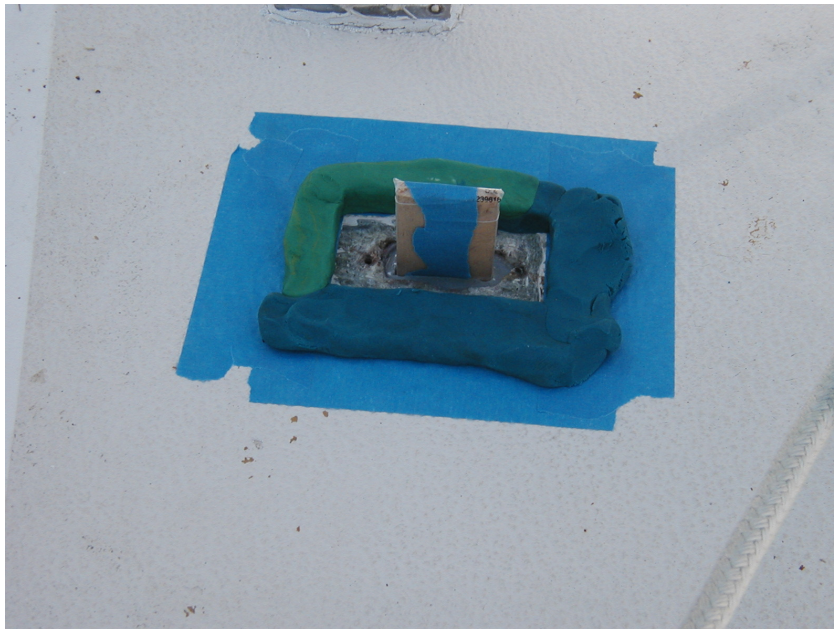
The core was removed (where it remained) for at least ½ inch around the openings. I tried a number of tools for this, Dremel bits, allen wrenches, etc., and concluded that a sharpened bent nail in a Dremel worked best.

I put duct tape on the hole on the port side (starboard was covered with fiberglass).

The cores were then filled with unthickened epoxy. The epoxy was immediately sucked out with a syringe and thickened with colloidal silica then replaced in the cores about half full.



After the epoxy cured, the escutcheons were screwed to their original holes and used as a guide to cut holes for the chainplates. I drilled holes at the ends, then cut the slots with a vibrating flush cut tool (I use the Harbor Freight version and consider it disposable).



I wrapped a 1- 1/2 x 1/4 scrap with plastic and stuck it in the hole for the chainplate, and made a modeling clay form on top of the masking tape.



I filled the form with thickened epoxy. It was a cold day so I didn't fill it in multiple lifts.



After the epoxy cured, I scraped off the clay and used the flush cut saw to remove the wood chainplate, then sanded the outside surfaces of the island.



The new chainplates were ready, so it was time to see how they fit.



It took a while with a rotary cutting bit to get the holes sized to accept the new chainplates. By the way, I don't like this chainplate design. Too much of the load is carried by the bottom bolt.



It is now time to paint the islands for UV protection, but I decided to defer that until I build the other four islands.



I pumped sealant into the space between the chainplate and island and reinstalled the escutcheon. I didn't fill the space between the island and escutcheon with sealant, because I plan to paint the islands soon.

Now it's time to pull the rest of the chainplates.