Harryproa

Cargo Proa Prototype

Building Blog

MAY 2021#1

Rob Rassy: A major milestone was passed this week with the deck fitting and bonding to the LH mid section. Once the mast mounts are done the hull can be moved outside and the beams fitted. After a lot of thought and some failed starts Rob has finally come up with a jig and method for setting up the hull/mast mountings. The masts will not rotate in the hull or beam, which has made the setting up of the masts a lot easier. We actually managed to get one end done on Friday, and should get the other one finished when work starts on Tuesday. Wednesday should see the start of the assembly process. We manage to take some time out to check out a possible launch site, but more on that next posting. There's also a couple of videos coming to Rumble and Facebook of Rob showing off his fiber-glassing skills :=)

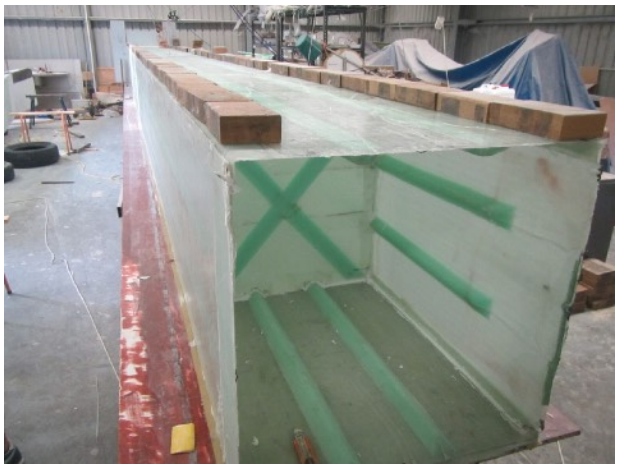
Rob D: Apart from assembling the last of the major bits and maybe finding the launch site, there were 2 other highlights. One was using the 3D router at the UQ Makerspace. A really cool piece of kit. I was meant to be inducted and shown how to use it by the very patient and knowledgable technician, but we ended up using my job (the mdf rings used to line up the mast bearings) as the demonstration so I did not have to do anything difficult. I also had a look at their sewing machines, which should allow us to sew our own sails. A great place and people which we should be using more than we have been.

The other was the purchase of a laser level with which we checked the hull alignment which had been set up pretty much by eye, with Rassy adjusting the bulkheads. According to the laser, the 12m long box is straight and square within a couple of mms, which is good to know. It is also remarkably stiff with 2 stringers per panel and bulkheads every metre/40″. It weighs the best part of 300 kgs so will be a challenge to get off the table and out onto the gravel/mud. A couple of days of fun, followed by the tedium of adjusting

the 2 hulls to get them level and parallel, then fitting the beams. I have just bought a sky hook to hopefully make this tolerable.

Deck bonded on

Earlier mast jig & final mast jig



Hull done

Making stronger jig

Mast jig & hull jig

Mast jig in place

Mast jig

MDF will create lands to support the mast

New hull jig

MAY 2021#2

Rob R has been wrestling with my incomplete ideas on attaching the rudders to the hulls. The jury is still out on whether we can make them work, but agree it will be the lightest, easiest and cheapest attachment if we can. They also have some potential as lifting foils, with few of the drawbacks of other big multihull solutions, which is food for further thought.

I have built 2 sections of one telescoping mast, extended the table and cut the full length pultrusions for the other section. The build process from flat panels is not entirely satisfactory, to the point that I was thinking about building a mould. Parts of the problem are bonding the strips to a layer of glass, bending the result into a tube and then infusing the outside. Fortunately the pultrusions are not affected by any stuff ups in these processes, but there is a bit of repairing to do on the pieces so far. The next piece is the bottom, which is highest loaded and contains most carbon. I'll try hand laminating the glass on the pre glued extrusions, see how it goes.

Once the bottom masts are built, we can install them (easy) and fit the beams (not so much, maybe). Probably not going to happen this week as my car needs some tlc after hitting a ditch hard enough to punch a hole in the tyre so I am taking Monday off and Tuesday we have a dry run of a video of the project.

Joining mast mid section

Joining mast top

Mast top

Mast top infusion

Rudder cases