Flotation Test, last jobs

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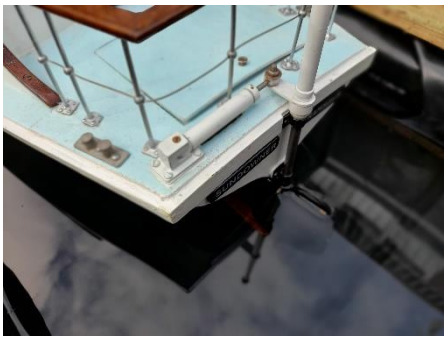
Sundowner – 27

The job is nearly finished, and this section deals with the last few items on the to-do list prior to testing. I am waiting for a few bits of wire and connectors to finish off the radio installation, and since the weather was fine, I thought I would do the water line test – and incidentally see if it floated or leaked!

We have two baths in our house, both too short for the boat by a gnats whisker, so I had to create a test pond. The patio step made one boundary and the bottom, and three bits of wood formed the other sides. Left over polythene made the 'membrane' and a hose pipe filled it… right up until the wood overbalanced and a bit of the lawn got a good and unnecessary soaking, fortunately without the boat in it! More weight on the ends and a try again resulted in a serviceable 'pond' for this essential test. The photos also show the bow fender and lifebelts, others of the minor jobs…

The result? Firstly, it floated and did not leak. Secondly and to my amazement, it floated right on the water line all the way round. Note that it was as heavy as it was going to be as I included all the batteries etc. I can now tick off this part of the adventure, and I don't have to hunt around for bits of lead etc to add weight. The waterline was created from measurements from the photos I had, so it is to scale, although in port, photos show the unladen vessel floating about 150mm higher than the waterline – mine has got at least a helmsman and is full of 'fuel' (batteries) though. Onwards and upwards…



The next bit was installing the servo and sorting it's linkage. Mounting was straightforward on the mount I made earlier, although when standard servo drawings are used and they say 4mm diameter holes, they really mean about 3.5mm: I made the mount for M4 screws, so a file was required on the holes in the servo. In the end I only fitted two screws. The linkage was fiddley as room was tight and I had not realised that the height of a standard 'horn' plus the joint would interfere with the deck cover, so the link had to go underneath the horn not on top (making assembly more fiddley). I also made an extra hole in the horn at less radius as I did not need the sweep. The servo has a reasonable force (around 10 Kg at the radius of my linkage) so it will be interesting to see which bit of the linkage breaks first...

The last few bits for the radio system came (connectors) and I was able to fit these. The aft platform now has the switches and receiver installed and potentially functional, and the motor controller is all wired up too.

Another little artefact I had eyed for a while on photos of recent times is the butane gas cylinder that is mounted outside the cabin on the rear deck. It seemed an odd thing to add, but since I bothered to provide a cup of tea for the helmsman, I suppose he needed something to heat it up with... so a few minutes turning a piece of left-over painted PVC with a brass 'tap' and electric flex for hose made a suitable gas cylinder. This is glued to the deck via a piece of 1/8" brass rod.

The remaining tasks are getting thin now, and it is probably time to stop: just flags to fly, nameplates on the bow and the radio system to test out (it is all installed). Oh, and a trip to a boating lake.

The last one has changed a lot since my day. Every park had a boating lake and there were minimal restrictions. The nearest one to me when I was a teenager was about a mile away and it allowed anything except tether hydroplanes: there was a sign right in the middle (where a tether pole would go) saying so, but then it was a smallish pond and had low sides (if the tether broke, the boat, passersby and operators were in trouble). Everything else was OK, including high speed RC hydroplanes. There were at least three others within 4 or 5 miles of varying size and depth and all had a model boat fraternity. Nowadays, councils firstly do not erect model boating ponds, or if they have one, many do not maintain it. They get all precious about it, forbidding anything that in their generally narrow focus presents a liability to them. So that is no IC engines then they say as they are noisy and pollute, while employing regularly people to come and cut the grass, strim the edges and prune the bushes with little two stroke machines... as 'Curly' ('LBSC' – Curly – was a popular contributor to Model Engineer with his locomotive designs) used to say, 'nuff sed'! There are some model boat clubs that do have access to ponds that allow IC engine craft... use them while they exist, you can't beat an IC engine for excitement and interest, although obviously I do not anticipate any issues (or excitement I hope) trying the electric *Sundowner* out. I suspect that steam is going the same way (steam boilers explode, don't they – but read the fmes website for how to avoid this!?). The MPBA website has a list of member clubs and their links if you are interested (https://www.mpba.org.uk/).

I spent a little time with the radio system to understand it and get it going. The transmitter, receiver, servo and ESC worked as planned 'straight out of the box' but in the boat plugged into the wiring I had provided. The ESC has links to set it up for the installation, and the ability to go forwards and backwards is an ESC setting not a transmitter one: the transmitter joystick has to be central for no motion. The rudder seemed well able to swing the rudder with torque to spare and no sign of binding or shuddering although I had to take the horn off and re-position it on the servo as it was miles off centre and the 'trim' facility would not adjust it this far. Then I realised that the servo was bottoming out the horn and linkage at extreme travel. One way to fix this would be to move the horn hinge pin further towards the centre of rotation, however the transmitter has a setting to limit the travel of individual servos, and this, when set to 70% both ways cured the problem. So that was simpler than I was expecting and now I have a fully operational boat to test. Although the transmitter is a little garish and busy with knobs and buttons (I am of an age when loads of 'options' get in the way!), it seems to have impressive abilities, certainly for someone whose RC experience started with *very* rudimentary controls (push a button once to go left, twice to go right!).

The final two jobs were flying the flags and the bow nameplates, as is fitting. The name plates are a repeat of the one on the stern, but this time a little larger and black on white (and they are nameplates, separate from the hull as for the prototype, not lettering applied directly to the hull). The flags (strictly not realistic except in celebration, as there is a white ensign on the mast and a red ensign on the stern) are 'run up' like prototype with a toggle attached to a rope loop at the top and a running loop at the bottom. The mast head one has rope right down the mast wrapped around the cleats on the mast supports, but the aft one is secured only to the wooden mast to keep the mast removeable.

After all this was done, I thought the aft mast looked bare, with no flag flying, so thought I would try to find something suitable (no, not a jolly roger!). I had not realised, but the Dunkirk 'little ships' had a flag created to celebrate their membership of this exclusive group. This is called a 'Dunkirk Jack' and I found that BECC flags did one, so I ordered one and am currently waiting for this. It is a George Cross flag 'defaced' (as presumably the issuers of flags say) with the arms of Dunkirk. You never stop learning!

The final thought, now that transporting the boat to a lake is in sight, is how to do it without risking damage, so another more protective stand was called for. My scrap pile of wood served here and I made a cradle for this purpose. I intend to wedge the boat into it with foam pieces at the sides, and if required lash it to the car boot floor. More stuff obviously to take up workshop/store room space.

And that is the end of the build! I will write up the adventures when I test the boat on a lake in the next section though, and provide a few photos of it.