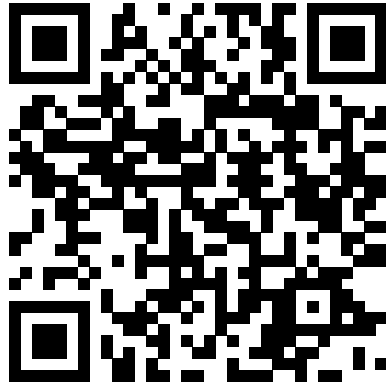


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Graupner Optimist re fit

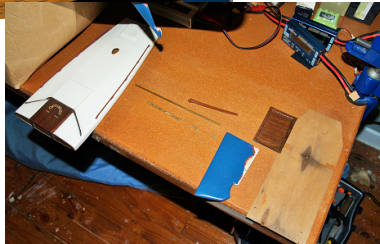
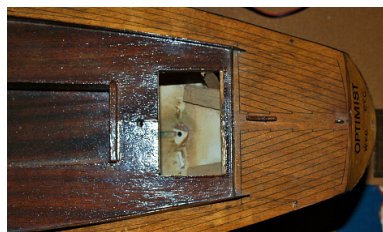
by jbkwi



3rd Oct 2019

Graupner Optimist re fit

Forgot I had the Optimist to re-do so I'll do a short blog on what I'm doing. I had already re-fitted the stays with solid stainless fishing trace as the original wound wire stays had frayed and had nasty sticky out bits. I had also re-joined the cabin roof which I had cut behind the mast for R/C and battery access (once assembled the model had no access to the interior and involved removing all the stays sheets and mast to get at anything, - about 10 mins work!) Now with long lasting LiPos there will be no need to remove the top for the whole day. I have two 'El Cheapo' winches to fit, - one for the jib and one for the main. Not sure how long they will last as they won't even center properly and sit there and hum most of the time. The alternative is a very expensive modern winch, around \$600 or maybe a winch servo arm type, (still quite expensive). I have ripped the rudder and shaft out as it had completely seized up over the last 40 years and was spinning in the hull, (having broken the epoxy) I've made a new shaft and bushes to go back in, and will be adding a lower (skeg) and upper (deck) bush as the original had none and just sat in a hole in the ABS skeg, and the shaft tube was just held by 2 ply wedges to the inside of the hull. I am strengthening all this up, and the top bush will now support the shaft where it comes through the deck to stop any flex in the ABS. It was a very nicely made model in its day but ABS was the wrong material to make it out of, considering the weight of the keel required. If you pick the model up on its side, the hull flexes, so I might glass the inside for a bit more strength as it's getting old and probably a bit brittle in that area, (as long as polyester resin won't distort the hull) The rudder shaft goes through the deck, through the shaft tube and into a brass tube which is epoxied into the rudder blade, and through to the bottom bush of the skeg. The shaft and blade tube are drilled through before the blade tube is epoxied in place. Shaft and rudder blade are then assembled as one unit into the hull (shaft going through everything) with all the bushes epoxied in at the same time to line them up The shaft and blade are then pinned in place through the pre drilled holes. This time I'll fill everything with grease to hopefully stop it seizing again. Might use a small stainless split pin to lock the blade and shaft as it might be easier to remove. This design also was not a brilliant way of doing the rudder, and prone to corrosion inside the blade tube. I have also re modeled my modelling room as a complete area, (was getting sick of working between rooms. Have put both 6ft tables in so now have more 'bench space'. Now to get rid of some planes!



10th Dec 2020

Graupner Optimist re fit

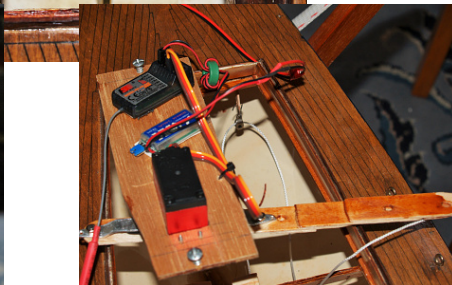
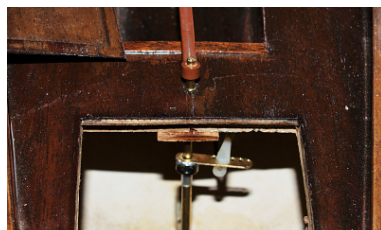
Thought I would get back to the Optimist as I have come to a stop while waiting for the slow sampan from China to arrive with bits to finish the Hartley. Tried a few cheap drum winches which turned out to be rubbish, so bought an 18lb JX servo and made up a long arm for it. I mounted it under the cabin top along with the UBEC and RX. It doesn't get full travel but might be ok for general mucking about. I will have to come up with a better system, but with the deck on it's very difficult to organise the sheets and pulleys required for a drum system, as the original system was set up before the deck went on. I might have to make up a complete unit which slips into the hull, but again I'm limited by the size of the cabin aperture and the frames being in the way. I'll figure something out one day. Might have to cut the jib leech down a bit and fit a jib boom for a single sheet system (jib was made larger- almost a Genoa, 40yrs ago for a twin sheet system. Still have a few bits of broken Mahogany trim to repair and maybe fit a toe rail etc, (never really completed it when I built it in 1978 due to all the fancy bits-rails etc possibly getting in the way when rigging the boat) It was a sod to rig as all the braided wire stays would tangle constantly and the turnbuckles would drop off when undoing them, and you'd have to screw them on again. Fine on a full sized boat, but I hate tiny fiddly bits?. I re -stayed it last year with stainless trace wire but never got much further due to the chinflu. Might get it going before xmas as it will be perfect to sail on the estuary down the road.



30th Dec 2020

Graupner Optimist re fit

Now finished re shafting and bushing the rudder which has been re-installed and greased with silicone paste. The rudder was originally a 2 piece ABS item, bonded together with acetone, with a brass tube epoxied in for the brass shaft, which was kept in place with a small split pin through a hole drilled through the shaft and bush. Not a brilliant idea as the shaft corroded and welded itself into the bush/tube. I had to destroy the shaft and tube to get it all out, and make a whole new set-up. There is now a bush in the deck (none before) which supports the shaft at the top end, a new bushing tube epoxied into the rudder (rudder was split apart completely and re epoxied thoroughly to seal it. Also a small bush was installed in the skeg for the shaft to sit in, as it just pivoted in the ABS previously. The new 4mm brass shaft goes through the deck, through the rudder and into the new skeg bush. The rudder shaft is keyed to the rudder again with a small split pin which is sealed to the elements and locked with thick cyano. The sail 'winch' is an 18lb digital NX servo with a long arm for the sheet travel. It's a 180deg servo, but unfortunately the 9X TX won't stretch that far and I can only get about 120deg. It's not quite enough to get the main out to 90deg but it won't be racing so it doesn't matter. I've cut the jib leach and foot down to clear the mast and made a jib boom so I can use a single sheet through the cabin top as per original. I had made a larger jib, intending to have twin sheets, but it would have got too complicated, (too many pulleys and angles creating sheet friction in light winds). I have made a thicker 3mm ply doubler for the original 2mm 'floor' which had been wet and warped over the years, and coated it with butyrate dope. Also made a rudder servo mount and steering rod, with a tiller arm made from a plane wheel collar, with a brass arm soldered on. I've repaired most of the coamings, as they were almost all split from being knocked about in 35yrs of storage and around 6 house moves. They are all 1mm mahogany, and the cabin roof fitting system was far too precise and delicate for everyday use. Every time you tried to re-fit the roof you ended up splitting something and the older it got, things changed shape slightly, making it worse. It would have been better to have a drop-in roof rather than a 2mm 'gutter' using 1mm brittle mahogany (too much German precision?). Anyhow, it's back to original with a lot of sanding and fitting and will be secured with screws and blocks in the corners once I figure out how to get a 2s lipo in and out with it on. May have to go with a big mAh Li-on battery with an external charge plug, as I do not want to spend 30mins each end, setting the boat up. It will fit in my car fully set up which makes life a lot easier.



9th Jan 2021

Graupner Optimist re fit

Finally got down to the lake and had a successful preliminary sail. A few bits to improve, but happy to have it up and running after all this time. The best thing is, that it fits in the car fully rigged, and I can just plug it into the charger when I get home?

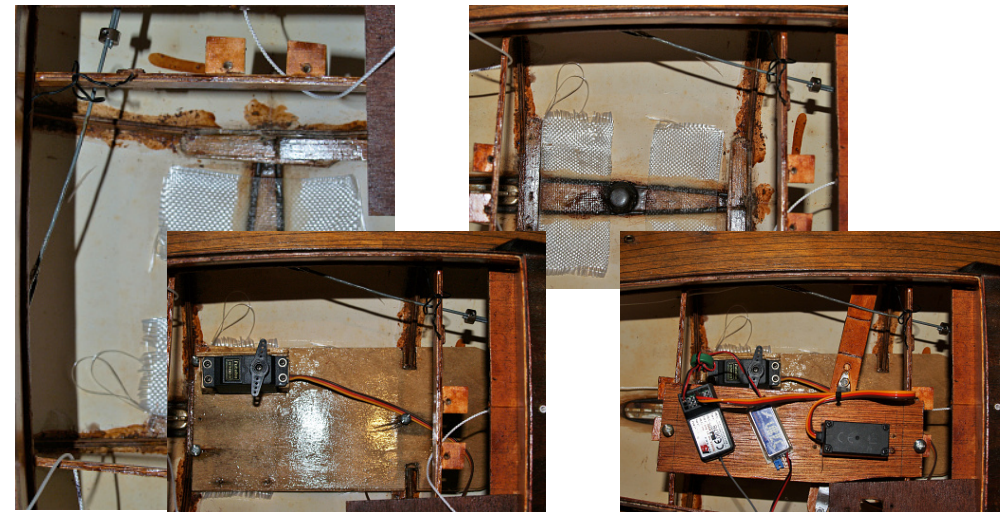


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1st Jan 2021

Graupner Optimist re fit

Seeing that the keel fixing area has always been very flexible, I decided to finally do something about it. There was never any bracing in this area, (which was surprising for a Graupner kit) and there is only the 1mm ABS hull actually doing anything. Now that the hull is 42yrs old, it has probably got a bit brittle with age, and I don't want the hull cracking and the boat going to the bottom at a high rate of knots. I have filled the void around the ply keel bolt plate with polyester resin, and laid in some F/G tape reinforcing up the hull a bit to give it some reinforcement, (still have to buy some more resin to finish it, as I ran out) so it should hold it still and take the flex out of it. The keel weighs about 2kg so it was asking a bit much of the hull in original form. I coated the floor plate with clear varnish and varnished as much of the hull framing as possible to try and preserve it for a few more years. All the other wooden bits have been varnished as well. I have one front cabin veneer to repair, -the resin to finish and the jib boom to fit properly, and she'll be about ready to hit the water again. While I'm at it I might fit nav lights just for the hell of it. I'll have to visit the electronics shop and find a decent Li-on, Nicad or NimH battery which I can mount permanently in the boat to power the winch and rudder servos, as previously mentioned, due to the fact that the cabin roof is one piece, with the mast going through it. This makes it impossible to get any battery out without de rigging the whole boat, (another thing Graupner could have thought of for those who wanted to leave the boat rigged) The battery should mount on the floor plate no problem.

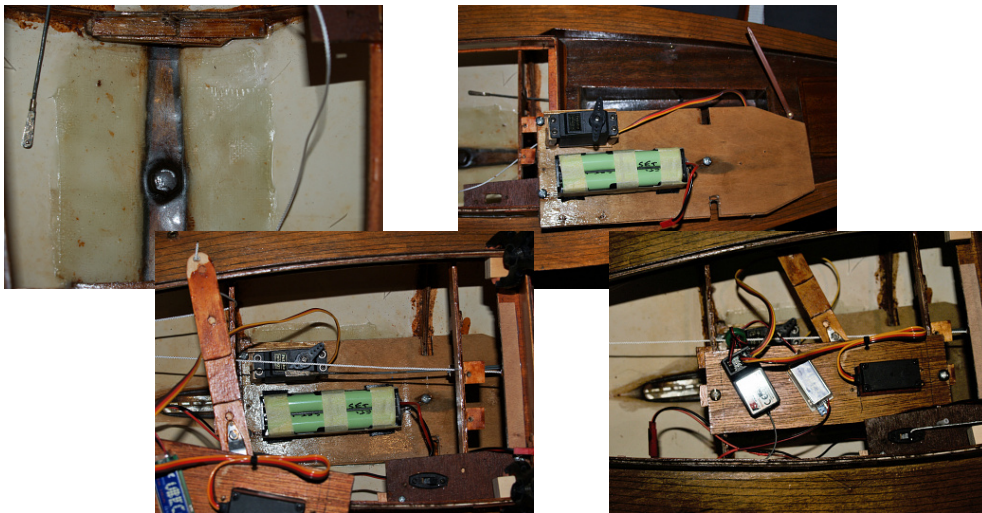


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2nd Jan 2021

Graupner Optimist re fit

Keel reinforcing done, on off switch and charging point fitted and battery fitted. Battery is a TX pack of 600mAh NiMH batteries running through a UBEC set to 5v for the RX. Should be enough to keep it sailing for a while. Was going to buy something like a large 4.8 NiMH battery, but the prices are stupid. Remembered I had this sitting around after converting my TXs to LiFe batteries, so I'll see how it holds up. Batteries were bought in bulk from HK about 7yrs ago before the shipping restrictions came in, so not sure how good they are after so long. Still have plenty more to replace any duds. I have fitted blocks to the inside corners of the coamings so I can screw the roof down. The ABS roof has turned banana over the years and despite reinforcing it refuses to stay straight. Really should make another from ply, but can't be bothered. I think there is just the jib to sort out now, - maybe a toe rail, and a bit of paint on the rudder before water time. I might put the safety rails back on, as I still have the original pulpit and pushpit railings which I've repaired. Most Optimists I've seen have them left off as they are a pain to work around when rigging the boat, and get caught on everything (wires were fine hat elastic which never lasts anyhow). I'd also have to make the missing stanchions, as I've used a few for other jobs, plus they are longer than anyone sells (CMB etc). That can be a job for winter maybe. I'm intending to leave it rigged up so it might not be so bad an issue.

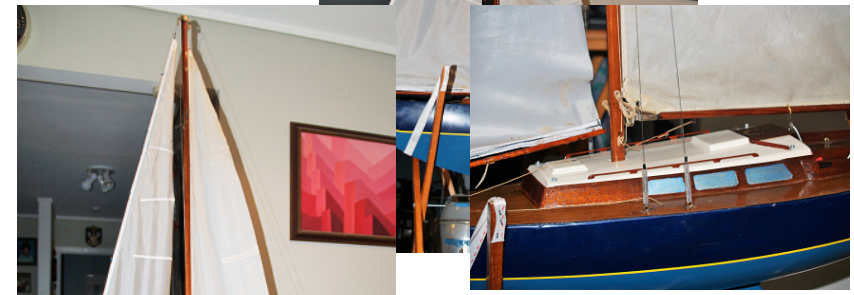
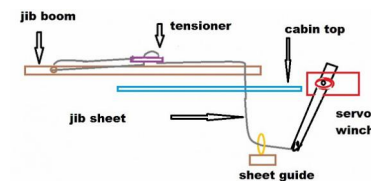


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8th Jan 2021

Graupner Optimist re fit

Almost ready to go. I've repaired the cabin front coming which was the last of many repairs, due to the coamings being quite fragile. Painted the rudder repairs, made the jib boom and linked the jib sheet to the winch servo to bring the jib in with the main. It has a sheet tensioner running along the boom for adjustment, other than by TX limits (not shown due to boom being just varnished). The main sheet also has one. A cross brace was glued into the cabin under the jib sheet outlet in the front hatch moulding, and has a brass eye for the sheet to turn up at right angles and exit. The sheet exits the cabin, goes up through the jib boom. and forward along the boom (where the tensioner is then threaded on) to the front end, then through another hole and back to the tensioner and tied off. Cabin top is now screwed down and should not need to be removed except for checking for leaks occasionally, (don't intend sailing in cyclones so shouldn't get any in) Just waiting for the varnish to dry and a good day, and she'll go back in the water for the first time in about 22 years, (as long as it fits in the Mazda fully rigged) . I've fitted silicone tubing to the turnbuckles to prevent them turning, and to keep them dry as they corrode easily having such a fine thread. I did oil them originally, after a few snapped the threads due to corrosion from salt water locking them. Fiddly horrible things to set up but they look the part. Also varnished the plastic cabin grab rails (original) which should make them last a bit longer, and they look a bit better for it, -also need to straighten a saggy waterline tape (moved from sitting in a box for years) Bound to have forgotten something?. Will have the trusty rescue airboat on hand should anything go bad. Feel free to laugh at my sewing attempt on the jib (needed the foot and leach shortening to fit the boom). Used my mums inherited 1970s, expensive (then) Bernina 830 (Swiss made) with all the fruit (didn't help a bit, not even remembering the old Bernina ad and reading the manual a dozen times). Looks like I've been on the turps big time?



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