

## RE-BUILDING A ZIROLI P40 KITTYHAWK - Part 2

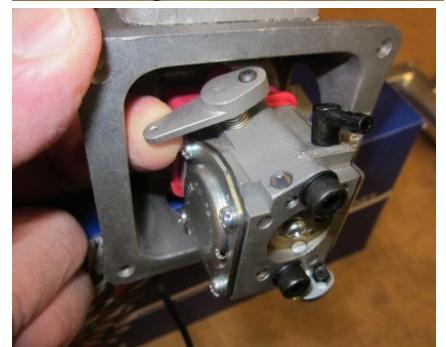
“Insanity is doing the same thing over and over again and expecting a different result”



Who cannot open the box of a new engine without being a little bit excited. This is my second EME (Eagle Master Engine - very Chinese name ! ) and I was impressed with the small improvements from my first engine that make this an easier engine to install and operate.

I bought this engine from Wolf Models up in Queensland rather than direct from China for a couple of good reasons. Bob warrants the engine for 18 months, the engine is test run and tuned before delivery, an electronic cut off switch is included, delivery is prompt and the price is pretty similar to the Chinese supply after taking into consideration exchange rates and freight.

A nice touch with this engine is that the throttle and choke levers are a decent length and are on opposite sides of the carby for a simple set up.







The engine comes with the usual instructions and a bunch of pretty wild decals from the manufacturer plus an A4 page from Wolf Models suggesting various fuels, oils and props and including a mounting template as above.

I transferred the thrust and centre lines from the plan onto the front of the engine mount and contact glued the template to align with the datum lines and then drilled 5.5mm holes for the standoff bolts. I was then able to trial fit the engine and mark out where the choke, throttle and fuel lines would go. All pretty straightforward.

While I had the engine fitted it was an easy step to fit the cowl by taping it to the spinner back plate and mark out where it would need trimming to fit. The cowl will be fixed by a 1/4" plastic screw into the firewall and dowels into the fuselage as well as screws along the horizontal join line.







After trimming the cowl edges to the marks I glued the old cowl former salvaged from the wrecked cowl to the rear edge with Hysol.

I have cut out slots for the new dummy exhaust stacks purchased from Zirol.

The old set is only good for a six cylinder engine now as one side of the cowl was smashed beyond repair and the other side didn't have a mark on it.



The Zirol stacks have the more modern fish-tail stubs which isn't quite correct for this aircraft.

The Ross Pay P40 has round stubs as did all the early P40's





One of the nice things about modelling the P40 is the size of the cowl, it provides good cooling and nothing need protrude out side.

Dowels and screws are done and cowl is fitted and painted with primer. I'll fit the exhaust stacks after final painting and decorating.



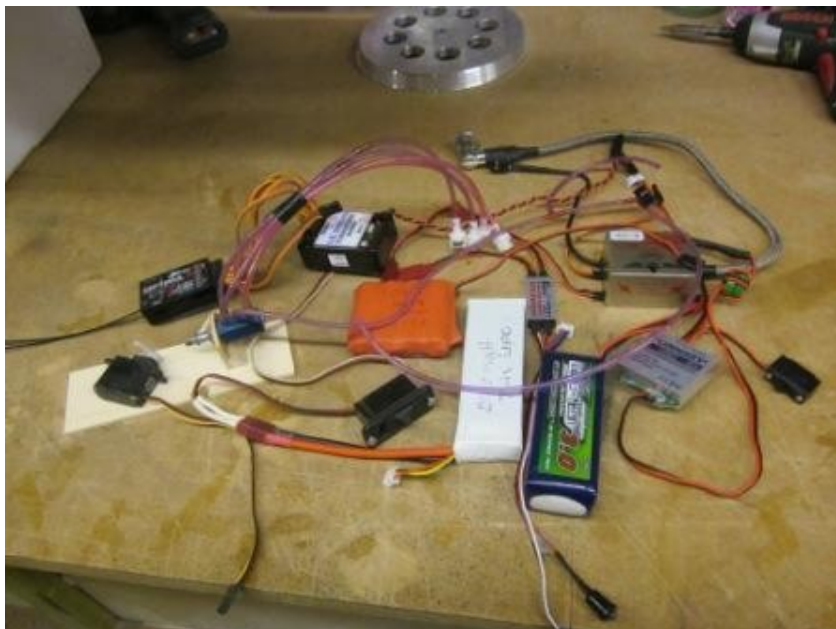
All the new balsa bits were sanded again starting with 120 grit and finishing with 240.

3/4 oz glass covers all the patches and is doubled up over the joins.

I will spray all the new glass areas with a primer filler and then wet and dry sand. I expect to see any areas that will require further filler and then we should be ready for undercoat.







Now I have to put all this stuff and more back into the airframe which means making mounting brackets and some false floors that can have items attached with Velcro and cable ties.

Starting at the front I fitted the servos for throttle and choke with beautiful laser cut servo mounts from Hobbyking or SDS, can't remember which. If you buy some go over them with a bit of CA as they are glued rather frugally with hot melt.

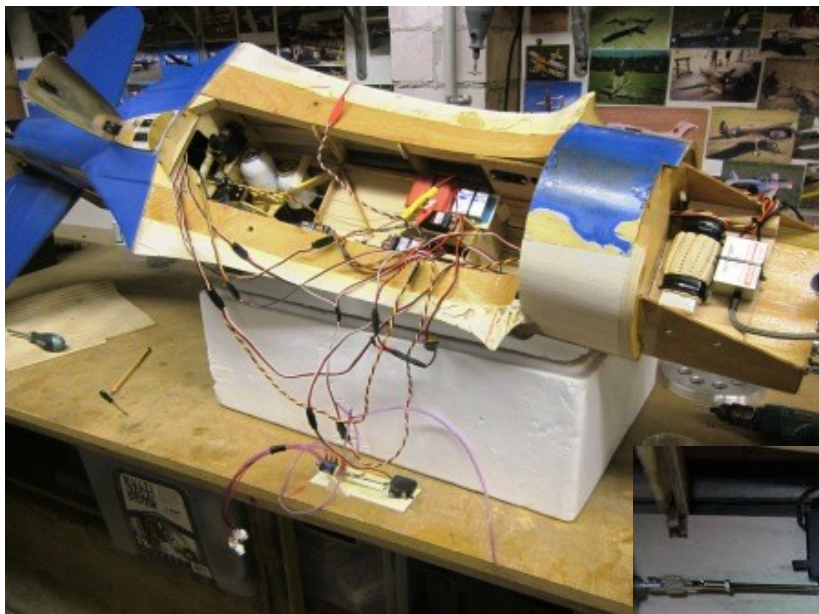
A pushrod for the choke and a flexi rod for the throttle were then fitted to the engine and servos.



The fuel tank took up most of the room in the engine box back of the firewall and is a 16oz Fourtitude tank. I've had a good run with these tanks in my other petrol planes, they come with all plumbing complete and are fitted with a filtered clunk. I also like that they are transparent for troubleshooting any plumbing issues.







In my big planes I like to have three totally separate electrical circuits for the receiver, the servos and ignition. I like to have the receiver totally isolated from driving anything other than the opto isolated servo buffer.

The receiver is powered by its own stand alone Eneloop NiMh 4.8V pack via the usual On - OFF switch.

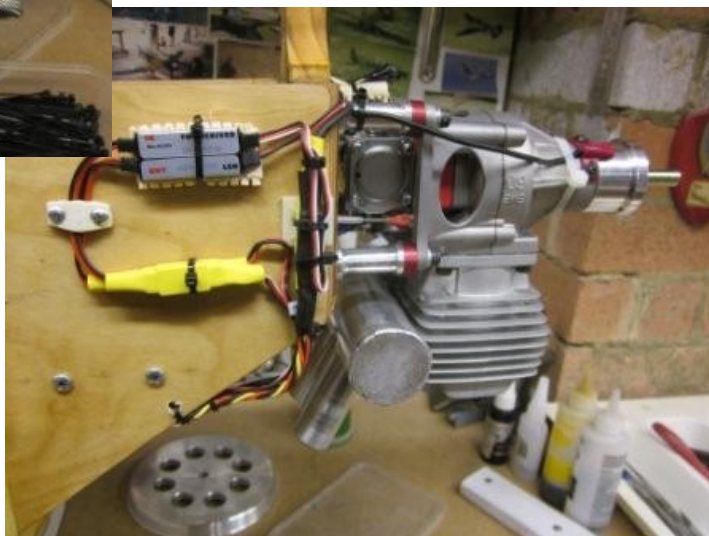
The main power battery drives all the servos, it's a 3000mah 7.4V LiPo which will be led from the front back to the switch in the belly fairing and then forward to a 15A regulator and then to the opto isolated servo buffer.



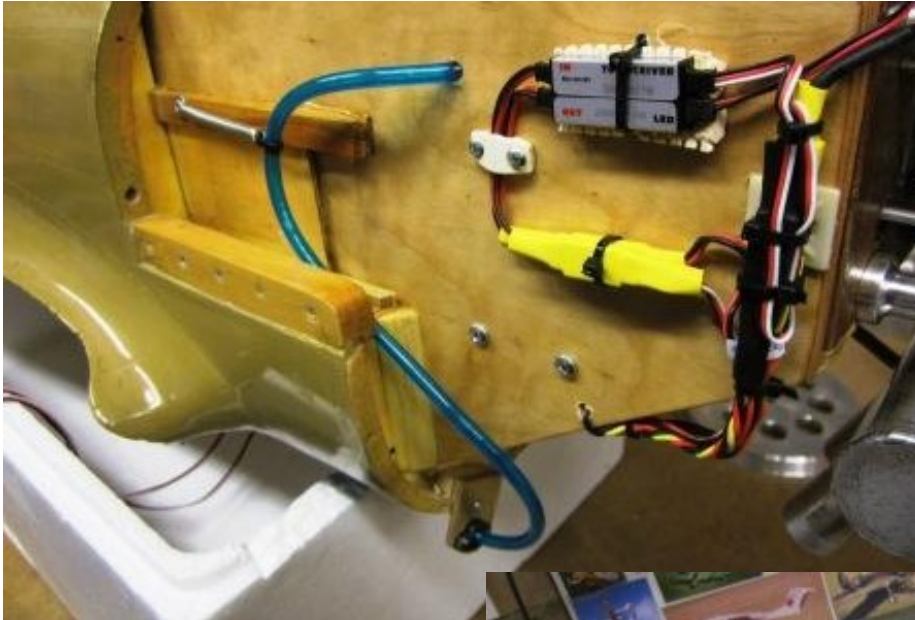
The EME CDI has been upgraded to take DC input from 6 to 12V so is now perfect for 2S LiPo.

The ignition circuit is from a 2S 2000Mah LiPo through to an OFF - ON arming switch then to an electronic switch in series. The electronic switch is activated from the servo buffer.

All cable joins are sealed with heat shrink tubing after checking all nine channels for function and travel.







The plumbing fill line is spring loaded to retract and hide after pulling out to fill.

The overflow line is just a piece of Tygon attached to a right angle piece of an old fuel tank.

The exhaust pipes are stainless steel convoluted pipe joined to the muffler by high temp silicone tubing using heavy duty cable ties.

The pipes are loosely attached to the fuselage by stainless steel wire to allow for a bit of movement caused by the engine vibration.







The Ziroli spinner as supplied consists of a cone and a back plate. Its up to the customer to cut out for the prop and attach the cone to the back plate. I guess it has to be that way as they have no idea what prop customers will use. The whole operation to make this all come together is a bit complicated and really focuses the mind when you consider this is about a \$100 spinner.

The back plate has to be drilled using a DLE 4 x 5mm

bolt drilling jig followed by the prop using the same jig. The prop and the back plate are then bolted together to ascertain where the blades will come out. The cone can then be cut out for the prop blades and the rim drilled and tapped for 6-32 x 3/8" countersunk screws to fix in place.

Measure twice and drill / cut once !!



All the planking cracks have now been glassed, sprayed with primer and voids filled.

Repairs are complete, detail, decals and decorating to finish.

I had hoped to get the plane ready for the 16th Nov scale day but I'm going to miss by about two weeks but we will be ready for Autumn 2015

Cheers  
Stan

