

Fitting Engine and Cowl



Fitting the cowl is going to be a bit of a pain in the proverbial as I'm trying to use a cowl from **Model Design** on a **Zirolu** model. **Zirolu** has a fibreglass cowl available but the cost of freight is more than the cost of the cowl and the cowl is \$80 US. The **Model Design** cowl is the same profile but is designed to slide over their fibreglass fuselage whereas the cowl for the **Zirolu** fuselage will need to butt up to and be fixed to the plywood firewall. It will also need extending 10mm. To do this I am going to make a 10mm sub-frame and attach it to the firewall and then glue a matching frame onto the back edge of the cowl.

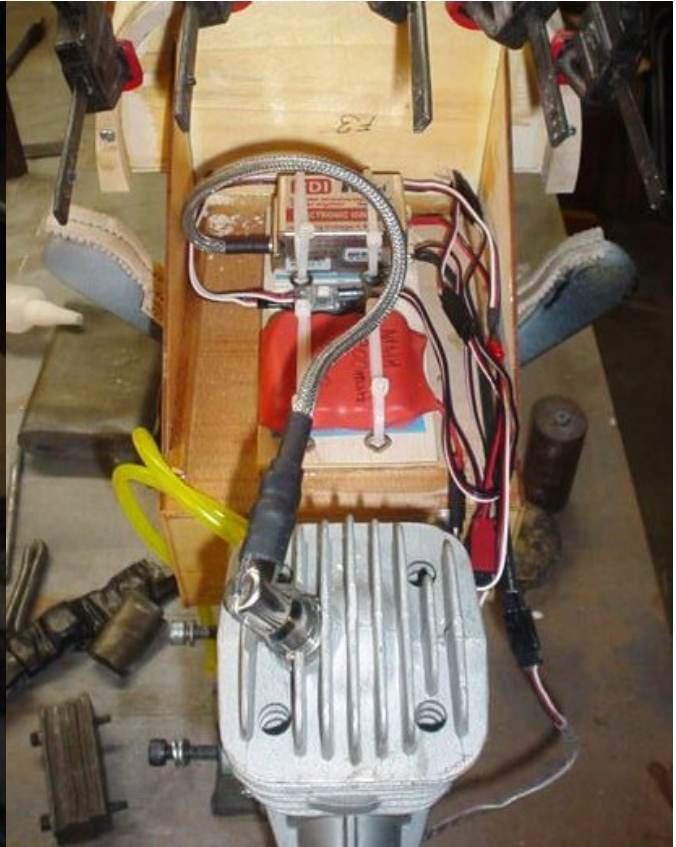
Before I do any of this I need to fit the motor as it and the spinner back plate will align with the loose cowl to allow me to trim the firewall sub-frames to the right angles for a good fit.

Mounting Motor:

The picture below indicates the overall length of the cowl from firewall to drive washer.

The picture on the right shows front cowl mount glued on top of the motor mount, the fuel tank, the throttle and choke links and servos.





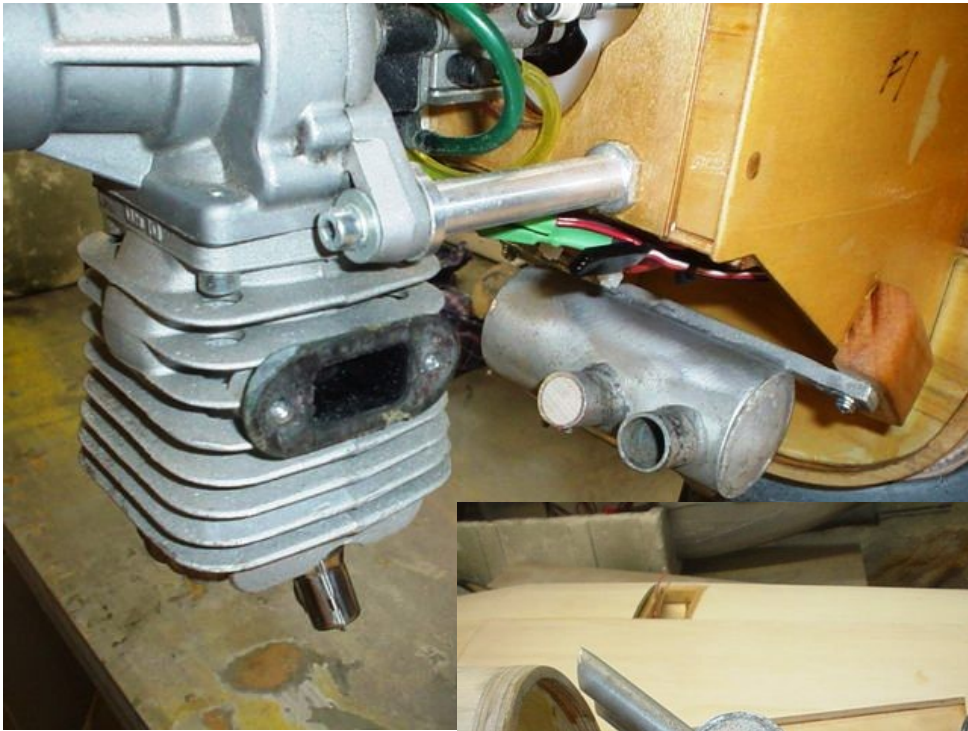
The pictures above and alongside show all the motor electrics in place.

These consist of 1 x 2200maH NiMh 4.8V **Sanyo Eneloop** battery pack, 1 x electronic cut out switch made by **42% Products** available from **DL Australia** and the **Rexcel** ignition unit.

I have connected a manual ignition arming switch in series with the electronic switch as I found that the **42% Products** electronic switch drew 10.5 ma in its

quiescent state. This is pretty bloody silly because if you don't have a manual switch in series and you put your plane away without disconnecting the battery it will be flat as a tack when next you want to use it. The manual switch also has a charging input which will make charging the ignition battery convenient.



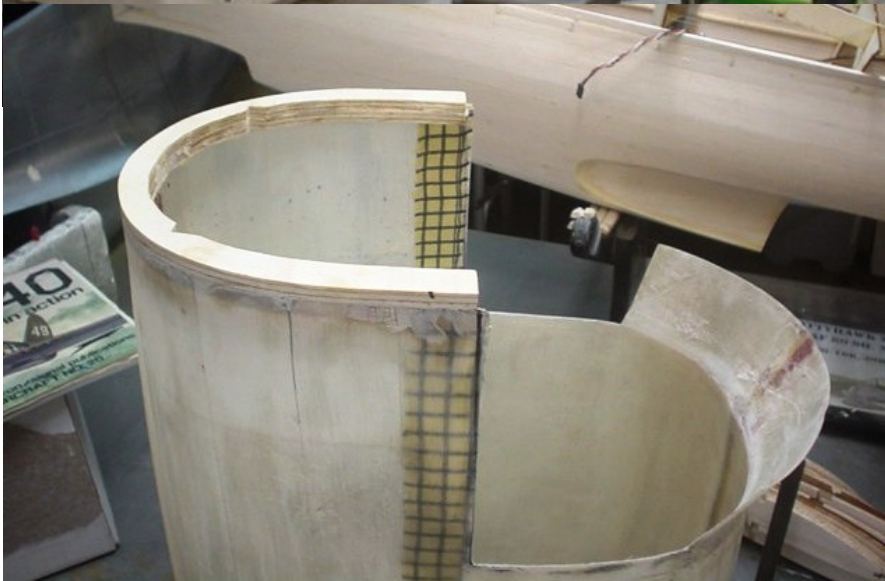
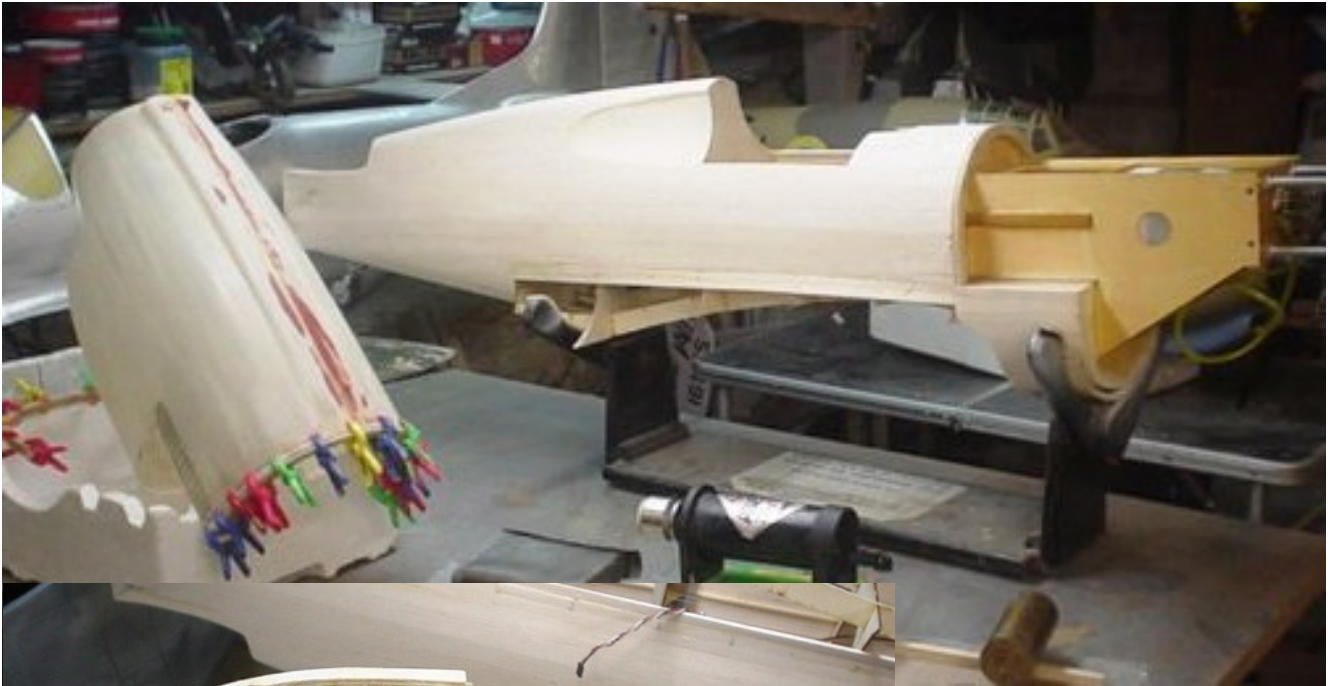


Exhaust and Muffler:

The muffler is an old unit from the "might come in handy one day box", made up years ago by Bob Russon of defunct [Custom Model Products](#). It was made for a Supre Tigre 4500 so the capacity should be near enough

I made up a header by cutting down an angled flexi header I bought on line from [DL Engines Aust](#). I had to silver solder a bit of 5/8" ID flexi pipe to join the manifold to the muffler, all pretty straight forward, all up cost was about \$60





Cowl Fitting:

The cowl rear edge was trimmed square and straight and the joints on the top and bottom of the cowl were filled and faired with duco putty.

The inner and outer top sub frames are glued to the rear top of the cowl with **Hysol**. The bottom sub-frame is laminated from 2 x 6mm ply and will be glued to the front of the bottom frame on the fuselage.

This picture shows how I will fasten the cowl with four locating dowels, three into the fire-wall sub frame and one into the front pedestal on top of the engine mount. A line of scale countersunk screws along the reinforced bottom edge of the cowl into the side bearers on each side of the fuze will hold it all in place.





These pictures show the finished cowl fit. It was a pain in the proverbial as predicted and took me the best part of a days work to get it right.



The picture above is the front of the P40 "Polly" in the Canberra War Museum





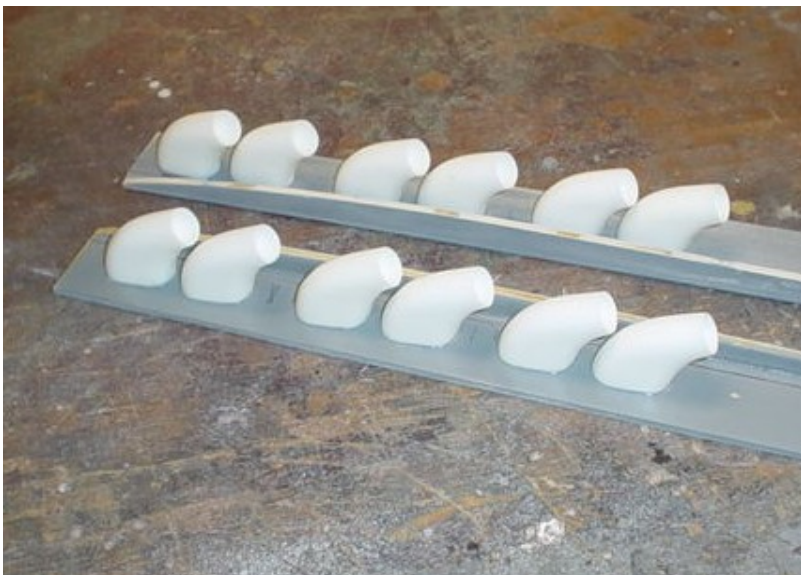
Exhaust Stubs:

This picture shows the cowl and stubs on Ross's plane. Many P40's and especially restored P40's used the later fishtail stubs but Ross's are the original and correct round stubs. These had to be replicated but were a bit beyond me so I bought a set from [Zirol](#) P40 accessories. When I received these stubs I was a bit disappointed to find that in my opinion they were too big. How did we ever survive without Google ?



I found a site called [Rob's Final Touch](#). Rob specialises in scale aircraft accessories and advertises stubs for various size P40s. I bought a set to suit a Jerry Bates 82" P40 and I think they are spot on for what I needed to replicate.

I had to scale up the cowl cut out from 3 view drawings and ended up with the cowl as in left photo. Notice the length at the rear cut out for the concave fairing behind the last stub. I'll shape this and glue to the cowl from the inside using the usual [Hysol](#)



I've made two backing frames to mount the stubs behind the cowl cut out and glued and screwed the stubs to them. The frames will be painted flat black and will be glued to the inside of the cowl with [Hysol](#). The stubs will protrude through the cut out. All this will be done after airbrushing the stubs with a mixture of rust, black, brown and grey colours to try to match the first photo



Finished cowl ready for paint.....

The next fearless instalment will cover the fitting of the wings and tail to the fuselage, rather important that they don't come off and are aligned correctly to each other with the correct angles of incidence.

See you then
Stan