

VMC SE5a Build, part 2

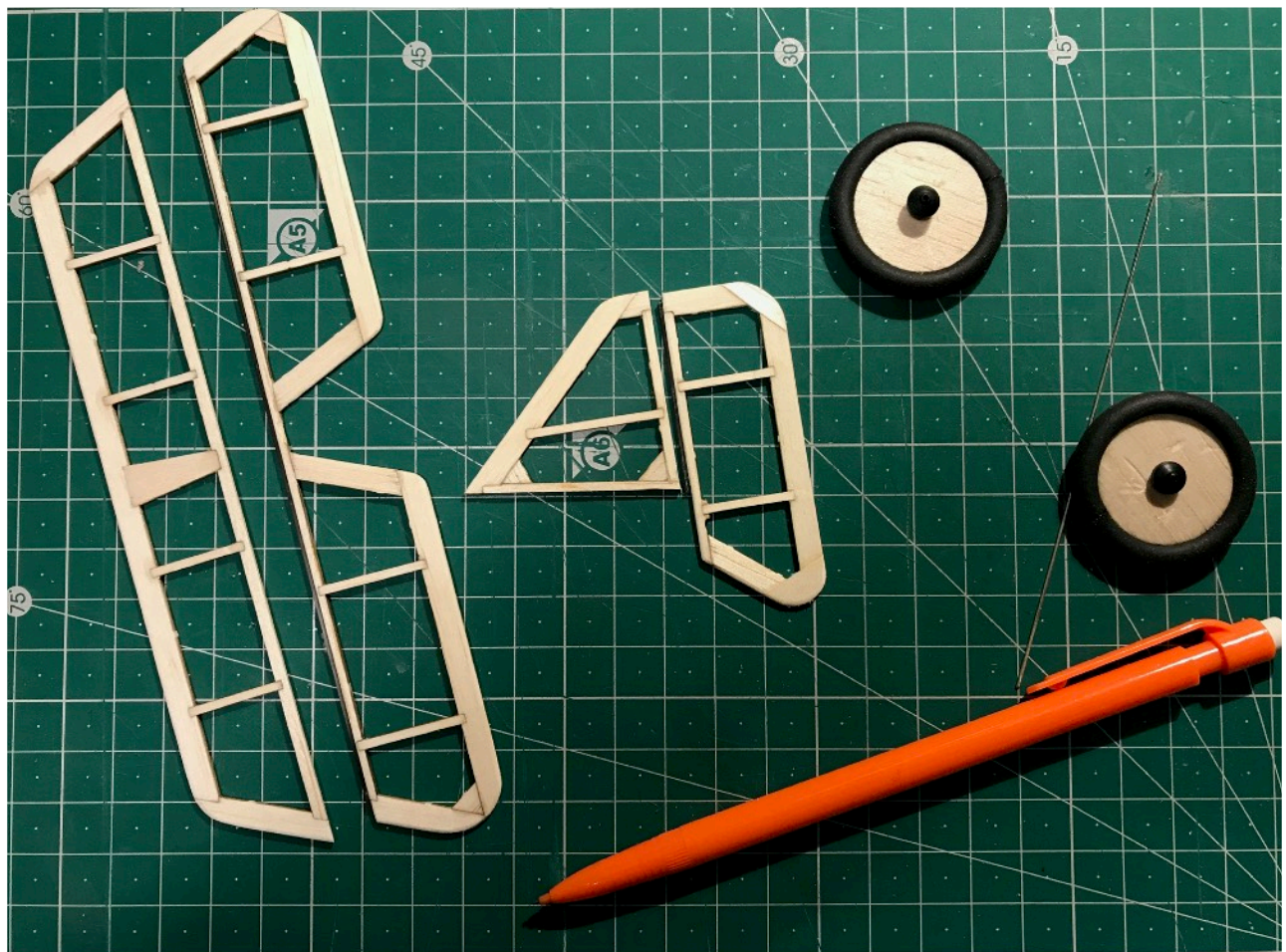
I finished the last report with the skeletal framework made, relying on gravity and inertia to look like a 'plane'. Next staging point is to transform that framework into an ARTF kit of parts.



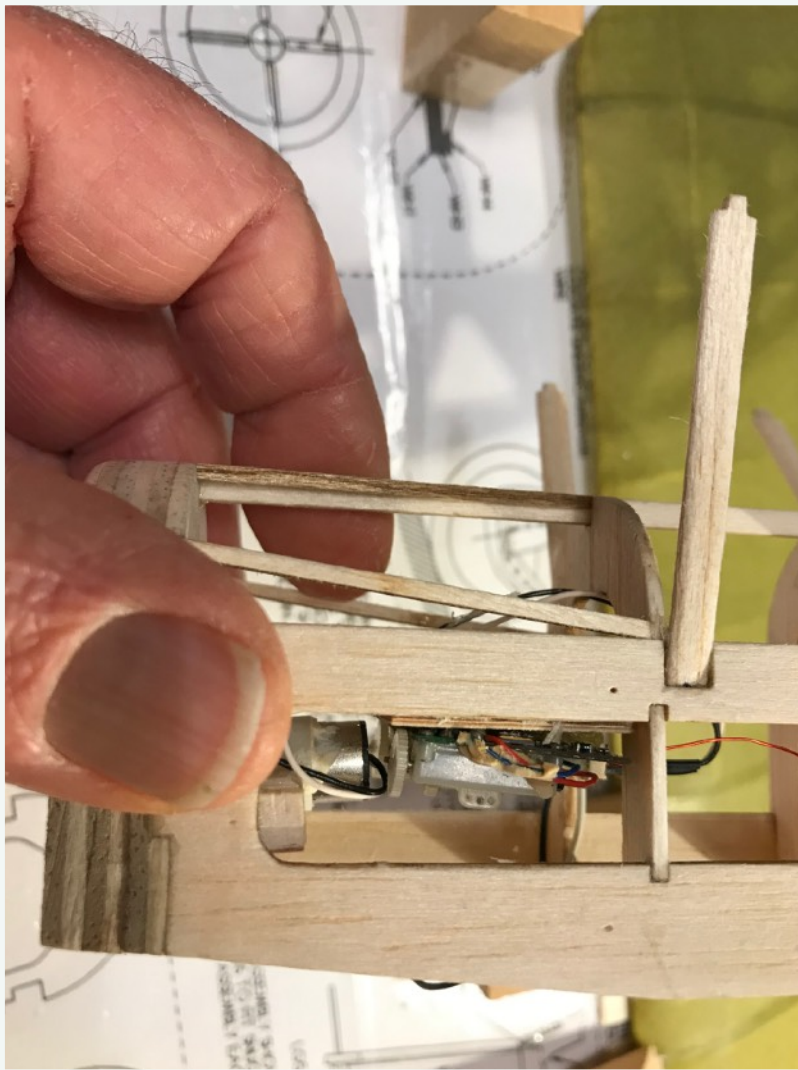
Stronger tyres than the kit provided. The hubs were made from the kit wheel outers, plus similar ones left over from the VMC Hurricane build plus cut down 'tyre' discs to add width.

The tyres are 5mm EPDM 'sponge' cord (from Polymax), cut to be slightly tight on the hubs and superglued together before fitting.

Some brutal cutting for tail control. The elevator and rudder leading edges were later strengthened with 0.6mm carbon rods which also provide the pivot chamfer.



The all up kit contents as delivered weigh in at 41g. Experience suggests that the finished weight is generally in the same ball-park. Using that as my guide I settled on a brushed motor and 6400 Rx brick, using salvaged parts from an early Parkzone UMX.

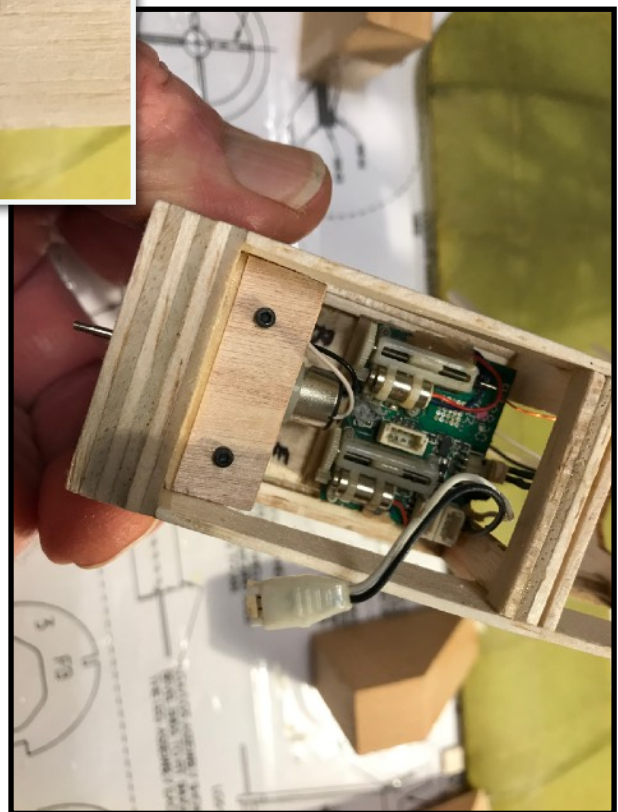


For good reason, Danny Fenton fitted his motor to the (detachable) radiator. I didn't want a free flight rubber option so attached my motor to a block on the F1/F2 lamination.

It still required hours of alignment effort and excavation of the radiator lamination though. The motor is bolted to the platform to allow for fine adjustment.

Unfortunately in these photos I had left the radiator (4 sheets of thin balsa) attached by their magnets to F1.

The Rx and servo brick is inverted and attached with servo pads to a platform just clear of the motor.

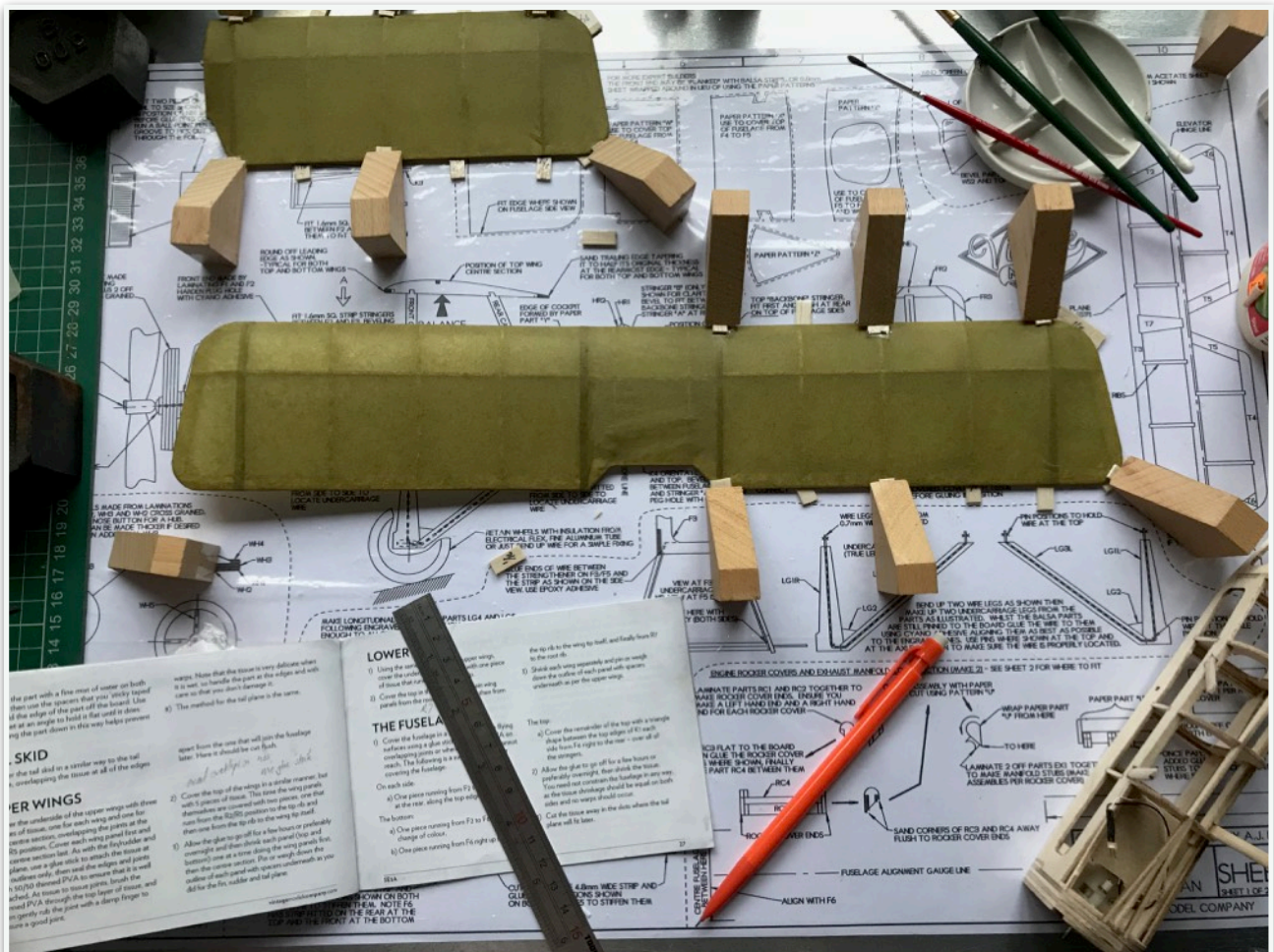


As a chum said, covering is just covering. The rest is decoration.

But this was, for me, the point of the whole affair. So these notes are as much a reminder for me as a show and tell.

I used the sequence in the kit instructions and VMC tissue throughout - the khaki green, royal blue and white domestic tissue were bought from VMC separately.

The tissue was attached dry with a Uhu glue stick around the outer edges as recommended. EzeDope thinned to 5% was lightly applied with a spray for initial shrinking and all parts were left on the board for 24hrs to dry. I followed this with a further 5% light spray and 24hrs drying on the board. The 5% shrinking spray reduces sagging (and therefore sticking through thin structures) and gives a great finish.



Whilst the finish was beautiful, this is an RC plane intended for outdoor use, so 2 further coats of EzeDope thinned to 30% (24hrs between each, on the board) were gently brushed on with a 1/4" flat sable watercolour wash brush. Good tools but I was still a tad sloppy here and there. My board isn't huge, the magnets are large and the whole process was testing my patience.

The khaki; white; linen and brown (both in the kit) tissue all worked well, dry. I have a long way to go before succeeding with the EzeDope 'apply wet' idea.

Then there are the paper parts used for forming the cockpit and bonnet.

Whilst my scheme introduces its own complications, the basic principle of shrinking tissue over printer paper parts seems unlikely to succeed to me. I built an open structured balsa cube and a cockpit structure from balsa and paper for experiments in colour layering etc, but never tested this.

So, I shrank white and khaki separately on a frame (EzeDope 5% twice then 30% twice with 24hrs between each) to use. I didn't get that far with the blue:



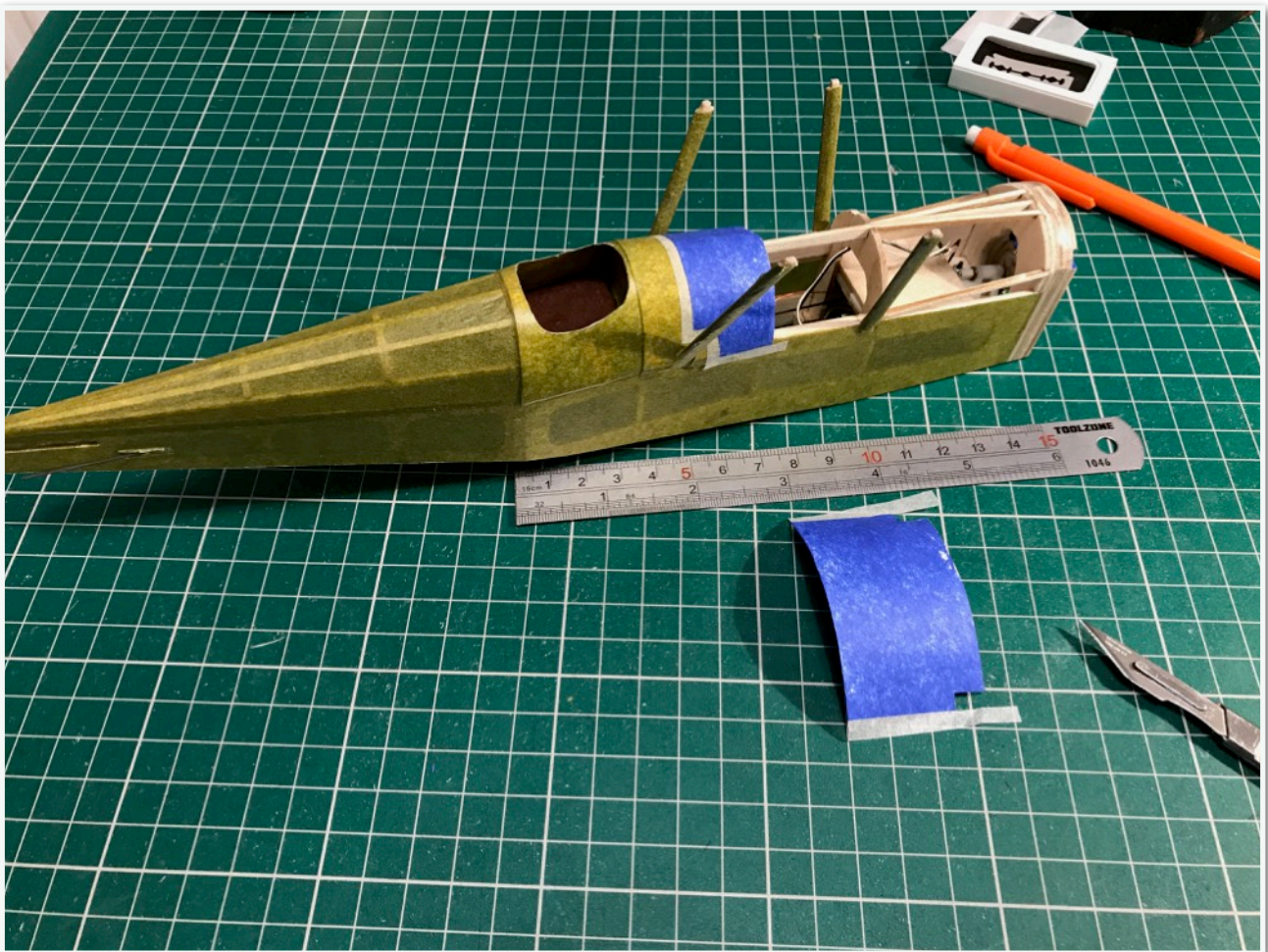
After the 2nd 5% application the paper was stressed where it was glued to the frame. One coat of 30% convinced me not to bother again. The dope sagged the paper, puddled in many places then shredded the paper as it dried.

Just like the silver I had been using, that had caused me to practice in the first place, the paper never went drum tight. It's probably usable for decoration treated this way, but useless for tightening/strengthening a bare model.

As an experiment, I tried applying the blue paper wet. Might just as well use toilet paper. But maybe its me...

So it's true, there is tissue, and there is tissue.

Like the silver I had previous issues with, this blue has a waxy feel both before and after doping. Maybe there's a clue there.



On the other hand, white pre-shrunk tissue applied on to paper with Uhu (all over), then partially covered with pre-shrunk khaki, again using Uhu all over, were brilliant to use and how I created the white trim. Even dry, the top layer of blue was hideous - challenging to cut, challenging to stick - a real pain. Looks nice though. Shown above I was applying it over pre-shrunk white



already attached to the paper part. You can see the fragmentation of the blue on the leading edge, just from this simple process.

In passing, a sticky cutting board using Rust Oleum low tack adhesive spray, from Fabri-Cut, was excellent for all this tissue cutting. Not that I have yet mastered my Fabri-Cut tool - note the scalpel in the picture!

Then, finally, after a bit of amusement painting the pilot and preparing struts and stuff, I had an ARTF ready.

The wooden parts had a few coats of strong tea stain for antique pine (pitch pine), finished with a light coat of artists acrylic glaze medium. The radiator is still largely unpainted in this picture. The Vickers gun is not in the kit, but wasn't difficult to add - I had worked this out last year building a larger scale SE5a.

This is the Dave Banks 1/20 WWI pilot figure painted up. I was going for the 'high summer on the western front, oily aeroplane look'.

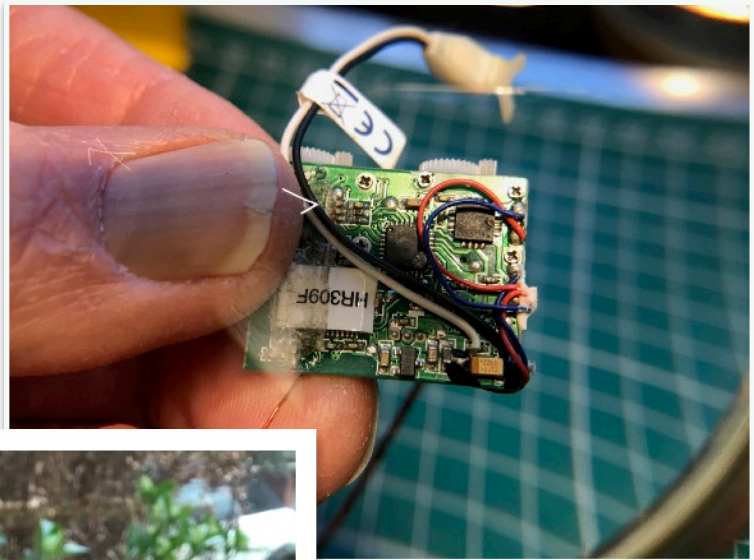


Remember the Rx brick? Tested and checked (I thought) before burying it beneath the hard won paper bonnet. Turned out that the elevator servo wouldn't centre under the pressure of being attached to a very free surface, and the rudder servo just whirled wildly once linked up.

After a lot of messing with connections and hinges, I decided I had to replace the servos. That was a first for me. I had a spare, defunct Rx brick and a number of independent linear servos around.

Anyway, getting the recalcitrant brick out was not a kind action to undertake. Nor it seems was my surgery on it.

Eventually I turned 2 useless bricks and 4 good servos into 1 butchered but happily working Rx. 2 days of my life and a lot of rare parts destroyed.



On the bright side, I calmed my troubled mind constructing a Lewis gun from black craft paper, 0.5mm carbon rod, printer paper and balsa.

No idea how it will be fitted and not a great photo, but it gives an idea of size. There is one I made before, 1/9 scale, on the desk as an aid.

Two better pictures of the Lewis gun, before and after painting.

The scales are measuring decimals of a gram.



And I eventually worked out how to add the coaming.

This is very thin electrical wire in tan, copper core removed. It turned out to be as light as rolled paper, and a lot easier.

Super-phatic glue is magic!



And so:

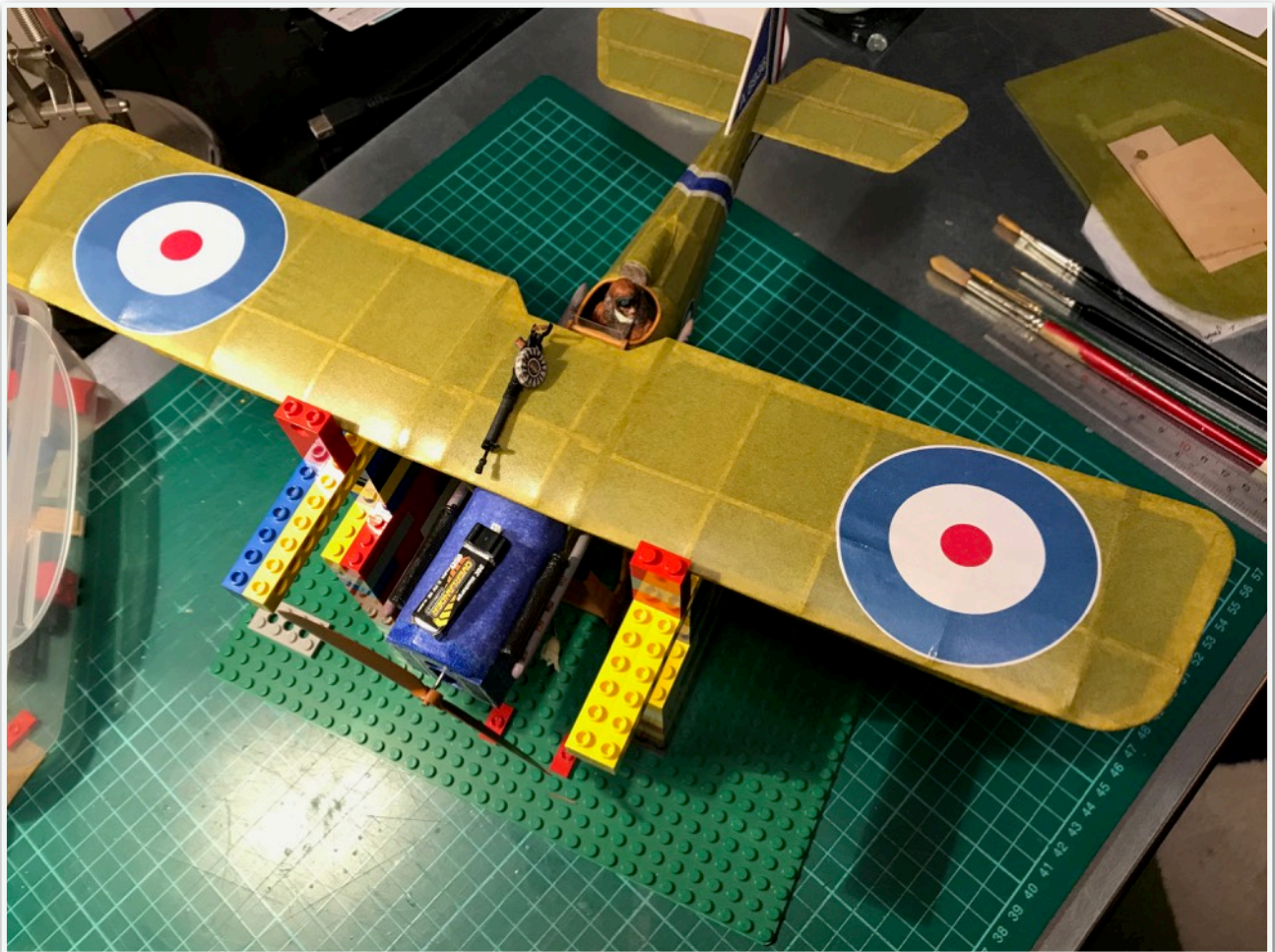
With the decals, windscreen, rocker covers and exhausts attached. These parts are included in the kit, though I adapted the rocker covers and exhausts a little.



The paper decals were cut and applied using the Uhu stick - except those over the top wing. I wasn't convinced that they would flex around the compound curves of the aerofoil. So these roundels were soaked in 5% EzeDope then one attached with the Uhu stick...and a lot of intervention with 30% EzeDope, the second was similarly soaked then attached with EzeDope. It adhered better, but shows the stretch marks of its gestation on the upper wing tissue.

I tried balancing her on a Great Planes balance rig and concluded an extra 5g nose weight was required.

But that didn't sit well by me, so I made a more accurate (!) rig out of Lego and thin balsa. She balances perfectly with 1S 150mAh battery, gun and pilot on-board.





VMC SE5a, Billy Bishop livery. Flying weight, 47g including the pilot and Lewis gun.