

Scale Soaring UK

The forum for all your modelling requirements relating to scale gliders
<https://scalesoaring.co.uk/phpBB3/>

World Models 1/3 scale Super Cub

<https://scalesoaring.co.uk/phpBB3/viewtopic.php?f=12&t=1497>

Re: World Models 1/3 scale Super Cub

by **Jolly Roger**

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Posted: **23 Feb 2019, 01:02**

Just a quick update nearly 2 years on...

Q. So how is the cheapo motor/ESC/battery combo from Hobby King doing in my 1/3 scale Super Cub?

A. Wonderfully!

I had my 50th flight this afternoon and no problems. The batteries are still delivering 10 mins of mixed flying, the motor hasn't made any awful grinding noises, the ESC hasn't puffed a whiff of smoke and the airframe is standing up manfully to the rigours of several hasty put-downs on rough pasture. I keep trying to do dramatically steep full-flap spot-landings, inspired by YouTube bush pilots, but basically haven't developed enough skill yet! Those squishy 8" tyres cover a multitude of landing sins.

One more thing - got to fit a pilot! Hoping to sculpt my own when time permits.



Here's a still snatched from my video this afternoon. Gusty breeze threw up major turbulence from the cliff, so called it a day after the first few flights. Looking forward to those balmy Summer evenings.

Re: World Models 1/3 scale Super Cub

by **Simon WS**

Posted: **11 May 2017, 06:30**

Very nice Roger. Looks like you live in a lovely spot too. I keep thinking I must get out of the over crowded south east.....

Simon

Re: World Models 1/3 scale Super Cub

by **Jolly Roger**

Posted: **10 May 2017, 20:55**

B Sharp wrote:

Nice Rog. It's a pity we didn't meet up at Eden Valley.
Brian.

I agree - wasn't back driving, sadly. When is the next Eden Valley get together?

Re: World Models 1/3 scale Super Cub

by **B Sharp**

Posted: **10 May 2017, 18:37**

Nice Rog. It's a pity we didn't meet up at Eden Valley.
Brian.

Re: World Models 1/3 scale Super Cub

by **Jolly Roger**

Posted: **10 May 2017, 17:22**

Perfect weather, full set of charged batteries, no more excuses...

And what a waste of good adrenalin - it's the easiest plane I've every flown. It so slow it's ridiculous, bimbling past on half throttle accompanied by a lovely whoosh from the prop. It does have the Cub-swing on take off, but it's s-l-o-w, gentle and easily corrected with rudder, and landings are easy-peasy, even for me (I'm quite new to power-flying).

I'm delighted with the electric powertrain, especially because it's cheap as chips. Assuming the motor doesn't start throwing magnets and the ESC lose smoke, I think this is a practical and excellent value set-up. It gives very realistic scale speed and power - just what I was after.

Rough costs: motor and ESC £65 each from HobbyKing, set of LiPos £40 (on special from Robotbirds). Total ~£170 + p&tp. OK, so that's quite a few bags of chips, but still.

Duration? Recharging the batteries showed it takes 360mAh per min of mixed flying, so keeping to the "only use 80% of your nominal battery capacity" rule, I should get safe 10 minute flights and still give my batteries an easy life. Motor, ESC and batteries are handshake temperature at the end of the flight. I've had 6 flights today, each one longer than the last.





One last thing. I've been flying from the rough pasture next to our house and was worried it would be too rough and would rip off the U/C. In fact it's been absolutely fine; I think the soft 8" wheels are doing a fab job absorbing the bumps, and with a bit flap, encounters with Planet Earth are tender affairs.

So yes, happy bunny here.

Almost forgot to say - thanks to my dad for the photos (and for buying me a Cambria Capstan in 1981!)

Re: World Models 1/3 scale Super Cub

by **Jolly Roger**

Posted: **28 Apr 2017, 07:41**

Philkiteflyer wrote:

Jolly Roger wrote:

It seems yellow Cubs never go out of fashion!

I think that's the Hangar 9, 1/4 scale Cub from about 10 years ago. quote]

Nope, its a cheap World Models one. Though it has a quality power system, the model is stock standard. [http://www.singahobby.com/index.php/wor ... 3-cub.html](http://www.singahobby.com/index.php/wor...3-cub.html)

Ooo I like the blue one. 🇬🇧

Phillip C

Sorry my mistake. That price you've shown is a bargain. Even at £380 (UK price) many people consider it a good deal. [http://www.stevewebb.co.uk/index.php?pi ... a=Aircraft](http://www.stevewebb.co.uk/index.php?pi...a=Aircraft)

At about 15lbs weight that should tow 4m gliders nicely on 8s.

Re: World Models 1/3 scale Super Cub

by **Philkiteflyer**

Posted: **28 Apr 2017, 05:21**

Jolly Roger wrote:

It seems yellow Cubs never go out of fashion!

I think that's the Hangar 9, 1/4 scale Cub from about 10 years ago. quote]

Nope, its a cheap World Models one. Though it has a quality power system, the model is stock standard. [http://www.singahobby.com/index.php/wor ... 3-cub.html](http://www.singahobby.com/index.php/wor...3-cub.html)



Currency Converter

Market Rate 1

SGD GBP

Rate: 0.5547 Rate: 1.8028

405.20 = 224.76

Ooo I like the blue one. 🇬🇧

Phillip C

Re: World Models 1/3 scale Super Cub

by **Jolly Roger**

Posted: **26 Apr 2017, 12:55**

It seems yellow Cubs never go out of fashion!

I think that's the Hangar 9, 1/4 scale Cub from about 10 years ago. They marketed a 1/5 scale version at the same time which was my intro to powered flight.

H9's current offering is a gorgeous 1/4 Super Cub with loads of scale detail and a price to match - about £550 in the UK.



For electric flight they recommend 5s or 6s LiPo. This would be OK for scale flight but for towing or frolicking around I'd suggest 8s. It's always more efficient to get the power from big volts than big amps. 8s would allow you 2kW with less than 70A current.

Yes I'll try really hard not to smash mine!

Re: World Models 1/3 scale Super Cub

by **Philkiteflyer**

Posted: **26 Apr 2017, 12:14**

Jolly Roger wrote:

Obligatory Proud Owner ground shots. Maiden flight/crash photos to follow...

Oh please don't crash it, it looks great.

I have just attended an aerotow event where there was a 1/4 scale Cub (normal approx 2kW - 5kW max) towed 4m gliders with ease.

To say I was impressed is an understatement. It had big "Bushcub" wheels, looked smart.

I need something to tow my 4m gliders and seeing this really did inspire me. Also, with all that power my Tug Driver (22yr old son) could have some fun with it while waiting for me to land. 😊



Looking forward to video, good luck.

Phillip Cook

New Zealand

Re: World Models 1/3 scale Super Cub

by **Jolly Roger**

Posted: **25 Apr 2017, 14:52**

Motor tests have gone brilliantly.

I'd done hours of research trying to devise a power train that would give the target 2kW power, but struggled to find good commercial data to do the job properly.

By good luck or good management, I was chuffed to see the wattmeter read 2120W full power on a fresh battery (static) giving nearly 75W/lb (AUW is 29lb).

I expect level flight will need less than 40W/lb (<1200W) and tests show that the batteries can deliver this for over 10 mins. I will aim for 8 mins, to prolong LiPo life. After these static tests, the electrics were barely lukewarm.



Best of all, the prop gives a fantastic whistling sound at half-throttle, just like the full size The motor itself is almost silent.

Costs of the motor, LiPo, ESC total £260.

Obligatory Proud Owner ground shots. Maiden flight/crash photos to follow...

Re: World Models 1/3 scale Super Cub

by **Jolly Roger**

Posted: **25 Apr 2017, 14:40**

And then the wheels...

The kit tailwheel had to go. As you can see from the attached pic of a full-size, it wasn't remotely scale, although I'm assured it is a strong and noble item.

So I moulded my own assembly from carbon cloth and scraps of aluminium etc and bought a 70mm wheel to replace the tiddly 40mm. It also saved a whole 30g. If anyone's interested. Anyway, doing stuff like this pleases me.



The mainwheels in the kit are too skinny, so I splashed out £40 on a pair of lurvely 1/3 scale Dubro wheels. Much better. And then I spotted some 200mm Airtop balloon wheels on ebay. Now these could really help soften out my landings on our rather rough pasture, so a deal was struck. I'll keep the Dubros for nice smooth strips.

Re: World Models 1/3 scale Super Cub

by **Jolly Roger**

Posted: **25 Apr 2017, 14:29**

And what about making it more scale?

To be fair, this model isn't designed to win scale contests. It's designed to be a quick-build, rugged fun model.

For example the rudder outline is cartoon-scale, the cabin window frames are way too chunky, the tailwheel is nicked off an adjacent production line and the cowl isn't quite right. If you want scale, you'd probably need to spend a lot more time, money or both.

But anyway I did the following to slightly scale-ify the model.

First, I cut down some of chunky cabin window frames and replaced the strength with many many carbon tows, soaked in epoxy (using Simon's roller system!). I then removed the largely solid cabin roof and glazed it with 1mm polycarbonate, bracing the roof and windshield area with 8mm (scale size) carbon tube to emulate the welded steel of the full-size. I credit these ideas to Lynxman on RCGroups who inspired my whole "build". Link to his long build thread here: [https://www.rcgroups.com/forums/showthr ...](https://www.rcgroups.com/forums/showthr...) -Super-Cub



Having all the powertrain in the cowl means the cabin is embarrassingly empty! There's just a receiver lurking in the bottom plus a rudder servo and bellcrank driving a close loop system. The kit recommends putting the rudder servo in the tail but my way is lighter and scale. Mind you, I did swallow hard and screw the elevator servos into the tail. Ugh! Practical, but so vulgar!

Re: World Models 1/3 scale Super Cub

by **Jolly Roger**

Posted: **25 Apr 2017, 14:12**

As you can see, I ended up with the entire electric power train in the cowl to achieve the balance point. This is great - it maximises cooling airflow over the motor, ESC and LiPos, minimises wiring and everything can be made really accessible by splitting the cowl. It took me ages to pluck up courage to cut through the lovely pre-painted cowl with a razor saw, but then it was all anti-climax... hinges were installed and strong magnetic catches on the other side. It's a joy to open and shut with a satisfying click.





I spent a day making a perfectly acceptable plywood motor mount and battery box, found it weighed 500g, then binned it and moulded a 100g version from carbon cloth. Much more blingy don't you think? The radio batteries (2 x 2400mAh NiMH) are slung below each LiPo on trays either side of the motor.

Re: World Models 1/3 scale Super Cub

by **Jolly Roger**

Posted: **25 Apr 2017, 14:00**

I took rather longer than a week to build it because I wanted

- (a) to convert it to electric power and
- (b) improve its scale fidelity.

We'll look at each of these in turn.

Electric power?

I wanted to find just how practical and cheaply a model like this can be turned electric. We know you can buy truly excellent electric systems from Europe, costing £100s, but I wondered how the cheap-as-chips HobbyKing components would stand up to higher currents and powers.

I also wanted it to be as convenient as possible, i.e. super-easy to swap battery packs and connect up the wiring.

Finally I was after a low-weight power train that would give scale performance and balance the model without any lead. I hate lead, me.



I settled on a 10s LiPo 4500mAh battery, (made from 2 x 5s 4,500mAh batteries in series), controlled by a Hobbywing 100A HV ESC, powering a Turnigy 63-74 149V motor spinning a 24x10 prop. The target was 70W/lb max, so 2100W at an estimated AUW of 30lbs, and 6 mins + duration.

Re: World Models 1/3 scale Super Cub

by **Jolly Roger**

Posted: **25 Apr 2017, 13:47**

In my case... leave it for 8 years collecting dust! Life, eh?

I only got mine out the box at Christmas to check it over for the first time.

First impressions - overall build quality is fine.

Structurally, I checked the key stress joins around U/C, firewall and wing-strut attachments and they were all OK.

Cosmetically some of the finishing was a bit slap-happy - the inside of the cabin had been slathered with gloss white paint by somebody in a bad mood, and I'm not a huge fan of WM's own film, Toughlon. It has a white base-layer which is slightly evident on edges, and also tends to grow saggy wrinkles when not ministered to with an iron. But it is tough, I'll give them that. If I wreck this plane I would rebuild and Solartex it for a much more authentic finish.



If you're bolting in a petrol engine and happy to use the supplied hardware, all of which is OK, you could get this flying in a week of evenings. It was mostly an IKEA experience, except you're not left with 4 different allen keys and a small plastic bracket with no apparent purpose.

World Models 1/3 scale Super Cub

by **Jolly Roger**

Posted: **25 Apr 2017, 13:40**

Not really a build thread as this is a 99% built ARTF, but if you're looking for a quick-build semi-scale tug, or interested in converting a tug to electric, read on....

Please take all the following with a big pinch of salt though as I haven't flown it yet save a few 10" high hops in the garden. I'll update this thread when it's maiden.

Headline stats: 141" span, 91" long, and weighs a relatively light 28 - 30 pounds. Lightens your wallet by about 750 pounds too! I got mine from Steve Webb models - a pleasure to deal with, and it comes in a box so big my kids played in it for weeks. In fact I think one of them may still be in there....

[https://www.stevewebb.co.uk/index.php?p ... a=Aircraft](https://www.stevewebb.co.uk/index.php?p...a=Aircraft)

I would definitely collect it too - apart from the cost of carriage for an 8ft long box, there's a high risk of damage. It fitted in my VW Golf fine.

Value for money is a subjective thing but I believe Black Horse's rival 1/3 Cub is £1200 +.

You'll also need to fork out for 8 high-torque servos (it has flaps plus dual elev servos). I used Hitec 645MGs cos I had a drawer full of them, although in my opinion there's faster, stronger,

lighter and cheaper alternatives these days.



It's quite sturdily built with lots of the usual laser-cut ply and liteply, designed to take the stresses of an 80cc petrol motor although US buyers typically go 100cc +.

So you've spent the money and squirrelled all those pricey bits back to your shed... what next?

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