Meadow Flyer
Newsletter of The Oxford M.F.C.

Christmas 2024

Richard Fryer launches his Astral Caster V20 in mid-November. No word on how it goes but apparently, they're nice little models and are very quick to build [Andrew Longhurst photo].

In This Issue

Editorial

Welcome to the even-more-bumper-than-last-year Christmas edition of the OMFC Newsletter – there's a lot in it, and I hope you enjoy reading it.

We're coming up to the building season and after building my first A1 glider in 19 days from start to finish I think I've finally realized that a) these things don't have to take that long to build, and b) unless they're going to be static marked at a competition, they don't have to be anywhere near perfect. If you do build something over Winter or Christmas, I think we'd all like to see it, so please send me a few pictures and a sentence or two saying what it is.

If you're planning on going to the "Fish Supper and Quiz" Begbroke evening in December, I can reveal that there will be 5 rounds of 5 questions each (bonus points will be available). I did think about revealing what the rounds would be called but the basic questions aren't that difficult, so it'll be more interesting to just see what happens on the night…

Also, a quick reminder that the January Begbroke meeting will be for Indoor Cartoon Warbird Foamies. It's worth going to have a look even if you haven't built one. Details and DIY advice/instructions are on the OMFC Website.

I'd like to thank David Lovegrove, Simon Burch, Ian East, Bob Lee, Andrew Longhurst, Chris Brainwood, Simon Milan, Paul Thomas and Ian Melville for providing services and content for the newsletter.

Chairman's Chat – Simon Burch

2024 was, by almost every measure, another good year for OMFC. Our membership exceeded 100; we've seen plenty of flying at the Meadow; our events were successful; and our monthly meetings were well attended. 2025 is already shaping up well, with a similar full events programme, interesting club builds, and a local evening indoor flying trial starting on 22nd January at the Oxford Academy.

The 2025 events programme kicks off early with our 'Indoor Foamie Warbird Challenge' at Begbroke on 15th January. Our previous own-design indoor foamie challenge in January 2022 was a resounding success, and I encourage all who can to take part - it's a great way to dip your toe into designing your own model. Of course, 2024 is not over yet, and we have the Fish Supper and Quiz coming up on 18th December.

It wasn't all good news though; you'll know that our Chairman, David Lovegrove, had to stand down from the Committee due to poor health. Bob Lee stepped in as Acting Chairman, and I'm very happy to note that he'll be remaining with the Committee as our Secretary next year.

We were all saddened to hear of the death of Bob's partner Pam, who was herself a long-standing member of OMFC. We will miss her.

Pam Trill 1936-2034

As I mentioned at the AGM, club events and training sessions do not happen by themselves; they rely on a small band of members to drive the organisation, and any member can contribute in so many ways, for example, ideas for events; drafting competition rule, publicity, transporting or storing equipment, administration on the day, helping beginners… I could go on.

If you can help in any way, please don't hesitate to put yourself forward; distance need not be an obstacle; modern communication makes it much easier to contribute from a distance.

Safety Thoughts - Improved SWEETS

As I'm sure you'll all have noticed, the BMFA has amended its SWEETS flying field checks. In particular, the meaning of the first 'E' has been changed (see BMFA Handbook 13.2).

Previously, it stood for 'Eventualities': i.e., hazards that might arise at your site. At Port Meadow, 'Eventualities' might include area encroachment by cattle, horses, walkers, joggers, loose dogs and Rangers' vehicles, or hazards such as turbulence in the lee of trees or low-flying full-size aircraft.

For free-flight, we could add the possibility of landing in the river, in floodwater, or on the railway. That first 'E' has now been changed to 'Environment', with the following explanation: '

“Consider the environment and conditions you are likely to be flying in. Is there a possibility of rain, mist or fog, and or fading light conditions that might affect visibility and safety? Do you have enough safe space to fly without getting too close to uninvolved people? Can your aircraft complete a safe circuit in the area you want to fly? Is there anything in the area that could cause interference to your aircraft or controls?”.

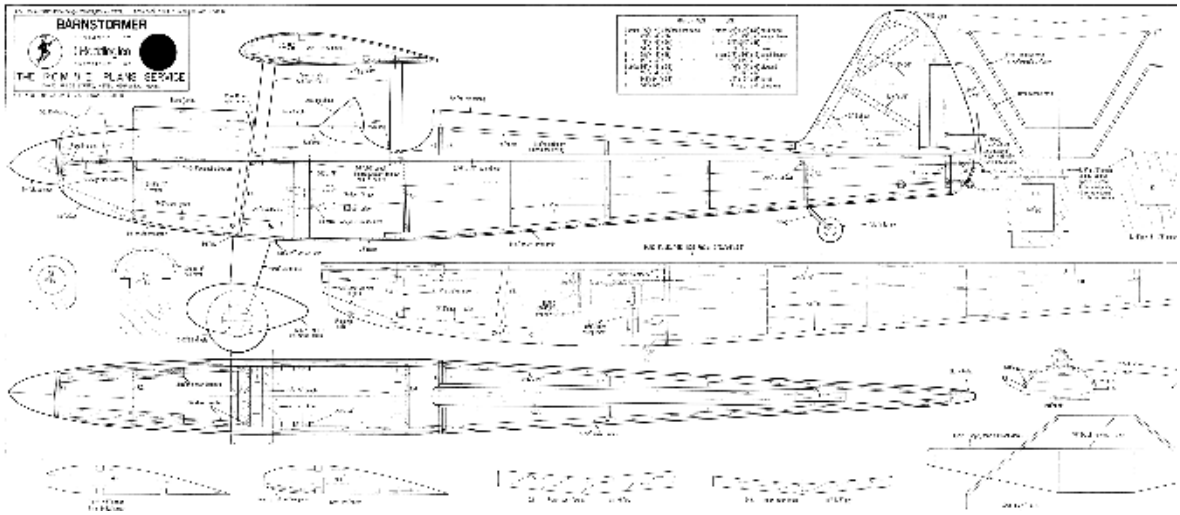
The redefined first 'E' arguably covers all the things that I mentioned, but it also introduces weather, visibility and light conditions - which were previously implicit but not explicit. I think it's an improvement, although they might have taken the opportunity to specifically mention the cloud base and the proximity of regulated airspace.

The BMFA 'SWEETS' Checks are, in effect, a kind of risk assessment: a simple method of assessing your flying site and working out the safest way to operate from it. Please use these checks every time you arrive at Port Meadow - or any other flying site, for that matter.

https://handbook.bmfa.uk/13-general-model-safety#13-2-a-safer-flying-field-and-you

It is certainly worth taking the time to re-read regularly the relevant parts of Article 16, the BMFA Handbook and the Club Rules. Not only is it a good thing to remind yourself about the rules, but also they are all subject to change.... which may or may not be brought to your attention.

A Tale of Two Barnstormers – Ian East



A very long time ago when dinosaurs roamed the Earth, and I was about ten, I received a message from a relative asking whether I would like to find out about model aeroplanes. I certainly would, and pretty soon set off to the next village along on my bike. The relative concerned was my mother's brother's wife's dad, whose name was Ken. Our paths hadn't previously crossed, so the offer was a surprise. I have no idea what moved Ken to such generosity, but it was life changing.

I can still remember stepping into his workshop (i.e. shed) the first time. It was an Aladdin's Cave, with wings and fuselages seemingly everywhere, together with at least one model boat. As anyone who can remember starting out with modelling knows, having a mentor is essential. There is so much to learn that without someone on hand to guide and answer every question, there are just too many mistakes to make.

I followed Ken's advice with my first project, which was for free flight. He was keen to get me going with radio control and helped me build a suitable plane at his place. This was called the *Trotter*, from a plan in (I think) *Aeromodeller*. The radio was just single channel via a button: one press for left, two for right and three to cycle the throttle (if you were lucky). Though Ken was a long-term member of the High Wycombe MFC, he typically preferred to sort out his own flying field by plying a local farmer with the odd bottle of whiskey. I didn't help matters when I came down the farmer's chicken coop. We did get the plane back, but under the eye of the proprietor armed with a shotgun.

I learned many things but most of all that seemingly endless wait for mild enough weather. Many were the phone calls asking if the wind were light enough today, with the usual negative response. Then there was crashing, which ended almost every session, to be followed by a couple of weeks' repair. And, of course, cows, who invariably shared the field. Now Ken was in his late sixties (where the author now finds himself) and sadly suffered a fairly serious heart condition.

One day the herd decided it wanted rid of this noisy nuisance and to regain sole possession of all that lovely grass, so it charged us *en masse* - so much for their pacific reputation! Luckily Ken's youngest son Andrew came along with us on every session. We picked up poor Ken, one of us on each side, and raced for the border wall. We just made it, but I've never trusted cows since. (About ten years ago, a neighbour of ours was trampled to death by a herd, after he moved to another county. They were spooked by his dog, who got away safely.)

After making several repairs to the *Trotter*, I felt I might be up to building a model (mostly) on my own, at my place. Ken suggested a plan offered in a recent (September 1969) issue of RCM&E - a design by the celebrated David Boddington ('Boddo').

The *Barnstormer* had a high wing, which gave the stability suitable for a beginner. Like most r/c planes of the time, it was designed with only 'bang-bang' rudder and motor control in mind. The build involved metal bending, which was beyond me at the time, but Ken was happy to step in and make the cabane struts and undercarriage.

The completed plane, finished in blue and yellow *Solarfilm*, was something of which I was immensely proud. Despite the risk of yet another crash, I just couldn't wait to fly it.

I can't remember how many flights it made, or how successful they were, but I do remember the last one. The inevitable crash was not what ended my model flying at the time (that was another inevitability - discovering beer, girls and rock 'n roll).

As crashes went, it was really something. We flew from the side of a valley and had obtained a respectable height when control was lost. My pride and joy went into a steep dive when I noticed a troop of boy scouts walking along the bottom. We yelled; they heard and scattered just in time. The parts remained at Mum's until she died in 2007.

An intensely demanding job and other hobbies, including flying full-size gliders, prohibited a return to modelling for many years. Then after retiring early due to ill-health in 2008, my thoughts returned to building and flying models. My two sons also took an interest, and each built a plane - a *DB Mascot*, now doing service with our club as a trainer with Paul Thomas, and a *DB Baby Ace* (currently awaiting repair in my workshop).

I began flying a *Tutor II 40* with the Meteors club at Frogsnest Farm, near Bletchingdon. My younger son George and I owe much to Dave Oliver and Andy Stephenson for giving us instruction there.

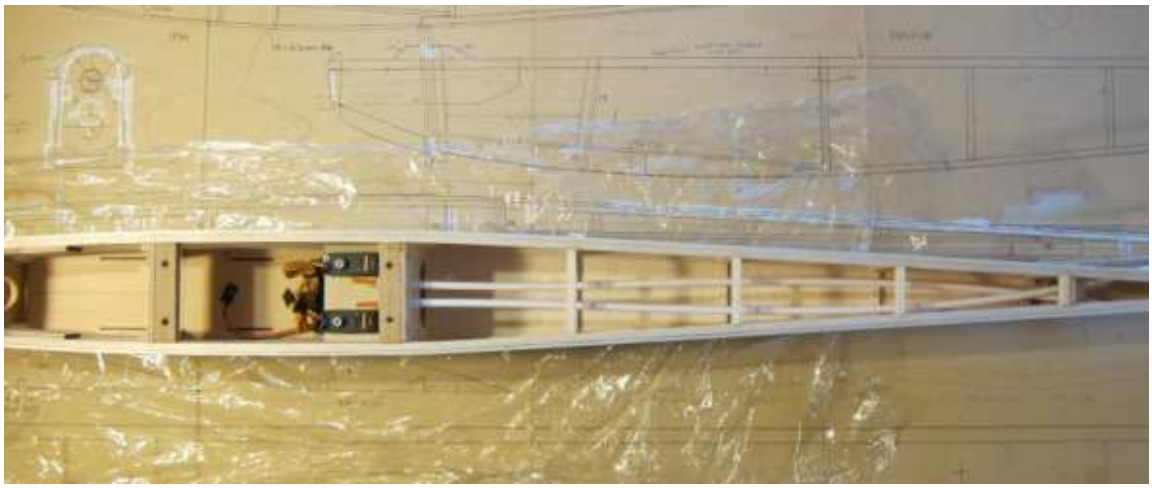
Perhaps it was inevitable that I would decide to build a new *Barnstormer* (I had stupidly thrown away the remains of the old one.). In 2016, I really wanted to exploit both electric power and 4-channel control. This posed serious problems. With hindsight, I should have settled for the 63" DB Models Plan Pack but I'm a stubborn old fool, who wanted his old love back.

To document all the decisions and reasoning involved in (essentially) redesigning the 52" original would require a book, not a brief article. To summarise, there were three principal issues.

a. Electric power is heavier than IC.
b. The weight distribution is very different (you cannot put that big heavy battery where the big old heavy motor was).
c. Somehow, I had to add an elevator and ailerons, together with servos.

In the end, it wasn't the big (motor) battery that posed such difficulty as the 'flight' one, which powered radio receiver and servos. This was resolved when I discovered a compact 5-cell pack, narrow enough to squeeze in directly above the motor LiPo. This also provided just enough ballast to balance the plane.

Perhaps the most profound change was adding 2" to the wingspan, to compensate for the extra (battery) weight. I now have the only (?) 54" Boddington *Barnstormer* anywhere. (Most alterations were performed directly over the original (1969) plan but the wing changes were drawn using Adobe Illustrator.)



After my better half gave me the materials for Christmas 2016, the build commenced in early 2017. I finally finished it nearly *four years* later in November 2020 (see below).

The reason for such a long run was largely the (re)design required, though learning how to bend metal and general head-scratching was also to blame. I felt delighted by the result but realised I had very little reason for confidence in its ability to fly, given my lack of experience and guidance in design. At heart, I doubted that it could do so, mostly because it was far heavier than the original but also because I was far too terrified to attempt it.

So it took another three and a half years before it took to the sky. It might well have remained an expensive ornament but for the kindness of Simon Burch, who volunteered to be test pilot in July this year (2024).

I shut my eyes and waited for the crump but was astonished to hear him say that it "flies beautifully", as indeed it does but for one major concern - it's an absolute pig to get off the ground!

Prop-wash over the tail fin drags it violently to the left on powering up. Full opposite rudder can relieve the effect but there follows a wrestling match which often ends with a roll into the scrub. I have followed Simon's advice, powering up more slowly, but adding toe-in to the u/c is too hard to achieve, requiring the bending of metal to replace the current unit. I am learning from experience and typically abandon the run twice (at least) before I succeed. I have given much thought to shoulder launching but have no experience of doing this while holding the Tx in my other hand. Worse, it has occurred to me that if the same problem arose, serious damage could result, whereas only "bumps and bruises" were suffered from a fraught ground run. The little plane has proved strong enough to survive quite a lot of that.

I make no apology for securing the services of a pig as pilot except to a very worried toddler who thought it was Peppa. I had to explain that it was her younger, adventurous brother, George; that he loved flying and was held in securely with Velcro. (An otherwise friendly Dutchman in the car park was more scathing, saying he never flew anything with less than an eight-foot wingspan and a 50cc petrol engine, to which I replied that George would not approve.) I also make no apology for my sense of humour in rendering a pig airborne.

Simon was kind enough to buddy-box me for the second flight and I've have enjoyed many solo flights since. Aside from the difficulty taking off, the only other pain is swapping batteries (4S 4Ah). This requires removing the wing, receiver and other battery, along with all soft furnishing. That, and putting everything back, takes about 20mins and is quite exhausting, so each session is typically of just two flights of up to 11mins each.

All went well until a week or two ago (early November). Landing has always gone smoothly but this time I overshot a little and decided to go round again. I powered up and then (as Sulu would say) the helm failed to respond.

I was suddenly faced with no control at all - no roll, pitch or yaw. My first thought was a broken linkage; indeed, the brass elevator link was clearly snapped in half amongst the wreckage (left) – but the more likely cause turned out to be simpler and boiled down to a particular form of pilot error. On trudging back to the car park, I noticed that the wind had turned around 180 degrees. What had been a 3-4-knot headwind had become a 3-4-knot tailwind.

My best guess is that George had simply stalled. There was just no net airflow over the control surfaces. I was unlucky in that it came down in the scrub, catching both tail plane and wing. The former was ripped off and the latter suffered a fixing ripped out.

I forgot to check the radio at the time and so cannot say conclusively that it was not to blame, but I have never known a problem with the Futaba gear (In contrast, I have known catastrophic problems with Spektrum kit and so will never go back). My money is on a simple stall, resulting from my failure to

check the wind conditions before attempting an approach. You'll be glad to know that George was uninjured and can't wait to go up again.

If anyone reading this is thinking of an electric conversion – and, let's face it, the overwhelming majority of legacy designs are for IC – I'd be only too happy to help if I can. If anyone would like to build another 54" *Barnstormer* then I'm also happy to share my design material, though they'd have to treat the old paper plan with great care as it's beginning to disintegrate.

Lastly, I'd like to dedicate this little missive to the memory of Ken Oxlade, who succumbed to heart disease long ago, and to his son Andrew, who sadly passed last month, aged 74. I regret losing touch with them both but remain deeply grateful for their generosity and kindness to me all those years ago. Andrew continued to build both model planes and boats and I have no doubt found joy in so doing.

Aunt Lucy's Kunzle Cakes – Gary Law

A couple of OMFC members at the autumn comp asked if the recipe for the tray bake that I regularly distribute at competitions could be published in The Meadow Flyer. Here is the recipe…

Ingredients

170g margarine

2 tbs sugar

2 tbs golden syrup

4 tbs drinking chocolate

2 packets Lincoln biscuits (from Amazon if unavailable locally)

300g cooking chocolate

Lined square baking tin 23-25cms *[9"-10" for those who use 'proper' units – Ed]*

Method

Crush biscuits. Melt sugar, syrup, margarine and drinking chocolate in a large saucepan. Stir in crushed biscuits and mix thoroughly. Turn out into lined baking tin and press.

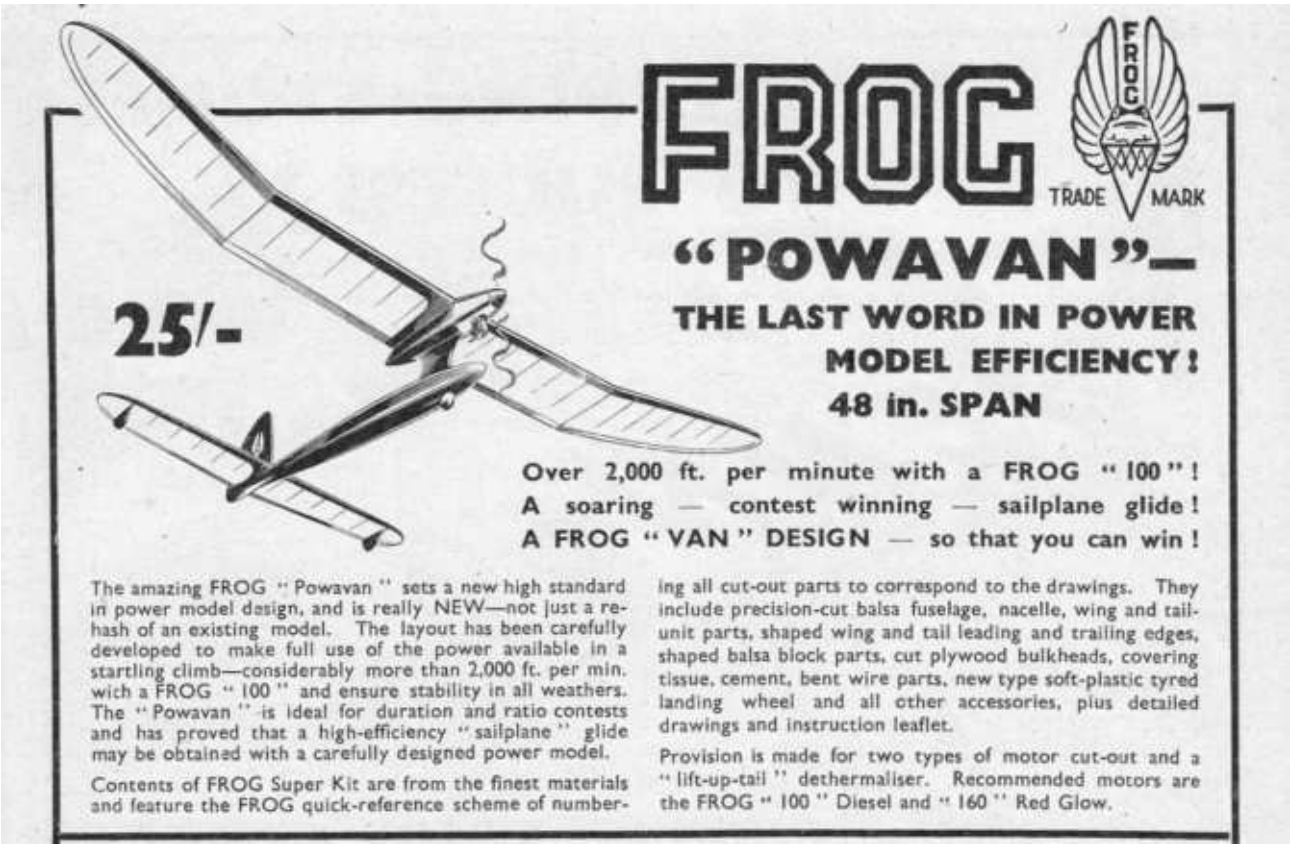
Allow to cool

Melt chocolate over a bowl of boiling water and Spread over biscuit base

Allow to cool in fridge, then cut into 36 squares before completely set

Store in airtight container in fridge - will keep for a week if not eaten first.

The *Frog Powavan* that came from Venus – Andrew Longhurst



When I was aged 12 and already a balsa addict, I was captivated by the above advert for the *Frog Powavan*. I gazed at it with unrequited longing because it was a bit big for my Mills .75 but it would look stupendous and might fly pretty well. Maybe I would garner the necessary 25 bob at Christmas from generous relatives?

Alas, all the dosh I got was a credit note for six and eightpence from Uncle Roy, and that wasn't even proper money.

And so the dream went on. It was clear to me that its fantastic shape meant that it came from Venus and was designed by the Mekon, ruler of the Treens, with the evil intent of hunting down my hero the fearless Dan Dare who appeared weekly in the Eagle comic.

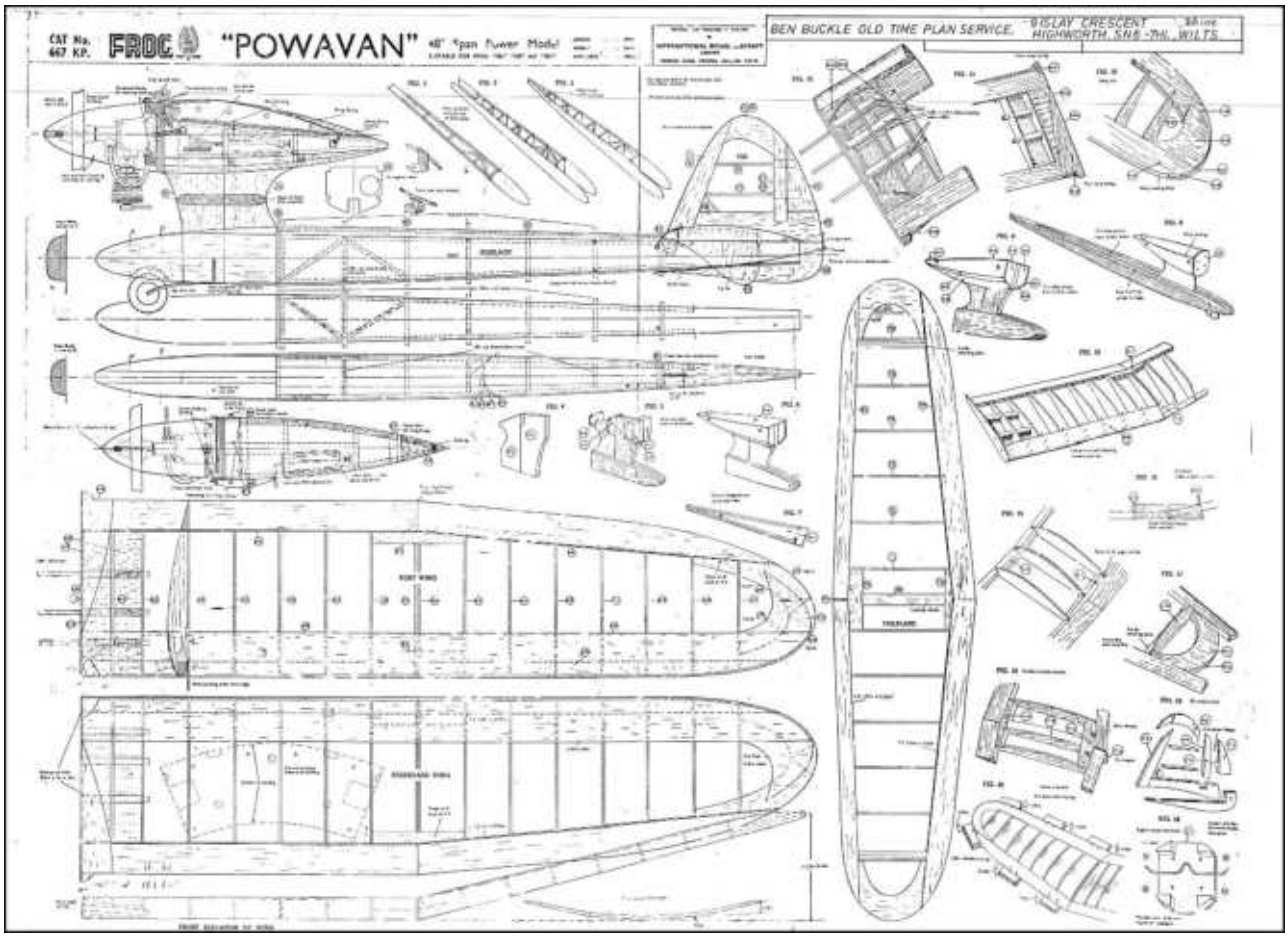
Fast forward 60 years and the thought dawned on me that at last I could build a *Powavan*. I got a copy of the plan and saw that for a power model, it had a wing of rather high aspect ratio – 8 - probably best avoided. An example, powered by an antediluvian Frog 100, was appraised by the Aeromodeller. They reported that it flew with absolutely no problems and the test team were generally very impressed.

But a long stroke Frog 100 is not going to push a 48ins span model to its aerodynamic and structural limits. In fact, my Mills was probably as powerful.

Flying my *Powavan*

Out on the local park to chuck it about a bit, I found the mean Treen machine had a glide little better than that of a raspberry tart. In the *Powavan's* defence, I found it very difficult to hand launch because the motor being 1/3 of the total weight and high up, the moments of inertia seem to force it into some direction other than that to which it was launched.

After a bit I decided it was under elevated even though the CG worked out exactly as shown on the plan (40%) and the decalage also. I had 5 grams of Bluetac on me and with this on the back it seemed a bit better. I added a tommy bar for luck and tried again. Then a small screwdriver, upon which it refused to fly at all! The screwdriver soon got lost in the long grass, so my only alternative was to pack up the stab. Eventually I had 1/8" under the wing LE and 3/8" under the tail TE and it finally looked as if it was stalling. I gave up and took it back to the ranch where I put 10 grams of lead in the back which moved the CG to 50%. I then glued ¼" of packing under the tail TE which I thought must leave it over-elevated. I would then be able to sand this down a bit once I had seen it gliding properly from high up.



The Powavan was actually designed by a Mr R Vanderbeek hence the VAN part of the name which is shared with his other designs such as the Vandiver etc. By 1953 the kit didn't have a sheeted wing LE, but a sparless structure with very wide pre-shaped leading and trailing edges.

Out on Chobham's wild spaces, I tried another hand-glide and it didn't seem too bad, having just a slight stall. So, I started up the Frog 150. In my youth this would tow a 1/2A control line combat ship round at 60mph so, to be cautious I put an 8"x4" on backwards. Upon launch, it went into a wild right spiral but the 5 second Tomy cut it before it crashed. This should not happen. Surely the effect of the prop-wash from the high mounted engine on the pylon should turn it left, not right?

All the advice about high thrust line jobs says they should turn left on power. So, one inch of 3/32" square went on the left side of the fin. This reduced the turn and had it climbing gently to the right. I applied more left Gurney to the fin. Next flight it climbed vertically but quite slowly because of the reversed prop.

I was now able to confirm that the glide was stally and slightly to the right in spite of the two left tabs. I adjusted the tail mount to angle the fin slightly left also and reduced the decalage a bit. This time a tight left spiral resulted but the glide was dead straight. It obviously wanted to glide right so I thought it best to let it do that. I removed all left turning adjustments going back to the original set up but instead gave it a shim of left thrust under the radial engine mount. This time, launching quite level, it pulled into a slow vertical climb and after a bit, rolled into a gentle left spiral climb. Nice!

Clearly there was no point in perfecting it further until I had I put the prop on the right way round. This action can cause the engine to become a changed animal. Well, the revs went up, the noise went up and I could feel it pulling like mad . . . but I launched it anyway.

It shot off into a very high-speed loop, going quickly out of sight behind me. I tried to turn round but the heather had entangled my feet, and I could hear it coming up behind me FAST! I threw myself into the heather as it roared overhead.

Struggling up, I could hear it going over the top of another loop. With the engine revs building again it was apparent the Treens had mistaken me for Dan Dare and now they had it in for me big time! I bit into the heather again and it gave me another haircut. Looking up, I saw it climbing fiercely for a third looping attack, but before it did so the engine cut. It stalled, then stalled again and finally touched down with a thud.

That was too hairy by half and extremely undignified but a quick glance around showed that there were no witnesses, thank heavens. You might be forgiven for thinking this account a little exaggerated but consider this; the loop was about the height of two houses, say 60 feet. The motor run was set at 5 seconds and the number of loops was 2.25. If I can remember what Pi is from my school days, I can calculate the speed. Now let me see, that's 3.142 = 400 feet in 5 seconds = 80ft per sec x .68 = 55mph. That's an average, so on the down swoop, allowing for standard acceleration due to earth's gravity, we can apply a factor being the telephone number of the National Physical Laboratory and we see that the Treens have achieved an attack speed of about 65 mph. In common parlance. "OMG that's scary!"

On retrieving it I found that it must have hit something hard because the tailplane had moved forward and split the fuselage neatly into upper and lower halves! Deadly weapon it may be, but not impregnable it seems…

After trying to kill me (twice!) I emasculated the 'Van by removing the gutsy Frog 150R and fitting a pretty little lime green AM10 MKII. The later models of the Frog 150 (referred to as 150Rs) had a different piston with a massive 80 degrees of sub piston induction and the result was an increase in poke from .12bhp to .16bhp. Hence, using a150R was bound to end in tears as it was no less than three times more powerful than the original Frog 100! I calculated that my AM10 MkII, having just .08bhp would have a power output more in tune with what the 'Van was designed for (it was a detuned version of the Mk1 for operation with a silencer).

At Chobham again and over-propped on an 8x5, it powered steadily left and glided right looking very sweet. With a 7x5 it went left rather fast, dropping its left wing, but safe enough. I therefore removed the left thrust shim I had put in for the Frog 150. Things went very well and by tweaking the rudder tab a bit I was able to get a perfect vertical climb with no trace of rotation whatever. But as it was going up rather slowly, it performed a perfect tail-slide when the engine cut. I tried to get a better trim by changing to a 7x4 to increase the thrust. It now turned quite tight to the right. Next flight I put on a tiny strip of left rudder tab to straighten it out a bit and the swine tried to loop again!

I decided therefore that it had to go left/left as advised by all the pundits, so I added a further left tab. A left-hand wingover followed, and it piled in with a cringeworthy CRUMP totalling the fuselage. So that's the end of the *Powavan*. No longer would I pander to the murderous Mekon and his tricky Treens. But little did I know…they hadn't finished with me yet.

At this point I had to have major surgery and six months of chemo ensued. Not feeling too energetic I thought I would try flying R/C. I saw the Powavan wing sitting there in the shed and decided to make a new fuselage and tailplane for it with rudder, elevator, throttle and a quiet peace-loving electric motor to pull it along. All went well and with Jim's help it flew early one calm morning, and I was able to steer it round a deserted Port Meadow quite nicely. I did a few gentle stunts but what was fascinating me was what it would be like to do single channel, like in the days of my youth.

Who can forget those long-distance chases of errant R/C models after the rubber powered escapement failed? Anyway, I tried a rudder only loop. Got it into a left spiral and then hit right rudder, neutralised at the top, cut the power, and let it do the rest. This was quite a thrill so tried again letting it go a bit faster before applying opposite rudder. When I did so, the wing instantly clapped hands and down it came faster than a rocket assisted turnip. This time, the Treens attempt to obliterate me failed miserably. It just piled harmlessly into the stream with a final thud and a lethargic splatter of mud!

No way am I ever going to mess with that murderous Mekon and his tricky Treens again!

New Rubber Scale Duration Class – Andy Blackburn

30" span DHC2 Beaver from a Dumas kit.

We've been trying to run competitions for both rubber kit scale and larger rubber scale models together for a few years and to be honest it's always felt as though we were trying to force a square peg into a round hole - it didn't really work.

However, it has recently come to the attention of the Events sub-committee that:

a) Several larger free-flight rubber scale models are likely to be under construction over the winter, and
b) Many regular competitors like seeing larger rubber scale models in the air or would like to have a go at building one.

So, to take advantage of this set of events (*Carpe Diem* and all that) we've come up with a set of rules for larger rubber scale models.

The existing Kit Scale rules have been simplified and converted to a Winter Postal, with one Kit Scale competition on Port Meadow during Spring 2025; the rest of the rubber scale competitions this year will be to the new rules.

Why the Rules Look the Way They Do
The fact of the matter is that there are now so few of us that we should really be trying to be as inclusive as possible and encouraging people to try something that they wouldn't necessarily fly. In this case, we'd like to encourage people who normally fly duration-based sport or competition models to try something that looks scale and is relatively quick to build, with a traditional structure and a tissue finish, whilst capturing the essence of the subject without carrying loads of detail.

We also didn't want to insist that people should generally have to produce documentation, so there's no static judging and we borrowed a phrase from the UK indoor kit scale rules which specifies that *"The colour scheme is to be in keeping with the subject aircraft but need not*

represent a specific full-size aeroplane" – as long as people have made some sort of an effort, we should give them credit for it.

However, all entries are subject to a Go/No Go decision by the CD, although this is only to weed out duration models masquerading as scale models.

Competition Format
We thought carefully about the general format of the competition; a duration competition is the norm for free-flight and the classic way of doing it is to have three flights to a set maximum time, if more than one person gets three maxes then we have a fly-off.

Whilst this is easy for the skilled flyer and/or for those whose model will usually fly long enough to get a max, it tends to disadvantage the novice or the less-skilled flyer whose lift-finding skills might not be as good.

So, what we've done is to specify that everyone gets three flights, but only the ***best*** flight is used for scoring purposes; this gives the less experienced a better chance, but the best flyer with the best model will probably still win. We will still have a fly-off if necessary.

Size Matters
So, what size models should we allow? This whole area is a bit of a minefield so for the moment we have borrowed the model definitions from the Flying Aces Club (FAC); the standard FAC Rubber Scale competition will be open to models in the following size range:

a) Multi-wing: maximum of 30 inches.
b) Monoplane: maximum of 36 inches.

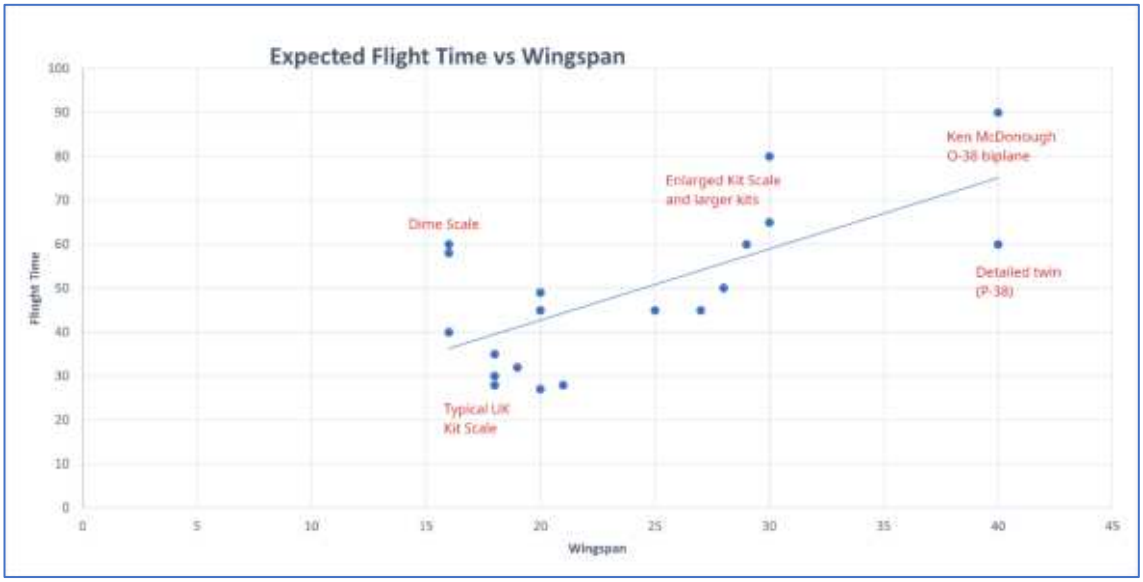
This is quite a wide range but with the addition of a set of small bonuses that are based on the FAC rules, we expect that there will be a reasonably level playing field. We can always adjust it if it's obviously wrong:

Bonus/Penalty	Feature
0	High-Wing Cabin and Shoulder-Wing Monoplanes.
5	Mid-Wing.
10	Low Wing.
10	Multi-Wing (biplane, triplane, etc.) or Sesquiplane.
10	Seaplane with multiple floats of proportional scale dimensions.
10	Flying boat or Amphibian.
15	Multi-Engine with propellers mounted each side of the centreline (e.g. D.H. Mosquito, etc).
-15	Model does not have representative markings (e.g. national military or civil markings). This penalty will be waived on production of published documentation that validates the chosen colour scheme that has no markings (e.g. Bleriot, etc.)

The final score for each model is calculated as follows:

Final score = best flight score + total bonus/penalty points

What should the maximum flight time be?
This is a tricky one; take a look at this:



The graph uses known data and shows that the *primary* influences of how long a model will fly appear to be wingspan and weight – nothing else. A lightly-built Dime Scale model (16" span) weighing 11 or 12 grams can easily fly for 60 seconds, twice as long as a very robust Keil Kraft or Veron Kit Scale model that weighs two or three times as much.

However, if you enlarge the same KK/Veron Kit Scale design by 50% (an easy thing to do at a print/copy shop) then it should fly for at least 60-75 seconds.

So, if we're talking about models with a wingspan of 30" to 36", it looks as though a maximum flight time of 60 seconds is too small. Most/many of the FAC classes use a 120-second max which, in the right conditions with the right model and calm (Continental) weather, is easily achievable, but many of these models are very light indeed and are more like indoor models in terms of construction, so they wouldn't last long in the UK.

On balance, then, it looks as though a maximum flight time in the region of about 90 seconds (one and a half minutes) is probably about right.

We're hoping that people will be inspired to build a larger rubber scale model over the winter. They can be *extremely* rewarding to fly.

What Sort of Model Should I Consider?
One that you like. Seriously, this is the most important factor – even simple scale models take a little longer to build than conventional models, so keeping the enthusiasm going is vital. For this reason, I generally build the tail surfaces first (because they're quick), then the wing and finally the fuselage (because it's the most interesting).

Having said that, there are some general recommendations that can be made. Obviously, a bigger model will fly for longer but many FAC competitors in the U.S. tend to focus on models of around 23"-27" span; this is a handy size and if built very lightly (as many are) will regularly exceed a 2-minute max. Our max is only 90 seconds; some people will be able to pick the air and will be able to produce 3 maxes but, as you only need to get a max once in three attempts, you probably won't need to build a really large model to do well.

A couple of other things to consider. Firstly, it might be quite difficult to spot a camouflaged model in the long grass on Port Meadow – an area of a contrasting colour is a good thing.

Secondly, a dangling undercarriage adds drag and weight and, if it's wing-mounted (as with most WW2 single-engine aircraft), is easy to damage unless it's made to be flexible. A short torque rod about 3/4" long will do the job, check out Richard Crossley's *Brewster Bermuda* plan for details: it's available from the Atomic Workshop, and was a pull-out plan in the May 2011 issue of "Flying Scale Models". On balance, it's usually best to model the undercarriage retracted if possible and to shorten a fixed undercarriage that has been extended to allow an ROG. Finally, experience demonstrates that a reliable adjustable nose plug makes life so much easier – start off with 2 or 3 degrees right and down thrust and you probably won't go too far wrong.

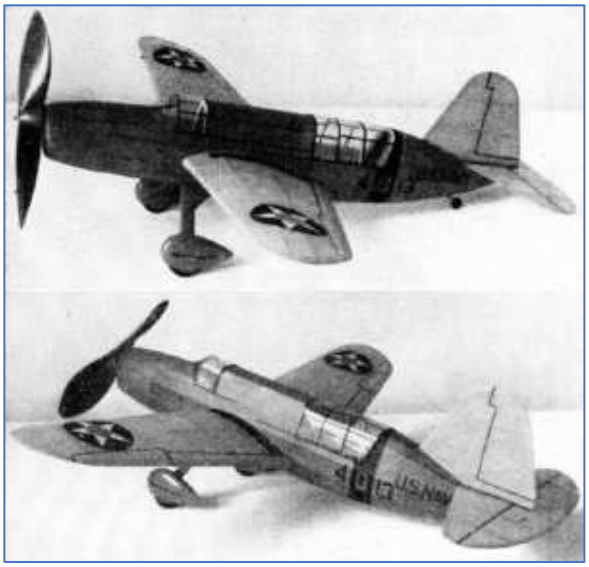
Kits

A kit is probably the easiest way to get started. Volare products in the U.S. are nice people to deal with and have several suitable kits as well as lots of accessories. Easy Built Models (also in the U.S.) have a wide range of kits of varying accuracy and performance, some are very good fliers, but some are designed as display models – read the small print!

If you can find a Herr kit (usually 30" span) on eBay or similar they seem to have suitably light construction - see Bob Lee's review of the 30" span Herr *Cessna Bird Dog* on page 30. Dumas kits are available in the UK and the larger ones (30") are good, but you might have to replace some of the wood; on the other hand, they are quite comprehensive kits and come with Decals. Mike Midkiff short kits and plans are a nice build and are available from Ozark Model Aviation, you'll need to pay via Western Union which can be done at some Post Offices or online.

Plans

Earl Stahl 24" "P-51B" (actually a P-51A) is very good – I quite like it. Leave off the landing gear unless you're going to fly it in a SAM 35 competition. (Outerzone plan oz231)



Earl Stahl Curtiss SO3C was also kitted by Flyline. Just look at the length of that nose! (Outerzone plan oz2061)

. .

Anything by Earl Stahl will fly well. That's a bold and sweeping statement but appears to be completely true. Outerzone has a lot of plans for Earl Stahl plans and Flyline kits, these are usually very good indeed.

Some Czech 1/20 Scale Rubber Scale Plans are available from Outerzone, Mike Woodhouse has a much larger selection. These will all fly extremely well if you're careful with the final weight and will still fly well even if you use heavy wood and apply the paint with a trowel. Some U.S. flyers (Bill Henn, for example) have used flat-bottom wings and have simplified the structure – details are in "The Art of Bill Henn" available from Free Flight Quarterly.

Some domestic plans are available that will produce models that fly well; for example, Richard Crossley's Brewster Bermuda plan is available from the Atomic Workshop and Doolittle Media.

A dime scale 16" Comet Hawker Hurricane enlarged to 24" - note the minimal weight (35 grams) shown on the scales.

Alternatively, you could take an existing plan to a print shop and get them to do an enlargement.

A 16" Dime Scale plan enlarged 1.5 times will produce a model of about 24" span; this has the advantage that the predominantly 1/16" square structure will then be 3/32" square which is much easier to handle, and the structure will still be sparse (= light) even if you add a few extra ribs and/or formers, so it's almost guaranteed to be quick to build and fly well.

The same argument applies to a peanut enlarged to 2x size – 1/20" will be about 3/32".

A Veron or Keil Kraft design (many available from Outerzone) are also good candidates - a 20" design will enlarge to 30", which is a good size and should fly for over a minute, or a lot more if you can build it light.

I have it on very good authority that at least one person is following this route. However, if you do this be aware that:

a) A lot of designs (KK in particular) are lacking in dihedral – many have less than the scale value (!!). Best to go for about 9 degrees for a low-winger and 3 degrees for a high-winger; washout on tapered wings is also a Very Good Idea.

b) Many designs (Veron in particular) are lacking in decalage and have the balance point in the wrong place, so it's always worth checking. You probably want a little less than 3 degrees decalage (measured correctly, not just from the bottom of the airfoil), but do a lot of test-glides to make sure it's stable.

OMFC Autumn Event Report – Chris Brainwood

(*All pictures by Chris)*

CD Gary Law with his Sunnanvind A1

Saturday 7th September saw the club's Autumn Duration Competition take place in near ideal conditions. The day started rather misty but cleared into a dry if overcast day. The wind stayed very light to non-existent with a slight drift from the south. With all competitors on the Meadow just after 9am, the decision was taken to start the competitions a few minutes early at 9:20am. This meant that the competitions ran to time and finished at 1:30pm, with prize giving around 2pm

As well as the competition there were some fun flyers too. Howard Metcalfe brought a whole array of models from a twin electric powered KK Cadet to some superb flying rocket powered models which periodically filled the air with smoke trails.

7 classes were run which gave CD Gary Law and Alan Trinder a lot to do but they both found time to fly in some of the competitions, Alan winning the E20 class

The classes were generally well supported with the two blue ribbon events the A1 Glider and Coupe d'Hiver showing the highest entry.

Howard Metcalfe launches his electrified KK Cadet

Chris Brainwood launches his Bristol Type 29 modified from a DPC Kit. Nice to see this finally trimmed. Flies nicely and looks great in the air.

A1 Glider

Colin Sharman's Aiglet A1

The A1 Glider featured a good range of models, with the Aiglet proving popular with 3 examples flying. The competition was over 3 rounds with a max set at 1'30". Getting the model off the line cleanly was a challenge for many with some dropped scores along the way. Consistency was needed to get to the top of the class. This was aggravated by the light conditions and caught out many flyers.

David King managed some good flights with his Aiglet but ended up dropping rounds 2 and 3. Colin Sharman ran out of time to score any flight times, after concentrating on the HLG class.

Gary Law and Richard Fryer both managed a max in one round with Gary scoring slightly better in the other two rounds to take 5th leaving Richard in 6th. Andrew Longhurst had 2 max flights but a 54s third round saw him drop behind 3rd place man Andy Blackburn who had a single max but more consistent rounds 2 and 3.

Andy only finished his Aiglet a few hours before the event and the competition was its maiden flight. That Andy scored a max in round 1 and had good flights in the other rounds is all the more remarkable. Here's Andy's take on the competition.

The Aiglet needed about 3/32" packing under the tailplane and after doing that, the glide was very good. It might need a little more for best performance, or maybe a bit of the noseweight removing. It's also very difficult to get it to turn with that small underfin rudder, even with the maximum possible rudder angle; some changes will be required in that area, I think.

It was a hi-start launch set-up, so the hook configuration is more critical than with a manual tow; I had one tow hang-up, thankfully without much damage, but it required surgery to make sure it didn't happen again. The loop on the end of the towhook was snipped off and the auto-rudder line attached to a plastic ring, which was cut from the cap to a glue tube found in a Andrew Longhust's flight box (he did say I could have it…).

Also, the band in the auto-rudder line was too strong, so it was replaced with three weak loom bands. And with the original hook angle the (thankfully more-or-less-straight) climb was steep enough to encourage a premature release, so the hook needed to be flatter.

It turns out that for a hi-start launch, the part of the hook that the towline ring sees needs to be absolutely smooth because it needs to be able to slide off the hook when under tension. Any imperfection (solder joint, knot in the auto-rudder line, etc.) may prevent that; you can't just create a bit of slack in the line as you would with a manual tow and hope that the towline just drops off.

Andy's Aiglet making a bid for freedom towards the river.

*Somehow, I came third in the competition, the first flight was a max, c*cked up lift selection on the second and the third flight had what appeared to be an auto-rudder hang-up, because it*

was gliding straight and heading for the river. My nerve went less than a quarter of a minute away from a max and I DT'd it; I have the standard BMK radio DT which worked fine, but it turns out that it would have been OK if I'd waited a little longer. C'est la vie.

I'd never built an A1 glider before and it was something of an experience as it only took 19 days from start to finish. I learned loads and it was great fun.

The Aiglet is great way into the class and is available as kit from Free Flight Supplies .

2nd place went Andy Crisp with his *Colibri*. Unlike all the other competitors, who used the supplied bungee, Andy hand towed his gliders with the assistance of Colin Sharman. Andy is clearly a master at towing and two maxes were the result, however for the final round the max proved elusive. The winner with great performance and 3 maxes was Simon Milan with his *Mock Turtle.*

Simon Milan with his Mock Turtle

Simon has kindly written some notes on how to help stop early release of the model from the towline in calm conditions which many competitors suffered, so over to Simon:

Although I started free-flight aeromodelling in my teens, I only re-introduced myself to it in any concentrated way about 15 years ago and my competition experience has been limited to the OMFC event;

By way of an intro, I have built 4 Hi-Start-capable gliders (2 x36", my 41" scale Vampyr and my 48" Mock Turtle A1) over the past 10 years. All 4 are/were capable of conventional towline launches, though having ancient legs and often flying solo I've only tried it once with the Mock Turtle A1. When flying it – and the other gliders – in Hi-Start mode there have been times when the models have launched fine, others when they've prematurely released (à la your Caprice), and others when they've failed to release and have nose-dived into the ground –

including the Mock Turtle. On one windy occasion on the Meadow, one of my 36" models refused to release but was high enough to miss the ground on its dive and continued to rotate at high speed until the wings came apart!

It seems to me that the main problem with hi-start launches in very light-to-no-wind conditions as last Saturday is the very high initial line tension needed to ensure that the model reaches the top of the line.

This high tension means that the initial relative velocity of the model can be very high (much more than even a windy conventional towline launch?), so some models tend to take off almost vertically which makes it much easier for the towline ring to slip off the tow hook.

This obviously didn't happen to all the A1 Hi-Start gliders on Saturday which – to me anyway – makes it difficult to pinpoint the reasons why. Some further thoughts – which are probably pretty obvious:

Towhook Geometry: My first o/d 36" Hi Start was inspired by Peter Michel's article in the July/August 2013 issue of the Aeromodeller. He recommended bending the towhook 10 degs down "from the horizontal" to assist the release. This seems a good starting point, though I have found that each model needs its towhook angle tuning by trial and error as they all seem to behave slightly differently under tow.

Even then I've found that reliable launches don't always follow, so ideally speaking, I reckon you'd need to be able to adjust towhook angles to suit the wind conditions on the day. Just to be clear I don't do this, and anyway, too much bending of a piano wire hook is never a good idea… An opportunity for a specialised hook with this capability built in?

The towhook angle relative to the wing incidence may also be a factor, but this is a bit beyond my pay grade….

Towhook Position: Peter Michel also recommended the towhook being the same as for conventional towing – "on a line projected 20 deg forward and down from the CG", though on his (relatively long-nosed?) 3ft Ruler model he found that the hook ended up much further forward than expected. I would generally expect this to be the case.

A rearward towhook will tend to cause much higher model angles on launch, with a greater likelihood of premature release or the model peeling off to one side and diving into the ground. Better to have a more forward towhook even with a bit of hunting/weaving on the tow, if it'll help getting to the top of the line.

Again, all done by trial and error and ideally adjusted to suit wind conditions – not that I've ever done this. In this connection, my Mock Turtle has a very short nose compared with Peter Michel's 3ft Ruler and some of the other A1s flown on Saturday, so this may have helped it to be less susceptible to high launch angle premature releases than some others. Again, a bit beyond my pay grade….

Meadow Flyer Christmas 2024

Name	*Club*	*Model*	*Flight 1*	*Flight 2*	*Flight 3*	*Total*	*Position*
Simon Milan	OMFC	Mock Turtle	Max	Max	Max	270	1
Andrew Crisp	OMFC	Colibri	Max	Max	1' 17"	257	2
Andy Blackburn	OMFC	Aiglet	Max	1' 13"	1' 19"	242	3
Andrew Longhurst	OMFC	Barbers Pole	Max	Max	54	234	4
Gary Law	OMFC	Hatchetman	46	Max	37	173	5
Richard Fryer	OMFC	Hanson	Max	31	33	154	6
David King	OMFC	Aiglet	76	24	36	136	7
Colin Sharman	OMFC	Aiglet					8

Coupe D'Hiver

Chris's Etienvre Coupe D'Hiver

The Coupe class proved quite tight with all the competitors achieving at least one 2-minute max and just 55s covering first to last. Ben Hobbs was looking good with his OD model and two maxes, but a poor final round saw him in 5th place.

Ivan Taylor's Own design Coupe

Chris Brainwood did a little better with his *Etienvre,* with one max and a couple of decent flights to come 4th.

3rd with two maxes was Jim Paton and his *Gorban* narrowly beaten by 3 secs by Ivan Taylor with his OD model. Ivan suffered some poor air in the final round losing out to Richard Fryer who showed us all the way with 3 maxes.

Name	*Club*	*Model*	*Flight 1*	*Flight 2*	*Flight 3*	*Total*	*Position*
Richard Fryer	OMFC	OD	Max	Max	Max	360	1
Ivan Taylor	OMFC	OD	Max	1'57"	1'43"	340	2
Jim Paton	OMFC	Gorban	Max	1'37"	Max	337	3
Chris Brainwood	OMFC	Etienvre	1'51"	1'39"	Max	320	4
Ben Hobbs	OMFC	OD	Max	Max	65	305	5

HLG/Catapult Glider

Colin Sharman with his HLG

The class was flown from a marked box and had a 1 min max. The class proved popular, with Richard Fryer winning out with a very impressive max, chased by Andy Crisp. Charlie Wong flew as a guest at his first ever model meeting and looked to be having great fun. Hopefully, we'll be seeing more of Charlie in the future. This class is a great introduction to model flying with easy to make small models. The club even has its own design, the Oxcat by Andy Crisp. Copies of the plan and even kits are still available from Gary Law. Contact webmaster@oxfordmfc.bmfa.uk for more details.

Name	*Model*	*Flight 1*	*Flight 2*	*Flight 3*	*Flight 4*	*Flight 5*	*Total*	*Position*
Richard Fryer	OD	27	24	35	max	41	187	1
Andy Crisp	OD	29	18	20	19	20	106	2
Alan Trinder	*Oxcat*	13	13	15	17	20	78	3
Colin Sharman	*Bramo Sweppette*	14	15	15	12	10	66	4
Charlie Wang	*Oxcat*	15	10	15	10	15	65	5

E20

Alan Trinder was the winner of the E20 with his now well sorted VMC model achieving a 1 min max in the final round to put him ahead of Simon Milan. E20 is gaining in popularity for small field events with several kits now available for models, as well a couple of free plans in recent Aeromodeller magazines along with an excellent article on their development by Jon Whitmore. The free plan for the *Idiom* appeared in the MAY 2024 issue. BMK can provide all the hardware with a single PCB that has a programmable timer and DT in one. For 2025 the competition is moving to a 20 second motor run which it is hoped will work well on the Meadow.

Name	*Model*	*Flight 1*	*Flight 2*	*Flight 3*	*Total*	*Position*
Alan Trinder	VMC	42	51	max	153	1
Simon Milan	OD	50	37.5	35	122	2
Gary Law	VMC	35	36	21	92	3
David King	*Dixielander 20*	20	36	29	85	4

Classic/Vintage Kit Glider

Andy Crisp's KK Caprice

Andy Crisp showed his glider experience to come out on top with his *Caprice* scoring two maxes to see him comfortably ahead of the single max of Andrew Longhurst's *Caprice.*

Gary Law was third with his *Sunnanvind*.

Name	*Model*	*Flight 1*	*Flight 2*	*Flight 3*	*Total*	*Position*
Andy Crisp	*Caprice*	max	max	77	257	1
Andrew Longhurst	*Caprice*	max	14	20	154	2
Gary Law	*Sunnanvind*	32	21	23	76	3
Alan Trinder	*KK Champ*	8	17	30	55	4

Classic/Vintage Kit Duration

Andrew Longhurst showed us all how it's done in the rubber kit duration class with amazing performance from his *Bowden Baby* scoring 3 maxes closely chased by Jim Paton and his *Senator*. I'm not sure I've ever seen a classic kit model climb in such a steep spiral duration model way.

Name	Model	Flight 1	Flight 2	Flight 3	Total	Position
Andrew Longhurst	*Bowden Baby*	max	max	max	270	1
Jim Paton	*Senator*	1'17"	1'23"	max	250	2
Richard Fryer	*Senator*					3

Rubber Scale Kit Duration

Chris Brainwood's Micro-X Piper Clipper

Andy Blackburn's 29" Magister from an Aerographics kit

,

A small entry for the Scale Duration but Andy Blackburn came out on top with very consistent flights from his *Miles Magister*. Chris Brainwood's *Piper* was also consistent but a bit less so than Andy's model.

For 2025 there will be some changes to rules. The existing Kit Scale rules have been simplified and converted to a Winter Postal, with one Kit Scale competition on Port Meadow during Spring 2025; the rest of the rubber scale competitions will be to new rules aimed at a simpler competition for models up to 36" span or 30" for biplanes. More details and full rules on the website https://oxfordmfc.bmfa.club/omfc-rubber-scale-duration/ .

Name	*Model*	*Bonus*	*Flight 1*	*Flight 2*	*Flight 3*	*Total*	*Position*
Andy Blackburn	*Miles Magister*	15	45	43	46	149	1
Chris Brainwood	*Piper Clipper*	15	31	31	31	108	2

Herr Engineering Bird Dog – Bob Lee

The finished model. Note the forward motor peg position. It was originally further back where the red area starts.

I have to be honest and say that normally if I am going to build a scale model then I would choose a British type, I just think that we have (had?) a great aero engineering heritage that needs to be celebrated. However… I had seen a couple of *Cessna Bird Dogs* built from the VMC kit flying indoors and flying very well, so the *Bird Dog* was on my build list, despite it being American. The VMC kit is 21 inch wing span which I generally think of as a bit too big for indoors and a bit too small for outdoors. I then had the opportunity to get hold of a Herr Engineering kit which has a 30 inch wing span, which I think is just about the right size for an outdoor scale model. We all know that 'bigger flies better', but it's not too big to pose a storage issue.

I have to say that the kit was excellent, to the point where, if you ever have the opportunity to acquire a Herr kit, then I recommend you do so. The wood quality was good, as was the laser cutting, which was all very accurate. There are a lot of notched formers and the notches all lined up (yes Andy, it is possible), with no 'wonky' stringers. I don't think I had to adjust any parts to fit. However, like all kits I felt that some changes were needed to optimise the model, and I thought that going through the changes that I made would be worthwhile.

The first change is the rear motor peg position. This has been written about many times before, but I feel is still worth discussing. If you look at a typical sports rubber powered model, (I'll use the *KK Ace* as an example) you will see that it has a very long nose. There is a good reason for this. The long nose means that the mid-point of the motor is approximately at the same place as the models' centre of gravity (CofG). This means that the motor balances

around the CofG and no extra noseweight is needed to offset the weight of the motor either at the front or back of the model. Indeed, my *Ace* has no noseweight. Most scale models of course don't have this long nose, and yet designers persist in placing the rear motor peg at the back. This means that 2/3 or more of the motor is behind the CofG and you will need weight in the nose to balance this.

The solution to all the above of course is to move the rear motor peg forward, and that might mean a long way forward, in the case of the *Bird Dog* I have placed it just behind the cabin area. This has left the centre of the motor pretty close to the ideal position, on the CofG.

I can hear you screaming at me that now I have shortened the motor (by a lot), I won't get many turns on it and it will be a short motor run and therefore a short flight. However, I have made the model lighter. This means it will need less power and can therefore use a thinner motor or fewer strands; either way it will take more turns and, with the prop turning slower, those turns will run off more slowly. I am hoping that the net result will be a motor run not that much different to that which I would have had with the peg in the original position at the back, but with a much lighter model.

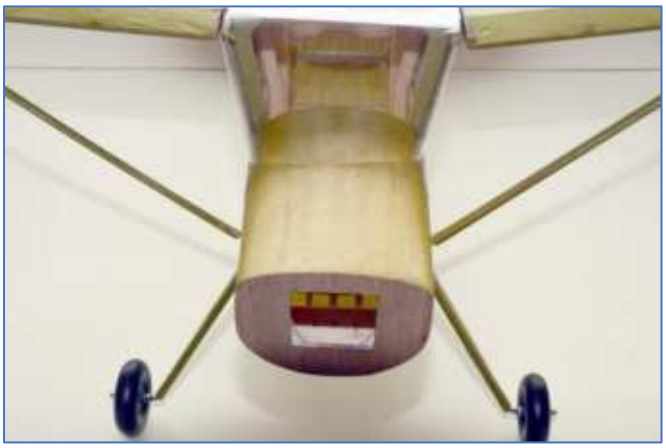
Whilst on the subject of the rubber motor, let's dispel the myth that winding tubes are just for wimps. Why take all the trouble to build a nice scale model only to have it spoilt the first time a motor blows on winding? I use carbon fibre tubes which I buy from eBay but, in order to be able to use one, I first had to make the square hole in the front fuselage former larger. The size you can get away with here will dictate the diameter of the winding tube.

You also need to make sure that all the formers are cut away enough that the tube can pass all the way down to the rear peg without any interference on the way. This is another advantage of a forward rear peg of course: the fuselage is fatter there and there's more room inside. Actually, it's time to own up, I made up the winding tube at a late stage and found that it hit one former. It was a tricky job involving a Dremel with a sanding drum to sort out the issue, so check this sooner rather than later.

And while you are making the hole in the front former larger, why not face it with a piece if thin ply? This area takes a lot of punishment during winding. There is no need to cut all the notches in this facing piece; the stringers can all still end at the existing balsa front former. Build in some side and downthrust while you are at it, because you will need both.

I always form a 'bayonet socket' at the end of my winding tubes. A quick turn to the right then locks it onto the rear motor peg. The winding tube can also be used for motor loading and makes this job much easier. You will also need a winding rod to allow the winding tube to slide forwards when winding is done. I used 16swg wire to form mine.

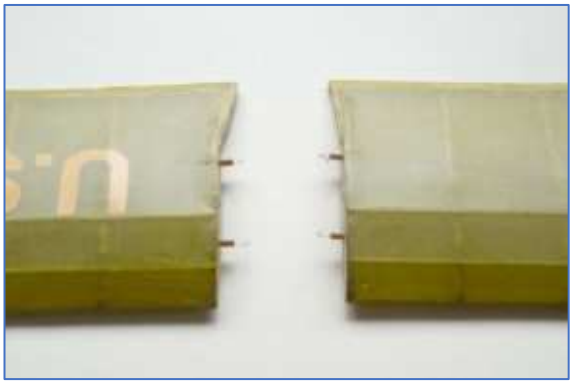
And whilst talking about the front of the model, time to get on my 'hobby horse'. Why oh why do the instructions always say, 'add weight to the nose to balance the model'. Where? The designers know that nose weight is needed but ***never*** design in a weight box for it to go into. So, before you have added the stringers and while you are working on the front end, work out where the nose weight will be going and build in somewhere for it to go. One advantage of making the hole in the front former larger is that it makes it easier to get the nose weight in. I use wheel balancing weights (eBay) which come in 10- and 5-gram sizes. A single 10 gram is all the Bird Dog needed.



The front end. The hole in the front former has been enlarged and balsa infills added between all of the stringers.

Still on the front end, I did something for the first time that I have always avoided in the past, and filled in the spaces between the stringers at the front of the model with balsa infills. Having done it I have to say that is worthwhile. It looks a lot better and of course is a lot stronger. It's not nearly as difficult as I thought. The trick is to use soft balsa. If the infill pieces are cut a little oversize then they can then be pushed into place and then glued. It doesn't matter if they stand proud; it's all going to be sanded down at the end and it doesn't matter what the inside looks like. I did the top and bottom from the windscreen forwards.

The next issue that I had with it (and most similar kits) is that they take the easy way out and are built as one-piece models, the wings aren't removable. There are several issues here, the first being that in a prang, with nothing flexible, the wings are likely to get damaged and if they do then it's pretty difficult to repair a wing that you can't remove. The next issue is storage space. All my models have a storage box and for a 30-inch one piece model that works out to be a lot bigger than you would expect. The answer then is to make the wing panels removable, in such a way that they are rigid during normal flight loads but have a degree of "give" in the event of a prang. For sports models, this is easy. Rubber bands on the outside of the wing do a very good job. It's just a shame that there aren't any full-sized planes to model that do the same thing.



Wing dowels. Keep them short. Wire hooks made from 22 gauge guitar (top E) string.

The method of wing retention that I used here is the same as I used on my *AOP9*, and I learnt how to do this from Charlie Newman. Essentially there are short sub dowels on the wings that plug into holes in the centre section ribs. The dowels are short so that the wing can move around or indeed pop out if need be. Each of these dowels has a small wire hook in the end. Rubber bands between them hold the wing in place and provide the flexibility needed in a prang.

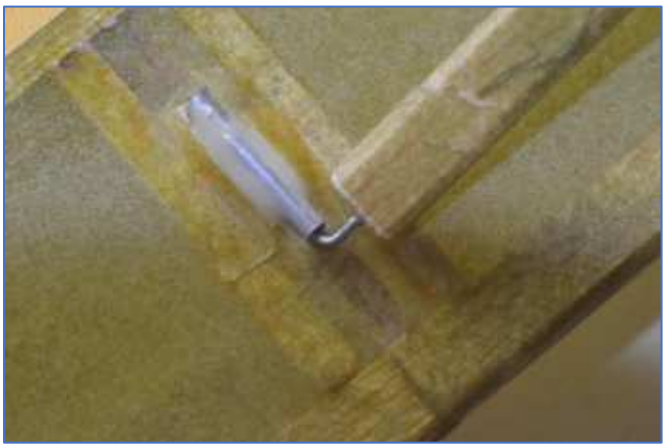
There are a couple more things to this, the first is that the centre section ribs, and the wing root ribs, should be faced with thin ply to avoid wear when plugging/unplugging the wings. You will also have to work out how to drill the holes in the same position on the centre ribs and the root ribs so that you get the angle of incidence the same on each side.

And, lastly, to make it easier to thread the rubber bands through, put rolled tissue tubes inside the centre section, between the holes. These act as guides for the puller tool you will have to make to thread the rubber bands and also stops broken rubber bands falling inside the model.

I will admit the method of wing retention above is a bit fiddly when assembling the model, but it is worthwhile. Now the wing is in place you will of course find that no matter how strong the rubber bands you have used are, there is no way they are going to hold the wing at the correct dihedral angle. The wing struts now have to be functional and removeable/knockoffable. Again, this is from Charlie Newman.

Strut to fuselage fixing. The bolt (12BA) goes through a twisted wire loop into the fuselage and a nut soldered to a tinplate tab at the end of the strut.

At the fuselage end of the struts insert a small tinplate tab, drill it to a suitable size and solder on a brass 12BA nut (railway modellers still use BA sizes). For the fitting to the fuselage, twist a short length of fuse wire around a suitable sized drill to form a loop at the end that's just the right size for a 12BA bolt to screw into without falling out. Cut the twisted wire to a suitable length and glue it into the model. The bolt can then go into the wire loop from below and then the end of the strut.



Strut to wing fixing. Wire on the end of the strut into an oversized piece of tubing epoxied to underside of wing.

At the wing end a bent piece of wire at the end of the strut fits into a slightly oversized piece of tubing glued to the underside of the wing. What you should have after all of that is a wing that is rigid enough for normal flight but all very flexible in the event of a ground impact.

If the idea of fiddling with a 12BA bolt of the Meadow is a bit scary, don't panic, there is no need to ever unscrew it. For storage, just fold the struts backwards and secure with an elastic band.

Struts folded back for storage, there is no need to ever unscrew those 12BA bolts, you only need to fiddle with them (and drop them several times) once.

The final change to the plan is in the area of the fin/tailplane. As is common, the tailplane fits into a cutout on the bottom of the fin. I made this cutout about 3mm deeper than required to leave a space above the tailplane and then just tack glued the tailplane in place. If I need to change the tailplane incidence for trimming, then I can just free the glue joints and pack either the LE or TE of the tailplane as required.

Hopefully all of that will have given you some ideas to incorporate into your next scale kit or plan built model. For finishing the Bird Dog, I didn't want to get into spray painting, so I chose just a tissue covering. The only suitably coloured tissue that I found was from VMC. I

knew this had poor wet strength and that didn't allow me to use by preferred tissue over Mylar but using it on its own was no problem.

The kit had some waterslide transfers but they were so old that the backing had turned yellow and also the markings didn't match the colour scheme, so I generated my own. Doing the artwork was no problem but applying them was nightmare. I have done waterslide transfers in the past with no problem but this time everything went wrong. I won't go into details, but the transfers held up the build for a couple of weeks, at one point I had to just walk away from it for a few days. What I would recommend is Hayes waterslide transfer paper which fixed most of the issues.

OMFC's 2025 V20 Postal Competition – Andrew Longhurst

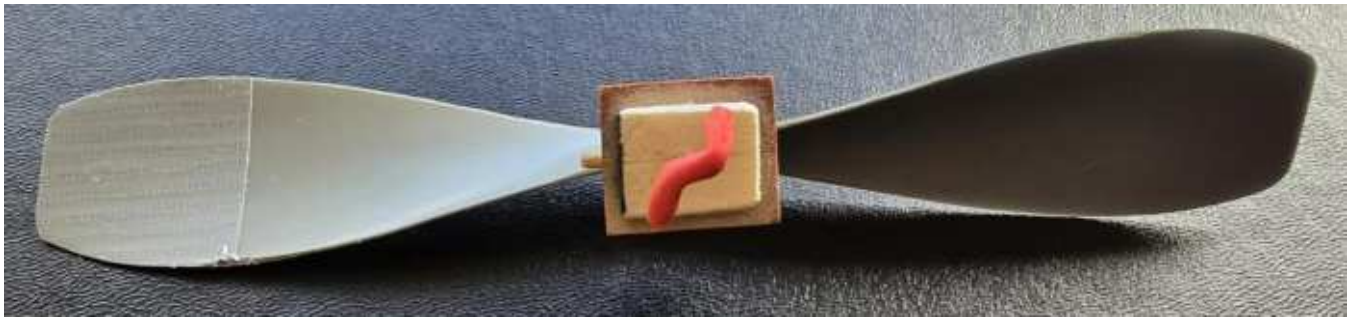
A couple of years ago I received a call from Tony Rushby, doyen of small model flying. He wanted to discuss a new competition class that SAM 35 would promote. The intention was to have a class which probably won't outfly a small field or our capability of retrieving it a few times in an hour or two: Rules are:

- 20ins max span (measured tip to tip on model)
- Design published or kitted pre1951
- Rubber power only – as much as you want
- 7.25ins max prop diameter (180mm) freewheel or folder (need not be as per plan)
- ROG Capable, so must have an undercart although ROG will not be used
- Max to be 60 seconds or as per decision of the organiser

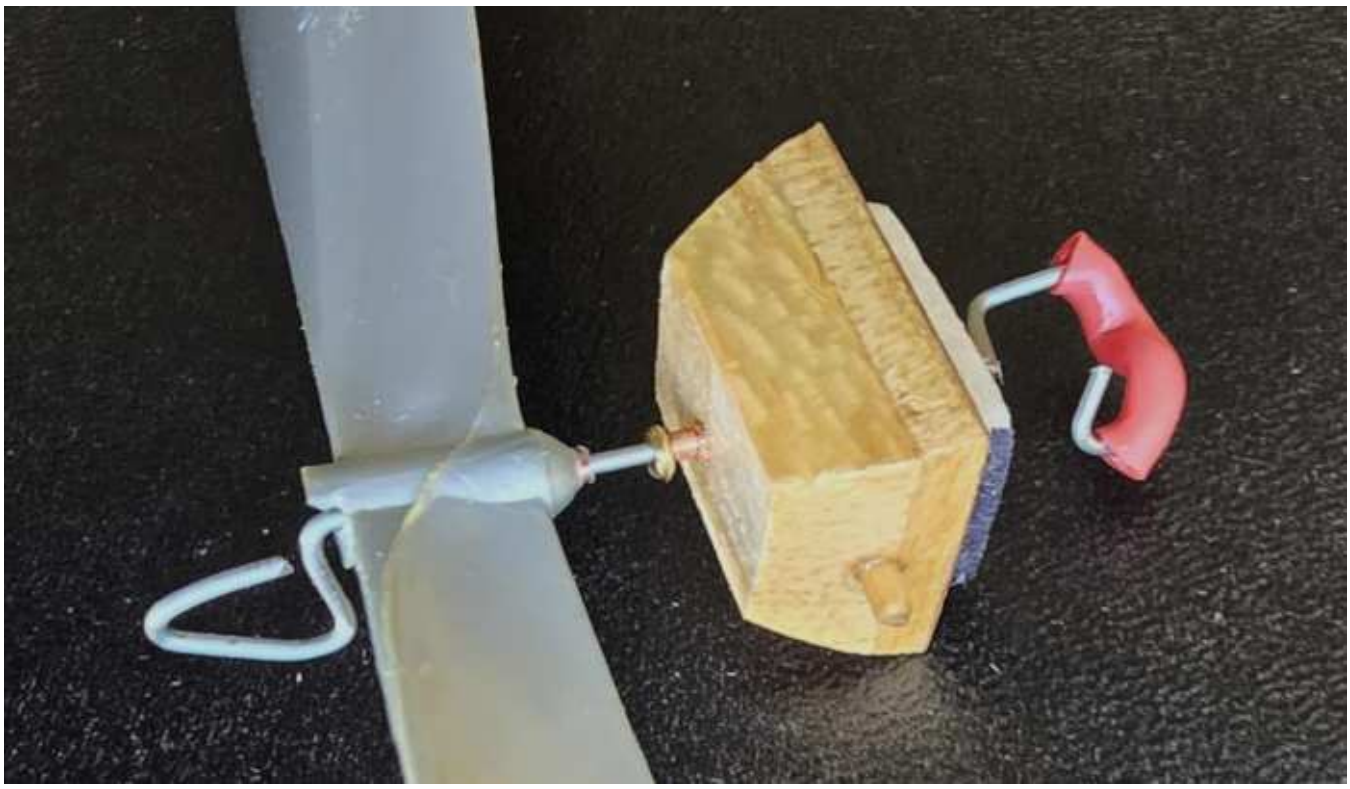
I felt a bit dubious about allowing folding props and the apparently strange maximum diameter of 7.25ins, but Tony wouldn't budge.

Props

If you think 7.25 is a strange diameter for the prop, this is the size of the excellent 1952 KK plastic prop which being indestructible, if rather heavy, are still to be found in dusty cupboards nationwide. New 7 and 8ins ultra-light plastic pops are available from the Vintage Model Co. and elsewhere. You can cut an 8ins prop down, which is what I recommend as this has the effect of increasing the pitch slightly. You can resist the temptation to carve your own balsa prop because at this size it won't be much better than a plastic one. Folding props offer an advantage but only if two bladed so it's a right fiddle at this size. Perhaps we can agree not to go there?



A cut down 8ins prop with Duck tape on left blade to restore balance.



The noseblock with reverse "S" hook (you can use a semi-circle instead) and front end bending to provide the drive right-angle and winding loop in one. The shaft is 1mm spring steel wire running in bearings made from Albion Metals brass tube reference MB MBT13 obtainable from Macc Models. Standard ramp freewheel used.

What model to build? Basically, it's what you fancy. See my list of 28 with small scale plans in my Google album via this link: https://photos.app.goo.gl/Nz6gZ7Fgse4RoMti9

Sixteen of them are full-size on Outerzone for free download. Print them in the free version of Adobe Acrobat using the "Poster" option and join up the A4 sheets with Prit Stick.

If you want a kit, Rudolf Hiesbok In Czechoslovakia sells the **Sparrow** which is a replica of a 1940s USA design called the **High Performance Sportster**. It's a world-renowned fine flyer and the original title is no misnomer. You will need to add a peg leg undercart to comply with the rules. £23 + Postage from **www.Hiesbok.CZ.** I have checked with Rudolph who commands good English and he can supply to the UK. I built and reviewed this kit in 2022 and it was of excellent quality. Copies of my review are available from me.

Or there is a **KK Playboy** from the Vintage Model Company, but it's a bit difficult and I think best avoided. At the time it was created there was pressure on workaholic Bill Dean and he just drew up a half size Gypsy Wake being the model he was then using in competitions. Consequently, the aspect ratio is too high. Furthermore, Bill forgot the underfin and it needs one (according to Tony Rushby). I got mine to climb all right, but it won't glide worth a darn.

Anyway, you don't really need a kit for such a small model as it's only a few sticks, a plastic prop and a dozen ribs. A spar tractor (stick) model is actually more difficult than a conventional model in the long run, so I haven't put any in the Google Album (Hanger Rat etc.). But remember, the 21ins Cloud Tramp is probably too big unless you have built in a lot of dihedral. There is always the nearly all-balsa **Veron Skylark** which can give a good account of itself.

I am told members are likely to prefer cabin models and there are three that I have built and are terrific, that is, the **Wasp III**, the **Veron Snipe** and the **Skyleada Swallow**.

As always, weight is very important and your target for these three would be under 30g without rubber. The Snipe is always going to be the lightest and therefore the highest climber.

If you have never built a stick and tissue rubber job before or can't remember the details, there are several videos on YouTube. For instance; "TFFC: Flying Ace Moth, Tucson Free Flight Club"

Motors

The basic rule is that the length of the motor should not be greater than 1.5 x the distance between front and rear rubber hooks. You will probably use **4 strands of 1/8** SuperSport. If you start with 6g it should take 1100 turns. You can work out the turns per inch from this if you want a longer motor, but longer motors will knot and bunch. When winding, stretch to about three or four times the motor length and put on half turns then move slowly in toward the model whilst winding so that you arrive at the model at the max turns you have decided upon. If you end winding still some distance from the model and then march in without winding, the motor will bunch. There is a bit of an art to it. Apologies if you know this already.

CG Position, Decalage and Thrust Line

Before you take the model out to fly, make sure you have **4 degrees** negative incidence between wing and tail. It's not important to which surface this is applied. The CG is often not shown on vintage plans, but **CG at 50% chord** usually works. With a tapered wing, balance it at mid span. These models **fly right on power and glide**, so you should also check you have a modest amount of down and right thrust sanded into the nose. If you do these three things and the wing and tail are warp free, nine times out of ten it will fly out of your hand. A tiny

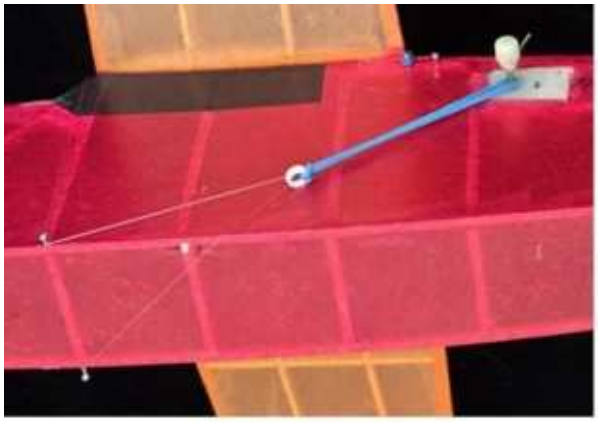
amount of left rolling wing warp can be helpful but the opposite is doom! I find that time spent in fettling is rarely wasted.

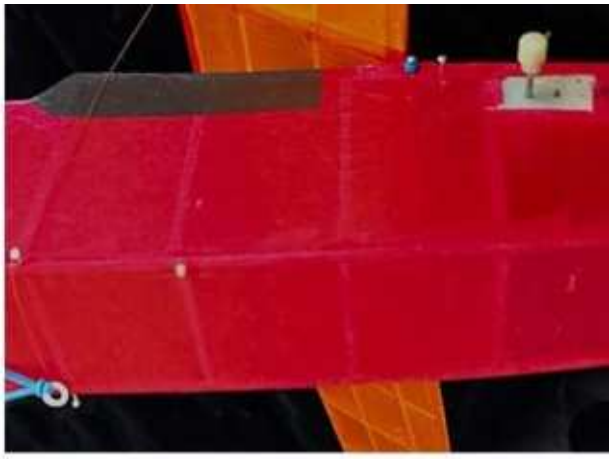
To DT or not to DT

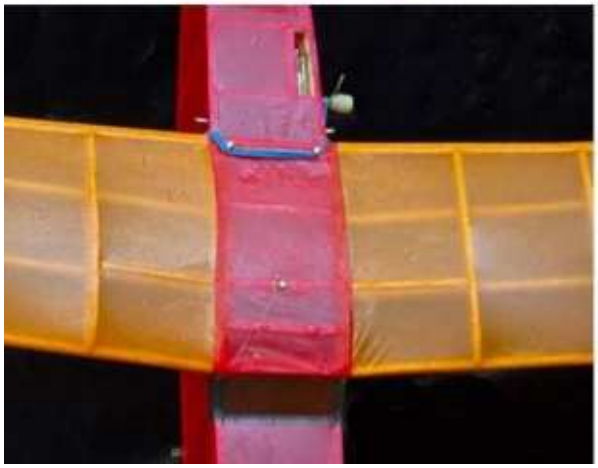
The great advantage of having a DT may not be what you think. It just makes trimming so much faster especially when you have got it gliding and are trying fine tune the thrust line, which I do with .5mm ply shims. My Snipe has a great climb but the glide is fairly steep and although I fitted a DT and set it, I didn't really think it needed it. But one flight it found some good air and made a bid for freedom in the direction of the boat racks, but the wing pop up DT got it back…just.

The advantage of not having a Tomy or Band Burner DT is it saves 3+grams, something like 10% and performance will be positively affected in much the same proportion. A viscous timer is much lighter but not very accurate.

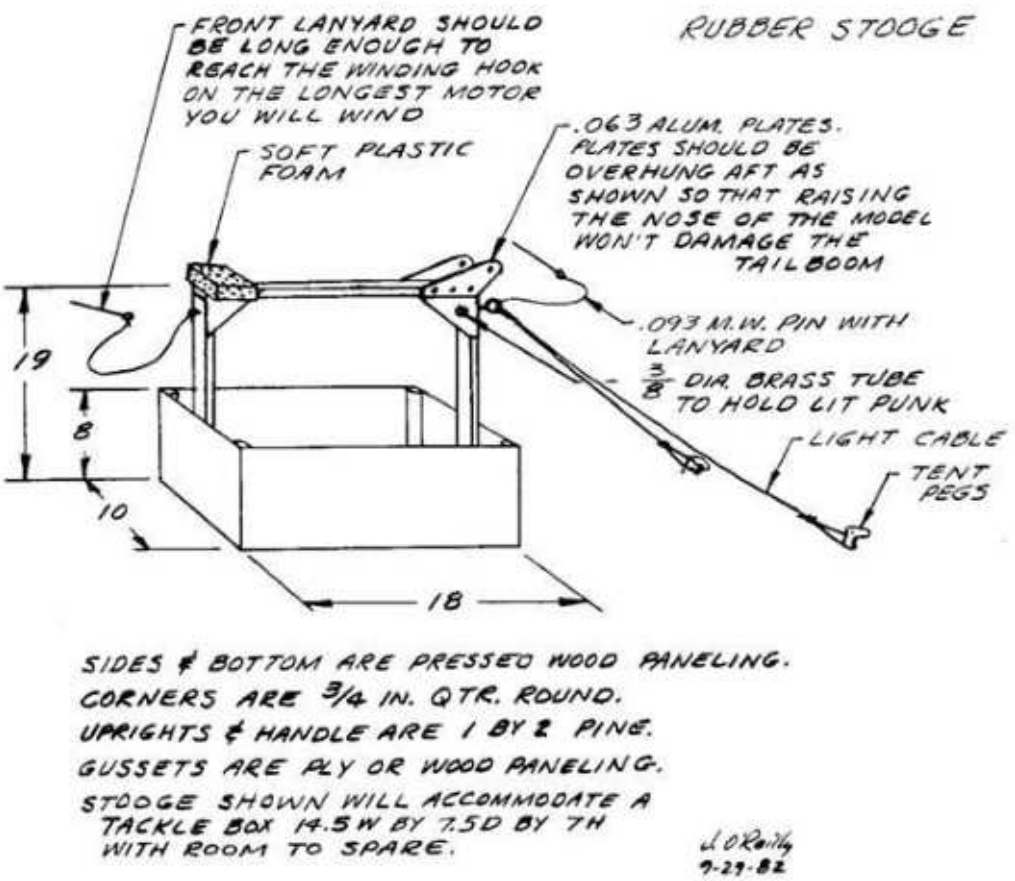
The DT action will involve the wing LE rising to about 40 degrees **or** the wing TE rising to about 20 degrees. Leave the tailplane alone. If the fin is mounted on it, make sure its keyed in so it can't move. They are extremely sensitive to rudder adjustments so use half inch pieces of 1/16 square strip on the extreme TE of the fin. Use balsa cement rather than cyano as its easier to reverse.







If anyone reading this has virgin Tomy motors stored somewhere, get them to me for conversion to single function timers. This service is free. If you don't want them, still send them so I can distribute to others.



Stooges

Most rubber flyers possess a stooge to hold the model whilst winding but they can be ultra simple for such small models. I like this one, but it should be much smaller than shown, say about 2/3rds and the mounting board angled upwards.
There is another one on: www.endlesslift.com/make-a-simple-foot-stooge.

I can supply building and trimming notes for almost all of the red and white models displayed on the Google album. Plans on Outerzone are noted on the spreadsheet. For plans of other models contact me.

Andrew Longhurst, 45 Pavilion Way, Ruislip, HA4 9JR Tel. 079048 706402
E mail andrewlonghurst@yahoo.com

Collated SAM 35 V20 Rules – Andy Blackburn

(NOTE: The "Construction" section in the following collated rules is only relevant if you also want to enter SAM 35 V20 competitions with the same model - we're not going to ban the model if you've added or moved a few spars or added a big trim tab, for example, but SAM 35 will almost certainly take a stricter view).

The way that SAM 35 do rules is that they have "General Rules", "Free Flight Competition Rules" and then the rules for the particular class (in this case V20). This can make it quite difficult to work out what you can and can't do unless you pay close attention.

The following collated set of rules is an amalgam of the relevant section of the various rules outlined above.

V20 Rules (Vintage, 20")
A duration contest for rubber powered Vintage models. With acknowledgements to Andrew Longhurst and Tony Rushby.

Models: Rubber powered designs kitted or published pre 1951 whose original span was 20" or under (i.e., no scaling up or down.) Models must be RoG capable, so undercarriage must be fitted or added. Stick fuselages are permitted. Any quantity of rubber may be used. Prop must be 7.5" span or less, freewheeler or folder.

Contests: Max to be arranged on the day, but not exceeding 60 seconds. Three flights, followed by unlimited flyoff if necessary.

Awards: Variable, but minimum would be Certificates for top three *(obviously, in our case we will award comestibles)*.

Construction
Models should follow the construction shown on the plan. No major alteration should be made to structures. Minor modifications may be made as follows:

a) Materials may be substituted for similar materials, e.g. spruce for obechi. Balsa laminated sections may replace bent cane.
b) Conversion from a one piece to a multi-piece wing, multi-piece fuselage or detachable fin and vice-versa are permissible but associated changes must not significantly change the external geometry of the model.
c) Plywood dihedral braces and local bandaging are permissible.
d) Local sheeting to improve handling of a fuselage is allowed, and also local sheeting and/or sub-spars on flying surfaces to take the strain of fixing bands and wing to fuselage contact. However, it is emphasized that this is to provide LOCAL strengthening and does not extend to fully sheeting a fuselage or flying surface that was designed as a tissue covered open structure.
e) Minor alterations may be made to enable a D/T to be fitted to a design which was not originally so fitted.
f) Wheels must be of the same diameter as shown on the plan, but the cross section may be changed.
g) Rubber model propellor diameter sizes must be adhered to, as must the type: single-bladed or twin-bladed; free-wheeling or folding. Free-wheel clutches, rubber hooks and tensioning devices may be to the competitor's choice. The rear rubber anchorage may be moved forward slightly to assist practicality.
h) Turbulators may be added to any component of the model provided that the type of turbulator used has been described in a publication dated prior to 1st January 1951 for vintage models, or prior to 1st January 1961 for Classic models.
i) It should be noted that there is no restriction on the type of covering material that may be used, e.g. tissue, Mylar, heat shrink film (but not transparent, and with no "violent colours"). However, the substitution of recognised covering materials with wooden panelling is not acceptable except as described in paragraph d) above.
j) Where plans fail to provide minor details of construction or design, then reasonable assumptions may be made consistent with the period and type of the design. For the purposes of these rules, minor details may include areas such as bracing and reinforcement of joints, but do not cover estimates of details which may affect flying characteristics such as wing profile or fin shape.

OMFC Classic Winter Kit Scale Postal – Andy Blackburn

We've been running a kit scale duration event at most OMFC competitions for a year or two, and we've tried to make the model eligibility as broad as possible so that the maximum number of people can enter.

Unfortunately, this flexibility has come at the cost of complexity, so the rules haven't worked particularly well, and have been difficult to understand for non-scale flyers and CDs. Also, it's beginning to look as though people are starting to become interested in larger rubber scale models (several construction projects are under way), so we've taken this opportunity to split the classes.

We've therefore simplified the existing Kit Scale Duration rules and have converted them to an indoor/outdoor postal competition to be run over the Winter/early Spring period between **1st February 2025** and **30th April 2025**. We'll also run a single outdoor event for models built to these rules at the Spring Duration comp on Saturday 31st May 2025, so if you build a model over Christmas, you'll get a lot of use out of it.

Rules Outline
Models must be built from kits or from plans originally supplied in kits, and there are a limited number of kits that are eligible: essentially, anything with a maximum span of 24" from the *Keil Kraft Flying Scale* series, the *Veron Tru-Flite* series, the newer *VMC Flying Scale* series and a few others (*FROG, Aerographics, DPC*, some *Sterling* and *Guillows*). You can, however, do more-or-less what you want to the design, as long as it's in character with the original.

Flying rules are slightly unusual and are based on the procedure used in Stuart Darmon's Classic A1 Postal competition; you start with an easily achievable target duration of 10 seconds. If you manage this, you can make a second flight of max 20 seconds and so on, the max increasing by 10 seconds each time until a max is not achieved or flying cannot continue (e.g. because the model is lost or damaged).

When all the flight times are available, including the last failed max, they are submitted to Chris (webmaster@oxfordmfc.bmfa.uk) in the form of an addition, a total and any claimed bonuses that you think you might be entitled to. For example:

10 + 20 + 28 = 58 points, plus bonus points for Indoor ROGs and 18” span

Chris will then calculate the bonuses and will put the latest scores up on the website. Prizes (comestibles of various types) will be handed out in early May.

Since we’re flying over the winter period, we’ve taken the unusual step of allowing competition flights to be made indoors; this means that our friends and OMFC members who fly at Trinity and Berinsfield can also take part, and we’re hoping that this might engender a little friendly rivalry. However, if and when the weather improves in the Spring there’s nothing to stop people re-trimming an indoor model at their local recreation ground and recording some outdoor times as well – you never know, you might get lucky with a thermal . . .

Winter RC Build – Paul Thomas

Now that the nights have drawn in and “brass monkey” weather has set in during the day, most established aeromodellers hit the building board and start on new models for the next season. However, it is noticeable that many newcomers turn to Ready-to-Fly RC models. While this is a good introduction to the hobby, it is only half of it. There is enormous pleasure to be gained from seeing a self-built model take to the skies. That said, it is essential to learn to walk before learning to run!

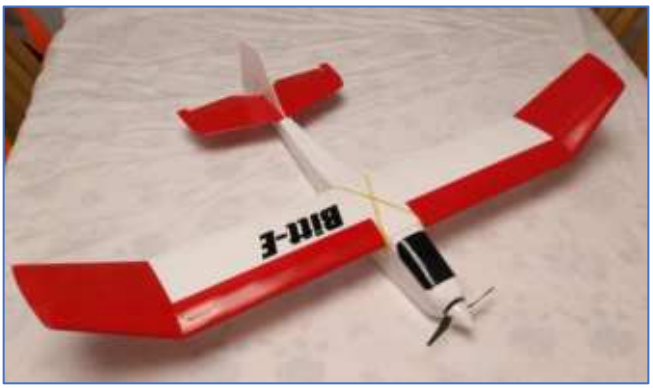
One route is to build from a kit. There are many kits out there that are suitable for a first foray into constructing a plane. Kits have the advantage that they usually come these days with all the hardware that is needed, parts that are laser cut and are well flight sorted. However, you must be prepared for a considerable additional financial outlay for the power train, electronic speed controller, LiPos, receiver and servos. (Many readers of this newsletter will say that you can always have a go at free flight :-)). Otherwise, you can build from a plan, either from scratch or “short kits”.

Some short kits provide laser cut parts. A huge selection of plans is available from Outerzone (https://outerzone.co.uk/). These come in pdf format so that you can get them printed off at your local print shop or using the poster print option in Windows. The latter renders the plan in A4 sheets, with fairly generous margins, so that you can glue or tape them together.

Whatever you choose to do, ask about the suitability of the model! Post your question on the “Meadow Flyers” or “OMFC RC Training” WhatsApp groups and you will get lots of help and advice.

I was actioned by the Committee to identify a model or models that would be under 250gm in all-up weight and so flyable at Begbroke, light on the pocket, being rudder and elevator only. Being light, the power train, speed controller and LiPos are reasonably priced as well. It is my intention to post the plans and building notes, together with the “Building from Plans” articles from the RCM&E 2019 Special Edition, on my Google drive so that they can be accessed by OFMC members. It is intended that flying events be organised for these and other similar models.

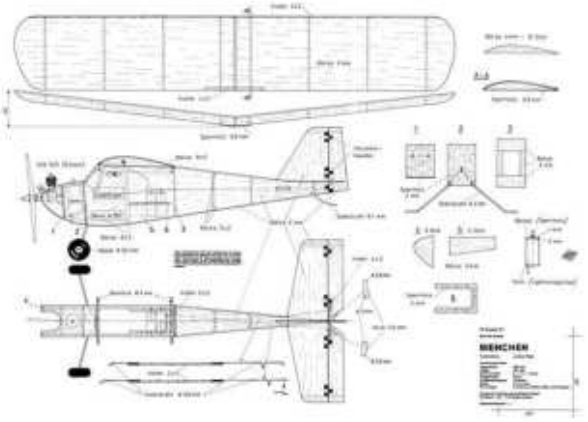
RCM&E 2019 Special Edition – Bitty



The *Bitty* is Bob Lee's suggestion and was designed for piggy-back launch from a *Wot-4* but Bob's intention is to cut off the nose and add a motor. Somebody called Kester Paine did exactly that in 2017 and renamed it the *Bitt-E*. Evidently it flies very well. The wings are of traditional "built-up" construction. Bob will provide the modified drawings and building notes.

Outerzone Bienchen (Little Bee)

See https://outerzone.co.uk/plan_details.asp?ID=13525



With modern radio gear, 155gm is typical and so the *"Little Bee"* is super lightweight and is suitable for the indoor flying. It is a quick build because of the sheet wing. I have replaced all the 2mm balsa with hard 1/16". At the time of writing, it is in an advanced state and should have flown by the time the newsletter is out. The posted version of the plan will show the modifications for an electric power train and will have a translation table.

RCM&E 2019 Special Edition – Bambino

Sadly, the RCM&E 2019 Special Edition is long out of print, so thank you to Duncan Martin for lending me his copy. I chose the *Bambino* because it met all the criteria and looks rather attractive. The published version states that the all-up weight is 160-200gm. This being the case, I will be making some minimal modifications, such as the addition of some 1/16" strip bracing for the fuselage and a tailplane seat. I hope to have flown it by the end of the year. George at 4-Max has a recommendation for the power train. I will use his recommendation for the *Bambina* (3s LiPos rather than 2s) and will keep it throttled back!

Grahame-White GWE6 Bantam for Free Flight Scale – Chris Brainwood

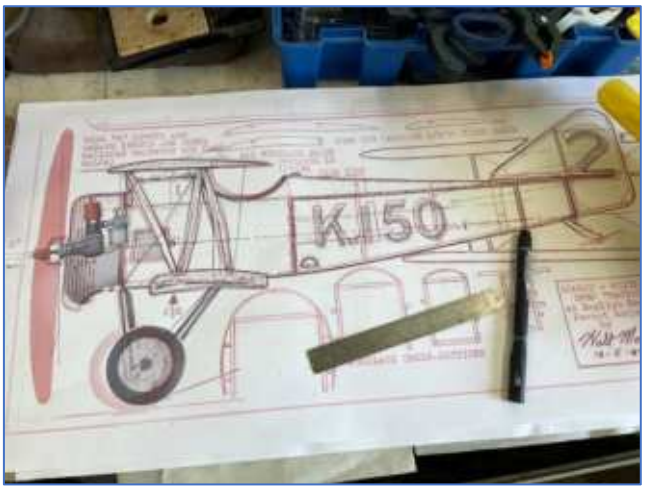
The *GWE Bantam* was built at the start of peacetime after the First World War by the Grahame-White company in Hendon, North London. It was a small aircraft even by the standards of the day at just 20 foot wing span and was powered an 80hp Le Rhone rotary engine (which were readily available at the time as war surplus) and was an attempt to get into the single-seat private aircraft market that manufacturers thought would take off after WW1, with many ex-military pilots wanting a civil aircraft. The *Austin Whippet* and *Avro Baby* were also attempts to get into the same market. Unfortunately, the single-seater market never really took off because 2 seaters and even 3 seaters were more popular.

Grahame-White built three *Bantams* at the same time, one *GWE6* and two *GWE6a.* The *GWE6* is the one I'm doing, which very short cabane struts. The *GWE6a* is different in that the top wing was mounted directly onto the top of the fuselage. Both were entered in air races in 1919 though they were not designed as racers; the *GWE6* registered K150 came to an untimely end wedged in the hanger at Hendon after attempting some aerobatics at the end of a pylon race which it won. Thankfully the pilot clambered out of the wreck soaked in fuel, but OK.

A while ago I enlarged a Walt Mooney Peanut plan for the *Bantam* to 16” span for Telco CO2 power as part of the Mooney Cook-up on Hippocketaeronautics.com and it proved a nice flyer, so my plan was to build a 1/10 scale version of the aircraft, which will give a 24" span with power by a small 0.5cc Redfin 030TBR diesel engine.

The Mooney Plan is a useful starting point, but the model is based more on the 3-view drawing and borrows a lot from Andrew Hewitt's small .5cc powered models with simple construction and banded on wings. Andrew's *Nieuport 16* is really the key inspiration for this build with its similar Banks .4cc Mills engine

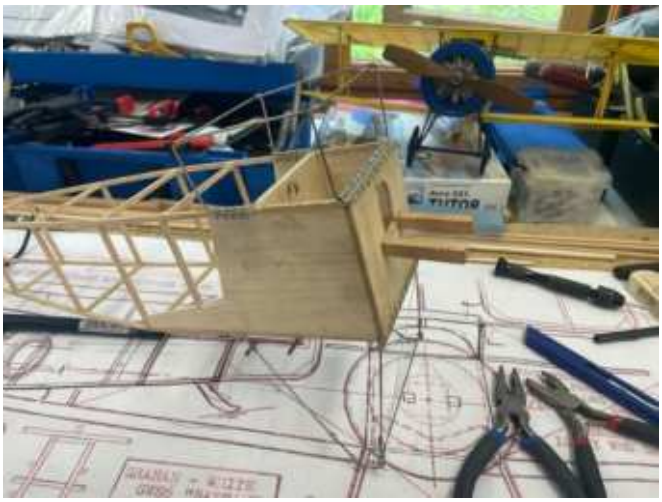
The first task in any build like this for me is to print out the 3-view that I'm using to the right size, and then work out the construction on that. I tend not to draw out the plan first and then build preferring to work more organically, designing and building as I go.



3-view resized and overlaid with the Mooney plan

Andrew Hewitt's similarly-sized Nieuport 16

This method, though, does mean I do need to think out the basics of the design first, so I don't end up going down many cul-de-sacs. In this instance I superimposed the Mooney peanut plan onto the 3 view in red to see if any of the former shapes etc could be used in this design but they didn't really match up to the 3 view so I ended up drawing them all again



My plan is basically to have the main front former in ply behind which is a box section of 3/32" balsa which contains the mountings for the undercarriage, cabane struts and lower wing mounts, the rest is 3/32" sq with part formers to form the round section. Engine bearers in ¼" sq beech carry the engine and locate in the front former and another former that also carries the lower wing mount on the lower wing spar. The front main former is 1/8" ply with a hole for the rear of the engine to poke through, with the rearward box section open at the bottom to allow me to get a finger in to choke the engine. This former carries the front undercarriage leg and front cabane strut as well and, as it has a hole in it, I went for ply rather than balsa.

The former behind this will carry the main lower wing mount on the main spar and is made from a composite structure of light 1/8" balsa laminated with *Proskin* using thin cyano, with an 1/8" ply section at the bottom to take the wing dowel tubes which are bound with thread.

[Proskin is thin 0.0075" epoxy glass available in large sheets from Mick Reeves Models, and is primarily used by RC scale modelers to cover wings to give a metal skinned look, when used as a composite with balsa it can be as strong as using ply for much less weight].

The main drawback with Proskin/balsa composite is that it can crush easily so binding things to it doesn't really work; Ply will be used for those bits. The bearers will mount directly to the engine and have 6 deg down a 3 deg right built in so the prop comes out in the middle of the cowling. The thrust angles were taken from the Telco CO2 powered version

The main box section will form the main structure of the model. Everything else is hung off it. Tail and fin will be built up with a laminated basswood outline to resist warps

I like to tackle the tricky bits first, so with that in mind I made up an undercarriage which includes the location for the lower wing. On the original the main spar was attached to the bottom of the fuselage so the lower wing sits below the line of the fuselage, the rear spar locating onto the undercarriage rear leg, something I will be trying to do with the model.

Undercarriage and lower wing mount

Wheels

The undercarriage is fixed so the axle will be sprung with rubber as per the original. Looking at the photos of the original, it appears the axle is quite a large diameter tube so, rather than using wire, I thought I would do the axle in carbon tube with the wheel hubs in larger diameter tube retained by a small section of copper tube cyano'd on. I've added some hooks to the UC wires for the bands and restraint wire to stop the wheels going through the wings on a hard arrival.

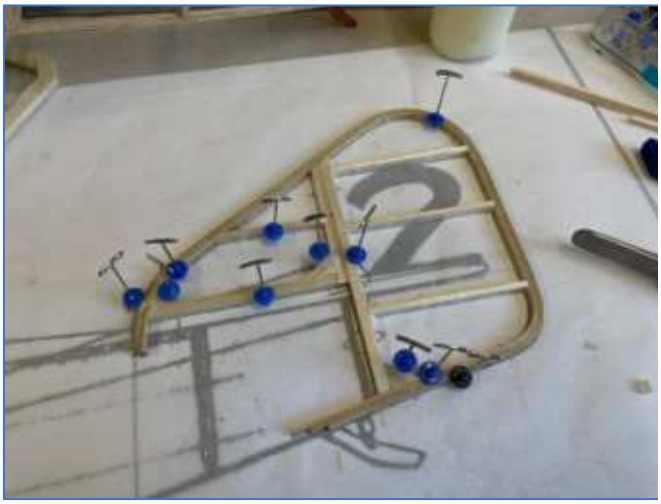
The wheels have carbon tube hubs which run on the 3mm carbon tube axle. These are made from two outer discs of *Proskin* sheet laminated with hard 1/16 balsa sheet using thin cyano, with a hard 1/8" balsa core. The three discs are glued together with aliphatic resin. The tyres are 5/16" (8mm) Neoprene cord.

Weight seems very good at 4g for the wheels and, with tyres fitted, they're 8.5g each . Hopefully they will prove strong enough but there's only one way to find out . . .

The fuselage front end is sheeted with 1/32" balsa which I managed to do with some nice 8lb quarter grain after soaking it in boiling water. It was that or using some of my 5lb stock but I thought it would be too fragile on a model this size. The cockpit was cut out once it had all dried.

For the fuel tank hump I have used the photos for reference as both the scale drawing and the Mooney plan show it with a flat top and steep sides. I did this on the small CO2 version but it looks wrong. Looking at the photos the cowling hump is clearly a rounded structure for its

whole length. One photo shows the small aero screen is mounted with a flat base onto a curved surface so I have done it as a curved hump, with a part circular section.



Fin with laminated basswood outlines

Flat-plate tail with dowel LE

The fin has a 1/32” x 1/8” bass wood laminated edge so that I can sand it to a thin edge. The tail is a basic 1/8” flat plate but with a 1/8" dowel LE and harder balsa spars. The elevators will be separate but fixed in position, so trim changes will be made by moving the whole elevator or maybe packing the top wing.

I used 1/8” dowel LE on the wings too, a technique shamelessly copied from Andrew Hewitt with hardwood spars and 1/32” wing ribs. Tips are laminated basswood with 1/32” sheet infill.

I've gone for a very simple wing attachment system which allows the wing to be banded on but without the bands really showing. It looks neat but I can't claim any credit, I copied it from Andrew Hewitt's *Nieuport* and little *Fokker* where it works well and seems to be a strong way of doing it too.

Top wing construction with dowel LE

Wing attachment method

I decided to mould the cowling in epoxy glass, so the first step is make a plug of the right size and shape. The cylindrical part of the cowling is just some 1/64" ply rolled around a couple of ¼” sheet formers which I thought would save a bit of sanding. The front part is from 3 layers of ¼” sheet. The whole thing is slightly deeper than I need, so I will have some excess to trim off

the final cowling to give a good edge.

I fixed a bolt inside the plug so I could mount it in a drill to sand the curved front section to shape. Once shaped to fit the template cut from the 3-view drawing, the whole thing has been given several coats of cellulose sanding sealer, then some filler primer and then a coat of shiny top coat, so it comes out of the mould easily.

For a nice finish to the inside of the mould and, hopefully, the finished part, the mould is made from Plaster of Paris using lots of silicon spray on the plug so it comes out when its dried (in theory, anyway).

Cowling plug

Flintstones cowling disaster (see below)

The first attempt was a complete disaster. The mould was a bit disappointing as it had quite a few small air bubbles in the surface around the crucial front curve. Oh well, onwards and upwards. When it was dry (or perhaps, in hindsight, when it wasn't *quite* dry) I sprayed the inside with some silicone mould release spray and laid up the glass fibre with my trusty finishing resin. When I say 'trusty'' I should really say 'my old resin' I bought in the early 2000's, it was a bit brown but I warmed it up a bit, so onwards and upwards (again). The resin seemed to be going off quite quickly, so after getting two layers of cloth on, it was getting hard to handle with further resin difficult to apply as it had thickened up. Oh well. Two layers is plenty . . . . Onwards and upwards (yet again). After the resin had set overnight, all I had to do was remove the cowling . . . Silicone release should make it fairly easy to get out: er, nope. Well after splitting the mould apart with a chisel I had a cowling, of sorts. It looks like something from the Flintstones with some of the plaster mould still attached and almost impossible to remove cleanly. When I broke the mould apart it was like one of the chocolate 'melt in middle' puddings with a nice liquid centre, and the epoxy has dried to a hard brittle yellow

Anyway, a new mould was made in a take-away salad waxed card bowl. The plug was securely mounted to the bottom of the bowl, so once it's hardened off, the bottom could be cut off to remove the plug. Then I left it to dry out properly this time. Luckily it all paid off as this time it worked well and came out of the mould much easier after using Vaseline as the release agent. The cowling is split with its top third removable for access for fueling and engine tuning. I had thought of mounting the engine inverted, but Andrew Hewitt’s advice was to fit it upright if at all possible as they are so much easier to handle the right way up (I have an inverted Redfin in a *Hawker Tomtit* and you only have to show it the fuel can and it floods). The split is in line with the top decking so hopefully it won't look too out of place, and it does allow great access to the engine, which is good for a 'flying only' model.

Cowling Mk 2 out of the mould

Cowling with removable top section

I made up an internal lip with some *Proskin* fibreglass sheet to try to minimise the black shadow line on the join and there are two small formers on the inside in 1/8” sheet with a magnet to hold it on. The two formers, one for the bottom section, another for the top, had the magnets installed while on the bench, so it was easy to line them up. Once I'd fixed the lower magnet onto one side, I added some cling film to stop it sticking together and glued in the top hatch former, all glued with 5-min epoxy. The cowling has now had a few coats of primer rubbing down between coats to give smooth metal like finish

One job that is always a bit tricky is the cockpit coaming. Split tubing has been used and I had originally thought of using *Harty Clay,* the air drying stuff, but after seeing the great job Andy Blackburn did on his *Miles Magister* using a scaled up peanut technique, I thought I would give that a go. For the *Bantam* the technique is scaled a bit more again as the scale is 1/10 and the coaming diameter needs to be about 1/8".

3 layers for the cockpit coaming

Glued down, note finished outer edge

The basic idea is to cover the cockpit with another sheet of balsa which has the outer edge finished to the right profile. Once this has dried, the inner outline of the cockpit opening is cut out and then the inside edge sanded round to give correct profile. To further complicate things, I wanted it to have the look of the original which isn't just a round roll, but has a padded section which is squeezed slightly where it is affixed to the top decking. To achieve this I decided to use two layers of balsa; a 1/32" layer to give the thinner pinched edge and the main rounded

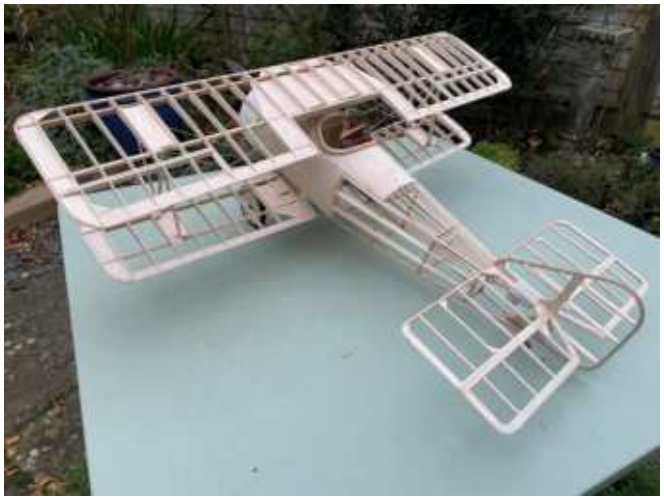
layer in 1/8" balsa.

After measuring the hole I had already cut, and drawing it all out, I had 3 patterns - the 1/32" layer, the 1/8" layer and the centre-cutout paper pattern. The 1/32” layer could simply be cut out of some soft light sheet and taped down while it dried but for the 1/8” I pre-formed the shape by soaking a rectangle of soft balsa in boiling water, bending it around a 4" tin and leaving it to dry overnight. Once dry and shaped, I lightly spray-mounted the patterns on and cut them out. The outside edges were then rounded to the right profile, carefully lined up and both layers stuck to the fuselage with Aliphatic resin and taped down. Once it had dried the centre hole was marked out, slightly smaller than I wanted (so there's room for sanding) and cut out with a sharp scalpel.

Once dried the centre can be cut out

Finish-sanded and shaped

The coaming was then sanded to shape on the inside edge to give the appearance of a rounded coaming flattened at the back as it appears in the photos. Finally, the join between the 1/8" sheet and 1/32" was filled with some lightweight balsa filler to give the look of a continuous piece of leather and screw attachment indents added with a small drill. The original full-size fitting of the coaming looked like a 'Friday afternoon' job so I went for similar look. The whole thing was then given a couple of coats of sanding sealer



Some rigging eyes have been added to fuselage and I made up some rigging, just checking it lines up along with some temporary struts from balsa strip. Covering will be Asuka Tissue over Silver Mylar to give a solid looking scale finish for the paint. It looks to be balancing on the CG in its uncovered state, so once covered and painted it'll need some nose weight but the weight

is 7ozs so far. If I can keep it down to 8oz it would be 5ozs/sq ft wing loading. My other FF scale models tend to be more like 6ozs sq/ft, so keeping my fingers firmly crossed.

Building Board for a Lulu – Bob Lee

It struck me that some of the members who are about to embark on building a *Lulu* may not have a suitable building board. It might help if I describe the board that I have and that I'll use to build mine.

The *Lulu* has a 50" wingspan (1.27m), so first thoughts would be that you need a board this long to build it on, and that in fact would be ideal, since you can get the whole wing on it at once. However, I for one don't have the room in my (small) model room to store anything that big, given that in order to stop it bending or warping it's best stored lying flat.

If you reduce the length of the board to 1m then you can build the centre section on it and one wing tip, then move it all along to do the other wing tip. This makes the board a more manageable size. My board is actually 900mm long (you'll see why later). You end up with parts going up to the edge of the board, but as long as most of the centre section and one wing tip are pinned down to the board, that's OK.

The board itself is a piece of chipboard, 300 mm x 900mm x 20mm thick (I think it's an old worktop). Your local B&Q should be able to cut a sheet to size for you.

Underneath are 4 battens which are 20mm x 25mm. These are screwed in place, the screws going through the board and into the battens.

The screws will need to be countersunk to leave a flat upper surface which is then covered in 10mm thick cork tiles, which holds pins really well. The tiles are 300mm square, so now you see why the board is 300 x 900m; it's covered by just 3 tiles. This board is stored flat, underneath my main work bench.

Club And Other Local events, 2024

(Note that OFMAC Meetings are now back at **Berinsfield**!)

OFMAC

2024-2025 Season Dates

Indoor Model Flying

Funfly for all. Freeflight, rubber, CO2, Electric

Venue:
Abbey Sports Centre
Green Furlong
Berinsfield
Oxfordshire
OX10 7NR

Dates:

Sundays 09:00 to 15:00
6th October 2024
3rd November 2024
1st December 2024
5th January 2025
2nd February 2025
2nd March 2025
6th April 2025
4th May 2025
1st June 2025

Contact:
Ian Melville
07545158177
ofmac@redkite.aero

Club Meetings at Begbroke

Club Nights are held at Begbroke Village Hall, Begbroke Lane, Kidlington, OX5 1RN, 7.30 p.m. - 10p.m. Club business (if any) commences at 8 p.m., unless otherwise stated.

Wednesday 18 Dec 2024	**Club Night**: Fish 'N' Chip supper & fun packed quiz
Wednesday 15 Jan 2025	**Club Night**: 'Cartoon Foamie Warbirds' flying and judging
Wednesday 19 Feb 2025	**Club**: Night: External Speaker
Wednesday 19 March 2025	**Club Night:** Bring a Model evening. Bring along your latest creation to display/show off/chat about.
Wednesday 16 April 2025	**Club Night**: Fun flying on the Begbroke Field
Wednesday 21 May 2025	**Club Night**: Fun flying on the Begbroke Field

Competitions on Port Meadow for 2025

Definitions:

The "Peterborough" bungee = 7.5m of 1/8" rubber and 22.5m of line.
TOTF = Total of Three Flights + Fly-off if required

Saturday 31 May 2025 **Spring Duration Competition**:- Port Meadow :-

E20 – Total of three flights, 20s motor run, 60 s Max.
P30 – Total of three flights, 90 s Max.
36" Hi-Start glider – Peterborough bungee, Total of three flights, 60s Max, RC allowed but clock stops on first control input
Under 25" Vintage Rubber Cabin – Total of three flights, 90 s Max.
Classic Rubber Kit Scale – rules as per Winter Postal (https://oxfordmfc.bmfa.club/wp-content/uploads/2024/10/OMFC-Classic-Rubber-Kit-Scale-Postal-Rules-v1.4.pdf) but Total of three flights, 60s Max
Catapult glider – 60 s Max, total of 5 flights.

Rules for all classes at https://oxfordmfc.bmfa.club/event-rules/

Saturday 12 July 2025 **Summer Scale Competition** -Port Meadow:-

OMFC Scale Rubber Duration - max span 36" monoplanes, 30" multi-wing, no static judging, 90s Max, **best** of three flights + bonuses count. Flyoff if necessary. Rules at https://oxfordmfc.bmfa.club/wp-content/uploads/2024/10/OMFC-Scale-Rubber-Duration-Rules-V1.1.pdf
Flying Only – IC/CO2/Electric/rubber. Traditional rules, no static judging)
Hi-start Scale Glider – Peterborough bungee, Total of three flights, no static judging.
Frog Senior – 60s Max, Total of three flights

Rules for all classes at https://oxfordmfc.bmfa.club/event-rules/

Saturday 2 August 2025 RC Party Games + Fun-Fly + MIMLOCT:-Port Meadow:-

CD is David Lovegrove, competitions are TBD but are expected to include the legendary spot-landing game and may well include events such as RC Rudder-Only, Hi-Start Glider and other similar pastimes. Cloud Tramps may be launched from the FF area as this is MIMLOCT (Memorial International Mass Launch of Cloud Tramps) Day. Fun-flyers are welcome.

Saturday 30 August 2025 Autumn Duration Competition (Includes Southern Coupe League), Port Meadow:-

Vintage/Classic A1 Glider – 90s Max, total of three flights.
Vintage/Classic Glider – 60 inch span limit, 90s Max, total of three flights .
(For both the above, launch using either the supplied bungee (10m of 3/16" rubber and 40m of line) or a 50 metre towline, at the discretion of the entrant)
Coupe d'Hiver – Total of three flights, 90s Max.
Catapult glider – 60s Max, total of 5 flights
OMFC Scale Rubber Duration – max span 36" monoplanes, 30" multi-wing, no static judging, 90s Max, best of three flights + bonuses. Flyoff if necessary.
E20 – Total of three flights, 20s motor run, 60s Max

Rules for all classes at https://oxfordmfc.bmfa.club/event-rules/

Saturday 27 Sept 2025 BMFA Scale Competition, Port Meadow:-

BMFA Flying Only (IC/CO2/Electric/rubber) to new BMFA rules – includes some minor static + workmanship marks
OMFC Hi-Start Scale Glider – Peterborough bungee, total of three flights, no static judging.
OMFC Scale Rubber Duration - max span 36" monoplanes, 30" multi-wing, no static judging, 90s Max, best of three flights + bonuses. Flyoff if necessary.

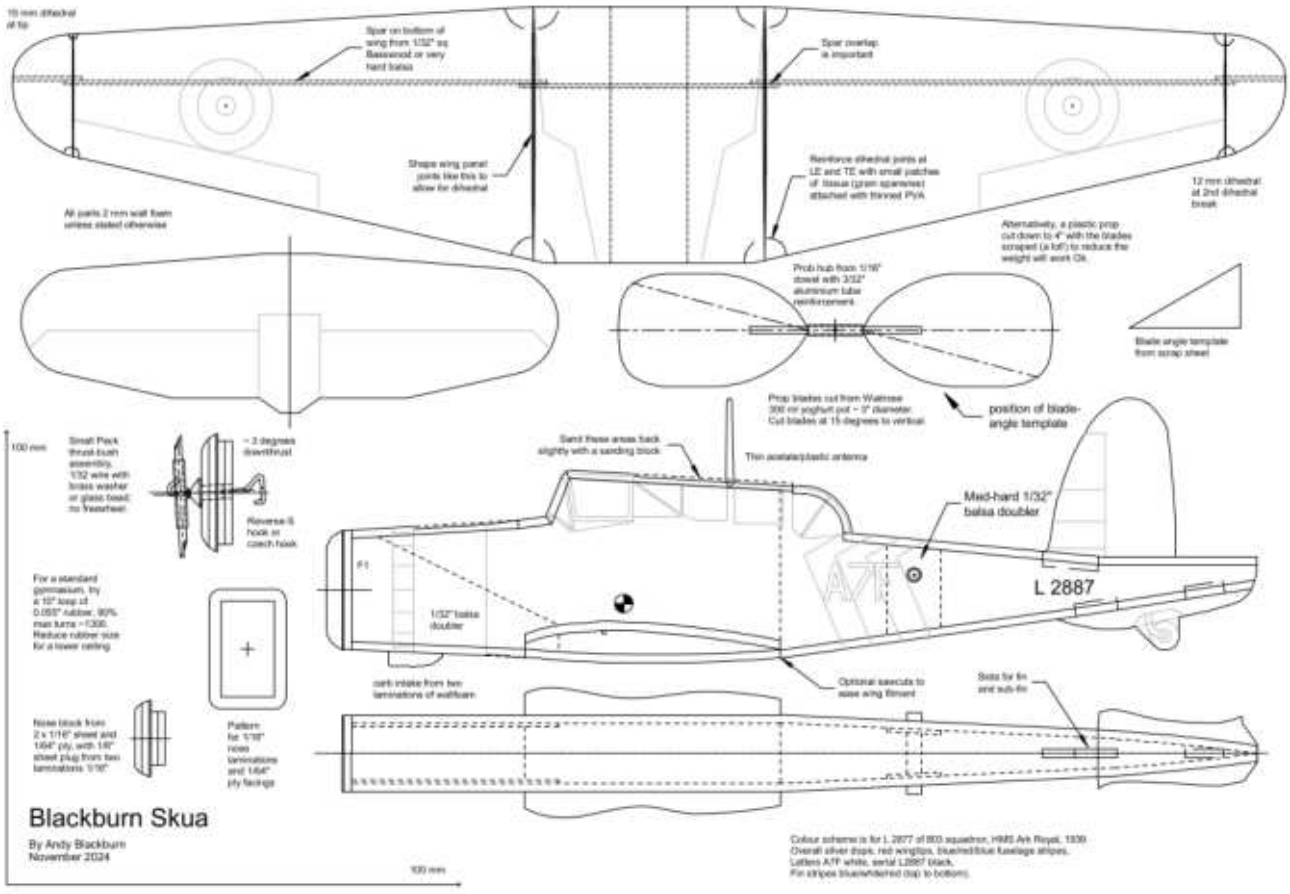
Postal Events

V20 – SAM 35 rules, 2 rounds April 1st – June 30th and July 1st – Sept 30th. For rules see:-
https://sam35.org.uk/wp-content/uploads/Rubber-Vintage-V20-rules.pdf

Classic Rubber Kit Scale Indoor/Outdoor – Restricted model choice (see, rules below), variable Max + bonuses, multiple entries allowed (indoor + outdoor), Feb 1st – April 30th. For full rules see:-
https://oxfordmfc.bmfa.club/wp-content/uploads/2024/10/OMFC-Classic-Rubber-Kit-Scale-Postal-Rules-v1.4.pdf

Coupe/P30 postal – September 1st to October 31st. Total of three flights, 90 second Max, entrants submit three times to Max + unlimited fly-off time, all flights must be on the same day. Send your times to webmaster@oxfordmfc.bmfa.uk . For rules see:-
https://oxfordmfc.bmfa.club/wp-content/uploads/2023/12/P30-and-Coupe-Postal-rules-v1.2.pdf

Tailpiece



I couldn't resist doing another foamy warbird plan: it's taken me about a day from start to finish and I think this is what I'll probably build for the January Cartoon Scale Foamy Warbird comp at Begbroke (Wednesday January 15th). It's not going to be the best-performing foamie (that'll be something with more wing area. There are several obvious candidates on both sides of the conflict), but I feel that someone ought to keep the <ahem> very, er, "individual" *products of the Blackburn Aircraft Co. alive . . .*

Contributions to the Newsletter

We're always looking for contributions to the newsletter and almost anything relating to aeromodelling will be most welcome. Please let me have your contributions by the end of February/first week in March for inclusion in the Spring 2025 newsletter.

Send them to: Andy Blackburn at *newsletter@oxfordmfc.bmfa.uk.*

If submitting lots of photographs (which we all enjoy) it's best to send the files separately, using www.wetransfer.com. However, anything less than 20 MB is usually OK on email.