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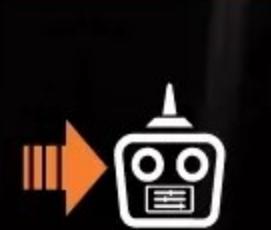
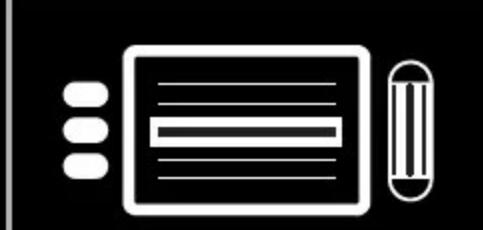
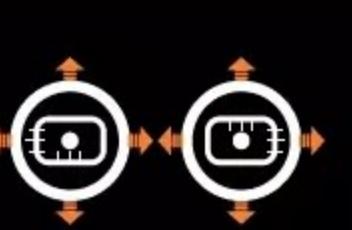
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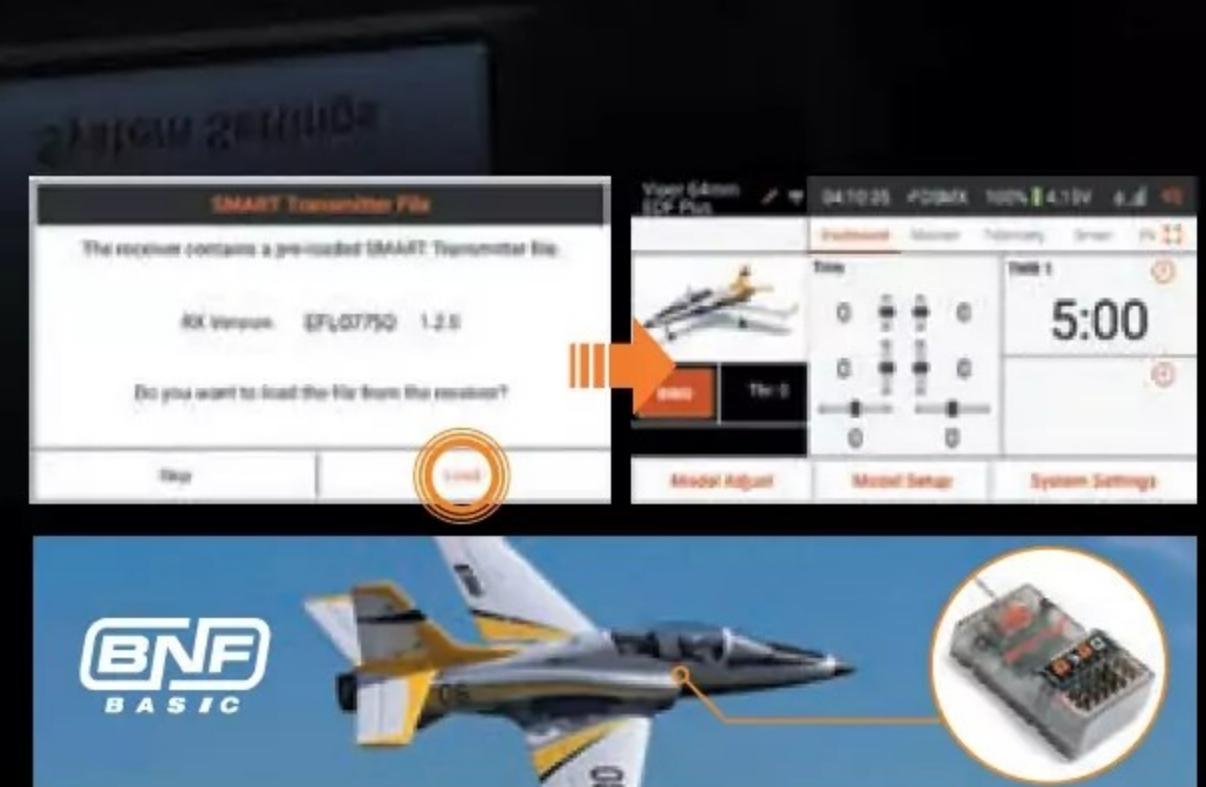
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Welcome

Welcome to the January 2026 issue of RCM&E. With this issue going on sale just after mid-December it feels a much more appropriate time to be passing on my best wishes for the forthcoming Christmas and New Year festivities to all our readers, advertisers, staff and all your families too. I hope you have a lovely time and that if you are lucky enough to receive any modelling orientated gifts then they are just what you have been wishing for.

No doubt many of you will be looking forward to sharing a mince pie with your clubmates at the flying field sometime over the holidays. I know that many modellers enjoy the tradition of a Boxing Day meet up with friends at the local patch but that's something I've never been brave enough to try. I don't think the mention of going flying on the 26th December would go down very well in my household, not that I'd be that motivated to do so anyway with another batch of close family expected to visit for lunch, following on from those that will be visiting us on Christmas Day. For me Christmas is all about spending time with our family, especially our little granddaughters, so my models can wait a day or two for their next outing. But weather permitting, I'm sure I will be making the trip to a couple of my local model clubs for a few flights between Christmas and the New Year, just to clear away the cobwebs and to get some much-needed fresh air.

I hope you have a fabulous time over the holidays too and if you do brave a Boxing Day flying session (or even a Christmas Day one instead) then send me a picture from the flightline with your models and any like-minded souls that you meet up with.

So, what's in store in this, the first issue of 2026? Mike Freeman starts us off with another of his excellent fly-in reports, joining the members of Basingstoke MAC as they celebrate their 20th All Electric event. Next, Shaun Garrity returns with another Retro Ramblings 'Flash Back' before handing over to Harry Curzon for our first kit review of the New Year as he puts XFly's realistic looking F-35 Lightning II stealth fighter to the test. Stuart Mackay takes a close look at a powerful fighter from another era as he watches Glenn Masters put his mighty twin Zenoah ZG62 powered Grumman Tigercat through its paces



before Thorsten Häss slows the pace with his report from the International Model Glider Fair held in July 2025 in Schwabmünchen, southern Germany. Then it's back to Shaun Garrity as he harks back to the 1970s with his electric flight conversion of the RM Mite. Why not pin this month's pull-out Pro-Plan to your building board and kick off 2026 in style by building your own version of this neat 37" wingspan sport aerobat.

The second half of this issue begins with David Ashby's latest Just For Fun column. Among David's topics this month is a short overview of Seagull's modern take on the Phil Kraft Kwik Fly [sic]. Have you ever wondered who is behind all the beautifully presented plans and drawings in each issue; take a bow Grahame Chambers who is celebrating his 33rd year of illustrating RCM&E. John Stennard (Insider) follows up with more indoor flying, including a look at small versions of Nutball flying wings and then Dave Goodenough (One Man & His Shed) visits the home of ProjectAir, well known for their R/C related engineering experiments on YouTube. Finally, I wrap things up with the unboxing of my latest project model, a Pilot-RC 84" aerobatic model in a dazzling green and blue colour scheme.

As always, I hope you enjoy reading it all.
Happy Flying!

Kevin Crozier

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| VAC Set | £16.00 |
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72" Span Mosquito 2xElectric



42



62

On the cover

Photo: Stuart Mackay

This month's Model Magic feature looks at a 1:4.4 scale Grumman Tigercat produced by Scalewings in Germany around 2010. It was built by Andrew Crosby and flown for several seasons on the UK show circuit. The model then changed hands but suffered damage in a heavy landing. Glenn Masters acquired the airframe as a restoration project in 2017. The aircraft is powered by two Zenoah ZG62 engines and she has proved to be an excellent flyer, with many successful sorties completed since the first post restoration flight in 2018.



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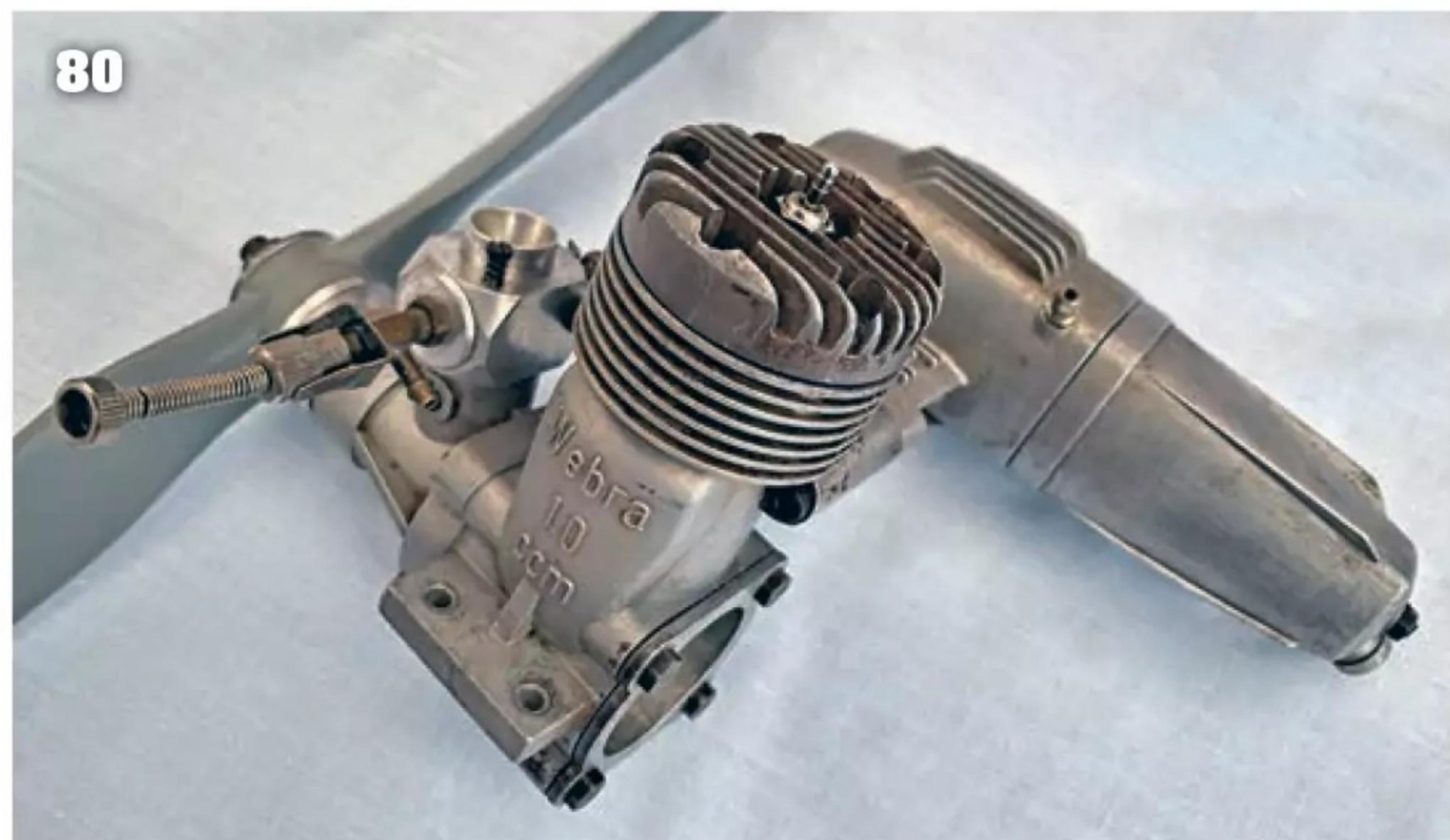
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10



80



PSSA - LOOKING GOOD AT 40!



It was back in 1986 when Alan Hulme first founded the Power Scale Soaring Association as PSS flying started to 'take-off' across the UK. 2026 marks our 40th Anniversary and we are planning to stage another 'Mass Build' flying event following our previous successful builds. We'd like to invite RCM&E's readers to take part and help celebrate our 40th year!

We hope to get as many participants as possible building simultaneously from the 1st of February 2026, with the aim of flying the new models at a 'Fly for Fun' event upon the Great Orme, Llandudno over the weekend of 19th and 20th September 2026. For anyone wanting to take part who is not currently a PSSA member, drop me a line at webmaster@pssaonline.co.uk and join us. Association membership is FREE!

Our chosen subject links back to Alan Hulme's full-size flying training and sees us converting a well proven electric power kit by RBC Models, the North American AT-6 Texan or Harvard, an aircraft type Alan flew after the war. Spanning 49" and with a target flying weight of around 2 lbs, this 1/10th scale twin seat prop trainer is a conventionally built-up PSS model for two or three channel R/C.

The well proven RBC kit has been marketed as a conventionally built electric flight model for many years. It contains all the CNC pre-shaped lite-ply and balsa parts needed to complete the model, as well as the sheet and strip wood required to finish the airframe ready for covering. There's an ABS formed cowling and a clear vac-formed canopy, along with a comprehensive full-size plan and build instructions. It just needs a few simple modifications to robustly convert it from electric power, as drawn, to a Power Scale Soarer.

The kit can be purchased through the RBC website <https://www.rbckits.com/shop/at6-texan.html> for just 99 Euros and orders can be placed now, noting that all kits are made up to order.

With building due to commence from 1st February 2026 there's still time to purchase your kit and ready the workshop before the start! We'll use the www.modelflying.co.uk PSSA forum section to share build ideas, knacks and lessons learnt via build blogs, aiding other modellers whilst they are at a similar stage of the build. Building the kit is straight forward so starting in February will give even the slowest of

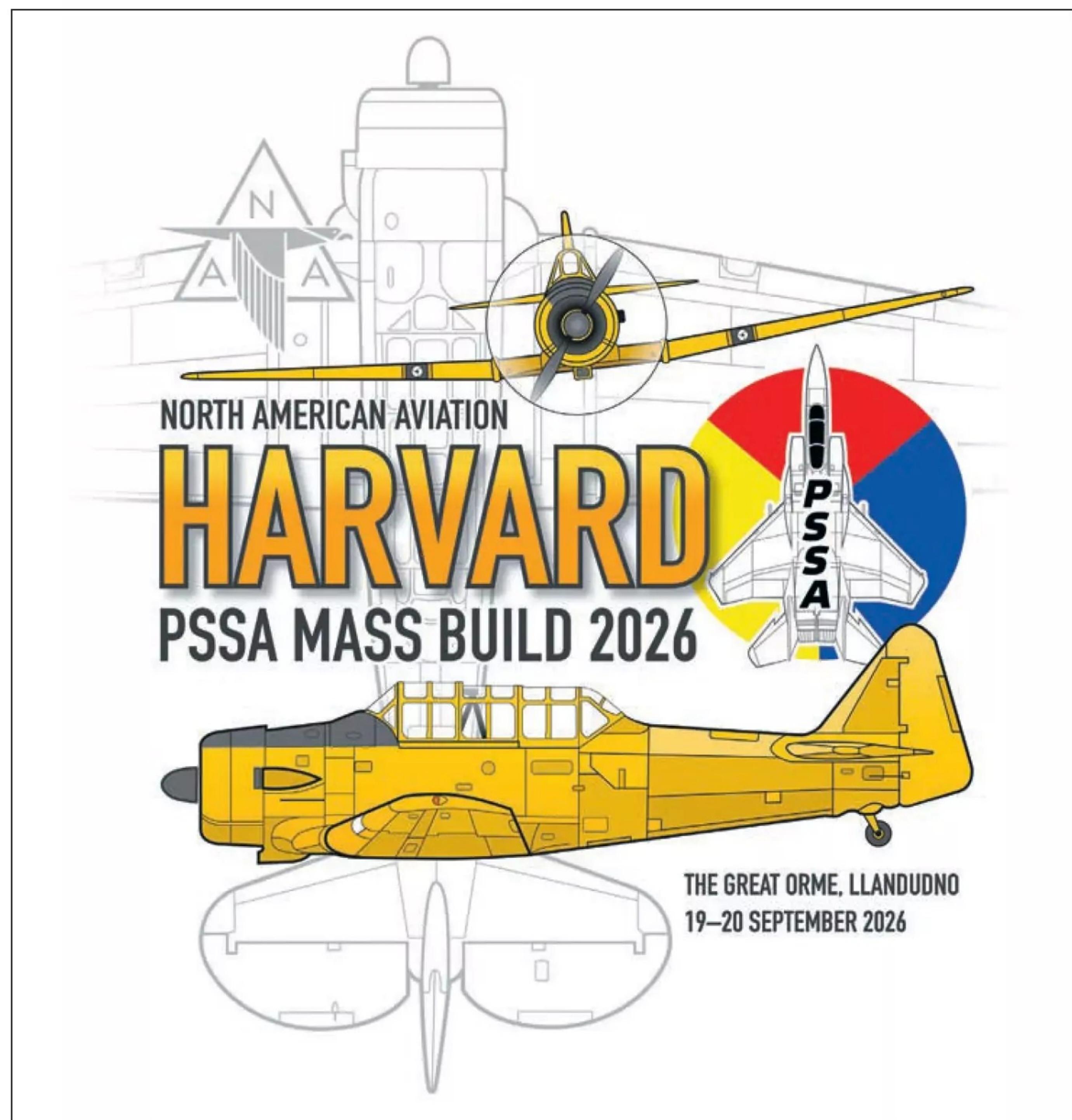
builders plenty of time to be flight ready for the September 2026 event.

For those new to PSS or building from plans we encourage you to have a go. This really is one of the main drivers of our Mass Build activity and there will be loads of help along the way. It's a great opportunity to learn some new skills and create a scale model of your own to be proud of! We see it as an exciting and fun way for us to promote Power Scale Soaring whilst getting more of our members building, learning or coaching.

At the PSSA Fly-in in September the Harvards will be assembled on The Great Orme and, if conditions allow, they will be flown in a number of type specific 'display' slots, with prizes for the Best Finished Model, Best PSSA Newcomer, Best Scale/Innovative Feature... It should certainly deliver another spectacle to remember up on the Orme and produce a unique 'Fly for Fun' event helping us mark our 40th Anniversary season.

If you would like to take part in the PSSA Harvard Mass Build Project please email me at webmaster@pssaonline.co.uk to register your participation and please remember to place your order with RBC in good time to allow your kit to be manufactured and despatched.

Phil Cooke



INTERMODELLBAU 2026



The ticket shop for the famous Dortmund model show is now online.

INTERMODELLBAU, one of the world's largest trade fairs for model making and model sports, will take place next year from **16th - 19th April** with numerous renowned model companies having already announced their participation. In the popular model railway sector these include the two long-established companies Gebr. Märklin & Cie GmbH and Wolfgang Lemke GmbH. Ship model building is represented by companies such as Klaus Krick Modelltechnik and Miniwerft, while the models from Torro GmbH and Setro Elektronik GmbH are more at home in the air. R/C vehicles will be provided by the popular manufacturer Tamiya-Carson Modellbau GmbH & Co. KG, among others, and trucks by Veroma Modellbau GmbH. In addition, the Spektrum Group (3D printing), Pistenking Funktionsmodellbau and Wilesco Wilhelm



Schröder GmbH & Co. KG (steam model building) also plan to showcase their new products at INTERMODELLBAU 2026.

Visitors can once again look forward to popular highlights such as the large model boating basin and the model air shows in Hall 3 or the thrilling races of the German Minicar Club in Hall 5. In addition, there will once again be exciting model railway layouts in Halls 4 and 7.

INTERMODELLBAU fans can now find the online ticket shop here:

<https://www.intermodellbau.de/en-gb>

The online ticket price is slightly cheaper than at the box office on site.

Regular updates on the exhibitors, the programme line-up and the highlights at INTERMODELLBAU can be found on the show's social media channels Instagram and

Facebook, as well as on the show's website (see link above) and via the show's newsletter.

All images courtesy of INTERMODELLBAU.



WOODSPRING WINGS MODEL AIRSHOW



The hard-working volunteers behind the Woodspring Wings Model Airshow are taking a well-earned break in 2026 but will be back in July 2027. Woodspring show images courtesy of Mike Freeman.

Woodspring Wings MAC have been hosting their show for over thirty years and it has been enjoyed by many thousands of people in that time.

Originally started to finance the development of the club, which now owns two fields and a tarmac runway, it has become a wonderful showcase for the hobby to both modellers and the general public.

It has become increasingly involved and expensive to run these shows with all of the resource coming from volunteers within the

club and we have decided next year to focus on the club's development and let the team have a well-earned rest. Consequently, the next Woodspring show will be in July 2027, when we plan to return with an even better one!

We have been supported by many traders and suppliers over the years and hope to continue with them after the break. In the meantime, we will do all we can to help and promote our partners.

We intend to host a Fly In at our field for modellers in July 2026 which will not



involve the public and therefore not nearly so much workload. It will be a celebration of our wonderful hobby and the community of modellers we have hosted over the years. More details on this 'Woodspring Celebration of Model Flying' to follow!

Thank you to everyone who has supported our club's show in the past and we look forward to seeing everyone again in the future.

Best wishes and happy flying,

The Woodspring Team



Adrian Childs electrified his Cloud Models Bullet with a 3548-1100 kV motor and a 4S 3300 mAh LiPo. Adrian says it flies just like the original would have on a .40 size engine - just a lot cleaner!

ALL ELECTRIC AT BASINGSTOKE

Mike Freeman celebrates two decades of the All Electric Fly-In at Basingstoke Model Aero Club

Words & Photos: **Mike Freeman**

The 21st of September 2025 saw the holding of the 20th Basingstoke Model Aero Club (BMAC) All Electric Fly-In. It has become an annual mecca for electric flight fans, although numbers were slightly down this year due to a last-minute date change due to inclement weather and a less-than-ideal forecast leading up to the rescheduled date. BMAC show organiser Roy Thompson told me he hadn't had much sleep the week before, but he needn't have worried as the weather was dry and we saw plenty of sunshine. There was a brisk wind, but it didn't stop the flying as there was a constant queue of models at the flight line waiting for a fly.

ESSENCE OF FLY-IN

I always enjoy wandering around the pits at a Fly-In and marvelling at the eclectic mix of models that show up and this year's BMAC's event certainly came up trumps again. There were some beautiful trad-built balsa and ply models, gorgeous composite jobs, through to 3D printed and Foamboard creations alongside well used and abused club field hacks. I couldn't decide which photos to leave out so I sent them all to Kevin and let him choose which to include. The captions give the details.

AEROTOWING ANTICS

When BMAC Member Dom Mitchell was flying a Top RC S Cub recently he noticed this

small 1500 mm span Cub had a wing mounted aerotow release which he thought would be rude to ignore. Whilst discussing suitable small glider options for aerotowing Dom's clubmate Nick Childs decided to convert one of the 860 mm span Lidl foam chuck gliders to R/C and add a tow release to it. Nick hollowed out the nose, added some carbon rod reinforcement and installed 5 g servos to the ailerons, elevator and a simple 'disappearing pin' tow release. A tiny Spektrum Rx and 4.8V 950 mAh NiMh AAA pack brought the flying weight up to 235 g. The Fly-In was the combo's maiden flight.

The 4S 2500 mAh LiPo in the S Cub pulled the pair aloft admirably and it was amusing to watch Dom and Nick trying to co-ordinate

controls to achieve a stable towing pattern. To start with Nick's glider was being tossed around like a kite in a hurricane but everything held together and eventually the tow stabilised allowing Nick to successfully release from the towline and glide back down, with some aerobatics and soaring on the way - very entertaining. Those little gliders are surprisingly efficient; it took a long time for it to come down.

ANGRY BIRD

BMAC regularly run Mass Build projects to get their members to try something new or help newcomers get started. Their previous 'Combatting Spitty' project was a great success and a hoot to watch at the Popham Model Show earlier this year. Whilst looking for a suitable subject for this winter's project organiser Michael Oates remembered a curious model that clubmate Ian Gibbins had adapted and built from a German indoor model plan he'd found online. And so the Angry Bird project we saw being tested at the Fly-In had hatched.

Clubmate Alan Haskell volunteered to be Chief Test Pilot. The model is built from Foamboard and the power train is one of the 4-Max Value Packs, including a A2212-1400



Nick hollowed out the nose of the Lidl glider to accommodate the R/C gear. Note the simple 'disappearing pin' tow release in the nose.



Dom Mitchell and Nick Childs chose the Fly-In to maiden their aerotowing exploits. Here, Nick's converted 860 mm span Lidl glider waits patiently behind Dom's Top RC 1500 mm S Cub.



BMAC members Michael Oates and Alan Haskell with their prototype Angry Bird which the club intend to use as this winter's mass build project.



Alan says towing a streamer doesn't affect Angry Bird's performance. Look out for their combat capers at next year's Popham Model Show.



John Given from the Chobham Common Club brought along this 32" span Concorde built from the Tony Nijhuis plan. Rather than fit EDFs, and with the help of George at 4-Max Models, John modified it to run off twin PO2834-1680 motors spinning 7x5 contra rotating props. John says there is ample power for hand launching and scale flying.





Colin Low and his favourite electric hack, a 42" span all Depron Vulcan from the Graham Dorschell plan. Power comes from one of the 4-Max Models Value Packs and gives Colin around 10-minute flights.



BMAC Fly-In organiser Roy Thompson took time out of his hosting duties to fly his 1:10 scale, 52" span Gloster Meteor. Roy had been collaborating with Jim Young of T&J Models during early development of the model in 2011 and this was one of the first kits off the production line. Roy's model is powered by two five-bladed 70 mm Lambda fans, each with a dedicated 4S 5000 mAh LiPo.



Roy's Gloster Meteor takes off. The U/C legs are really short, making this shot look like an uncomfortably low fly past!

kV motor, 8 x 4 prop and a 30A ESC supplied by a 3S 1300 mAh LiPo. Control is via ailerons, elevator and rudder and it flew surprisingly well. A gentle underarm lob sees it away and Alan treated us to an entertaining display with some simple aerobatics and low-level fly pasts.

The only trouble comes when landing as no amount of slowing it down will prevent it from somersaulting and occasionally breaking a prop. Michael and Alan are considering using a folding prop or a mid-wing mounted motor as a straightforward solution. I look forward to seeing what they decide to do at next year's Popham Show.



John Given's beautifully finished Sorrell SNS-7 Hiperbipe nearly came a cropper in the strong crosswind.



Alan Haskell loves elliptical wings and brought along two of his own design models with trad balsa construction and film covering. The smaller one, Sprite, has a wingspan of 880 mm and flies with a 3S 1300 mAh LiPo and 2320 kV motor, either hand or dolly launched. The larger one is Big Elf with a wingspan of 1875 mm and a flying weight of 2315g, including a 5S 3700 mAh LiPo. Bringing up the rear is his foamboard 'Spitty'.





Nick Childs enjoys 3D printing his models. Here is his 890 mm span *Shark* downloaded from www.cults3d.com. It uses a 50 mm EDF rescued from a foam Viper. Air intakes were apparently inspired by an early Ferrari F1 racing car.



Ian Maishman looking pleased after the re-maiden of his 17-year-old Red Arrows Hawk of unknown heritage.

REBORN

Around 17 years ago BMAC Member Ian Maishman bought a 960 mm span polystyrene BAE Hawk from an unknown supplier at a Wings & Wheels Model Show. He finished it in Red Arrows Livery and strengthened it with some Deluxe Materials Eze-Kote and lightweight glass cloth. Sadly, the five bladed EDF unit wasn't powerful enough and the model soon got resigned to the loft.

During a recent clear-out Ian rediscovered it, repaired some of the hangar rash and retrofitted a more up-to-date FMS 64 mm, 12-bladed EDF unit, along with a 60A ESC and a 4S 3000 mAh LiPo. He also upgraded the R/C gear and bought it along to the Fly-In for its re-maiden. Ready to fly the model weighs 958 g. Clubmate Colin Low offered to hand launch it

but said there was plenty of power and it just pulled out of his hands. Ian couldn't believe the difference the new gear had made to the flight performance. There's progress for you!

FEISTY CROSSWIND

Most pilots on the day took to the air with one model or another. There were a few hairy landings in the blustery crosswind but,

thankfully, only one model sustained any significant damage. John Hutson's original 'Top Quark' design, and the prototype for the free plan in the June '24 issue of RCM&E, had completed more than 550 trouble free flights without incident before the Fly-In but got caught by a rogue gust, causing it to crash. Thankfully damage was light and John said he'd soon have it flying again.



Shortly after this photo John Hutson's distinctive *Top Quark* tumbled to the ground, snapping the nose off. This is the original model which lead to the free plan in the June '24 issue of RCM&E. John said he'd soon have it repaired and back in the air again.



Colin Low and his Blohm & Voss BV215 from the RCM&E free plan, February 2011. Built from Depron and balsa it spans 990 mm and is powered by a 4-Max Models Value Pack. A 3S 1800 mAh LiPo gives Colin around 20-minute flights, including plenty of vertical performance. That colourscheme was inspired by a giraffe!



Adrian gave Nick a constant line-of-sight commentary on the Interceptor's flight path to keep Nick on track. Great teamwork.

FIRST FPV EXPERIENCES

Over recent months BMAC clubmates Dom Mitchell and Nick Childs have been combining their love of FPV and 3D printing respectively into one model, culminating in Nick's 3D printed StuntDouble Interceptor V1 into which Dom had shoe-horned a DJI O4 digital FPV camera/video transmitter along with telemetry modules to show speed, altitude, compass and return to home vector in the DJI goggles.

Dom had flown the FPV equipped Interceptor successfully several times and achieved speeds of over 100 mph with it. After the crowds had dispersed light pressure was put on Nick to have a go himself and he eventually relented and loved it! His Dad, Adrian, was alongside ready to take the Tx if necessary and was giving Nick a line-of-sight commentary on

the model's flight path. Dom was filming it all for his EssentialRC YouTube channel.

With the Interceptor fitted out with twin 2207 Emax Pulsar 2450 kV motors, each with 5x5 props and 40A ESCs supplied by a common 4S 2200 mAh LiPo, Nick managed a top speed of 136 mph. But even before the Interceptor had slid to a halt on landing, they were discussing the feasibilities of fitting a 6S pack which should make the model capable of up to 200 mph plus. Great fun!

Right at the end of the day Dom brought out a Dancing Wings 1.9 metre span Savage Bobber Cub fitted out with a Walksnail GM3 3-axis gimballed FPV camera in the cockpit and asked if I fancied an FPV joyride. I jumped at the chance and loved it! The Walksnail Avatar HD FPV head tracking goggles moved the 3-axis gimballed FPV camera inside the model and it was like I was in the cockpit taking in the views as Dom cruised around. We even did some mild aerobatics – very enjoyable!



Yours truly about to take an FPV joyride in Dom Mitchell's 1.9 m span Dancing Wings Savage Bobber bush plane fitted with a Walksnail GM3 3-axis gimballed FPV camera. I'm wearing Walksnail Avatar HD FPV goggles with integrated head tracking which drives the camera gimbal - amazing stuff! I'm just holding the Tx for the photo. Dom did the actual flying.



Adrian Childs launched son Nick's FPV enabled StuntDouble 3D printed Interceptor for Nick to have a go at flying FPV for the first time. Here's the Interceptor on a slow flypast for the camera.



Ian Gibbins was fed up with his Volantex Ranger 2000 heading towards the deck when being launched so he modified it to a twin after watching a Dave Merc Productions video on YouTube. As you can see it gets away nicely now! Ian intends to fly the model by FPV eventually.



Steve Schafer's 5.6 metre span Bruckmann Modelbau Kobuz was by far the biggest model at the Fly-In. It looked and sounded superb when gliding but sadly the wing tip smoke canisters didn't ignite this time out!



Paul Mogg brought along this nicely covered Flair Magnatilla. Arrows Hobby 3948-700 kv motor, 12 x 8 prop, 50A ESC and 4S 3700 mAh LiPo. The pilot is a childhood toy of Paul's son, Reuben.



Dom Mitchell wanted some video footage of his tiny 290 mm span Minimum RCF-16, so he handed the controls to clubmate Adrian Childs.



Here's Dom Mitchell's Avios 2.2 metre Kobus sports-scale powered glider diving in for a fast pass along the strip.



Roy Thompson's Bowman Models Raider 26 in its patriotic colours scheme. Roy likes Bowman models. He got this one from eBay and converted it to electric with a 2212-1400 kV motor, an 8 x 6 prop and 1500 mAh LiPo.

FINAL THOUGHTS

I had a great day! With all the experimenting and maidens going on it felt like a really good day down at the club patch. The BMAC members made everyone welcome and those that braved the conditions seemed to enjoy the day. The complimentary pizza, cake and drinks provided by BMAC went down a treat too! ■

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52"

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89.76"

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| Additional Wood Pack | AWPRC2274 | £103.55 |
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SAVE: Buy the set & save up to 15% on the component parts

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| Short Kit (Set) | SET2104 | £304.00 |
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SAVE

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 Bristol Beaufighter Mk.X (93.5") SET3071 £554.00
 Bristol Beaufort (72.5") SETRSQ1867 £330.00
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 Bucker Jungmeister (65") SET2617 £342.00
 Chance-Vought F4U-1 Corsair (82") SET3338 £505.00
 Chilton DW-1A (84") SET3625 £522.00
 Corby Starlet (82") SET2035 £405.00
 Curtiss P-40E Kittyhawk (65.25") SET3299 £358.00
 DeHavilland DH82a Tiger Moth (88") SET3208 £542.00
 DH.90 Dragonfly (83") SET3491 £402.00
 DH82A Tiger Moth (66") SET3460 £386.00
 DH98 Mosquito FB.VI (71") SET3345 £433.00
 DH98 Mosquito PR.XVI (81") SET3340 £558.00
 Douglas AD-1 Skyraider (75") SET3486 £426.00
 Douglas DC-3 Dakota (96") SET3303 £356.00
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 Extra 300 (72") SET2381 £436.00
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Fauvel AV48 (158.5") SET3392 £432.00
 Fieseler Fi-156 Storch (93") SET3466 £340.00
 Focke-Wulf Fw190 A-4 (60.25") SET3327 £310.00
 Gloster Gladiator (56") SET3344 £432.00
 Göppingen Gö-1 Wolf (138") SET3465 £406.00
 Grumman F6F-5 Hellcat (64.25") SET3350 £340.00
 Hawker Hunter (68") SET3603 £466.00
 Hawker Hunter FGA.9 (48") SET3241 £342.00
 Hawker Hurricane Mk.1 (70") SET3333 £540.00
 Hawker Hurricane Mk.1 (88") SET3566 £557.00
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My collection of UHF transmitters. The Becker (top right), manufactured in the 90s is the same as used for the house robots on the TV series 'Robot Wars' but the outstanding Cotswold set I've recently managed to buy is at the lower right of the photo. It's a fully working set and after some range testing I fully intend to fly it.



40 YEAR FLASH BACK

Encouraged by the response to his last column **Shaun Garrity** has another go at time travel, this time visiting the 1980s

Words & Photos: **Shaun Garrity**

In my last column I did a '50 Year Flash Back' at our hobby. It was a bit of a gamble to see if readers would find it interesting, but the response I've had has been brilliant and my mailbox is full of interesting 1970s hobby related snippets. Clearly the old rose-tinted specs were brought out of storage because so many things in the hobby are better today, such as radio gear, e-power, LiPo batteries etc. But a good number of things back then weren't, such as die-crushed balsa and ply in kits, chopped fibreglass fuselages (not modern composites), poor quality hardware, huge and relatively low powered servos, to name but a few. However, these earlier limitations didn't stop modellers of the day producing stunning models. So, I decided to look at another decade. But was it going to be the 1960s or 1980s though?

Digging through my mag stash I decided on the 80s, the reason being simple. In the mid-80s RCM&E started using colour photos in both the editorial and advertising pages so this article's images should be more interesting to look at.

SALTO UPDATE

Before I jump back to the 1980s, I have a great update from a snippet I included last time after I had travelled down to the Ivinghoe Retro Gliding event and met up with Francis Donaldson. He told me about his desire to find an old WIK Salto kit or completed model as it was on his model bucket list.

Well, great news, and thanks to the generosity of Graham Skinner, Francis is now the proud owner of a good Salto.

The power of advertising in RCM&E, eh?

AMBASSADOR PRODUCTS

Does anybody remember Ambassador Products from the 1970s? I had an email from Julian Boden, whose father and uncle owned the business. Julian was chasing after some examples of their product adverts:

"I have been reading your Retro Ramblings '50 Year Flash Back' with great interest. I am hoping you may be able to find some period adverts for my father's kit manufacturing company from the early 1970s. My father and uncle ran



Remember Ambassador kits? Galaxy Models sold them, along with Micro Mold.



It was an article in this issue about an add-on for the RCM&E transmitter that cost me hours of my life that I would never get back, not forgetting the cash. But you live and learn.

Ambassador Products which produced a range of radio-controlled kits. These included the Tutor, a high wing trainer for four channels, the Musketeer, a low wing second/aerobatic sports model, a Jet Provost, and Hawker Hurricane and Messerschmitt Me109 sports scale models. There was also a range of water slide insignia, lettering and markings etc.

All the kits were relatively quick build, with foam wings, strip ailerons and foam turtle decks on a simple box fuselage. There was also a slope soarer, but I am not sure if it ever reached production. I believe there was a collaboration with Dave Carless, who ran Lincoln Model Centre, previously owned by Peter Russell.

Also in the range of kits was a selection of control line models. These included a Spitfire, Me 109 and Harvard, all as profile models, plus the Hornet, which was a pretty, little, conventional model (my



This was the board (top panel) that gave snap and slow rolls from a button press. It seemed a great idea but after a week of use I realised it was no replacement from just using the Tx sticks.

favourite) and a stunter (I can't remember the name) and a free flight tow-line glider.

Dad later changed the name of the company to David Boden Graphics and specialised in vinyl markings.

The R/C kits were available with modern updates like ABS cowls etc. from Pegasus Models in Norwich, along with the Galaxy Models range.

If you should hear of any of the original kits or models coming up for sale, I would be very interested in them. Should you come across any ads it would be great to see them, even if they don't make the magazine, and it would be nice to show Dad too."

Digging through the mags I've managed to find some adverts for Julian. Interestingly, Ambassador Products were distributed by Micro Mold. If anybody has any unbuilt kits, pictures of built examples or actual models of the product range then please get in touch with me.

BLUE ANGEL

And here's another memory jogged from Keith Cherrington, who clearly knows his onions - or rather his 1970s aerobatic supremos!

"I enjoyed your 50 Year Flash Back. Many memories! I suspect those on the cover of the November 1975 RCM&E (see page 18, November 2025 issue - KC) are Tsugutaka Yoshioka (Blue Angel 60), Wolfgang Matt (Atlas 60) and Hanno Prettner (Curare 60). You will know all have been World Aerobatic Champions. I built Wolfgang's Super Star from the RCM&E Plans Service plan in 1975 and installed Carl Goldberg mechanical retracts. It was very nice to fly, though I couldn't do its aerobatic capabilities justice. I did enjoy seeing the wheels tuck away."

The Yoshioka (Blue Angel 60) was kitted by MK in Japan. MK also brought out a 40 and a 20-size version. I built the 40-size kit circa 1981. My initial flights were somewhat disconcerting as the model seemed very sensitive in roll. Perhaps it was the swept-back wing that it made it seem so, though back then my radio transmitter had neither dual rate nor exponential functionality. The model was quite fast too having an OS Max 40 F-SR upfront.

I recently brought the Blue Angel 40 down from the loft and removed it from its 'export packing' material. A carry-over from when we moved in 2008, so perhaps I will yet fly it again. I have to say that I am more than impressed with the condition of the model, now 44 years old, which was covered with SIG Coverite (wings and tailplane) and lightweight glass cloth and K&B finishing resin on the fuselage and fin. The model was sprayed with two-part K&B Super Poxy paints including a couple of clear topcoats and shows no evidence of cracking. I recall that SIG Coverite was very nice to use and finish, and it has remained tight to this day. Happy days."

EVERYBODY WANTS TO RULE THE WORLD

It would seem Tears for Fears had a crystal ball back in the 80s (when you listen to the news today) and got a number one hit out of it. But what was going on for the modeller in that decade?

May 1980 RCM&E was a memorable one for me. Back in late 1979 I had built the new Terry Platt designed FM Digital transmitter and receiver kit and was pleased with its performance and especially how

much cheaper it was than a commercially manufactured set. I was lucky as DJ & D Model Gear were one of the authorised suppliers and only a 10-minute bus ride away, so I had help on tap.

Well, the May edition highlighted new features for my Tx: Rate Switches, Stick Reversing and something even many top end commercial transmitters of the day didn't have, programmable buttons giving Slow and Snap Rolls. It seemed like a good idea at the time and after building the new PCB and soldering a fistful of fly leads I used it for a week or two until the novelty wore off and I just did those rolls with the sticks. Still, it was a great talking point at the field and I took great pleasure in winding up my fellow, wealthier club members who spent far more money on their gear and didn't have the magic buttons.

COTSWOLD UHF

Another snippet from the September 1980 issue was a review of what, in my view, was the finest UHF radio made. UHF was an attempt to give modellers another choice from the ever increasingly crowded 27 MHz band and so dodge the dreaded interference.

Cotswold Controls sold a 7-channel set that was an outstanding piece of quality electronic design. You can see my own set in the bottom right-hand corner of this month's introductory picture. Other UHF sets of the day ranged from dire to good. Some had many bells and whistles but the bling-less Cotswold just worked and worked well. It could have been even more successful, but it wasn't particularly cheap due to the technology required. And 35 MHz was just around the corner.

Paul Howey, the designer, went on to manufacture micro sized GPS radio tags weighing a gram or less to track migrating birds and he is still an active modeller today.

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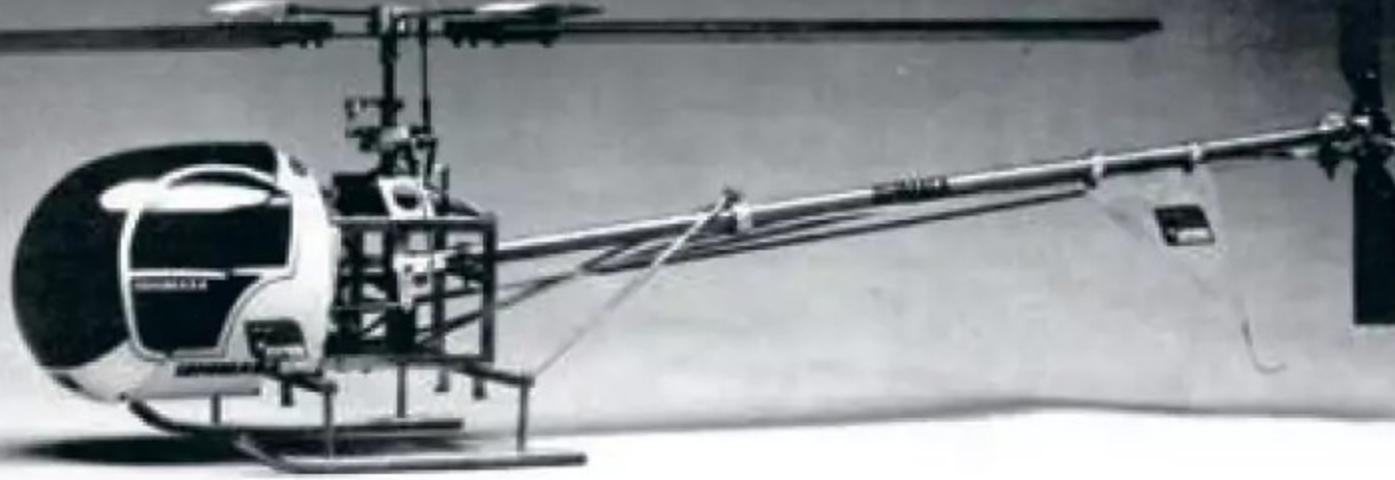
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SPECIFICATION: Engine: motor: Ad-45 2 stroke suitable. Rotor: any 4-5 channel suitable. Rotor dia: 104cm (41"). Tail Rotor dia: 21.4cm (8 1/2"). Fuselage length: 106.7cm (42"). Flying Weight: Gyro & 1.2AH nicad: 3.2kg (7lbs). Super Scale Hughes 500E glassfibre body available as an add-on kit £49.95 inc. VAT.

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My second stab at mastering a whirling dervish and emulating Magnum PI. At least spares were now available when I bent it.

The Electric Revolution



The Skylark EH1 Electric Power Radio Control Helicopter £99.50

The fascination of helicopters has at last been brought within the reach of every serious modeller. The benefits of electric power, no mess, little noise and low costs, allows this unique model to be used in almost any convenient space, including your own garden. When used with the special 7 metre power lead from a 12 volt car battery, training and practice can be performed almost indefinitely. With an 8 cell, 1.2AH nicad pack independent flights of up to four minutes duration are possible. Each model is supplied semi-assembled resulting in a minimum of construction time. The precision and quality mechanisms, including ball races in all main bearings, necessary for helicopter flight, along with twin Mabuchi 540S motors and heavy duty speed controller ensure that even the most experienced pilot will gain immense satisfaction from this unique innovation. Please be aware that this model has the same level of flying difficulty as a normal helicopter and therefore represents a superb challenge to both experienced pilot and novice alike.

Optional extras:
Bell Hiller Head £21.50, Training Skid £5.95

Specification:

Overall Length: 848mm Rotor Diameter: 992mm
Weight: 1.2kg Weight Fully Loaded: 1.560g
Maximum Weight: 1.8g Motor: RS 540S x 2
Power Source: 9.6V Ni-Cad Battery Radio System: 4-Channel Lightweight

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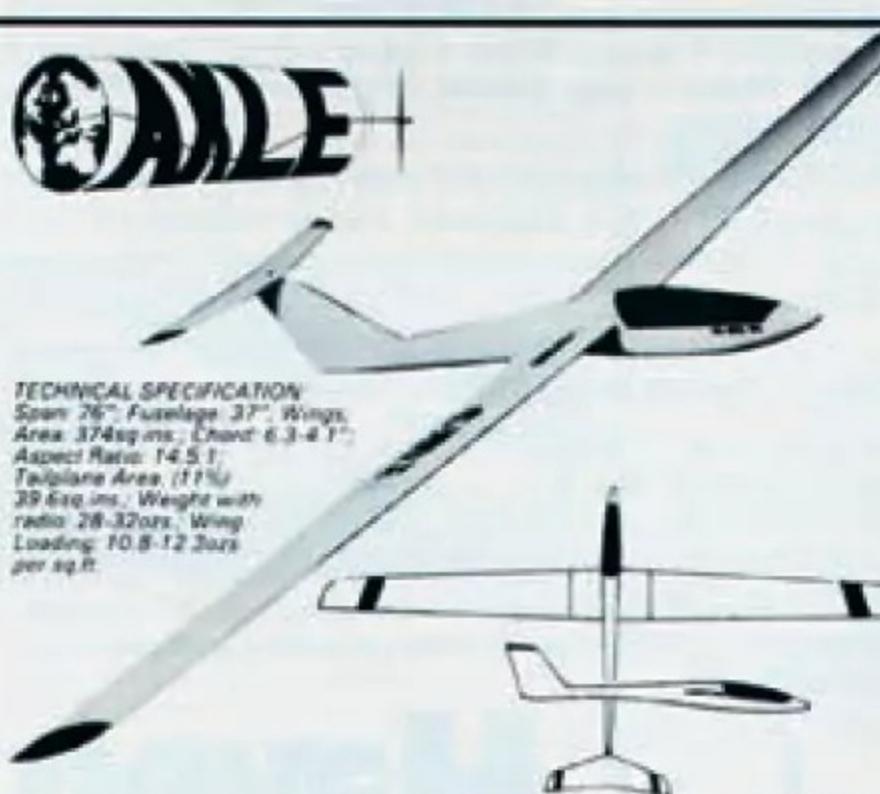
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Actually, I did have one more stab at helicopters. I couldn't resist the Skylark EH1, especially as you could get an umbilical power lead to run it from a 12-volt battery as it only lasted a few minutes with the on-board NiCad. I managed some flights with this until the inevitable happened so I fixed it and sold it on.



AXLE

TECHNICAL SPECIFICATION

Span: 76"; Fuselage: 37"; Wings: Area: 374sq.in.; Chord: 6.3-4.1"; Aspect Ratio: 14.5:1; Total Weight: 1.25kg; Power: 39.6sq.in.; Weight with radio: 28.32ozs.; Wing Loading: 10.8-12.3ozs. per sq.ft.

In production now for nearly two years, the Axle has become our top-selling kit. It is an out-of-the-nut model, featuring rotating wings - more efficient and less drag than alternative designs. It has a high performance and is performing aerobatics with easy loops, barrel rolls, inverted flights, rolls, etc. and has an impressive turn of speed. We are also getting reports from around the world of the model flying in 5mph winds and also performing well in thermal flight - due no doubt to the clean design, low drag wings and high aspect ratio. The kit includes a very strong white fibreglass woven cloth fuselage, veneered foam wings with LE, TE and spruce spars built in, tailplane, rudder and all accessories to complete the kit. Not included control surfaces, materials, glue and radio. Building time 4 hours. Price £49.95.



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178

Two of my favourite Sailplanes International models, especially the Sitar Special, were very popular in the 1980s.

A SECOND HELICOPTER

November 1988 edition was responsible for my second attempt at helicopters. Years previously I had built a Morley Bell 47. To be fair it was less of a kit and more lumps of metal that needed endless filing, drilling and soldering. But I eventually had a whirling eggbeater that managed several tentative vertical hops.

The downside was that every time you bent anything a lot of effort was required to make new parts, so I sold it to a clubmate. Been there, seen it, done it!

RADIO CONTROL MODEL & ELECTRONICS

SITAR SPECIAL - Based on the 245 mph world record holding DASSEL. The model uses the Eppeler 193 wing section and Göttingen 444 tailplane section. The tail is more modernized for a spectacular performer in general slope aerobatics and pylon racing. With its Eppeler 193 wing section, the Sitar Special is no mean performer either in weak slope lift or thermaling from the flat, often outperforming the so-called floaters.

Suitable not only for slope, but also for winch and bungee launches and for winds of 5mph upwards. One of the smartest and most impressive looking models around. Price £62.95.

SITAR SPECIAL

Technical Specification: Span 83"; Wing chord 7.9"; Wing area 654sq.in.; Wing section E193; Tailplane Gott 444; Flying weight 3lb; 6ozs.; Wing Loading 11-24ozs.

MICRO-MOLD
WALLIS AUTOGYRO

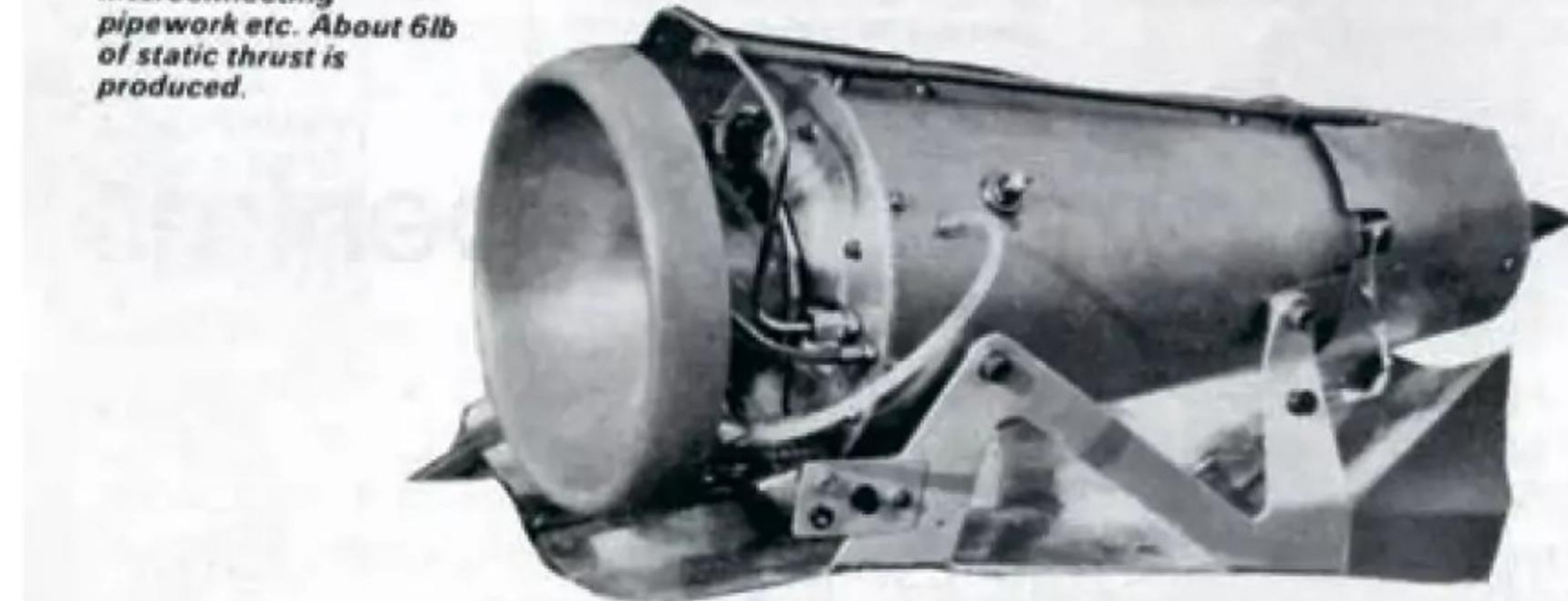


£115.95 s.r.p.

A pal of mine purchased a full-sized Wallis autogyro. So, suffering a bout of F.O.M.O and not being able to afford a full-sized one (or having the skill to fly it) this Micro Mold mini marvel filled my desire to emulate 007 with 'Little Nellie' in 'You Only Live Twice'. I had far more success with her than my attempts at mastering helicopters.



Right: Gerry Jackman and his team with their Gas Turbine dream come true. Below: the gas turbine engine with all covers removed showing the mounting and interconnecting pipework etc. About 6lb of static thrust is produced.



I remember seeing this fly at Sandown Park. You could have heard a pin drop as the crowds marvelled at Gerry Jackman and his team's achievement.

Or so I thought until I saw the advert for a proper heli kit at an affordable price, the Morley Sport 500. Even better, a scale Hughes 500 glass fibre body was available. Common sense kicked in and I held back on ordering that though as my skill level needed upping significantly.

One thing to help me on my whirlybird journey was the purchase of a new-fangled gyro (from memory it was a Century Systems kit built one). I knew this would be far better than the piece of string I fastened to the tail of the Bell 47 to keep it pointing straight! Anyway, my expectation of emulating Magnum PI didn't materialise, other than

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Other than the Nationals, Woodvale was my second favourite show in the UK. I still remember Jo Koullen flying there in the very late 80s with his arrow like pulse jet models.

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I bought this set when it first came out and had years of reliable use.

the slug like moustache I sported for a year or so. The tentative hops were higher and more controlled thanks to the gyro, but the bending still happened. I then realised I could have bought a 5-metre span Pat Teakle ASW 17 with change for what I had spent on the Morley. So →

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Wings & Wheels was a brilliant show and always on my annual must visit list.

This was the equivalent of the internet back in the 1980s. Good old paper media full of products costing from pennies up to wallet busting amounts of modelling tokens.

KYOSHO
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**SILENT FLIGHT
JUST ADD RADIO***

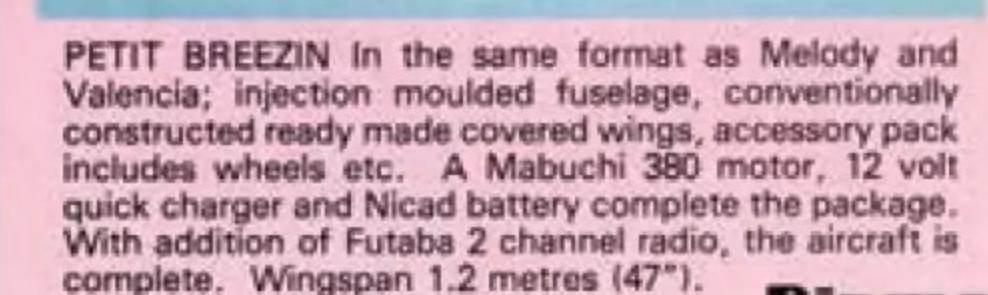
Given their experience and success in electric car racing, it was inevitable that Kyosho would develop a series of electric powered aircraft. Electric Flight is clean and simple, no fuel, no starting problems, no noise and these aircraft require only simple assembly and the installation of radio.

The graceful Valencia (right) is designed for fun flying for beginner or expert alike. For beginner, it offers stable, slow flying with lots of time for control inputs. Experts will be able to search for thermals. The ability to switch the motor ON for power only when it is needed, greatly increases the flying time. Supplied with ready made and covered wings + tailplane, injection moulded polypropylene fuselage and a special Le Mans motor to operate from the same battery pack as Kyosho buggies. Wingspan 1.78 metres (70").



Both Melody models are almost ready to go when the box is opened! Assembly is quick and easy, as all parts are factory made, with finished and covered wings + ready moulded polypropylene fuselage. The wings slot neatly into place for easy flight preparation, it is just as easy to dismantle for transportation.

The Melody Glider (left) is supplied complete with high start system for flat field flying. The electric Melody (right) is equipped with powerful motor, NiCad batteries and 12 volt quick charger just add radio. Wingspan 1.5 metres (59").



PETIT BREEZIN In the same format as Melody and Valencia; injection moulded fuselage, conventionally constructed ready made covered wings, accessory pack includes wheels etc. A Mabuchi 380 motor, 12 volt quick charger and NiCad battery complete the package. With addition of Futaba 2 channel radio, the aircraft is complete. Wingspan 1.2 metres (47").

Ripmax

Green Street, Enfield, EN3 7SJ.

PETIT ROBIN A sporty low winder supplied with a powerful Le Mans AP29 motor with aileron and elevator giving sprightly aerobatic performance. Fuselage is ready moulded in LSS resin, wings etc. are factory built and covered. With these aircraft it probably takes as long to apply the decals as to assemble the model. Wingspan .85 metres (33").

Kyosho brought this excellent range of radio ready, ARTF, e-powered models to market. Great quality, well designed and value for money.



AN ARGUS SPECIALIST PUBLICATION

Aeromodeller shared the same publisher as RCM&E back in the 80s and hit its 50-year anniversary in December 1985.

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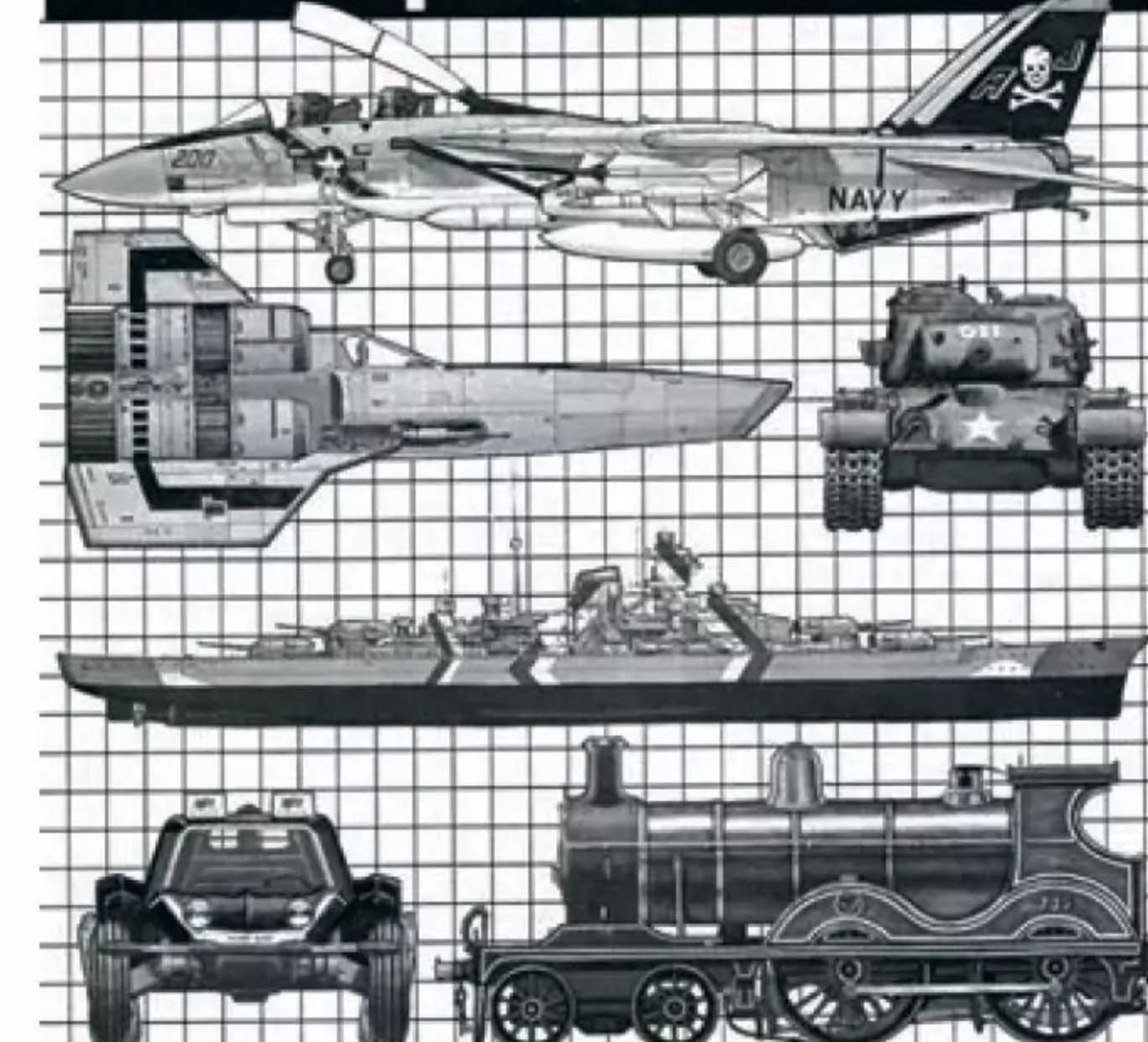
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KINDLY MENTION 'RCM&E' WHEN REPLYING TO ADVERTISEMENTS

The Condor 91 was designed by Dennis Allen of AM Diesel fame. I picked my example up in an unusual trade. I was taking an old but working fridge to the tip and popped into my LMS. Their fridge had just expired so I cheekily suggested swapping mine for the second-hand Condor. Desperate to keep their cans of soda cold the deal was done - result!

**Model Engineer
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Late night Thurs. 6th until 9pm



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It is regretted that for safety reasons no prams or pushchairs can be admitted. However limited pram parking space is available.

The Modelling Engineer Exhibition, held down in London, was always worth a visit.



YOU'LL LIKE OUR  BIKE

Amazing stability, even at low speeds. It steers, banks and handles just like a real motorcycle, with realistic steering, proportional speed control, proportional braking. It needs skill to drive—but half-an-hour's practice is usually enough! (And its built toughly to take hard knocks in the process).

A real engineering job, and it comes virtually fully assembled. You only have to fit the motor, speed controller, radio gear; and paint the fairings to your choice of colour (and there are lots of decals included in the kit to add to the finished look).

Electric motor powered—which means no-fuss, no-mess, quiet operation, anywhere! Just switch on and go!

anywhere! Just switch on and go!

SPECIFICATION:
 Length 346mm (13.6 in)
 Height 105mm (4.1 in.)
 Width 58mm (2.3 in.)
 Wheelbase 236mm (9.3 in.)
 Wheel dia. Front 115mm
 Rear 110mm
 Engine: MABUCHI 3805
 Racing type electric motor
 Battery: D-G3416
 5-cell 1200 MAH NiCd
 Maximum speed: 30kph
 (20mph)

Quick-charger with Auto-timer £13.95

Graupner FOR THE WORLD'S TOP R/C MODELS
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Due to being overenthusiastic on the piste and badly dislocating my arm, temporarily curtailing my flying activities, I bought one of these on a pure whim to keep me entertained. It worked surprisingly well.

like my previous rotating dalliance I flogged it, bought the ASW17 kit and some months later I headed for the hills.

Heli journey finally done and dusted - or was it...?

BIG SHOWS

One sad realisation from perusing the magazines is the number of excellent big shows we used to have that have now gone. Wings & Wheels, Woodvale, the Nationals, Sandown, the Model Engineer Exhibition and Old Warden to name but a few that have disappeared into the aeromodelling ether. We were spoilt for choice back then.

Another revelation was the way transmitter technology had accelerated in the 1980s from simple oblong aluminium boxes, with a couple of sticks and covered in vinyl at the back end of the 70s to multi memory sets with mixers, rates, differential, expo, bespoke heli features etc. by the end of the 80s. It certainly was the decade of radio innovation for modellers.

Anyway, I hope you have enjoyed another pictorial trip down memory lane and if there's another decade you would like me to visit in a future Ramblings, please don't hesitate to email me, along with any other retro related banter and pictures at ■



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Zap superglues have been around for much longer than many modellers appreciate and are still widely used today.





F-35 LIGHTNING II

Harry Curzon assembles XFly-Model's quick build EDF version of Lockheed Martin's stealthy multirole strike fighter

Words: Harry Curzon

Photos: Harry Curzon, Laurie Hughes, XFly-Model

The XFly F-35 is available in two versions, with or without retracts, and it has recesses underneath for hand launching. This is the version with retracts and it comes well packed in its box. The model is built so that parts can be removed and a 70 mm fan (not included) fitted instead of the supplied 64 mm fan. I was surprised at needing a 6S LiPo for the 64 mm fan and the small model is designed to take a 3300 to 5200 mAh pack.

This can be a very simple four channel model, the six control surfaces and nosewheel steering all using built in Y-leads. Adding a fifth channel gives you control of the retracts and a sixth channel gives you thrust reversing of the fan. A 50-amp ESC is fitted.



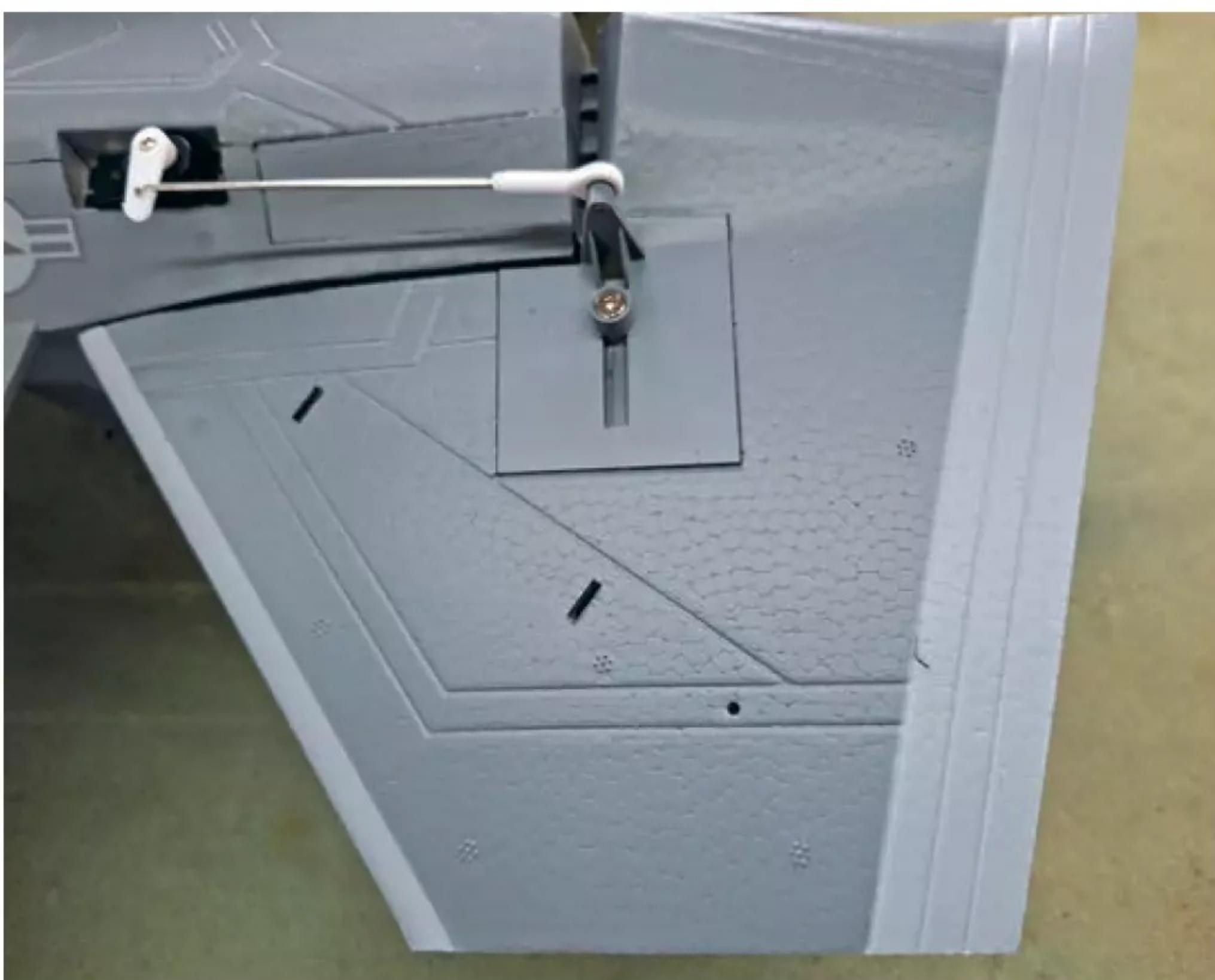
XFly's F-35 is available in two versions, with or without retracts.



Flight times vary from a good five minutes to an excellent six and a half minutes.



How it comes out of the box.



One of the few jobs you have to do is to install the elevator pushrods...



... but take care if removing a pushrod to make adjustments!



Twin fin and thrust tube details.

FAST TRACK

There are few parts so assembly should be quick. Just insert the carbon wing tube, slide on the two wing panels, slide on the two tailplanes, screw down six bolts and attach the two tailplane pushrods.

One of the wing bolt holes did not align with the fuselage nut by a tiny amount so the bolt would not engage. I drilled out the hole in the wing by a small amount with a 3 mm drill and that fixed it.

Whilst detaching one of the tailplane pushrod ball-links to adjust its length I broke an elevator horn. The plastic does not like being bent so take care. It is plenty strong enough for the job it has to do but it does not take kindly to being bent in the wrong direction!

SETTING UP

Teaching the ESC your radio's throttle settings is covered in the instruction manual and is the fairly normal method. After that, simply plugging in the single wire for reverse thrust to the relevant channel on the receiver enables the reverse thrust. Reverse thrust is a most welcome feature on the short tarmac runway where I normally fly.

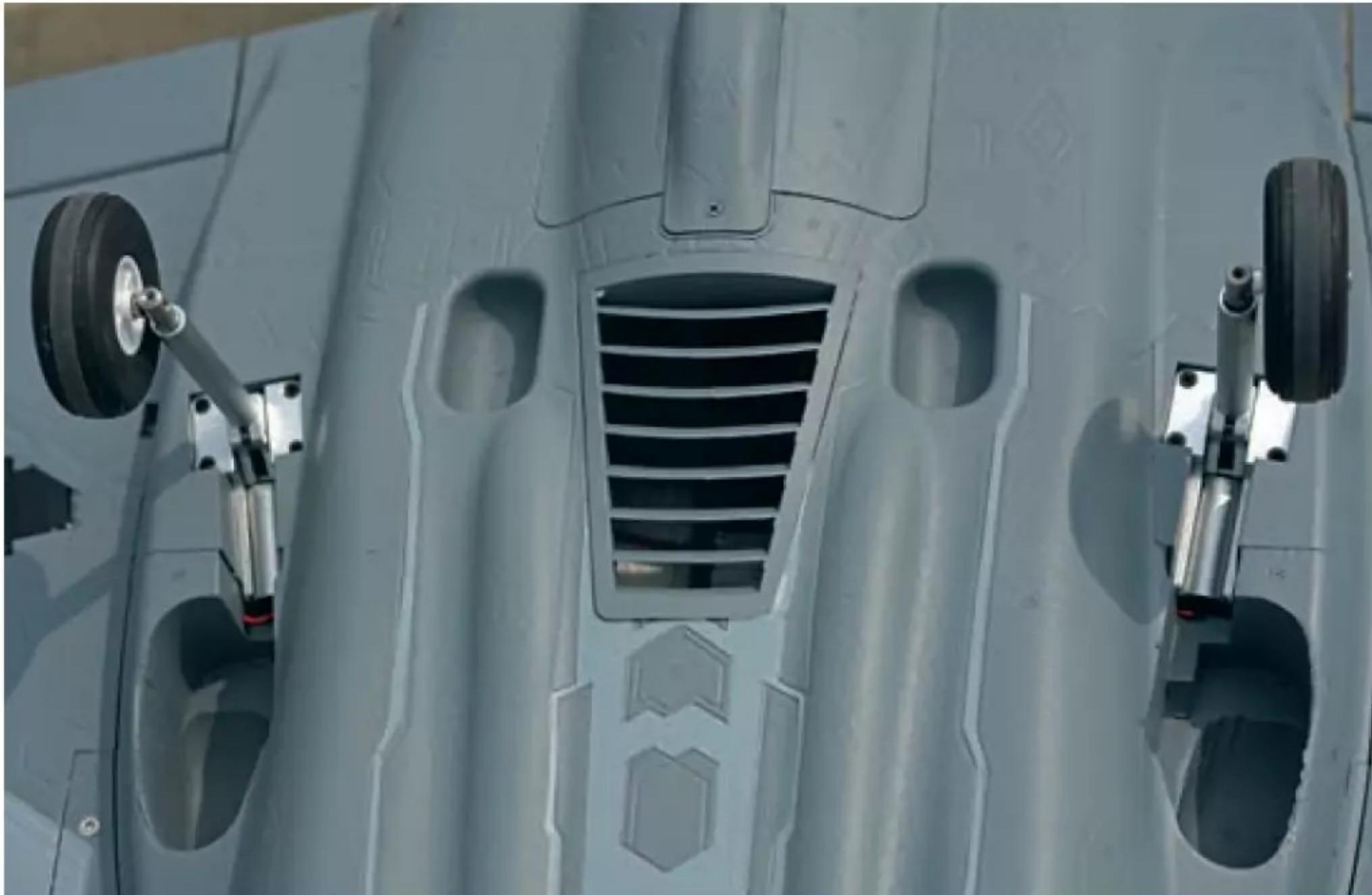
As built in the factory the aileron travels are far above what is recommended in the manual, yet the factory installed pushrods are in the



The steerable noseleg retracts forwards, as do the main legs.



Main wheels in the retracted position.



Underside of the model showing the fan cheater intake and hand holds for launching over grass.



There's plenty of room for the LiPo, receiver and telemetry sensor.



The canopy hatch is a very close fit to the fuselage...



...so I added a bit of clear tape as a handle to help remove the top hatch.

servo arm holes shown in the manual. I moved the aileron pushrods inwards by two holes on the servo arm and even then my transmitter is at 85% travel to get down to the high-rate travel stated in the manual. One pre-installed rudder pushrod needed a half turn on its ball-link to get the rudder aligned perfectly straight. Also, one elevator servo had the horn installed off centre causing differential travel, which was easily fixed by removing and repositioning it one spline around to the correct position at 90 degrees to the pushrod.

Control travels are given in the manual both as throws in millimetres and as a percentage travel to set in your transmitter. Please do not use the % since there is no defined standard of what is a 100% signal; radio brands choose their own and the differences can be quite large. So, best set up the travels in millimetres.

I fitted a receiver with an internal gyro because small models always look much more realistic when a gyro removes the wobbles of a lightweight foamy. I also fitted

an SM Modellbau Unisens-e telemetry sensor for the power system because I fly to the mAh consumed rather than a flight timer.

The canopy hatch is a very close fit to the fuselage so to avoid damaging it when trying to prise it off I added bit of clear tape to act as a handle sticking up from the back of canopy hatch, with the exposed bit of tape folded back on itself so that no sticky side is exposed. It is there in all photos of the model in flight, but you cannot see it.



On the runway ready for another sortie.



F-35's maximum speed does not feel fast but when looked at with a scale perspective the model is fast enough.



I throttle back as much as practical to enjoy longer flights and so have more time flying the model in low flypasts.

FIRST FLIGHTS

The maiden flight was made with an HRB 6S 3300 mAh 60C LiPo. After a long take off run of about 40 to 50 metres on tarmac to build up a decent speed it needed a lot of up elevator to get airborne, then leapt up at a steep angle. Every subsequent take off was the same, the main wheels being too far back to allow a gentle rise off the runway. If I was flying from a grass site, I would get the hand launch version without retracts as I am not convinced that there is enough thrust to get up to flying speed off grass.

After a tiny amount of trimming I switched on the gyro to smooth out the little amount of wobble that was present and the F-35 settled into a most realistic flight. The XFly F-35 does not need a gyro to help with any controllability as it handles perfectly nicely by itself. I only use it to remove the small wobbles that little jet models often have.

I found the recommended high and low-rate aileron deflections both too high for my liking. After the maiden flight I removed the dual rate and settled on an aileron travel of 7 to 8 mm compared to the 9 mm low rate stated in the manual, with 35% expo, which gave a slightly fast roll rate without being twitchy. High-rate elevator felt right for all flying.

Within a couple of minutes of starting the maiden flight I was totally comfortable flying the F-35 and I was able to bring it down very low for photographs. It looks realistic and has the slight nose high sit that the full-size has. In a grey overcast sky you understand why the full-size is painted grey so keep your eye on it and don't let it get too far away. It gets very small rather quickly!



It looks real in flight and handles very nicely.

Slow flypasts with the nose held high can be done. It will stay in control up to a considerably high angle of attack but drops a wing, and the nose, suddenly if pushed too far, so start with good safety height. There is plenty of margin with its high stalling angle for nose high landing approaches or sharp turns.

There is enough thrust for a reasonable size of loop if you start at high speed or for a long

45-degree climb followed by a roll to inverted and pull through. Extended vertical climbs are not available with the thrust from the 64 mm fan.

Maximum speed does not feel fast but look at it with a scale perspective and it is fast enough. Later flights were made with old, tired batteries and I struggled to do any verticals so treat yourself to good condition batteries with a decent C rating.

ON APPROACH

Landing approaches should be done slightly nose high to get the speed down otherwise you will have too much speed when you want to touch down. The wing will not stall until you get to a much steeper angle than you should use for a scale like attitude on the approach so do not be afraid to get the nose up. Put the F-35 into a slightly nose up landing attitude and keep it there all the way to touchdown, using



Showing the sort of nose high attitude needed for landing.



Harry with the F-35 showing the scale of this small model jet.

throttle to adjust the descent, then kill the power just as the wheels touch down. If you get the attitude and throttle right on the approach there is no need to flare, just hold that attitude all the way to the runway!

My initial flights used a long approach so that I could be sure I had set it up properly but on later flights I flew a tight, low circuit, rolling the wings level just a second or two before touch down. The turn helps to bleed off the speed and the model remains well inside its handling limits.

Reverse thrust is weak and has only a minimal effect. I suspect this may be due to the large cheater hole on the underside allowing the reverse flow to escape more downwards than forward.

BALANCE CHECK

I wondered if the CG was too far forward rather than the main wheels being too far back. But testing the CG in flight, such as how much down elevator it needs during inverted flight, how much it tends to pull the nose up during a dive, and the ease with which the nose can be raised on landing, all say that the CG is correct.

The CG looks to be in an alarming position, almost at the leading edge of the root of the wing, so clearly the fuselage ahead of the wing is generating a lot of lift.

MODEST CURRENT DRAW

Most of the flying is done at a high throttle setting due to the small fan but that small size also means that the actual current drawn is modest. Fitted with a good condition battery, mine peaked at 48 amps at the start of take-off and cruised at between 18 and 25 amps.

I set my landing alarms when 60% of capacity is used, to tell me to start setting up for landing. And when 70% capacity is used, I want to be actually landing. This allows a decent reserve in case I have to wait to land or need to go around from the approach. Current draw is low enough that by dropping the gear and entering the circuit when the 60% used alarm sounded, I was back in the pits before 70% was used.

Flight times varied from a good five minutes to an excellent six and a half minutes, typically using around 2200 mAh. I throttle back as much as is practical, so I get to enjoy longer flights and have time to enjoy flying the model in low flypasts. You will get much shorter times if you prefer to fly flat out. With those good flight times I feel no need to fit a much heavier 5000 mAh battery. I suspect that would change it from adequately powered to feeling underpowered.

LIGHTNING SUMMARY

What you get here is a model that looks real in flight and handles very nicely, apart from that leap off the runway. More thrust would

be nice but since it will do a good size of loop the thrust is enough and the payback is good flight times.

I feel that the lower end of the recommended battery size of 3300mAh is the right balance between weight and flight time, and with a maximum current of just under 50 amps the LiPo does not need a huge C rating. ■

DATAFILE

| | |
|---------------|---|
| Model: | F-35 64 mm EDF jet |
| Model type: | ARTF semi-scale fighter |
| Manufacturer: | XFly-Model |
| UK importer: | CML Distribution |
| | https://www.cmldistribution.co.uk |
| RRP: | £279.99 |
| Wingspan: | 750 mm (29.5") |
| Length: | 1100 mm (43.3") |
| Wing loading: | 156 g/dm ² |
| Wing area: | 11.5 dm ² |
| Motor size: | 2840-KV2300 |
| ESC: | 50 A with thrust reversing |
| EDF Size: | 64 mm, 12 blades |
| Servos: | 9 g x 5, 13 g x 2 |
| Functions: | Ailerons, elevator, rudder, throttle, nose wheel steering, retracts, reverse thrust |
| LiPo: | 6S 3300 - 5200 mAh |

Top letter

For his letter this month Mark Whitaker wins a compact e455 multi chemistry AC input charger courtesy of Overlander Batteries: www.overlander.co.uk



LIPO CELL CHECK

No doubt most of us are very careful to make sure our LiPos are properly charged before flight. I certainly thought I was doing everything right but would like to share how I got caught out to avoid anyone else having the same scare.

When taking off a large taildragger running on 6S, I bring the power in very gradually and get airborne at not much over half throttle, then power up for the climb out, all to help avoid excessive swing or nosing over. On this occasion, once was there was air under the wheels, I increased power but got hardly any more. Now at the edge of the strip I had the choice of landing ahead in the rough or staggering round the circuit with just about enough power to stay airborne. I opted for the latter and, fortunately, just got away with it!

So, what was the problem?

The pack had shown 98% capacity pre-flight but was now showing 42% after just one low power circuit. I then went on to check each cell voltage only to find that a voltage was shown for only five cells of the 6S pack and closer inspection of the battery checker showed it displaying 5S as the cell count. Later multimeter testing confirmed zero voltage in cell six.

The 98% capacity I saw before flight was just for the five cells the checker had detected. The combination of just five cells, plus probably a very high internal resistance on the failed cell, was enough to cause the big power loss. The cell must have failed sometime after the previous charge due to a fault or previously unnoticed damage.

A few steps, which I will now diligently follow, could have averted this near crash:

- Check the cell count shown on your LiPo

checker before flight, not just the % capacity shown. Even better, check each cell voltage.

- On connecting the ESC listen carefully to the number of beeps to check how many cells the ESC has detected. I never really understood why it did it before!
- Finally, always do a full power check with the model restrained prior to each flight. The BMFA handbook's General Model Safety guidance recommends this, but it's easily forgotten on second and subsequent flights.

There's always some new threat waiting to catch us out and ruin our happy flying day but hopefully by sharing our experiences we can all end up safer and make sure we take our models home in the same state that they arrived at the field.

Mark Whitaker

PRIMARY INFORMATION

My first R/C plane was a Calder Craft Primary. But since Calder Craft was sold and the new owners only sell boats, I can't find any reference to this plane anywhere online. I'd be happy to pay for an old magazine with any information on the kit/plans. I just want to see if there's any way to get a hold of a plan.

Any help would be appreciated.

Mark Newton

Sorry, Mark but as this model predates the RCM&E digital archive it would need a manual search

of our physical back issues which I regret that we don't currently have the resources to do. But I am publishing your request in case any of our readers with back issue collections from when Caldercraft made aircraft kits can help.

As you say, Caldercraft are currently known for their model boat kits. It is the company name under which JoTiKa manufacture their own products, while JoTiKa is the parent distribution company through which Caldercraft and many other marine model manufacturers' products are distributed.

KC

IN PRAISE OF THREE LINNETS

I just wanted to say how warming and inspirational Phil Stevens' article was to read regarding the 'Tale of Three Linnets'.

I am so pleased that two schools got involved with the project. It was an amazing opportunity for the students involved. How I wish that opportunity was afforded to me when I was a school. I am quite sure something would've clicked in a couple of those students and they've now got the bug. To go from a box of balsa etc. to a working, flying aeroplane is so exciting and a great sense of achievement. I wonder if any of

them have taken the hobby up and joined a local club.

Bravo, Phil and his team Steve White

What an uplifting story it was about the Linnets! It was heartwarming to see young people engaged and totally invested in the project. Let's hope some of them have caught the aeromodelling bug!

Well done to all involved, it was a brilliant outcome and a very enjoyable article.

Dan Lester

BACK TO GLOW

You can only imagine my delight when I saw the Capricorn photo at the back of this month's RCM&E! I have been searching for a model/plan/kit for about two years now and they just don't exist. To own an original is fantastic. At age 74, I've been around model planes for way over 60 years now, starting in the 1950s with rubber power, free flight and

control line, then in the 1960s with RCS single channel, reeds and, finally, propo, then still in its infancy.

Long story short, I went through the electric phase like everyone else, but on my building board at the moment is a nearly finished Swinger 2 by Keith Jones from about the 1970s. I have also recently started a plan/pack Curare.

The Curare will have HP61 power and the Swinger a Merco 61.

So, what are you on about, you may be asking? Just that I've pretty much had it with lekky so I am going back to real modelling, real building and I hope your great magazine will have tendencies along the same lines!

Ken Rolph

MORE BRIT KITS

Your recent RCM&E article on the editor's Bucket List was very readable and I note that it mentions Essex designers and the era when so many kits came from Wickford. There is still a kit maker in Essex today, Balsa Cabin, who make a few kits, including their Touch & Go 3D Fun Fly model. I recently converted a Touch & Go to electric and it's a very fine flier but RCM&E doesn't seem to have ever reviewed the kit. Or any of the small British kit makers products recently.

What about SLEC, DB Sport & Scale, Billkits, Phoenix Model Products, etc, etc. There does not seem to have been a review of SLEC's Electric Fun Fly or Phoenix's Pepperpot or Shindig. All produce electric kits which seem to be the thing these days.

The magazine finds space for 12 pages of nostalgia this month and often shows articles on rebuilding unobtainable kits like those from Flair but ignores current British kit makers! There are many articles on foreign ARTF models.

Surely you could find a couple of pages to review and support British kit makers even if they are not big advertisers? A kit review need not be a complete instruction manual but maybe just a one or two page review like

the old ones on the Elmira and Fleetwing you showed this month.

Keith Chant

Thank you for your message, Keith.

Kit review slots have always traditionally been offered free of charge to manufacturers and distributors, British or otherwise. We don't actively solicit products for review as we are still offered plenty of items to test to fill the one or two review slots available in most issues. But we do expect manufacturers and suppliers to take a proactive approach in promoting their own products. Most of the manufacturers that you mention have all had products reviewed in various publications in the past, so they know how the system works. This being the case they only need to contact me to benefit from a review.

And there's the rub, as a surprising number of model companies simply do not bother either sending press releases about their products, which again we would feature for free in either Counterpoint or Switch On, let alone sending anything for us to actually test.

It is not a requirement that they advertise, although priority has to be given to those that do, just to be fair and to encourage further advertising

within the magazine. Also, we make no distinction between foreign and British products, although most review items are supplied via British suppliers.

It must also be remembered that a review in RCM&E is a powerful thing and small companies can be overwhelmed with orders for several months following a test report in the magazine. Some simply don't have the capacity to supply all the orders that they might receive so in such cases it is understandable that they choose to keep things low key and decide not take advantage of any promotional opportunities that RCM&E has to offer.

Finally, I want to reassure you that coverage of British kits is still alive and well in RCM&E. New versions of Zagi slope soarers and the Sailplanes International 'Secret Weapon' are just some of the British kits that we are waiting to receive reviews for and we hope you enjoyed Dave Goodenough's review of the VMC Cinnabar in the December issue.

Your suggestion about short reviews has set me thinking. So, I will put my thinking cap on and see how we can best achieve that, possibly with the help of our readers who building such models.

KC

WELL DONE, WILLIAM

Nene Valley Aeromodellers are pleased to announce that William Morse passed his test for the BMFA A-Certificate on 12th October 2025. William was pleased to have achieved this while still 10 years old. He will be 11 in November.

The picture below shows William with club examiner Andy Hibbert.

Nene Valley Aeromodellers

William has been taught by my dad, John Morse (aeromodelling must skip a generation,



alas!) They have grown really close with their weekly trips to the flying field and it has been fantastic to see William develop from having a go on dual controls to flying solo.

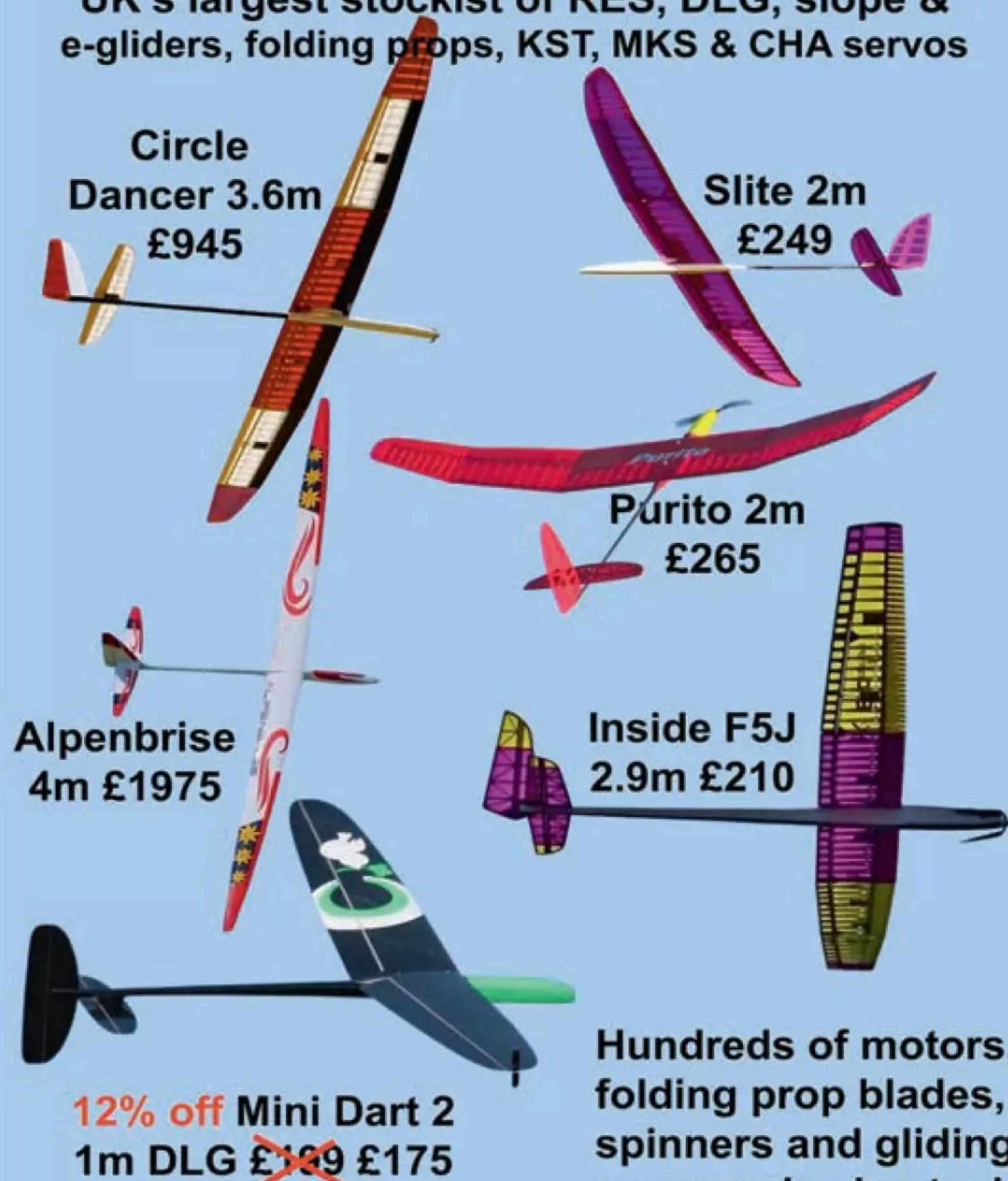
The photo dad sent was of William with Andy, the examiner. But here is another one of William and my dad, John. William will be delighted to see himself in the magazine.

Phillip Morse



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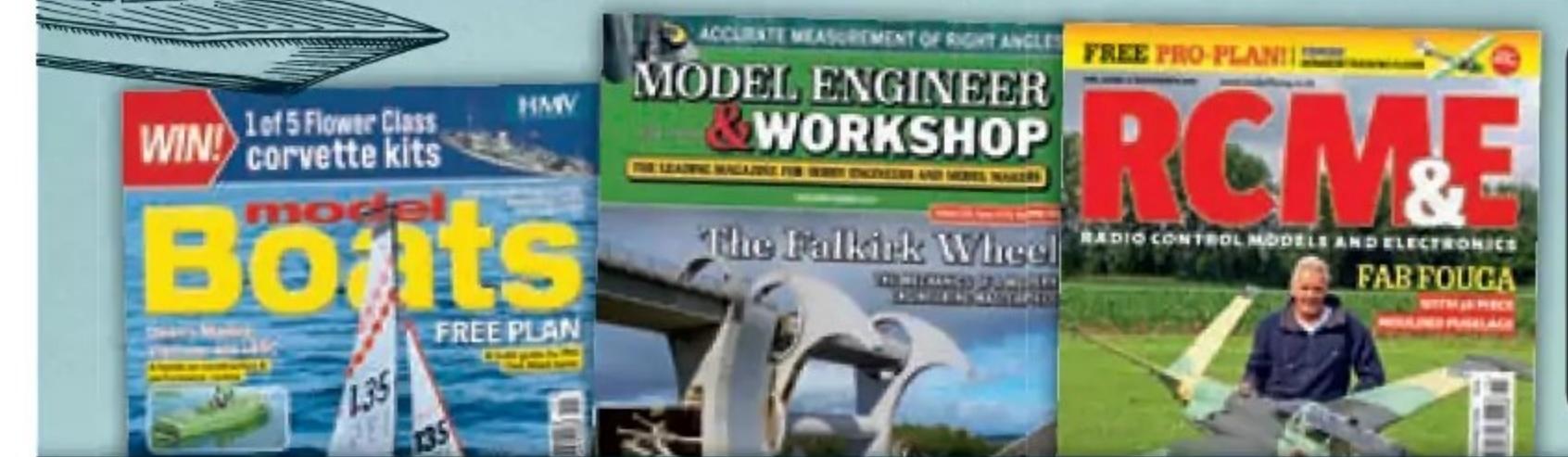


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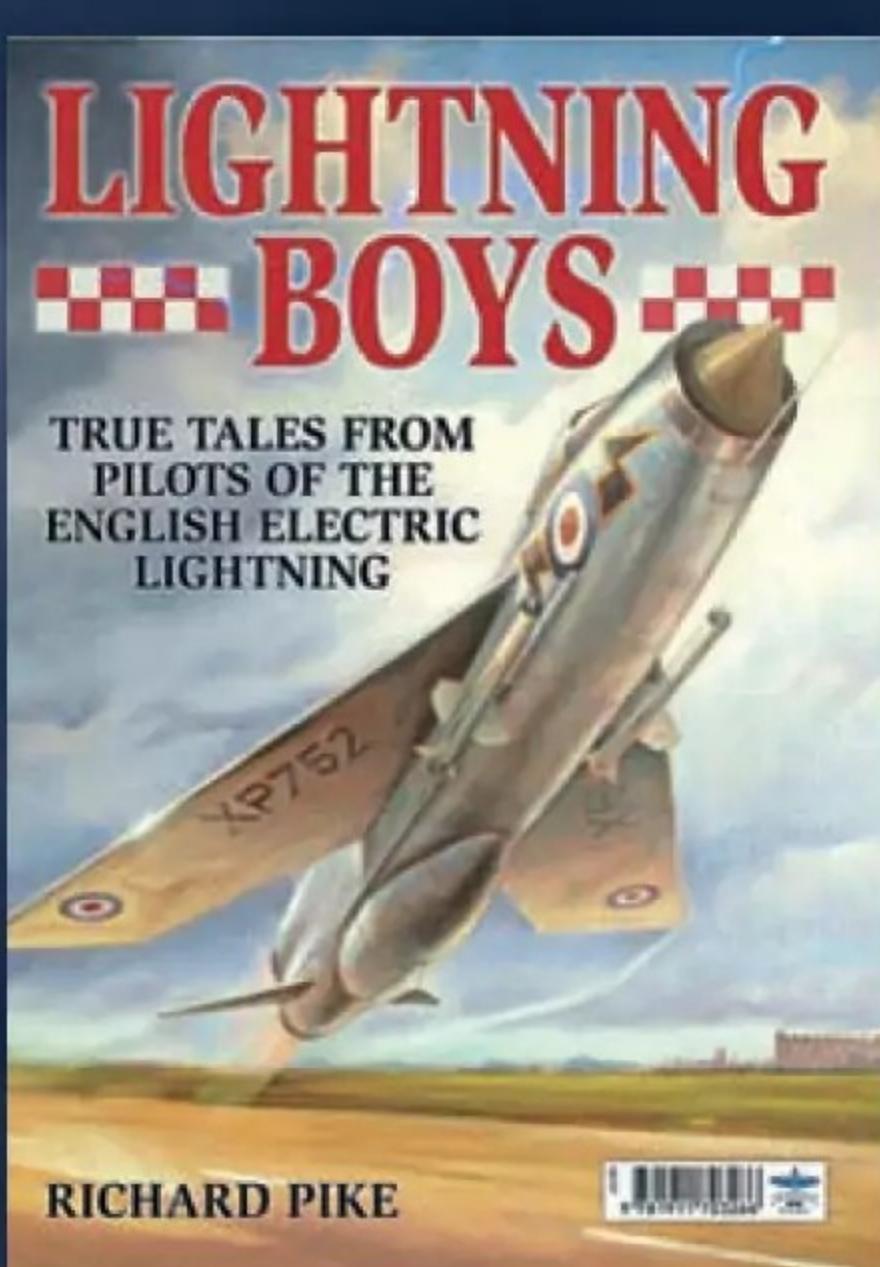
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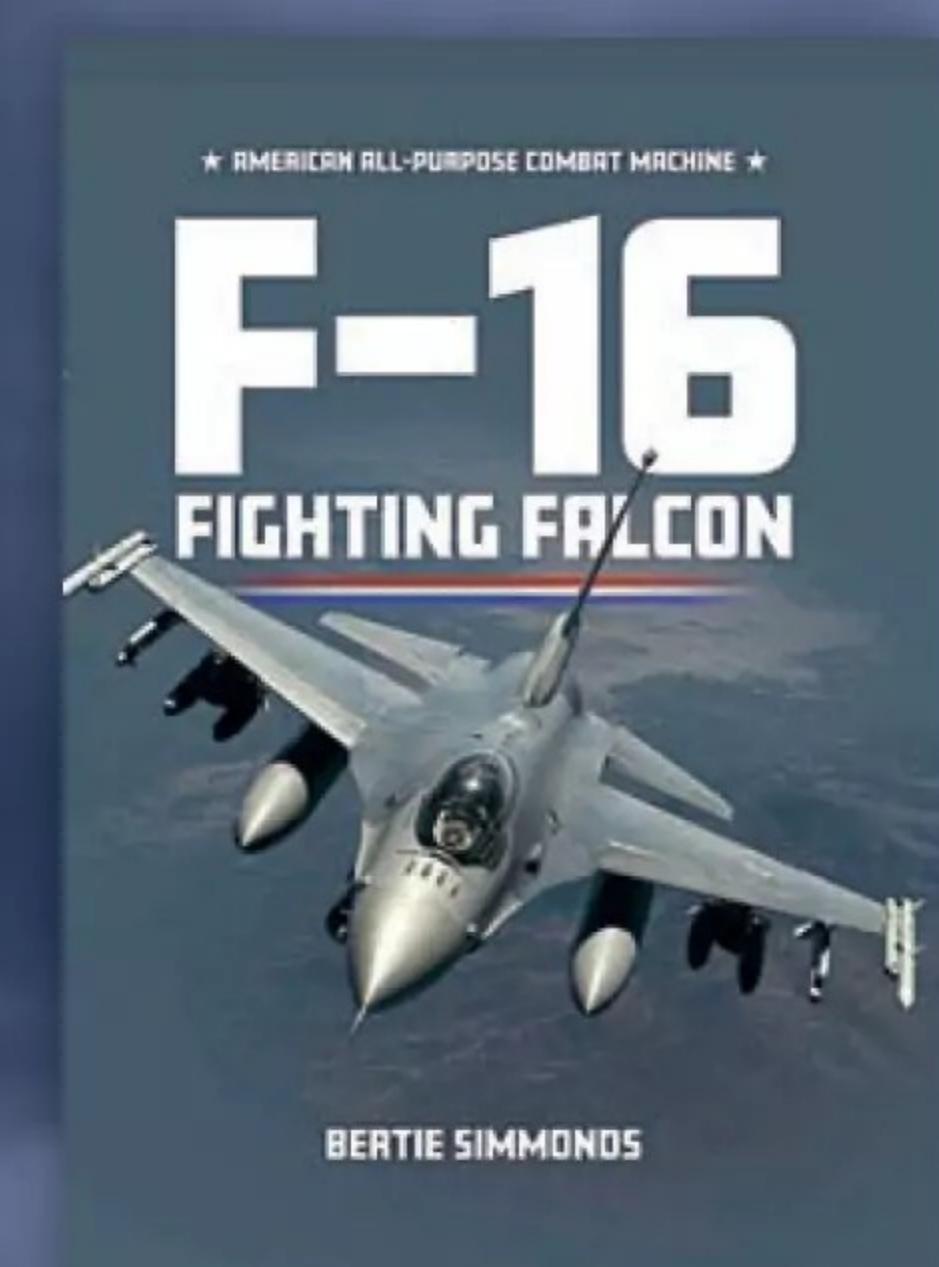


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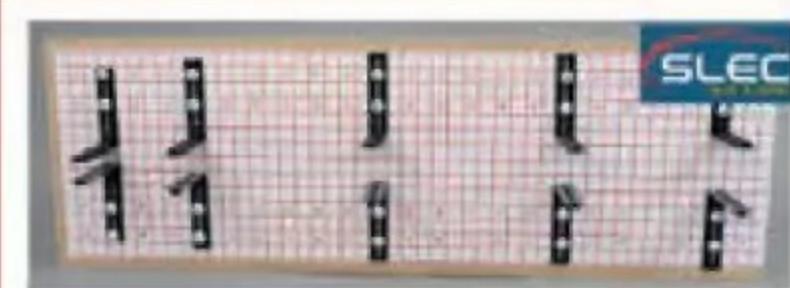
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KING OF THE CATS

Join Stuart Mackay as he takes a close look at a twin warbird which is well known on the large model show circuit

Words & Photos: **Stuart Mackay**

Grumman's F7F Tigercat was a twin fighter aircraft that served with the United States Navy (USN) and the United States Marine Corps (USMC) from late in WW2 until 1954. While the Tigercat was too late to see combat in WW2 it did perform reconnaissance roles. The type primarily saw action as a night fighter and attack aircraft during the Korean War.

Early Tigercats were land-based as the aircraft was too large to operate from older, smaller carriers. Only a late variant, the F7F-4N, was certified for carrier service.

The Tigercat was one of the fastest piston-engine fighters and was heavily armed. But this speed and firepower resulted in high weight and a fast landing speed. The aircraft was fitted with two 2100 hp Pratt & Whitney R2800 Double Wasp 18-cylinder twin row radials, giving a top speed of 435 mph and climb rate of over 4000 feet per minute.



Glen says it is always a pleasure to fly the Tigercat.



The aircraft has proved to be an excellent flyer with many sorties completed since her first post restoration flight in 2018.



The large fin and rudder can cause an easily controllable yaw in a crosswind but otherwise she flies straight and true.



Glenn's Tigercat is powered by two Zenoah ZG62 engines fitted to custom made isolated mounts.

Tigercats saw action in the early stages of the Korean War, flying night interdiction and fighter missions, and shot down two Polikarpov Po-2 biplanes. I think it is fair to say that these actions were hardly equally matched, but they proved to be the only combat use of the aircraft.

As jet fighters became more widespread most Tigercats were modified to control drones

for combat training and were fitted with bubble canopies over the rear cockpit for the drone controller.

Interestingly, in 1945, two Tigercats were evaluated by the Royal Navy but were rejected.

Clearly, the F7F Tigercat was at the pinnacle of piston-engined fighter development and it is still loved on the US warbird scene, with eight examples still airworthy and three others

“The Tigercat was one of the fastest piston-engine fighters and was heavily armed”

in museums in the States. There is one further example in storage in Florida.

KING CAT

The model featured here is a quarter scale replica of one of eight airworthy examples now based in Reno, Nevada.

N207F, 'King of the Cats', was built in 1958 by Grumman as F7F-3 and assigned to the United States Navy but she became surplus almost immediately. 1958 saw her bought by Cal-Nat Airways and converted to a fire bomber but she sadly crash-landed in 1966. The wreckage was transferred to Sis-Q Flying Service and stored in Santa Rosa, California ↗



Rear view of the type's large empennage.



Nose art decal for 'King of the Cats' was supplied by Tailormade Decals in Holland.



Each of the two Zenoah ZG62 engines is fitted with a 20x10 three-blade Biela carbon prop. Note the Hamilton scale decals.



The undercarriage is fitted with scale hubs, with pneumatic brakes on the main wheels.

until 1972. Kermit Weeks then acquired the wreckage for his Air Museum in Florida, and it was put in storage until Steve Hinton's 'Planes of Fame' bought her and restored her to flying condition in 1992. Re-registered as N207F and flown as 'King of the Cats' the aircraft was then displayed at Palm Springs Air Museum. From 2018 until 2025 she has been owned and operated by Pond Warbirds in Reno.

SCALEWINGS KIT

The model is a 1:4.4 scale rendition produced by the German Scalewings company, who produced the Tigercat and a Lavochkin LA-7 as composite kits around 2010. Phil Clark from Fighter Aces imported the kit from Germany.



Model raised off the ground to show one of the HAWE pneumatic retracts with its sequenced doors.

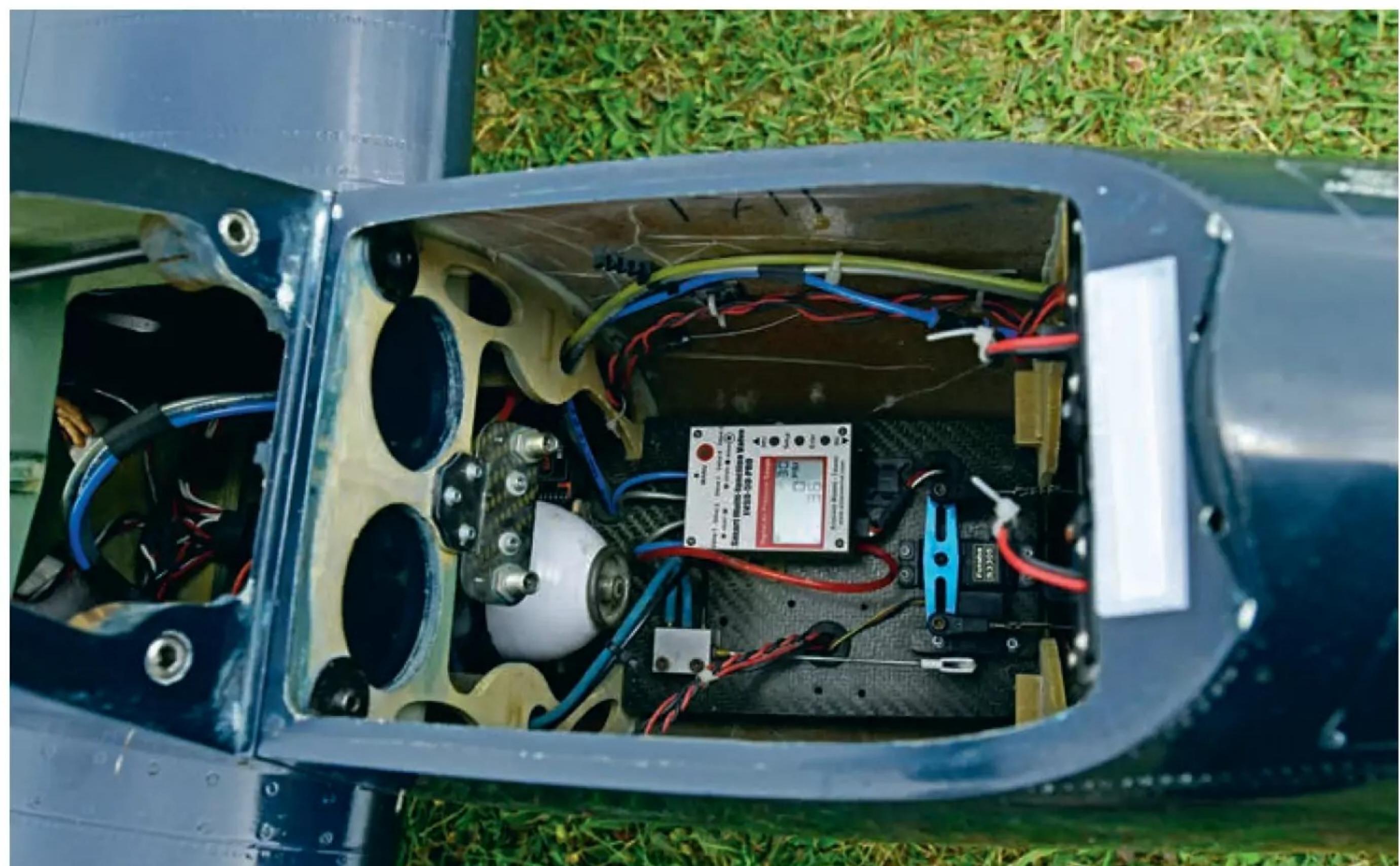


The long nosewheel assembly.

This example was built, painted and completed with CAA/LMA registration by Andrew Crosby in the UK, where she was flown for several seasons on the UK show circuit. The model then changed hands but suffered a heavy landing with damage to the airframe and landing gear.

Glenn Masters from Nottingham acquired the damaged airframe as a restoration project in 2017. The model needed structural and cosmetic repairs caused by the heavy arrival. This required new paint, using matching original Warbird Colors and Klasskote lacquer, and undercarriage repairs, plus a re-inspection/registration with the CAA/LMA 'over 25 kg' scheme to cover the change of owner/operator. Finally, the nose art decal for 'King of the Cats' was created and supplied by Tailormade Decals in Holland as a finishing touch to Glenn's restoration.

The aircraft is adequately powered by two Zenoah ZG62 engines on custom made isolated mounts. These are fitted with 20x10 three-



The inside of each nacelle is a busy place.



Glenn's model is looking pretty good for its age save, maybe, for the yellowing canopy. Maybe it's tinted but Tigercats were fitted with clear canopies.



It could well be tinted because the rear canopy is nice and clear.



Close up on some of the neat rivet and panel details on one of the wing skins.



Star & Bar insignia on the fuselage side panels.

blade Biela carbon props with Hamilton scale decals factory applied.

The landing gear uses HAWE pneumatic retracts with sequencing doors. They are fitted with scale hubs, with pneumatic wheel brakes on the main wheels.

A 12 channel Futaba SG16 transmitter controls the model, which is fitted with a



Glenn prepares to fly his Tigercat for Stuart's camera.

selection of sixteen Futaba and Hitec servos, and twin Futaba receivers. Radio power is supplied by two 5000 mAH 6V NiMH batteries.

AN EXCELLENT FLYER

The aircraft has proved to be an excellent flyer with many successful sorties completed since the first post restoration flight in 2018.



Inlets either side of the engines were ram air intakes for the elliptical air coolers fitted to full size aircraft.

Glenn reports that although the Tigercat looks a complex beast she truly lives up to her feline name and is a 'pussycat' to fly. The pair of 62 Zenoahs gives him the confidence to perform all the aerobatics befitting the full size and Glenn's skill at performing endless slow barrel rolls with her are a joy to behold. This total trust and reliability is important



Powering away after a dirty low pass with landing gear and flaps down.



A favourite manoeuvre with the Tigercat is performing long, slow barrel rolls.

GLENN MASTERS

Glenn began flying model aircraft 40 years ago at Langar Model Aircraft Club, then known as the Nottinghamshire Radio Control Society. After the usual crash and burns during the learning process, Glenn's flying prowess improved and he tried various disciplines including pylon racing and aerobatics, as well as taking part in club level competitions.

After some time, Glenn realised he had a taste for building and flying scale models, especially warbirds, often US WW2 types. With increasing confidence Glenn joined the LMA and proceeded to take part as a pilot at major UK shows where he was ably assisted by crew member, pit man and great engineer Mick Szysler. They were regular faces on the LMA show circuit and both participated in shows here and in Europe.

Eventually, Glenn became a member of the LMA committee, with responsibilities for various event flying schedules, the most interesting and memorable being the 'Pageant of Flight' displays at RAF Cosford in the early noughties.

A chance conversation over a beer or two led to the decision to form the Team Gee Bee display team. This was a crowd pleaser for many seasons, with up to 20 participants flying their Gee Bee Model Y and Z models around pylons at many displays during the team's heyday.

Never one to rest on his laurels, Glenn was building and flying increasingly larger models, including a Moki 250 radial powered Harvard and also flying a Moki 400 attached to the front of a 50% scale Gee Bee R-1 designed and built by Glenn. With his extensive building and flying



The Team Gee Bee display team was a crowd pleaser for many seasons, with up to 20 participants flying their Gee Bee models around pylons at model displays.

experience of some really challenging airframes, Glenn became more involved in the LMA 'over 25 kg' scheme, helping and advising fellow LMA members before ultimately becoming an airframe inspector with the responsibility for signing off aircraft for the CAA.

Glenn says that he now prefers to take part in fly-in events rather than the pressure of

flying slots at the big shows. So, he now leaves the arrangement of participating aircraft and checking of slot timings to the next generation of LMA members. He now loves to spend his time doing a lot more time socialising with fellow enthusiasts, nattering as well as flying his superb scale models in his own inimitable style!

“Glenn reports that although the Tigercat looks a complex beast she is a pussycat to fly”

if Glenn is not to worry about an engine out scenario in the middle of one of these dynamic manoeuvres that mark his distinctive flying style.

She flies light on the sticks. The large fin and rudder can cause an easily controllable yaw in a crosswind but otherwise she flies straight and true. Landings are straightforward but Glenn prefers to use 60% flap for a steady approach if there is a breeze, or full flap to slow her down if it is calm.

Glenn flies her whenever he gets the opportunity and he has had so many sorties with the Tigercat that he has forgotten how many landings and take offs that he has enjoyed. But it is always a pleasure to fly the Tigercat. ■



ART SCHOLL SUPER CHIPMUNK

This is my new 'Art Scholl Super Chipmunk' semi scale model from Apache Aviation/SLEC. With a wingspan of 1892 mm (74.5") it is powered by what must be one of the last batch of Laser 155 four-strokes and has a standard muffler. All up weight is 6 kg.

It is of traditional balsa and plywood construction with laser or CNC cut ribs and formers. The cowl and wheel spats are epoxy glass fibre mouldings. It all went together fairly well apart from one or two discrepancies, with a clear instruction book to follow.

The flying surfaces are covered with 'Profilm', including all those red stripes. I made lots of pin holes in the covering

before ironing on the stripes to prevent air bubbles. It makes a lovely sound pinging all those holes!

The fuselage is covered with lightweight glass cloth and several coats of Poly-C, an industrial polyurethane water-based varnish with additional adhesive from RCWorld, followed by Halford rattle cans of white primer and an Appliance White topcoat. The red trim is sprayed-on Humbrol tinlet red, thinned slightly. The final coat is Deluxe Materials Aerokote Gloss Fuel Proofer. The graphics are all from SLEC and the pilot is a 'Real Model Pilots' Chipmunk bust.

It has flown a few times and all went well.

Kevin Murray



OWN DESIGN CHARGER

I have just been reading October's RCM&E and saw a photo of Phil Stevens' Charger biplane. I enclose a few photos of my own Charger which was built in 1988 and flown

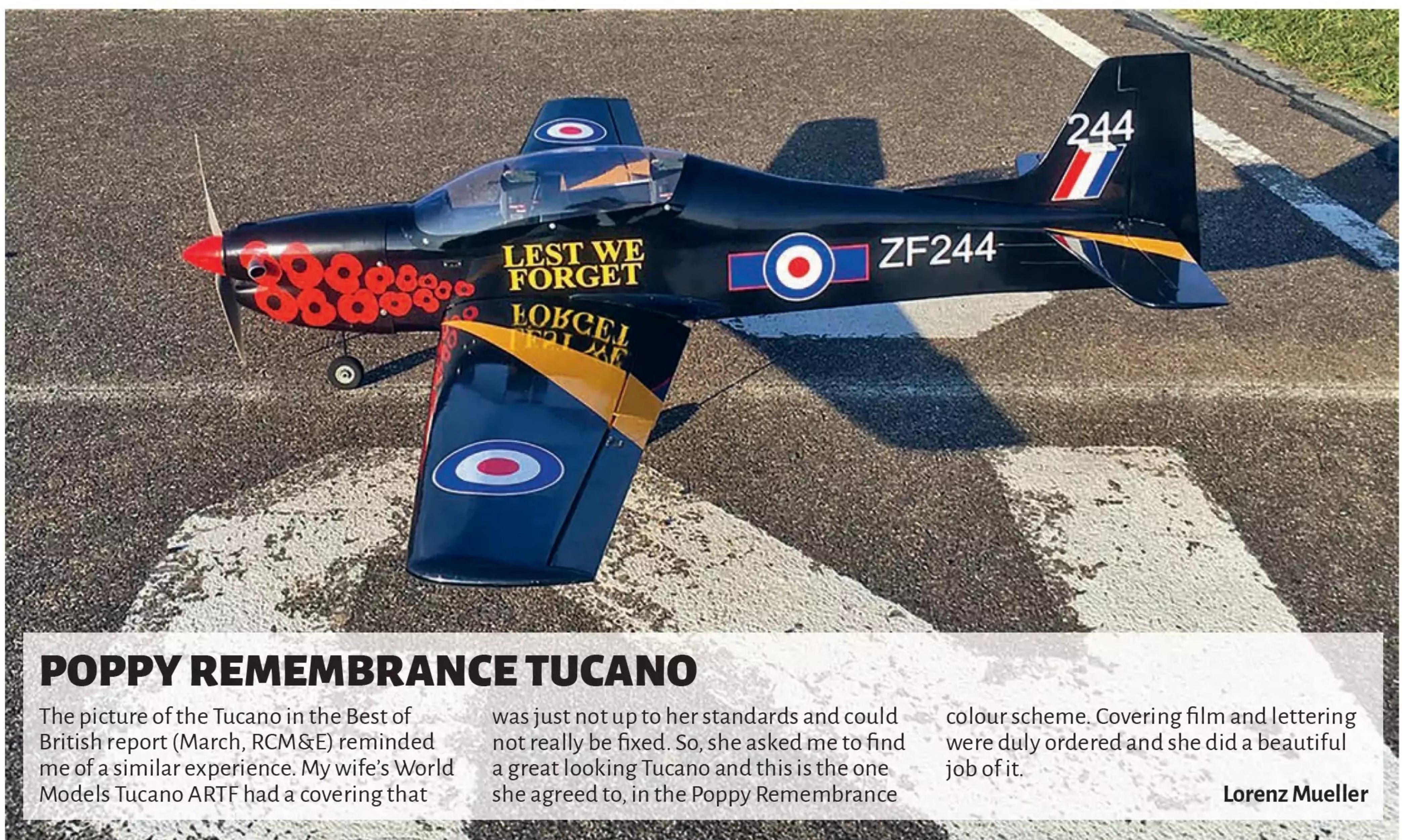
with an OPS 40. I drew the plans up myself and pinched the colour scheme from Kermit Weeks.

I think it's one of the best-looking

biplanes and I am surprised that nobody produced a model of it. It's great to see it again. I think they must be very rare!

Pete Willbourn





POPPY REMEMBRANCE TUCANO

The picture of the Tucano in the Best of British report (March, RCM&E) reminded me of a similar experience. My wife's World Models Tucano ARTF had a covering that

was just not up to her standards and could not really be fixed. So, she asked me to find a great looking Tucano and this is the one she agreed to, in the Poppy Remembrance

colour scheme. Covering film and lettering were duly ordered and she did a beautiful job of it.

Lorenz Mueller



CIRRUS MOTH

I fly at the Sussex Radio Flying Club's lovely site on the South Downs overlooking Shoreham and the Channel. On the last day of September, I flew my delightful 58" Cirrus Moth, a traditional balsa constructed model built from the DB Sport & Scale kit and covered in painted

Solartex. It is fitted with an O.S. 48 four-stroke engine turning a 12 x 6 APC prop and has a scale exhaust which, as well as sounding lovely, keeps the front of the model free of residue, albeit at the expense of the tail surfaces! The model is fully rigged, with the rudder and elevator

controlled by pull-pull systems as per the full-size.

The model is shown here, photographed by Jaime Brazier, whilst on a slow fly-by with the exhaust burbling away.

Grahame Pearson



INTERNATIONAL MODEL GLIDER FAIR

Thorsten Häss reports from the 'Segelflugmesse 2025'
held in Schwabmünchen, southern Germany

Words: Thorsten Häss

Photos: Thorsten Häss, Fynn Häss

Traditionally, Europe's international model gliding scene meets in Schwabmünchen in southern Germany in July for the Segelflugmesse. This was also the case from July 18th – 20th, 2025 with over 50 international manufacturers and many team pilots in attendance. In addition to the exhibition the manufacturers had the opportunity to fly their models and demonstrate their performance to the public, treating visitors to a special model glider flight show. The evening programme featured international show pilots from all model flying disciplines - aerobatics, helicopters, jets, vintage aircraft, warbirds, etc. The accompaniment of flights with pyrotechnics and music created magical moments in the evening atmosphere.

During the event visitors were presented with an impressive overview of model gliders and related products. Accordingly, only an excerpt of the trade fair can be presented here.

The date for next year's Segelflugmesse has already been set. But this time it's only on for two days on July 10th and 11th, 2026.



1. AERO-NAUT

aero-naut displayed many original retro construction kits for nostalgic model builders who still enjoy building wooden models. Some

of these kits bring back childhood memories for many model aircraft enthusiasts. However, the gliders on display were from the recent past, such as the Helios (a light wind glider with a



wingspan of 2.54 m), Helixx (a six-flap glider for slope soaring and flat terrain with a wingspan of 2.84 m) and the Scope (a light slope and thermal glider with a wingspan of 2.66 m).

New products on display included the affordable and easy-to-build Shorty of 1.3 m wingspan which can be built as a rudder/elevator trainer or optionally as an aileron trainer. RHINO is an advanced aileron model with a wingspan of 880 mm whose appearance is based on racing planes from the 1930s. It is equipped with details such as exhaust pipes, engine coolers, etc.

In anticipation of the indoor season, and to promote model flying, the 700 mm DMFV Flexifoam Jump!Racer is offered as a kit with appropriate accessories.

2. AEROBERTICS

Bert Declaere demonstrated the Extreme Flight T-Cub (4.0 m wingspan, approx. 23 kg, powered by 14S, Hacker Q100, Jeti Spin Pro 300). With this powerful electric set up it can be used for towing large gliders.

3. ART HOBBY

Art Hobby displayed a wide variety of models with wingspans ranging from 1.2 m to 4.0 m F5J models, as well as the SZD-19 Zefir 2 scale replica shown here. The model of the single-seater glider from 1957 has a wingspan of 3.0 m at a scale of 1:5.6. The kit consists of a three-piece wing and a two-piece fuselage.

With over 30 years of professional model-making experience Art Hobby models are characterised by their low weight, smooth surfaces, robustness and strength. Wings are traditionally made from a foam core with thin poplar veneers.

4. CEFLIX

The new product at CEFLIX was the GP15 Jeta in 1:2.5 scale, also seen in side view at the start of this article. This model has a 6 m high-strength, full carbon wing and a GRP fuselage with a 2.4 GHz friendly front section.

Their other models, such as the JS3, Arcus, TwinShark, Swift S-1 and Kobuz were still in demand amongst customers and visitors.

5. CHASERVO

CHAServo continues to be involved in the model flying scene with new/additional servos being added to their portfolio throughout the year. In addition to servos corresponding CHADesign models are also offered which were displayed in flight slots at the fair. Their latest glider is the RTF Firlefanz (500 mm wingspan, approx. 155 g) which comes ready to fly, built and covered with 3 x DSO6 servos. All you need is a receiver and battery and you can start enjoying gliding with this little speedster. The RTF model can also be easily converted with a small electric motor. In addition, it is available as a normal kit from the CHAServo online shop.

The most recently introduced servo innovations were the HV7010 (40 mm x 20 mm



x 40 mm, 0.10 sec. with up to 70 kg holding force) and the HV2005 (40.5 mm x 20 mm x 40 mm, 0.05 sec. with up to 22.5 kg holding force).

Shown here is Walther Bednarz making an F3K launch with the CHADesign CX5.

6. CHOCOFLY & MIGFLIGHT

The new SB10 (which owner Daniel uses successfully in GPS events), with a wingspan of 9.18 m, impressed pilots and visitors alike. But the European gliding scene is also always surprised by how many small and large innovations and optimisations Chocofly



bring to existing models, or with new models such as the ASW-20 with a wingspan of 4.0 m, Shark with a wingspan of 4.28 m (optionally with a wingspan of 3.6 m) or the AS12 with a wingspan of 6.33 m. My personal favourite is still the Neukom AN-66B with a V-tail, even though Daniel now also has the modular Neukom AN-66D in his portfolio. The AN-66D differs in that it has a T-tail, a longer moment arm and a slightly larger wingspan.

MigFlight power systems are used for both FES (Front Electric Sustainer) and EDF (Electric Ducted Fan) drives. Two further models have been optimised in cooperation between Chocofly, MigFlight, and PS-Models for the Kobuz 2.2 and Swift 2.2 Ver. 2. The wings and profiles have been further finessed, and the performance (thermalling, speed and handling) of these models has been improved.



The picture shows a 9.18 m SB10 m making a smooth landing.

7. D-POWER

In addition to Graupner transmitters D-Power's focus was also on the newly introduced HELLORADIO transmitters which are available either as ELRS or as 4-in-1 (HOTT, FrSKY X/X2 LBT and DSMX), some of which offer AI voice control. Like other voice systems this is activated by saying, "Hello Radio".

Highlights of the models presented by D-Power were the Phoenix ASW 28, with a wingspan of 6.0 m and a divisible fuselage, and the company's brand-new D-Power ASH-31 with a wingspan of 6.4 m.

8. LUFTSPORTTECHNIK

Florian Schambeck showed me his new and optimised version of the AFT folding motor. It is still a prototype, but it is already clear that it will be quieter, more robust and more powerful.

A new launch trolley also demonstrates the solution-oriented approach behind his products and is designed to make launches even safer. As always, Florian has all the regular gliding accessories (scale spinners, GPS accessories, linkages, etc.) in his sales trailer. His model aircraft trailers for transport are well known and continue to be offered with various options.

9. MODELLFLIEGERBRILLE

Gerd Holzner showed off his special model aircraft sunglasses. The weather was just right to test them at the stand, not only in terms of design and mirroring, but also to check their sun protection and suitability for model aircraft flying on-site. In addition to normal sunglasses there are also over-the-glass sunglasses for spectacle wearers which are always in high demand.



The BT-RB-ROS sunglasses have Bluetooth functionality for transmitting vario or other audio output from a transmitter via speakers built into the arms of the glasses.

Gerd was also promoting the 30th Flying Circus which will take place in the alpine panorama of Fiss from June 25th to 28th, 2026.



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10. FW MODELS

A wide selection of high-performance scale model gliders of high quality and of robust design are what you'll find when you visit Matthias Paul and Pascal Heil at FW Models. The models have wingspans ranging from approximately 4.2 m to 8.8 m, including the Libelle, LS6, ASW17, Cirrus, Kestrel 401, LS10, ASW27, ASG 29S, DG808, ASH31 EVO and even a Nimbus 4. Their ASW17 is now also available in three different wingspans.

11. HACKER MOTOR

Hacker Motor presented a wide range of products, including motors, controllers, servos, lighting control systems and, of course, Jeti transmitters and radio products. Many customers came to seek advice on the various functions of Jeti radios. Sample models were also on display, allowing visitors to take a closer look at the 'invisible' magnetic locking system, 'Magnetic Connect'. The system is available as a wing lock and now also as a canopy lock.

Hacker's model paragliders were also on display. They also provided a glimpse into the industrial uses of their drive technology.

12. HÖLLEIN

For the first time Ryan Höllein and his team presented their Höllein models in flight slots at the Segelflugmesse, including the latest innovations such as Zefixx and Piston Twin 150. The Piston Twin is a twin 1.5 m low-wing aircraft of scale design offered as a CNC

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laser-cut kit, including an electronic retractable landing gear. Zefixx (pictured) is a mini hotliner with a one-piece plywood covered wing and a wingspan of 1.47 m controlled via ailerons, elevators and motor. Optionally, the model can also be fitted with a rudder.

13. KB3AERO

Italian gliding enthusiasts Cesare Sarti and Alberto Ferraroni from KB3Aero presented their ASK-13R. The R stands for reloaded. The classic design of the ASK-13 has been retained but the entire aerodynamics and profiles have been recalculated to current standards. This model is produced by Tomahawk so the quality leaves nothing to be desired. It's a very exciting project, especially if you like the historic design of the ASK-13.

14. KST PERFORMANCE SERVO

New products at the gliding fair from KST included the SV5006-12 (40 mm x 20 mm x 40



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mm) that delivers up to 55 kg/cm at 13 volts. The servo has been specially developed to meet the requirements of large 3D aerobatic models. KST is also working on an 8 mm version of this series (up to 13 V).

The KST Projeti NC delta model was also presented at the fair.

15. LIGHTFLIGHT

In contrast to all the large gliders at the fair the Lightflight models from **Jürgen** Schönle are lightweight and small. His models are made of vacuum-formed Depron and are super light.

Jürgen offers the models as kits, built, painted, and even ready to fly.

For example, the Swift S-1 with a wingspan of 1.5 m can be equipped as a glider, FES or even with a folding EDF (probably the smallest folding EDF available on the market). The EDF weighs approximately 32 g and can generate up to 130 g of thrust. The model is also available as an indoor version and a slightly stronger outdoor version.

Jürgen also offers other models made of vacuum-formed Depron, including the so-called FATTY models and his very special Slick 580.



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16. LINDINGER/ROBBE MODELLSPORT

Carbon Scirocco XL is now available in a full carbon version with the familiar technical specifications of the 'normal' 4.5 m Scirocco XL. Other familiar models are also getting new designs and being offered in an expert version (ARF only) and in full CFRP, including the hotliner Amplitude.

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17. MCT WINTER MODELLBAU & CS FALLSCHIRME SCHULER

These R/C parachutists are taken to their jump altitude of approx. 300 m using a model aircraft and special drop equipment. Unlike real parachutists the free fall is very short and the parachute is deployed. The model parachutist is then guided to a defined landing point. The aim is to hit the landing point precisely.

CS-Fallschirm Schuler provides the parachutes, suits, and pack sacks, while MCT-Winter offers matching jumpers and drop equipment.

18. MK MODELLTECHNIK

This company wants to support the promotion of young talent in model flying with its products and continues to focus primarily on this market with its models.

Mini-Discus is a hand-launched glider of 650 mm wingspan made of EPP. Although designed as a hand-launched glider some modellers have converted it to R/C and have even built-in a FES.

Furthermore, the new edition of the Rookie2, made of EPP, has been successfully placed on the market (1.4 m wingspan with ailerons, elevators, rudder and motor). Thanks to the pylon mounted motor the propeller is not within hand launch range, even when launched by a beginner.

The latest model from MK's development department is a foam high-wing trainer called 'Acrobat', soon to be added to the range.

NEXT TIME

Thorsten will conclude his report from the 'Segelflugmesse 2025' in the February issue. ■



MIKE EP

Shaun Garrity modernises an early 1970s low wing sport aerobatic design for electric power and separate wing servos

Words & Photos **Shaun Garrity**

Aerobic, easy and inexpensive to build, fits in the car fully assembled; what's not to like about this fun fly, compact, 37" wingspan, mini-multi model blast from the past. Originally featured in Radio Modeller, August 1971, and designed by David Lyall, I've reproduced his design brief musings from the original article below.

"Before designing the Mite, I had been flying a well-known aerobatic design of 38" wingspan using an OS 19 motor. (I guess it was the Phil Kraft Flea Fli – Shaun) This machine had a few drawbacks, mainly caused by the type of field I flew at, plus the weight and size of my home-built radio gear. In order to obtain the correct C of G position in the model I had found it necessary to fit the DEAC (old school name for a NiCad -

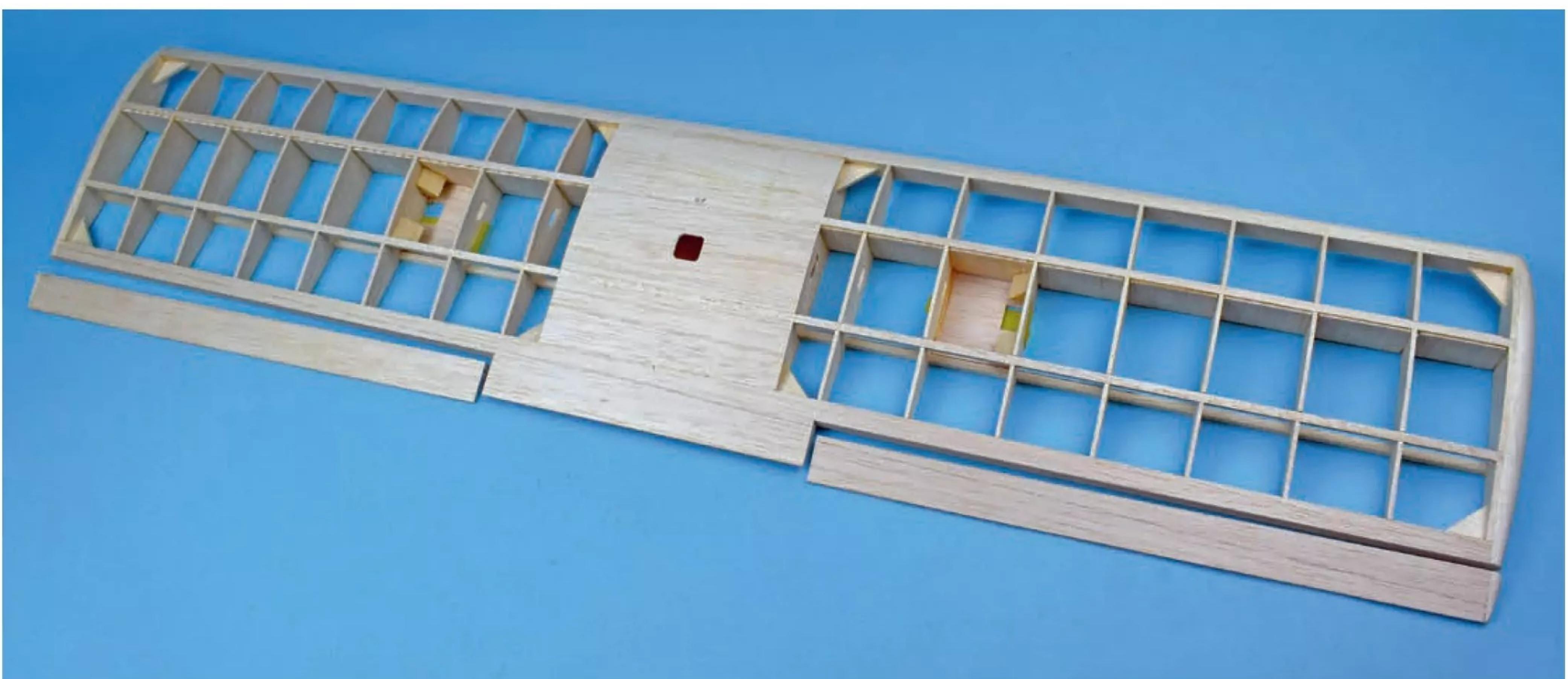
Shaun) in the main radio compartment with the receiver and servos. This, combined with the width of the fuselage, prevented the fitting of more than two servos so rudder was omitted.

As regards flying the machine proved excellent, the only problem being getting the model off the ground and back down again. The tricycle undercarriage gave too much drag on the grass to allow the aircraft to get up enough speed for take-off. In fact, all take offs were made by hand launching which proved to be an amusing exercise when flying without a helper.

Landings were made dicey by the combination of small wing area and high weight. Any attempt to slow down the high gliding speed of the model only resulted in a stall, followed by the inevitable crunch." (This wasn't a problem with the Flea



Mite is a perfect low-cost aerobatic model for 3S LiPo power.



Wing construction is very traditional and quick to build. No sheeting is required as it's rigid.

Fli I featured a while ago when I updated it to modern gear and e-power - Shaun)

To overcome these issues David designed the Mite with the following in mind: low weight, wing area of at least two square feet, two-wheel undercarriage and the fuselage wide enough to accommodate three servos.

BUILD NOTES

Construction is very traditional and simple so let's start with the wing.

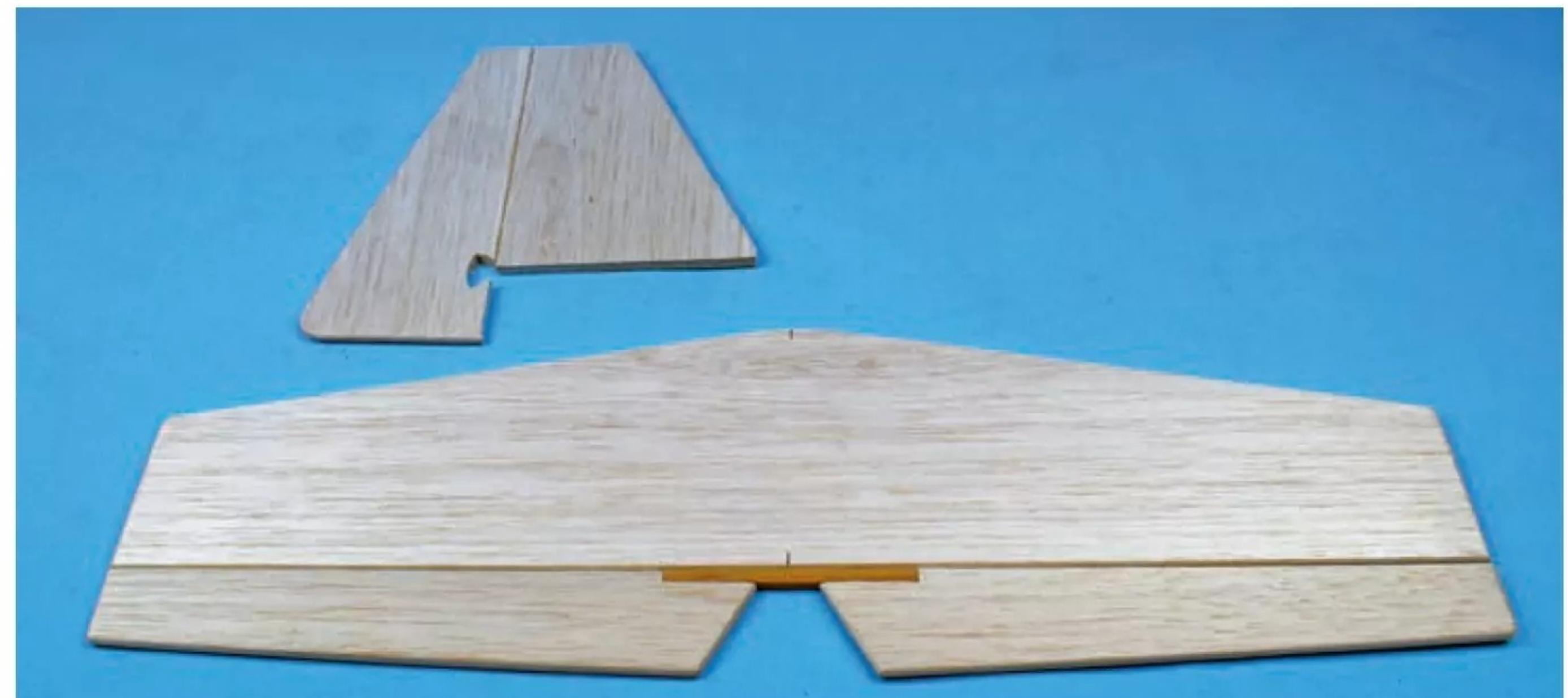
The wing isn't sheeted as it's strong enough to cope with anything you can put it through in the air. But I did add vertical grained 1/16" balsa sheer webbing along the spars and I would suggest replacing the balsa spars with spruce.

The ailerons are an unusual shape on the plan and David's rationale behind this was to get as much area out at the tips where they are the most effective and to avoid weakening the wing at the inner edge. I didn't bother and just used parallel ones.

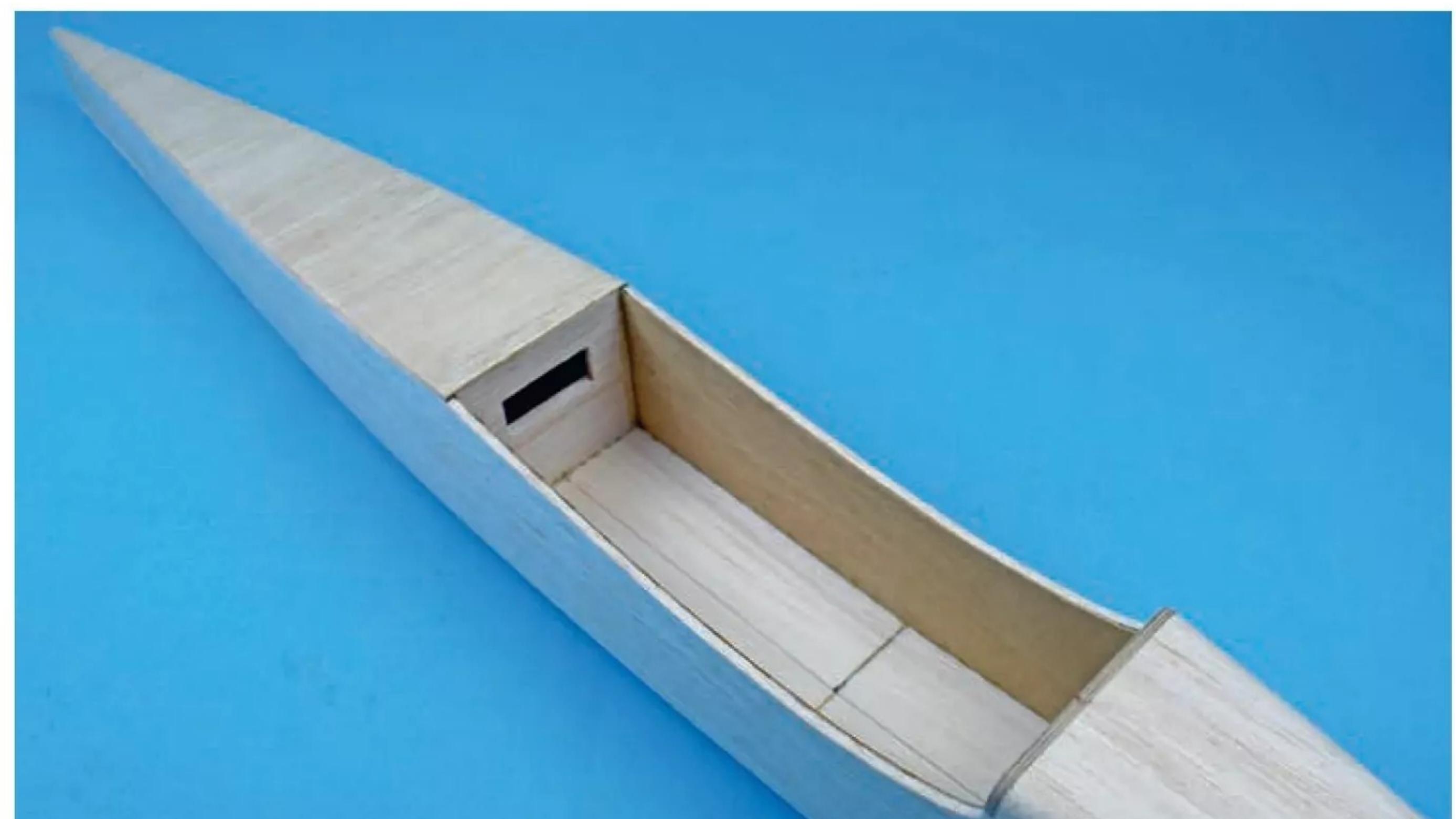
Start by cutting the leading and trailing edges from medium hard 1/2" balsa sheet. They can then be shaped with a razor plane and sanded to finish off. Cut the ribs using the sandwich method, making the blanks from soft 3/32" balsa. Pin down the lower front main-spar and glue the ribs in place, packing up the trailing edges with some scrap 1/2" sheet. Now add the top spars and trailing and leading edges. I would pre-shape them prior to gluing in place as suggested above; it will prove much easier. When dry add the centre sheeting and fillets.

Flip over the wing, add the remaining spar, tip blocks and lower centre section sheeting. Modify the ply bell-crank plates to form a suitable mount for each wing servo unless you want to go old school and just use one servo; in that case leave it as designed. Have a look at the relevant picture to see how I did it and don't forget to make some holes in the ribs for the servo leads.

Give the wing an overall sanding in readiness for film covering and put to one side.



Tail group is fashioned from simple light to medium balsa sheet. It is built in next to no time, but you still need to take care to ensure that no components are warped.



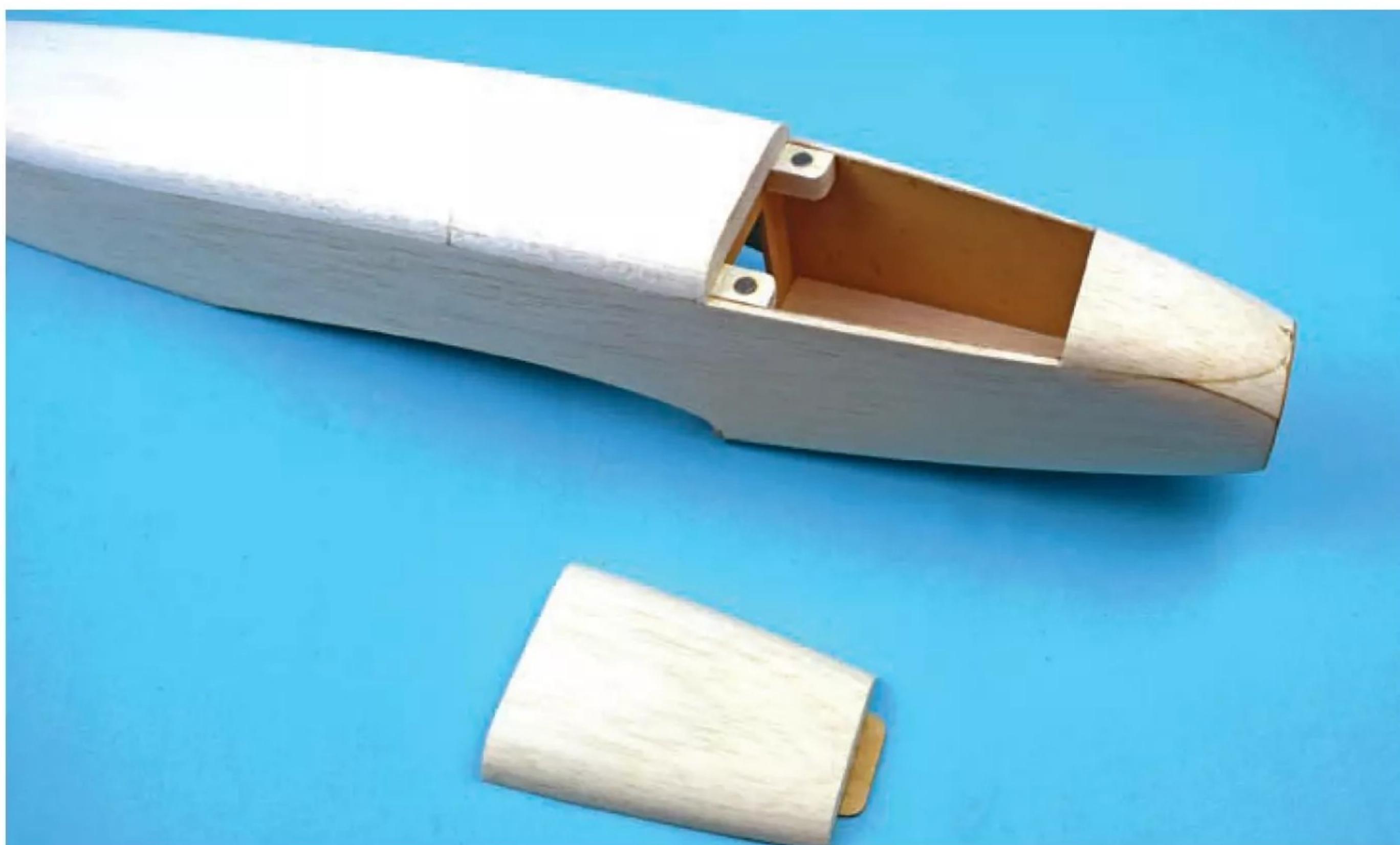
Fuselage is basically a simple box. Use medium balsa to prevent it coming out tail heavy.

TAIL GROUP

Barely worth a mention. Make them from 3/16" medium balsa. Sand the leading and trailing edges as detailed on the plan, then cut off the rudder and elevator.

FUSELAGE

Nothing complicated here, it's basically a simple balsa box. First cut out the fuselage sides. For the e-powered version the 1/32" ply doublers could be replaced with 1/8" or 3/32" 



Fuselage top showing the access hatch for the motor and LiPo. The motor is slid in through the ply nose ring and bolted to F1.

vertically grained balsa. You will need to trim F2 and F3 a little to accommodate the thicker doubler. If using the original wing fixing, drill the holes for the dowels through the pair of sides for accuracy.

The original undercarriage works fine but to give more space in the fuselage for positioning the LiPo (on the e-powered version) you can replace the last inch of the lower front balsa block (towards the wing leading edge with ply and use an undercarriage fixed to this as

shown. You will also need to cut out a hole as detailed in F2. Glue F2 and F3 in place first then, when dry, pull in and glue the nose to accommodate F1 and the tail. Use rubber bands, clamps, tape etc. to keep it in place. Make sure it's accurate and not twisted or trying to emulate a banana!

Note: position F1 so the prop driver is in the correct place with the front of the model. This may be different from the plan. If it's close you could just add a ply spacer.

"Modify the ply bell-crank plates to form a mount for each wing servo unless you want to go old school and just use one servo"

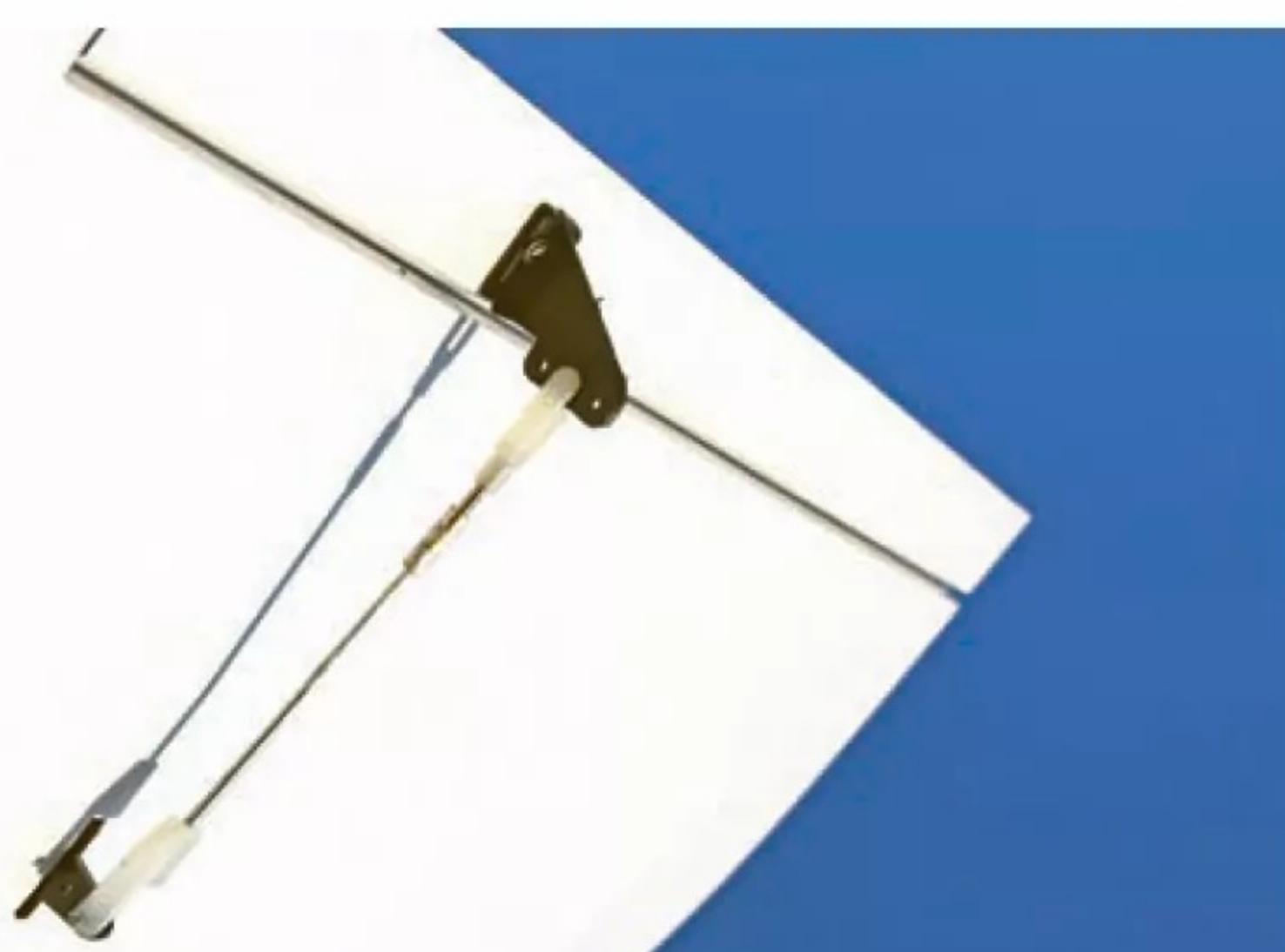
Next, add the top rear decking. Use soft balsa for this and carve/sand to shape, then add the lower rear cross grain 1/16" balsa sheet. I would now temporarily locate the fin and elevator, plus the wing, to check alignment. Mark the position of the fuselage on the fin/tailplane so you can cover these before permanently gluing in place. It makes the job easier.

Assuming this is all okay finish off any remaining balsa sheeting/block, including making a hatch to access the motor and LiPo. Shape and give a final sanding to the fuselage.

COVERING

Heat shrink film is the quickest way to get this model dressed. I would suggest using a contrasting colour scheme to help with orientation at a distance and colours that don't blend with the sky like pale blue or silver.

Cover the tail group first before gluing them in as it makes things easier and a better



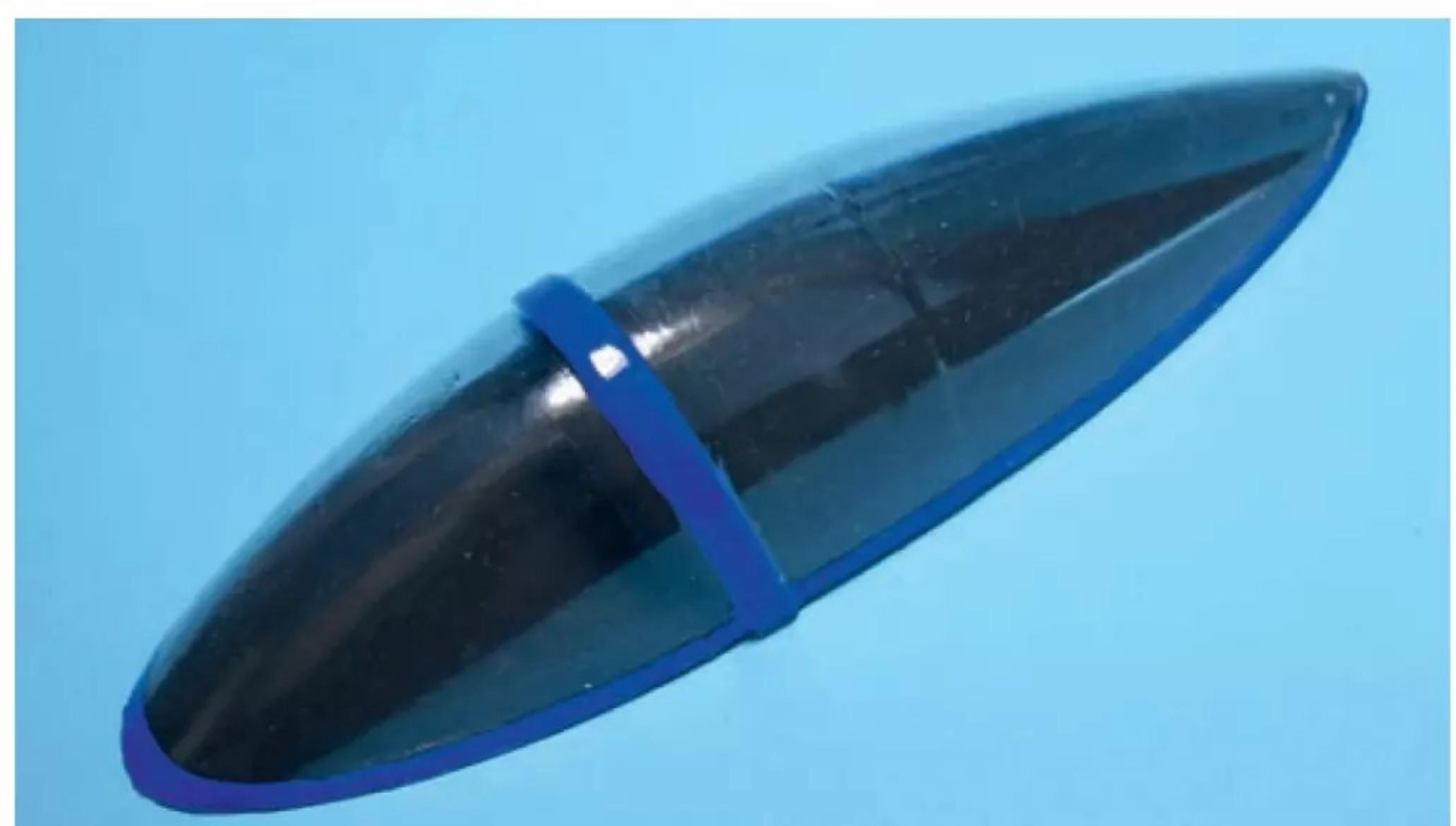
Simple and direct aileron pushrod and horn set up. The servos were fixed in the wing after covering the lower side, then filmed over on the top. No access hatch was made. I'll cut the film if there are any servo issues in the future.



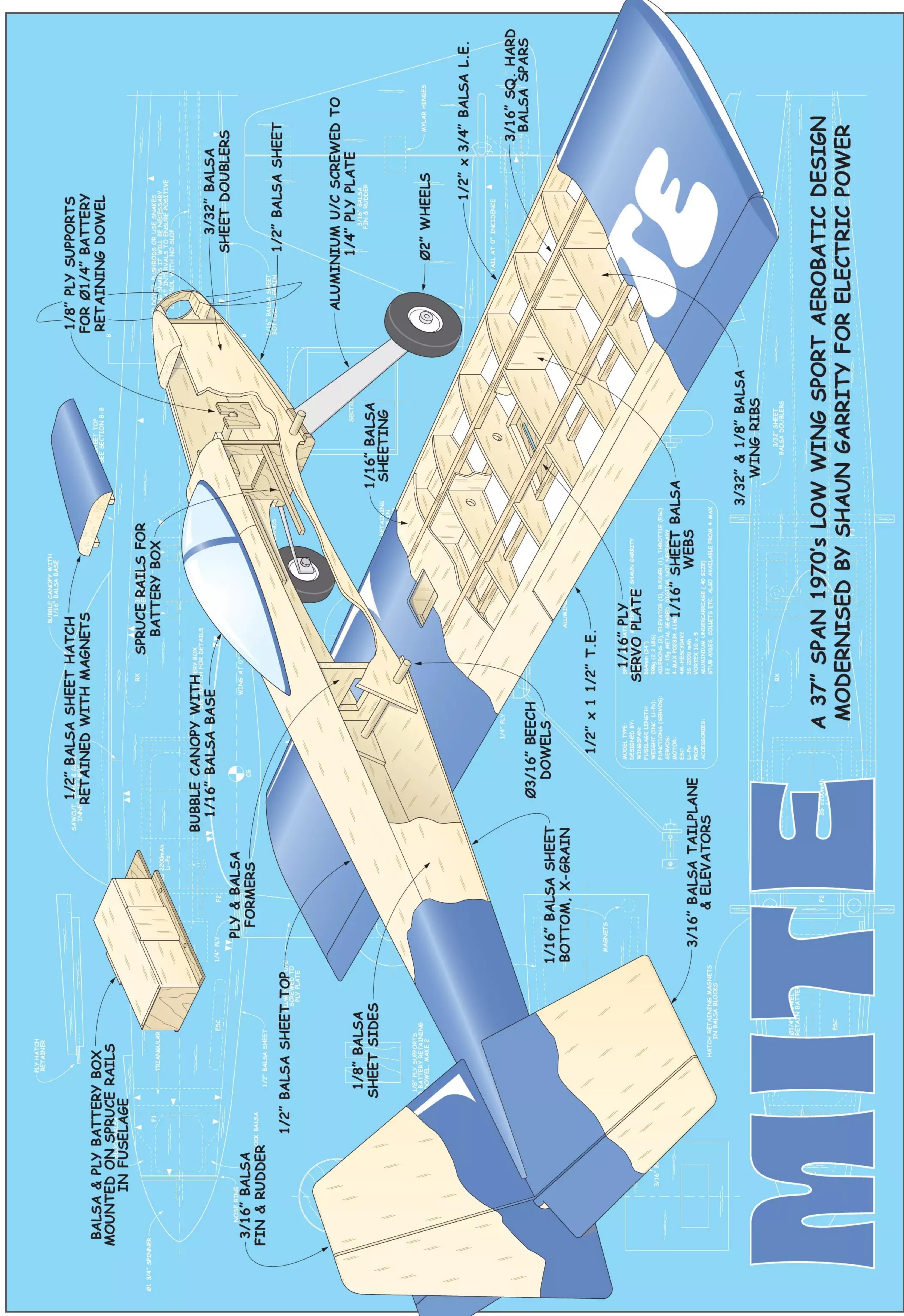
Again, elevator connection is direct and friction free.



Rudder pushrod required a small offset bending into the wire rod to achieve correct alignment.



Although you could miss off the bubble canopy it adds to the appeal of the model.





I always bond a balsa base into the canopy. This makes fitting much easier, more solid and there's less chance of getting glue on the acetate.

finish can be achieved. Don't forget to remove any film where the tailplane needs to be glued and the same goes for the fin.

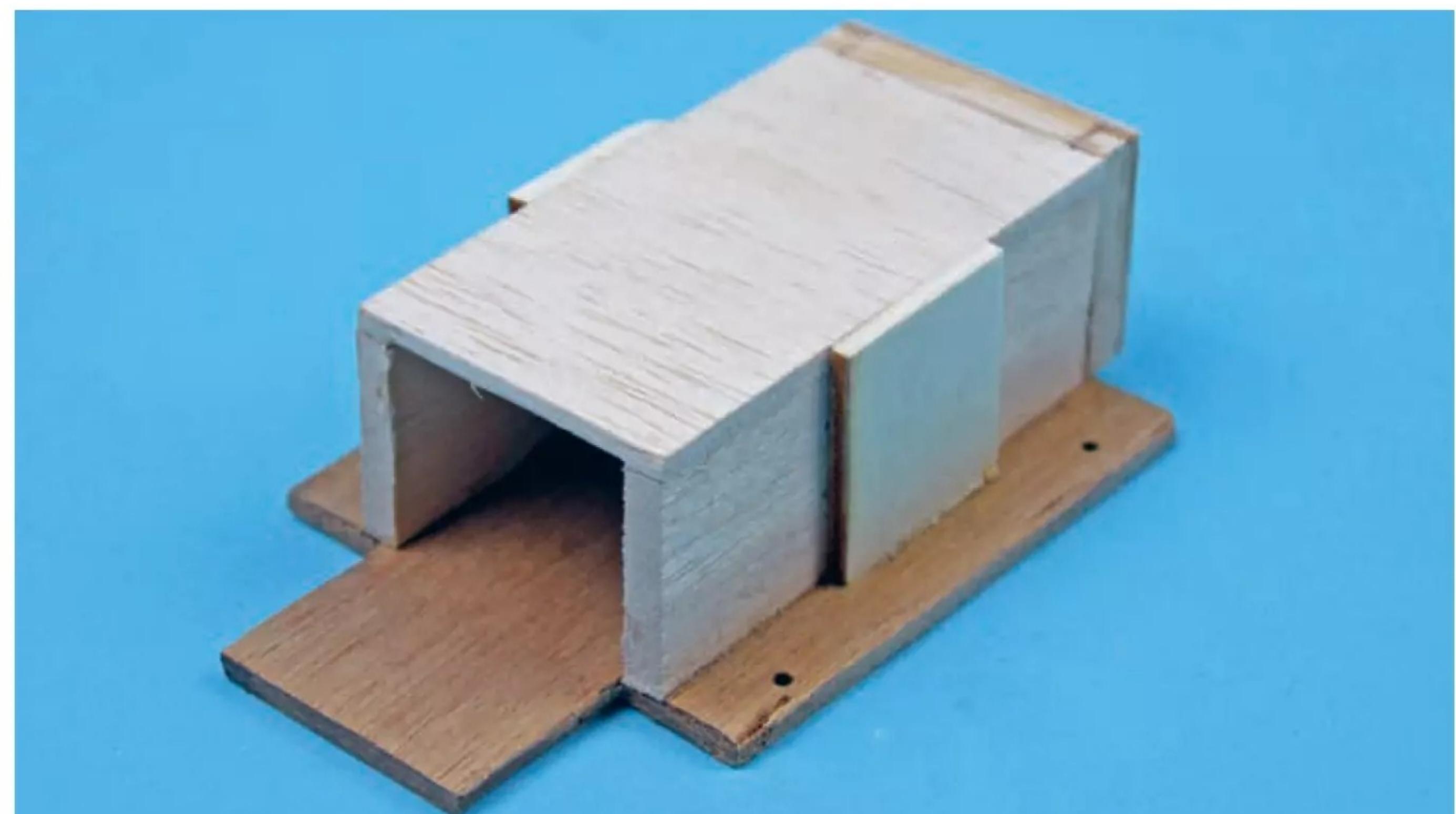
I hinged the ailerons, elevator and rudder with Mylar strips, keying the surface with sandpaper first to ensure good adhesion. Then I used UHU-POR to glue them in. Cyano can be used but you need to be quick as it seems to go off in an instant when used with Mylar.

If you have access to a vinyl cutter, make some bespoke decals to finish things off.

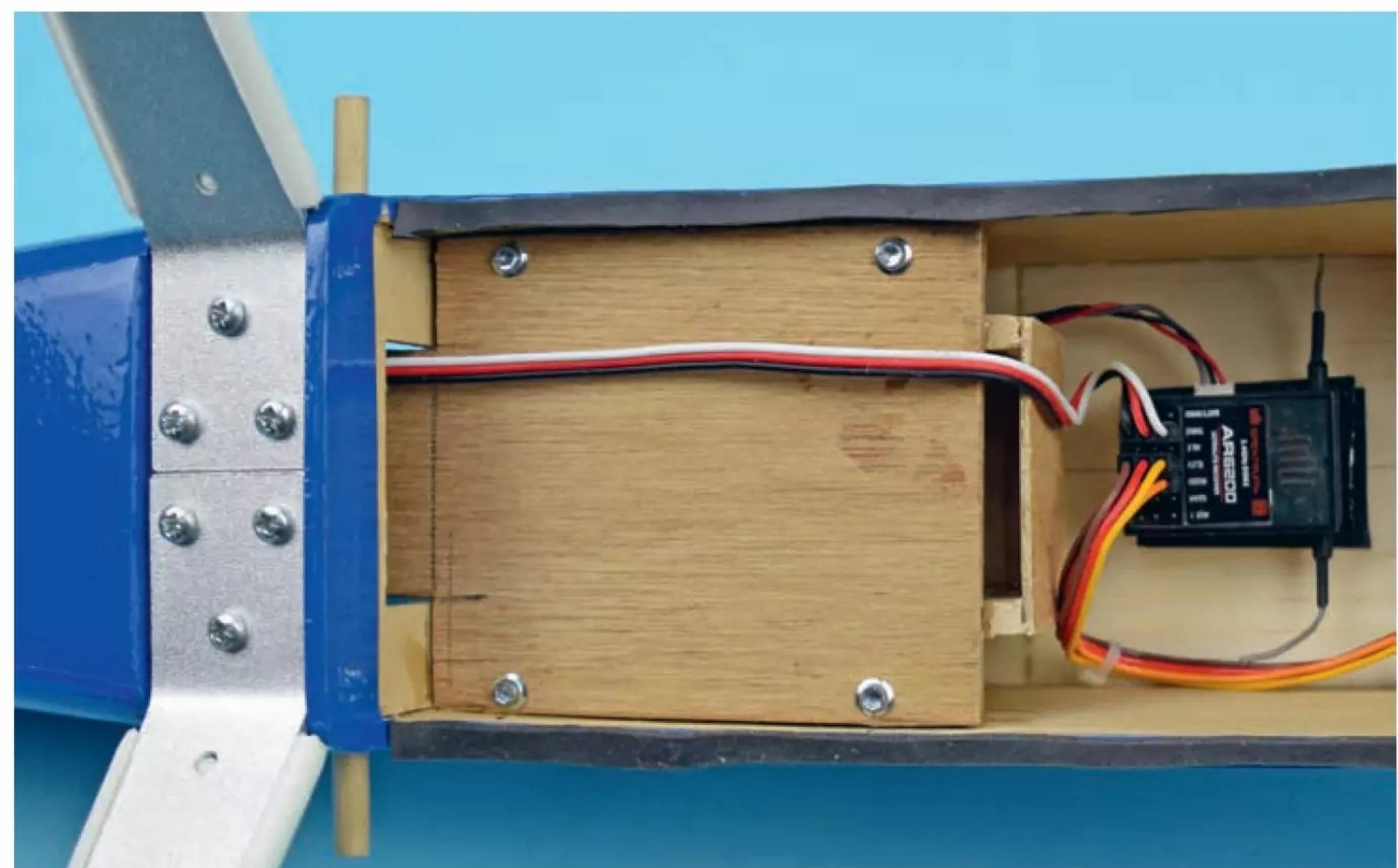
RADIO

Modern radio is minuscule when compared with David's original set up. I would recommend using separate servos for the ailerons as it also allows you to have flaps (referred to as flaperons, I believe). 12 to 15g servos will prove satisfactory for these, as well as the rudder and elevator. You don't need digitals, but metal geared servos would be worth the small additional cost. I would set up the throws as suggested on the plan as a starting point then tweak away to suit your flying style after a few sorties.

Carbon tube was used for the rudder and elevator pushrods, but dowel or snakes could be substituted if that's your preference. Whatever system you use ensure it is as frictionless (not binding) as possible and that



The battery box was made to fit my 2200 mAh 3S LiPo packs. Make this last so you can position the battery to get the CofG correct before screwing it in place.



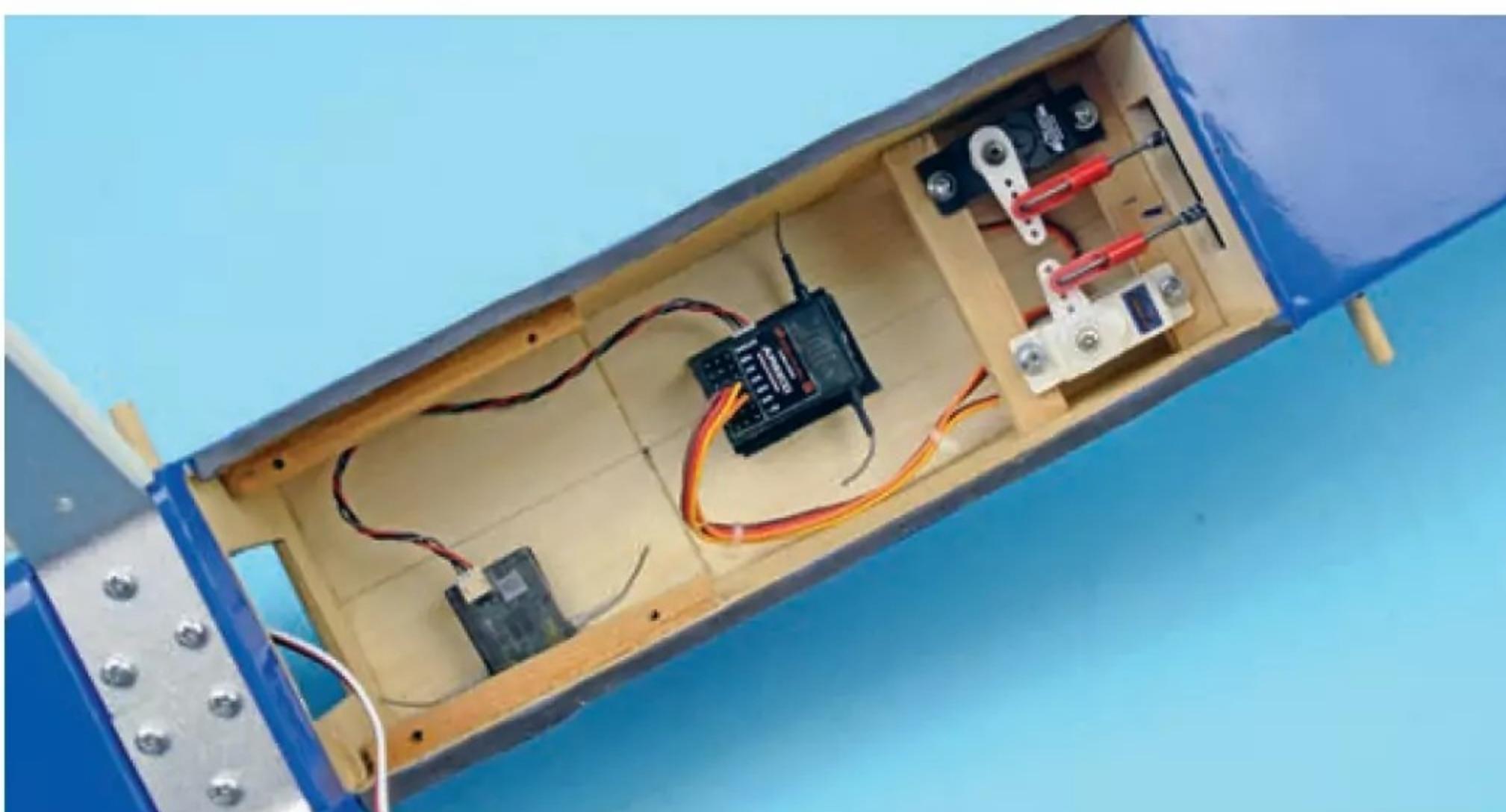
Battery box screwed in place.

all the horns and quick links etc. are securely fixed in place.

POWER

As I've built similar sized models before I used a motor set up that I knew would provide

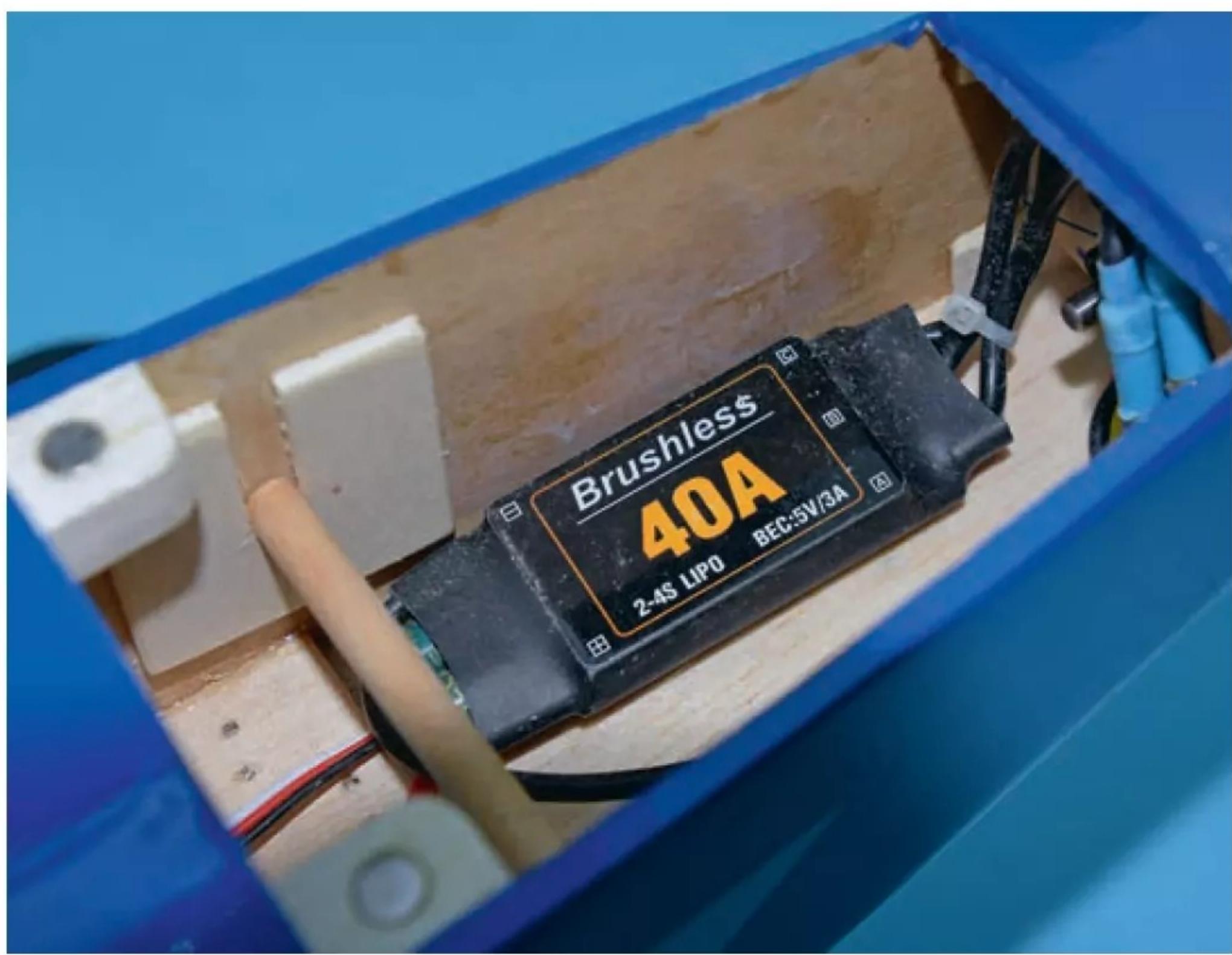
sufficient power. My Phil Kraft Flea Fli had a 4S set up and this was a little too enthusiastic and heavier, so I decided to go for a 3S set up in the Mite to keep weight down to a minimum. A call to George at 4-Max confirmed I had opted for a suitable motor and ESC combination.



Servo and receiver locations. I located the satellite receiver at the front of the bay before fitting the battery box in position. Spruce rails were glued to the fuselage sides to fix the battery box to.



Be sure to drill the motor mounting points before gluing F1 in place.



Here you can see the dowel peg retainer for the LiPo and the location of my ESC.

I also managed to pick up a suitable metal undercarriage from him, along with some excellent heat shrink covering film.

The power set up used on my model is a 2834-1160 motor, 9 x 7 propeller and a 40-amp ESC, with a 2200mAh 3S LiPo providing the go juice.

To make battery changes easy, by not having to remove the wing, I constructed a battery box fixed into the fuselage with screws onto spruce rails. See the details shown the plan. To prevent

the battery moving around a 1/4" dowel slides into two lite-ply slots and locks it in place. Have a look at the relevant photo. This gives a simple and quick method of battery changing and securely keeps it where intended.

TIME TO FLY

As always check the C of G location and that the surfaces move as expected. Also, that the throws are as detailed on the plan. You should be able to balance the model correctly

“To make battery changes easy by not having to remove the wing I constructed a battery box”



Old school 1970's MK alloy hub wheels from my now almost depleted stock. I got a tad carried away colour coding the collets to match the fuselage!



My mate Rob cranked up his vinyl cutter and knocked out the white vinyl logo and body flashes.



Just a touch of down was needed on the test flight, but it was expected as the CofG was slightly rearward of the indicated point.



Coming into land from a very satisfying test flight. Roll rate is excellent and motor-off glide performance is better than expected.

without any additional lead. When set up like this the original model required a slight amount of up elevator (I can only assume this was the preferred trim by the designer), but this can be trimmed out by tweaking the CofG. Once you're familiar with the model's characteristics. If you are not familiar with this type of model get someone who is to perform the test flight for you.

The following are David's thoughts on the Mite's performance:

“During all flights to date the model has been allowed to take off from the grass strip with no requirement for hand launching. In the air the machine has the characteristics of a larger model, being very smooth yet sufficiently responsive. The

standard aerobatic schedule offers no problem to this machine. Spins, for example, are very clean at entry if aileron is used with rudder, this being quite normal with modern designs. Square loops, top hat and vertical rolls are performed with ease, there being quite adequate power using the recommended size of motor. Landings have proved to be straightforward, the model being very docile during approach and showing no tendency to drop a wing if brought in slowly. Overall, I have found this model to be one of the most satisfying I have flown.”

I have to say my conclusions are the same as David's. Mite is a great model, being relatively inexpensive and quite quick to build, and a pleasure to fly. Remember, this is an

old school sport aerobatic model and it was designed before prop hanging was a thing. But never-the-less, you'll not get bored with its capabilities.

As an added bonus it will fit your car fully assembled and be ready to go when you arrive at the flying field.

TEAM EFFORT

I have to thank two mates for helping with this model: Gary for most of the woodwork and Rob for covering it. I have so many projects on the go at the moment it would have sat in my workshop for countless more months without their help. Cheers, guys! ■

DATAFILE

| | |
|---------------------|--|
| Name: | Mite EP |
| Model type: | Sport aerobatic |
| Designed by: | David Lyall, modernised by Shaun Garrity |
| Wingspan: | 940 mm (37") |
| Fuselage length: | 864 mm (34") |
| Weight (inc. LiPo): | 998 g (2.2 lbs) |
| Functions (servos): | Ailerons (2), Elevator (1), Rudder (1), Throttle (ESC) |
| Servos: | 12–15 g metal geared. Digital not necessary |
| Motor: | 4-Max PO2834-1160 |
| ESC: | 4M-HESC30AV2 |
| LiPo: | 3S 2200 mAh |
| Prop: | Vortex 10 x 5 |
| Accessories: | Aluminium undercarriage (.40 size), stub axles, collets etc. also available from 4-Max |

Ultra Light Weight Spinners With Dynamic Cooling Slots



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Complete Electrical Setup For Mite EP by David Hall/Shaun Garrity



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|---|--------|
| PO-2834-1160 Brushless \Outrunner Motor | £27.49 |
| 4M-HESC30AV2 Brushless ESC and Programming Box | £34.98 |
| 4pcs of 4M-175AMG-030 metal geared Servos, 2x 75mm and 2x 100mm servo ext leads | £40.32 |
| PP-HATCH-LATCH-A - Hatch Latch/Catch | £1.99 |
| Vortex GRP propeller 10" x 5" | £3.11 |
| 45mm Spinner - Black | £6.60 |
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* XT60, ** XT90 on battery side



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| 4-Max | 4M-045DH-005 | Sub Micro | 4.5g | 0.5Kg @ 4.8V - 0.10sec/60° 0.6Kg @ 6.0V - 0.08sec/60° | Digital, Light Weight, High Speed | 1pcs £4.72ea 5pcs £4.25ea |
| EMAX | ES9051 | Sub Micro | 4.1g | 0.8Kg @ 4.8V - 0.09sec/60° | Digital, High Torque, High Speed | 1pcs £7.69ea 5pcs £6.92ea |
| 4-Max | 4M-056DHVMG-009 | Sub Micro | 5.6g | 0.90Kg @ 4.8V - 0.14sec/60° 1.05Kg @ 6.0V - 0.12sec/60° 1.20Kg @ 7.4V - 0.10sec/60° | Digital, High Voltage, Metal Geared, 8mm Thick | 1pcs £9.94ea 5pcs £8.95ea |
| 4-Max | 4M-053HVDMG-010 | Sub Micro | 5.3g | 1.0Kg @ 4.8V - 0.09sec/60° 1.5Kg @ 6.0V - 0.08sec/60° 1.8Kg @ 7.4V - 0.07sec/60° | Digital, High Voltage, Metal Geared, 8mm Thick, High Speed | 1pcs £11.10ea 5pcs £9.99ea |
| EMAX | ES9052MD | Sub Micro | 5.5g | 1.1Kg @ 4.8V - 0.11sec/60° 1.3Kg @ 6.0V - 0.09sec/60° | Digital, Metal Geared, Coreless Motor | 1pcs £13.83ea 5pcs £12.45ea |
| 4-Max | 4M-094DMGB-014 | Wing | 9.4g | 1.4Kg @ 4.8V - 0.12sec/60° 1.9Kg @ 6.0V - 0.10sec/60° | Digital, Metal Geared, Ball Raced, Wing, 8mm Thick | 1pcs £11.54ea 5pcs £10.39ea |
| EMAX | ES08A II | Micro | 8.6g | 1.5Kg @ 4.8V - 0.12sec/60° 1.8Kg @ 6.0V - 0.10sec/60° | Analog, Light Weight, Great Value | 1pcs £5.34ea 5pcs £4.81ea |
| EMAX | ES08MA II | Micro | 12g | 1.2Kg @ 4.8V - 0.12sec/60° 1.8Kg @ 6.0V - 0.10sec/60° | Analog, Metal Geared | 1pcs £8.35ea 5pcs £7.52ea |
| 4-Max | 4M-090AH-017 | Micro | 9.0g | 1.7Kg @ 4.8V - 0.09sec/60° 1.9Kg @ 6.0V - 0.07sec/60° | Analog, Basic 9g Servo | 1pcs £3.99ea 5pcs £3.59ea |
| EMAX | ES3301 | Micro | 10.6g | 2.0Kg @ 4.8V - 0.12sec/60° 2.2Kg @ 6.0V - 0.10sec/60° | Analog, Metal Geared, 9mm Thick | 1pcs £8.79ea 5pcs £7.91ea |
| 4-Max | 4M-100AMG-022 | Micro | 10g | 2.2Kg @ 4.8V - 0.12sec/60° 2.5Kg @ 6.0V - 0.10sec/60° | Analog, Metal Geared, High Torque | 1pcs £7.49ea 5pcs £6.74ea |
| 4-Max | 4M-100DMG-022 | Micro | 10g | 2.2Kg @ 4.8V - 0.12sec/60° 2.5Kg @ 6.0V - 0.10sec/60° | Digital, Metal Geared, High Torque | 1pcs £9.05ea 5pcs £8.15ea |
| 4-Max | 4M-125HVDMG-028 | Micro | 12.5g | 2.8Kg.cm @ 4.8V - 0.144sec/60° 3.4Kg.cm @ 6.0V - 0.111sec/60° 4.5Kg.cm @ 7.4V - 0.105sec/60° | Digital, High Voltage, Metal Geared, High Speed, Dual Ball Raced | 1pcs £12.21ea 5pcs £10.99ea |
| 4-Max | 4M-130HVDMG-040 | Micro | 13g | 3.8Kg.cm @ 5.0V - 0.112sec/60° 4.0Kg.cm @ 6.0V - 0.096sec/60° 4.5Kg.cm @ 7.4V - 0.083sec/60° | Digital, High Voltage, Metal Geared, High Speed, High Torque, Very Low Play in Gears | 1pcs £11.10ea 5pcs £8.15ea |
| 4-Max | 4M-094DHVMG-026 | Mini | 9.4g | 2.0Kg @ 6.0V - 0.09sec/60° 2.6Kg @ 7.4V - 0.07sec/60° | Digital, High Voltage, Metal Geared, Ball Raced, 8mm Thick | 1pcs £14.99ea 5pcs £14.17ea |
| 4-Max | 4M-160AH-027 | Mini | 16g | 2.7Kg @ 4.8V - 0.13sec/60° 3.0Kg @ 6.0V - 0.11sec/60° | Analog, Great Value Mini Servo | 1pcs £6.29ea 5pcs £5.66ea |
| 4-Max | 4M-175AMG-030 | Mini | 17.5g | 3.0Kg @ 4.8V - 0.13sec/60° 3.5Kg @ 6.0V - 0.11sec/60° | Analog, Metal Geared | 1pcs £8.73ea 5pcs £7.86ea |
| 4-Max | 4M-175DMG-030 | Mini | 17.5g | 3.0Kg @ 4.8V - 0.13sec/60° 3.5Kg @ 6.0V - 0.11sec/60° | Digital, Metal Geared | 1pcs £9.99ea 5pcs £8.99ea |
| 4-Max | 4M-183HVDMG-044 | Mini | 18.3g | 4.4Kg @ 4.8V - 0.101sec/60° 6.5Kg @ 6.0V - 0.078sec/60° 7.3Kg @ 7.4V - 0.059sec/60° | Digital, High Voltage, Metal Geared, High Speed, High Torque | 1pcs £14.99ea 5pcs £13.49ea |
| 4-Max | 4M-253AB-028 | Standard/Mini | 25.3g | 2.8Kg @ 4.8V - 0.12sec/60° 3.3Kg @ 6.0V - 0.10sec/60° | Analog, Ball raced | 1pcs £6.79ea 5pcs £6.11ea |
| EMAX | ES3004 | Mini | 17g | 3.0Kg @ 4.8V - 0.15sec/60° 3.5Kg @ 6.0V - 0.13sec/60° | Analog, Metal Geared, Ball Raced | 1pcs £12.09ea 5pcs £10.88ea |
| EMAX | ES3054 | Mini | 17g | 3.0Kg @ 4.8V - 0.15sec/60° 3.5Kg @ 6.0V - 0.13sec/60° | Digital, Metal Geared, Ball Raced | 1pcs £17.59ea 5pcs £15.83ea |
| 4-Max | 4M-455AH-033 | Standard | 45.5g | 3.3Kg @ 4.8V - 0.15sec/60° 4.0Kg @ 6.0V - 0.12sec/60° | Analog, Great Value Standard Servo | 1pcs £6.99ea 5pcs £6.29ea |
| EMAX | ES3001 | Standard | 37g | 3.5Kg @ 4.8V - 0.17sec/60° 4.8Kg @ 6.0V - 0.14sec/60° | Analog, Ball Raced | 1pcs £7.69ea 5pcs £6.92ea |
| 4-Max | 4M-410ABH-052 | Standard | 41g | 5.2Kg @ 4.8V - 0.20sec/60° 6.5Kg @ 6.0V - 0.16sec/60° | Analog, High Torque | 1pcs £4.73ea 5pcs £4.26ea |
| 4-Max | 4M-556AMG-087 | Standard | 55.6g | 8.7Kg @ 4.8V - 0.15sec/60° 9.4Kg @ 6.0V - 0.13sec/60° | Analog, Metal Geared | 1pcs £12.59ea 5pcs £11.33ea |
| 4-Max | 4M-556DMG-087 | Standard | 55.6g | 8.7Kg @ 4.8V - 0.15sec/60° 9.4Kg @ 6.0V - 0.13sec/60° | Digital, Metal Geared | 1pcs £15.74ea 5pcs £14.17ea |
| 4-Max | 4M-490AMG-108 | Standard | 49g | 10.8Kg @ 4.8V - 0.13sec/60° 13.8Kg @ 6.0V - 0.11sec/60° | Analog, Metal Geared, Waterproof | 1pcs £17.76ea 5pcs £15.98ea |
| 4-Max | 4M-620DHVMG-112 | Standard | 62g | 9.35Kg @ 6.0V - 0.15sec/60° 11.2Kg @ 7.4V - 0.13sec/60° | Digital, High Voltage, Metal Geared, Dual Ball Raced | 1pcs £18.89ea 5pcs £17.00ea |
| EMAX | ES3005 | Standard | 42g | 10Kg @ 4.8V - 0.16sec/60° 12Kg @ 6.0V - 0.14sec/60° | Analog, Ball Raced, Waterproof | 1pcs £27.49ea 5pcs £24.74ea |
| 4-Max | 4M-556AMG-118 | Standard | 55.6g | 11.8Kg @ 4.8V - 0.20sec/60° 13.2Kg @ 6.0V - 0.18sec/60° | Analog, Metal Geared | 1pcs £14.69ea 5pcs £13.22ea |
| 4-Max | 4M-556DMG-173 | Standard | 55.6g | 17.3Kg @ 4.8V - 0.18sec/60° 20.4Kg @ 6.0V - 0.16sec/60° | Digital, Metal Geared | 1pcs £17.84ea 5pcs £16.06ea |

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Kwik Fli parade. Trad' build and ARTF.



OL' ORANGE TRASH

With the arrival of Seagull's new ARTF David Ashby grabs the opportunity to fly a classic aerobat

Words & Photos: **David Ashby**

Grab a pile of RCM&Es from the late 60s or early 70s and Phil Kraft's name won't be hard to find. He produced many popular designs across those decades and while some haven't aged so well the Kwik Fli, Ugly Stick and Flea Fli in particular are recognised as out-and-out classics.

The Kwik Fli series started life in 1963 but, as Kraft himself alluded to in his 1968 article for Model Airplane News, the name didn't reflect the model's flying speed, rather its 'simple-to-build' and functional nature. A smaller, lighter version appeared a year later to be followed by the seminal Mk.3 in 1965. This revision introduced a thicker, fully symmetrical wing section that helped it fly at a constant speed through manoeuvres, while a number of tweaks, including a larger fin, addressed the Mk.2's characteristic tail wiggle. It went on to win the World Championships, the US Nats and many more contests around the world.



Scan a few magazines from the 60s and 70s and Phil Kraft's designs weren't hard to find.



Hatch space is large enough to accommodate most 4-6S packs.

“...a Kwik Fli should be orange. I think it’s the law somewhere”

It still looks good and still flies at club fields thanks to the trad’ kits, semi-kits and ARTFs that have appeared over the years. Some builders have fitted retracts for which there’s no shortage of space but Seagull’s new ARTF offering emulates the fixed gear original but dispenses with the simple main wheel braking system that Kraft added to his prototype. Anyway, temptation got the better of me as soon as I saw one.

BIG BIRD

A disappointment first. I’m not sure what Seagull were thinking, and while the two colour schemes offered are attractive enough, a Kwik Fli should be orange. I think it’s the law somewhere. A beat-up appearance and bright orange scheme led Jerry Nelson, the US Team Captain at the international contests in the 60s, to call Kraft’s Kwik Fli ‘Orange Trash’ and the name stuck. Orange it really should be.

On paper you wouldn’t call a 63” span sport model big but this Kwik Fli 3 (or Kwik Fly as Seagull call it) does seem pretty imposing. Perhaps it’s that wide chord fully symmetrical wing that’s thick enough to put any 3D aerobat



The original didn’t have a bod in the office but I still wish I’d filled that space.

to shame. No, really, at 2.25” (5.5 cm) deep it’s a proper porker, although notably lacking the original’s sharp leading edge. The fuselage is wide and cavernous but that too was deliberate as the original had to accommodate three ‘breeze block’ Kraft linear servos that just about squeezed in abreast. Modern standard size servos seem a bit lost in there by comparison.

It’s a typical Seagull product made from laser-cut balsa and ply, nicely covered and complete with a fuel tank, spinner, bubble canopy and decent hardware. The wings and tail surfaces are built-up while the undercarriage uses three 3-inch wheels to roll on. Slotted it all together shouldn’t take more than a few evenings of work.

IC and electric power units are accommodated, with mounts and fittings for both included, and a top hatch just in front of the canopy that’s large enough to accept most 4-6S batteries of up to around 5000 mAh size. In that respect Seagull suggest a 4S LiPo system

but it was obvious that 6S would be possible too. But with an E-flite Power 46 needing a home I split the difference and planned on a 5S system that, spinning a 13” x 6.5” prop, would give me about 700 watts to play with – just about 100 watts/lb and sufficient to provide power for relaxed, traditional aerobatics. Incidentally, the ARTF’s longer legs and chunky 3” wheels are no bad thing if your outrunner requires a large prop; a 14” example can easily be accommodated.

One other aspect to bear in mind. The original relied on energy build-up rather than raw power to pull through manoeuvres, so punching holes in the sky isn’t what this model is about.

The take-off roll is pretty short and it flies with a pleasing precision that’ll come as a surprise to anyone who’s only flown a tundra-tyre foamie high-winger of some sort or other. On paper this example was a tad nose heavy but you couldn’t really tell in the air, with just a slight amount of forward stick needed for inverted flight, which is my preference. Models that need no down elevator when inverted seem unnatural to me.

Landing is straightforward and the slow speed handling really excellent. In between it’s just an exceedingly nice aeroplane to fly with predictable yet precise handling.

Stall turns need a decent amount of rudder to kick the nose over. It pulls towards the canopy a little in knife-edge, but nothing that can’t be managed at the sticks. Spin entry and exit are again straightforward, and the roll rate is fast enough at the suggested settings and surprisingly axial too.

It certainly makes a fine low-wing trainer and, although I’d disagree, I can see why some might say that it’s almost too easy to fly. It isn’t, but what it does do is provide a viceless platform from which to really hone your aerobatic manoeuvres. The point was brought home to me a few years ago when I was standing alongside a contest winning freestyle aerobatic pilot trying to pull the wings off



Seagull’s new ARTF version comes in two schemes, both attractive – but not orange!

a very large petrol-powered CARF Extra 300. In a moment of absent mindedness he asked whether I'd like to have a fly. I nervously replied in the affirmative and, expecting my modest skills to be pushed to the limit, was surprised to find myself flying one of the nicest, best-behaved models I'd ever waggled the sticks at. It had been meticulously trimmed over many flights (upwards of 100), the engine and muffler were perfectly tuned, thrust lines tweaked and various prop sizes and brands had been tested before arriving at a final selection. It was all to ensure that if anything acrobatically messy happened in the sky then the cause could be firmly attributed to the pilot's flying skills, not the model. While it's obviously not in the same class, the Kwik Fli reminded me of that important trait. Small wonder it has remained so popular over the decades.

If you've never become acquainted, then don't miss the opportunity to do so. There's a ton of Kwik Fli stuff online, with the UK Classic Aerobatic Association's site at www.ukcaa.org a good place to start.

PHIL KRAFT DESIGNS

Gimlet - 1956
Bi Fli - 1959
Stagger Bi - 1963
Kwik Fli Mk.1 - 1963
Kick Fli Mk.2 - 1964
Ugly Stik - 1965
Go Go Fli - 1966
Bar Fli - 1967
Kwik Fli Mk.3 - 1967
Flea Fli - 1968
Slik Fli - 1969
Dragon Fli - 1970
Fire Fli - 1972
Super Fli - 1976

MIKE'S FLI

Mike Austin, my buddy from the power flying field, built a KF3 from a plan a couple of years ago and finished it in the proper scheme. He used a parts set as the basis for his and compared to the new ARTF his 'Trash' is shorter in length and span by a couple of inches. It sits on shorter legs too. He popped a pilot in the office; in retrospect that's something I wish I'd done with mine.



Mike's Kraft transmitter. By modern standards the sticks still feel good but then Kraft were known for good quality gear.



Clubmate Mike with his finely made plan-built Fli.



Jim's wheels. Field transport par excellence.



The model rack unclips and a stand/shelf slides out from underneath.

“We have a bit of a walk to the flying patch, so all sorts of wheeled contraptions are employed to haul models and equipment”

That size difference comes as no surprise though. The basic design has been endlessly



That's a Precedent T-180 on top. The larger T-240 is still available from SLEC.

tweaked by builders and manufacturers over the years.

RCM&E's Retro Ramblings columnist Shaun Garrity helped Mike find a lovely 1972 vintage Kraft Series 72 transmitter to go with the model. Although converted to 2.4GHz he flies the model with a modern Spektrum set, preferring the '72 for those retro vibes.

TROLLEY OF THE YEAR

Sometimes describing himself as a fully paid-up member of the BMFA - the British Minimum

Flightbox Association - the late, great Alex Whittaker made us smile. But even he would be impressed by this one made by another clubmate, Jim McKie. We have a bit of a walk to the flying patch, so all sorts of wheeled contraptions are employed to haul models and equipment from the car park. Jim's solution is this trailer/stand/storage rack that's ingenious in concept and construction.

The model rack is detachable, there's an underslung storage drawer, while a model stand and work tray slide out from underneath



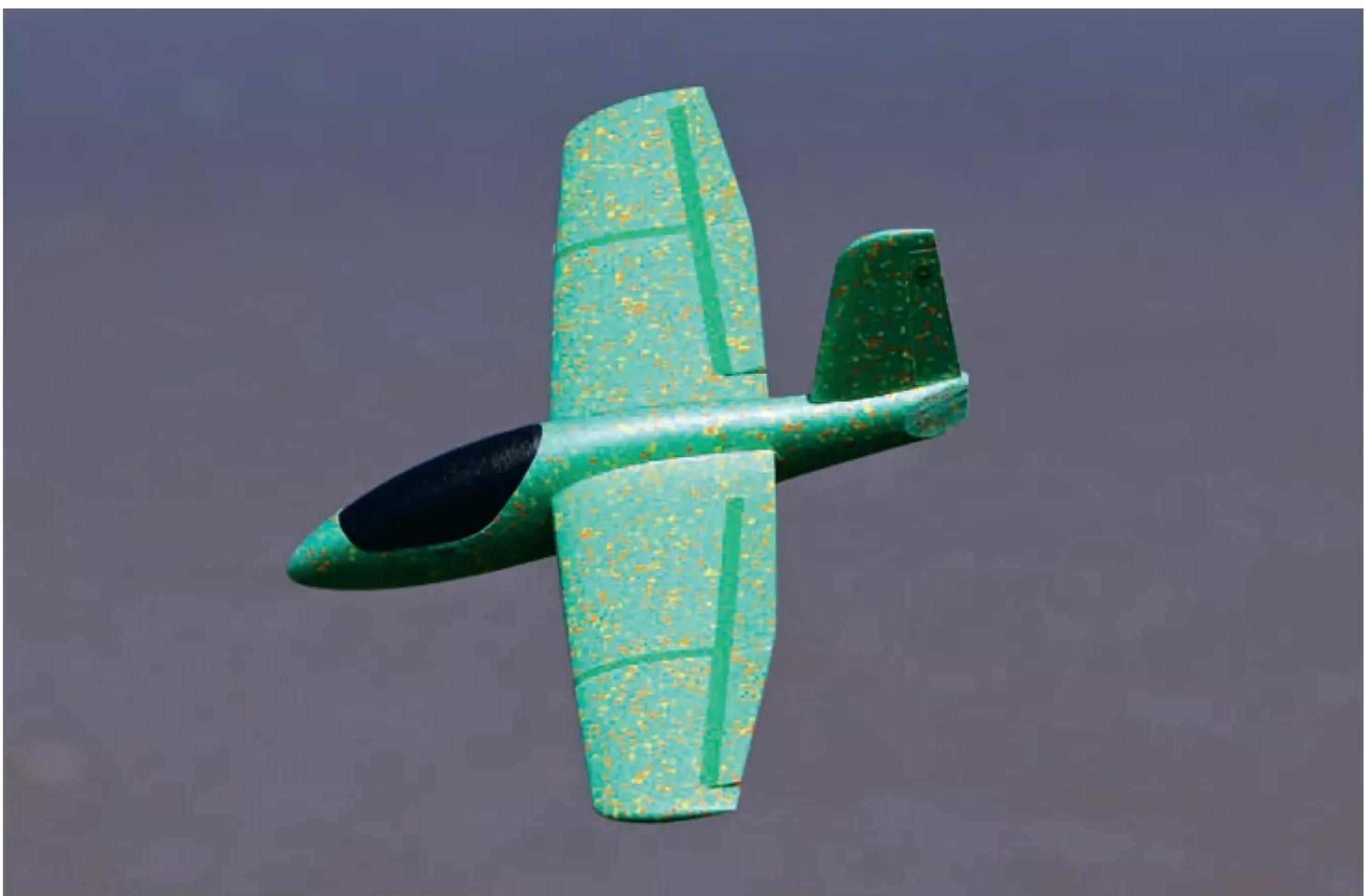
Paul Westrup steers his big wing as the sun sets at our 2025 summer solstice slope fly-in. See 'Year End Musing' overleaf.



If you're after your first moulded slope soarer then the 1.5 metre span *Magnus* is a deservedly popular choice.



Peanut, our slope soaring companion, has a nap while dad flies.



Of all the Lidl glider conversions this format is the best I've flown.



Jon Goldsmith's *Limit*. Bigger flies better.

then swing over to use the pull handle as a support. He plays guitar, does Jim, so spare strings brace the structure and sound reasonably tuneful too. Tea and coffee making facilities are the only things it lacks. We've all placed orders so there's a very long queue if you want one.

YEAR END MUSING

Writing in November I tend to reflect on the flying season just gone. For me it was chiefly about slope soaring, thermal soaring, a few competitions, with a bit of club power flying and training filling

the gaps. In truth, for slope flyers the season never really ends; you just have to remember to pack a flask and wear the sort of head gear and clothing that'll extinguish any dignity you thought you had. It's always worth it though.

Our local slope Summer Solstice get together seems a long time ago now. We use the occasion to eat unhealthy food before everyone takes to the air as the sun goes down. This year's weather obliged with a chilly but beautifully memorable panorama.

Staying on the hill, TJIRC's 1.5m span *Magnus*



Ray Wood launches his Vic Smeed Poppet. Vintage types never go out of fashion.

slope glider/electric hotliner has become a familiar sight. At around £280 it's attractively priced for a fully moulded model and flies very well. I made the mistake of having a go when the Tx was being passed around one day and it's now on my wish list. I'm told it needs a bit of careful work to complete, particularly when it comes to fitting servos and cutting slots for horns and linkages, but nothing comparable can be had for the price. Better still, it's nearly always in stock with UK retailers, which is

something you can't always say when you see a soarer you want.

At the other end of the scale those Lidl gliders have seen a lot of airtime once again. Suitably converted with the tail lopped off, I still can't believe how well £7.99s worth of supermarket toy chuck glider flies. We had three of 'em combatting around the slope one day - fab fun - and they're perfect for testing the air on marginal days before throwing something more precious over the edge.

Jon Goldsmith was flying his 130% Limit glider at our local slope back in the summer. He'd seen that my standard sized model was a bit of a handful at times and suggested I try an enlarged version. His was noticeably better, so that's another one for the project list. I'm told my Limit re-visit has generated some new interest in the model. The plan was published in the November 2004 issue of RCM&E and the accompanying article is available online at modelflying.co.uk where builders have also compared notes in the forum. The search box is your friend for both.

I've noticed a few more vintage and old-timer models at the club field, with several being built. Most are IC powered, just as nature intended. Junior 60s, Super 60s, Galahads, Poppets and Tomboys never go out of fashion and, although it's a bit of a cliché, there really is nothing quite like pottering about with one on a fine summer's day.

That's it for now. I hope your 2025 flying year included plenty of memorable days. Remember to make a point of trying something new in 2026. I'll see you next time and, as always, justforfunrcme@gmail.com is where you'll find me. ■



One of my clubmate's unfortunate arrivals in 2025. An easy fix though - just print another one!



Jim Beagley's Galahad old timer. It's surprisingly agile for a rudder/elevator model and that dihedral gives it plenty of character.

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My favourite aeroplane and the one I learned to fly on, my Goldberg Tiger II. I think this is from 1996.

AN ILLUSTRATOR'S PERSPECTIVE

Where would RCM&E be without professionally drawn plans and illustrations? For over three decades we have relied on Grahame Chambers to supply top quality drawings. Here's a brief history of his 'sketchy' past

Words & Photos: **Grahame Chambers**

It recently occurred on me that I'm rapidly approaching the 33rd anniversary of starting my job with Argus Specialist Publications in Hemel Hempstead as an illustrator. 33 years? Where did that time go! Seeing that number got me thinking about my career up to this point, the people I've met and the opportunities I've been given. It seemed

like a good time to make a few notes that might give you a little insight into where the drawings in RCM&E come from.

AUTOMOTIVE ILLUSTRATIONS

I grew up building models of all shapes, sizes and subjects, including R/C cars. I've always had an interest in all things mechanical.

Drawing came naturally to me so a future combining those was ideal and way back, after leaving college in 1988 and before I was recruited by Argus, I'd been producing illustrations for production engineers at several automotive companies, including Jaguar, Land Rover and Rover. (By the way, if your Montego rear passenger door doesn't



Such a pleasure to build and fly, my Tiger II was put together during lunch breaks in the ASP office in Hemel Hempstead and really taught me a lot.

close properly, I still maintain it's not my fault!)

It was 1992 when I started looking for a different job and sent my CV and samples of my work 'on spec' to the ASP office. Sometime later I had an out-of-the-blue invitation for an interview, the main reason being that my samples included a (very) basic drawing of an R/C aeroplane and its functions.

I clearly remember walking into the Argus building ahead of that interview. Hanging from the ceiling in reception was a large scale Piper Pawnee and on the walls were framed Aeromodeller magazine covers, a trio of glass cases containing static models - and there was a distinct aroma of castor oil.

My interview was with Tony Dowdeswell, during which we realised I'd been at school with his son Paul. It was he who introduced me to R/C cars, driving a Tamiya Ford Ranger in the snow. I still remember it like yesterday! I was asked to return for a second interview and a drawing test.

TEAMWORK

Having secured the position of illustrator in 1993, I became part of the design studio team who, at that time, laid out pages by hand, cutting and pasting pictures and text blocks with waxing machines that had to be switched on 15 minutes before anyone could start working.

Seated at my faithful drawing board my first task was to redraw dozens of aircraft profiles for the Plans Handbook. I think this was another test, both of my abilities and my patience! From there I went on to producing illustrations for RCM&E, Aeromodeller, Radio Modeller, Silent Flight and Model Boats, as well as a few for Military Modelling, before branching out somewhat into the woodworking, engineering and crafting titles. To this day I still have a basic working knowledge of patchwork quilting - I draw a mean log cabin design!

MENTOR MIKE

Anyway, during those first years with Argus I began working on some of the free plans of model aircraft, alongside draughtsman Mike Reynolds. I couldn't have asked for a better mentor, thanks Mike! He led me towards

progressively more intricate and larger designs, both for inclusion in the magazines as well as for the Plans Service. Of course, at that point they were all produced by hand using Rotring pens on drafting film. It wasn't until around 1996 or 1997 that a computer appeared on my desk. I was sent on a training course in Wimbledon to learn how to use it.

At first, I was very reluctant to make the change and 'go digital', mostly because I couldn't see the same freedom, flexibility and creativeness compared to drawing by hand. But I quickly came to realise the advantages of CAD (after all, who doesn't love a good copy and paste) and I adapted to it very easily.

HUNDREDS OF PLANS

With a bit of calculation, I reckon I've produced more than 450 plans over the years - and that's not including the boats. That's a lot of pen scratching and mouse clicking!

Some of the author provided originals have been interesting too. I've had plans drawn with a soft blunt pencil on wallpaper, multiple A4 pages taped together along with sketches on scraps of paper, napkins and beer mats. I even once really did get a sketch on the inside of an empty cigarette packet!

I've met so many people and characters as ASP progressed through its Nexus/Encanta/Magicalia/MyTimeMedia/MyHobbyStore/Mortons and now Kelsey ownership eras. Back in the 1990s Peter Holland would deliver his artwork to the office every day. I'd often meet Ron Moulton, Dave Boddington and Bill Burkinshaw, whilst Alec Gee and our esteemed editor Kevin, alongside John Cundell, Ken Jones and Kelvin Barber, had their desks tucked behind piles of back issues and future features.

Later, I was more than happy to meet and work alongside Graham and David Ashby, Jay Myers and Paul Freshney as they all came along to do their valuable parts. Not forgetting contributors such as Peter Miller, Nigel Hawes, Shaun Garrity, Chris Golds, Tony Nijhuis, Ton Van Munsteren, Lindsay Todd and Chris Williams - the list goes on and on. It was, and still is, a pleasure working with everyone.



My ATS Kite. I'm looking a bit chilly in this shot! I really liked that colour scheme.

AUTOGRAPH HUNTER

As an aside, but while talking of meeting people, I had my Andy Warhol '15 minutes of fame' when I made a completely unplanned visit to a tiny model show in Norfolk many years ago. A local model boat club had a table with some of their vessels on display, one of which was a submarine built from an issue of Model Boats. I got talking to the guys and told them I had drawn the plans. Next thing I knew one chap was asking me to sign a copy of his magazine! I wonder where that copy is now.

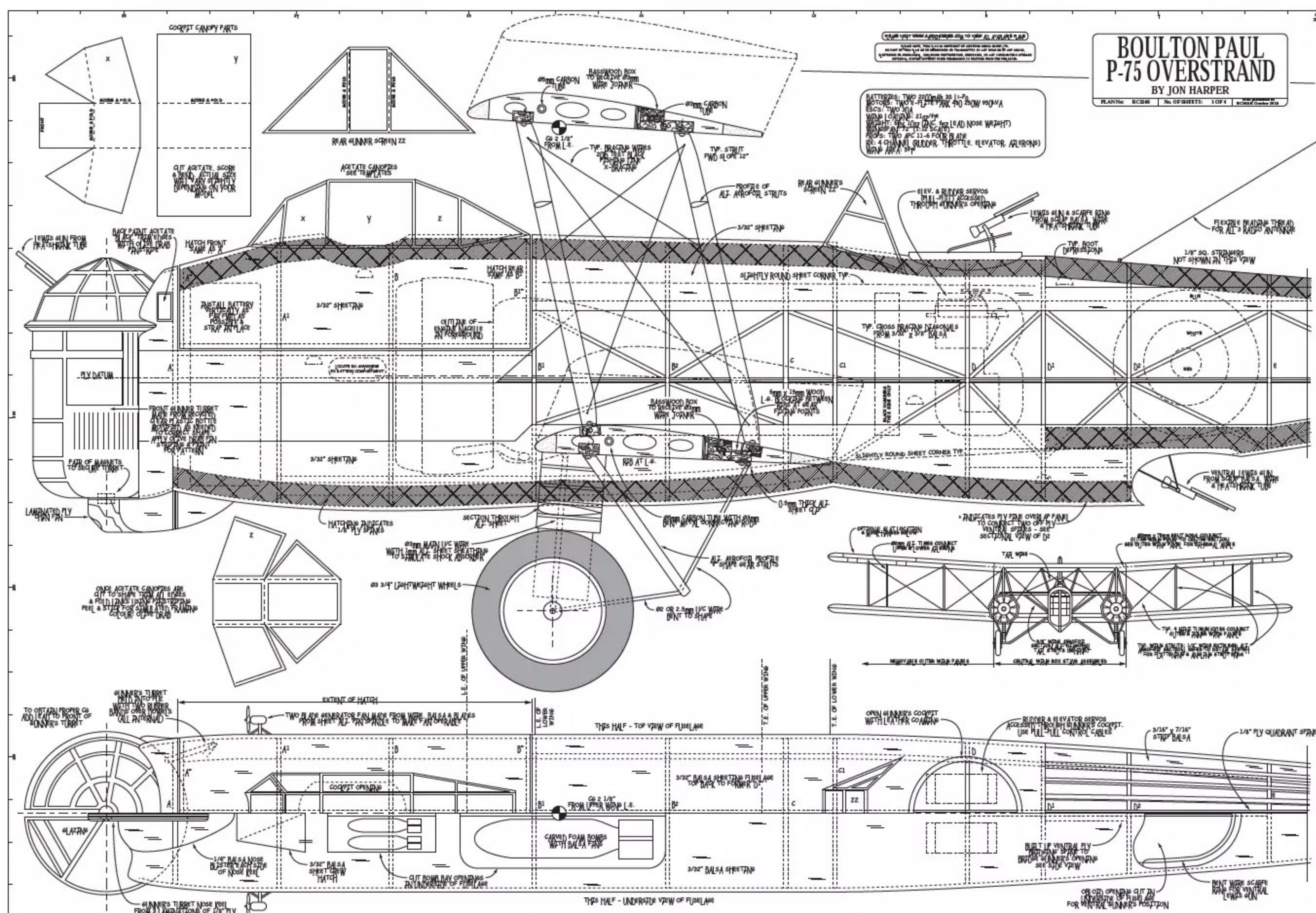
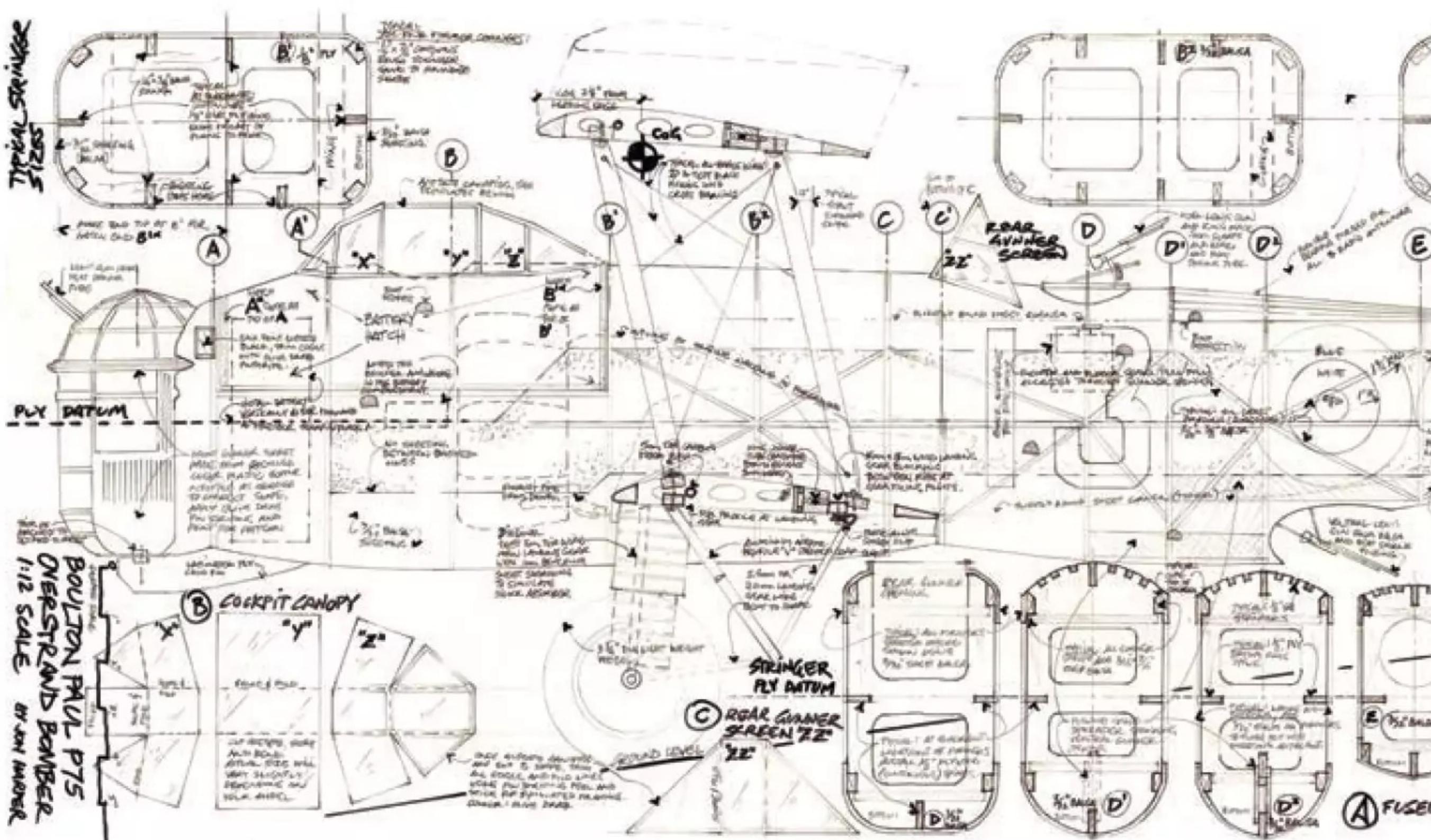
OLD WARDEN

Outside of the office, I also spent some fantastic weekends working in the transmitter control tent with my wife at the Old Warden model flying events. It was very satisfying to see some of the designs I'd drawn 'in the flesh' and taking to the air, seeing with great relief that they actually flew! And, of course, to see so many other amazing designs that were brought along.

I remember a fabulous steam powered contraption that performed faultlessly, until it disappeared in flames when firing up the boiler. Then there was the very early electric ducted fan jet that was actually made from a repurposed hairdryer. Oh, and let's not forget that distinctive sound, just outside the tent, when a modeller stuck his hand into a spinning prop! Thank goodness my wife isn't squeamish like me, so she patched him up before escorting him to the first aid van. Credit to him though as he was back on the flight line later to see if he could still fly with several stitches and a big bandage on his hand!

Trotting up and down the grass runway trying to clear it for an incoming full-size aircraft was fun too. The poor free flight guys couldn't exactly land on cue quite so easily. But it was the rubbish bins at the end of the day that told the real stories, with various pieces of mangled wreckage poking sadly out of the top.

In the mid-90s I was also involved in setting up the company stand at the Model Engineer Exhibition in London and had a couple of my models that had been featured in the mags on display there. I felt quite honoured.



A good example of what I'm supplied with compared to what appears in print. This is the beautiful Boulton Paul Overstrand designed by Jon Harper that was published in October 2024.

having been to the show several times as a child and been amazed by the workmanship on show.

TESTING, TESTING

I've been lucky enough to build a handful of review models for various magazines, including R/C aeroplanes, R/C cars and static models. The most memorable aircraft was my much-loved Goldberg Tiger II. Our editor Kevin had the unenviable task of teaching me to fly with that, so a big thank you for his time and patience. Even now the plan that was in that kit is of a standard I aspire to. I once graced the cover of RCM&E with it too, alongside Mike Reynolds with his Spook, at the Shuttleworth Collection. (I'm not sure what effect that had on mag sales for that month though, sorry!)

The ATS Kite was great to fly too, but the Kyosho HyperFly Apache helicopter did get the heart rate up a bit!

PROCESSING A PLAN

Having practical model building experience is an essential tool when it comes to drawing the plans and has many times proved to be invaluable.

The basic process behind the production of the plans sounds deceptively simple. I'm supplied with a scan of the author's original if it's hand drawn or these days I'm sometimes sent a CAD file. In the case of a hand drawn original I work over the scan, drawing the projections and components at full size, and making any adjustments required so that (hopefully!) they'll fit together to produce the model, then adding the notes and, finally, woodgrain and shading.

For CAD files the work varies between an almost complete redraw to the somewhat simpler task of putting it into our house style. In many cases one of the tricky aspects is making it all fit onto the paper size and sometimes some 'creative cutting' is required! It all sounds so easy, doesn't it?

"I even once really did get a sketch on the inside of an empty cigarette packet!"



Sadly, I can't recall the name of this little 400 powered electric model. If anyone knows I'd love to hear because I had a lot of fun with it



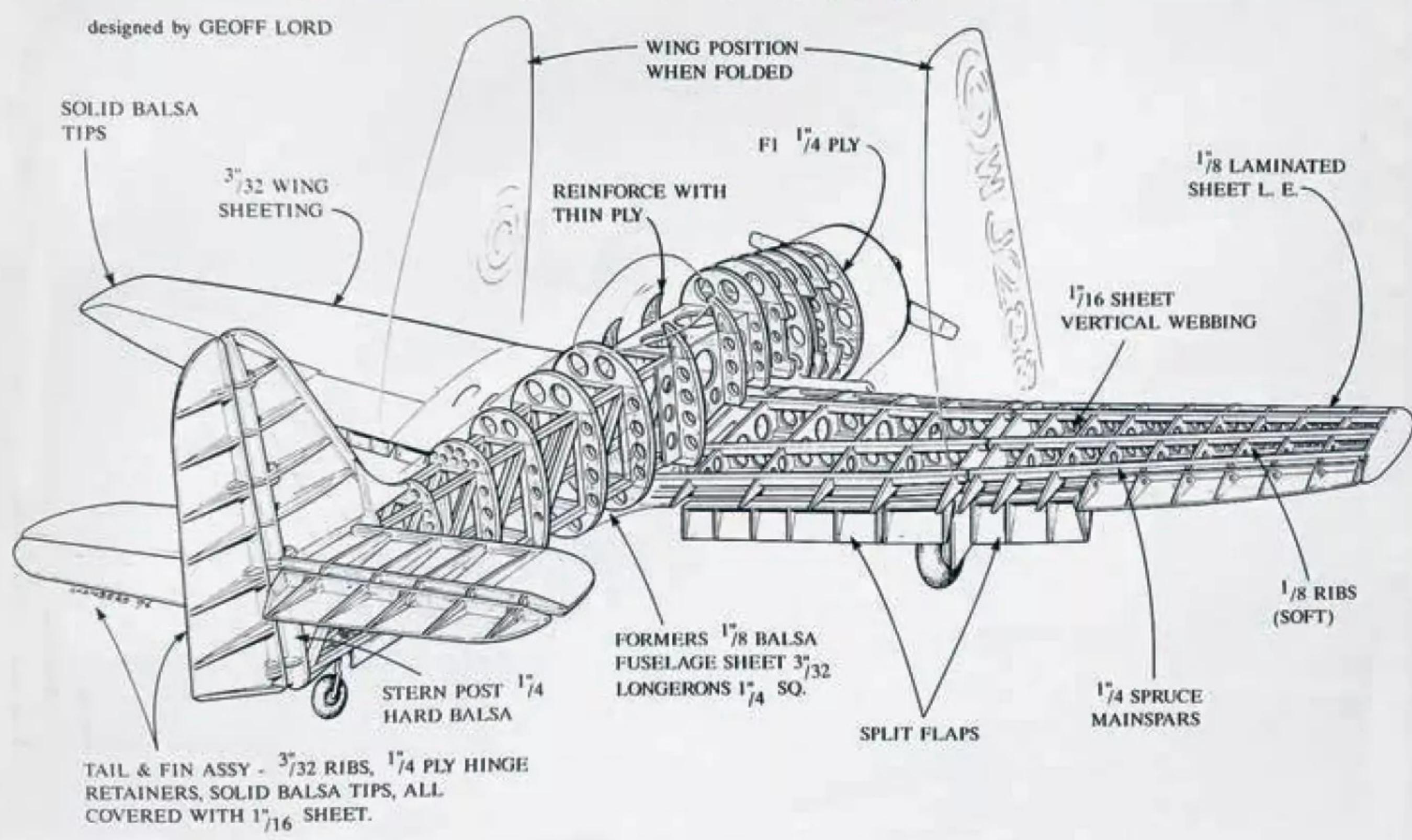
Immortalised as a cover boy with Mike Reynolds. Great memories.

What really makes me happy is that after all the years and all the plans I've drawn, I still enjoy my job very much and the challenge of producing a finished plan which can be used to make a model that will be a pleasure for people to build and fly.

HAWKER SEA FURY

designed by GEOFF LORD

A 77" SPAN, 1/6 SCALE MODEL OF THE FAMOUS CARRIER BASED FIGHTER.



One of my earliest - possibly my first - cutaway drawing from 1994, Geoff Lord's Hawker Sea Fury. At the time we only had black and white cutaways, and they were hand drawn.



A proper trainer, the Hobbico Superstar was a cracking ARTF.



The Hellenic division of RCM&E!

A LOOK INSIDE

Along with any sketches that might be needed, one item I've been producing for many years is the cutaway drawing, to accompany the articles detailing the featured pull-out plan.

Looking back, I have a copy of what I believe is one of the earliest, a Hawker Sea Fury designed by Geoff Lord. The drawing is dated May 1994 and is hand drawn. It still looks pretty good, I'd say.

I base the cutaways on supplied photos of the model, then use a combination of the plan, article and construction photos to strip away the outer surface and reveal the interior. Strangely enough, simpler models are actually more tricky to draw cutaways for because there's less detail to make it interesting. Recently the cutaways have been adopted by Model Boats magazine as well and it's

"Strangely enough, simpler models are actually more tricky to draw cutaways for because there's less detail"

interesting to see the similarities between boat hull and aircraft fuselage constructions.

HELLO FROM PAXOS

The biggest change during my career was the closure of the Hemel Hempstead office in 1998 which meant a move to working from home. A spare bedroom was swiftly converted to my office and I was very comfortable with the arrangement.

That doesn't sound very major except the closure coincided with the purchase of our house in Greece, the plan for which, at the time, was being a holiday home and ultimately for our retirement. But fate, as they say, intervened and at a Christmas party my wife suggested to my studio manager that perhaps my home office could be located in Greece. His reply, slightly influenced by liquid festivities perhaps, was, "Why not?"

So, the many possibilities, advantages and minor difficulties were discussed, written down and discussed again - and again! Eventually I received a call to say everything was all good to go! So, with our UK house on the market, packing lots of boxes, and shipping of said boxes, in August 2001 our relocation was complete.

At that time Paxos, a tiny island just south of Corfu in the Ionian Sea, only had a dial-up internet connection and maybe just a handful of computer users so my work arrived by fax or occasionally by mail. One urgent plan for Model Boats was actually delivered by courier in 24 hours which considering my location is amazing! But it proved more than sufficient for my needs and the whole transition was very smooth.

More than 24 years on and it's all still working extremely well (plus, we've had Wi-Fi for a while!), although the electricity supply can occasionally get a bit wonky, particularly in the winter, so I tend to save my work obsessively often! Remote working certainly doesn't suit everyone of course and it was very interesting to see the global change of attitude during Covid. But for me working from home has always been ideal.

I hope you have enjoyed this very brief history of me and how I came to be in my position within our group of modelling titles. I'm always looking forward to the next job arriving on my desk so please, if you have something that you'd like to see in print, do contact Kevin and I'll do my best to turn your design into a plan that's clear, interesting, easy to follow and appealing to the readers of RCM&E.

Happy flying! ■



SHRINKING NUTBALLS

John Stennard builds a micro version of a favourite indoor model and decorates it with a new brand of marker pen

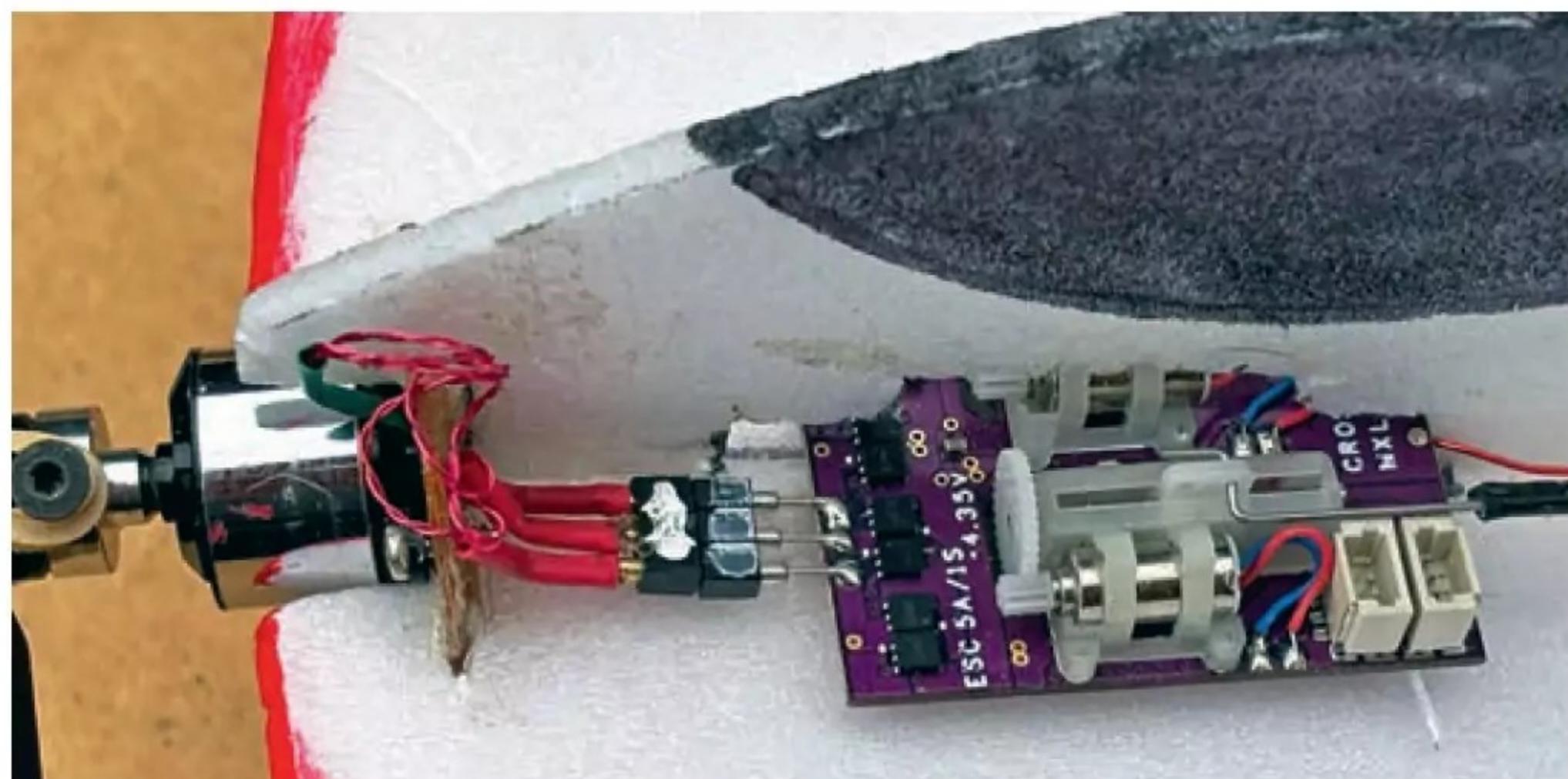
Words & Photos: **John Stennard**

This is not a medical condition but a way of enjoying a shrunk down version of an old favourite. The original Nutball is 490 mm in diameter and constructed from 6 mm EPP. My elevon version has done valiant service but is now very tatty. A new one could be made using the German Pichler EPP sheet from Model Shop Leeds which has the best qualities of EPP plus more. Our club put in a bulk order for 3

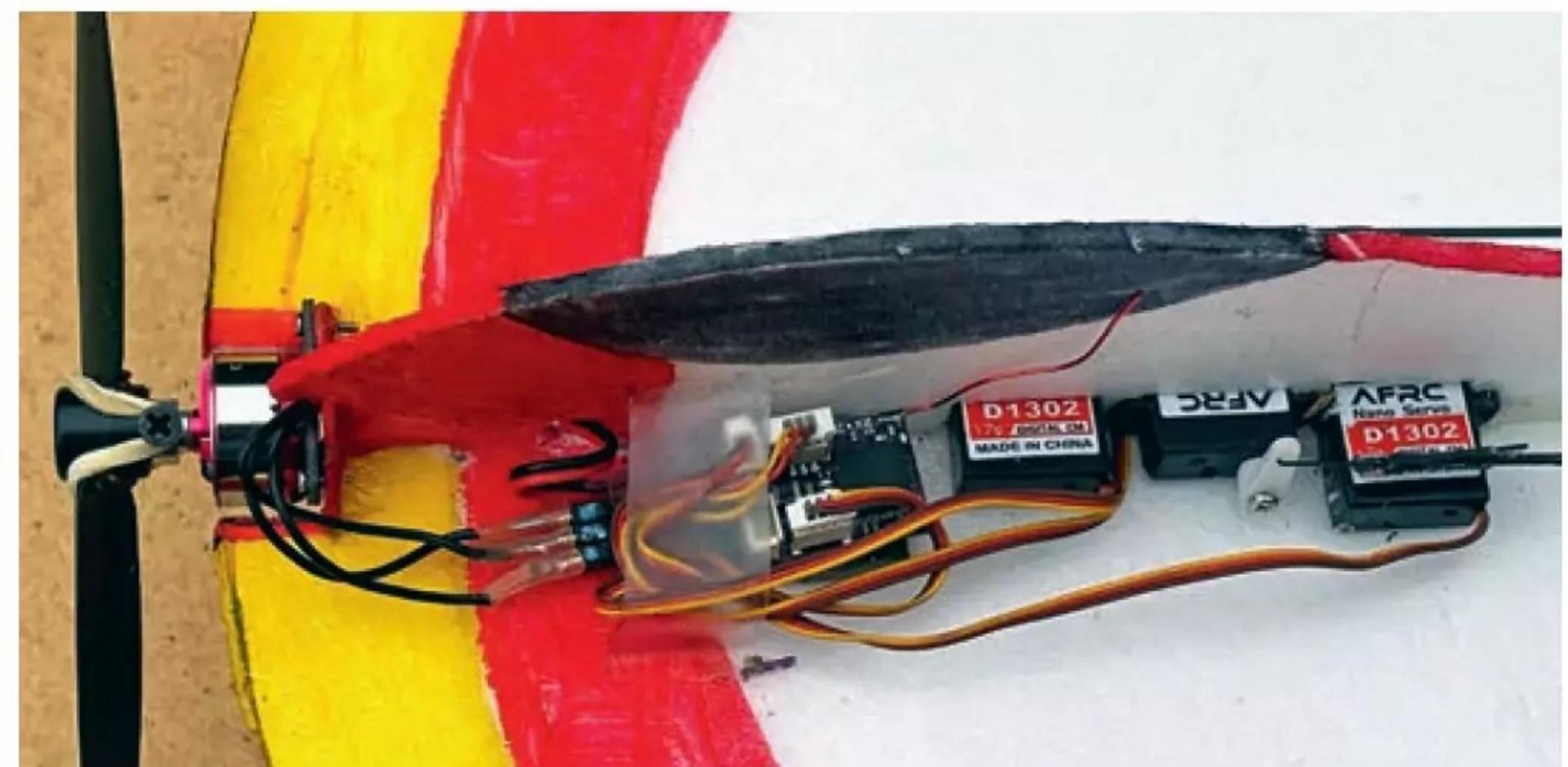
mm and 6 mm and the indoor fraternity snapped it up. It's extremely versatile, very easy to use and has already appeared in new planes and hovercraft.

John, whose models I have featured before, has made a Micro Nutball with a 300 mm diameter. That's around 60% of the original and it flies extremely well. With thoughts that this could perhaps become a 'club model' he produced a set of templates and I was first

in the queue. Models of this size and weight bounce well so although I had some 3 mm EPP I decided to use 3 mm Depron for my model. John has designed his model around an 8 mm direct drive coreless motor with a standard micro-Rx with an integrated ESC and two 1.7 g rotary servos. A quick search showed that I had plenty of servos and motors but no spare micro receivers with a brushed output. However, what I did have were two brushless options.



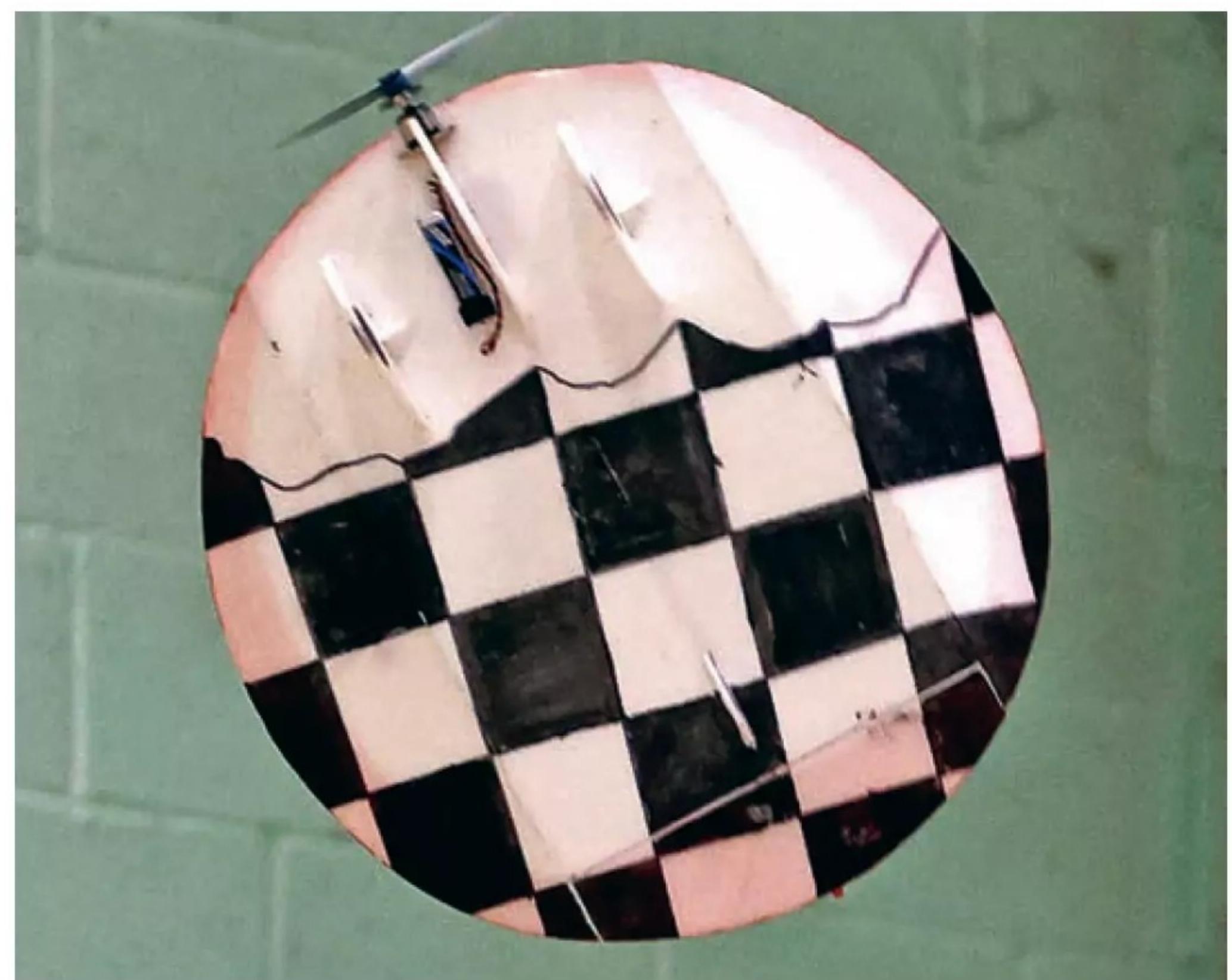
This version uses the brushless modular Rx.



The Mk.2 has a micro-Rx with integral brushless ESC and elevons.



Micro Nutball has an excellent vertical/hovering performance.



This view highlights the effectiveness of eye-catching decoration.



Bright colours underneath are a good idea with lively micro models.

One was a micro size, brushless, modular receiver (Rx) which incorporates two linear servos. The other was a standard micro-Rx with a brushless output. I decided to use the modular Rx with an AP 05 brushless motor which is a 5000 kV type and usually used with a 5030 prop.

I rather liked the idea of elevons, as per my full size Nutball, but all attempts to program the Rx to achieve this were unsuccessful. So, I built a rudder/elevator version instead. I needed to use a 4025 prop for ground clearance and with a 1S 220 mAh LiPo the AUW was 34 g. The performance proved to be outstanding, with an incredible vertical capability, steady hovering and loops as tight as you like.

The Micro Nutball can be flown incredibly slowly at high alpha angles and is a real fun model. Rolls are, of course, at best untidy. Although the performance with an 8 mm motor is perfectly adequate and cheaper, I think my brushless version offers more flexibility.

MINIMAL MATERIAL COST

With building material costs absolutely minimal I decided to build another, this time for my brushless micro-Rx using elevons and rudder. I was okay for all the gear except for the micro brushless motor. A search found an AEO C05 for a good price and it came complete with a micro connector, mount and prop driver. It is a 3700 kV type. Other than taking care that the

"It's a good idea to add some colour, particularly to the underside"

elevons and rudder pushrods did not tangle up the basic construction was identical to the first model. When completed the elevon version weighed in at 37 g with the same LiPo. I have found the Gens 1S 220 mAh 45C LiPo purchased from Als Hobbies to be particularly good.

The overall flight performance of this version is almost identical but with the advantage of the ability to roll. If starting from scratch, I feel the 'low cost' brushless version is perfectly adequate for most indoor flying. My brushless versions have the edge on performance, but this comes at a cost.

It's a good idea to add some colour, particularly to the underside as these are small models and easily lost in an airspace full of foamies. For a low cost and minimum build time you can have a robust little Micro Nutball that is great fun to fly.

POSCA

No, not an Italian opera but a brand of useful colour markers. I always used a similar product called ZIG Posterman for a quick fix when decorating models, particularly white



Posca pens are very good for quick decoration and straight lines.



These are just four examples from a huge range of colours.



The first Minimum ATF micro jet is a Goshawk.



There is plenty of room for the special 2S 180 mAh LiPo.



The model uses a small 'cheat intake' right in front of the EDF unit.

acrylic costs they are quite reasonable. Tubes of artists acrylic can also be bought quite cheaply from craft shops, but a paint marker is sometimes just quicker and more convenient.

The POSCA is a water based permanent marker and can be used safely on most materials. Of course, a marker comes into its own if you want to use it for straight lines with a ruler. I bought a four pack and used them straight away on a white foam model. I subsequently found that these pens can also be purchased from online sources.

MINIMUM, MORE & LESS

Sadly Minimum, who have done a lot to encourage indoor fliers, have made an important announcement regarding their products.

As they say, '*Kits retiring and a glimpse of a new era*'. The first 'new' model is an RTF micro EDF jet and an expanding range of models is promised. Minimum will not design any new small/indoor type models and will phase out kit production.



I fitted a larger servo arm on both the elevator and ailerons.

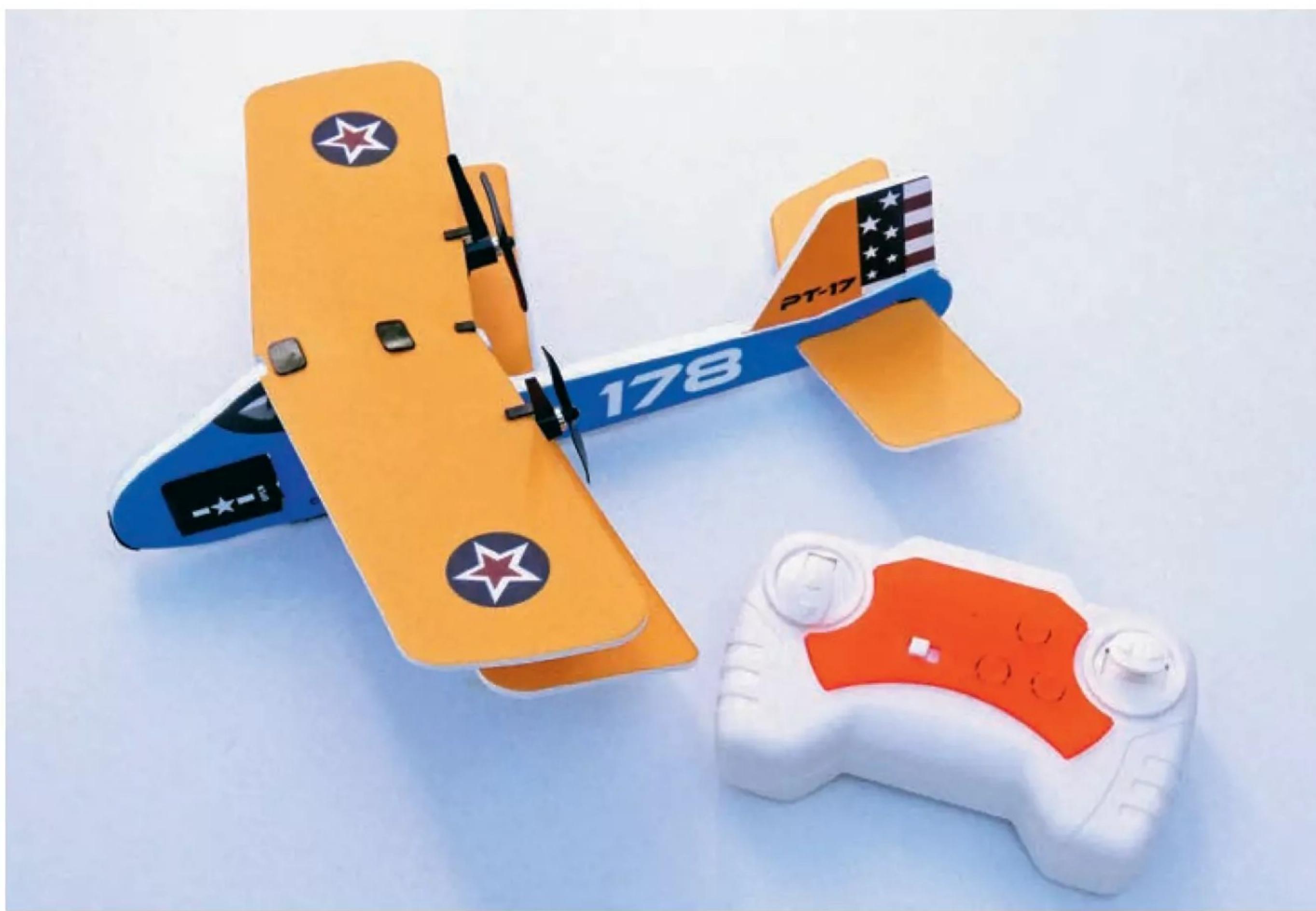
foam types, but this brand was discontinued. I noticed the POSCA range of similar markers in Rymans; these are from UNI Mitsubishi. I was immediately attracted to them, firstly because there was a wide range of colours and secondly because there was a promotional discount!

At first glance they may seem quite pricy but considering what a small pot of specialist

My lamentations about the loss of the E-Flight micro jets must have been heard by Minimum who have brought out the new 390 mm wingspan RTF/ARTF T-45 Goshawk. This model is designed around their high power 30 mm EDF unit which uses a special 7.4V12A ESC with a 2S180 mAh LiPo. The T-45 weighs in at 55 g and is available in several combos. The basic one includes the model, the ESC and stabilisation unit. One must provide the Tx, Rx, charger and LiPo, all of which I have. Other combos can include a selection of these items.

The Goshawk requires very little assembly and looks great. I fitted a four channel Rx connected to the stabilisation unit. I was slightly concerned about the very small output arms on the servos and the quite minimal control surface movements. The first flight at my nearby farmer's field was a bit trickly as I found that I did not have much control movement. I used travel volume on the Tx to increase the amount of movement and while this improved the flight performance it still lacked enough response for me.

The next step was to move the control linkages to holes on the horns closer to the surface to gain more movement. This seemed to have little effect, so I returned to the hangar before doing any damage. To provide a good performance the T-45 is a very light construction so awkward impacts should be avoided. I did not feel I was gaining anything with the stabilisation so I removed the unit and plugged the servos directly into the receiver. If you were using the Andromeda Tx you would be able to switch stabiliser outputs via a switch. I fitted a longer output arm to both the aileron and elevator servos.



KFPLAN's PT-17 is a very clever design and comes with a neat palm size transmitter on Mode 2.

Back at the flying field, after some trimming, I found the model a delight to fly. While not particularly fast it has an enjoyable speed and loops and rolls with ease. It has a very flat glide and is easy to handle. The T-45 would not be suitable for indoor flying – well, certainly not in our relatively small flying spaces!

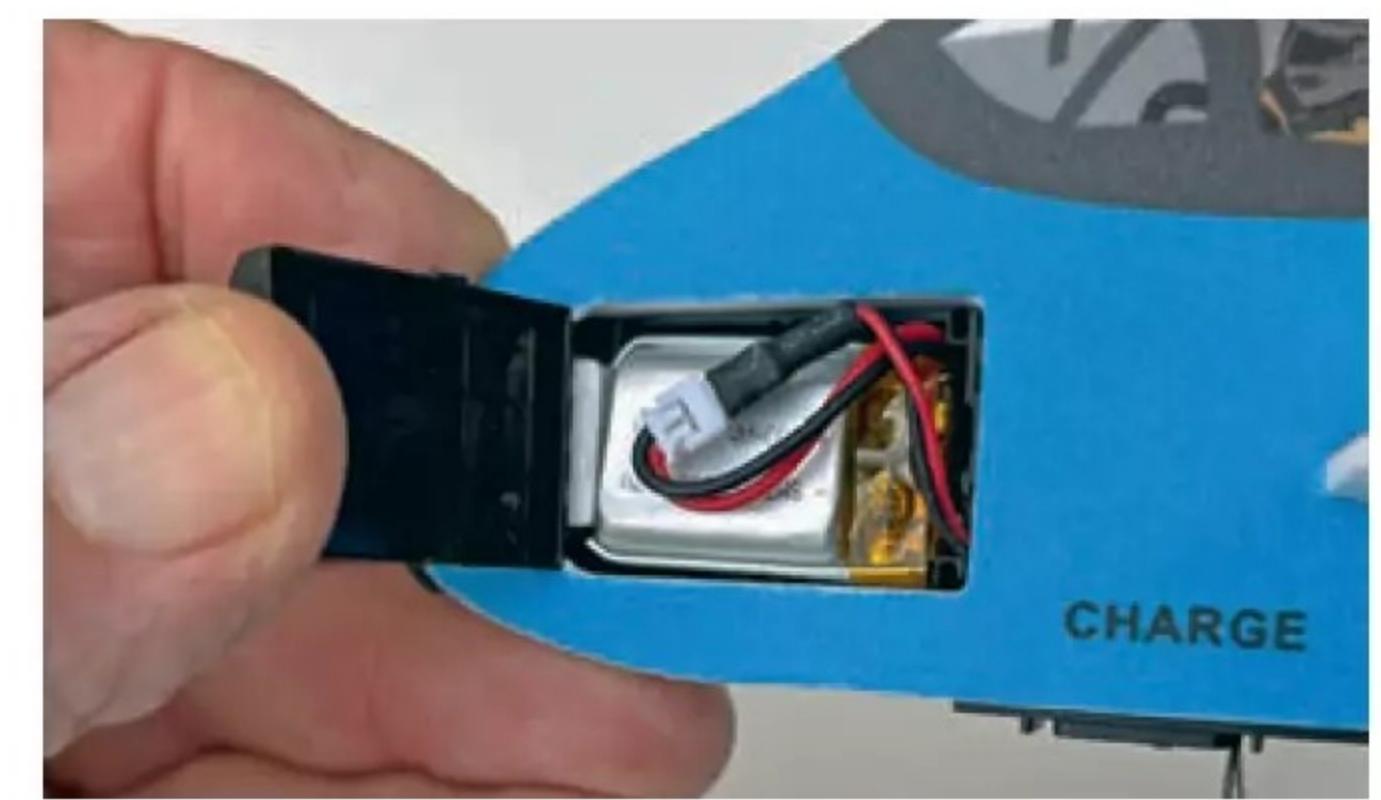
On another local trip I had a good flight but thought the ailerons too sensitive, so I dialled in some expo. This did not give quite the result I wanted as the Goshawk did not want to turn at all. After landing I found that one Z-bend had

pulled out of an aileron pushrod, so I had been flying on only one aileron!

A second model, an F-16, has already been produced but I'm not tempted by this one. I always really enjoy seeing (and hearing!) the full-size F-16s perform. The Polish F-16C gave a fantastic display at RIAT 25 but I am not quite so keen on it as a model.

Please, please Minimum, produce a Phantom. But I fear that's only a dream!

I hope Minimum RC continue to supply all their micro model accessories, magnetic



The 1S LiPo is removable but take care with the polarity if using an alternative pack

"I hope Minimum RC continue to supply all their micro model accessories, magnetic actuators and other micro parts"

actuators and other micro parts alongside their new micro EDF models. Just in case, I've stocked up with a couple of receivers, motors and actuators. Their first two micro EDF models have filled a gap in the ARTF EDF micro scene and I hope it's a successful venture.

Postscript: I've just read that the Polish F-16C display gained the 'Best Overall Flying Demonstration' award at RIAT!



It's around the same size as the old Silverlit Palm Z biplane.



There are several alternative designs in the series. I'll try a monoplane next.

OLD CONCEPT, NEW DESIGN

I've mentioned the Silverlit Palm Z micro biplane before as it brought a touch of fun into our indoor flying sessions. The proportional motor control worked well and is still popular in many types of RTF micro models and with some quite big models too! I was naturally curious when I saw micro biplanes using the same system appear on Banggood. A monoplane and an unusual curved flying wing are also available, but nostalgia dictated I choose a biplane.

From KF PLAN there are three basic models available. These then each break down into three versions of each design in terms of colour and decoration. So, in effect there are six different monoplanes/biplanes and three flying wings. I chose the 800 PT-17, and it is a nicely designed and produced little plane, with a 230 mm wingspan and 23 g flying weight. It

even has an undercarriage and a tailplane than can be set for indoor or outdoor flight via a ratchet on the trailing edge - very neat!

There are four micro-LEDs under the profile fuselage and these flash when the battery is low. The 1S 200 mAh LiPo can be charged via a micro-USB lead but the compartment has a hatch so the LiPo can be removed and charged via the Molex connector. I found that I had some 1S 200 mAh LiPos that would fit but I noticed that the polarity on the lead from the model and supplied LiPo is reversed from the usual configuration. The models are available with an extra battery. Charging time is quoted as 40 minutes and the flight duration is 10 to 15 minutes.

The palm size transmitter (Tx) is easy to use and even includes 'rudder' trim controls and a two-speed button. The instructions say it has a gyro for stable flight and all this at a good price.



Drone Soccer has an increasingly large following, but I'll be looking at 'fun' versions and not 'professional' ones.

After the usual limited back garden tests, I took my PT-17 to a local field for the 'calm conditions and long grass' approach much loved by free flight enthusiasts. With a gentle breeze the model flew extremely well after I used the elevator trim to stop over-zealous climbing. The climb and turn performance were excellent. One just has to remember that if you glide you have no rudder control!

Now, what about indoor? As expected, the model flies really well provided the controls are handled sensitively. Obviously, a sudden increase in power results in a steep climb and you have no elevator to control this.

These small models can buzz around safely indoors when almost any other types are flying so are good fun at low cost.

NEXT TIME

Drone Soccer is here and gaining momentum. I'll be looking at some basic 'non-league' soccer drones and what's involved. And perhaps, more to the point, what might be in it for us! ■



This tiny model performs well both indoors and out.

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Let's start this month with a visit to the workshop of ProjectAir, home of engineering videos on YouTube, many R/C based, made by James Whomsley and his team. Here's James with a rocket powered model.

POWER & PLAYTIME

This time **Dave Goodenough** boils an engine, reveals some foam mega models and attends his local scale slope soaring competition

Words & Photos: **Dave Goodenough**

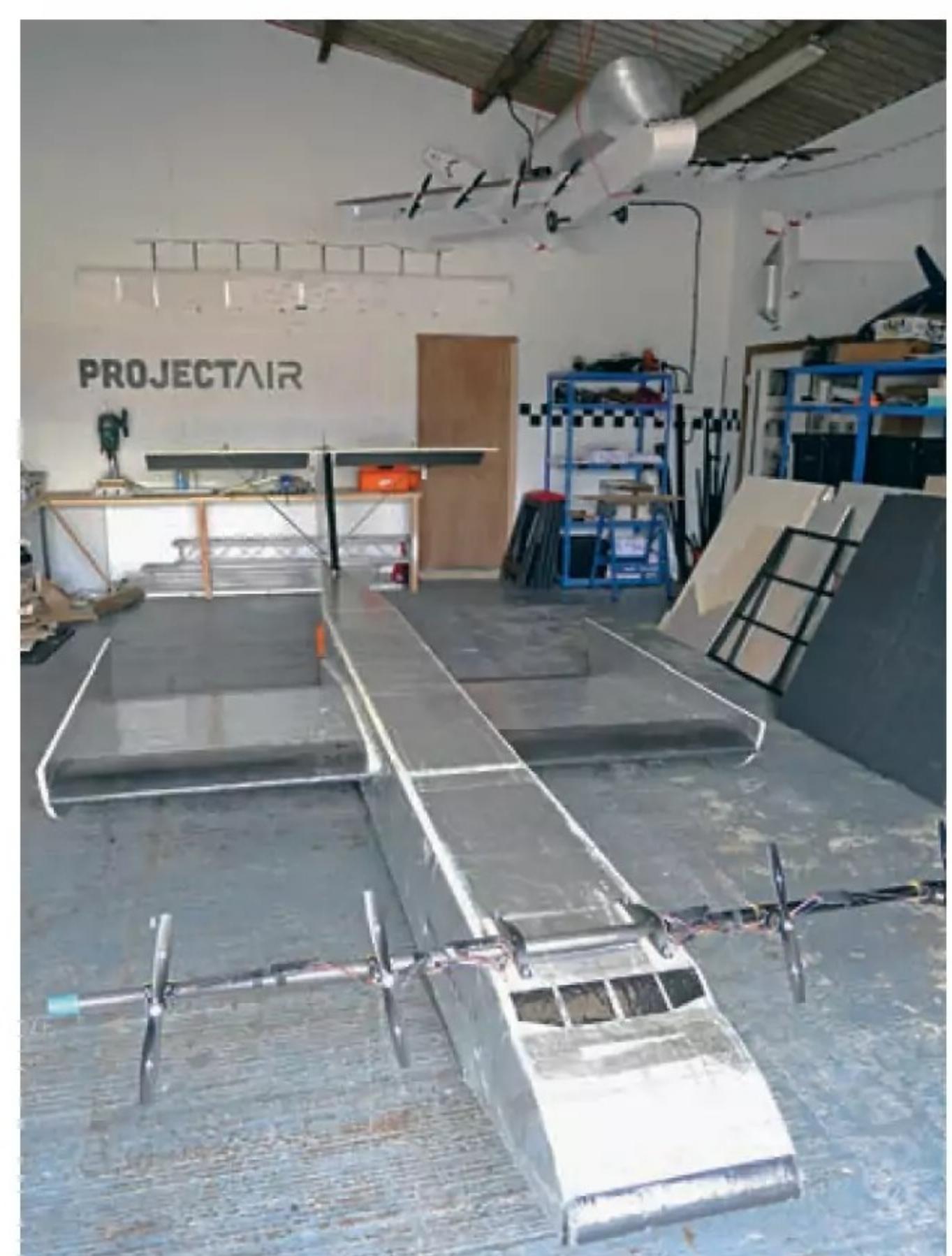
A visit to the Vintage Model Company works was a pleasant interlude a few days ago. I'd been asked to test fly their new 'Balsa Basics' Mini Cub whilst owner Hadi waved his camera to capture in-flight photos and video. The Chris Long designed 25" (635 mm) span model was a typical Cub in that it flew very well, if a tad sprightly, before the minimal trimming corrections were tapped in. I was using a borrowed transmitter, donated by VMC's neighbour and ex-employee, James Whomsley.

WHAT A BIG ONE!

I'd come across James before, though I couldn't remember why until he told me his company name, ProjectAir, the YouTube channel. I'd seen some of his occasionally 'off the wall' designs flying online. An invite to 'black my nose' in his workshop was too tempting to refuse and, well, it would have been rude not to.

Immediately inside was this girt big wotsit filling much of the available space, to me immediately recognisable as an Ekranoplan - a ground-effect craft. Many exist around the world, with the best-known being 'The Caspian Sea Monster', the Soviet Lun-class giant. Though not quite in that same league, James and project design engineer Emma Hill have crafted this 20 foot (6 metre) long, foam sheet built, mighty model, based on a previously successful quarter-scale maquette. It has flown well over grass but is due to be tested over a local reservoir soon. I've been invited to the event and will wave my cameras about. You'll see the results here and on James' YouTube channel.

Not being sworn to secrecy, I pressed them to explain the current foam model project on the bench. It's a Boeing B-29, rigged to represent the craft that was used to launch the first X-1 rocket plane when researching the speed of



The enormous Ekranoplan sits on the ProjectAir workshop floor. It's a vast device that has already proven itself across the Derbyshire fields.



A Beluga-like load carrying test model 'parked' in the workshop rafters. Another ProjectAir idea brought to fruition.



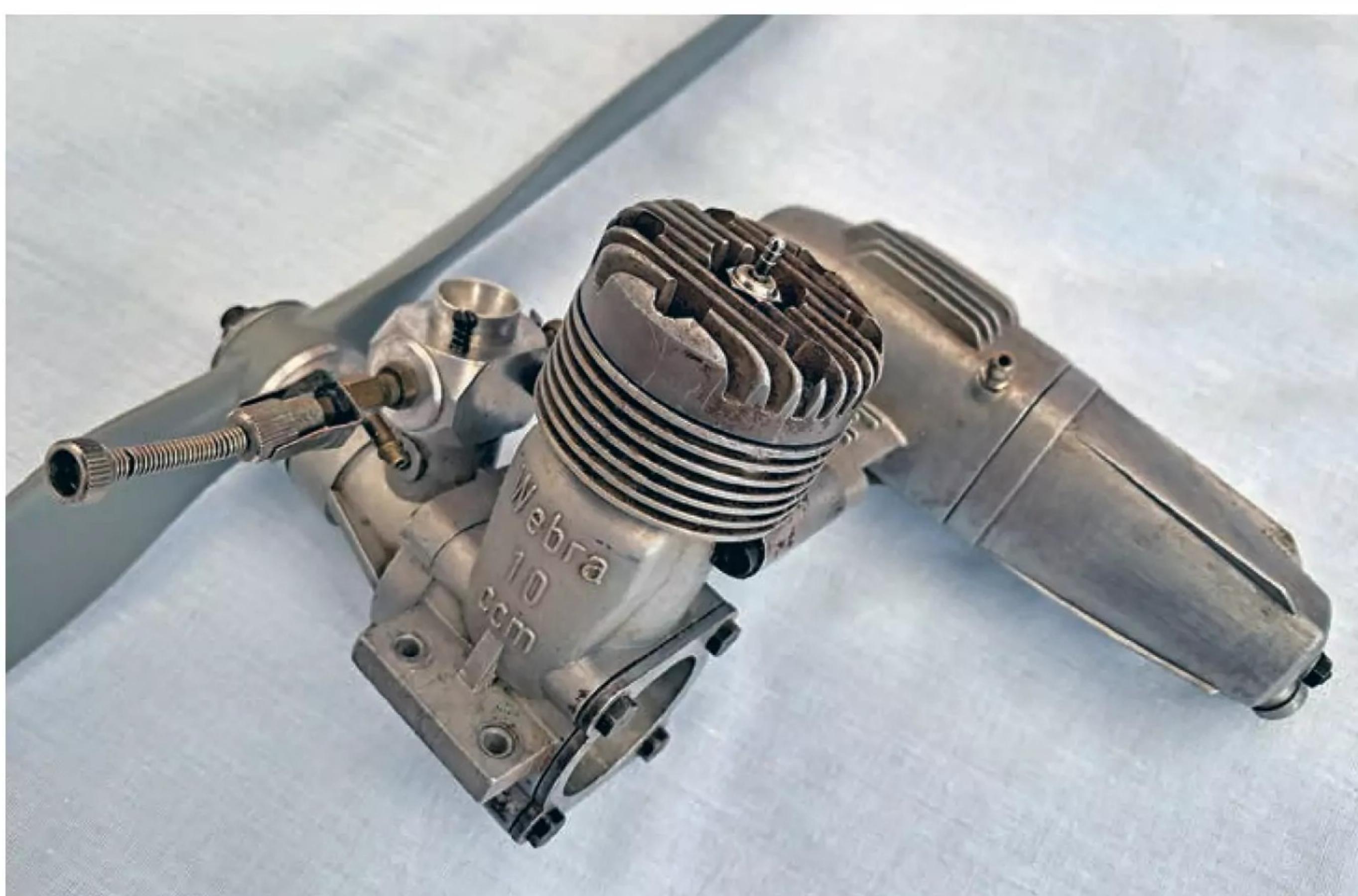
It may look strange, yet it flew well under control. James' Magnus-effect airliner look-alike.



Emma models the model. This is the 1/4 scale maquette that was built to explore and 'prove' the Ekranoplan concept for the 20 ft giant.



James gives scale to the B-29 and X-1 models under construction. I hope to be around with cameras when the ensemble is tested.



Rebuilt and ready for bolting to the test bench, my rebuilt Webra .61 awaits its anointing with fuel and glow plug urge.

sound. I'll keep in touch with the demon duo and hopefully gain an invite to the unveiling and first flights.

Other oddities litter the works walls, including 'Magnus Effect' test models - the

curious rotating wing aircraft - plus a 'Beluga-like' fat-body load carrying model. There's lots more to come from their fertile minds and I intend to keep my weather eye on the proceedings.

"Not being sworn to secrecy, I pressed them to explain the current foam model project on the bench"

STUCK WITH IT

I love playing with engines and yet another found its way onto my bench, a Webra 'Blackhead' 10 cc jobbie. I'd been given it years ago but due to it being run on castor oil based two-stroke fuel, then stored 'dry' for nearly 50 years, it had gummed up solidly and was impossible to turn over, even with a large prop being attached and 'leaned on' to the point of risking the integrity of the conrod.

Back in the day this was a notable engine, being powerful and used in many aerobatic and scale models to win competitions, such as a first in the 1969 World Masters aerobatics. Now bunged up, I needed to wrestle with it and overcome its reluctance to being fiddled with. Out with the cooking gear!

Most of the smaller parts departed to the solvent pot in short order but the piston was



All good solid stuff here, the big Webra awaits its reassembly. The new bearings stayed sealed until the last moment before fitting.

rock solid in the cylinder, as was the crankshaft within its housing. A long soak in solvent did absolutely nothing to release the parts. I had to get serious with them if I wanted to use the motor again. Drying off the solvent - no way will I risk fire - I dropped the assemblies into boiling water and let them simmer for a while. Fished out and whilst wearing oven gloves, I tried to turn the crankshaft inside its housing. It moved slightly, then seized again. Repeat with the piston/cylinder and nothing, not even the tiniest shift.

It was now becoming serious, so risking the engine in an all-or-nothing attempt I fired-up my wife's culinary blowtorch (it finishes Crème brûlée very well too!) and carefully played it over the crankshaft housing; too long in one place risks melting the aluminium alloy. With the assembly beginning to smoke just a little as the castor gunge heated to softening point, gloved and padded hands were laid on it yet again and...

Success! The crankshaft moved within the bearings and housing.

Cooled to finger-touch hot, a little oil was dripped into the bearings and carby recess, whilst still moving the crankshaft round. Now 'releasing' it was but a few minutes work to press the crankshaft out, then reheat the housing to carefully tap the bearings out. Never, ever reuse ball bearing assemblies; they are cheap and will guarantee good running when the motor is carefully rebuilt.

POWER STROKE

The piston and cylinder got the same treatment, heated with the blowtorch until

it smoked slightly. Then, with the cylinder inverted over a wooden block, a dowel was pushed up against the underside of the piston and leaned on. A couple of light taps on the dowel with a mallet saw the piston shift, then reluctantly move. More heat and gentle persuasion had the piston, with its undamaged ring, eased out of the gummy cylinder.

Solvent, and scrubbing with appropriate brushes, cleaned the gum and all but the worst heat and age staining from the Webra parts, ready for assembly. I'd even bought new bearings, convinced that the engine would run again. The piston ring showed little wear and still had 'spring', so it was refitted. The plastic crankcase gaskets also remained in perfect order so were reused.

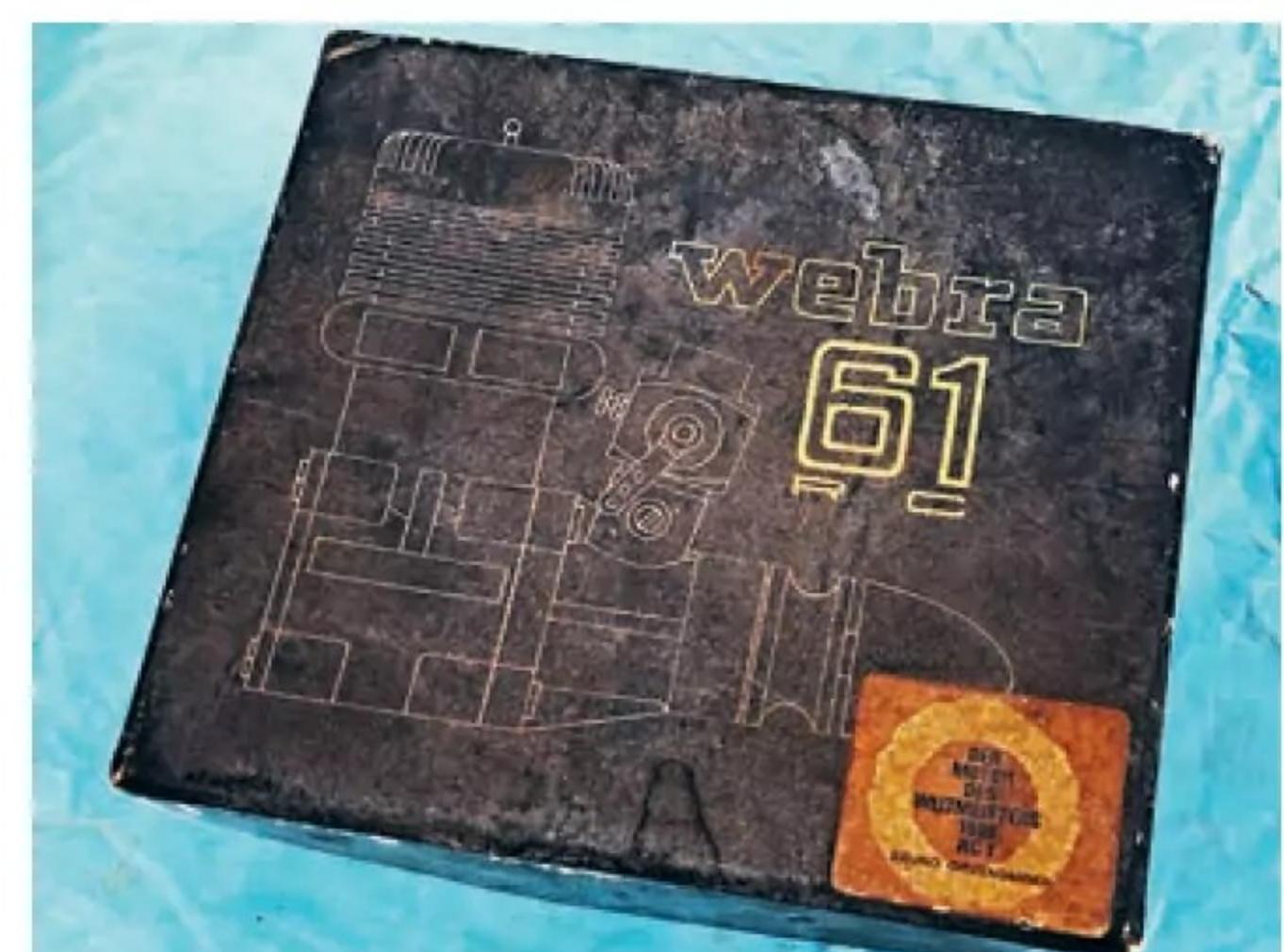
I've covered fitting bearings before so I will only repeat this: keep everything scrupulously clean and press the bearings into housings by the outer race, NOT the inner as it can damage the ball tracks. The crankshaft should also be pressed in carefully. No hammers please as that will lead to early bearing failure.

Reassembly was simple, with the piston ring gently pressed into the piston groove as it was slid back into the cylinder. It's a crossflow engine so the baffled piston needed fitting the correct way round. The rest of the rebuild was simple: fit the crankshaft housing first, aligning the crankpin and conrod, then fit the rear cover. Refit the cleaned carby and, finally, pop the head back on, ensuring that the aluminium head gasket is in place and the bolts 'pulled down' in the normal diagonal sequence. Voila!

I've rambled on for too long so the run-up will have to wait.



A bit of scrubbing needed! The Webra combustion chamber shows its burn pattern 'witness' marks writ in carbon.



After 56 years the Webra is still a thoroughly practical motor. Note the 1969 'World Masters' sticker, bottom right.

"It's a crossflow engine so the baffled piston needed fitting the correct way round"

BEGINNER'S BUNDLE

Let's take a detour into a benevolent breeze...

On a Saturday, called forth by our slopeside benefactor, young Ant Jervis, a motley crew of scale slopers began to foregather. Nervous eyes were cast o'er the valley 'twixt Merryton Low and the forbidding sawtooth edge of The Roaches, where sat a lowering, glowering cap of dark cloud settled on the ridge's pointy bits, like a view of Mount Doom before the Nazgûl ventured forth. Streamers of rain were in evidence and us early attendees wondered if we were going to cop it. The assembling pilots, mere mortal men all, gazed with worried and furrowed brow. The approaching rain eventually fell and we all scuttled off to our conveyances, some indulging in second breakfasts or even very early lunches.

The passage of time and downpour gave way to some tentative balminess, soon to be as clement as a forgiving heart. Competition organiser Ant Jervis had done it again, with improving conditions and just enough of a blow to make things interesting. The scale competition was on! Models new, old and indeterminate were strewn about the sward in



Brian Sharpe's Scott 'Viking', aka 'Lou the Glue', being hauled about with attitude! A previously unknown sailplane to most I questioned.

various states of assembly or confusion, noses were blacked by your scribe and many other attending ne'er-do-wells muttered 'Wossit?', gazing at certain bolides that refused to fit the normal and well-known types and designs. I placed my own 'evocation brought to life' down on the grass, hoping to see it skyward later. The

Nippon 'Tombo' had been a mental fidget for some while before both drawing and building board were worked into the equation.

LOU THE GLUE

Ever the quality builder, Brian Sharpe assembled his vintage design on a tussock, garnering



Little and large. The tiny Gurke was a non-scale interloper, whilst the Gaines Salto remained earthbound with not enough of a blow to support it.

many a query as to its name and history. A Scott 'Viking' by name, pre-war and a one-off survivor of the conflict whilst its six stablemates suffered post-war demolition after pilot training duties and umpteen clumsy arrivals. The travel chafed scuff seen on the fuselage annoyed our Pictish traveller mightily, witness to his long journey and jostled model. More of its outcome later.

Dave Gaines tried to sneak his tiny twist-wing 'Gurke' in under the wire but was soon cast into the 'nil points for scale' pile. It's an intriguing little model and might need further investigation. The all-white G-BERG Bergfalke of Jeff Mortimer was a pale beauty that ghosted about the skies like an aerial phantom whilst the blue and white Rhonspurber seen lurking in the pits, then flying under strictly scale control, was a Mark Ollier model, a gift from Phil Clarke.

A Cambrian Kits Slingsby T-49 'Capstan' was heartily heaved round by the well-anchored Harry Twist, eventually sailing across the landscape in the occasionally choppy ocean of air. This scuffed and well-abused model shows just how well this hoary old stalwart behaves, even in nadgery conditions. I was sad to hear that the manufacturers of Cambrian Models kits, producers of the glider kit, have decided to retire and stop production. Perhaps another kit producer will 'take up their torch'?

GUMPERT?

Never heard of it. No, nor had I. The Gumpert 'Schwalbe', a 1930s training glider, had been built by a modeller as yet unknown and





Beautiful or what? A Rhonspberger looks gorgeous at any angle. This is Mark Ollier's device, previously gifted by Phil Clarke.



1930s Gumpert 'Schwalbe' (Swallow) being wrung out by Dave Gaines. The model was scratch built by an as yet unknown modeller.



Harry Twist's Cambrian Capstan sweeps in low for a landing attempt. Skilful piloting brought a sensible arrest in the local sedge grass 'runway'.

acquired by Dave Gaines. Never mind its history, it flew and looked very well indeed. His lovely Salto V-tail H101 sat as a 'hangar queen' all day, the breeze never rising enough to support its hefty avordupois.

Sidling up to a gaggle of pilots engaged in 'antics' I could hear a sound best described as 'avant garde', the musical notes being uttered

on some weird tonal scale by Ian Blackwell's Jeti DC-16 transmitter, passing on reception from the on-board variometer. All singing maybe, but a case of all tone and no melody!

FINGER FLEXING

An ARTF Multiplex Lensus Thermik wielded by Andy Gough took to the air, to be followed



Sometimes you suffer the retrieval trudge, or Pilatus plod in this case. Out landing a model thoroughly exercises the pilot.

by his rather lovely K7 later in the proceedings. Whipping the K's canopy off for some rapid and probably radical modification, the pilot lay there as though tossed to the turf in a terrible arrival!

I caught Merrill Liburd standing in heroic pose at one point, modelling the latest in slopeside weather wear. I must get some quality stuff myself...

Simon Jenkinson's foamie ASW 17 fitted the scale bill and was ably tossed hither and thither around the locality, showing how well these models fly. Brian Sharpe had his ASW 20 heaved aloft by a helper with able arms and a strong gusset, showing us what a cracker this model looks when cleaving the air. At around four metres span this model flies with what can only be described as 'solid authority'.

FUN HAD BY ALL

Playtime continued for all and the sky was never bereft of some sort of scale glider. Mode



Andy Gough's big K7 gets the huge heave-ho into the valley air. Absolutely gorgeous in flight.

it' arrivals were few and everyone was getting on with enjoying the 'craic' until Ant canvassed the pilots for their favourites, massaged the results or drew lots, then bellowed, 'Gather



Simple sailplaning. The 1939 'Tombo' training glider from Japan is distinctive in the air.



Ant Jervis (left) hands over filthy lucre to the worthy winner of both scale competition categories, a very happy Brian Sharpe.

2 flier Brian even tested my little Tombo and brought forth well considered advice whilst I finally got the 'in air' photos I needed. Thank you, Brian!

A few errant devices tested the impact springiness of the terrain, 'take it home and fix

round'. It was time to anoint the winners and dole lucre unto their shaking hands.

It wasn't really a surprise, except to Brian Sharpe, when our Master of Ceremonies pressed banknotes into his hand - twice over! Brian swept the board in both Vintage and Modern categories and despite good-humoured mutterings of 'fix', 'nobbled' and 'coerced', he was the worthy winner.

OLD FART!

Lost in a maze of fatigue, wobbly knees and camera image overload, I packed up my wares and tottered back to the model taxi, craving rest, food and a cuddle from Bob, our girl cat. What you read here is merely a soupçon of the goings-on, ribaldry and fun that we had at 'The Gate'. Travelling home, the pong of boot-macerated 'sheep berries' filled the car, despite my attempt at cleansing. Oh well, one has to suffer for one's sport and pleasures. Here's to the next time

BACK TO BUNDLE

So, what has the previous scribble got to do with those new to flying? Well, think on...

All those pilots had to start somewhere, then tamp down the nerves to enter their first ever competition. Several models were ARTFs, some were kits and, being scale,



Modelling the very best in slopeside fashion, Merrill Liburd awaits his turn on the aviation dance line.



Duck! Ant Jervis brings his pale beauty down oh-so close. No, not really as my long camera lens foreshortens the view.

"It was time to anoint the winners and dole lucre unto their shaking hands"

qualified to compete in this low-key and fun competition. Any group worth its salt will encourage a new pilot/entrant so all you have to do is turn up and fly. The bonhomie, freely available assistance and mickey taking comes for free, as does the glow you'll get from mixing it with the big boys and being accepted, wherever you end up on the results table. Try it. You've nothing to lose but your first-time nerves.

STRUGGLING?

If you're having a tough time with a model build or renovation, John Quincy Adams once quoth: "Patience and perseverance have a magical effect before which difficulties disappear and obstacles vanish."

In other words: don't give up, you can do it! ■

Send me an email: coetquidan@yahoo.com



ON SLICKS

Kevin Crozier dips into a large box containing a dazzling Pilot-RC aerobatic model

Words: **Kevin Crozier**

Photos: **Kevin Crozier, Barry Atkinson, Pilot-RC**

Cast your mind back a few issues and you may recall my first 'Read The Flippin' Manual' article. This series was prompted by spending quite a considerable number of modelling tokens on a couple of expensive kits, neither of which were supplied with any form of manual. The title of my articles was meant as a sardonic response to the seemingly increasing sad state of affairs where the more you spend on a model results in less information with which to help you build the airframe.

Whilst the models in question are intended for experienced modellers we've all got to start somewhere, especially if dipping our toes into a new genre of model aeroplane, and just a few

snippets of information would have been very welcome to get things started and to maintain progress throughout the build. Sadly, it doesn't take much for me to start procrastinating and given half the chance I'll get the proverbial bucket of sand out and will stick my head in deep for several weeks!

EXTRA NG

One of the aforementioned models was a Pilot-RC Extra 78" NG, a large (for me) ARF aerobatic model with a fuselage largely constructed from laser cut ply and carbon sheets with carbon stringers. The model is pre-built to a very high standard and factory covered to a fine finish. Although there are plenty of far more

expensive model aeroplanes these days this one cost a lot of money by my standards and I didn't want to muck it up. Hence, it took very little to stop me in my tracks and for me to start acting like a frightened ostrich. (A popular but incorrect myth by the way as those big birds will either run or simply flop to the ground when they sense danger. When seen with their heads 'in the sand' they are just turning their eggs in the nest.)

Over the course of many months, I dragged myself through the build of the Extra, helped out in several instances by Dave Wilshere of Motors & Rotors who has vast experience of building Pilot-RC kits and other composite models. Thanks, Dave!



My lovely Extra NG takes off for its maiden flight.

Finally, she was ready for her maiden flight, which went really well. And she has been a firm favourite ever since, although I really must bag up all the cotton wool that I keep her in and stop treating her as my latest 'hangar queen'. That's another wasteful modelling affliction that I suffer from!

If you too fancy building an Extra 78" NG from the Pilot-RC kit, which I can heartily recommend, then the good news is that a full manual is now available which covers all the areas that I had concerns about. You can see it here: <https://pilot-rc.com/manual-extra-ng-78/>

BIGGER, NOT SMALLER!

One reason that my Extra doesn't get flown as much as it should is that at almost 1.9 metres

"Finally, she was ready for her maiden flight, which went really well"

in length the fuselage needs a bit of thinking about to get it safely tucked into my car for transport to the flying field. My VW Passat is actually quite cavernous and is too big really, causing me to fill her up with multiple models when I go flying, at least one of which won't get flown, resulting in several unused LiPos that need discharging back to storage levels. But for the Extra the front seat needs pulling and raking forwards to clear the big rudder. This causes untold grief when Mrs. C next folds herself into the passenger seat as she has a sixth sense when I've been playing around with her seating position! But the Extra NG flies so well that I wondered if a slightly smaller version would be worth spending the next batch of modelling tokens on, hence avoiding the need to disturb the boss's finely tuned seating arrangements!

A quick look on the MacGregor Industries website, the UK distributor of Pilot-RC kits, revealed numerous 60 and 67-inch semi-scale aerobatic models, including smaller versions of the Extra NG. But with so many other options available did I really want to buy another Extra? My eyes were drawn instead to the 67-inch Slick in a stunning 'Blue/Green o2' colour scheme, so I made enquiries to my old colleagues at the famous R/C distributor about buying one of those kits. Sadly for me, but great news for MacGregor, the smaller Pilot-RC models sell really well and so my chosen model was out of stock. But the 84-inch version was available in that scheme so did I want one of those instead? At 2.04 metres in length it is even longer than my Extra NG but, hey, the modelling budget for the year needed a new home before it was spent elsewhere so without thinking too



With prior experience assembling the Pilot-RC Extra NG, I'm hoping the Slick will go together quite quickly. The build looks very similar.

much I said, "Yes, please!" and just a day or so later a huge box arrived on my doorstep. I tugged it into the hall, where it stayed for several weeks, much to the chagrin of my ever so patient but sorely tested wife!

Eventually, I managed to find the time to photograph the big box's contents, which I present to you here. As always, other things have come along during the course of 2025, including a fairly major operation from which I am recovering as I write this article. So, progress on the Slick 84 has not been as rapid as I would have hoped. But fingers crossed I'll be able to speed up a bit in the New Year.

SLICK 360

This model is based on the Slick Aircraft 'Slick 360', a South African aerobatic design which first flew in early 2004. The Slick 360 was envisaged as a modernised version of the Extra 230, for which production had ceased, using the same concept but with many upgrades and improvements. Hence, the Extra 230's size, basic wing shape and control system were used as the basis for the Slick

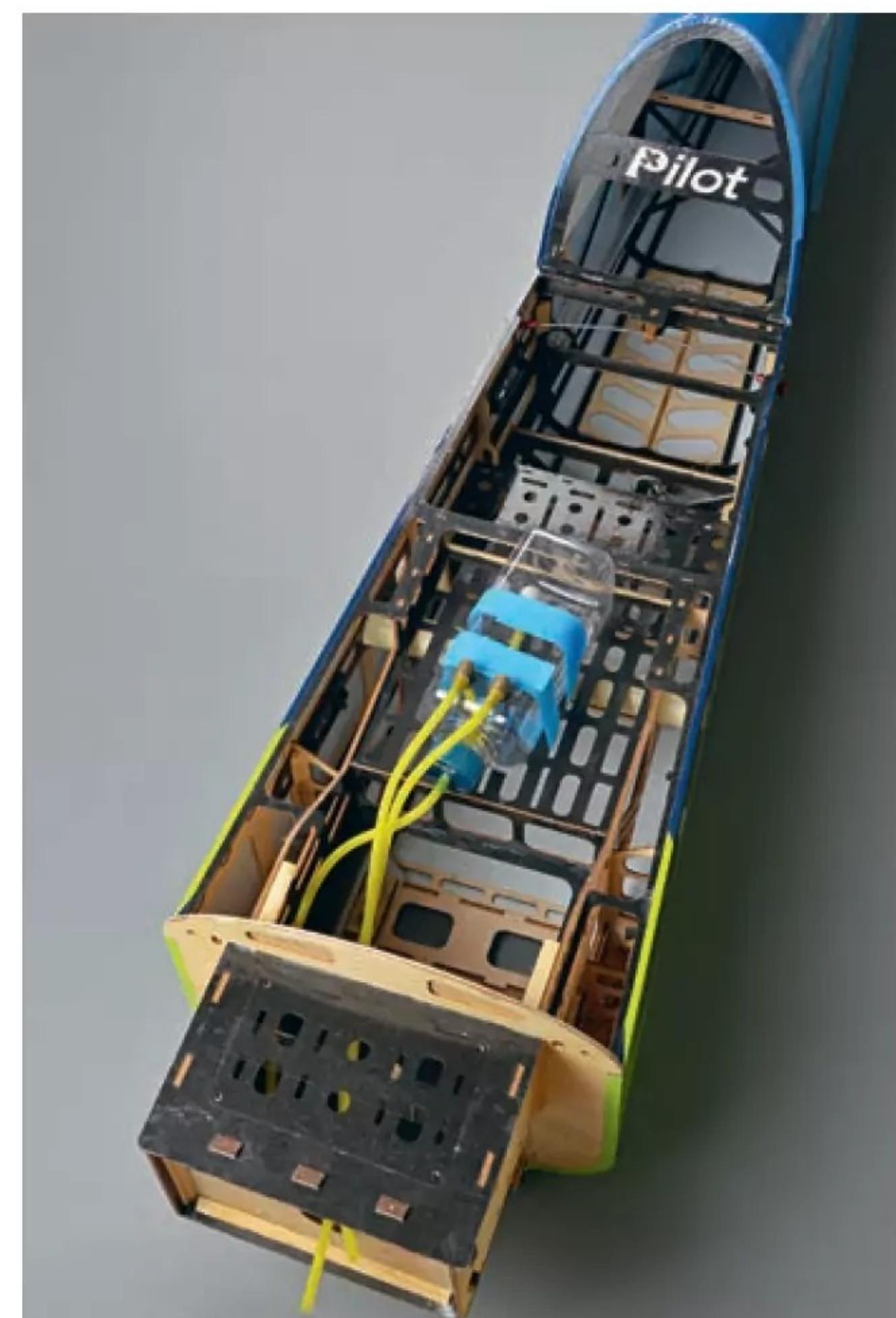
With a wing made from carbon fibre composites and featuring the latest type of aileron design the Slick's flick roll characteristics were designed to be closer to that of the Laser from which the Extra 230 was originally derived. This gives the aircraft a roll rate of around 400 degrees per second. But I don't think I'll be rolling her model size sibling that fast!

HELLO MANUAL

After extracting all the large airframe parts from the tough honeycomb style cardboard transit box, I tentatively looked inside for a manual, but to no avail. To be honest I wasn't really expecting one, having already downloaded a manual from the Slick 84in page on the MacGregor website. This is a generic



Slick's tall fuselage almost reaches to my eye level. It's going to be another tight fit in my estate car!

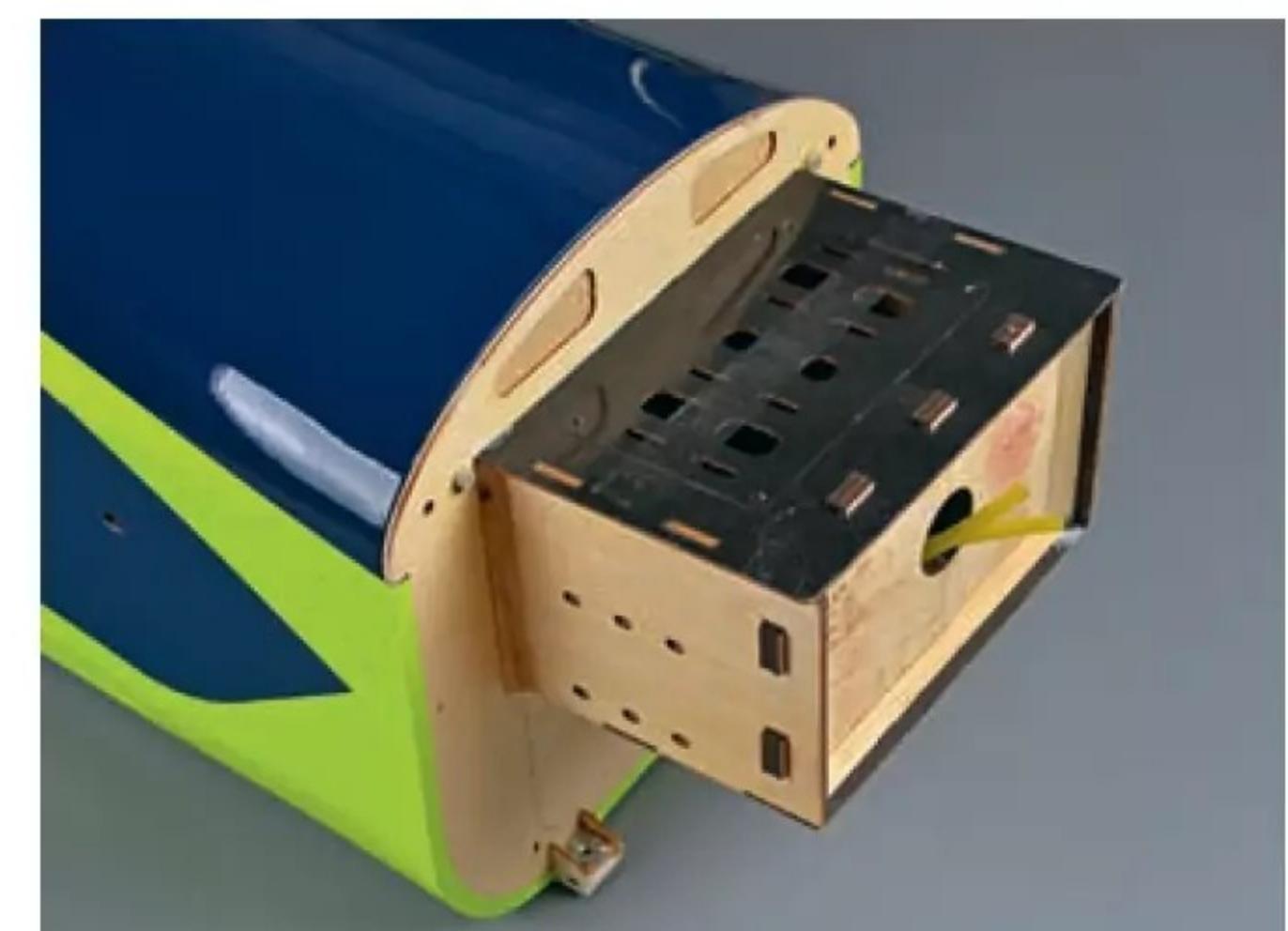


Removing the canopy hatch reveals copious room for fitting radio parts and a pair of big LiPos if going electric. Or strap down the supplied fuel tank if you like flying with gas!

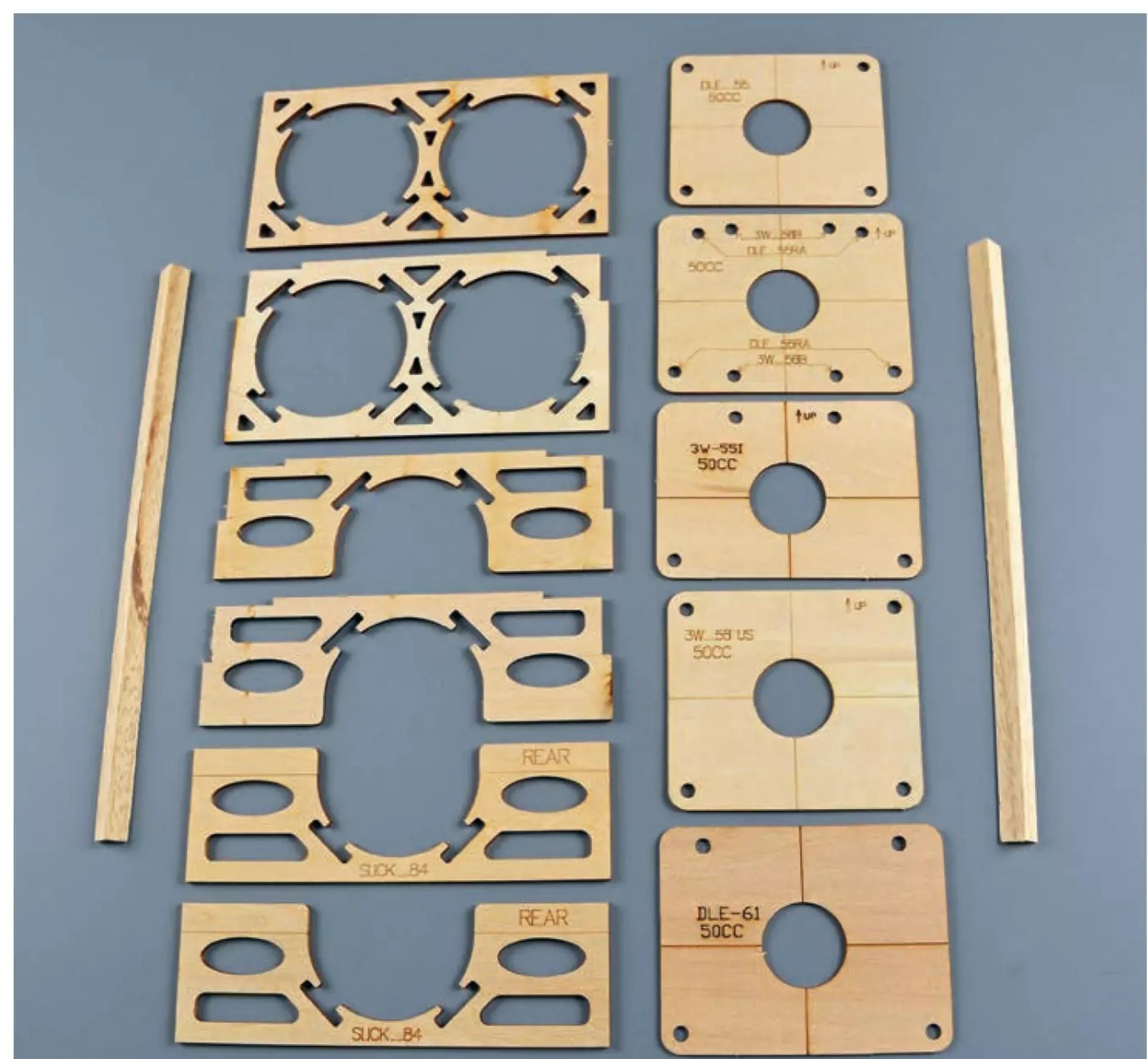
'50-70 cc Build Guide' intended as guidance when assembling a wide range of similar sized Pilot-RC kits. Not ideal but some form of manual is far better than no manual at all! You can see it [here](#):



Rear fuselage showing the tailplane mounting area and a slot for a rear mounted rudder servo. I might opt for a closed loop rudder servo mounted amidships instead.



Engine box awaiting either an electric motor or petrol engine. Parts for installing both types of powerplant are supplied.



Templates for a wide range of popular petrol engines and numerous exhaust cannister options can be found in this comprehensive kit.



Neatly sprayed epoxy glass cowl...



...with its colour matched carbon spinner.

"I tentatively looked inside for a manual, but to no avail"

<https://pilot-rc.com/manual-50-70cc-build-guide/>

I also downloaded the Extra NG manual in case I came up against any similar areas of concern that slowed down my build of that particular kit.

TALL FUSELAGE

When placed on its engine box, just forward of the firewall, the Slick's fuselage length is apparent. I am close to six foot tall and as you can see from the nearby picture it towers above our fireplace, reaching to around my eye-level. Add on the big rudder and a cowled petrol engine or electric motor (I haven't decided which yet) and she will be over two metres in length. It looks like my wife's car seat will be on the move again!

If the model proves too big for my car, then it is possible to remove the rudder and both tailplane halves. The tail of the Slick can then be rigged at the flying field using Pilot-RC's well thought out quick assembly system for these parts. A similar quick assembly system is also used to attach the wing panels.

Construction follows Pilot-RC's proven system, blending laser cut thin ply, some of which is laminated with carbon sheet where added strength is needed, with more laser cut carbon sheet and carbon stingers.

The curvaceous cowl is neatly laid up using epoxy impregnated fibreglass cloth before being sprayed in a luminous bright green. She'll certainly stand out at the flying field using that colour! A carbon spinner, painted in matching green, is also provided.



Stabiliser halves and the rudder are removable for transit and storage but can be quickly reattached at the flying field.



Tailplane root showing slots for an elevator servo and dual control horns, as well as two hooks for quickly securing each stabiliser to the fuselage side.

TAIL SURFACES

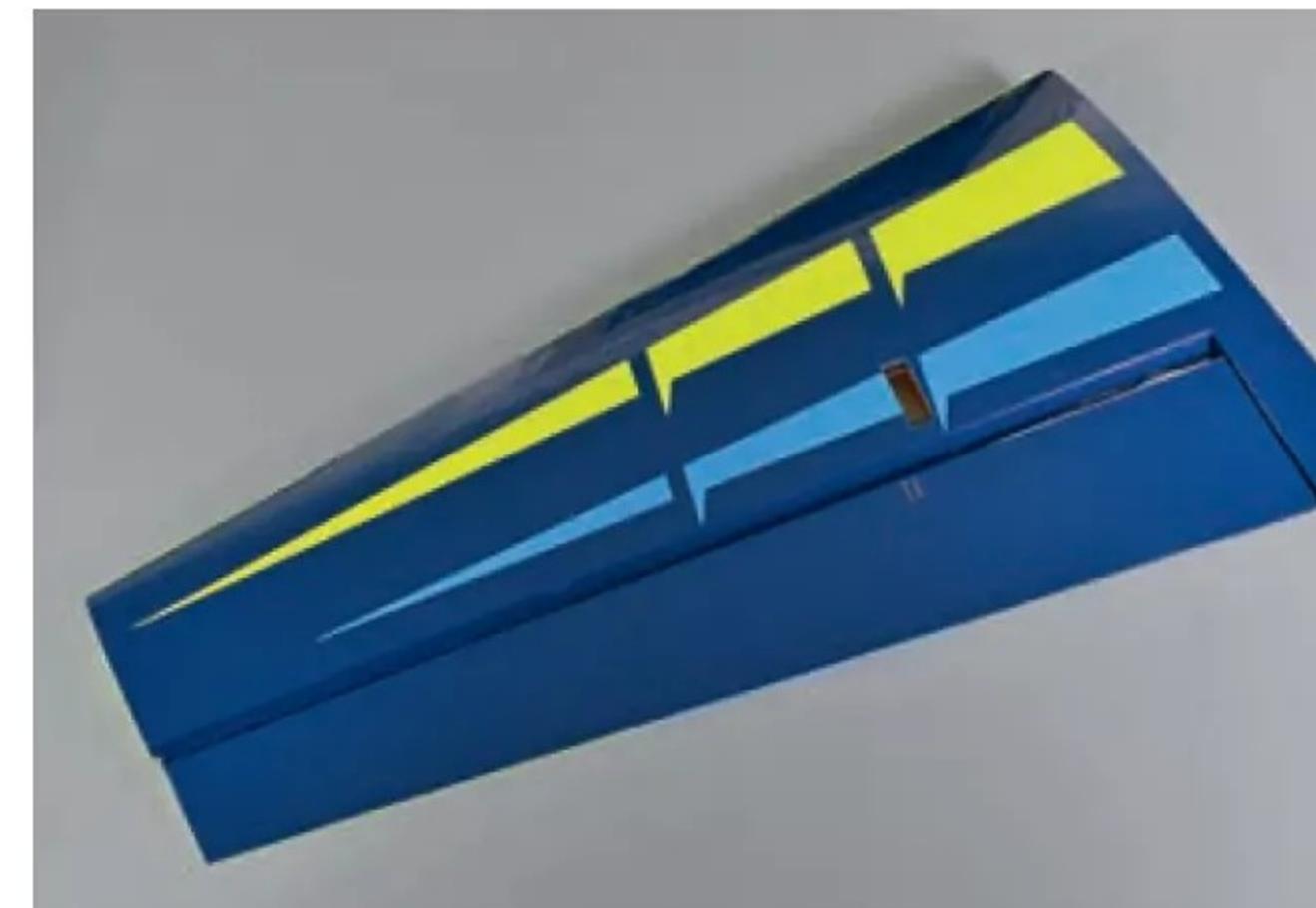
As mentioned, the rudder and tail halves can be removed for transport and it should be just a minute or two's work to reattach them at the flying field.

They are of lightweight construction using laser cut lite-ply ribs sheeted in balsa with appropriate carbon reinforcements. The stabilisers are mounted on a tough carbon rod joiner.

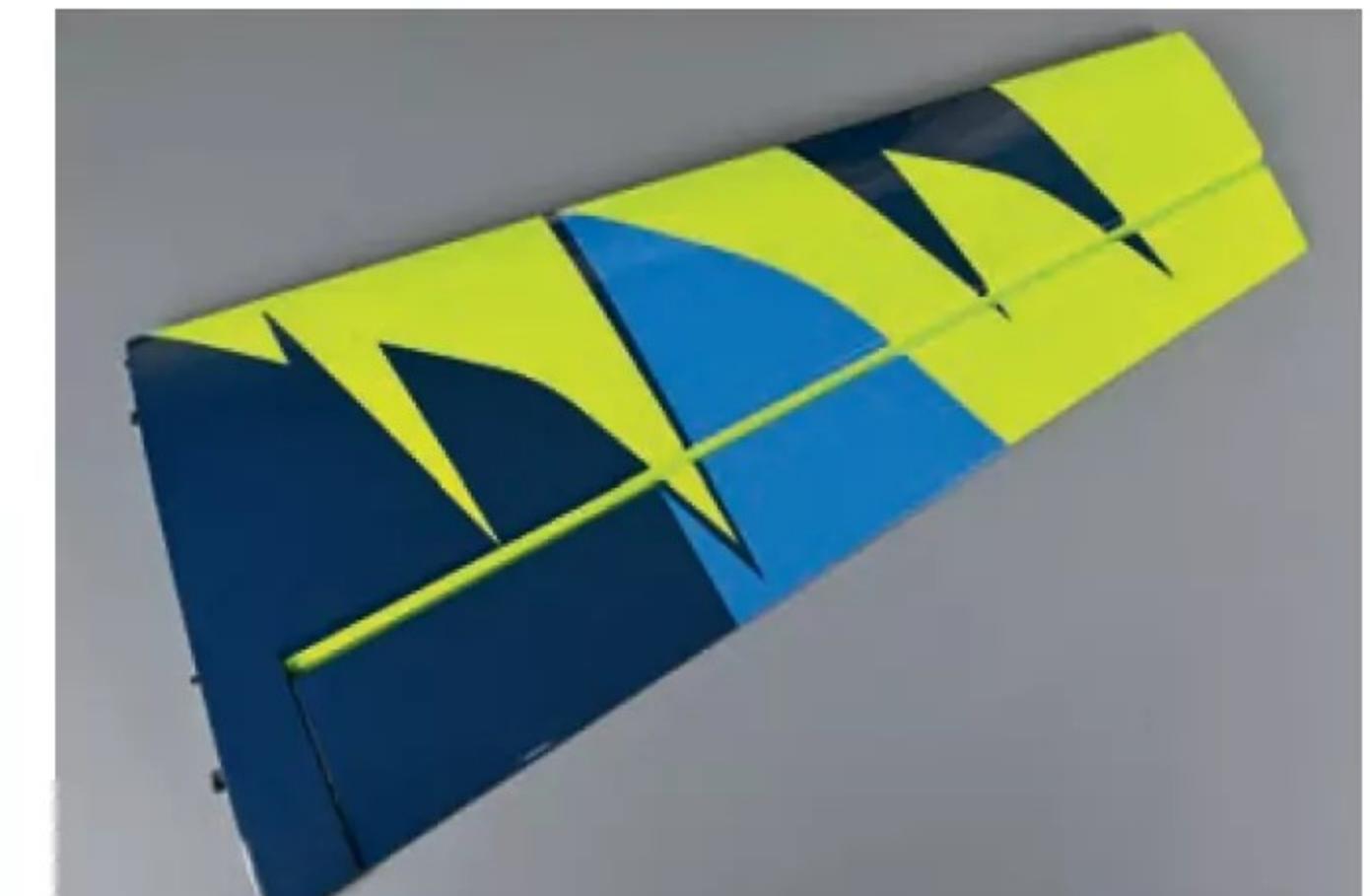
Each stabiliser is factory covered to a high standard in predominately dark blue film, with bright green and light blue trim. The

rudder is light blue with more green trim. The colour scheme requires the application of several pointed trim pieces, each perfectly aligned. Such delicate details would be a nightmare to apply if you were trying to emulate this decorative scheme at home and would likely be far beyond my own meagre covering skills!

Finishing off each tail half requires the fitment of a high torque digital servo in the preformed slot in the underside sheeting. Dual epoxy glass control horns then need dropping into more preformed slots in each



Underside view of a wing panel. I might just be able to emulate the trim if covering from scratch...



...but the topside trim would be a challenge! I'm happy to let Pilot-RC do the work for me.



Wing root giving a glimpse inside of the construction methods. Neat!

elevator before linking up to the servos with reassuringly stout pushrods.

MAINPLANE

The two wing panels and huge ailerons use a similar construction to the tail parts. Again, the main colour is dark blue but with light blue and green triangular trim underneath. Simple enough, and maybe I could emulate that with my trusty film iron... But turn each panel over and the design explodes in a riot of green and light blue shards and peaks.

This eye-catching design is the work of Italian designer Mirco Pecorari at the Aircraft Studio Design in Modena whose stunning liveries you may have seen covering full size military and aerobatic planes, as well as high performance sport and racing cars. You can see more examples of Mirco and his team's artwork here

<https://aircraftstudiodesign.com>

As with the tail surfaces the main jobs to complete are fitting a high torque digital servo in the preformed slot in the underside sheeting



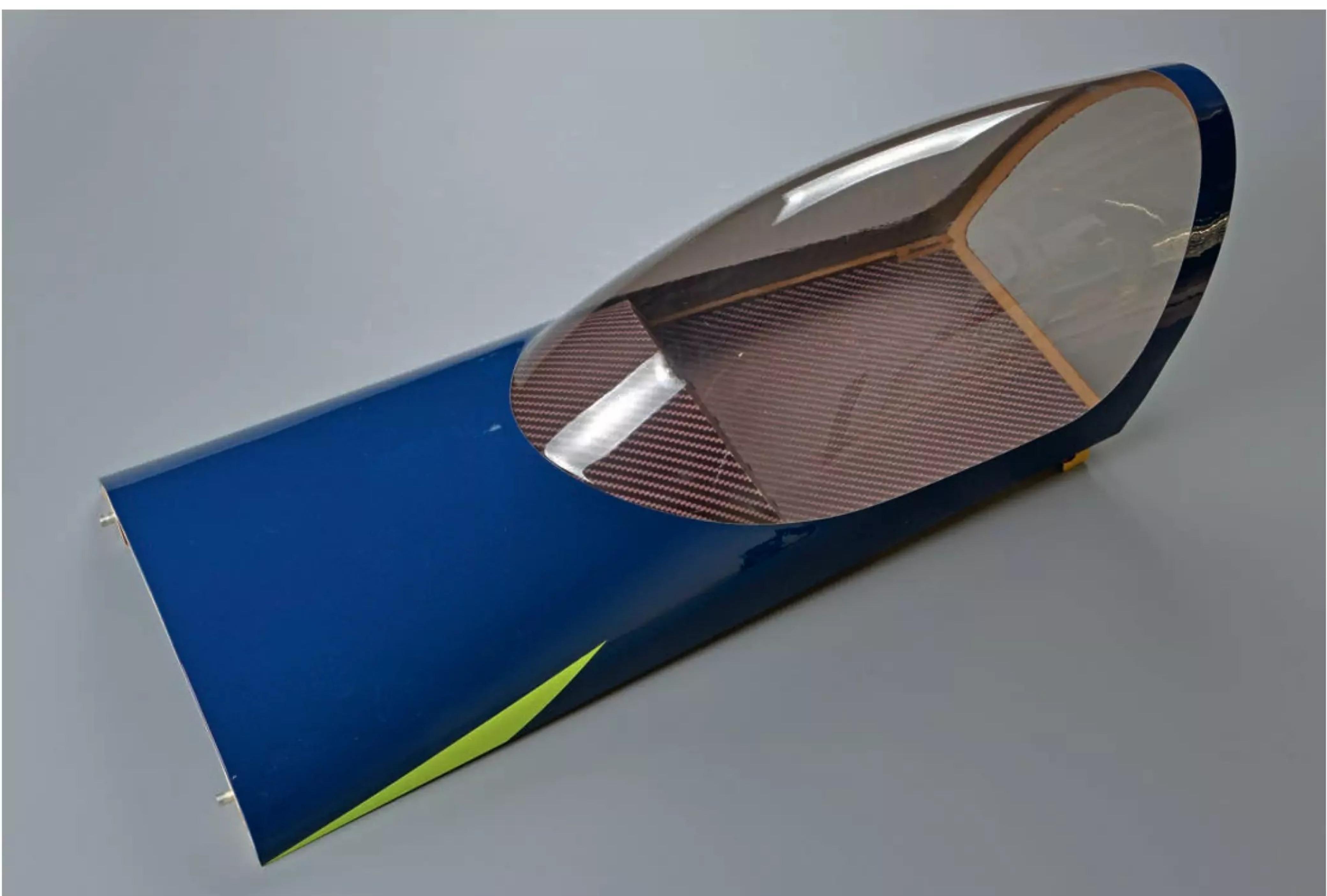
...and a sprung wire rod at the back. The knurled button slots into a hook protruding down from each side of the canopy.

“...turn each panel over and the design explodes in a riot of green and light blue shards and peaks”

of each wing and gluing in the dual epoxy glass control horns to each aileron.

GLASSHOUSE

As with most modern full size aerobatic aircraft the Slick is fitted with a huge canopy. On the model this is integrated into the removeable



Huge canopy hatch is secured at the front with metal pins...



MacGregor MG7232HV servo. I have five of these beauties primed to operate the huge control surfaces of the Slick.

top fuselage front decking, giving unhindered access to the radio bay and fuel tank/LiPo packs.

The canopy hatch is fixed in place with two metal pins at the front and a curved wire rod at the rear. The rod is kept slightly bent, giving it a spring effect. Where each end exits the sides of the fuselage they are fitted with a knurled red button. These neatly pop into two hooks protruding from the base of the canopy hatch to keep the glasshouse and hatch firmly in place. Simple but very effective!

TIME'S UP

I'm just about out of space for this issue but I hope this article gives you a taste of what to expect if you too decide to invest in a Pilot-RC Slick kit.

She looks stunning and if Bill Lear's, the man behind the iconic Learjet, famous saying, "If it looks good, it will fly good," holds true then I'm in for a real treat when she takes to the air for the first time. ■



The steerable tailwheel was an area which stopped me in my tracks when building the Extra. The ball link is supplied separately so I didn't realise that it was meant to be slid onto the rod and fixed in a hole in the underside of the rudder. Easy when you know how but puzzling without any instructions!



I did away with the Extra's spats to allow me to fly it from longer grass. I might do the same with the Slick spats. They look nice though!



An inspirational parting shot. Hopefully it will prompt me to get on with the build of this dazzling aerobat!

If you are planning an aeromodelling event over the next few months, then please send details - up to 100 words maximum - to Beth Ashby at: beth.ashby-njiiri@kelsey.co.uk

If you intend to visit any events listed, then please check with the organisers before travelling in case of any last-minute changes.

DECEMBER

Dec 7

White Sheet RFC Open Slope for Vintage Scale, Modern Scale soarers, F3f and F5j competition models or 'Anything In Between', such as PSS gliders. The scheduled Sundays are preferred but as always Saturdays are an option. The Open Slopes Secretary will analyse the forecast and attempt to choose the most suitable day. The decision is usually made on the Friday before the event, occasionally earlier if conditions are more settled. Please check with the WSRFC before travelling: <https://whitesheetbmfa.club>.

2026

FEBRUARY

Feb 7

Chobham Common Model Flying Association Swapmeet at Tringham Hall, Benner Lane,

West End, Woking, Surrey, GU24 9JP.

what3words: ruler.pipe.cake

Hall open for sellers at 08:15 am. Hall open for buyers at 08:45 am. Table(s) must be booked in advance. Table(s) £7 each, includes 1 entry. Buyers £3 per person. Please contact Jordan Smith for table bookings: ccmfswapmeet@hotmail.com

MARCH

March 22

Southern Counties Spring Swapmeet at Mountbatten School, Romsey, Hampshire, SO51 5SY. One of the largest swapmeets in Southern England with over 50 tables. Sellers with a booking admitted from 8:00am. Buyers from 8:30am onwards. Noon finish. Admission only £4, under 16s free. First table costs £10 (including one admission), additional tables cost £6 each. Refreshments will be available. More details at hmfa.bmfa.

org/. To pre-book tables only call Mike Stokes on 07702 742647.

APRIL

April 18

CADMAC Swapmeet at Stannington Village Hall, Stannington, Northumberland, NE61 6EL. Aeromodelling items only. Sellers fee £7 per table plus the entrance fee, all tables are provided. Admission £2, ladies and under 16s free. Sellers set up at 12:00 pm. Buyers enter at 12:30 pm. Doors close at 3:00 pm.

All proceeds go to Northumbrian Air Ambulance. Please contact Bob Brown on rwbrown17@gmail.com or 07515 682543 to book a table.

SEPTEMBER

Sept 5 - 6

Southern Model Show at Headcorn Aerodrome, Kent. More details to follow.



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Simon Stabler

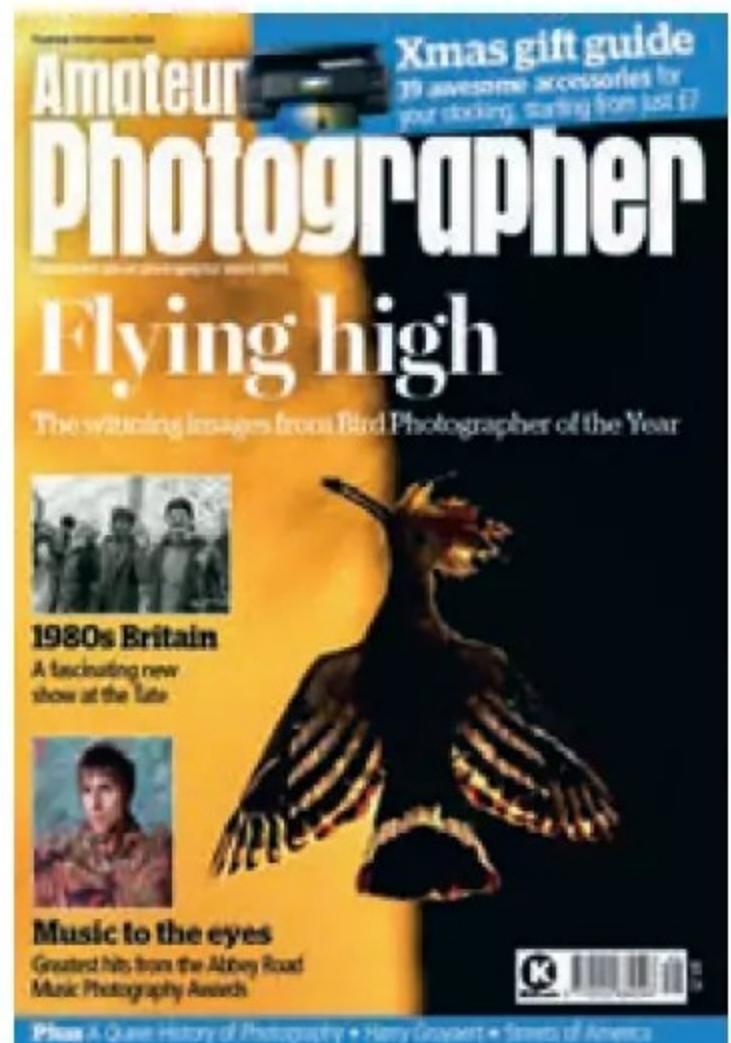
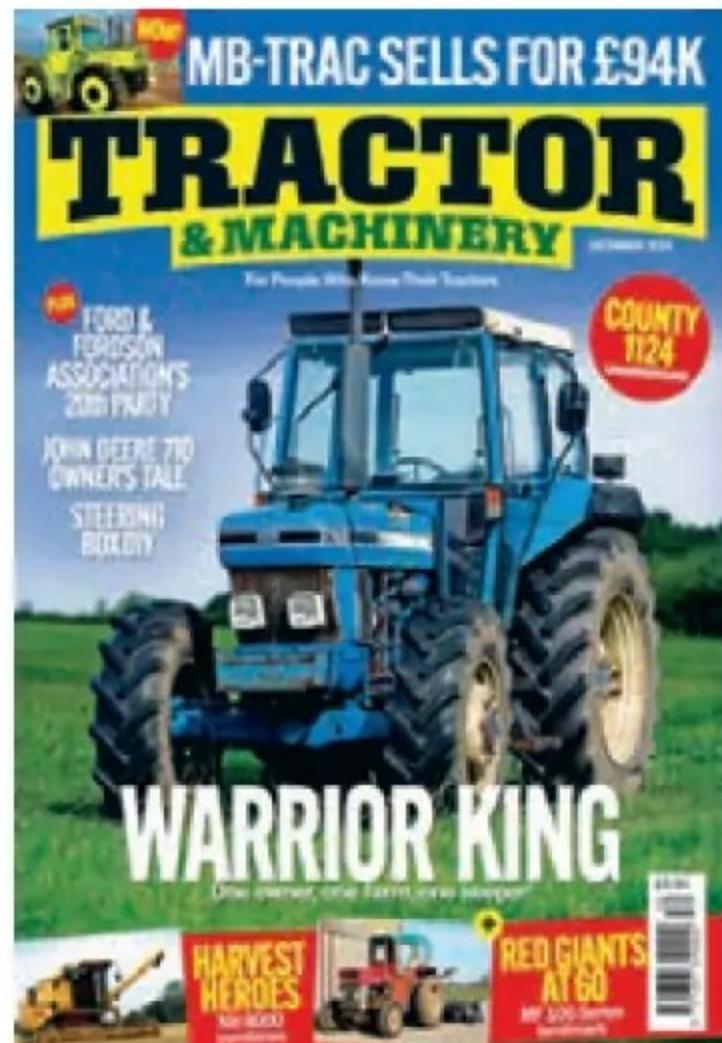
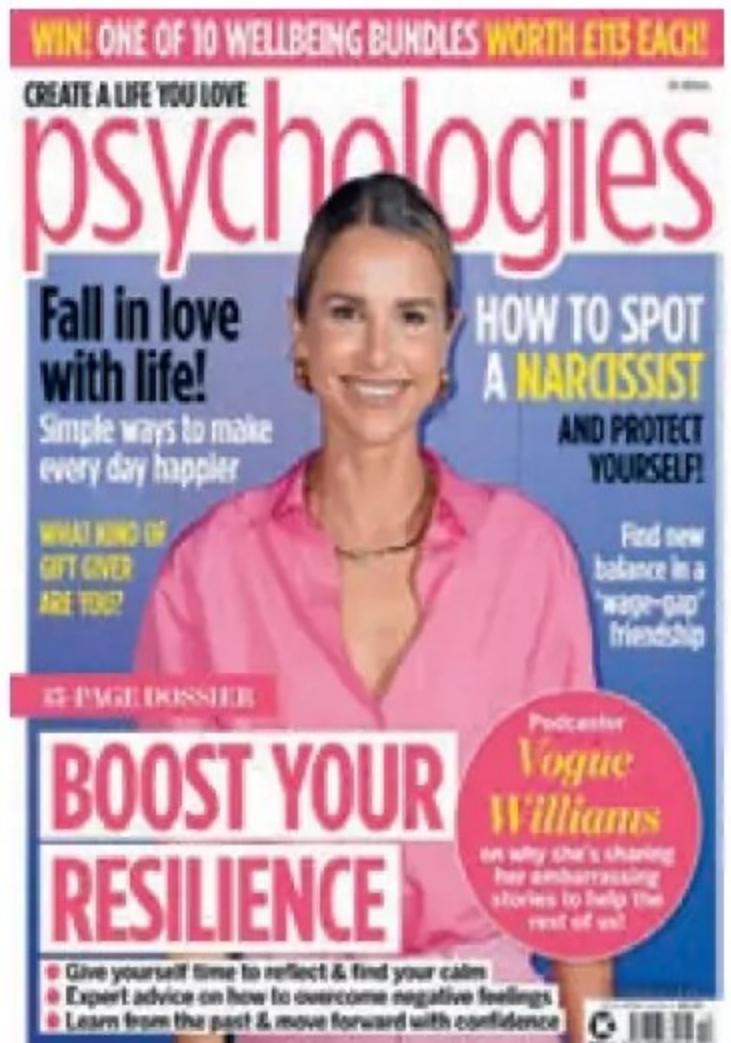


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Next issue

TND TORNADO

For February's pull-out Pro-Plan Tony Nijhuis introduces the last of the three new models to be published in RCM&E, the Tornado GR6.

The new Tornado has been in the pipeline for a couple of years and started off as a 40" span model for a pair of 50 mm 4S fan units. Four prototypes later and having had so much success with the 70 mm 4S PowerFun unit, Tony decided to ditch the twin EDF design, make the model slightly smaller at 38" span and then squeeze in a PowerFun 70 mm fan. The results were great, with a much easier launch through better static thrust, more duration and 40% cheaper than the twin fan option. What's not to like about that! The design of the swing wing is simple and works from a powerful 35 kg servo. No gyros or auto stabilisation were used in this model, just good old-fashioned servos and a receiver, although there is a small amount of mixing to be done in the transmitter.



RCM&E

FEBRUARY 2026

Issue on sale
23rd January



THE ORIGINAL MÄXI

The 1960s were a time of several major developments in the building and flying of radio-controlled model aeroplanes. Radio equipment was still in its infancy, with many home-made transmitters, and what was available from the various manufacturers at the time could be very unreliable. In the second half of the decade proportional radio was introduced, albeit at high prices.

Competitions, then as now, were used to test new developments and competitors in

the UK, Germany and the USA paved the way to what is available nowadays and we regard as standard.

The German National Championships in R/C aerobatics had been dominated by the same names for several years when in 1968 a young man called Heinz Elsässer became the new German Champion in what was then known as RC-1 (currently F3A) with his model, the Mäxi. Join Dick van Mourik as he describes the story of Heinz's original Mäxi and goes on to construct a faithful replica.

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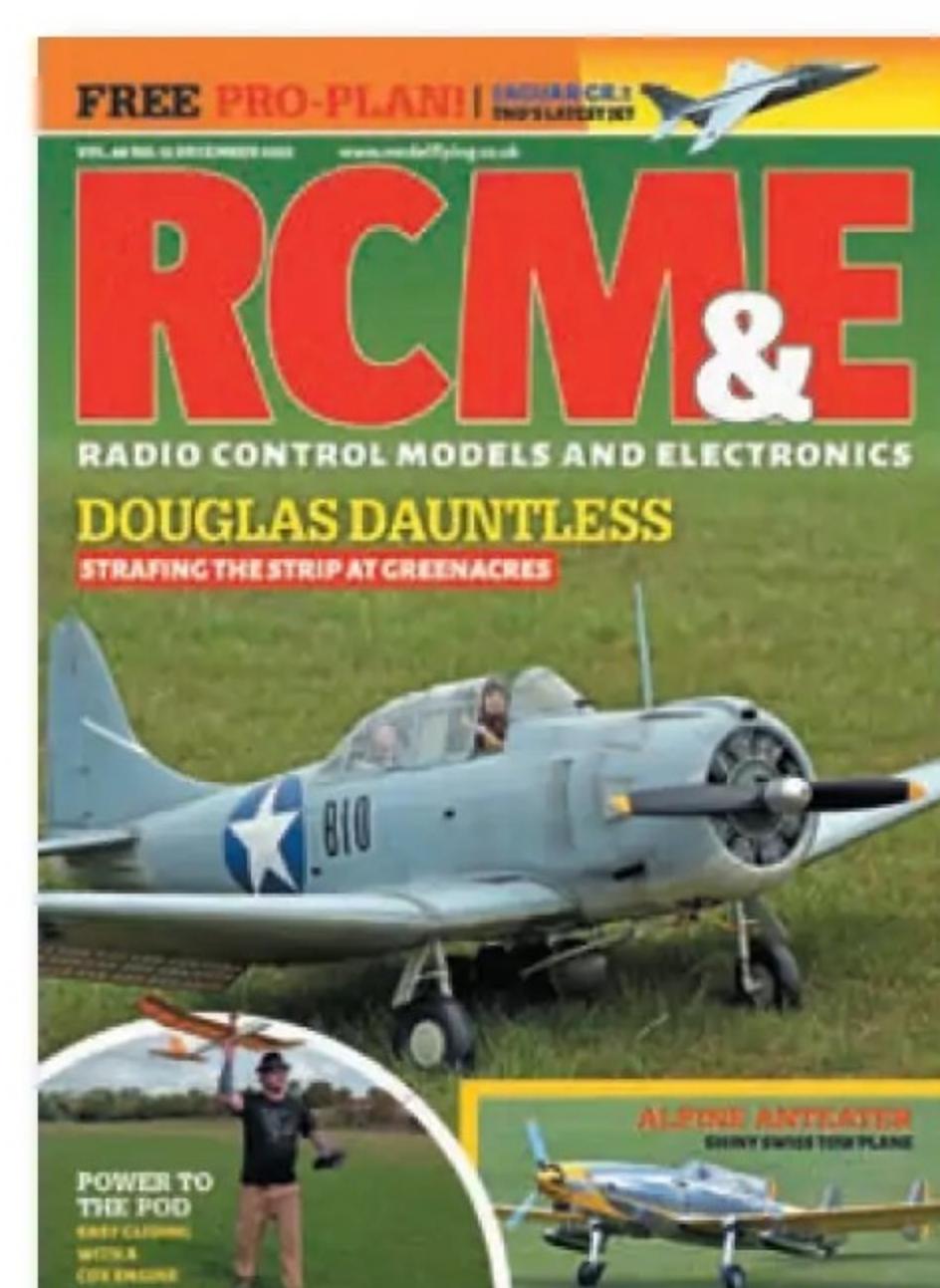
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PARTING SHOT

Dan Ellison was flying his twin engined model, believed to be a Galaxy Hornet, at the Greenacres August 2025 Fly-In when the right-hand engine cut out just after take-off. In a split-second Dan made the fatal decision to turn right and attempt to return to the strip but the aerodynamics of insufficient airspeed and the off centre thrust of the left-hand engine had other ideas! Even Dan's hastily applied top rudder didn't help!!



DATAFILE

| | |
|-----------------------|---|
| Camera: | Nikon D500 |
| Lens: | Nikon VR 70-200mm f/2.8E + TC-14E Teleconverter |
| Aperture: | f/4 |
| Shutter Speed: | 1/1000 sec |
| Exposure Mode: | Shutter Priority |
| Focal Length: | 280 mm |
| ISO: | 110 |
| Metering: | Centre Weighted |
| Exposure Comp: | 0 EV |





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DH-82 TIGER MOTH

'German - Red/Silver'



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OFF

VQA139R
RRP:
£279.95
£229.95*

SPECIFICATIONS:

Wingspan: 55in (1.4m)

Required Engine: .46 (2-Stroke) / .70 (4-Stroke) or electric equivalent

FEATURES:

- All Balsa and Light-Ply construction
- Factory covered with weathered detailing
- Fibreglass cowling
- Pre-installed painted pilot
- Control surfaces pre-hinged and installed
- Four-piece wing with Aluminum wing joiner

*£50 off special offer price ends 31st December 2025

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OFF

VQA158
RRP:
£269.95
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SPECIFICATIONS:

Wingspan: 60.6in (1.54m)

Required Engine: .46 - .55 (2-Stroke) / .72 - .82 (4-Stroke) or electric equivalent

FEATURES:

- All Balsa and Light-Ply construction
- Factory covered with weathered detail
- Fibreglass Cowling
- Control surfaces pre-hinged and installed
- Top hatch for quick battery access
- Fixed Undercarriage (Electric retracts sold separately)

*£50 off special offer price ends 31st December 2025

CESSNA 172 SKYHAWK

'German - Red/White'



£70
OFF

VQA161GE
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Wingspan: 68in (1.73m)

Electric or Glow Power

P-51B MUSTANG

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£50
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Wingspan: 58in (1.47m)
Electric or Glow Power

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Electric or Glow Power

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T-28 TROJAN

'US Airforce - Red/White'



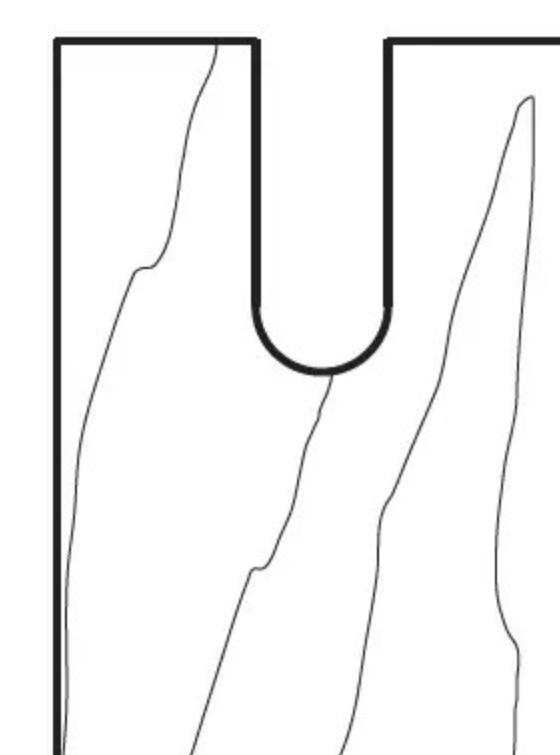
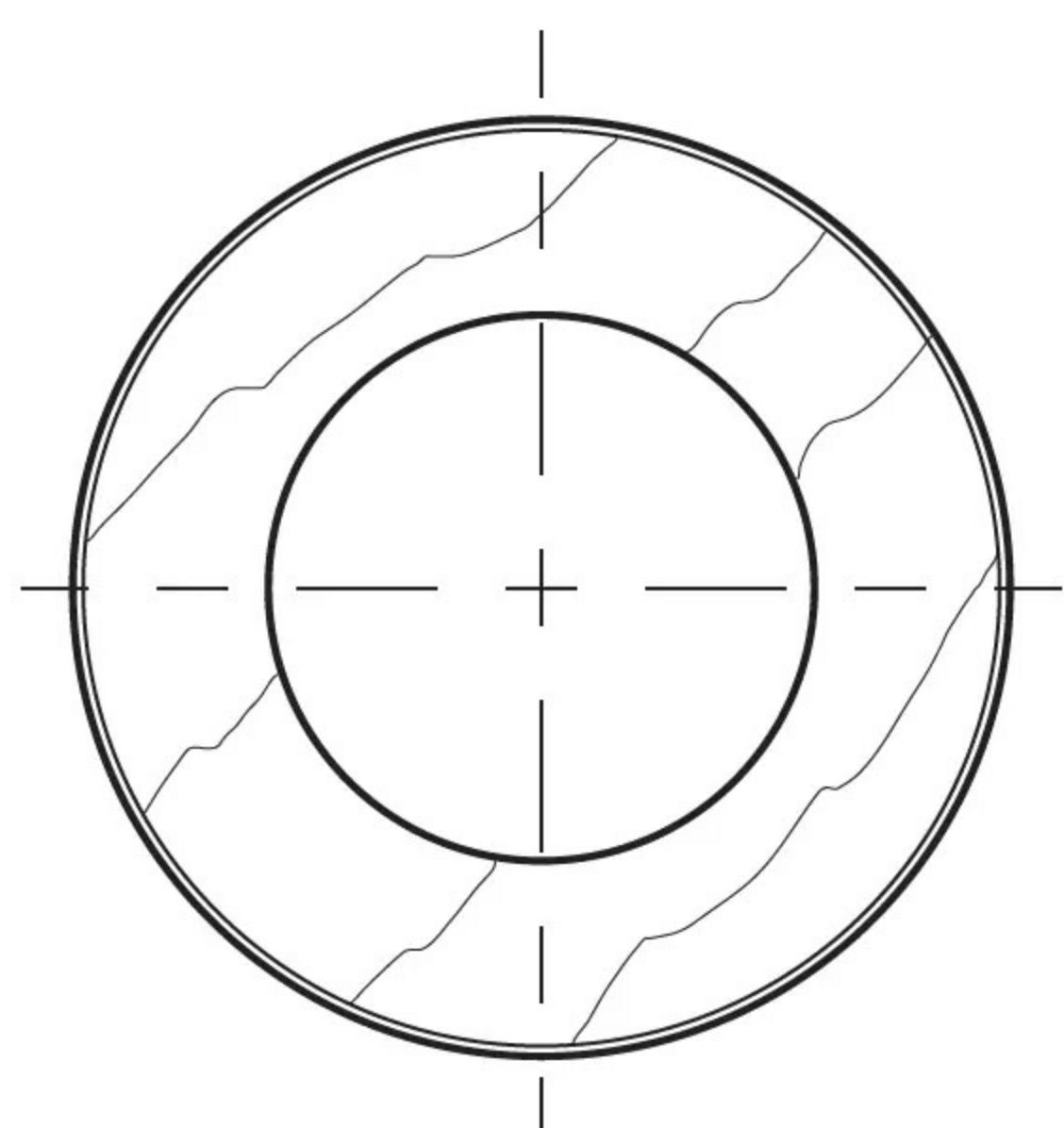
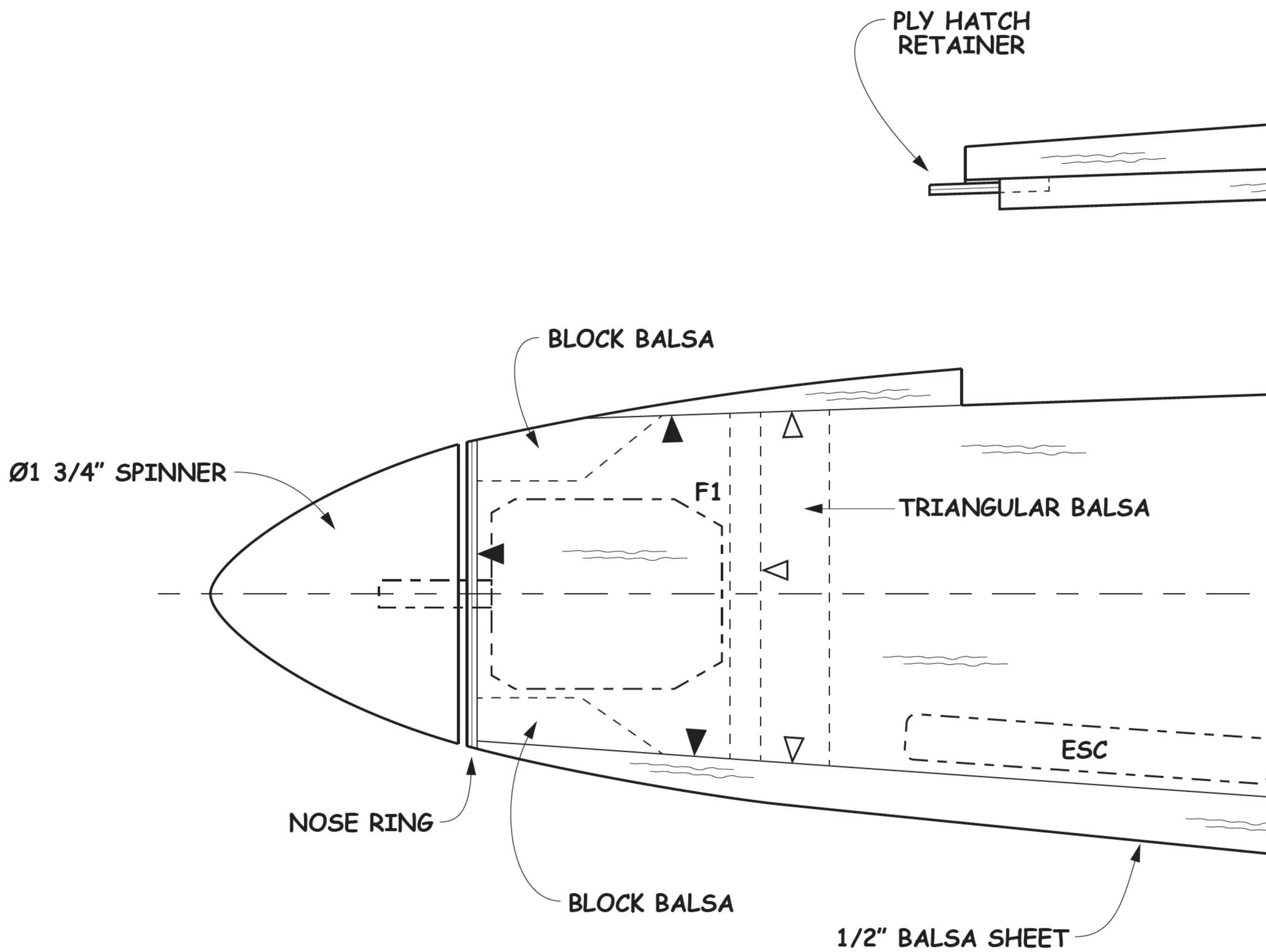
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OFF

VQA162RW

Wingspan: 69.7in (1.7m)
Electric, Glow or Gas

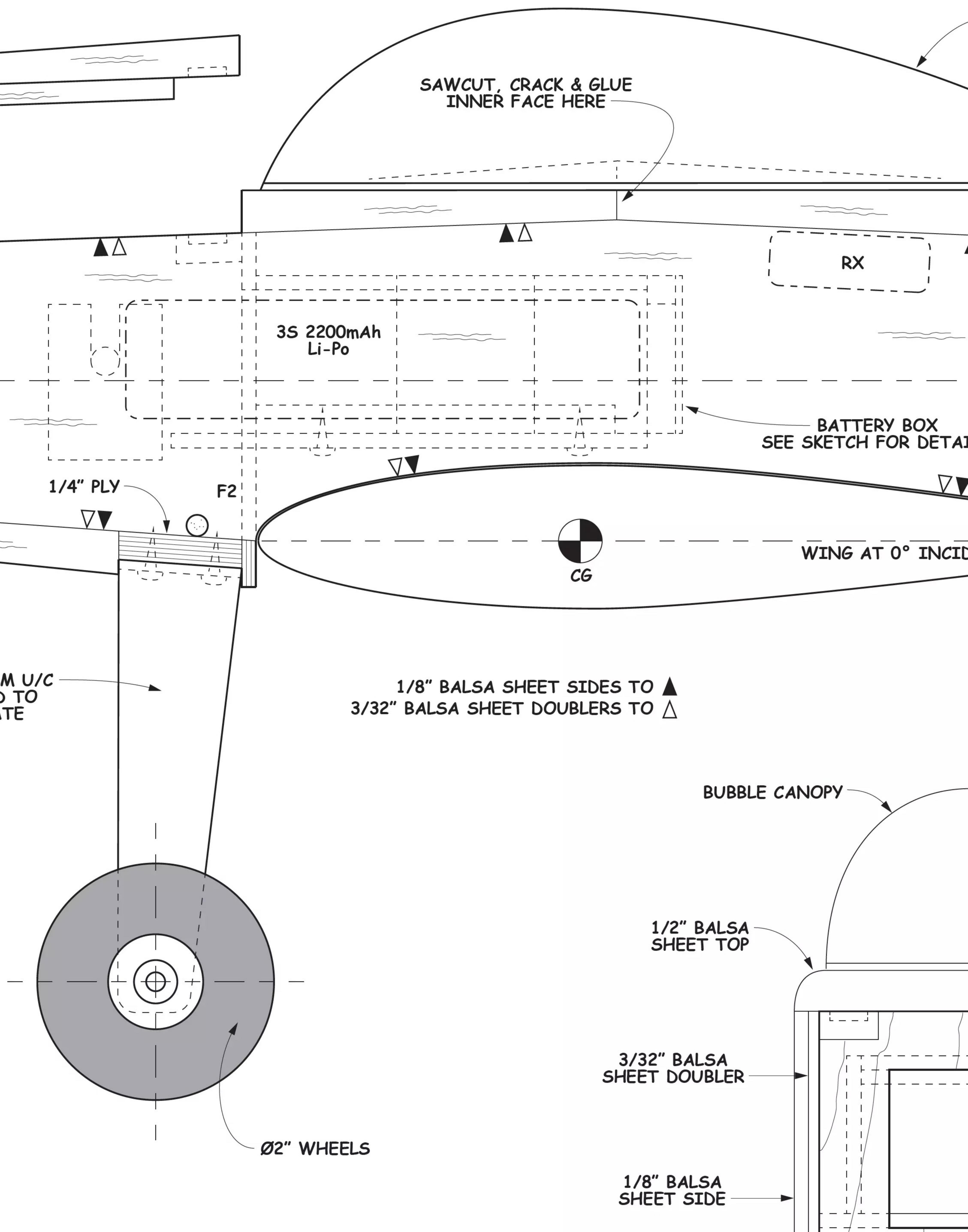
£399.95
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Optional e-retracts, struts and accessories are available to purchase separately.



1/8" PLY SUPPORTS
FOR BATTERY RETAINING
DOWEL, MAKE 2

NOTE: SIZE & LOCATION
OF F1 DEPENDS ON CHOSEN MOTOR



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BUBBLE CANOPY WITH
1/16" BALSA BASE

1/2" BALSA SHEET TOP
ROUNDED - SEE SECTION B-B

RX

3/8" x 1/4"
SERVO RAILS

BATTERY BOX
ETCH FOR DETAILS

FLYING AT 0° INCIDENCE

F3

Ø3/16" BEECH
DOWELS FOR WING
RETAINING BANDS

SECTION B-B

HATCH RETAINING
MAGNETS IN
BALSA BLOCKS

CONTROL DEFLECTIONS

ALL AVAILABLE PLANS
LSEY MEDIA.
ANY FORM OR BY ANY MEANS,
S, OR ANY INFORMATION STORAGE
NG FROM THE PUBLISHER.

dia

B

RCM&E

MITE

ORIGINALLY DESIGNED BY D. L. LYALL
MODERNISED BY SHAUN GARRITY

PLAN No: RC2279

No. OF SHEETS: 1 OF 2

First published in
RCM&E January 2026

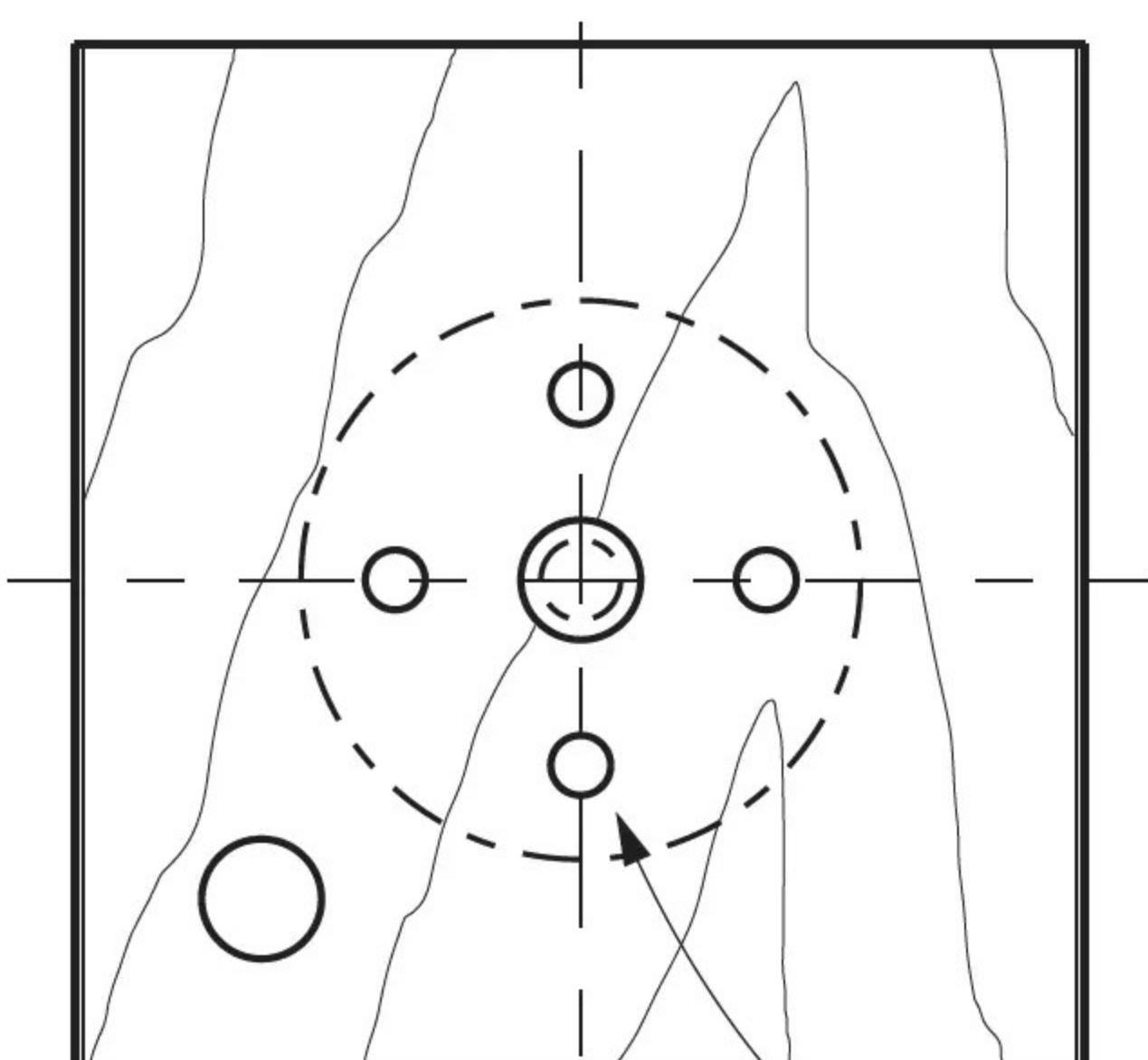
CARBON OR DOWEL PUSHRODS OR USE SNAKES
OTE: IF USING SNAKES IT WILL BE NECESSARY
SUPPORT THEM AT INTERVALS TO ENSURE POSITIVE
CONTROL WITH NO SLOP

B

1/16" Balsa Sheet
Bottom, X-Grain3/16" Balsa
Fin & RudderSLOTTED
OR FIN

MYLAR HINGES

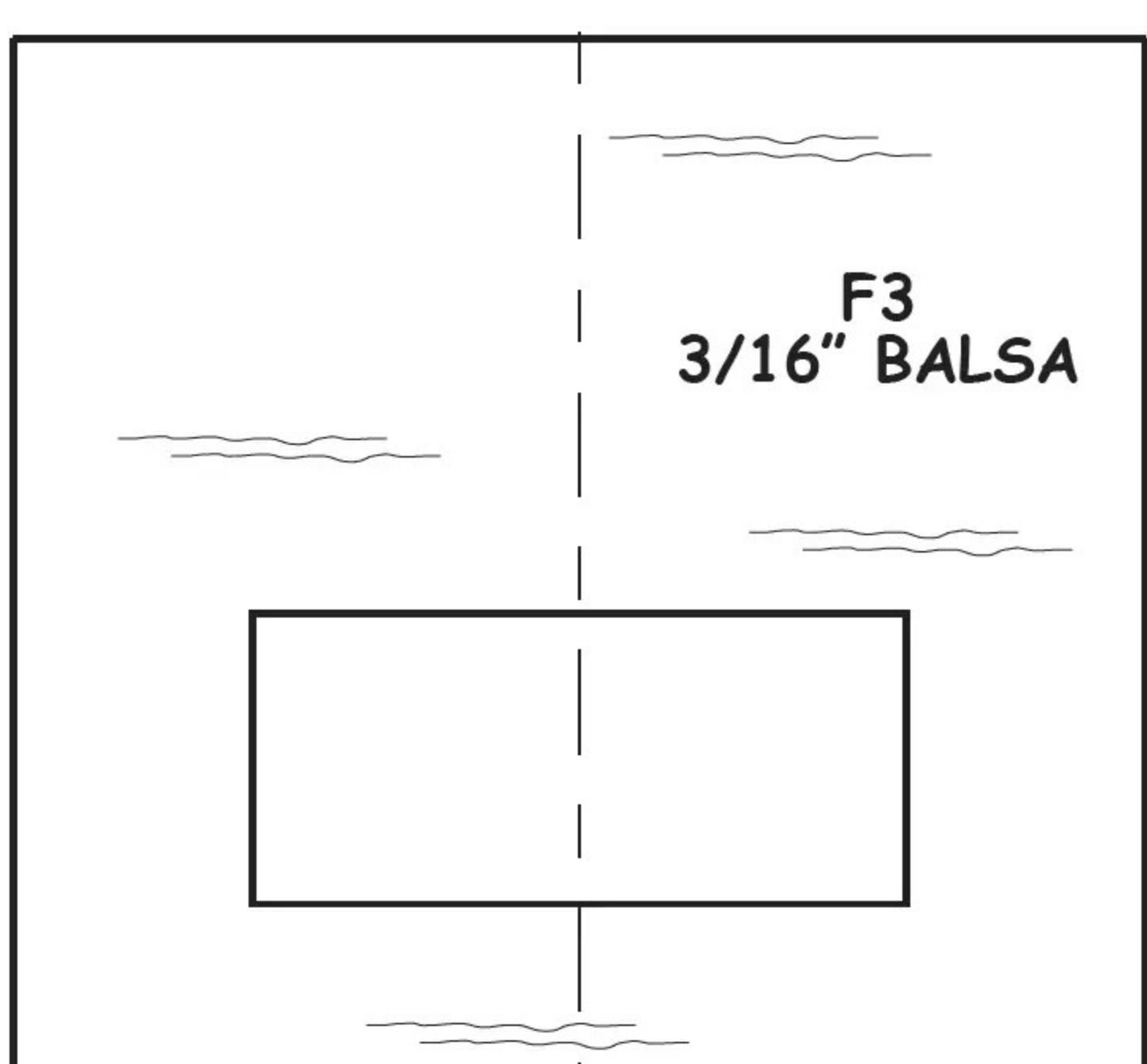
OF F1 DEPENDS ON CHOSEN MOTOR



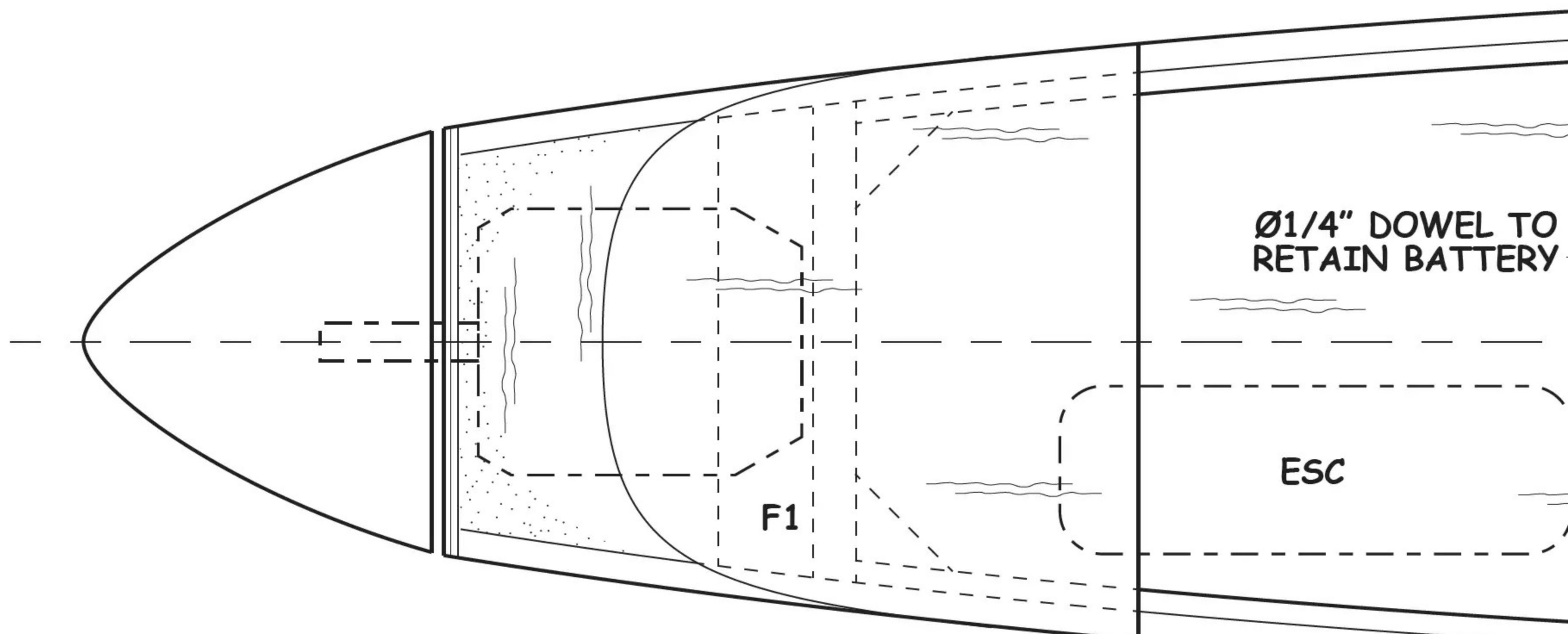
F1
3/16" PLY

DRILL HOLES
TO SUIT MOTOR

3/16" SQ. Balsa Locating Str
ON UNDERSIDE OF HATCH



HATCH RETAINING MAG
IN BALSA BLOCKS

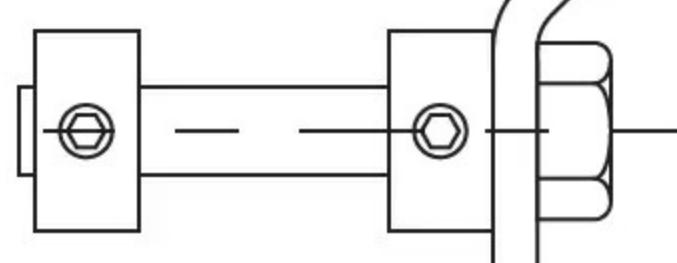


Ø2" WHEELS

1/8" BALSA
SHEET SIDE

1/4" PLY

MAGNETS

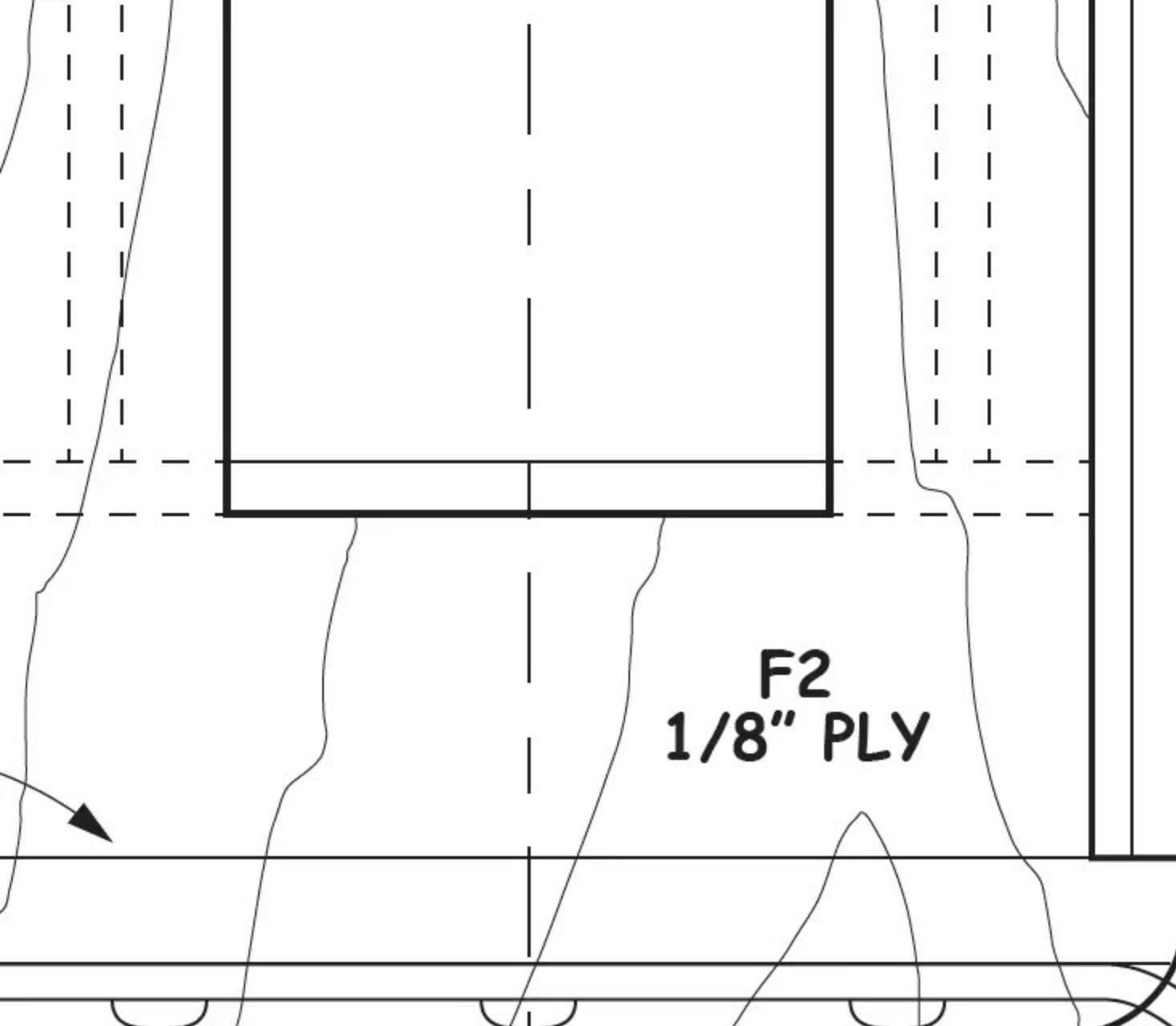


MODEL TYPE: SPORT AEROB
DESIGNED BY: DAVID LYALL,
WINGSPAN: 940mm (37")
FUSELAGE LENGTH: 864mm (34")
WEIGHT (INC. Li-Po): 998g (2.2 LBS)
FUNCTIONS (SERVOS): AILERONS (2)
SERVOS: 12 - 15g MET.
MOTOR: 4-MAX PO283
ESC: 4M-HESC30AV
Li-Po: 3S 2200 mAh
PROP: VORTEX 10 x 4
ACCESSORIES: ALUMINIUM U
STUB AXLES,

3S 2200mAh
Li-Po

RX

F2



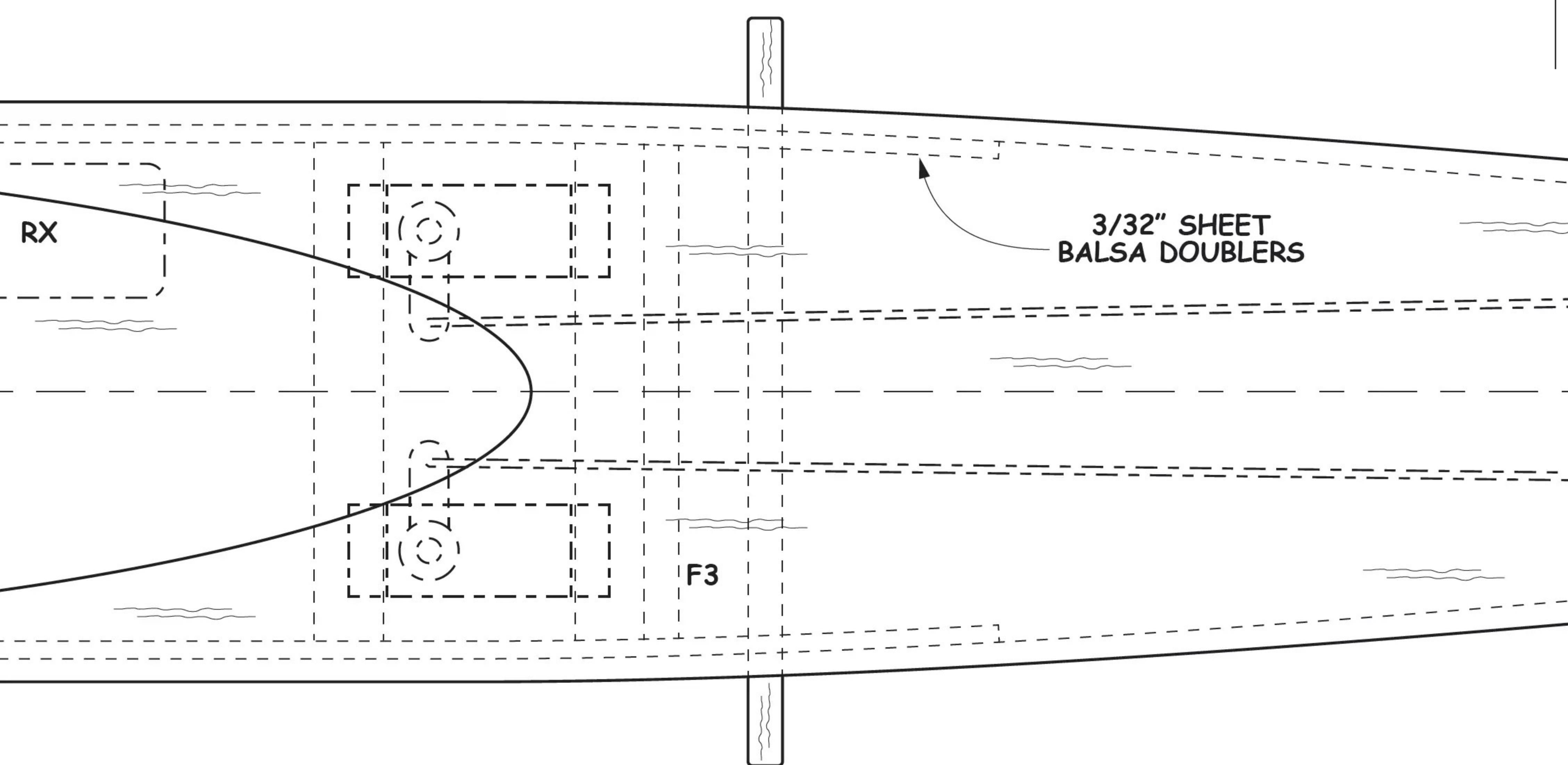
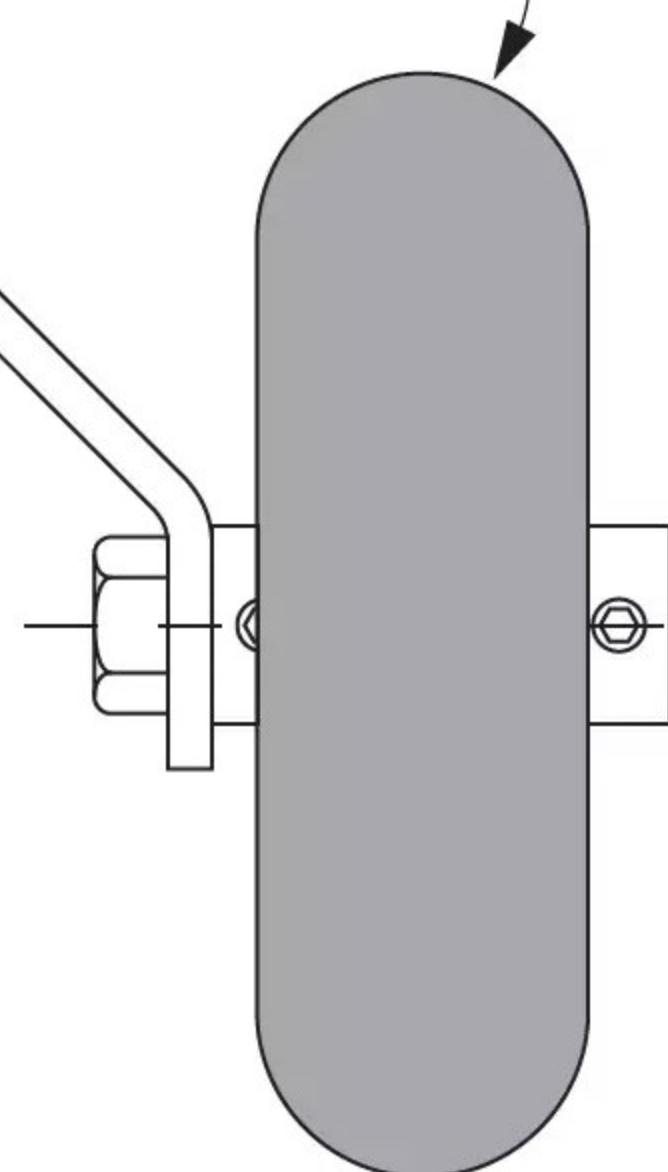
CONTROL DEFLECTIONS

ELEVATOR: 3/8" EACH WAY
AILERONS: 3/16" EACH WAY
RUDDER: 3/4" EACH WAY

ALUMINIUM U/C

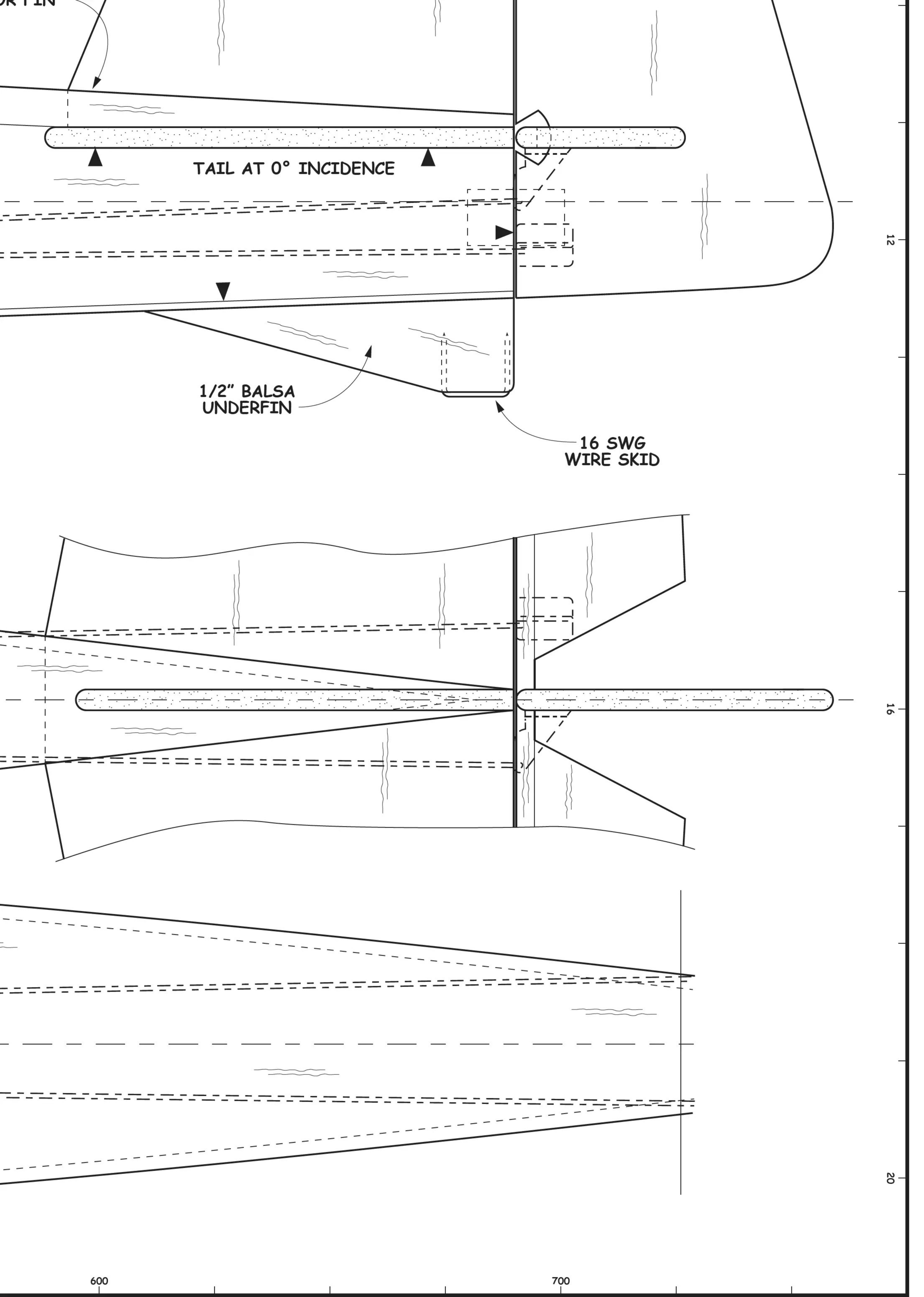
SPORT AEROBATIC
DAVID LYALL, MODERNISED BY SHAUN GARRITY
940mm (37")
864mm (34")
998g (2.2 LBS)
AILERONS (2), ELEVATOR (1), RUDDER (1), THROTTLE (ESC)
12 - 15g METAL GEARED. DIGITAL NOT NECESSARY
4-MAX PO2834-1160
4M-HESC30AV2
3S 2200 mAh
VORTEX 10 x 5
ALUMINIUM UNDERCARRIAGE (.40 SIZE)
STUB AXLES, COLLETS ETC. ALSO AVAILABLE FROM 4-MAX

Ø2" WHEELS



400

500



MYLAR HINGES PEGGED WITH
TOOTHPICKS OR Ø1/16" DOWEL

3/16" BALSA SHEET
& ELEVATOR

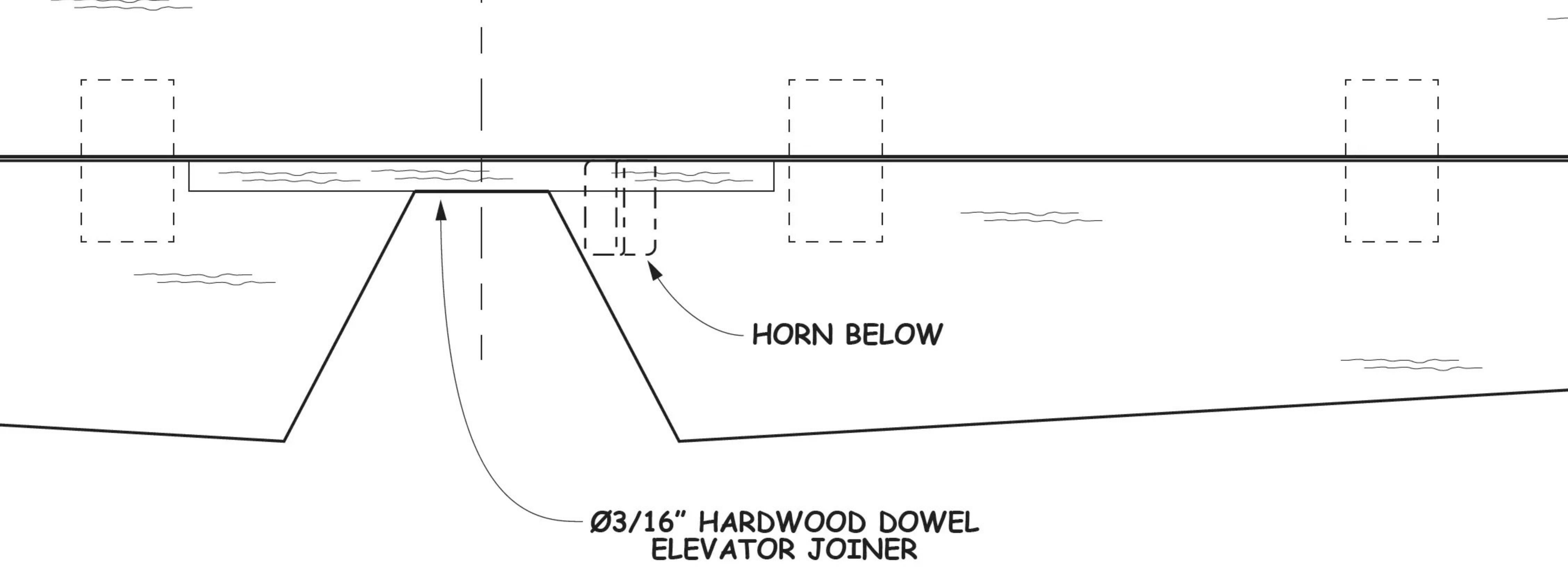
W2 (4 REQ'D) —
TO DOTTED LINE

- HOLE FOR SERVO WIRES

SECTION A-A

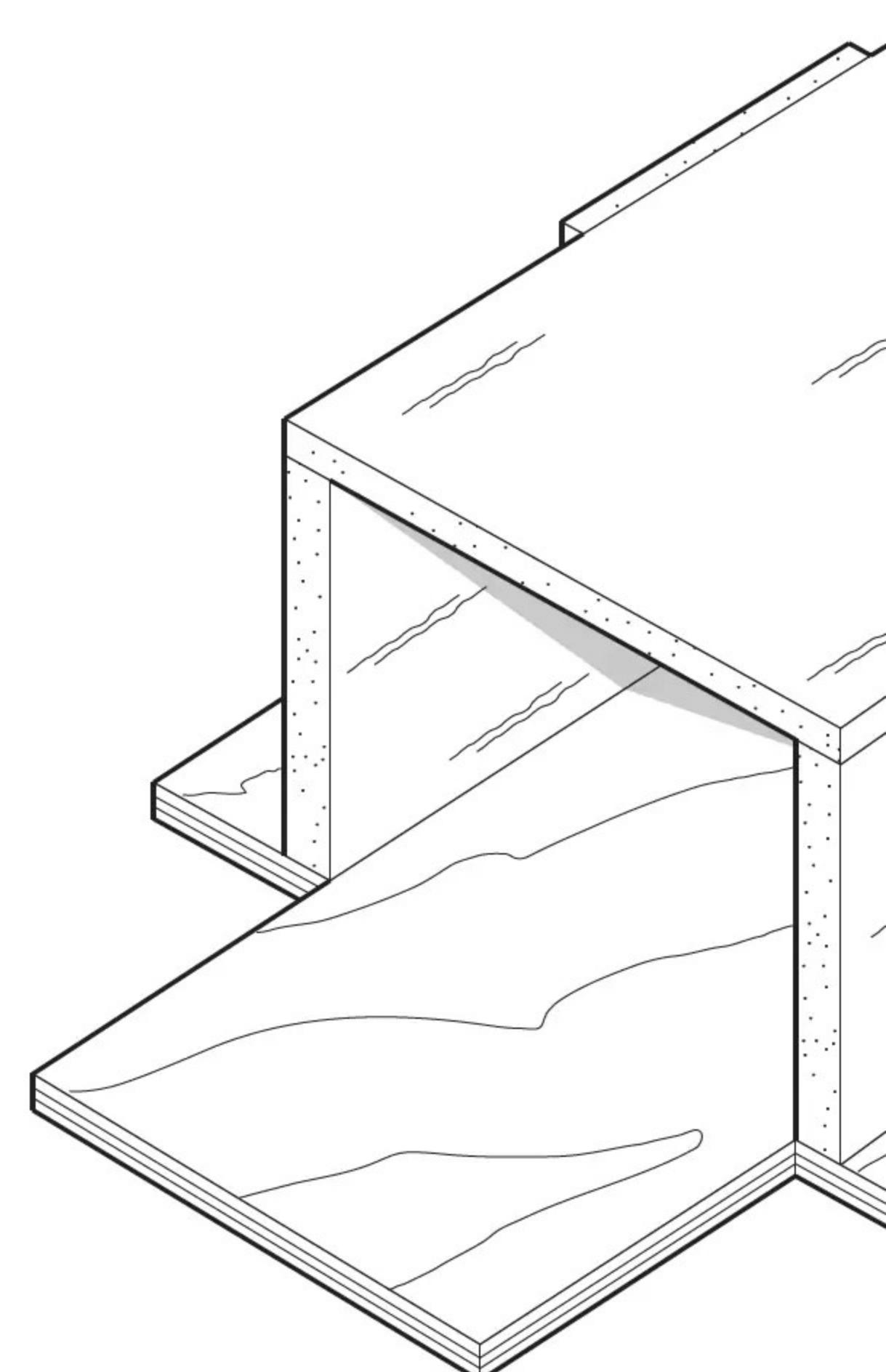
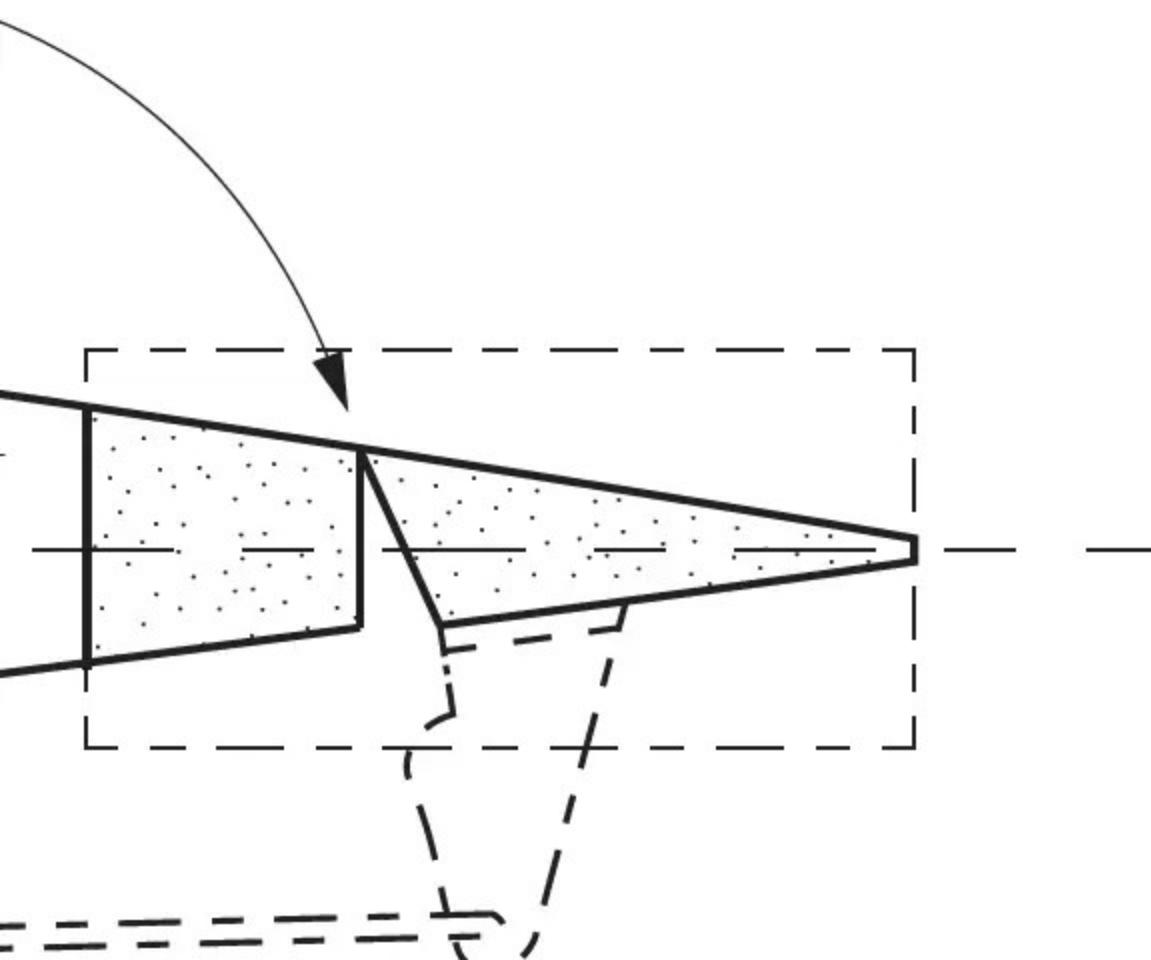
HINGE AILERONS WITH FILM

ET TAILPLANE
TORS



RIBS:

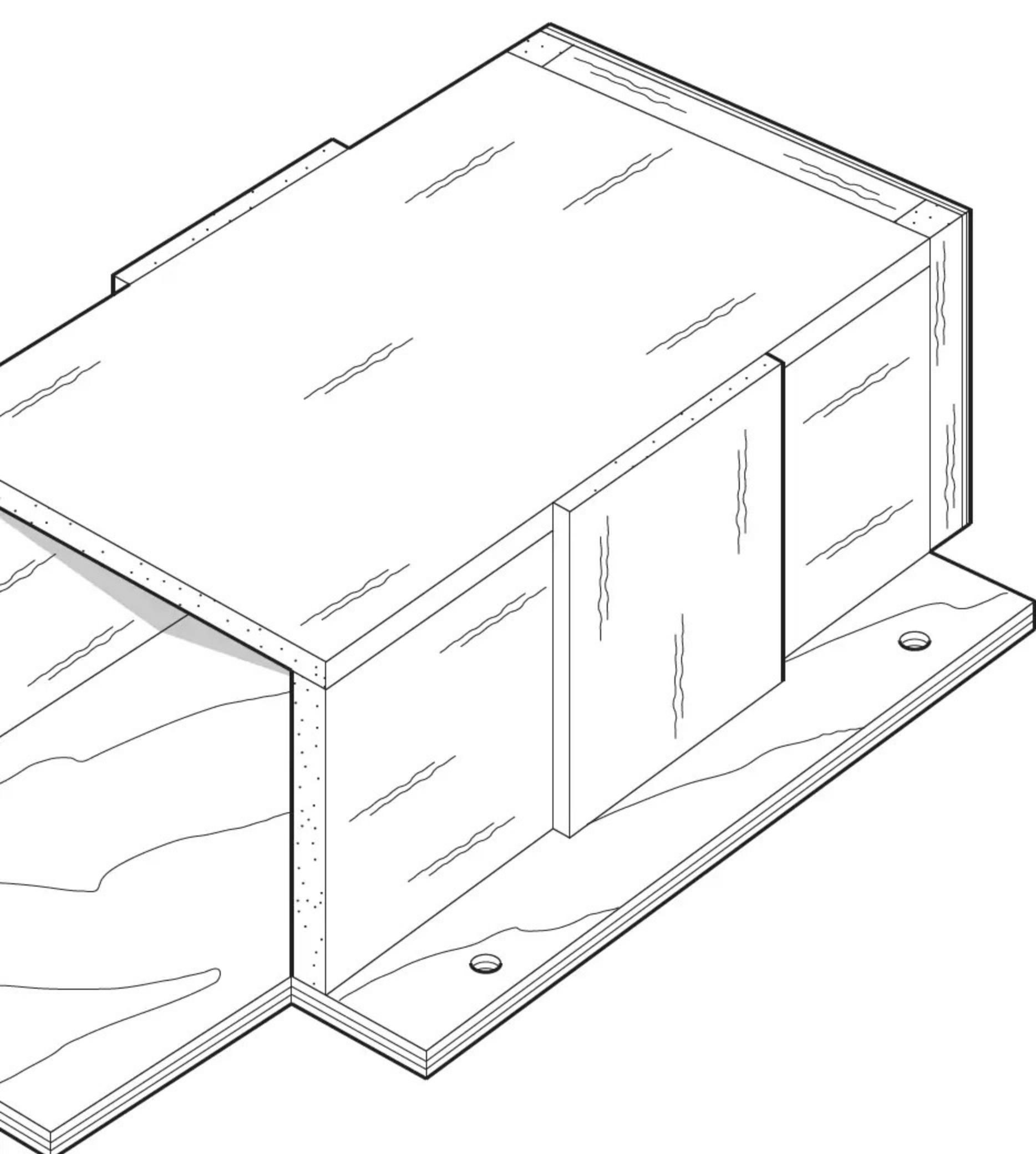
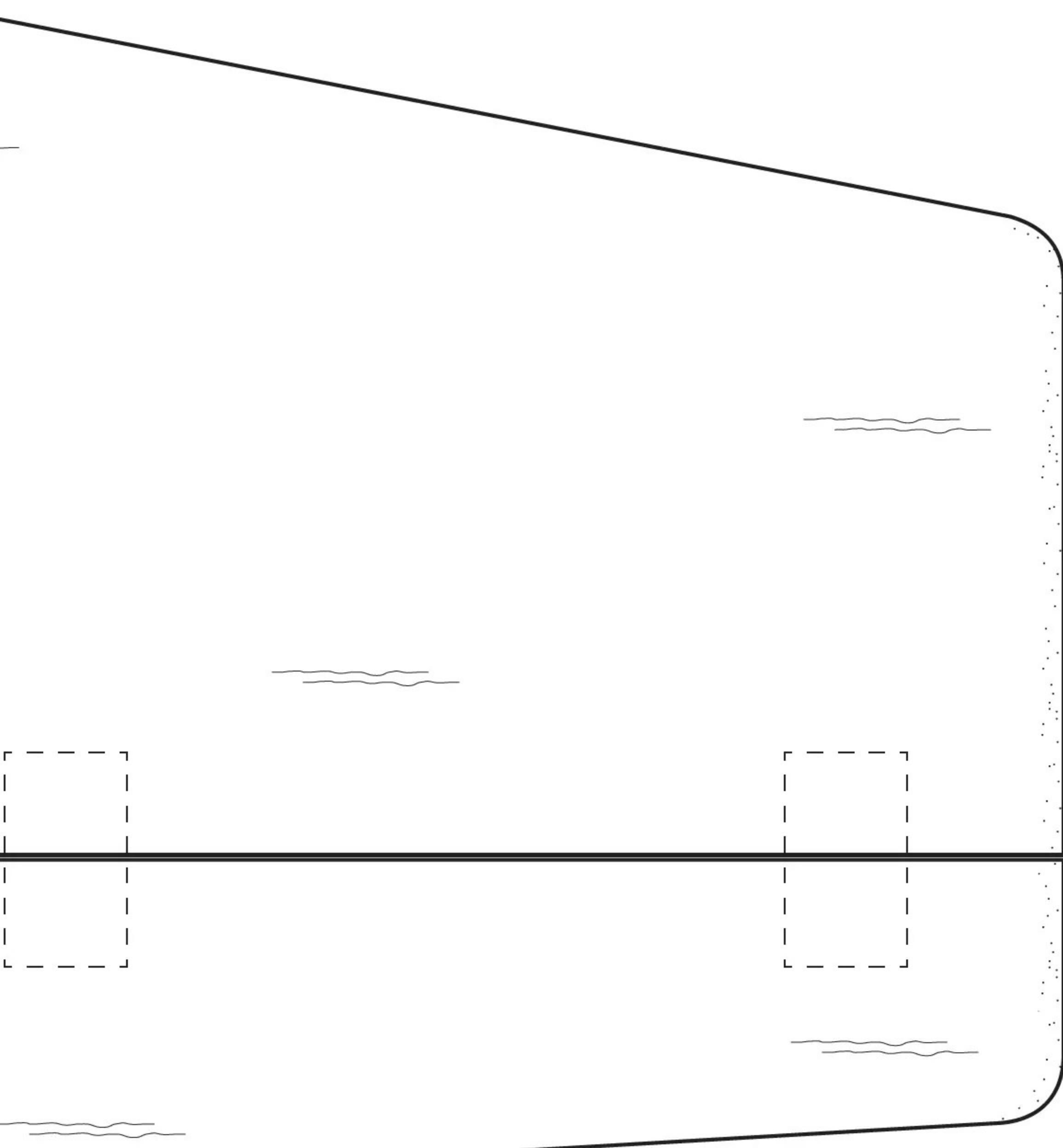
- W1: 14 OFF 3/32" BALSA SHEET
2 OFF 1/8" BALSA SHEET
- W2: 2 OFF 3/32" BALSA SHEET
2 OFF 1/8" BALSA SHEET



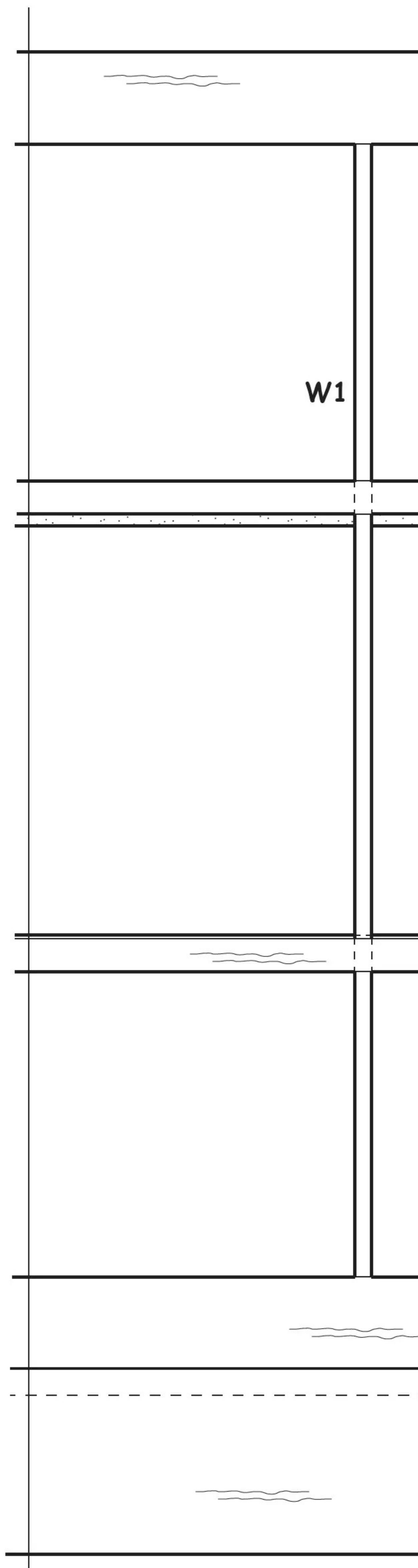
SKETCH OF BAT
(MOUNTED ON SPRUCE RA

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SKETCH OF BATTERY BOX
ON SPRUCE RAILS IN FUSELAGE)



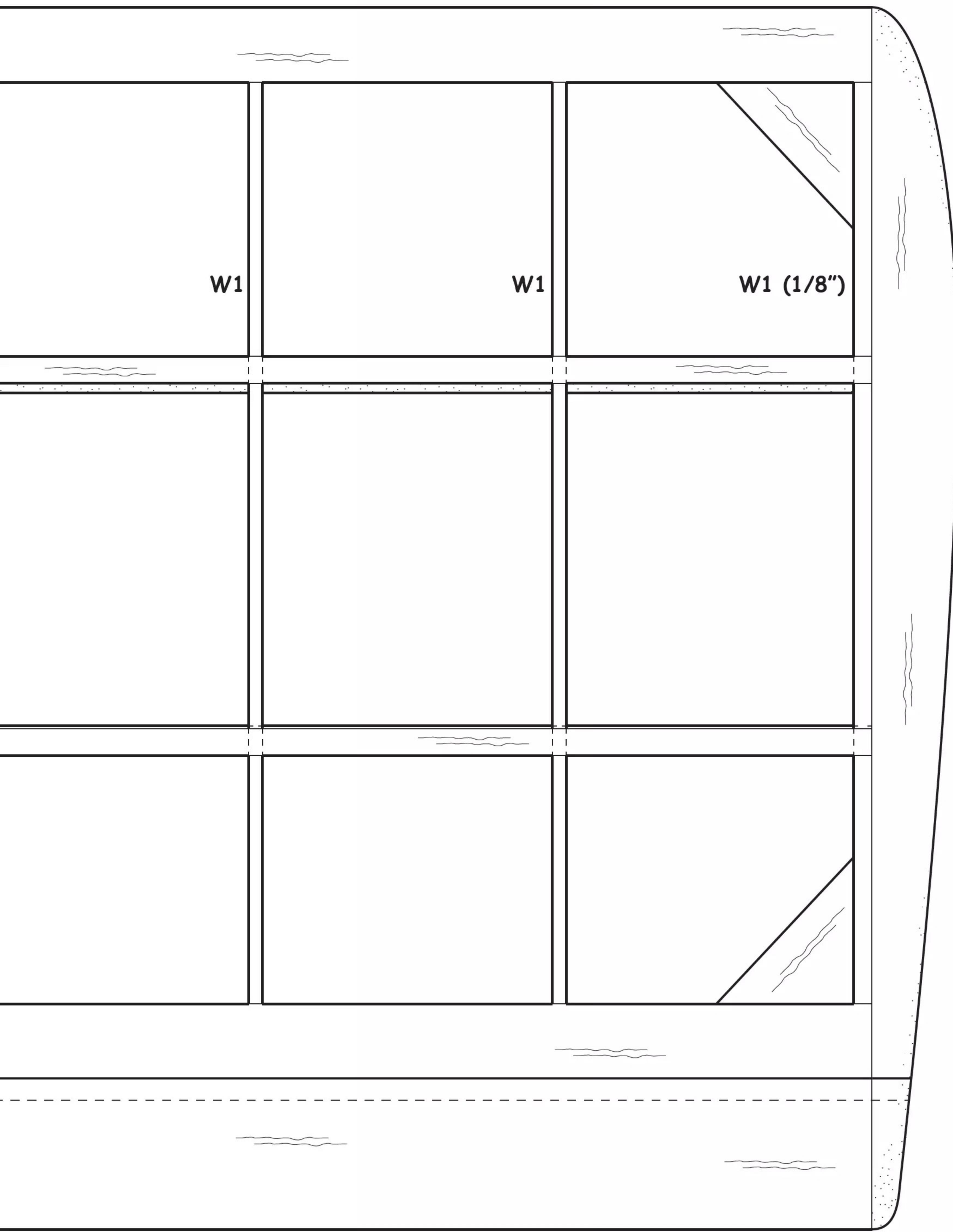
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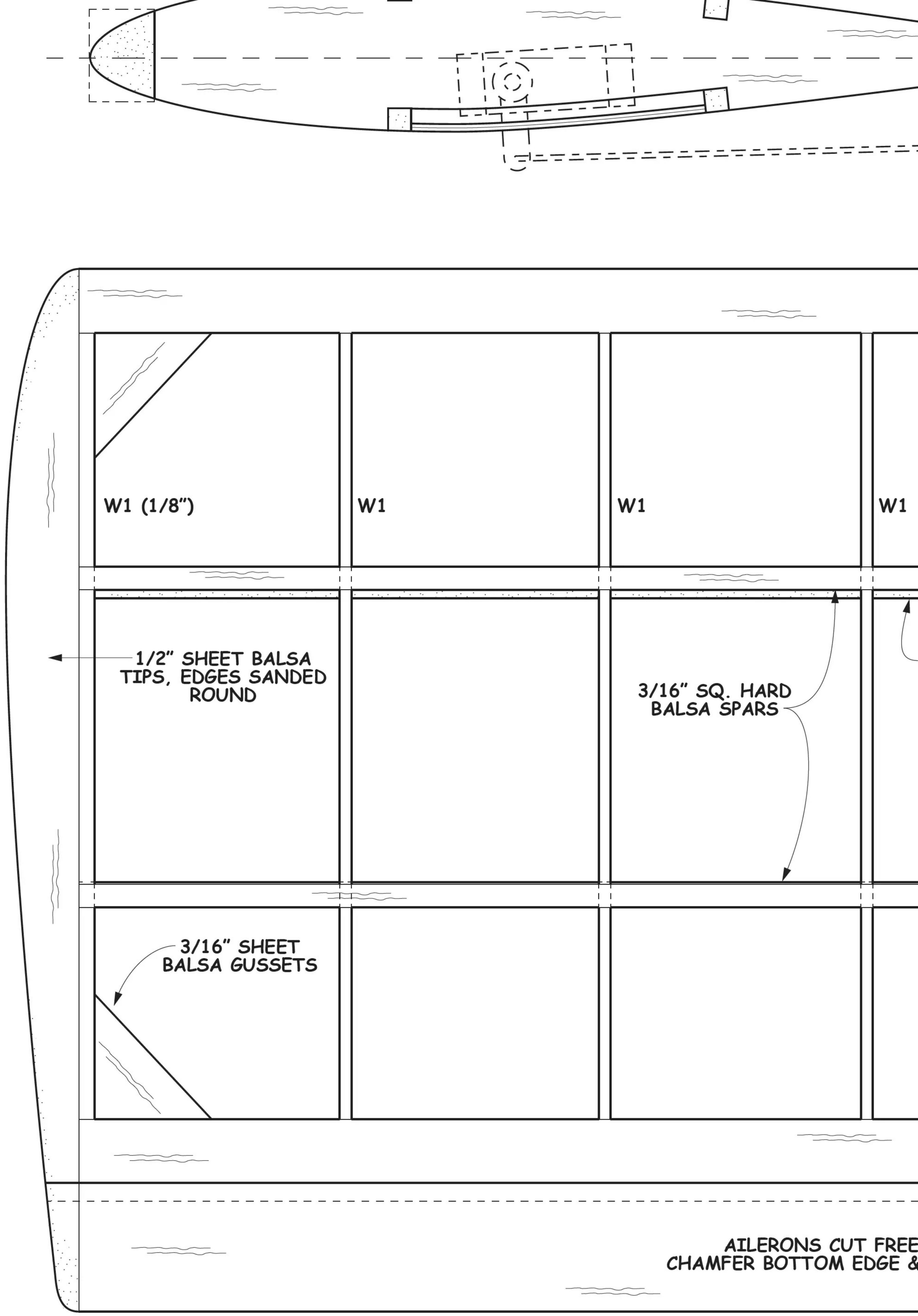
MITTE

ORIGINALLY DESIGNED BY D. L. LYALL
MODERNISED BY SHAUN GARRITY

PLAN No: RC2279

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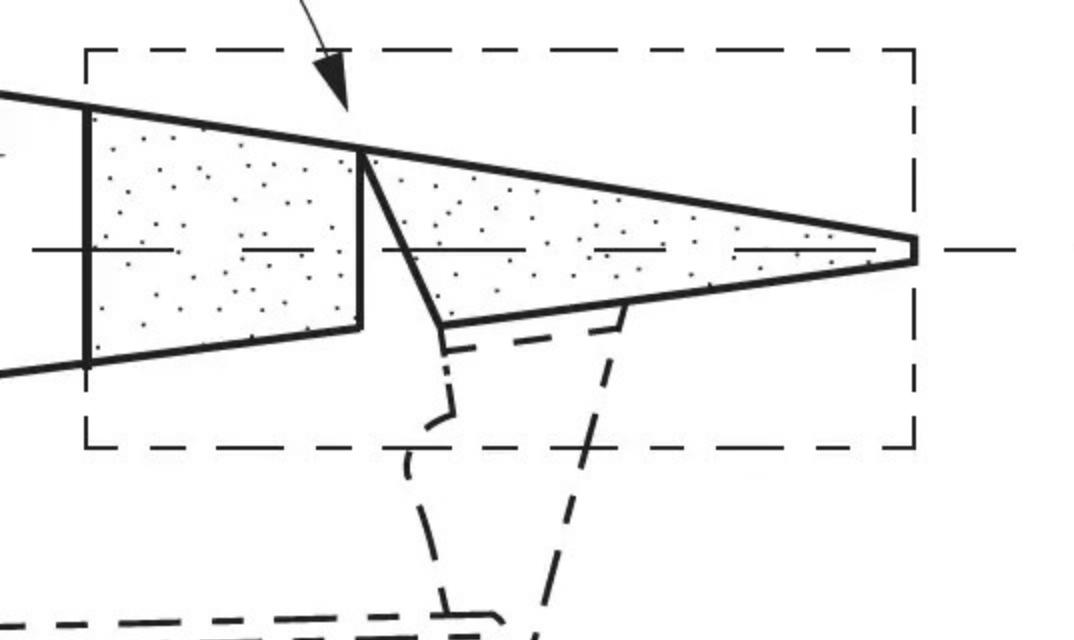
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SCALE
MM

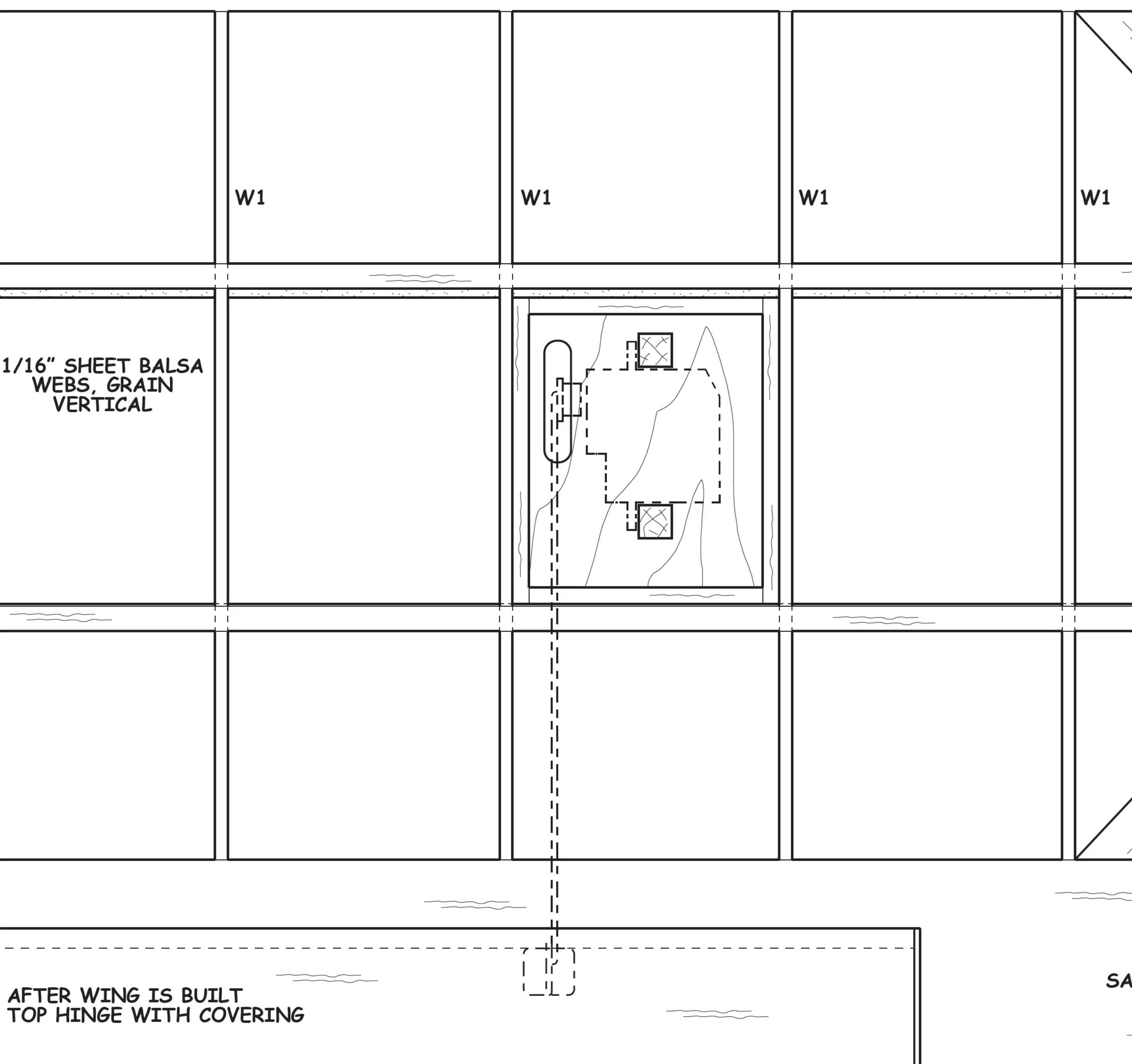
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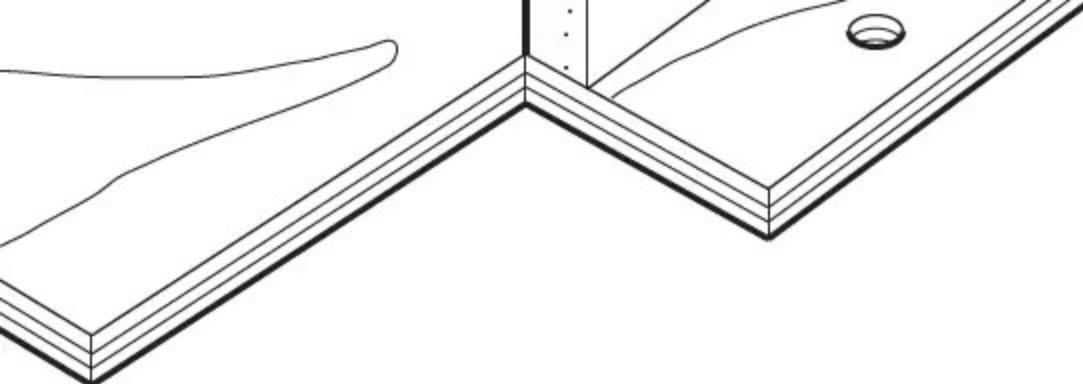
AILERONS CUT FREE
CHAMFER BOTTOM EDGE &



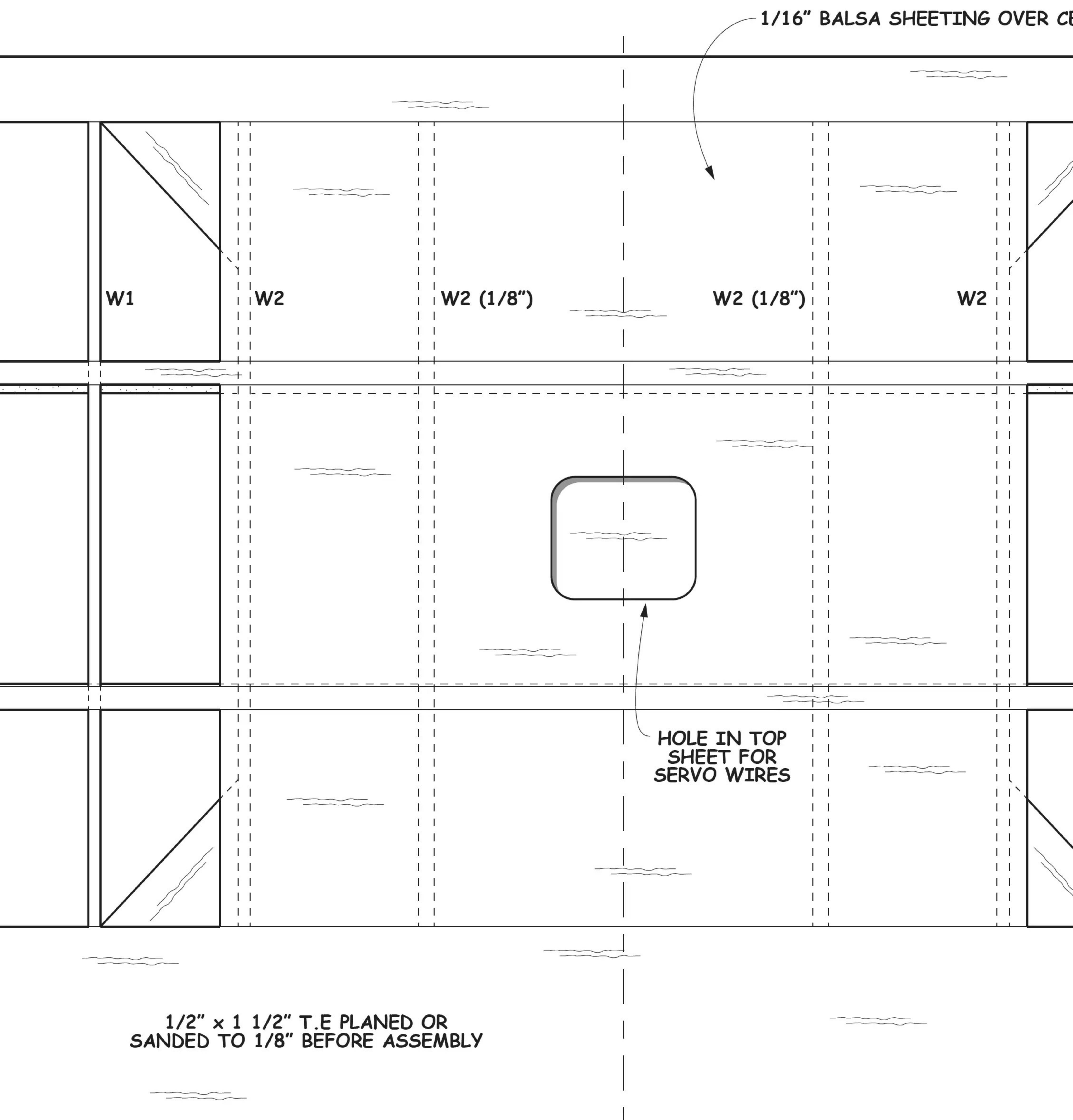
SKETCH OF BATT
(MOUNTED ON SPRUCE RA

1/2" x 3/4" Balsa L.E. SHAPED TO SECTION AFTER ASSEMBLY





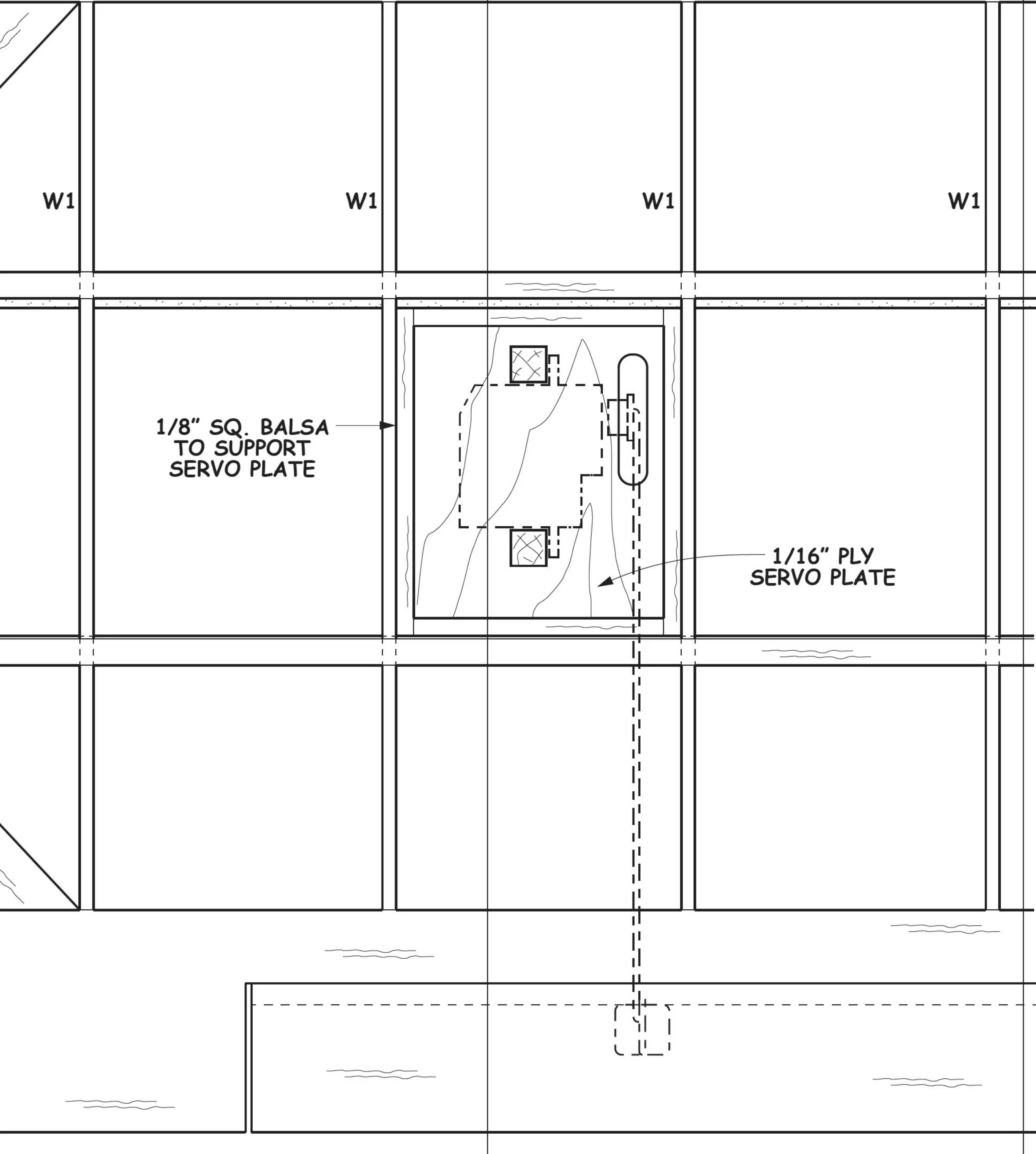
SKETCH OF BATTERY BOX
(ON SPRUCE RAILS IN FUSELAGE)



1/2" x 1 1/2" T.E PLANED OR
Sanded TO 1/8" BEFORE ASSEMBLY

CENTRE SECTION INSET BETWEEN SPARS

A



12

16

20

HURRICANE!

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Battle of Britain & Sea Hurricane Editions

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- Power system: 3541-KV810 brushless motor, 40A ESC
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- Wingspan 1200mm, Length 938mm



XFly 1.2m Hawker Hurricane Mk I

Part No: XF126-B Battle of Britain Brown/Green

Part No: XF126P-N Navy Grey/Green

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