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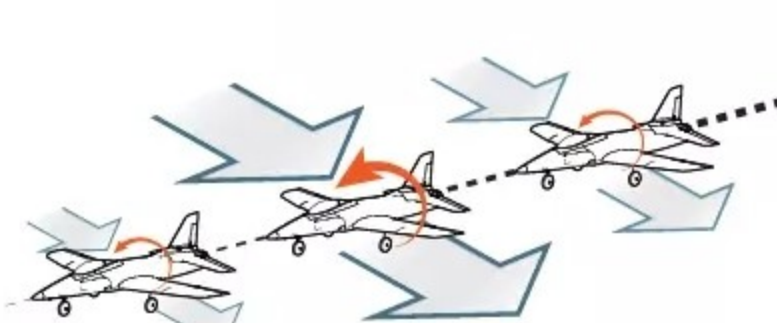


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F FLY WING

Welcome

Welcome to the July 2026 issue of RCM&E.

A couple of my local clubs have attempted to begin their summer evening series of informal fun competitions but due to ongoing windy weather only one event, a 'Spot Landing' comp, has actually happened, with three other dates postponed due to high winds. Even the comp that did happen was a bit windswept! Next up is 'Touch & Goes' but once again that one looks in peril with wind gusts close to 30 mph forecast.

We have a great deal of fun at these events as part of a low-key Fun Fly series. There's lots of banter and leg-pulling, but no-one wants to damage a model if the weather is not suitable for flying, so 'better safe than sorry' is the watch-phrase.

I'm still eagerly waiting for my local gliding group to announce their first summer evening thermal soaring get-together. This takes the form of a series of six-minute rounds over the course of each session, in an 'all up, last one down' format, with everyone flying the same model, currently the 1.6 metre Phoenix S from Volantex. Although small this affordable ARTF electric glider offers surprisingly good thermal performance in decent conditions. Over the past three summers we've had great fun pitting our thermal seeking skills against each other, again with lots of jokes and high spirits as each evening progresses. Mind you, less so last year as only one or two comps were held, again due to high winds decimating the planned dates on the calendar.

Whatever happened to those still summer evenings that model club meetings used to benefit from? At this rate I think we need to swap from model flying sessions to kite flying sessions. Thinking about it, this probably wouldn't be such a bad idea if, like me, you've got one or two kites tucked away that could do with more of a regular outing!

It's time now to take a quick look at what's inside the July issue of RCM&E. This month we start with John Freeman's build and flying report of the DH.82 Tiger Moth kit from VQ Models. Chris Layton follows with his review of the Astro Junior, a smaller



version of the classic Astro Hog as kitted by Dancing Wings. Danny Fenton (Make It Scale) dedicates his column to a report from the 2026 Indoor Scale Nationals and then it's over to Alex Dalidis who shows how to build Zig-Zag, a zany 750 mm span asymmetric biplane which covers half of this month's pull-out Pro-Plan. Graham McAllister returns with Part 2 of his DH.87B Hornet Moth Pro-Plan feature which started in the June issue before Frank Skilbeck dons his FPV goggles to test out the X1500 twin motor camera ship from XFly-Model. David Ashby (Just For Fun) admires Chris Foss' new personal Acro Wot project before Keith Jackson (Aerobic Scene) takes us north of the border to look at some keen pilots competing in F3A aerobatics in Scotland, including 16-year-old Arran Wilson. Then it's over to Dave Goodenough (One Man & His Shed) for more tales from his workshop, including a recent whoopsie caused by covering a wing before threading through the servo leads - it happens to us all! This leaves yours truly to finish things off in my latest RTFM column in which I unbox an FMS Hawk jet and take a first look at some tough carry cases for transmitters and other valuable items.

I hope you enjoy reading it all.
Happy Flying!

Kevin Crozier

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Horncastle, Lincs LN9 6JR
kevin.crozier@kelsey.co.uk

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Building your very own model from plan is one of the most satisfying achievement any modeller can experience..... so go on, give it a try and don't miss out on this wonderfully therapeutic side to this great hobby...Tony Nijhuis



On the cover

Photo: Danny Fenton

The weekend of the 24th to 26th April was blessed with glorious sunshine and a gentle breeze. While most of the UK was enjoying the weather for some outdoor model flying many die-hard scale modellers were buried indoors enjoying the action at the Indoor Scale Nationals held at Wolverhampton University in Walsall. What a weekend they had!





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... and receive SPITFIRE REVISITED, an enthusiast's guide to plastic modelling of the Spitfire and Seafire FREE! See page 68 for details

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LMA AIRSHOWS

LMA photographs by David Parry



The Large Model Association (LMA) will be hosting three airshows across the Midlands and Yorkshire this year, as well as their usual end-of-season static show in Warwickshire.

First will be the **LMA Sleaf Airshow on 4th & 5th July** at Sleaf Airfield, Shrewsbury, SY4 3HE. Although primarily a Large Model Airshow it is planned to include some full-size displays. There will be over 20 traders, a swap meet, food and drink stalls and R/C tanks. Camping is available on-site with evening entertainment, including live music, a bar and informal night flying. Children under 16 go free.

Next is the **LMA Elvington Airshow on 8th & 9th August** at Elvington Airfield, York, YO41 4AU. This Large Model Airshow includes a Family Fun Weekend with over 35 traders, a swap meet, food and drink stalls, ride-on steam trains, R/C off-road truck racing, a classic vehicle display, military display, a giant inflatable assault course, vintage fairground rides, pre-WW2 cycle car racing, R/C model aircraft trial flights and simulators, plus

discounted entry to the on-site Yorkshire Air Museum. Camping is available on-site with evening entertainment, including live music,



a bar and informal night flying. Children under 16 go free.

The final LMA Airshow for 2026 will be held at **Much Marcle on 5th & 6th September**, close to Ledbury in Herefordshire. The flying site postcode is HR8 2LX. There will be over 20 traders, a swap meet, plus food and drink stalls. Camping is available on-site with evening entertainment, including live music, a bar and informal night flying.

Wrapping up the LMA's big events for 2026 is the **LMA Gaydon Indoor Static Show on 11th October** at the British Motor Museum, Gaydon, Lighthorne Heath, Warwick, CV35 0BJ. As well as the static indoor display of large models there will be multiple traders and a small swap meet, plus onsite café. Access to the British Motor Museum is included with the entrance ticket. Tickets will be available on-line nearer the time via the British Motor Museum website. BMFA & LMA members receive discounted entry when paying on arrival.

Full details and advance tickets for each airshow are available here: <https://www.largemodelassociation.com/events/>

Anyone planning to visit these shows is recommended to follow the LMA social media accounts or check the events page on the LMA website for all updates and announcements.

MARKETPLACE CHANGES

Claiming a regular spot at the back of each issue of RCM&E for many years, Marketplace is a free service to our readers where you can advertise any unwanted models, kits, radios, engines and associated R/C items 'For Sale', as well as searching for any sought after items using the 'Wanted' section.

With the quick responses achieved by placing similar adverts on various online sales channels the use of Marketplace has understandably waned in recent years, to the

point where we have seriously considered whether it should still be included in each issue of the magazine. But we recognise that not all of our readers wish to advertise their models and goods online so we are happy to keep Marketplace as a free readers' service for now.

However, one thing that we hope may improve its usage is the removal of the need to send all adverts using the half page coupon that we used to print below the ads.

Hence, the coupon has been discontinued. So, you can now send details of anything you wish to sell by email or post. Each advert (no commercial advertising please) should include a short description of each item, up to 150 words, along with your best contact number, the price you would like and the county you live in. Wanted ads in a similar style are also welcome.

Please send your Marketplace ads to: beth.ashby-njiiri@kelsey.co.uk

SPITFIRE REVISITED

If you turn to page 68 of this issue you will see the current 12 issue subscription offer for RCM&E from our partners at Classic Magazines: classicmagazines.co.uk/rcmebook26

The current subscription gift is 'Spitfire Revisited: An Enthusiast's Guide to Modelling the Spitfire and Seafire'. Written by Trevor Snowden, this beautifully illustrated 140-page book (ISBN: 9781905414178) is intended to assist anyone making a model Spitfire in understanding the physical shape and associated mechanical changes that applied to each of the many Marks of Spitfire produced, from the pre-Second World War, two-bladed, fixed-pitch propeller variants to the post-war contra-rotating six-bladed propeller versions, and all those in between.

It is illustrated with more than 90 photos showing models of the different Marks as well as more than 160 profile, top and underside views, all in full colour and meticulously detailed.

Although written with plastic modellers in mind, with all the models shown at 1/48 scale, the physical shapes and associated mechanical changes will be relevant to anyone considering building an accurate R/C model of one of the many variants of this famous WW2 fighter.

If you are not intending to take out a 12-month subscription to RCM&E at this current time, then individual copies are available from Mortons Books for £24.95 (approx. \$33.94 or €28.93). International delivery charges will be calculated at checkout:

<https://www.mortonsbooks.co.uk/book/spitfire-revisited>



CONVERTING CLASSIC TRANSMITTERS TO 2.4 GHz

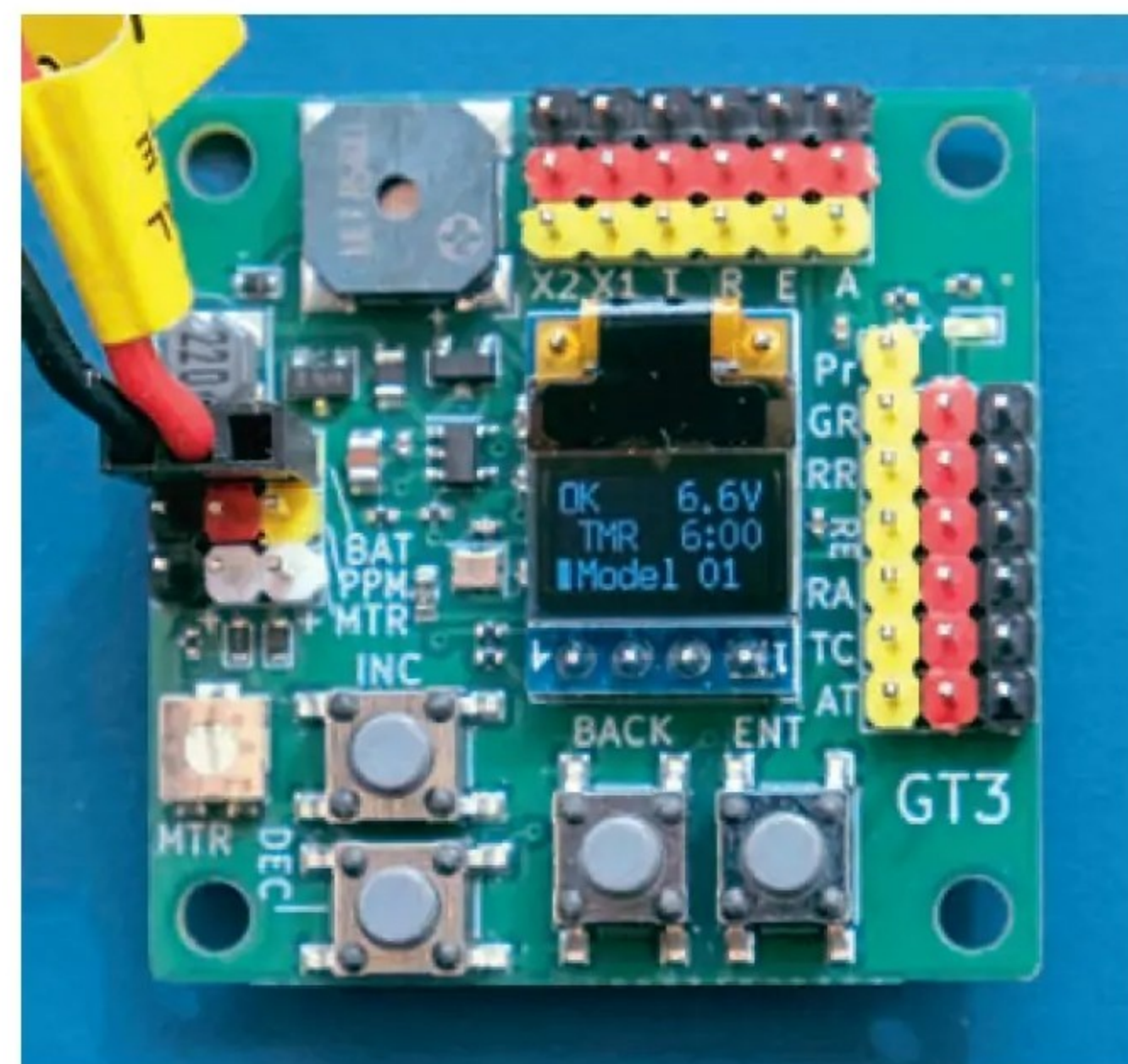
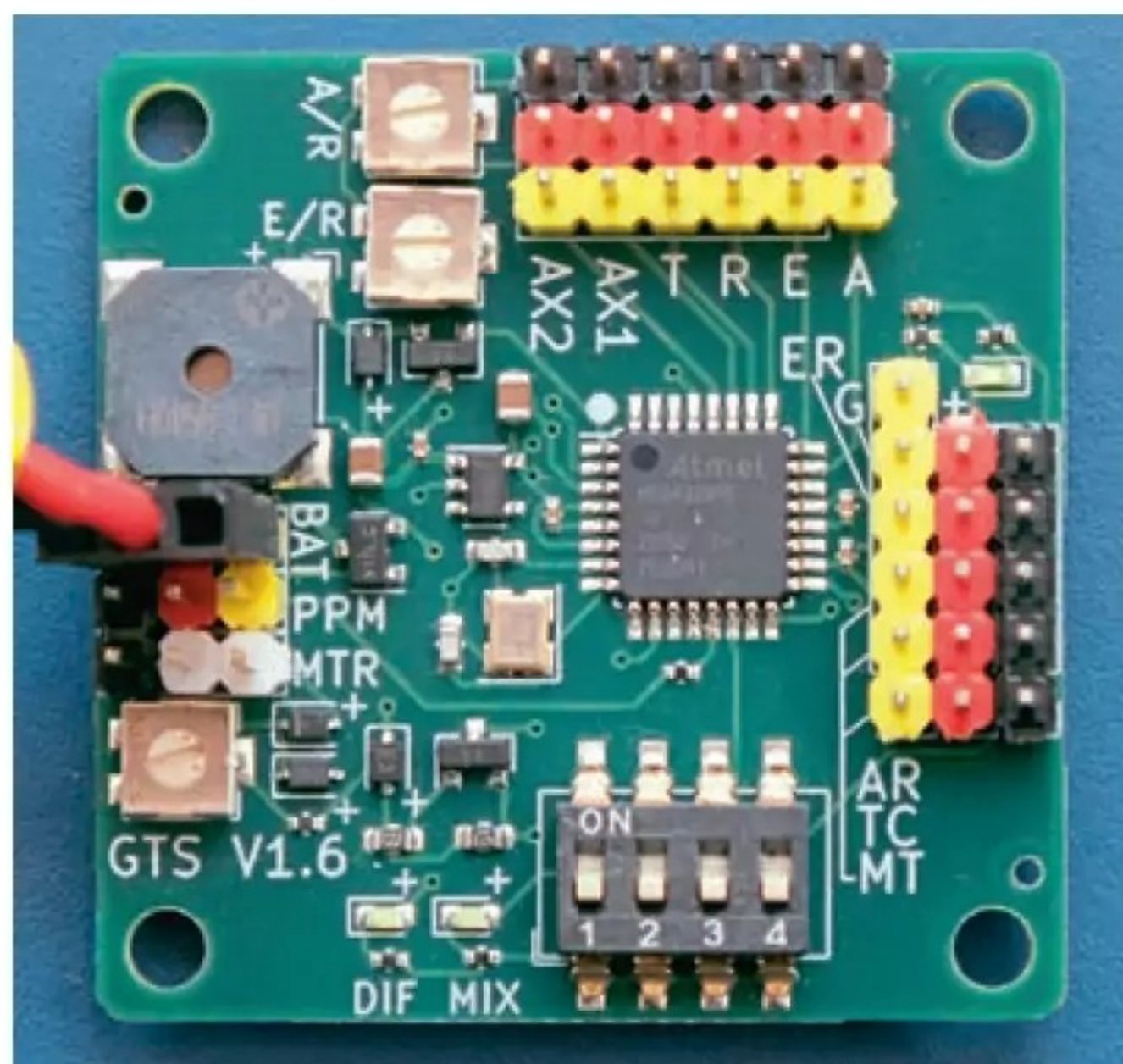
Stuart Mackay of LemonRxEurope writes:

"Just to let you know that we have introduced package deals of our own LemonRxEurope branded replacement encoders bundled with our well-proven DIY 2.4 GHz modules. This makes it easy to convert classic transmitters for modern use.

We have worked very closely with the renowned encoder designer Mike Kitchen of VintageTx to include the features that will suit most users. We have tested these thoroughly over the past



JR style 'Plug and Go' module for modellers wishing to continue using their 35 MHz JR transmitters.



LemonRxEurope GTS (left) and GT3 encoder with OLED display showing voltage and timer settings.

two years, with dozens of successful transmitter conversions which have been test flown in all types of models from classic aerobatic aircraft like the Mike Birch Capricorn, as featured in RCM&E, December 2025, up to and including jets!

There are two variants of the 8-channel encoder, the GTS and the enhanced GT3 with an OLED display. Both are single model, dual aileron with different features dependent on the version selected.

Provided your transmitter stick pots are in working condition the GTS and GT3 encoders and RF modules are very easy to integrate and calibrate. The included LemonRX 2.4 GHz module will operate any receiver that is DSM2 or DSMX protocol capable, i.e. all Spektrum receivers and, of course, the LemonRx range that is sold exclusively by

LemonRxEurope. In addition, the LemonRx 2.4 GHz modules are UKCA/CE compliant so there are no problems using them throughout Europe.

The bundles of LemonRxEurope GTS or GT3 encoders and 2.4 GHz RF modules are available exclusively from the lemonrx.eu shop on eBay: <https://www.ebay.co.uk/str/lemonrx.eu>

Furthermore, we offer the 'Plug and Go' module for those modellers wishing to continue using their 35 MHz JR transmitters, again all UKCA and CE marked for problem free use throughout Europe.

We also have produced some YouTube videos to help users of Spektrum DX G2, IX and NX and Radiomaster TX16S with the remote Textgen programming and set up of the LemonRx 7 and 10 channel Gyro/Vario telemetry receivers: <https://www.youtube.com/@stuartmackay4472>



TIGER MOTH

John Freeman builds and test flies a 55-inch wingspan DH.82 Tiger Moth from VQ Models

Words: **John Freeman** Photos: **John Freeman, RCM&E, Barry Atkinson**

In last October's issue the editor devoted most of his RTFM column to unboxing the red and silver liveried Tiger Moth kit from VQ Models. The model is eventually destined to be powered by a .72 size four stroke engine but, first, VQ's UK distributor, MacGregor Industries asked us to review it with their recommended electric power set-up. So, John Freeman was tasked to build and test fly this attractive 55" span biplane with an

Electrospeed Boost 40 Power Pack. Here's how he got on.

RED OR YELLOW

This Tiger Moth comes from VQ Models, is constructed from balsa and plywood and is Almost Ready to Fly. The picture on the strongly made box is for a British registered Tiger Moth but upon opening the box I found that it had a German colour scheme. This could be very

disappointing to someone who thought they had purchased the British colour scheme.

(I covered this in detail in October's RTFM column. D-EHHT, with silver wings and a red fuselage, as reviewed here, is an ex-RAF aircraft and she has had quite a varied flying career during her time in Germany so is well worth modelling in her own right. The British option shown on the box label, with silver wings and a yellow fuselage, is G-AHIZ, as flown by the Cambridge Flying Group. Which



'It's a good-looking aircraft in the air', says our reviewer, John.



Despite having too much aileron movement for the Tiger Moth's first flight it proved nicely controllable, helped by some Coupled Aileron Rudder mix.

CAMBRIDGE FLYING GROUPS DE HAVILLAND DH82A

TIGER MOTH

For Advanced Pilots Only!

SPECIFICATIONS:

- Wingspan: 1400mm
- Length: 1180mm
- Electric Motor: 750W
- Glow Engine: AG 2 T / 70 4 T
- BT Weight: ~ 3 KG. (will vary with equipment used)
- Radio: 2.4 GHz 5 channel and up
- Servos Function: Ailerons-Elevator-Rudder-Throttle

FEATURES:

- Ultralight Balsa wood construction.
- High quality covering films
- Full cockpit with scale instrument panel detailed
- Your choice to build it either Nitro or Electric powered.
- High quality hardware and flying wires are included with the kit.

READY TO FLY VERSION

VQA139R

VQ's Tiger Moth is available in red or yellow colour schemes despite the box label showing only the yellow version. Be sure to check the part number in the bottom right corner of the label to find out what's in the box!

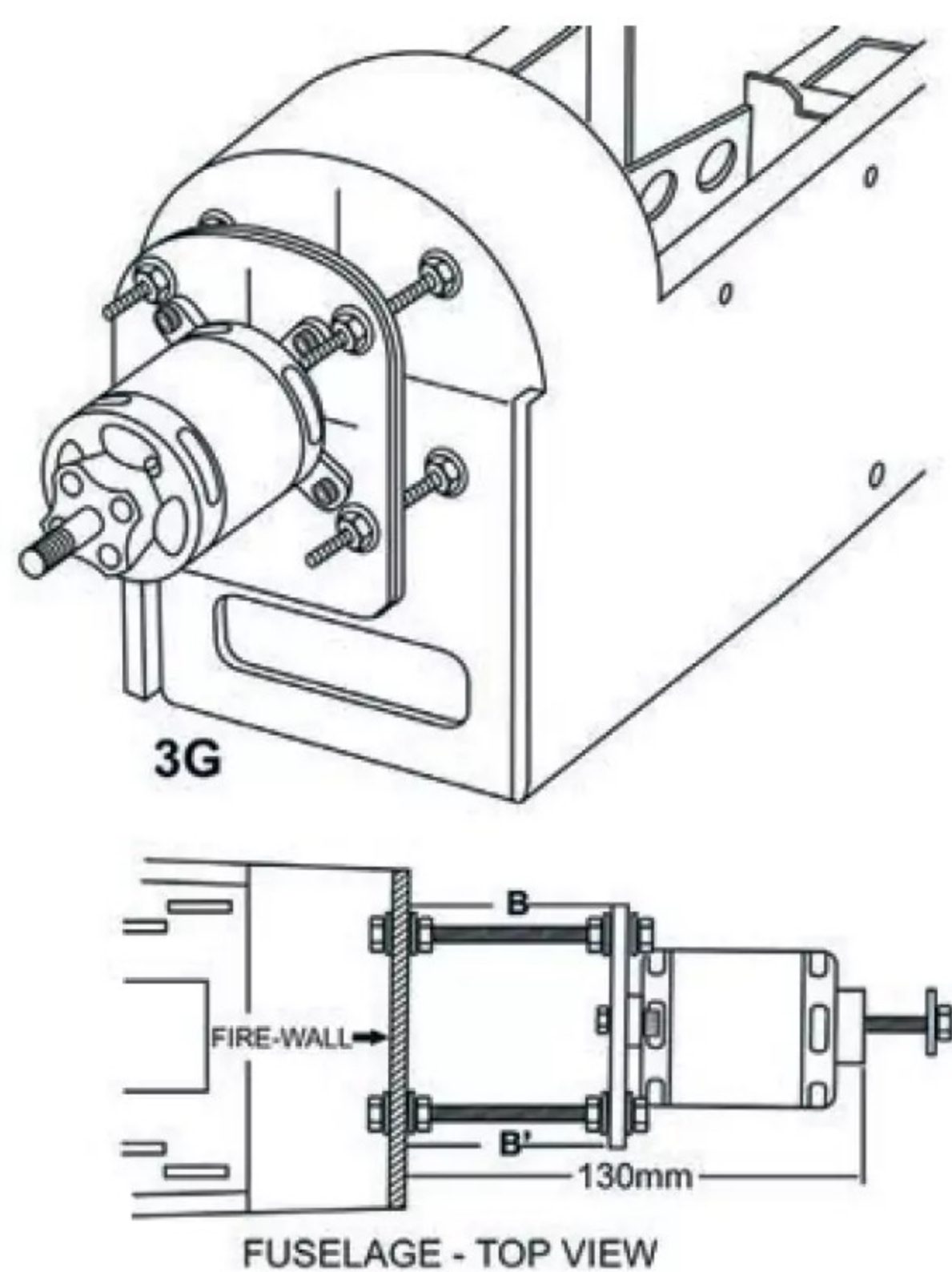
one is contained within the kit box is shown by the part number pasted over the bottom right corner of the label. VQA139R denotes the red version while VQA139Y is for the yellow version. So please keep this in mind when purchasing the kit. KC)

GOOD INSTRUCTIONS

I will not give a blow-by-blow account of the construction as the building instructions are extremely good and if you follow the sequences shown you will not go wrong. I will discuss only the issues I found while building the model.

I was asked to build the model with a 710W Electrospeed Boost 40 Power Pack powered by a 3 cell 4500 mAh battery. The instructions also give information for the fitting of a glow engine. I commenced by drilling the backplate for the motor fixing. The motor backplate was then used as a template to drill the holes for the firewall.

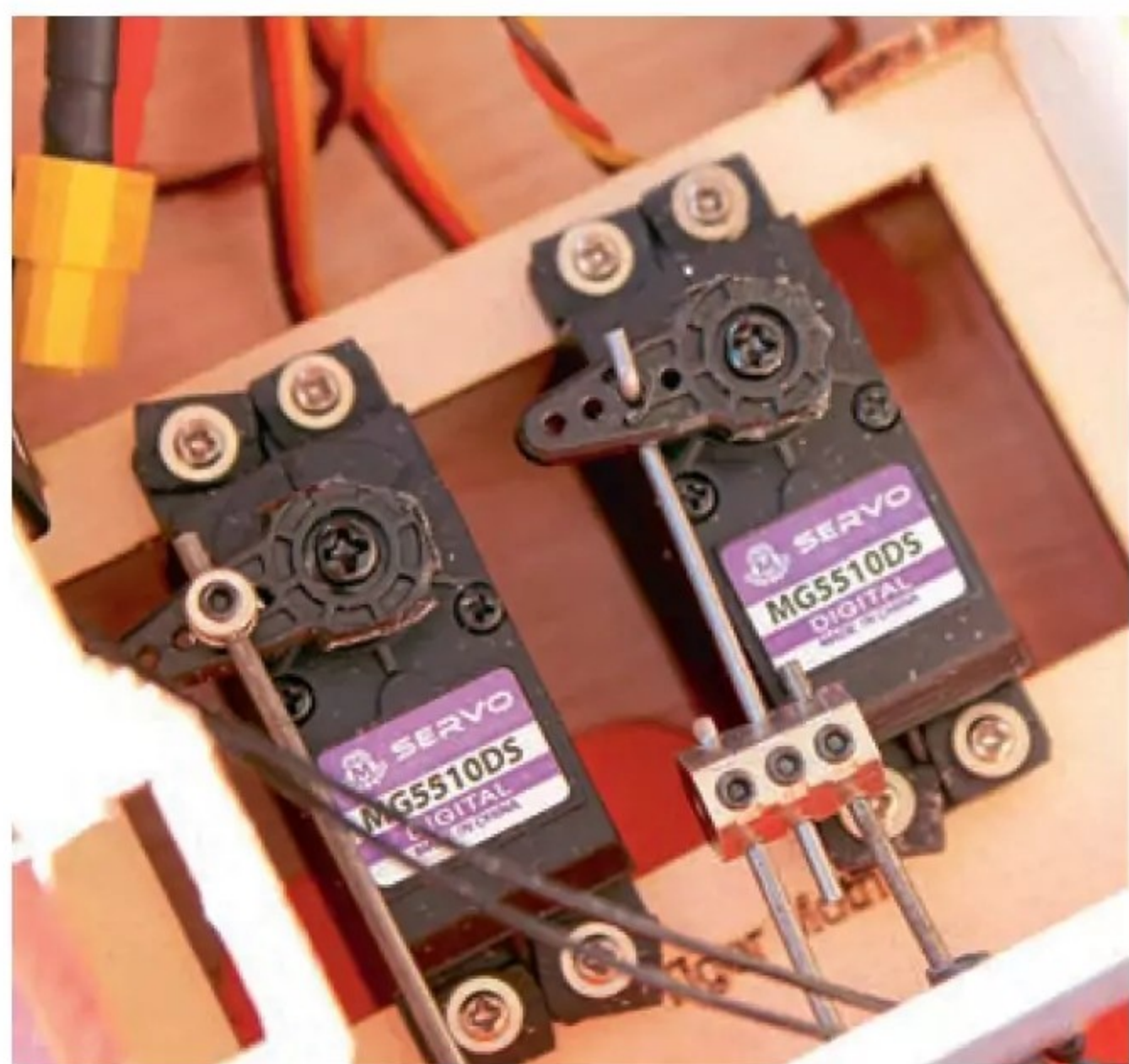
The motor was then fitted to the backplate and 70 mm bolts were fitted to the firewall. The motor backplate was also bolted onto the



Motor mounting detail from the instruction manual showing the motor mounting distance which is too short. It needs to be 140 mm when using the Boost 40 motor.



Hinges for all the control surfaces need to be carefully glued with cyano.



Tail feathers are more than adequately controlled by a pair of MacGregor MG5510DS standard digital servos.



Electrospeed Boost 40 Power Pack has plenty of power to fly the Tiger Moth at appropriate airspeeds.



Imitation suspension covers, which need to be glued to the undercarriage legs, add a nice touch but are brittle and can fracture easily when removing any excess plastic.

“I was asked to build the model with a 710W Electrospeed Boost 40 Power Pack”

4 x 70 mm bolts, giving a distance of 130 mm from the firewall to the front face of the motor prop shaft, as per the instructions. See the nearby photo from the manual, which saves a lot of words.

I then continued with the fitting of the tailplane and rudder to the fuselage using cyano as the preferred glue. All the elevator, rudder and aileron hinges need fixing with cyano to ensure they do not pull out.

Next was the landing gear which needs bolting to the fuselage. When it came to fitting the plastic imitation suspension covers, I found the covers, which need gluing to the undercarriage legs, to be very brittle and they fractured easily when removing any excess

plastic. To glue these two parts to each leg I first covered the metal legs with masking tape and then glued the bottom half to the leg using hot glue. Once this had cooled the top was easily cyanoed to the bottom.

The rudder and elevator servos (MacGregor recommend fitting their MG5510DS 9.98 kg.cm/0.12s standard digital servos) were fixed in their cut outs in the servo tray and the pushrods fitted to the controls. Again, no problems were encountered.

WINGS

The top wing centre section was then bolted to the fuselage using the nuts and bolts supplied. The aileron servo plates are glued to the servo tray and after centring the servos (MacGregor recommend using their own MG1703DS 3.3 kg.cm/0.10s mini digitals) the plates were screwed to the wings using the 8 mm screws supplied. You will need to make up a 250 mm extension lead to connect each aileron servo to the receiver in the fuselage.

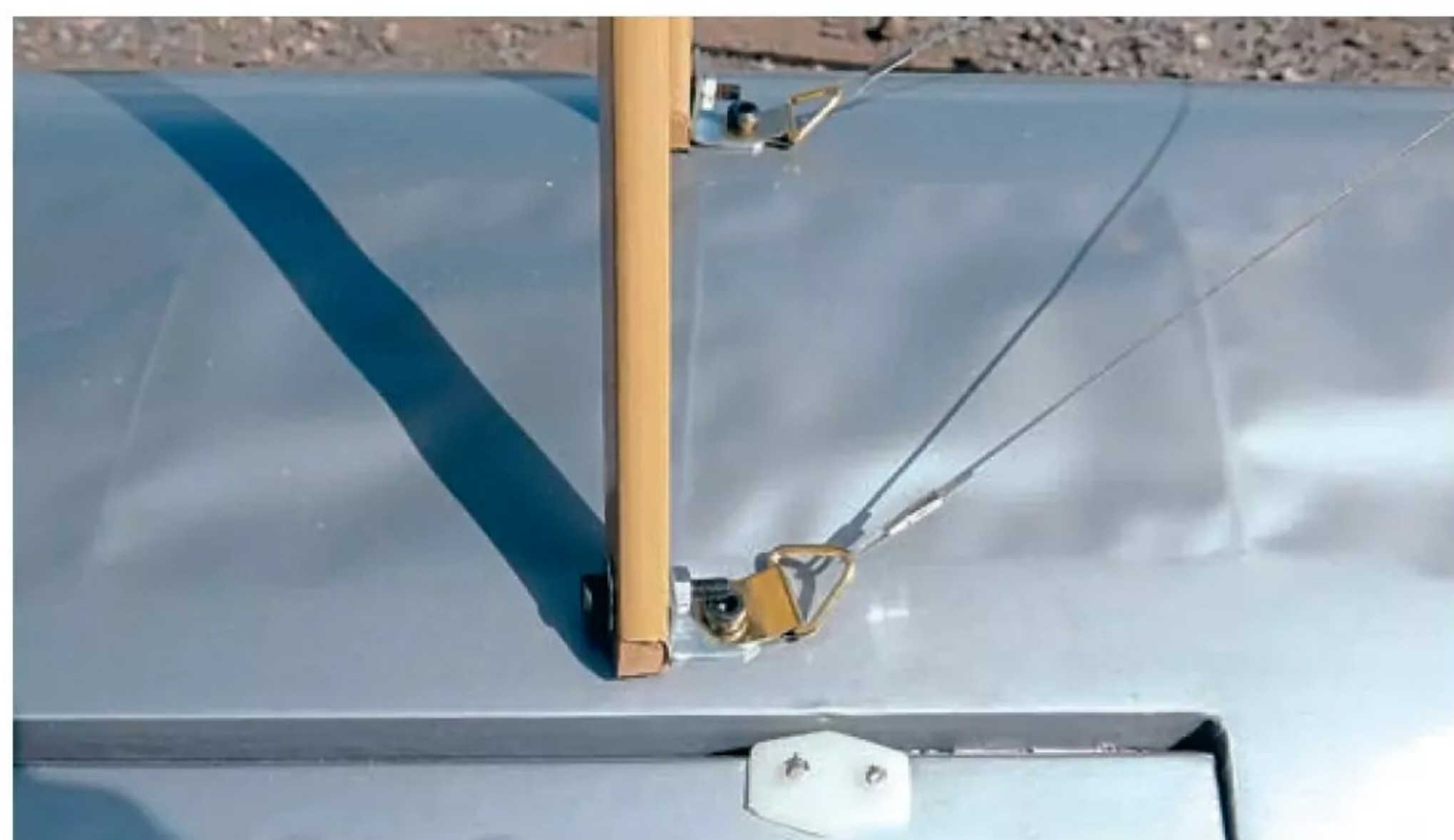
The bottom and top wing brackets are screwed into the wings using the screws provided. Once all the brackets are installed



MacGregor recommend using MG1703DS 3.3 kg.cm/0.10s mini digitals to operate the ailerons on the lower wings.



Aileron servos need to be mounted to the servo hatches before screwing them into position under each lower wing.



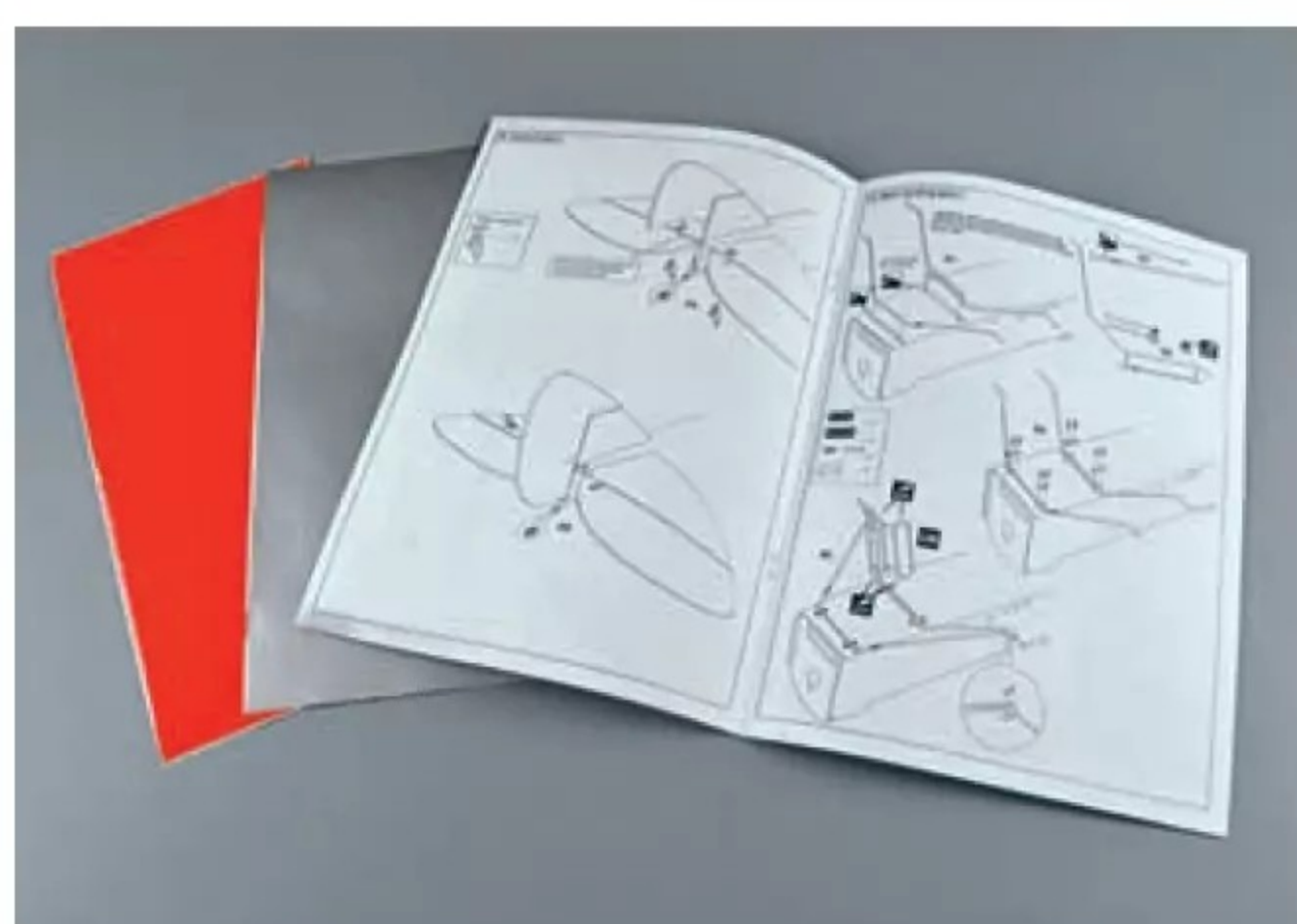
Wing rigging attachments.



The rigging wires improve the strength of the wings.



Motor mount showing the 10 mm packing piece needed to extend the firewall to prop driver distance. Note also the plates of lead bolted to the lower mounting bolts to achieve the recommended CG.



VQ supply a well-illustrated manual with each kit, as well as matching colour sheets for repairing any damage to small areas of the airframe.

“The model is very quick to put together”

the fitting of the rigging wires to the wings can commence. The bottom and top wing are slid onto the centre section so that the rigging wires can be fitted. This improves the strength of the wing. The other side is completed as before. To ensure the wings do not move a nylon wing bolt is screwed into each wing from the centre section.

COMING UP SHORT

The fibreglass cowl was next to be fitted and this is where I discovered that the distance from the firewall to the front face of the motor plate, shown as 130 mm in the manual, was too short for the Boost 40 motor. Having checked this length, it needs to be 140 mm. This involved making a 10 mm spacer which moved the motor the required distance.

The Centre of Gravity was also interesting as to arrive at the forward CG of 106 mm using a 3S 4500 mAh LiPo, I had to add 675 grams of lead which was bolted to a ply plate fixed to the bottom two motor mounting bolts. To fix the ply plate to the bolts I used copper wire which



A nicely detailed pilot is supplied as are instrument panels for each cockpit.





After his first test flight John reckoned the CG could be moved back a bit, easily achieved by moving the 3S 4500 mAh LiPo rearwards a touch and removing some of the lead sheet bolted to the engine mount.

was twisted around the bolts and then soldered. The final weight of the model came out at 3.8 kilograms. (The ready to fly weight of this model in VQ's specifications table is 3 kg (6.6 lbs) with a note saying this will 'vary with equipment in use'. KC)

For those that would like to peruse the build manual this can be downloaded from the MacGregor Industries website at <https://www.macgregor.co.uk/vqmodel/vqa139r.htm> and clicking the Manuals/Downloads link.

The control movements should have been set as per the manual at ailerons 10

mm each way, rudder 30 mm each way and the elevators 10 mm each way. No mention was made about mixing rudder and the ailerons together but from past experience with a similar model I elected to mix them together and to see what would happen on its inaugural flight.

A GOOD-LOOKING AIRCRAFT

Before I was able to test fly the model it had to pass a noise meter test. This was passed easily as the highest reading was 78 db.



Now back in the hands of the editor, the VQ Tiger Moth is destined to be re-engined with a .72 four stroke using the IC parts supplied.

As it happens the ailerons ended up at around 25 mm which was way too much. It immediately became obvious that I had too much aileron but by using small movements it was controllable. I'm very glad that I had mixed 15 mm of rudder with the ailerons as the turns were very smooth.

Numerous passes were made to be able to get the flying photos for this article. When slowing the model down for its first landing I quickly realised that I didn't have sufficient elevator movement for the flare out on landing, so the model was flown quickly on the approach to compensate for the lack of elevator movement.

In my opinion the CG needs to be moved back to around 109 mm and this will also help reduce the amount of lead ballast required.



Lining up for her maiden flight.



A touch of CAR mixing using that big rudder helps the Tiger Moth through smooth turns.



The Tiger Moth was flown with extra speed during her first landing to overcome a lack of up elevator needed for a smooth flare. It all ended well though, with big smiles all round.



Beating up the strip!



A final look (for now!) at this lovely scale biplane as it goes around after another low pass for the camera.

The model is very quick to put together and except for the error between the bulkhead and prop plate you shouldn't have any problems putting her together. It's a good-looking aircraft in the air. ■

DATAFILE

Model	DH.82 Tiger Moth
Model type:	Sport scale biplane
Manufacturer:	VQ Models
Distributed by:	MacGregor Industries https://www.macgregor.co.uk
RRP:	£279.95
Wingspan:	1400 mm (55.12")
Length:	1180 mm (46.46")
Weight:	3000 g (6.61 lbs). Review model 3800 g
Motor:	Electrospeed 3548/05 900kV brushless outrunner
ESC:	Electrospeed XP2 60A SBEC Brushless
IC Engine (optional):	.46 two stroke, .70 four stroke
Functions (servos):	Ailerons (2), Elevator (1), Rudder (1), ESC or Throttle
LiPo:	3S 4500 mAh



Lovely underside view of Mats Johansson's DH.60

INDOOR SCALE NATIONALS

Danny Fenton makes his annual pilgrimage to Wolverhampton University to join his fellow scale enthusiasts flying their indoor models

Words & Photos : **Danny Fenton**

The weekend of the 24th to 26th April was blessed with glorious sunshine and a gentle breeze. While the rest of the modelling world was enjoying the weather for some

outdoor flying some of us were buried indoors. But what a weekend!

It has become customary for the weekend to start at the Royal Air Force Museum Midlands on the preceding Friday and this year the

organisers saw no reason to change a successful itinerary. Once again the museum went out of their way to support us and we were treated to a marvelous tour of the Nimrod and a nosey around the Michael Beetham Conservation



Some familiar faces around the Friday evening dinner table, including Ian Pallister, BMFA Chairman.

Centre. It was especially nice to see that, thanks to RCM&E readers, the Nimrod now has a full set of Graviner Fire Extinguishers. Well done!

The Museum is going through a bit of an upheaval at the moment, with exhibits moving

around. The loss of Hangar One to asbestos contamination has meant exhibits being either squeezed in elsewhere or shuffled to other museums. This makes for a bit of a squashed feel but it is still a wonderful resource.



Mats Johansson flew this delightful DH.60 Moth.

“Flying Only class is first to fly. While they are competing the Kit Scale and Open classes are static judged”

You may say why this venue again? All we really need is an excuse to chat and catch up, and it's a bonus if a few historic aircraft are thrown into the mix!

A jaunt back to the hotel near J10 of the M6 saw us having a beverage in the pub garden before enjoying a nice meal. Amidst the clatter of knives and forks some wonderful tales were shared.

LIVE STREAM

This year the UK is hosting the Scale World Championships at Buckminster from July 10th to the 18th. In preparation 'live stream' events have been trialed, including at the Indoor Nats. This meant that the BMFA team were on site interviewing the movers and shakers, as well as filming the flying. This all meant we got into the hall for a couple of hours on Friday evening for some trimming while the streaming cameras were set up. I am not sure if access on a Friday evening will happen each year but it was a useful addition to the itinerary and ensured models were trimmed and ready to go first thing on Saturday.

(Stop Press! I have had it confirmed that we will get a Friday evening R/C trimming session again next year.)

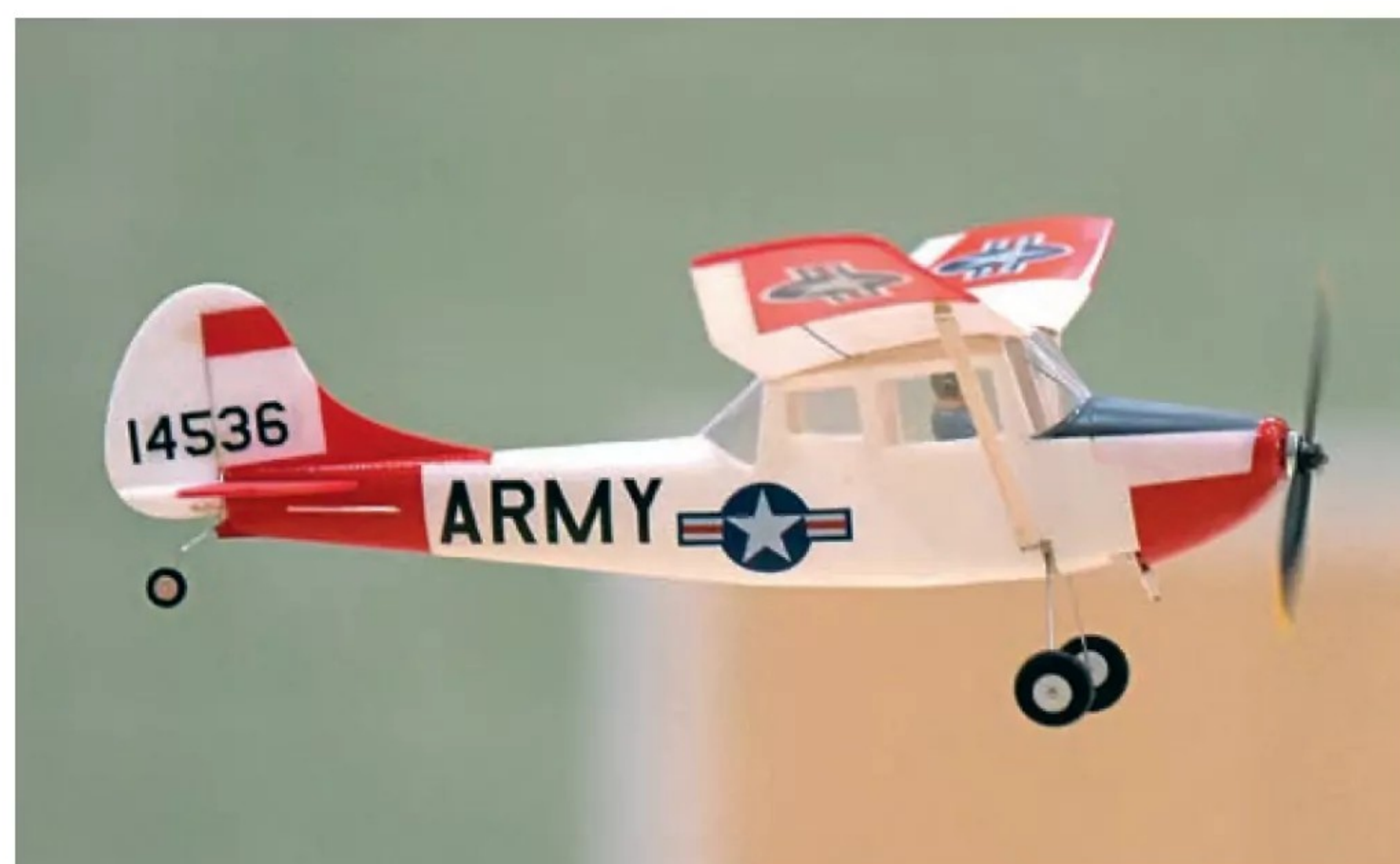
COMPETITION CLASSES

The format for the weekend is that the Flying Only (FO) class is first to fly. While they are competing the Kit Scale (KS) and Open (O) classes are static judged.

All the classes fly to the same rules, the only difference is the static judging. In FO there is no static judging and the models ✈



A stalwart of any indoor flying competition is the E-Flite Spacewalker - if you can find one!



Tonda expertly flew this delightful little own-design Cessna Bird dog in Flying Only.



Mat Dawson flew this Aerographics Chipmunk. Brian Seymour has a similar one and I often get them mixed up!

Nigel Nixon's first attempt at Kit Scale. This is from an old Falcon lightweight R/C kit.



simply have to be a fair representation of a real aircraft. In KS the models are judged against the kit plan; deviations, apart from those necessary to make the model radio controlled, are not allowed and are

down marked. You can use paint but not exceeding 50% of the surface area. You can also substitute lighter balsa and replace the tissue with better quality tissue. But that's about it.

For Open class the competitor provides three-view drawings, as well as photos of the full-size aircraft, to validate the accuracy of their model.

FLYING ONLY

We had 15 competitors in Flying Only.

Liam and Nathan Strefford have been pushing the leaders with their Spacewalkers for many years and this year was no different. They both flew superbly. I have known and flown with the twins for many years and their enthusiasm is only topped by their grandad Eric, although he admits they have been outflying him for some considerable time! Nathan finished first and Liam third, with Tonda Alfery managing to separate them. There was less than a hundred points between all three!

Mats Johansson is a master builder. He has built some lovely models from all sorts of materials including balsa, foam and carbon fibre. Some of his techniques were demonstrated in his recent RCM&E build features in the February and March 2026 issues, alongside the plans for his lovely FE2b. It is always a pleasure to chat with Mats; he always makes time to share his knowledge and enthusiasm.



Brian Seymour was another competitor who flew a Veron Tiger Moth. This is the original 18" version.



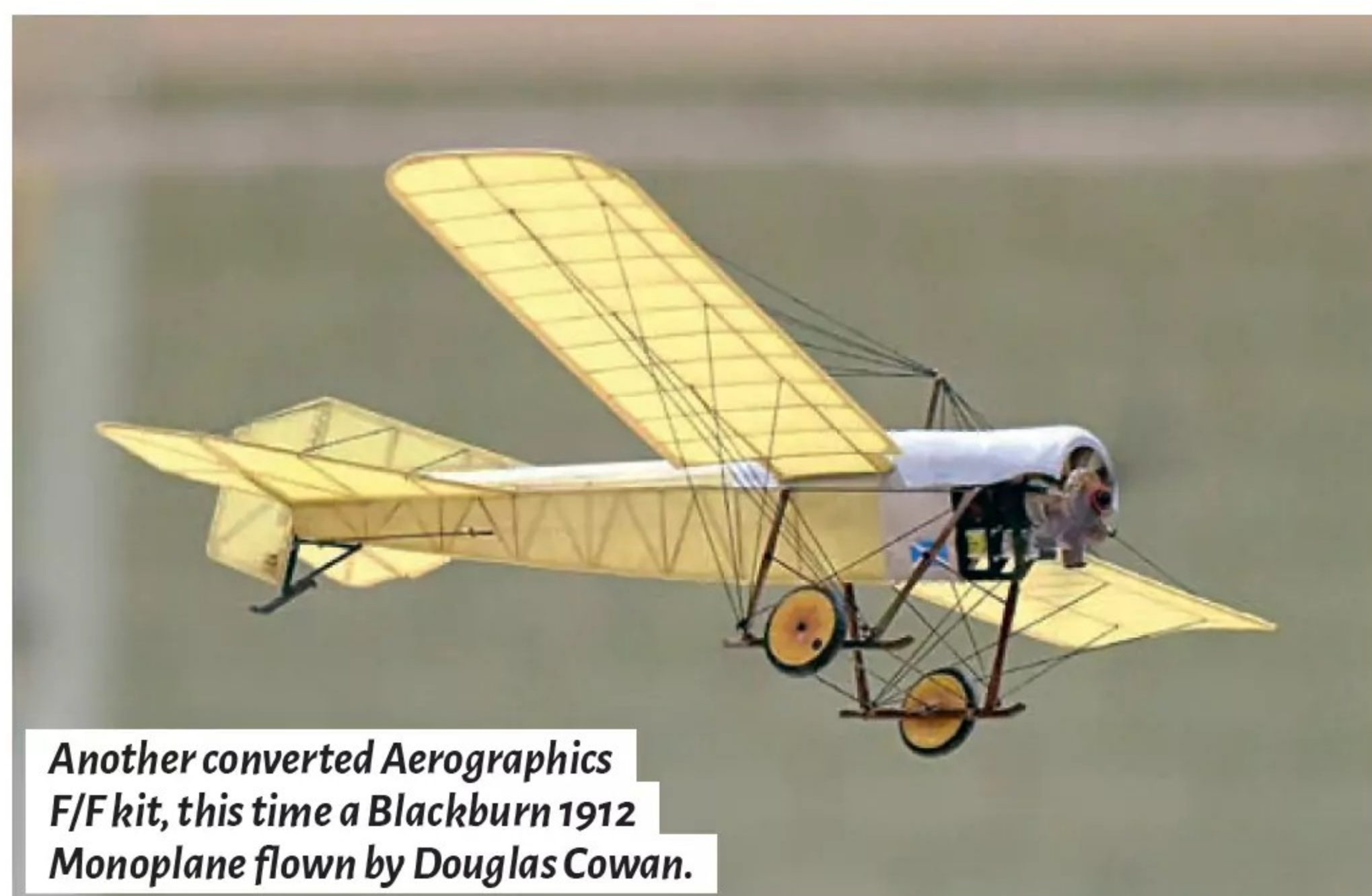
Brian wrestling with the sticks, Carl Beaumont is his caller, with Martin Fardell (closest) and Paul Hoey in the judge's chairs.



John Ranson's lovely Veron 150% Tiger Moth.



Another lovely Moth. But it's a Puss Moth this time.



Another converted Aerographics F/F kit, this time a Blackburn 1912 Monoplane flown by Douglas Cowan.



Liam Strefford's 150% Veron Tiger Moth in Polish markings.



Kit Scale winner Hari Simons with his SIG Antoinette.

Several newcomers to the event took part and the standard of flying was really high. I must confess I had trouble with my camera and didn't get as many good shots as usual, so apologies if your model isn't featured in this report.

KIT SCALE

Next up was Kit Scale which had 13 competitors.

Yours truly was campaigning a Veron 150% Tiger Moth. There were a total of five Veron 150% Moths and another two of the original 18" (100%) Moths. It really is that good a flyer.

Nigel Nixon is usually seen on the outdoor scale circuit and has again made the British F4H team for July. He will be flying a quarter scale Tucano. Nigel's indoor model was originally designed by Chris Stuart and distributed by RSC Technic. His SE5a flew really well at a good size and with ample power. Nigel was kind enough to send me some details:

"Target weight was 85 to 95 grams. Mine ended up 105 g but was tail heavy so the excess was caused by extra nose weight. Tissue came from The Vintage Model Company and I used thinned Easy Dope to put the covering on. Wingspan is 530 mm (20 3/4") and it is controlled by a micro-Futaba R32065BM Rx and two Microaces servos. ESC is an MXO MX-12a with an E-flite motor and 2 x 300 mAh 1S cells, i.e. 2S 300 mAh."

Brian Seymour is another modeller who also flies outdoor scale and who is, in fact, my



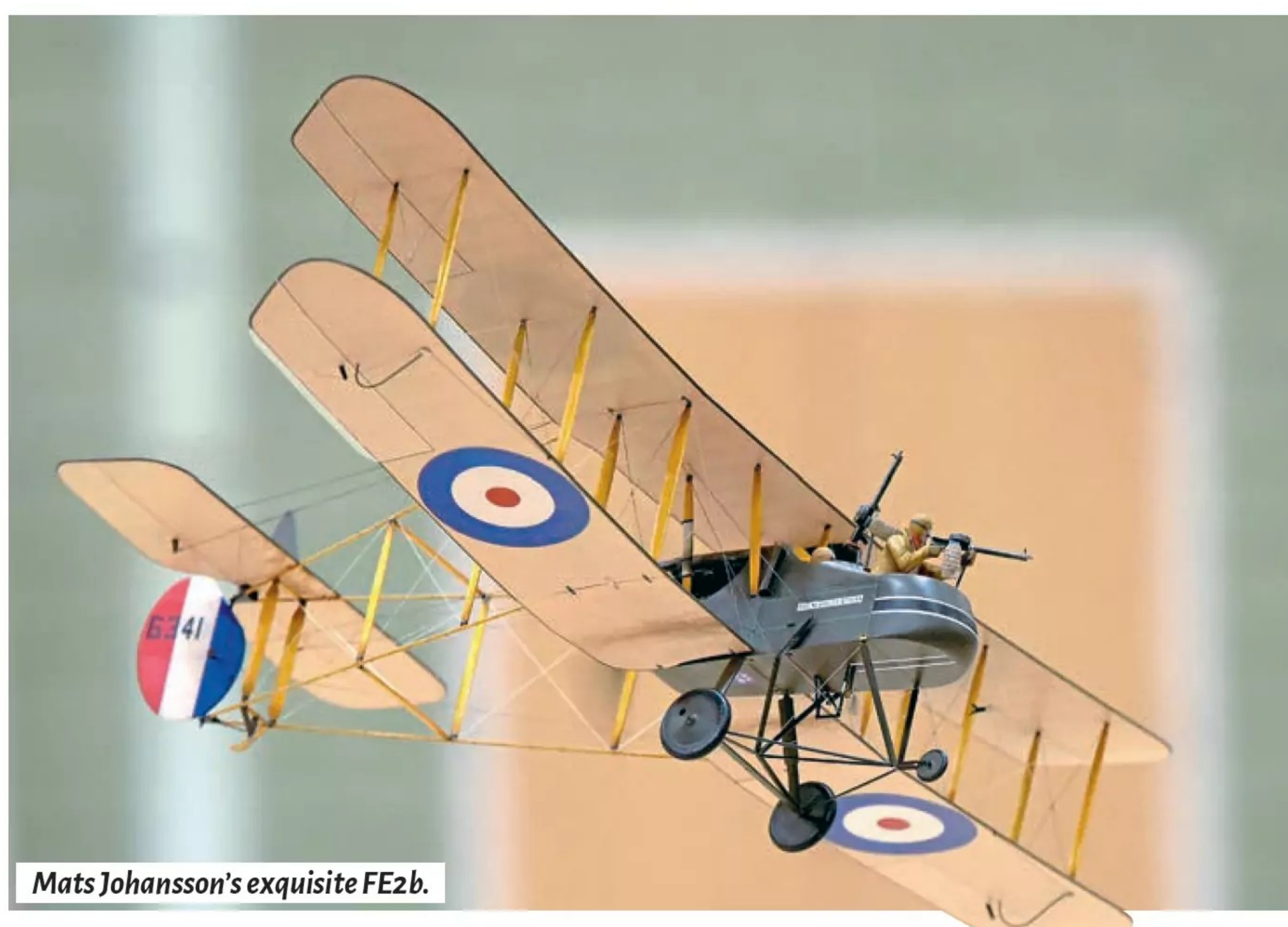
Andrew White's stunning Concorde.

caller for the World Champs in July. He is able to stand alongside me, while I turn around-and-around for control line scale F4B, without falling over!

Another new entrant for this year is also a member of the GB F4H scale team for July, John Ranson. He was flying another Veron Tiger Moth, this one at 150%. John is a great modeller and builds light but I warned him that although the model flies well the kit needs an update. John couldn't resist and redesigned it, but in Kit Scale the removal or re-design of parts meant he didn't score too well in the static element. The model was, however, only 68 g compared to mine at 88 g and I don't build a heavy model as a rule. You could see straight away that the model was lighter in the way that it flew. So well done, John. He finished 6th and I finished 8th. VMC make the current kit and they have taken John's plan and may release it in the future as a kit. Let's hope so!



Peter Evers flew this gorgeous Piper Pawnee.



Mats Johansson's exquisite FE2b.



Mats Johansson looks pleased after another fantastic flight with his FE2b.



Antonin Alferey brought along this delightful Bristol Scout.

Another new competitor this year was Carl Beaumont who flew a lovely DH.80a Puss Moth. Carl struggled with power with his model but hopefully we will see him again next year and trust he has better luck.

There were two Blackburn Monoplanes in kit scale, both from the Aerographics kit. I was quite shocked at Andy Bowman's as it wasn't flying well at all. I had seen it fly recently at the St Helens indoor meet and it flew great. I asked Andy about it and he said

that during a quick test flight he had hit a wall and re-arranged it slightly. So that explains things. He did get it behaving better for his later flights.

The Strefford twins flew 150% Veron moths. Nathan's was in Norwegian markings and Liam's was in Polish markings.

The hope with Kit Scale was to encourage some free flight modellers to take part in Saturday's R/C event, as well as Sunday's free flight comps, making it a weekend of flying

as opposed to a single day. This has not been totally successful but I like to think it's a long way to come for just a day's flying.

Hari Simons came over from Germany again this year and it was wonderful to catch up with him. His stories at the bar in the evening will stay with me forever. Hari won the Kit Scale class with his SIG Antoinette. This model flies so slowly and is a joy to watch, wafting around the hall at a walking pace. Hari must get so much time to set up his model for the turns. ✈



George Kandylakis flew this lovely Avro 504O floatplane.



George adds scale to the lovely Avro.



Peter Evers flew his delightful Piper Pawnee.



I couldn't resist finishing this report with another shot of Andrew White's masterclass in engineering, the mighty Concorde, with its nose drooped when coming around for a landing.

Seeing Hari's Antoinette inspired me to design and build a Blackburn 1912 Monoplane, hoping for a similar slow flying speed. Alas, my model did not deliver as expected and whilst practising for the event this year I rather foolishly parked it in a tree!

OPEN SCALE

By mid-afternoon we moved onto the Open class models. These are the pinnacle of indoor scale modelling and we are lucky that so many of Europe's leading exponents make the journey to compete, notably George Kandylakis from Greece, Tonda Alferey from the Czech Republic, and Peter Evers and Mats Johansson from Sweden. This gives the event a wonderful international feel.

If there was an award for the loudest cheer after a flight it would have to go to Andrew White. Andrew's skills were highlighted

"The hope with Kit Scale was to encourage some free flight modellers to take part in Saturday's R/C event"

by his stunning Concorde. This model is an engineering miracle and I asked Andrew for some details:

"Concorde is made to be lighter than the 300 g limit for indoor rules but is big enough to give a wing loading of just under 12 g/dm (4 oz./sq. ft.). At 1500 mm long and 600 mm span she is built from 2, 3 and 5 mm Depron for the internal structure with 1/32" balsa strips for local strengthening. I used 0.5 mm vector board foam sheet for skinning the fuselage and wings. The articulating nose was made from Styrofoam, carved and hollowed, then coated externally with Eze-Kote one-part resin. The Rx and two servos for the elevons were harvested from a defunct E-flite UMX A10 Thunderbolt. Four additional light servos were used for nose droop, steering and gear retraction. The two three-bladed props (RH 4" x 3") were driven by twin E-flite BL180 motors from a single 450 mAh 2S LiPo (25 g). She's a bit of a handful to manoeuvre indoors but she shows promise as a light air outdoor flyer."

Mats Johansson's FE2b is some model. This model was the subject of a recent two-part Pro-Plan feature in RCM&E (Feb/March 2026). Mats is a talented modeler and his models are miniature works of art. His building and finishing skills are first class and he always makes time to share his knowledge. He was often surrounded by curious modellers grilling him about his techniques.

Tonda flew his lovely Bristol Scout and what a lovely thing it is too. He travelled across with family from the Czech Republic and is another very talented modeller.

I am sounding like a broken record but George Kandylakis is another very talented modeller and regularly makes the journey from Greece to take part. George was very helpful in guiding me when making the turnbuckles for my Blackburn. He had a cunning way to use his R/C models in Sunday's free flight event. George feeds his motor's ESC via a switch. In one position the motor is fed by the receiver whilst in the other position it is fed by a throttle timer/programmer. For free flight the radio is active and if the wall gets a bit too close, he can intervene. But obviously, if he touches the Tx when in F/F then the flight is disqualified.

As I write the final results have not been released but unofficially Mats took first place, with Tonda second and George third.

It's a shame that we don't have more UK entries in the premier class. This year only Andrew flew the flag for our shores. I should have flown my rebuilt Blackburn but as I have said a tree suddenly leapt up and ate it! It will return for next year, with a newer and lighter tail.

SAME AGAIN NEXT YEAR

The venue was great, as usual. Wolverhampton University always welcomes us with enthusiasm and they have helped where they can in keeping the costs as low as possible. The University say that the BMFA Nationals are a favourite event on the calendar.

The venue has been booked for next year already and will be held on the 24th and 25th April 2027. Hopefully we will see you there.

I think that just about wraps it up from me for today.

As always if you want to drop me an e-mail, I can be reached at camnut@gmail.com ■

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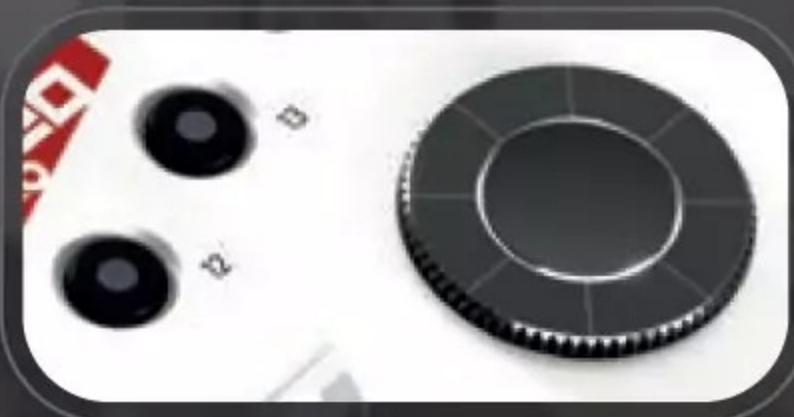


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- #KAV16.1012 Transmitter KAVAN V20 Pro - Red

Operating system ETHOS

Protocols TW 2.4GHz / ACCESS / ACCST D16

- #KAV16.1001 Transmitter KAVAN V20 - Grey
- #KAV16.1002 Transmitter KAVAN V20 - Blue
- #KAV16.1003 Transmitter KAVAN V15 - White
- #KAV16.1004 Transmitter KAVAN V15 - Blue

Operating system ECOS

Protocols Access / Accst D16

- #KAV16.1008 Transmitter KAVAN V10 - Silver
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ASTRO JUNIOR

Chris Layton builds the Dancing Wing kit for a smaller version of a favourite retro aerobatic model

Words : **Chris Layton**

Photos : **Chris Layton, RCM&E**

I am not a prolific builder, but I have always enjoyed building a model almost as much as flying them. Having learned to fly in the early 1990s there was unfortunately a 25-year hiatus in my airborne activities as jobs and family got in the way. By the time of the Covid lockdown, although I still had four or five models in the loft, so that I could return to the hobby 'someday', I had still not touched a transmitter in the intervening years. So, I decided to have a clear out. The aircraft came down and went onto the model selling websites.

Bizarrely, whilst doing this my old interest was rekindled, especially with impending

early retirement and thoughts of '*how-do-I-fill-my-time*'! So, I re-joined my old model club, Worcester MAC, which was founded in 1909, so is quite likely to be the oldest in the world. (I would like to hereby dispel the rumour at the club that there are still some founding members on the committee!)

Wow, was I in for a shock! What had happened to the hobby? Well, 2.4 GHz spread spectrum technology for one, plus LiPo batteries, brushless electric motors, ARTF models and foamies etc. What a steep learning curve I had before me!

But here I am, five years later, with a hangar (garage) full of models, 50-50 electric and IC powered, and all on 2.4 GHz.

WINTER BUILD

During the non-flying months of a typical British winter, I like to have a kit to build. I get an enormous amount of pleasure when gluing balsa and ply together, making a new model for the forthcoming flying season that no amount of foam or ARTF kit building can satisfy.

One of my favourite models to fly is my SIG Astro Hog, which was beautifully built by a clubmate and is powered by a Saito FA-65 four stroke engine. It sounds gorgeous and flies just as well. However, with its 72-inch wingspan and a tail-span larger than most foamies it is a handful to transport. So, when I saw an Astro Junior kit for sale it seemed ideal, being



Chris's chosen colour scheme, inspired by his daughter's emerald ring, has a lovely vintage feel to it.

a smaller version and easier to transport, but with the convenience of electric power. However, it was not too small at 1380 mm wingspan. There are two versions of this kit and this one was the 'complete' version with a motor, ESC and prop included.

My only issue was an earlier experience with a Dancing Wings kit. When I returned to the hobby five years ago, I was dismayed that most of all the British 'cottage industry' model companies had disappeared, being replaced by ARTF models manufactured in the Far East or by foam models. So, I ended up buying a wooden kit I found made by the Chinese manufacturer Dancing Wings. This

was a .40-size low wing model and while it all went together okay, it was predominantly plywood based and came out very heavy. So much so that even an experienced club pilot whom I entrusted with its maiden proclaimed it 'unflyable' after he crashed it into a hedge!

But I did some research online and found some very good reports on the Astro Junior. It arrived in a nice neat, smallish box which I put away for a couple of months for my winter build.

ON WITH THE BUILD

Come January and the weather was woeful, so my thoughts turned to model building. I

got out the Dancing Wings box and examined its contents. There are two sets of plans to build over for the fuselage and wings, plus additional diagrams, together with a double-sided sheet showing step-by-step colour photographs of the build, each overlaid with red numbers relating to the parts needed for each section.

Wood selection was very good (surprisingly so, given my previous experience with a DW kit) with lite-ply and medium ply, as well as balsa in various thicknesses for the stringers and spars, all perfectly straight. Laser cutting of the ply and balsa was superb. All parts are numbered and they also have a prefix (W for wings, F for fuselage etc.) which really helps with identification. A good idea I picked up was to write the number on each part using a light pencil, as once you begin removing parts from their sheets it can become difficult to identify them. There is no parts list either, so it helps to go through the box and identify all the components from the colour photographs.

In terms of the contents, I have never come across a more complete kit. There are plastic bags full of small parts containing wheel collets, screws, hinges, horns and even the magnets for the battery hatch. The tail wheel, main wheels and undercarriage are all there. There's even coaming trim for the cockpit edges. Plus, with my kit, there was a motor, ESC and propeller.

The only things I added to complete the model were the covering, a pilot and a windscreen. Of course, you need to add your own choice of receiver, servos and LiPo, as usual.



WMAC clubmate Chris Corrin's Astro Hog lifts off under Saito power. The original size model is great but the smaller Astro Junior is easier to transport.



Starting the fuselage build.



Fuselage boxed together and ready for the stringers.



Chris swapped out the 2 mm square balsa stringers for 5 mm Paulownia alternatives. Still light but much stronger!



Shaped, sanded and ready for covering.

FUSELAGE FIRST

With parts all checked and numbered, let's get down to building.

I began with the fuselage, as per the photographs. With the fuselage sheet taped to my building board, I placed the fuselage parts over the plan. These are in two parts on each side which slot together. Formers are clipped into appropriate slots on one side with horizontal floors slotted in between. Once that is completed the other side is glued onto the formers. Care must be taken to ensure the fuselage is dead straight as both sides need to curve towards the rudder post. To make sure, I removed the part-built fuselage from the board and put it in my building jig, so it was kept straight, front to rear. All the laser-cut parts fitted together well to make a rigid fuselage and because of this I exchanged my usual PVA adhesive for cyano. Using thin cyano with a long nozzle (I discovered these are called 'needle nozzles'), I was able to dispense small amounts of glue into the joints very accurately and the close fit of the parts made them dry extremely solid. This was a quick and satisfying way of building, with no 'waiting to dry' downtime. Using the needle nozzles gave precise application which saved glue wastage too.

The bottom half of the fuselage was completed quickly. The top turtle decks are made using balsa stringers for both front and rear sections, with part of the front section

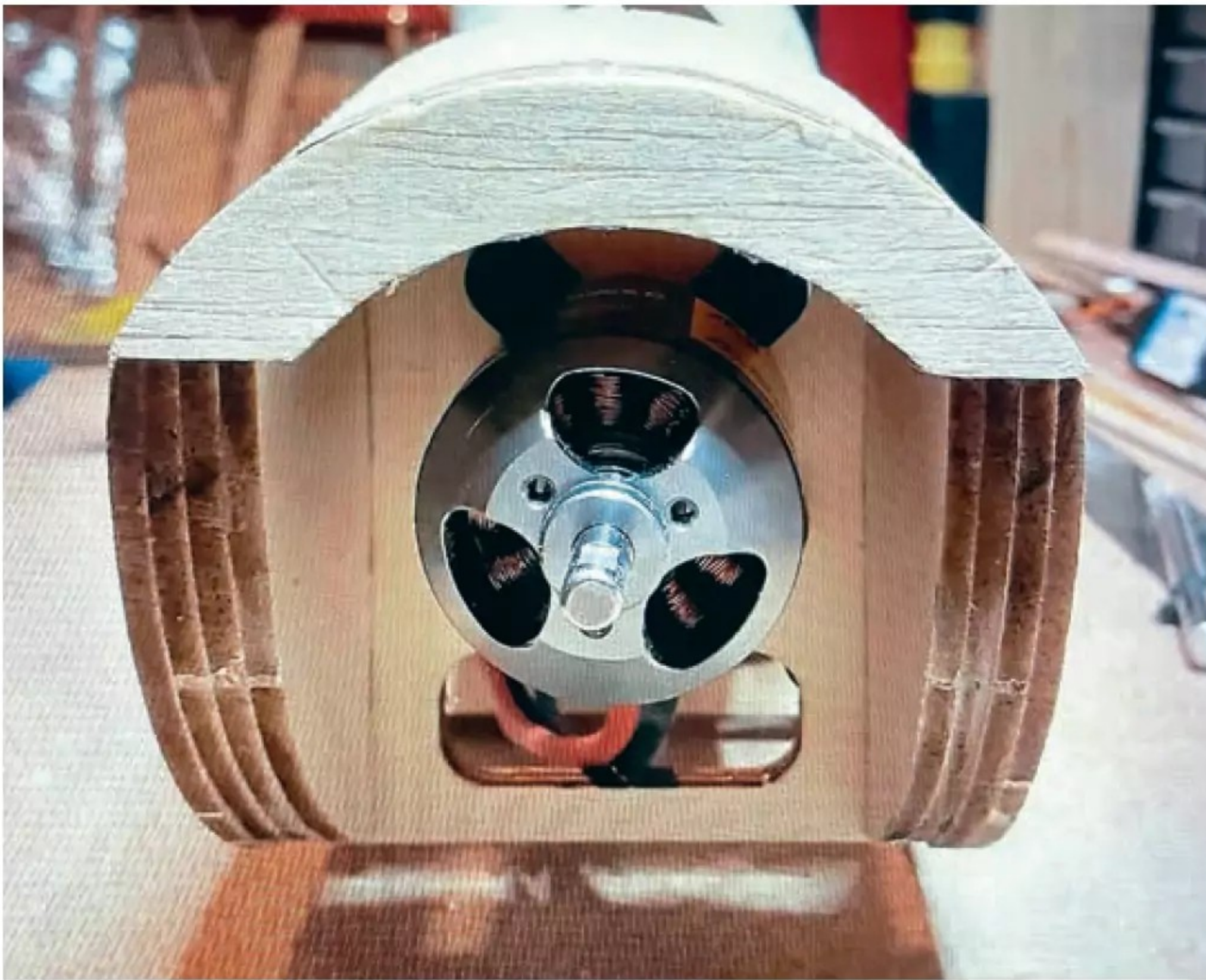
forming a battery hatch. Here, I decided not to use the 2 x 2 mm balsa stringers supplied because although they are covered in balsa sheet, previous experience with this type of construction meant I wanted to use something more substantial. And then I made a discovery...

The four wing spars (two each, top and bottom) were from some wood I had never

come across before called Paulownia. The more I examined them the more impressed I became. They were exceedingly strong and hard, but as light as balsa. After some research, I found this wood to be commonly used in the Far East and I was able to find and order a pack of a dozen 30 mm x 5 mm Paulownia stringers which I used to replace the balsa ones supplied, enlarging the deck former slots slightly to



Wing panels are traditionally built using ribs, spars, webs and sheeting.



Just a gentle bit of sanding and the cowl is ready for covering.

accommodate their extra width. These have made the decks strong but still very light. In fact, I could probably have got away without sheeting the turtle decks and just covering the stringers, Hurricane style. I shall be using Paulownia wood again in my future builds without a doubt.

ON TO THE WINGS

These are straightforward traditional builds. The ribs are glued over the bottom spar, followed by the upper spar which is glued into slots in each rib. Webbing is then added between the spars to make a strong box section and the wing tips added as per the photos, all lovely therapeutic building. Wings are always

so satisfying to build and these ones looked good and felt substantial when completed. Ailerons were from hard pre-shaped balsa, so that saved time too.

When joining the wings there are two decisions to make. First is the amount of dihedral as two differently angled sets of wing braces are supplied. I chose the lower dihedral ones for better aerobatic performance but for either dihedral you must be sure to fit the wing root rib at the corresponding angle so the panels mate together correctly when the wings are joined. There are three ply braces for each dihedral angle which, when glued together with epoxy, become really strong. Once dry fit the brace dry in the wings to



Chris sourced a pilot with a toothy grin and made a windscreen from a plastic bottle.

set the final wing root rib angles BEFORE gluing them.

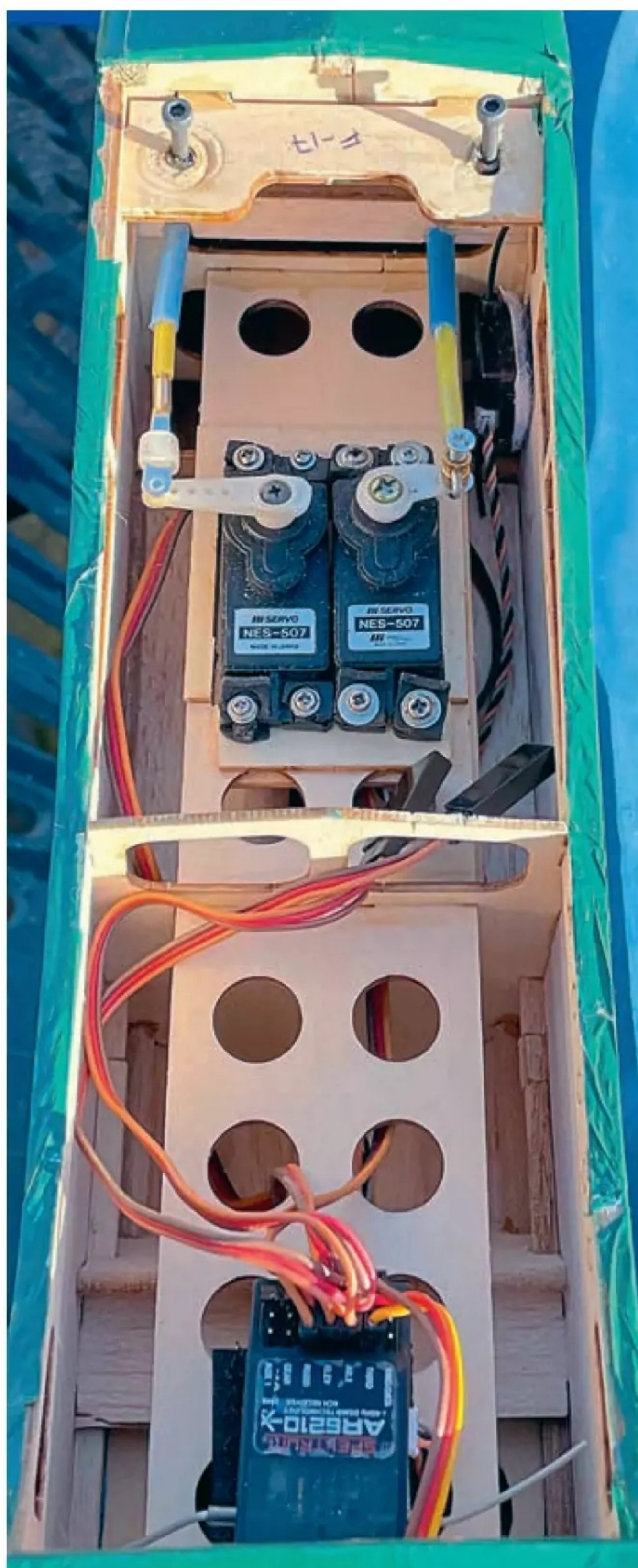
The other decision is how to secure the aileron servos in the empty wing boxes. Fortunately, I had some plastic servo housings in my 'bits box' which were of the correct size. Otherwise, I would have needed to make some ply mounting plates.

MORE BALSA BASHING

There is some more 'balsa bashing' to be done, though not a great deal: the pilot's headrest, making the tail on either side of the fin and the nose of the model. They all need sanding and shaping but they only take a few minutes each. (Do wear a mask though as balsa dust 🛩️)

Finished model looks resplendent in cream and green.





Tail servos are operated by snake pushrods.

It's a long walk out to the flying strip from the winter parking!



is easily inhaled and can cause respiratory problems.) It's very satisfying to see their shapes appear from bits of glued together balsa

The supplied motor (2814 950 kV) was bolted to the front bulkhead and its wires fed through an aperture to the ESC which is positioned behind the bulkhead. I made a hatch underneath to provide access to the ESC and the wiring - a good job too, see later! The battery hatch gives easy access to the recommended 3S 2800 mAh LiPo.

At this point I gave the model a good 'going over' using balsa filler in the indentations and joints, sanding back once dried. I always agonise a little over colour schemes and so I

consulted my eldest daughter. 'Do it the same colour as my ring', she said, producing a bright emerald! Ah, I thought, I have a roll of green Solarfilm just like that for the fuselage and also a roll of cream Solartex for the flying surfaces. (The Solartex had a price sticker of £2.87. Both coverings were over 30 years old. Those were the days!)

I fabricated a windscreen from a plastic bottle and found a suitable grinning pilot (maybe he is just gritting his teeth!). After fitting the landing gear and tailwheel the Astro Junior was ready to go!

TAIL HEAVY

That is, until I tried balancing her! She was tail heavy, even with my heaviest 3S LiPo up against

Up elevator and smooth application of power soon has Astro Junior rolling.





Light showing through the wings and tail reveals their trad construction.

the front bulkhead and required over 200 grams of weight in the nose. Now, what to do, as I had used all my lead weights. But I did have some redundant NiMH four cell battery packs and two of those weigh just over 200 g. Remember my ESC access hatch? Well, those packs fitted snugly in there, being careful not to obstruct the airflow over the ESC and, lo and behold, she now balanced okay.

GO TO MODEL

The next week, at our lovely Goosehill site, I range tested the Astro Junior and rechecked all the linkages, servo movements and CG. So, with no more procrastination it was time to fly her!

Holding up elevator, I smoothly opened the throttle. She tracked straight, lifting off in about 25 feet but, whoa, some trimming was quickly needed. But after sorting the trims she flew beautifully, exactly like her big sister! Astro Junior is smooth and as acrobatic as you want, performing lovely rolls, loops and a great spin and recovery. She looks gorgeous on low flypasts, and landings are smooth and very predictable. She displays no bad habits or poor stalling characteristics and is just lovely to fly. I love this model!

After several flights she has become my 'go to' model and I am very pleased with my choice. I had a very enjoyable build which has produced a superb aircraft. Well done, Dancing Wings. ■

DATAFILE

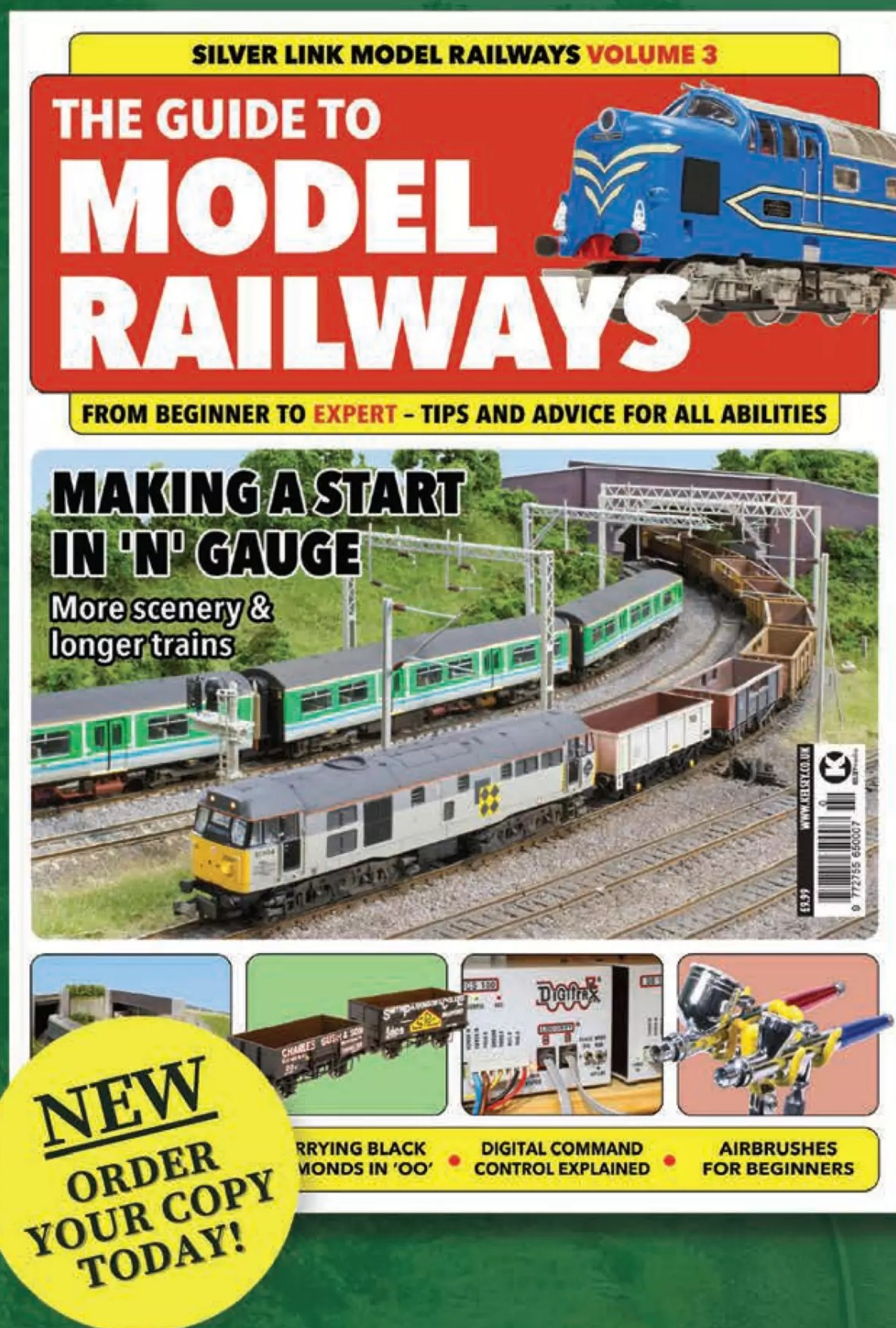
Model	Astro Junior
Model type:	Sport aerobatic
Manufacturer:	Dancing Wings
Wingspan:	1380 mm (54.33")
Length:	1010 mm (39.76")
Flying weight:	1600 g (56.44 oz)
Motor:	2814(3520) 950kV (optional)
ESC:	40 - 60A (optional)
Propeller:	11 x 6
Functions (servos):	Ailerons (2), Elevator (1), Rudder (1), ESC
LiPo:	3S 2800 - 4000 mAh



Coming over the threshold and lined up for another smooth landing.

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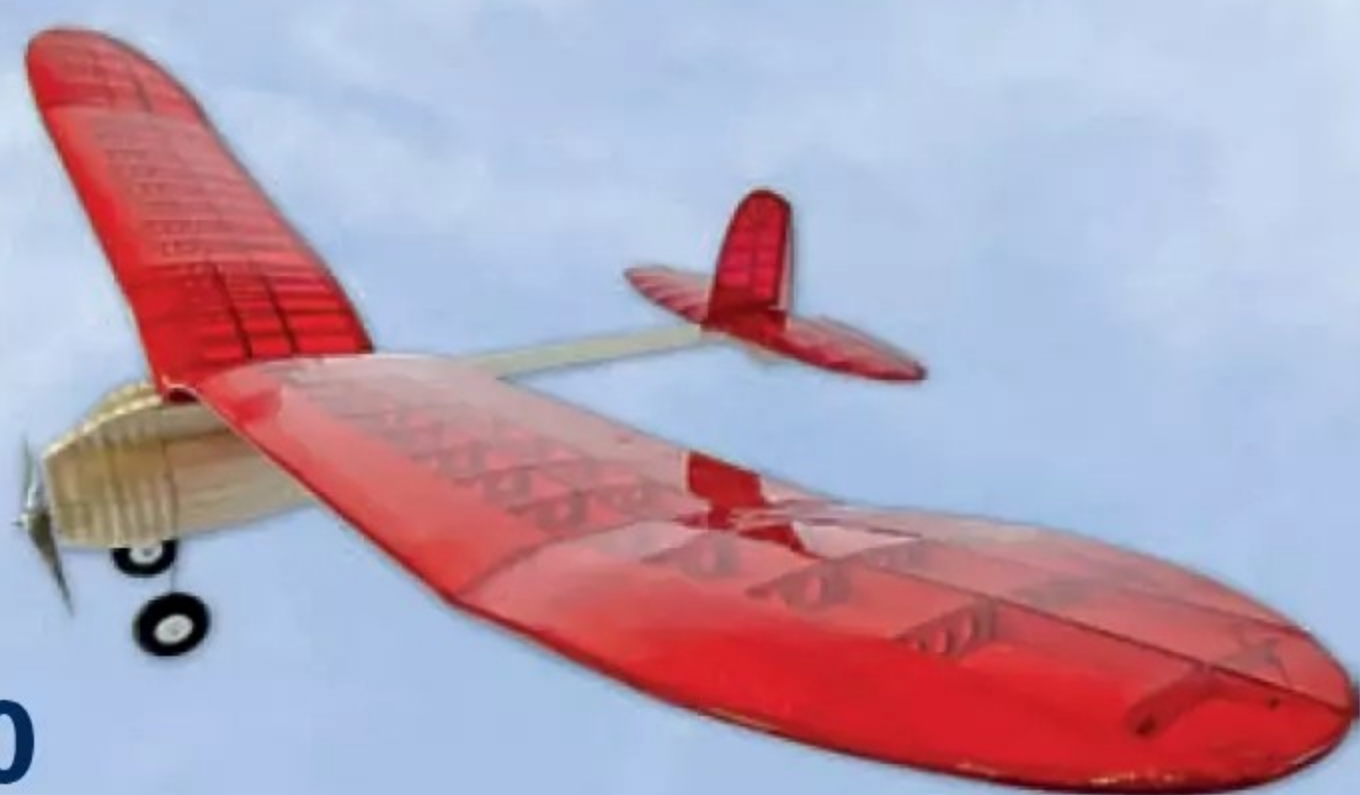
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Pilots and models at the 1st BMFA Centralised F3A competition in April 2026.

NORTH OF THE BORDER

This month **Keith Jackson** starts with a look at F3A in Scotland, including an interview with up-and-coming young F3A pilot

Words & Photos: **Keith Jackson**

It has been a long time since I flew in the Scottish F3A circuit, although I do hope to make it back up north in the future at some point. The F3A aerobatic scene is attended by a small but dedicated group of enthusiasts who have a dedicated Facebook page to be found at <https://www.facebook.com/groups/733780607406350>.

A lot of the admin and organisation is undertaken by Tom Laird and he would be the first point of contact for anyone wishing to participate in these events. Competition sites can be found across the Scottish landscape, from Glenrothes to Dumfries, and will run until September this year.

ASHBOURNE

Not to be outdone, competitions on the English side of the border have started to come thick and fast and the third BMFA centralised F3A ✈️



BJ Craft Epilogue belonging to Tom Laird. This lovely model continues to be very popular in F3A circles. Mono-prop drive using a Hacker Q80, D3 ESC and RS 3-2-3 three blade propeller.



Ideal for Clubman class, an Olympus RTF flown by Andrew Twort who travelled all the way from Skye to attend this event!



Dan Gallo with his BJ Craft Invitation in characteristic green! Propulsion by the ever-popular Hacker Q80 single drive motor. On the right, UK team pilot Malcolm Balfour with his Velar biplane. Plettenburg Advance single drive with RS3-2-3 three blade propeller.



Malcolm Harris' Super Oxygen with cleverly disguised wing fences.



Bespoke pencil sketch by Andrew Twort of David Balfour carrying his model prior to flight.



Malcolm's big brother David Balfour with his Pegasus Models 'Excess' design, again for single motor drive.



Elderly but very serviceable Sebart Wind S pro flown by Dave Kelley.

competition at Ashbourne has just been held. It was great to see Gerhard Fehringer again, flying his Hui Yang Oreka well to take second place in the P-27 class.

ARRAN WILSON

Arran Wilson is a young, up-and-coming F3A pilot flying on the Scottish aerobatics circuit. In previous years Arran has worked his way through the UK F3A Clubman and Intermediate schedules and has progressed into the FAI P-27 category this season. What follows is a short interview with Arran concerning his introduction into the world of precision aerobatics.

Q: What's your name and how old are you?

A: Arran Wilson, 16 years.

Q: When did you start R/C flying?

A: I started as a complete novice in 2019, aged 10, just before the pandemic struck.

Q: Where do you fly?

A: West Calder & District Model Flying Club. We have a great site with a tarmac take-off runway and a good-sized landing area. All the members are very friendly and supportive.

Q: What attracted you to the hobby and what do you like about it?

A: I've always been interested in model plans and flying, and the opportunity came to try a flight at a club open day. I gave it a go and fortunately my dad was also interested, so we joined the club and learned together. Flying is pretty cool as it combines some technical ability with great fun. I also enjoy the way different planes suit different conditions and mood.

Q: What planes do you like to fly?

A: I enjoy all sorts. I am quite lucky as I have several different planes, including my Arrows

Bigfoot which is a lot of fun to mess about with, a couple of EDF jets including a Saab Gripen which is my favourite fighter jet, as well as my aerobatic planes.

Q: What attracted you to aerobatics and F3A?

A: I saw Tom Laird practicing F3A flying at the club and really liked the look of his plane. I was impressed by the scale of the patterns and the variety of manoeuvres involved. I also liked the idea of having a real focus to my flights and competing.

Q: Did anyone in particular inspire you?

A: In terms of R/C flying generally, I was blown away by my first visit to Weston Park. Some of the flying was just incredible and Martin Pickering stood out, particularly with his YouTube videos. In terms of F3A, I am really lucky that some great pilots fly in the Scottish competitions.



Gerhard Fehringer with his Hui Yang Oreka.



Arran Wilson with his CA Models Zonda.



Two BJ Craft Epilogues of Ken Moss (left), winner of the P-27 class, former Nationals Champion and UK team pilot Dave Matthias.

Q: Do you have a mentor?

A: Tom Laird has been a great help in encouraging me to take up F3A and has been very supportive in sharing advice and gifting equipment. All of the guys who compete are very friendly and happy to share their experience.

Q: Which radio system do you fly?

A: I have always flown Futaba as equipment was passed on through club members which made things more affordable for my dad. My current transmitter was a 14th birthday present and is a T14SG that was sourced through a club member. I use FASST receivers and fly low voltage.

Q: Can you describe your plane set up: model name, servos, motor, ESC?

A: My plane is a 2m Zonda. I was very fortunate that Tom gifted me the airframe. Although it was crash damaged and had a few areas in need of repair (the motor mount had sheared from the fuselage and the undercarriage had parted company), my dad and I were able to put it together and I think it flies okay. It has a Dualsky motor and Summit 100HV ESC. The servos are Savox.

Q: When did you first compete?

A: I started flying F3A competitions with the Clubman schedule in 2024 and then I flew the Intermediate schedule last year.

Q: How did you get on and what do you get from it?

A: I was lucky to win both competitions, although this year I hope to fly the P-27 schedule and will be competing against some very talented and UK team pilots like Malcom Balfour and Dan Gallo. I had a great time and think I have become a better pilot, with more control.



Arran's Zonda didn't have the easiest start in life when he received it!

Q: What would you say to any young pilots thinking of competing F3A?

A: I'd say give it a go!

UK TEAM UPDATE

At the time of writing the UK team will be conducting last minute preparations for their trip to the 2026 European Championships to be held at the RAM club in Sevremoine, France. More details of this international

team competition can be found at <https://ec-f3a-2026.com/home>, where live scores during the actual rounds can be viewed. Looking though the team information shows the seventeen countries attending and the pilots who are attending. It's nice to see this will include both Christophe and Antonin Paysant Le Roux from France.

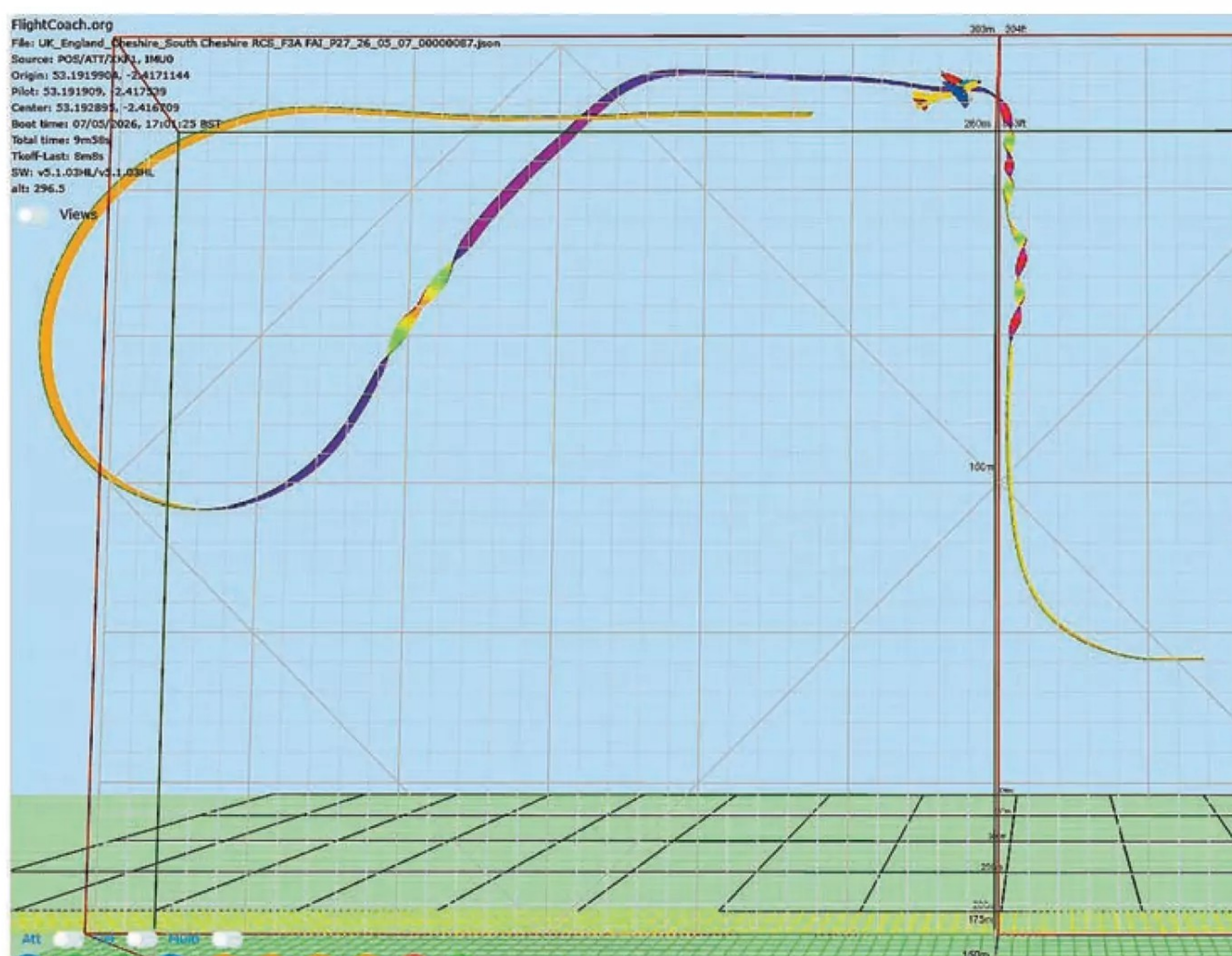
The event starts on August 8th and runs for one week and comprises four full rounds



UK F3A Team 2026. Left to right: Brandon Ransley, Kevin Caton and Malcolm Balfour with Team Manager, Jim Fallowfield in the foreground.



Models used by our guys: Malcolm's Velar in the foreground, Kevin's SkyleafLeader Ace in the middle and Brandon's VLV Aurora at the rear.



Half Cuban Eight leading into the centre two turns reversed spin in FAI P-27. How many issues can you spot in these manoeuvres?

of the FAI P-27 schedule, two rounds of FAI F-27, in which the top 30 pilots from the preliminary rounds will fly for a place in the finals. This last stage takes the top 10 pilots in Europe, who will then fly two further rounds of F-27 and two unknown rounds selected the night before, to determine the European Champion.

As part of their preparations the UK team have conducted several practice sessions. The following text was received from UK Team Manager Jim Fallowfield just after the Team's first official practice: *Our first team practice in preparation for the F3A European Championship 2026 was arranged for Monday 27th April at Tyldesley Model Flying Club, who had very kindly given up their flying site for the day for us to use. The strip was in excellent condition and the box and centre markers were already prepared from the 2nd BMFA centralised F3A competition the previous day.*

We all arrived at a similar time and were ready to start for 9 am. Team members Kevin Caton, Malcom Balfour and Brandon Ransley were all equipped with modern two metre pattern models comprising a SkyleafLeader Ace, Hui Yang Velar and VLV Aurora respectively.

We started the practice with an FAI P-27 schedule flown by each pilot. After each flight we went through the schedule manoeuvre by manoeuvre, highlighting areas that would benefit from additional work during the day.

The gentle breeze picked up gradually as the practice session went on but the day was going very well and there was lots of useful live feedback through each flight. Later, we moved on to the FAI F-27 schedule which includes much more difficult manoeuvres, often including integrated rolls and snap rolls.

All in all, the practice went very well and was an excellent start to our preparations. There was some very accurate flying from all the pilots which is really good given that it is still early in the season. We are hoping to have more practices over the coming months prior to leaving for the competition in August.

WING FENCE UPDATE

I am relieved to find that my comments in my last column regarding wing fences have not attracted derision from the aerodynamic community and so I can assume I'm on the right track with them. Regardless of the theory, the bottom line is they work very well.

The centre spin in the FAI P-27 schedule follows a reverse half Cuban Eight manoeuvre which firmly places the model very close to centre of the box at its exit. This means unless you get your speed and positioning correct, your model can sail past centre at a great rate



Tapered seat for wing fence.



Assembled wing fence base.



Wing fence in position on the Strato wing tip.

of knots before hitting the stall into the spin. As the model approaches the spin, it is supposed to be held at a progressively higher angle of

attack since as its speed decays this is required to generate lift and maintain altitude until the model finally stalls. The desired nose up

attitude is very clear in the picture created from a FlightCoach recording of one of my flights. On that point, how many errors can you see in the graphic?

The ability to do this depends on several factors but the design of the wing will play a big part. In my case, with the swept wings of the BJ Strato, this was not so easy until the wing fences were fitted. The ability to hold the nose high is now greatly improved and has made the whole exercise well worthwhile.

My ambition to have the wing fences removable using a 3D printed base section were somewhat thwarted by the designer going AWOL. Instead, I had to rely on a more agricultural method of creating a plywood sandwich, inside which the wing fence would sit. As this would mean the fences would slide into position from the front, this would mean the interior seating would have to be at least parallel and more likely tapering to a thicker section at the back of the fence.

Creating the interior section of the base unit was not trivial as its location crosses the wing section at an angle, so it had to be carefully shaped on a trial-and-error basis. Moreover, the two halves of the base are not the same which made the shaping process a bit laborious. On the advice of BJ at BJ Craft, I wanted to maintain a sharp transition from the wing surface to the wing fence, meaning generous fillets could not be created when gluing the base unit to the wing. The film covering on the wing directly underneath the base unit was removed prior to gluing it in place with a mixture of epoxy and micro-balloons.

Unfortunately, I am not gifted in the art of spraying and had to settle for an average finish at best. However, once I crossed this psychological barrier and forgot about it, I am happy to report the devices work well and are easily removeable thereby preventing any damage in transport. ■



Final item is not quite as well finished as I'd hoped but it's good enough for now.

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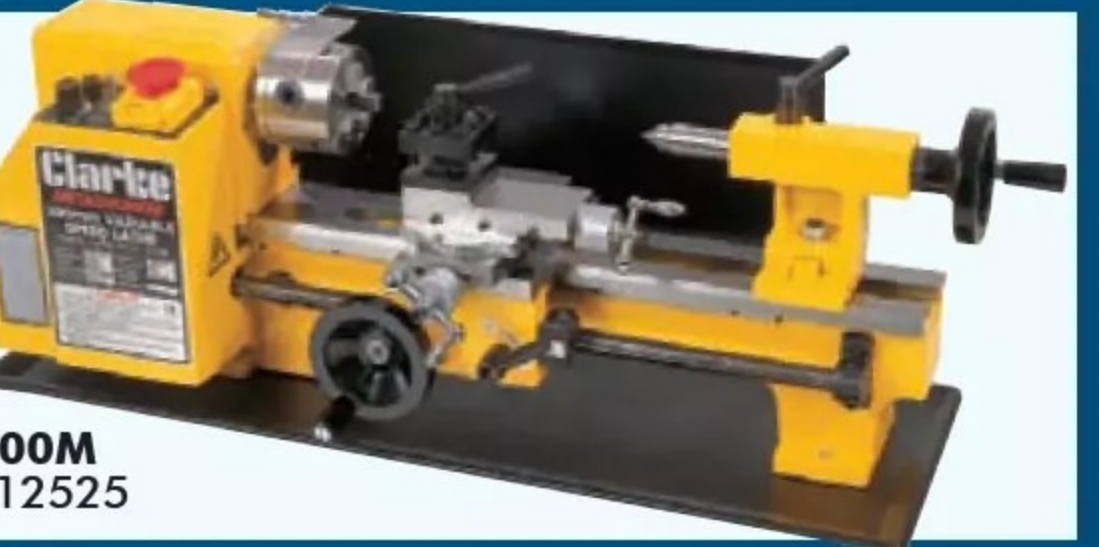
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 SCAN ME



Alex gives scale to his chubby asymmetric biplane.

ZIG-ZAG

Alex Dalidis reveals the story behind his little lopsided biplane

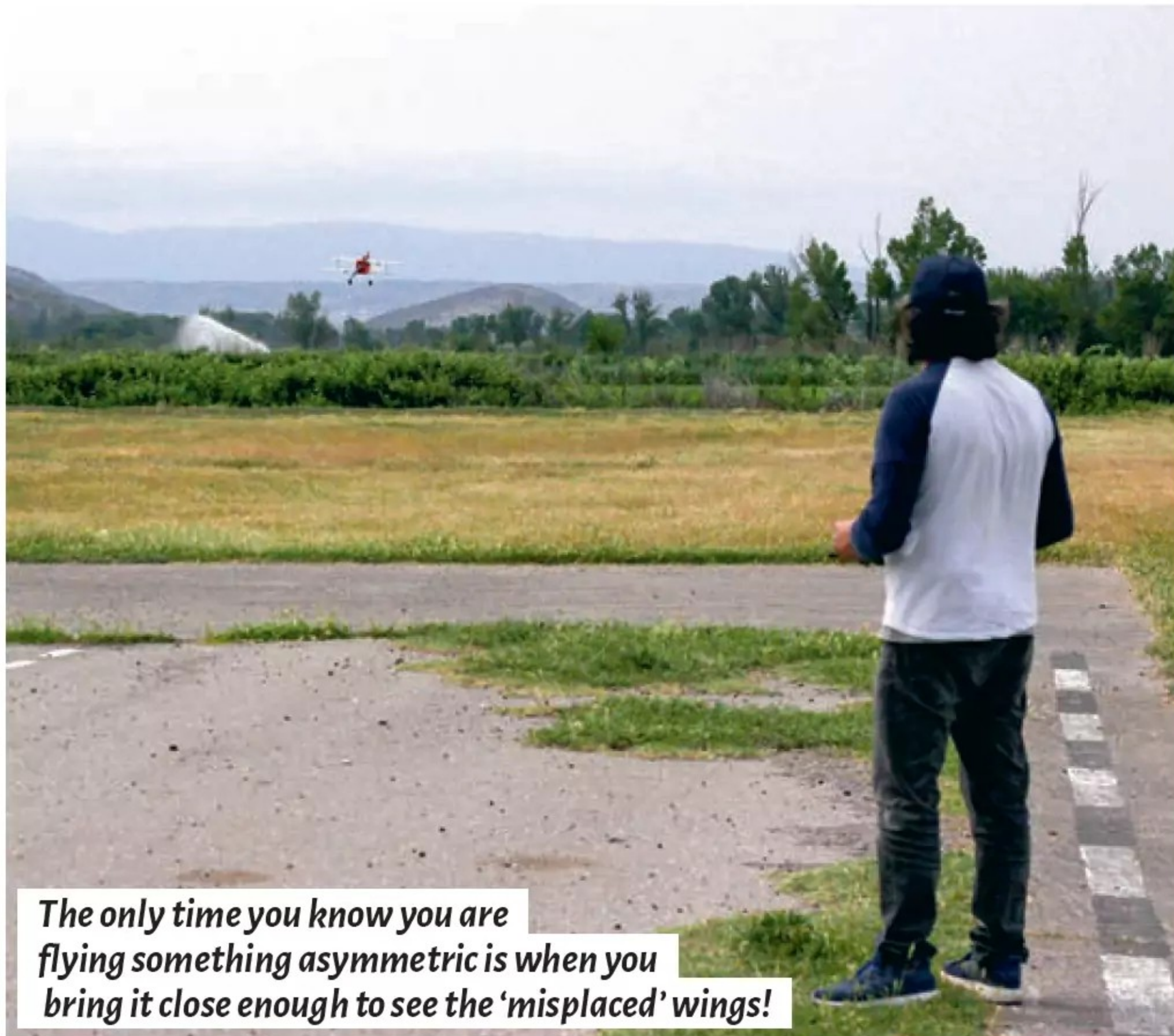
Words & Photos : Alex Dalidis

It was 2018 and I had just finished building a little electric biplane of my own design based on the unmistakable, but almost always true, scientific rule of 'I.L.C.I.F.G.' (If it Looks Good, It Flies Good). A simpler term is eyeballing! There is a profound truth about that, provided nothing is far out of proportion in terms of incidences, moment arms and surface dimensions. There is an old American saying from the Golden Era that states, 'Give me a strong engine and I will make even a barn door fly!' Well, if you put the CG in the right place, you will get this door off the ground safely.

This little biplane was built out of illustration board (aka foamboard, basically Depron covered with thin cardboard on both sides) which is sold in art stores. I named it Fat-Bipe since it was a bipe and it was fat. The plane performed superbly. It grooved through the air like a proven design. It was pure luck - and good eyeballing, of course! The model was not fitted with any landing gear as it was supposed to land on the bushes outside my home. Which it did for some time, but it also made it grow old prematurely through heavy wear and tear. I had to retire the plane, although I wasn't tired of it yet.

In 2024, I had the thought to put the Fat-Bipe down on paper. I know, I know - it's usually the other way around. But this plane turned out to be unusual anyway. In any case, and in my defence, I'm pretty sure I read somewhere that George Aldrich, the famous designer of the Nobler, the most iconic acrobatic control line model of all time, first built the model and afterwards drew it as a plan. So there!

The idea was to enlarge it 15% from the original and build it from balsa and ply, powered by, once again, by electric. I had a quick thought of fitting an .074 or .09 Cox



The only time you know you are flying something asymmetric is when you bring it close enough to see the 'misplaced' wings!



Zig-Zag's predecessor, the Fat-Bipe.

engine but as much as I love IC model engines, models of this size seem to fly much better when electric. The lack of vibration and the use of a much larger propeller make them so much steadier in the air.

A BIGGER BIPE

So off I went and started measuring my Fat-Bipe, increasing everything by 15% and giving it some shape on my computer. After quite some time the plan was ready, so I printed it on paper and took it down to the basement, proud and confident to start building the bigger Fat-Bipe from my new plans. No more eyeballing - or so I thought!

Although my plan specified an all-wood construction using balsa and ply, I was so impatient that I started building the enlarged biplane straight away, following the plans this time but using almost everywhere 6 and 3 mm Depron. Little bits of ply and

balsa were used, mostly for reinforcing the leading edges of the wings and tail feathers, and for doublers on the front part of the fuselage. But I was happy that the plane was coming to life relatively quickly, validating my drawing efforts along the way.

EYEBALLING AT ITS BEST

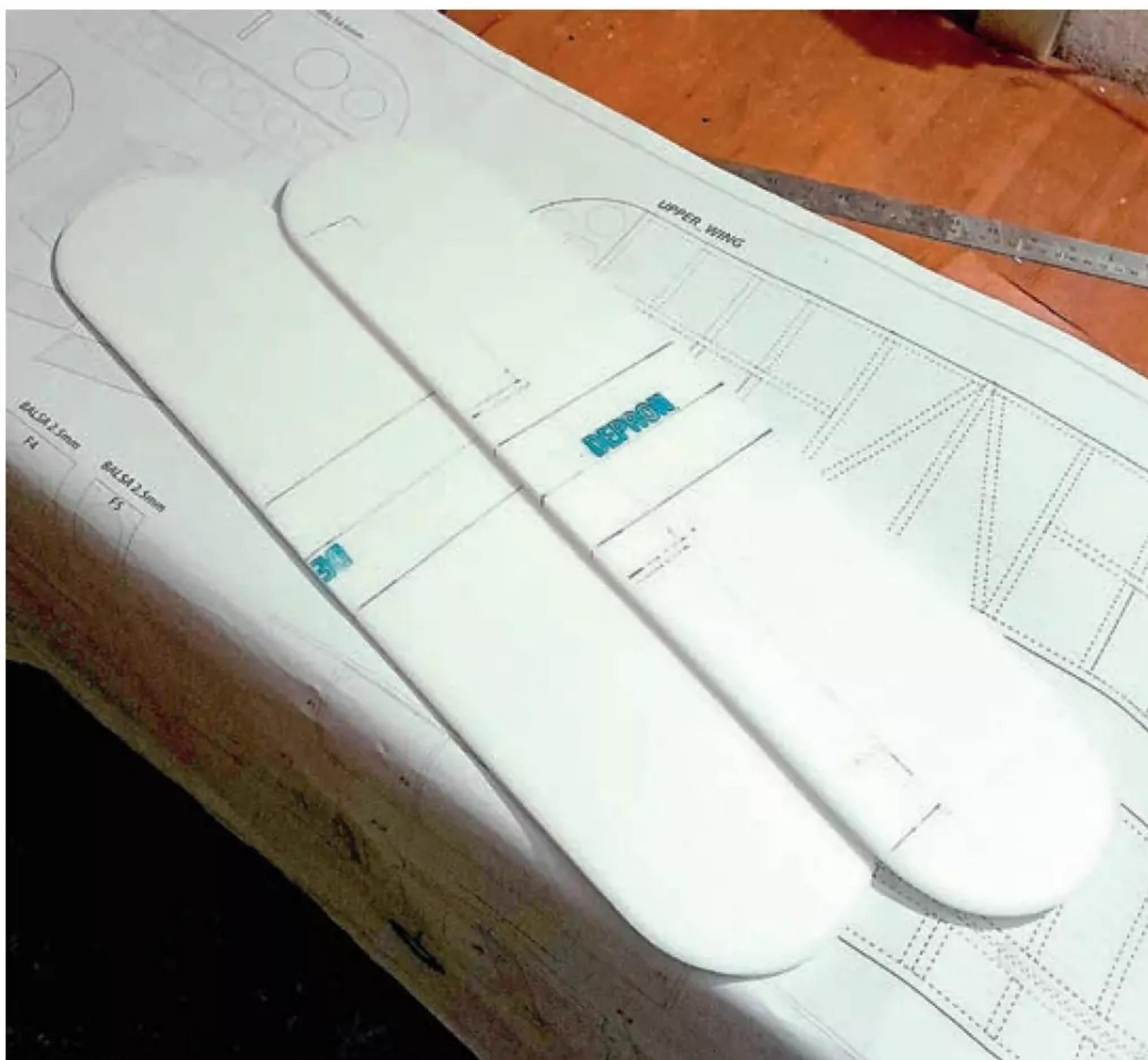
One afternoon, after I had glued the horizontal stabiliser in place, I needed to check if the wings were sitting parallel to it. So, I inserted the lower one in first through the openings in the fuselage, while not necessarily bothering to centre it. The upper one followed and this too was off centre. Do you get the picture? Eyeballing at its best!

I was somewhat sceptical about the emerging design and if it was worth the effort to go ahead and finish it. We all know how much time and work a model demands until it's ready to prove itself, only to simply see it

turning into pieces in a fraction of the time it took for it to come to life!

The answer to the question came easily the next day when I discussed my concerns about the now asymmetrical biplane with my old friend and flying buddy, John Samouris. He simply said, "Wonderful idea. Go ahead and finish it like this. Experimentation is what it's all about!"

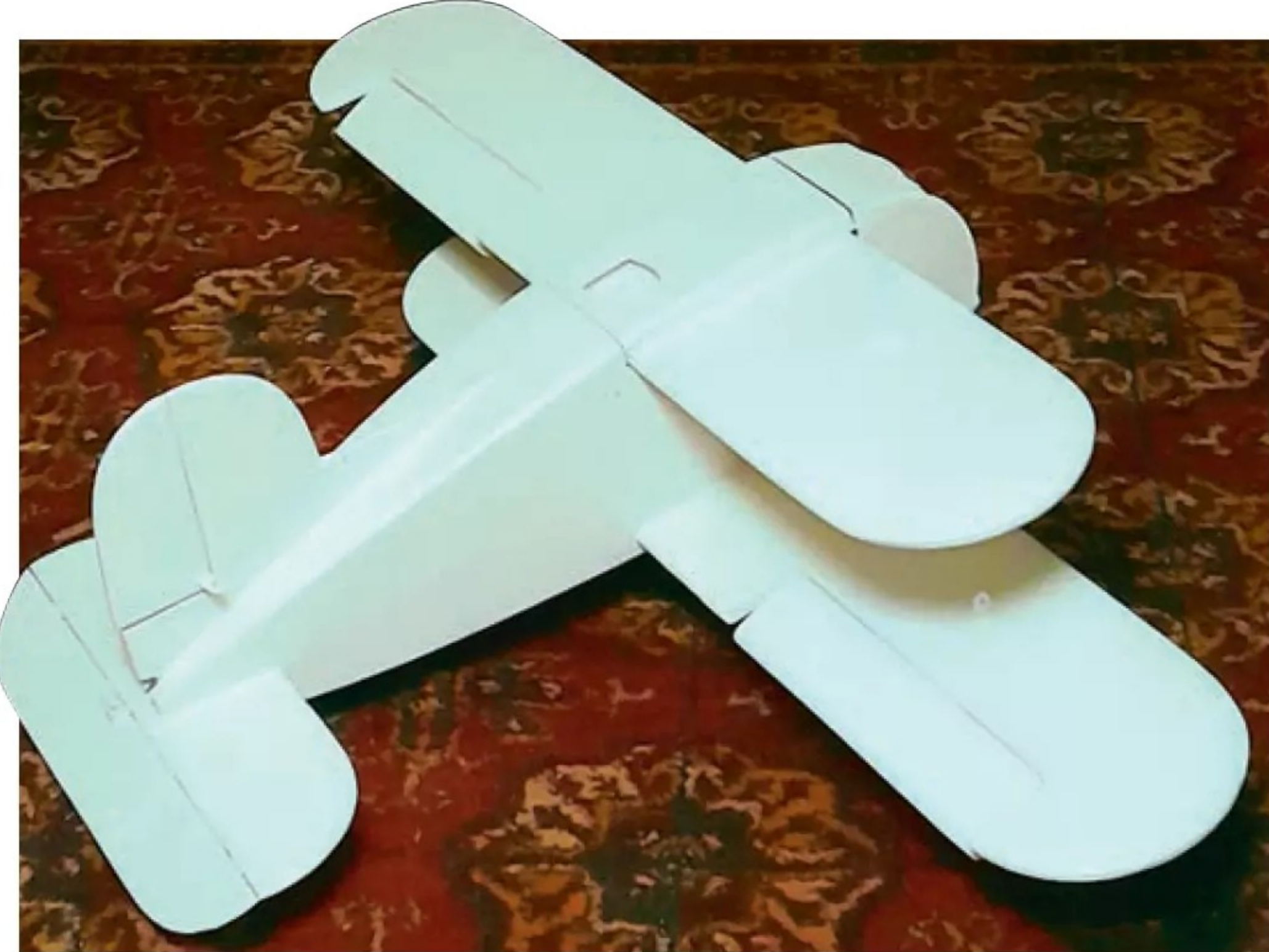
He didn't have to twist my arm any longer and off I went. I did give a lot of thought as to what I might expect on my first attempt to lift her off the ground, but I couldn't really spot anything dramatic. All my fellow modellers bet it would fly, but probably with some sort of handicap. Maybe not enough to bring it down, but enough to make you worry. Something like... maybe it would turn fine one way but be terrible the other way. Or it could have pitching tendencies whilst rolling on the longitudinal axis. It was a long list of 'what might happen', but they were all proven wrong. ✈



Keeping it simple with flat Depron wings.



Experimenting with offsetting the wings. Eyeballing at its best!



An all-white base coat provides a clean slate for the final colour scheme.



Zig-Zag was so named for obvious reasons!

“I was so impatient that I started building the enlarged biplane, following the plans this time but using Depron!”

FINISHING

Zig-Zag was first treated where needed with lightweight filler to fix small indentations on the surface of the Depron. Then I applied a coat of water-based dope from ‘Deluxe Materials’ and covered the whole plane with Silkspan tissue. A couple of coats of dope followed, with light sanding in between, and then the model was sprayed with acrylic red and white colours from ordinary spray cans that can be found in any art store. The lines, some writing and the number 3 symbol were from POSCA magic markers.

FLAT WINGS

The Zig Zag, as it was named for obvious reasons, proved to be a winner without any bad tendencies on any axes. It actually performs equally well when upside down. It flies as good



Alex shows off the underside of Zig-Zag. Coloured wingtips help maintain orientation of the small model in flight.

as any model with aerofoil-less wings. That is with wings that are simply flat, creating lift strictly by diverting air via their angle of attack.

They are, generally speaking, fine wings if you keep the wing loading low. They need to move fast to sustain the weight of the plane and

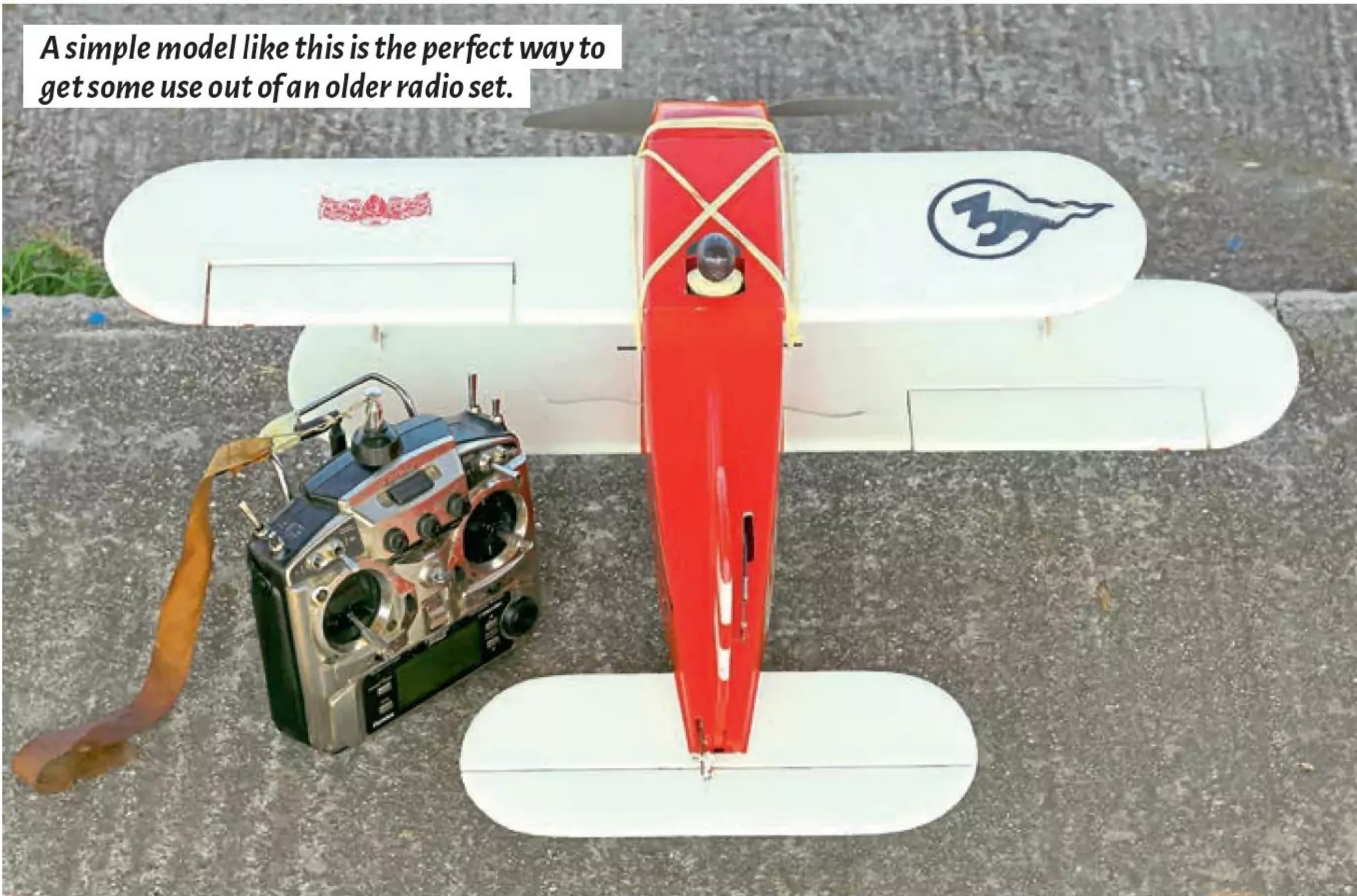


Alex used a motor rescued from an old quadcopter. If you’ve got a small motor going spare, then try it in a Zig-Zag!



Side view showing the aerofoil shaped fuselage.

A simple model like this is the perfect way to get some use out of an older radio set.



“...the only time you know you are flying something asymmetric is when you bring it so close you actually see the ‘misplaced’ wings!”

are somewhat touchy during pitch changes, especially when they are travelling fast. So that’s the reason you find them mostly on indoor, light, slow moving models.

Zig-Zag came out at 508 grams with a 3S 1600 mAh LiPo. The prop used is a 10 x 5.5 and the motor came from an old quadcopter so, unfortunately, I don’t know the kV. But I measured its size and it’s 28 mm by 24 mm. The speed controller is a Castle Creation 30A and the motor draws 135 watts on the ground.

Zig-Zag is kind of on the heavy side for its 75 cm wingspan. But I was lucky again and didn’t need to add weight, either on the nose or at the tail, to properly balance the model. With that said, it would fly with a smaller battery for a better performance, for sure. But it would have to have a different placement of the electronics (all forward) to avoid adding nose weight.

NOT SO TORQUE EFFECT

The only reason I stopped to think and eventually made the left lower wing shorter, thus making the right one longer, with, of course, the exact opposite on top, was to prevent the tip touching the ground due to torque reaction during take-off. Of course, it was all in vain since the motor battery combination I used did not create that much torque. After some thinking - and more eyeballing - I decided to place an aileron on ✈

On a roll for another fun flight.



Zig-Zag in action under clear blue Grecian skies.





Zig-Zag. The small asymmetric biplane with a big character!

each longer size wing. It made the model even more interesting. They work fine, I must say. I have logged many flights so far and I haven't felt any need for aileron differential.

The model flies like its symmetrical counterpart, the Fat-Bipe. It is so predictable in flight that the only time you know you are flying something asymmetric is when you bring it so close you actually see the 'misplaced' wings!

AFTER THOUGHTS

Here's some follow up thoughts on Zig-Zag's design, based on its current performance.

- Maybe add one or two degrees of positive angle of incidence on both wings. Right now, it has none.
- Use a real aerofoil. I wouldn't use a flat bottom one but a semi symmetrical or, even better, a symmetrical one would provide better performance for sure. I have

DATAFILE

Name:	Zig-Zag
Model type:	Asymmetric biplane
Designed by:	Alex Dalidis
Wingspan:	750 mm (29.53 in)
Length:	510 mm (20.08 in)
Weight:	508 g (8 oz)
Wing loading:	9.5 oz./sq. ft.
Functions (servos):	Aileron (2), rudder (1), elevator (1), throttle (via ESC)
Motor:	Brushless, around 1000-1200 kV
ESC:	30A ESC
LiPo:	3S 1600 mAh
Propeller:	10 X 5.5

already started drawing new wings using the NACA 0012 aerofoil which claims to have very little movement of the Centre of Pressure back and forth as the angle of attack (AoA) changes, rendering it softer in pitch inputs. It is also known for its relatively high lift-to-drag ratio and low drag coefficient. Look it up on the internet.

LITTLE BIPE, BIG CHARACTER

This was the little story of a small asymmetric biplane with a big character. Good eyeballing, enough power and proper balance make planes fly. At least that's what I think! ■

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HORNET MOTH

Following on from his first article in the last issue, **Graham McAllister** completes the build of his de Havilland DH.87B and sees her take to the air

Words: **Graham McAllister** Photos: **Graham McAllister, Bob Olson II**

The four outer wing panels are all the same (except for being left and right!) and are built in the usual way over the plans.

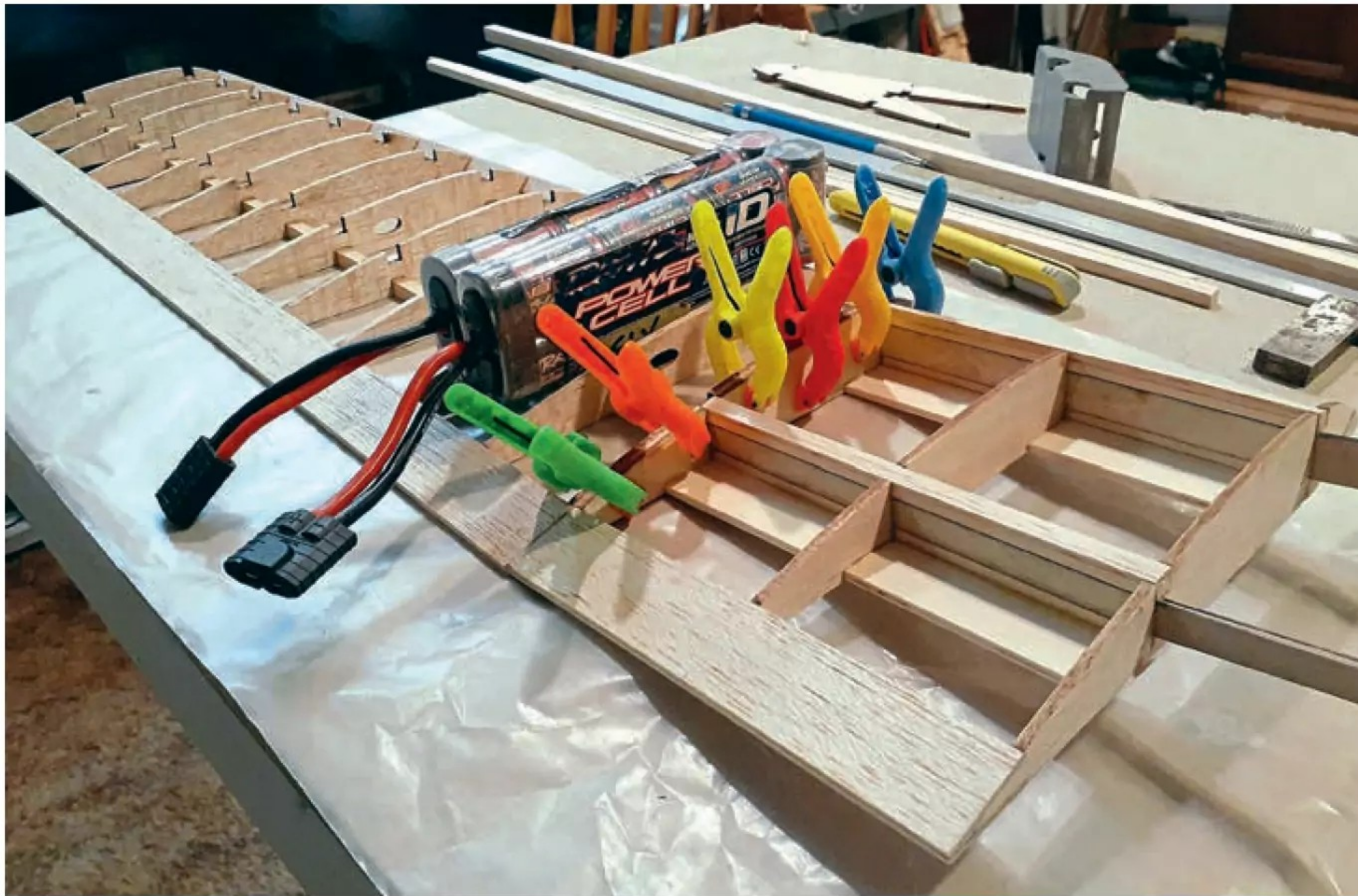
For the upper wing construction pin down the 6 x 6 mm bass spars and bottom trailing edge, being careful to align the ends where they meet the centre section. Glue all ribs in position, noting that the R2 rib at the inner end is already attached to the centre section. Add the upper trailing edge sheet and the 9 x 9 mm leading edge. Add the sheet wing tips and support braces. Cut slots in the ribs for the wing joiners, noting that the main spars sweep back slightly and so the slots need to accommodate that. Dry fit the wing panel onto the centre section to make sure that the

If you like a proper build, then you will enjoy constructing your own DH.87B.



Graham kneels alongside his delightful 52.5" span Hornet Moth.





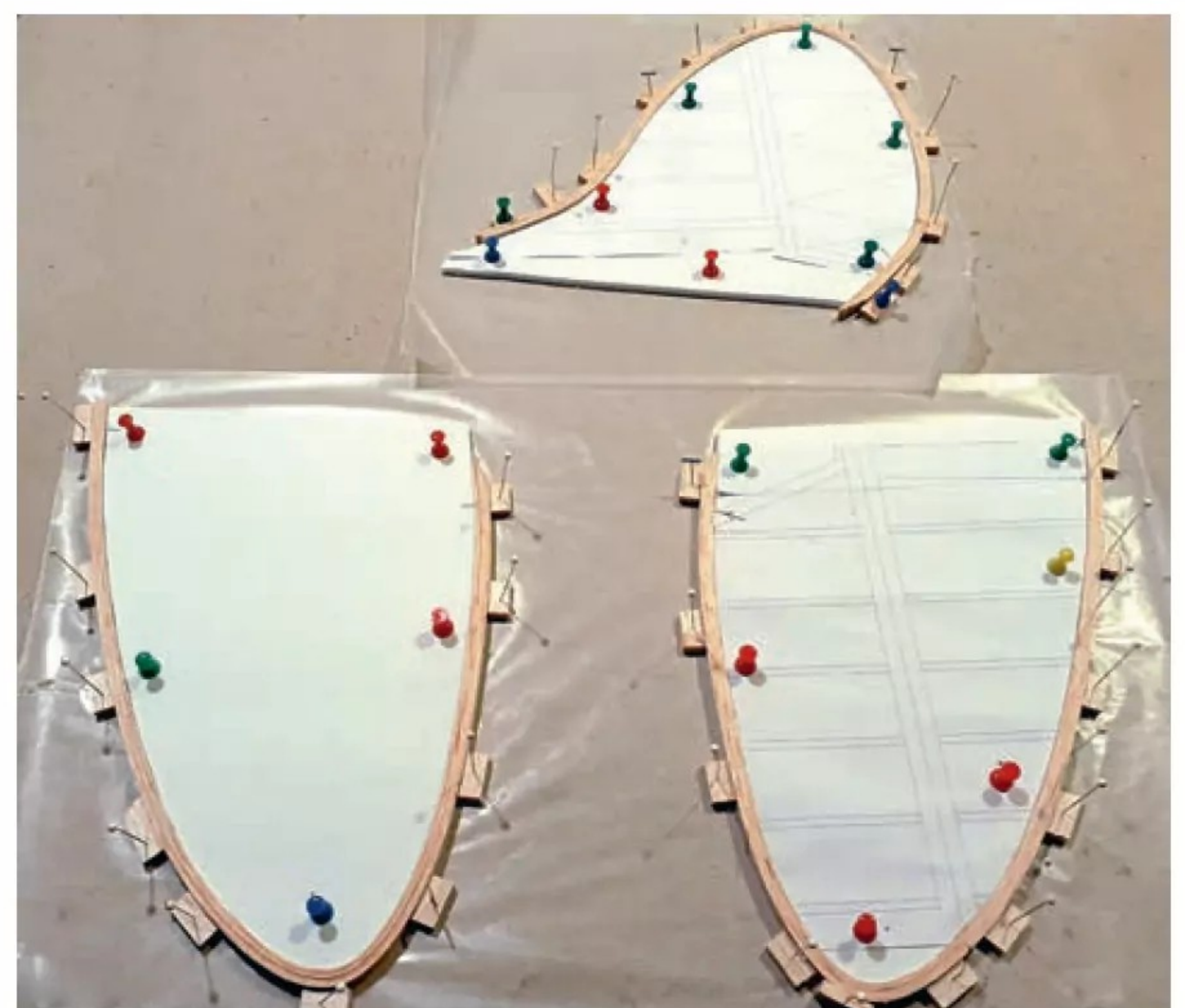
Gluing a top wing panel to the centre section.



Completed top wing centre area.



Aligning the interplane strut mounting tubes.



Fin and tailplane edge laminations being formed around foamboard templates.

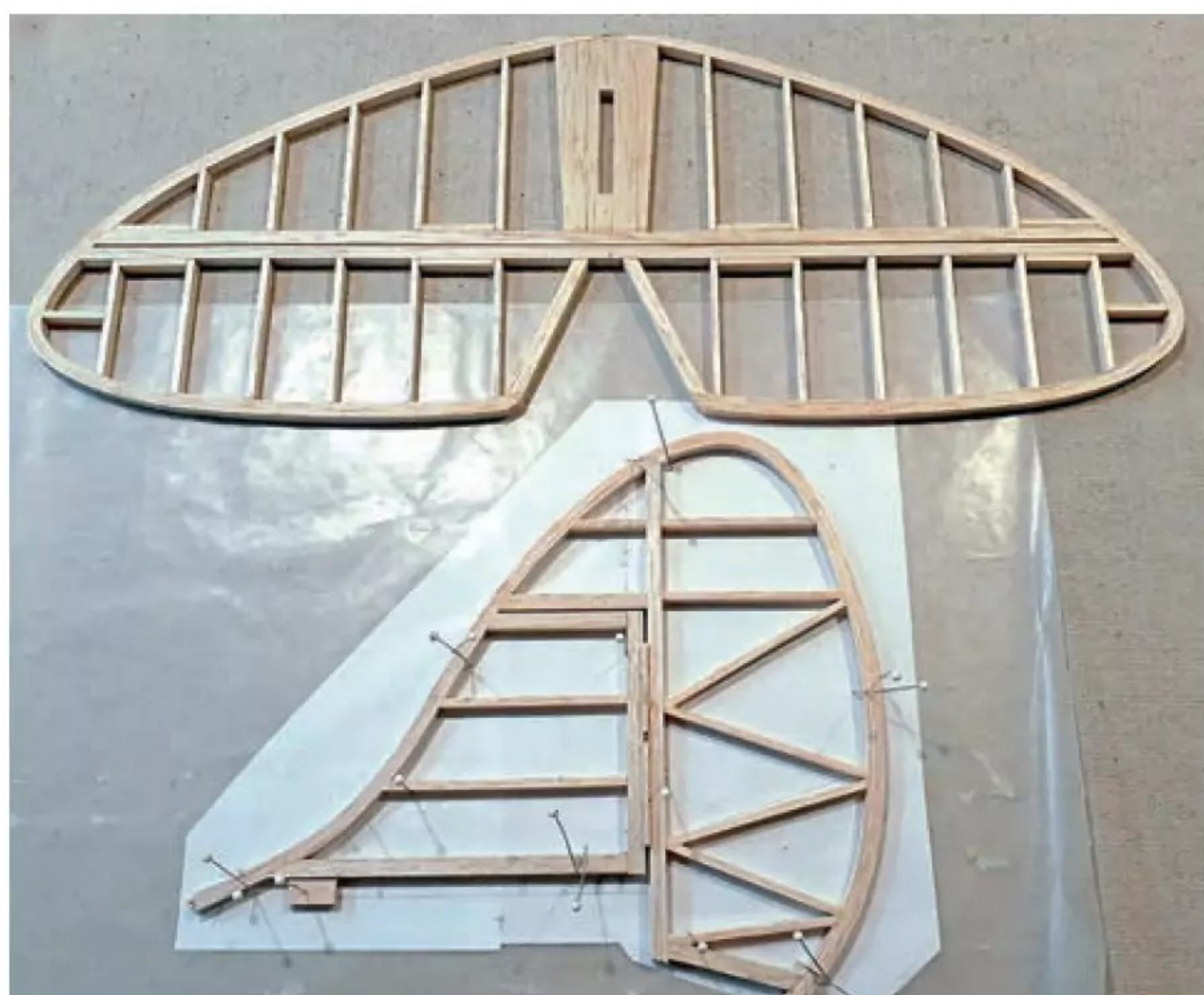
“Be certain that the wing is aligned properly by measuring from each wing tip back to the rear of the fuselage”

ends of the bottom spars, leading edge and trailing edge all fit closely into the R2 on the centre section while the wing joiners are firmly against the bottom spars. Trim as needed to make this fit. Note that the trailing edge is a straight line from wing tip to wing tip and only the leading edge sweeps back. Now glue the wing panel onto the centre section so that the bottom spars are in full contact with the wing joiners. Add the top spars, having planed the balsa top surfaces to match the rib shapes. Repeat to attach the other side wing panel.

The lower wing is built in the same way. Do not cover the wings yet.

MOUNTING THE WINGS

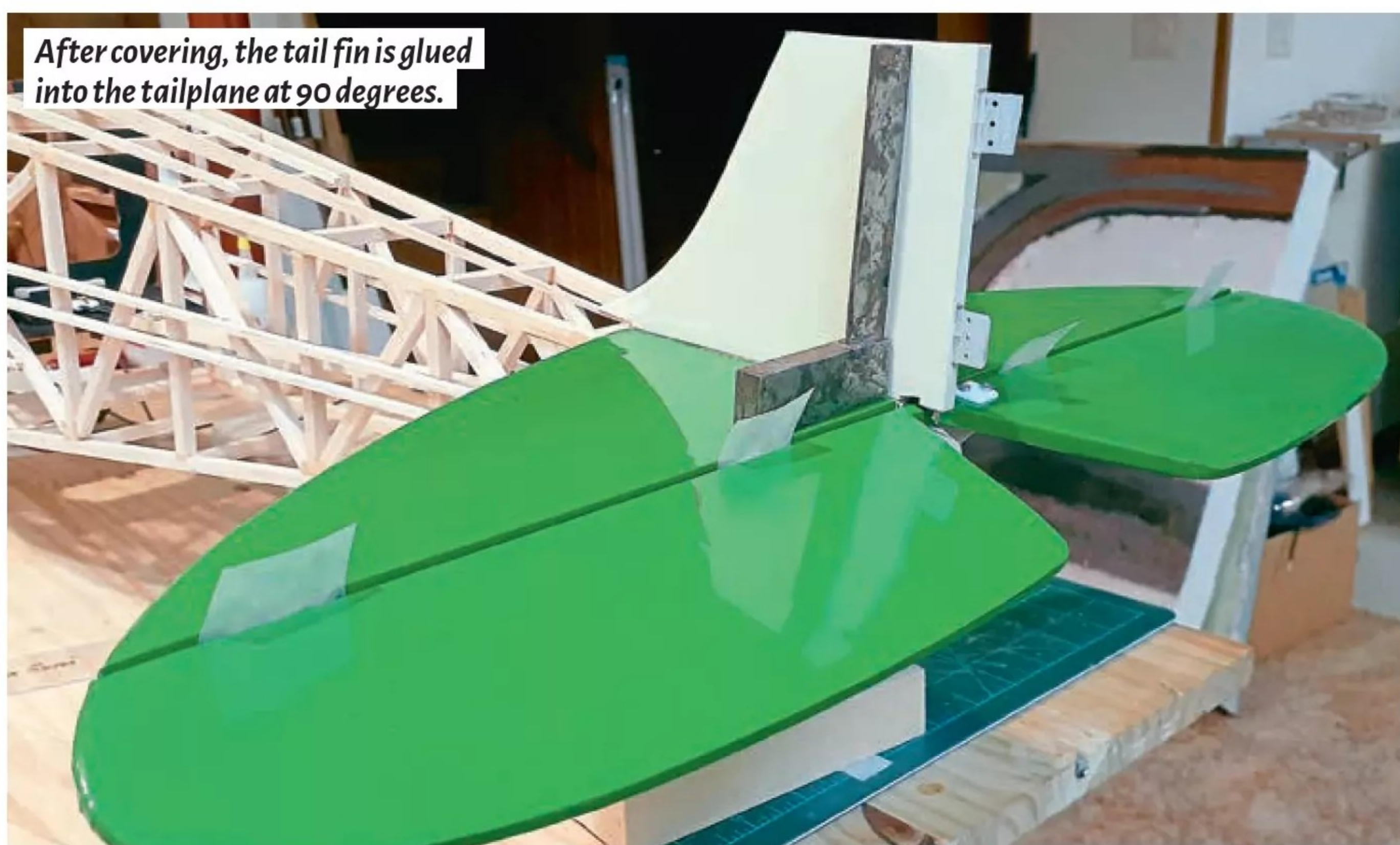
The top wing is mounted first using four nylon bolts into captive nuts in the fuselage. Parts WP1 and WP2 in the wings are used to locate the holes required in the fuselage triangular blocks. Be certain that the wing is aligned properly by measuring from each wing tip back to the rear of the fuselage. These distances must be equal. Make sure that the top of the fuselage is sanded flat to accept the wing squarely. Bolt it in position. Fit the lower wing with the front dowel through F4 and again align carefully and mark the holes for the rear bolts into the wing mounting former F5. Bolt the lower wing on and check the gap between each wing tip, top to bottom. Sand or use thin shims on the lower wing mount until the gaps are equal. The two wings are set at the same incidence to the fuselage datum. ✈



The rest of the tail structure well underway. The outlines have not been cut into separate parts yet.



Bottom view of the lower wing showing the undercarriage rear legs support plate and wing bolt blocks at the rear.



After covering, the tail fin is glued into the tailplane at 90 degrees.



Undercarriage leg joints are bound with copper wire and soldered.

CENTRE SECTION COVER

The top wing glazed cover is cut from 0.8 mm birch ply. It is covered with heat shrink film on one side. See page 51 of the June issue for the drawing of this part. Wrap the film around the edges. The glazing is glued on the inside. The cover is fixed with five 6 mm self-tapping screws. The screws go into balsa which has been drilled, then hardened with CA glue. The rear edge of the cover sits on top of F7 on the wing. Make sure that the front edge of the cover does not obstruct the removal of the battery hatch.

INTERPLANE STRUTS

The position of the interplane strut mounts is shown on the plan but it's not quite that simple due to the dihedral. While the wings are mounted, cut two lengths of 1.5 mm piano wire a bit longer than the distance between the wing at the strut locations. Cut eight lengths of 3/32" alloy tube a little shorter than the depth of the rib at each location. Slide the tubes onto the wire and use that to locate the tubes. The top tube ends flush with the bottom of the top wing rib and bottom tube ends flush with the top of the bottom wing rib. Tack glue only the tubes where they touch the ribs with CA

glue. Carefully remove the wire and repeat for the wings on the other side. Cut some scrap 6 mm balsa to fit around each tube on the sides where the tubes are flush to the wing surfaces. Use plenty of epoxy around the tubes and balsa supports so that the tubes are solidly mounted. The struts will plug into these tubes. Cut four lengths of 1.5 mm piano wire, two at 189 mm and two at 185 mm long. The longer ones are for the front struts. Cut 12 mm wide lengths of medium balsa to fit closely between the wing surfaces (see plan). Use some of the wire to scrape a groove down the middle of each strut half so that they fit around the strut wires. Glue together and shape. Again, see page 51 of the June issue for drawings of these parts.

TAILPLANE & FIN

The outlines of these components are laminated from eight strips of 0.8 mm x 6 mm wide light, flexible balsa. Cut the formers from foam board; make them longer than the part being formed so that the laminations can be trimmed later. Soak the strips in water and wipe the excess off, then coat each strip liberally with PVA and stack them loosely. Work quickly. When you have the eight strips together, start at one end of the

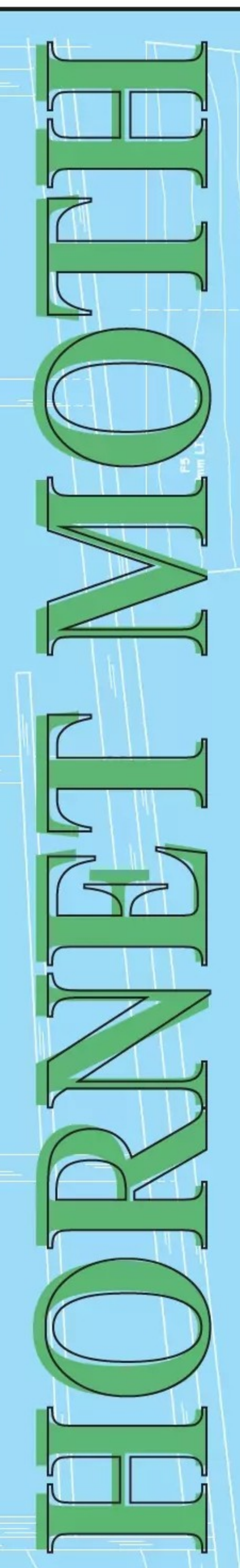
"...the interior leaves room for seats, joystick, a 3/4 length pilot and passenger and their luggage"

template and work the strips around the profile, securing with balsa blocks and pins as you go. Make sure that the strips are tightly together, then leave to dry for 24 hours. Build the rest of the structure before cutting the outlines for the rudder and elevators. Use 1.5 mm balsa as spacers for the hinge lines. During final sanding taper the elevators and rudder to 3 mm at the trailing edge. The fin plugs into the tailplane after covering and the assembly will be glued to the fuselage later.

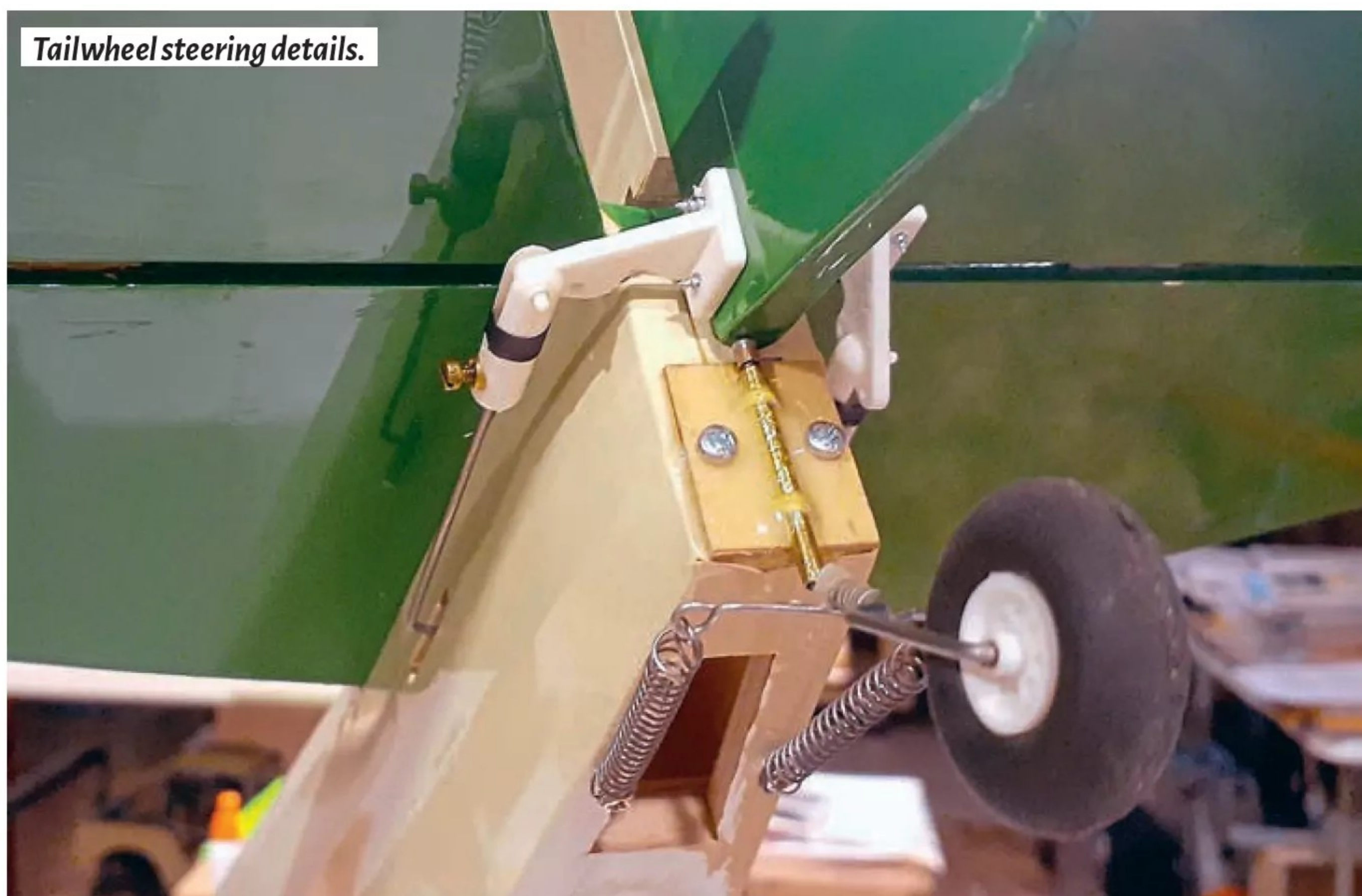
UNDERCARRIAGE

The front U/C legs are already in place. The rear legs are bent in one piece. The back will sit on the ply plate in the bottom of the lower wing. It will be held in place with a retaining block screwed over it. This allows the wing to be removed without having to unscrew the undercarriage. The middle U/C legs are measured and bent to fit from the joint at

6 SCRAP TAPER FROM 6mm x 3mm BALSA ON TOP OF TOP LONGERON TO SUPPORT CORRECTING



Tailwheel steering details.

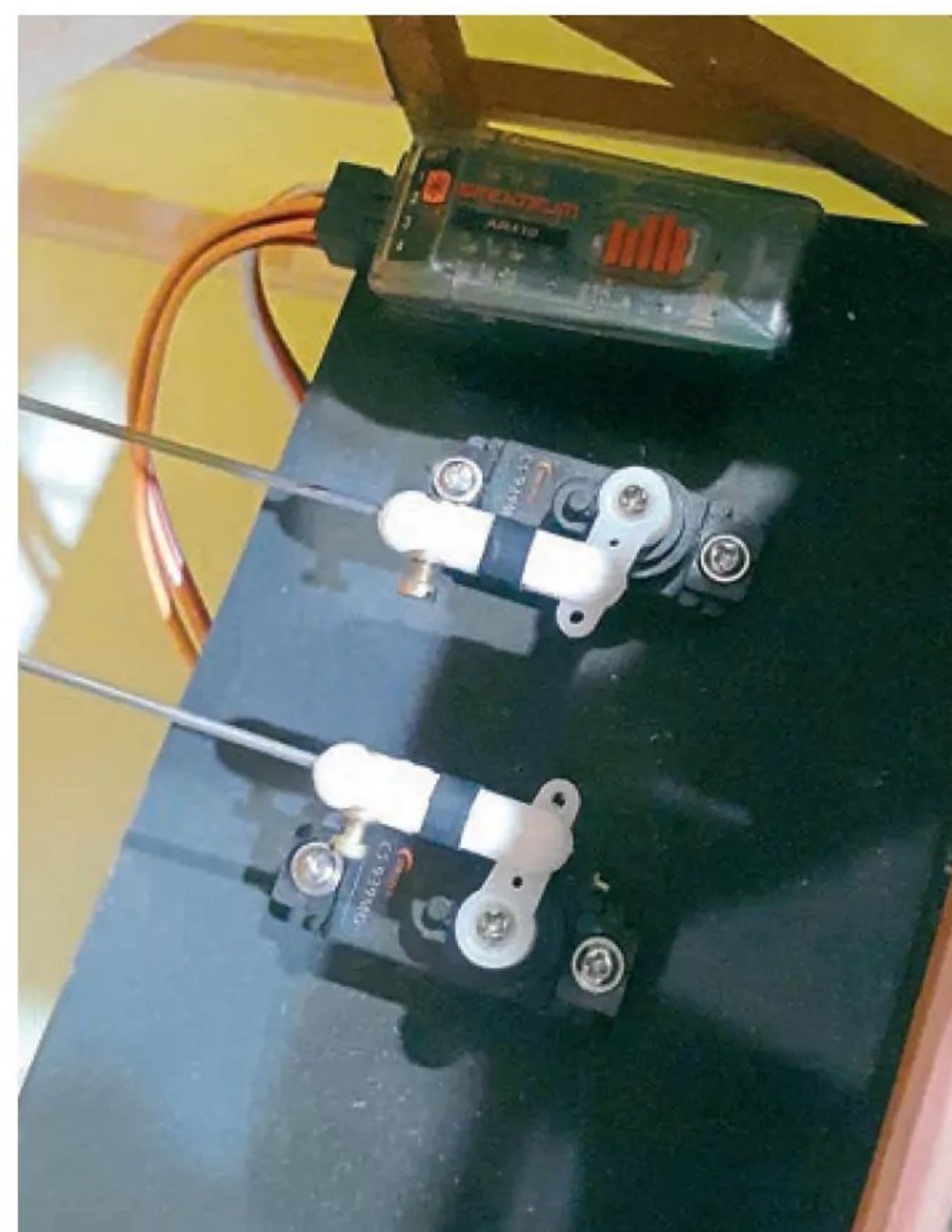


the axle up into the brass tube in the fuselage side. Have these legs plug into the brass tube almost halfway. File the legs where they will be bound and soldered to create a keyed surface. Tape the legs so that they are close together at the joint and bind them in all directions with thin copper wire (stripped from electrical flex). Use a large soldering iron (or small torch), flux and a harder solder to build up a good solid joint between the legs. After cleaning I applied epoxy to fill and fair the joint. The U/C leg fairings are made in the same way as the interplane strut fairings.

R/C INSTALLATION

Two metal geared mini servos and receiver are mounted on Floor 2. Run an extension wire from the ESC through the bottom hole in F3. The ESC is mounted with hook & loop tape to the bottom of M6. The 4S 2200 mAh battery sits behind F1B with its back end in the slot in Floor 1. A block of foam rubber pushed between the battery and the brass U/C tube holds the battery in place.

The rudder and elevator pushrods are made from hard 6 mm square balsa, with bound wire ends and adjustable clevises. Nylon control horns are fitted to the movable surfaces.



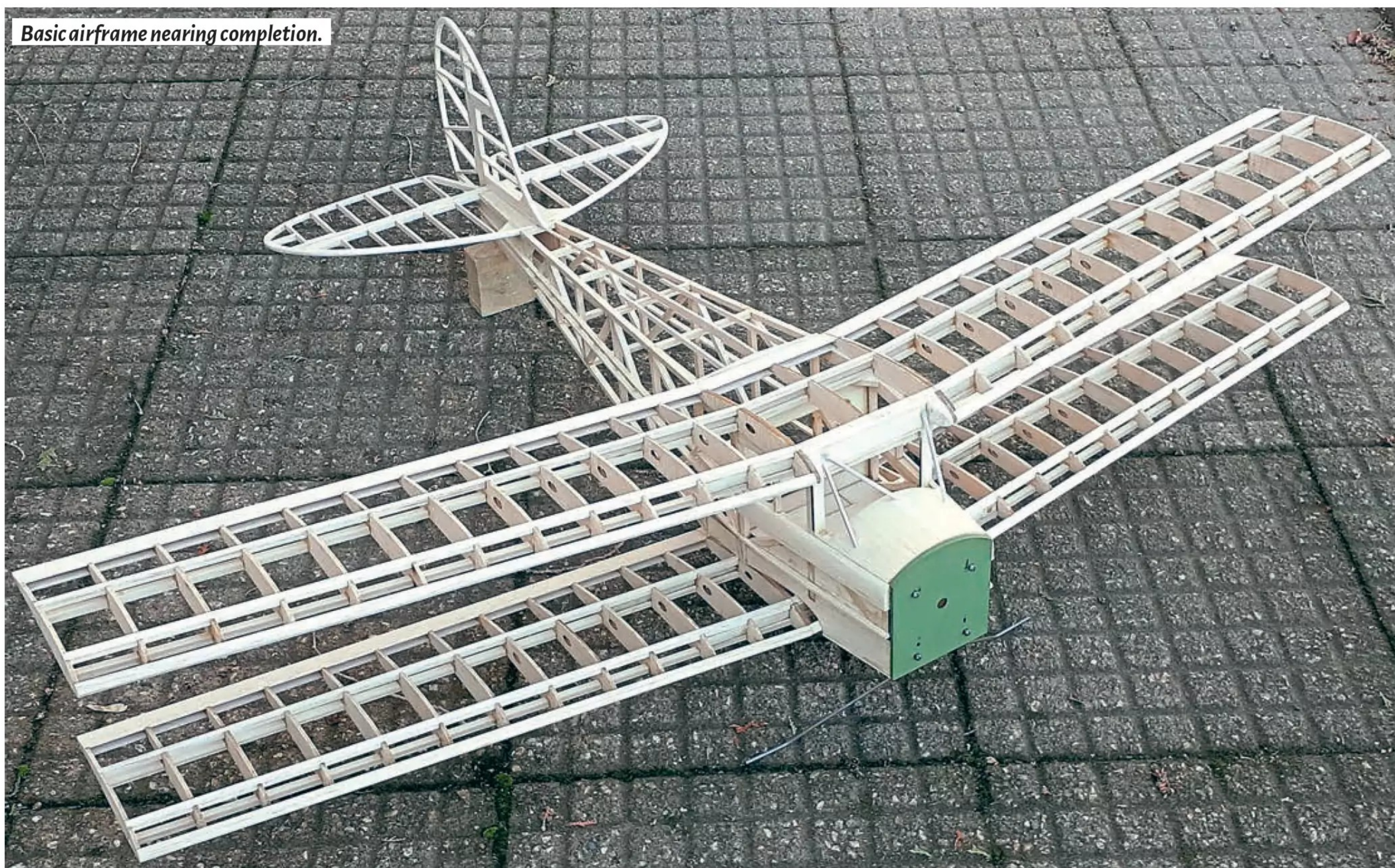
Neat and tidy tail servo and receiver installation.

Rudder throw is 20 mm each way, elevator throw 20 mm each way at their rear edges. I typically use 30% to 40% exponential throws with these settings.

FINISHING

The prototype was covered with heat shrink film. Remember to leave all wood to be glued together uncovered. I lined the side windows with 1.5 mm square framing to accept the glazing. The outer frames are cut from thin card and painted silver. The colour scheme and registration on mine is fictitious but of appropriate style. ✈

Basic airframe nearing completion.





Carving the 3/4 length pilot.



Seat pads and backs are from 6 mm foamboard covered with textured paper towel using thinned PVA glue to harden the surface and add a cloth-like texture. The case is a foam block covered with thin card.



Pilot and luggage on board.

Graham's prototype was covered with heat shrink film. The registration is fictitious but in an appropriate style.





The design of the interior leaves room for seat squabs and backs, the joystick, a 3/4 length pilot and passenger and their luggage. The luggage shelf sits over the servos and is attached with magnets to allow access. Instruments can be made for the instrument panel if desired.

FLYING

I opted not to use ailerons because the scale dihedral is only a little less than I used here

and my feeling was that adverse yaw was likely to be an issue and require ample rudder to be used in turns anyway. As a three-channel model there is good positive control in reasonable winds. That's up to 10 mph in my book!

Check the CG is 65 mm back from the root rib leading edge. The prototype balanced without ballast. Add nose weight if needed.

With the recommended size motor and an 11 x 6 propeller there is enough power for

a steep scale-like climb. Don't rush the take offs. Ease throttle in while holding up elevator until rolling. Release the elevator. The Hornet Moth will skip along a few times on its main wheels then lift off into a gentle climb. Be gentle with the rudder until you gain some height and get a feel for the responsiveness. Use a little elevator in turns as usual. Landing is best done with some throttle on until you get to know the sink rate. Flares are easy with practice. I find mine taxis nicely on grass but ground loops into wind on tarmac. There's space to add a micro servo for tail wheel steering if you wish.

This gentleman's tourer looks great doing gentle wing overs and low fly-bys, but like its full-size relation (so I've read) it can happily navigate a loop without being over stressed. I hope that you will build and enjoy this delightful aircraft. ■

DATAFILE

Name:	de Havilland Hornet Moth DH.87B
Model type:	Sport scale biplane
Designed by:	Graham McAllister
Wingspan:	1340 mm (52.5 in)
Length:	1040 mm (41 in)
Weight:	1895 g (4 lb 3 oz)
Functions:	Rudder, elevator, throttle (via ESC)
Motor:	G-Force G15 3542 -920kV (or .45 four stroke)
ESC:	60A
LiPo:	4S 2200 mAh



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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
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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
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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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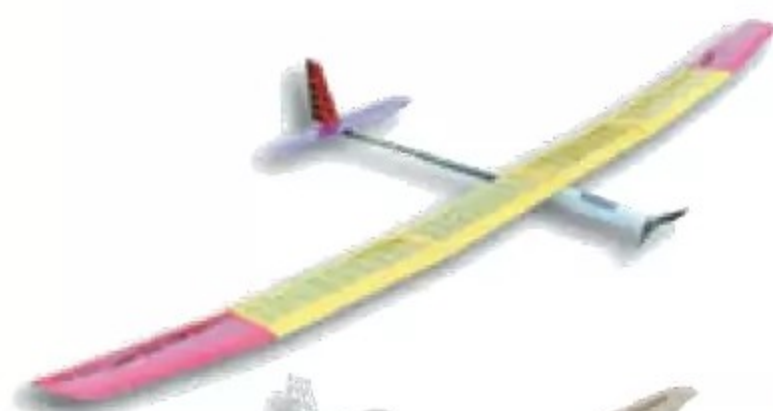


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Wheels built into the fuselage allow sufficient propeller clearance to allow take-offs from the ground.

X1500 TWIN

Frank Skilbeck tests XFly-Model's quick assembly platform for long endurance FPV flights

Words: **Frank Skilbeck** Photos: **Frank Skilbeck, Owen Oakley, RCM&E**

Having been taking aerial photographs and video for over 40 years and dabbled with First Person Video (FPV) a few years back with an analogue FPV set up, I'd recently invested in a higher quality digital system and had fitted this to a Fun Cub and an old FPV model I had. I then spotted the XFly X1500 twin designed specifically for FPV. I mentioned this to the Editor and he noted that CML Distribution, the UK distributor of XFly-Models, had offered one for review and so a few days later a kit arrived in the post.

As per the name the model is a 1500 mm wingspan FPV platform with provision for fitting an FPV camera, flight controller and GPS systems, using a large 4S 10,000 mAh battery to give good endurance. The model is available as a 'Kit Only' for you to fit your own motors and servos etc. or as a 'Plug and Play' which we are reviewing here.

To ensure a clear camera view the X-1500 is a twin, with counter rotating 1400 kV motors driving 8" x 5" propellers, each fed by 40-amp ESCs. The model is provided with two access points: a rear access hatch just aft of the Centre

of Gravity for easy access to the flight controller and receiver, with a provision to mount the GPS sensor externally, and a front hatch for easy access to the flight battery.

Two front hatches are provided: a smooth, curved hatch if using a nose mounted camera or flying Line of Sight, and a second flat version fitted with a plywood plate to mount an FPV camera and gimbal.

A standard nose cone is provided and this just clips into place. XFly also offer an optional nose cone which can accept a standard DJI or Walksnail camera, video transmitter and

aerials, although this does require some minor modification to the fuselage to fit. As I intended to use a servo to pan the camera, I used the standard nose and the FPV camera hatch.

The aircraft is a high wing model with wheels built into the fuselage but with sufficient propeller clearance to allow take-offs from the ground. This is a neat feature as it also means there's no dangling undercarriage to snag when alighting on surfaces that could damage a conventional undercarriage, making the model suitable for hand launch and Rise Off Ground (ROG) without any modifications.

The model comes in a stout cardboard box with a moulded foam inner which provides great support and protection for all the parts.

FAST ASSEMBLY

The well written manual states a build time of just three minutes and XFly are not exaggerating! The model is highly prefabricated, with specialist connectors in the wing roots to connect the motor ESCs, aileron servos and wing tip lights, with latches to hold the wings in place. Basically, you just pop in the wing joiner, slide the wings on, move the latches to the locked position and that's the wings fitted.

The tail halves are even easier. Elevator servos are built into each stabiliser half, with the servo plug secured in the wing root. A matching extension lead is fixed in the fuselage, so the stabiliser halves slide onto the tail joiner and as they snap into place the servo connections are made.



Overhead view of the X1500 showing its broad fuselage and built in wheels.



Frank shows off the handy size of the X1500.



Wing roots and the fuselage centre section use multifunction connectors to hook up motor power, ESC and aileron controls plus power for the wing tip LEDs.



There are few parts and all decals are factory applied. There's an alternative blue and yellow colour scheme too.



X1500 makes a great twin sports model. Flying shots were taken by Owen Oakley.



She's aerobatic too!

The rudder is part of the fuselage and its servo is already in place.

All servos are pre-installed and hooked up to their relevant servos, with a Z-bend at the servo horns and ball-links at the control surfaces. On the review model the elevator control rods were angled so I switched them around at the servo to give a more direct route.

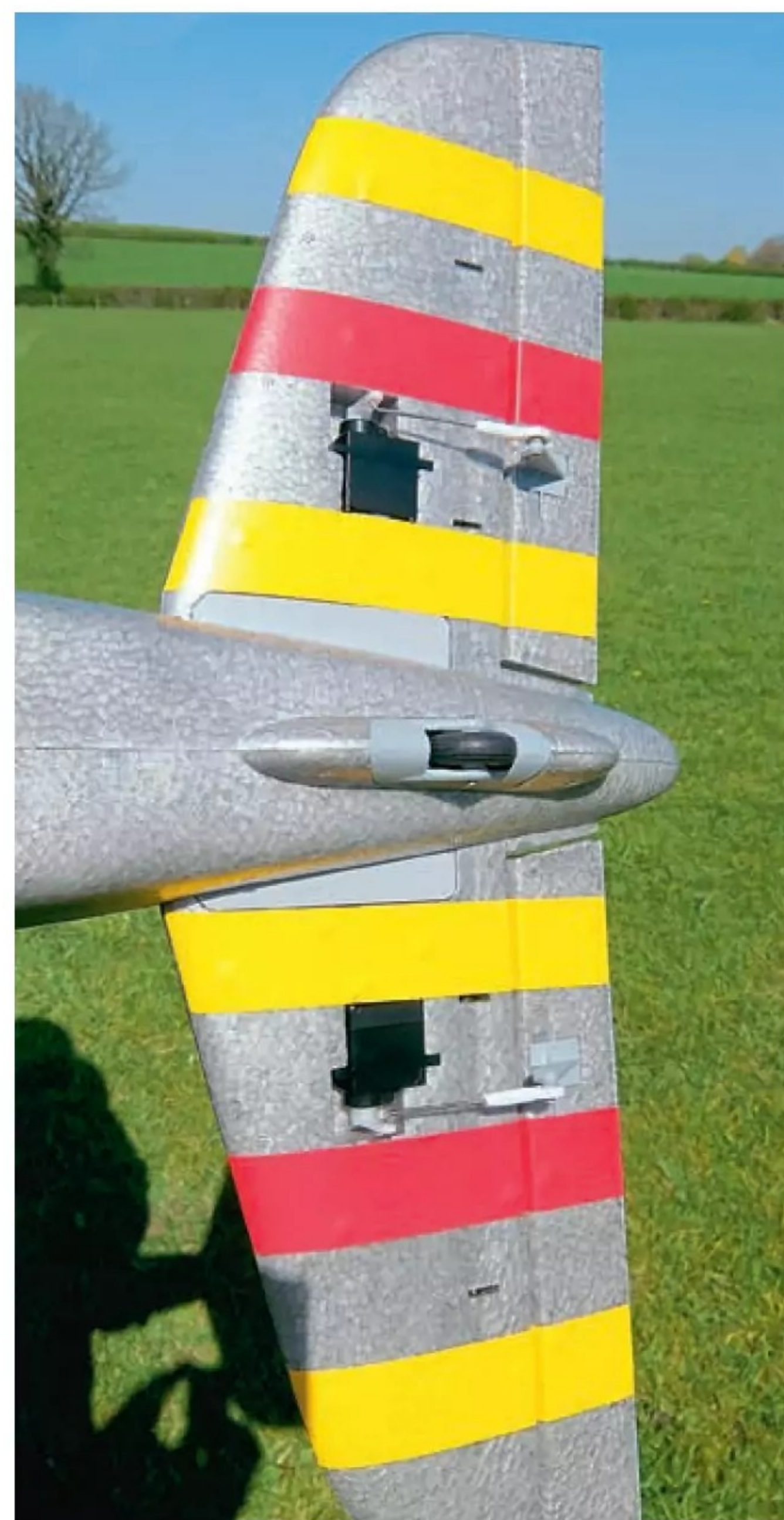
With the clip-on nose the X1500 can be stored and transported to the flying site in its shipping box and easily assembled at the field.

All the extension cables were pre-fitted and clearly labelled inside the fuselage. Four channels are sufficient as the ailerons, elevators and ESCs are all on Y-leads. For the first flight I decided to test the model using a standard receiver with no FPV kit installed. As you can guess a standard receiver was lost in the large bay designed for a flight controller and other electronics. After fitting the receiver and hooking up the servos the controls were

checked and the throws adjusted to those recommended in the manual. All control surfaces were accurately centred from the factory and no adjustments were required.

The manual recommends a 10,000 mAh 4S2P battery. I had an 8,000 mAh 4S2P battery so I employed that here, but I ran into a problem in that the pre-installed hook & loop retaining strap was too short. Not having one of suitable length I made up an extension strap. With my battery installed the model balanced on the recommended Centre of Gravity so a 10,000 mAh battery may need to be moved aft slightly, but there's plenty of room. A smaller, lighter battery would likely require some additional nose weight.

Before the model's first flight a quick motor test using a watt meter gave just over 45 amps at wide open throttle. That's under 25 amps per motor, well within the capabilities of the 40-amp ESCs fitted. The X1500 is not short of power! The all up flying weight with an 8,000



Each elevator has its own servo.

“All control surfaces were accurately centred from the factory and no adjustments were required”

mAh 4S2P battery was 2.2 kg before adding any FPV equipment, somewhat above the 1.9 kg quoted in the manual.

INITIAL FLIGHT TESTS

As noted, the initial flight tests were done flying Line of Sight (LOS) to allow me to get familiar with the model. It's also easier to liaise with the photographer this way, especially one who is new to doing magazine review shots. As our strip had been recently cut, although still a bit on the rutted side due to sheep over-wintering in our field, a ground take off was adopted.

Opening the throttle, the model shot off and was airborne and climbing rapidly in no time. A couple of circuits were completed at low power to trim and get the feel of the X1500 before positioning the model for Owen's camera. The X1500 flew well and was easy to position for photographs, if a little rapid, and it took some time to slow down when throttled back as it has a fairly flat glide.

If flying Line of Sight as a sports model the X1500 can be assembled in just a few minutes.



“...with the counter rotating propellers, the X1500 has no tendency to swing on take-off or landing”

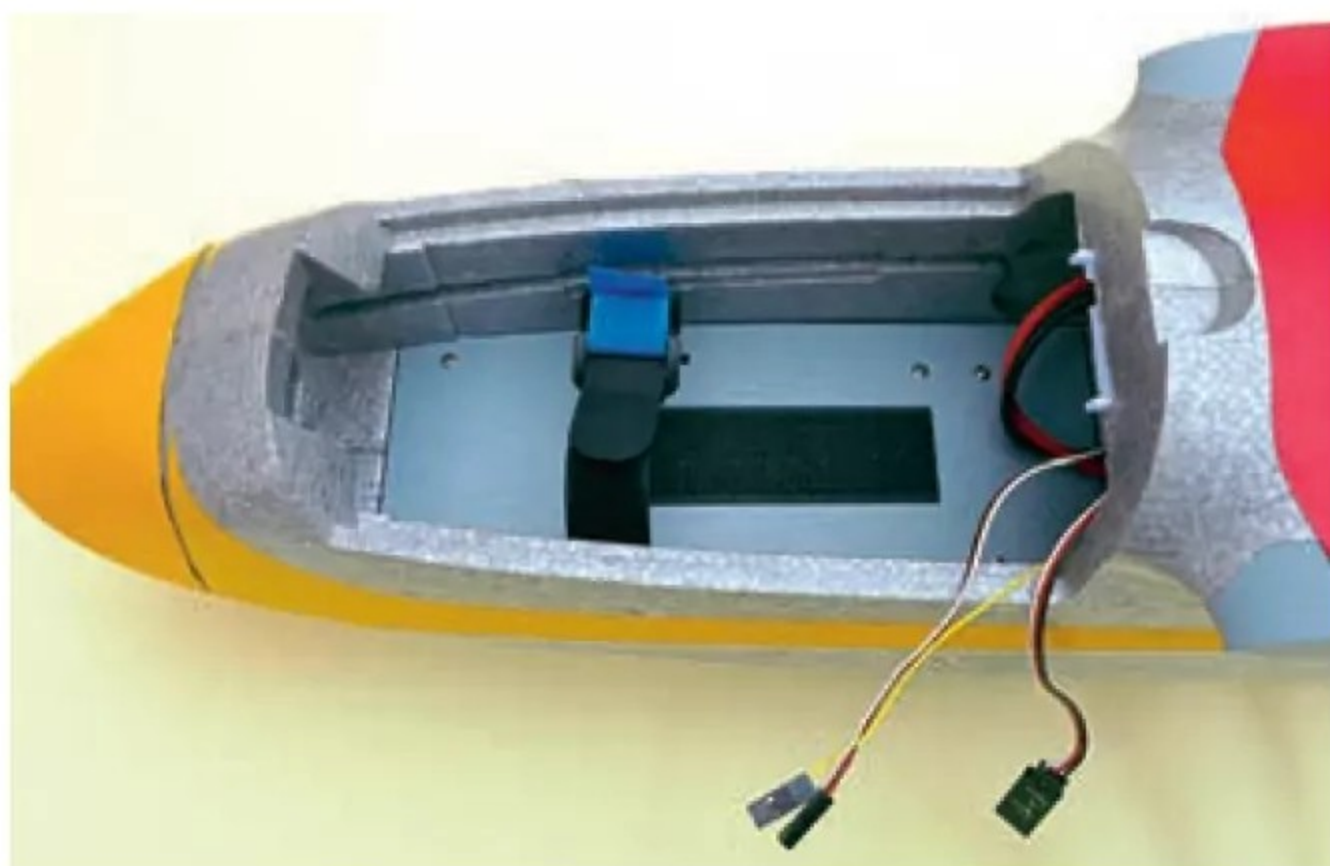
Once the pictures were in the bag a few rolls and loops were tried. X1500 responded crisply to my control inputs and exhibited no bad flight habits. The first landing took several attempts as the X1500 was reluctant to lose speed and height, so slower and slower circuits were flown until the optimum approach was arrived at. The model is quite heavy for its wingspan, but it can be slowed up with no tendency to bite, possibly due to the use of a good wing section and the fuselage contributing to overall lift.

One thing to note is that with the counter rotating propellers the X1500 has no tendency to swing on take-off or landing, which is just as well as the tailwheel is fixed and there's no prop wash over the rudder so ground steering is not possible. Maybe differential thrust would help when taxiing, but I haven't tried that yet.

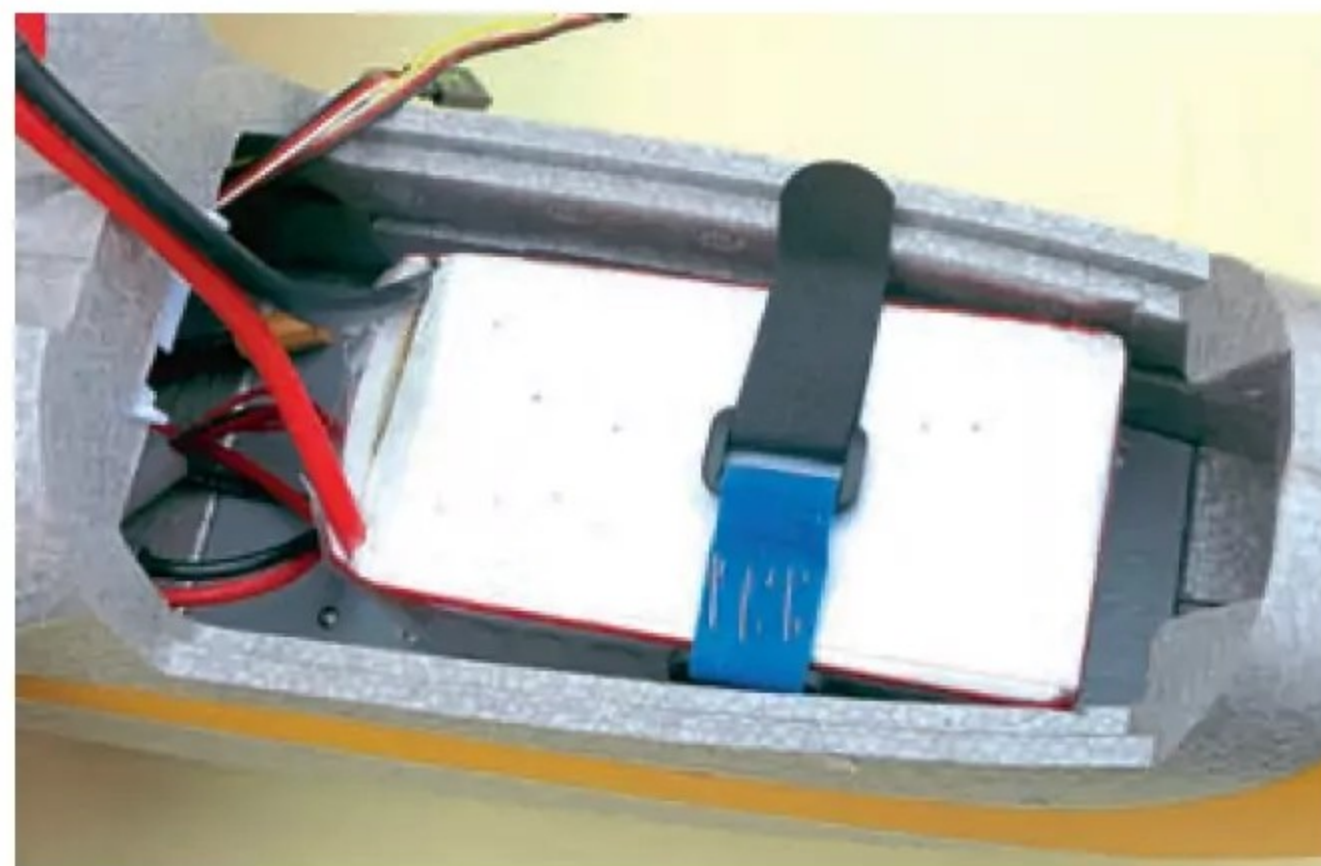
A DIFFERENT PERSPECTIVE

To check out the X1500's FPV prowess I fitted a servo operated Walksnail Avatar lite set up that I had previously used in a Multiplex Fun Cub. To enable the On Screen Display (OSD) on my Walksnail Goggles L, I used a Matek F405 flight controller with Walksnail GPS unit running iNav 9.

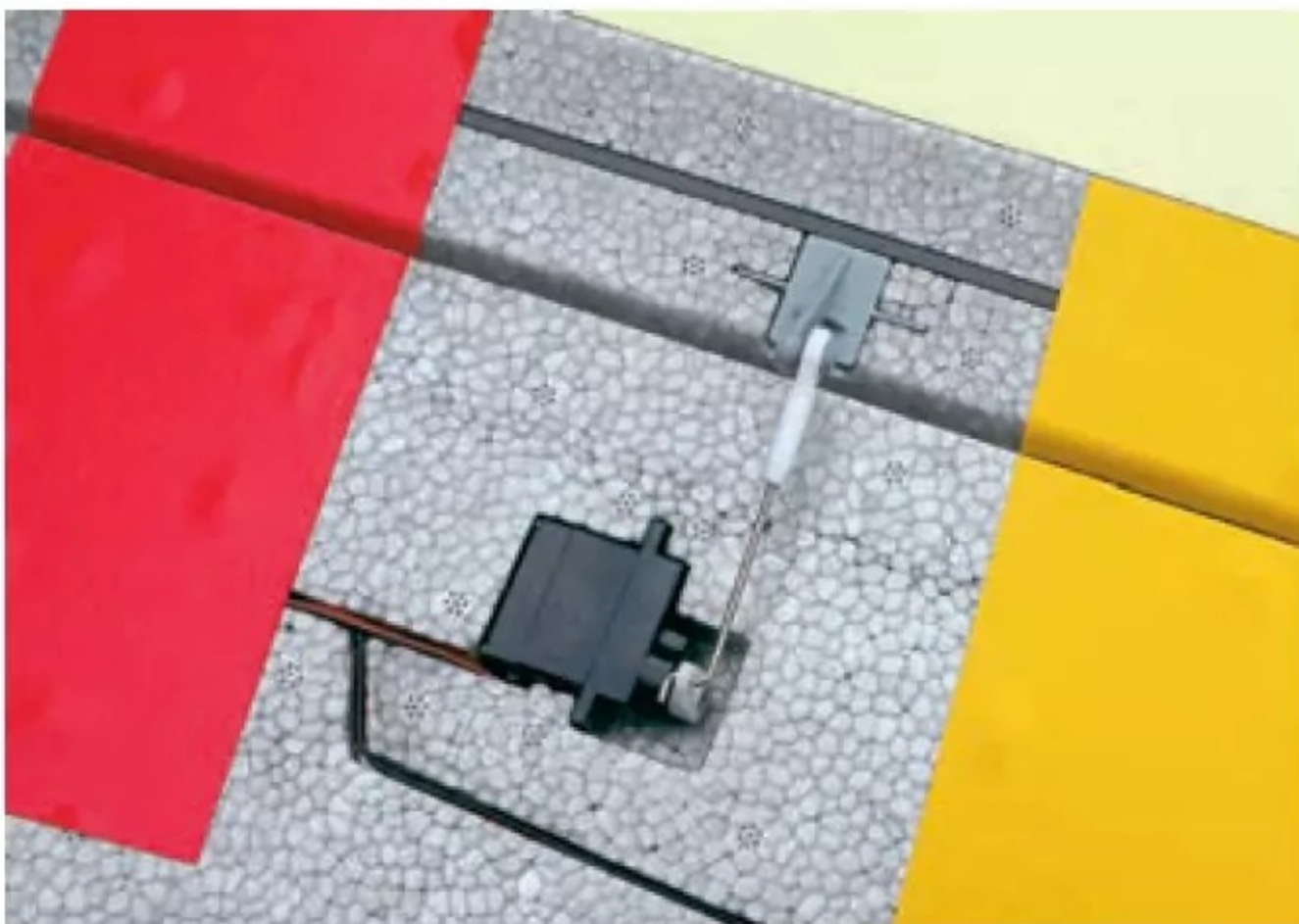
As the X1500 flew so well Line of Sight, I set up three flight modes in iNav: Manual, Acro (which provides wind dampening only) and Return To Home (RTH) in case I got lost! RTH mode flies the model back to its starting point and then circles it overhead.



Easy access for the flight battery. The servo wires are for the pan servo, plus power and OSD data for the camera and video transmitter.



Battery bay accepts up to a 10,000 mAh 4S2P LiPo. Note the retaining strap extension as the strap provided was too short for the chunky battery pack.



Control linkages to the ailerons are short and direct.



Built-in wheels provide enough prop clearance for taking off reasonably short grass.



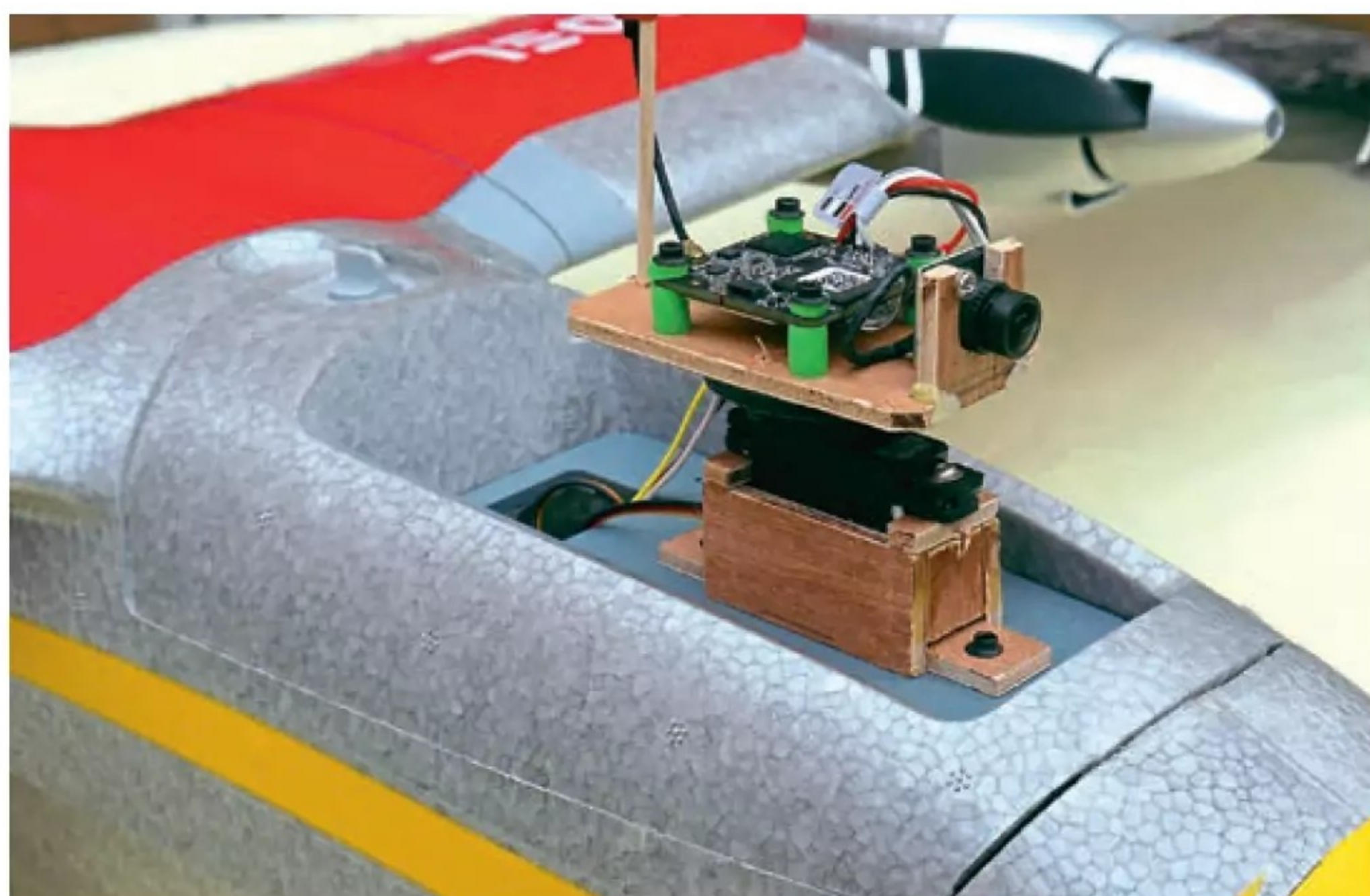
Once the wings are slid on to the joiner, they are secured with easy to operate latches.



Powering up for X1500's first take-off.



There's plenty of room under the rear hatch for the flight controller and receiver etc. plus additional avionics if required.



Servo mounted FPV camera and video transmitter.



Rear hatch has a recess for fitting a GPS module.

On the OSD, I set up an artificial horizon, height, speed, battery volts, battery mAh, distance away and an arrow pointing back to home. I glued a ply plate into the model to screw the flight controller to so it can be easily moved between models if desired. I also plugged the ailerons into their own separate left and right channels. The red wires from the ESC servo plugs were removed as the flight controller has inbuilt BECs for the servos, receiver, GPS and FPV camera/video transmitter. I've only just started to use these flight controllers and iNav but after a couple of head scratching moments I'm quite impressed with their functionality and set up, so using them could be subject of a future article. (Yes, please Frank! KC)

Before committing to FPV flight I did another flight test Line of Sight using a spare channel on the Tx to enable autotune and autotrim on the flight controller to fine tune the X1500. Once done it was time to don the goggles. The take-off was smooth and the X1500 was soon zooming around. The OSD revealed that the X1500 was quite happy cruising around on 15 amps at around 80 kph (50 mph). I'd set the camera pan servo to operate when the transmitter was tilted and this allowed me to look around while flying, but it's no substitute for having a spotter to keep an eye on the model and surrounding activities. After a few minutes I made a few dummy landing approaches to get a feel for the approach,

height and landing speed etc. before bringing the X1500 in for a landing almost down the centre of the strip. The model finally alighted at around 30 kph.

The X1500 performed flawlessly throughout the flight, proving to be very stable and responsive to all control inputs over a wide speed range.

CONCLUSIONS

The fact that mainstream importers like CML have added FPV aircraft to their portfolio shows this is an increasing segment of the hobby and the X1500 is ideally suited to this. It's easy to assemble at the field, flies great and is well thought out for adding all the FPV

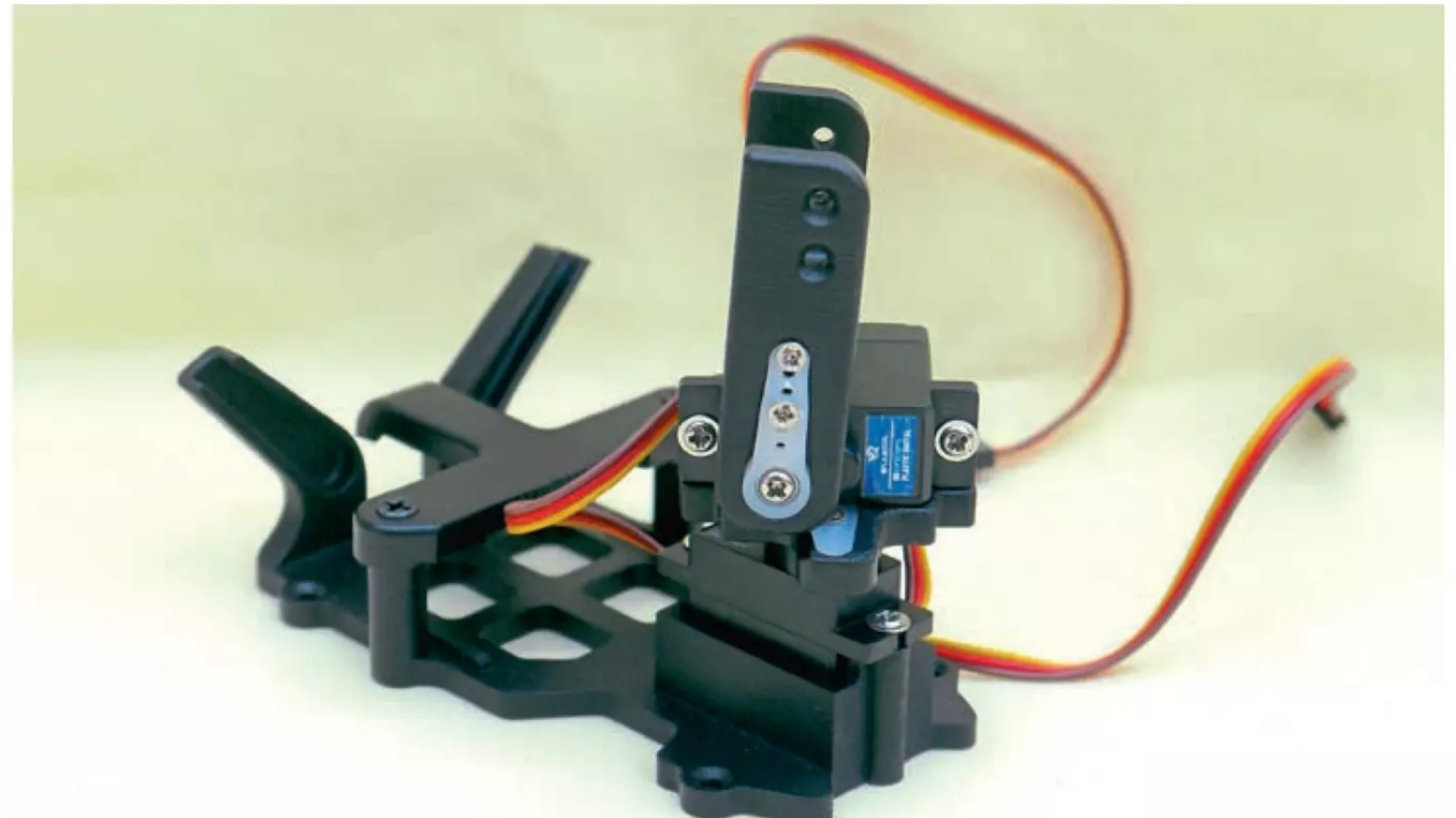


With the fuselage contributing to lift it can take a while to bleed off enough speed and height for landing.



Optional 3D printed nose camera mount available from CML.

paraphernalia. Despite an all up flying weight of some 2.3 kg, around 20% more than the quoted weight, it would be easy to handle for a pilot with a few hours of flying with an intermediate sports model under their belt.



CML also offer a servo operated pan and tilt camera mount.

Assembly of the model is so easy that if flying Line of Sight using a standard receiver you could do the initial assembly at the field and be flying within 15 minutes. When fitted out like this it makes a good sports twin but

that would be missing out on its intended purpose as a stable, easy to fly FPV platform.

It's also worth mentioning that CML list a comprehensive set of spare parts on their website. So, if you happen to do any damage or, say, want another hatch, those parts are readily available. ■



X1500 climbs away for an FPV sortie.

DATAFILE

Model	X1500
Model type:	Long endurance FPV platform
Manufacturer:	XFly-Model
Distrubuted by:	CML Distribution https://www.cmldistribution.co.uk
RRP:	PNP £279.99, Kit Only £159.99
Wingspan:	1500 mm (59 in)
Length:	1050 mm (41.3 in)
Flying weight:	2.3 kg actual (1.9 kg quoted)
Motors:	2 x 2212-KV1400
Propellers:	8" x 5"
ESC:	2 x 40 amp
Servos:	5 x 9 g metal geared
Functions (servos):	Ailerons (2), Elevators (2), Rudder (1), Throttle (ESC)
LiPo:	4S2P 10,000 mAh



Side view from above grabbed from an FPV video.



Pilot's view on the approach for a low fly-by along the strip.

Thanks for all your support!



Tony Ray Aero Model

Our Tony Ray range of balsa model kits is set to expand further this year. Firstly, with a 1/5th Bucker Jungmeister BU133, then with a 1/6th FW190 and later this year with a famous British WWII model.



Micro series

Tony's range of 11 micro models are designed for indoor flying using micro servos and receivers compatible with Spektrum & Futaba.

Kavan Radios

Kavan are expanding their range of radios that are manufactured by FrSky but to Kavan's specification - their latest budget programmable set is about £95.00



Hacker CZ

Hacker's range of EPP indoor & outdoor models continues to expand! Their latest Aerix F3P will be featured in RCM&E shortly.



Brand Focus

A selection of old school brands from the US:



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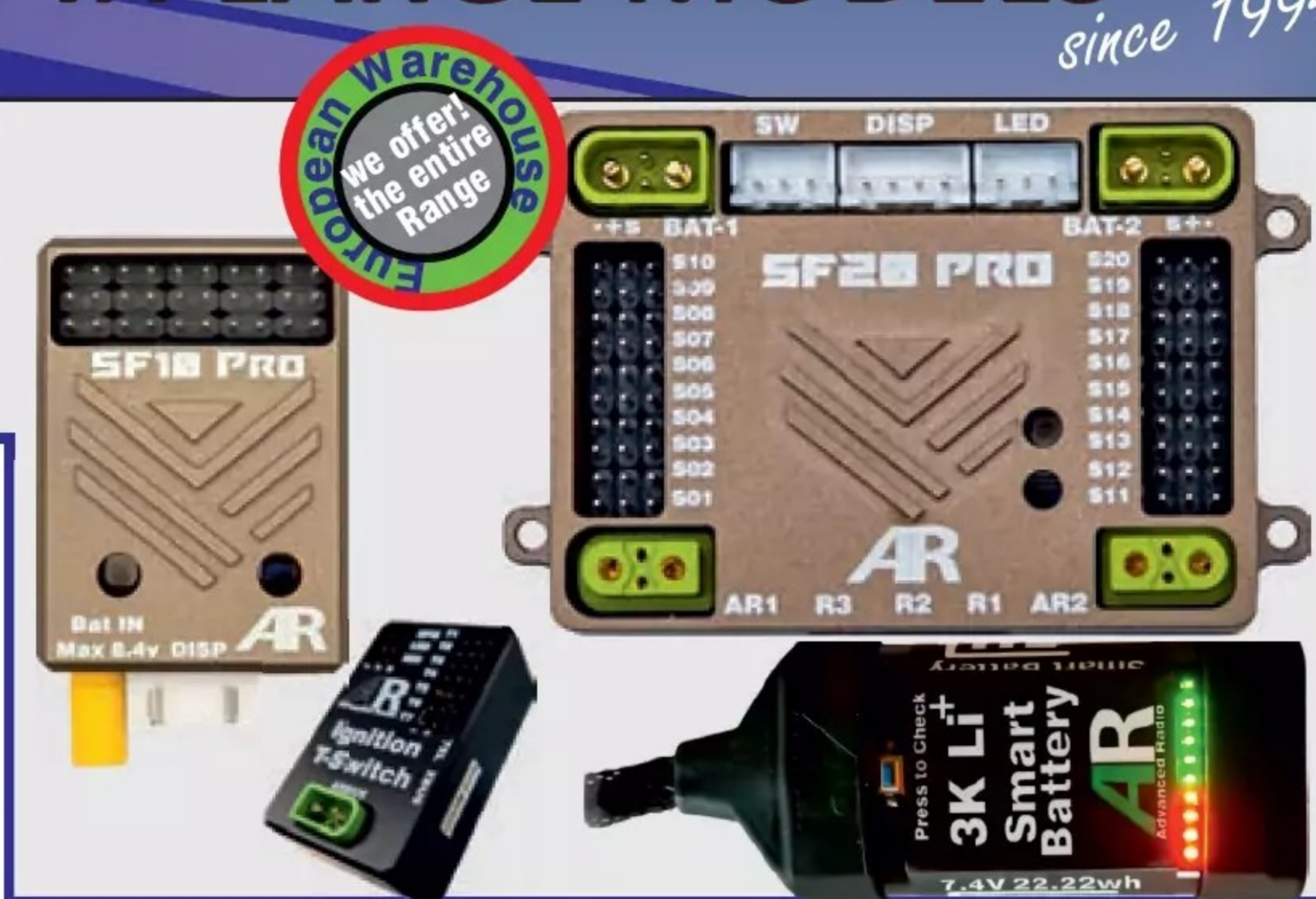
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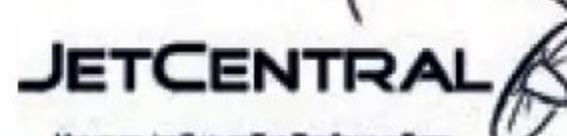
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Kevin Crozier

Editor

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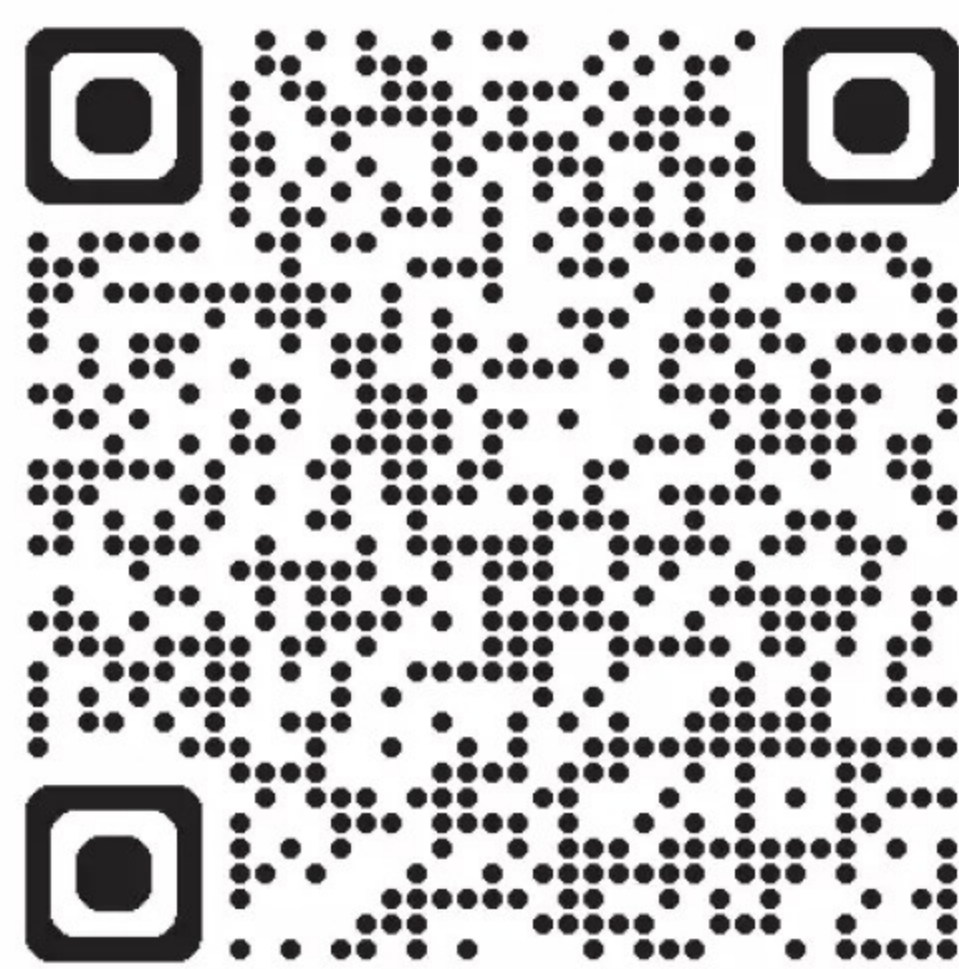
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Chris Foss' new personal project, an Acro Wot Mk.3.

ACRO WOT MK...3

In his regular sport flyer round-up **David Ashby** clocks a fine 3D-printed Albatros and admires Chris Foss' new personal project

Words & Photos : **David Ashby**

I popped down to Shoreham to interview Chris Foss in 2016, then I wrote an article to coincide with Chris Foss Designs' 40th Anniversary. You'll have probably seen from a recent issue that the 50th Anniversary milestone has just been passed and, in reply to my congratulatory

message, Chris mentioned that he's just finished a Mk.3 version of the Acro Wot.

Now, please don't get excited. Kits won't be appearing soon. This is purely a personal project but interesting, nonetheless. By way of a recap, the Mk.1 Acro Wot is the kit version introduced in 1985 at the Sandown Show. Chris

admits that the Zlin 50, a full-size aerobat from the famous Czech aircraft manufacturer, influenced the original design. The Mk.2 is the ARTF version, designed exclusively for Ripmax, that came along in 2012 and featured a wider and deeper fuselage, a larger rudder and Hoerner wing tips. It carried a little more



Note the flush cowl. The trim scheme is painted. All Acro Wot Mk.3 pictures are courtesy of Chris Foss.



The balsa was carefully selected and it shows.



Like all of Chris' models the new Mk.3 is beautifully finished.

been given a more rakish appearance with the base line rising up into a deeper rear deck. The underside has a significant kick down at the tail end, copying the current Wot 4 Mk.3/Classic, so allowing for a considerable increase in rudder area. This gives greater control authority for stall turns, spins and flick manoeuvres. A little detail that might otherwise go unnoticed is that the back edge of the cowl is flush with the fuselage rather than overlapping. Time consuming but satisfying, Chris says.

Having shelves full of balsa at the factory meant Chris had plenty of choice when selecting some lovely quarter-grain wood to enhance the natural appearance of the completed model. The finish is white tissue and dope over the flying surfaces and lightweight glass cloth and epoxy on the fuselage. Colour trim was masked and sprayed. The cowl is fibreglass; Chris, having made the original plug, had a mould and final cowl produced by his composite specialist.

His power installation is identical to that recommended for the Wot 4 Mk.3, so an Axi 4120/14 motor and 4-cell 3700 mAh LiPo

weight too. From this the larger Acro Wot XL and smaller electric Acro Wot Foam-E evolved.

The Acro Wot trad' kit followed the norm at the time of its release with pre-formed foam/ veneer wing panels, shaped balsa and ply components, a moulded cowl and canopy, and ready-formed undercarriage. The kit remains in production to this day and apart from a few regular updates it looks exactly the same as it did all those years ago. A case of getting it right first time.

So why the Mk.3? Well, with an 80th birthday less than a year away, Chris is looking to gradually wind the business down, so this is a personal project, an exercise in design and craftsmanship.

The redesign mainly concerns the fuselage. The only change to the wing was to take out the slight dihedral, introduced to eliminate rudder roll in knife-edge, and to angle the wing tips to create the same result. As the intention from the outset was the make the model purely electric the fuselage has been widened by 3/4" to create more space for the battery and ESC. Looking at the side profile the canopy has



Chris in 2016 with an early Acro Wot prototype.



battery pack. Says Chris, “Performance can be described as truly vertical, with handling and an aerobatic performance just how it should be with an Acrowot, but with greater rudder authority for those crazier manoeuvres.”

It’s easy to take Chris’ energy and commitment to kit production for granted but there will come a day, perhaps in the not-too-distant future, when the last box will leave his little factory. So, if you’ve always fancied

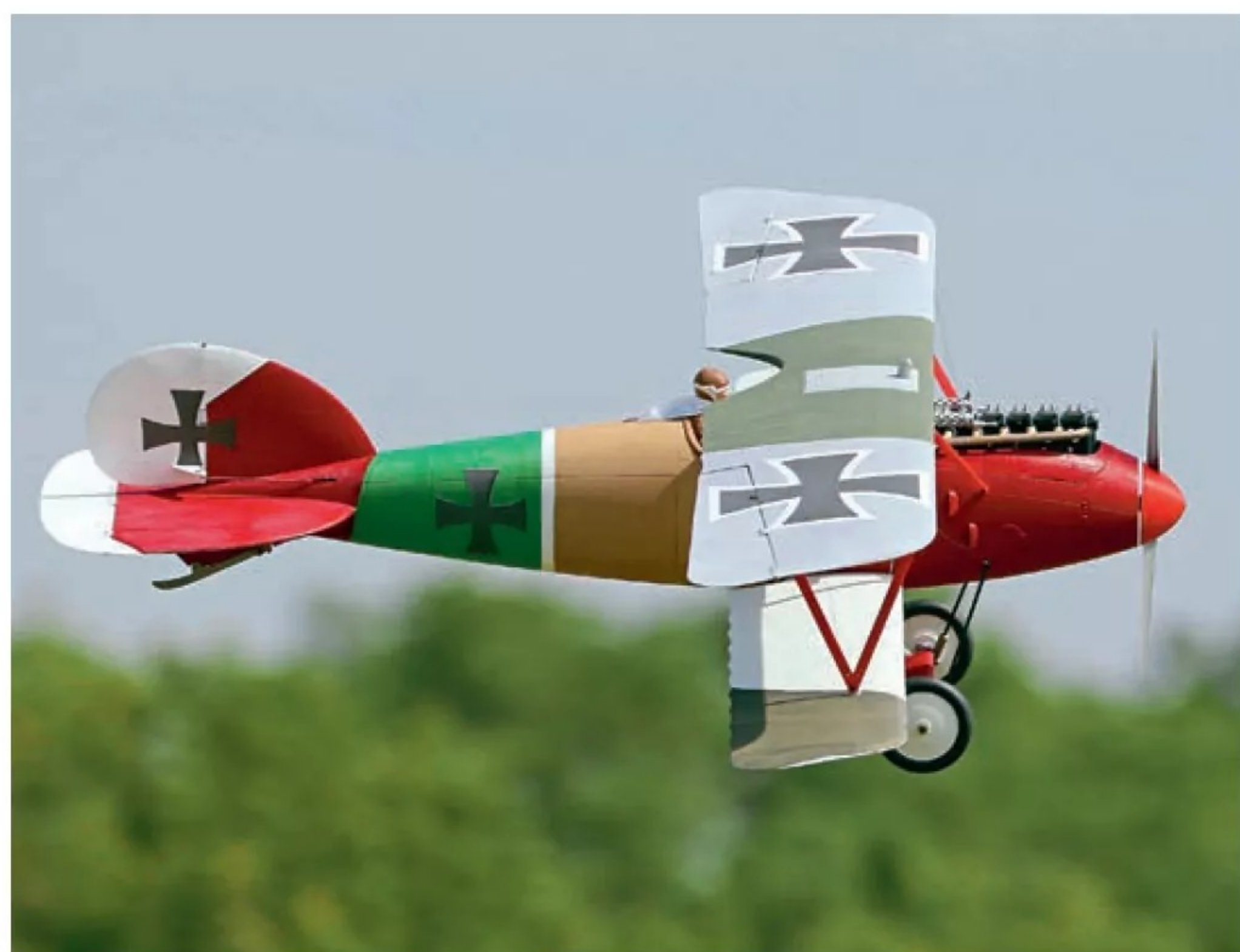
building one of the best aerobatic sportsters of all time then you know what to do.

3D ALBATROS

I’ll be honest, until now I’ve not really paid too much attention to 3D printing. I’m a simple chap and I like my machines to work, without tweaking, downloading software fixes or acquiring a certain knack that only hours of failure and problem solving will deliver.

Rightly or wrongly my assumption has been that 3D printers tick too many of the above traits, although Kev Scott and Roger Style’s articles in the May and March ’26 issues did pique my interest.

Then clubmate Cliff Newton got his Albatros up for the first time a few months ago. A download from 3D Labprint (£30), it spans 1064 mm and took around 54 hours to produce using his Bambu A1 printer, a new generation, albeit



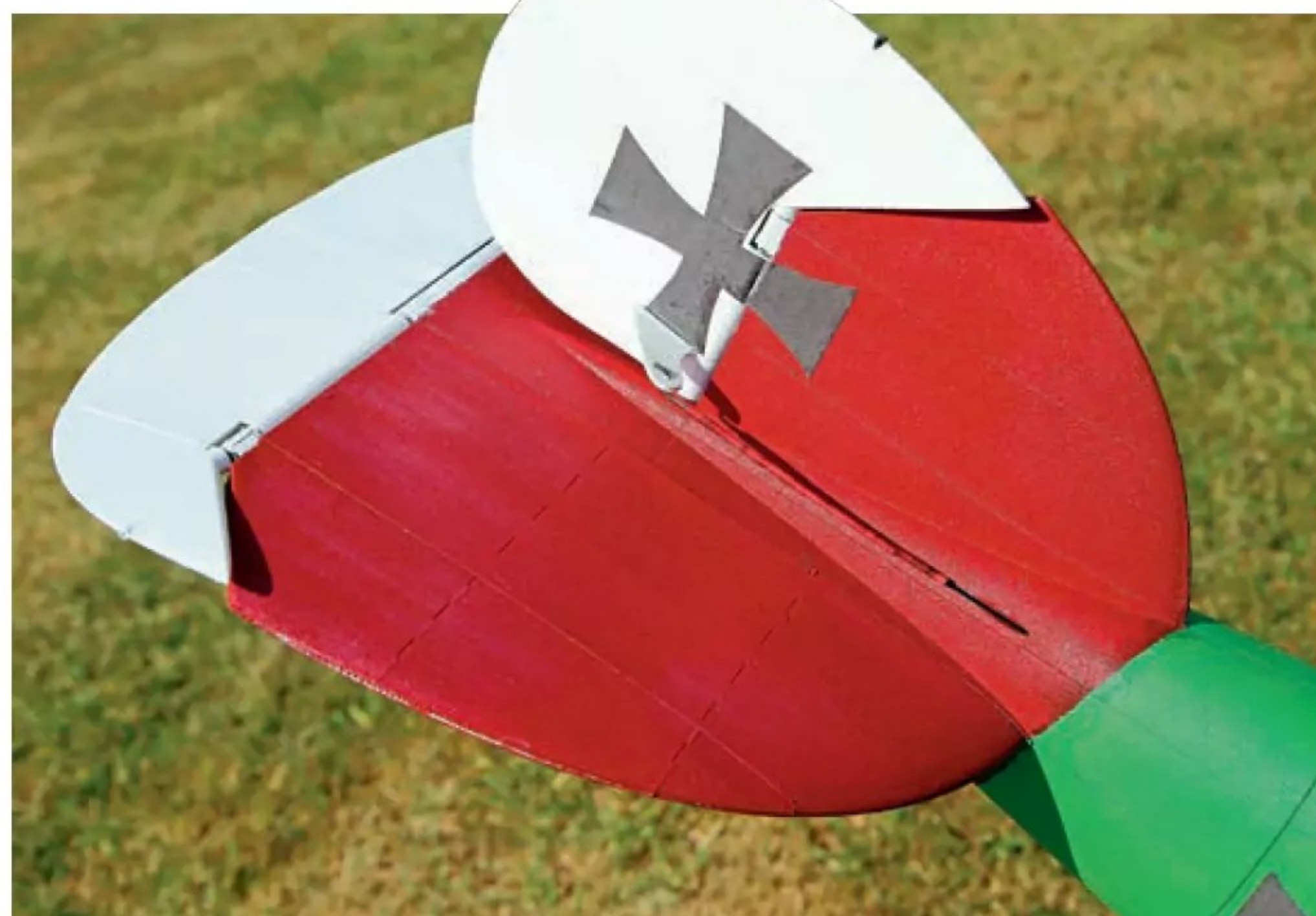
Cliff Newton’s 3D-printed Albatros. A pilot scarf is compulsory, of course.



Looks the part, doesn’t it.



Engine detail too.



Cliff brush-painted the model using acrylics.

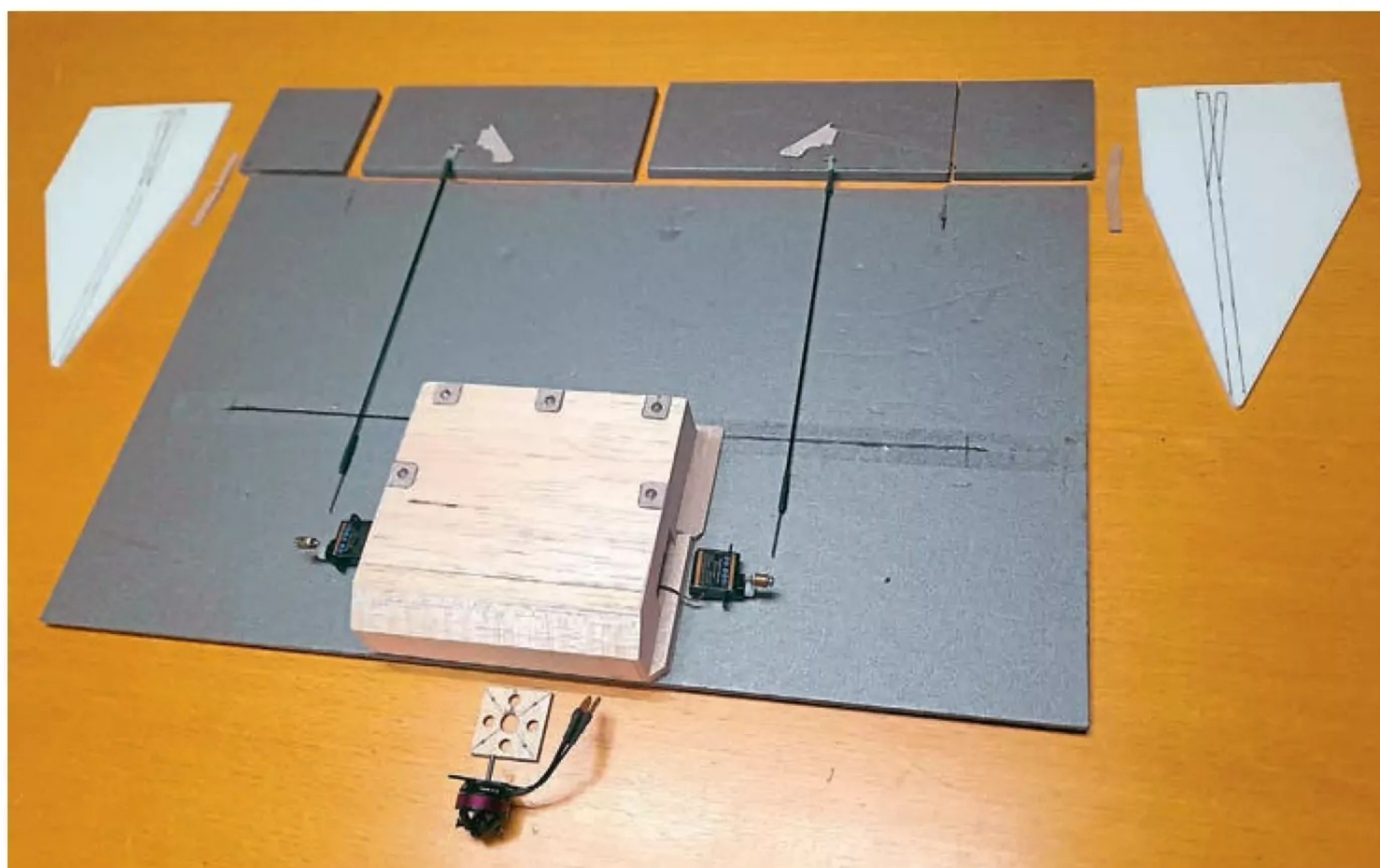
basic, machine. There's little of it that wasn't printed and Cliff used approx. 430 g of LW-PLA and 30 g of PLA along the way, with 3 mm carbon rod forming the undercarriage struts.

An E-flite Park 450 motor and a 3S 2200 mAh LiPo provide the power, with budget 9 g servos doing the pushing and shoving. All-up it comes in at 930 g and the finish is brush-painted Tamiya acrylics.

As you can see, the engine detail is lovely, as are the little scale references around the airframe. It flies well with no vices although the usual draggy biplane traits are there, as flyers who prefer to 'cut and glide' for landing will soon discover. Apparently, some users feel the undercarriage mounting areas are weak, although they haven't troubled Cliff thus far.

TRIBUTE NEWS

The C of G was missing from the Tribute plan in the March issue. But using the original as a guide, I'd suggest starting at 78 mm from the leading edge and go from there. That omission hasn't stopped a few being built, notably Tomas Dunker in Sweden who enlarged his model to 120% and used Depron; 6 mm for the wing and 3 mm for the fins. His fuselage box is balsa so the all-up-weight comes in at a very respectable 160 g. Winter hangs about for a



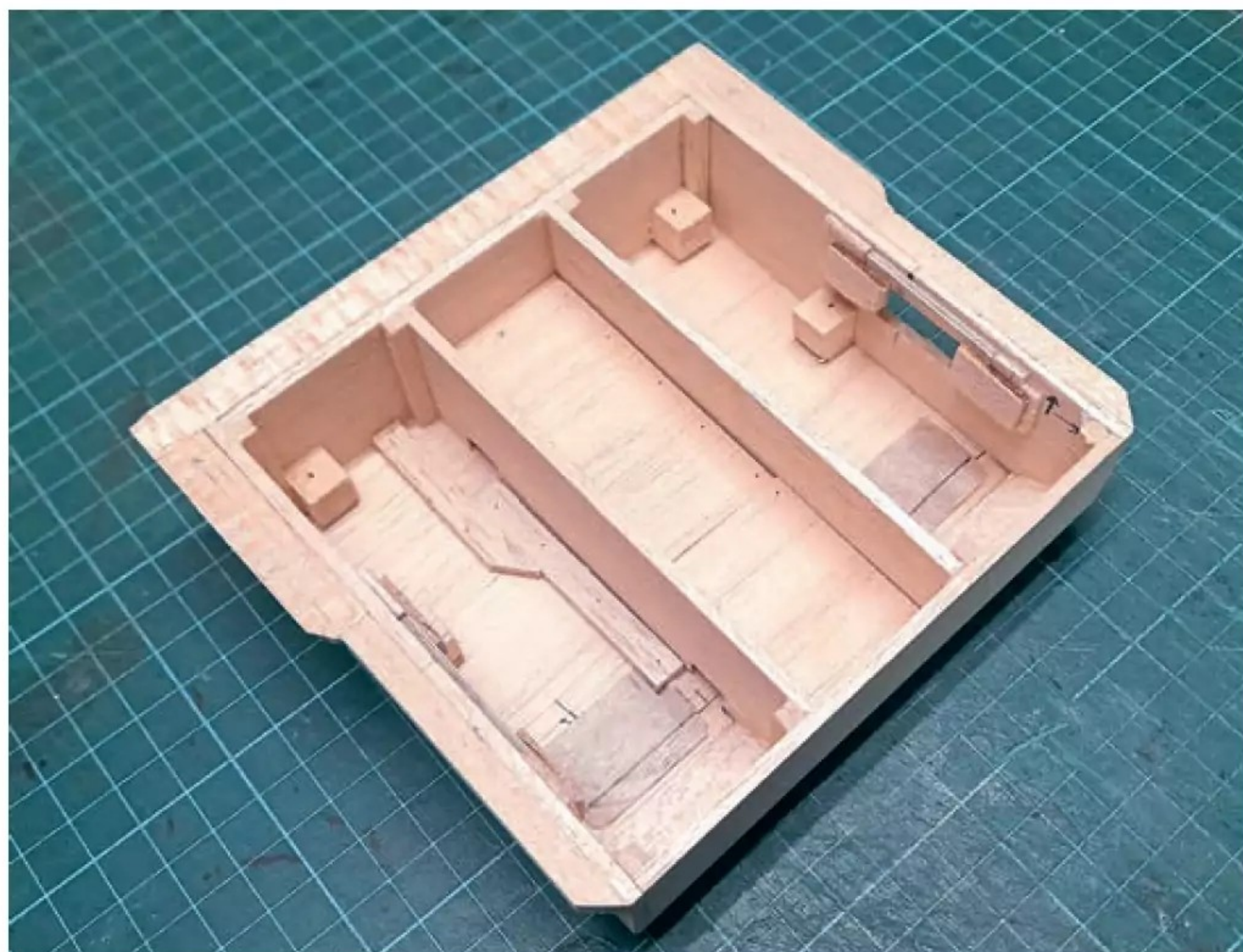
Tomas Dunker in Sweden used a mix of Depron and balsa for his Tribute.

bit longer where Tomas lives so at the time of writing the first flights are awaited.

I've now flown the 350 g electric-powered Tribute that I built myself. It flies in a slightly more predictable manner than the vintage

Boddo example but, again, and despite a washer's worth of downthrust, it feels like it could do with two washers worth.

How does it fly? Well, let's just say that it remains an 'ahem' idiosyncratic machine ✈️



Tomas enlarged his Tribute to 120% and built his fuselage box from balsa.



AUW comes in at a very respectable 160 g so Tomas hopes to fly this indoors.



This is a tiny, tiny proportion of the piles and piles of bagged bits and bobs that emerged from one modeller's shed.

and, while fewer, those unpredictable traits remain. If you've managed to tame one then let me know.

MOULDED MISCELLANY

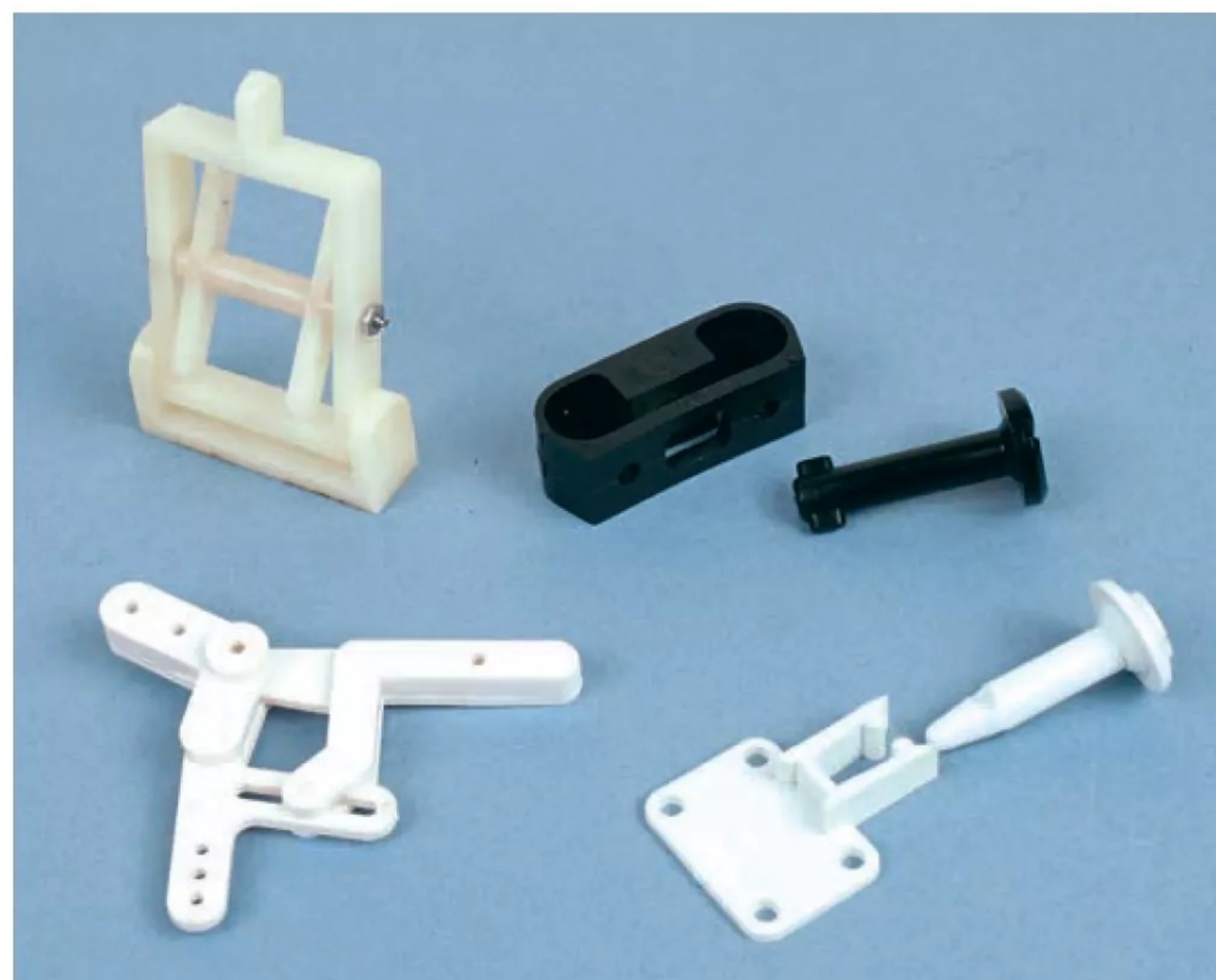
I've been helping a former club members' family clear out his workshop containing a lifetime of accumulated model flying bits and bobs. We're talking 'several carloads' here. This was a chap who always bought three or four packets of hinges when just one would've done.

Anyway, sorting through a huge box of bagged accessories, what struck me was the sheer variety of moulded widgets, many I'd never come across. These accessories are a testament to the ingenuity and breadth of choice available to model flyers in the days before 'computer radios', touchscreens and the like. Take a look at the picture top right of this page and see if you can guess what they were for:

- Top left: An easy one for starters. In the days when mixing couldn't

be performed at the Tx there were mechanical options. Elevons usually meant harnessing some form of sliding tray but this solution from Radio Sailplanes of Stokenchurch seems like a compact solution, albeit one requiring three servos in a delta.

- Top right: This is a Wing-Lok from Model Flight designed to retain a one-piece wing at the trailing edge courtesy of a quick release bolt.
- Bottom left: That's an R/C Glider Dethermaliser. Made by B. Herrman in West Germany, it must date to the 1970s. As far as I can tell it's designed to provide extra movement to a full-flying stabiliser (at full elevator and full trim deflection) sufficient to stall a glider and, according to the instruction sheet, 'float it down, after several jerky rises, perpendicular to the earth'.
- Bottom right: Another hatch/canopy release unit.



Computer radios? Who needs 'em.

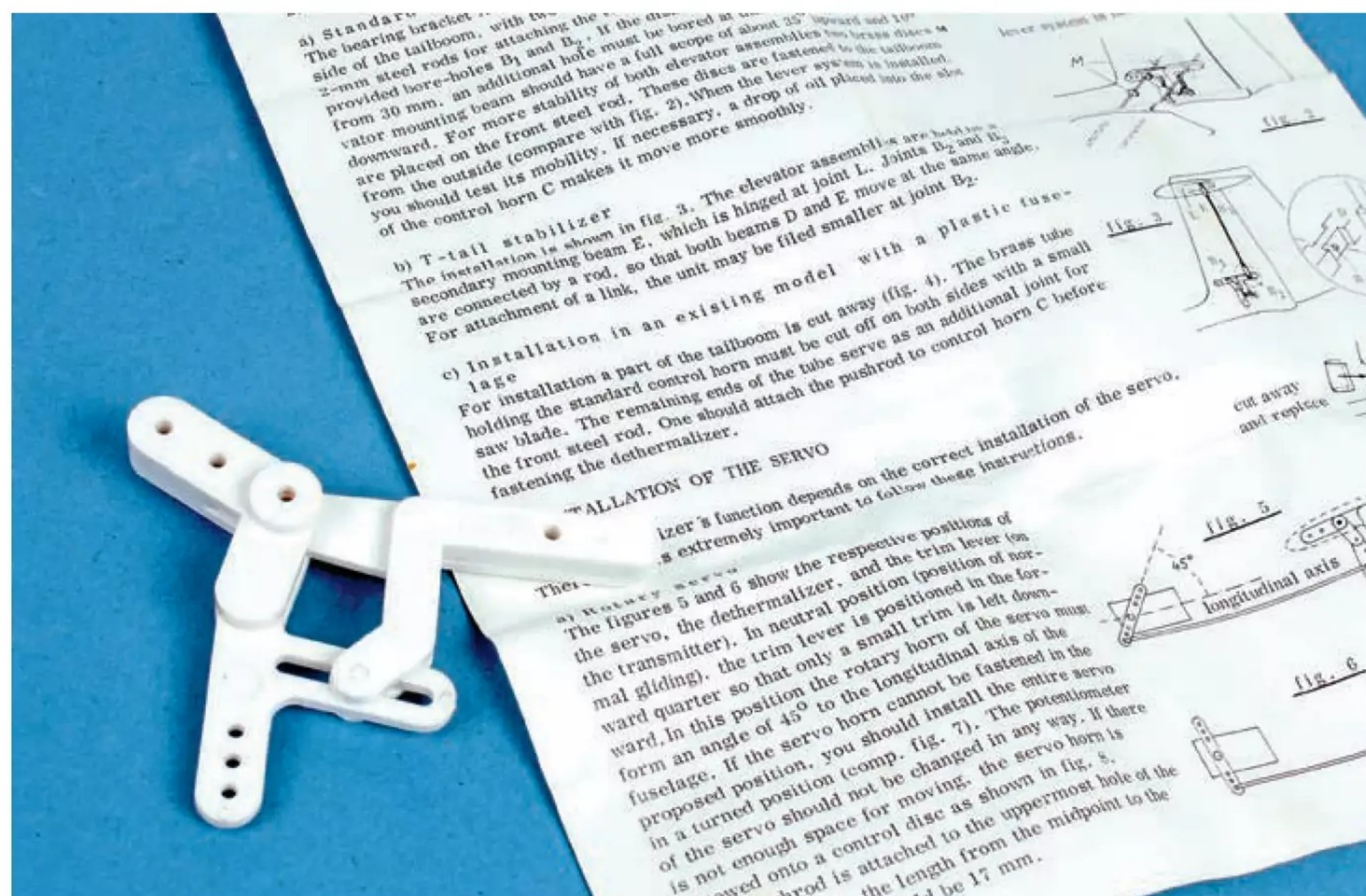
TAIL TIP

A quick tip for Multiplex Heron or Lentus motor glider owners who disassemble their models for transport or storage. With those T-tail stabilisers retained by nylon bolts a flat head screwdriver is always required to attach and remove the stab' and is often forgotten or left in the car out of reach.

Eric Friend has a solution in the form of a homemade wooden flathead screwdriver tool that's retained by the bolts when the model's not in use. Simple and smart.

SOLO FLYING

Kevin made a good point about the trend towards solo flying at model clubs in his June editorial. Ditto that. Go back to the nineties and club Sunday flight lines were five or six flyers long with continuous rotation. Everyone kept a watch on who was likely to land first and engines were always being fuelled, started and run up in the pits. Everyone knew how many models were allowed in the air at the same



This glider dethermaliser came with an instruction sheet. I was none the wiser after reading it.



Eric's Heron/Lentus tail screwdriver retention system.

Blimey, three flyers together.

time but these days most flyers would be hard pressed to recall the club limit; it's information that's never needed.

Many clubs are a bit smaller than they were in the 80s and 90s. My club could boast some 120 members in the late 90s but only 50 today, and only 20 of those could be called regular week-in, week-out practitioners. So most flying sessions now provide the luxury of leisurely rotation and no pushing or shoving to grab a slot. That's nice up to a point but on the occasions when several members are flying then a lack of airspace awareness and circuit discipline is apparent. Training can suffer too with pilots making

insufficient allowance for beginners when the sky is busier than usual.

On similar lines, we had an impromptu glow engine revival day at the field which, for the first time in years, saw several engines being run and tuned in the pits, just like the old days. It was nice to see although the noise came as a bit of a shock!

CAR TROUBLE

For reasons only they can explain some of my club mates have decided to buy R/C cars and race them round the short grass areas down at the patch. Hopefully it's just a phase they're going through, though, already, they're on

that slippery slope with talk of upgrades and performance tweaks. Needless to say, I'll not be engaging in such nonsense. But with my next flight battery charging and a camera within reach, I decided to point a lens at their activities.

Two things I learned: first, steering an R/C car around isn't as easy as you'd assume (not for this lot anyway) and second, they are perfect for flattening the mole hills that have started to appear on and around the patch.

That's it for now. Make the most of the summer if you can and I'll see you next time. Before then justforfunrcme@gmail.com is where you'll find me. ■

*That's one way to flatten the mole hills at the patch!*



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Balsa Cabin's 'Overture' is thoroughly practical sport model, especially now that it has ailerons fitted. I wonder why it fell out of production?

WHATEVER NEXT

Dave Goodenough puts his hand up to a mistake that has afflicted many model aircraft builders

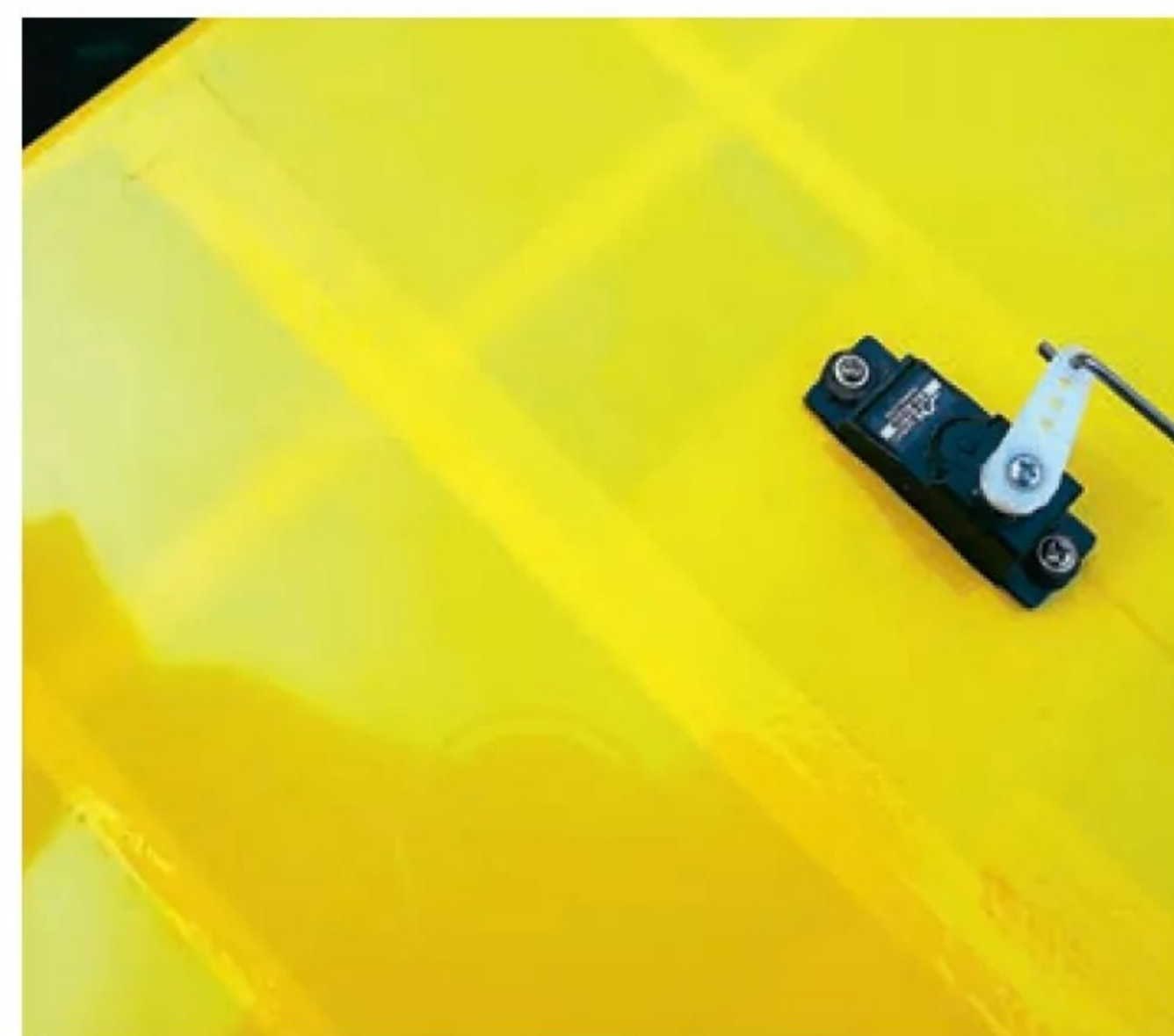
Words & Photos : **Dave Goodenough**

Have you ever had one of those super days in the workshop where everything you're doing comes together wonderfully, the process of making a model just flows incredibly well and you get this warm glow that all is well with the world around you. And then it all goes belly up! Join the club. I had one yesterday, as I write.

Post-sanding and prep, I was covering this 'ere simple dihedral wing with film. The Cover Grip coated periphery accepted the merest touch of iron over Easycoat, which lay upon the structure and adhered with ease. With the edges sealed and smooth, the tautening process went beautifully and rapidly, leaving me with the warm glow of a job well done. Cutting another section of film, I was about

to adhere the last piece, after previously covering both lower wing surfaces and one of the uppers, but there was this mental fidget that cried 'Whoa there, fella!' and refused to be quietened. I put the iron down, took a step back - and cursed myself for being an impatient fool!

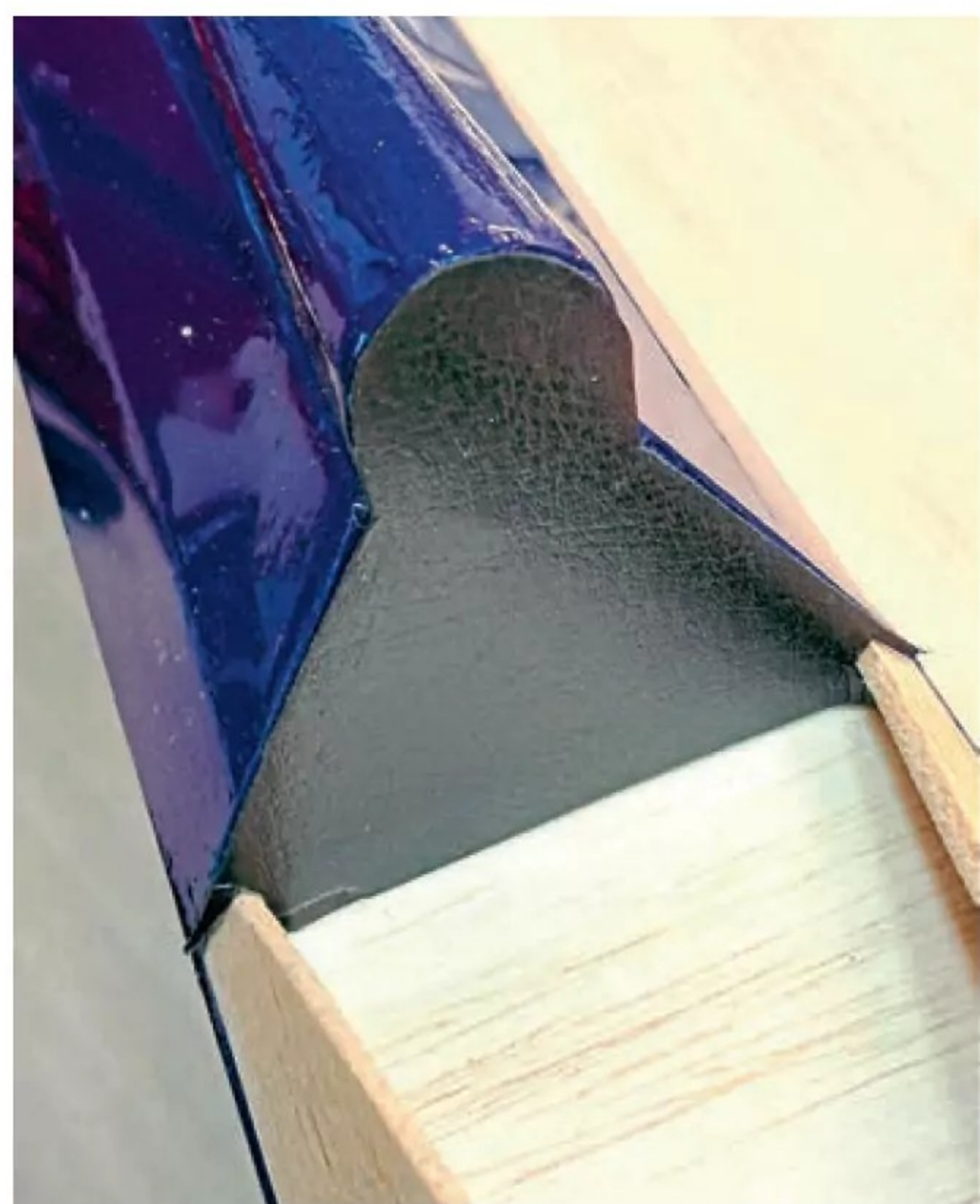
The wing is fitted with ailerons and whilst the servo recesses were cut, I hadn't run the servo extension lead through the wing that I'd just finished covering so well. All the servo wire slots ran through the ribs, but they were just... vacant. Have you been there before and tried to coerce a length of wire or control snake 'blind' along a fully covered opaque film wing? I gave up after half an hour. It was a fool's errand that simply wouldn't happen. Close to whimpering, I slit the underside covering and removed the film to access the ribs and allow running the



The only evidence of my servo wire whoopsie and re-covering part of the wing underside. My face glows with embarrassment!



'Pleather' skin from an old Kindle cover comes in handy for the Overture's headrest.



With the 'Pleather' glued in place the Overture headrest doesn't look quite so bare.

servo extension wire along its allotted course. Thankfully, the piece of film that covers the wing's underside isn't readily visible, but I know it's there and it will shame me until the model succumbs to age, attrition or gravity.

REST ASSURED

My better half curses her occasional and desperate delves in to my garden-sited sanctum,



I save everything that might 'dress' a cockpit and even lean on my granddaughter for her cast-offs.

wherein lie hidden treasures that she dismisses as 'just more rubbish'. It's strange how she can't find whatever tool she's intent on abusing, yet with the merest swivel of the hips and tiffle of the fingers, I can find the very thing, 'Just like that!' Said 'rubbish' that I save from the strangest sources will eventually pass from 'that'll be useful', into 'thank goodness I saved that!'

Whilst starting to dress an open cockpit (you really can't leave the office empty, can

you?) a faired-in headrest wanted finishing with something appropriate. Into the materials scrap box I dove and pulled out the protective sleeve from a Kindle e-reader that had expired with a dead battery a few winters ago. It was covered in 'Pleather', that fine-grained PU imitation stuff that looks a lot like an old leather-bound book cover. A bit of teasing and peeling saw the thin imitation skin laid on the bench and overlaid with ✈



Thermic 100 tailplane halves. Original tissue covering on the left with replacement Doculam being prepared on the right.



With care the Doculam covers and tightens well, but not as much as with 'proper' model films.



Finishing the Thermic 100 tailplane halves. Left shows the initial Doculam covering, whilst right shows the doped-on Eze-Tissue chequer disguising the old tissue remnants.

a card blank of the shape I wanted. Cut, shaped and trimmed, with the pale cut edge darkened with a Sharpie pen, it was then contact glued in place. Simple stuff, nil cost as I had everything in stock, and perhaps whimsy will choose the ex-children's alarm clock Wallace to lean his head upon the rest, or maybe the little Teddy Bear and Mouse pilots that I saved from aviation key rings.

Did I mention that I save nearly everything handy..?

RELUCTANT TISSUE

Next on the bench the third-hand Thermic 100 acquired from mate Andy Gough, and with a tantalising 'Dave Jones, Wootton Wawen'

under the avionics access cover, has presented me with a conundrum. The tissue Andy used to renovate the glider some years ago was overlain on the remnants of the original decades-old tissue adhered to the model structure. How on earth do I strip the rotten covering off to allow me to do a test 'Doculam and doped tissue' long-life renovation of my own? Should I even try to remove it? A long deep ponder (they can't touch you for it!) said I had to at least try... something.

I've no doubt someone out there has the perfect method for removing two layers of doped tissue, but I admit readily that I was totally stumped by the solidly glued 'stuff'. I tried soaking a small area with cellulose

thinners and then scraping the tissue surface. I could almost hear the tailplane laughing at me as it shrugged off my futile attempt at clearing the stuff. Sanding the surface brought forth lots of fluff, but little removal. I began to get serious and reached for the paint stripper. But wait! I contacted a forum, detailed the problem and the suggestions began to pour in, filed into good, maybe and 'You must be joking!'

A test area almost worked, but I admitted defeat in the end. I cleared the open area of a tailplane half of rotten tissue and sanded the framework lightly as a key for both film glue and Doculam adhesive. Once the skin of Doculam is tightened, I will dope tissue of the original model's colours in place. It may not be a perfect replacement, and it might look a bit scrofulous close-in, but it'll bring an old model back into use which is what I wanted. And who will notice the dodgy work when the model is flying?

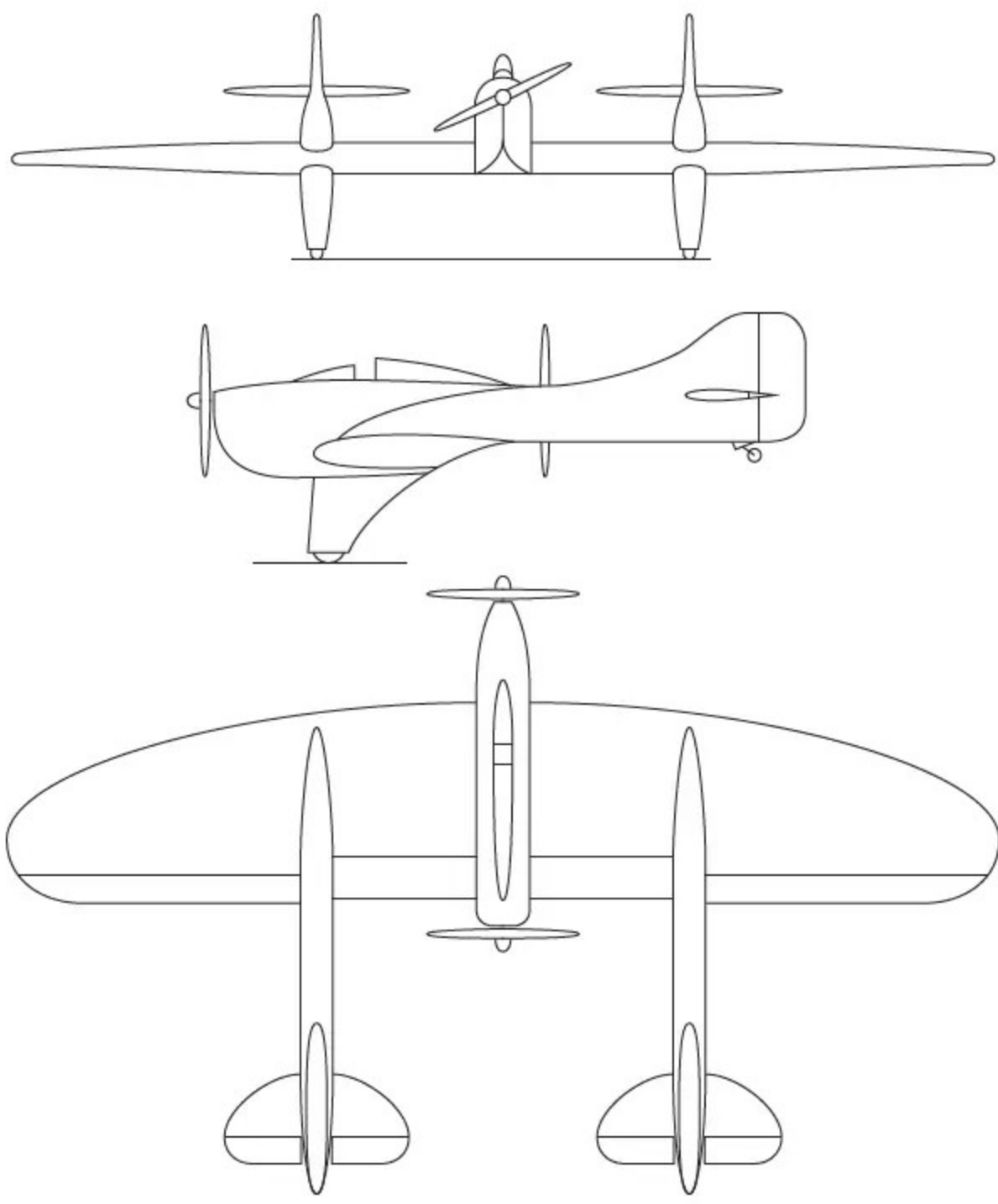
A 'heads up' about the process and my trials and tribulations in the next 'One Man...'

TOO LATE!

Among the suggestions from the forum, including giving the Thermic a Viking funeral, was to contact Mike Woodhouse of Free Flight Supplies. It appears that Mike purveys a magic potion that will lift old tissue. I had a look and it's on his website. Unfortunately, Mike only sells it 'at the flying field' or, I would assume, from his own address. Sadly, neither is an option for me. Oh, well...

CURIOUSER & CURIOUSER!

In one of the Mad Max films a curious aircraft was espied, the 1965 Transavia Airtruk of pod, twin boom, twin tailplane construction. A one-off, you might think? As far as design goes, not so. A Gallic aircraft designer got there first with his 1936 design for an attack fighter (avion d'assaut).



Albert Twin-Boom Fighter. The idea for this was around 30 years before the Transavia Airtruk. Should I give it a go and draw up the plans?

Edouard Albert was a prolific designer of pedigree, penning several lovely aircraft, yet largely unknown now. Though apparently never proceeding beyond design and into construction, the 'twin boom with push-pull power' outline is so much more curvaceous and 'Frenchified' than the three-decades-later Transavia thug-of-an-aircraft. It calls for being rendered into model flying form via a simple structure and outrunner power.

I've just added the small 3-view of the aircraft to my 'to be drawn and modelled' list, with a colour scheme planned to reflect the pre-war decoration of the time. What do you think? Is it one you'd be interested in? If so, crank my email handle. You won't break it.

BEGINNER'S BUNDLE

'The Mermaid Incident'

A while back a sketch was unearthed for a semi-scale glider model I'd dreamed up, all the way from 1965. No name was attached but once found I felt the need to construct it. Originally penned for around 1.3 m wingspan and free flight, I redrew it for 4-channel R/C at almost three times that size, a relatively mighty 3.5 m. As my most local slopes are the two 'Mermaid' sites, I borrowed the name for my Magnum Opus.

All that is incidental to the story as when I came to test fly the finished and now outrunner-assisted glider, there was but one other chap setting up to fly on a flat land site away from my usual slopes. He was waxing lyrical about the wonders of micro-models and the tiny 410 mm span Parkzone P-51D Mustang ARTF model he'd bought and flown. True, it was a remarkable little flying device, but said chap was off in the realms of, *"I don't know why people still build their own models. It's so last century."* He did eventually agree to launch my glider, which is where it all went off the rails for me.

"The wing joiner is too small, it'll snap!", said he. Have you ever tried to snap a 12 mm solid carbon rod, I asked? *"The propeller is too small. It'll never climb!"*, he berated. Admittedly it was not the 16" folding prop I'd wanted to use but the 12" folder

fitted was driven by a higher kV rated outrunner motor to compensate and the thrust was, to my mind, more than adequate. *"It's too heavy and even if you get it up it'll sink like a stone."* Despite its overall size the model only weighed a smidge over 4 kg, giving it a low wing loading that was perfectly okay for a glider. I'd had enough and asked him to just please line the model up into the breeze and give it a big heave.

At which point the laws of physics, electronics and aerodynamics took over. The model ignored this club 'expert' and proved him resoundingly wrong on all counts. The wing joiner, despite aerobatics, steadfastly refused to break; the supposedly too-small propeller hauled the model up at a decent rate of knots; and the weight, or lack of it, proved that the Mermaid had a lovely flat

glide and a taste for indicating and grabbing thermal lift that pleased me no end.

So, what is the moral of this tale? Beware of club 'experts' that tell you everything is 'wrong' and take a step or two back. If you ask around your club, you'll find at least one person quietly getting on with enjoying his or her own-built model with little or no fuss. They are your gold standard, with real practical knowledge and experience to share.

CLEAN MACHINE

After seeing them in use by other trades for many years, cleaning parts *'as if by magic'*, I finally decided to invest in an ultrasonic parts cleaner. Only a modest one of two litre capacity, to be shared with my son with his need to clean motorcycle small parts. ✈



Before and after covering. The memsahib groans under the weight of my 3.5 metre span Mermaid.

At the flying field, before being told by an 'expert' that the model was all kinds of wrong. Mermaid ignored the belittling comments and simply got on with flying superbly.



It's not really anything to do with the beginners' side of modelling unless you have a penchant for IC engines; I've met a couple of younger proponents with just that peculiarity and more power to their elbows, say I.

Just in case a buzz in the machine doesn't work, my mate Andy reckons that non-

caustic oven cleaner works. So that's another dodge to try?

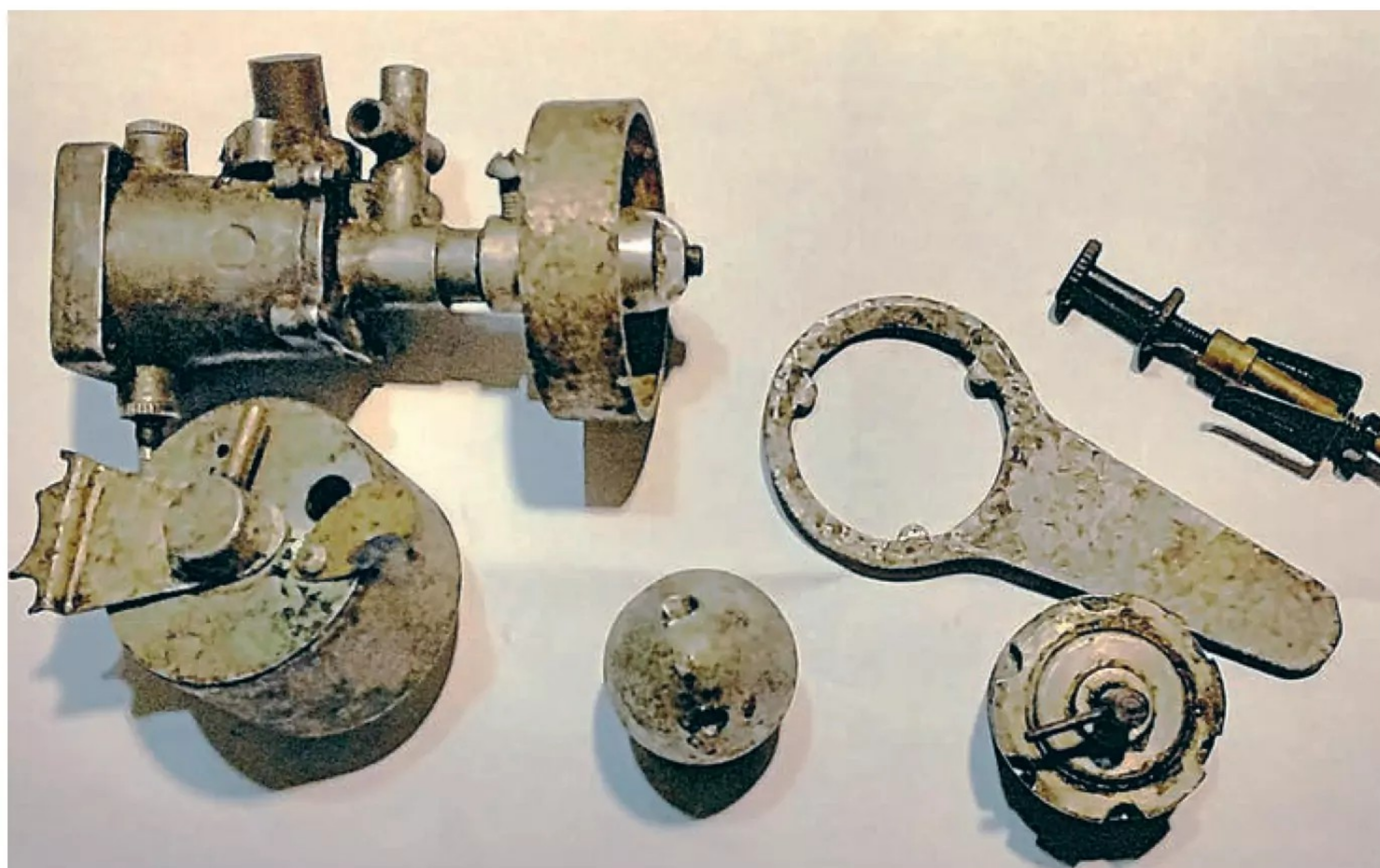
DIMPLE SOLDERING

No, not filling in adorable facial features but a method of making a more secure solder joint, whether 'soft' or 'hard', such as a purpose-

designed elevator or aileron control. It's been used in industrial production processes for ages but has probably never been noticed; it's an unsung device that has been designed into millions of products over the years. 'Traditional' builders that craft their own models and parts will have joined piano wire to a brass or steel



A bit of graphic fun on the Mermaid wing to suit its oceanic Siren name.



More old engine parts for cleaning. I've no idea what they are but they are sure to come in 'handy'.



My ancient Super Tigre .61 gets the ultrasonic treatment. It shifted most of the grot but will need application of non-caustic oven cleaner to finish the job.

operating arm and may have had cause to curse the joint when it has failed, probably wrecking the model. So, let's make it a little stronger...

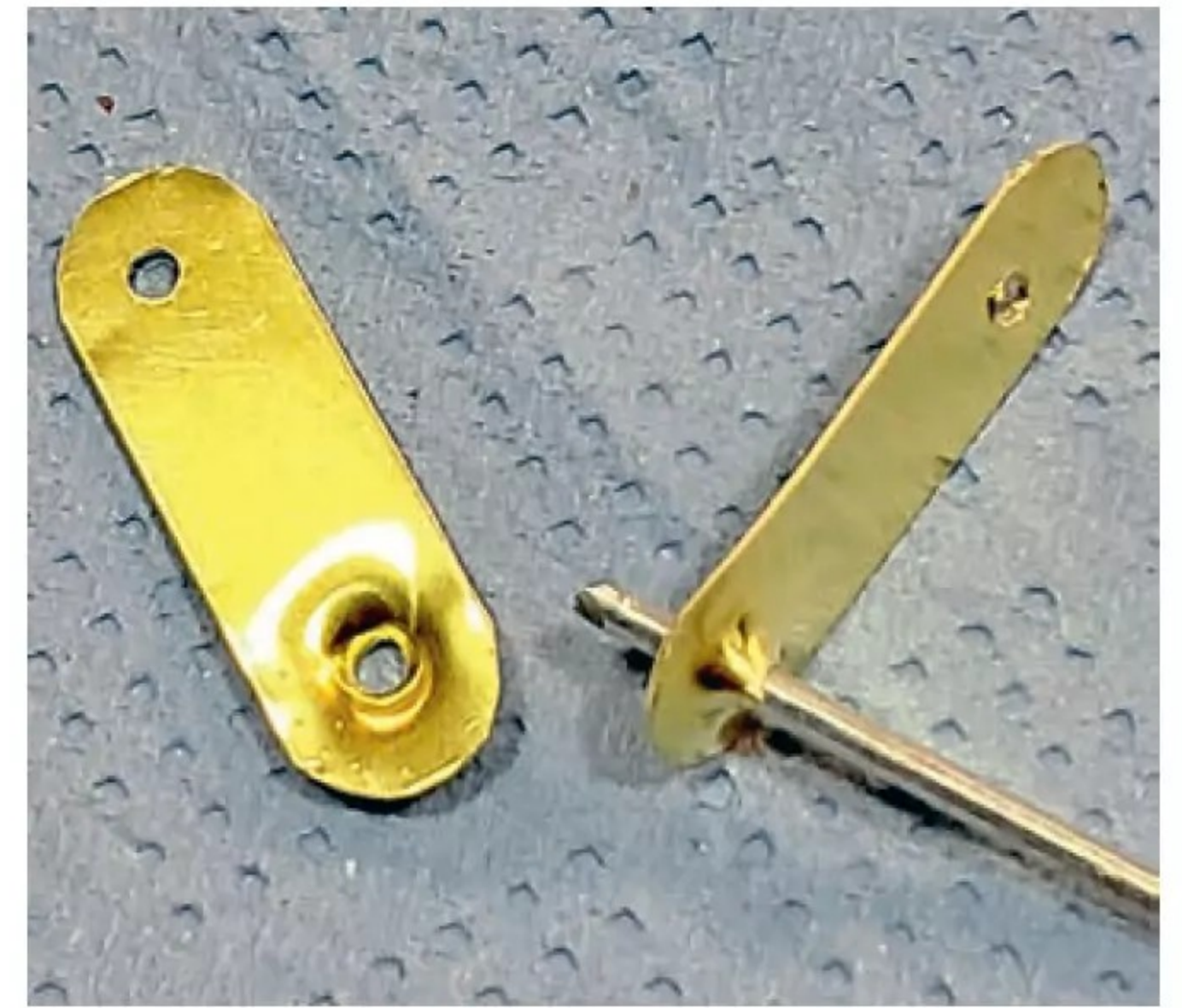
As the photos will show better than half a page of words, the arm or lever is simply crafted from thin brass or steel plate. Where you would normally simply drill a hole for the

USEFUL LINKS

Brass shim, various thicknesses	eBay
Doculam, 40 microns, sold per metre	Retromodeller
Ultrasonic cleaning bath, various sizes	eBay

wire part to be soldered, use a centre-punch to form a dimpled recess first before drilling. That recess forms a 'well' that will fill and contain more solder material than a simple drilling; more soldered area/volume equals more strength. It works equally well for 'hard' soldering with silver solder. As always, the parts to be joined should be scrupulously cleaned and always use a non-acidic soldering flux. For a doubly strong fixing use two arms/levers back-to-back with dimples facing outwards. 'Tinning' (coating the mating faces with solder first) ensures the strongest bond. 'Sweating' is where the two faces are placed together and heated, melting the solder and bonding the two arms. Molten solder will draw into the dimple wells by capillary action and form a far stronger join than a simple drilled piece of plate.

For a doubled fixing, I use 0.015" (0.4 mm) brass shim. But that can be substituted with thicker material or steel shim for stronger arms on heavier models. Always match the material needs to the demands of the job.



A dimple in a yet-to-be-soldered horn provides an increased contact area and stronger bond.

TAILSKID

Whilst I'll put up with a scruffy re-covering of an old model just to see it in the air again, I'm mindful that I gave up on doing that job to the best of my efforts.

An American actress, Angela Bassett, gave a quote for that:

"Don't settle for average. Bring your best to the moment. Then, whether it fails or succeeds, at least you know you gave all you had. We need to live the best that's in us."

I'll make sure I do a better job on the next model.

Send me an email: coetquidan@yahoo.com ■



Doubled dimpled horns show how the simple modification of a flat plate gives much more soldering area/volume.



HANGAR 9 VALIANT 20CC

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At 2.2m span, the Valiant 20cc has all the core characteristics required for an extremely versatile design. Smooth, stable flying manners, excellent aerobatic capability and STOL-like take-off & landing capability combine to provide intermediate-to-advanced pilots a very satisfying all-round performance, delivered by a strong, stiff lightweight balsa and lite-ply construction ARTF airframe that sports a variety of features, including a large top-mounted windshield hatch,

painted fibreglass cowl and LED navigation lights. Storage and transport of this large model is eased thanks to its two-piece semi-symmetrical section wing, the flaps of which can travel both ways so can be mixed for use as full-span ailerons, flaperons, and spoilers. Available in three versions, the ARF (£519.99) arrives mostly factory assembled with pre-installed hinges and bolt-on tail surfaces, ready for a 20cc petrol engine or equivalent glow engine / electric power system,

and servos. The EP PNP version (£939.99) is equipped with 6 x factory-installed digital and metal-gear Spektrum A6380 servos, a 4S - 6S compatible Avian 5065-450Kv outrunner motor, and a 100A Smart ESC that can provide a variety of power system related telemetry data with Smart and non-Smart batteries via compatible receivers and Spektrum AirWare-equipped

transmitters. There's also an EP PNP Combo version (£1124.99), which comes as per the EP PNP but also includes a Spektrum AR8360T+ Rx and 6S 5000mAh 30C LiPo. Whichever version you choose, should flying off water be on your radar then there's the option to install floats using the custom float strut set (sold separately - £119.99 and £22.50 respectively).



SMARTLEVEL

€19 - €55 | www.teil-q.de

With an ultra-compact digital inclinometer sensor at its heart the SmartLevel product range from Teil-Q is an extremely accurate modular system for measuring and adjusting motor down-thrust and side-thrust, control surface deflections and wing incidence using carefully designed, innovative adapters, the securing mechanisms of which provide high levels of surface protection when secured to a model. The sensor (€22) features a large backlit LCD display that dims after 30 seconds of inactivity and switches off after three minutes to save battery energy. Charging is via a USB-C port. Absolute and relative measurements are supported (zero point can be set at any location), and a 'data hold'

function allows the currently measured value to be fixed on the display at the touch of a button. It has a magnetic base, for a secure fit and easy transfer between any of the adapters:

- Shaft Engine Camber Gauge (€19) measures motor down-thrust & side-thrust. Secures reliably and centrally by means of a double prism, the measurement being taken directly from the motor shaft.
- Deflection measurement device (€19) measures control surface deflections.
- Wing EWD scale (€55) measures wing incidence. Has a working range from 2.5 cm to 64 cm making it suitable for small and large models, including V-tails.



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(typically 1/8" BSP), allowing it to integrate seamlessly with most setups. Once connected the tank acts as a buffer, smoothing airflow and maintaining steady pressure throughout use. In addition to improving performance, the air tank helps extend compressor life by reducing how often the motor needs to run, while also lowering noise during operation.





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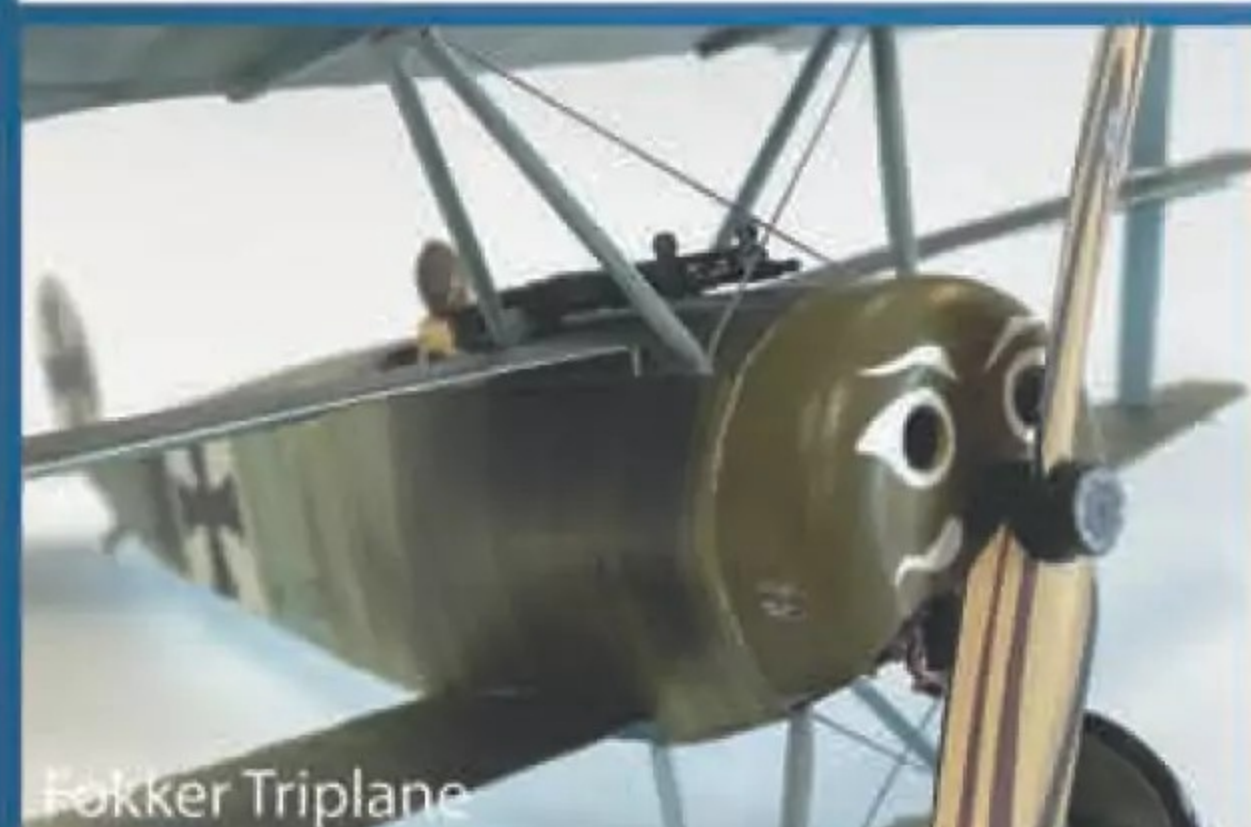
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'Red Arrow' Hawk or U.S. Navy Goshawk? What a choice. But in the end, it didn't matter as I now have both to enjoy.

A TALE OF TWO JETS

Kevin Crozier introduces a couple of recent kit purchases in the hope of returning to fly model jets on a more regular basis

Words: **Kevin Crozier** Photos: **Kevin Crozier, Graham Ashby, FMS**

Although this issue marks mid-way through the year as far as the dates of RCM&E's issues are concerned let me take you back to the end of 2025 and a difficult decision to make.

As is my usual way, I had saved up enough modelling tokens to pay for another 'project' model. These aircraft are my own pet projects and so are chosen by me and paid for rather than supplied as kit review subjects by manufacturers and distributors. As such they reflect my own personal interests (matched, I hope, by the interests of many of our readers) and so their appearance in the magazine is not influenced by the need to have them built and flown as quickly as possible in the same way

that review models need to be dealt with. In short, I can take my time and fit them in with my other interests.

During the past few years, you would have to have lived on Mars to not have noticed the impressive gains in quality and performance of foam ARTF jets. These aircraft are impressive enough when powered by a modern, multi-blade, electric ducted fan (EDF) unit, but I couldn't help but notice a growing trend in gas turbine powered foam models, i.e. powered by real jet engines! Surely a piping hot turbine and a foam airframe can't be matched together, can they? But having seen a couple of such airframes in action at one of my model clubs in the past year, I knew this was a reality and so I wondered

if the funds for my project model for 2025 would stretch to a foam turbine kit and a matching jet engine. And so, more in hope than expectation, I contacted my good friend, Graham Ashby at J. Perkins Distribution, to see if my swag bag was anywhere near full enough to buy such a dream pairing. Graham will, of course, be familiar to many readers as my predecessor in the editorial hotseat. Even better, he has built up some good experience with turbine jets so his advice and guidance would be invaluable should a purchase of a jet kit and engine be made. His response was very positive and he agreed that a series of articles on a real jet powered foam model would make interesting reading.

But he also had another suggestion...



Foam models have come a long way. Who would have thought we could fit a hot running gas turbine engine inside a foamy! All will be revealed in a future RTFM.



Doesn't she look the business! Graham Ashby's own HSDJETS Goshawk is ready for action.

TV STARS

My model of choice was the HSDJETS T-45 Goshawk, a naval conversion of BAe's famous Hawk trainer. Originally manufactured by McDonnell Douglas (now Boeing) and BAE Systems, the T-45 is used by the United States Navy as an aircraft carrier capable combat jet trainer.

HSDJETS also offer a 'Turbine Foam' Hawk in the familiar Red Arrows colour scheme but at the time of choosing between them, I had just finished watching an excellent TV series called 'Top Guns: The Next Generation' about the US Navy and Marine Corps' jet training programme, following America's next cohort of fighter pilots as they earn their wings and the chance to fly the F-35 and other advanced combat aircraft. It's a great watch which you can read about here: <https://www.natgeotv.com/uk/special/top-guns-the-next-generation>

This series is not to be confused with the perhaps more familiar (to UK viewers) 'Top Guns: Inside The RAF', series 1 & 2, which were shown on Channel 4. For anyone who has yet to watch these excellent aviation series then you can find out about the latest streaming options here: <https://www.channel4.com/programmes/top-guns-inside-the-raf>

Finally, whilst on the subject of TV series, especially ones based on those famous red RAF jets, who could forget 'Red Arrows: Kings Of The Sky', series 1 & 2, which are now available to watch on the Rails, Road & Runways channel on YouTube.

After spending a few enjoyable hours watching tyro US Navy and Marine Corps pilots being put through their paces, the attractive white Goshawks with their bright red trim had really grown on me and so I made the difficult choice to switch from a HSDJETS 'Red Arrows' Hawk to a T-45.

Or so I thought...



The smaller FMS Hawk is a pretty little thing too. Hopefully, it will prove to be a great jet EDF 'trainer' before moving up to the larger gas turbine powered Goshawk.

TWO TO TANGO

It turns out that didn't need to make that difficult choice between the two liveries after all as besides the Goshawk, Graham also offered me an FMS 80 mm BAE Hawk at a very good price, resplendent in a bright red 'Red Arrows' style colour scheme. Well, it would have been rude not to!

Graham's remit was to treat the smaller FMS model as a kind of jet trainer before upscaling to the larger HSDJETS aircraft. So, the deal was done and soon two boxes, one quite large, containing the Goshawk, and the other a fair bit smaller, with the red Hawk inside, were on their way from JP's warehouse in Kent.

'RED 1' FIRST

There's quite a bit to be written about both these models so they will be cropping up a fair bit in the next few RTFM articles. I can already see that I'm running out of space in this issue so this time I'll concentrate on unboxing the smaller FMS Hawk and we'll catch up on the HSDJETS Goshawk next time.

The Hawk is not my first EDF jet. I've built and flown several in different sizes. But I will admit that they've never really been my first choice of aircraft, mostly due to the fact that my local grass strips are rarely in good enough condition to fly jets from. For them to take-off safely you really need a closely mown, smooth strip of reasonable length. The last time I tried to fly an EDF jet from grass on a short, lumpy strip it was bounced into the air far too early, flipping sideways and catching a wingtip, which tore both wing mounts from the fuselage and snapped the carbon joiner. Ouch!

So, for more recent excursions I have restricted myself to small hand launched EDFs. These fly really well but they don't give quite the same buzz as when flying a larger jet.

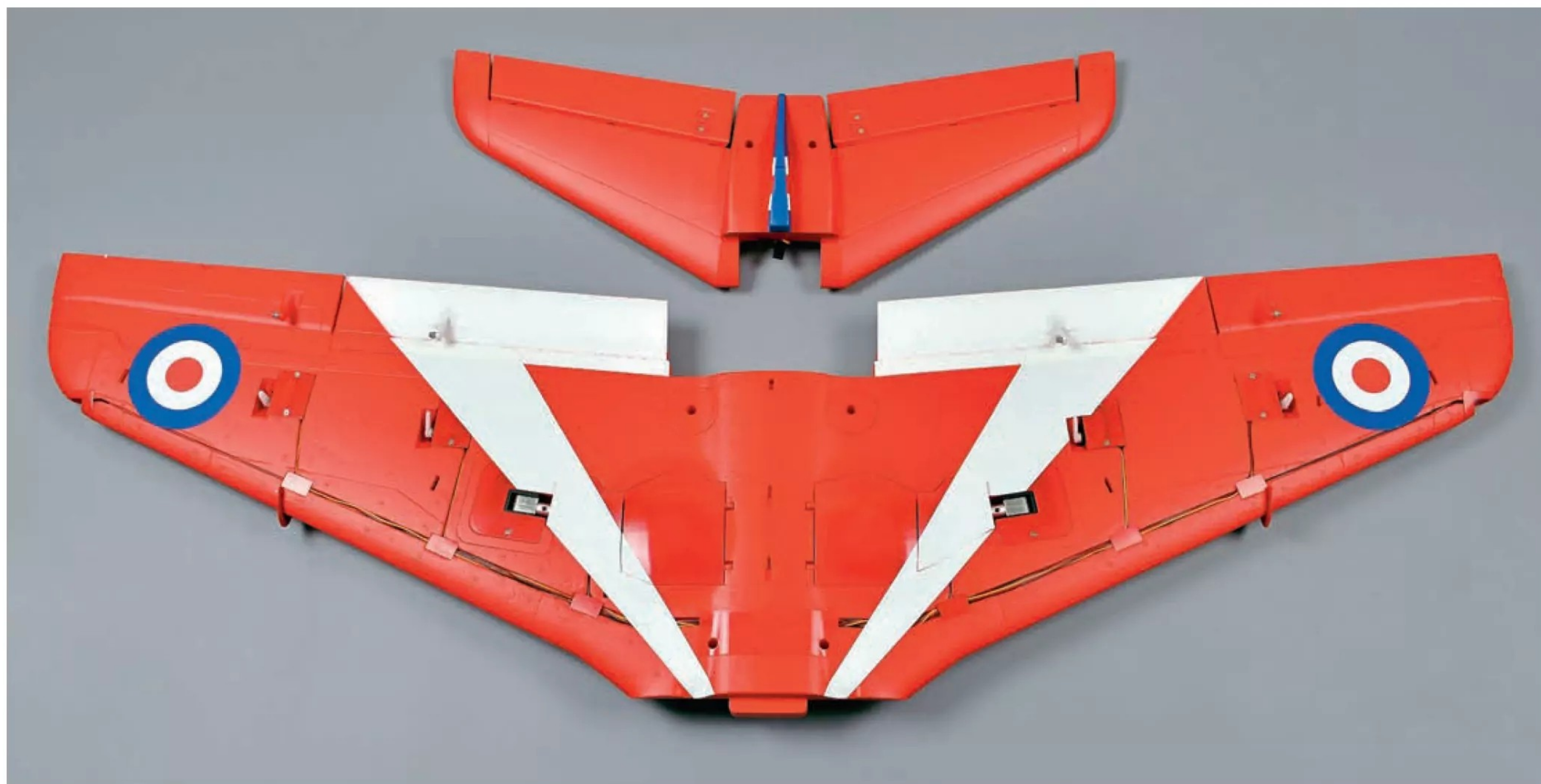
A year or two back I decided that enough was enough and so I sought out a club with more



Like most ARTF foam models these days the FMS Hawk is well protected in its box within an inner polystyrene tray.



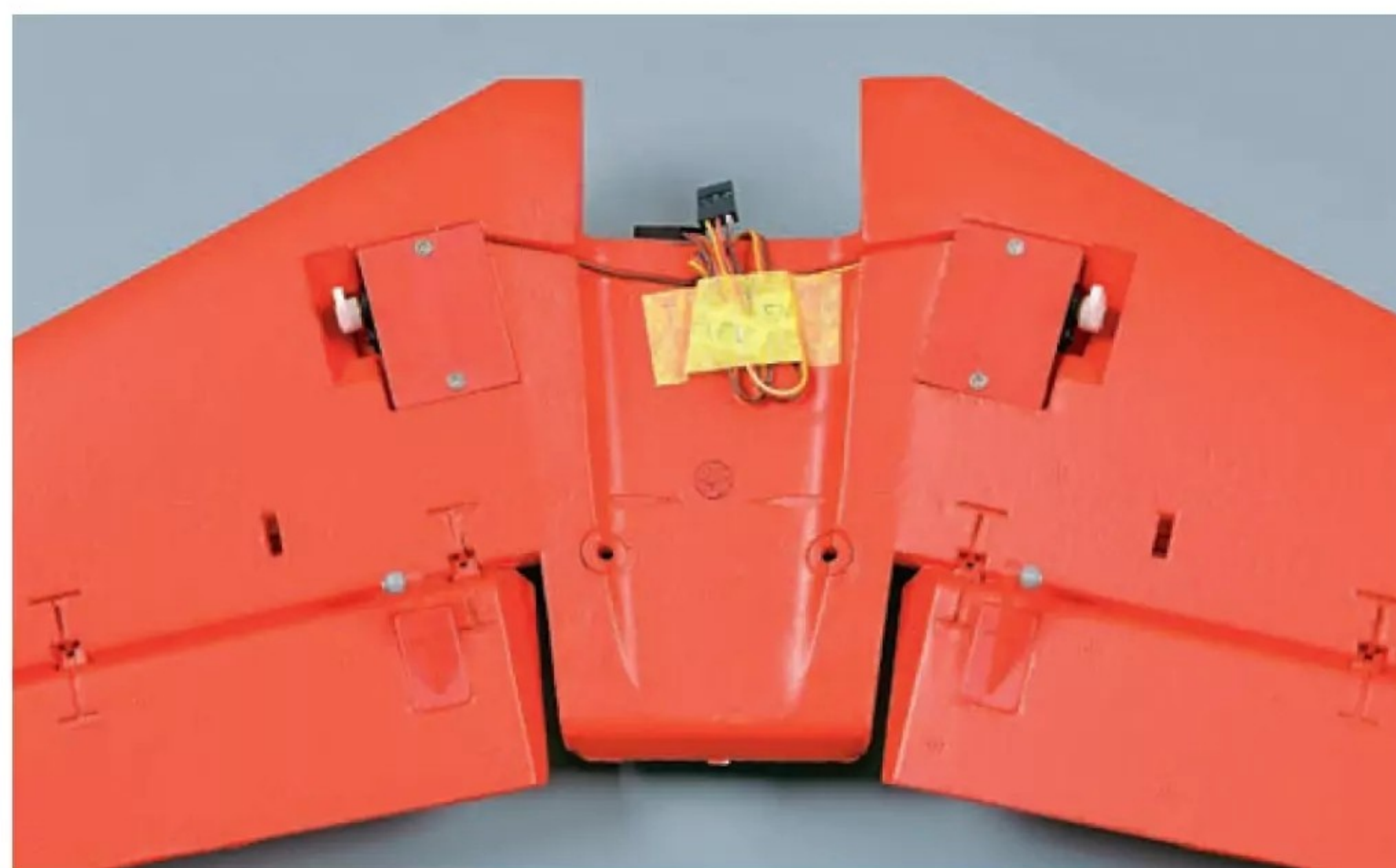
The large canopy with a ready fitted pilot pops off to reveal a spacious R/C and battery bay.



One-piece wing and tail are fully finished and ready to fit to the fuselage with just six screws.



Under-wing detail showing one of the main retracts covered by its gear doors, and the aileron and flap servos, with all wiring neatly channelled close to the wing leading edge.



Under-tailplane view showing the elevator servos. It's nice to see the foam hinges backed up by pinned hinges.



Like all the other control surfaces the rudder has its servo factory fitted close by and ready to connect with a short ball-link equipped pushrod.



Hooray! FMS get top points for supplying a well-illustrated manual.

suitable facilities for flying larger jets, with the eventual aim of flying a true turbine powered model. With no such facilities available locally I was forced to widen my search into the next county and, just like buses, two came along almost at once!

My first 'new' club has fabulous facilities, including a club house and parking, as well as a long, smooth grass strip. However, soon after I joined the club decided to re-sow the grass, with the drills causing some rutting and making it less attractive for jet use. But now, a year or so later, it's back in fine fettle and lots of jets are using it, and even the odd foam turbine model too which is reassuring.

The second club benefits from a strip of tarmac. It's a lovely site but due to fencing along either side it's only really usable for jets when the wind is blowing straight down the strip. It's also a fair drive away, passing through some major roadworks, so is currently a bit of a pain to travel to. However, when the new road is finished, I hope to make much better use of it.

Anyway, with smoother flying surfaces now available to me, my plan is to build the FMS Hawk to reacquaint myself with flying a jet with flaps and retracts before moving on to the Goshawk.



Dummy auxiliary fuel tank is a simple slide-on fit.

GOLDEN OLDIE

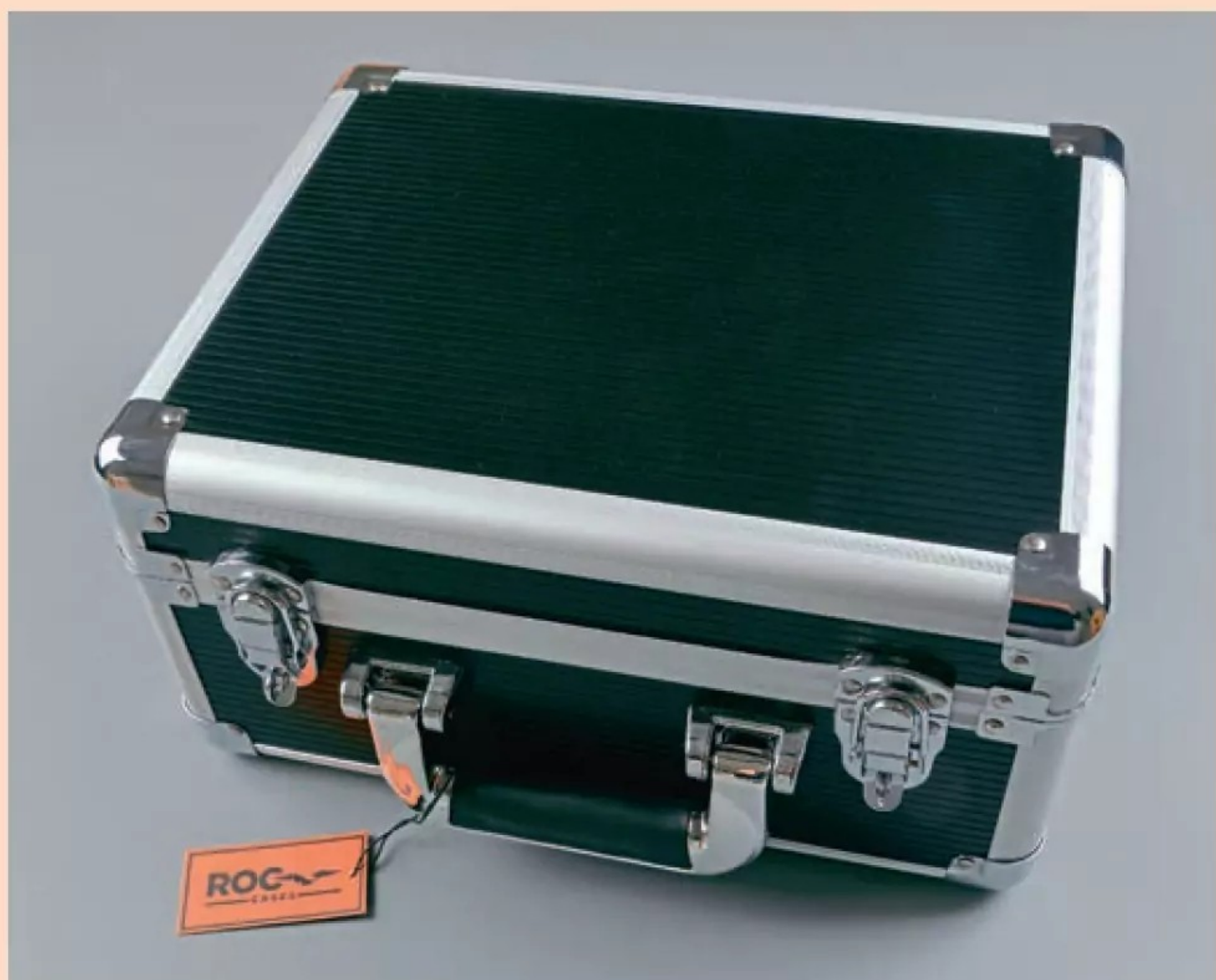
The FMS BAE Hawk is not a new model and the chances are that if you've seen some EDF jets flying in your local area then one or more will have been one of these bright red jets.

The heart of any EDF model is its fan unit and the FMS Hawk sports a powerful 3270-2000 kV motor fitted with an 80 mm 12-bladed fan. Power is supplied by a 6S 4000 mAh 50C LiPo (not supplied) routing through a Predator 100A ESC.

The airframe offers plenty of scale detail, including gear covers, panel lines, a pilot figure, an underbelly fuel tank and bright LED lights. Screw together construction, using four screws to attach the wing and two for the tailplane, means that it can be quickly assembled at the flying field and disassembled after a flying session for ease of transportation and storage. The flight controls are operated by 13 g metal geared servos, and



Inside the battery and radio bay. Fitting and connecting up the receiver should only take a few minutes. The battery tray uses strong hook & loop strips and straps to retain a 6S 4000 mAh LiPo.



ROC 0201 case is big enough for a single R/C transmitter.

the Hawk also features functional flaps and CNC machined, shock absorbing retracts.

Oh, and there's one last but very important touch. The model comes with a neatly illustrated manual, the first ten pages of which are in English. No excuses then for not 'Reading The Flippin' Manual' - RTFM!

With just six screws holding the model together, assembly is fast and easy. After connecting the elevator servos to their extension leads at the rear of the fuselage the tailplane is

slid into place and retained with two screws. The wing servos leads are then fed through a hole in the middle of the wing seat and connected to the receiver (not supplied), as are the rudder and elevator extension leads that route down the inside of the fuselage, together with the ESC signal and power leads. Four 3 x 20 mm screws are used to fix the wing firmly in place, checking to make sure that no servo leads are trapped between the wing and its seat before finally nipping all four screws up tight.

The auxiliary fuel tank can then be slid into position on its rail in the middle of the wing. But I think I will leave it off until the model has been successfully test flown, just in case a belly landing is needed. Better safe than sorry! Ditto the two ventral fins, which are also a simple slide-in fit. The finishing touch is a pitot tube for the front of the nose.

Next time, I'll touch base with you on the HSDJETS Goshawk and maybe, just maybe, the FMS Hawk will have flown.



This shot gives a good idea of a ROC case's robust construction. The technical term for those flip-up latches is 'draw-bolt catches with padlock loops'.



The larger ROC 0304 case should be big enough to house two modern transmitters.

CASING THE JOINT

In one of those strange coincidences that happen from time to time, just before my last RTFM article went to print in the May issue, I was contacted by Alan Ward, CEO of the Allendale Group. Alan's group is home to 'a diverse range of own brands, each developed to serve the needs of individuals and industries across engineering, manufacturing, voltage control and precision technology'. One of these brands is ROC Cases.

You may remember that in the May issue I was on the hunt for a case in which to store a new Spektrum NX8+ that I have recently been using to fly review models. As I say, Alan made contact just before that article went to press, so it was indeed a coincidence, but he wanted to let RCM&E readers know about a new range of PRO series flight cases which you can see here:

<https://www.cases-and-enclosures.co.uk/collections/roc-pro-series-cases>

Alan told me, "The product covers many different industries, including radio control modelling, which is an area close to my heart because it's where I started my business 23 years ago with RC-CAM, a video camera streaming unit for R/C models."

Alan kindly offered to send a sample from the ROC Case PRO series and so I selected the 0201 case, which is big enough for a single R/C transmitter. When the case arrived, I was pleasantly surprised to find that it was accompanied by its larger brother, the 0304, which is large enough for two modern R/C transmitters.

Both cases are robust, with reinforced metal corners and a shiny metal frame made from thicker than usual (for R/C cases) extrusions. The panels are made from durable black material, designed, like the frame, to provide a high degree of protection to the contents. The lids are available either hinged or removable; I requested hinged lids for our samples. If you need to lock the cases, they come with draw-bolt catches with padlock loops.

The lids are fitted with 'egg crate' style foam to cushion their contents and the cases can be supplied empty or with foam inserts. I informed Alan that in my opinion foam inserts would be a must for most R/C users, ideally with ready cut holes to accept a typical 'cuddle box' R/C transmitter. Cubed foam is another option, to allow the user to make their own



ROC are working on pre-cut foam inserts. In the meantime, it would be easy enough to cut separate side and top pieces from, say, a foam seat pad to protect a transmitter. ROC also sell soft foam inserts that can be cut up for this purpose.



Another option would be to make dividers to slot into the pre-formed grooves in the side cushioning material.

hole in the lining, but past experience tells me that the uncut cubes can start pulling apart after a while.

In response, Alan said, "We have three variants of plain foam: Soft, PE, XPE (plastic look and feel). Both PE and XPE are very firm foams, ideal for CNC routing, but for home-made inserts we recommend the Soft."

We offer CNC routing in house, although this is aimed at volume production. We want to offer a wide range of pre-cut inserts, but our biggest battle is getting good outline data that we can rely on. It's an ambition of ours to have a large catalogue/library of pre-cut inserts, not just for R/C modellers, but covering other applications like cameras, musical instruments, etc."

I then asked, if left solid, what's the best way to cut a hole in the foam to take a transmitter?

"To get a clean cut the honest answer is that there isn't an easy way for home users. It's using either a knife or hot wire but cutting the foam is a pain and it is hard to get a good quality finish when doing it at home. It's a long-term ambition of ours to have an online platform where you can design your cut outs and it will be routed on our CNC machine, suited for one offs upwards. But it's a good few months away before we'll have a beta version of that platform."

So, while it may be some time before ROC Cases can offer pre-cut foam inserts for popular R/C transmitters, if you cannot wait and urgently need a strong and durable carry case, maybe for a newly purchased Tx (or even a camera!) then please take a look at the ROC Cases website at the address shown above. ■

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.

JUNE

June 13 - 14

Model Fly-in & Swapmeet at Teesside Model Flying Club, Drovers Lane, Redmarshal, Stockton-on-Tees. Google Maps: <https://maps.app.goo.gl/MSxv4rexasWLNjBW7> or What3Words: <https://what3words.com/fight.pulse.league>. Proof of BMFA membership and flier ID + operator ID required for flyers, plus A cert and B cert if over 7.5kg. 400 ft height limit, 25 kg weight limit. £5 per day per person flying. Free camping but booking is required (60) spaces. Please arrive Friday after 12:00 hrs. Swapmeet sellers £5 per day, free entry for buyers. Contacts for flying and camping are Chris Harle at cnharle@aol.com or Keith Brough at keithbrough65@hotmail.com or for the Swapmeet contact Brian Cockerline on adriennecockerline@outlook.com

June 14

Bickley MFC Avicraft/Fun Fly Competition Open Day, at Bickley MFC, Church Road, Sutton at Hone, Dartford, Kent, DA4 9EX. From 10:30 am – 17:00 pm. One of our most popular events of the year. A light-hearted competition day with your favourite club style Fun Fly competitions plus a few new ones! Open to any BMFA member and any club sport models or Fun Fly models welcome to join in the fun. Event and prizes supported by the London and Southeast BMFA areas, Avicraft and the British Fun Fly Association. Toilet on site and camping available if booked in advance at admin@bickleymfc.org or visit <https://bickleymfc.org/>. For more information, contact James Gordon on 07966 439835.

June 14

White Sheet Radio Flying Club Scale Event. Back up date 28th June. Weather call will be the Friday before. For more information visit <https://whitesheet.bmfa.club/>

June 19

Weston Park Air Show at Weston-under-Lizard, Shifnal, TF11 8LE. Gates open each day at 8:00 am, show starts at 10:00 am and ends at 17:30 pm. Saturday evening dusk show starts at 20:30 pm and ends at 23:00 pm. In its 29th year, Weston Park is a beloved family-run event in Staffordshire. Offering a unique experience, the camping price includes full access to the show and park. However, please note that disabled camping spots are limited, so it is important to inform the gate staff upon arrival. Weston Park is a family run event and is fun for all the family. Enjoy the show in your caravan, motor home or tent and as an added bonus children under 16 go free for 2026.

June 21

White Sheet Radio Flying Club Open Slopes. For more information visit <https://whitesheet.bmfa.club/>

JULY

July 1-5

PSSA 'Fly for Fun' event with the Lleyn MAC at Nr Abersoch, North Wales. Meet at the SPAR car park in Llanbedrog for 09:30 am each day (only applicable 4th/5th July). A slope map will be left in shop window for late arrivals. Proof of BMFA (or equivalent) Insurance and

Pilot Competency certificate required. All models to be fitted with compliant CAA OpID number. A daily flying charge will be payable at certain flying sites. For more information contact Phil Cooke on 07772 224719, email webmaster@pssaonline.co.uk or visit <https://www.pssaonline.co.uk/about-us/events/>

July 4-5

LMA Sleaf Airshow at Sleaf Airfield, Shrewsbury, SY4 3HE. Large Model Airshow, including some full-size displays, over 20 traders, swap meet, food/drink stalls, R/C tanks, camping available onsite with evening entertainment (live music, bar and informal night flying). Children under 16 go free! Purchase advance tickets online now. Follow the LMA social media accounts or check the events page on the LMA website for all updates and announcements.

July 10-18

FAI 2026 World Scale Championships At BMFA Buckminster, located on the Leicestershire/Lincolnshire border close to the towns of Melton Mowbray and Grantham, UK. The site hosts the National Visitor Centre and Model Flying site of the British Model Flying Association (BMFA). For more information visit: info@worldscale26.bmfa.uk

July 12

White Sheet Radio Flying Club Scale Event. Back up date 26th July. Weather call will be the Friday before. For more information visit <https://whitesheet.bmfa.club/>

July 19

Classic Glider at Hole of Horcum, Pickering, North Yorkshire, YO18 7NR. A fun day for all R/C model PSS gliders. BMFA membership required. £5 for non-club members. Location What3Words - snowmen.ordinary.caps. Lat - 54.332235. Lon - -0.690234. Due to MOD restrictions, please contact beforehand for details. For more information call 07747 614074 or email michaelkitchen@me.com or call 07796 364738 or email jonedison@btinternet.com.

July 19

White Sheet Radio Flying Club Open Slopes. For more information visit <https://whitesheet.bmfa.club/>

July 19

Cocklebarrow Vintage Rally at Aldsworth, Glos, on the B4425 between Cirencester/Burford and off the A40 between Northleach and Burford. What Three Words: positives.arrival.calculate. All model types to 1975. BMFA membership required for flyers Contact Peter Marsh on 07831 193091, email: pjtw@msn.com, or Paul Howey on 07405 164040, email: G4BBP@aol.com. For more information call 07747 614074 or email michaelkitchen@me.com or call 07796 364738 or email jonedison@btinternet.com.

July 26

Bickley MFC Open Ducted Fan & EDF Day at Bickley MFC, Church Road, Sutton at Hone, Dartford, Kent, DA4 9EX. From 10:30 am – 17:00 pm. A popular open day for EDF and Ducted Fans of all types. Also, some fun competitions for those who want to take part. Open to all BMFA members but sorry no turbines. Toilet on site. Camping available if booked in advance at admin@bickleymfc.org

bickleymfc.org. For more information visit <https://bickleymfc.org/> or James Gordon on 07966 439835.

AUGUST

Aug 1-2

PSSA 'Fly for Fun' event at The White Horse, Westbury, Wiltshire. Meet at the White Horse car park (location link below). Pilots brief at slope location at 10:30 am each day. Proof of BMFA (or equivalent) Insurance and Pilot Competency certificate required. All models to be fitted with compliant CAA OpID number. Note this meeting will only run with locally forecast winds from West through to North. For more information contact Phil Cooke on 07772 224719, email webmaster@pssaonline.co.uk or visit <https://www.pssaonline.co.uk/about-us/events/>

Aug 1-2

Melton & District Model Club Model Show at Longfield Academy, Ambleside Way Melton Mowbray, LE13 0BN. R/C aircraft and helicopters, model boats, slot cars, model railways, drones, Meccano, classic car show, swap meet, car boot sale, tombola & raffle with prizes. Refreshments available. Free parking. For more information on swapmeet, car boot and classic car bookings contact us at meltonmodelclub@hotmail.com for further details.

Aug 2

White Sheet Radio Flying Club Open Slopes. For more information visit <https://whitesheet.bmfa.club/>

Aug 8-9

LMA Elvington Airshow at Elvington Airfield, York, YO41 4AU. Large Model Airshow and family fun weekend. Over 35 traders, swap meet, food and drink stalls, ride on steam trains, R/C off-road truck racing, classic vehicle display, military display, giant inflatable assault course, vintage fairground rides, pre WW2 cycle car racing, R/C plane trial flights and simulators, discounted entry to onsite Yorkshire air museum, camping available onsite with evening entertainment (live music, bar and informal night flying). Children under 16 go free! Follow the LMA social media accounts or check the events page on LMA website for all updates and announcements.

Aug 9

White Sheet Radio Flying Club Scale Event. Back up date 30th August. Weather call will be the Friday before. For more information visit <https://whitesheet.bmfa.club/>

Aug 15-16

British Fun Fly Association's Fun Fly National Championships at BMFA Buckminster. Open to any BMFA member with an A certificate and newcomers are very welcome! Classes 1, 2 and 3 including the Foamy Sub Class will be flown. Take part in up to two classes for no extra fee. Briefing at 9 am both days. Rules and entry forms at <https://funfly.bmfa.org/>. £30 entry fee for the weekend (paid on the day). Juniors FREE! Camping available from the Buckminster office. More details at <https://funfly.bmfa.org/>. Contact James Gordon on 07966 439835 or email jamesrrg@hotmail.com



Aug 15-16

PSSA Fly-In at The Bwlch, Nant-y-Moel, Bridgend, South Wales. Kindly supported by the SWSA: <http://a470soaring.blogspot.co.uk/>. Meet at the 'Ice-Cream' car park for 10 am each day. Proof of BMFA (or equivalent) Insurance and Pilot Competency certificate required. All models to be fitted with compliant CAA OpID number. For more information contact Phil Cooke on 07772 224719, email webmaster@pssaonline.co.uk or visit <https://www.pssaonline.co.uk/about-us/events/>

August 16

Cocklebarrow Vintage Rally. All model types to 1975. BMFA membership required for flyers. Aldsworth, Glos, on the B4425 between Cirencester/Burford and off the A40 between Northleach and Burford. What Three Words: positives.arrival.calculate. Contact Peter Marsh on 07831 193091, email: pjtw@msn.com, or Paul Howey on 07405 164040, email: G4BBP@aol.com

Aug 22-23

Flair Fly Weekend at Banbury Model Flying Club, near Moreton Pinkney, North of Banbury. Rolled grass strip, plenty of parking and pits. Celebrating Flair Models kits with two days of relaxed flying, nostalgia and chatter. Camping available from Friday 21st. Any and all Flair designs from wellflown veterans to fresh restorations, plus other scale and sport models welcome. Free entry for all pilots and spectators this year supported by provisional funding from the BMFA for toilet facilities. Camping on site at £5 per night with running water and toilets but no electric hookup. BMFA insurance and proof of competence required to fly. Soft drinks, tea, coffee hot dogs and burgers will be available, proceeds to club funds. No LiPo charging facilities, but generators allowed. We hope to once again welcome Dudley and Jane Patterson, along with Flair designer Pete Nicholson, to join us over the weekend. For more information or to book camping, please contact Stuart at Banbury Model Flying Club: stuart.bmfc@gmail.com

Aug 22 - 23

White Sheet Radio Flying Club F3F English Open. For more information visit <https://whitesheet.bmfa.club/>

Aug 29

Bickley MFC Open Boot Sale at Bickley MFC, Church Road, Sutton at Hone, Dartford, Kent, DA4 9EX. Boot sale for all your modelling bits and pieces. Also, a perfect place to grab a bargain! Non club members £5 to sell. Toilet on site. Camping must be pre-booked at admin@bickleymfc.org. For more information, please visit <https://bickleymfc.org/> or contact James Gordon on 07966 439835

Aug 30

Bickley MFC Open Glider Fly-In, 10.30 - 17.00. All types of gliders are welcome, including DLG, F5j, foam gliders, GPS gliders, FxRES, aero tow or anything else we haven't thought of! It will be a very informal event and an opportunity to see as many different glider types as we can. Please note 400 ft height limit for models over 7.5 kg. Toilet on site. Camping must be pre-booked at admin@bickleymfc.org. For more information, please visit <https://bickleymfc.org/> or contact James Gordon on 07966 439835

SEPTEMBER

Sept 5

Truro RC Model Flying Club is hosting the Truro RES gliding day competition events of the South West Area at their

Trendeal field, near Ladock, Cornwall. 2 miles off the A3058. Qualified BMFA members only but spectators very welcome. Use the BMFA Truro & District Model Flying club website via the 'Locate Us' map for details plus confirmation of dates and start times if reserve days for bad weather is forecast.

Sept 5 - 6

LMA Much Marcle Airshow at Much Marcle, Ledbury, HR8 2LX. Large Model Airshow with over 20 traders, swap meet, food/drink stalls, camping available onsite with evening entertainment (live music, bar and informal night flying). Children under 16 go free! Purchase advance tickets online now. Follow the LMA social media accounts or check the events page on LMA website for all updates and announcements.

Sept 5 - 6

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

Sept 6

White Sheet Radio Flying Club Scale Event. Back up date 27th Sept. Weather call will be the Friday before. For more information visit <https://whitesheet.bmfa.club/>

Sept 6

Basingstoke MAC 21st Electric Fly-In. Gates open 9:00a m with a pilots' briefing 10:00 am and then the fun starts. Free entry, BBQ, hot & cold drinks plus an on-site loo, but we hope to get you to buy some raffle tickets. BMFA proof of insurance required, location and contact details at bmfa.club/events or @basingstokemac on Facebook.

Sept 13

Scale Gliders at Hole of Horcum, Pickering, North Yorkshire, YO18 7NR. A fun day for all R/C model PSS gliders BMFA membership required. £5 for non-club members. Location What3Words - snowmen.ordinary.caps. Lat - 54.332235. Lon - -0.690234. Due to MOD restrictions, please contact beforehand for details. For more information call 07747 614074 or email michaelkitchen@me.com or call 07796 364738 or email jonedison@btinternet.com.

Sept 19 - 20

PSSA 40th Anniversary Mass Build event at The Great Orme, Llandudno, North Wales. Meet at the 'Tank Track' car park for pilots brief 10 am each day. Proof of BMFA (or equivalent) Insurance and Pilot Competency certificate required. All models to be fitted with compliant CAA OpID number. This event will stage the Harvard/AT-6 Texan Mass Build event marking the Association's 40th Anniversary. For more information contact Phil Cooke on 07772224719, email webmaster@pssaonline.co.uk or visit <https://www.pssaonline.co.uk/about-us/events/>

Sept 20

Cocklebarrow Vintage Rally. All model types to 1975. BMFA membership required for flyers. Aldsworth, Glos, on the B4425 between Cirencester/Burford and off the A40 between Northleach and Burford. What Three Words: positives.arrival.calculate. Contact Peter Marsh on 07831 193091, email: pjtw@msn.com, or Paul Howey on 07405 164040, email: G4BBP@aol.com

Sept 20

White Sheet Radio Flying Club Open Slopes. For more information visit <https://whitesheet.bmfa.club/>

Sept 25

UKCAA @ Buckminster (Classic Aerobatics) at BMFA NFC, Buckminster, Lincolnshire, NG33 5RW. Primarily a fly-in for

pre-1996 aerobatic and similar airframes. There will be the usual Pick5 and Pick7 contests over the lunch break.

OCTOBER

Oct 4

White Sheet Radio Flying Club Open Slopes. For more information visit <https://whitesheet.bmfa.club/>

Oct 11

LMA Gaydon Indoor Static Show at British Motor Museum, Gaydon, Lighthorne Heath, Warwick, CV35 0BJ. Large Model Static Indoor Display. Multiple traders, small swap meet, access to the British Motor Museum included in entrance ticket, onsite café. Tickets will be available online nearer the time via the British Motor Museum website. BMFA and LMA members receive discounted entry when paying on arrival. Follow the LMA social media accounts or check the events page on LMA website for all updates and announcements.

Oct 11

White Sheet Radio Flying Club Scale Event. Back up date 18th October. Weather call will be the Friday before. For more information visit <https://whitesheet.bmfa.club/>

Oct 13

PMAC Swapmeet at Chelford Village Hall, Knutsford Rd, Chelford, Macclesfield, SK11 9AS. This is the very popular swap meet that used to be held at the Deanwater. From 7pm to 9pm, doors open for table holders at 6:30pm. Tables £10 each (includes entry for one person). Entry £3 per person. Tables limited to 30 only, table booking required. Vehicles greater than 2.1m tall will need to be advised to the organiser (below) due to parking restrictions. Table bookings required by contacting Tim Cheal on tim.cheal@btinternet.com

Oct 17

Delyn MFC Autumn Swapmeet at Halkyn Parish Hall and Library, just off the A55, junction 32B, CH8 8ES. wot3words: charmingly.costly.repaying. Doors open for sellers 8:30am, buyers 9:00am. Table price £3.00 with plenty of tables available. Entry for buyers and browsers £1.00. Loads of bargains, come and fill your boots. Unlimited parking. For table booking ring Bill Lowes on 07811 159191 or email Peter on Knaus321@gmail.com.

Oct 18

Beverly and District MAC Autumn Swapmeet at Tickton Village Hall, Tickton, Beverley, East Yorks, HU17 9RZ. Doors open at 9:00am, teas and coffees available, entry fee £2 on the door. Tables £5 which includes one helper. To book a table contact Simon Tweedale on simontweedale66@gmail.com or call 07753 856758.

Oct 17-18

PSSA 'Fly for Fun' event at The Great Orme, Llandudno, North Wales. Meet at the 'Tank Track' car park for pilots brief 10am each day. Proof of BMFA (or equivalent) Insurance and Pilot Competency certificate required. All models to be fitted with compliant CAA OpID number. For more information contact Phil Cooke on 07772 224719, email webmaster@pssaonline.co.uk or visit <https://www.pssaonline.co.uk/about-us/events/>

Oct 25

White Sheet Radio Flying Club F3F. For more information visit <https://whitesheet.bmfa.club/>

Marketplace

Sell off your unwanted airframes and engines or maybe buy a few new ones

Marketplace is a free ad service (no commercial advertising please) for our readers to sell modelling related items such as models, kits, engines and R/C gear etc. Each ad should include a short description of each item, up to 150 words, along with your best contact number, the price you would like and the county you live in. Wanted ads are also welcome. Please send your Marketplace ads to: beth.ashby-njiiri@kelsey.co.uk

FOR SALE

DREAM FLIGHT WEASEL slope soarer requires receiver pack and receiver good condition £45 / £5 P&P. Call Steve on 07757 277166 (York).

TOP FLITE CORSAIR 60", unflown, retracts, servos and plan - £175. Fitted with RCV90SP four-stroke, run in only, original box - £125. Can sell airframe and engine separately if required. Buyer to collect, photos available. 07818 481941 (Berkshire).

22 VINTAGE & OLD AERO ENGINES & PROPS, all will need cleaning and recommissioning. 5 x Cox 30s, 2 x PAW, 3 x ED, 1 x King Cat, 2 x AM, 2 x Mills, 3 x DC, 1 x Irvine 20 ABC with tuned pipe - offers? Balsa Cabin Sonata 3 in 1 kit - £75. Call Keith on 07548 203834 (Wilts).

SPITFIRE MK IX TOP-FLITE USA, for 0.61 - 0.91 engine, RAF camouflage Futaba servos, Robart retracts, Pete's Pilot, glass skinned. Good flyer. For details and photos call David Smith on 07720 848548 (Lincs).

QUARTER SCALE STAMPE, built, just needs covering, radio and engine. Set up for Laser 150, engine available. Stampe kit now sells for £362 - offers? Proctor Nieuport 11, also built and requires covering, engine and radio - offers? Delivery possible. 01508 970541 (Norfolk).

STEARMAN PT-17 STERLING MODELS USA, trainer colour scheme, 64", 'tex covered, good detail, excellent flyer, fitted Laser engine - £275 ono. For details and photos call David Smith on 07720 848548 (Lincs).

BEECHCRAFT D17 stagger wing, unstarted scale biplane project. Complete kit, aluminium cowling, plans and all balsa parts, 1422 mm wingspan, rare kit - £275 plus P&P. Call Rob on 07791 268498 (Telford).

HOBY CAT GLIDER ready to fly, very rare, made by the makers of Hoby Cats full sized catamaran sailing boats. Never

seen another. Polystyrene protection box. Photos available - offers? 07718 464066 (Poole).

RUDDER BUG vintage electric plane, outrunner motor, red and white by engineer. Photos available. Several beautiful seaplanes, all electric and with 4ft span - offers? 07718 464066 (Poole).

MAX THRUST V2 electric aircraft, never built or flown. Battery included, 140 cm wingspan. A lot of aeroplane - £240. Call Adrian on 07593 364486 (Bucks).

HIROBO SHUTTLE PLUS 95% built, Irvine 36H, Sanwa Ro6000 Sport 35 MHz. Everything included to finish. Field box, power panel, training undercarriage, head loaders, instructions and manuals. All new and unused - £120. Buyer to collect. Call Mick on 07539 572200 (Kent).

ADVANCED SCALE MODELS, C-130 100" Hercules and B-17C 100" Flying Fortress. Both still boxed and untouched - £300 ono. 07947 822794 (Oxon).

HOBBY HORIZON CARBON CUB S2 1.3m BNF scale. Bush Trainer new with AS3X safe, 3s LiPos, manual and box fittings included for optional floats. Never flown, was £299 new with LiPo battery. Will sell for - £250. Call Paul on 07778 034316 (Walsall).

RC SKYLARK, 6' wingspan and 4'8" Dolphin gliders. Transmitter, receiver, battery, charger plus many other extras including motors, propellers and assorted wiring. Great for inspiring beginners - £100. 07951 454003. (Cheltenham).

T-7A RED HAWK 64mm EDF Kit, New in box, 960mm length, span 750mm with a lovely finish to surface of foam. Will operate from grass. Call for photos - £85 P&P £5.95. 07946 414532 (Yorks).

NEW KITS, Flightline Bearcat - £220. FMS 70mm Advanti - £220. FMS J-10 Vigorous Dragon Grey - £150. FMS Corsair

800mm - £100. Arrows 50mm Viper - £100. Kavan Twin Sarik Glider - £220. X-Fly Twin 40mm F18 - £100. Buyer to collect. 01763 663016 (Herts).

ARMSTRONG WHITWORTH WHITLEY 48" complete with 2 motors, 2 speed controllers and servos. In as new condition - £160 ono. Hawker Typhoon 48" complete with motor, speed controller and servos - £120 ono. 01242 680659 (Cheltenham).

MODEL CANTABRIAN high-wing, completed ARTF from 10 years ago. Flown once and then stored. Sanwa controller with buddy box etc. - £100 for all. Call Pete on 07759 874916 (Kent).

WANTED

GOLDBERG JUNG MANN kit, in box. Great Planes Super Skybolt ARTF in any condition. Great Planes Shoe String, fibreglass version. Top prices plus postage paid! Call Conor on 08573 17939 (Dublin).

DRC GLIDER WINCH. Also, RES 2m span lightweight glider. Prefer pod and loom. Pick up available in Cornwall or Devon, otherwise RM at cost. Call Allan on 07840 423893 or email allanglover2@yahoo.ca

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Next issue



JUMBO PRO-PLAN! SPERBER JUNIOR

August RCM&E will include sheets 1 & 2 of a four-sheet pull-out plan for a sleek 1:4.5 scale vintage soarer by ace glider designer Chris Williams. Sheets 3 & 4 will follow in the September issue, along with Part 2 of Chris's article.

The Sperber Junior was a sailplane that was purpose-built for the famous German

test pilot, Hanna Reitsch. The prototype has been scaled at 1:4.5 to come out at roughly the same size as the previous Flamingo and Petrel gliders designed by Chris. The gull wing is built in one piece with the first spar fitted initially and the second retrofitted later. Like its predecessors the Junior is a vice-free, handily sized glider which is equally at home on the slope or being aerotowed behind a tug.

OTTO: A DIY SAILPLANE

Semi-retired in 2020, John Sweatman found himself with a lot of spare time. So, he decided to dig out his dad's bungee launched gliders from the attic and get them flying again. After much leg-pulling from clubmates he decided to convert them to electric power. But with the other guys flying beautifully moulded carbon F5J gliders he was feeling somewhat left out. John wanted to fly a big machine with flaps and ailerons, but he didn't want to buy an expensive moulded glider. So, he wondered if he could design and build his own model using readily available CAD software and laser cut parts. The result is Otto, as seen here. John says, "If you are inspired to design and build your own then do it. The design and build are as much fun as the flying, and you can do the former whatever the weather."



SEAGULL SHOCK CUB

If this model looks familiar, then it may be because it was the subject of an unboxing article by John Daniels in the September 2024 issue of RCM&E. Unfortunately, John was unable to progress with the Shock Cub from Seagull Models, so the editor passed it over to Rob Bennett to complete. Although it had been in limbo for quite some time, Rob was equal to the challenge of building this impressively large ARTF kit and he had the Shock Cub ready for its maiden flight in just a few weeks.

In his build and flying report, Rob reveals how he got on.



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PARTING SHOT



TAILPLANE TROUBLE

Ruan Milne was flying his E-flite Air Tractor at the Woodspring Wings 2025 model show when he suddenly noticed a lack of response from the elevator. He quickly and safely landed, and as the model nosed over, we could see why. The tailplane halves had come apart, disconnecting the left-hand elevator, thus rendering Ruan with just 50% of the available elevator authority!

Mike Freeman

DATAFILE

Camera:	Nikon D500
Lens:	Nikon VR 70-200mm f/2.8E + TC-14E teleconverter
Aperture:	f/4.5
Shutter Speed:	1/1000 s
Exposure Mode:	Shutter Priority
Focal Length:	250 mm
ISO:	100
Metering:	Centre Weighted
Exposure Comp:	0 EV



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MOTOR

5.0-8.4V



S: 0.12sec/60° (8.4V)

T: 54.7kg.cm (8.4V)

D: 40 x 20 x 39.1mm

W: 85g

£134.95

MGB8346HV

S SLOW START

METAL GEARS

BRUSHLESS
MOTOR

5.0-8.4V



S: 0.10sec/60° (8.4V)

T: 38.0kg.cm (8.4V)

D: 40.6 x 21 x 37.6mm

W: 83.7g

£114.95

MGB6928HV2

METAL GEARS

BRUSHLESS
MOTOR

5.0-8.4V



S: 0.05sec/60° (8.4V)

T: 28.0kg.cm (8.4V)

D: 40 x 20 x 39.8mm

W: 89g

£109.95

MGB5216HV

S SLOW START

METAL GEARS

BRUSHLESS
MOTOR

5.0-8.4V



S: 0.08sec/60° (8.4V)

T: 16kg.cm (8.4V)

D: 36 x 15 x 33mm

W: 52g

£89.95

MG7232HV

METAL GEARS

CORELESS MOTOR

6.0-8.4V



S: 0.09sec/60° (8.4V)

T: 31.5kg.cm (8.4V)

D: 40.5 x 20.5 x 36mm

W: 72g

£73.95

MG5921HV

METAL GEARS

CORELESS MOTOR

6.0-8.4V



S: 0.123sec/60° (8.4V)

T: 20.32kg.cm (8.4V)

D: 40.5 x 20.5 x 36.5mm

W: 59.3g

£38.95

MG2810HV

METAL GEARS

CORELESS MOTOR

5.0-8.4V



S: 0.07s/60° (8.4V)

T: 10.0kg.cm (8.4V)

D: 35 x 15 x 29mm

W: 28g

£38.95

MG2611WHV

METAL GEARS

CORELESS
MOTOR

WING SERVO

5.0-8.4V



S: 0.10sec/60° (8.4V)

T: 11.0kg.cm (8.4V)

D: 30 x 10 x 35.5mm

W: 26g

£42.95

MG2107WHV

METAL GEARS

CORELESS
MOTOR

WING SERVO

5.0-8.4V



S: 0.10sec/60° (8.4V)

T: 6.6kg.cm (8.4V)

D: 25 x 8 x 34.3mm

W: 21g

£44.95

MG5510DS

METAL GEARS

BRUSHED
MOTOR

4.8-6.0V



S: 0.12sec/60° (6.0V)

T: 9.98kg.cm (6.0V)

D: 40.5 x 20.2 x 40.5mm

W: 55.6g

£23.95

MG1703DS

METAL GEARS

MINI SERVO

4.8-6.0V



S: 0.10sec/60° (6.0V)

T: 3.3kg.cm (6.0V)

D: 30 x 12 x 32mm

W: 17g

£14.95

MG1003DS

METAL GEARS

MICRO SERVO

4.8-6.0V



S: 0.10sec/60° (6.0V)

T: 2.5kg.cm (6.0V)

D: 23.2 x 12 x 25.5mm

W: 11g

£8.95

PG4906DS

PLASTIC GEARS

STANDARD
SERVO

4.8-6.0V



S: 0.12sec/60° (6.0V)

T: 6.2kg.cm (6.0V)

D: 40.5 x 20.2 x 38mm

W: 49g

£9.95

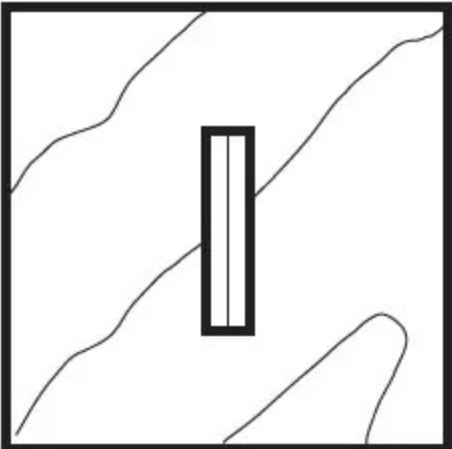
28

24

10mm x 10mm
BALSA

UPPER WING
10mm DEPRON

NOTE LOWER WING IS A
MIRROR IMAGE OF UPPER WING



10mm x 5mm
BALSA

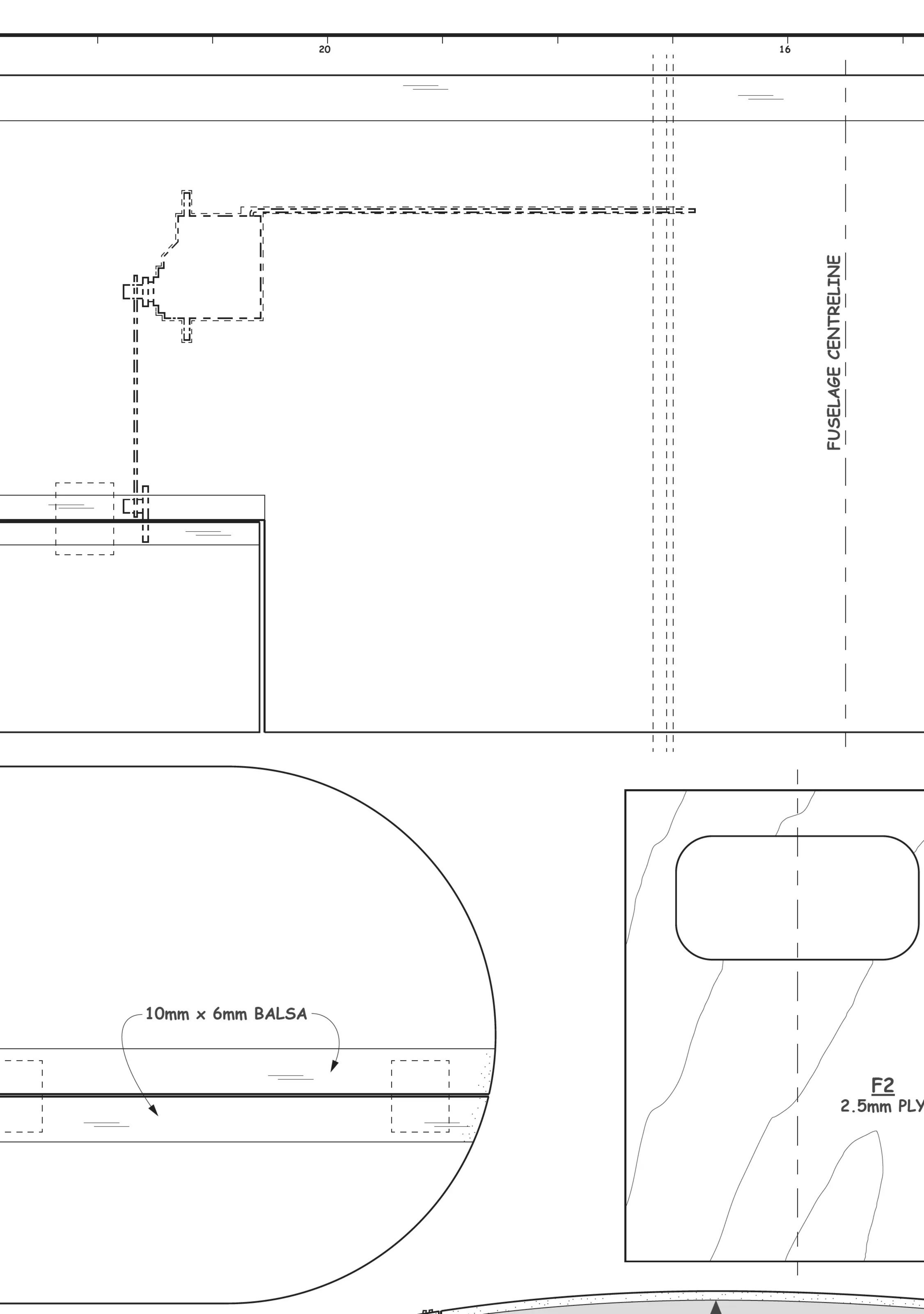
STABILIZER
6mm DEPRON

ELEVATOR
6mm DEPRON

500

400

300

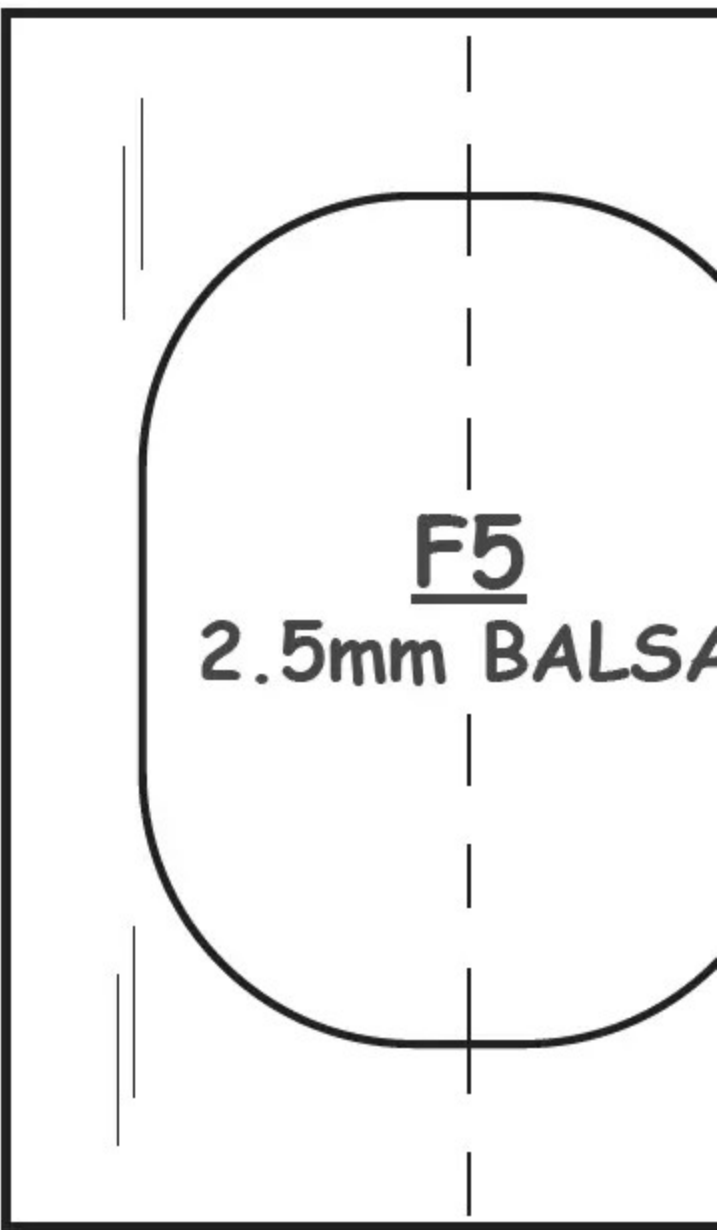
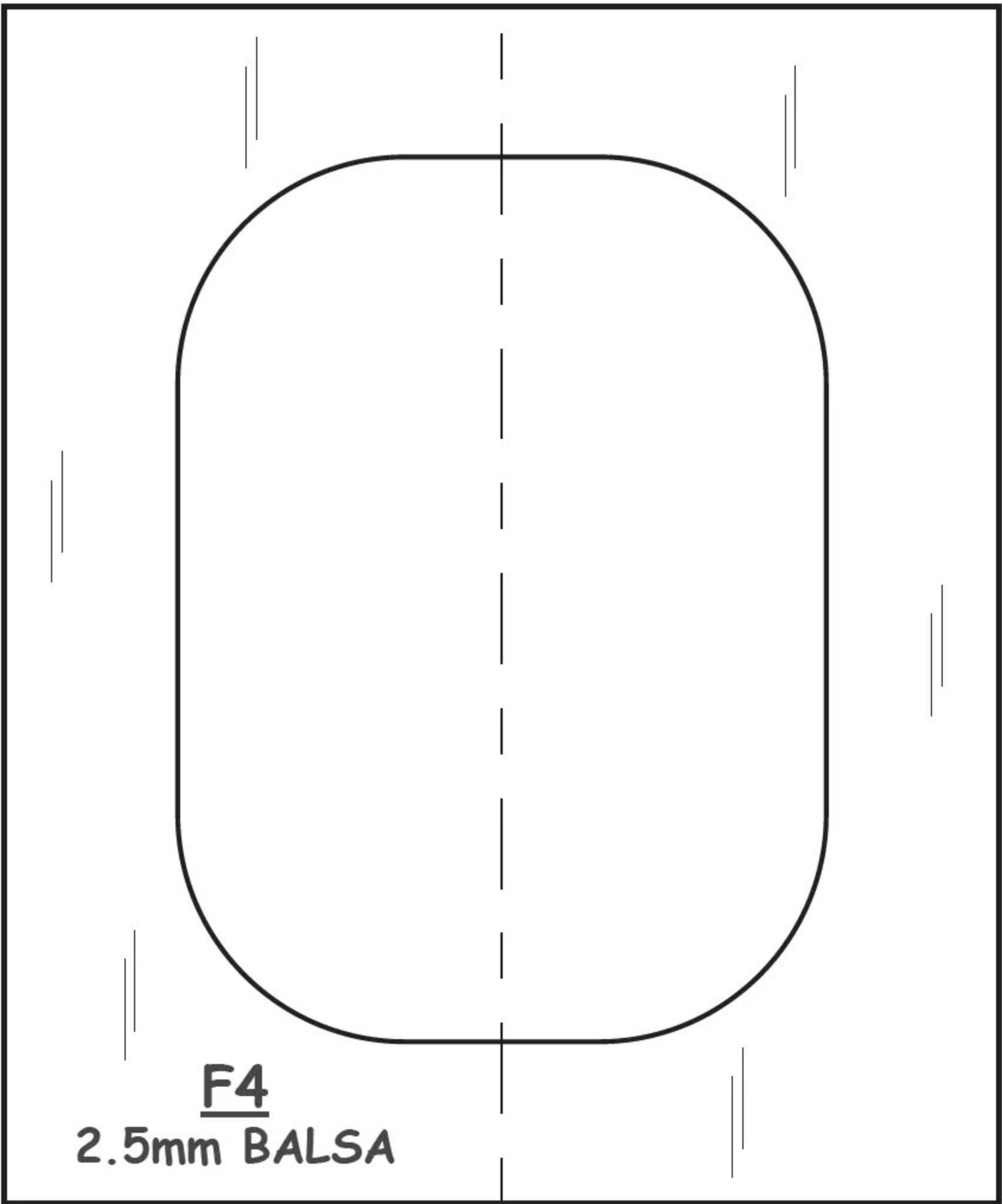
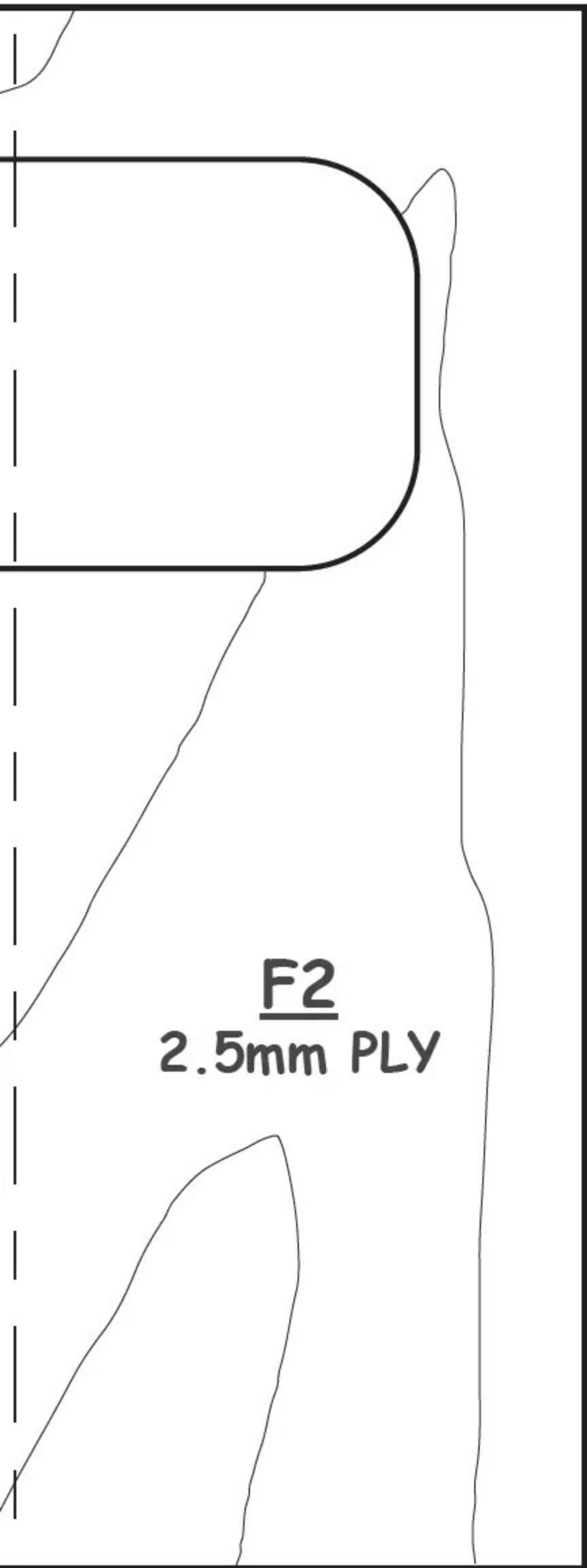


FUSELAGE CENTRELINE

12

8

THE SHORT PORTION OF THE WING (UPPER
EXTENDS 227mm FROM THE RH SIDE OF THE



FUSELAGE TOP COVERED
WITH 2mm BALSA

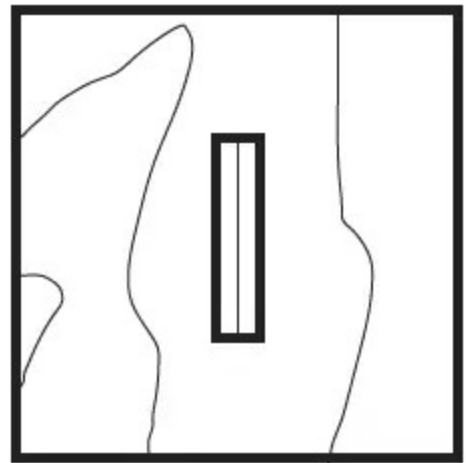
RCM&E ZIG-ZAG

DESIGNED BY ALEX DALIDIS

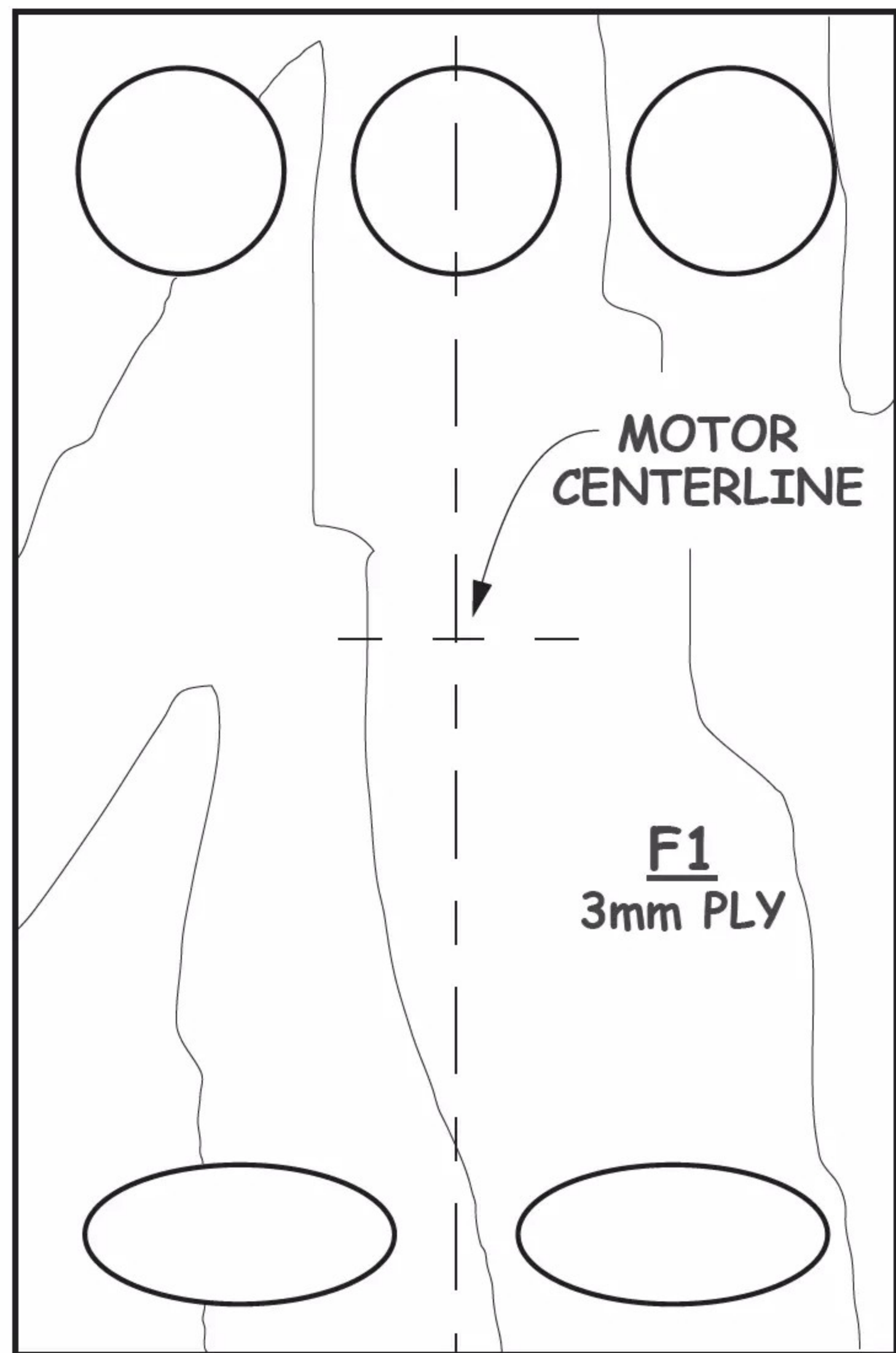
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No. OF SHEETS: 1 OF 1

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& LOWER)
FUSELAGE



MOTOR
CENTERLINE

F1
3mm PLY

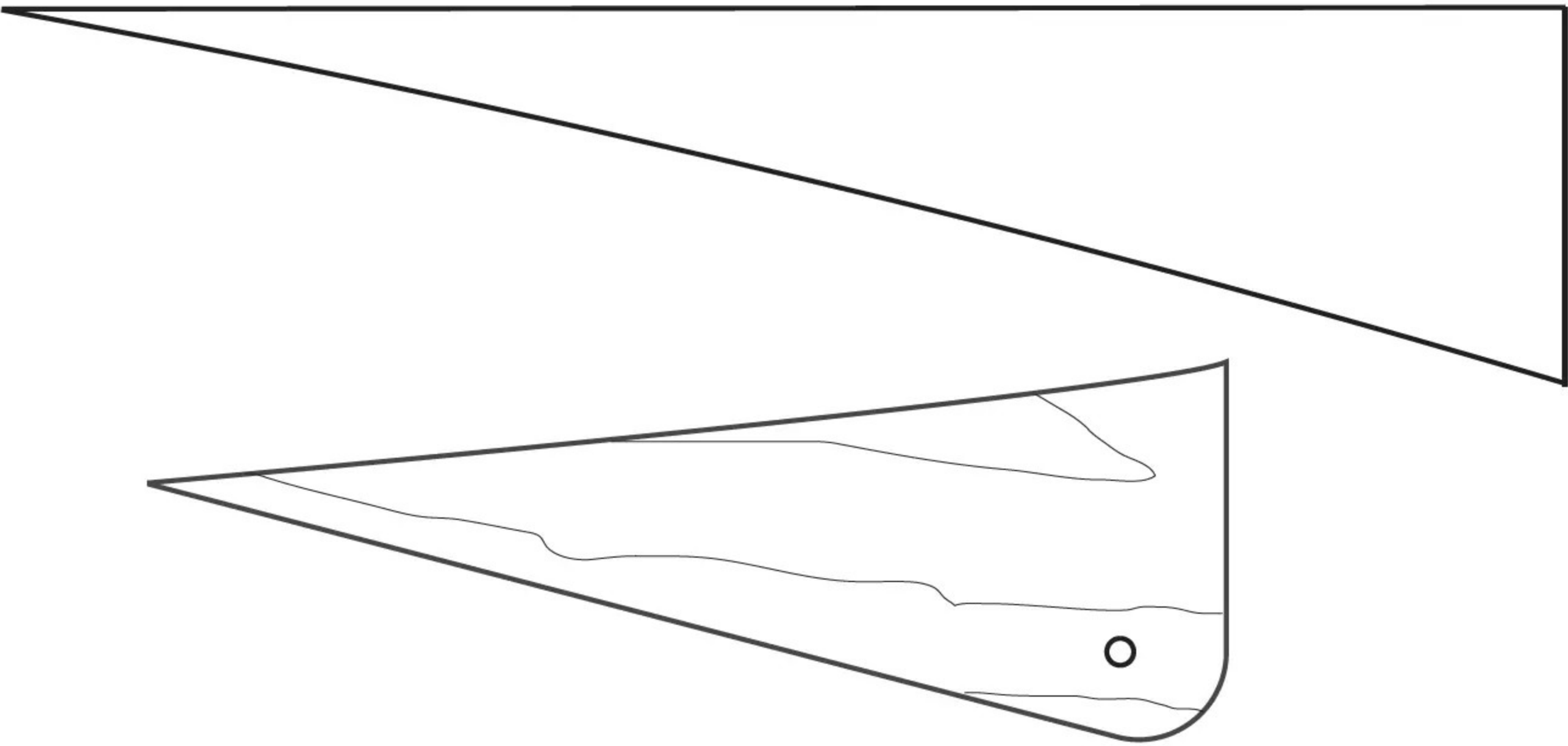
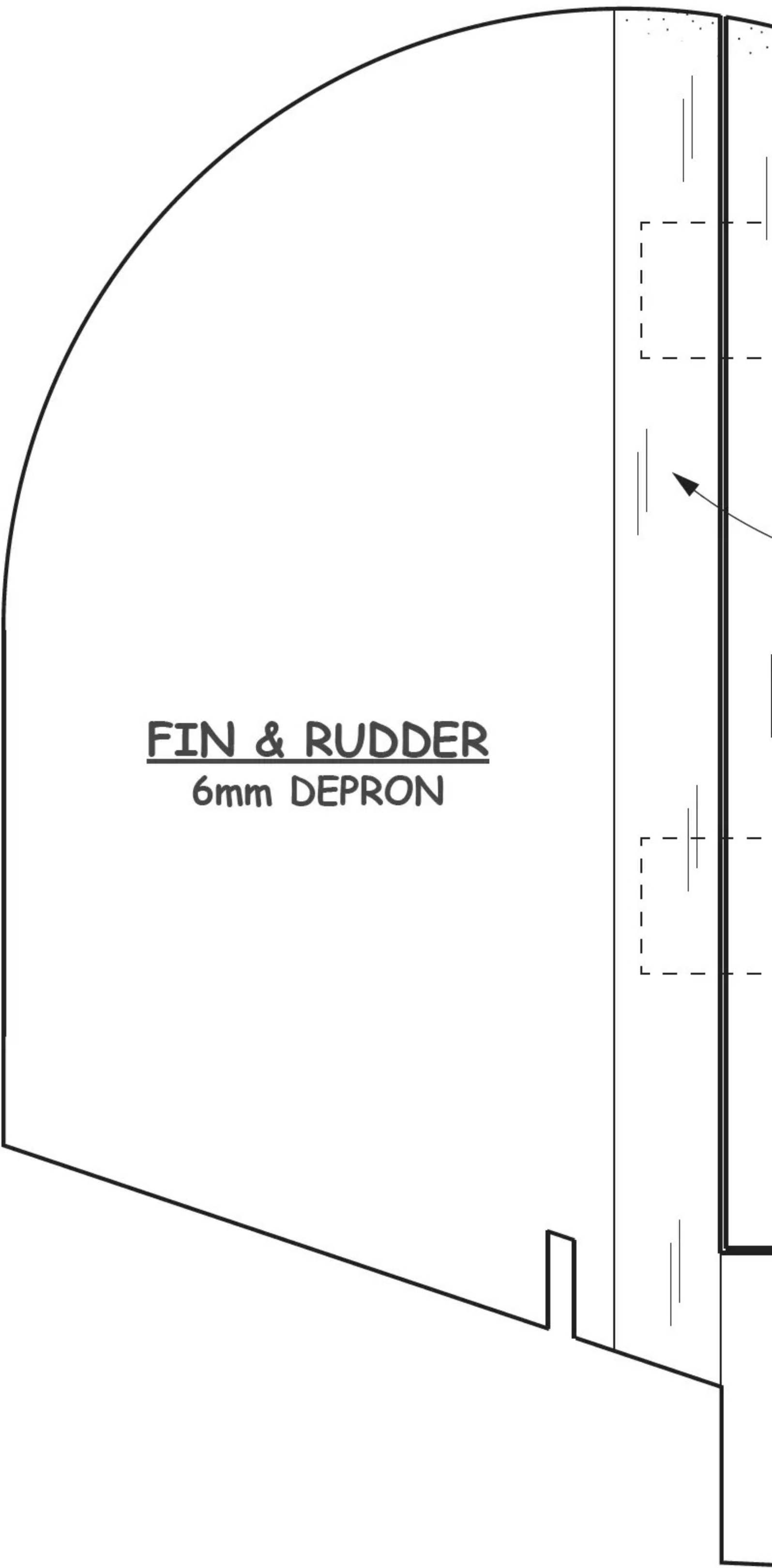
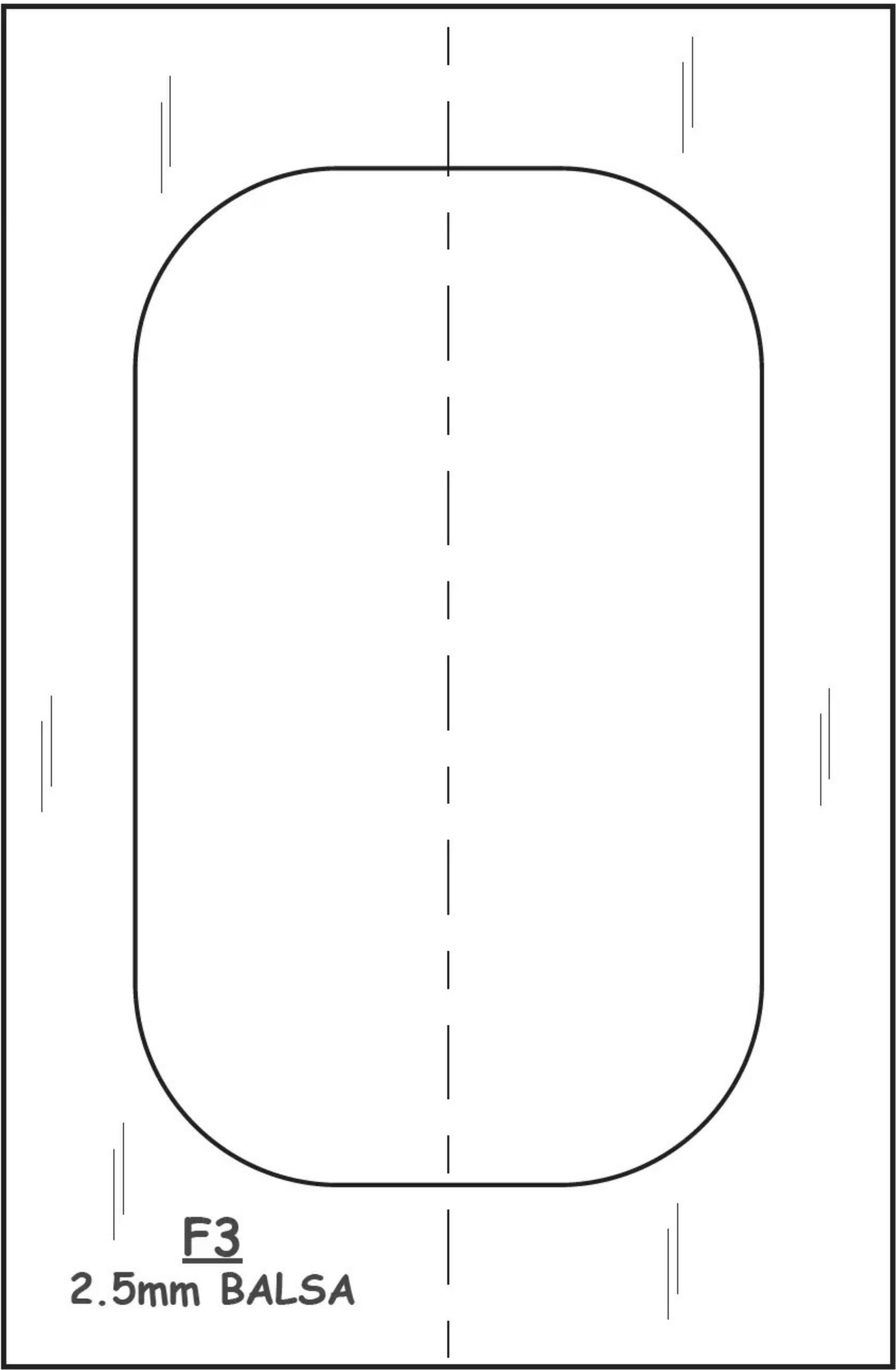
MAKE LIGHTENING HOLES
TO SUIT YOUR TASTE

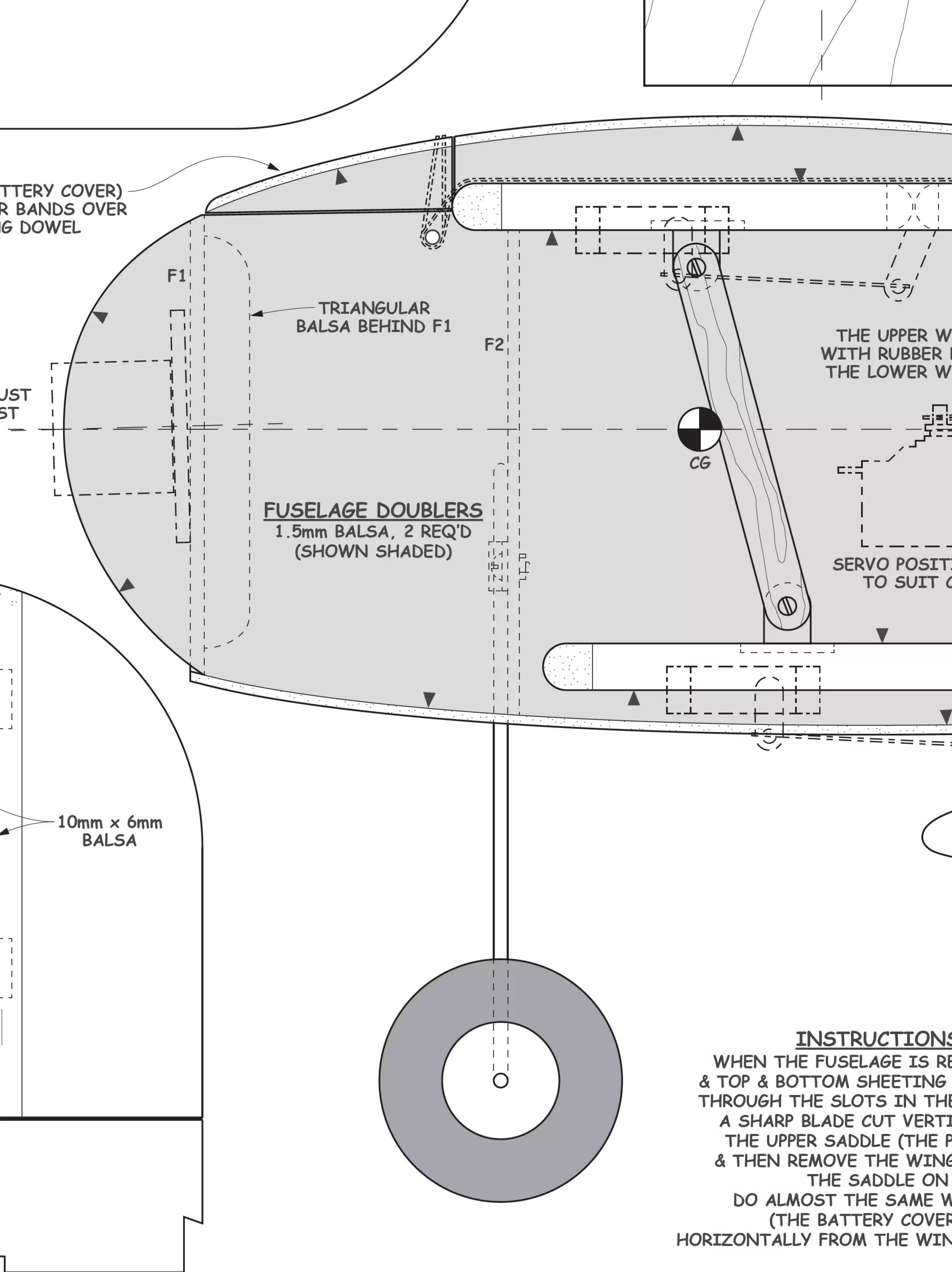
LANDING GEAR
Ø3mm STEEL WIRE

ELEVATOR
6mm DEPRON

THE FRONT PART (BALANCE)
IS HELD WITH RUBBER BANDS
THE FRONT WING

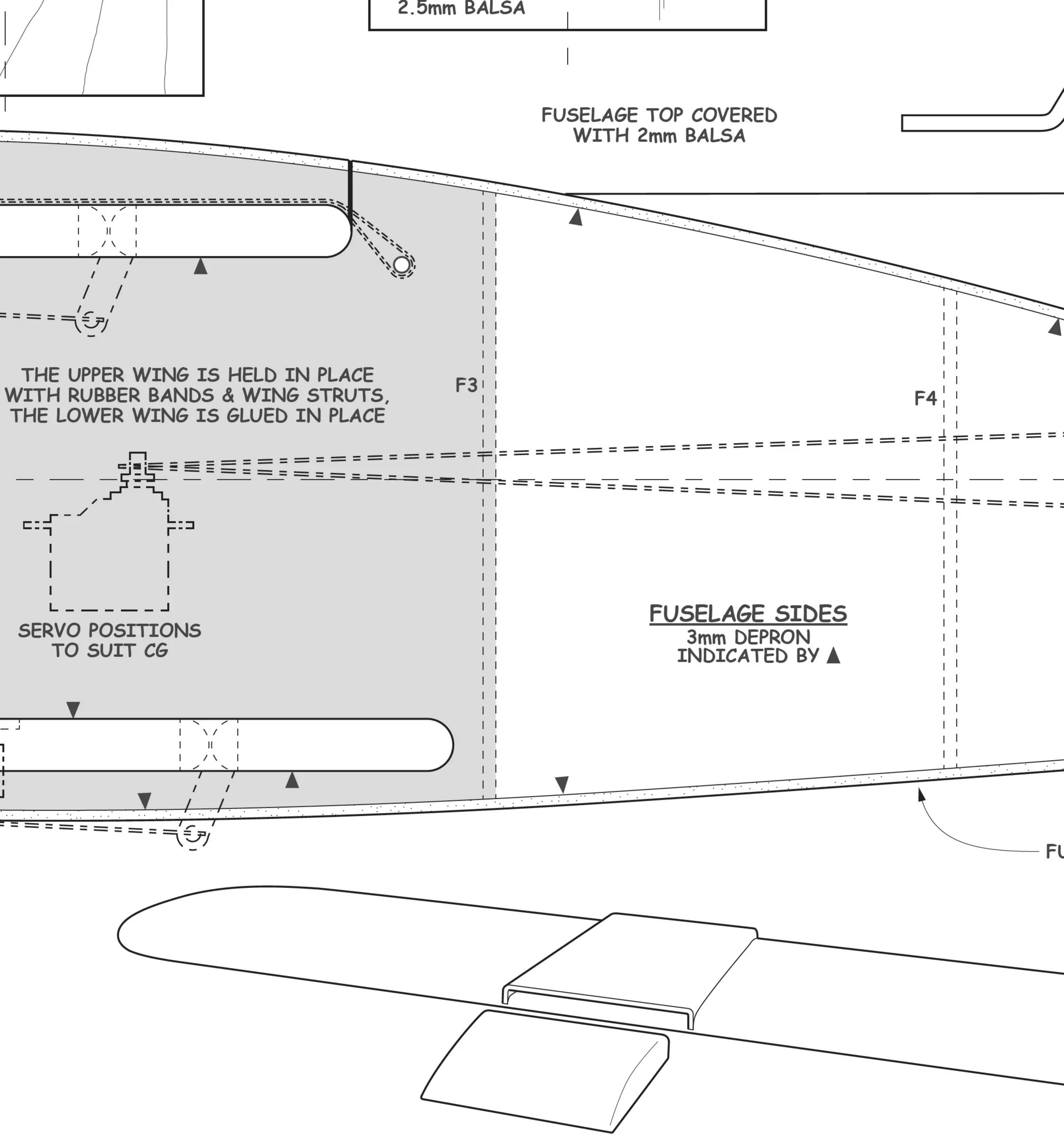
1.5° DOWN THROUGH
3° RIGHT THROUGH





INSTRUCTIONS

WHEN THE FUSELAGE IS RE
& TOP & BOTTOM SHEETING
THROUGH THE SLOTS IN THE
A SHARP BLADE CUT VERTI
THE UPPER SADDLE (THE P
& THEN REMOVE THE WING
THE SADDLE ON
DO ALMOST THE SAME W
(THE BATTERY COVER
HORIZONTALLY FROM THE WIN



INSTRUCTIONS FOR UPPER PART OF WING

FUSELAGE IS READY WITH THE FORMERS GLUED IN PLACE
FROM SHEETING HAS BEEN APPLIED, SLIDE THE UPPER WING
THE SLOTS IN THE FUSELAGE. DON'T GLUE IT YET, BUT WITH
A SHARP BLADE CUT VERTICALLY INTO THE FUSELAGE TO SEPARATE
THE SADDLE (THE PART THAT RESTS ON TOP OF THE WING)
MOVE THE WING ALONG WITH THE SADDLE. NOW SECURE
THE SADDLE ON TOP OF THE WING WITH GLUE.
DO THE SAME WITH THE PART IN FRONT OF THE WING
(BATTERY COVER) BY SLICING WITH A SHARP BLADE
FROM THE WING TO THE FOREMOST PART OF THE FUSELAGE.

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TOP 4mm ALLOY
TUBE LOCATION

H4 & H5

WP1

0.8mm PLY TOP CENTRE
SECTION COVER SHOWN
SHADED

WP2

R1A

R1

R2

R3

R4

RIGHT HAND
TOP WING

R11
2.4mm

1.5mm

R1
3mm

R1A
3mm

28

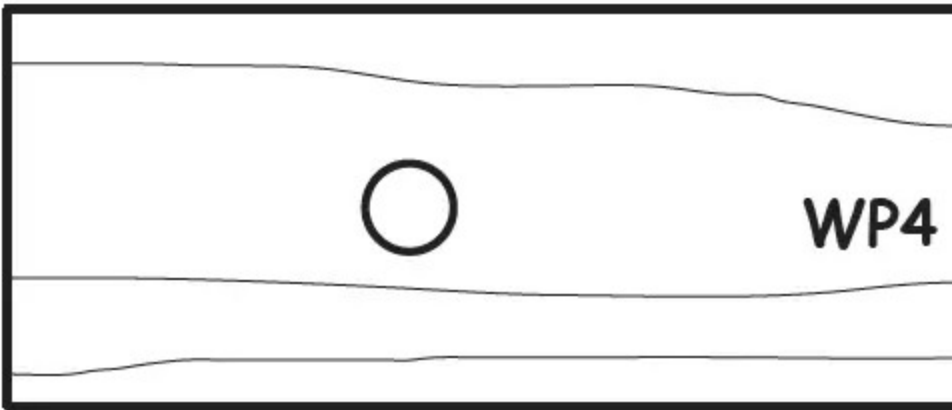
24

500

400

300

9mm x 9mm HARD Balsa L.E.



TOP SPARS ARE
6mm x 3mm
BASS OR SPRUCE WITH
6mm x 3mm HARD Balsa
LAMINATED ON TOP FOR
EASIER SHAPING

BOTTOM SPARS ARE
6mm x 6mm BASS OR
SPRUCE

STRUT TUB
& SUPPORT

R5

R6

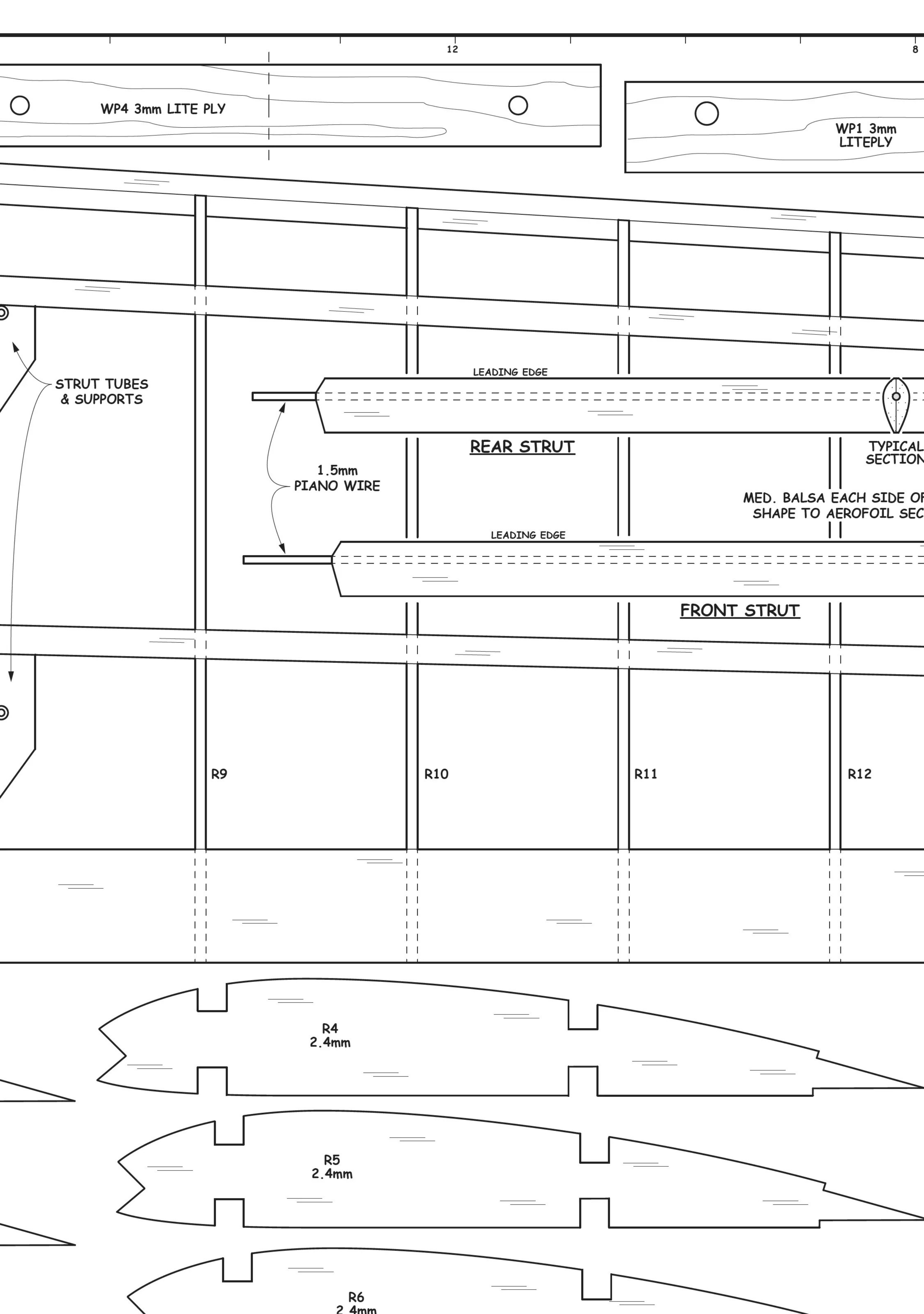
R7

R8

x 25mm Balsa T.E.
TOP & BOTTOM

R2A
3mm

R2B
3mm



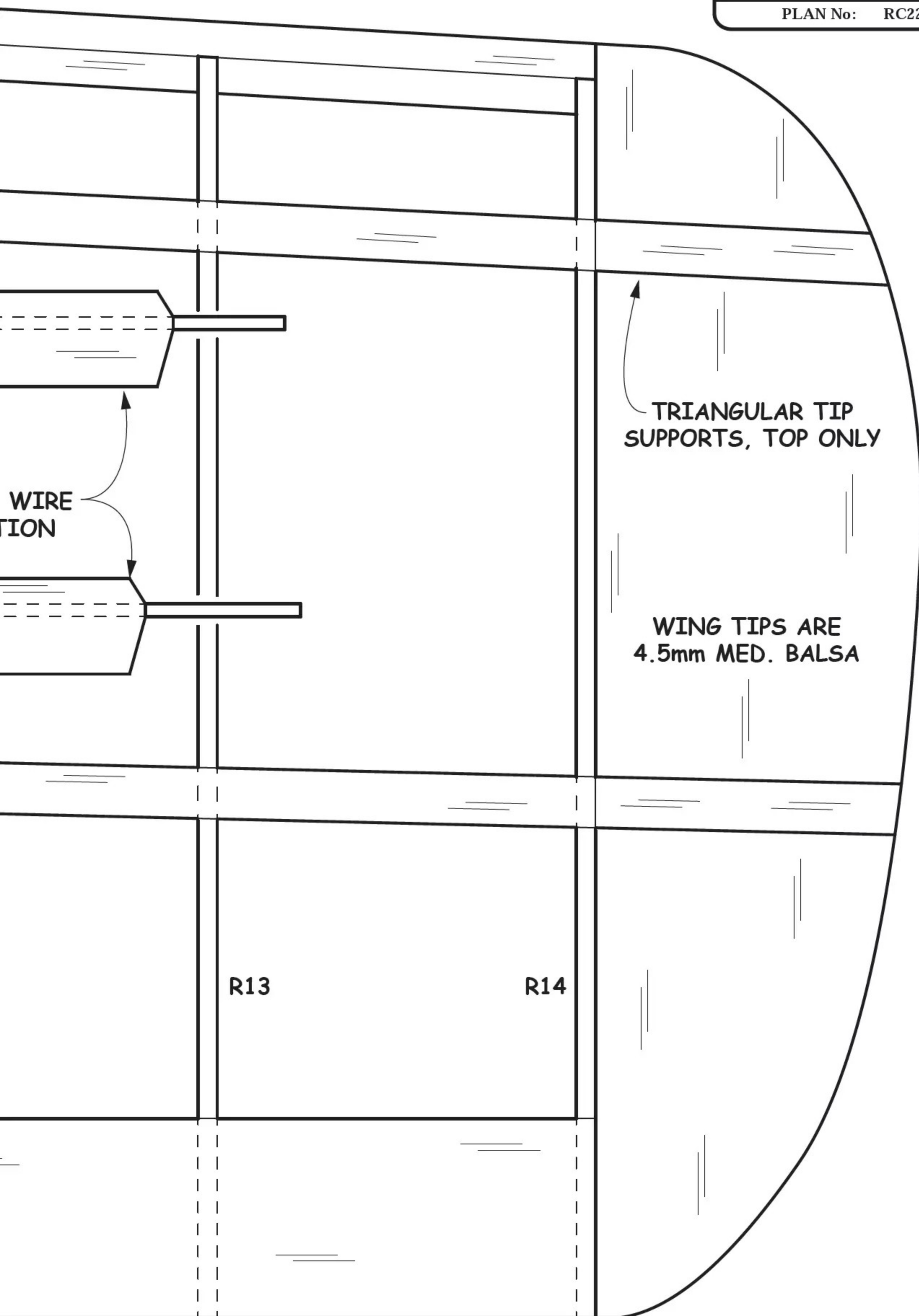
RCM&E HORNET MOTH

DESIGNED BY GRAHAM MCALLISTER

PLAN No: RC2283

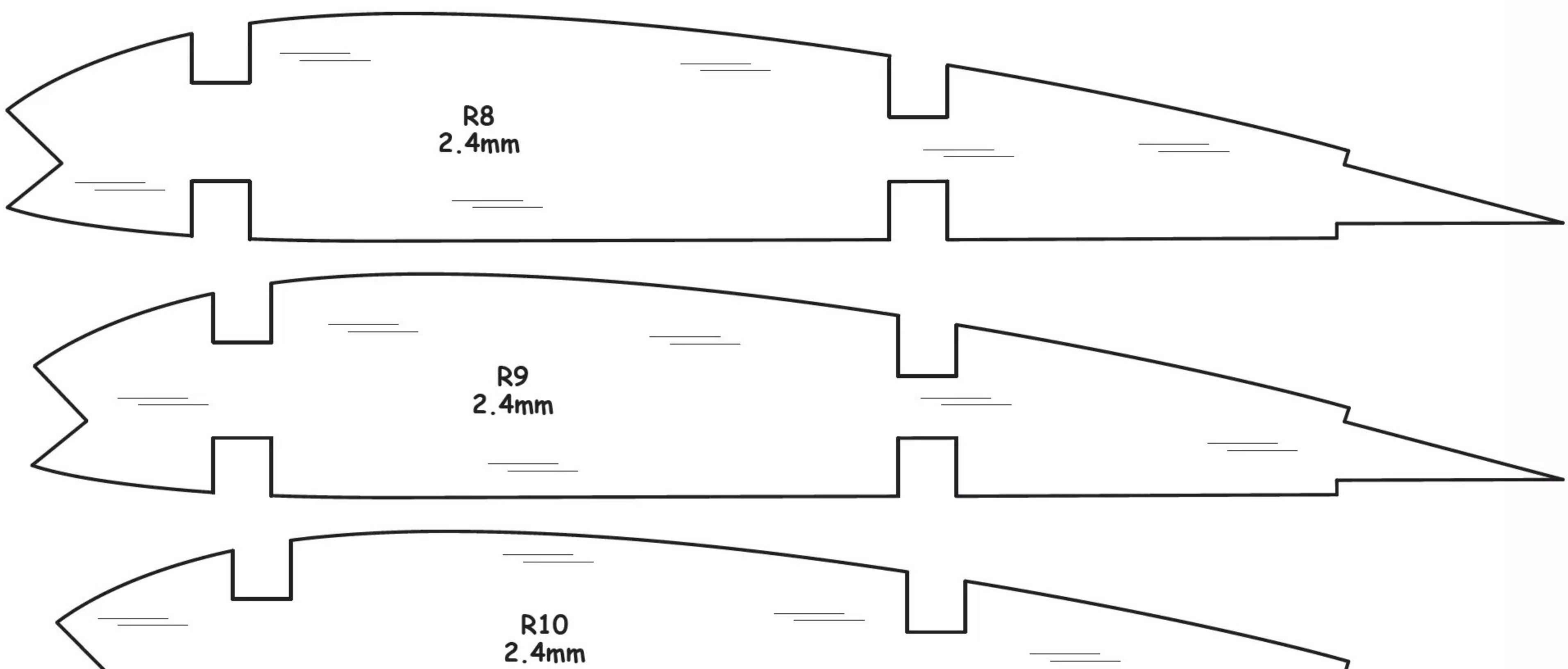
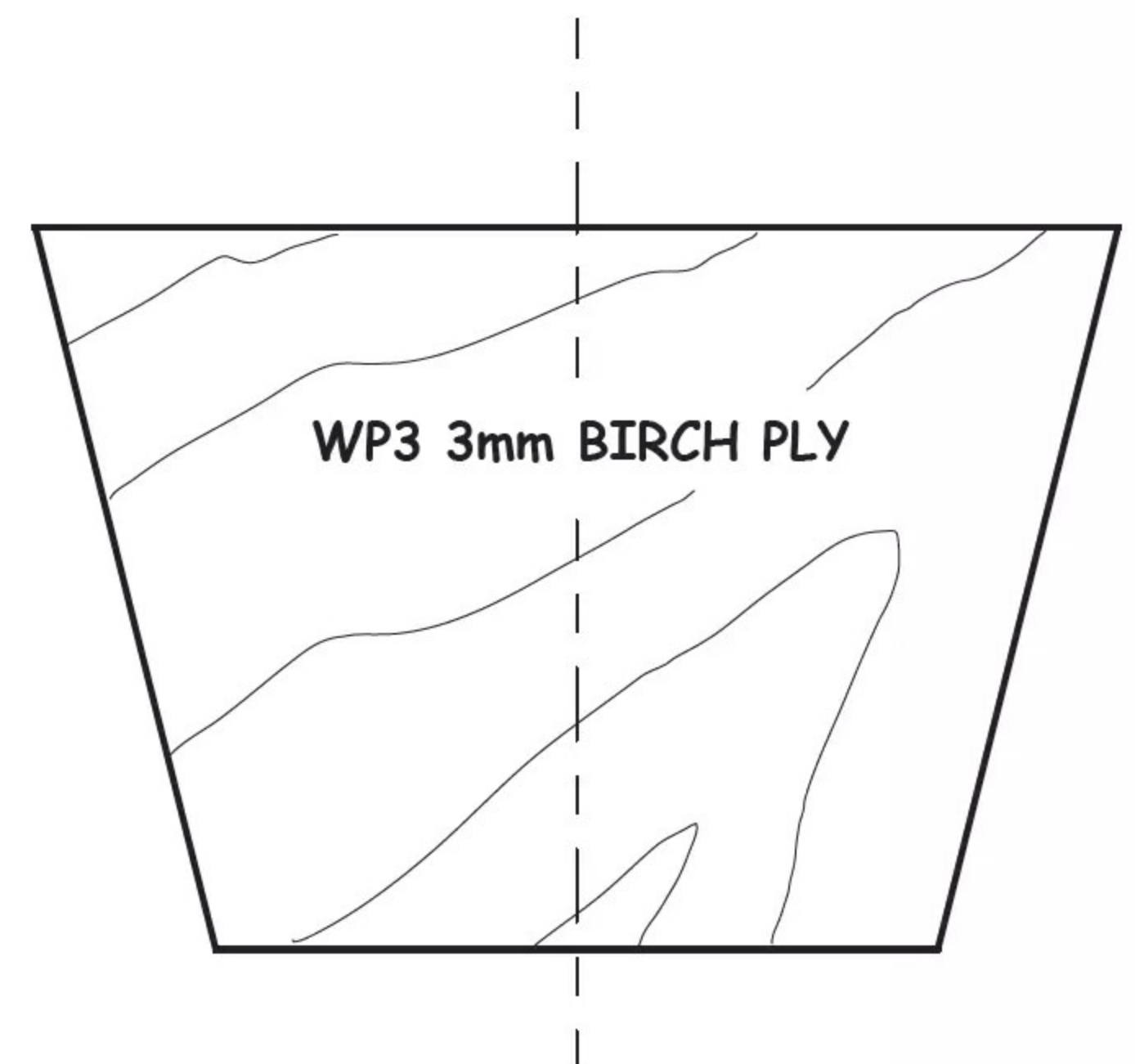
No. OF SHEETS: 3 OF 3

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R1A
3mm

R2
3mm

FRONT DIHEDRAL BR

WING JOINERS ARE E

REAR DIHEDRAL BRAC

R14
2.4mm

R14

R13

R12

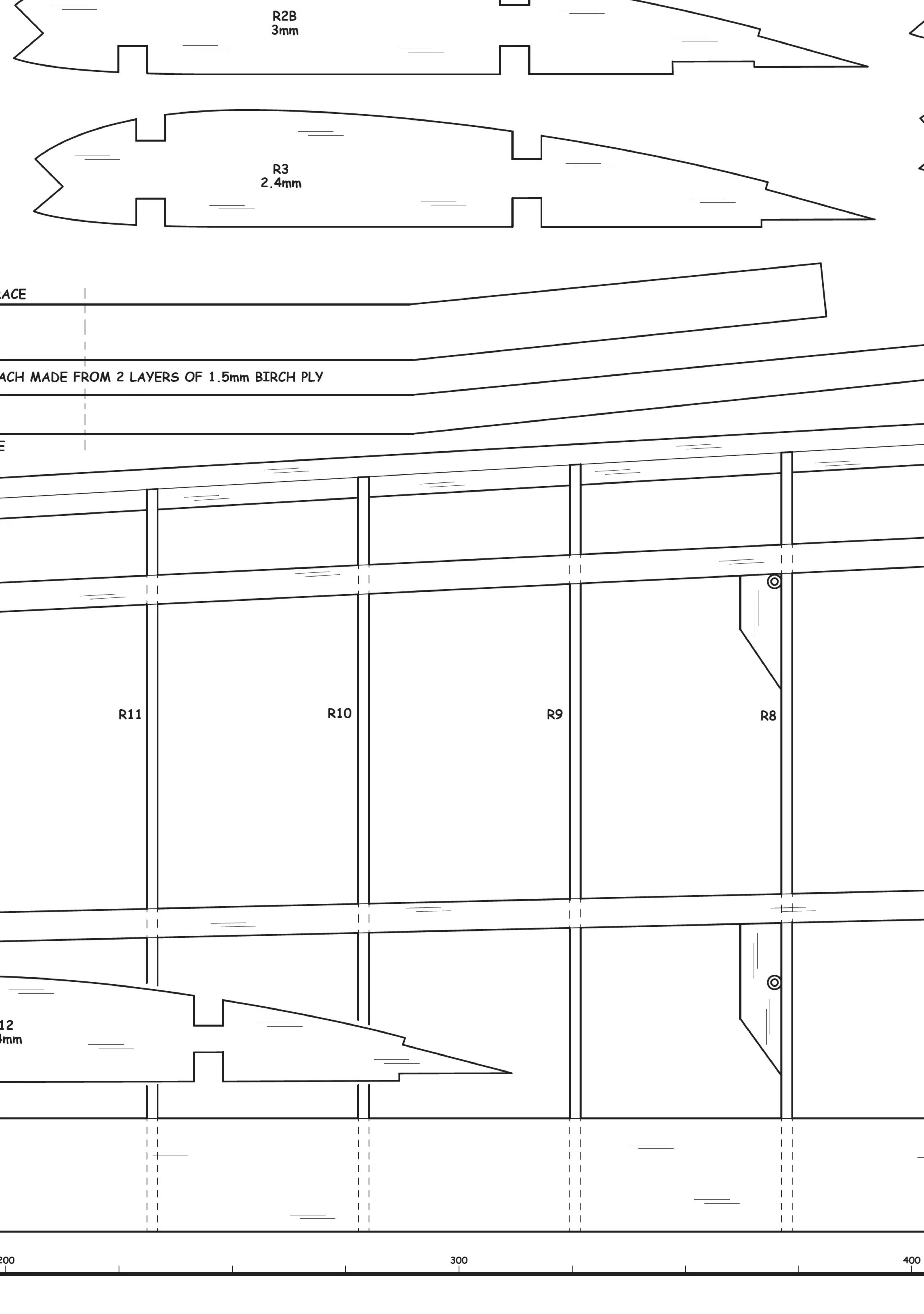
R
2.

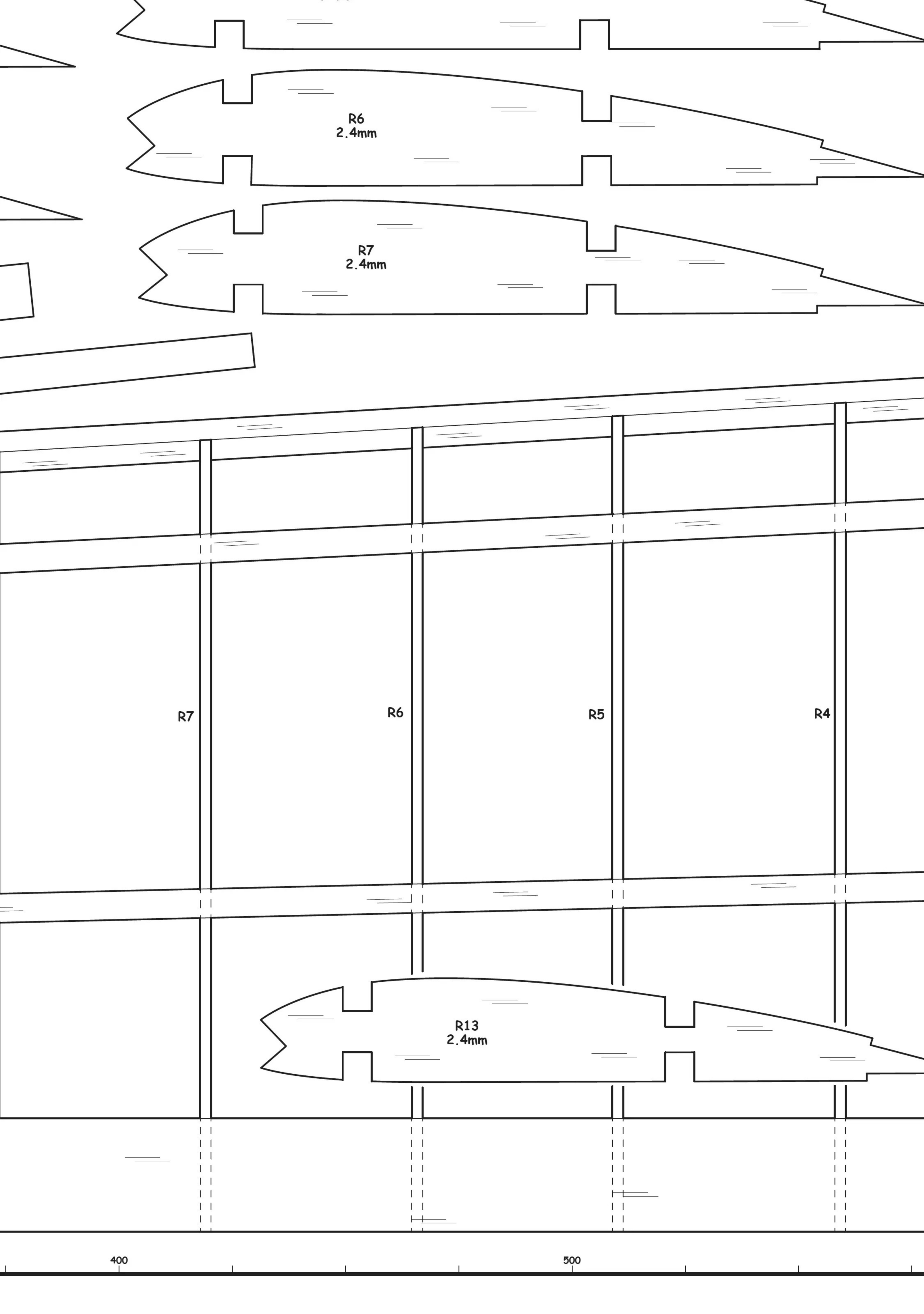
SCALE
MM

100

200

100





R6
2.4mm

R7
2.4mm

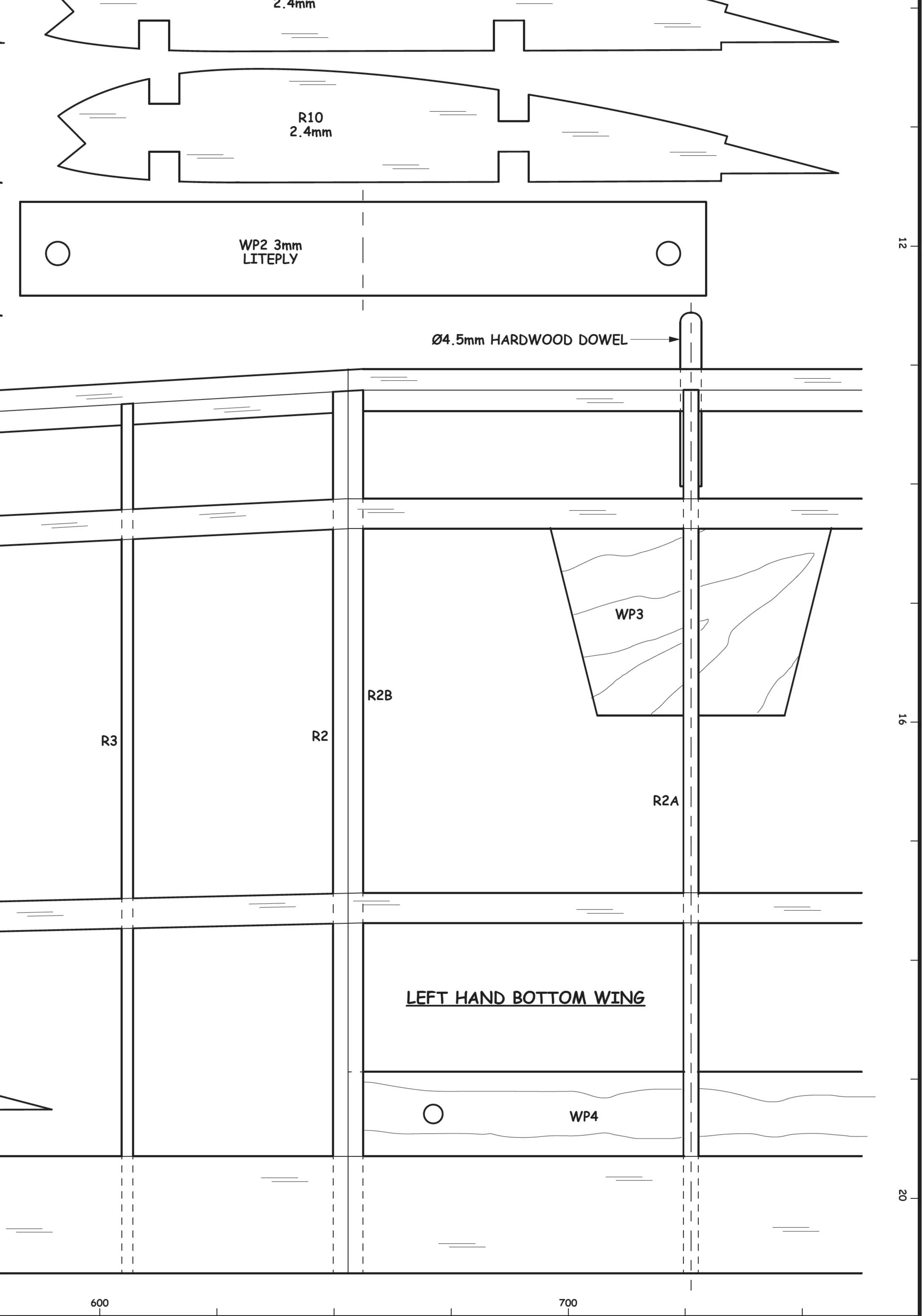
R7

R6

R5

R4

R13
2.4mm



A LITTLE EXTRA

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The Extra 260RR is designed to deliver maximum performance without oversized, expensive power systems. Our recommended iPAs (Integrated Performance Airframe-Drive Systems[®]), setup gives you strong, efficient power, long flight duration, and a perfectly balanced feel. It's lighter, more responsive, and easier on batteries and electronics than typical setups in this class. If you want the aircraft to fly exactly as intended — this is the system to run.

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SPECIFICATIONS:

- Wingspan: 1,214mm
- Length: 1,1126mm
- Wing area: 487 sq.in
- Flight weight (exc battery): 980 grams

Part No: PL-1049-R AND - Y Precision Aerobatics Extra 260RR

RRP: £359.99

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