FREE PRO-PLAN! | SLINGSBY SKYLARK
SCALE GLIDER - PART 2

VOL. 68 NO. 8 AUGUST 2025 www.modelflying.co.uk

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Welcome

Welcome to the August 2025 issue of RCM&E.

My local club recently hosted its third Fun Fly competition of the year in which members take turns to try one the regular fun fly disciplines, albeit using a much more relaxed format than die-hard fun flyers would probably recognise. On that evening it was 'Touch & Goes'. The rules were simple: make as many touch and goes within two-minutes as possible, scoring a point each time the model landed anywhere on the strip, with two points for any touches made within a smaller area marked out in front of the judges. My practice flight went well so I awaited my two minutes of glory, enjoying the friendly banter as my clubmates put their skills and models through their paces.

When my turn came I did okay but was a bit disappointed in my performance, not really being able to get into the same sort of groove that I had enjoyed during the practice flight. As expected, clubmate Neil, flying an Xtreme 3D, was easily top of the scoreboard. Chris, flying a similar aircraft, also did very well, but came a cropper mid-flight. Next up was Tim, a recent recruit to the hobby, flying the high wing bush plane he used as a trainer.

Tim's flying was a revelation. He simply flew several unhurried but very well controlled circuits, putting into practice all the skills he had taken on board during training. By doing this he was able to skim the much sought after double points area on practically every pass. Compare this with my more rushed approach, scoring a point after every bouncy arrival but rarely troubling the 'two-point' band marked on the runway. I came second overall but Tim was snapping close at my heels!

This really brought home to me the value of practicing circuits, even for those of us who have been flying model aircraft for many decades. It's a skill that takes a long time to master but is one that can easily degrade if you don't take the time to brush up on things from time to time.

Now for our usual quick look at the articles in this month's magazine starting with 'Model Magic' as Matthias Hausmann details the development of his F4H model of a Robin DR400. Next, Nigel Cartwright describes the construction of his Bell 47 helicopter, familiar to all readers of a certain age from the MASH television series. Continuing the scale theme, in 'Make It Scale' Danny Fenton revisits Wolverhampton University to join fellow enthusiasts at the Scale Indoor R/C Nationals. In the latest instalment of 'Scale Gliding' Chris Williams sees several maiden flights of models made from his scale glider designs and returns to the White Sheet club for their Spring soaring event.

Our first event report of this issue comes from Mike Freeman who travels to Popham airfield to see what was on display at the busy southern model show. Next, we return to Chris Williams for part two of his latest Pro-Plan article describing the build of a 1950s Slingsby Skylark glider. Sticking with gliders, in 'Just For Fun' David Ashby builds a Fresh RES glider then scours a local swap meet. Back to power models, Chedworth RCFC's first retro meeting in early June was well attended; event organiser Dick Spreadbury took time out from his busy day to record some of the pilots and planes.

On the final stretch now and it's over to John Stennard and his latest 'Insider' column; indoor jets, biplanes and amphibians are amongst the varied topics covered this month. Topping it all off is 'One Man & His Shed' in which Dave Goodenough adds to his diesel collection and witnesses a Spruce Goose take to the air.

I hope you enjoy reading it all.

Happy Flying!

Kevin Crozier

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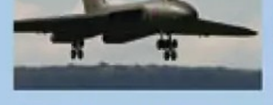

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On the cover

Photo: Mike Freeman

Our cover this month shows Joe Lofthouse's 2.6 metre span CARF BAE Hawk in iconic Red Arrows 50th Anniversary livery, looking stunning against the backdrop of trees during its displays at the Popham Model Show. Joe had only recently finished the model so Popham was the jet's first public outing. In fact, Joe had only logged 2.5 hours flying with it beforehand so he must have been very nervous to fly it in the blustery conditions. Any nerves didn't show though and Joe gave several memorable displays during the event.

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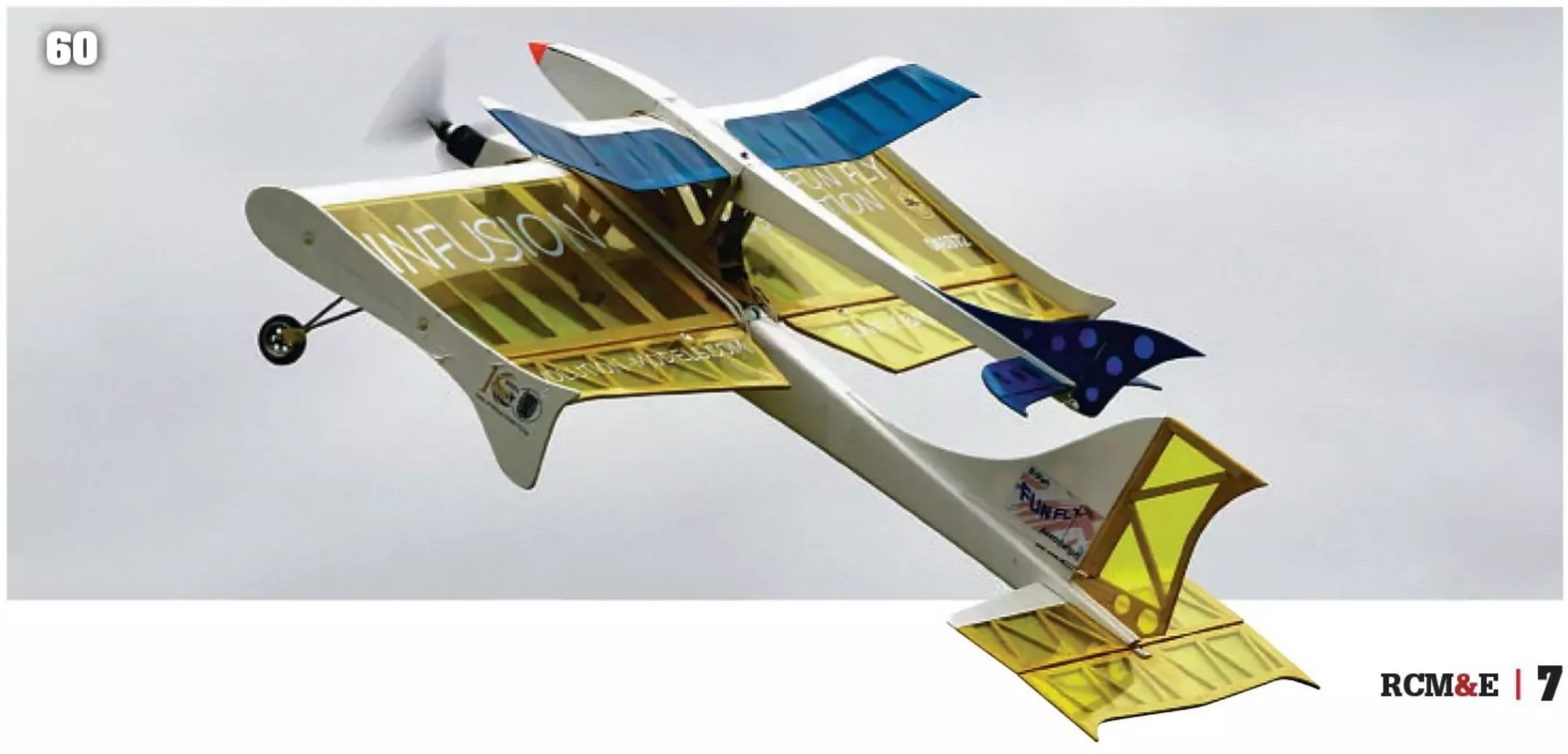


LLEYN MAC BRING & FLY

Alan Williams, webmaster of the Lleyn Model Aero Club, extends a warm welcome to all RCM&E readers to visit the club's annual 'Bring & Fly' weekend from 26th - 28th September 2025:

Despite the 2024 event being restricted to Saturday only due to the weather the club considered it a success and a good rehearsal for future events. At the last event the aircraft on display were an impressive collection of high-quality models with some equally impressive flying. The club was also pleased to welcome a contingent from a local Air Cadet Squadron who brought along their models and with the help of our club members they got up and running and test flown at the event.

Following on from the 2024 event the club will continue the theme into 2025, presenting an opportunity for newcomers to the hobby, as well as experienced and not so experienced flyers, to join us at our excellent power site at Pen Y Berth Pwllheli and fly with the beautiful backdrop of the Eryri Snowdonia Mountains or the view across Cardigan Bay toward Harlech. And, of course, we will also be hosting visitors to our excellent slope soaring sites on the Lleyn Peninsular.

Our invitation to the event is also open to those who wish to discover more about the hobby, and it presents an opportunity to gain some knowledge and help on how to get started from the more experienced flyers. Hopefully we will be able to offer some buddy flying setups for people to have a go. Also, members of the public can join us as spectators to enjoy a day out watching some aerobatic antics.

For more information about the event and details on how to find us please visit our website: **lleynmac.org.uk/bring-and fly-2025**

We plan to post more information about the weekend as we move closer to the date and the website will also contain links to local accommodation websites should you wish to make a weekend of it, which we thoroughly recommend. We look forward to seeing you.

SKYLARK ON FILM

Judging by the requests that Chris Williams has received for additional build pictures and PDFs of drawings from which to cut parts, his rendition of the Slingsby Skylark 1, our featured Pro-Plan in both this and the July issues, has captured the imagination of many readers looking for a satisfying building project.

As Chris says, *"At one-sixth scale it's a very handily sized glider and fits nicely with my previous types at this scale. Although small in size this glider needs as much building as any larger model. So, it's definitely not a Kwik-Build design!"*

If any additional inspiration is needed to clear your building board, then why not take a look at Chris' newly released video showing the Skylark 1 in action, both from the slope and when being aerotowed. Visit YouTube and search for **The First of the Skylarks** or visit: **https://www.youtube.com/watch?v=dy5NK3fYgW4**

RAF PHOTOGRAPHIC RECONNAISSANCE UNITS MEMORIAL

Plans to recognise the unsung heroes of the RAF's Photographic Reconnaissance Units have successfully moved to the planning stage, the Veterans Minister, Al Carns MP, announced in the House of Commons recently.

More than 200 MPs from eight different parties have supported the campaign for a memorial in London, outside the Treasury, close to the Imperial War Museum's Churchill War Rooms, facing St James' Park.

Eco Group, based in Annan, Dumfries and Galloway, is one of the businesses which has provided its expertise to help create the memorial. The centrepiece of the memorial is set to be a Rolls-Royce Merlin engine from an RAF Mosquito assigned to 540 Photographic Reconnaissance Squadron at RAF Benson, which crashed into a Welsh mountainside in 1944, which Eco's specialist Eco Dry Ice cleaning team have recently helped to restore.

The RAF Photographic Reconnaissance Units (PRU) operated highly dangerous, clandestine photographic reconnaissance operations over all WW2 theatres of operation, capturing more than 26 million images of enemy operations and installations during the war. Flying Spitfires and Mosquitos the intelligence they gathered was used by all the armed forces, giving same day intelligence on enemy activity.

Due to the clandestine nature of their operations, flying unarmed and unarmoured, the death rate was nearly 50 percent. Despite having one of the lowest survival rates of the war, life expectancy in the PRU being around two and a half months, there is no national memorial to the RAF's Photographic Reconnaissance Units. However, since 2021, the Spitfire AA810 Project has campaigned to establish such a memorial to the 1,746 PRU pilots and navigators.

Steven McCreadie, Head of Eco Dry Ice at Eco Group, cleaning the engine with the company's dry ice solution.

It is also intended that the memorial will recognise the Photographic Interpreters, based at RAF Medmenham in Buckinghamshire. Using stereoscopy they analysed the photographs, with their reports arriving at the Cabinet War Rooms within 24 hours of a PRU aeroplane landing. Photographic Interpreters included the likes of post-war actor, Dirk Bogarde and Sarah Churchill, the wartime Prime Minister's daughter.

Welcoming the announcement in the House of Commons, Spitfire AA810 Project Director, Tony Hoskins, said: *"Since we first looked at commemorating the highly clandestine and near suicidal work of the RAF unarmed Reconnaissance Squadrons we have uncovered some incredible stories of the work these young men and women carried out, their actions unknown yet so vital to millions of people impacted by the conflict. Now on the 80th anniversary of VE Day it is so fitting to have this support for a major step forward in recognising their work and sacrifice."*

Eco Group is one of many businesses which has helped the campaign. Steven McCreadie, Head of Dry Ice at Eco Group, and colleague Gordon Keenan, travelled to the Classic Collective in Bicester, where they carried out the Mosquito engine clean in the base's workshop using their specialist dry ice equipment.

Steven said: *"We are delighted to have played our part in restoring a piece of equipment which is so historic and significant to so many people. Well done to Tony, everyone at the Spitfire AA810 Project, and all those who have supported this campaign. We look forward to seeing the memorial in situ and to paying our respects along with so many others."*

If there are any readers who are related to or knew someone who served in the PRU during the war, or who wants to know more about the monument campaign, please go the Spitfire AA810 Project website **www.spitfireaa810.co.uk** or get in touch with Tony Hoskins: Tony@spitfireaa810.co.uk.

A colourised image of LR412 in flight during 1943. Photo credit: Spitfire AA810 Project.

Rolls-Royce Merlin engine after being cleaned by Eco Dry Ice.

ROBIN DR400

Matthias Hausmann details the development of his fine scale model of a favourite aerotow light aircraft

Words: **Matthias Hausmann**

Photos: **Matthias Hausmann, TeamErhard**

It's the summer of 2018 and I'm in Meiringen, Switzerland at the F4 Scale World Championships on a large military airfield surrounded by the beautiful Swiss Alps. My father, Marcus, is attending a World Championship for the first time after having resumed flying after several years off. He is competing with his 1:3 scale Stampe S.V.4c. After the second round my dad is surprisingly near the top of the rankings as a newcomer and has a good chance of making it to the podium. As you can probably guess, he did it - my dad became the World Champion in F4H!

"*Incredible, I want to do this too!*", I said to my dad.

So, we didn't waste any time and started right away. The search for the right aeroplane was quick as I already had a favourite. At 13 years old, I was determined to build the Robin DR400/180 flown from Laichingen Airfield, Germany. The DR400/180R Remorqueur is a well-known and widespread French light aircraft with four seats. With its cranked wings it is very easy to recognise. The original is powered by a Lycoming O-360 four-cylinder boxer engine with 180 horsepower and is mainly used for glider towing. The French word remorquage, which is similar to remorqueur, means towing. This aeroplane is so common that it can be found at almost every flying club. It has been in production since 1972 and is still being delivered in more modern variants today.

Laichingen is a small airfield, mostly used by glider pilots, with about 20 gliders and four motorised aircraft. It later turned out that I would earn my glider pilot's license there. I had already flown in this Jodel and had often seen it in action flown by very experienced pilots. I had even been towed by it during F-Schlepp (aerotow) operations.

DESIGN & BUILD

The perfect conditions were in place to build and fly a scale model of this aircraft, except for the poor condition of the full-size. It had damaged paint and outdated technology. But that didn't matter, I was determined to have a model of this plane, so we started building.

With the help of devWing and devFus software we created our own plans and designs based on photos we took with a drone and a high-quality camera, as well as various plans that we found online and even in museums. To make the appearance and flight characteristics as authentic as possible we integrated details like the original aerofoil and the pendulum tail. The ribs and formers were cut out of 3 mm

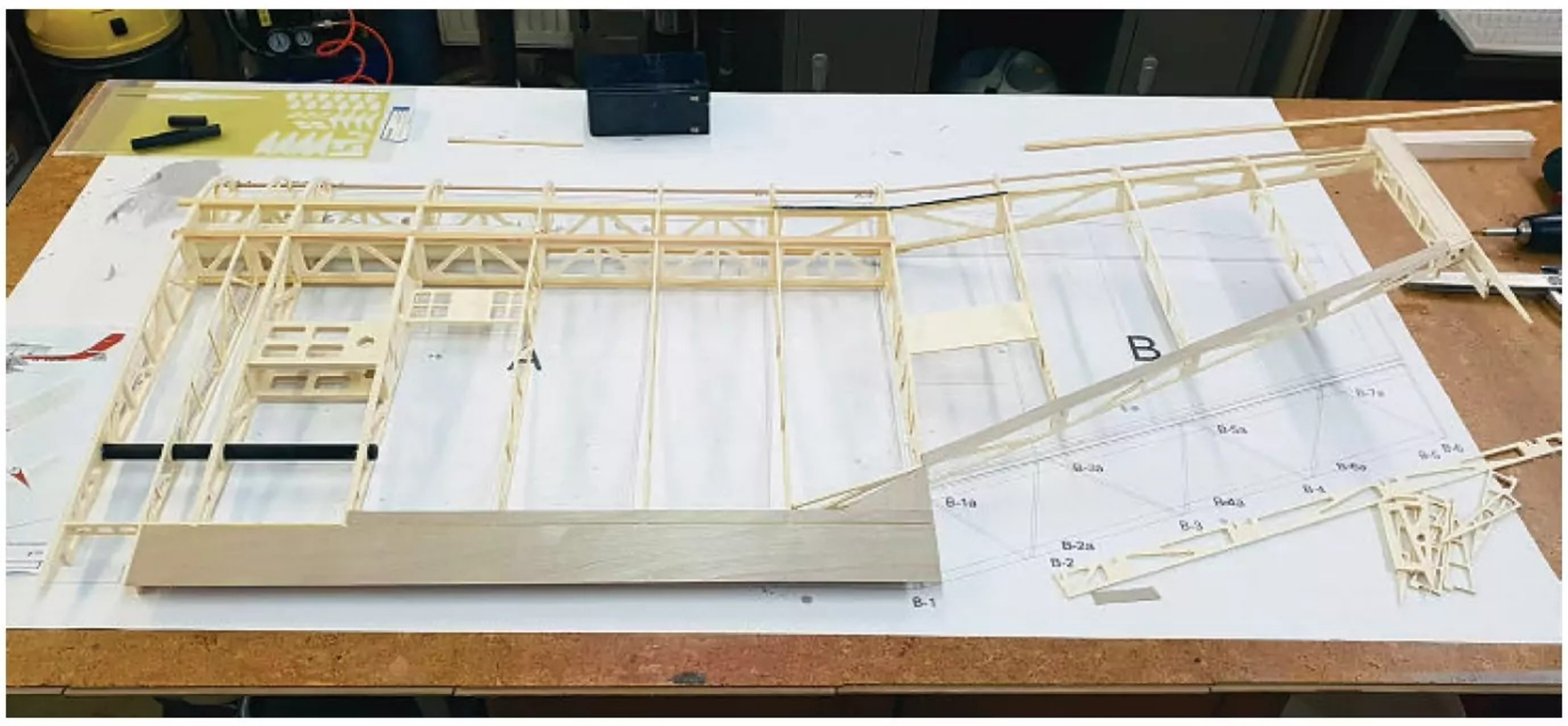
Flaps down in landing configuration. Picture courtesy of TeamErhard.

Cutting all the parts with the CNC milling machine.

poplar plywood on our CNC milling machine, which had previously been used to cut out two Stampe planes. Within a few days we had the basic structure of the fuselage and wings, which just had to be assembled and glued together like a giant puzzle.

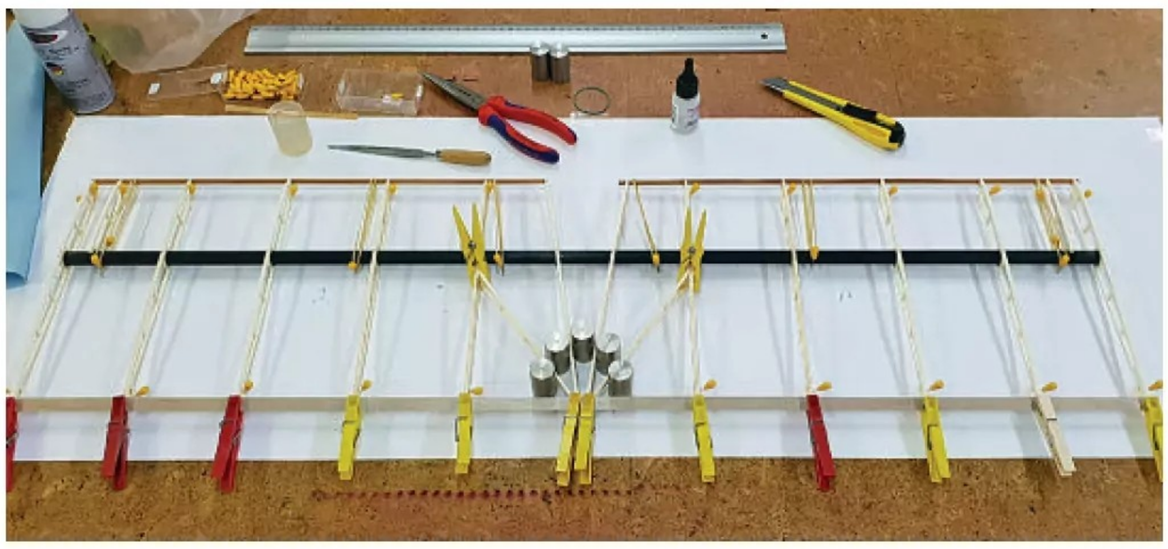
The wing ribs were mounted onto a self-designed spar. For the joiner we used a 40 mm carbon fibre tube. To glue the ribs, we fixed them onto a printed full-size plan using push pins, then we applied thin resin using a syringe with a needle to attach them to the spar. The ailerons and flaps were attached with wooden crossbars at the ends of the ribs which, after gluing, had to be cut off, ensuring the ailerons were straight and precise. The wings and horizontal stabiliser followed the same building principle. The cranked wings were a more complicated issue, but we solved it by reinforcing the bends with carbon fibre joiners, both internally and externally. To enable the pendulum rudder control system, we used the gap meant for the trim rudder. A steel rod was inserted through this gap, which was actuated by a servo inside.

The horizontal stabiliser, vertical stabiliser and wing leading edges were covered with plywood to make them look as authentic as possible and be more practical and durable



Assembly of the wings was like a puzzle.

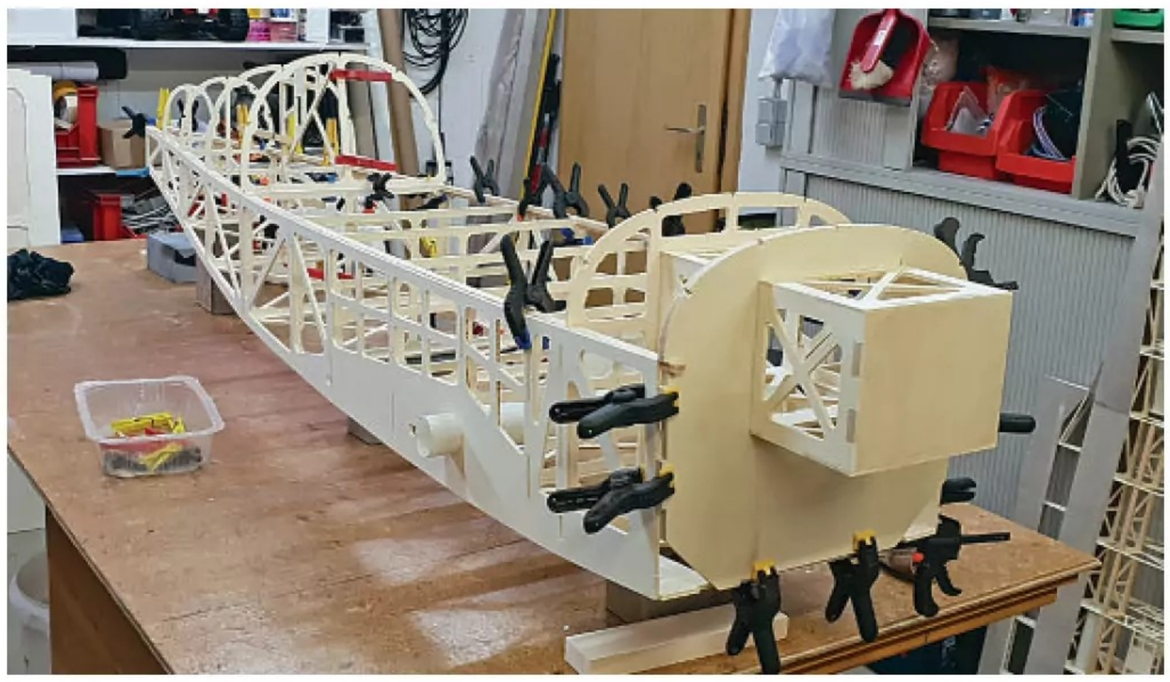
Test fit to check the dimensions.



Assembly of the elevator, with left and right halves still connected.

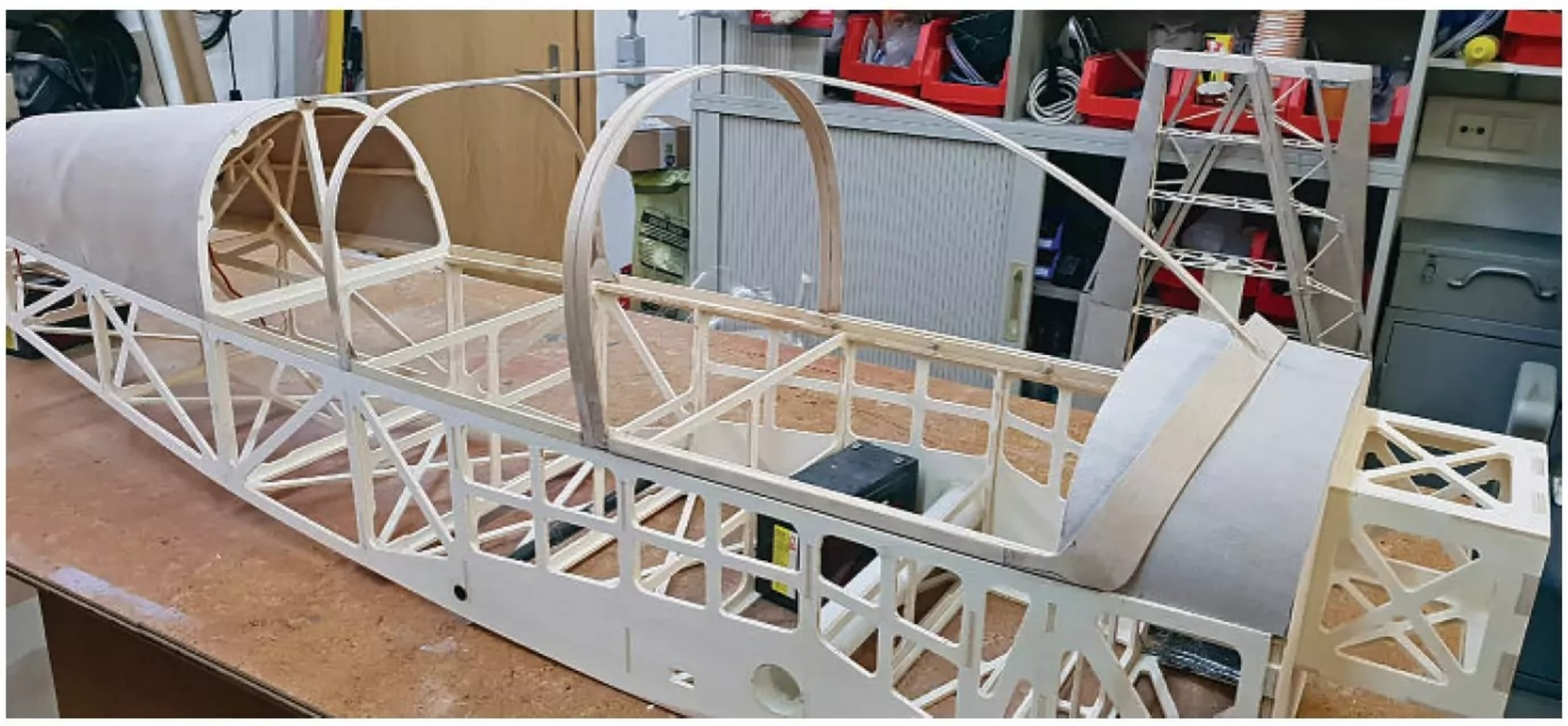
Installing the thin ply sheeting with the help of negative forms.

The same ply sheeting is used for the vertical stabiliser.



Fuselage assembly.

Building the canopy frame.



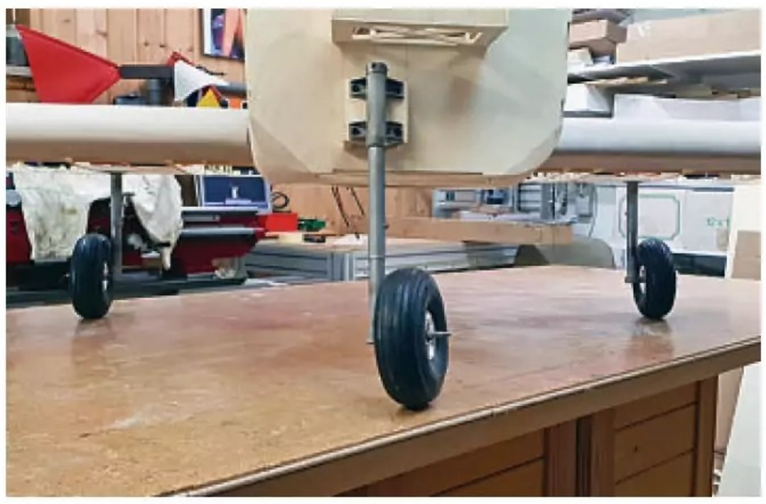
Finished canopy frame fitted to the fuselage.

Tail end nears completion.

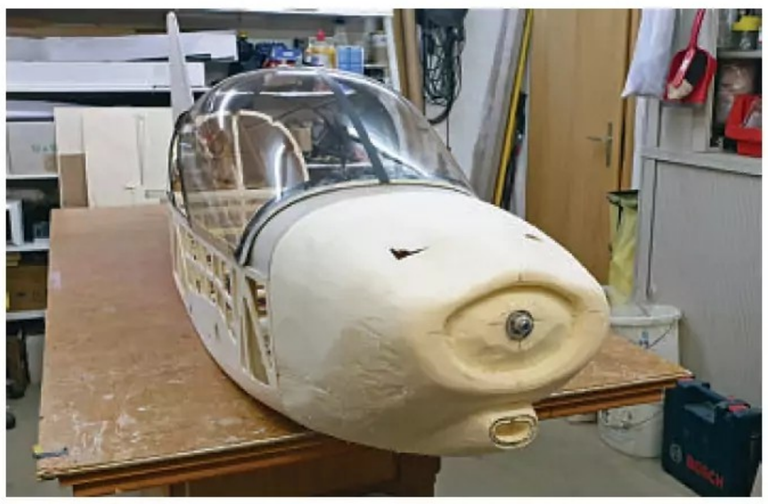
in use. The ply was applied using shaped forms. The 0.4 mm aircraft grade plywood was soaked beforehand to make it flexible enough to bend around the wing leading edge in one piece.

To create the fairing between the fuselage and the vertical stabiliser, I shaped a styrofoam positive mould, which was then used to make a negative mould. However, on my first laminating attempt I used resin that was too old, which started to set within a few minutes. So, we had to start over. Eventually the fairing was finished and could be adjusted. I also made a negative mould for the engine cowling which in a later version became two parts.

To make the fuselage more uniform and to cover the cavities that had been carved out for weight reduction, I covered the sides with 0.6 mm balsa. This wood was so thin it almost broke just by looking at it, making it

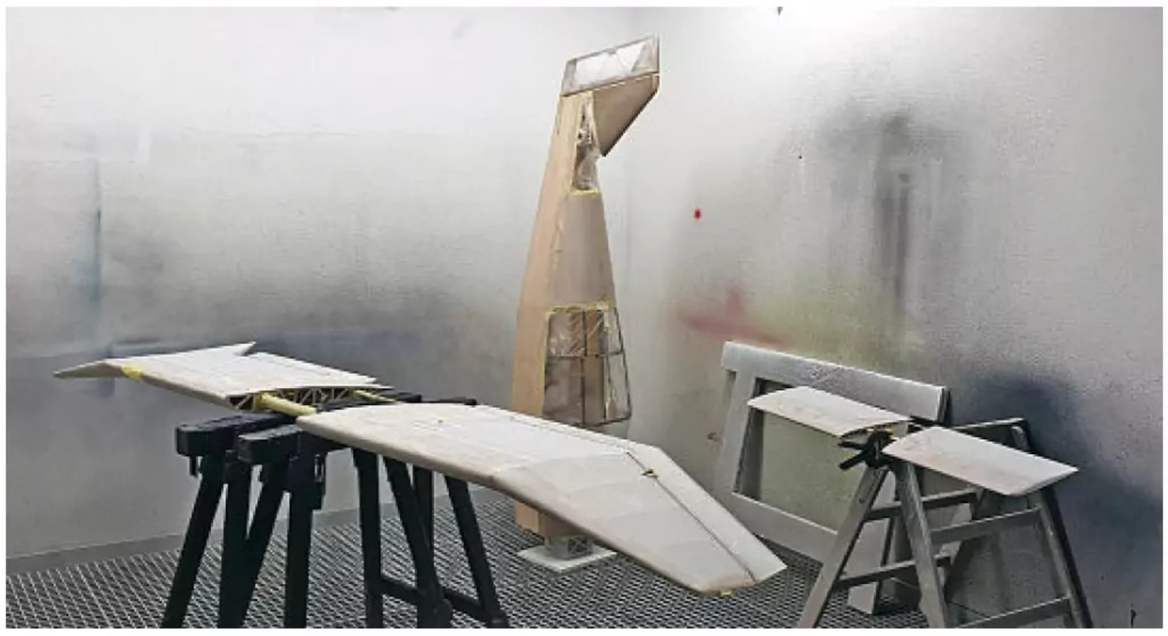


Undercarriage set is self-made.



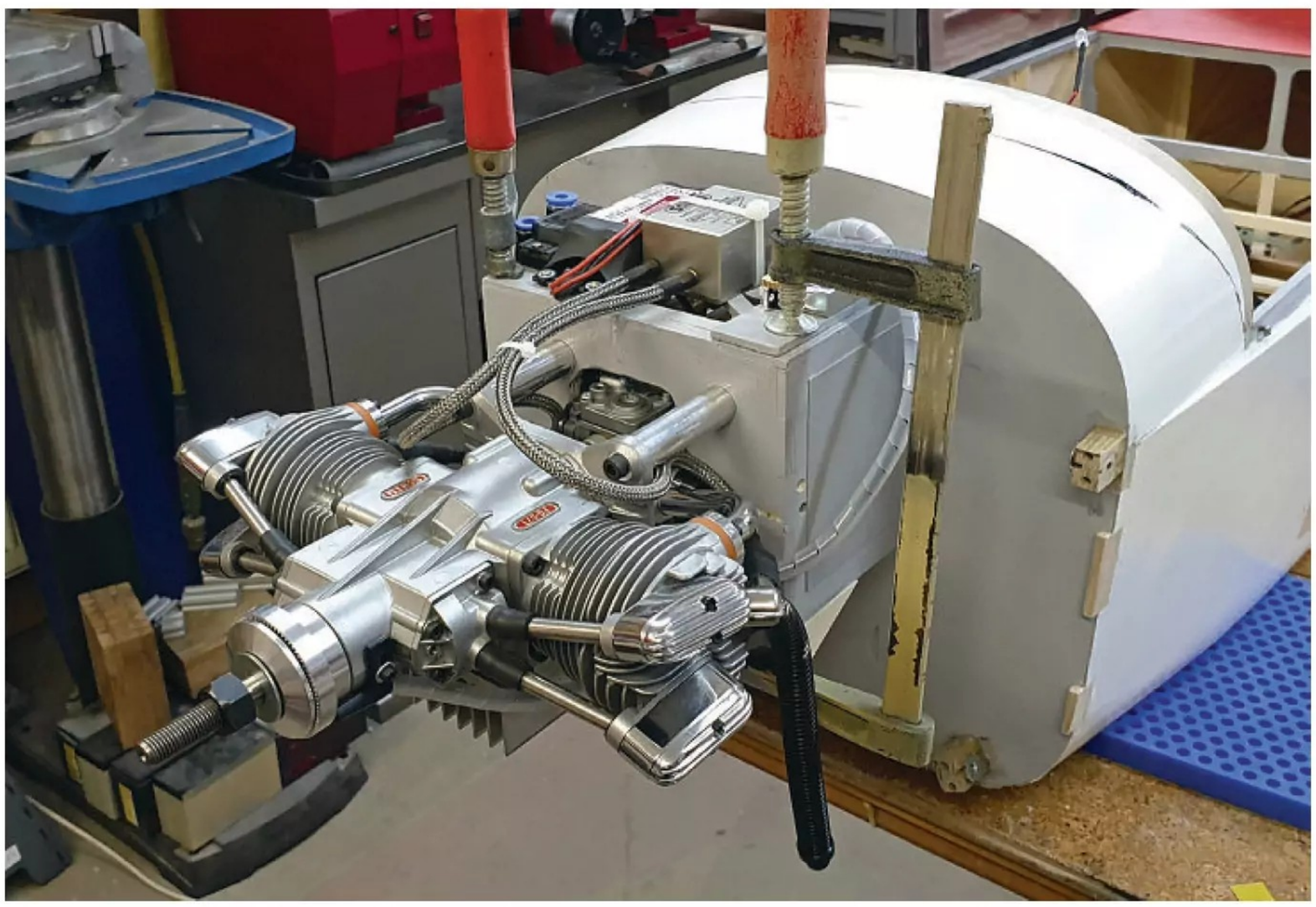
Making the positive for the cowl moulding.

First seating test with the pilot.



About to paint everything white!

Fully handmade instrument panel is constructed with parts from all around the house!



Saito engine and ignition mount.

Leather sealing strip between an aileron and wing.

"Within a few days we had the basic structure, which just had to be assembled and glued together like a giant puzzle"

challenging to work with. But it was worth it as no cavities were visible through the covering. The area between the engine cowling and cockpit was also covered with aircraft plywood to create a round, stable form.

The next step was the cockpit canopy. Since it was quite large and we didn't have the facilities to deep draw such a large part, we purchased an existing canopy and made adjustments. The frame was made from several layers of aircraft plywood glued together in a sandwich method. The strips were soaked in water to be shaped, then fixed onto a cardboard template. The frame was then glued to the glass canopy with a special silicone adhesive.

We also bought the wheel fairings but had to rework them as they didn't have the correct shape. The landing gear was made from steel tubing, welded together and fitted with a custom spring mechanism.

AVIONICS

Now, the electronics could be installed, including the servos, lighting, batteries, cables and other R/C technology. All cables were routed to the installed servos and the lights were mounted and connected. To replicate the original's lighting, I used Unilight's system, with two landing lights, position lights on

Final assembly in the workshop to measure the weight and find the Centre of Gravity.

Classic approach shot showing the Robin's cranked wing tips. Picture courtesy of TeamErhard.

Ready for take-off. Picture courtesy of TeamErhard.

the right and left, and on the vertical stabiliser, and a beacon on the fuselage. The blinking pattern could be controlled via the transmitter with a three-way switch.

To make sure I didn't forget any electronic connections while assembling or disassembling the plane, I built in automatic connectors. I soldered all cables to the pins of a VGA connector, which would then connect to the corresponding counterpart in the fuselage when assembled. This method had proven useful in two previous biplanes.

For the engine we chose a Saito FG 57 four stroke engine, which weighs two kilograms and provides 4.5 horsepower, perfect for an aircraft of this size and it kept the model from getting too heavy.

To maintain the correct Centre of Gravity we regularly weighed the plane during the entire construction process, thus minimising the need for ballast. In the end we didn't need a single gram of lead.

The Robin was now ready for its skin. To create a smooth surface for painting we covered it with self-adhesive, self-tightening fabric. Use of a high-quality fabric made this step easy and even manageable for me as a 13-year-old.

With everything ready we took the plane to a neighbouring woodworking shop, which had a paint booth, to paint the plane. I used a high-quality 2K lacquer, starting with white, then red, and later applied red stripes, markings and the orange patch on the right wing using car vinyl.

SCALE DETAILS

Now, the scale details were my focus. I began with the largest part, the cockpit. I milled wooden boards for the instrument panel with the necessary cutouts for the instruments, which were printed on photo paper and glued on from behind. I also added each individual screw, button and lever.

The entire cabin interior was built using balsa wood, Styrofoam and fabric. I paid attention to making the assembly easy, using Velcro, so no tools would be needed when assembling the plane.

I recreated the wing-to-fuselage transitions with old, dirty rags. The individual metal plaques were printed on a photo printer and glued on.

Under one of the fuel-filler caps I hid another VGA connector which, with the help of a small adapter cable, connects all the batteries to the

Sitting in the full size with my model of the Robin DR400 alongside.

"After several test flights it turned out I didn't need any expo on the elevator controls"

charger. This made charging the four batteries much easier as the model didn't have to be disassembled to charge it.

The fuelling valve is located under the maintenance hatch in the engine cowling, where the original has the oil filler cap.

With the details completed the Jodel DR400/180 in 1:3 scale and weighing 13.5 kg was finished after 1.5 years.

Waiting for permission to start.

FIRST FLIGHT

May 2020: It was a beautiful summer day, perfect for the maiden flight. Finally, the moment had arrived - the moment every model builder dreams of. We fuelled up the Jodel and double-checked all the connections and fixings.

I held the plane steady while my dad started the engine. We taxied her to the starting point. The tension was at its peak. Since I was too scared, my dad took the first flight. He gave it some throttle and the plane accelerated, eventually lifting off. It was amazing and a dream come true!

After a few minutes of flying, several turns and attempted landings, he managed to make a decent first landing. The plane was still intact and she flew beautifully, just like the original. A total success!

After several flights and some adjustments, we fixed the last issue. Initially we used a

Taxying out.

Low pass. Picture courtesy of TeamErhard.

simple homemade exhaust, but the sound was disappointing. After switching to a 'Krumscheid' silencer the engine sounded much better and seemed to have gained a bit more power.

Another problem was that I crashed the landing gear a few times. After several test flights it turned out I didn't need any expo on the elevator controls. This solved the problem of having to rebuild the landing gear.

COMPETITION HISTORY

After finishing the Robin, I first competed in national events and was able to prove myself. With an extremely clean and authentic performance I impressed many judges and qualified for the World Championship in F4C.

The next Scale World Championship took place in 2022 in Tønsberg on a manned airfield. A scale competition is divided into a flying evaluation and a building evaluation, where judges check the authenticity of the model.

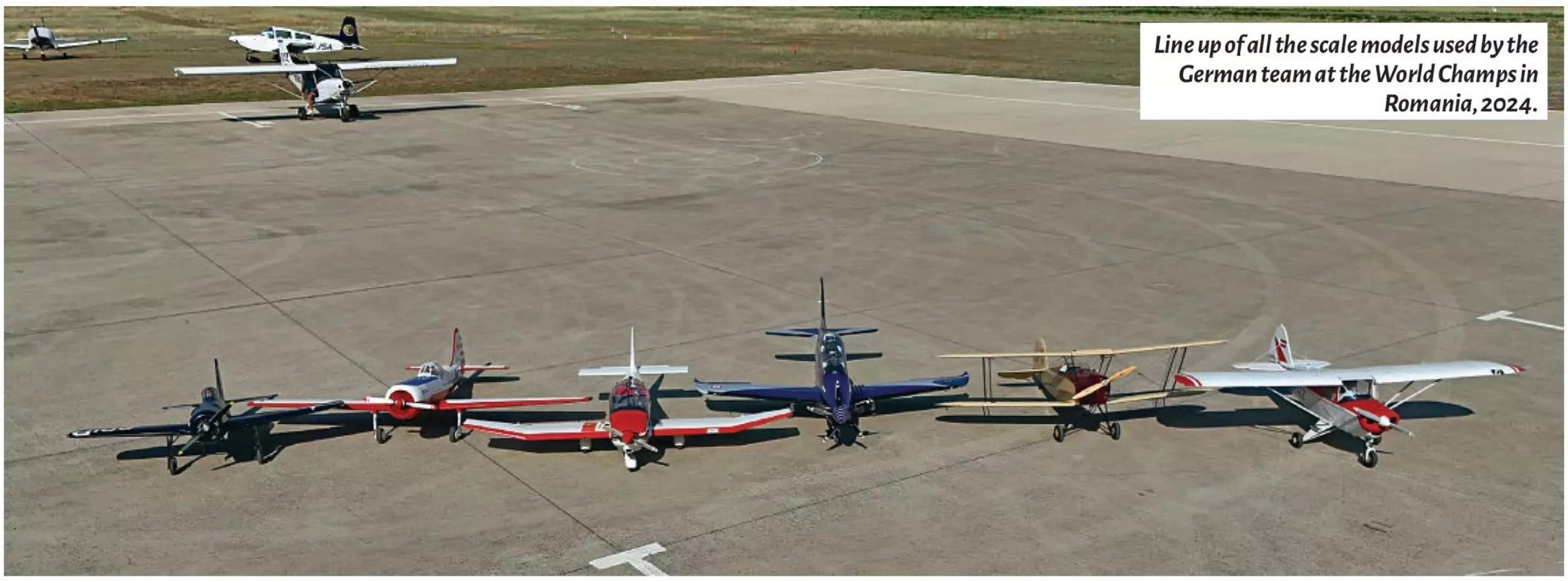
After a somewhat unfortunate building evaluation it was time for the flying evaluation. My first flight was amazing and I was in third place in the flying category, just seven points behind the leader (normed to 1000 points). You could almost say 'it couldn't get any better', but it did. After the second flight, I was still on the podium, tied with the third-place competitor. Then the building evaluation was factored in and I hoped that no third round would be flown, which could have changed my results. But that didn't happen - they found time for a third round!

Team Hausmann. Matthias and Marcus with their impressive scale models.

Having flown so well under extreme crosswinds, intense heat and the scrutinising eyes of the competition, the trophy was almost within reach. But it wouldn't happen. Due to the extremely low sun, I couldn't improve my score in the third flight. In the end I finished in fourth, just one point behind third place. Still, it was a huge success.

CONCLUSION

In conclusion, the Robin is a fantastic flying aeroplane that brings a lot of joy. It's a very forgiving aircraft and can be used for a variety of purposes. ■



Line up of all the scale models used by the German team at the World Champs in Romania, 2024.

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The Bell flies really well, just like the Align T-Rex 600 it's based on. Note the gentle curve of the tail drive.

BELL 47

Nigel Cartwright describes his semi-scale Bell helicopter

Words **Nigel Cartwright**

Words **Nigel Cartwright, Mark Boughton**

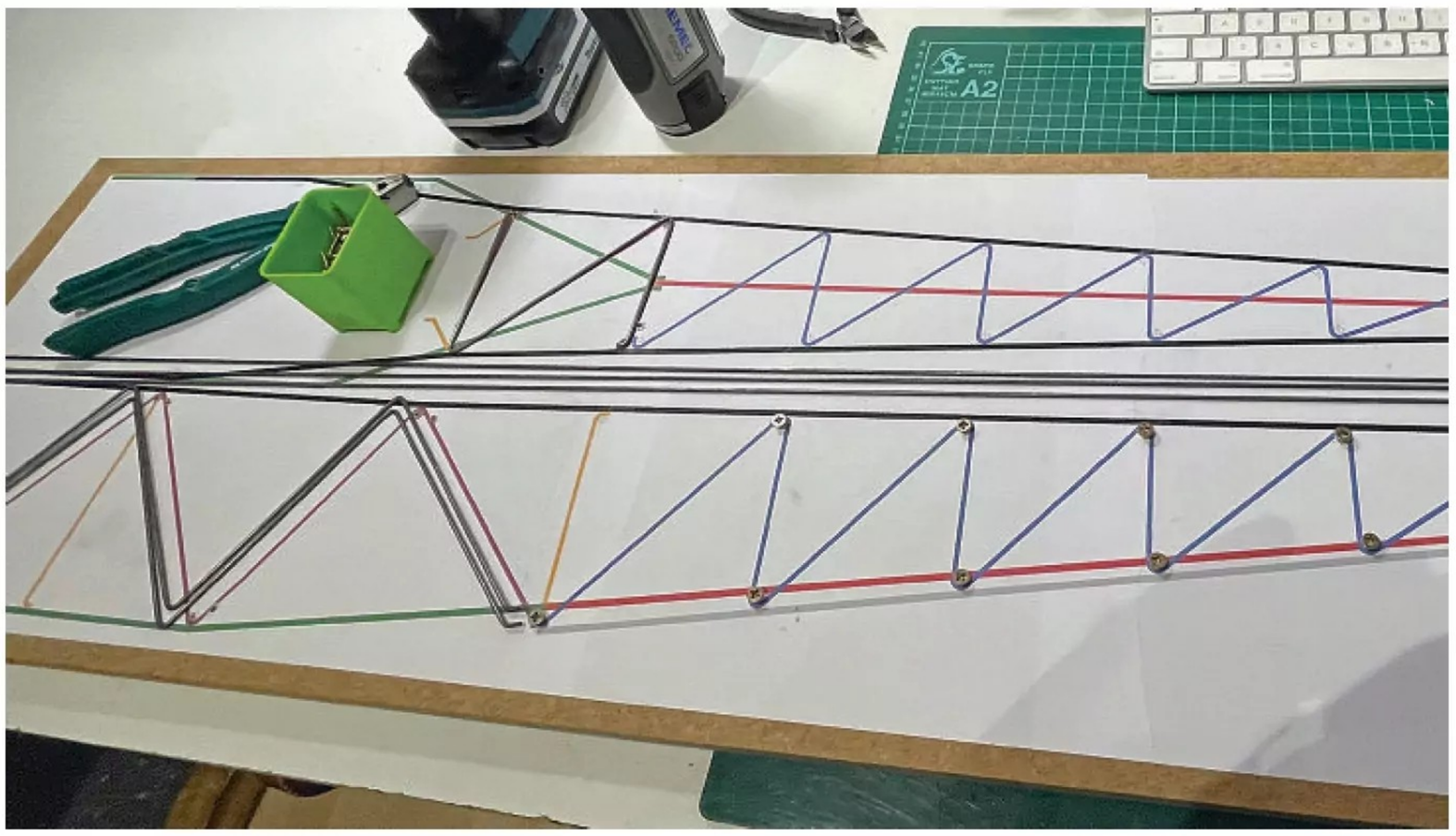
My love affair with the 47 started at a very young age, probably about 11. I was involved with the Air Scouts and one of the perks was access airside during the local annual airshow. One year the Army Air Corps 'Blue Eagles' team arrived with their two-tone blue painted Bell 47s (or, more accurately, their Westland built Sioux). I spent a memorable half hour sitting in the pilot's seat going over the instruments and controls. I was hooked!

At the time I was dabbling in fixed wing radio control and the R/C helicopter market was in its infancy. Apart from the Micro Mold Lark and the early (expensive!) Schluter HeliBaby there wasn't much else available. But then Jim Morley came along with his Bell 47 kit and while the plans were ordered and examined in great detail, the costs of all the parts meant this model remained a pipe dream.

BUBBLE PARTS

Roll on many years (decades actually) and the dream of flying a 47 remained. I had looked at the two Vario models available and while they

Where it all started. The author sitting in a Blue Eagles Westland Sioux at an airshow in the early 1970s.



I bent up the 2 mm diameter wire latticework over the drawing. Screws placed at the corners helped to get the bends in the correct place.

are excellent models, the 1:4 scale version was too big and the 1:6 scale version was still a bit on the expensive side. For many years I'd flown at Sean Brown's Leamington Hobby Centre. All good things come to an end and circumstances meant Sean was closing down the flying field and the shop. For a short period, he had imported a Chinese kit to convert a Hirobo Shuttle into a Bell 47. It looked okay but it had a slightly odd set-up in that the mechanics were mounted back to front, with all sorts of mods required to get the tail drive working.

What really piqued my interest was the couple of spare vac-formed cockpit body and clear canopy bubble parts he had, along with a wire tail boom. A deal was done and the parts brought home. The boom was very well made, with a nice powder-coated finish, but reference to some pictures and drawings showed it to be not very scale. I wanted something better.

I then started drawing up some ideas using freely available 3-view general arrangement drawings, scaled to match the vac-formed parts. The scale was coming out at around 1:7.6. I then realised that the model was roughly 600 heli size. Could I use the widely available Align T-Rex 600 helicopter as the basis for a scale model?

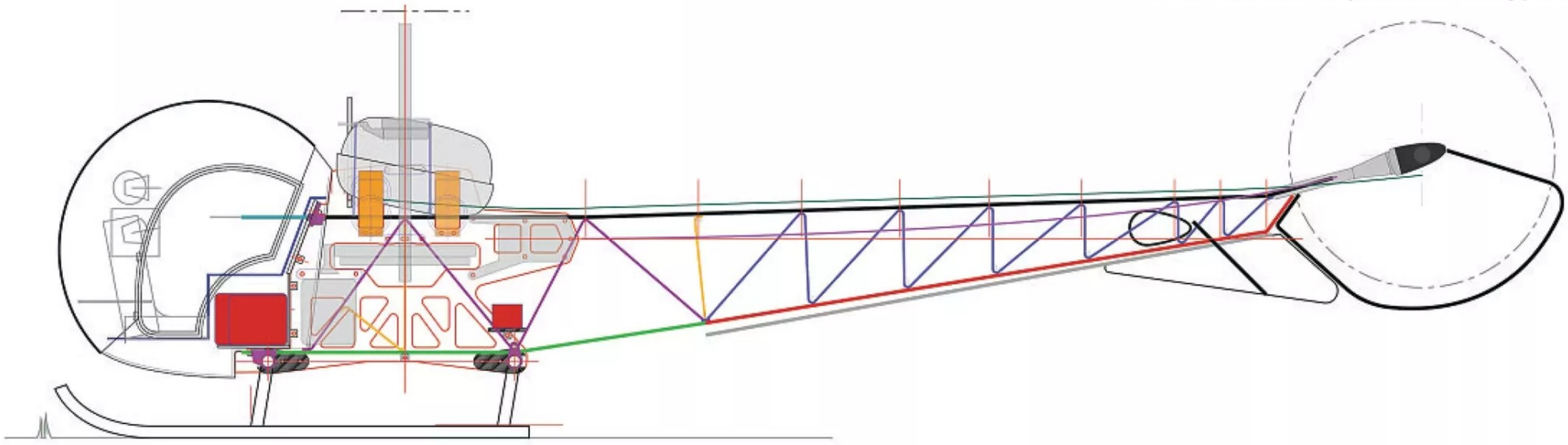
At this point I got carried away, producing a detailed drawing of the boom and custom side frames, using the motor, main gear and tail drive, swashplate, main rotor head and tail rotor from the T-Rex 600. I had no idea how this would turn out, but it all looked doable. The model was never intended to be a super scale contest winner, just a model that looks the part for relaxed flying.

I soon acquired a second-hand T-Rex 600 ESP. I chose this early model as I wanted a flybar for scale and the motor is mounted low down which helped with the layout. I test flew it to ensure it all worked and then dismantled it to give me all the whirling parts I needed for the conversion.

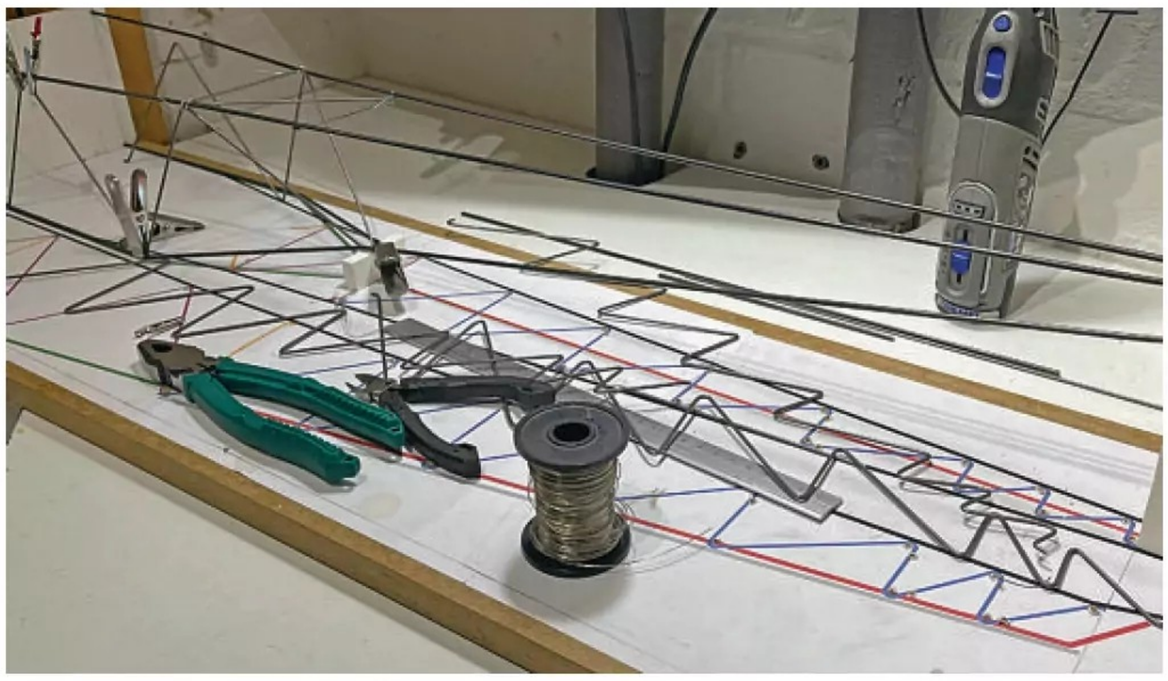
> "The model was never intended to be super scale, just a model that looks the part for relaxed flying"

TAIL BOOM

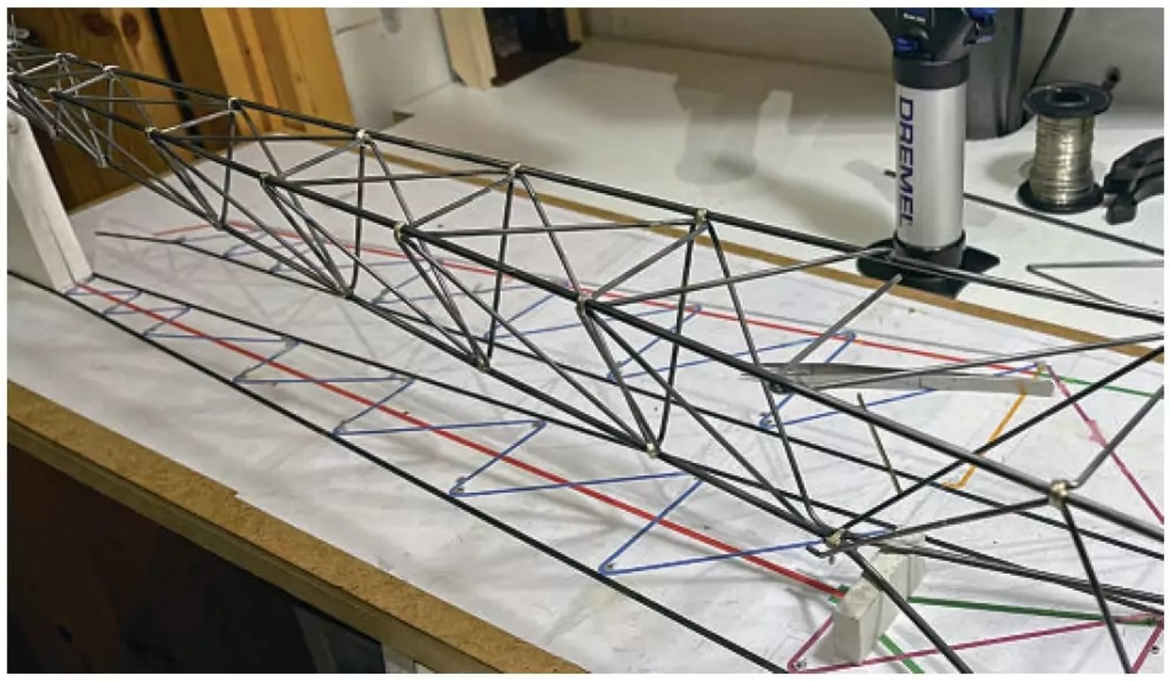
As the tail boom felt like it was the biggest hurdle to cross, I decided to make that first. The boom was built from piano wire, using 3 mm diameter for the longerons and 2 mm diameter for the lattice. I stuck a side view drawing to a sheet of MDF, put screws in where the lattice bends occur and then simply hand bent the lattice 'zig zag' around the screws. Each bend had to be over bent slightly but after half an hour's work I had two sides done. I then repeated the exercise to make the top lattice.



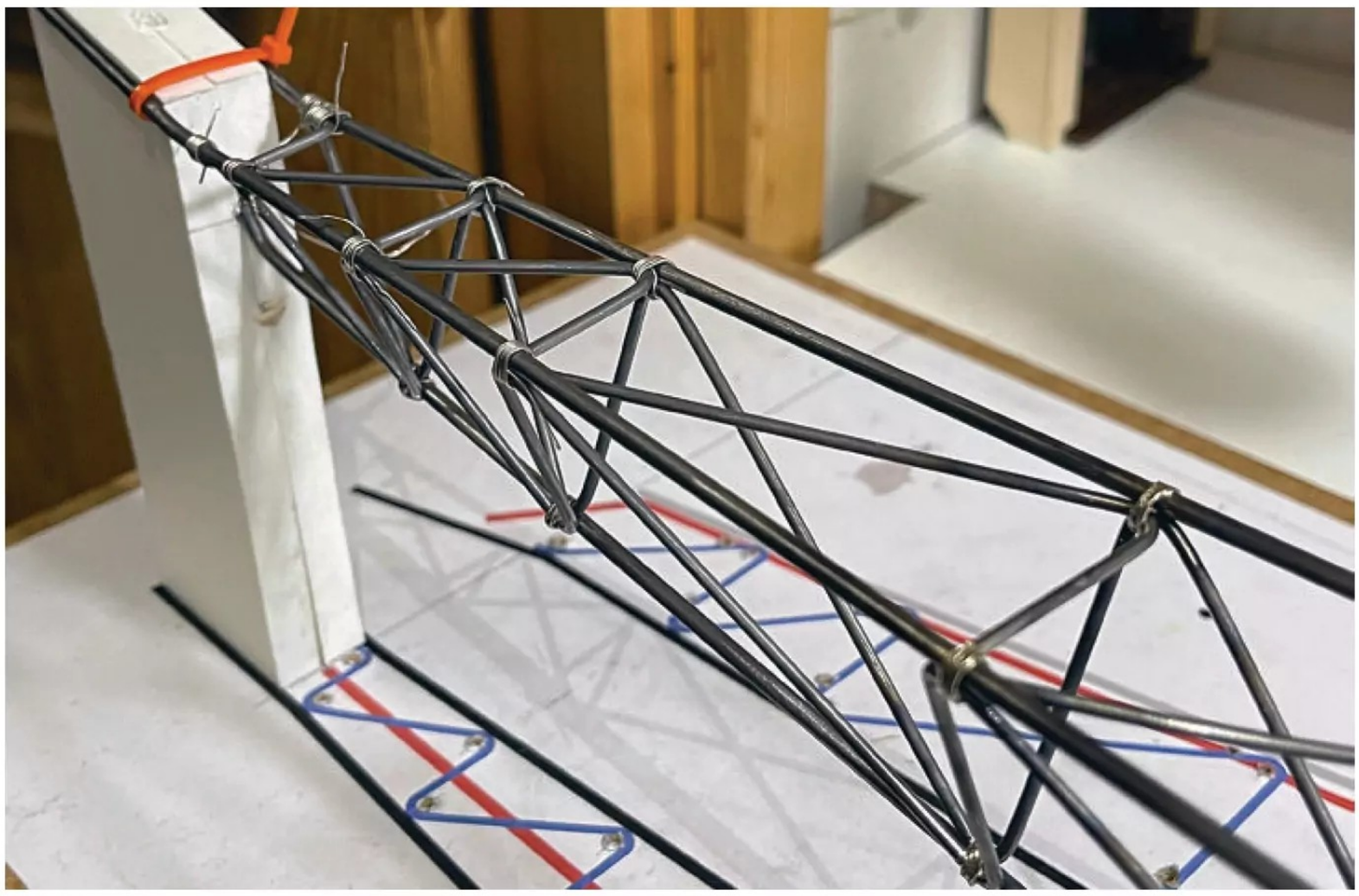
Bell 47 laid out, ready to start making parts.



The 3 mm diameter longerons were placed in a simple jig.

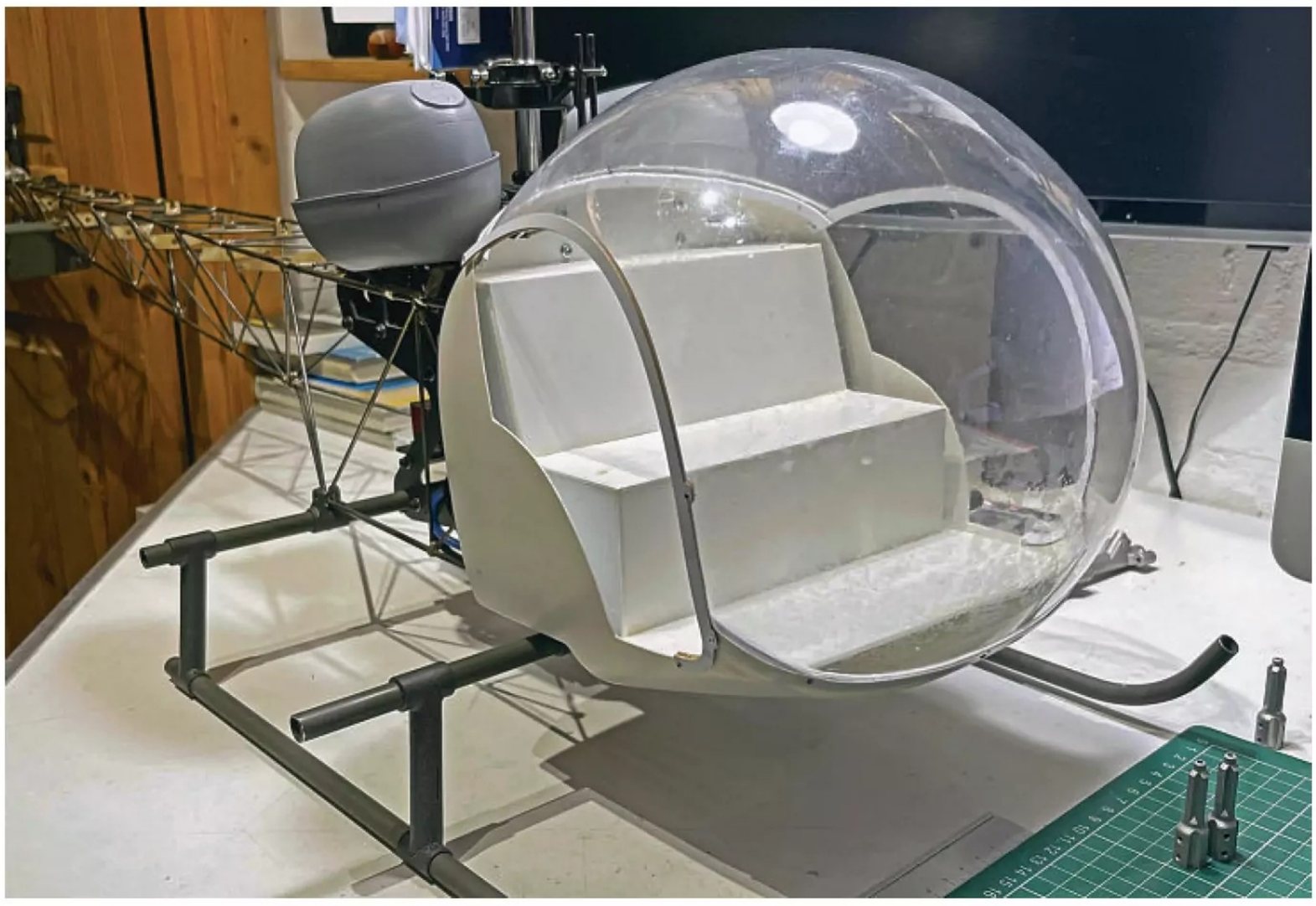


Lattice sides and top being wire bound and soldered onto the longerons.



Tail end view of the boom awaiting silver solder.

It was simple enough to bend up the three longerons, which were then mounted in a simple jig to hold them in the right place while I silver soldered the three lattice parts in place. I first bound them in place with tinned copper wire, then added the silver solder.



Finished cockpit moulding and bubble canopy. It took a lot of fettling to get a good fit.

Anyone who has done any silver soldering will know it's a bit of a black art. The key is getting enough heat into the joint quickly. I used a small butane torch but if I was doing it again, I'd buy a small jeweller's gas/oxygen torch to get more heat. The first joints were a bit rough but by the time I got to the end I was getting quite good. A variety of small brackets were folded up from 0.5 mm brass sheet and soldered onto the boom. Two were to allow the boom to be screwed to the top rear of the chassis while the others were to fit the tailplane and fin.

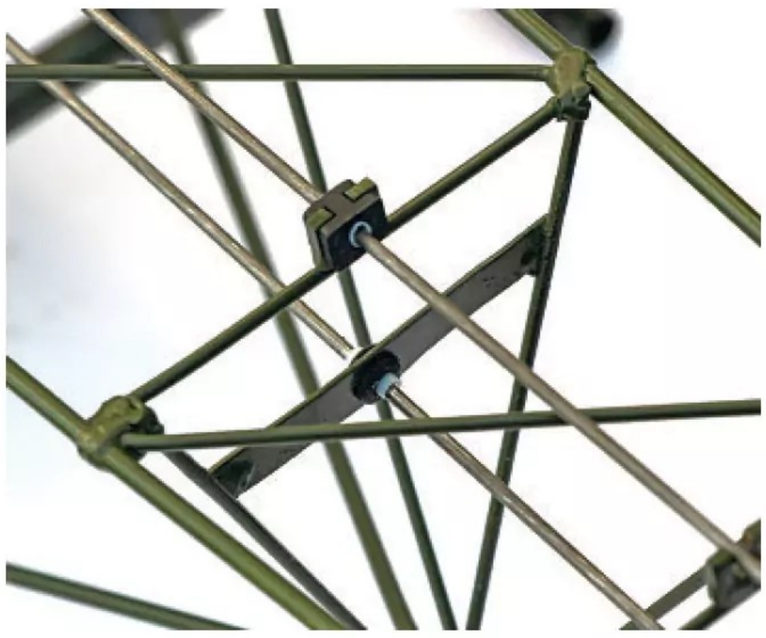
CANOPY & SIDEFRAMES

Attention then turned to the canopy. This was cut and trimmed to shape, then screwed to the cockpit moulding. I had some trouble getting the bubble to fit neatly but got there in the end.

The door frames were made from three layers of laser cut 1 mm plastic, glued together to form a 'C' channel which strengthened the opening. I may fit doors eventually but to keep things simple I decided the pilot would enjoy some fresh air for now! The undercarriage is simple aluminium tube, the cross struts and skids being joined with four 3D printed nylon struts.

I'd designed a set of compact side frames to hold everything together, then laser cut a set of plywood parts to prove everything fitted just right. Having done that, I then had trouble finding someone to cut them. Quotes for cutting them in 2 mm carbon in the UK ranged from expensive to ridiculous - several hundred pounds in one case! In the end I got them cut by RJX in China at around $80 for the frames, plus $20 shipping. They turned up in less than a week, beautifully cut in 2 mm matte carbon sheet. These were quickly built up, the

Chassis side frames were beautifully made, all the way from RJX in China.



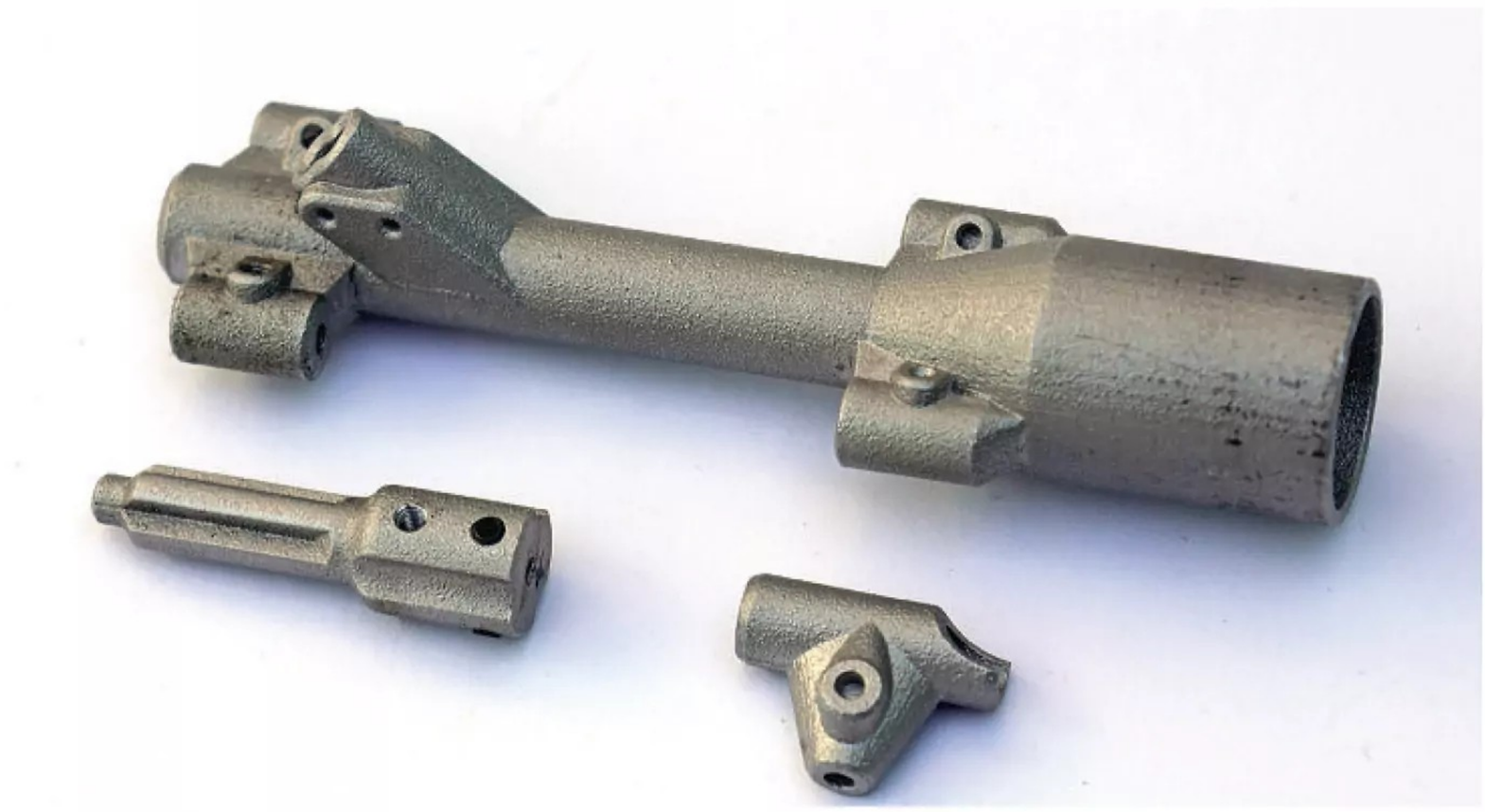
Tail drive and tail servo rod are guided down the boom through cross support plates. Note the grommets and PTFE tubes.

servos fitted and linked to the swashplate with a set of new pushrods. The chassis, boom and undercarriage could now be mated using 3D printed nylon fittings.

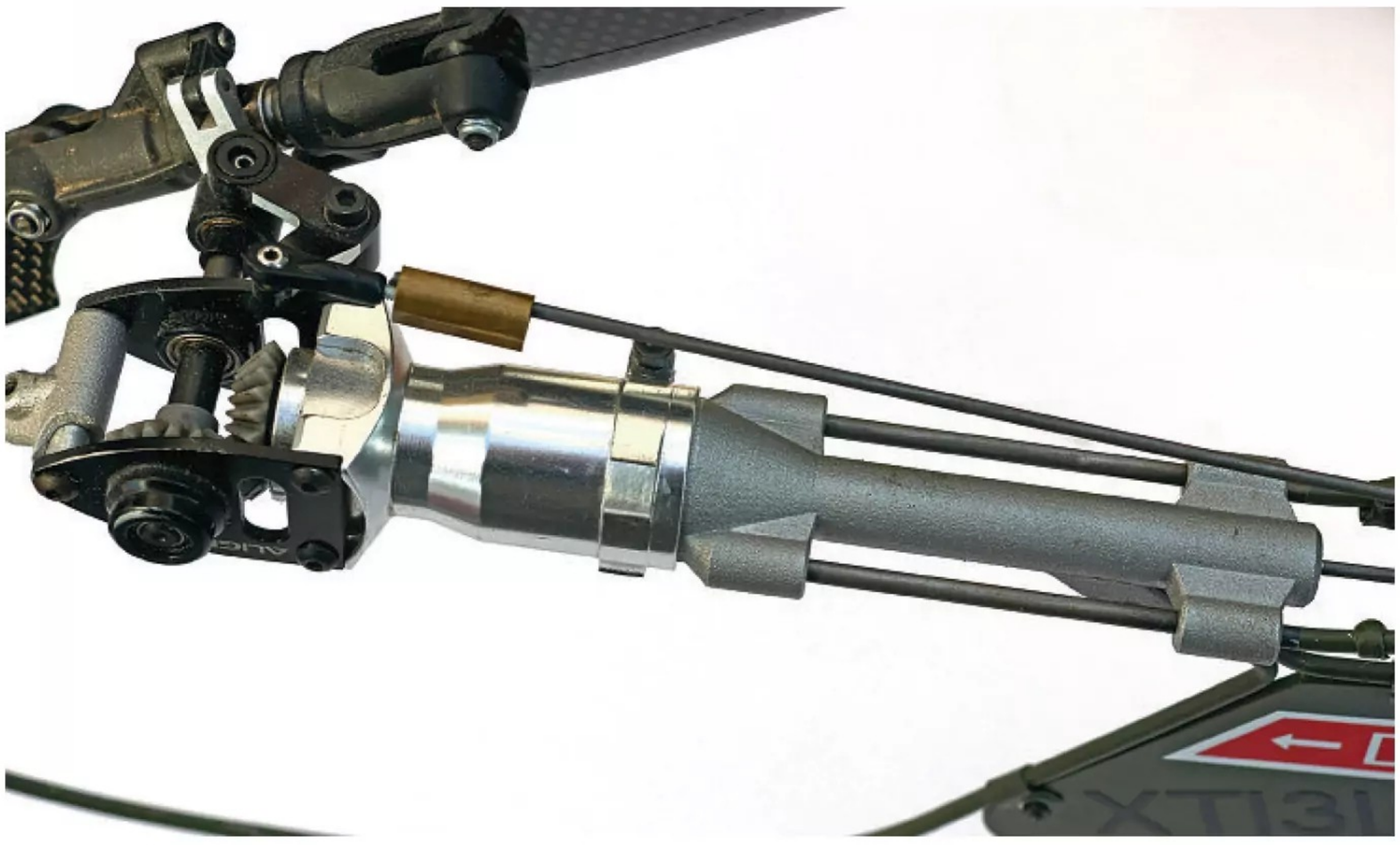
BACK TO THE TAIL

I'd decided to use 2 mm diameter piano wire for the tail drive, in a similar manner to the Hirobo

The 3D printed dummy fuel tanks required a lot of sanding and filling!



3D printed aluminium parts: tail rotor mount, tail skid mount and a tail rotor drive coupling.



I slid the tail rotor mount tube onto the end of the longerons, retained with grub screws underneath. The tail rotor is the stock T-Rex 600 item.

Lama setup which I knew was reliable. After a few experiments I settled on mounting brass cross plates down the boom to hold the wire. Each one has a hole in it for a servo grommet, which in turn has a short length of PTFE pushed in. This has proven to work well.

I mounted the boom into the ply test frames, fitted the tail rotor and drive shaft, then allowed the wire drive to find its own natural curve down the boom. I then soldered the cross plates in place where the wire wanted to sit. It sounds easy but I found it quite hard to get them placed accurately, needing to go back and forth a few times to adjust the positions. A similar arrangement was used for the tail rotor control rod; this emulates the tail drive shaft of the full size, again running through rubber grommets with a PTFE sleeve.

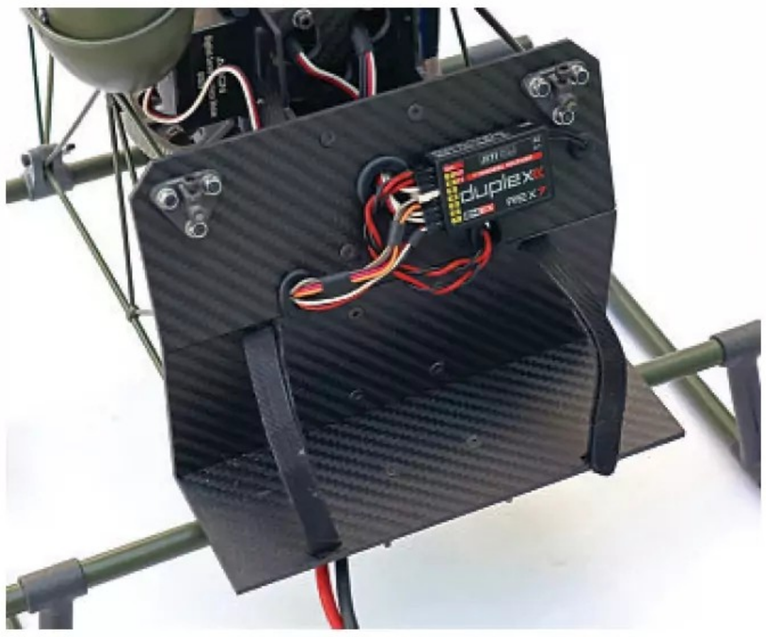
On the full-size machine the tail rotor is mounted on top of the end of the boom via a tubular structure. I wanted to emulate this as I needed something to mount the stock T-Rex tail rotor on to. My good friend Mark Boughton came to the rescue; he has access to 3D printed metal technology. He printed off the tail rotor tube support, a pair of drive dogs to link the wire tail drive to the standard torque tube drive fittings and a small fitting to mount the tail skid to the end of the gearbox, all in aluminium.

DUMMY FUEL TANKS

One of the most distinctive features of the Bell 47 series is the dual fuel tanks mounted behind the cockpit. I pondered making tools and vac forming these but ended up 3D printing them on my own simple 3D printer. A lot of filling, sanding and priming later and I had a usable pair of dummy tanks. I added a bit of brass wire pipework as well as the straps made from strips of litho plate. The tanks are mounted on a pair of bent brass plates silver soldered to the top longerons, which looked fine until it became apparent after the first couple of flights that

Most of the cockpit is made from styrene sheet, with a few 3D printed details.

After some major surgery involving a bandsaw the pilot figure now fits reasonably well!



The battery sits on a tray underneath the pilot seat with the Jeti receiver mounted on the back wall. Note the 3D printed fittings to hold the longerons in place.

the tanks vibrated slightly. I ended up adding a piece of tube between them to act as a brace; this worked fine and is a similar arrangement to the connecting pipe on the real airframe.

COCKPIT & CREW

One can't get way without fitting out the cockpit on the Bell 47 - it's totally on show. I'd arranged for the flight battery (a 6S 4000 LiPo) to sit under the crew seat, thus bringing the C of G as far forwards as possible. The seat was made from styrene sheet, topped with painted cork sheet seat pads. The instrument binnacle was again fabricated from styrene, with the instrument faces 3D printed, with acetate sheet glass. Cyclic and collective sticks, the rudder pedals and a few other bits were 3D printed commercially in nylon.

I really needed a pilot figure but finding one the right size proved difficult. The usual Action Man figures are too big and, in the end, I settled on a pilot figure called 'HM Armed Forces Pilot' available on the usual second-hand websites. He came dressed in a very accurate green flight suit, with a life jacket and helmet, but was still around an inch too tall. Drastic surgery resulted in him being undressed and run through the bandsaw, removing sections from his chest, arms and legs. With the bits glued back together, I re-dressed him and found that despite the now loose-fitting flight suit he still looked okay. Best of all, he now fitted the cockpit! He's still a little bit on the tall side but looks the part. He's strapped in with some ribbon seat belts embellished with 3D printed fittings.

FINAL DETAILS

A few details to finish up. The canopy is held in place with a pair of hatch latches which lock into a pair of holes in the side frames. The Jeti receiver is mounted on the cockpit rear wall behind the seats, while the separate receiver battery is mounted on the left side of the chassis. The tail gyro sits inside the rear of the chassis; it doesn't look great here so one job I may do is to 3D print a simple black cover for it.

I've recently added the ground handling wheels on the skids, all 3D printed including the tyres. It's always easy to keep adding detail (and weight!) to a model but as this was always intended to be a stand-off scale model I think I'll be leaving it as it is.

FIRST FLIGHT

At this stage I decided to fly the model in its unfinished form, mainly because it would be easier to do any mods, particularly to the tail drive, before any paint was applied. I needn't have worried; the Bell flew perfectly from the start. But as it's pretty much a T-Rex 600 in disguise it really takes on that model's benign flight characteristics.

It felt like I was on the home straight now. I was probably a couple of years in, off and on, so the final stages were in sight. It only takes a few minutes to dismantle the model, so I was soon etch priming all the metal parts, finishing with a coat of matt green paint. I

I used a pair of sprung canopy latches to hold the cockpit in place on the chassis.

Small details like the ground handling wheels add to the scale look.

Ready to go. The Bell is intended to be a semi-scale model, just made to look the part on the ground and in the air.

One of its first outings was to the BMFA Scale Heli Day at Buckminster.

did consider using the Blue Eagles scheme from my childhood but settled in the end on XT131, a Sioux preserved in flying condition at the Historic Army Aircraft Flight at Middle Wallop, mainly because there's lots of reference pictures available on the internet.

I used Halfords 'camouflage' paint; it sprays well and gives a very durable finish. Some vinyl cut insignia adds to the scale look.

I also added the distinctive yellow band around the cockpit bubble. I've heard various reasons for this yellow line, the main one being if the engine stops you should be able to autorotate into any area you can see underneath it!

"Drastic surgery resulted in him being undressed and run through the bandsaw"

JOB DONE

My Bell 47 has turned out to be just what I wanted - a scale flyer with good handling that I can take to relaxed scale meetings. It looks the part in the air and on the ground and has drawn positive comments wherever it's been shown. I'm hoping the UK weather will play ball this year when I get out to my favourite events. Do come and have a look at the model if you see me out and about.

So, what's next? Well, I'm a builder as much as a flyer, so I always like to have a project on the go. Currently on the bench is a Westland Scout. I'm sure the Editor will twist my arm for another feature when it's finished! *(Yes, please, Nigel! – KC)* ■

Peter Evers flew a lovely DH.82 Tiger Moth. (Pic courtesy of Mats Johansson.)

SCALE INDOOR R/C NATIONALS

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

Words & Photos: **Danny Fenton**

The Indoor Scale Nationals event has grown so much over the last few years and this year found us once again starting the weekend with the now 'traditional' visit to RAF Cosford. This time Paul Rich had excelled himself and managed to get us something extra special; in fact, not just one special treat but two!

First, as well as the wonderful museum exhibits, Paul had arranged for us to visit the Michael Beetham Conservation Centre, (workshop) and see restoration work being undertaken. Second, Brian Hunt organised and led a tour on board the fascinating Nimrod.

Brian explained that the aim of the museum is to have as much of the aircraft's electronics working as possible. Seeing the data surveillance gathering workstations was very impressive. And getting a chance to sit up front in the left seat was fun.

Brian did ask a favour in return. The museum is looking for some Graviner fire extinguishers. They don't have to be working, just look the part. If you know anything drop me a mail and I will put you in touch with Brian.

After a full day at the museum, we met up at the venue for our Friday evening meal, next door to the Premier Inn that many of us were staying at. We had a table booked for sixteen and still had to accommodate two extras! A wonderful time was had, catching up with friends from near and far.

Following a hearty breakfast on Saturday morning we descended on the Wolverhampton University, Walsall Campus Sports Hall. We had all been assigned tables, which avoided the bun fight looking for a free one. Once all the models and associated paraphernalia had been unloaded and set up we were able to do more mingling and catching up with friends from Greece, Czech Republic, Holland, Germany and Australia. The Scale Indoor Nationals is an international event these days.

SATURDAY R/C

Saturday is for the Radio Control modellers. The format of the day has remained unchanged and sees the Flying Only class begin first, which

'Scale Indoor Nationals Friday Crew' on our visit to RAF Cosford. Competitors from Sweden, Australia, Germany, Scotland, Wales and England were all present.

Graviner Fire Extinguisher. The museum is three short of the four that should be fitted to the Nimrod.

Some of the Friday Crew on the steps of the Nimrod, having had a wonderful tour.

takes us to early afternoon. We then fly Kit Scale and finally, towards the close of the day, the Open Scale creations are brought out.

Lunchtime saw the usual pylon race, which was great fun, and for the first time I could take part, having more time, as I was not part of the organising team this year. I had a problem with my P-51 as it would only turn left, so I flew continuously around the left end pylon. Nobody noticed. A score double the size of the others was obviously cheating so I declined to submit a score.

We rounded off the day with the prize ceremony. Once the arena was changed to the Free Flight layout then the F/F modellers could enjoy a trimming session.

"The Strefford twins are excellent flyers and if I can tempt them outdoors they will be a force to be reckoned with"

FLYING ONLY

First up we had the Flying Only class. There were sixteen competitors and it is always very close; the tiniest of errors when flying or manoeuvre calling can be the margin between winning and losing.

Flying Only was very well fought with the Brits really holding their own. However, Mats Johansson came out on top, chased closely

Antonin Alfery's Cessna Bird Dog.

Mats Johanssen's DH.82 Tiger Moth. (Pic courtesy of Peter Evers.)

Harri Simon flew an Etrich/Rumpler Taube.

Ian Pallister flew son Ben's Fokker E.III Eindecker in Flying Only. This was Ben's Open model a couple of years ago.

Kit Scale this year was all about de Havilland designs. We had six Tiger Moths and two Chipmunks

My 150% Veron Tiger Moth cruising by. This model flies beautifully once trimmed. If I had just one more trimming session before the event the story would have been different. (Pic courtesy of Peter Evers.)

by Nathan Strefford and Brian Seymour. Liam Strefford finished fourth. The Strefford twins are excellent flyers and if I can tempt them outdoors they will be a force to be reckoned with.

KIT SCALE

Kit scale was dominated by Veron Tiger Moths. Ian Pallister flew one he had built decades ago whilst Nathan, Liam and Eric Strefford flew 150% versions. I also flew the 150% Veron Moth. VMC sell the Veron Moth kits and though they could do with modernising, they fly extremely well.

I was an honorary member of 'Team Strefford' and we flew our Moths with Brushless AP05 motors and 1S LiPo cells. As usual with me, I wasn't ready but by the end of the third round my Moth was trimmed about right and flew very well. But, alas, I was too far behind to make a dent in the leaders' scores.

The sharp eyed amongst you will notice that I deviated from the plan and used a built-up fin and rudder as opposed to the plan's specified sheeted surfaces. Ah, well, it saved over a gram and sheeting just didn't seem right. But Kit Scale models must be built accurately to the plan so I may change it for next year as it did fly so well.

Harri and Caroline Simon travelled over from Germany and Harri campaigned his glorious Antoinette. Harri flew it really well. The Antoinette, built from the SIG kit, gracefully floated at less than walking pace around the hall. The model didn't do too well on the static table, but it flies so well he couldn't be caught. Having Harri and Caroline at the event always adds a massive depth of knowledge, enthusiasm and fun to the weekend.

Mat Dawson and Brian Seymour built lovely Chipmunks and they both flew them well. It's hard to believe they had very little practice as the models were only finished days before

Harri Simon's lovely SIG Antoinette. Harri's model inspired me to build an 'Edwardian' for Open Scale.

Mat Dawson's lovely Chipmunk built from the VMC Aero Graphics kit.

Brian Seymour's Aero Graphics Chipmunk.

Eric, Liam and Nathan Strefford. Such enthusiasm and they are very talented flyers. The Strefford's encouraged us all to fly Veron Moths. Eric and I battled it out for last place, but Eric won this year!

Peter Evers flew this lovely Lockheed Vega. This is not the same model as last year but is an all new, much lighter Vega.

Mats Johansson produced this exquisite FE2b.

the event. Their models were built from the recently re-released Aero Graphics kits, again marketed by the Vintage Model Company (VMC). I had to check with Mat that I captioned the models the right way around as they were so very similar and both beautifully made.

Everywhere you looked people were talking and enthusing about each other's models. It was wonderful to chat with Tonda (Antonin Alfery) and ask questions; as with all our guests from across the channel (and beyond) the information flow was invaluable and I learned so much. The Indoor Nationals are a real highlight of the year for me.

Harri took the win in Kit Scale with Ian Pallister taking silver and Mat Dawson taking bronze. Well done, it was extremely hard fought.

This is a very good class if you want to have a go next year. There are plenty of kits around, though you would be hard pressed to do better than the Veron 150% Moth.

OPEN CLASS

Lastly, we came to the Open Class.

Myself, like many others, had been keeping an eye on social media for hints at what Mats Johansson, Peter Evers, Tonda Alfery and George Kandylakis were up to. I had already heard that Rob Wardale and Graham Smith sadly couldn't attend this year, so it was going to be tough to keep up the standards set by our visitors.

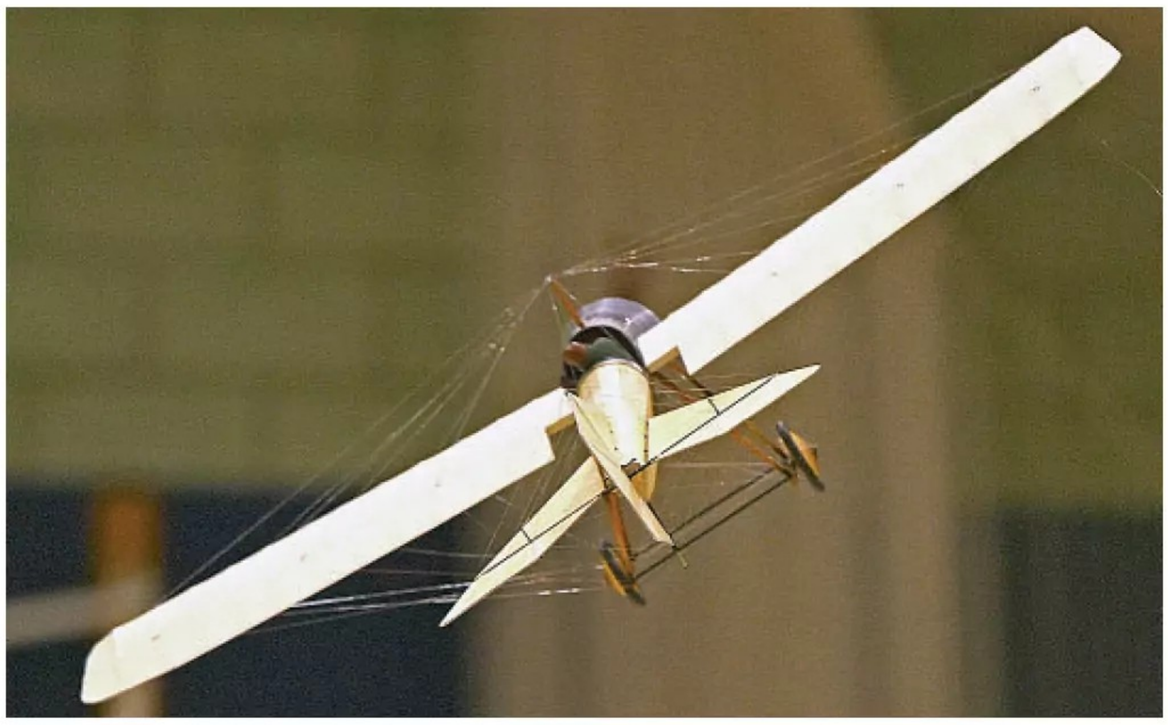
I had been inspired by Harri's glorious Antoinette last year and as such I designed a Blackburn 1912 Monoplane, as detailed in my last column. Unfortunately, the Blackburn did not fly well but it did look promising.

The other protagonists had all upped their game. Peter Evers had built a new, lighter version of his lovely Lockheed Vega. Mats had built a glorious F.E.2b, Tonda had a stunning little Sopwith Triplane and George was flying his amazing Airco DH.9. A fabulous array of stunning models!

A surprise late entry from Andrew White, who had a house move and said he wouldn't be flying, was the icing on the cake. Andrew designed and built an amazing model in

Antonin Alfery with his lovely Sopwith Triplane. (Pic courtesy of Peter Evers.)

George Kandylakis flew from Greece to join the party with his Airco DH.9.



My Blackburn was not behaving as it did during test flights.

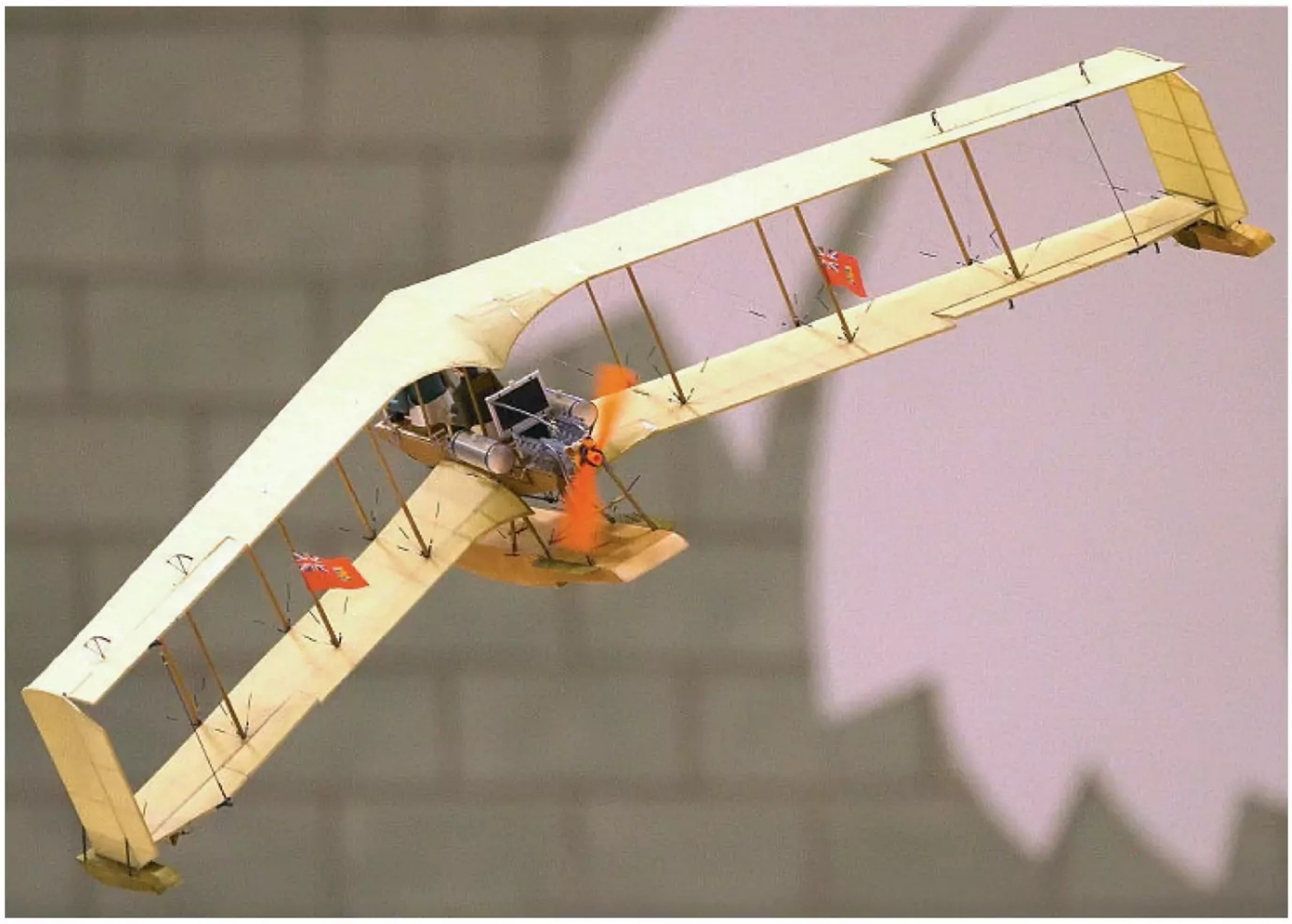
Andrew White's challenging Burgess Dunne.

It was a tremendous help to have such amazing modellers as George and Tonda give their thoughts on my Blackburn. It doesn't matter where we are from, we are all friends and one big family. (Pic courtesy of Mats Johansson.)

Even Mats seemed to like my Blackburn. The event is all about encouraging each other and coming away inspired for next year.

just a few weeks. His subject was one I would never have expected to fly, never mind fly well. A Burgess Dunne BD1-B. *"A what?"*, I hear you say...

As you would expect at this level the flying was excellent, except for perhaps me. I had made some changes to my Blackburn, mainly adding nose weight and some right thrust. Alas, I had not had a chance to test the changes and I had gone the wrong way. I tried a few things, but it didn't get better. I decided to not fly the third round for fear of putting the model into the wall; yes, it was flying that badly! Fate was not to be outdone and an errant free flight model came down directly on the Blackburn during the evening's trimming session. So,



Another angle of Andrew White's lovely Burgess Dunne flown in Open Class.

"Fate was not to be outdone and an errant free flight model came down directly on the Blackburn"

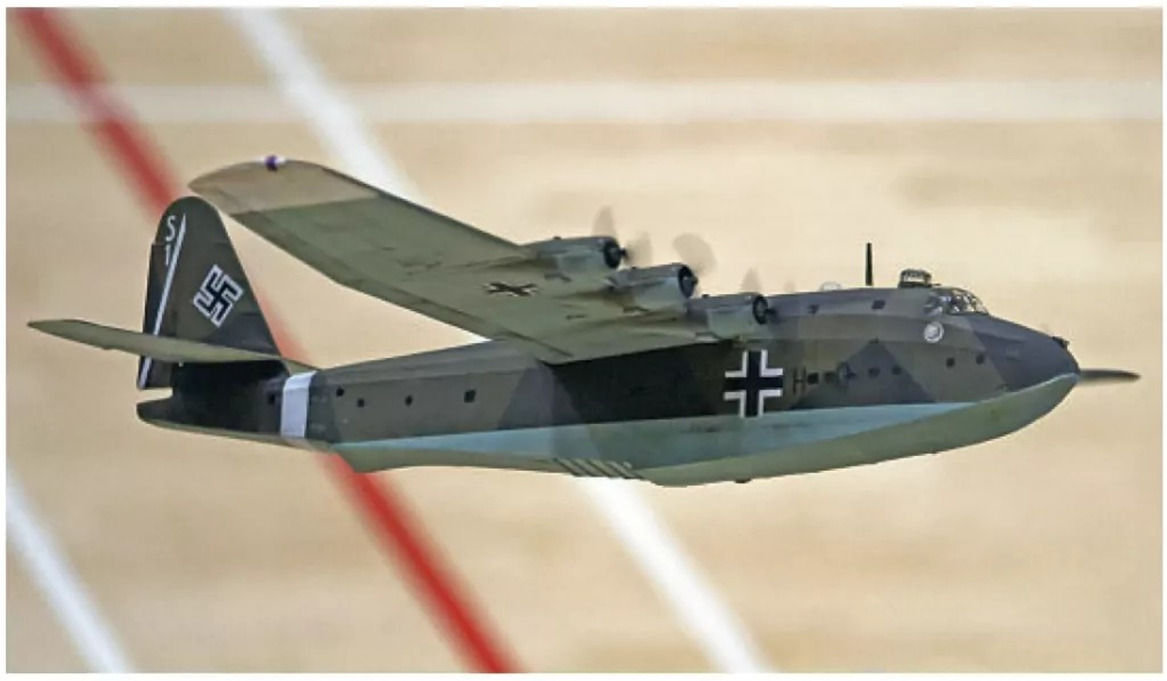
Please scan QR for results or visit: https://scale.bmfa.org/scale-indoor-nationals-rc-results-saturday-26th-april-2025

I may as well have crashed it myself! Never mind, I will re-build it and this time add some washout, which it clearly needs, as well as some down thrust. A big thank you to everybody that offered their help in diagnosing the issues.

It is also a demonstration of the quality of these modellers. None had a mechanical failure, none put a foot wrong, the static results were close and the flying was even closer.

RESULTS

In the end Mats took the gold, Tonda the silver and George the bronze. It was not a good show by the Brits. But I don't think we let the side down;



Pete Smart's wonderful six engine BV 222.

Mike Stuart flew this lovely Blackburn Dart.

Richard Crossley's Polikarpov

Another Richard Crossley model, this time a lovely Piper Pawnee.

What can you say about this stunning Curtis Condor AT 32C from Tonda. Even the retracts are functional. And, yes, it is a free flight model!

Mike Stuart's wonderful Bristol Superfreighter.

My parting shot shows George Kandylakis gluing the nose back onto his Avro 504. Baggage handlers at the airport did him no favours, also damaging his DH.9. But in fairness he smiled all weekend and was terrific company. Both models flew well.

none of us had come to make up the numbers and I was very proud to have competed against five of probably the best indoor scale modellers in Europe.

Also very unusual was that only one of the six fabulous models had competed before, a very healthy indicator for the future.

For full results from the competition please scan the QR code.

SUNDAY F/F

Sunday saw the free flight guys and gals do their thing and it was wonderful to witness some truly stunning models.

The nearby pictures highlight some of the amazing models on show.

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 **cammnut@gmail.com** ■

Bill Ebdon with his K18 prior to its maiden flight.

AND THEN THREE CAME ALONG AT ONCE!

Chris Williams witnesses a multitude of maiden flights with his scale glider designs and returns to the White Sheet club for their Spring soaring event

Words & Photos: **Chris Williams**

You know how it goes - you don't see a maiden for ages, etc...

First up at CMFC was the co-operative build of the fifth scale Slingsby Tandem Tutor from Trevor Hewson and Peter Caldecott (fuselage and wings respectively). I had brought the original along for the occasion but as it had the same colour scheme as mine you could be forgiven for thinking that you had double vision. The maidens went off without incident, each builder taking it in turns, and satisfaction abounded. Then the photographer in me took over and I lined the pair up for a few static shots. The day was bright and sunny, with a light breeze, and as the post flight conversation continued there was a sudden loud crash and we turned to see the two gliders upside down, one on top of the other. It seems that a tiny stealth dust devil had navigated its way through all the other parked models and pounced on the two unfortunate T31s and wrought its mischief with unbounded glee. I have to say, Trevor was not pleased... It was their model that was underneath and his rudder that suffered the only damage!

Meanwhile, fellow member of Mrs. Slocombe's Posse, Bill Ebdon, had brought along his new K18 for its Dance with Gravity and he was looking distinctly nervous. In the event there was nothing to be nervous about as only a minor adjustment to the elevator trim was necessary, the model behaving just as nicely as its two predecessors.

It might be worth pointing out that there is a build log for both these designs on the Scale Soaring forum, from where the basic working drawings can be downloaded. Or, alternatively, from me via email.

WHITE SHEET SCALE FLY IN

In an increasingly rare event these days the forecast for 27th April, the back-up date for the club's second scale aerotow of the season, foretold of light winds on the day, requiring a girding of the loins and much plucking up of the courage. As a consequence, turnout was on the lightish side, but what a day it was indeed.

T31 on its first maiden piloted by Trevor Hewson.

Bill's K18 dances with gravity.

Co-operative T31 builders Peter Caldecott and Trevor Hewson.

Another view of the T31 on the line.

Attention is inevitably drawn first to the larger machines and Jess Nicholls' ASH 26 with the up-and-go electric turbine promised much in the way of spectacle with a proposed ROG from the edge of the slope. Positioning myself to record the details of the endeavour with my trusty Canon, the starter's gun went off, the turbine whined and the glider lurched forward with plenty of get-up-and-go. After a couple of bumps on the rough ground, critical airspeed was achieved and away she went with all the appropriate majesty for a model of this size. It was only later that I noticed the ASH floating down near the bottom of the slope, seemingly in distress. Sure enough, an out-landing was in progress and one could sympathise with the pilot's dilemma at the choice between being lost in the rape seed or flying dangerously close to the edge of the field and thus the ever-present trees. It took three people to carry her back to the top whereupon the post-event enquiry could begin.

A quick review on the camera revealed that a small hatch had come loose on the bumpy ground and attached itself to the front of the ducted fan, remaining firmly in place until the power was switched off. It would seem that

Dynamic Slingsby duo before the apocalypse.

Fan assisted ASH 26 starts well...

...then this happens!

Jerry Stone's ASW 15 about to cause some considerable excitement.

Richard Edmunds' RCM&E Prefect tests the light conditions.

The ASH 26 running out of options.

the subsequent extra strain on the batteries had done them no favours, which was why there wasn't enough urge for the glider to get back to the top of the hill.

Both my and Richard Edmunds' RCM&E Prefects showed their advantage in these conditions by their ability to be unceremoniously plonked onto the side of the hill when inflicted with sudden sink, with minimal damage. Usually this is a split in the wing retaining tape, which is not problematic unless you've left the reel of tape in the car!

To add a little extra spice, my version was also attached to a short bungee for that little bit of extra launch height.

The carbon-based excitement was underscored by Jerry Stone's ASW 15 developing a severe case of hiccups

Sixth scale Duster in action at the White Sheet event.

Your author's fifth scale Skylark 3 excelled in the conditions.

Mike Seal's 1/6th scale Bergfalke 1 is very happy in light air.

Graeme Mahoney's GP 15 (right) prepares for flight.

Pete Cushion's RCM&E Wolf drew the short straw in the lift stakes.

Bungee! The old-fashioned option when the lift dies.

right after launch, diving at a shallow angle with the prop singing at speed and with a distinct and rapid phugoid motion in pitch, culminating in another landing out and thus a disappearance in the rape seed. It was later surmised that the problem lay with the programming of the gyro and damage was limited to a broken prop blade. I was therefore more than impressed when Jerry later launched the ASW15 into the dodgy conditions with no means of height gain backup - quite the bravest thing I saw all day!

For a decade or so the prototype of the sixth scale Duster, an American homebuilt, had been gathering dust in the aeronautical graveyard that is my loft. Eventually deciding that this could not stand, I passed her along to Bicycle Bill, one of the fellow members of the Posse, the idea being that I might get to see her fly again. To my chagrin, on this day Bill did just that, far surpassing in performance anything I was able to originally wring out of her. To make matters worse, he steadfastly refuses to give her back!

A great day then, full of challenge and interest and one that far exceeded that to be found on a day of more reliable lift. A look back at the stats showed something that could never have been predicted: two e-powered gliders landed out, whilst the only pure glider so to do was Pete Cushion's RCM&E Wolf, which succumbed to some fierce sink right at the end of the day.

Kudos to the club's Scale Event Director, Nick Whittaker for laying on such an entertaining event. Here's to the next one.

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Joe Lofthouse's CARF Models BAE Hawk looked stunning against the Popham tree lined backdrop.

POPHAM 2025

***Mike Freeman** motors along the A303 to see what was on display at this now well-established model show*

Words & Photos**: Mike Freeman**

Popham Model Show is a relatively new show on the scene and unfortunately the last two years events clashed with other, well-established shows resulting in a poor trade presence and fewer pilots attending Popham. For 2025 the Popham organisers decided to mix things up and move their show to the beginning of the events season, making absolutely sure this time that it didn't clash with anything else!

What an inspired move! The 2025 Popham Model Show turned out to be an awesome event. I went on the Saturday, along with a bumper crowd who enjoyed watching 70 plus pilots do their stuff whilst also stocking up for the new season in the well-attended trade avenue overlooking the flight line. As I perused the pits there was a definite feeling of anticipation in the air as this was the first event of the year for a lot of the pilots and they were eager to get started.

Even the weather was on side, with plenty of sunshine and comfortable temperatures, although there was a rather keen and blustery crosswind coming over the trees on the opposite side of the runway which put a few pilots off. But the Flightline Directors, Dave Franks and Peter Bennett kept the things ticking over nicely with a full and varied schedule of slots.

Popham Model Show always seems to attract a diverse variety of models. There were gorgeous jet turbines costing thousands of pounds through to very entertaining foam combat models costing just tens of pounds. Commentators Brett Houghton and Robert Ward were back for another year and kept the audience well informed with facts and figures

The combination of stunning models, a packed Trade Avenue and near perfect weather brought the crowds in their droves to the 2025 Popham Model Show.

The pits extended the whole length of the flight line. Here is just a small section.

about the models flying, interspersed with interviews and entertaining banter.

FIRST TIMERS

Two epic models were showing for the first time at this year's show. The first to commit to aviation was Joe Lofthouse and his 1:3.75 scale, 2.6 metre span CARF BAE Hawk in iconic Red Arrows 50th Anniversary livery. It looked fabulous standing in the pits and simply stunning against the backdrop of trees during Joe's displays. Joe told me he had only recently finished the model and acquired the necessary LMA paperwork and Popham was the model's first public outing. In fact, Joe had only logged 2.5 hours flying with it before the show so he must have been very nervous to fly it in the blustery conditions. Any nerves didn't show though and Joe gave us two memorable displays during the day. The model is powered by a JetCat 250-PRO turbine and with 5.2 litres of fuel on board it has a take-off weight of 28 kg, giving Joe an eight-minute flight, just perfect for a 10-minute slot.

The next first timer was Steve Carr's 60% scale version of a Vickers 22 Bleriot which harks back to the 1910s. The model was originally built by Roy Slater 24 years ago and was fully restored by Steve in 2025. Steve's done a lovely job; the model shows all the hallmarks of those pioneering days with varnished wood and authentic rib stitching. This version of the Bleriot featured ailerons rather than the earlier wing warping and you could easily see the big barn door size ailerons wafting about as Steve coped with the windy conditions. The 4.2 metre span model is fitted with a modified 160 cc four-stroke Honda generator engine swinging a 32-inch scale prop and the flying surfaces are covered in Oratex Antique covering. The pilot is a 60% scale version of Steve himself and it's uncanny seeing the two of them together. The finished model is based on the full-size replica used in the film 'Those Magnificent Men in their Flying Machines' and the soundtrack was playing in the background during Steve's display - fabulous!

Joe Lofthouse proudly displays his gorgeous 1:3.75 scale CARF Models BAE Hawk in iconic Red Arrows 50th Anniversary livery after its first public display.

Steve Carr's pilot is from Scale Me Down which at 60% scale looks uncannily realistic!

You could easily see the barn door ailerons on Steve Carr's Bleriot move but it seemed to take ages for the model to respond, causing audible gasps from the crowd. Steve told me the blustery conditions were a challenge but he was fully in control.

Steve's recently restored Vickers 22 Bleriot includes some lovely detailing but that imposing wooden skid hides a clever secret - batteries to power the radio gear! This and the 160 cc four-stroke engine mean that no additional lead is required up front to achieve the correct CG.

Brave duo, Pete Smedley and his third scale Tiger Moth alongside Bert Baker and his quarter scale Fokker DVII, prepare to take off across the runway into the turbulent conditions.

Pete's Tiger Moth tastes Popham's blustery conditions for the first time.

A rogue gust tried to spoil Bert's day, but he rescued the situation and his DVII landed safely.

Bert Baker clearly doesn't mind flying his biplanes in windy weather as he also gave his 1/4 scale Precedent Stampe SV4B an airing.

BRAVE BIPES

I saw several biplanes in the pits and thought the blustery conditions would ground them. But several pilots took the plunge, including Pete Smedley with his 1:3 scale, 2.7 m span Maxford USA Tiger Moth powered by an AGM 55 cc two-stroke engine and a 23 x 8 painted prop, who shared a slot with Bert Baker and his 1:4 scale, 2.2 m span Balsa USA Fokker DVII with a Zenoah G38 engine swinging a 20 x 10 prop. Bert also flew his 1:4 scale, 2.1 metre span Precedent Stampe SV4B later in the day which uses the same engine and prop specs as his DVII.

All the biplanes that risked the bumpy conditions returned safely.

Members of Basingstoke Model Aero Club and neighbouring Fleet & District Model Aero Club with their Spittys before entering the combat arena.

Yellow streamer squadron in the foreground take to the air. The red streamer squadron in the background soon followed and the mayhem began!

COMBAT CAPERS

Fifteen members from Basingstoke MAC and Fleet & District MAC rocked up with little foamie Spitfire look-a-like models affectionately called 'Spittys' which they intended to fly all at once in combat style with long trailing red and yellow streamers trying to slice through each other's streamers. The models flew surprisingly well given their simple construction and cheap electrics. There were two slots during the day and the pilots had a ball dog-fighting over the runway. The streamers highlighted the tumbling flight path of the models and any streamer trimming was met with a cheer from the crowd, who seemed to thoroughly enjoy the spectacle. Inevitably there were several mid-air collisions, but most were repaired between slots and back again for another go later in the schedule. Each Spitty is made from either 6 mm Depron or Vitrex foam and has a wingspan of 656 mm. The propulsion is one of the 4-Max Models value packs consisting of a 1400 kV brushless outrunner, two props, a 30A ESC and three servos. The entire airframe can be built for £40 to 45 depending on the finish chosen. Just add Tx/Rx and a 1000 to 1300 mAh 3S LiPo and have a ball. Great value for money!

Other multi launch slots included Cambria Funfighters with their signature display of

The little Spittys flew surprisingly well, even with the additional drag of the streamers!

A funfighters.co.uk P-51 lands safely after the team's synchronised aerobatic mayhem. A lovely looking model, I don't think I'd have risked it!

Most of the Spittys damaged in the turmoil were repaired and flew again but Chris Sayer's model caught fire and although quickly extinguished I fear the model's days are up!

A funfighters.co.uk Me109 gets away to join umpteen other fun-fighter models in synchronised aerobatic pandemonium

Adam Broomhead flew his Flex Innovations Twin Otter in a scale like manner for a minute or two before switching in high rates and entertaining us with some extremely none scale tomfoolery.

attempted formation flying with synchronised aerobatics, and a 'Foamie Only' slot which was just mayhem!

TUMBLERS

There was the customary sprinkling of 3D displays throughout the day.

Adam Broomhead made me laugh with his Flex Innovations Twin Otter display. After taking off Adam did a couple of sedate, scale-like circuits before switching in high rates and throwing the Twin Otter around in a most undignified manner! The model is 'stock' with no modifications and Adam uses a 6S 5000 mAh

Adam's CARF Extra 330LX needs plenty of servo torque to move those massive control surfaces. Here's one of the aileron set-ups. The rudder and elevator are treated the same.

LiPo pack which gives him around six minutes of stupidity. As part of his 3D settings Adam mixes the two ESCs with the rudder to introduce differential thrust for crazy spins and stall turns. Very entertaining.

Adam also flew his recently acquired CARF Models Extra 330LX which at 40% scale has a wingspan of three metres. It is powered by GP178 engine which produces a massive 21.5 horsepower to cope with Adam's 3D demands. To enhance his display Adam uses a PowerBox Smokepump and Deluxe Materials Smoke Oil. There's a lot going on under the canopy of these larger 3D models! To cope with the extreme control movements required for 3D shenanigans each surface of Adam's model is controlled by two MacGregor 54.7 kg high voltage servos connected in parallel, along with beefy pushrods.

Adam Broomhead also flew his recently acquired CARF Extra 330LX 40% scale in one of the 3D slots

Brett Houghton gives some scale to his 1/4 scale Vario Lama.

The main rotor on Brett's big Lama looked fab against the blue skies over Popham.

HELICOPTERS

An impressive selection of scale, sport and 3D helicopters displayed at this year's show. Brett Houghton took time out of his commentator duties to fly his beautifully finished Vario 1:4 scale Lama powered by a Jakadofsky Pro 6000 turbine.

David Smith enjoys refurbing old choppers and this year he brought along another 'work-in-progress' heli in the form of a 1:6 scale Hirobo Bell 47. This model was originally powered by a TAS petrol engine but after a couple of engine failures David converted it to electric by adding a Scorpion HK5035 380 kV motor powered by two 4S 5000 mAh LiPos connected in series, giving an 8S pack and providing David with around nine minutes of flight time. It flew beautifully in the turbulent conditions but desperately needs a pilot in that goldfish bowl of an office! David told me he's on the lookout for one. An Action Man is a bit too tall so he might end up with a 3D printed chap.

At the opposite end of the genre Andy Woods was flying his Goblin RAW 700 Nitro

Andy Woods gave us a mesmerising display with his Goblin RAW 700 Nitro. Here he is trimming the strip!

David Smith's recently converted Hirobo Bell 47 helicopter needs a pilot but David tells me he's working on it!

The Trade Avenue with the flight line on the right and trade tents on the left ensured none of the action was missed while visitors were stocking up with modelling goodies for the new season.

Dave Stephens entertained the crowd with his KYHK RC Rapture 3D jet, pulling off some impressive manoeuvres that only a vectored efflux nozzle can achieve.

Andy Woods' 2.5 metre span MiBO Turbo Raven looked and sounded awesome on high speed passes up the strip. Andy split the ailerons so he could program crow brakes to slow the beast down for landing.

The giant marquee at the show housed lots of interesting activities including a Drift Car circuit. Drift cars have an impressive lock on the front wheels and adverse camber on the rear to help them travel sideways around the track

Riley Howe from the RJ Aeroteam employed a novel way to transport his Elite Aerosports Shockwave jet to the pits.

Other 3D displays included Matt Dorgan and his OMP Hobby 104" Extra NG with DLE 130 engine and 28 x 11 prop. This is a prototype model that Matt is developing with OMP.

There were a few Tomahawk Futuras being displayed. Dean Coxon's model looked a bit different finished in the sandy camouflage of the Saudi air force. Powered by a Kingtech 210 turbine it popped nicely against the tree lined backdrop at Popham.

3D helicopter powered by an O.S. MAX-105HZ-R engine. It was almost impossible to keep this heli in my viewfinder as Andy sent it zipping around like an angry dragonfly, but I managed to get a couple of usable images!

OTHER HIGHLIGHTS

The Popham flight line saw a constant turnover of lovely models and dotted around is a flavour of what we were treated to.

Away from the flying there were lots more features to entertain the crowd including a boating lake, static model displays and drifting cars. Appetites were well catered for too with a good array of food outlets, including ice creams in the sunny weather.

FINAL ANALYSIS

I think moving the show to the beginning of the season was an inspired decision by the organisers. We were treated to some lovely models and excellent flying displays supported by a well-attended Trade Avenue. I'm already looking forward to next year's do! ■

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Smallpiece gives scale to the Skylark.

SLINGSBY SKYLARK 1

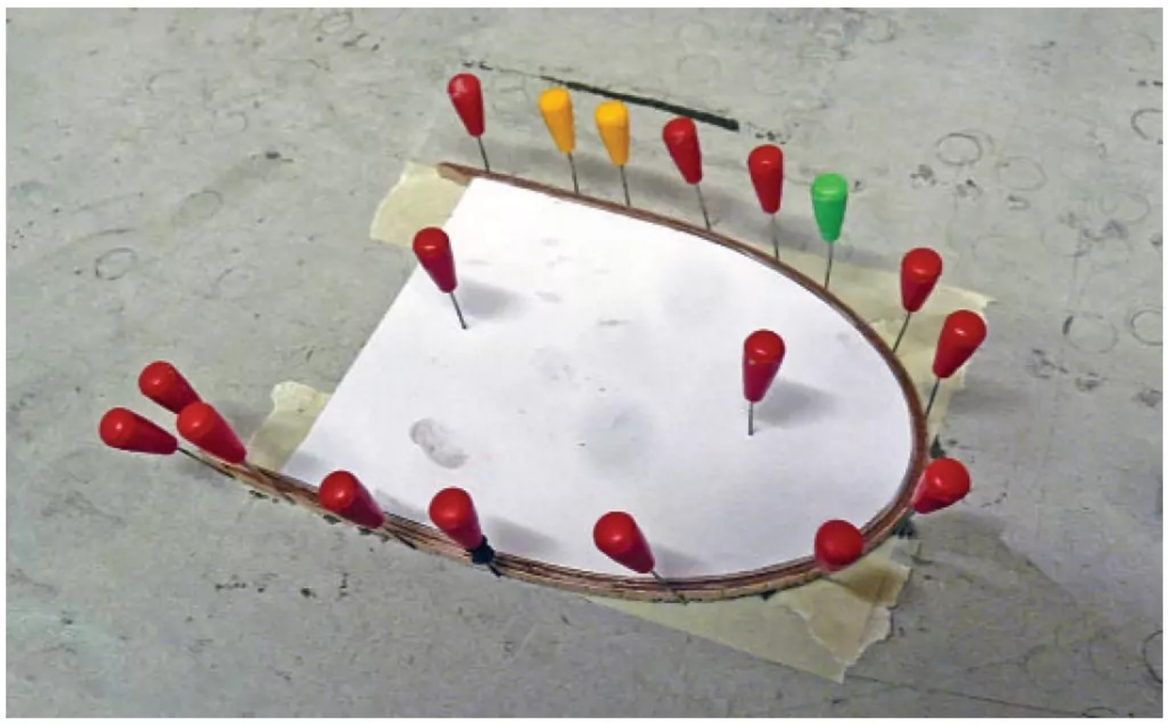
Chris Williams is back with part two of his latest Pro-Plan article describing the build of a 1950s Slingsby glider

Words & Photos: **Chris Williams**

Next is the canopy and hatch.

Trim the 3 mm lite ply base to fit, ensuring that the grain runs crosswise to allow it to follow the curve of the longerons. Cyano in place C1 and C3 and then drill through front and back for the 6 x 3 mm magnets. Leave the drill bit in place after the first hole and drill the second with another drill bit to prevent unwanted movement. Repeat as you move up through the drill sizes. Blacking out the interior of the cockpit is best done now whilst the interior is accessible; a felt tip pen was used on the prototype. Once the magnets have been epoxied in place add C2 and the laminated ply hoop, trimming off the ends after trial fitting. Now add the 3 mm balsa vertical hoop supports and fill in with balsa between the hoop and C2 to add area to which the ply sides can be glued. Use card templates to make up the top and side ply cladding before gluing in place with PVA. Once the ply cladding has been trimmed to fit add a cross-grain ply strip to the inner section of the hoop to provide sufficient gluing area for the final fitting of the canopy. The canopy is cut from an Oly 2b canopy. Getting the correct fit is a little tricky so make sure to cut little and often!

Skylark 1 in action at a White Sheet scale event.

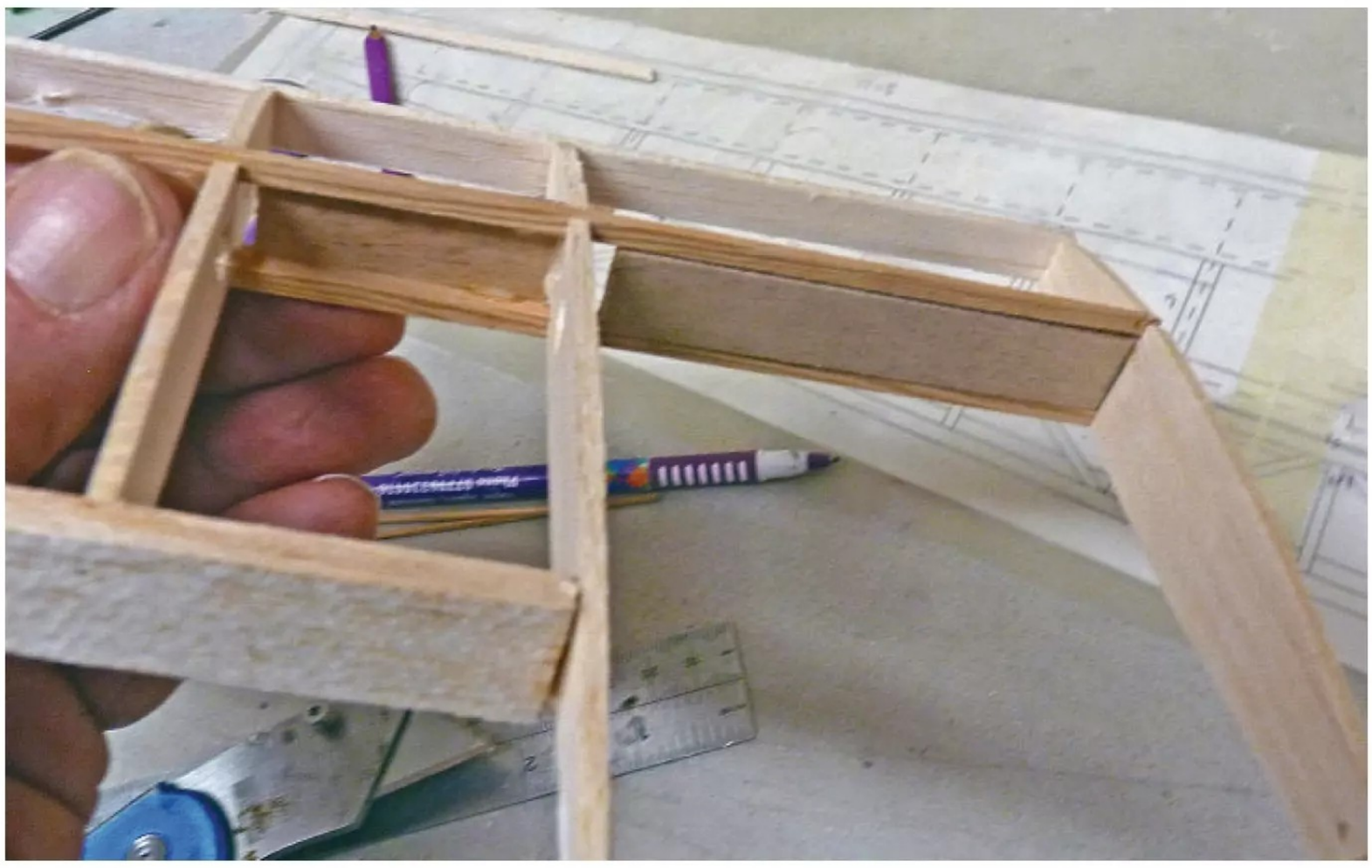


Making up the framework for the canopy/hatch.

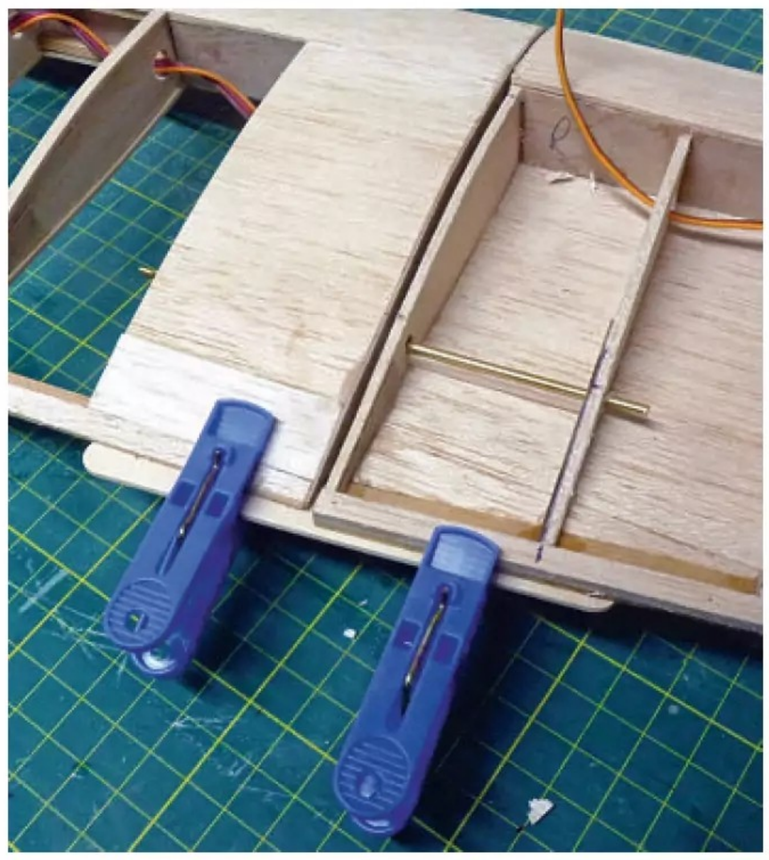
Drilling out for the retention magnets.

Basic framework of the canopy/hatch.

View of the canopy/wing fairing.



Wing joiner arrangement on the outer wing panel.



Adjusting the incidence pin for a correct fit to the outer wing panel.

OUTER WING PANELS

This time pack up the short TE by 2 mm and cyano in the root rib to the TE and lower spar. Now add R3, to which you can PVA the aileron spar and R4 and R16, which will help align the aileron spar to the correct place on R3. Add the remaining ribs, carefully aligning their rear ends to the top surface of the aileron spar. Now you can add the top spar and false LE, plus three web plates to tie the spars together, and the small ply triangles at the rear of ribs R1 and R3. Remove from the board and add the remaining ply webs. Then it's time for the joiner box...

Make up two 0.6 mm ply plates. If forced to use 0.8 mm, this can be easily sanded back with the box in a vice. Two strips of 2 x 1.5 mm spruce or ply are placed above and below the box and the whole lot is epoxied together between the two plates. Trim off to ensure a good fit between the spars and epoxy in place with ply plates glued either side of the spars.

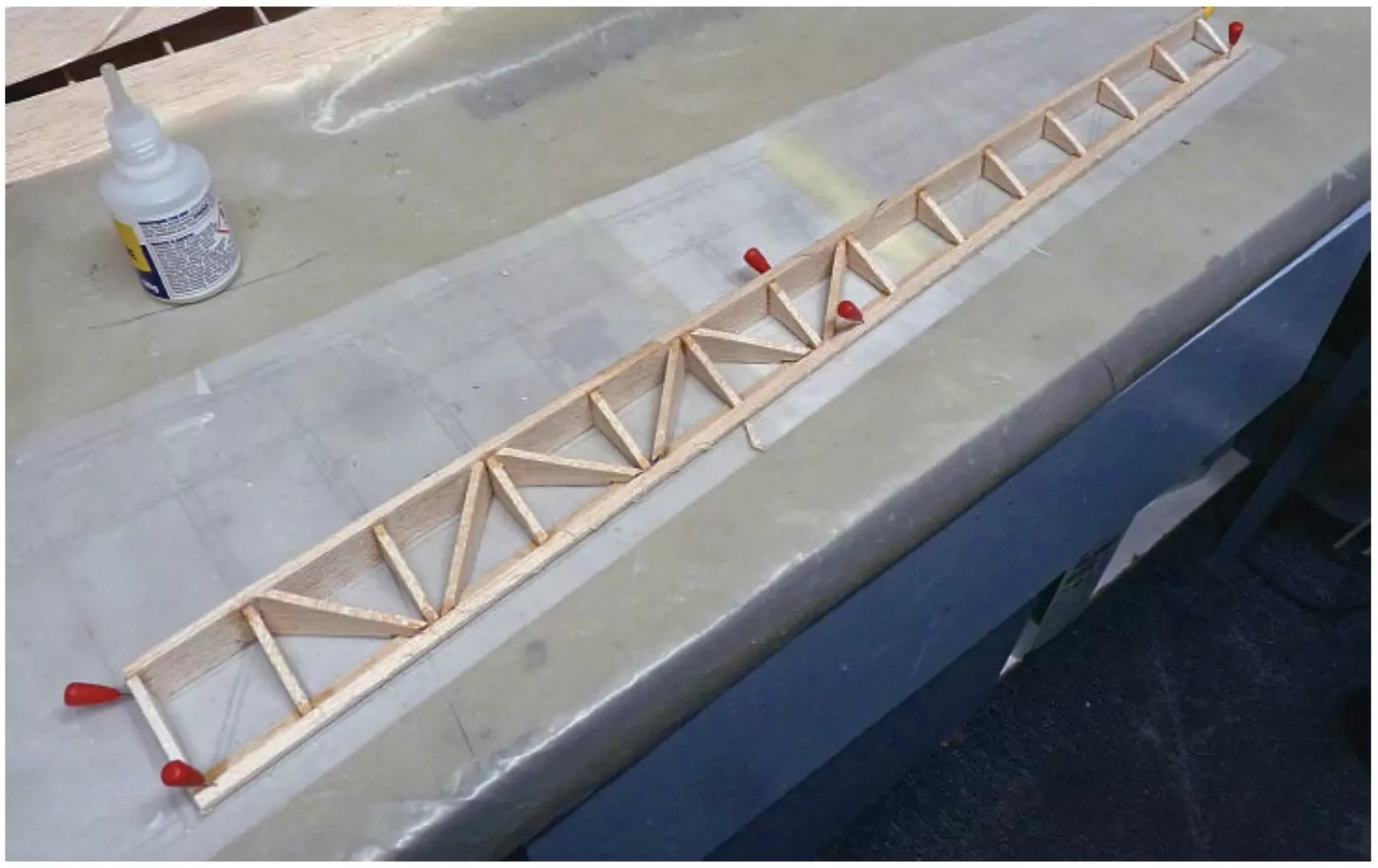
Now the sub-spars can be fitted. Mark out and cut the slots with a junior hacksaw and knife, and PVA in place in front of the ply web plates. Like the centre section, once the lower sheeting has been added the wing can be set up on the jigs J1, J3 & J4 and the top sheeting added to lock the wing into shape.

When fitting the aileron servos make it so that the maximum up-aileron movement can be obtained.

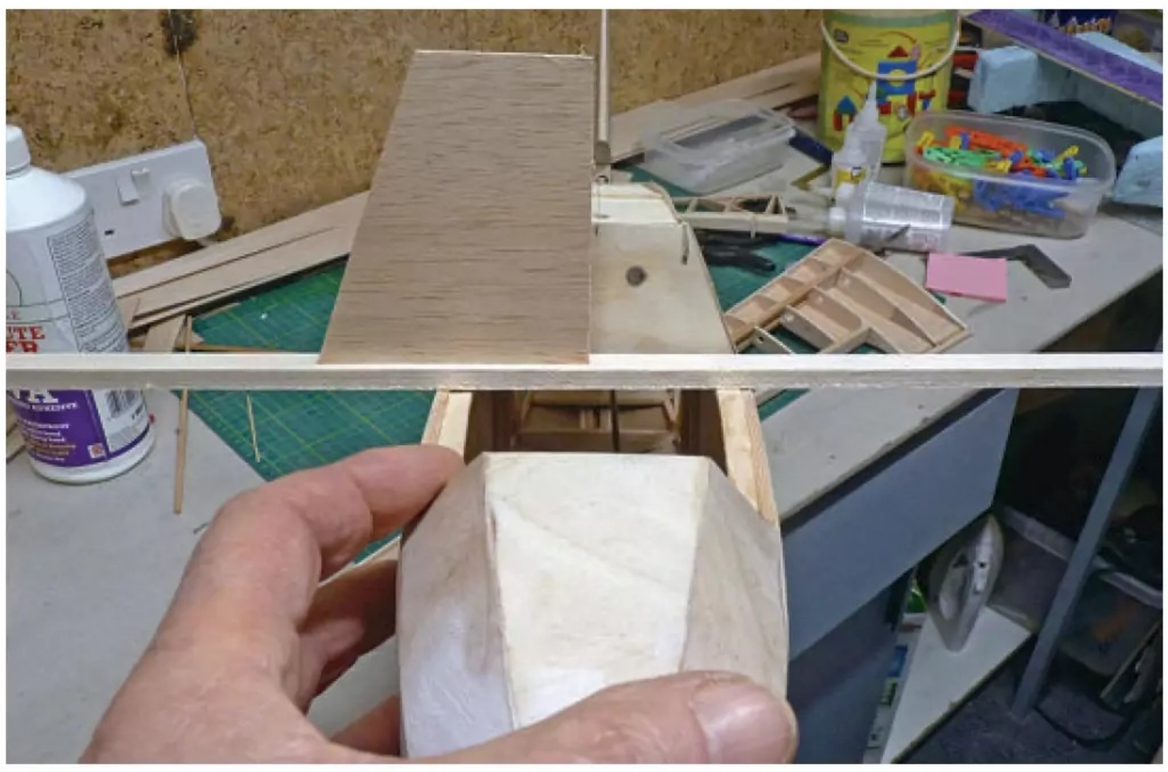
The 10mm joiner bars will need to be slightly bent backwards to accommodate the change in angle of the outer panel's spar

AILERONS

The main 'A' ribs for the ailerons are drawn slightly over-size in depth to allow each aileron to be sanded back to fit the wing. The diagonals are drawn over-long to allow for manual fitting and the cutting of diagonal slots. First make up the LE and TE, chamfering the bottom of the LE to allow for the angle at the front of the ribs. Pin the TE to the board and add the root and tip



Ailerons are built flat on the board.



Aligning the fin to sit correctly.

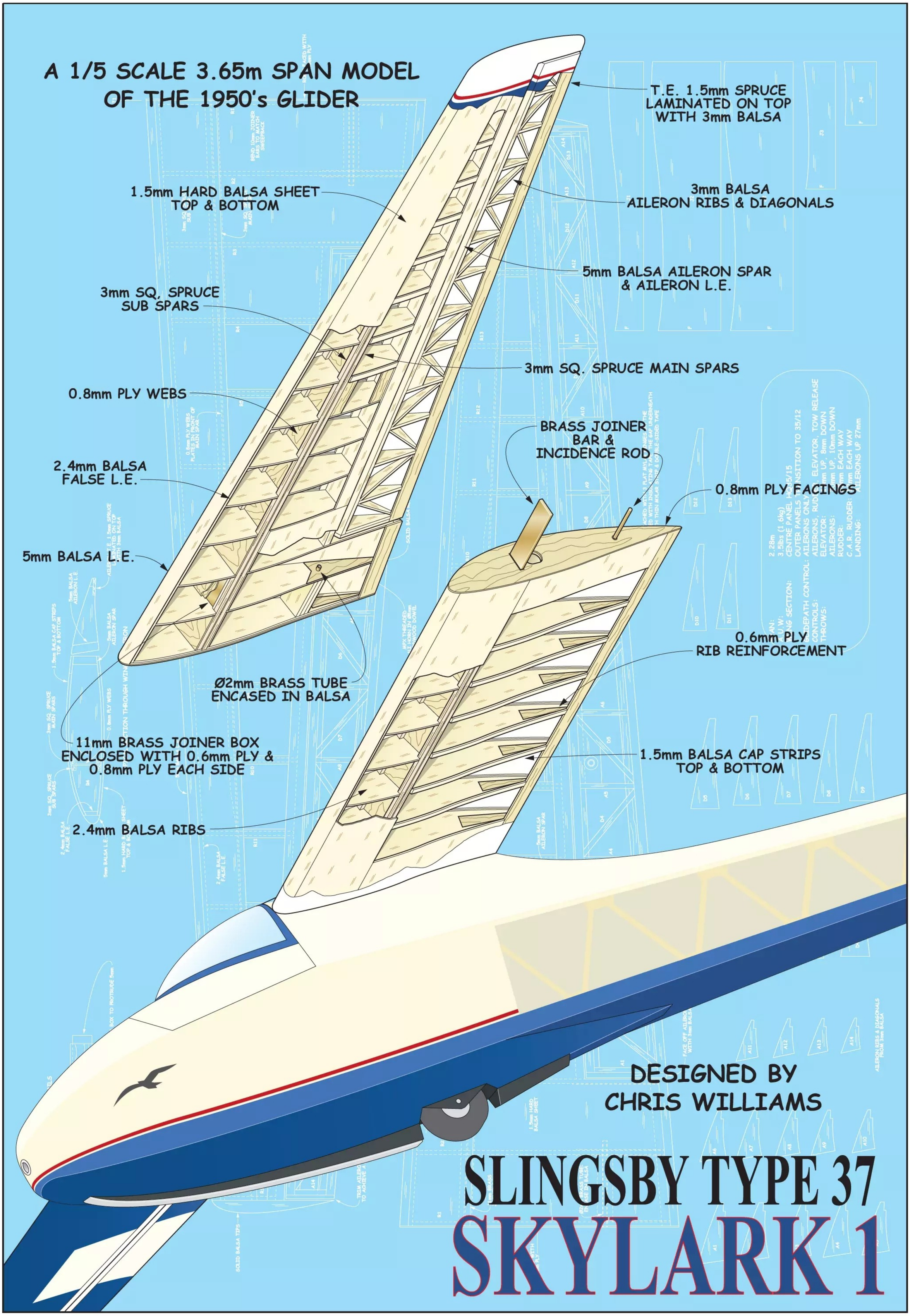
Framework for the fin fairing.

Rudder horn arrangement.

Wing servo cover from HK film.

Completed airframe from front and rear.

A 1/5 SCALE 3.65m SPAN MODEL
OF THE 1950's GLIDER



DESIGNED BY
CHRIS WILLIAMS

SLINGSBY TYPE 37
SKYLARK 1

ribs with the LE. Check with a straight edge that the LE is indeed straight before adding a centre rib to fix it in place. Pin the LE flat to the board and add the remaining ribs. CA can be used throughout the aileron build for quick results. Offer up the first diagonal and chamfer off the LE; a disc sander makes this job easy. Now offer up again and mark out and cut the rear of the rib to fit. Mark where the rib sits against the TE and cut out a slot parallel to the angle at the rear of the rib. Repeat for the remaining diagonal ribs, then remove from the board. Add the 3 mm balsa end caps and then, using a long sanding block fitted with a fairly coarse paper (40 grit on the prototype) sand the top surface of the aileron, chamfering off the top of the LE in the process. Temporarily tape the aileron in place and add the solid balsa tips.

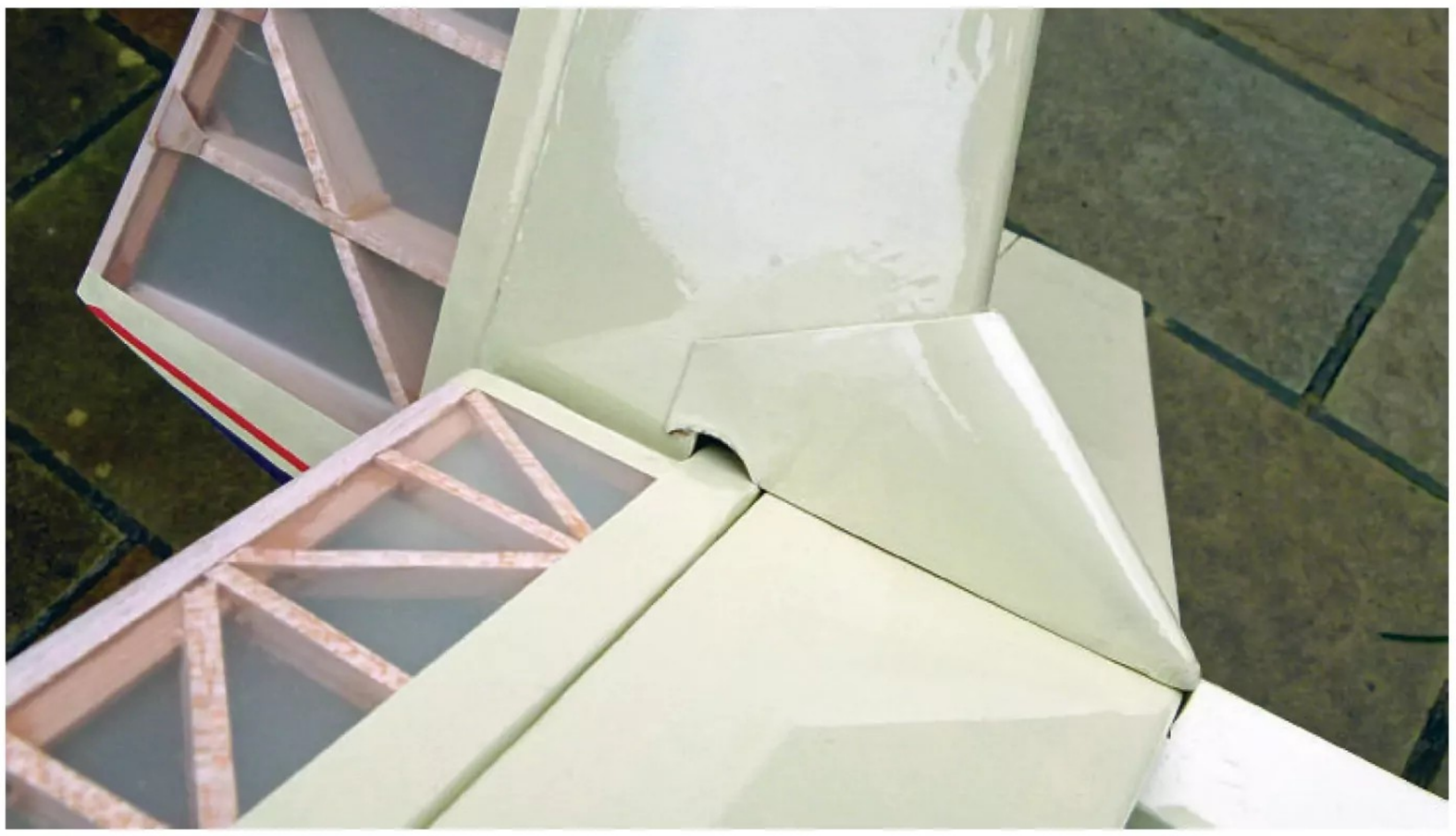
When setting up the servo geometry for the ailerons get as much up-aileron movement as you can for glide path control.

FIN TO TAILPLANE FAIRING

Before finalising the fin fairing, re-check the decalage again as any adjustments will affect the fit.

First, offer up the lite ply base and determine where the tailplane bolt is and cut the hole to match the head of the bolt. Since the tailplane is only 5 mm thick the bolt head can only be recessed by 1 to 1.5 mm.

Offer up a lite ply blank to the lower surface of the fin aperture, then mark out and cut a lite ply rib. Tape this in place to the fin and make up two lite ply vertical plates, using one at the rear, and CA them in place. Now drill a pilot hole through the base for the eventual fitting of the 6 x 3 mm retaining magnets. Steam some 0.4 mm ply to fit over the fairing structure, using the template as a starting place. Glue in place with PVA and sand back to fit, noting that at the bottom of the fin's LE the ply needs to be



Fin fairing set up.

View of tail group arrangement.

View of Skylark's underside.

Ready for flight.

almost flush with the fairing structure to avoid pushing it all too far forward.

Now the magnet pilot holes can be drilled out and the magnets fitted.

FINAL ASSEMBLY

On the prototype the 6V battery was retained using strips of Velcro and the battery also had a few ounces of lead taped to it. It's important to ensure that the battery is as far forward as possible when inserting it under the tow release rod.

For quicker rigging one wing panel was left taped to the centre section and contained in a single wing bag. Note that the prototype's tailplane had to be packed up 1.5 mm at the rear to achieve the correct decalage. This is why it's best to sort it before making up the fin fairing!

COVERING & FINISH

The prototype was entirely covered with HK film. When finishing the canopy/hatch, first film the sides, then the top, allowing the film to come up to the ply facing strip. Then the canopy can be glued in place. The join was hidden with 6 mm fine line tape. The skids and wheel aperture were sprayed with satin black aerosol.

FLYING

With the CG set up as shown the maiden flight should be quite straightforward. The prototype has a surprisingly flat glide for a model of this size and the controls are effective in all planes. The stall is such a non-event that landings can be deliciously stretched with more and more input of up elevator.

Preparing to launch on the slope at White Sheet.

More White Sheet scale action.

Glide control via the up going ailerons may come as a surprise in their effectiveness as a giant hand seemingly pushes the glider towards the ground with little or no change in pitch trim.

Equally at home behind a tug or on the slope the little Skylark packs an awful lot of fun into such a small package.

As usual, for those cutting their own parts the PDFs are just an email away, as is the complete sequence of build pics:

c_williams30@sky.com

DATAFILE

Name:	Slingsby Skylark 1
Model type:	Scale glider
Scale:	1:5
Designed by:	Chris Williams
Wingspan:	3.65 m (143.7")
Weight:	8 lbs (3.6 kg)
Wing section:	HQ35/14 centre section, tapering to HQ35/12 in outer wing panels
Functions (servos):	Ailerons (2), rudder (1), elevator (1), tow release (1)
Glide path control:	Via up-lifting ailerons

The Prefect being launched alongside on the right shows the Skylark 1's lineage.

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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
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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
New 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
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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
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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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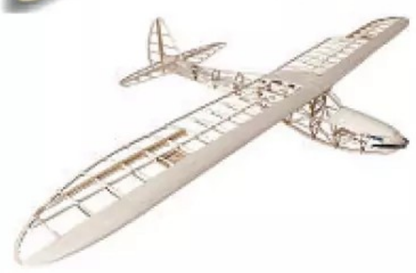

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GLIDERING

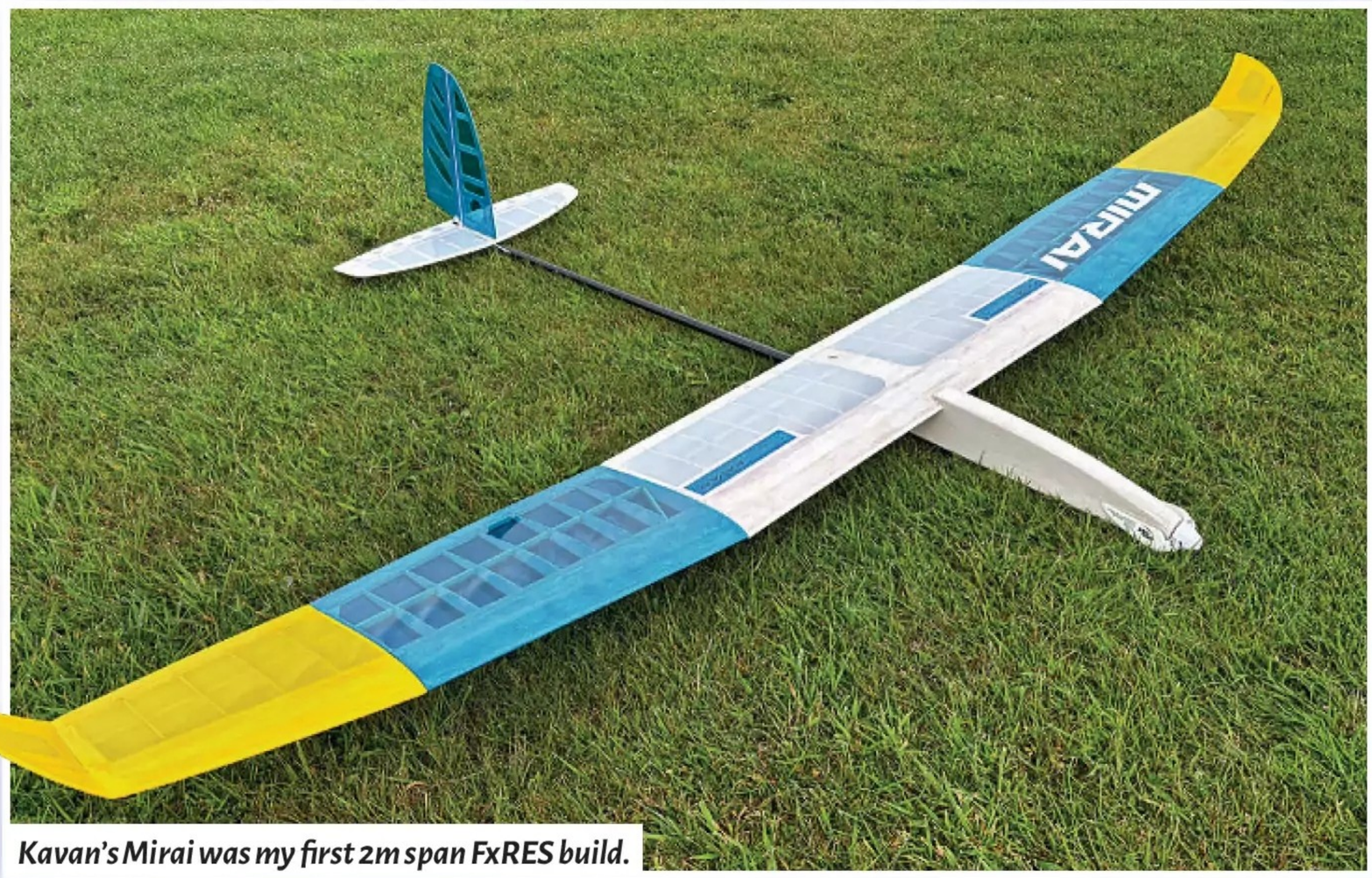
***David Ashby** builds a Fresh glider then succumbs to temptation at the local swap meet*

Words & Photos: **David Ashby**

I could be biased but it feels like spring and early summer have been pretty breezy so no surprise the slope gliders have seen more air time than anything else. I've entered more competitions in the last year than ever before too; formal ones, informal ones, fun ones, impromptu ones. Last autumn it was the Fun Fly day at the Bickley (Kent) club, then a trial of the new Free-4-All glider format at the Invicta club's field, two formal glider comps so far this year and two informal evening FxRES events too.

MIRAI & FRESH

It'll cost something like £2500 get a competitive F5J motor glider into the air so, unsurprisingly, the FxRES format is growing in popularity around the UK and abroad. The south east corner here is no exception. It's for 2m span gliders or motor gliders using rudder, elevator and spoiler (RES). The 'Fx' bit refers to the FAI designation, either F5L or F3L depending on whether the model is powered or unpowered. The majority of models come in trad' kit form at the £150 to £300 mark, although own-designs or 'bitsa' creations are not uncommon. The Skyhawk, a new kit from a UK manufacturer, was featured in the June issue.



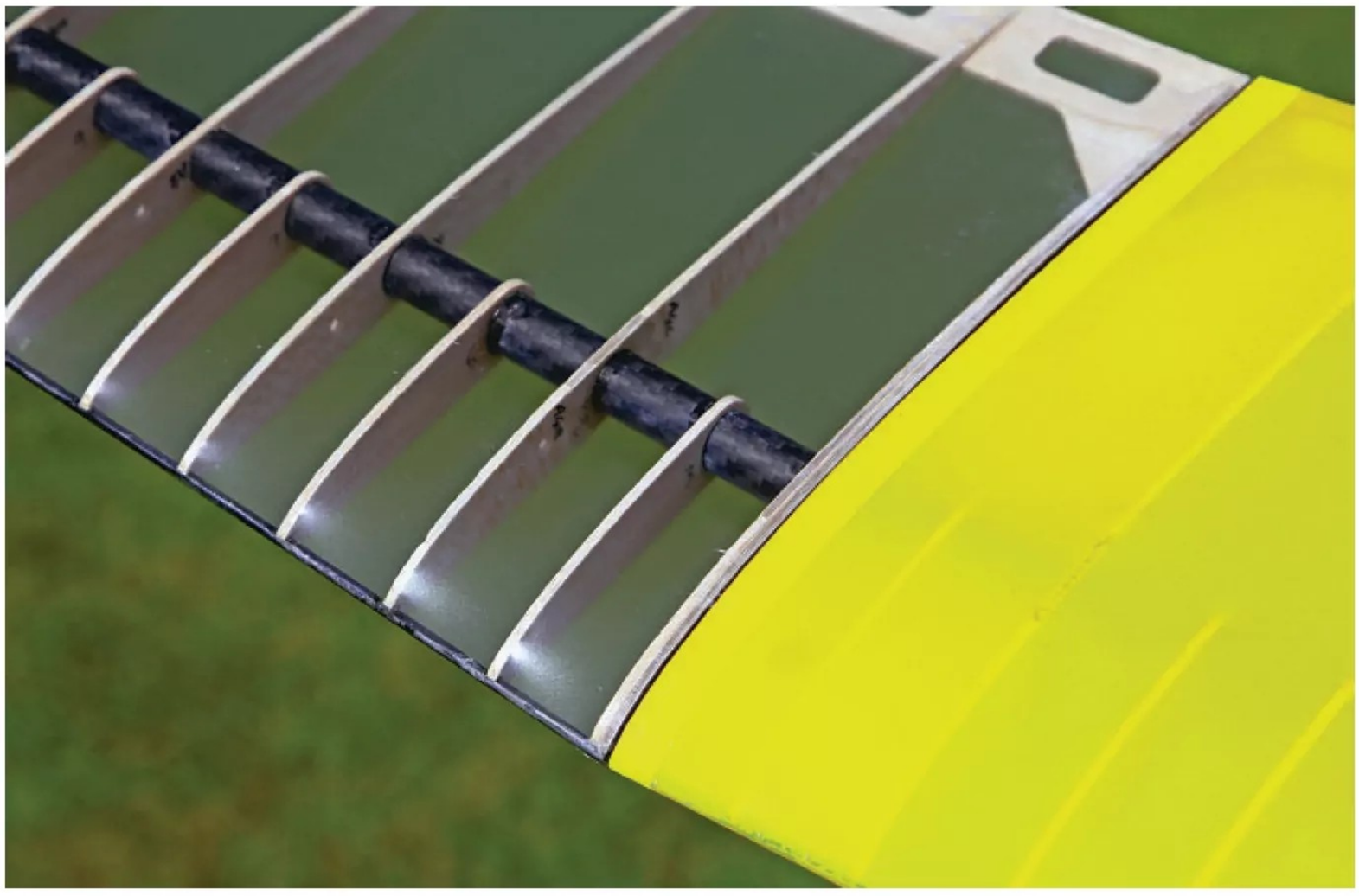
Kavan's Mirai was my first 2m span FxRES build.

I've built two, a Mirai last year and more recently a Fresh. The Mirai is kitted by Kavan and is available in the UK from Model Shop Leeds while the Fresh comes from Hyperflight where you'll also find a bewildering choice of similar RES airframes to choose from.

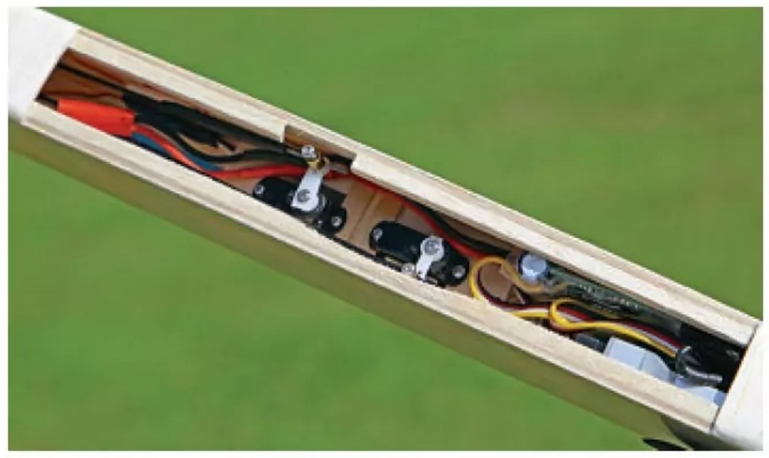
Foamy flyers kick off the Bickley Glider Day's all up - last down comp'.

Fresh is the latest.

Fresh's tail feather arrangement is more rugged than the Mirai's flimsy layout.



There's just less material in the Fresh, so no surprise it comes out 100 g lighter.



Internal layout needs a bit of planning. Some flyers shorten the nose so the battery can sit forward.

Everyone replaces the sprung tail control surface pull cords with carbon push rods.

"Despite the accumulation of marginal gains the pilot will always be the deciding factor at the end of the day"

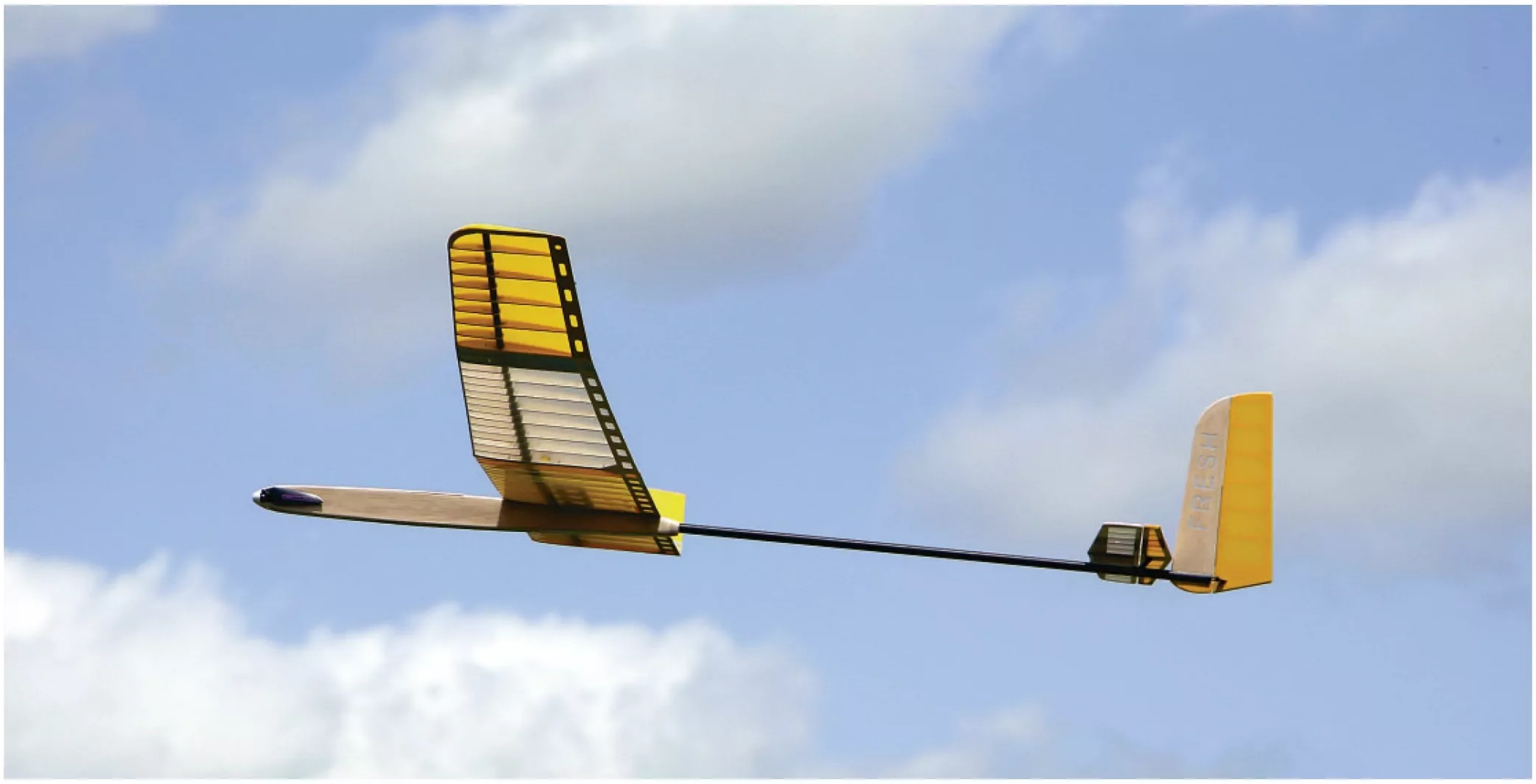
Both presented a few little quirks and niggles during construction but, overall, were reasonably straightforward to build. The Mirai is more polished in presentation and comes with a printed instruction manual while the Fresh's blurb is available online. Like most models these days there are videos and forum threads for reference too. Both come with full size plans although the Mirai's is just for reference and, owing to some differences, it shouldn't be built over. I found that out the hard way.

Of the two the Fresh is easier and quicker to build and most likely to finish lighter. The Mirai's deeper fuselage and full span wing D-box sheeting mean there's just more material in the airframe. Conversely that means the Mirai is easier to fit out, with more space for everything compared to the Fresh, where a bit more thought is required.

Both employ a three-piece wing and flat tail surfaces, although the Fresh's rear fuselage arrangement is notably sturdier and better thought out. By contrast, and a year after its maiden flight, the Mirai's stabiliser seems like it needs reinforcing. The V-tail version is probably better.

The Fresh is a popular choice among my RES soaring pals. We have around five of them flying at the moment and few take to the air without a little modification here and there. Some builders have shortened the nose, one by as much as 6 cm, as a way of helping achieve a C of G that doesn't require the battery to be placed behind the servos where space is limited. I didn't, although that hasn't proven a problem using slim 3S 350 mAh packs. Both models will fly perfectly happily using a 2S LiPo battery, but 3S does provide the power needed to punch through a breeze and zoom a bit at the top of the climb when the height limiting widget, usually an Altis, shuts down the power.

The first question asked when anyone brings a new model along is, *"How much does it weigh?"* Anything below 500 g is considered good; anything above 600 g means you must've got carried away with the aliphatic. My Mirai comes in at around 560 g all-up, the Fresh 460 g. Standard covering films should be avoided; they are just too heavy. Instead, Oralight is popular or, better still, the clear gloss film from Angelwing Designs. Called Feather Cover,



Fresh flies well although, as always, the pilot is the deciding factor.

Bickley's spring boot fair was well attended.

Go back 25 years and if you wanted a foamy warbird then a GWS kit was all there was.

Fancy a second hobby?

not only does it work and shrink well but at £5 for 300 mm x 5 m it's far more affordable too.

Some of the guys I fly with come with a competitive R/C car racing background so making little tweaks and mods to improve performance is second nature to them. It's fascinating to see the tuning ideas they've brought to their FxRES flying.

As far as the Fresh is concerned nobody has bothered with outer wing retention magnets (about 5 g). A little tape is all that's needed to retain these sections. Then there's the blunt'ish leading edge to the horizontal stabiliser platform that's ripe for streamlining. The wing pretty much sits atop the fuselage so the addition off a small balsa fairing at the wing leading edge helps to reduce drag, as does making sure the spoiler sits flush with the wing. And so on.

Despite the accumulation of these marginal gains the pilot will always be the deciding factor at the end of the day and our experience has done nothing to dislodge that fact. Flyers

Plenty of lockdown projects are finding second homes.

may have flocked to the Fresh but that didn't stop Keith Fisher winning Kent Interclub's second Free-4-All comp last year with, yep you guessed it, his Mirai!

"An all-up, last-down competition rounded off an enjoyable day"

Everyone stopped here to twiddle the sticks and reminisce.

You were in luck if you fancied a refurb' project...

Sans an aileron this PA aerobat still looked like a bargain.

James Gordon put his Fusion to good use at Bickley Glider Day by taking up Neil Wallis' Thermaliser glider. Both kits are available from Evolution Models...

...as is the glider release cradle.

BICKLEY CAR BOOT

May's Glider Day at the Bickley Club was preceded by the usual car boot sale the day before. Generally speaking, nobody seems to want to spend too much at this gathering, so bargains were there for the haggling. I'm a sucker for traditional kipper style balsa slope soarers and, historically, I'm one of Paul Cavendar's best customers, so there was a feeling of inevitability when he pulled up and unloaded three slope soarers. A couple of own-design Middle Phase'ish soarers looked appealing, but an enlarged Coyote came home with me. It spans 71" and bears his trademark removable stab', two-piece wing, glass fibre reinforced interior and electric power conversion. I'm not a fan of the colour scheme so a winter refresh is on the cards if it flies well.

Walking round I spotted an unflown WOT4 Foam-e for £90 so I phoned a club mate who'd just bought a new one to give him the news. There was smattering of old kits, including a couple of GWS foamies that reminded me of the days when Mr. Lin, GWS's owner, was a regular presence on the RC Groups forum. The brand's range of foamy warbirds were incredibly affordable in their day, small wonder they were popular, and many new flyers cut their teeth with the twenty-something quid Slow Stick.

For £10 a Precision Aerobatics 3D profile aerobat caught the eye and, despite the missing aileron, looked a bit of a bargain.

I lost count the number of times someone pointed to a model referring to it as a Covid project. I doubt that more models have ever been built in such a short space of time as they were over the spring and summer of 2020. No wonder UK hobby trade distributors smile wistfully when the word 'lockdown' crops up in conversation.

Old transmitters still emerge after years of storage. Sight of a boxed Futaba M-Series radio set had everyone stopping to twiddle the sticks, then tell the bored seller they'd forgotten how long those sticks were, that they'd had a set

Dean Tilley brought his D-Power Streamline 400V along. Spanning 4 metres it's an impressive beastie.

Neil Wallis with last winter's project, this Pichler Leprechaun. There's bags of presence and a distinctive feel in the air he says.

This ASK14, flown by Howard Wise from the nearby Concord Club, was nicely finished and flew well.

'back in the day' and how they'd sold the kids to pay for it. These were the days when model shops carried a sign in the window offering 'easy terms' remember.

GLIDER DAY

Last year's Glider Day saw fine weather but that wasn't to be repeated. Some late afternoon thermals were gratefully hooked but small compensation for the chilly breeze and overcast skies that predominated. Attendance numbers reflected that but those who came had a good day and proof, if any were needed, that despite the weather, collective goodwill and enthusiasm can make a memorable day.

Neil Wallis and his Sinbad made the mag's cover last time and his latest winter project, a Leprechaun, was just as photogenic. It's from the Pichler kit, a little smaller than my Dane-RC example, but just as gracefully imposing in the air.

Aerotow facilities were provided by James Gordon using his venerable tug. It's an enlarged version of a model he designed back

Found some lift, anyone?

Flying his Fresh, Charlie Johnson won the FxRES comp' that ran alongside the glider fly-in. Best 6 of 8 flights over two hours.

in the 1980s called Titch. Appropriately named Hitch and getting on for 35 years old it uses a Super Tigre 25 cc two-stroke, since converted to petrol. Both engine and tug didn't miss a beat all day as he towed up my 3m span Pichler Bergfalke and Neil Wallis' scale soarer.

James is a mainstay of the UK Fun Fly scene so put his Evolution Fusion to work taking up Neil Wallis' 40" (1020 mm) span Thermaliser glider using a neat launch cradle. All three - Fusion, Thermaliser and cradle - are available as kits from **Evolution-Models.com**.

Dean Tilley's Streamline 400V motor glider is a bit of a beast. It's a 4m span ARTF machine from the German D-Power brand, designed to be flown pretty much anywhere - hill or flat field - providing you've the muscles, or a dolly, to launch it. It mixes a glass fibre fuselage with foam veneered wings and comes in ARF+ form with wiring harness' and connectors in situ - very handy. The finish was impressive and it easily mixes a bit of thermal hooking with fast whistling passes.

Howard Wise, visiting from the nearby Concord Club, waited for calmer winds before his ASK14 motor glider flew. He thinks the 4m span model is a prototype of a design that may have appeared in RCM&E many years ago. It was certainly nicely finished and flew well, catching some of the thermals that appeared later in the afternoon.

A two-hour FxRES comp ran alongside the fly-in during the afternoon. Entrants had two hours to make eight flights from which the best six counted. Charlie Johnson, flying his Fresh, took top honours.

An all-up, last-down comp' rounded off an enjoyable day, with foamies launching first, followed by larger models at 20-second intervals, all using a 30-second motor run time. Most were down within ten minutes apart from a couple that caught some lift and refused to return. Eventually everyone got a bit fed up with the neck ache and after 25 minutes it was declared a draw so we could all go home. Stuart Keeble and Gordon Lomes shared the honours. ■

The all-up, last-down participants.

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MODERN MÄXI

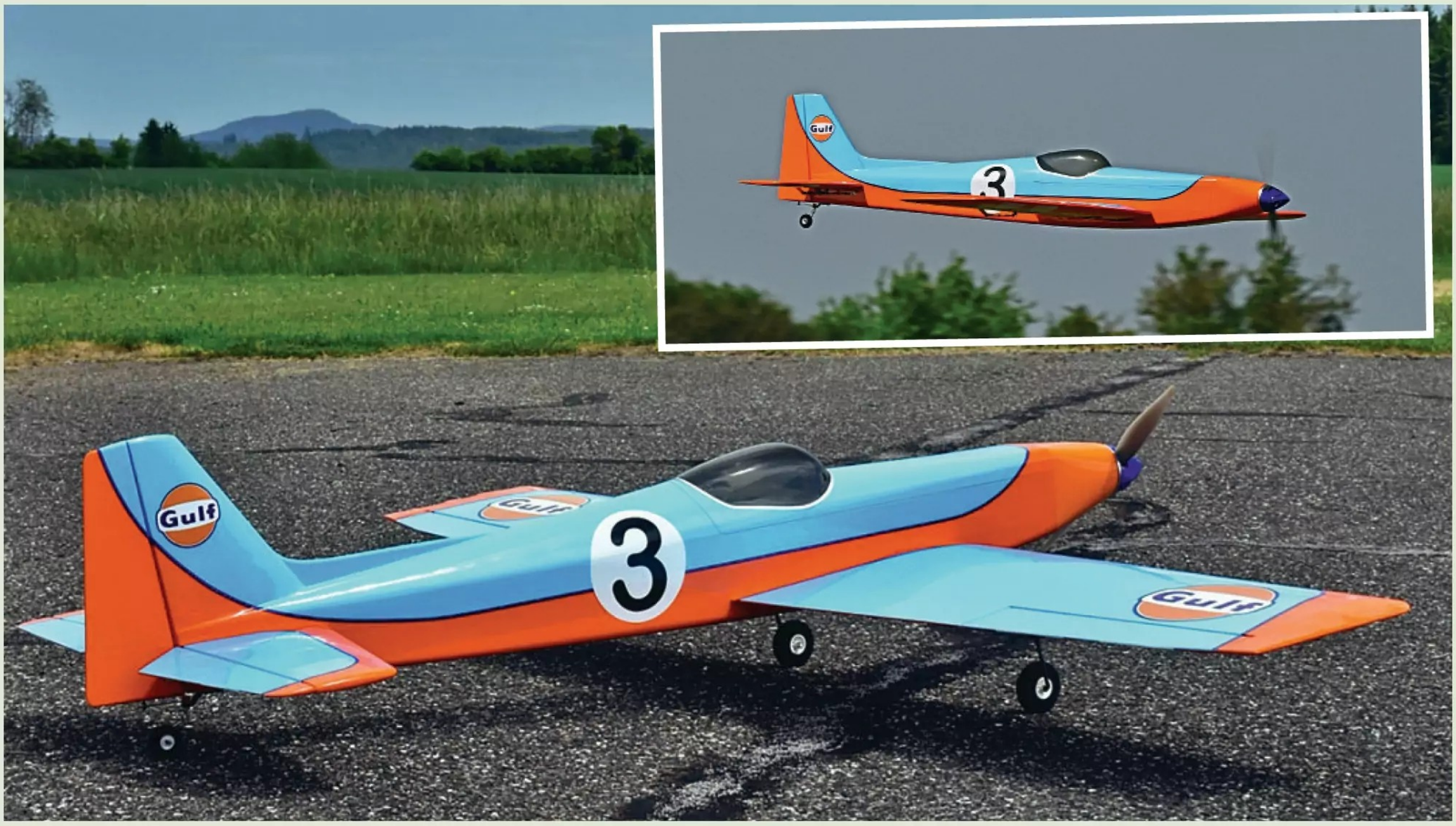
Kevin, maybe you remember our conversation about a year and a half ago about building a proper retro model, like the Keil Kraft Fleetwing at your end or, from my side, the Mäxi. To cut a very long story short please find attached images of my modern, enlarged rendition of this classic design.

Mäxi was originally designed by Heinz Elsässer in 1967. This is a new, revised and 15% enlarged version. The wingspan is 1680 mm, weight 3.01 kilograms. This model was developed in close collaboration with the original designer and now features an empennage with an aerofoil section and a completely new wing, with its thickness reduced from 17 to a mere 11.8 percent and using outboard ailerons. It is electric, powered using a 6S LiPo and a Joker 5050-8 V3 motor fitted with a 14 x 8.5 APC-E prop. It has Electron retracts and is converted to a taildragger.

Performance is exciting, to say the least! Mäxi is very elegant and fast to fly, but is extremely forgiving, also because of the low weight.

All images are by HansJörg Baumann.

Dick van Mourik



FAIRTRAVEL LINNET

I have been involved with a local school where we are restoring to flying condition a rather rare 'Fairtravel Linnet', registration G-ASMT. As part of the rebuild we decided to build a replica at fifth scale. I somehow got roped into building a similar model with a different school who had heard about the project. Both models are now complete and have both just flown, although I haven't told the schools yet! We are going to have a formal 'First Flight Day'.

We built the models from an old American Aircraft Modeler plan for an Emeraude, drawn by Bob Morse - the plan appeared in 1969! We modified it slightly, but the two aircraft are very similar. We chose to go electric and were able to modify some of the construction to reduce weight. It was designed for a two stroke .49 to .60 engine but once again George Worley at 4-Max helped us with the sums and we went for a low kV motor with a big prop and a 4S LiPo. He helped sponsor the project which was really kind of him.

Phil Stevens

MOOD CHANGE

Early morning, waiting for the mist to clear, is my R/C conversion of the free flight Caprice. It has a small drone type motor with rudder and an all moving tailplane for control surfaces. The tail uses a mount from an Elf DLG glider - it's always good to recycle!

Once I increased the fin area to obtain satisfactory stability, I've found it to be a great low-cost fun model and well worth building.

Martin Wood

MIL SPEC TWIN JETS

Here are some pictures of my AL-37 models which I have converted to a fuel tanker and an AWACS (Airborne Warning and Control System) aircraft. They are both made from Freewing AL-37 kits and run on a 6S 5000 mAh LiPo.

I added the AWACS dish, which is made from blue foam covered in clear resin. A servo runs through a shaft to the dish, slowly rotating it from a 6-volt battery.

On the fuel tanker the fuelling boom drops down and extends telescopically. It is operated by two servos and looks good with a small F-16 flying behind.

Peter Holt

ARADO 80

You may be interested in my 30" Arado Ar 80 which I designed a couple of years ago. It was a competitor to the Bf-109 but failed, of course. I did fly it last year, but I designed it without ailerons, thinking the gull wing would give me enough for it to turn. I couldn't have been more wrong!

This past winter I modified the model with ailerons, but I need to fly it and, if successful, I will update the plans. I made the cowl in glass from a vacuum formed mould but foam or even a balsa cowl might work instead.

Rob Caso

CHEDWORTH RETRO FLY-IN

Chedworth RCFC's first retro meeting in early June was well attended. ***Dick Spreadbury*** *took time out from the busy day to record some of the pilots and planes*

Words & Photos: **Dick Spreadbury**

Jamie Cuff is well-known as a collector of anything vintage in the aeromodelling world and he flew three of his immaculate models including this beautiful Mike Birch designed Moonglow, designed in 1968, fitted with an O.S. MAX-55AX.

Jamie also brought along his Crescent Bullet that is 15 years old and a classic design from the 70s, now being kitted by PB Models. Amply powered by an O.S MAX-46FSR, the Bullet sports the same scheme as that on the original box top and is immaculate despite all those years of flying.

Steve Holland, a long time Chedworth Club member, takes his KK Fleetwing to the flight line for another outing. Steve is well known for building and flying a wide range of models, from small to very large and jets too, but he clearly likes his O.S. MAX-25FP powered Fleetwing, a classic Dave Platt design from the retro era that flies and looks so good!

The Chedworth RC Flying Club has a rich history of fly-ins and scale competitions going way back to the 1970s when its membership included many notable competition fliers and modelling 'celebrities'! The club site is a part of the old WW2 RAF Chedworth airfield runway which the club has spent a considerable sum on over the years, maintaining over 100 metres of the tarmac surface in excellent condition and ensuring that the run-offs at each end are kept in such a condition that undershoots and overshoots don't provide a hazard for undercarriages!

INAUGRAL EVENT

Having spent a most enjoyable weekend with friends over at the annual Svenson Fly-In last September in Belgium, at last year's AGM I floated the idea of the club doing a 'Retro' fly-in and was given approval to run it. The South West branch of the BMFA were kind in supporting us with the hire of a portable toilet and we had on-site catering lined up, so we were off!

The one thing for certain about our weather here in the UK is that nothing is certain! June is usually fairly settled in our part of the

Harry Curzon flew this stunning electric powered Hawker Demon, demonstrating it in a very realistic way. Such a gorgeous shape from any angle, the Demon was built from the Gordon Whitehead design, of 1977 vintage. Harry has added several 3D printed scale details to add authenticity. Gordon designed several beautiful models, all for .20 - .25 size engines, which would make perfect retro scale models

There were two Hanno Prettner Curare's at the meeting, both built from the Schweighofer kit. Harry Curzon flew his electric powered version and Jason Fletcher flew this one, powered by the Weston UK engine and pipe especially made for this design. Jason was first in the air and displayed his Curare regularly throughout the day.

Alec Cornish-Trestrail (ACT), a Chedworth Club member of over 40 years and past Club Treasurer, is well known as one of this country's prime innovators of the UK ducted fan world. Alec brought along what is a precious but still flown artefact of the 80s, his 37-year-old Fantrainer. Originally powered by a Cox TD .051 with a pusher prop, Alec has retrofitted it with an electric motor which powers it very adequately

ACT's model with the pod on top is a Tresster, his version of Dick Sarpoulius' Jester which was used as a power unit test bed. Again, built in the 80s, the Tresster originally had a pod fitted with a Cox TD .051 and various .09 ducted fan units and pylon mounted prop units to compare performances. More recently, Alec has been testing XFly ducted fan units and has conclusive proof of their efficiency over the EDF units he previously used. Always looking to progress, ACT has recently fitted an airspeed indicator to the Tresster to further validate his findings. At 86, Alec is still very active and keeping his test pilot Jamie Cuff very busy!

Ian Titchell flew his Mustfire, a Swedish design from the early 60s that has the loose looks of a Mustang/Spitfire cross. Ian fitted a Saito FA-82 and changed the model from fixed gear to electric retracts. A very attractive model in the air, demonstrated well by Ian.

Great to see Malcolm Wood and his lovely Flair Tiger Moth which performed beautifully in the slightly blustery conditions on the day.

Jamie Cuff's very pretty 42" span Micro Mold Starlet that is O.S. MAX-25FSR powered. All his models are excellent fliers.

world and whilst the day itself was dry the guys had to cope with a mild crosswind and a breeze that could have been warmer! That didn't give anybody a problem though as flying began at 10:00 and there were models in the air right up until we finished at 16:00.

MEETING OLD FRIENDS

We decided that, for this event, Retro meant anything designed/produced pre-mid 1980s and that resulted in a great variety of models that sparked lots of 'I remember when I had one of those...' type conversations which really was the theme throughout the day. This resulted in a relaxed atmosphere and a very interactive day in terms of acquaintances and friendships being re-kindled, new ones made and friends flying each other's models.

Steve Haughty flew his Altair throughout the day. This very attractive model, which was owned by Chedworth 'legend' Paul 'Animal' Leighton, is electric powered and was built by 60s F3A master, Stuart Foster. A beautiful example of a true retro model built by a craftsman of the period.

Lots of smiling faces and a great variety of models were seen at the first Chedworth RCMFC Retro Fly-In.

Another classic shape in the form of an Ed Kazmirski designed Taurus. Owned by Jason Hyland, this gorgeous looking model was built by Simon Claydon and is perfectly powered by an O.S. FS-70 four stroke. Looks beautiful in the air!

Having no experience of running an event at Chedworth we kept the numbers to what we felt was a safe and manageable figure which, as it turned out, proved that we could cope with more should we decide to repeat the event in the future. Given the feedback by those who were there this is something we're encouraged to do.

I'll let the pictures tell the story of what turned out to be a very successful day. My thanks to Harry Curzon and Chris Argent for arranging things, but most of all to the guys who came along, flew and shared stories and information. It was a great event.

JOIN THE GANG

PS... The Chedworth Club have vacancies and if you'd like a bit more information go to the website at **https://chedworthrcfc.bmfa.club/** and contact us through the link. ■

Andy Green brought along several superb retro models, including this MFA Chevron which he flew several times during the day. The swept surfaces gave the Chevron its unique appearance and we can see Andy enjoying his flight from the pilots' box!

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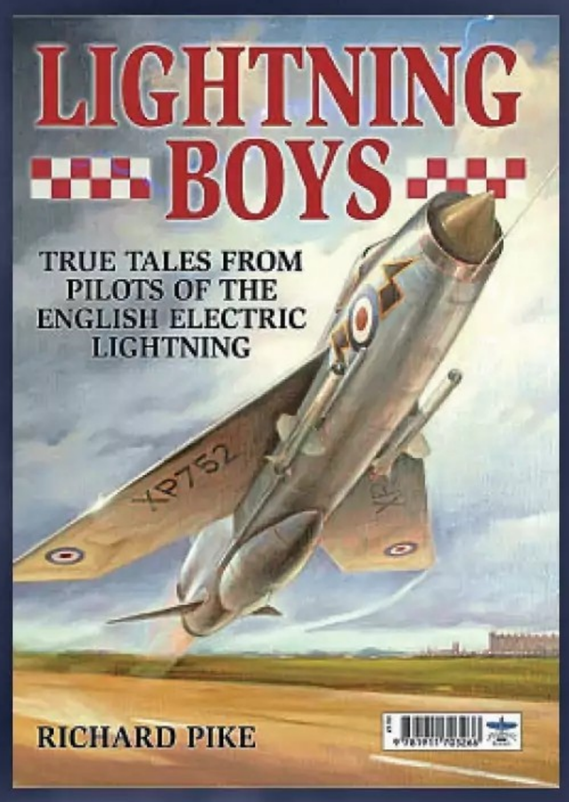

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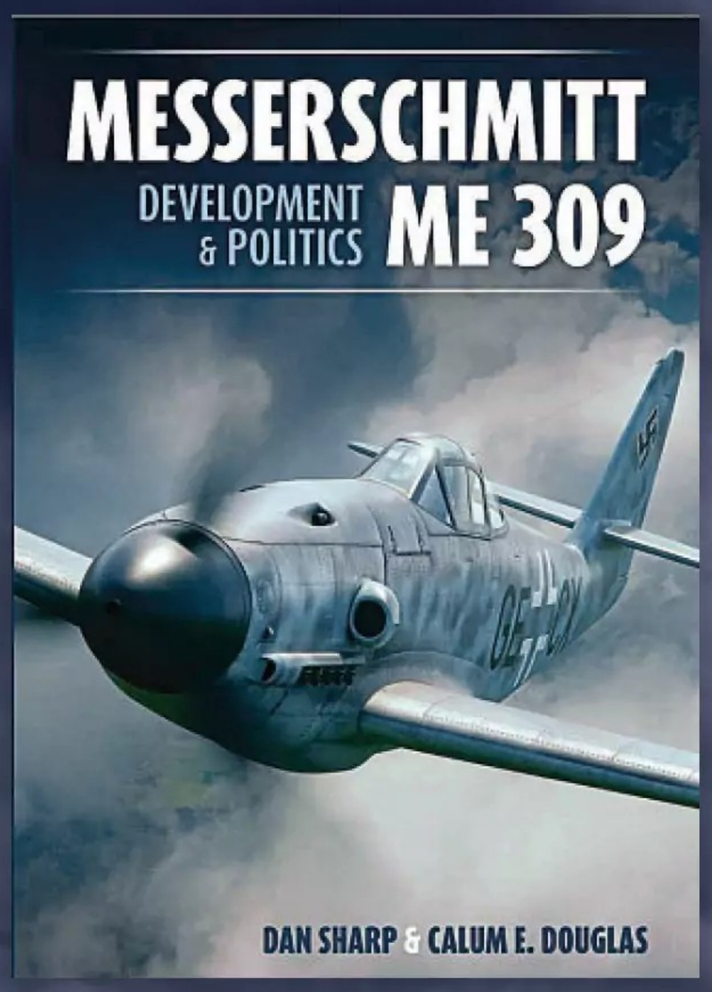

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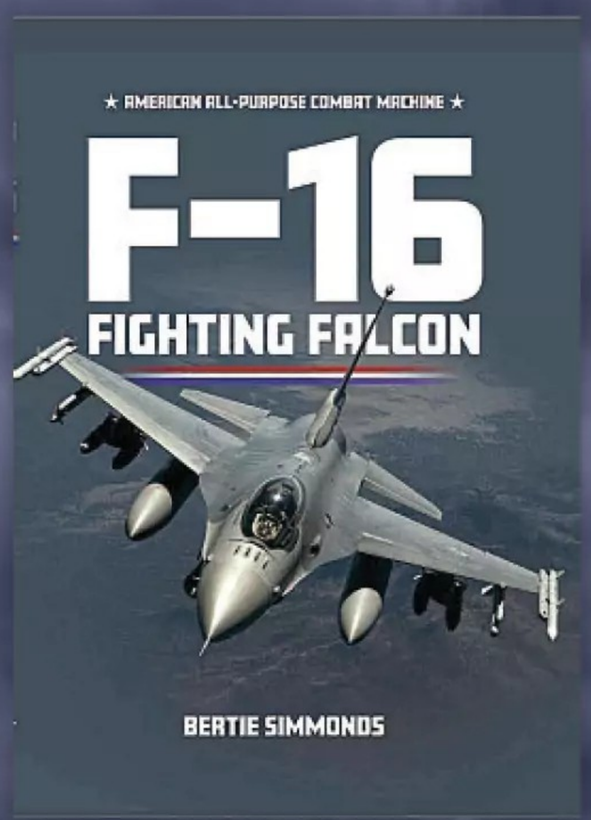

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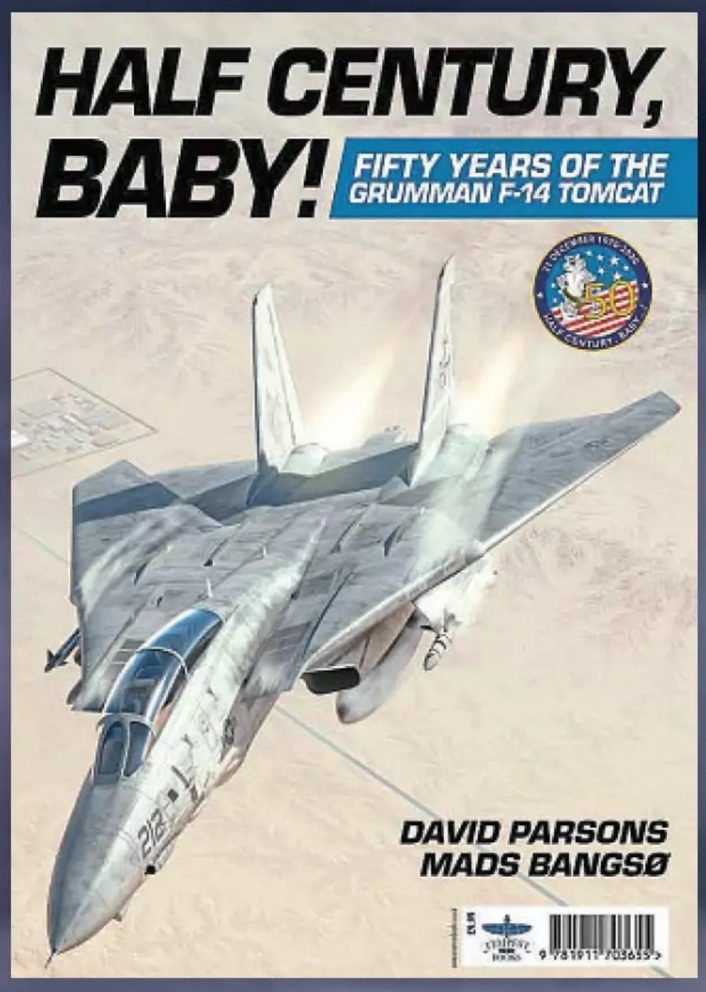

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TEMPEST BOOKS

My Typhoon with a MinimumRC 1S 30 mm EDF unit.

JETS, BIPES & AMPHIBIANS

*All the above are amongst the indoor flying subjects covered by **John Stennard** in his latest column*

Words & Photos: **John Stennard**

My Eurofighter Typhoon has flown indoors and outdoors using a standard four channel micro-Rx with 5A integral ESC. As a comparison the Trident F-4, using a Minimum 35 mm 1S EDF unit, has a 320 mm span and weighs 36 g ready to fly with a 1S 380 LiPo. The Typhoon uses the Minimum 30 mm EDF unit and has a 340 mm span but still only weighs 36 g. I have also been experimenting with the new Minimum 30 mm unit fitted with the more powerful 7.2 volt coreless motor. A Minimum RC 2S 12A ESC and 2S 180 LiPo are required for this system. This adds a very small amount of weight for quite an increase in thrust. I will be keeping you up to date with the results which could introduce a new element to indoor and outdoor micro EDF models.

The 30 mm EDF uses a different motor, a special ESC and 2S 180 LiPo.

John's Prairie-E-Duster biplane uses a standard 1S LiPo and a coreless geared motor unit

My Fokker VII was great outdoors but a touch fast indoors. A beautiful model though.

If you are interested in the MinimumRC micro EDF jets the range has steadily increased and there are now six scale jets available. These are very nice models but are a quite complex build and can be a touch fragile. For outdoor use these are at their best with the 2S LiPo system.

A TALE OF TWO BIPLANES

Three interesting micro biplanes have been flying at our indoor sessions. One is a plan design built by John and the others are Microaces Banshee Bypes from Andy and Alistair.

John's model is a Prairie-E-Duster from **theparkpilot.org** website. The wingspan is 430 mm and the flying weight 48 g. An 8 mm geared coreless motor drives a 0625 prop with a 1S 380 LiPo for power. The model flies really nicely using rudder and elevator and looks really sweet and quite scale like.

The Banshees are a standard version and the special tribute version, which features the Special G-BOOK Pitts colour scheme of Brian Lecomber's aircraft. These models have a wingspan of 370 mm, a length of 340 mm and flying weight of 53 g which does give a fairly high wing loading. Both models use the brushless AP05 motor combo pack. This is obviously a very different type of biplane as it has ailerons on both wings and is designed for aerobatic, Pitts type flying. Like any small model of this type good piloting is essential to avoid damage to the lightweight airframe. I don't think we will be capturing any formation flying with this pair of biplanes!

Andy found, as I did with my Fokker D VII, that test flying in suitable conditions outdoors was the answer for initial trimming. Once this has been done then the confines of the indoor airspace are less of an issue. Microaces have a very wide range of scale WW1 biplanes available if you want to go down this route. These scale models look absolutely wonderful in the air wherever you fly them.

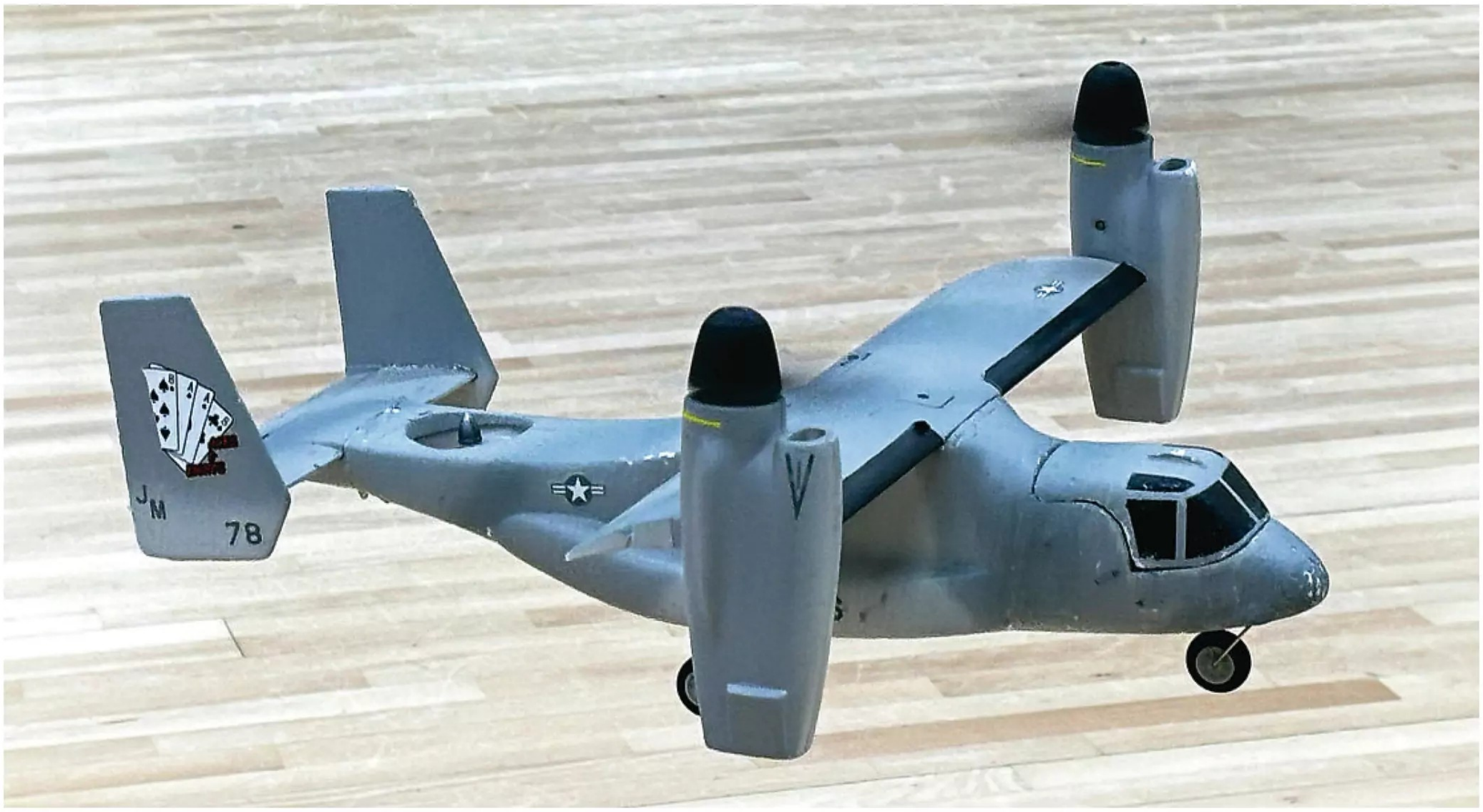
OSPREYS IN THE AIR

I tend to keep my Horizon Hobby Osprey for outdoor use, although wind strength is a significant factor for this model. Flying indoors one has to be cautious as although this model is not difficult to control it lacks the rock-solid stability of a typical small indoor fixed pitch (FP) helicopter. This can be a factor to consider when we have a gym full of small helicopters and it's important to keep to one's personal flying space. With deft use of the sticks one can hold the Osprey very steady but it is physically larger than a micro helicopter. However, when another flier brought along his Osprey, I thought it presented an opportunity for his and mine to meet up.

This Horizon Hobby model, like many others, had an 'availability life' and you would have to do some searching to find one now. A goodly number of them must have been sold in the UK and some must linger on and possibly be available in the 'used but still flyable' category.

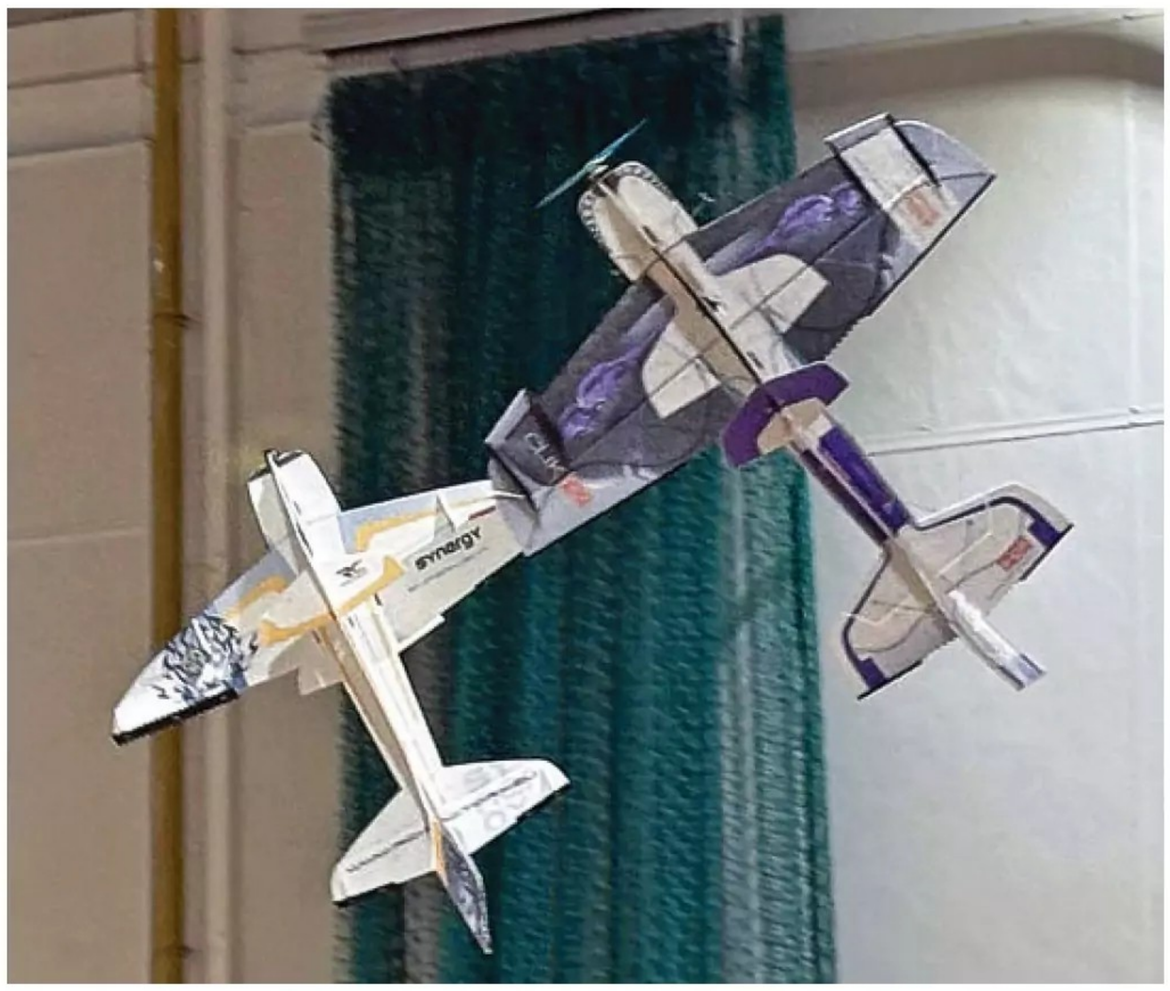
This small biplane flies really nicely and looks very 'scale-like' in the air.

Standard Microaces Banshee and the 'special' G-BOOK Pitts version.



Not often flown indoors. The E-flite Osprey.

A special treat. Two Ospreys flying indoors!



My new Clik 25 and a Synergy from James do a bit of formation flying.

"…one can do nice roller takeoffs and landings on a hard surface"

I actually reviewed one for RC Model World and found it great fun in the 'hover' mode but difficult to fly in 'aircraft' mode. Why? Well, it was small, it had to fly fast due to the small wings and it didn't help that it was grey!

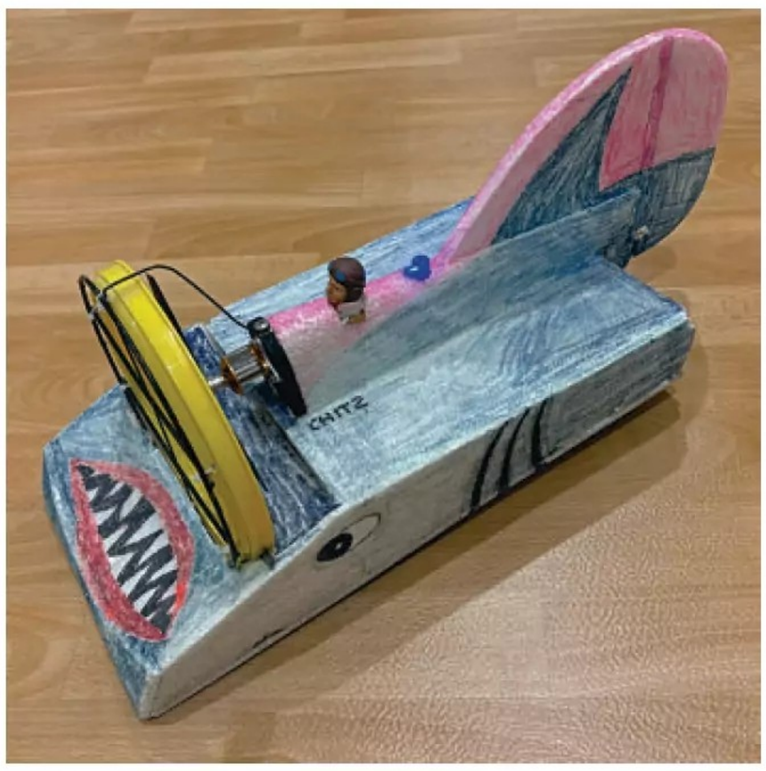
In fact, the forward speed in hover mode is fast enough to be interesting and one can do nice roller takeoffs and landings on a hard surface. So, David and I enjoyed some hovering Osprey scenarios and I was then happy to put her back in the hangar. David's Osprey is the only other one I have ever seen flying, other than a few of the full-size versions.

JUST A CLIK 25 AWAY

Although I don't go in for highly specialised big aerobatic models outdoors, I do enjoy flying my foam, profile, aerobatic models from the RC Factory. I'm particularly fond of the Bucker Jungmeister.

It would be rare for me to not to include whatever aerobatic manoeuvres any model is capable of whenever I go flying. However, when it comes to indoors, particularly in a limited flying space, a model designed very specifically for indoor aerobatics is really a must. Typical FP3 flying demands a lightweight, slow flying model. Of course, heavier and faster profile foam model are capable of aerobatics indoors but can be a danger to themselves and other models. Our 'all foamies' session has the highest attrition rate! I have models of this type and only fly them with other models of the same persuasion.

But when I get the opportunity, it will be my RC Factory CLIK I will fly for an ultimate aerobatic experience. My early CLIK has served me well but as models age, they definitely put on weight. Due to its clever design and the judicious use of



A gifted Chiticat proved a 'hot cat on a gym floor' alright!

The second fried ESC was not a pretty sight! It was the motor at fault.

The receiver's hard case protected it from internal damage.

P747 Air and Sea Glider. Well, they had to call it something!

carbon fibre (CF) rod and strip, the lightweight 3 mm EPP structure has generally kept its shape. However, it does not require much of a twist or bend to influence the flight pattern.

I will be taking a closer look at my CLIK 25 in more detail next time.

FIRE IN THE HOLE!

In the early days of higher power electrics, when using brushed motors and quite basic ESCs, I used my Astro Flight Wattmeter regularly. I was often checking amps and watts to ensure nothing was overloaded. Although I now have a more modern version of the meter, I rarely use it. I think that this is mainly due to the fact that many models are bought with ready fitted with motor/ESC combos. Plus, higher capacity ESCs are much less expensive. However, a recent experience was a reminder of the consequences of overloading an ESC...

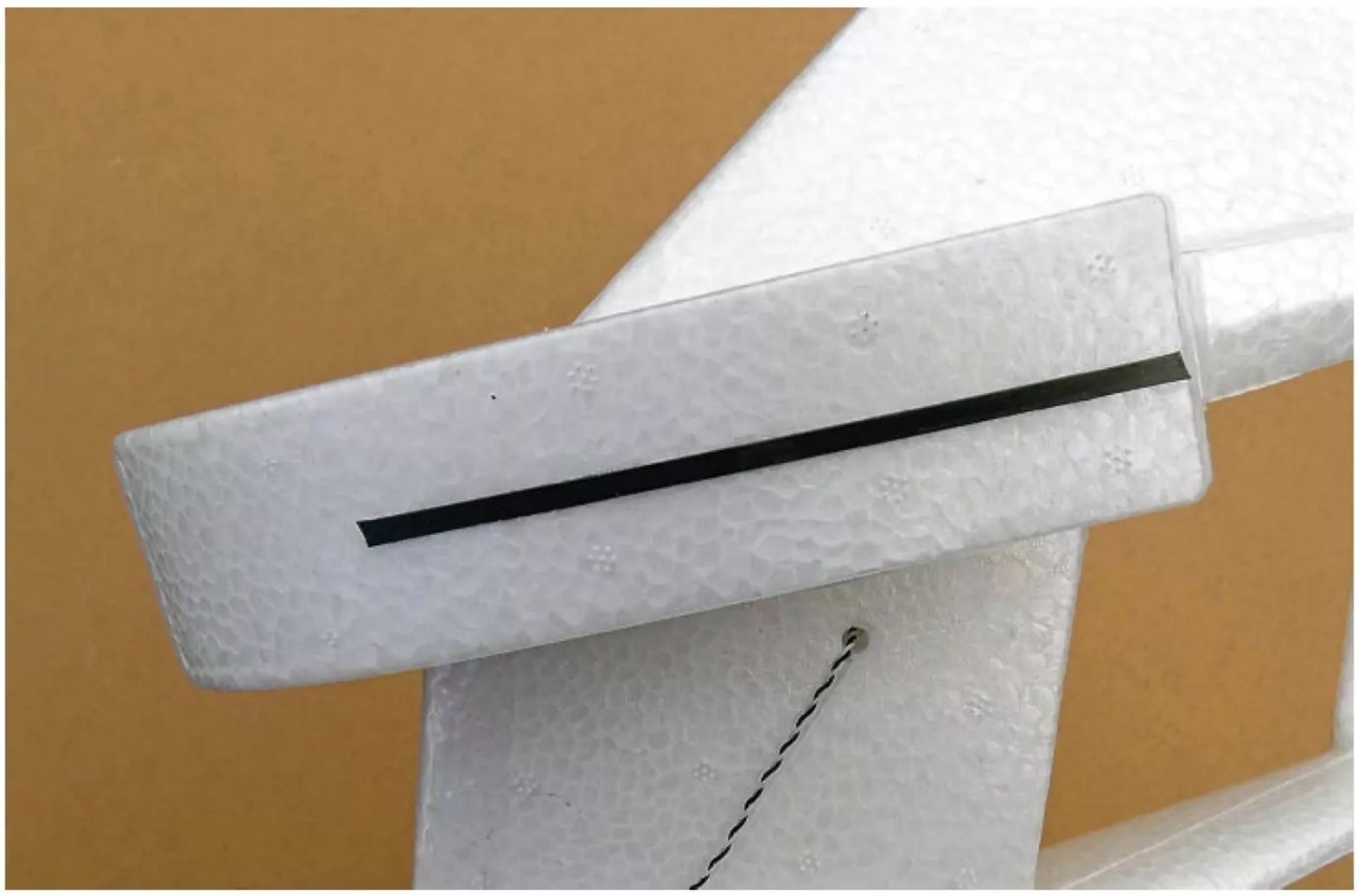
Since I introduced club members to the amazing Chiticat hovercraft (well, more of a ground skimmer really), I have worked my way through two of them. So, when offered a virtually unused model I eagerly accepted as it would replace a very tatty one. Chiticats are all about speed and my first flight was disappointing, a pedestrian rather than Olympic sprinter. Upon checking, I found it had a 2200 kV motor which was not giving the revs on a 3S LiPo pack. Using a 4S pack brought about a modest improvement but I was definitely not the leader of the pack. This would not do, so I wasted no time in ordering the 2800 kV size motor used in my previous versions. As the earlier motor/ESC combo had run with no issues on a 3S and 4S pack, I had no particular reason to expect any issues with the new motor on a 3S pack.

So, you can imagine my surprise when after only a few metres of flight/slide I thought I saw a puff of smoke come from under the model. As I picked it up the ESC literally burst into flames. Fortunately, I was close to our entry/exit point which happens to be a fire door! I rushed outside trailing smoke and saw that the ESC was literally volcanic. The LiPo was quickly unplugged and the ESC had by now literally burnt itself out. Possibly due to the Velcro holding the ESC in place the EPP was minimally damaged, but the receiver and gyro looked decidedly singed. The hard cases on both of these had saved them from internal damage and they were still functioning. I would not trust this gear in an aircraft, but I think they are okay for ground-based indoor use.

I suspected a faulty ESC rather than an overload, but a second ESC fire showed that the problem was in fact with the motor, an unusual one for me. The motor was replaced, plus a third ESC (luckily, they are inexpensive these days) and everything was back to normal.

WATER WINGS INDOORS & OUT

Like most model flying enthusiasts, while I may be interested in alternatives to flat earth flying, lengthy drives to appropriate sites are off putting. So, while I have tried slope soaring and water planes my current location makes these genres out of comfortable reach. However, when, for the second year running, part of our flying field flooded, it seemed like an opportunity to test the water. I did not



CF strips aid gym floor take-offs.

P747 waiting for its first water take off on our flying field flood. It took off, flew and landed without any issues in highly unsuitable wind conditions.

Walkera IFO 5 was a forerunner of today's amazing quads.

"I was close to our entry/exit point which happens to be a fire door! I rushed outside trailing smoke…"

have a foam model suitable for even a basic 'add two floats and fly' approach. However, last year's inundation stayed for many months, so I decided to look at a different possibility.

Scanning the online range of small RTF foam models there were several that claimed to be amphibious. They were all twin-engine models using proportional throttle steering, probably all using identical R/C components but in a variety of intriguing shapes. I chose through a combination of cheapness and promise, possibly fanciful, of a fantastic flight performance. My model arrived in time to test at one of our indoor sessions - it certainly tested the robustness!

The model I purchased is called a P747 and is listed as a Sea & Air Glider. It has a 350 mm wingspan, a length of 290 mm and a flying weight of 67 g. The power for the two pusher motors comes from a 1S 500 LiPo. It's an intriguing design and is made from tough foam. Motor tests showed there was there was no shortage of power.

I wanted to see if the model had indoor potential and, while I'm very familiar with steering via proportional motor control, one has to get into a particular 'mindset'. ROG was attempted and after a long slide the model took off. But being on full throttle it then did a vertical climb. One's first reaction is to cut the throttle which, of course, also cuts your steering! By now you have run out of airspace and the model carries out an indestructibly test. However, a second attempt had the model flying well, it being fast but under control, albeit with a preference for turning left.

Now familiar with the flying characteristics I was able to do ROGs successfully. There is not really a slow speed setting and indoors the model was best kept in a circular flight pattern rather than big circuits using more of the hall. I now appreciated it would have been preferable to test fly the model outdoors where the speed would be less of an issue.

While all this had been going on a fellow club member sneaked in and claimed a first for an 'off water flight' at our field. Chris has a nice electric Catalina which had previously only ever been hand launched and grass landed. He managed to successfully take off and land on our mini flood lake. Undaunted, I took my model to the flooded area of the field on a mixed fortunes day. I say mixed as the wind was producing nice waves on the water, but it was also really too strong for such a small model. Clad in my best wellies I soon had the model taxiing with moderate success due to the strength of the

My Neo with the motion controller has given me lots of fun indoors and outdoors.

wind. After a couple of dodgy take off attempts, when the hulls tended to dig in, the model, aided by the waves, unstuck and flew.

What struck me, and the spectators, was how amazingly stable the model was as it was relentlessly carried downwind. However, the idea had been to both take off and land on water and this was achieved several times. Attempts to fly circuits always ended in premature landings on the field to avoid a long downwind walk.

The verdict? The model actually flies well and is an amphibian but will always be limited by the control system. It was fun to use and I will certainly be trying her again in better flying conditions, even when the field is no longer inundated. I will also buzz her around at our indoor sessions where she has a tendency to imitate a pylon racer!

INDOORS WITH NEO

The new DJI Neo, reviewed by Kevin in the February issue, has already given me more fun than any of my previous quads. It is small and incredibly versatile, and you can even flip it! It's proving great to fly indoors with the N3 headset and Motion Controller. More on this aspect of flying to come perhaps.

My first experience with quads was with the Walkera UFO 5 which was very hi-tech in its day. It flew well but lacked the stability of modern quads; it was much more like flying a basic helicopter. I flew it in a very small space at the local Model Engineering Expo and it created a lot of interest. Little did we know! ■

All Write

Have your say in RCM&E's monthly chat room

Top letter

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

HANDLEY PAGE 'GUGNUNC'

Regarding the above heading, I would like to let you know that I have been working on a unique project for the last 40 years (slow progress). The aircraft is a 1/4 scale flying model of the HP 39 'Gugnunc' complete with flaps and slats. The original aircraft is hanging from the ceiling at the Science Museum in London. **(https://collection.sciencemuseumgroup.org.uk** and search for Gugnunc)

The reason for the slow progress is that I got married 34 years ago (a much prettier project). I am a member of the HPA (Handley Page Association) and an ex-employee. Although the aircraft is progressing slowly it included the design and construction of a five-cylinder radial four stroke glow ignition engine of 130 cc (1/4 scale capacity) of the Armstrong Siddeley Mongoose. I found that I didn't have to produce drawings of the airframe because I obtained 80 drawing files of the original aircraft. I have only produced original drawings of small components. To produce the fuselage, I made a two-sided jig and made opposing side panels covered with 1/64" ply, then I turned it over to assemble the fuselage. I then used the flat side to build the rudder, fin, elevator, tailplane, upper and lower wing panels etc.

Sid Hazell

A BLAST FROM THE PAST

As a long-time reader of RCM&E, I often enjoy articles about club build projects and also ones like Dave Goodenough's vintage electric conversion piece in the June 2025 issue. These stories of our shared passion for model building always resonate with me.

About a year ago a fellow veteran club member approached me with a black and white photo from 60 years ago. It showed him, a young boy, holding a small glider, ready for a hand launch. He expressed a strong desire to build that exact model again, but he lacked the plan. As it happened, I had built the very same glider around the same time and, by some stroke of luck, had kept the original plan.

This sparked an idea: why not propose a club project to resurrect this vintage glider, called Bambi, and convert it to electric power and radio control?

I announced that anyone who joined the project would receive the plans from me free of charge. Six enthusiastic members jumped at the opportunity, got their plans, and we began to build. The intention was to build the gliders precisely according to the original plans, with each participant sourcing their own electrical components for the conversion. To my delight, everyone thoroughly enjoyed the building process. The timeline stretched a bit beyond our initial estimates but eventually the group completed their individual gliders. We then had the immense satisfaction of a group maiden flight!

The main modifications we made to the original design were twofold: we reduced the dihedral angle to make it more suitable for controlled flight, and we incorporated rudder and elevator controls. Each of our finished gliders came in at a total flying weight of less than 200 grams, making them wonderfully light and agile. I used an

kcrozier@mortons.co.uk

old FM 72 MHz Futaba transmitter with a tiny receiver.

This project was a fantastic journey into our modelling past, bringing together members of our club to build and fly a piece of history, updated with modern electric power. It was a true testament to the enduring appeal of vintage designs and the joy of shared building experiences.

Ittai Peles

VK CHEROKEE

I was re-reading David Ashby's 'Just For Fun' column in the November 2024 issue when I came across the paragraph headed CFI (Chief Flying Officer) on page 32. I nearly saluted and then saw the reference to the Cambria low wing trainer. As David notes, this is a model type that appears to have all but disappeared but serves a very good purpose as one gains confidence after a high wing trainer.

Circa 1973/74 I built a VK Cherokee, an American kit designed circa 1965 as a low wing trainer and intended for 10-channel reed type radios and a 0.46 cu. in. two stroke engine. My memory tells me I constructed it from the plan a friend let me have, though I am not so sure now whether I may in fact have purchased the kit. The model was quite large, having a 65" wingspan and it proved a delight to fly with its thick symmetrical wing section.

The VK Cherokee was my first low wing model and was of traditional all built-up construction. The wings were covered with white nylon, sealed with clear shrinking dope. The fuselage and tail were covered with heavy weight tissue and clear dope. I spray finished the model in Humbrol enamel paints using a very basic Badger air brush hooked up to a spare car tyre air supply. There was much pumping with a foot pump between coats! I over sprayed with a clear polyurethane varnish.

The colour scheme I took from a Beechcraft Bonanza of the period. A Merco 61 twin plug glow engine provided the propulsion which, though a little over size, proved to be a good choice. The radio was a Skyleader four channel set. I later changed the engine to a Veco 61 with a Perry carburettor at some point. Additionally, I added some character in the form of black wet and dry paper walkways and some radio antennas. I used some draughting pens and ink to outline the cockpit windows, doors, surface hinges and some hatches/panel lines. The result was very effective.

I was lucky enough to have the opportunity to fly the model from the runway at BAC Weybridge. You may notice from the photo attached that I had to incorporate a cable (multi-strand control line wire) that operated a friction brake (flapper) which straddled the twin wire nose leg. It was operated on full down elevator to keep the model in check prior to take off and after landing.

Last winter I met an old friend from my secondary school days at the AGM of the Basingstoke Model Aero Club. While we caught up on what we had been doing the last 40 plus years, he reminded me that he had purchased the VK Cherokee and also a Cessna 210 from me. I had been wondering what became of these models (see pictures) as I had no recollection of what happened to them.

I wonder whether any of your readers built the VK Cherokee.

Keith Cherrington

Mate, Yann holds his 40% Piper Cub. Only 12 kg ready to fly, it will fly aerobatics on its 10% inset ailerons. See 'Little & Large'.

WEAK BUT WILLING

This time **Dave Goodenough** adds to his diesel collection, looks at control surfaces on wings and witnesses a Spruce Goose take to the air

Words & Photos: **Dave Goodenough**

As mentioned in a previous 'One Man...', I had suggested following up on a theme I'd been asked about earlier: converting existing model kits from rubber power to electric powered R/C devices. It's been done before by many, from the small, scale kits supplied by several companies, up to models approaching a one metre wingspan. So where to start?

As before, I like to take a pragmatic approach. Don't try and reinvent the wheel, take a reasonably sized model, use easy to source and cheap equipment and only add extra wood and weight where it's absolutely necessary. Specialised, ultra-small/light avionics and tiny models can wait until later when experience has begun to build.

As a test model I chose one of the Dumas range of 30" (750 mm) wingspan rubber powered kits. The Citabria Champion's shoulder wing position and decently wide chord provides a platform virtually ideal for simple rudder/elevator/motor control and saving the extra weight and complexity of ailerons. Some modifications are inevitable and necessary, such as ready access to a battery compartment, motor and servo mounting, plus slight 'beefing up' of the undercarriage mounting to resist the stresses of landing loads in faster/heavier model arrivals.

SOFTIE?

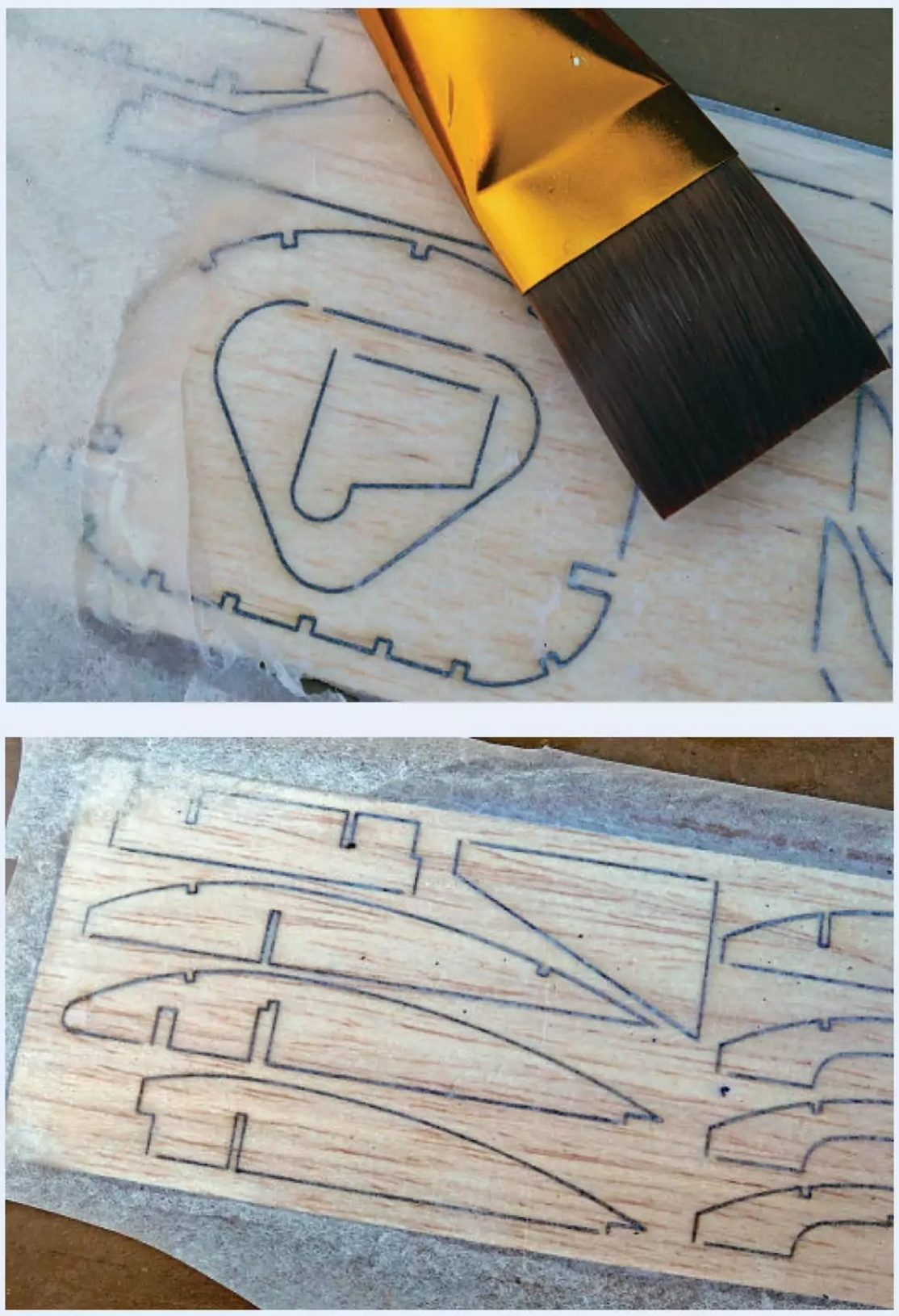
One 'problem' with some kits destined for rubber power is that they often use softer or lighter wood selections for the various parts. Not ideal when you're adding extra power and weight to the finished model, and Dumas kits are notorious for it. But there's an old wrinkle that can add strength with very little weight gain: cover the wood former sections with tissue doped onto both sides of the piece. It may seem odd, possibly a bit fiddly, but it certainly toughens the parts and renders them a little more user friendly and crash resistant. The nearby photo gives an example. This isn't a new idea, rather a sensible idea learned from the days of Keil Kraft and Veron small scale kits. Many of their fuselage formers were of oval section and used tiny slots to fit 1/16" square stringers. The sometimes-fragile sheet wood would often fracture when cut, shedding corners of the slots and driving the builder bonkers in the process. Doping tissue on the printed sheet wood helped to stabilise the timber and prevent fracturing. This can still help with small laser cut parts.

THE GIFT OF HISTORY

A short while ago my good mate Glyn Downing, resident in the County of Hops, sent me a small package with a distinct, pungent and, for an elder practitioner of infernal confusion engine meddling, unmistakeable odour. Contained within the oil-stained wrappings were several small engines of varied make, ignition and capacity. All had met some form of catastrophe and needed some TLC.

Who cares, I hear you ask. Well, I do!

They may be small and almost inconsequential in these days of big bruiser 'gas' motors and howling electrical thrust, but small model building and flying has never gone out of favour, whether R/C or free flight.

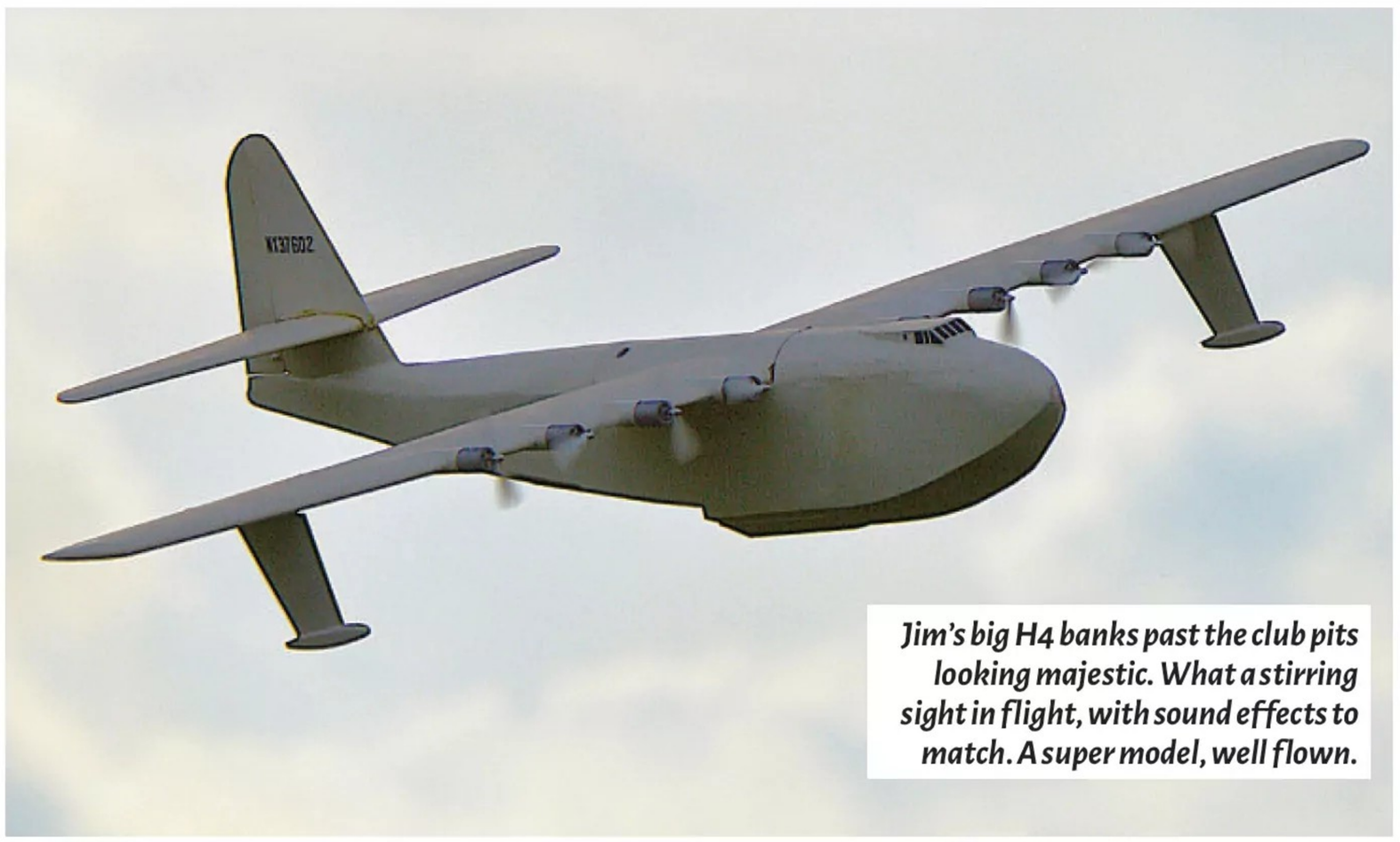


How do you strengthen softer balsa sheet kit components? Just dope on tissue facings to both sides before you cut them free. Virtually no weight gain but lots of added strength and breakage resistance.

A batch of 'whoopsie' engines. Some crashed, others meddled with, gifted by my mate Glyn. All to be worked on and resurrected for use, eventually.

Get up there! An energetic launch gets the Spruce Goose away and gives scale to the seven-foot span model.

"…there's an old wrinkle that can add strength with very little weight gain: cover the formers with tissue doped onto both sides of the piece"



Jim's big H4 banks past the club pits looking majestic. What a stirring sight in flight, with sound effects to match. A super model, well flown.

To most modellers over the western side of 'the pond' diesels are little more than the Devil's work; they long ago decided that glow was the way to go and stuck with it. Here in the UK and Europe we were perhaps a little wiser and understood the benefit of diesel engines, with their ability to swing bigger props more efficiently and run on a mere sniff of fuel. Even now PAW diesel engines remain popular and rightly so. The strength, power and relative quietness of diesels are legendary, with many in the vintage movement preferring them to other IC engine types.

I'll be diving into these little jewels to see what can be done to return them to use and, if they need bench work, I'll detail it here. A couple are relative rarities: one is an Allbon, t'other was identified by Tony Eifflaender of PAW engines as a Kingcat, probably a 1.5 cc device.

SPRUCED UP

A recent playtime at the club patch saw a rarity emerge from Jim Harrison's model taxi.

Touchdown! But the starboard tip float lands first and begins to tuck under. Thankfully, the breakaway float does just that, preventing worse damage through digging in.

Somewhat familiar, the eight props ranged along the tapered wings rather gave the game away, confirmed by the complete lack of any undercarriage complication. A Hughes H-4 Hercules - the Spruce Goose - isn't what you'd normally expect to see so far from lake, river or sea. One's 'must find out more' glands were massaged and I moved in to 'black my nose'. The props gave me some ideas as they looked like the types used on DC 'can' motors used in the early days of electric oomph. Moving closer in and it was clear that's exactly what they were, 480 size inners and 400 outers. Said motors looked to be attached at their rear backplate and the motor cans formed the forward part of the engine nacelles. Simple, great for cooling and looking 'just so' for scale.

Whilst being fettled in the pits, minor mortals cast furtive eyes across to where this pale and impressive curiosity was being readied for flight. Jim's rendition is from an old plan of 86" span and with the weight saving change from NiCad to LiPo batteries some of the structure was given extra sheeting for added strength. It's covered in Solartex and sprayed the appropriate colour.

Once girded and with hypertension under some form of control, a clubmate hefted the winsome beast into the air, the musical thrum of all eight motors making the toes curl. Never mind the supposed lack of motor efficiency, away went Howard's folly into a steady climb like a well-mannered trainer, before the power was eased back to 'cruise' and the majestic model droned overhead, being flown sensibly and within the envelope you'd expect from a huge seaplane. In the correct sense of the word this model is awesome in flight, both in its visual impact and the wonderful sound. The gathered modelistas were enthralled.

All too soon it was time to ease the battery load and land the water-based wonder. But with only a sea of short grass available the arrival needed to be executed perfectly. Brought in long-n-low the Goose drew out the barely powered approach on the level, before a puff of sidewind lifted the port wing just enough to drop the starboard and cause the wingtip float to clip the sward. Thankfully, the 'breakaway' float attachment did just that, departing the wing and saving the H4 from a nasty turf twiddle and ground loop. No damage, a superb flight and garnering well-earned applause from his mates.

> "…this model is awesome in flight, both in its visual impact and the wonderful sound"

It was later taken out after a light snowfall and managed a slithering take-off and landing, with no report on the state of the intrepid (?) pilot and his frigid extremities.

A DIFFERENT KIT

I've been at it again, snouting through the supermarket aisles for 'that'll be usefuls' to make modelling life a bit easier.

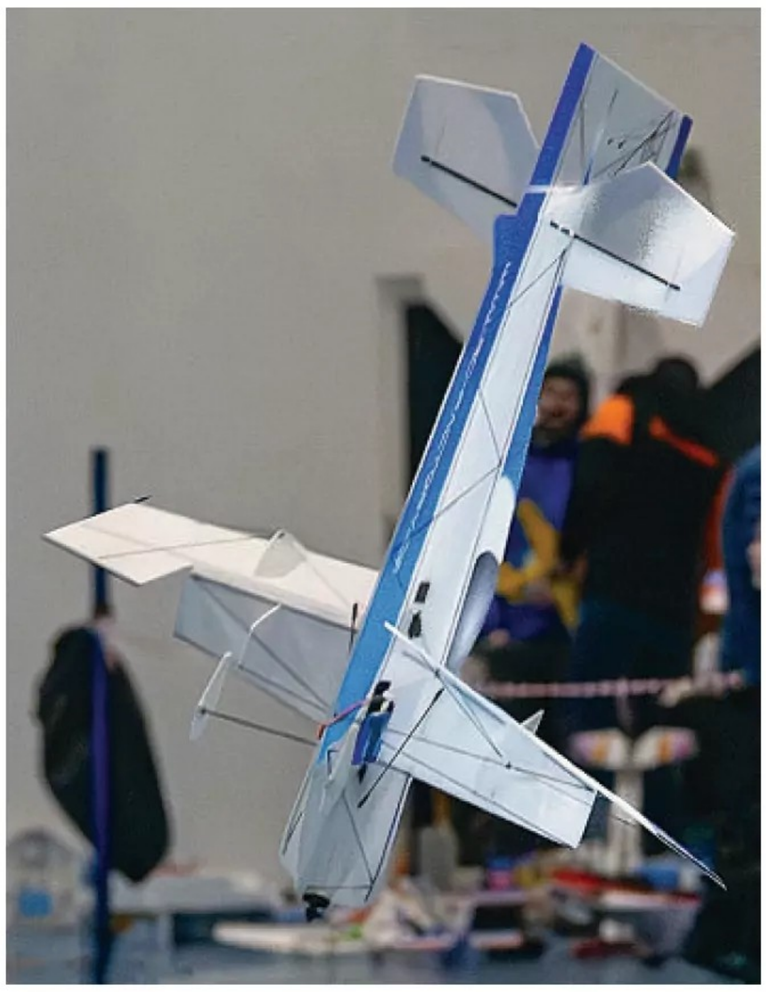
My workbench, along with the rest of my workshop, has become the repository of so much cr** that I begin to despair of where to put the next tool or handy part. Once again, passing down the aisles full of items I never knew I needed, I espied another item that I simply couldn't do

Jim braved the elements after a light snowfall, enjoying some super slithering take-offs and landings.

Okay, it's a disaster. One end of my workshop before tidying. It didn't look much better afterwards!

Another bargain that tidies the bench just a tad. In retrospect, I should have bought a couple more.

The 'Middle of' file set. To me the perfect size that fits betwixt needle and standard sizes. Good quality and cheap at the price.



How extreme can you go? This indoor 3D model has around 65% of the wing as aileron and uses absurd deflection angles. Indoor aerobatic models are a special case.

My absolute hoot-to-fly VQ Models 'Bunter Fredy' Pilatus P6 Porter before a failed wing strut caused its demise. Fully aerobatic on 11% inset ailerons before it jettisoned a wing in flight.

without - a small desk tidy. The reasoning is that if you can't spread outwards, go up!

This benchtop thingummy helps to gather into one place all the stuff used regularly that oft migrates to places out of sight and mind, sometimes even to the floor when I exercise a degree of clumsiness. It may look like plywood but is in fact vinyl covered, hard compressed cardboard, the whole thing slotting together like a jigsaw and held together with silicon O-ring bands. It sounds cheap and cheerful, and it is, but for less pounds' sterling than you have fingers on one hand, it certainly has helped tame my errant untidiness a smidgeon.

FILE IT AWAY?

Just today, as I write, herself was shopping with me in reluctant tow as the 'willing hoss' and burden carrier. Once again in the 'rhymes with middle' store, I was instructed to, *"Avert your eyes, sunshine!"*. But it was too late. I had seen another bargain and, as any dedicated 'toolophile' would understand, I had to have it.

It was a kit of small files that in size sat between needle files and small standard sizes, perfect for those jobs where a needle file is too fiddly/small and larger units too clumsy. The icing on the cake was the 'comfort handle' to stop those nasty slippages and shredded skin that oft happens when engaged in fiddly filing. For less than 'sick squid' (think about it) that's only one pound per good quality file, with the handle chucked in as a freebie.

Keep an eye out. They're on the shelves now and then.

BEGINNER'S BUNDLE

Ailerons! There, that's got some of you worried...

An e-nudge from our exalted editor mentioned that it might be a good idea to chat about them; their use, sizes, mounting and hinging, amongst other things.

It's a daunting prospect for some of our less experienced and first-time designers, builders or modifiers of kits and designs originally planned without 'wing wagglers' so to keep things simple I'll leave more complicated scale aileron hinging and control linkages to the specialist model builders and concentrate on the simpler, well-proven methods.

I could rattle on with thousands of words about each aspect of these roll control devices, but that would be as boring as counting your current stock of modelling pins. Instead, I'll cover a different specific each month and hopefully retain your interest. I'm certain you'll let me know if I've got it wrong!

WHY AILERONS?

For some earlier full-size aircraft, they were seen as unnecessary. The little 1920s/30s

This Fly Baby will happily accomplish mild aerobatics with its 10% wing area, mid-hinged ailerons. It flies like a trainer.

This 78" (2m) Dornier 228 was completely designed, built and flown by a beginner. Trevor used just 9% of wing area ailerons and found them more than enough for adequate control.

The Hyper Bipe was a super fun model produced some years back. With 20% ailerons on all wing surfaces it provided furious aerobatic enjoyment but was definitely NOT a training plane.

"An over-deflected large aileron can cause control reversal by the drag of the aileron countering the lift/roll of a wing"

Pou de Ciel (Flying Flea) flew perfectly well with just forewing tilt and rudder control. Very early aerodynes had no dihedral and rudimentary wing warping - twisting the wing's frame and fabric. But for proper roll control it was quickly found that you can't beat a good pair of ailerons out in the breeze. All kinds of shape, size and position were tried, even as add-on trailing edge excrescences to wings originally designed without them, as were the odd 'pull one direction, spring return' failures. The general rigid push-pull devices that all aeroplanes use now finally ruled, after countless cockups and Mother Earth collisions. From ultralights to fast jets, rigidly controlled ailerons reign supreme.

One fact proven along the rocky road of learned knowledge was that in general aircraft use ailerons both too big and with too great a deflection (the angle to which they present to a wing's airflow) can cause all kinds of problems. An over-deflected large aileron can cause control reversal caused by the drag of the aileron countering the lift/roll of a wing. The result is usually expensive and terminal! Indoor/outdoor 3D models thrive on ridiculous amounts of aileron size and deflection, but they are particular cases and can be ignored for this introduction.

For model use and simplicity, most ailerons are of two forms; a partial wingspan cut-out,

My 2.8m Dimona is pure airborne Valium for lazy day flying. At just 8% of wing area the inset ailerons are perfectly adequate.

Both the Nimrod and Latecoere are PSS gliders that fly under full control with smaller ailerons. Around 7% of wing area is plenty for adequate roll responses.

This Harmon Rocket is a sprightly performer o'er our club patch. It uses inset ailerons of just 10% wing area.

virtually always in the outer wing, or a full-span trailing edge strip section.

LITTLE & LARGE

I'm going to suffer some berating for this next statement but for general flying use an aileron should average around 12% of a wing's area; often more, seldom less. Most of my aileron equipped models, both sport and scale, fall in that general category, being of 8% to 18% wing area. If you check other models you'll no doubt find the same comparison.

Another statement to stir up the 'you got it wrong, mister' brigade is that for average flying, bigger ailerons need less deflection to effect roll control. Likewise, cut-out ailerons further out along the wing exert more roll leverage. It's simple physics and can be seen in full-size aircraft of all sizes and types.

If you are modifying non-aileron kits or plans this general rule of thumb will suit almost all designs. Unfortunately, there are some models that refuse to play nicely and sulk when you try to exert roll control. My scale Livesey DL5 is one such, where the ailerons are small (about 10% of wing area) and whilst the roll is adequate for sport flying, it refuses to even barrel roll with full deflection commanded. It's just too stable in flight.

Flying wings mostly use elevons, which combine both roll (aileron) and pitch (elevator) control in the same device and they can be lumped in with ailerons for the purposes of size, hinges, etc. Just for fun, my Ramphor flying wing manages control with tiny elevons, just 4% of wing area, yet as a glider it remains in full control, albeit with 'soft' reactions. It's guided rather than flown.

I'll leave the topic there for now and we can look at hinges next time. Where to place them, what to use and for what reasons.

TAILSKID

Sometimes, if you have that sort of thinking process, you'll find yourself in that state of quandary where you have lots of projects queuing for attention and you can't decide which to do next. It's my normal state - so many things to do and all of a dither where to start.

If you're in that *'do I, don't I'* state of mind regarding what model to build or repair, there's a phrase that may help: *Initium est dimidium facti.*

Basically: *Once you've started, you're halfway there.*

So just pick the 'most favoured' at the time and it'll all fall into place - or not!

Send me an email: **coetquidan@yahoo.com**

EXPERIMENTS IN 3D

*Have you ever wondered what it would be like to assemble and fly your first 3D printed R/C plane? Join **David Jowers** and son **Jack** as they take the plunge into model building using plastic printed parts*

Words & Photos: **David Jowers**

Jack looks pleased with his printed plastic P-47. It flew well after reinforcing the butt joints.

As an experiment, two different models were 3D printed to see if that kind of construction was viable and actually flew well. One was a P-47 Thunderbolt, the other a scale open structure Cub look-alike called a Zlin Savage Bobber. Both plans were from Plane Print.

The idea came from my son Jack and his clubmates at the Woodsprings Club who had the printing expertise and wherewithal, starting with the P-47. The construction technique was to very carefully align and join the sections of printed plane with CA glue, not so easy to do well. All other gear was either screwed or glued in place. Jack completed the prototype without any major problems but found the end result quite tail heavy, solved by using two 2200 mAh LiPo packs in parallel to get the balance right.

"The construction technique was to very carefully align and join the sections of printed plane with CA glue"

All I want for Christmas!

The size and style of the P-47 was akin to that of a hand-launched Fun Fighter with reservations about the thin surfaces and potential fragility if gripped too firmly on launch.

CHRISTMAS PRESENT

Jack presented to me the Bobber parts as a nice Christmas present. Over a leisurely two weeks I completed the airframe in the manner of an Airfix kit, with very few problems, although I did have to modify the undercarriage. The Bobber proved to be a different, interesting and quick build but again CA is not my favourite glue. The structure of the components was of a thicker section compared to the P47 and therefore resulted in a seemingly much stronger airframe. But, of course, it's much heavier giving doubts about the flying weight for such a small model.

"She flew perfectly at low and high speed with no bad habits.

THUNDERBOLT MAIDEN

On a very nice day the P-47 was readied for a test flight. Steadying the model for launching, I broke off a wing tip, dropped the rest and broke the propeller! My initial concerns proved correct, the fault being the minimal amount of surface available to be butt glued. Improvements were needed. Back in the workshop bands of glass reinforced tape were wrapped around all the butt joints to improve the monocoque stressed skin structure.

Next day, in perfect blue-sky weather and with a steady light wind, my hand launch was perfect for Jack to climb her away in a most excellent fashion, as always, and to put the P-47 through its test flight with great success. She flew perfectly at low and high speed with no bad habits. Lovely! The only drawback proved to be orientation when 'blinking-out' end on, due to the transparent plastic used, saved by the yellow plastic used for the cowl and tail.

I have yet to fly my Bobber due to recent storms. Relatively heavy for its size and with 60 Watts/Pound, we shall wait for the sticky muddy waterlogged field to improve or use tarmac if and when the rain and wind subside.

SUMMING UP

In retrospect the 3D approach worked well for the P-47, but it really needs an improvement in gluing areas to reduce its potential fragility. The Bobber is much stronger and easier to assemble but, of course, is heavier for its size. Swings and roundabouts, you could say.

If you like assembling a plastic kit and want something a bit different you will enjoy the experience. On the other hand, a quality expensive 3D printer is essential and don't use cheap filament or you will be disappointed. ■

Bobber awaits her maiden flight.

Counterpoint

A selection of new gadgets, kits and bits for you to buy

SEAGULL GILMORE RACER (50CC)

£694.99 l www.jperkins.com

One of the latest additions to Seagull Models' impressive inventory, this 81" wingspan Gilmore Racer is sure to stir the blood of any intermediate to advanced R/C pilot. With an imposing dummy radial, classic '30s wheel fairings, bracing wires, teardrop tail and iconic detailed livery, Seagull have perfectly captured the machine's style and powerful race pedigree in a semi-scale balsa and ply ARTF that simply oozes realism and has a flight performance to match. Requires a 40 - 60 cc petrol engine (or electric equivalent), 6-channel R/C and 6 x digital servos. Pop into your local J.Perkins dealer for a closer look.

JP CHALLENGER 50 SS ARTF

£239.99 l www.jperkins.com

Celebrating J Perkins' 50th Anniversary of service to the industry, this striking Challenger 50 Super Sport will appeal to just about anyone who has learned to fly and gone solo. Fit a .40 and it's a perfect, lightly loaded follow-on trainer. Fit a .50, up the rates and you'll unleash an aerobatic performance that'll have you smiling from ear to ear. Beautifully finished in a racy black, white and gold colour scheme this rugged, well-specified 53" span balsa built ARTF features a large, easy access canopy hatch, factory painted glass fibre cowl and spats, full hardware pack and an EP conversion kit. Suitable for .46 - .52 two-stroke, .52 - .70 four-stroke IC engines or a 4S LiPo and 790 kV electric motor set-up.

TOP RC S CUB 1500

£249.99 / www.jperkins.com

Easy to fly, docile, sedate and tough as they come, Top RC's new 1500 mm S Cub is a model that has something to offer everyone. A perfect training platform for beginners on low rates it's a pussycat that will happily stooge around and hover. But open up the settings, bang the sticks in the corners and it'll transform into a wild aerobatic beast that will also knife-edge. Available in three eye-catching colour schemes, complete with large, low bounce pneumatic tundra tyres (with air valve) and a pre-installed aerotow release, this all-season all-rounder is as versatile as it is pretty. Just add a 4S 2200 mAh LiPo and your Tx and Rx combo.

LIFECOLOR ACRYLIC PAINTS

£10.70 - £13.60 l www.airbrushes.com

Available in a range of subject-specific camouflage scheme sets, LifeColor water-based acrylic paints from airbrushes.com are ideal for both paint brushing and airbrushing onto plastic, resin, metal, vinyl, wood, cloth and ceramic. The wide range - 10 sets in total - includes basic gloss and matt colours and mimetic, based on the Federal Standard 595b correspondence, with each label showing the equivalent FS number. Each set contains either three or four jars of 22 ml paint. Of particular interest to aeromodellers, for example, is the RAF Day Fighter WWII set, which includes Dark Green UA 547 and Grey UA 5018 for upper surfaces, Medium Sea Grey UA 5011 for lower surfaces and Sky UA 550 for tail bands and propeller spinners. Ideal for touching in blemishes on foamie warbirds.

Going Places

Diary dates for the coming season

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

JULY

July 12 - 13

Woodspring Wings 25. Model Aircraft Show. From 10.00am to 16.30pm. The Woodspring Wings Model Aircraft Show has been a regular fixture on the flying calendar since shortly after the club began in 1989. It has since grown to be the biggest model aircraft show in the Southwest and attracts around 4000 visitors each year. The show features all-day model flying displays by some of the country's top pilots, plenty of traders and food and drink to suit all tastes. In recent years we have also enjoyed fly pasts by the BBMF Lancaster, the Red Arrows and the BBMF Spitfire, something we hope to continue every year. Located near Yatton in the Somerset Levels, Woodspring Wings is ideally placed to run a show of this size and popularity. The club owns a total of 21 acres of land including the flying field itself and adjacent fields meaning ample space for the event and plenty of free parking available. For more information please visit www.woodspringshow.co.uk or on Facebook. Camping available on site for the weekend with good advance discounts.

July 12 - 13

Pontefract 13th Annual Fly-In Weekend at Pontefract Park, southwest corner of junction 32 of the M62. Sat nav - WF8 4QD. Entry via huge white gate 1/4 mile south towards Pontefract. Further details see map on www.pandas.bmfa.org. Saturday 12th July - any R/C model type (electric or IC), plus control line (no free flight). On Sunday 13th July - Single Channel and Retro Fly-In for all age-appropriate IC and electric powered vintage and retro models (ideally up to the late 1970s but we are flexible as long as they fit in with the general theme of the day). Free entry, further details and updates at www.singlechannel.co.uk. To fly you must have insurance and your CAA documentation up to date plus any model over 7.5 kg requires BMFA B, LMA proficiency or equivalent recognised certification. However, feel free to bring along your models and display them if you don't want to fly. Limited free camping available, contact: Phil Green (philg@talk21.com) or Shaun Garrity (aeroomodeller@gmail.com)

July 19

Christchurch & District MFC Open Waterplane event is at Longham Lake on Saturday 15 July, 9:00 am to 15:00 pm. For electric power models, no IC or turbines. EDF by arrangement. Longham is a few miles north of Bournemouth. Full details are at www.cdmfc.org and the Longham pages. Parking is 200 m from the flying point and there are toilets on site but no other facilities so bring your own lunch! There will be a rescue boat for unlucky models. Contact Mike at roachfoxwood@aol.com three days before for weather check.

July 20

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

July 20

UKCAA @ Retford MFC at Bollington, Macclesfield, Cheshire, SK10 5AJ. Classic Aerobatics. This is a Fly-in with an informal contest over the lunch break. The contest will be to UKCAA Pick5/Pick7 rules plus a new fixed novice schedule for beginners. Guests and non-members are very welcome. Bring along any traditional aerobatic model (e.g. AcroWot) and enjoy the fun. For more information, please contact Martyn Kinder on 079890 25198 or email martyn@czd.org.uk

July 20

Classic Glider Fly-in at the Hole of Horcum, North Yorkshire, YO18 7NR. A fun day for all traditionally built R/C model gliders. BMFA membership required. £5 for non-members. Location on What3Words: snowmen.ordinary.caps. Lat - 54.332235. Lon - -0.690234. Walk to slope by 10:00 am and for more information contact Michael Kitchen on 01347 810685. Due to local MOD restrictions please contact beforehand for details.

AUGUST

Aug 2-3

Melton & District Model Club 60th Anniversary Model Show on Saturday to Sunday 2-3 August 2025 from 10.00 am to 4.00 pm 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, Tabletop Wargaming, BMFA Flight Simulator, Tombola & Raffle with prizes provided by Hornby Hobbies. Refreshments available. Free Parking. Call 07976 710270 for more information on Swapmeet, Car Boot & Classic Cars. Bookings or e-mail us meltonmodelclub@hotmail.com for further details

Aug 2-3

PSSA 'Fly for Fun' event at The White Horse, Westbury, Wiltshire. Meet at the White Horse car park. Pilots brief at slope location at 10:30am 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 go to //www.pssaonline.co.uk/about-us/events/

Aug 3

White Sheet RFC Scale Event. Scale Days could be either Saturday or Sunday, with the preferred day always being a Sunday. After analysing the forecasted conditions, the Scale Secretary will make the final on/off call on. Please note the reserve date of the 31st. Please check with the WSRFC before travelling: https://whitesheet.bmfa.club

Aug 17

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

Aug 16-17

Fun Fly Nationals at BMFA Buckminster. This is the formal British National Championship event for all the BFFA Classes, including the Foamy Class. First timers and novices are still most welcome. As this event will be held at BMFA Buckminster with camping available via manny@bmfa.org. Rules and general info at www.funfly.bmfa.org or via the Fun Fly Group Facebook page. Note that there is an A cert requirement for this event. If you would like to enter, please contact James Gordon, jamesrrg@hotmail.com or tel 07966 439835.

Aug 16-17

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 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 go to //www.pssaonline.co.uk/about-us/events/

Aug 23-24

White Sheet RFC F3F English Open. Please check with the WSRFC before travelling: https://whitesheet.bmfa.club.

Aug 24

UKCAA @ East Cheshire MFC at Bollington, Macclesfield, Cheshire, SK10 5AJ. Classic Aerobatics. This is a Fly-in with an informal contest over the lunch break. The contest will be to UKCAA Pick5/Pick7 rules plus a new fixed novice schedule for beginners. Guests and non-members are very welcome. Bring along any traditional aerobatic model (e.g. AcroWot) and enjoy the fun. For more information, please contact Martyn Kinder on 079890 25198 or email martyn@czd.org.uk

SEPTEMBER

Sept 5

UKCAA @ Buckminster, BMFA NFC, Lincolnshire, NG33 5RW. Classic Aerobatics. This is a Fly-in with an

informal contest over the lunch break. The contest will be to UKCAA Pick5/Pick7 rules plus a new fixed novice schedule for beginners. Guests and non-members are very welcome. Bring along any traditional aerobatic model (e.g. AcroWot) and enjoy the fun. For more information, please contact Martyn Kinder on 079890 25198 or email martyn@czd.org.uk

Sept 7

Basingstoke Model Aero Club's 20th Electric Fly-In at Deane, Basingstoke, Hampshire. Please make a note in the diary and come along to our 20th annual 'Electric Fly-In'. Take part in some great flying, view and discuss all things electric. In the past there have been some stunning models. Relaxed flying from 10:00, briefing 9:45. Prize giving and raffle at 16:00. Fee barbecue, soft drinks, tea and coffee. Prizes for best model and a raffle so please bring some change. Toilet on site. Obviously, the event is weather dependent so on the day go to the club website or FB page and there will be a message confirming if it's on or off. Location and full details http://bmac.bmfa.club/events or @basingstokemac on Facebook

Sept 7

White Sheet RFC Scale Event. Scale Days could be either Saturday or Sunday, with the preferred day always being a Sunday. After analysing the forecasted conditions, the Scale Secretary will make the final on/off call on. Please note the reserve date of the 28th. Please check with the WSRFC before travelling: https://whitesheet.bmfa.club

Sept 13

Christchurch & District MFC Open Waterplane event is at Longham Lake on 13 July, 9:00 am to 15:00 pm. For electric power models, no IC or turbines. EDF by arrangement. Longham is a few miles north of Bournemouth. Full details are at www.cdmfc.org and the Longham pages. Parking is 200 m from the flying point and there are toilets on site, but no other facilities so bring your own lunch! There will be a rescue boat for unlucky models. Contact Mike at roachfoxwood@aol.com three days before for weather check.

Sept 13

Tonbridge Gassers and Rubber Fanciers Indoor Flying at Kings Sport Centre, 601 Maidstone Road, Rochester, ME1 3QJ from 6:30 pm until 10:00 pm. Free flight, lightweight R/C and 3D R/C timed flying sessions throughout the evening. Contact Steve on 0208 942 5000 or Eric on 07763 398 416.

Sept 14

Scale Glider Fly-in at the Hole of Horcum, North Yorkshire, YO18 7NR. A fun day for all R/C model scale gliders. BMFA membership required. £5 for non-members. Location on What3Words: snowmen.ordinary.caps. Lat - 54.332235. Lon - -0.690234. Walk to slope by 10:00 am and for more information contact Michael Kitchen on 01347 810685. Due to local MOD restrictions please contact beforehand for details.

Sept 20-21

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 go to // www.pssaonline.co.uk/about-us/events/

Sept 21

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

Sept 26-28

Bring & Fly at Pen Y Berth, Pwllheli, Gwynedd. LL53 7HC. Hosted by the Lleyn Model Aero Club. As well as our superb grass strip, where our club house is situated, we have fantastic slope soaring sites nearby. We will be serving refreshments at our club site over the weekend with a sales tent for selling models. Adjacent to the site there are Camping/Caravanning facilities available with a café/bar. Public spectators are welcome and flight trials can be arranged. For further details contact Frank Pilling on 07867 361905 or visit lleymac.org.uk

OCTOBER

Oct 5

White Sheet RFC Scale Event. Scale Days could be either Saturday or Sunday, with the preferred day always being a Sunday. After analysing the forecasted conditions, the Scale Secretary will make the final on/off call on. Please note the reserve date of the 12th. Please check with the WSRFC before travelling: https://whitesheet.bmfa.club

Oct 10

UKCAA @ North Berks RMAS at NBRMAS, Landmead Farm, Garford, Oxfordshire, OX13 5PA. Classic Aerobatics. This is a Fly-in with informal contest over the lunch break. The contest will be to UKCAA Pick5/Pick7 rules plus a new fixed novice schedule for beginners. Guests and non-members are very welcome, bring along any traditional aerobatic model (e.g. AcroWot) and enjoy the fun. For more information, please contact Martyn Kinder on 079890 25198 or email martyn@czd.org.uk

Oct 11

Tonbridge Gassers and Rubber Fanciers Indoor Flying at Kings Sport Centre, 601 Maidstone Road, Rochester, ME1 3QJ from 6:30 pm until 10:00 pm. Free flight, lightweight R/C and 3D R/C timed flying sessions throughout the evening. Contact Steve on 0208 942 5000 or Eric on 07763 398 416.

Oct 18-19

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 go to // www.pssaonline.co.uk/about-us/events/

Oct 19

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

Oct 26

White Sheet RFC F3F Event. Please check with the WSRFC before travelling: https://whitesheet.bmfa.club.

NOVEMBER

Nov 2

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

Nov 8

Tonbridge Gassers and Rubber Fanciers Indoor Flying at Kings Sport Centre, 601 Maidstone Road, Rochester, ME1 3QJ from 6:30 pm until 10:00 pm. Free flight, lightweight R/C and 3D R/C timed flying sessions throughout the evening. Contact Steve on 0208 942 5000 or Eric on 07763 398 416.

Nov 9

White Sheet RFC Scale Event. Scale Days could be either Saturday or Sunday, with the preferred day always being a Sunday. After analysing the forecasted conditions, the Scale Secretary will make the final on/off call on. Please note the reserve date of the 30th. Please check with the WSRFC before travelling: https://whitesheet.bmfa.club

Nov 23

White Sheet RFC F3F Event. Please check with the WSRFC before travelling: https://whitesheet.bmfa.club.

DECEMBER

Dec 7

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

Marketplace

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

To use our **FREE READERS' AD SERVICE** simply fill in the coupon provided and we'll print your advert here, in Britain's best-selling R/C flying magazine

FOR SALE

UNSTARTED SCALE BIPLANE PROJECT, Avro Tutor 68" span, Dennis Bryant plan, Sarik laser cut wood pack, fibre glass cowling, information pack, Avro manual, magazine articles and colour posters - £160. P&P £10.70 extra. Call Martin on 01380 870008 (Wiltshire).

SC52 FOUR STROKE ENGINE in box. Appears new, exhaust port clean - £120. 01407 710312 or email john726robinson@btinternet.com (Anglesey).

SEBART KATANA 30E. Yellow, black and red trim. Turnigy 3542/1000, 60A ESC with fitted pilot, instruments, Hitec servos, 2200/3s. Flies superbly. Will take larger LiPos, in mint condition - £295. Buyer to collect. 01243 514042 (Chichester).

4-CHANNEL EASYSTAR, airworthy. Funboy, just needs trimming. All spares including props, batteries, two Spektrum transmitters, VAR receivers, plus 101 other bits and pieces. All must go as I'm giving up to look after my wife with Dementia – free of charge. But a donation to Alzheimer's Society would be appreciated but not conditional. Delivery at cost, or collection. 01789 721225 or 07929 649808 (Stratford upon Avon).

VARIOUS MODELS for sale, scale vintage gliders, control line, plus other bits – offers? Call John on 07864 297226 (Dorset).

GENTLE LADY GLIDERS, Phase 4, Phase 2 and others – offers? Call Graham on 01453 757904 (Glos).

TEN YEARS OF RCM&E, complete sets – free? Buyer to collect. 07771785505 or email blue.hills@btinternet.com (Battle).

ENGINE, planes, electric planes, electric glider, flight box, batteries, two transmitters, chargers – offers? 07496 710948 (Cambs).

VARIOUS MODELS for sale. Scale vintage gliders, control line, plus other bits – offers? Call John on 07864 297226 (Dorset).

AXMINSTER PERFORM ELECTRIC 400m Fretsaw, good condition, has had little use - £45. Call Tony on 01162 313377 (Leicester).

SEVEN A/C, Solartex covered, flown twice. For trimming with battery, motor, some with FRSKY Rx. Also, two IC models - Pete 68" wingspan, WOT 4 53" wingspan, both with Futaba Rx. RCV91 CD unrun, new and boxed. OS 46 AX run in only and boxed. Flight box, starter – offers? Buyer to collect (Suffolk).

BRIT PACK KIT, Ambassador Products 'Musketeer'. 40 size aerobatic airframe built during lockdown, brand new and unflown. Fitted with an O.S. 40 Surpass 4-stroke, four servos and Rx battery. Fit your Rx and fly - £80. Buyer to collect. Call Ian on 01460 394579 (Somerset).

O.S. FS70 Surpass - £75, O.S.40 Surpass - £50, O.S.40 4 stroke, earlier one - £40, O.S. Max 40 R/C - £25, JBA 61A ABC (Chinese) - £40, Frog 80 - £15, Flexible exhaust extension for FS40 and FS61, brand new unused - £5, Pair of Williams 5W diameter (5th scale) vintage wheels - £25 brand new, unused. Call Ian on 01460 394579 (Somerset).

WANTED

RADIO MODELLER No. 97 plan of a Bloas slope soarer. 07789 588873

E-FLITE Sky Skooter or Space Skooter, damaged or whatever, or similar small delta foamie (not pusher). Call on Mike 07482 117089 or edgeark@googlemail.com

PAT FRENCH DH 71 Tiger Moth kit or very good built model. 07413 172883 (Lincoln).

HANGAR NINE FOKKER DVII 60 scale engine. Template mount wanted. I have the blue and red version and am missing this part from kit. Call Alex on 07795 844810 (Hants).

ALL R/C MODELS WANTED, new or old, planes, gliders, kits, engines, boats, cars, radios, complete collections or job lots, countrywide collection. No hassle, cash buyer. Call David on 07940 791959 or email deserteagle357@hotmail.com (Clevedon).

ALL R/C MODELS, planes, boats, cars, kits, engines, radios etc. Complete collections wanted. Cash buyer, will collect countrywide. Email dorsetmodel@aol.com or call Michael on 01747 229725 (Dorset).

ALL UNMADE plastic aircraft kits; Frog, Airfix, Revell etc. Also aviation and military books, diecast aircraft etc. Please call 07973 885754 (Kent).

RCM&E

Post to: RCM&E, Marketplace, PO Box 99, Horncastle, Lincs, LNP 6LZ

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Signature ..... Date .....

Next issue

BMAC EASY GLIDER

The Basingstoke club holds an annual Fun Challenge Day with a different event each year. Their 2023 event featured a mass build of Spitty models made from Depron. For 2024, Roy Thompson proposed a glider challenge. The idea was to design a simple to build electric glider that would fly nicely with a reasonable glide. After researching suitable plans, Roy had the basis to start drawing up the 1.6 metre span BMAC Easy Glider which is constructed from 5 mm Vitrex premium foam underlay. Fibreglass cross-weave tape and packing tape is added for strength and colour, and the fuselage is basically a long foam box to hold all the parts together.

MODEL MAGIC

Always preferring scale models, Kevin Wesley has built several from kits and plans over the years. One, a third scale Neuport 24 featured on the cover of RCM&E in 1990. So why the Camel? Aside from its pugnacious looks and the obvious challenge, Sopwith's Pup replacement was chosen mainly for the amount of one-off metal parts that would have to be fabricated. Mick Reeves' third scale plans were the starting point of a project that would take two years to complete. David Ashby takes a close look at this museum class model.

JP SPECIAL

We always like to raise a glass in celebration when a Great British model company reaches a significant milestone. This time it's turn of J Perkins Distribution who are currently celebrating their 50th Anniversary supplying products to the toy and model trades. Graham Ashby, editor emeritus of this noble publication, and now leading the marketing department of this famous modelling brand, reports from JP's recent Trade Day held at BMFA Buckminster as well as supplying a potted history of the company's rise to the top of the UK modelling scene. We'll also be taking a close look at a special JP 50th Anniversary edition of Seagull's Challenger low wing aerobat, resplendent in eye-catching gold and black livery.

RCM&E
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PARTING SHOT

BRAKE TESTED!

During the 2024 Basingstoke All Electric Fly-In James Bennet was flying his HeeWing Ranger in FPV mode and following Dom Mitchell's Avios Super Tucano on a circuit. Dom decided to drop the flaps for a slow fly-by and, as the model slowed down, James' Ranger ploughed into the back of it! Dom's Super Tucano escaped pretty much unscathed, but James' Ranger disintegrated in mid-air and fell to the ground. James reported a few days later he'd repaired the model and it was back in the air again for more FPV shenanigans!

Mike Freeman

DATAFILE

Photo:	Mike Freeman
Camera:	Nikon D500
Lens:	Nikon VR 80-400mm f/4.5-5.6 G
Exposure Mode:	Shutter Priority
Aperture:	f/6.3
Shutter Speed:	1/500 s
Focal Length:	135 mm
ISO:	280
Metering:	Centre Weighted
Exposure Comp:	+0.7 EV

SERVO

HIGH PERFORMANCE DIGITAL SERVOS

MGB8555HV

SLOW START

METAL GEARS — BRUSHLESS MOTOR

S:	0.12sec/60° (8.4v)
T:	54.7kg.cm (8.4v)
W:	85g

£134.95

MGB8346HV

SLOW START

METAL GEARS — BRUSHLESS MOTOR

S:	0.10sec/60° (8.4v)
T:	38.0kg.cm (8.4v)
W:	83.7g

£114.95

MGB6928HV2

METAL GEARS — BRUSHLESS MOTOR

S:	0.05sec/60° (8.4v)
T:	28.0kg.cm (8.4v)
W:	89g

£109.95

MGB5216HV

SLOW START

METAL GEARS — BRUSHLESS MOTOR

S:	0.08sec/60° (8.4v)
T:	16kg.cm (8.4v)
W:	52g

£89.95

MG7232HV

METAL GEARS — CORELESS MOTOR

S:	0.09sec/60° (8.4v)
T:	31.5kg.cm (8.4v)
W:	72g

£73.95

MG5921HV

METAL GEARS — CORELESS MOTOR

S:	0.123sec/60° (8.4v)
T:	20.32kg.cm (8.4v)
W:	59.3g

£38.95

MG2810HV

METAL GEARS — CORELESS MOTOR

S:	0.07s/60° (8.4v)
T:	10.0kg.cm (8.4v)
W:	28g

£38.95

MG2611WHV

WING SERVO

METAL GEARS — CORELESS MOTOR

S:	0.10sec/60° (8.4v)
T:	11.0kg.cm (8.4v)
W:	26g

£42.95

MG2107WHV

WING SERVO

METAL GEARS — CORELESS MOTOR

S:	0.10sec/60° (8.4v)
T:	6.6kg.cm (8.4v)
W:	21g

£44.95

MG5510DS

METAL GEARS — BRUSHED MOTOR

S:	0.12sec/60° (6.0v)
T:	9.98kg.cm (6.0v)
W:	55.6g

£23.95

MG1703DS

MINI SERVO

METAL GEARS

S:	0.10sec/60° (6.0v)
T:	3.3kg.cm (6.0v)
W:	17g

£14.95

MG1003DS

MICRO SERVO

METAL GEARS

S:	0.10sec/60° (6.0v)
T:	2.5kg.cm (6.0v)
W:	11g

£8.95

All MacGregor Servos have a 25T spline with JR style lead and plug

MACGREGOR SERVO ARMS

Single Arms

ACC0190 - 1in Aluminium Servo Arm M3 - **£5.95**

ACC0020 - 1.25in Aluminium Servo Arm M3 - **£6.95**

ACC0076 - 1.5in Aluminium Servo Arm M3 - **£7.75**

ACC0023 - 2in Aluminium Servo Arm M3 - **£8.75**

Offset Double Arms

ACC0025 - 3in Aluminium Offset Double Servo Arm M3 - **£8.95**

ACC0082 - 4in Aluminium Offset Double Servo Arm M3 - **£9.95**

BOEING C17 GLOBEMASTER

XFly Model is proud to announce its first transport aircraft C-17 in the EDF range. With a 1200mm wingspan, the C-17 features a scale outline and details including four efficient engines and landing gear. The factory pre-installed power configuration, includes four 40mm fans with 1413-KV5000 brushless motors and four 20A brushless ESCs, paired with a 4S LiPo battery, delivering an abundance of thrust for vertical climbs, rolls, loops and other maneuvers.

NEW!

FEATURES:

- Four efficient 40mm EDF power configuration delivering an abundance of thrust for vertical climbs, rolls, loops and other maneuvers
- Landing gears with dual wheels designed for grip ability, accuracy and stability
- Battery compartment reasonably designed to easily achieve a proper C.G.
- Extended flight time of 3-8 mins when using recommended 4S 2600-4000mAh LiPo battery
- Quick and easy assembly
- Full painted with decal pre-applied

SPECIFICATIONS:

- Wingspan: 1200mm/47"
- Length: 1050mm/45"
- ESC: 20A x 4
- Flying Weight: 1560g
- Wing area: 16dm²
- Motor: 1413-KV5000 x 4
- EDF Size: 40mm 12-blade
- Servos: 9g servos x 7
- Recommended Battery: 4S 2600-4000mAh
- Radio: 5CH – aileron, elevator, throttle, rudder/steering, flaps
- Skill Level: Intermediate
- Aprox. Flying Duration: 3- 8 mins

Requires: Radio, battery and charger to complete

E&OE.

XFLY-MODEL

Part No: XF124P Boeing C17 Globemaster – W/O TX/RX/CHARGER & BATT

RRP: £ 309.99

28

24

500

NOTE: BEND JOINER BAR SLIGHTLY TO MATCH THE ANGLE OF THE OUTER PANEL SPAR

J2

R1A

R1

0.8mm PLY WEBS PLATES IN FRONT OF MAIN SPAR

R1

CG TARGET 48mm

400

R1A

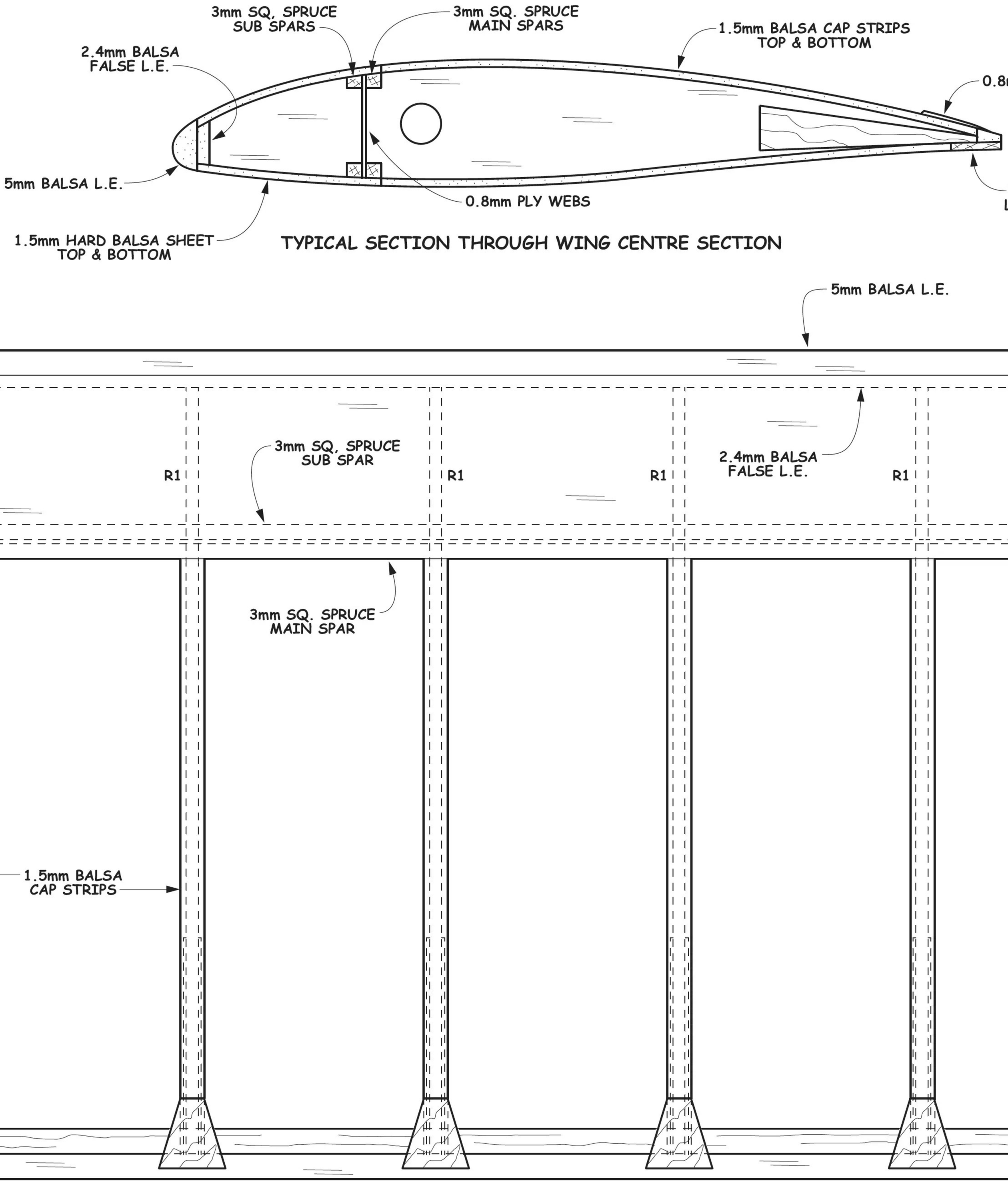
R1A

R1 ROOT

ALL RIBS R1 EXCEPT 1st TWO RIBS AT ROOTS

300

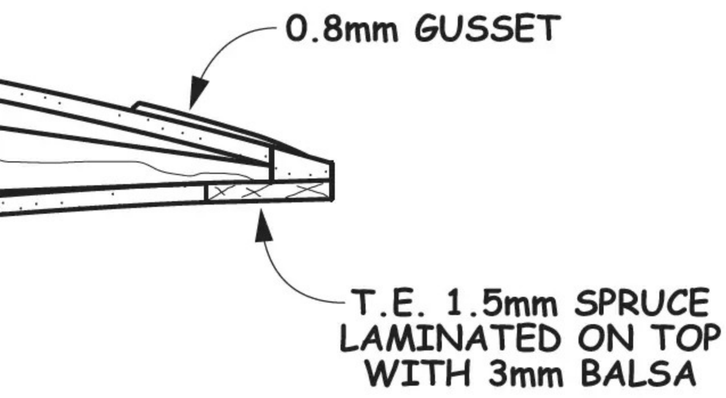
T.E. 1.5mm
LAMINATE
WITH 3m



TYPICAL SECTION THROUGH WING CENTRE SECTION

6 12 8

TRIPS
A



KELSEYmedia

BALSA L.E.

J1

1.5mm HARD BALSA SHEET

R1 R1 R1 R1 R1

FILL IN BETWEEN
CENTRE RIBS WITH
SOLID BALSA

HOLES FOR
Ø5mm PLASTIC
BOLTS

1.5mm HARD
BALSA SHEET

WING R

LANS

EANS,
N STORAGE
..

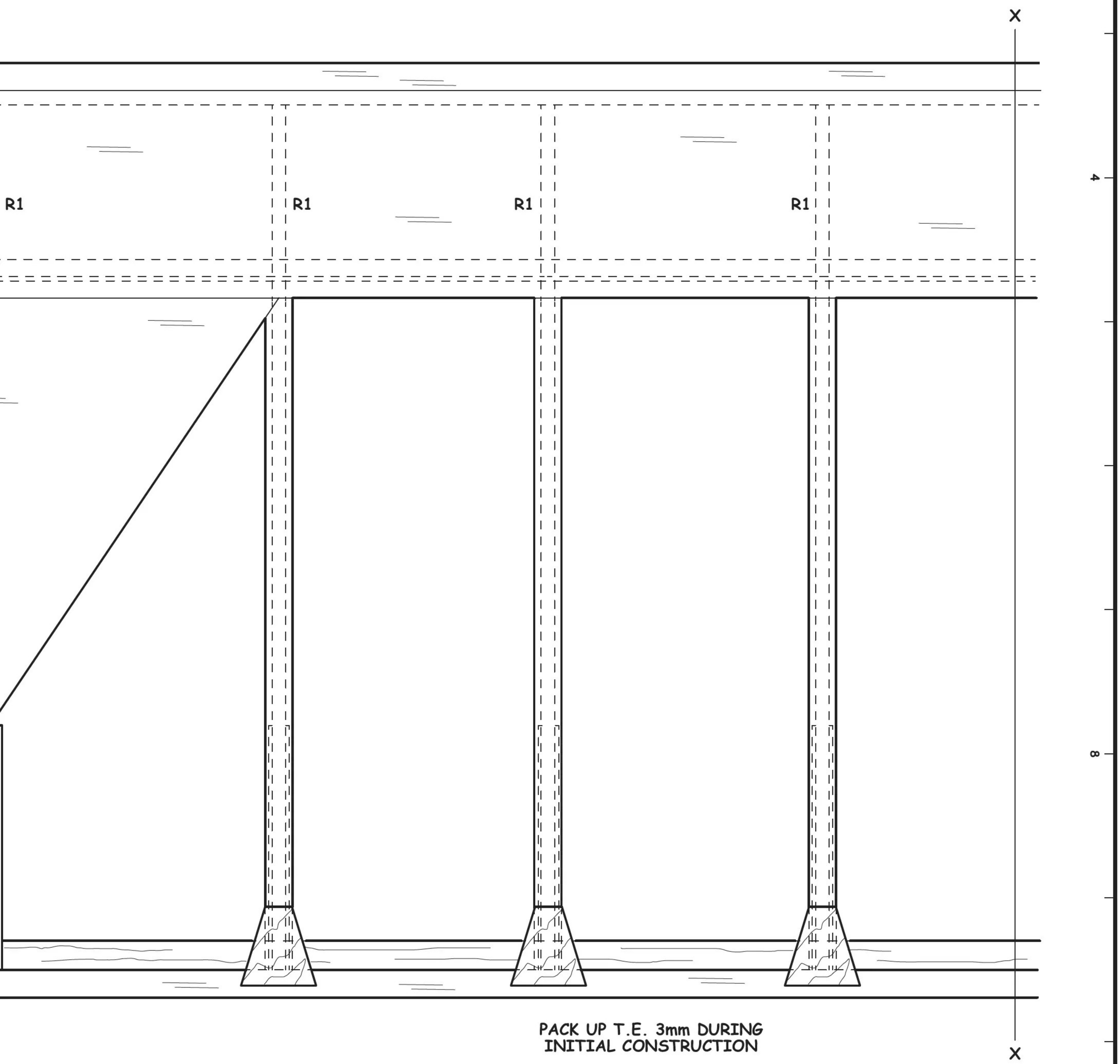
SCALE
INCHES

RCM&E

SLINGSBY TYPE 37 SKYLARK 1

BY CHRIS WILLIAMS

PLAN No RC2274	No. OF SHEETS: 3 OF 4	First published in RCM&E August 2025



PACK UP T.E. 3mm DURING
INITIAL CONSTRUCTION

IBS FROM 2.4mm BALSA

T.E. 1.5mm
LAMINATE
WITH 3mm

X

R1

R1

R1

200

100

X

OPTIONAL 0.8mm
GUSSETS, FEATHER
OUT OVER T.E.

SCALE
MM

100

n SPRUCE
D ON TOP
m BALSA

J2

R1

R1A

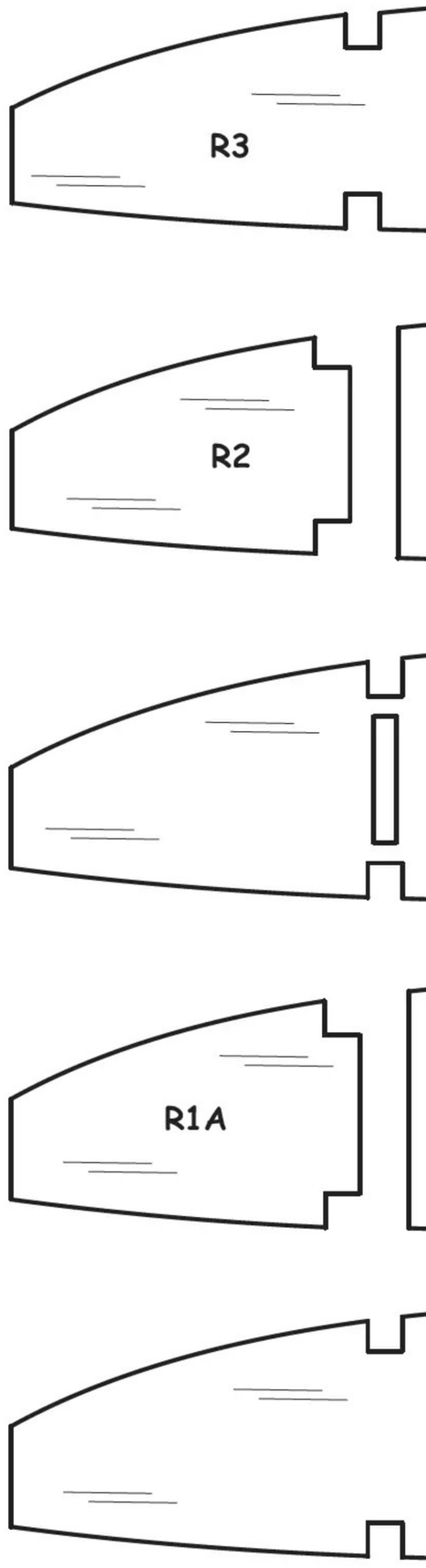
R1 ROOT

R1A

11mm BRASS JOINER BOX

ROOT FACED WITH 0.8mm PLY

Ø2mm BRASS TUBE
WITH BALSA TOP
& BOTTOM & BOTH
SIDES



DIHE

200

300

400

WING R

R3

REINFORCE REAR OF
R3'S WITH 0.6mm PLY

R2

R2

REINFORCE REAR OF
R2'S WITH 0.6mm PLY

R1: ROOT

R1A

R1A

REINFORCE REAR OF
R1A'S WITH 0.6mm PLY

R1

REINFORCE REAR OF
R1'S WITH 0.6mm PLY

R4

DIHEDRAL JIG 5mm BALSA: 2 OFF, 1 EACH UNDER LOWER
SPAR & T.E. OF ONE WING HALF

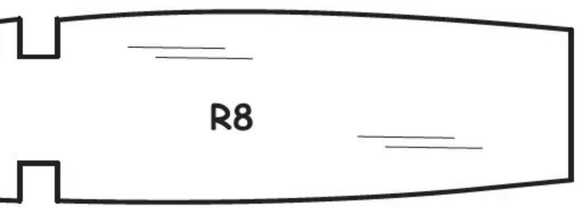
400

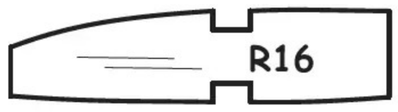
500

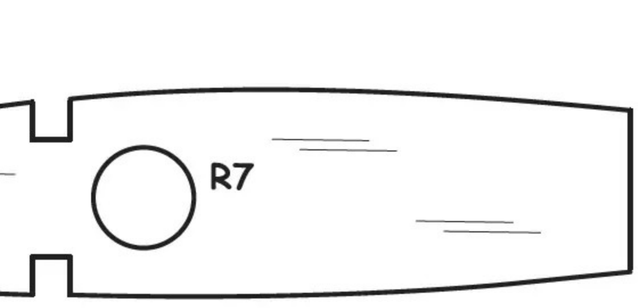
PACK UP T.E. 3mm DURING
INITIAL CONSTRUCTION

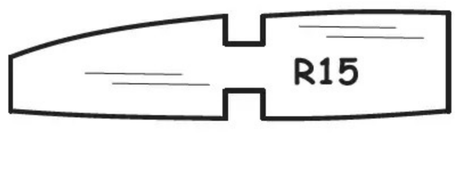
X

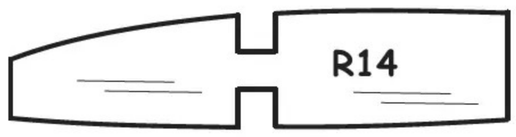
IBS FROM 2.4mm BALSA

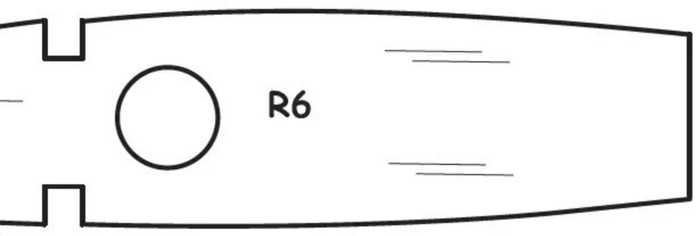


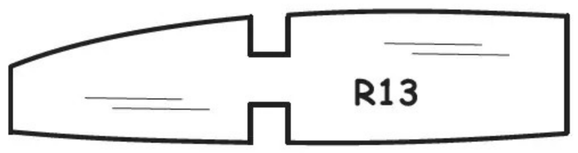


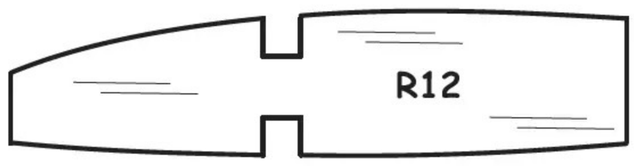


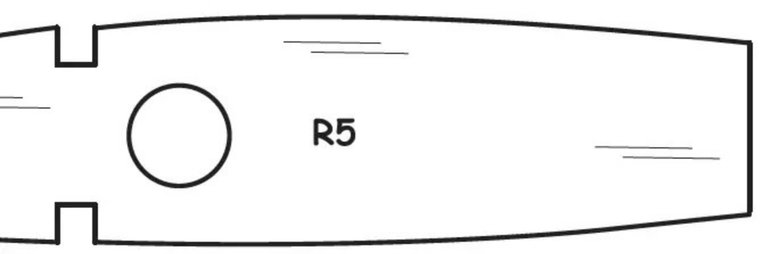


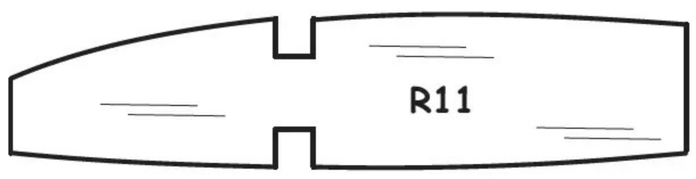


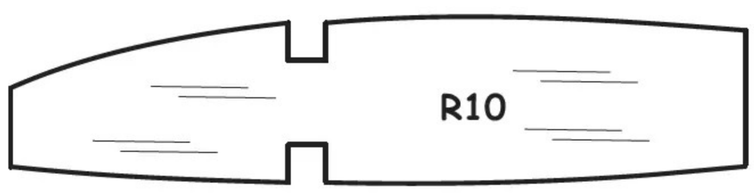


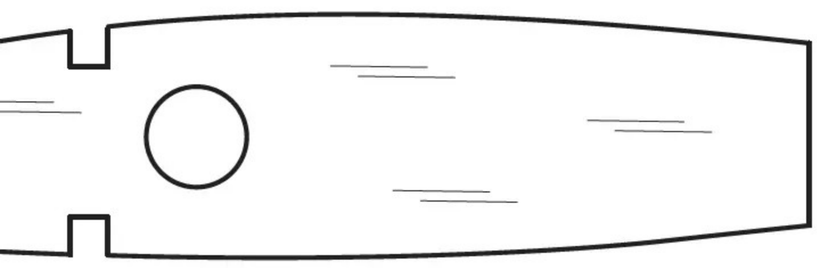


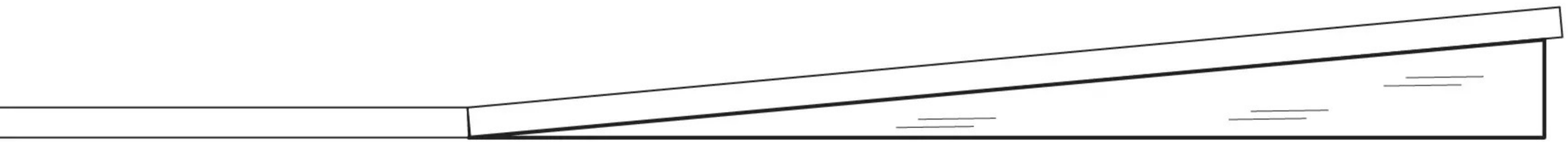




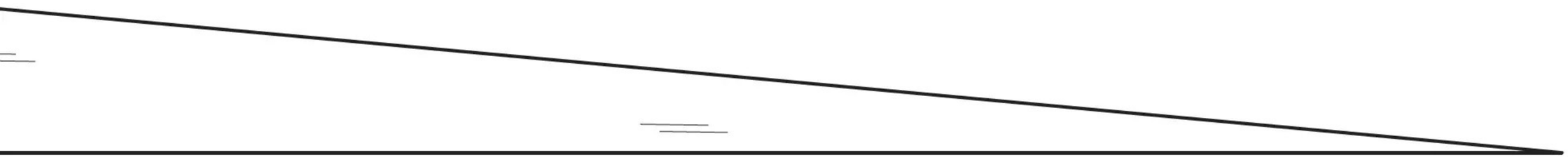








ONE HALF OF CENTRE SECTION JIGGED UP UNDER LOWER
SPAR AND TE DURING INITIAL CONSTRUCTION



12
16
20
600
700

28

24

500

400

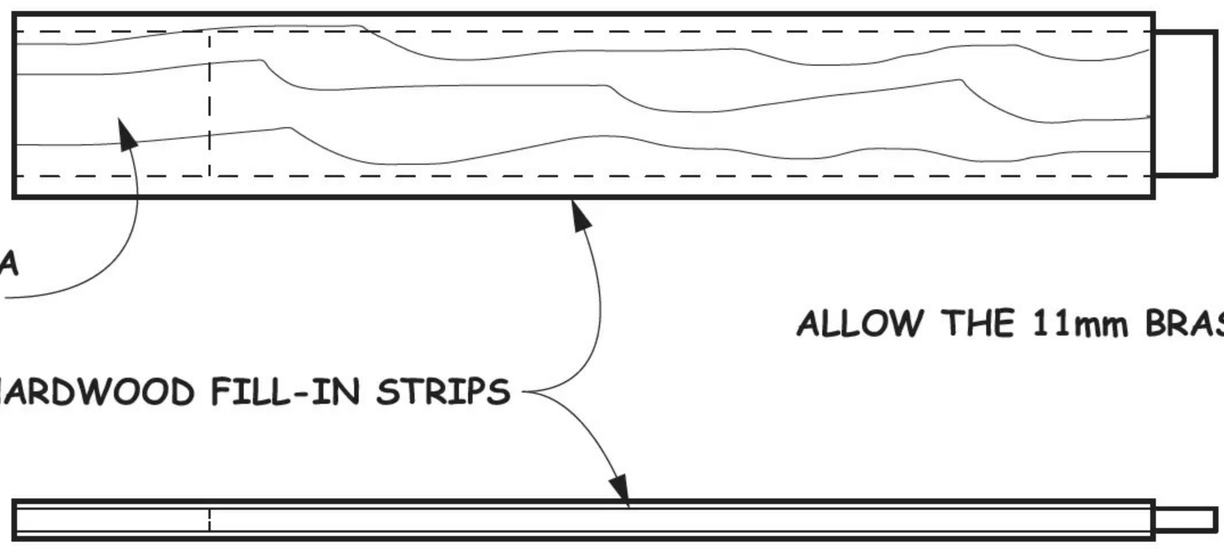
300

WING JOINER BOX DETAILS

REPEAT FOR OUTER WING PANELS AND THEN TAPER TO FIT

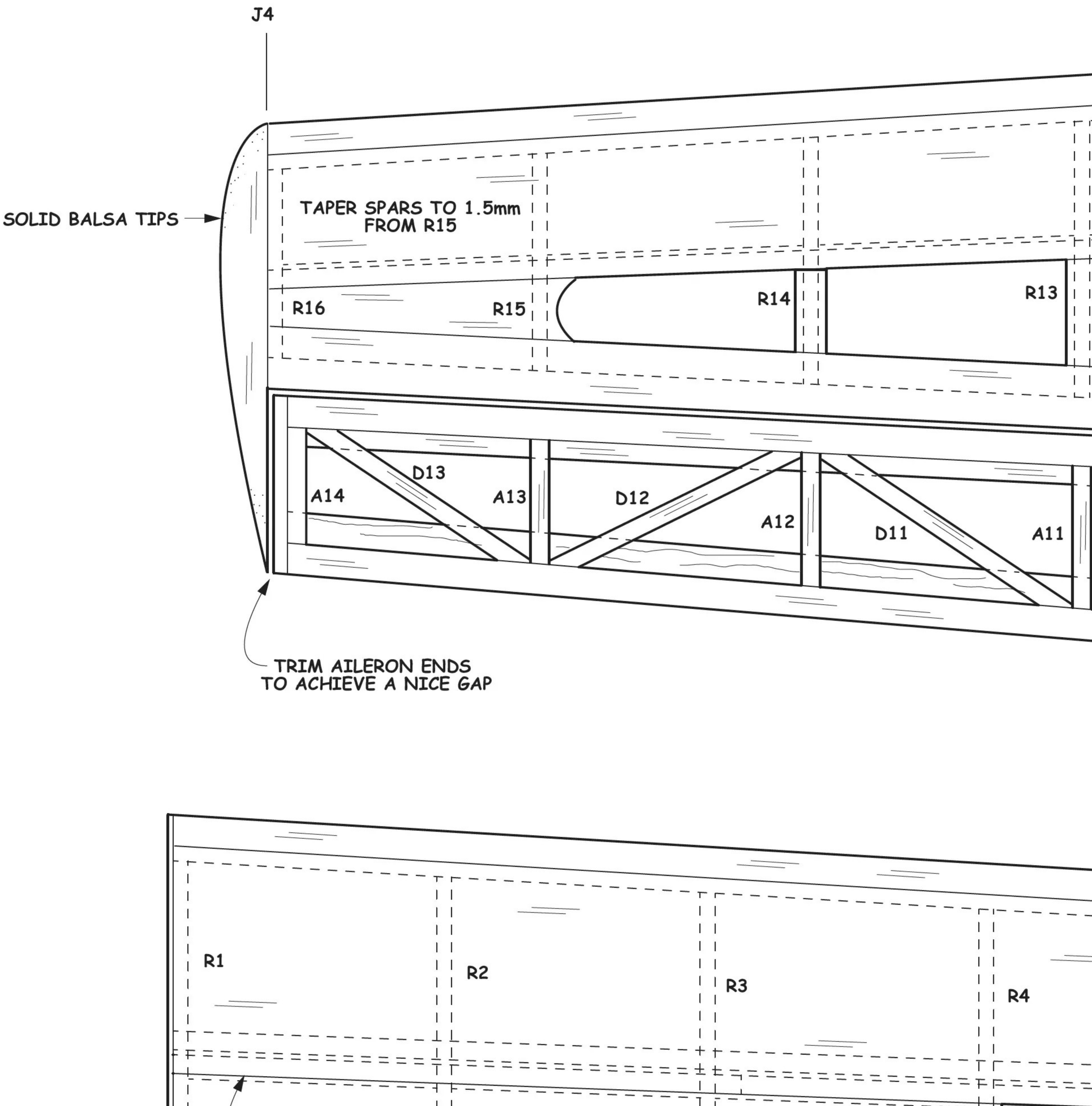
1.5mm BALSA END STOP

1.6mm x 2mm HARDWOOD FILL-IN STRIPS



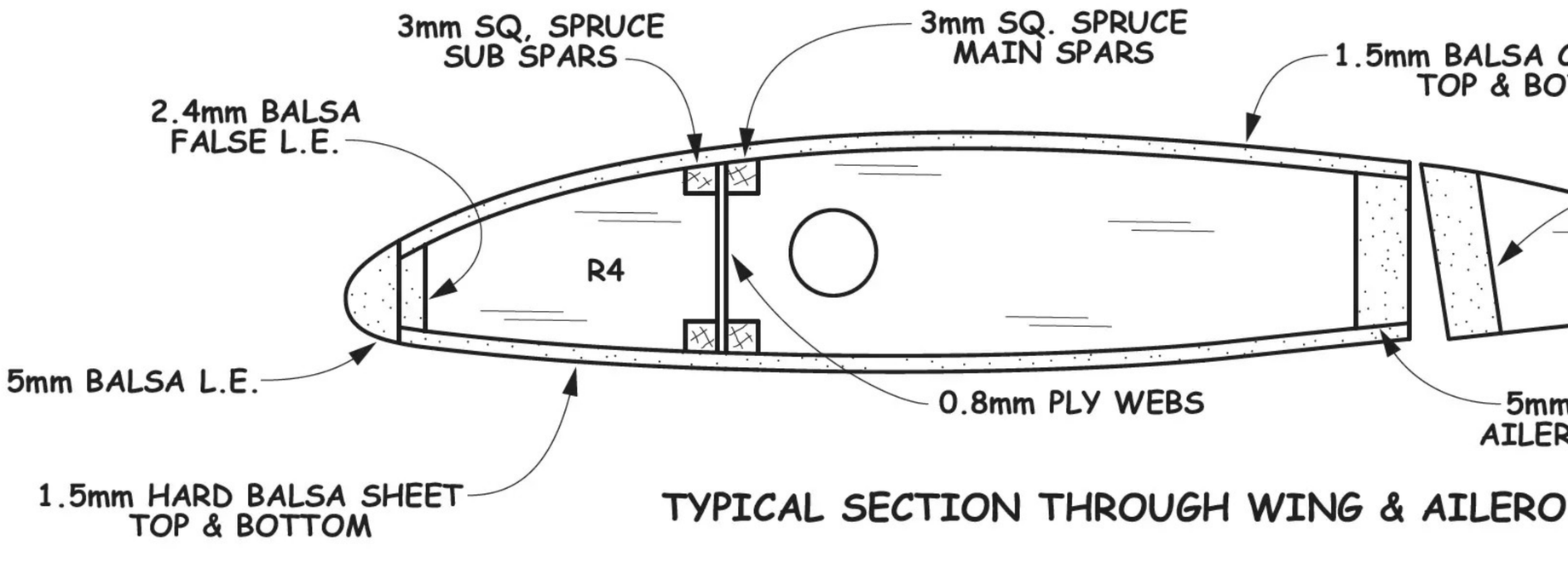
ALLOW THE 11mm BRASS BOX TO PROTRUDE

EPOXY COMPLETE BOX BETWEEN SPARS AND ENCLOSE WITH 0.8mm PLY PLATES EITHER SIDE

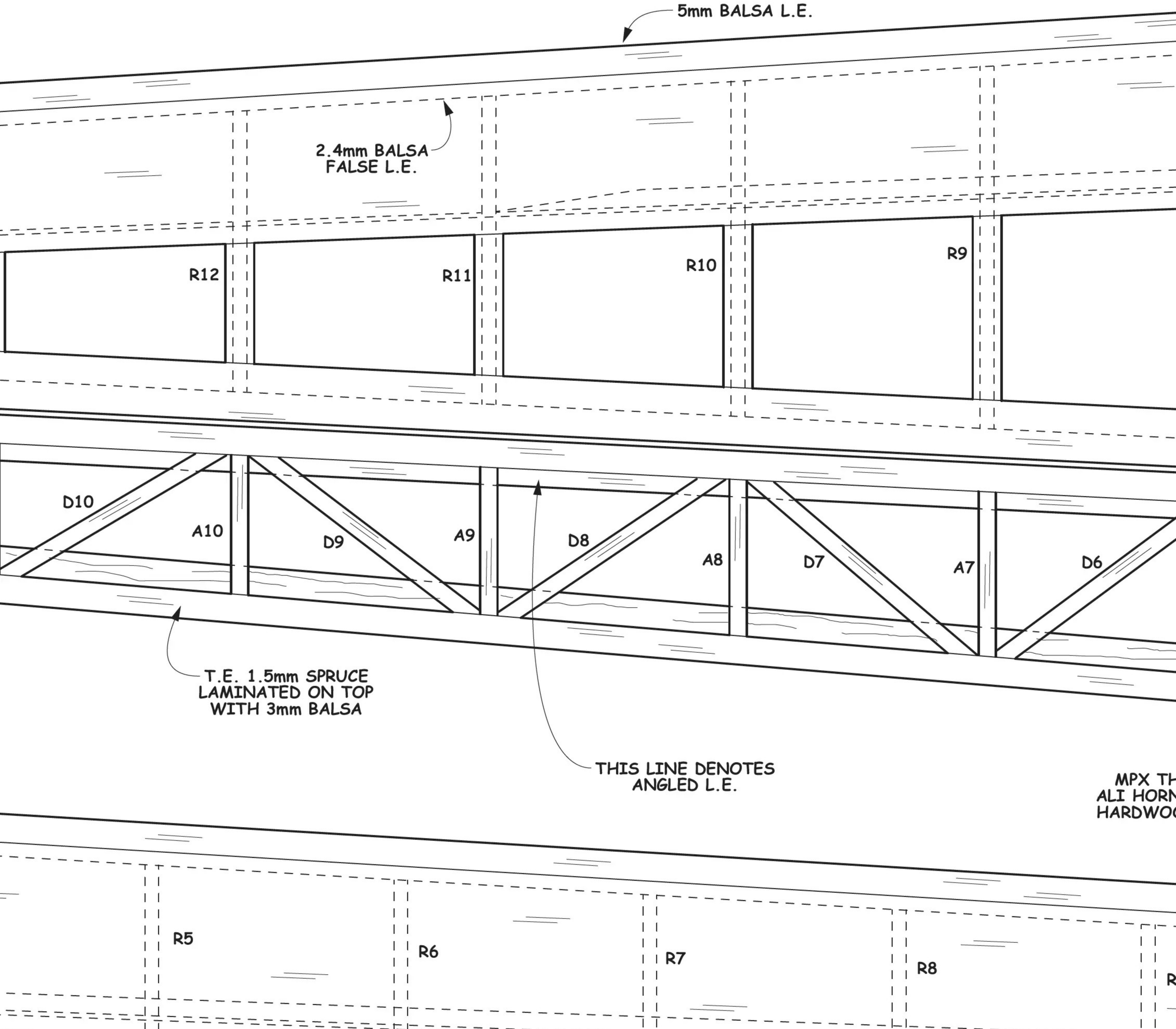


20

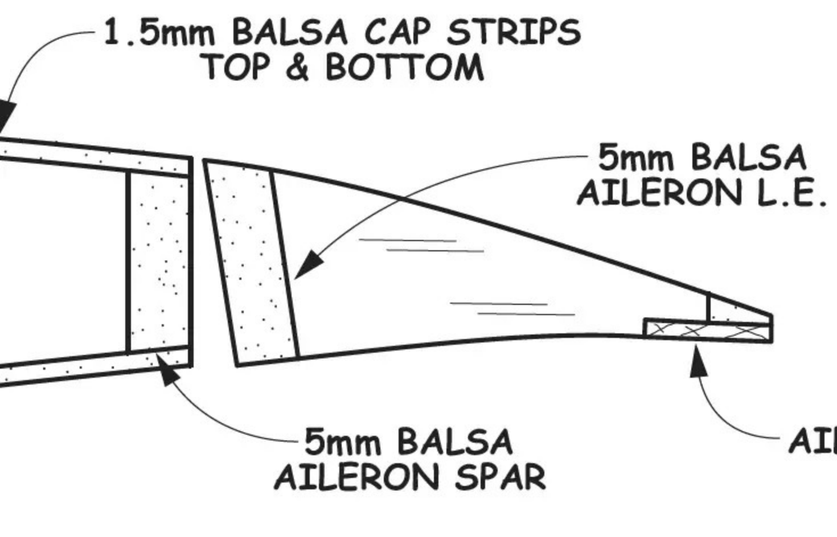
16



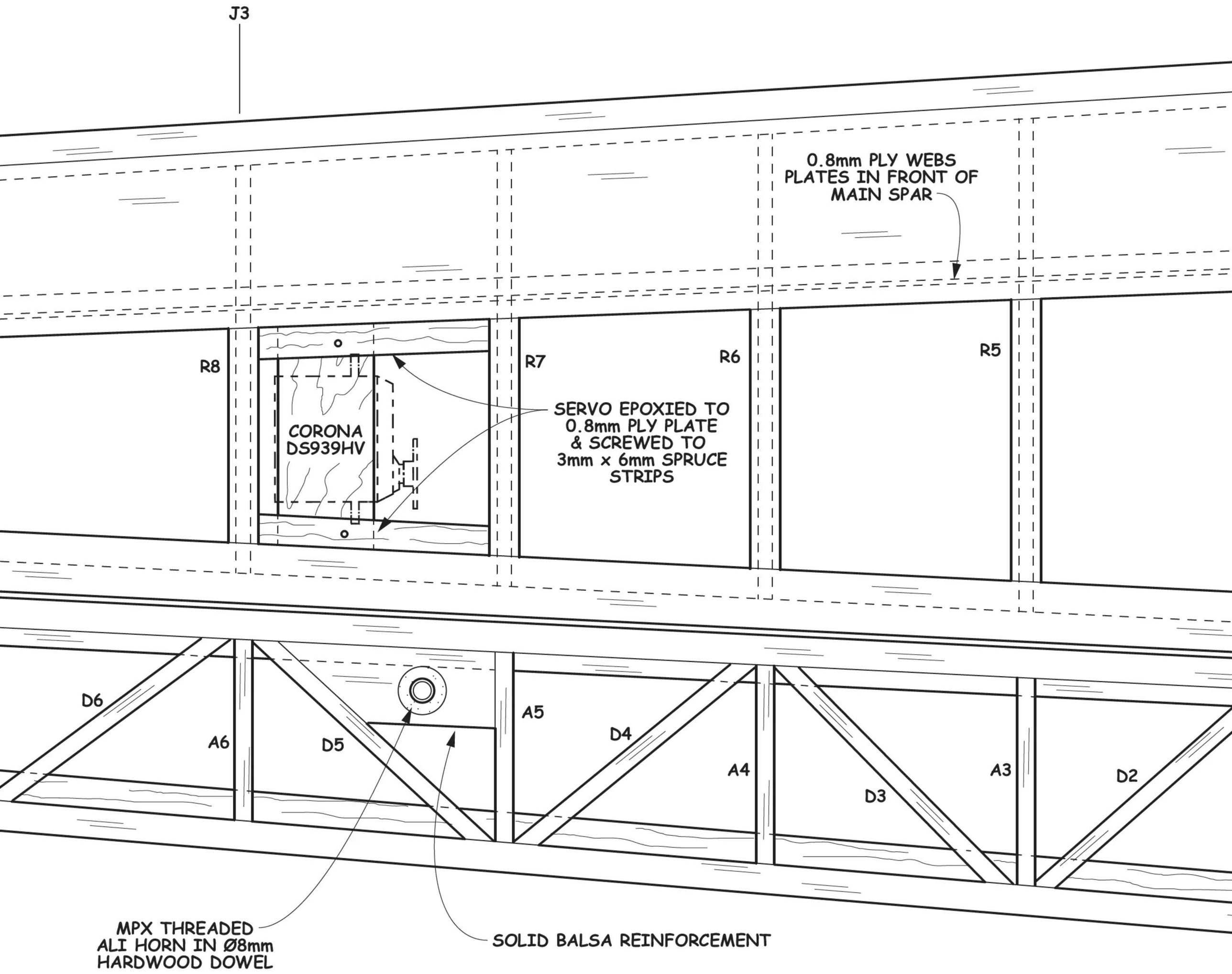
TYPICAL SECTION THROUGH WING & AILERO

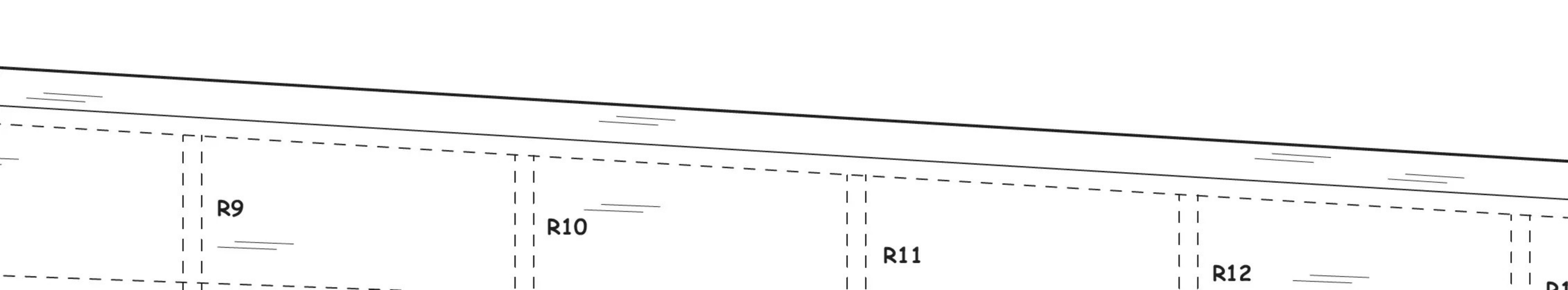


6 12 8



WING & AILERON



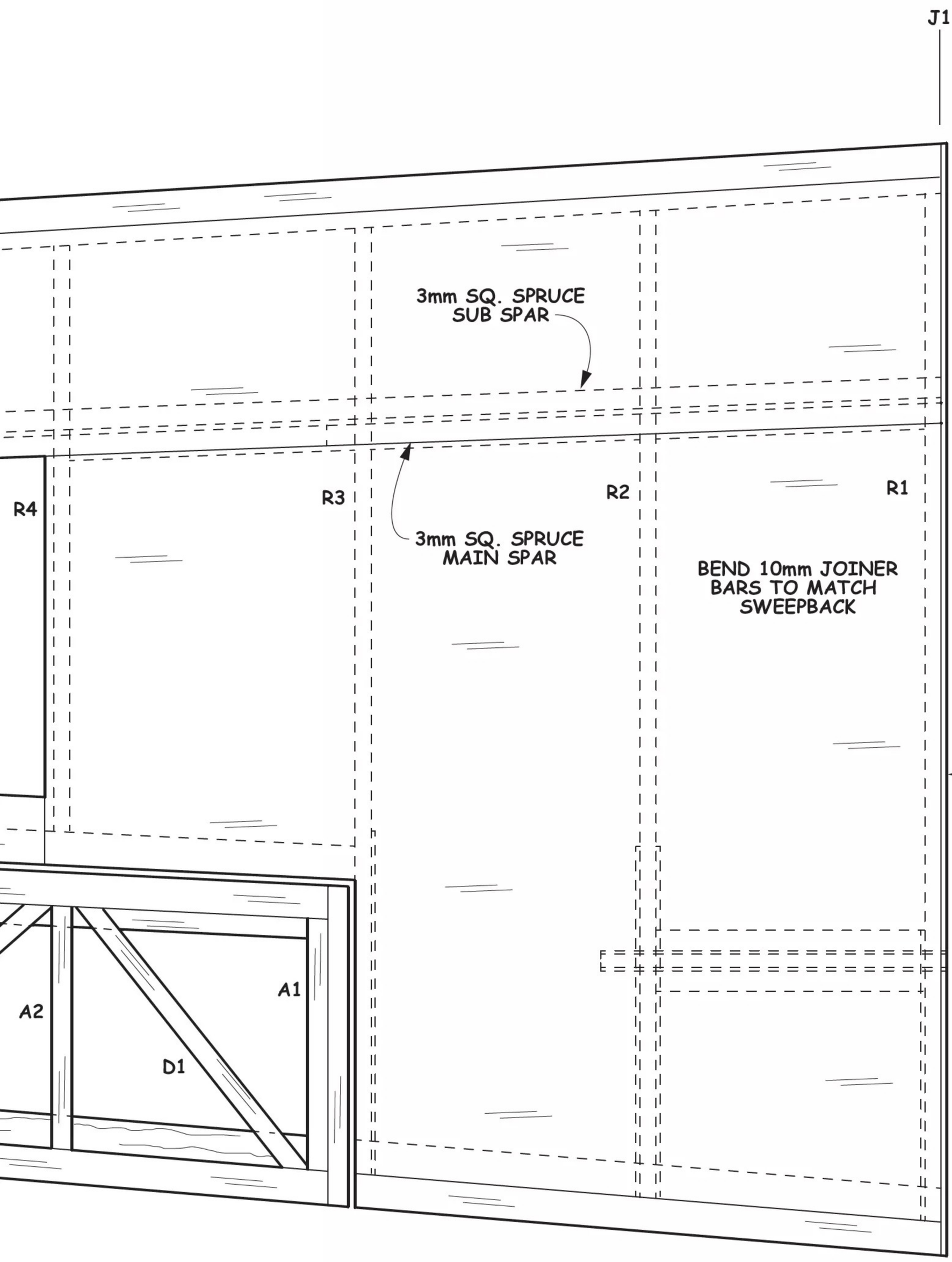


RCM&E

SLINGSBY TYPE 37 SKYLARK 1

BY CHRIS WILLIAMS

PLAN No RC2274 | No. OF SHEETS: 4 OF 4 | First published in RCM&E August 2025



R1

R2

R3

R4

11mm BRASS
JOINER BOX

ROOT FACED WITH
0.8mm PLY

1.5mm HARD
BALSA SHEET

Ø2mm BRASS TUBE:
ENCASE IN BALSA

A1

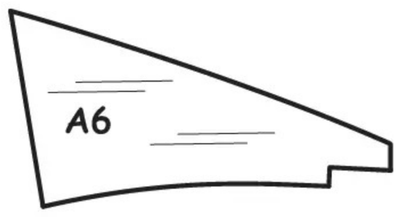
D1

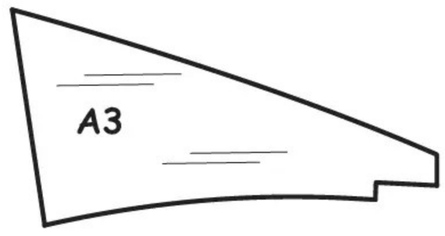
A2

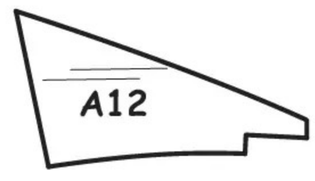
FACE OFF AILERONS
WITH 3mm BALSA

200

100







AILERON RIBS & DIAGONALS
FROM 3mm BALSA

SCALE
MM

100

R5

R6

R7

R8

R

CORONA
DS939HV

5mm BALSA
AILERON SPAR

D2

A3

D3

A4

D4

A5

D5

A6

D6

A7

5mm BALSA
AILERON L.E.

D1

D2

D3

D4

D5

D6

D7

D8

D9

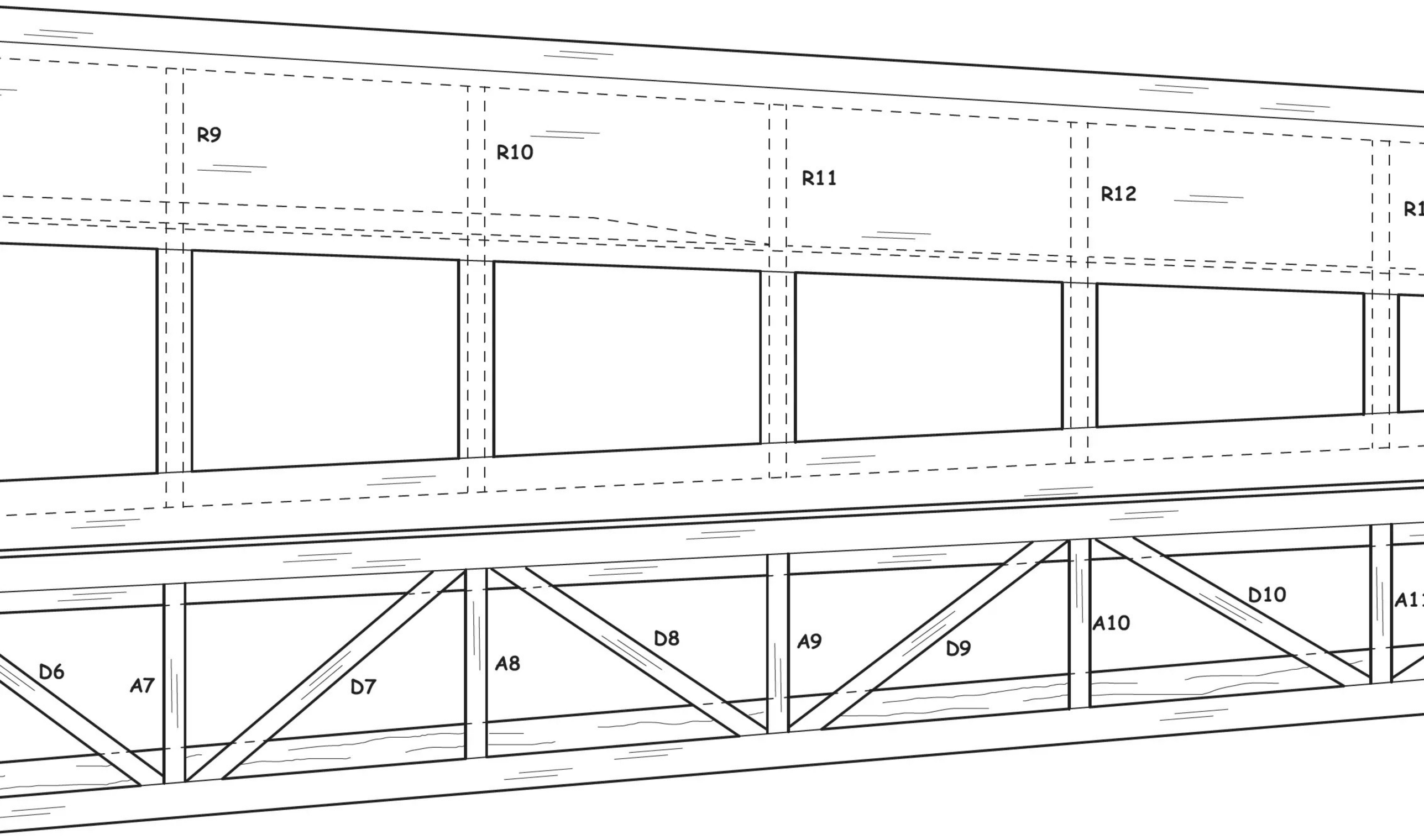
SPA
A.U
WI

GLI
CO
TH

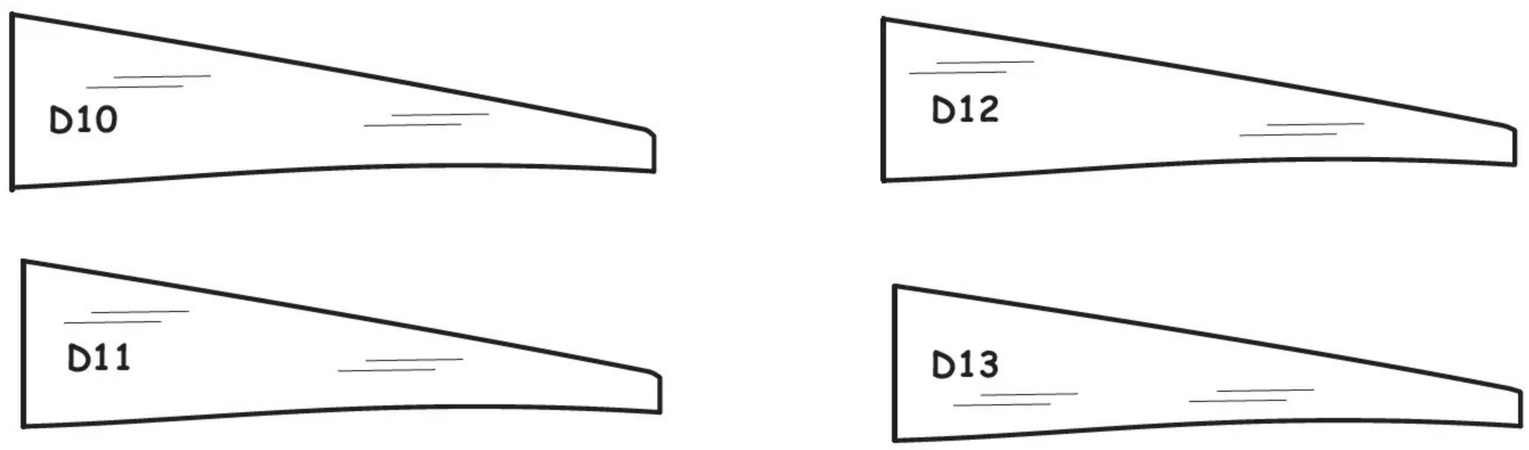
200

300

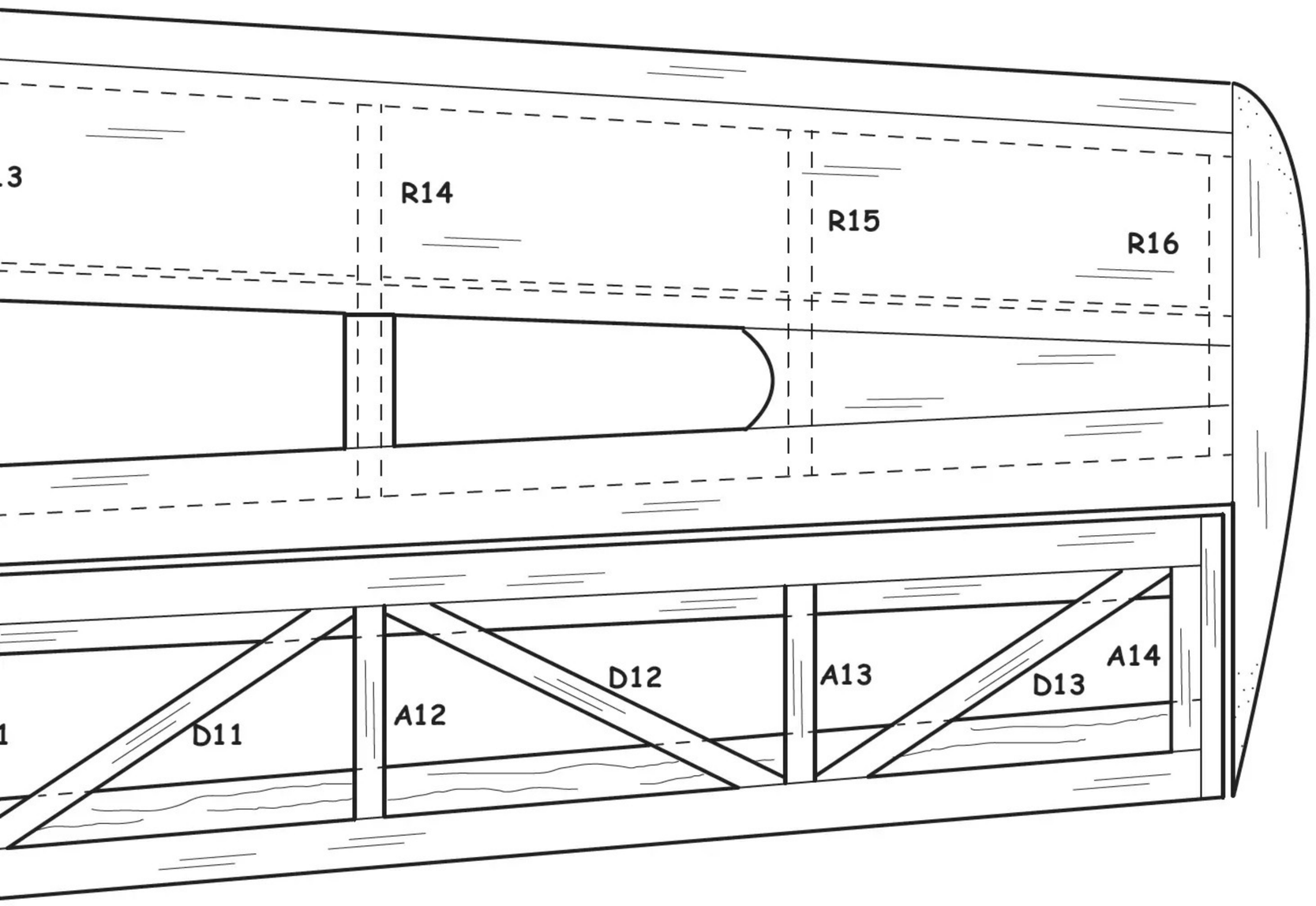
400

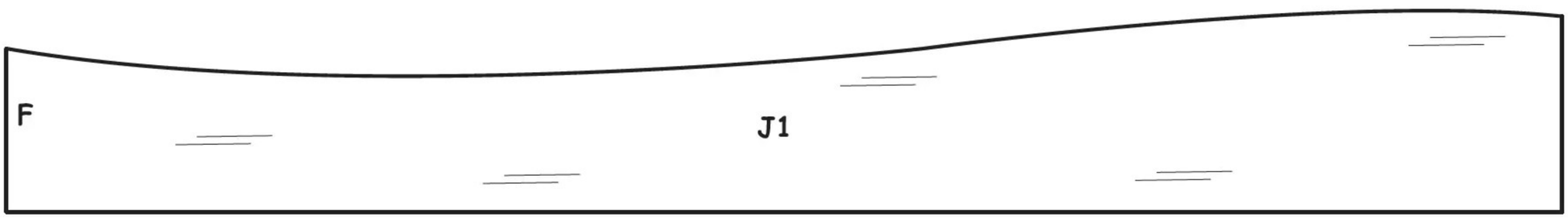


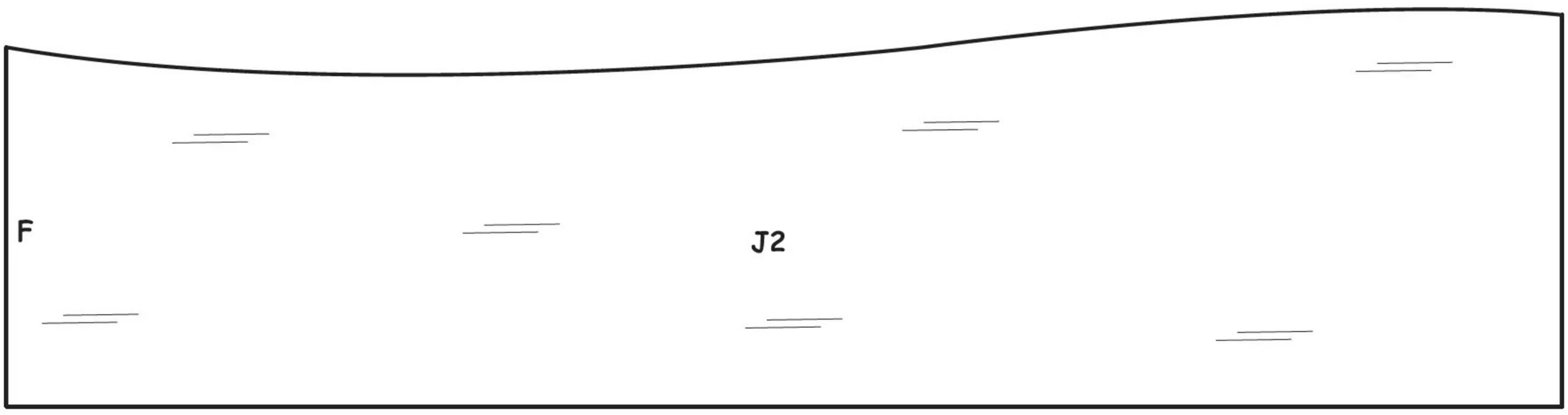
AILERONS ATTACHED WITH 3 FLAT MYLAR HINGES ON THE
UPPER EDGE & RETAINED WITH INSULATING TAPE. THE GAP UNDERNEATH
IS SEALED WITH THIN MYLAR STRIP & DOUBLE-SIDED TAPE

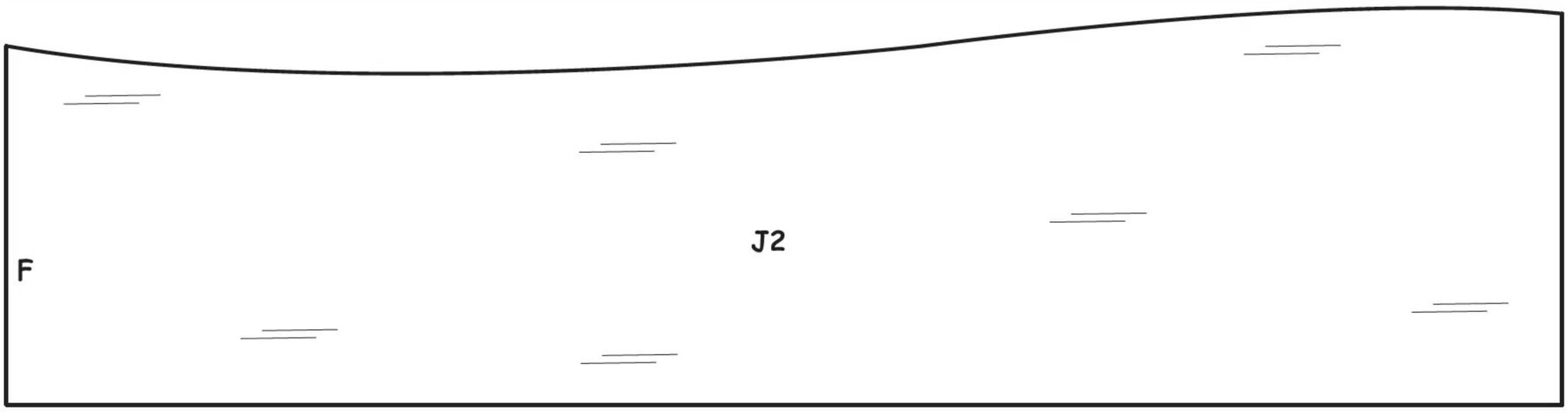


SPAN:	2.28m	
A.U.W:	3.5lbs (1.6kg)	
WING SECTION:	CENTRE PANEL HQ35/15	
	OUTER PANELS TRANSITION TO 35/12	
GLIDEPATH CONTROL:	AILERONS ONLY	
CONTROLS:	AILERONS, RUDDER, ELEVATOR, TOW RELEASE	
THROWS:	ELEVATOR:	15mm UP, 8mm DOWN
	AILERONS:	20mm UP, 10mm DOWN
	RUDDER:	35mm EACH WAY
	C.A.R. RUDDER:	12mm EACH WAY
	LANDING:	AILERONS UP 27mm


R13
R14
R15
R16
D11
A12
D12
A13
D13
A14


F
J1


F
J2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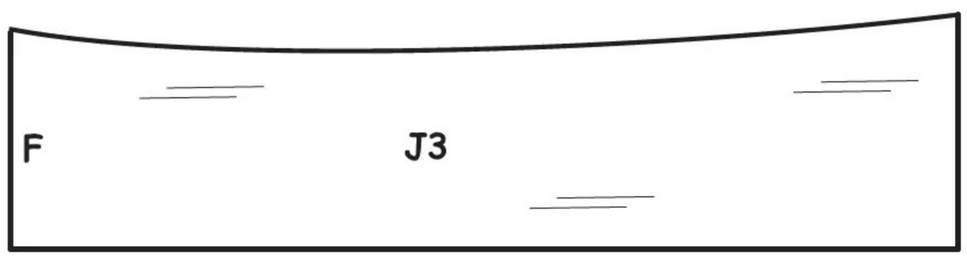
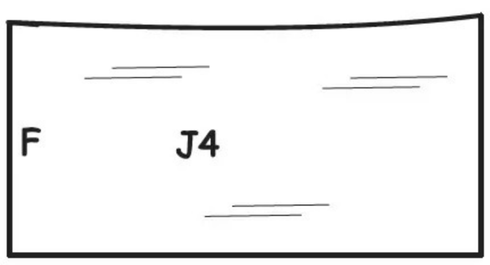
J2


F
J3


F
J4

12
16
20
600
700