FREE PRO-PLAN! | **FE2b** WW1 INDOOR SCALE

WORTH £17.00

VOL. 69 NO. 03 MARCH 2026 www.modelflying.co.uk

RCM&E

RADIO CONTROL MODELS AND ELECTRONICS

ABRAMS P-1 EXPLORER

3D PRINTED AERIAL SURVEYOR

KELSEY media
MARCH 2026 £6.50
03
9 770269 830304

WORLD CHAMPION!

JESKY TAKES THE F3A CROWN

HANNO'S TEA TRAY

SANDOWN TRIBUTE FLIES AGAIN

PLUS FREE PLAN!

SPEKTRUM

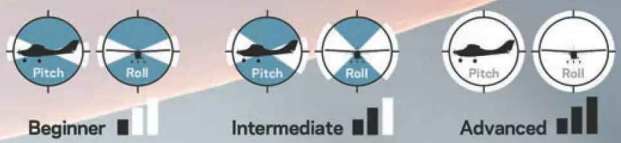
SUPERIOR FEATURES

Industry-leading connectivity, intuitive programming, and advanced stabilization technologies combine to deliver unmatched performance, reliability, and control—setting Spektrum apart from the competition.

EXCLUSIVE FLIGHT STABILIZATION TECHNOLOGIES

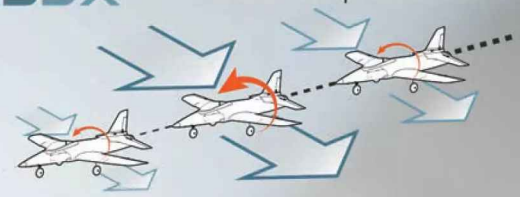
SAFE®

Sensor Assisted Flight Envelope
SAFE keeps the model horizon-aware, enabling flight protection, multiple flight modes, smooth control, and one-button panic recovery.



AS3X®

Advanced Stabilization 3-Axis
Programmable gyros for 3 axis stabilisation of your models for turbulent conditions, aerobatics or 3D flying that doesn't compromise control.



Integrated Gyros
Receivers with AS3X or SAFE include an integrated, forward-programmable gyro for easy tuning and added convenience. For giant-scale and turbine models, Spektrum Synapse enhances PowerSafe receivers with up to 20 stabilized channels, smart telemetry, vibration isolation, advanced canard and thrust-vectoring support.

Spektrum and Synapse are trusted by Pro Pilot Azza Stephens

LOGIC RC *Your Hobby Is Our Passion*

Distributed by Logic RC and available through all good model shops.

Spektrum offers an intelligent, connected ecosystem that simplifies setup, enhances performance, and lets you fly with total confidence.

SMART

Plug and Go - Smart devices work together and send live telemetry data back to the transmitter, allowing you to monitor batteries, speed controllers and other systems to keep your model safe whilst you are flying.

Forward Programming

Programming everything from your transmitter - Allows you to connect to remote devices (receivers, gyros, speed controllers etc) to quickly adjust their settings, without the need for laptops, smart phones or other programming devices.

Easy Updates

When connected to WiFi (NX8+ & above), the transmitters gets even smarter. You can complete product registration from the transmitter and download firmware updates.

Simulator Connectivity

Through the USB-C or micro USB port you can connect the transmitter to your computer and you can control most simulators, including the RealFlight RC Flight Simulator.

BNF® SMART TRANSMITTER FILE

BNF – Bind and Fly Models

Massive range of E-Flite, Blade and Hobbyzone models that are ready to go, just select the pre-configured setup on your transmitter and then Bind and fly. The newer models even support Smart Transmitter Files that are stored in the receiver, so you can just bind the model and it will transfer all the model settings straight from the receiver.

SCAN TO LEARN MORE ABOUT SPEKTRUM

Welcome

Welcome to the March 2026 issue of RCM&E.

Well, it's that time of year again. Rain, rain and more rain. And a fair bit of wind too! Well, that's what it feels like, although in truth there haven't been many weeks since Christmas that I haven't managed to squeeze in at least one flying session.

As most UK model flying takes place from farmers' fields all this wet weather does tend to churn up our flying strips and make even standing around in wellies a bit perilous, turning pit areas into quagmires and runways into water sodden bogs.

Like many people of a certain age, I've started to suffer from problems with my joints and I'm certain these have been exacerbated by what seemed at the time to have been mild falls when model flying in winter. The first was whilst trekking downhill after a slope soaring session, following a well-trodden muddy path. One second I was upright, the next I was on my back. I quickly scrabbled to my feet, with no damage done apart from to my pride and a slightly sore hip. My main concern was for my transmitter, carried in a rucksack on my back which had taken the brunt of my fall, but all its contents were safe and sound, including my Tx. My model was a bit bruised, with one wingtip snapped off, but that proved to be an easy repair. Roll on a couple of years, with increasing pain radiating from that same area, and I became the grateful recipient of a replacement right hip, courtesy of the NHS and the wonderful staff at a local hospital.

My next excursion was whilst checking out a flooded area at my local patch for its suitability for floatplane flying. The small lake had formed in an area churned up by motocross races, so it was already muddy by the time I wandered over and stood beside the water. After deciding that it didn't have much floatplane potential after all, I turned and promptly fell flat on my front, leaving one boot trapped in the mud! That silly mistake led to months of physiotherapy to shake off muscle damage to my right shoulder after bracing my fall. But I'm also convinced that twisting my leg with my boot stuck fast was the start of problems with my right knee which now also needs to go under the surgeon's knife...

Anyway, that's enough drama from me. But not wishing to mollycoddle our readers too much I just wanted to say to be careful out there when flying, especially at this time of year when the ground is so soft and slippery underfoot.

So, what's in store in the March issue of RCM&E?

We start with a look at our first Spektrum radio in quite a long while, the feature rich NX8+. Then it's over to Shaun Garrity (Retro Ramblings) who has built his own new radio cunningly disguised as an expensive Sampey 404 'cuddle box'. Next, Roger Styles finds out if 3D printing offers an alternative to traditional methods when building a scale model before Dick van Mourik concludes the build of his Mäxi+ aerobatic model. This month we have an extra free plan for you to enjoy as David Ashby (Just For Fun) breathes new life into David Boddington's Tribute model of one of Hanno Prettner's Sandown Show display aircraft.

The second half of this issue begins with Part 2 of Mats Johansson's article, plus Pro-Plan, for his FE2b biplane. Mike Freeman files an extra report from the 2025 Weston Park show, this time concentrating on hovercraft seen 'flying' over the boating lake. Returning to models flying at higher altitudes, Keith Jackson reports from the 2025 F3A World Championships before John Stennard (Insider) covers more indoor modelling topics, plus test flies a small airliner for calm weather outdoors. Finally, Bernd Lewerenz assembles a quick build kit from aero-naut designed to have excellent slow flight characteristics.

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

Kevin Crozier

Editor: Kevin Crozier
Kelsey Media, Media Centre, Morton Way, Horncastle, Lincs LN9 6JR
kevin.crozier@kelsey.co.uk

'Tony Nijhuis Designs'

TONY NIJHUIS designs

Buying direct from Tony Nijhuis Designs Ltd you can be assured of a quality service, backed-up by a knowledgeable team of passionate aero modellers.

www.TonyNijhuisDesigns.co.uk

Phone Orders- 07563 518159

What's NEW

38" Tornado GR4 for 1x70mm 4S EDF. See web site for further details

Complete Pack– Plan, CNC Pack/Wood Pack and Vac Set	£155.00

Our 50-70mm EDF Mini Jet Range

26" Span Sabre

25" & 36" Hunter

29" Span Jaguar

28" & 37" Provost

26" Span MiG 15

25" & 33" Gnat

25" Span Hawk

23" Span Lightning

35" Span Harrier

40" Span Javelin

32" Span Vampire

Panther / Cougar

Complete Pack –Plans, CNC/Wood Pack and Vac set Starting at £89.00 Each

Our EDF /Turbine Range

42" Span BAE Hawk 70mm EDF

Plans	£25.00
VAC Set	£44.00
CNC Pack	£62.00
Wood Pack	£59.00
Complete Pack	**£184.00**

50" Span BAE Hawk 90mm EDF

Plans	£40.00
VAC Set	£55.00
CNC Pack	£78.00
Wood Pack	£80.00
Complete Pack	**£243.00**

78" Span Vulcan 2x90mm EDF

Plans	£65.00
VAC Set	£35.00
CNC Pack	£132.00
Wood Pack	£245.00
Complete Pack	**£467.00**

32" Concorde 4 x 50mm EDF

Plans	£35.00
VAC Set	£17.00
CNC Pack	£75.00
Wood Pack	£72.00
Complete Pack	**£184.00**

98" Span Turbine Vulcan (80-120 size)

Plans	£69.00
VAC Set	£95.00
CNC Pack	£172.00
Wood Pack	£311.00
Complete Pack	**£627.00**

49" Span Vulcan 50mm EDF/pusher

Plans	£25.00
VAC Set	£28.00
CNC Pack	£83.00
Wood Pack	£91.00
Complete Pack	**£217.00**

78" Span Turbine Vampire (80 size)

Plans	£60.00
VAC Set	£35.00
CNC Pack	£198.00
Wood Pack	£171.00
Complete Pack	**£454.00**

42" Span A10 twin 50mm EDF

Plans	£20.00
VAC Set	£25.00
CNC Pack	£65.00
Wood Pack	£55.00
Complete Pack	**£160.00**

72" Span MK.5 Spitfire 1.20 IC or Electric

Plans	£35.00
VAC Set	£35.00
CNC Pack	£124.00
Wood Pack	£132.00
Complete Pack	**£316.00**

60" Span FW-190A Electric or 0.75 IC

Plans	£30.00
VAC Set	£47.00
CNC Pack	£82.00
Wood Pack	£105.00
Complete Pack	**£254.00**

67" A6M2 Zero Electric or 0.75 IC

Plans	£35.00
VAC Set	£45.00
CNC Pack	£72.00
Wood Pack	£94.00
Complete Pack	**£236.00**

62" Span Hurricane Electric or 0.65 IC

Plans	£25.00
VAC Set	£16.00
CNC Pack	£80.00
Wood Pack	£140.00
Complete Pack	**£251.00**

61" Span P-51B & D 900w Electric

Plans	£30.00
VAC Set	£35.00
CNC Pack	£82.00
Wood Pack	£108.00
Complete Pack	**£245.00**

62" Span Typhoon Electric or 0.65 IC

Plans	£25.00
VAC Set	£41.00
CNC Pack	£80.00
Wood Pack	£135.00
Complete Pack	**£271.00**

66" Span Lysander 0.52 IC or Electric

Plans	£25.00
VAC Set	£70.00
CNC Pack	£86.00
Wood Pack	£69.00
Complete Pack	**£240.00**

66" Span Harvard 0.65 IC or Electric

Plans	£25.00
VAC Set	£40.00
CNC Pack	£81.00
Wood Pack	£103.00
Complete Pack	**£239.00**

63" Span MK9 Spitfire 0.65 IC or Electric

Plans	£25.00
VAC Set	£16.00
CNC Pack	£96.00
Wood Pack	£98.00
Complete Pack	**£228.00**

72" Span Mosquito 2xElectric

Plans	£40.00
VAC Set	£32.00
CNC Pack	£142.00
Wood Pack	£135.00
Complete Pack	**£339.00**

72" SpanDakota 2x 600w Electric

Plans	£25.00
VAC Set	£40.00
CNC Pack	£82.00
Wood Pack	£99.00
Complete Pack	**£236.00**

72" Span Lancaster 4x 200w Electric

Plans	£25.00
VAC Set	£35.00
CNC Pack	£80.00
Wood Pack	£125.00
Complete Pack	**£255.00**

72" Span Avro York 4x 200w Electric

Plans	£30.00
VAC Set	£31.00
CNC Pack	£135.00
Wood Pack	£107.00
Complete Pack	**£293.00**

103" Span Hurricane 62cc Petrol

Plans	£60.00
VAC Set	£90.00
CNC Pack	£173.00
Wood Pack	£296.00
Complete Pack	**£609.00**

72" Span Sunderland 4x 200w Electric

Plans	£30.00
VAC Set	£32.00
CNC Pack	£85.00
Wood Pack	£160.00
Complete Pack	**£297.00**

72" Span B-17 4x 200w Electric

Plans	£25.00
VAC Set	£35.00
CNC Pack	£86.00
Wood Pack	£107.00
Complete Pack	**£243.00**

134" Span Lancaster Electric or 4x0.52IC

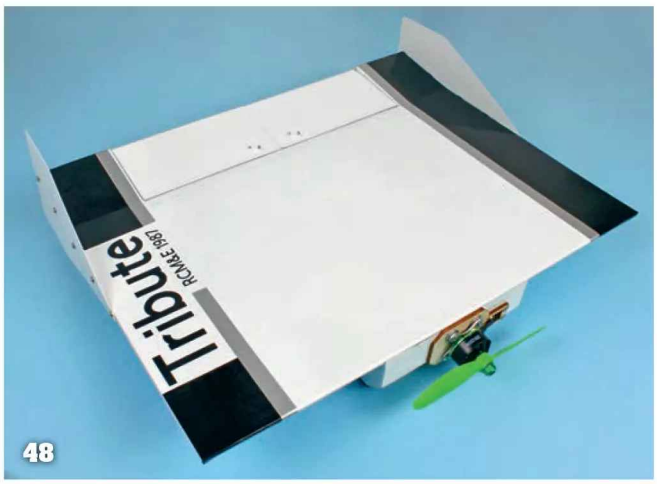
Plans	£70.00
VAC Set	£85.00
CNC Pack	£162.00
Wood Pack	£349.00
Complete Pack	**£646.00**

Check our Web Site for a selective range of Pilots, Decals and Retracts

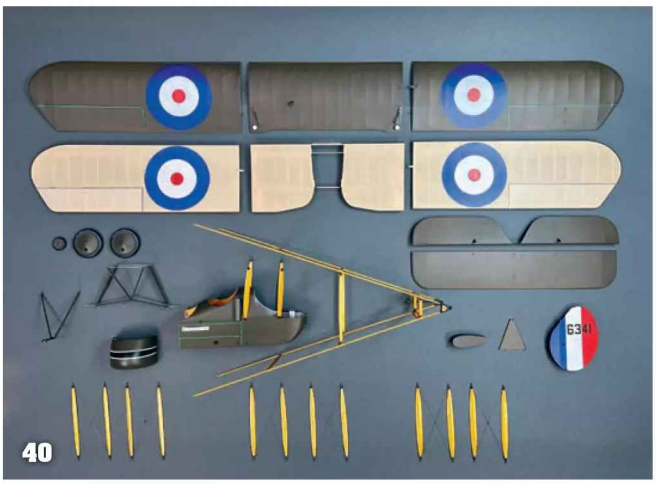
Building your very own model from plan is one of the most satisfying achievement any modeller can experience..... so go on, give it a try and don't miss out on this wonderfully therapeutic side to this great hobby... Tony Nijhuis

For more information on all our products, including free down-loads of build articles and construction photos, please visit our web site- www.tonynijhuisdesigns.co.uk

Tony Nijhuis Designs Ltd
47 Baldslow Down, St Leonards, TN37 7NJ



48


40

On the cover

Photo: Mike Freeman

Roger Styles has always had a passion for scale models. Like many modellers he builds models that fly well but without fine scale details. ARTF foam aircraft now offer a good level of scale detail but with those Roger found he missed the creative element of building and finishing a model. So, he decided to see if 3D printing offered a viable alternative for scale building that would satisfy his creative needs whilst at the same time providing the level of detail he so often admires in other modellers' creations. Roger chose to print an Abrams P-1 Explorer, the same aircraft seen here being flown by James Bennet at the 2024 Basingstoke Fly-In.

Contents

RCM&E
Volume 69 | Issue 03

Regulars

Features

Columns

Reviews

Free Pro-Plan

MODELAIR MAYFLY

New for 2026, ModelAir are running their Mayfly event at a new location, BMFA Buckminster on 30th - 31st May 2026.

Emma Chase from ModelAir writes:

Mayfly will be a two-day fly-in with as many of the disciplines and attractions as possible that we used to have at Old Warden. Attractions will include:

- *Radio Control flying*
- *Control Line flying*
- *Free Flight & Radio Assist*
- *Trade Line & Car Booters*
- *Tethered Cars*
- *Drone Racing*
- *Camping*
- *Excellent cafe*

Pricing for pilots is £10 per person, per day. Spectators can attend for £5 per person, per day. If you wish to trade or car boot at the event, then please contact us through our contact form at: https://modelair.info/contact-us/

Car Booters will be charged £5 per pitch whilst Traders are free.

Camping is available. Please enquire at BMFA Buckminster: https://nationalcentre.bmfa.uk

Radio Control flying will take place from 10:30 am to 4:30 pm each day. All model types are welcome but unfortunately no gas turbines. There is a 15 kg weight limit. A B-Certificate is required or an A-certificate for slow vintage types. Models must be flown on 2.4 GHz only.

There will be continuous Control Line flying over both days, on four or five circles. All types of control line are welcome except carrier deck. We are planning to run the following events to Peterborough MFC Rules:

- *Champ Racing (Sat)*
- *Phantom Racing (Sat)*
- *Stunt Racing (Sat)*

Other competitions to include:

- *VOETSAK Racing - AM25 Engines (Sat)*
- *Elite Tribue VOETSAK Racing (Sun)*
- *Combat (Sat & Sun)*

Free Flight and Radio Assist flying will take place twice per day, from early morning until 10:30 am. The second session is 4:30 pm into the evening. There is a 500 g weight limit, with a maximum engine capacity of 0.8 cc or 100 W. Radio Assist is 2.4 GHz only.

BMFA membership is required. Depending on entry and conditions we also hope to run some free-flight competitions. We hope to see you there. For more information, including venue details, please see the BMFA contest and events calendar or contact us:

Email: modelair.oldwarden@gmail.com

Tel: 07966 439835 (evenings and weekends only)

Emma Chase

MELTON & DISTRICT MODEL CLUB

MDMC members have access to two flying sites, including the tarmac at Melton Airfield which is better suited to larger petrol engined models.

Melton & District Model Club was first established in 1965 and brings together members from the local community and further afield. Our current membership is around 83, split between our flying and slot car sections with ages ranging from 6 to 80s.

Our clubhouse, built in 1989, is situated on Crossfield Drive, off Thorpe Road in Melton Mowbray (opposite Tesco). The club building is used all year for various activities but more so during the winter months when we may not be able to make use of our two flying fields. Our wintertime club night is held every Wednesday evening, commencing at 7:30 pm where use can be made of both our R/C and Full-Size flight simulators to enable members to train safely and hone their flying skills.

Of our two flying fields, one is located close to the village of Whissendine, just off the main A606, whilst our Melton Airfield facility is located on part of the Melton airfield site, just outside Melton Mowbray. The Whissendine site, being a smaller grass field, is suitable for smaller models, whilst the Melton Airfield site is better suited for larger petrol engined models.

During the year, weather depending, we hold regular monthly flying competitions at either of these sites, with members meeting regularly on Sunday afternoon at the Melton Airfield site or at the Whissendine site.

Anyone who shares our interest in modelling in general, or building and flying model aircraft, can join us. Model aircraft form a major part of our club activities but there is also a strong Slot Car Section, with Senior race nights being held on Thursday evenings whilst our Beginners section meet regularly throughout the year on Fridays. The slot car section has a sophisticated four lane modern racetrack occupying a large part of the club house, plus other portable two, three and single lane fully landscaped layouts.

We have members who are interested in model railways and we have also acquired access to a small lake where we can run most types of model boats, including those with IC engines up to .40 cu. in. capacity. We hope to encourage more members in this activity in 2026.

For more information, please visit our website at mdmc.bmfa.org or e-mail us at meltonmodelclub@hotmail.com

Michael Campbell, Public Relations Officer MDMC

Whissendine, being a smaller grass field, is suitable for smaller models.

INTERMODELLBAU 2026

DMFV TO HOST THE FIRST SKYCART MASTERS

When the model-making world meets again for four days in April (16 - 19) at the Dortmund exhibition halls, visitors of all ages to INTERMODELLBAU can look forward to a new R/C flying competition that brings together young and old, professionals and beginners. The German Model Aviation Association (DMFV) have have come up with a new event especially for the trade fair, the INTERMODELLBAU Skycart Masters, which will premiere in 2026. The DMFV youth organization JUMP! has designed a model aircraft especially for this competition.

The Skycart is a flying and gliding fun model that is not only robustly built but also easy to control, making it the perfect model for a competition that aims to bring together young and old, professionals and newcomers to R/C flying. Anyone can build the Skycart using inexpensive materials or an affordable kit.

The first INTERMODELLBAU Skycart Masters will take place in Hall 3, the home of model aviation. Here, pilots will thrill visitors every day during the trade fair with impressive demonstrations. Different flight shows alternate every hour and are sure to be a magnet for visitors.

The new competition offers a low-threshold introduction to this fascinating hobby, making R/C model flying tangible, visible, and understandable and aims to present it as a dynamic, varied hobby that is fun and connects the generations.

To this end, the young talents at JUMP! have developed an indoor device that can glide across the hall floor and move through the air with equal ease. It is based on a simple, rectangular polypropylene plate on which a lightweight box fuselage with a vertical stabiliser is mounted, supplemented by two elevator flaps at the rear. An 8" x 4.4" propeller is required for the competition.

Marcel Möcking, responsible for trade fairs and events at the DMFV, writes:

"This is a model that anyone can fly and drive! Beginners can build the Skycart without any complex prior knowledge. The first models were built and tested this winter by JUMP! team pilots Jonathan Braeker and Konrad Lange. Whether ground racing, slalom, 3D freestyle, rolling, loops, torque or limbo, both pilots and the first spectators were thrilled!"

Skycart will be officially presented for the first time at INTERMODELLBAU. The Skycart Masters are designed as an international championship organised by DMFV and JUMP! The course consists of a slalom track, drifting, gliding phases and a return flight line. In addition to speed, precision and skill will be decisive. Whether a professional or beginner, everyone flies with the same propulsion and the model size is clearly defined. The focus is on safety, fairness and fun.

"I am very much looking forward to this premiere", explains Marcel. *"Our trade fair appearance at INTERMODELLBAU has one main goal every year: to show how R/C model aircraft building promotes community, cohesion, enthusiasm and also an understanding of technology. This is where it becomes clear that getting started is easy. Here, young and old tinker together. And now, with this competition, everyone can be a part of it."*

More information about the Skycart and the INTERMODELLBAU Skycart Masters is available at **info@dmfv.aero** or directly at the DMFV booth in Hall 3. Registrations are also handled by the DMFV.

SPEKTRUM NX8+

After many years of reliable flying with Spektrum DX transmitters the Editor upgrades to a new NX radio system

Words & Photos: **Kevin Crozier**

During my many years of working in the model trade I have been lucky enough to have used quite a wide selection of radio control systems. For a long time, I exclusively used JR Propo transmitters and watched with interest the introduction of Spektrum radios to the market. The two brands had a very close relationship back then and the programming methods were very similar, so when the time came for me to try a Spektrum transmitter for the first time I found it very easy to set up and operate. In the intervening years I have enjoyed lots of use from a pair of original DX6 and DX8 sets which I still use on a regular basis to this day. However, it has been quite some time since I have handled one of Spektrum's latest sets, but this all changed recently when Logic RC, the UK distributor of Horizon Hobby products, including Spektrum radios and associated R/C equipment, offered an NX8+ transmitter for review.

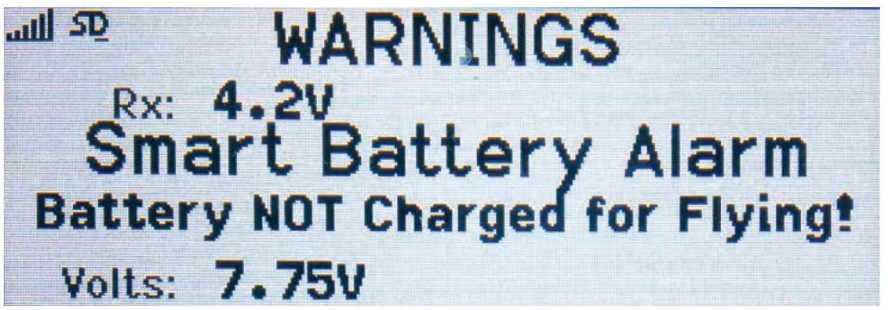
Open the display box and you'll find the NX8+ Tx inside, well protected by cardboard clamshell trays, complete with an in-depth, multi-lingual manual.

ALL THE X'S

Things have moved on quite a bit since I acquired my DX8, so I was left wondering what the difference was between the DX and NX series of radios, and indeed Spektrum's iX sets. I am sure that Logic RC will correct me if I am wrong, but I believe that the intention is to eventually replace the older, non-touchscreen, roller wheel

Accessories include an NX8+branded neck-strap, a USB charging lead of decent length and an Allen key for adjusting the main sticks.

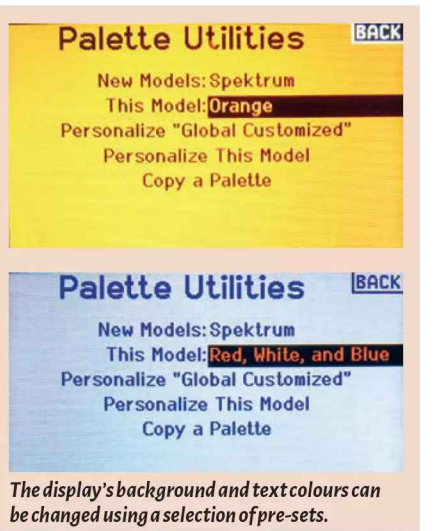
Navigation of menus shown on the 3.2" colour display are quickly made using the roller wheel on the right and the Clear, Back, and Function buttons on the left.



Many of Horizon's latest products have Smart Technology embedded within them. This warning came up automatically when a partially charged LiPo was plugged in to our latest review model.

You can go wild covering your models in the NX8+ decals supplied!

Warnings menu allows you to program voice, tone or vibration alerts for any channel or switch position.



The display's background and text colours can be changed using a selection of pre-sets.

> "NX sets also feature roller wheel interfaces but benefit from faster processors and colour screens"

navigation DX sets, which have long been popular choices with club level model pilots, with NX series equivalents. NX sets also feature roller wheel interfaces but benefit from faster processors and colour screens. The iX series are Spektrum's high end sets based on an Android platform and feature full colour touchscreens, Wi-Fi and Bluetooth connectivity, using apps for advanced, graphic based programming.

OVERVIEW

Let's start with a quick overview of the NX8+. Key features include:

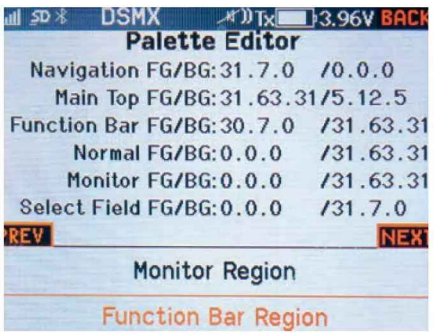
- 20 channel DSMX transmitter
- AS3X+ Forward Programming
- Smart Technology compatibility
- Backlit 3.2", 320 x 240 resolution display screen with lots of colour choices and custom colours
- Wi-Fi connectivity for product registration and firmware updates

Hold on a moment – 20 channels! My DX8 is an eight-channel set so where did all those extra channels come from? The answer lies in that small plus sign at the end of the name. The original NX8 was indeed an 8-channel affair, but it became a 20-channel set following a firmware update in mid-2024. The plus signifies that the 20-channel firmware has been pre-installed at the factory.

So, what about AS3X+ Forward Programming? Horizon's well proven **A**rtificial **S**tabilization **3** a**X**is gyro system has been around for many years, but it too now has a plus suffix. This indicates an improved stabilisation algorithm and new tuning parameters allowing for improved user customisation of a model's flight characteristics as AS3X+ automatically responds to uncommanded movements

In the back of the Tx is a 3.7V 2200 mAh 1S Li-Ion battery.

Connector area just above the battery bay showing the headphone port on the left, serial port in the middle and USB port to the right.



You can also dial your own RGB settings into the Palette Editor to change the colour of each display area.

"The plus signifies that the 20-channel firmware has been pre-installed at the factory"

caused by wind, turbulence and motor/engine torque. The Forward Programming menu in the NX8+ can be used to set up and wirelessly tune an AS3X+ equipped model without the need for a separate computer, tablet or smartphone. Forward Programming is also available with some Spektrum receivers.

As for Smart Technology this relates to communications between Spektrum's expanding range of smart batteries, chargers and electronics. In the case of the NX8+ this means that it can receive real time telemetry data from Spektrum Smart batteries and Smart Avian ESCs. The set's telemetry system is also compatible with all previous generations of Spektrum/DSMX telemetry products.

The large 3.2" colour display presents menus and telemetry information in high-resolution and lets you choose how it displays information to the pilot using multiple colours. You can even create your own colours.

Finally, at the bottom of the above list, NX8+'s Wi-Fi connectivity allows you to quickly download firmware updates. You can also complete product registration straight from your new Tx.

MORE FEATURES

Besides the features listed above the NX8+ also offers programmable and custom voice alerts so you can listen out for important information, maybe confirmation of a switch being selected or a telemetry report, say the remaining capacity of a LiPo flight pack. Alerts can also be tied to alarms, both audible and haptic by vibrating the case. There's also a headphone/ear-bud jack in the back panel, so you don't have to bother other pilots with the information being relayed to you.

There's also the option to change the colours used on the display screen. Normally, I'd just use what's given to me and the black text on white background certainly stands out well, with orange used for things like the model type icons (the default is a low wing aeroplane). However, if you have difficulties viewing some colours then this facility could be very useful, allowing you to tailor the screen to suit your own preferences. For instance, I understand that for dyslexia then using dark, non-black text on a warm coloured pastel background might help, whilst a colour-blind person may benefit from using, say, blue text on a yellow background. I'm no expert on visual issues so please don't get annoyed if I've got this wrong, but the main thing is that this set allows you to change colours to help with any condition or preferences you might have. The Palette Utilities are found in the System Setup menu from where you can choose from a selection of colour pre-sets or dial in your own RGB colour choices.

If you want to use the NX8+ for training, then it can be wirelessly linked to a compatible DSMX or DSM2 transmitter. Alternatively, if you prefer a wired connection, you can connect a wired trainer adapter to the serial port and then plug in a Spektrum trainer cable.

IN THE BOX

Open the box and the NX8+ transmitter is found inside a protective egg-carton style cardboard clamshell. There's also a NX8+ branded neck strap and a hefty manual, the English pages of which run to 59 pages. It contains more than enough information to get you up and running but if you need any more advice then there's a handy QR code on the front cover that takes you direct to the NX8+ product page on the Horizon Hobby website.

Pre-installed in the back of the Tx is a 3.7V 2200 mAh 1S Li-Ion battery which can be charged using the USB to micro-USB cable supplied and which plugs into the micro-USB port just above the battery cover. The same micro-USB port can be used to connect the Tx to Spektrum USB accessories and to a computer, most likely for use in Game Controller mode when used to control an R/C simulator such as the RealFlight RC Flight Simulator. The micro-USB to computer link can also be used perform software updates, install/update sound files, import/export colour palettes and to back up models as well as for sharing model set ups with flying friends. The internal memory of the NX8+ holds up to 250 model set ups. Additionally, you can fit a micro-SD card to perform many of the above tasks.

SETTING UP

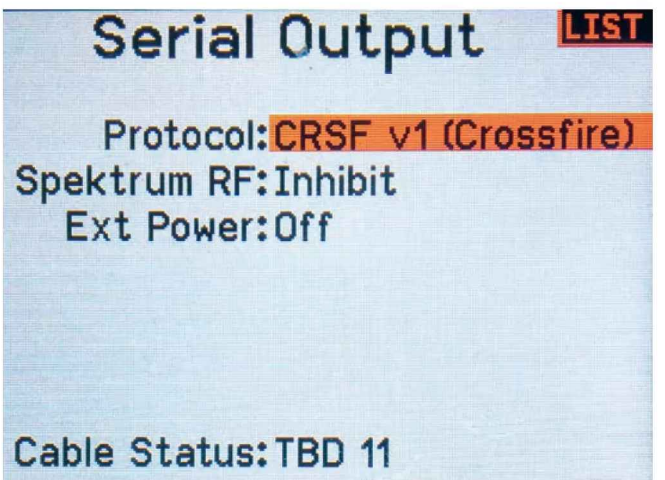
I won't bore you will all the usual stuff that you'd naturally expect a modern R/C transmitter to be able to perform when flying an aeroplane using the Acro menu or a helicopter (Heli menu), a glider a.k.a. sailplane (Sail menu) or, dare I mention it, a multirotor drone (Multi menu). Suffice to say that it has all the conventional set up functions such as Servo Setup (travel adjust, sub-trims, reverse etc.), graphical displays of Rates, Expo and Throttle Curve, plus Analogue, Digital and Logical Switch setups. There are also 24 programmable mixes, 8 sequencers and up to 10 different flight modes.

I could go on but the important thing for me was how easy it would be to program a new model and would it be as simple as with my existing DX series transmitters. The answer was a resounding yes and I can happily report that setting up a new model is practically a carbon copy of how I did it before, but with a few additional options which you can either choose to use or disregard as you see fit. An example of this is VTX Setup for use with compatible video transmitters if flying FPV (First Person View) or the Multirotor menus when setting up a drone.

If you are setting up a model from one of the Horizon brands such as E-flite then you'll probably find a panel of DX, NX and iX transmitter set ups in the manual. Just follow the step-by-step instructions by using the roller wheel to the right of the display and the Clear,

You can share model files from a DX transmitter to the NX8+, but you can't do it the other way around.

Back panel view. The area denoted by the CE label can be used to screw down a Crossfire module connected to the white serial port, but you'll need to power the module from a separate battery.



Serial Output set up page.

Back, and Function buttons on the left-hand side and you'll soon have your new model set up and ready to fly. And if you are lucky enough to own a BNF (Bind-N-Fly) model produced by Horizon then it's even easier as the NX8+ comes preloaded with templates for many of these aircraft and the ability to download any new ones in the future.

The NX8+ uses Spektrum's well-proven DSMX 2.4GHz protocol. If you already own a Spektrum DX transmitter and would like to swap your models to the NX8+ you can share model files from a DX transmitter to minimise the set-up process, but you can't do it the other way around, NX to DX.

There's also an integrated serial port to support third party modules, such as Crossfire or ELRS units, accessed through the white connector on the back panel. However, the connector does not provide power, so you'll need an external battery, most likely Velcroed to the back of the Tx along with the module itself. If you use a Crossfire standard module then there's even a dedicated mounting place for it, with matching screw holes.

> "There's also an integrated serial port to support third party modules, such as Crossfire or ELRS units"

IN USE

Being of conventional layout the two main control sticks and eight shoulder switches all fall easily to hand, as do the digital trim switches for the stick units. There are no sliders on this Tx but there is a rotary knob

on the top right shoulder that can be assigned to provide smooth, variable control of things like flaps or gyro gain. At the same position, on the other side, is the push button Bind switch.

Being a 'thumbs on top' pilot, I prefer reasonably short sticks, so I used the Allen key supplied to wind both sticks down to their shortest length. With that done the sticks felt similar to my other Spektrum sets, if a little bit tighter in tension. This can be adjusted too but I'll leave it for a bit and see how it feels when flying a large aerobatic model as my experience so far with the NX8+ has been limited to the Micro Scrappy featured in the last issue.

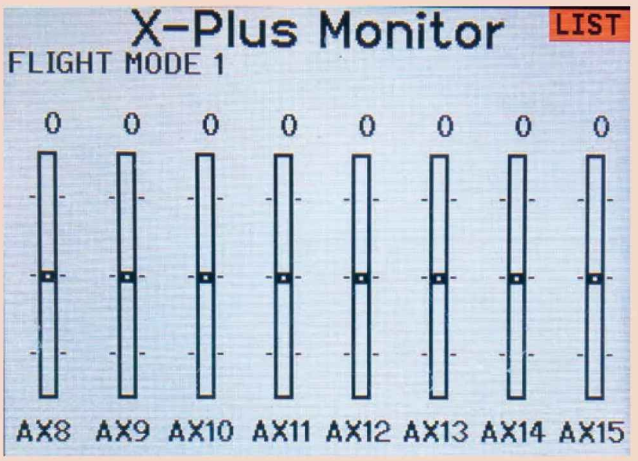
The set feels very comfortable thanks to the slightly rubberised grips on either side. If you like your Tx to stand out from the crown, then a set of orange grips are available as optional parts. Bling!

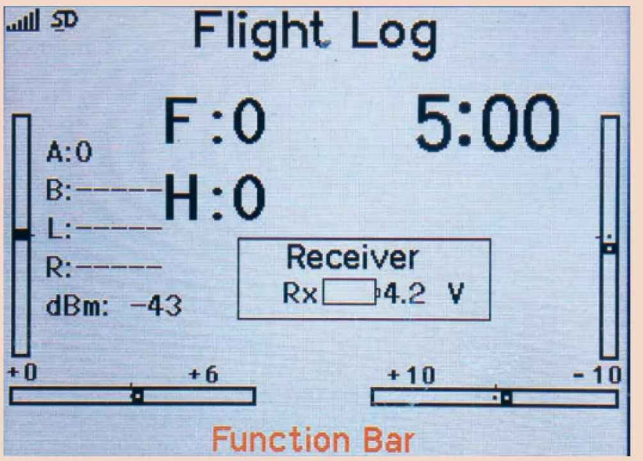
We all know (or should know) that it's bad practice to point a transmitter's antenna at a model in flight as that's the weakest signal area formed by the doughnut of signals radiating from the antenna. Hence, most of us will have a favourite angle for our transmitter's aerial to be placed at. In the case of the NX8+ antenna it can be set in any one of 12 positions, my preference being at around 60 degrees from the horizontal position. As well as the adjustable antenna there's also a second diversity antenna located behind the transmitter's nameplate.

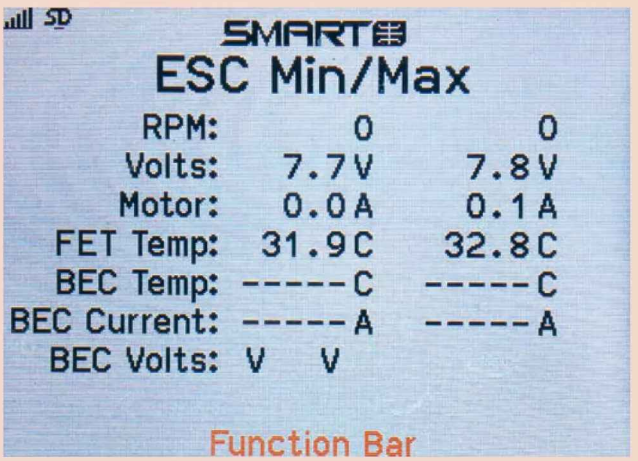
Stick length can be adjusted using the Allen key supplied. As a 'thumbs on top' flyer I found them most comfortable when wound fully down.

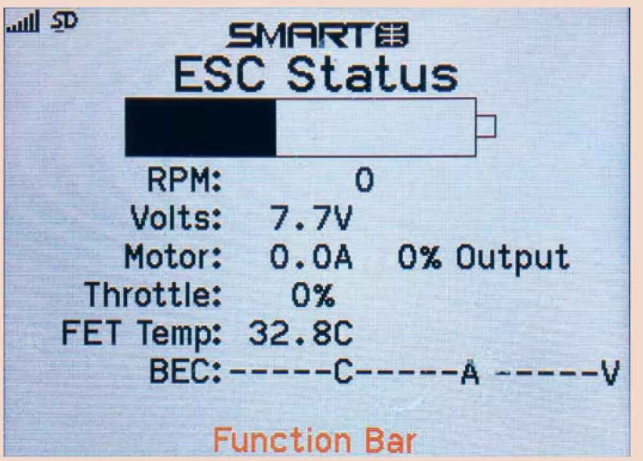
Antenna should be raised in flight to avoid pointing it directly at the model. There are several angles to choose from.

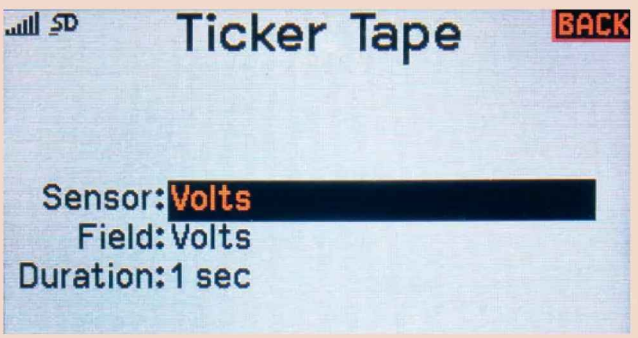
Top & above: NX8+ has the usual array of programmable shoulder switches, including a variable knob on the right and the Bind/Trainer button on the left.











VIEWING TELEMETRY

This system can be set up to view telemetry from a wide range of plug-in sensors but many of the latest aircraft from Horizon come with on-board telemetry supplied by Smart batteries and ESCs. An example is shown here but the model in question wouldn't be able to get very far as the Smart Battery Alarm was sounding, warning that the battery was not charged for flying. However, these pictures show the telemetry screens, which are quickly accessed by rotating the roller wheel past the two monitor screens (X-plus Monitor for the upper channels shown). The Flight Log, ESC Min/Max and ESC Status are then displayed in the order shown. You can also set telemetry to be shown as a ticker tape in the Function Bar area at the bottom of the screen, where it will also appear in the main display.

LET'S FLY

I hope this article gives you a taster of what this impressive mid-range transmitter is capable of. It has a host of features to tailor it to your own specific requirements, be that visually with different display colours or audibly/haptic with custom alerts.

But, best of all, it will do a marvellous job of helping you fly your model aeroplanes! ■

DATAFILE

Name:	NX8+ 20-Channel DSMX Transmitter Only
Manufacturer:	Spektrum
UK importer:	Logic RC
	https://www.logicrc.com
Product code:	P-SPMR8210EU
RRP:	£374.99

POPHAM AIRFIELD

MODEL SHOW

9th-10th MAY 2026

70+ WORLD CLASS PILOTS

30+ TRADERS

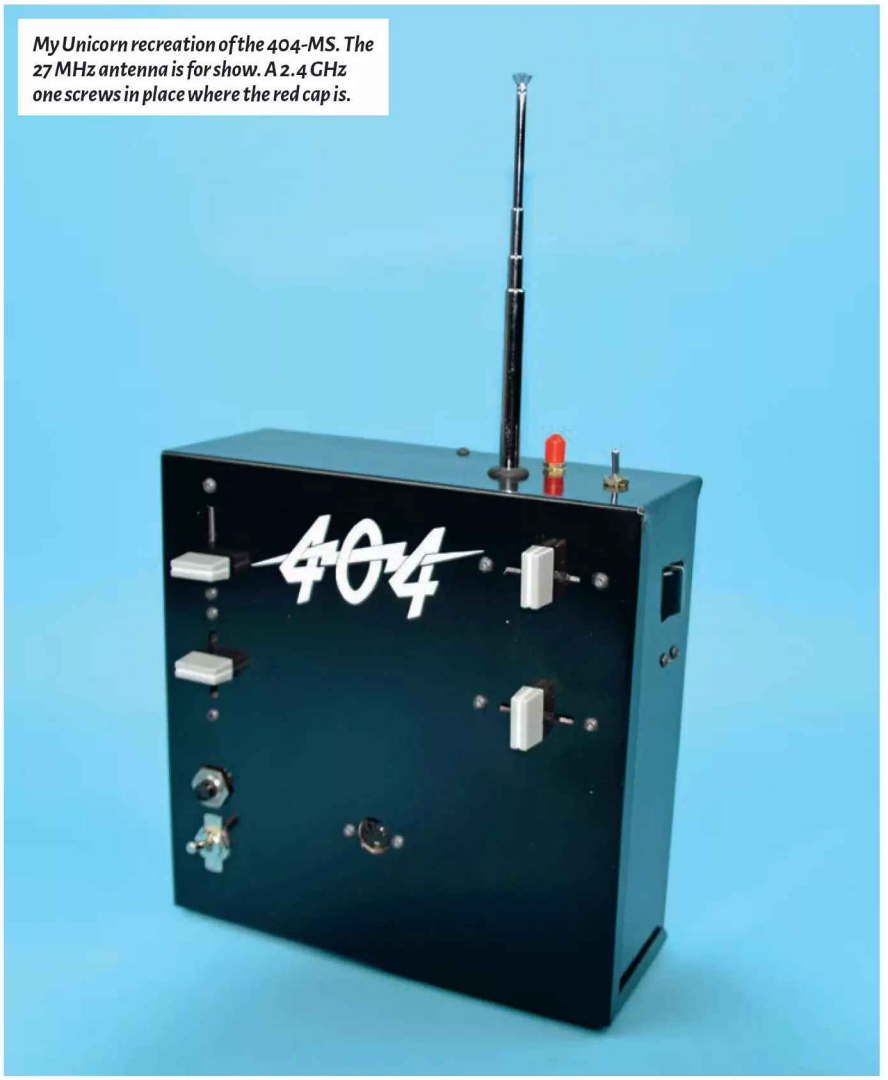
TINY WHOOP RACING
RC DRIFT CARS
STATIC & POWERED BOATS
SCALE TANKS
AND MORE!

ONSITE CAMPING • CATERING • DOGS WELCOME

All contributions subject to availability

Popham Airfield
EGHP
The Spitfire Flying Club

SCAN ME!



My Unicorn recreation of the 404-MS. The 27 MHz antenna is for show. A 2.4 GHz one screws in place where the red cap is.

THE ROCKET MAN'S UNICORN

Shaun Garrity builds a new version of an expensive (for the time) cuddle box radio

Words & Photos: **Shaun Garrity**

I hope everybody had a great Christmas and New Year. Personally, it was too cold to build and too cold to fly so I just partied and enjoyed the break, continuing the life plan I put together on my 60th birthday to grow old disgracefully. It's worked so far for the last nine years and I highly recommend it.

I did, however, manage to close off a project that started as a throw away comment to a pal earlier in the year after seeing an advert in an old 'Grid Leaks' R/C magazine from the 1960s, but more of that later.

ROCKET SCIENTIST

Back in 1963 you needed to be seriously wealthy to fly proportional radio. One of the very first available reliable commercial sets came from Sampey & Company in the USA. It cost a jaw dropping $572 USD back then or approximately £4,500 today! It makes top end R/C sets like Jeti look cheap at just over £2500 and it was only four channel, not 24. The Sampey 404 was a single stick 'cuddle box' set for aileron, elevator and rudder with a rotary control for throttle, and trims available, again by rotary controls, on the elevator, aileron and rudder.

The 404 was well respected because two noted R/C modellers, Jim Kirkland and Maynard Hill, achieved contest and record flights using the set. Jim won first place at the 1963 USA Nationals with his Beachcomber, also gaining first places in every contest he entered that year. Maynard flew his Fox .59 powered 8 lb, 7.5-foot span model to a new altitude record. He broke the record on three successive flights, the first reaching 11,940 ft., the second 12,960 ft. and finally 13,320 ft. The 404 had been in production for less than one year when these records were achieved.

I remember reading a quote about Harry Sampey. It was along the lines of: '*It doesn't take a rocket scientist to design a proportional R/C set for model use—but it helps.*' Harry worked for the Martin Company and was indeed a scientist working on the Vanguard Rocket project. Amazingly, he wasn't a college graduate, with no degree and no high school diploma, but as a former business associate would say, "*He was the smartest man I ever met and a serial entrepreneur.*"

Harry had a passion for aircraft, both full size and models, as well as ham radio and wasn't impressed with, in his words, "*the crude reed R/C systems available at the time*". So, he decided to design his own proportional set. The first sets he made were in basic aluminium boxes and sold to fellow club members to fund future developments. As demand grew, he realised he needed to go big or go home, so he borrowed some money from his brother and convinced interested parties to send deposits on the promise of the gear being delivered in a number of months. Now, where have I heard that business model being used before...

This first radio was known as the Command Control system. Harry did a deal with a fellow modeller who was in advertising to sort promotion of the company in exchange for a set. By late 1962 the business was at a level of success that convinced Harry to leave the Martin Company to go full time and set up Sampey & Company.

The name 404 came from the fact it was his 4th version and had 4 channels. The initial release for the 404 was the subject of a full-page advert in the December 1962 edition of American Modeller.

So, that explains the Rocket Scientist but what about the Unicorn?

There was a problem convincing die-hard reed flyers to convert to proportional so Harry had an idea to offer a proportional set that looked and handled like a reed transmitter. It had individual sliders for each of the four functions and trim on elevator only. Designated the 404-MS (multi stick), a sketch of the proposed set was included in a full-page advert

Harry Sampey's groundbreaking 404 transmitter. You needed to be wealthy to own one.

The Sampey transmitter that never was, the 404-MS. Until now!

Tobe designed 3D printed housings for the slider pots to allow them to self-neutralise for rudder, aileron and elevator.

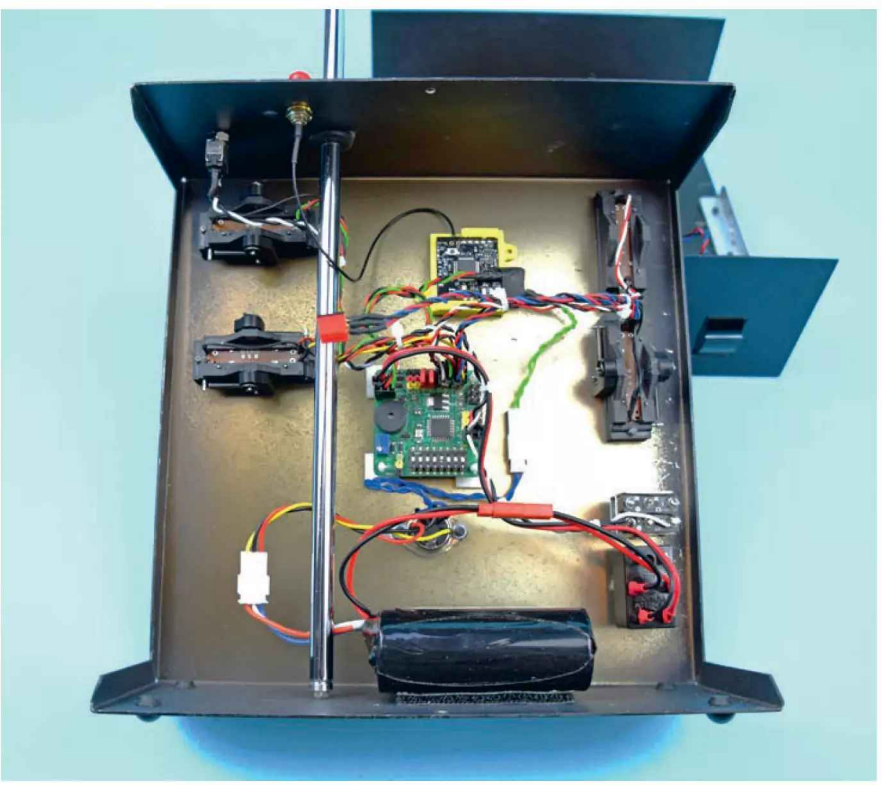
for the 404 in the November/December edition of Grid Leaks. This was obviously to test market reaction to this off the wall idea. I can't find another reference to the set and there has never been an image, as far as I know, of an actual set so I'm assuming the response was not great and it never happened.

THE UNICORN

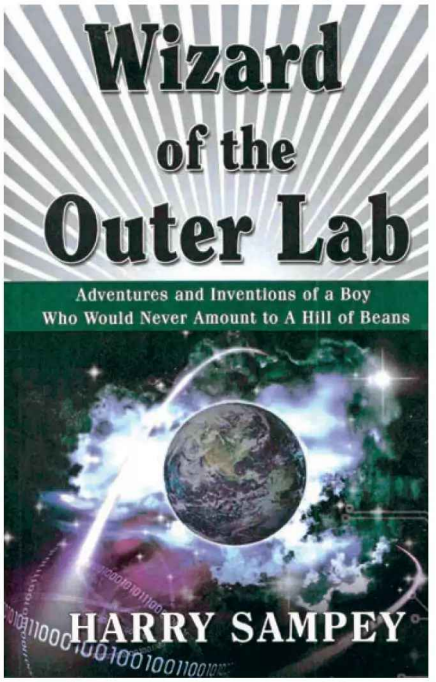
This is where my inner child decided to cause some mischief - make a set and post it on the forums for a laugh. I managed to find the exact size of the case so a pal kindly folded one up in aluminium for me. But the next problem was the self-neutralising sliders for rudder, aileron and elevator. Again, and in the great words of Clint Eastwood, *'A man has to know his limitations'* and when it comes to 3D printing and product design I am very limited, so my good pal Tobe took this task on board and he came up with the goods, a slider pot that self-neutralises accurately with the correct amount of travel. It makes life so much easier when you have clever friends!

I now had all the elements required to create the set that never was. The reaction was interesting, ranging from *'how lucky I was to own it'* to *'how it was selfish to keep it and I should donate it to a museum'*. Some modellers are funny onions; still, my wind up had been achieved and my inner child placated for the moment.

Oh, by the way, it is interesting to fly a model with my Unicorn. But if I had splashed



Modern components are miniscule compared to what was available in the 1960s. My recreation uses a Mike Kitchen encoder with a Lemon RF module.



'Wizard of the Outer Lab' is a great read about Harry Sampey's life and achievements.

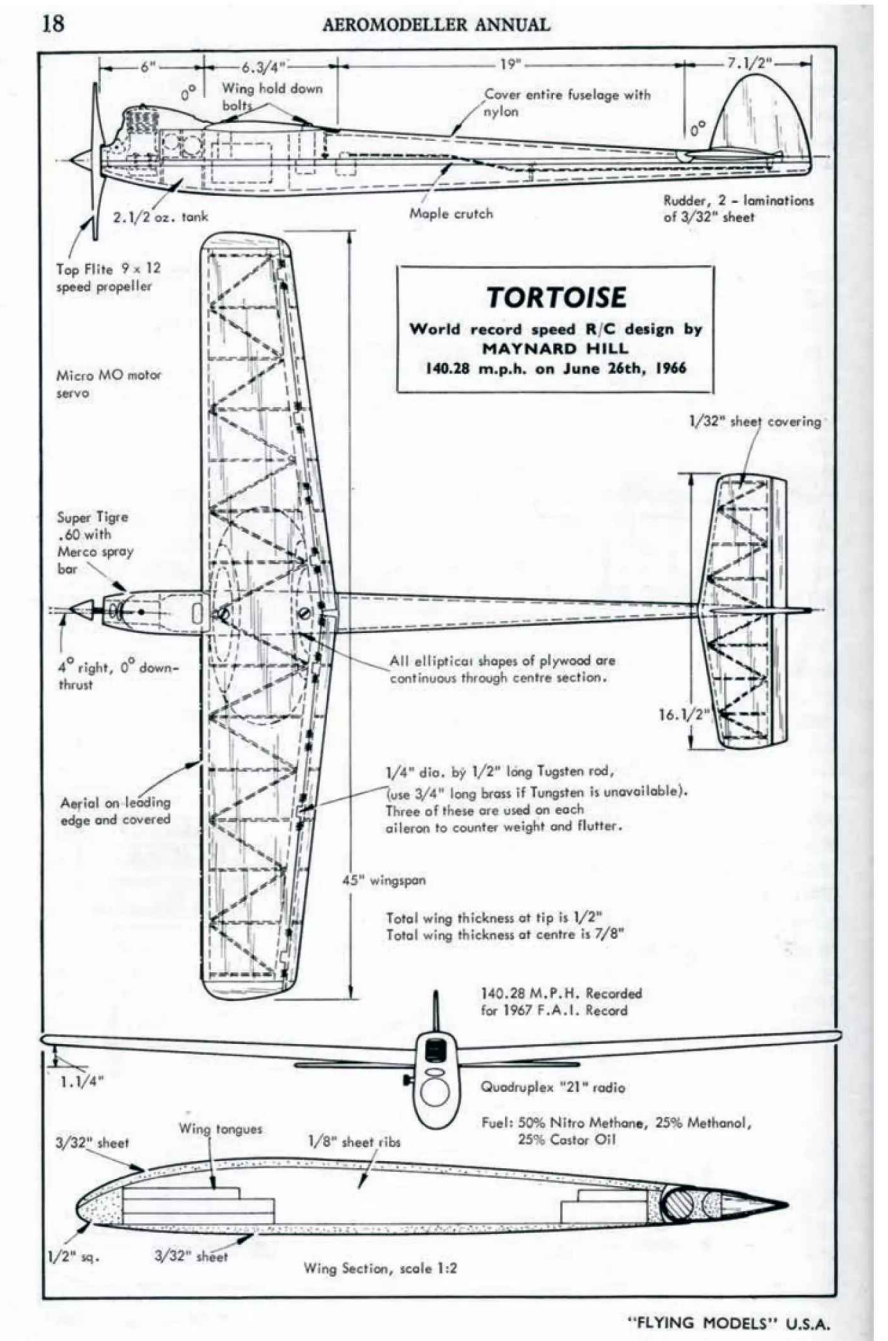
out the equivalent of £4,500 for it back in the day, I wouldn't have been happy or impressed with my investment. Maybe it would have been better if I had four arms but, to be fair, I wouldn't have experienced flying with a twin stick set and jumping between control switches was *de rigueur* on a reed transmitter.

SURVEY KING

Harry actually made a serious chunk of money from a brilliant idea.

Back in the day road surveys were performed manually and cost a fortune due to the labour-intensive nature of the task. Harry came up with an idea (and obviously patented it) to use an aircraft Artificial Horizon and Accelerometer in a package mounted on a vehicle that would record all the twists, turns and undulations while driving slowly down a road, shortening a task that could take weeks into days. This system was used successfully for decades.

Maynard Hill (right) with his Tortoise record breaking speed model in 1966.



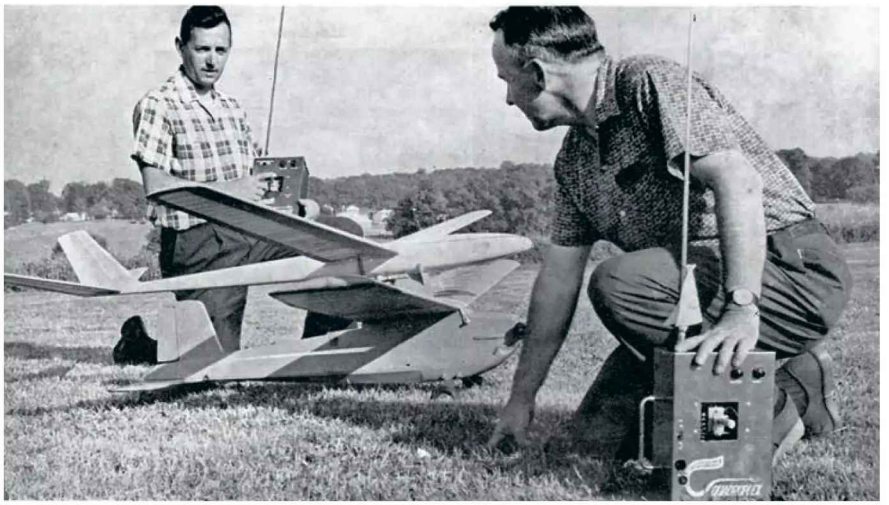
Tortoise plans. Very different to how speed models are constructed today.

If you would like to find out more about Harry Sampey and his many successes, failures, trials and tribulations then pick up a copy of his book *Wizard of the Outer Lab*. It's a very interesting read.

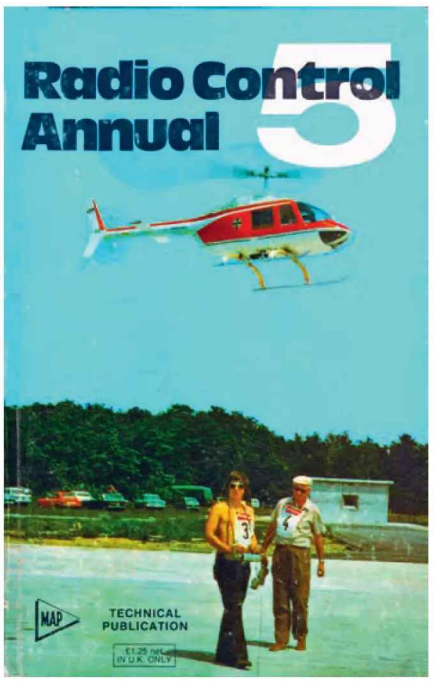
WORLD CHAMP

It's worth mentioning some of Maynard Hill's other achievements because they were epic. As mentioned, he achieved the world record for height with a model aircraft in 1963 but was recognised for setting 25 world records for speed, duration and altitude. He later upped his 13,320 ft. record to 27,000 ft. in 1984 and the model used his own designed autopilot.

The epitome of his modelling achievements, however, was in 2003, aged 77. His TAM-5 aircraft (the Spirit of Butts Farm) was launched on August 9th from Cape Spear, Newfoundland and after flying 1,881 miles over the Atlantic it landed at Manning Beach, Ireland 38 hours 52 minutes later. The 11 lb, 72" wingspan model was powered by a modified OS 61 FS and used a carburettor from an OS Pet 09 to improve fuel consumption; the flight in total used less than a gallon of fuel! Efficiency was so good it



Maynard (left) and Dr. Walt Good experiment with piggyback glider launching. The power model used was his famous 9-year-old Multibug that he achieved his world record 14,800 ft. height record with.



Radio Control Annual only appeared five times, unlike the 31 editions of the Aeromodeller Annual. An interesting window into the hobby at the time.

consumed roughly the same volume as a shot of whiskey per hour.

An Aveox brushless motor was modified and used as an alternator to keep the electrics topped up, with a custom designed GPS autopilot to keep things on track. This set world records for distance and duration and proved that non-military grade technology could achieve a transcontinental flight with his model UAV.

Due to his pioneering work in engine efficiency and technical brilliance in the field of electronic stabilisation, Maynard was awarded the F.A.I. Gold Air Medal. The same honour had been awarded to aviation greats like Chuck Yeager and Charles Lindbergh.

If you want to read more about this fascinating man grab yourself a copy of *Radio Control Annual 5* published by MAP. There is a 15-page article about his work developing the Electrostatic Autopilot used in his models.

Radio Control Annual 5 had a great article on the team that developed Maynard's Auto Pilot.

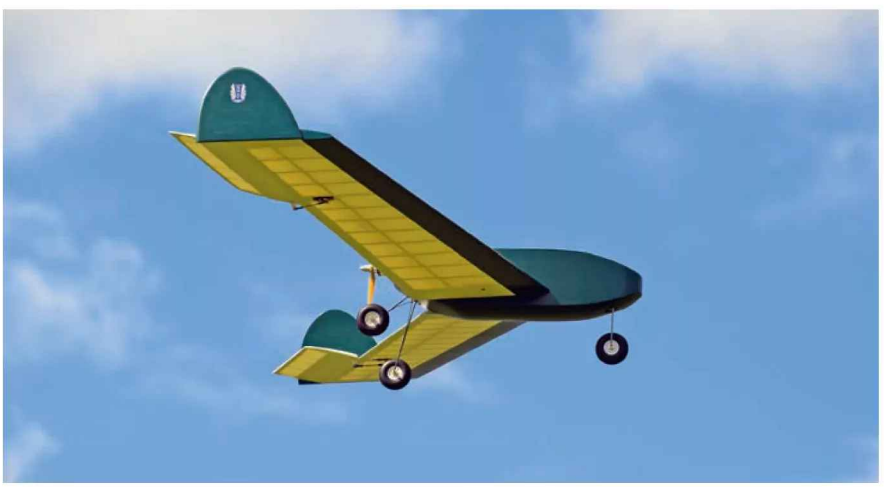
PONTE CARLO 14!

It's back again! The Pontefract Single Channel and Retro Fly-In.

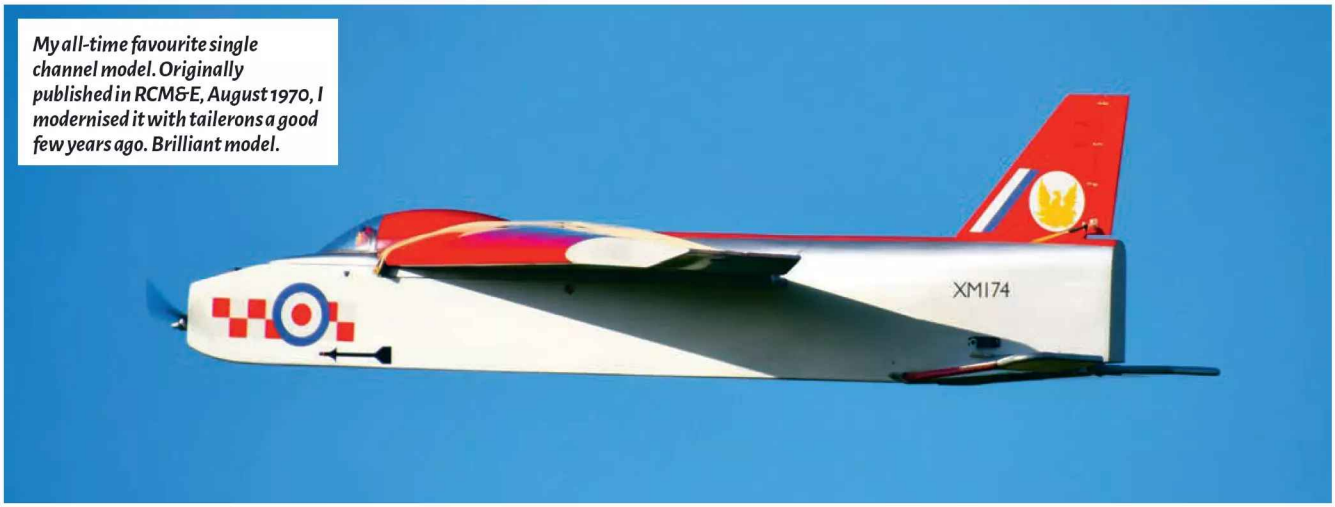
An example of the Dee Bee Quadraplex, another R/C system used by Maynard in some of his record-breaking flights.

This year the event is being held a little later on the 22nd and 23rd of August. I'm a great believer in the adage '*If it ain't broke don't fix it*' so the format is unchanged. Saturday is a general fly-in, with all model types welcome, but there is a 25 kg limit as we fly on a public park. Pilots of models over 7.5 kg must hold a BMFA B or LMA Full Proficiency and all models must be well silenced. If you don't hold a BMFA A cert don't worry, we can accommodate this.

A quick explanation of Sunday's events name should help modellers who haven't been before. Originally the intention of the meeting was for the growing band of modellers who enjoyed flying rudder only style aircraft from the 1950s, 60s and 70s using 35 MHz and 2.4 GHz updated single channel (button) retro transmitters. The success of the event was exponential and as the Old Warden Retro Weekend was no more, we decided that Ponte should aspire to become the Old Warden of the North. So, the brief was expanded to include all models designed from day dot



Manx Queen was always a favourite of mine. Seen at Pontefract a few years ago.



My all-time favourite single channel model. Originally published in RCM&E, August 1970, I modernised it with tailerons a good few years ago. Brilliant model.

This shouldn't fly but, amazingly, it does!

Classic Kwik Fli 3 designed by Phil Kraft has now been reintroduced by Seagull models as an ARTF. It makes a superb aerobatic trainer.

to the late 1970s using any type of legal control system - Single Channel, Reed, Galloping Ghost and Proportional - especially converted retro examples. It worked; the event grew and grew into the cornucopia of halcyon day excellence it now is. It's hard to believe this year's event is number 14.

Every year we have an optional theme of model type. This year is for any event appropriate models kitted prior to the 1980s, with a special category for unorthodox models built from a published plan or kit from the 1950s, 60s and 70s such as Deltas, Canards, Flying Wings, Ornithopters, Gyrocopters, Helicopters, flying Washboards etc.

For all the theme models it's no problem if you want to scale it up or down and you have plenty of time to build one if you don't have a suitable model. Let your modelling skills and imagination go wild this year.

UHF MAKES A COME BACK

In my last column I featured a few UHF radios. I've had several emails from younger modellers who were not aware of them, so here's a brief history and explanation of what they were.

Back in the days of 27 MHz the band, due to its popularity for model radio control, Citizen's Band radio (CB) and Marine use etc. was becoming more congested and interference starting to become an issue.

You need to be a committed builder to construct the wing on this model.

To get around this the electronics geniuses of the 1970s looked at using other available frequencies and the one they settled on was 459 MHz. One downside of this frequency was that due to the technology required it was always going to be more expensive than a 27 MHz set and more time consuming to set up and tune in. However, this didn't stop modellers from buying into the system to try and escape the dreaded interference.

The first commercial UK set available, from REFTEC (also marketed as Vendene in a two-channel variant), had some reliability and quality issues. REFTEC latterly brought out a redesigned modular V2 version, but it was sadly too late. This unfairly caused doubts for flyers as to the viability of this new frequency so when other manufacturers such as Cotswold, Multiplex and World Engines brought to market some excellent and reliable UHF radios, sales fell short of expectation.

There was another issue. Just as 459 was finally gaining acceptance, 35 MHz hit the market with more frequencies, no CB interference and lower cost. This was effectively the final nail in the coffin for 459, which was a shame.

UHF is making a resurgence today. The 2.4 GHz band is starting to become more congested so certain manufacturers like FrSky and Jeti have started including dual band capable systems in their range, giving 2.4 GHz and 868 MHz. UHF has several advantages over Gigahertz systems as it can better penetrate obstacles, has superior range and lower

The early REFTEC and the later Module Set. A weird description as the only module part of it was the receiver. It's in two parts that plug together.

susceptibility to interference as the band is less congested.

It looks like we've gone full circle.

A NEW UHF SYSTEM

From the mystical Troll caves in Sweden my pal Tobe has been engaging his grey matter yet again. Previously designing various Galloping Ghost and Proportional Actuators, 3D Printed Joysticks, Transmitter Cases, his many variants of an NRF radio system, a plethora of miniscule encoders and airframes (I'm sure he never sleeps), his latest project is a UHF radio system.

BUILDING YOUR OWN RC RADIO LINK: A JOURNEY INTO 459MHZ

A hobbyist's tale of creating a custom digital radio control system from scratch.

DIY 8-CHANNEL UHF

Hey everyone! I'd like to share my latest R/C project - a complete 8-channel radio control system that I've been developing and testing over the past few months. It's based on Arduino Pro Mini boards and cheap RA-01 RF modules and works in the UK 459 MHz model control band.

WHAT IS THIS?

It's a fully functional R/C transmitter and receiver pair that I built which gives eight proportional channels, programmable failsafe, range testing mode and proper UK regulatory compliance, all using parts available over the counter, although I have made custom PCBs after testing.

The cool part? The receiver automatically learns which channel to use from the transmitter during binding so multiple receivers with identical firmware can be bound to different transmitters on different channels without reprogramming if you have forgotten the bind plug.

WHY DID I START THIS PROJECT?

A darn good question! Probably just to prove something...

The easiest answer is to blame the upcoming 2.4 GHz pollution. Actually, the project I'm sharing is a sidestep of a much larger and intricate project where I use a different kind of frequency hopping with packets defined by unique IDs. But more of that another time.

The key is the modules I'm using which come in different frequencies. 459 MHz is not available in Sweden or the rest of Europe despite being a great frequency: 100 mW allowed, license free and relatively empty compared to 2.4 GHz. But I used it as I know a few tinkers in the UK and I enjoy coming over to both Pontefract and Ivinghoe Beacon.

MAIN FEATURES

- Eight channels
- Works with standard servos and flight controllers
- Eight-hour battery life
- Simple failsafe programming
- UK 459 MHz compliance (a lot of effort was put into making sure this is legal)
- Operates over 459.000 - 459.500 MHz, with 21 channels available
- Occupied bandwidth: 20.8 kHz (well under the 25 kHz limit)
- Max power: 100mW ERP (configurable down to 1mW for testing). Meets Interface Requirements 2016 so is license exempt for model control.

Tobe's latest 459 UHF set. I will cover this in more detail in a future column. Another professional quality product built in a shed!

I'm hoping to fully cover this after I've built a system, which will be fully UK legal and compliant. But adjacent are a few words from Tobe to give you a flavour.

DIY PROJECT

This is a DIY project, but Tobe will be making the code available and most likely the PCBs too after further refining them in the near future. More info as soon as I get it. As mentioned, I'll certainly be building one but having zero 3D printing skills mine will be in a repurposed retro case.

That's it for this time. As always please email any stories or questions you may have to aeroomodeller@gmail.com and keep making small bits of wood into larger ones! ■

3D OR NOT 3D

THAT IS THE QUESTION

Does 3D printing offer a viable alternative to building a scale model that will satisfy our creative needs whilst at the same time providing a high level of scale detail? **Roger Styles** switches on his printer to find out

Words & Photos: **Roger Styles**

Ever since I was old enough to hold a tube of glue, I have been building model aeroplanes. At the tender age of eight, after going through the range of available Airfix models, I built my first flying model with the help of my dad. It was the Mercury Models Sirocco, a rubber powered 32" free flight model. It flew so well I was instantly hooked and since then I have continued to build and fly model aircraft

I have always had a passion for scale models and have often found myself looking through the pages of this magazine admiring (envying really) the wonderful creations of other modellers. However, I class myself as a 'club modeller', for want of a better term. I build

I opted to print the Abrams P1 Explorer from Planeprint.com.

Most of the model uses normal PLA or PLA Tough. I used PLA Tough, with a few components printed using PLA LW (Light Weight). TPU was used for the tyres and flexible hinges.

models that fly well but I don't have the skill or patience to apply the fine scale detail you see at the top levels of this hobby. Of course, recent years have seen the development of ARTF foam aircraft that make it possible to own models with a good level of surface scale detail. But although I own a few myself, it somehow feels like cheating to me. I find I miss the creative element of building and finishing a model.

So, I decided to see if 3D printing offers a viable alternative for building models that will satisfy the creative need in me whilst at the same time providing the level of scale detail I have so often admired in other modellers' creations.

FIRST STEPS

I am not going to discuss here the fundamentals of 3D printing as those topics have been covered before and there are plenty of resources available for those wishing to learn about 3D printing. So, let's jump straight into choosing a model to print.

There are now several companies offering model designs with ready to download files. It's a bit like the digital equivalent of buying a model kit with pre-cut parts. As already mentioned, I like scale models. I also like to build something a bit different, so I opted for the Abrams P1 Explorer from Planeprint.com. It is a nice size at 1500 mm (59") wingspan, with a target flight weight of 2.1 kg and a wing-loading of 50 g/dm^2. And it certainly qualifies as being a bit different!

Planeprint allow you to download their manuals free of charge so you can see what you are getting yourself into before committing hard earned cash. I found the manual to be clear and comprehensive which helped me to make my mind up. After making my purchase I downloaded the file package, which also includes a PDF template for the glazing panels of the cockpit. A little more on this later. Also included are PDF, DXF and EPS files for the main wing decal.

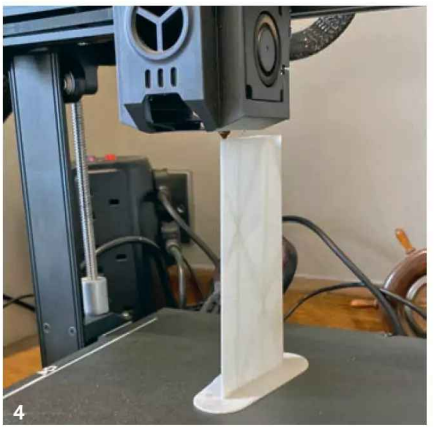
Before starting to print you need to set up a few different profiles in your slicer software for the different types of print and materials that are required. This model uses four profiles that Planeprint have designated P1, P2, P3 and P4. I found this to be a straightforward exercise and it only took me 30 minutes or so to set them up and save them in the slicer software. Although very clearly shown on their website, Planeprint have asked me to emphasise the importance of only using version 4.12.1 of Cura when slicing for their P3 profile.

About 90% of the model uses either normal PLA or PLA Tough. I opted for PLA Tough in the hope it would give the model a little extra strength without adding a serious weight penalty. A few components use PLA LW (Light Weight) and the remainder use TPU for the tyres and flexible hinges.

EASY PRINTING

With the four profiles set up and saved in Cura it was time to start printing. I will not bore you with a description of printing every component but there are a few early observations I would like to share. To start with it quickly becomes apparent that this model has some lovely surface detail such as panel lines, rivets and hatches. The other thing that jumps out is the level of thought that has gone into how this model will assemble, for instance the built in Bowden cable channels for control linkages, the ducting for servo cables and all the 'tabs and sockets' that will be used to ensure perfect alignment of major parts. Another nice touch is the working suspension for the main undercarriage. **(Pic 1)**

The printing itself was very straightforward and the profiles defined worked well with my printer using the specified version of Cura. I feel the quality of the print is pretty good for my requirements although there were a few surface blemishes on some components.



But these were easily removed with the careful use of a razor blade.

I did learn one lesson throughout the printing process – keep your work area free of contaminants! I usually set up larger components to print overnight as they can take more than 10 hours to print. After one of these overnight marathons, I woke to find that a bug had been trapped in the print, which deformed it right where it needs to join to another section! **(Pics 2 & 3)**

The only other problem experienced during printing was that a couple of the tall, narrow components, like the ailerons, came away from the print bed before the print was finished. This is easily cured by adding a brim, or raft, before slicing which helps with print plate adhesion. **(Pic 4)**

The great thing to remember is that if you do have a print that fails for some reason it is easy, and very cheap, to print a replacement.

There is a lot of printing to be done. I estimate it took something like 120 hours of print time. But if you set the larger prints off first thing in the morning or before bed you can simply leave the printer to do its thing and get on with your day (or night).

PUTTING IT ALL TOGETHER

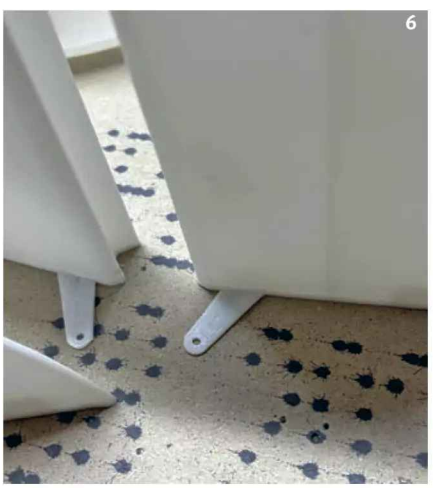
The manual provides step by step assembly instructions. It also provides a comprehensive list of hardware, tools and adhesives you will require to complete the Explorer. The recommended motor is a Hacker A30-10XL, but I opted for the 4-Max equivalent of a PO-3547-960 and 80A ESC.

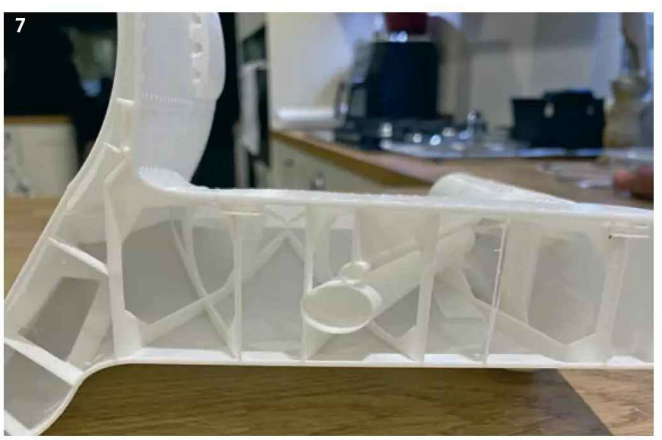
After acquiring all the other bits and bobs I was ready to start the build process. When all laid out, I was impressed at how many components I had in front of me, all printed for about £27 worth of filament. It seemed to me that I had created an Airfix kit on steroids and I was really looking forward to the build. But was it going to go together okay? **(Pic 5)**

I followed the assembly sequence recommended in the instructions, starting with the vertical stabilisers and fuselage booms. I found the components aligned very well, with cleverly designed tabs that insert into slots that had been printed into the major parts, so everything went together very well. So far, so good. Even the control horns had been printed as an integral part of the control surfaces **(Pic 6)** and as mentioned earlier the Bowden channels for the control cables were also an in-built feature. **(Pic 7)**

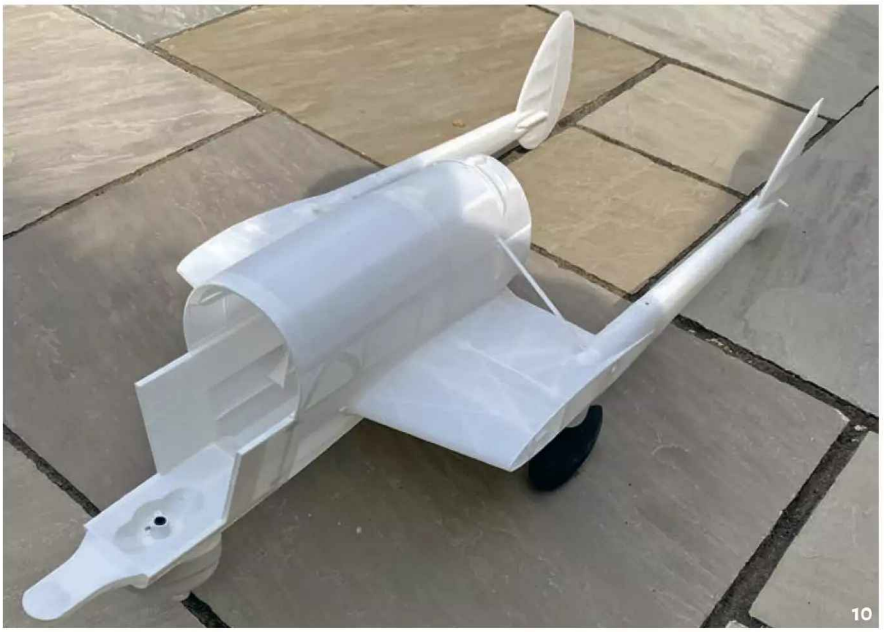
All control surfaces are hinged with tabs printed in TPU, a flexible filament, and are designed to go together neatly so there is no gap between a flying surface and control surface. **(Pic 8)**

The main fuselage goes together quickly but before assembly you need to remove a few support structures that ensure the components






9


10

print correctly. This is easily done with a sharp modelling knife. Short sections of carbon rod are used to join the booms to the fuselage to provide strength but with the length of the booms carrying the weight of the horizontal and vertical stabilisers I was worried this could be a weak point during heavy landings, so I had to wait and see.

By now I was starting to get an impression of the overall size of the Explorer and the level of surface detail that was showing. **(Pics 9 & 10)**

Landing gear next. Again this was straightforward with the clever addition of a suspension spring (3D printed, of course) in the mains. The nosewheel is steerable. Wheel hubs are printed with normal PLA and the tyres are printed with TPU. The tyres came out fairly hard so if the model flies well I may print another set with less infill to get a softer tyre.

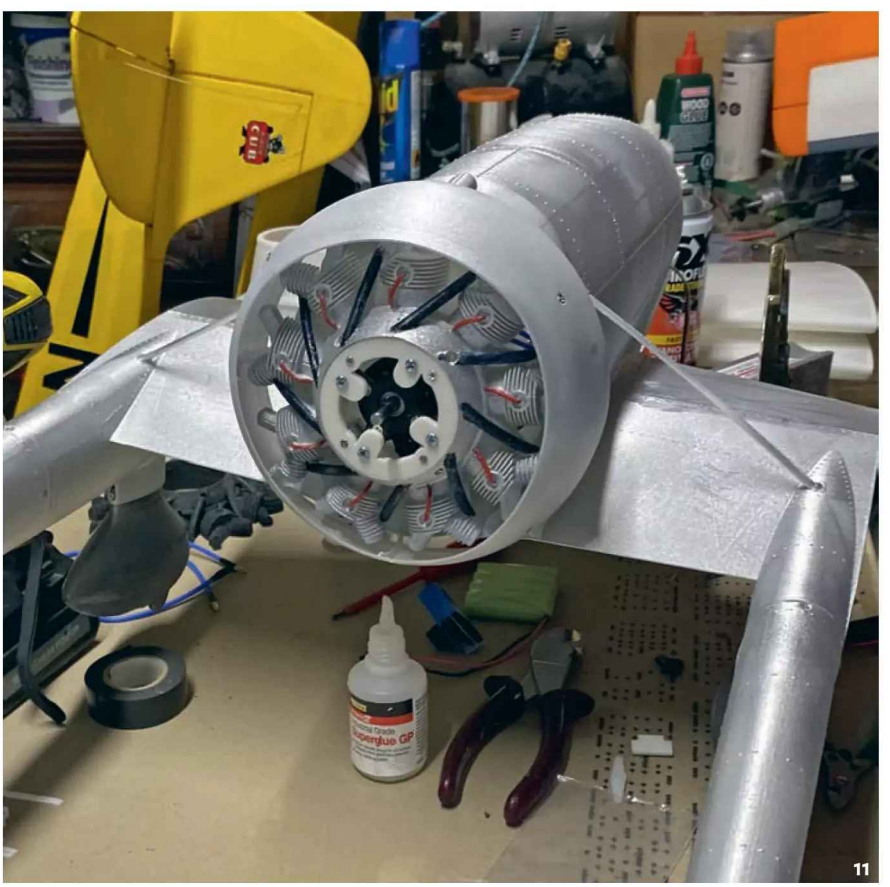
The horizontal stabiliser is printed in two halves that slot together easily. There are printed servo mounts that allow the servos to just 'drop in place', with neat fitting servo hatches screwed down with a couple of 2 mm self-tappers. The left side fuselage boom has a cable channel printed into it so getting the servo extension lead fed through to the main fuselage area is easy.

IMPRESSIVE WING STRUCTURE

Wing assembly, once again, is very straightforward. With these larger components I was worried there might have been sections that didn't align perfectly and I would need to do some fettling, but my concerns were unfounded. The wing is a really impressive structure with internal bracing printed throughout. To add strength, it uses two lengths of carbon tube. The wing also includes a discreet clamp arrangement so the outer sections can be removed easily for transport.

Now for mounting the motor. To me the mounting arms looked a bit 'simple' and I thought that getting them fixed to the fuselage and correctly centred was going to be a real challenge. But this was not the case as everything is printed with such precision that it just goes together in the way intended.

It is recommended that the dummy radial engine is printed in lightweight PLA but I didn't get a great finish on it for some reason. So, I printed another in normal PLA which gave a much better-quality finish and it only weighed an extra gram **(Pic 11).**


11

It is probably worth mentioning component weights here. Planeprint give ideal weights for every component that is printed. I was finding that my prints were coming out very close but were maybe just a tad over, so I was keen to see what the overall weight was going to come out at.

Radio installation is a breeze within the cavernous fuselage, but I did find getting the control linkages connected and working well was a bit of a fiddle. The rudder linkages are made with 0.8 mm stainless steel wire running through the Bowden channels. Getting them in and connected is not difficult but I found

12

14

13

they bent easily at the servo link which meant the rudders were not moving as much as desired. I tried 1 mm wire but that created too much friction through the Bowden channel, so I stuck with 0.8mm wire and decided to see how she flies. The rudder servo is also used for nosewheel steering and seemed to work well.

The canopy comes with the window sections printed very lightly so you have the option to keep them in and paint them or cut them out and glaze the cockpit. I opted for glazing, so I proceeded to cut out all the window sections. They come out very easily with a sharp modelling knife and you are left with a lovely looking frame **(Pic12).**

Most window sections are cut from acetate sheet using the template that Planeprint provide in PDF format. However, there are a few window sections that have compound curves and for this Planeprint have come up with a great solution. In the print components there is a 'bottle finder' that is used to find plastic bottles that have the right radius to cut the sections from **(Pic13)**. This worked well and all window sections were glued into place with thin cyano **(Pic14).** I'm afraid I didn't make too neat a job, but it is ok for now. As with some of the other parts, if the model flies well I can print another canopy and spend a bit more time making a neater job of the glazing. This ability to print components again, perhaps with slight changes, is a real bonus of 3D printing that I had not anticipated.

FINISHING TOUCHES

I decided not to use primer for painting as I wanted to keep the weight down. So, I applied two coats of metallic silver from a spray can directly to the printed model. I am quite happy with the finish and the scale details show through nicely. To finish off I created the decals in PowerPoint and printed them onto waterslide transfer film and applied them with no problems. I was pleased with the overall finish so it was time for final preparations **(Pic15).**

With the Explorer assembled and painted, the motor in place and radio installed it was time for the all-important weigh-in with my chosen battery, a 4S 2600 mAh LiPo. Planeprint recommend a flying weight of 2,100g and my model weighs in at around 2,200g, so I was quite happy with that. The model prints with the CG point clearly marked on the undersurface of the wing, so with the battery position adjusted (there is plenty of room for this) the Abrams P1 Explorer balanced perfectly.

COMMITTING AVIATION

Normally when I maiden a new model I like to choose a day when no-one else is around so I can save any potential embarrassment if things don't go well.

The day I chose was a lovely September day with light winds and a dramatic sky for a backdrop. The wind was at 90 degrees to the strip but not strong enough to cause much concern. I arrived to find a few clubmates already there and as soon as I took the Explorer from the car there was immediate interest, both in the fact it is an unusual subject but also because it was a 3D printed model. It looked like I was not going to get away with performing the maiden unnoticed!

Once range checks were completed and a final inspection concluded, I walked out to the strip with clubmate Chris for moral support. My initial plan was to do a few taxi runs, just to see how effective the steering was going to be. I lined the Explorer up on the strip and gently opened the throttle. Acceleration was good and she tracked straight without any rudder/steering input. It was at this moment I decided to continue with the take-off and commit her to the air. She lifted

The file package also includes a PDF template for the glazing panels of the cockpit.

My Abrams P1 Explorer has had quite a few flights with no signs of any damage. But it did need the elevator cable beefing up.

off nice and gently, giving no attention to the crosswind. Gaining height I turned onto the downwind leg, easing off the throttle a little. Changes in throttle made no difference to flight attitude so the motor alignment was spot on. She did need some up elevator trim and a little left aileron trim but that was it.

After a few circuits to gain confidence, I decided to make a few landing approaches just to get the hang of things. I slowed the model as much as I felt prudent and she seemed stable, so I came around again for her first landing. I have heard many stories about how 'brittle' 3D printed models can be, so I was keen to make a nice gentle touch down. As it turned out, I was so keen to bring her in nice and gently that I slowed her up sufficiently that, at about three feet from the ground, she lost the will to keep flying and I ended up with an unpleasant arrival! A quick look over the model showed no damage, so my concern over the strength of the fuselage booms was unnecessary and she was quickly readied for her second flight.

Strangely, the second flight saw the pitch trim being way out, even though I had double checked the CG. After re-trimming things settled down and I decided to test the stall. She did drop a wing but recovered easily, so I made a mental note for the future to make sure to keep the airspeed up, especially during turns.

After landing a quick inspection revealed the reason for the trim change. The elevator linkage, made with the recommended 0.8 mm wire, had bent during the previous heavy arrival, so I have since replaced it with a heavier gauge linkage.

My Abrams P1 Explorer has now had quite a few flights and there is still no sign of any damage, so overall I am very pleased. I found that I did not need the rudders to perform what looked like coordinated turns and as I don't plan on doing stall turns or attempt knife edge flight with a model such as this, I am going leave the rudders as they are rather than fiddle around replacing the control linkages.

FINAL THOUGHTS

To go back to my original question... Yes, printing a 3D model has given me great satisfaction in terms of printing, building and finishing. Surface scale detail is most definitely better than anything I could achieve using traditional build methods and I would even go as far as to say it is better than many foamies.

3D printing is an interesting approach to aeromodelling. It adds a new dimension if you are a bit of a tech geek, like me. But even if you are not, it still offers a viable alternative to traditional building if you follow all the set-up instructions.

It is also a cost-effective approach, especially if you already have a stock of servos and hardware lurking in the back of the workshop. The files cost around £39 to download and the filament cost around £27. So, for £66, plus the cost of electrics etc. I have ended up with a 1.5 metre span model of a very unusual subject with a good level of scale detail.

What's next? I have my eye on a nice little model from 3DLabprint.com, the Il–2 M3 Sturmovik. I did say I like something a bit different! ■

3D printing is a cost-effective way to build an R/C model, especially if you already have a stock of servos and hardware.

The recommended motor is a Hacker A30-10XL, but I opted for a 4-Max PO-3547-960.

Top letter

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

56 YEARS APART

Loving the mag, as always, and was really pleased to see the article about Phil Kraft's old Kwik Fli Mk.3. The Kwik Fli was really popular at the West Essex Club in the late 1960s, with many members building and flying them from the Graupner Kwik Fly kit. I was a lad then, flying with my dad Ron Horne, and he and his mates had many flights with their Kwik Fly models and also many mishaps. So much so that they would do anything to get the model repaired ready for next Sunday. Quite often half a wing from one model would be joined to another, or the tail surfaces etc., with the models earning the name the 'Sick Fly'!

Many happy memories, so I was excited to see at the 'Props and Jets' show in Germany a couple of years ago that Stefan Graupner had reproduced the original kit from 1968 with the same artwork and plans! I just had to buy one and finished it in the that same scheme that my dad had also done back in '68, although I went electric and put in retracts.

(https://sg-modellbau.de and search for KWIK FLY MK3 – KC)

Anyway, I've attached a couple of photos some 56 years apart! Dad at the West Essex field, Hornchurch in 1968 and me at the Elmbridge Club, Ripley in 2024!

Phil Horne

CONTROL LINE CONVAIR

As an old-time modeller, I would like you to know how much I enjoyed the November 2025 issue of RCM&E. The features by the Editor and Shaun Garrity brought back memories of how it used to be. I built many of the models shown in the articles and I still have two Super 60s and a Veron Big Eagle today.

What a surprise to see my picture in Shaun's article on page 21, on the cover image of Aero Modeller from September '75. This picture was taken two days before my 33rd birthday by Ron Moulton at Old Warden in June 1975. Ron was the Editor of Aero Modeller and had just presented me with the trophy for winning control line scale with my Viscount, Hunter, Lightning and C-130 Hercules. Whilst shaking my hand, Ron whispered in my ear and said, "You stay with control line." I took his advice.

The Convair B-36 shown in the picture still flies today powered by six MDS .38s on 90-foot lines. It weighs 26 pounds and I can just manage it on my own. I wear a body harness with my 18-stone pal standing behind me, 'just in case'! My C5 Galaxy, Avro Vulcan, Dakota and Short Stirling Mk.III weigh a lot more but that's another story.

Cover scan: Shaun Garrity

Tony Nelson

BESTWOOD GLADIATOR

I know this is a long shot, but I am looking for details on an aircraft in the October 1991 issue of RCM&E, page 772. There is a 1/3rd scale Gloster Gladiator R/C plane by Chris Hodgson.

Would you be able to advise if there may be contact details for him?

Wayne Thompson

If any of our readers are able to put Wayne in contact with Chris, then please let me know. I see that this is a report from Bestwood so it may refer to an event at Goosedale in the early days of the Model Aviation Museum. The site is still home to the Goosedale Model Flying Club. **KC**

Clockwise from centre left: Ian Turney-White's Tabloid is vast at half scale .200cc King power. Two shots of Chris Hodgson's magnificent 1/3rd scale Gladiator. J. Siddall and Pitts S2, from the Phil Ramsey kit. ST 3000 power and dual redundant radio. Flown by Pete McCarthy.

FLOATING ON AIR

This winter I fancy building something different to a motor glider or an Ivan Pettigrew designed scale aircraft. I recall in my youth, many decades ago, attempting unsuccessfully to build a hovercraft and I am thinking that this could make an interesting winter project. I have had a search online and there are very few plans for a scale hovercraft. Those I found all seem to predate modern brushless motors, so choosing an appropriate motor and prop/fan may be challenging. None of the plans I saw also mentioned considerations like C of G, lift/thrust requirements etc. that are well established for model aircraft designs.

So, I would like to suggest that RCM&E run a feature on designing and building a hovercraft, perhaps also including some of the essential build techniques needed.

Robert Woolley

Thank you for your suggestion, Robert. We hope that you enjoy Mike Freeman's report in this issue from the hovercraft displays at last year's Weston Park show, arranged by the Model Hovercraft Association. If you visit the Additional Information pages on the MHA's website at www.modelhover.org you will find a free plan for a hovercraft called the Kiddy Craft which despite its name can be enjoyed by children and adults alike. There are also links to other free plans.

As for more features I'm sure our readers will soon let us know if there's sufficient demand for other hovercraft articles or if it's too 'off topic' to warrant more coverage. Personally, having enjoyed several cross-Channel trips in large SR.N4s as a child, model hovercraft certainly pique my interest and I'd like to know more about building them. What do you think? ***KC***

NEW YEAR CORRECTIONS

As always, the magazine is a joy to have drop onto the doormat. A couple of pedantic things concerning the January 2026 issue.

On page 11 on the Concorde article the photo caption states it is spinning 7" x 5" 'contra-rotating' props. I think it should mean 'counter rotating' props. As an ex-Propeller Systems instructor to RAF Apprentices, I get a little 'twitch' when it is used in the wrong context. There are a fair number of modellers who do not know the difference and why.

Additionally, the description of Tony Nijhuis's Tornado GR6 on the Next Issue page is incorrect. As an ex-Warrant Officer Engineer on an RAF Tornado Squadron there was a GR4 and a GR4a. The GR4a was the reconnaissance variant; there was never a GR6. Incidentally, I saw Tony fly this aircraft at our RAFMAA Warbirds event at Buckminster in April. It flew very well and will certainly be on the build list, along with his Jaguar.

Ian Nelson

We are very grateful to Ian for pointing out these errors, especially with regard to the Tornado variant. After checking with Tony, we were able to correct his article and the pull-out Pro-Plan to say Tornado GR4 just in time for the February issue to go to print. ***KC***

Alan's Smart's granddaughter, 7 year old Sophia, was doing just fine buzzing around the pond at Weston Park but occasionally the F1 Racer (above) was a bit too quick and ended up stuck in the water lily patch! Photos: Mike Freeman

MÄXI+

PART 2

Dick van Mourik concludes the build of his updated retro aerobatic model and reports on its flying characteristics

Words: **Dick van Mourik**, Photos: **Dick van Mourik, Hansjörg Baumann**

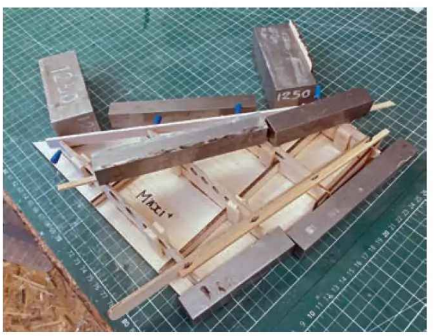
The stabilisers, elevators, fin and rudder are all constructed from 2 mm balsa ribs with 0.8 mm reinforcements for items like tubes and servo mountings. Sheeting is minimal and, where required, 1.5 mm balsa was used.

The same aerofoil section, SD 8020-010-88, was used for both vertical and horizontal tail feathers. This section, being not dissimilar to Eppler 168, provided me with (just!) sufficient height to allow for installation of the elevator servos.

Here, as with the wings, the sheeting at the TE was butt-joined, giving a TE thickness of some 3 mm, which was rounded off to minimise vortices.

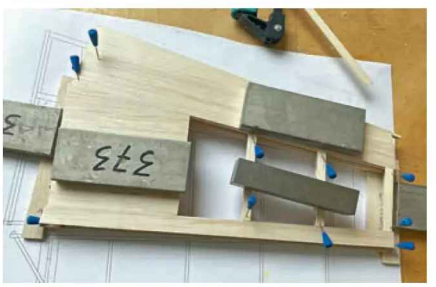
The stabiliser halves are joined using a 10 x 8 mm carbon tube, inserted at about

Mäxi+ is quite fast, especially with the undercarriage retracted. Some spectators have even asked if it is a scale model, given its racing scheme!



The fin was also built on a simple jig.

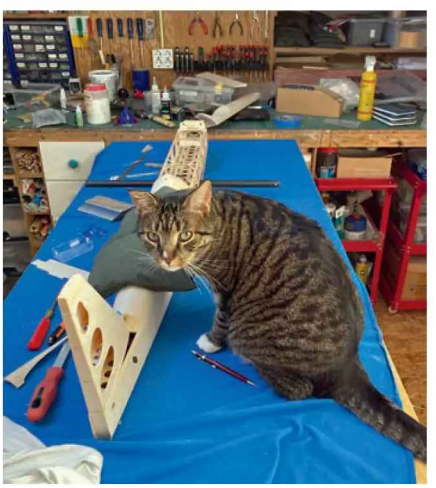
First stage of fin construction completed. Hinge blocks are yet to be added.



Stabiliser on its jig with the sheeting nearly completed. Don't skimp on wood and make sure it is slightly oversize in every direction.

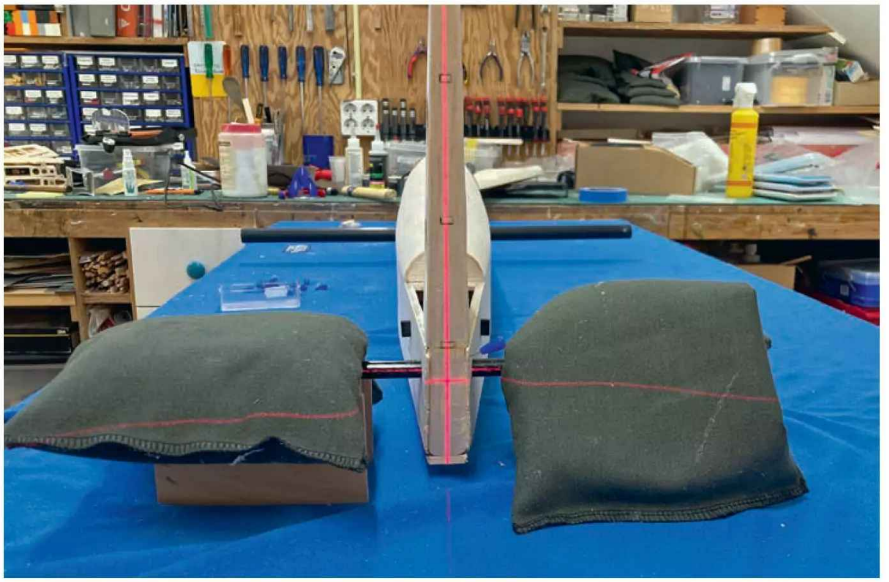
One of the elevator halves under construction. Horns are glued to the plywood ribs, seen on the inward side. Although designed to take two horns, in the end one sufficed.

A look inside a stabiliser, using the second rib as an aperture to fit the elevator servo. Fiddly to install, but thankfully it is only required once.



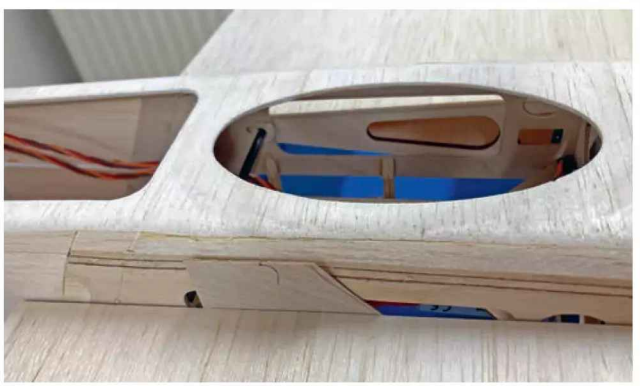
First test fitting of fin to the fuselage. Our cat, Jake, keeps a close eye on progress.

To ensure accurate positioning of the fin and stabiliser, both in relation to the fuselage and each other, I used a simple laser liner, placed on a tripod.



The carbon stabiliser joiner tube was placed on two blocks of wood, carefully manufactured to ensure the correct height. Proper Preparation Prevents Poor Performance!

This is how it all looks once finished. The fuselage was designed to extend slightly, enabling it to be sanded flush after installing the fin.



Before drilling the hole to secure the wing joiner tube a 0.4 mm (1/64") plywood plate was inserted between the fuselage side and the root rib on one side of the fuselage only. This provides just the right amount of play to allow for a comfortable fit after the wing panels have been covered.

The canopy, in a classy grey smoke colour, was manufactured by Ulmer Kunststofftechnik in Germany.

A project in itself, this shows the cowling and the two-part mould in which it was constructed.

forty percent span. This is not secured but fits precisely between some ribs, so the tube is unable to slide beyond its intended position.

The stabiliser halves are secured to the fuselage by means of two lips extending underneath the stabiliser. These are part of the first rib which is made from 3 mm birch ply. M3 screws are inserted through these lips into captive nuts located inside the fuselage. This method is not too obtrusive and allows for quick disassembly of the stabiliser halves. The same system is used on my Hangar 9 Inverza and has worked faultlessly for many flights on this far heavier loaded model.

ODDS & ENDS

As said in the previous article the canopy used for the Robbe Mäxi must have been taken from a small Piaggio 149 model that Robbe allegedly also had in its range. Love it or loathe it, for me this peculiar canopy shape is so typical of the design that I just had to incorporate it.

Making good quality canopies is a labour intensive and costly exercise. First, a plug was 3D milled. Then a mould was made in which

the second plug, required to pull the actual canopy, was made. The canopy itself, in a classy grey smoke colour, was manufactured by Ulmer Kunststofftechnik in Sonnenbühl, Germany. The quality of their products is second to none.

A homemade cowling was produced of glass reinforced epoxy and sprayed to match the orange used on the rest of the model.

ELECTRONICS & PROPULSION

Based on earlier positive experience with this brand, and also their customer service, the decision was made to equip this model with Savöx servos.

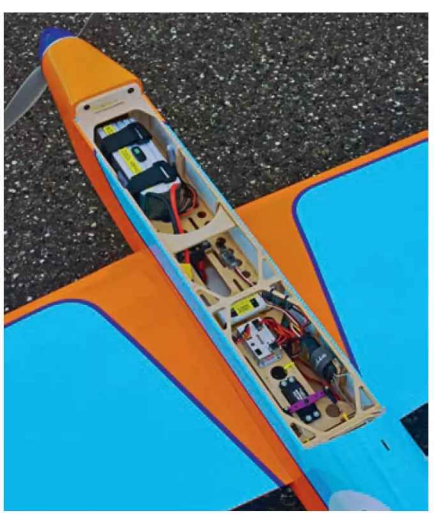
For the ailerons a low-profile servo was used, the SB-2265MG+. This provides a healthy 13 kg/cm torque at 7.4 volts. To avoid ending up with a mix of servo types the same type was also used to actuate the rudder, using cables.

To enable the stabilisers to be removable an SV-1250MG+ servo was installed in each half. Savöx mini servos, like the SV-0255, are lighter than those I've used here and would probably suffice. However, as the small teeth of their gears are prone to damage the decision was made to go for a medium sized servo.

Finally, a completed Mäxi!

Savöx SB-2265MG+ aileron servos are placed upright and are recessed as deep into the wing as possible to minimise turbulence.

Lots going on at the rear. The tailwheel is a generic assembly for .60 to .90 size models. The rudder is actuated by pull-pull cables and each elevator half has its own servo to allow removal for transport and storage. Note the mounting lips on the root rib and the ball link for the tailwheel steering.



Plenty of room inside. With the battery located against the front former, there is no need for ballast. Removable hatch gives unrestricted access.

Intake of cooling air is solely provided through a 70 mm Kuza spinner. Airscrew is an APC-E 14 x 10.

Curved lines in the covering look great once finished but it requires substantial time and effort to get this result.

Our thanks go to Hansjörg Baumann for taking the in-flight images used in my Original Mäxi and Mäxi+ articles.

Coming in for landing. It takes time for the speed to bleed off as the model is so aerodynamically clean.

I have found all these servos to be excellent value for money. What really impresses me is their accuracy to return to their neutral position, over and over again.

I must confess to being less impressed with my 80A ESC from a well-known Chinese manufacturer. My first example gave up after only one flight; thankfully the BEC remained functional. Trying to get warranty proved to be a pain to put things mildly so I decided to discard this Monday morning-built item and bought a new one. This has worked flawlessly ever since.

Powering the Mäxi is a Joker 5050-8, a Dualsky Eco series sold by Modellbau Lindinger from Austria under their own strict quality control regime. Most of my models nowadays are powered by Joker motors and, despite being marketed as eco-quality, I really cannot fault them. These motors are noncritical when it comes to airscrew sizes and combinations with different ESC brands. They are also quite tolerant of overheating when operating in less-than-ideal conditions.

Talking of which, cooling air is allowed in solely through a hollow Kuza spinner and leaves the model through three slots just underneath the ESC and a larger elliptical hole in the bottom of the fuselage. The model has flown in temperatures of over 30 degrees Celsius without any issues. The cooling hole at the bottom of the fuselage causes a whistling sound. I must admit that, especially in combination with the model's rather high speed, I really like the sound of it!

Airscrews used so far are both APC-E props, a 14" x 8.5" and a 14" x 10", both pulling around 70 Ah on full power. Probably a 15-inch prop could be used, although ground clearance might become an issue. With things the way they are there is plenty of power available.

Energy is provided by a HRB 6S 5200 mAh 100C series LiPo. As with most manufacturers their C-rating seems to be very optimistic but, so far, they have held up well. My original intention

Much as I liked the 'Gulf' scheme it proved to have insufficient contrast so bright yellow patches were added later in lieu of the logos.

Despite the many refinements compared to the original Mäxi design, the Mäxi+ retains all the character of Heinz's Elsässer's classic pattern model.

was to use a 4000 mAh pack but that would have required the use of additional ballast. With this bigger battery pack flight times of seven to eight minutes are within easy reach.

FINISH

There's not much to say here. The entire model was covered in orange and pale blue film, with Gulf-style decals as a personal tribute to the contribution this company has made to racing sports. The underside of the port wing boasts a large Mäxi logo as a tribute to both the designer Heinz Elsässer (he used this on his original models) and also to my first Mäxi (see my article in the Feb issue on the original Mäxi).

As an extra touch of class dark blue striping was applied to the model. Trying to cut it out in such a way that it is consistent along all the curved surfaces was a labour of love but to me the result is well worth it. The process will be described in more detail in an upcoming issue of your favourite magazine.

FLYING

When the moment of truth arrived, the scales showed a weight of just 3080 grams ready to go, including a 6S 5200 mAh battery. To say I was pleased would be an understatement. To give an idea, a finished wing panel, covered and including servo and retracts, weighs around 470 grams. The battery weighs exactly 700 grammes, leaving around 2250 grammes for the completed fuselage, including radio, motor and ESC.

Despite this initial success many questions remained unanswered. A very big 'if' would be to see if the choice of aerofoil section would deliver and whether the wing section would provide the desired stall behaviour.

Especially with scratch-built jobs like these maiden flights will never be my favourite pastime. However, there is no escape and I'm pleased to say that, except for a few clicks of up elevator trim, everything proved to be spot on.

This must be among the nicest models I have flown to date. With a smooth flight path and harmonised controls, it was really pleasing to see it in flight, or 'schnittig' as the Germans call it. This model is quite fast, especially with the undercarriage retracted; I have even had spectators inquiring if it was a scale model of some sort, given its racing scheme. Also, it would be easy to mistake it for a model of a fighter when on a low-level pass at high speed.

Much as I like the Gulf scheme, in less than perfect conditions it proved to have insufficient contrast for my ageing eyes, so the Gulf logos have been removed in favour of some bright yellow patches.

When it comes to aerobatics the Mäxi+ is a child of its time, being neutral in pitch and roll, making any combination of looping and rolling manoeuvres a real joy to fly and to see. However, snap rolls and knife edge flight are not its forte, and making crisp wingovers takes practise to achieve. Also, the model's stalling behaviour is mild so with full up and the motor on low revs, the model just mushes but will not drop a wing.

Due to the light wing loading landing speed is low. During the approach, it helps to take some time to allow the model to slow down. As it is so aerodynamically smooth it loses speed slowly. Flying wide circuits is helpful in that respect.

All in all, building the model was a really enjoyable project, not in the least because of the involvement of Heinz, whose interest and encouragement has really stimulated me to construct, fly and build this tribute to his iconic design - the Mäxi. ■

RAF FE2b

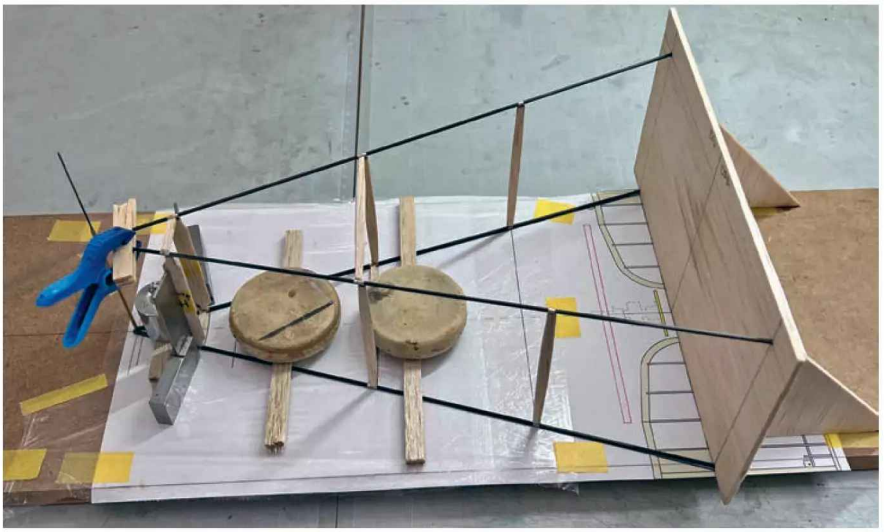
Continuing from Part 1 in the February issue, Mats Johansson concludes his Pro-Plan feature about his Open Class R/C model for Indoor Scale

Words & Photos: **Mats Johansson**

On the original, the booms of the rear fuselage are made of laminated profiles of Sitka spruce that have been shaped into a tube, with a diameter of only 38 mm! It looks incredibly flimsy, but they have proven to provide both sufficient strength and rigidity. I have chosen to make the booms from 2 mm carbon fibre tubes on the model. They are super strong but also stay completely straight, which is a good feature. But you will need to paint them so that they resemble wood in a believable way!

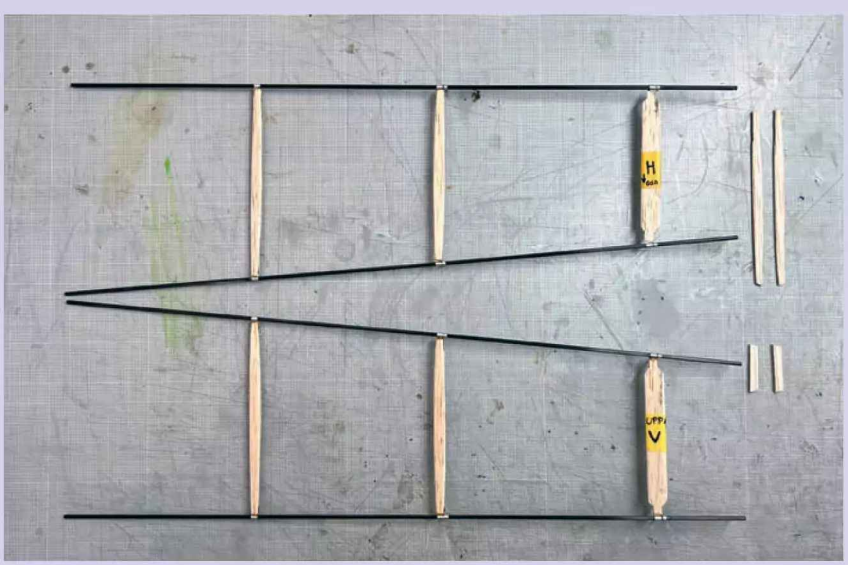
Now it's time to build another jig so that the rear fuselage can be glued together straight.

To attach the balsa struts to the carbon fibre tubes, I came up with a good method, if I may say so myself. I cut a strip of beer can sheet metal, which is really thin, only about 0.1mm, and is perfect for this purpose. The strip goes around the carbon fibre tube and becomes a strong mount for the balsa struts.



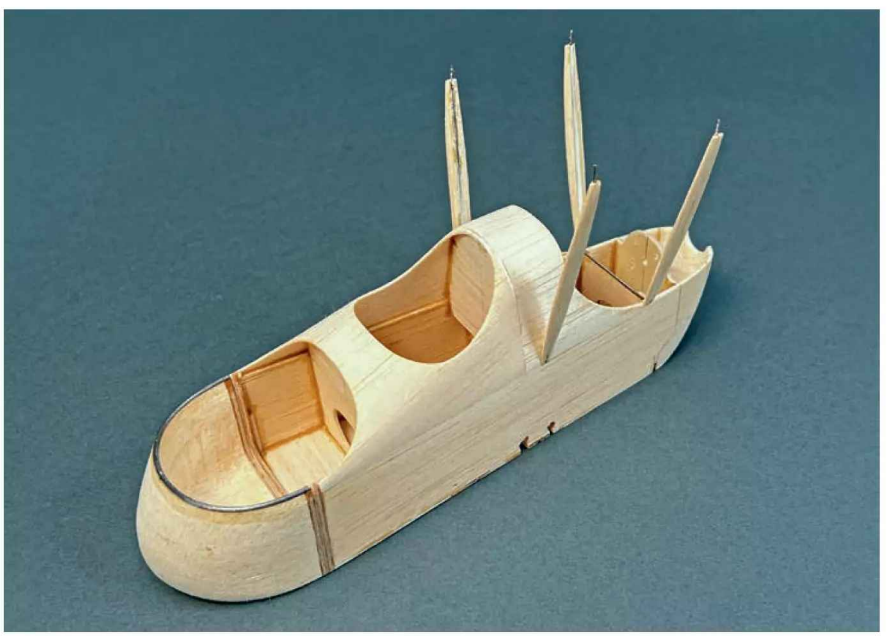
A jig is used so that the rear fuselage can be properly aligned and glued together.

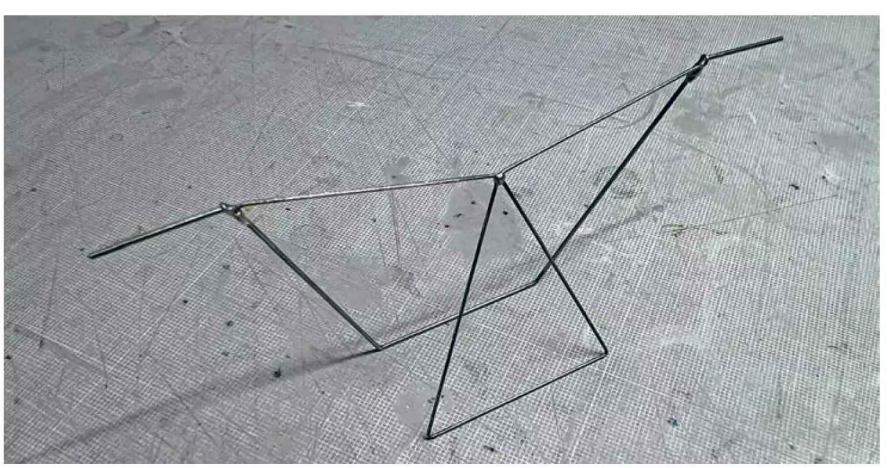
Test assembly using the fuselage and wing jigs to support the delicate airframe.



Strips of beer can sheet metal are used to attach the balsa struts to the carbon fibre tail boom tubes. The strips bend around the tubes and form strong mounts for the struts.

Parts spread for building the front fuselage.


Completed front fuselage ready for covering.


Undercarriage wire has some tricky angles so should be soldered together in another jig.

"…it looks completely crazy, like some kind of strange three-wheeled pram from the turn of the last century"

EASY BUILD FRONT END

The front fuselage is really super simple on this model. Finally, an advantage! It's a simple box with a round top at the front and a large removable nose section made of balsa blocks. I attached the nose section with eight pieces of 2 mm magnets and guide pins made of 1 mm carbon fibre. The nose is the space for the gunner, so I sanded it down a lot with my Proxxon, and the upper edge is made of a 1 mm piece of steel wire that is bent to the right shape, both strong and heavy! But it sits at the front, so that is okay.

The entire nose is then covered with thin, 18-gram fibreglass cloth and cellulose varnish, my favourite method for double-curvature surfaces, such as cowlings, for example, where weight is not so sensitive.

TRICKY LANDING GEAR

The front fuselage was easy to build but the landing gear was a real nightmare! How do you manage to get it all flexible, durable, reasonably light and straight? Of course, I had also chosen the early version which is extra complicated! At first, I didn't understand anything, but after checking countless pictures and scale drawings for a while I slowly start to get the hang of it. I divided the landing gear into two main parts, front and rear.

The rear part is fairly conventional but has some tricky angles. I soldered together 0.5 and 0.75 mm piano wire in a jig. Sometimes it feels like I build as many jigs as parts, but a jig is a must to get the whole thing symmetrical. The front part is a V with a fork of 0.5 mm piano wire and three pieces of brass wire where aluminum tubes will later be threaded on and connected to the rear part. Test mounted on the front fuselage it looks completely crazy, like some kind of strange three-wheeled pram from the turn of the last century. No wonder the later versions of the FE2b received a more normal V-landing gear!

LAMINATED WHEELS

Finally, fairly easy parts to make!

The wheels are laminated from 1.5 mm balsa. The hubs are made from 2 mm plastic tubes with 1 mm holes. I put balsa blanks in a mini drill and turn them. The nose wheel has a wooden hub and an O-ring as a tyre. The weight of the nose wheel is not critical because it is located at the front.

British scale model pilot Andrew White, with long experience in the aviation industry, told

Wheels are laminated from 1.5 mm balsa discs.

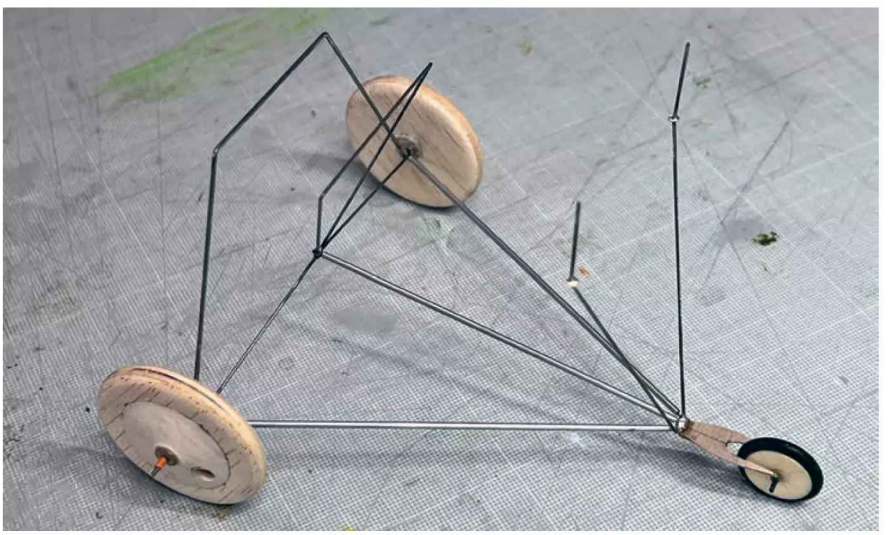
Hubs are made from 2 mm plastic tubes with 1 mm holes. The balsa blanks were turned using a mini drill.

"…this engine must be as light as possible because it ends up behind the CG position"

me an interesting and thought-provoking thing which applies to all model builders:

"A detail that you can remove from an aircraft structure has three advantages:
1. *It can't break.*
2. *It costs nothing.*
3. *It weighs nothing!"*

A good motto if you want to build light.



Test assembly of the tricycle undercarriage.

DILLY COVERING

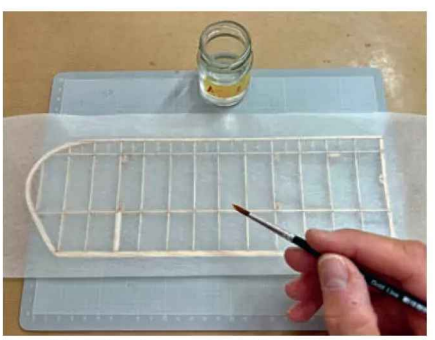
Before covering, I check that all parts to be covered are sanded. Then I brush three layers of cellulose varnish where the tissue paper lies against any balsa.

This is what my covering process looks like:

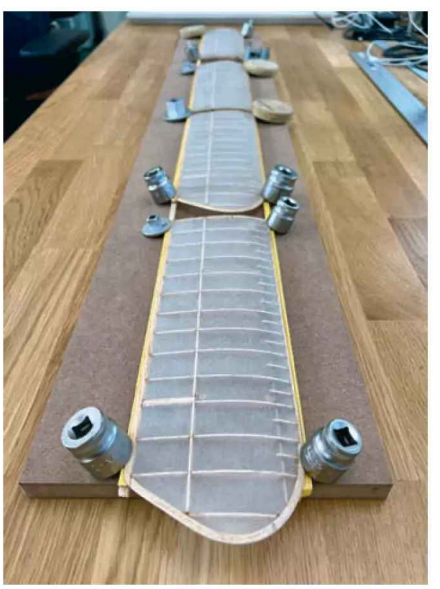
- Pre-stretch Dilly paper (a Japanese tissue paper supplied by Martin Dilly) mounted on the frame, with water spray.
- Attach the paper with acetone to the model.
- Tighten the paper by brushing on denaturated spirit.
- When everything is dry, brush on two layers of dope followed by light sanding of the joints with 400-paper.

The wings, stabiliser and rudders must be clamped flat to keep them straight whilst doping. I use Tamiya tape on balsa strips as a base to easily weigh down the doped parts without them sticking.

I really like Japanese paper and the Dilly paper is superb. I am super conservative when it comes to covering. Japanese tissue, cellulose varnish and acetone is what matters - and it works well every time!



Attaching Dilly tissue paper to the airframe using acetone.

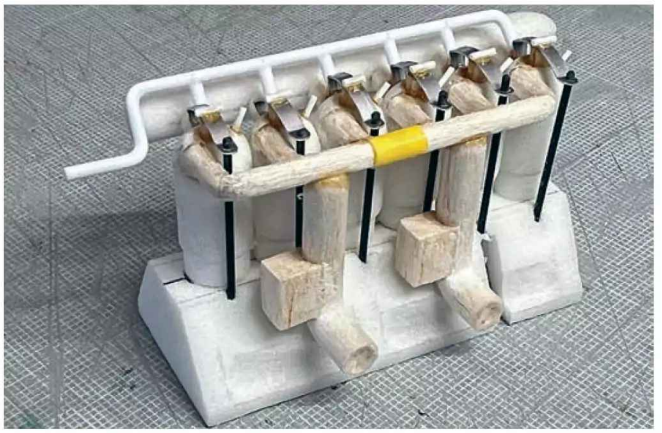


Wing panels being weighed down to keep them straight whilst doping. Balsa strips are used to support the doped parts, with Tamiya tape on top of the strips to stop the doped parts sticking to them.

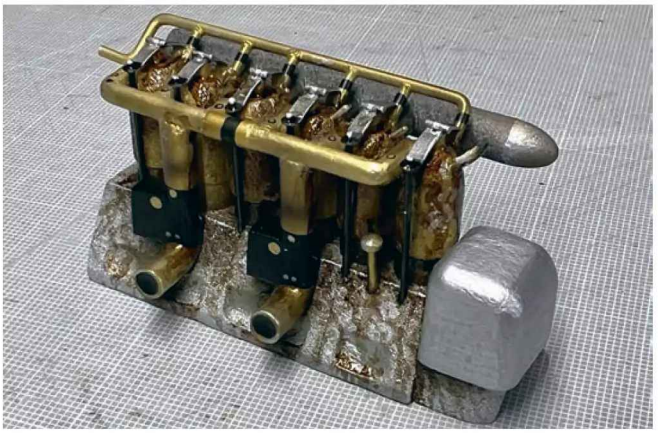
DUMMY BEARDMORE

Time to build the dummy engine. The difference with the dummy engine on the FE2b compared to a regular build is that this engine must be as light as possible because it ends up behind the CG position. I have therefore made it from Rohacell which is a lightweight material available in different densities and used in the aviation industry for composite constructions. I think you will find more and more uses for this superb material. It is easy to sand and shape, and it can withstand solvents and glue.

The British Beardmore engine was actually originally a license-built German Daimler



Dummy engine is mostly made from Rohacell. It must be kept as light as possible because it is located behind the CG position.



After painting and applying oil streak effects the dummy Beardmore looks appropriately well used.

engine and was developed from 120 to 160 HP. It is a straight six-cylinder in-line engine with liquid cooling.

PAINTING

Time for painting! My prototype 6341 has a typical RFC colour scheme from around 1916, i.e. CDL (Clear Doped Linen) on the undersides and PC10 (Pigmented Cellulose No. 10) on the upper sides. I have used Humbrol's enamel oil paints for many years and really appreciated them. But now they are suddenly banned by the EU and I am therefore thinking of trying out Tamiya's Lacquer Paints (LP) as a replacement.

The choice of paint may seem simple but there are a lot of different properties that need to work perfectly. They should be sprayable, cover without becoming thick, finely pigmented, have good adhesion to different surfaces, can be masked on top, paintable with a brush and finally, can be clear coated on top without the paint reacting with the coating!

With new paints it is always important to check carefully before use. Anything can go wrong!

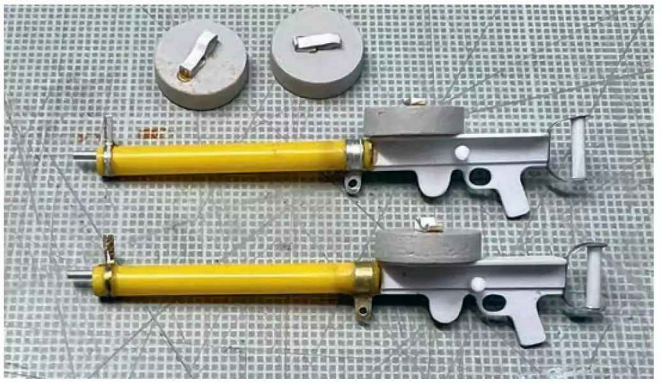
EMBLEMS & DETAIL PAINTING

Here are some tips for painting. On the front fuselage there are some details where I have used Posca pens. These are pens containing opaque acrylic paint. They are available with a 0.7 mm tip and in a few different colours. I used the green one to draw the stitches on the sides of the front fuselage. For the texts on the front fuselage and the texts on the tyres I cut paint templates with my 'Silhouette Portrait' cutting machine.

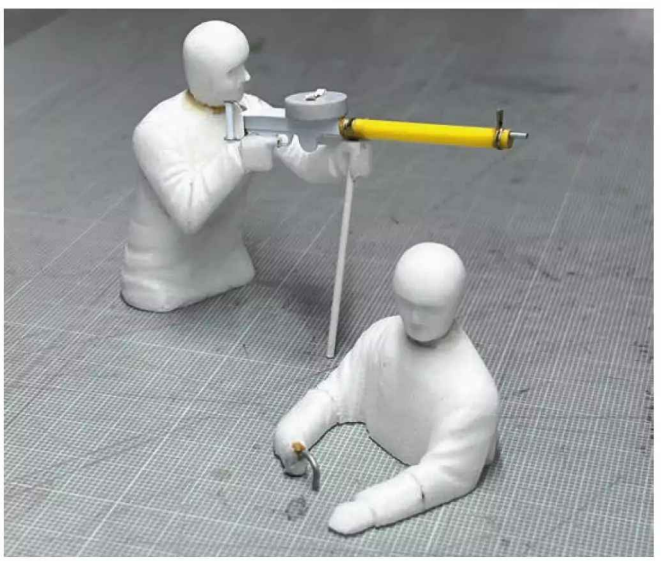
SCALE DETAILS

I really like 'model building crafting', i.e. figuring out how a part should look, then cutting, sawing and filing it to shape simply by using your hands. For this model I used some plasticard, straws, balsa, Depron,

All parts are individually finished prior to final assembly of the FE2b. 6341 has a typical RFC colour scheme using Clear Doped Linen on the undersides and PC10 on the upper sides.



Mats really enjoys 'model building crafting', making parts from materials such as plasticard, straws, balsa, aluminum pipe and beer can metal. Here are his home-made machine guns for the FE2b.



Carving crew figures is an art form in itself.

carbon fibre, aluminum pipe and beer can sheet metal. It is as much fun as can be and takes a lot of time!

The four-bladed scale propeller for static judging is a copy of the original, an enormous four-bladed wooden propeller with a diameter of 2.7 metres! At a scale of 1:18 it is 151 mm diameter. I made two 2-bladed propellers in Linden wood. Linden is a superb material to carve and sand. When I was satisfied with both propellers, I milled recesses in the centre so that I could glue them together perpendicular to each other. After three coats of cellulose varnish and sanding, I sprayed them with Tamiya LP brown mixed with half clear varnish. After that, I drew a few thin brush strokes with brown and about 30% clear varnish as wood grain. Then it was time for a couple of coats of my new favourite, Tamiya LP 53 Transparent Orange. It gives a lovely glow to the wood imitation. Finally, I applied two coats of Tamiya semi-gloss clear varnish.

AIR CREW

Carving of figures is a pure art form in itself. How do other builders do it? The Czechs recently showed off incredibly realistic pilots in Nijmegen; the level is clearly being raised all the time! Now you have to try to keep up with this interesting and challenging genre of model building. Time to learn something new!

Meet the crew of #6341: Captain Douglas Grinell-Milne and Corporal Dennis MacMaster. The reason they may look a bit cold and serious is that they were captured after only about three weeks in France. They were forced down by Lt. Gontermann from Jasta 5 on May 16, 1916.

FLY BY WIRE, 1916 STYLE

The way to control the control surfaces on the FE2b using wire is a bit odd. The wires can be a real 'deal breaker' because if the friction gets too high the model will be difficult to control with uncertain neutral positions for the controls at the tail. It may not seem like it, but I am a friend of simple solutions. I want to avoid complex systems with pulleys etc. that can be sources of error and require maintenance. So, I have started to test how much friction there actually is if you thread a rudder line through a bent aluminum tube; the angle change is at most about 80 degrees and with silicone oil the friction is very low so this solution should be able to work! If you look at how the thread is pulled on a regular sewing machine it is not pulleys that are used but polished loops that the thread runs easily through. A big thank you to George Kandylakis who provided me with a nice grey thread that is soft, looks like wire and has a slightly oily surface that goes easily through all the bends.

Meet the crew of #6341.

Suddenly, you have crossed off the last item on the to-do list. The model is ready and it's time for a photo session!

When flying the FE2b outdoors have the CG a little further forward to cope with any light turbulence. When competing indoors you need to fly at the lowest speed possible, so the CG needs to be a little further back without losing stability.

After a lot of experimentation, I managed to get the geometry right. The elevator cables in particular follow a strange path, from the large yoke that sits directly on the servo in the fuselage to the upper wing and then sideways out towards the boom mount on the upper wing centre section. I only made the left-hand elevator cables functional to minimise friction. The right-hand side gets soft dummy cables!

THE MODEL IS READY!

After intensive construction, the building board is in chaos. This usually means that a model project is near to completion and - just like that - you have crossed off the last item on the to-do list. The model is ready and it's time for a photo session.

TEST FLIGHT

How does the full-scale original fly, you wonder? Well, the flight characteristics of the prototype are described by TVAL's pilots as follows:

"...the airplane starts to roll and then simply levitates into the air.

There isn't much to report on the flying characteristics; it flies like it looks - big, heavy, slow and stable."

Enough talk, now it's time to fly the model. What could possibly go wrong?

I test flew the FE2b outdoors in the middle of a Swedish winter, when we had a snowless December, in completely calm but cold weather at minus 7 degrees C! The take-off took place on a plastic roll laid out on the frozen but slightly long grass at my small airfield.

My first impressions? It is absolutely the slowest scale model I have ever flown!

I was surprised by how nice this model is. The turning radius, despite the small rudder, is no problem and with decent dihedral it turns as nice as can be. A little fine-tuning with the CG position remains. Outdoors I often have the CG a little further forward to cope with a little turbulence, but indoors you have to prioritise the lowest speed possible, so the CG is a little further back without losing stability. It needs some super sensitive fine-tuning.

My philosophy when flying indoor scale is to disturb the model as little as possible. Just try to guide it around like a free-flying model. When photographing it outdoors this past summer, I trimmed the model to fly in large circles. I put the transmitter down and took pictures as the model slowly flew by.

"My philosophy when flying indoor scale is to disturb the model as little as possible"

TRANSPORT BOX

The transport box is made of 7 mm plywood with 15 x 15 mm strips in the corners.

To travel to the Indoor Scale Nationals, I surrounded the box with sleeping pad foam and then put it in a large suitcase. The model was held in place softly but firmly. It was, to say the least, a little exciting to check in the bag at the airport and see it move away on the conveyor belt - and even more exciting to open the box in the hotel room when we arrived for the event in Walsall!

DEBRIEF

After leaving it some weeks following the intense days in Walsall, I have had some time to reflect. The FE2b project has been very interesting and fun and has given me some lessons and experiences to take forward. It was clearly an ambitious venture that paid off. ■

DATAFILE

Name:	RAF FE2b
Model type:	1/18th scale for R/C Open class
Designed by:	Mats Johansson
Wingspan:	31.8" (80.8 cm)
Wing area:	16 dm².
All-up weight:	5.2 ounces (148 grams)
Wing loading:	9.25 g/dm²
Battery:	2S LiPo 300 mAh
Radio:	Spektrum DX-8
Servos:	2 x Dymond D-47
Motor:	Brushless outrunner 9 grams
Propeller:	6 x 4 pusher

HAWKER HURRICANE MK.1

GP-MW3333 — 10 items available

LOCKHEED SUPER CONSTELLATION

GP-MW3663 — 5 items available

LIMIT EX

Plan	RC2051/EX	£13.05
Laser Cut Wood Pack	WPRC2051/EX	£30.00
Additional Wood Pack	AWPRC2051/EX	£27.55

SAVE: Buy the set & save up to 15% on the component parts

Short Kit (Set)	SETRC2051/EX	£65.00

Short Kit (Set) Includes: Plan, Laser Cut Wood Pack & Additional Wood Pack

HAWKER FURY

Plan & Article	RC2268	£15.30
Laser Cut Wood Pack	WPRC2268	£87.30
Additional Wood Pack	AWPRC2268	£115.90

SAVE: Buy the set & save up to 15% on the component parts

Short Kit (Set)	SETRC2268	£212.00

Short Kit (Set) Includes: Plan, Article, Laser Cut Wood Pack & Additional Wood Pack

CHIPPEROO

Plan	RM129	£17.10
Laser Cut Wood Pack	WPRM129	£98.10
Additional Wood Pack	AWPRM129	£94.05
PETG Canopy	CANRM129	£13.50

SAVE: Buy the set & save up to 15% on the component parts

Short Kit (Set)	SETRM129	£217.00

Short Kit (Set) Includes: Plan, Articles, Laser Cut Wood Pack, Additional Wood Pack, PETG Canopy & Turrets

SLINGSBY T37 SKYLARK 1

Plan & Article	RC2274	£22.50
Laser Cut Wood Pack	WPRC2274	£110.70
Additional Wood Pack	AWPRC2274	£103.55
PETG Canopy	CANRC2274	£13.50

SAVE: Buy the set & save up to 15% on the component parts

Short Kit (Set)	SETRC2274	£244.00

Short Kit (Set) Includes: Plan, Article, Manual, Laser Cut Wood Pack, Additional Wood Pack & Canopy

MESSERSCHMITT BF109E

Plan	MW3341	£22.95
Laser Cut Wood Pack	WP3341	£146.70
Additional Wood Pack	AWP3341	£124.45
Aluminium Spinner Set	CS3341SET	£29.00
FG Cowl Chin	CF3341AUX	£14.25
FG Cowl	CF3341CL	£37.05
Canopy	CA3341CY	£13.50

SAVE: Buy the set & save up to 15% on the component parts

Short Kit (Set)	SET3341	£375.00

Short Kit (Set) Includes: Plan, Laser Cut Wood Pack, Additional Wood Pack, Spinner, Cowl, Chin & Canopy

P-47 THUNDERBOLT

Plan & Article	MW2104	£22.05
Laser Cut Wood Pack	WP2104	£117.00
Additional Wood Pack	AWP2104	£126.35
Bubble Canopy	CA2104CY(B)	£13.50
Razor Canopy	CA2104CY-R	£13.50
FG Cowl	CF2104CL	£19.95

SAVE: Buy the set & save up to 15% on the component parts

Short Kit (Set)	SET2104	£304.00

Short Kit (Set) Includes: Plan, Article, Laser Cut Wood Pack, Additional Wood Pack, Cowl & Canopies (Bubble & Razor)

AUTOGYROS

SAVE

SHORT KITS INCLUDE **PLAN, LASER CUT WOOD PACK & PARTS WHERE AVAILABLE**

Buy the short kit (set) & save up to 15% on the component parts

Anderson Kingfisher (108") SET2285 **£480.00**
Arrow (63") SETRC1387 **£311.00**
Avro Anson (84") SET2544 **£459.00**
Avro Vulcan B2 (68") SET3397 **£438.00**
Boeing P-26A Peashooter (76") SET3770 **£450.00**
Boulton Paul Defiant Mk.I (72") SET3764 **£465.00**
Bristol Beaufighter (70") SET2605 **£332.00**
Bristol Beaufighter Mk.X (93.5") SET3071 **£554.00**
Bristol Beaufort (72.5") SETRSQ1867 **£330.00**
Britten Norman Islander (84") SETRC1255 **£403.00**
Bucker Jungmeister (65") SET2617 **£342.00**
Chance-Vought F4U-1 Corsair (82") SET3338 **£505.00**
Chilton DW-1A (84") SET3625 **£522.00**
Corby Starlet (82") SET2035 **£405.00**
Curtiss P-40E Kittyhawk (65.25") SET3329 **£358.00**
DeHavilland DH82a Tiger Moth (88") SET3208 **£542.00**
DH.90 Dragonfly (83") SET3491 **£402.00**
DH82A Tiger Moth (66") SET3460 **£386.00**
DH98 Mosquito FB.VI (71") SET3345 **£433.00**
DH98 Mosquito PR.XVI (81") SET3340 **£558.00**
Douglas AD-1 Skyraider (75") SET3486 **£426.00**
Douglas DC-3 Dakota (96") SET3303 **£356.00**
Edgley Optica (92.5") SETRSQ1584 **£511.00**
Extra 300 (72") SET2381 **£436.00**
Fairchild 24R Argus 3 (90") SET3287 **£364.00**
Fairchild PT-26 CorneIII (90") SET3624 **£522.00**
Fauvel AV48 (158.5") SET3392 **£432.00**
Fieseler Fi-156 Storch (93") SET3466 **£340.00**
Focke-Wulf Fw190 A-4 (60.25") SET3327 **£310.00**
Gloster Gladiator (56") SET3344 **£432.00**
Göppingen Gö-1 Wolf (138") SET3465 **£406.00**
Grumman F6F-5 Hellcat (64.25") SET3350 **£340.00**
Hawker Hunter (68") SET3603 **£466.00**
Hawker Hunter FGA.9 (48") SET3241 **£342.00**
Hawker Hurricane Mk.I (70") SET3333 **£540.00**
Hawker Hurricane Mk.I (88") SET3566 **£557.00**
Hawker Tempest 5 (82.5") SET3565 **£497.00**
Hawker Tempest Mk.V (61.5") SET3328 **£372.00**
Hawker Typhoon (62") SET3451 **£331.00**
Hawker Typhoon Mk IB (72.75") SET3339 **£374.00**
Heinkel He 111 (100") SET2968 **£491.00**
Henschel He 126A-1 (77") SET3456 **£390.00**
Jiant Jabberwock (66") SET2615 **£318.00**
Junkers Ju 88G (98.5") SET2902 **£405.00**
Jurca M.J.5 Scirocco (69") SET3822 **£468.00**
Kawanishi N1k2-JA Shiden Kai (64") SET3330 **£333.00**
Lockheed Super Constellation (88") SET3663 **£591.00**
Messerschmitt Bf109E (68") SET3341 **£375.00**
Messerschmitt Bf110c (71") SET3326 **£353.00**
Minimoa (3.4m / 134") – 1/5th scale SETRC2230 **£431.00**
N.A. T-6 Texan/Harvard (94.25") SET3336 **£459.00**
P-47 Thunderbolt (61") SET2104 **£304.00**
P-47D Thunderbolt (Bubble) (61") SET3332 **£396.00**
P-47D Thunderbolt (Razorback) (76") SET3335 **£486.00**
P-51D Mustang (69") SET3325 **£474.00**
Percival Q6 Petrel (112") SET3514 **£405.00**
RAF S.E.5A (73") SET3290 **£436.00**
RAF SE.5A (80") SET3467 **£459.00**
Scheibe-Loravia Topaze (169") SET3578 **£372.00**
Schleicher ASK-11 (126") SET3657 **£377.00**
S.Aviation Twin Pioneer CC.Mk2 (120") SET3776 **£466.00**
SG.1 Sailplane (137.5") SET3500 **£349.00**
Shearwater (84") SET3543 **£352.00**
Short S.29 Stirling (118") SET3772 **£547.00**
Slingsby T-21 (163") SET2706 **£432.00**
Slingsby T42 Eagle (174") SET3792 **£613.00**
Slingsby T-45 Swallow (129") SET2320 **£437.00**
Slingsby Type 26 Kite 2a (181") SET3771 **£666.00**
Spacewalker (91") SET2222 **£369.00**
Supermarine Spitfire 1A (69") SET3334 **£382.00**
Supermarine Spitfire Mk. 16E (83.5") SET3563 **£565.00**
Supermarine Spitfire Mk. VIII & IX (83") SET3337 **£530.00**
Supermarine Spitfire Mk.XIV & XIX (69") SET3342 **£457.00**
Vickers Wellington GR Mk.XIII (64") SET3731 **£352.00**
Vought-Sikorsky OS2U Kingfisher (58") SET3343 **£313.00**
Vultee BT-13 Valiant (73.5") SET3351 **£370.00**
Wassmer WA 22 Super Javelot (4.6M) SET3813 **£517.00**
Westland Lysander (81") SET3448 **£400.00**

3D PRINTED SCALE MACHINE GUNS starting from £12.99

DIACOV 1000

Probably the best scale model aircraft covering

- EXTRA-LIGHTWEIGHT
- IRON-ON
- TRANSPARENT POLYESTER
- ADHESIVE FILM

Sold by the metre | **Width: 73.5cm (28.93")**

'Better & cheaper' alternative to Oratex & Solafilm

Depron

Official Stockist

LIGHTWEIGHT & MOISTURE-RESISTANT FOAM

TOOLS, ACCESSORIES & SUPPLIES

We also stock screwdrivers, hand files, sanding blocks, tools & clamps, epoxy, aerosols & more

BALSA PLY & SPRUCE

- BALSA & HARDWOOD DOWEL
- BALSA & SPRUCE STRIP
- TRAILING & LEADING EDGE
- TRIANGULAR BALSA
- BALSA SHEET & STRIP
- BIRCH PLY
- SHAPED BALSA LEADING EDGE
- SHAPED BALSA TRAILING EDGE
- SYMMETRICAL LEADING EDGE

FREE UK DELIVERY on orders over £200

VISA | MasterCard | PayPal | Find us on Facebook

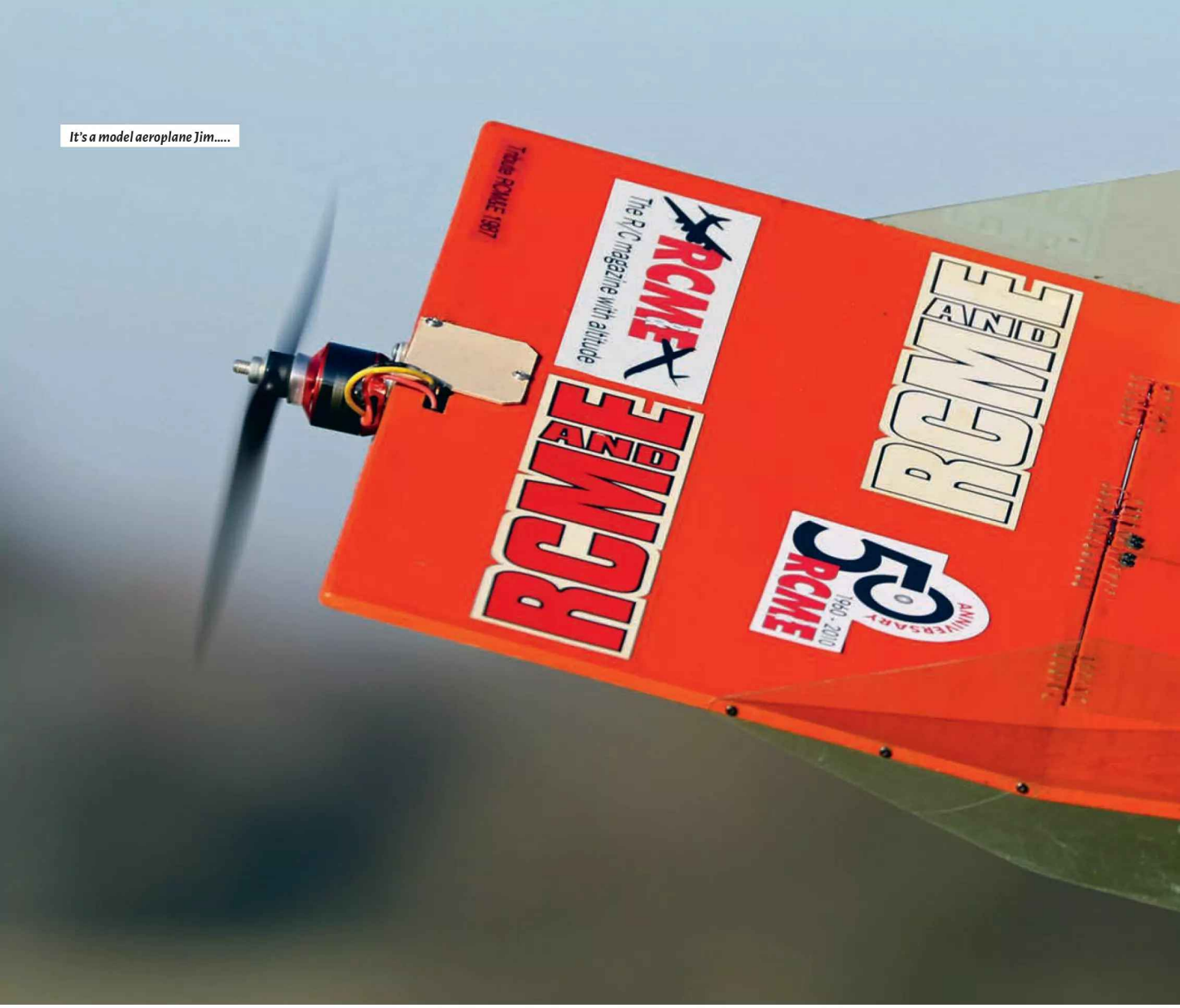
info@sarikhobbies.com **01684 311682**

All prices exclude P&P/S&H. Prices are subject to change so please check current pricing on website or by phone. E&OE.

MODEL AIRCRAFT BUILDER

Find us on Facebook

sarik hobbies
www.sarikhobbies.com
Units 8 - 12, Willow End Park, Blackmore Park Road, Malvern. WR13 6NN. UK



It's a model aeroplane Jim.....

FLYING TEA TRAY

David Ashby dusts off a Boddo original from the 1980s and dives headlong into some entertaining club records

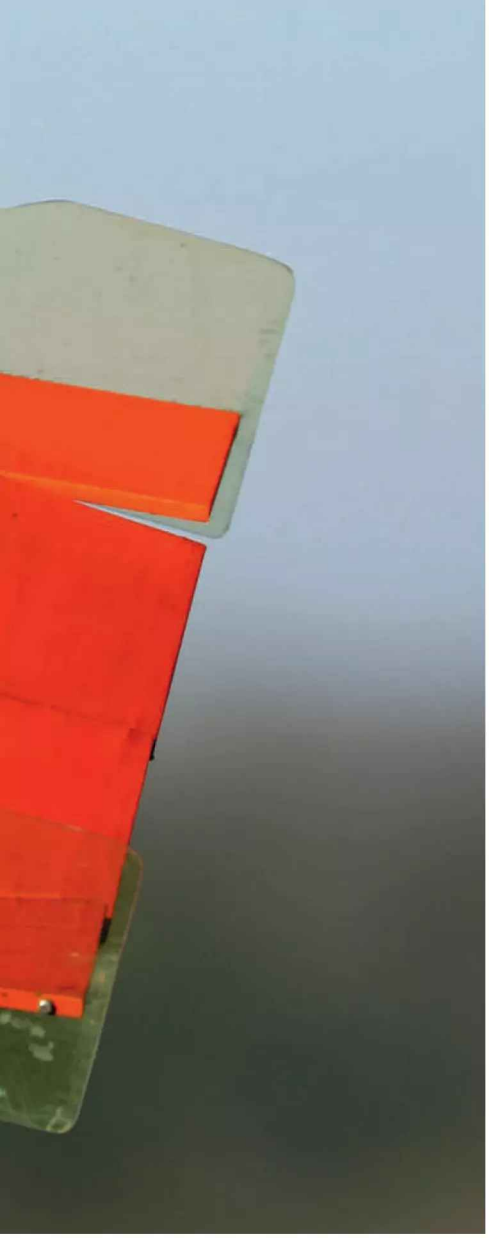
Words & Photos: **David Ashby**

I helped Graham, RCM&E Editor emeritus, empty his house before he moved last summer. He was up in his roof space and shouted, "*Boddo made this*", before handing down a tiny wing thing he'd forgotten was up there.

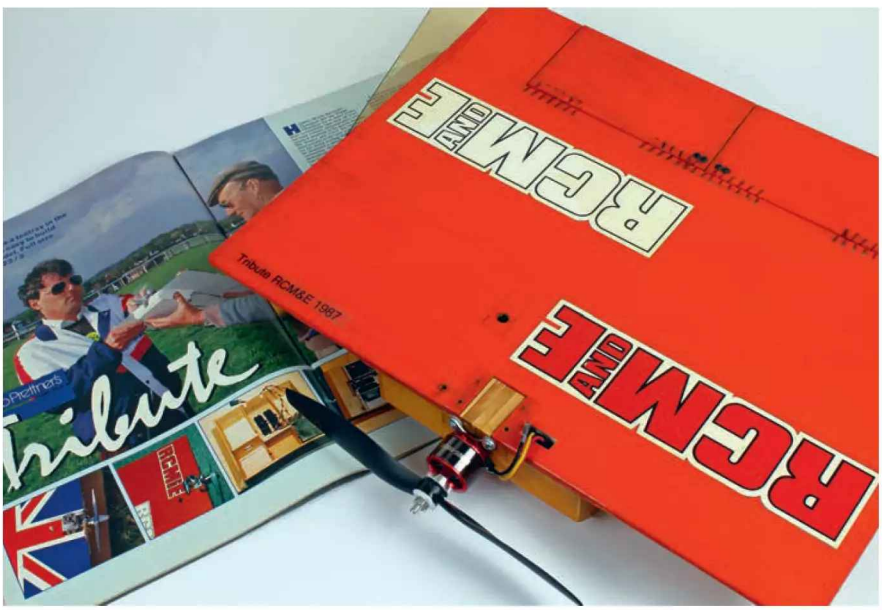
It rang a bell, but I couldn't exactly recall when it appeared in the mag, although the encyclopedic memory of a forumite at **modelflying.co.uk** soon had the answer. Called Tribute, it was designed by none other than the great Hanno Prettner, multiple times aerobatic World Champion and a Sandown Show highlight for many years. But Hanno didn't just design and fly the showstoppers. His Circo (much like a Mick Reeves Disco) and Stratos delta wing were 'quick build' club sportsters, much like this Tribute that he demonstrated at the 1986 show. The plan and article followed a few months later in the Feb 1987 issue. David Boddington was Editor at the time and, in the absence of Hanno's model, he built the example you see to accompany the piece. It must've sat around in the office then been rescued during one of the many geographical relocations RCM&E has seen over the decades. Anyway, I thought it ought to fly again.

TRIBUTE

They don't come much simpler or cheaper. Spanning 15.5" (39.5 cm) and a fraction under 12" (30 cm) long, the design is based on a 3/16" balsa wing with a square box fuselage underneath. Three sheets of 3/16" should do it. That fuselage box had to be large to accommodate the smallest equipment the

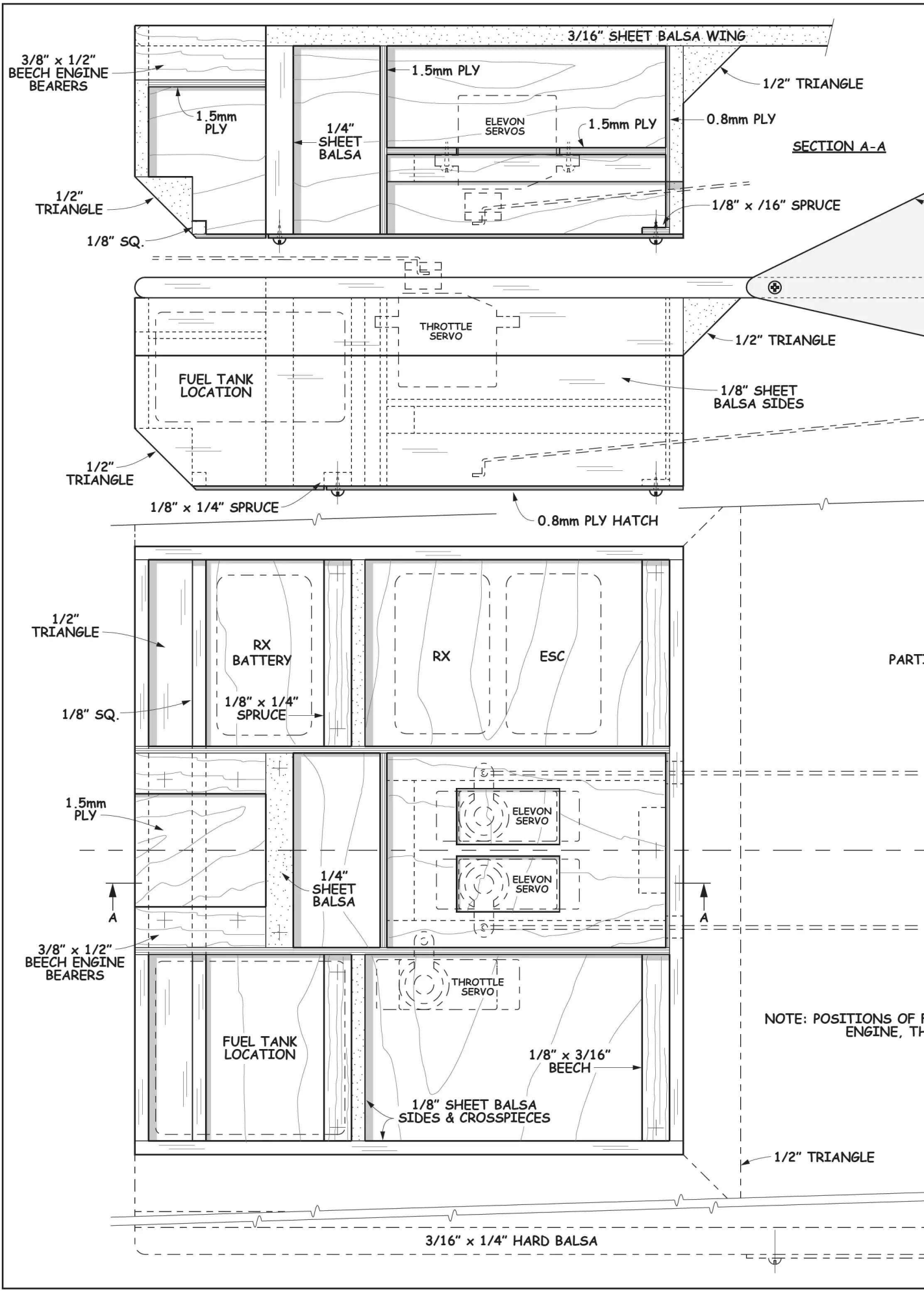


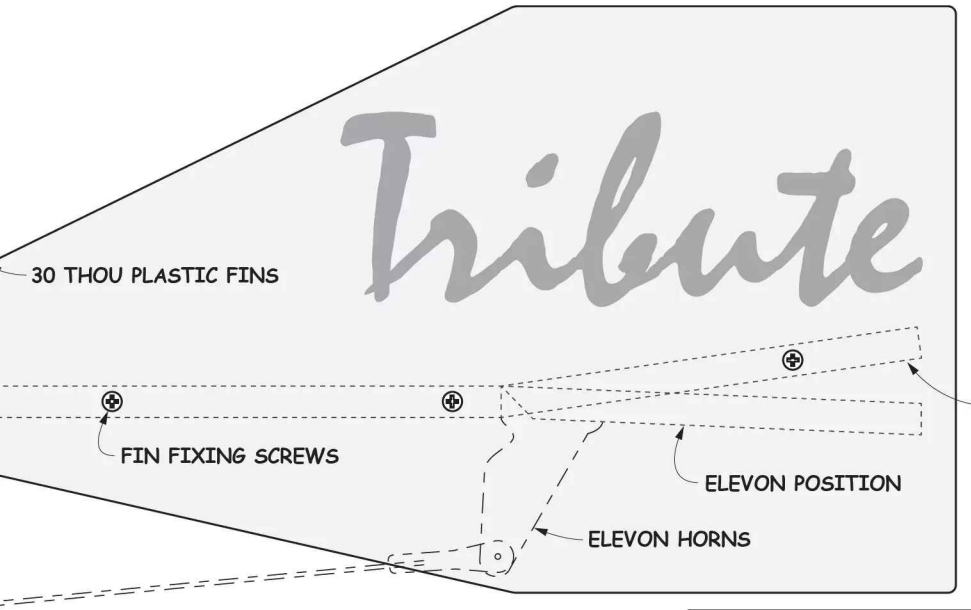
It seems to fly with a distinct nose up attitude, although the plan makes no mention of down thrust.

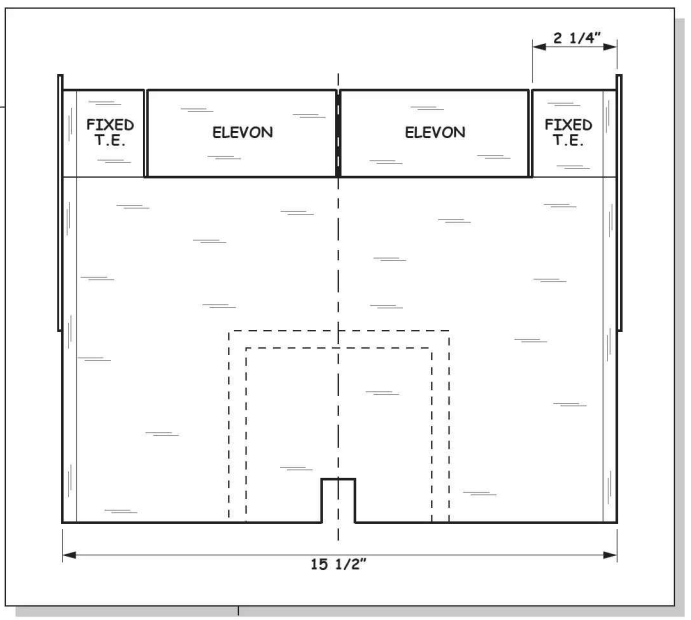


Boddo built this one to accompany the article.

The Tribute article from RCM&E 1987. Hanno flew his at the 1986 Sandown Show.


3/16" SHEET BALSA WING
3/8" x 1/2" BEECH ENGINE BEARERS
1.5mm PLY
1/2" TRIANGLE
1.5mm PLY
1/4" SHEET BALSA
ELEVON SERVOS
1.5mm PLY
0.8mm PLY
SECTION A-A
1/2" TRIANGLE
1/8" SQ.
1/8" x /16" SPRUCE
THROTTLE SERVO
1/2" TRIANGLE
FUEL TANK LOCATION
1/8" SHEET BALSA SIDES
1/2" TRIANGLE
1/8" x 1/4" SPRUCE
0.8mm PLY HATCH
1/2" TRIANGLE
RX BATTERY
RX
ESC
1/8" SQ.
1/8" x 1/4" SPRUCE
1.5mm PLY
ELEVON SERVO
ELEVON SERVO
1/4" SHEET BALSA
A
A
3/8" x 1/2" BEECH ENGINE BEARERS
THROTTLE SERVO
FUEL TANK LOCATION
1/8" x 3/16" BEECH
1/8" SHEET BALSA SIDES & CROSSPIECES
1/2" TRIANGLE
3/16" x 1/4" HARD BALSA





IAL PLAN VIEW OF WING
3/16" SHEET BALSA

ELEVON MOVEMENTS:
30° UP & DOWN
22° LEFT & RIGHT

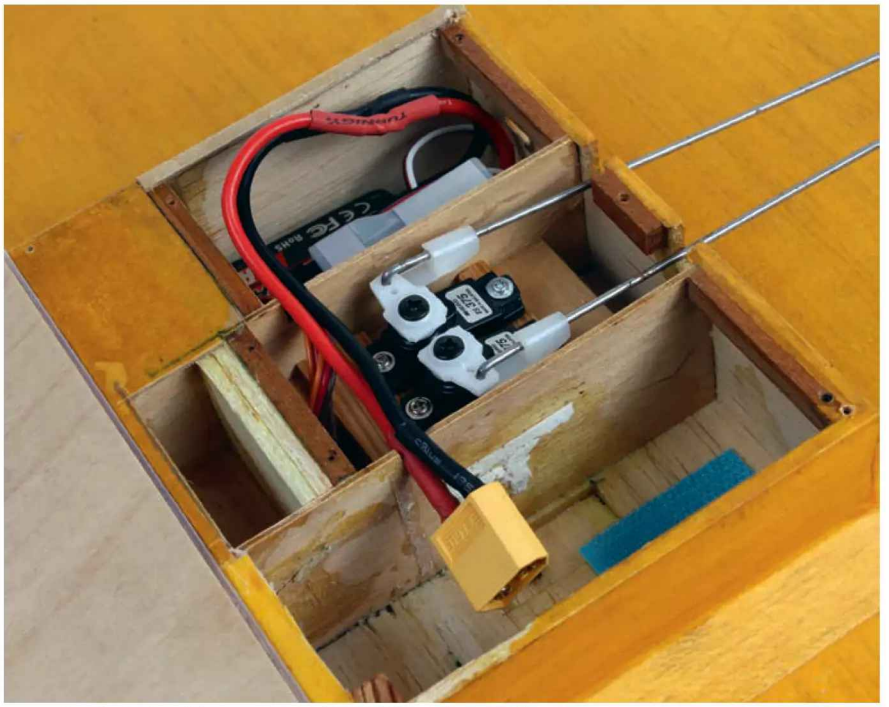
FUEL TANK & THROTTLE SERVO DEPEND ON
HROTTLE & FUEL CONNECTIONS

HINGE

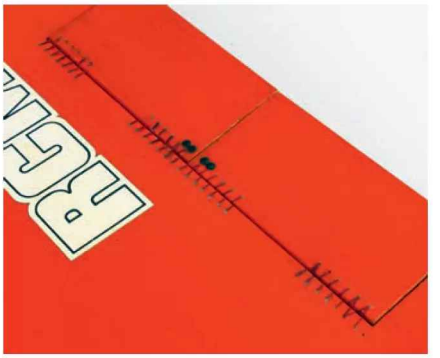
HANNO PRETTNER'S

Tribute

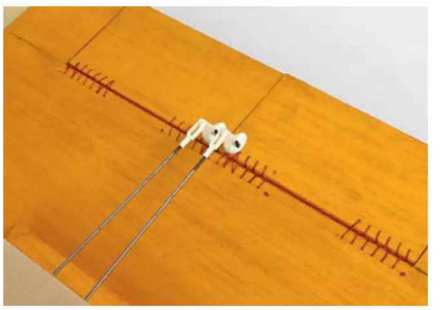
FIN FIXING SCREWS



Removing the fuel tank leaves plenty of room for a modern R/C fit out.

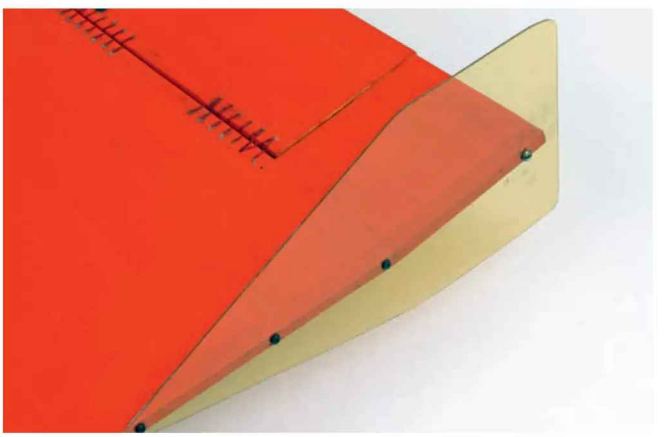


Stitched hinges grace the original.



Simple wire pushrods suffice.

With the original PAW 1.49 diesel long gone I added an outrunner.



Thin ply should suit if plastic for fins isn't available. It's one of those models where the scrap box should provide all that's needed.

1980s could offer but a lighter, slimmer affair should be possible for a contemporary electric powered fit-out. That said, it's worth bearing in mind that the fuselage provides a degree of rigidity to the wing. Just create your own hatches on the underside to provide access to your tank/battery/servos as required.

Flexible plastic fins finish the layout, adding some rigidity at the back, not forgetting the angled trailing outer edges to provide the necessary reflex. Covering can be anything you like; Hanno used film and Boddo's has tissue on the underside and a Solartex variant on the top.

Boddo fitted a PAW 1.49 diesel engine to his with a homemade metal fuel tank. Steering came courtesy of two Fleet micro servos using a mechanical mixer, with a third servo for throttle. Hanno's model looked to have a .10 cu.in. glow engine up front, albeit without the silencer, presumably to save weight. His topped the scales at 395 g while Boddo's came in at 496 g. My electric revamp reduced that to 420 g.

In that respect I grabbed a little 2826 1100 kV outrunner, screwed that to the nose, added an 8" x 4.5" GWS style prop, a couple of powerful JR micro servos, some pushrods, a 40A ESC and a 3S 850 mAh LiPo battery.

One essential point. The elevons should sit flat in line with the main wing, not raised to match the fixed outer trailing edge sections. That's reflected on the plan, although it's an easy mistake to make during set-up. The C of G and elevon deflections mentioned on the plan are good starting points.

TRIALS

I know flat plate, or slightly profiled wings, will fly but Tribute looks and feels about as aerodynamic as a bucket with a brick in it. But fly it does - most of the time.

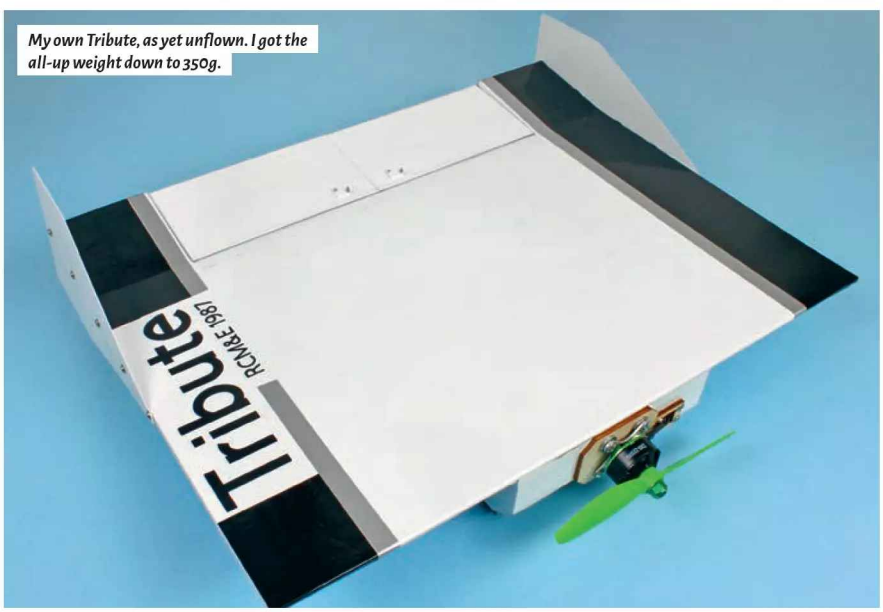
"Boddo fitted a PAW 1.49 diesel engine to his with a homemade metal fuel tank"

It doesn't need a javelin throw to get away, just a gentle lob. For starters get it high and trim it out. It's bound to need some beeps here and there. It doesn't glide, that's the first thing you'll quickly notice, not even remotely, so always retain some power and height while you're getting the measure of it. It flies with a nose-high attitude so a little more control deflection than you'd think is needed to coax a roll. It'll loop, with a decent pull of elevator, but inverted flight isn't on the menu.

It's fun but sometimes it just seems to do something suddenly unexpected. Feeding in

And away it goes!

If you've never bashed balsa before then it's positively difficult to go wrong with this one.



My own Tribute, as yet unflown. I got the all-up weight down to 350g.

"It's fun but sometimes it just seems to do something suddenly unexpected"

a breath of down elevator often provokes a violent pitch change, always heart-stoppingly downwards, although easily rescued if you've some altitude. Likewise, occasionally it'll suddenly tuck nastily into a turn, which can be heart stopping too.

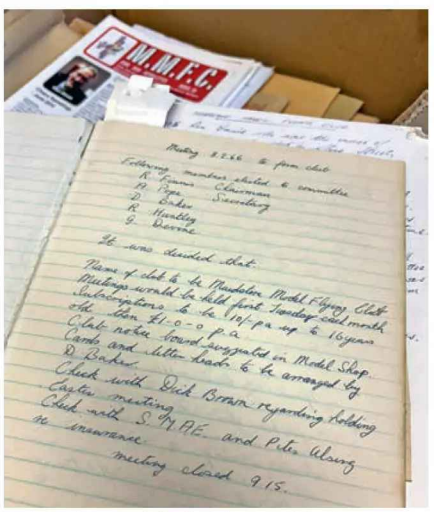
You can forget those cut 'n' glide landings. Arrivals require a controlled power descent before it comes to an abrupt halt. There's no beauty in the process. I've broken three props so far trying to grease it in, so the best advice is to let it plop down or dump it into long grass. Shorter and stronger props, spun by higher kV motors may last a bit longer.

It's fun though. Cheap and about as simple to build as they come while delivering a strangely enjoyable flying experience. It must be because I've just built one of my own and managed to get the all-up weight down to 350 g. I'll let you know how it goes.

DIAMOND HIGH

My club, Maidstone MFC, celebrates its 60th anniversary this year. Like any club we've seen a few ups and downs but we're still ticking along. I'm 62, so just the right age to recall seeing founder members fly at the field and being dragged to club nights and AGMs as a kid in the 70s when imposing characters (and occasionally their formidable wives) stood to talk with some passion about weighty and important

60 years later and this lot makes for fascinating reading.



Written in green ink, the minutes of the first MMFC meeting in 1966. The local model shop proprietor was the driving force behind the club's formation.

subjects. The club's records go back to the start when a green book was written up in pen and ink after every meeting, and I've been pouring over this recently while compiling a written history to mark the anniversary.

There's a lot of the stuff you'd expect to see ebbing and flowing down the years; flying fields found and lost, members coming and going, club outings, mowers getting nicked, noisy models, noisy modellers and so on. Par for the course, but occasionally you come across something that stands out and this story pertains to a field the club used for a short time in the early '70s and the location for an ingenious model recovery attempt.

We're back in the single-channel days when, Peter, a new flyer, arrived with a trainer. After receiving trimming assistance, he 'had a go' but lost control. Into a nearby cornfield the model went, some way from the landing patch. A search started but it was a hopeless task trying to find it in the crop, especially with no idea of where it was. Someone knew of a full-size pilot who could be bribed to fly over the area and locate the model so Peter arranged to go up with him. But how to communicate the model's position to those on the ground?

Someone came up with the idea of using single channel R/C gear. Peter had the transmitter in the full-size aircraft while someone on the ground had a receiver operating a bulb through a relay. Peter signalled using a series of pre-arranged coded flashes - one for left, two for right - and so on. And it worked! As soon as he was overhead a series of flashes were sent and received that sent the searcher straight to the model. Watching farm workers were amused and very impressed, especially as none of the crop was trampled.

Those old records are hilarious. There are stories of cows eating models before the owners could rescue them and a small tree being cut down to retrieve a glider that refused to budge from its high branches. There was a flyer whose trousers fell down just as he was taking off, necessitating a full circuit and landing before dignity could be restored (no, really...) and another who's model headed down into the car park, missing everything before conveniently crashing into the back of his own open estate car. All events from decades back I should hastily add, the days before buddy training systems, robust radio gear and reliable trouser belts.

That's it for now. I hope your 2026 flying year is one to remember. I'll see you next time and, as always, **justforfunrcme@gmail.com** is where you'll find me. ■

4max
The Electric Flight Specialists

Ultra Light Weight Spinners With Dynamic Cooling Slots

Available in 6 sizes and 5 colours

These ultra light weight spinners for electric motors are supplied with a specially cut aluminium backplate (like a propeller) which pulls cooling air through the nose of the spinner and then forces it out of the back and in to the motor, helping keep the motor cool even on a hot day.

Diameter	Part Number	Weight	Price
51mm	4M-51SPIN-COOL-*	19g	£8.79
57mm	4M-57SPIN-COOL-*	22g	£9.89
63mm	4M-63SPIN-COOL-*	25g	£10.89
70mm	4M-70SPIN-COOL-*	36g	£13.19
75mm	4M-75SPIN-COOL-*	43g	£15.39
83mm	4M-83SPIN-COOL-*	48g	£17.04

Heat Shrinkable Polyester Film

5 Metres!

From £22.49 - Solid Colours
From £24.99 - Transparent Colours

Complete Electrical Setup For Planeprint.com Abram P1 Explorer

Description	RRP
PO-3547-960 Brushless Outrunner Motor	£35.99
4M-HESC40AV2 Brushless ESC and Programming Box	£43.94
3pcs of 4M-100AMG-022 metal geared servos, 1pcs of 4M-175AMG-030 metal geared servo, 2pcs of 300mm and 2pcs of 900mm servo ext leads	£41.00
JXF pusher propeller 12" x 6"	£11.13
3S, 11.1V, 60C 2600mAh LiPo Battery Fitted with XT60 Connector	£30.00

For more information on all these products and hundreds of others, please visit our website

Tel: 01256 782 512 — **www.4-Max.co.uk** — Sales@4-Max.co.uk

4max
The Electric Flight Specialists

Motors, ESC's, LiPo's, Chargers, Servos, Props

High Quality, High Performance, Large Range, 60/120C, 3S 2,200mAh Only £24.00!

We stock: ARTF's and BIY Kits, BL Motors, Motor Mounts, ESC'S, UBEC'S, Plastic Props, Wooden Props, Folding Props, 3 Bladed Props, Prop Balancers, Spinners, LiPo's, Ni-Mh, Futaba and Radiolink Radios, Servos, Servo Leads, Servo Testers, Connectors, Cables, Heatshrink, Chargers, LiPo Dischargers, Watt Meters, Tools, Soldering Equipment, EDF Units, Electric Retracts, Undercarriages, Covering, LED Lights, Pilots, Tachometers, Glue, plus many other items. Please have a look at our easy to use website for more information. www.4-Max.co.uk

2S 4000mAh LiPo Battery for Spektrum Transmitters

Approved by The BMFA for the Payload and Egg Challenges

Purple Power Professional LiPo's (JST-XH)

PPL-25C2S-0350	25C/50C, 2S (7.4V) 350mAh	£4.50
PPL-60C2S-0450	60C/120C, 2S (7.4V) 450mAh	£4.70
PPL-60C2S-0800	60C/120C, 2S (7.4V) 800mAh	£8.50
PPL-60C2S-1000	60C/120C, 2S (7.4V) 1000mAh	£9.25
PPL-60C2S-1300	60C/120C, 2S (7.4V) 1300mAh	£11.00
PPL-40C2S-1800	40C/80C, 2S (7.4V) 1800mAh	£14.50
PPL-60C2S-2200	60C/120C, 2S (7.4V) 2200mAh	£18.25
PPL-40C2S-2600	40C/80C, 2S (7.4V) 2600mAh	£20.00
PPL-40C2S-3300	40C/80C, 2S (7.4V) 3300mAh	£25.00
PPL-25C3S-0350	25C/50C, 3S (11.1V) 350mAh	£8.50
PPL-60C3S-0450	60C/120C, 3S (11.1V) 450mAh	£9.50
PPL-60C3S-0800	60C/120C, 3S (11.1V) 800mAh	£12.00
PPL-60C3S-1000	60C/120C, 3S (11.1V) 1000mAh	£15.00
PPL-60C3S-1300	60C/120C, 3S (11.1V) 1300mAh	£17.00
PPL-60C3S-1800	60C/120C, 3S (11.1V) 1800mAh	£21.75
PPL-60C3S-2200	60C/120C, 3S (11.1V) 2200mAh	£24.00
PPL-60C3S-2600	60C/120C, 3S (11.1V) 2600mAh	£30.00
PPL-60C3S-3300	60C/120C, 3S (11.1V) 3300mAh	£38.00
PPL-60C3S-3700	60C/120C, 3S (11.1V) 3700mAh	£43.00
PPL-60C3S-4500	60C/120C, 3S (11.1V) 4500mAh	£55.50
PPL-40C3S-5000	40C/80C, 3S (11.1V) 5000mAh	£56.50
PPL-60C3S-6000	60C/120C, 3S (11.1V) 6000mAh	£70.00
PPL-60C4S-1800	60C/120C, 4S (14.8V) 1800mAh	£30.00
PPL-60C4S-2200	60C/120C, 4S (14.8V) 2200mAh	£33.50
PPL-60C4S-2600	60C/120C, 4S (14.8V) 2600mAh	£39.50
PPL-60C4S-3300	60C/120C, 4S (14.8V) 3300mAh	£49.00
PPL-60C4S-3700	60C/120C, 4S (14.8V) 3700mAh	£55.00
PPL-60C4S-4500	60C/120C, 4S (14.8V) 4500mAh	£70.00
PPL-60C4S-5000	60C/120C, 4S (14.8V) 5000mAh	£78.50
PPL-60C4S-6000	60C/120C, 4S (14.8V) 6000mAh	£96.00
PPL-60C5S-3300	60C/120C, 5S (18.5V) 3300mAh	£63.00
PPL-60C5S-3700	60C/120C, 5S (18.5V) 3700mAh	£71.00
PPL-60C5S-4500	60C/120C, 5S (18.5V) 4500mAh	£86.50
PPL-60C5S-5000	60C/120C, 5S (18.5V) 5000mAh	£96.00
PPL-60C5S-6000	60C/120C, 5S (18.5V) 6000mAh	£118.00
PPL-60C6S-3300	60C/120C, 6S (22.2V) 3300mAh	£79.00
PPL-60C6S-3700	60C/120C, 6S (22.2V) 3700mAh	£85.00
PPL-60C6S-4500	60C/120C, 6S (22.2V) 4500mAh	£103.00
PPL-60C6S-5000	60C/120C, 6S (22.2V) 5000mAh	£115.00
PPL-60C6S-6000	60C/120C, 6S (22.2V) 6000mAh	£139.00

Prop Drivers/Adapters

PP-PDRV20-30	For 2.0mm shafts	£3.49
PP-PDRV23-47	For 2.3mm shafts	£2.50
PP-PDRV30-50	For 3.0mm shafts	£2.75
PP-PDRV32-50	For 3.2mm shafts	£2.75
PP-PDRV40-50	For 4.0mm shafts	£2.95
PP-PDRV50-80	For 5.0mm shafts	£3.95
PP-PDRV60-60	For 6.0mm shafts	£4.75
PP-PDRV80-12	For 8.0mm shafts	£5.95
PP-PDRV10-12	For 10.0mm shafts	£7.95

Brushless Electronic Speed Controllers

4M-HESC15AV2*	15A, Burst 20A, 5V 2A BEC	£17.99
4M-HESC20AV2*	20A, Burst 30A, 5V 1A BEC	£19.99
4M-HESC30AV2*	30A, Burst 40A, 5V 5A BEC	£22.99
4M-HESC40AV2*	40A, Burst 50A, 5V 5A BEC	£31.95
4M-HESC50AV2*	50A, Burst 70A, 5V 5A BEC	£45.95
4M-HESC60A35V2*	60A, Burst 80A, 5V 7A BEC	£47.95
4M-HESC60A40V2*	60A, Burst 80A, 5V 7A BEC	£47.95
4M-HESC80AV2**	80A, Burst 100A, 5V 5A BEC	£62.00
Fly Fun 110A HV	110A, Burst 140A, OPTO, 6-14 LiPo	£129.99
Fly Fun 130A HV	130A, Burst 160A, OPTO, 6-14 LiPo	£141.99
Fly Fun 160A HV	160A, Burst 200A, OPTO, 6-14 LiPo	£189.99

* XT60, ** XT90 on battery side

UBEC's (Voltage Stabilisers/Regulators)

4M-UBEC5A	5A UBEC, 7A Peak, 6-29.4V I/P	£14.99
4M-UBEC-7A	7A UBEC, 7.5A Peak, 6-29.4V I/P	£19.99
4M-UBEC-15A	15A UBEC, 28A Peak, 9-51V I/P	£29.99
HW-UBEC25A	25A UBEC, 50A Peak, 3-75.6V I/P	£64.99
5A UBEC	With Switch and Digital Display	£16.99
15A UBEC	With Switch and Digital Display	£29.99

This New Series of Professional Outrunners are of the highest quality and are comparable to the well known quality brands but at a fraction of the price as we get them straight from the factory, there is no middle man mark up. All motors are dynamically balanced in the factory to ensure super smooth and vibration free operation, along with longer bearing life. They also feature larger diameter shafts for superior strength. A standard rear mounting kit comes with all motors which includes the "X" mount and bolt on prop driver and screws.

Outrunners - Professional Black Series

PO-2826-	920kv, 1040kv, 1290kv, 1420kv, 2200kv	£22.99
PO-2830-	980kv, 1210kv, **1350kv**, 2150kv, 2700kv	£25.49
PO-2834-	910kv, 1020kv, 1160kv, 1680kv, 2100kv	£27.49
PO-3535-	870kv, 1090kv, 1390kv	£28.99
PO-3541-	810kv, 920kv, **1070kv**, 1270kv	£33.49
PO-3547-	700kv, 800kv, 960kv, 1190kv	£35.99
PO-5055-	500kv, 595kv	£61.00
PO-5065-	360kv, 420kv	£75.50
PO-6366-	230kv	£99.99

Part numbers in RED are approved by the BMFA for their Payload and Egg Challenges

Tel: 01256 782512 — **www.4-Max.co.uk** — Sales@4-Max.co.uk

Great Value Quality Servos From £3.28

Make	Part Number	Type	Weight	Torque / Speed	Description	Price
EMAX	ES9251 II	Sub Micro	4.0g	0.27Kg @ 4.8V - 0.08sec/60°	Digital, Light Weight, High Speed	1pcs £8.79ea 5pcs £7.91ea
4-Max	4M-037AH-0045	Sub Micro	3.7g	0.45Kg @ 4.8V - 0.10sec/60° 0.55Kg @ 6.0V - 0.08sec/60°	Analog, Light Weight, High Speed	1pcs £6.84ea 5pcs £6.16ea
4-Max	4M-045DH-005	Sub Micro	4.5g	0.5Kg @ 4.8V - 0.10sec/60° 0.6Kg @ 6.0V - 0.08sec/60°	Digital, Light Weight, High Speed	1pcs £4.72ea 5pcs £4.25ea
EMAX	ES9051	Sub Micro	4.1g	0.8Kg @ 4.8V - 0.09sec/60°	Digital, High Torque, High Speed	1pcs £7.69ea 5pcs £6.92ea
4-Max	4M-056DHVMG-009	Sub Micro	5.6g	0.90Kg @ 4.8V - 0.14sec/60° 1.05Kg @ 6.0V - 0.12sec/60° 1.20Kg @ 7.4V - 0.10sec/60°	Digital, High Voltage, Metal Geared, 8mm Thick	1pcs £9.94ea 5pcs £8.95ea
New 4-Max	4M-053HVDMG-010	Sub Micro	5.3g	1.0Kg @ 4.8V - 0.09sec/60° 1.5Kg @ 6.0V - 0.08sec/60° 1.8Kg @ 7.4V - 0..07sec/60°	Digital, High Voltage, Metal Geared, 8mm Thick, High Speed	1pcs £11.10ea 5pcs £9.99ea
EMAX	ES9052MD	Sub Micro	5.5g	1.1Kg @ 4.8V - 0.11sec/60° 1.3Kg @ 6.0V - 0.09sec/60°	Digital, Metal Geared, Coreless Motor	1pcs £13.83ea 5pcs £12.45ea
4-Max	4M-094DMGB-014	Wing	9.4g	1.4Kg @ 4.8V - 0.12sec/60° 1.9Kg @ 6.0V - 0.10sec/60°	Digital, Metal Geared, Ball Raced, Wing, 8mm Thick	1pcs £11.54ea 5pcs £10.39ea
EMAX	ES08A II	Micro	8.6g	1.5Kg @ 4.8V - 0.12sec/60° 1.8Kg @ 6.0V - 0.10sec/60°	Analog, Light Weight, Great Value	1pcs £5.34ea 5pcs £4.81ea
EMAX	ES08MA II	Micro	12g	1.2Kg @ 4.8V - 0.12sec/60° 1.8Kg @ 6.0V - 0.10sec/60°	Analog, Metal Geared	1pcs £8.35ea 5pcs £7.52ea
4-Max	4M-090AH-017	Micro	9.0g	1.7Kg @ 4.8V - 0.09sec/60° 1.9Kg @ 6.0V - 0.07sec/60°	Analog, Basic 9g Servo	1pcs £3.99ea 5pcs £3.59ea
EMAX	ES3301	Micro	10.6g	2.0Kg @ 4.8V - 0.12sec/60° 2.2Kg @ 6.0V - 0.10sec/60°	Analog, Metal Geared, 9mm Thick	1pcs £8.79ea 5pcs £7.91ea
4-Max	4M-100AMG-022	Micro	10g	2.2Kg @ 4.8V - 0.12sec/60° 2.5Kg @ 6.0V - 0.10sec/60°	Analog, Metal Geared, High Torque	1pcs £7.49ea 5pcs £6.74ea
4-Max	4M-100DMG-022	Micro	10g	2.2Kg @ 4.8V - 0.12sec/60° 2.5Kg @ 6.0V - 0.10sec/60°	Digital, Metal Geared, High Torque	1pcs £9.05ea 5pcs £8.15ea
New 4-Max	4M-125HVDMG-028	Micro	12.5g	2.8Kg.cm @ 4.8V - 0.144sec/60° 3.4Kg.cm @ 6.0V - 0.111sec/60° 4.5Kg.cm @ 7.4V - 0.105sec/60°	Digital, High Voltage, Metal Geared, High Speed, Dual Ball Raced	1pcs £12.21ea 5pcs £10.99ea
New 4-Max	4M-130HVDMG-040	Micro	13g	3.8Kg.cm @ 5.0V - 0.112sec/60° 4.0Kg.cm @ 6.0V - 0.096sec/60° 4.5Kg.cm @ 7.4V - 0.083sec/60°	Digital, High Voltage, Metal Geared, High Speed, High Torque, Very Low Play in Gears	1pcs £11.10ea 5pcs £8.15ea
4-Max	4M-094DHVMG-026	Mini	9.4g	2.0Kg @ 6.0V - 0.09sec/60° 2.6Kg @ 7.4V - 0.07sec/60°	Digital, High Voltage, Metal Geared , Ball Raced, 8mm Thick	1pcs £14.99ea 5pcs £14.17ea
4-Max	4M-160AH-027	Mini	16g	2.7Kg @ 4.8V - 0.13sec/60° 3.0Kg @ 6.0V - 0.11sec/60°	Analog, Great Value Mini Servo	1pcs £6.29ea 5pcs £5.66ea
4-Max	4M-175AMG-030	Mini	17.5g	3.0Kg @ 4.8V - 0.13sec/60° 3.5Kg @ 6.0V - 0.11sec/60°	Analog, Metal Geared	1pcs £8.73ea 5pcs £7.86ea
4-Max	4M-175DMG-030	Mini	17.5g	3.0Kg @ 4.8V - 0.13sec/60° 3.5Kg @ 6.0V - 0.11sec/60°	Digital, Metal Geared	1pcs £9.99ea 5pcs £8.99ea
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
4-Max	4M-253AB-028	Standard/Mini	25.3g	2.8Kg @ 4.8V - 0.12sec/60° 3.3Kg @ 6.0V - 0.10sec/60°	Analog, Ball raced	1pcs £6.79ea 5pcs £6.11ea
EMAX	ES3004	Mini	17g	3.0Kg @ 4.8V - 0.15sec/60° 3.5Kg @ 6.0V - 0.13sec/60°	Analog, Metal Geared, Ball Raced	1pcs £12.09ea 5pcs £10.88ea
EMAX	ES3054	Mini	17g	3.0Kg @ 4.8V - 0.15sec/60° 3.5Kg @ 6.0V - 0.13sec/60°	Digital, Metal Geared, Ball Raced	1pcs £17.59ea 5pcs £15.83ea
4-Max	4M-455AH-033	Standard	45.5g	3.3Kg @ 4.8V - 0.15sec/60° 4.0Kg @ 6.0V - 0.12sec/60°	Analog, Great Value Standard Servo	1pcs £6.99ea 5pcs £6.29ea
EMAX	ES3001	Standard	37g	3.5Kg @ 4.8V - 0.17sec/60° 4.8Kg @ 6.0V - 0.14sec/60°	Analog, Ball Raced	1pcs £7.69ea 5pcs £6.92ea
4-Max	4M-410ABH-052	Standard	41g	5.2Kg @ 4.8V - 0.20sec/60° 6.5Kg @ 6.0V - 0.16sec/60°	Analog, High Torque	1pcs £4.73ea 5pcs £4.26ea
4-Max	4M-556AMG-087	Standard	55.6g	8.7Kg @ 4.8V - 0.15sec/60° 9.4Kg @ 6.0V - 0.13sec/60°	Analog, Metal Geared	1pcs £12.59ea 5pcs £11.33ea
4-Max	4M-556DMG-087	Standard	55.6g	8.7Kg @ 4.8V - 0.15sec/60° 9.4Kg @ 6.0V - 0.13sec/60°	Digital, Metal Geared	1pcs £15.74ea 5pcs £14.17ea
New 4-Max	4M-490AMG-108	Standard	49g	10.8Kg @ 4.8V - 0.13sec/60° 13.8Kg @ 6.0V - 0.11sec/60°	Analog, Metal Geared, Waterproof	1pcs £17.76ea 5pcs £15.98ea
4-Max	4M-620DHVMG-112	Standard	62g	9.35Kg @ 6.0V - 0.15sec/60° 11.2Kg @ 7.4V - 0.13sec/60°	Digital, High Voltage, Metal Geared, Dual Ball Raced	1pcs £18.89ea 5pcs £17.00ea
EMAX	ES3005	Standard	42g	10Kg @ 4.8V - 0.16sec/60° 12Kg @ 6.0V - 0.14sec/60°	Analog, Ball Raced, Waterproof	1pcs £27.49ea 5pcs £24.74ea
4-Max	4M-556AMG-118	Standard	55.6g	11.8Kg @ 4.8V - 0.20sec/60° 13.2Kg @ 6.0V - 0.18sec/60°	Analog, Metal Geared	1pcs £14.69ea 5pcs £13.22ea
4-Max	4M-556DMG-173	Standard	55.6g	17.3Kg @ 4.8V - 0.18sec/60° 20.4Kg @ 6.0V - 0.16sec/60°	Digital, Metal Geared	1pcs £17.84ea 5pcs £16.06ea

For more information on all these products and hundreds of others, please visit our website

Tel: 01256 782 512

www.4-Max.co.uk

Sales@4-Max.co.uk

4max
The Electric Flight Specialists

VALUEPLANES

BIY (Build it Yourself) Kits

£439.99

SE5a
Wingspan 2200mm/86" Weight 8500g/18.7lbs
Battery 10S 5000mAh (Supplied Separately)

£424.99

Fokker DVII
Wingspan 2100mm/83" Weight 6000g/13.2lbs
Battery 6S 5000mAh (Supplied Separately)

£439.99

Miles 2.H Hawk Major
Wingspan 2480mm/98" Weight 9300g/20.5lbs
Battery 10S 5000mAh (Supplied Separately)

£109.99

Cloud Clipper
Wingspan 1800mm/71" Weight 1800g/4lbs
Battery 3S 2200mAh (Supplied Separately)

£99.99

Cloud Walker
Wingspan 1650mm/65" Weight 1250g/2.75lbs
Battery 3S 2200mAh (Supplied Separately)

£169.99

Lippisch G108
Wingspan 2750mm/108.25" Weight 1700g/3.75lbs
Battery 3S 2200mAh - 3S 3700mAh (Supplied Separately)

£139.99

Super Sinbad
Wingspan 2500mm/98" Weight 1900g/4.2lbs
Battery 3S 2 200mAh - 3S 3700mAh (Supplied Separately)

£49.99

Micro Sinbad
Wingspan 1230mm/48.4" Weight 190g/6.7oz
Battery 2S 350mAh (Supplied Separately)

£169.99

Leprechaun
Wingspan 2600mm/102" Weight 1650g/3.6lbs
Battery 3S 2200mAh - 3S 3700mAh (Supplied Separately)

£49.99

Micro Leprechaun
Wingspan 1200mm/27.25" Weight 350g/12.3oz
Battery 2S 450mAh (Supplied Separately)

£169.99 Kit
£299.99 ARTF

VP2600 Glider
Wingspan 2600mm/102" Weight 850g/1.9lbs
Battery 3S 1300mAh (Supplied Separately)

£129.99

Slingsby Swallow T45
Wingspan 1800mm/70.87" Weight 1060g/2.3lbs
Battery 3S 1300mAh (Supplied Separately)

£449.99

Schulgleiter SG-38
Wingspan 3400mm/133.86" Weight 7000g/15.4lbs
Battery 6S 4500mAh (Supplied Separately)

For more information on all these products and hundreds of others, please visit our website

Tel: 01256 782 512 — **www.4-Max.co.uk** — Sales@4-Max.co.uk

4-max
The Electric Flight Specialists

Inspiration F3A 50e

Lower Price £199.00

2 Piece wing for easy storage & transportation
1.4:1 power to weight ratio
Strong undercarriage
Easy to assemble

High Quality EPO foam
Quality powertrain

Class:	50e
Type:	F3A
Wingspan:	1380mm / 55"
Length:	1480mm / 58.26"
Weight:	~1950g (4.3lbs)
Thrust	~2380g (6.2lbs)
Battery	4S, 3700mAh LiPo

Exclusive to 4-Max

£129.99

VALUEPLANES
MODEL MANUFACTURING COMPANY

Slingsby Swallow T45
Wingspan: 1800mm
Flying weight: 1060g
Glider or powered

£449.99

Don't be put of by the "Valueplanes" name, these kits are of the highest quality.
Very precise laser cut components that fit together perfectly. Top grade balsa and quality hardware along with good and clear assembly manuals with dozens of photos.

Schulgleiter SG-38
Wingspan: 3400mm
Flying weight: 7Kg
Glider or powered
Scale building techniques

For more information on all these products and hundreds of others, please visit our website

Tel: 01256 782 512 — **www.4-Max.co.uk** — Sales@4-Max.co.uk

SUPER WEEKEND SPECIAL ARTF (20cc)

£369.99 I www.jperkins.com

Seagull's brand new 98" span Super Weekend Special has all the ingredients to satisfy and inspire the avid club pilot. Classic retro styling, an open cockpit, spats, a benign yet delightfully aerobatic flight envelope and an eye-catching presence combine in this beautifully crafted, highly prefabricated balsa ARTF that's perfect for chilled, relaxed sports flying. Suitable for 15 – 20 cc two-stroke glow power or 6 - 8S electric set-ups and 4-channel, 5-servo (max) R/C. Available from your local J.Perkins stockist.

MARS D300 PLUS G-TECH DUAL CHARGER

£139.99 I www.logicrc.com

The iMars D300 Plus AC/DC multi-chemistry dual output charger is a compact yet powerful unit capable of charging two batteries simultaneously. Built around Gens Ace G-Tech technology, the D300 Plus delivers a smarter and more streamlined charging experience when used within the G-Tech ecosystem. Enhanced with Bluetooth app control it provides fast, reliable performance across a wide range of battery types, being capable of charging (and balance charging) 1S-6S / 2S-6S lithium batteries (LiPo, Li-Ion, LiFe and LiHV) and 1S-16S NiMH packs. With two independent channels, each capable of up to 16A, the charger delivers up to 300W total power on AC or 350W on DC, depending on power source. iMars D300 Plus also features an extensive range of advanced functions:

- **Discharge Mode** allows controlled discharging of multiple battery chemistries at rates of up to 3A per channel.
- **Storage Function** automatically charges or discharges batteries to their optimal storage voltage, helping maintain battery health during periods of inactivity.
- **Sync Charging Mode** combines both outputs to provide up to 23A using a parallel charge lead (sold separately).
- **Digital Power Mode** transforms the charger into an adjustable power supply for accessories such as soldering irons.
- **ExtDischarge** enables rapid external discharging via XT60-connected loads.

FUTABA DLPH-3 POWER HUB

£119.99 I www.jperkins.com

Designed for larger models, scale aircraft and anything that requires dual receiver redundancy, Futaba's new Dual (Rx) Link Power Hub offers peace of mind to anyone who's invested heavily in their airframe and hardware. Offering dependability, trust and useful functionality, the DLPH-3 includes an option to add Futaba's powerful GYA573 6-axis gyro using S.Bus2. With the ability to PWM connect 10x high voltage, high performance servos and handle the attendant high current draw (up to 60A peak), this keenly priced unit is an all-in-one solution to managing the distribution of power, telemetry and current

whilst supplying a stabilised voltage to the active receiver. Check out J.Perkins website for more info'.

E-FLITE TIMBER 1.5M 10TH ANNIVERSARY SPECIAL EDITION

£419.99 (BNF) £359.99 (PNP) I www.logicrc.com

Celebrating the release of one of the most popular and best-selling R/C aircraft of all time, E-flite's Timber 1.5m 10th Anniversary Special Edition includes popular features from the original - shock-absorbing U/C with oversized, tundra-style wheels, optional-use float set and leading edge slats, functional slotted flaps and an LED lighting system with landing, navigation and strobe lights. It also embraces enhancements that gave the Turbo Timber 1.5m more performance and capability, including a powerful 3S and 4S 2200-5000 mAh compatible power system and a stiffer wing. The Special Edition adds a top-mounted hatch for easier battery changes, plus combined connectors for simpler wing installation and removal. Strengthened U/C mounts, along with heavier-duty springs, improve the model's durability and STOL capability when flying from rough terrain.

Available in BNF and PNP formats, both featuring metal-geared servos, a 3S and 4S compatible motor and a 70A Spektrum Avian Smart Lite ESC. The BNF version includes a AR631+ receiver featuring enhanced AS3X+ along with optional-use SAFE Select technologies. The Rx also delivers real-time telemetry, including overall battery voltage, current (and more) to compatible transmitters, with Smart and non-Smart batteries. Plus, there's motor/thrust reversing for ground handling.

Hollow-core EPO construction with composite reinforcement yields a lightweight yet strong airframe that's capable of handling a wide variety of aerobatic manouevres, whilst a low wing loading brings excellent Short Take Off and Landing (STOL) and slow flight performance, which can be improved further by installing the leading edge slats. If you prefer to ROW rather than ROG, then the included floats mean you can fly from water too.

Microaces™

MAKING HISTORY

scan to visit
microaces.com

MICRO SCALE KITS FOR RADIO CONTROL


Bristol F.2b


Fokker D.VII


R.A.F SE5a


Albatros D.V

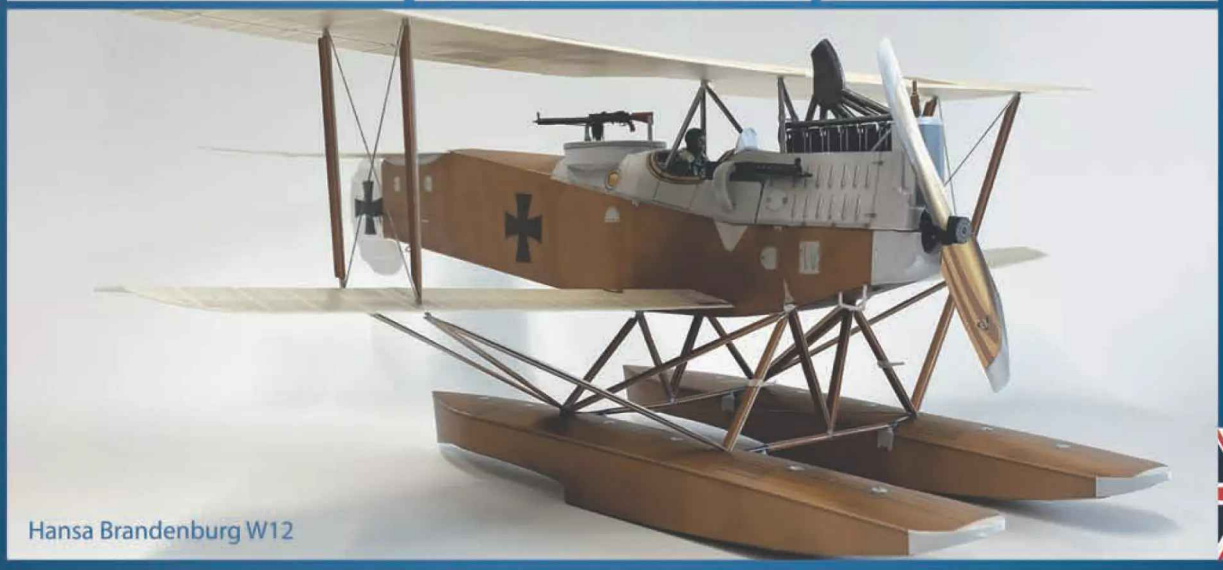

Aviatik Berg D.1


Nieuport 17


Fokker Dr.1


Sopwith Triplane


Sopwith F.1 Camel


Hansa Brandenburg W12

MADE IN BRITAIN

View the complete range of Microaces electronics, kits, spares & accessories at:

www.microaces.com

Designed, manufactured, supported and warrantied in the UK.

Microaces Ltd, The Factory, 14 Alder Hills, Poole, Dorset. BH12 4AS email: support@microaces.com

FLOATING ON AIR

Mike Freeman visits the boating pond at the Weston Park show to see some 'low flying' models in action

Words & Photos: **Mike Freeman**

Tim Stevenson makes some final pre-flight adjustments to his 1:14.5 scale SR.N6.

I always check the Weston Park Model Show's Facebook pages before the show to see what treats are in store and one post in the 2025 build-up caught my eye. Rebecca Stevenson from the Model Hovercraft Association (MHA) was inviting visitors to pop over to the natural pond between the Food Outlets and the Fairground to see their hovercraft in action. I've always been interested in hovercraft and even built a few in my youth, so I made sure I nipped over for a peek and I'm really glad I did!

NICHE

The first modern day hovercraft with the flexible skirt commonly seen today was invented by Christopher Cockerell in the early 1960s. Being truly amphibian they are ideal for inhospitable places where other vehicles cannot reach. They can't be categorised as planes, boats or land vehicles; they are really in a niche of their own. During the design and development stage Christopher Cockerell approached the Military for funding but got nowhere! He famously said, "*The Navy said it was a plane not a boat; the RAF said it was a boat not a plane; and the Army were just 'plain' not interested!*"

There were several MHA members at the show displaying and 'flying' a broad range of scale and sports hovercraft. Here are a just a couple...

SR.N6

The full-size SR.N6 went into commercial service in 1965, capable of carrying up to 58 passengers and could be regularly seen crossing the Solent to the Isle of Wight until 1983 when it was replaced by the larger and more efficient AP1-88. Tim Stevenson is the MHA's Publicity Officer and he had several hovercraft with him including a rather nice 1:14.5 scale SR.N6 which measures 1230 mm long, 580 mm wide and weighs 5.9 kg ready to go. It was originally built by Mark Porter in 2007 and since taking ownership Tim has refurbished the hull, fitted a new skirt and upgraded the electrics and controls with the help of his pal, Robert Hiseman.

The model is a lovely representation of the full size with working rudders and elevator. Yes, that elevator between the rudders is functional; Tim uses a switch on the transmitter to trim it to alter the pitch of the hovercraft in windy weather. There are also working scale thrusters, affectionately called 'Puff Ports', in the sides of the nose to help manoeuvre the hovercraft in tight spots. Tim uses a pair of Dr. Mad Thrust 40 mm 10-bladed EDF units, each controlled by a 40A ESC. Robert configured an Arduino Nano Microcontroller with a custom code to ensure the Puff Port door, which is opened/closed by a servo, is fully open before the EDF starts. The main lift motor is an AXI 2826/12 brushless driving a custom-made centrifugal fan and the thrust motor is an AXI 2820/12 brushless driving a 9 x 4 four bladed prop. Both are controlled by their own 60A ESC. There is a lot of electron hungry gear in

It's a lovely representation of the full size with working rudders and elevators.

Looking down the Puff Port duct to the EDF unit.

there so Tim uses two 3S 5000 mAh LiPo packs connected in parallel which give him around 15 minutes of flight time.

When it comes to controls, I guess you could say that Tim flies his SR.N6 in 'Mode 2'. He has the left stick's vertical travel set up with

Tim's SR.N6 was originally built by Mark Porter in 2007 and here you can see the level of detail Mark had added to the model.

Look closely and you can see the bell-crank that controls the elevators. Tim uses a switch on his Tx to trim the elevators to adjust the pitch of the hovercraft in flight. It's surprisingly effective, especially in windy conditions.

Close up of the left hand 'Puff Port' side thruster with the door open.

The EDF unit used for the Puff Port. The servo opens the door and an Arduino Nano Microcontroller sequences the fan to start up once the door is fully open.

Tim brings his SR.N6 back to the hardstanding after another entertaining flight.

Puff Ports improve the manoeuvrability of Tim's SR.N6 immensely. Check out the wake as the hovercraft sideslips across the water.

Here Tim is using the right-hand Puff Port to avoid the water lilly patch on the pond!

a ratchet to control the lift fan and the left horizontal controls the Puff Ports. The right stick's vertical travel controls the forward thrust and the horizontal controls the rudders.

GENERATION GAP

MHA member Alan Smart also had an impressive array of hovercraft, including a little 1:5 scale one emulating the single seat F1 Racers from yesteryear which he was flying with his grandchildren, 7-year-old Sophia and 10-year-old Noah. They were having a great time zipping around the pond.

This little gem was designed and built by Alan in 2005 and couldn't be more basic. It is built from foamboard and balsa, with a little ply reinforcement where required.

There are no rudders and therefore no servos on Alan's F1 Racer. Steering is achieved by varying the speed of the motors using an elevon mix on his Tx.

Alan Smart's little own-designed F1 Racer gets a fair lick on with a PG Tips Monkey at the helm.

Alan's grandson, 10-year-old Noah, is already an accomplished hovercraft pilot flying Alan's F1 racer. He is ready to move onto something a little more challenging.

Alan's granddaughter, 7-year-old Sophia, was doing just fine buzzing the little F1 Racer around the pond.

The prop shrouds were vacuum formed by Pete Lambden, another MHA member. It measures just 640 mm long by 395 mm wide and still runs on the original Graupner Speed 400 brushed motors and Gunther 5 x 4.5 props. One motor provides the lift and two the thrust/steering. Alan also flies 'Mode 2' with the ratcheted left stick controlling the lift and the right stick set up with 'elevon mix' to provide proportional left/right and forward thrust. There are no rudders; it steers a bit like a tank!

Alan originally powered it with NiMh batteries but now runs it with a 2S 1300 mAh LiPo for lift and a 3S 1800 mAh Lipo for thrust which gives around 10-15 minute flight times. Alan told me the lighter weight makes it much faster and more manoeuvrable. It's a fabulous little runner but Alan told me he is now working on a Mk. 2 version with the help of Sophia and Noah. What a terrific way to spend time with your grandchildren!

Alan's F1 Racer is 20 years old and still runs on the original Speed 400 motors and Gunther props. Cheap construction and simple controls make it terrific value for money.

SKIRTING AROUND

As we've seen the construction of a model hovercraft hull or body is similar to traditional aeromodelling using balsa, ply and even foamboard. But the skirts are rather specialised and need a closer look.

The simplest skirt is a 'Bag' skirt, as seen in section in **Fig.1**. A propeller or fan blows air into the bag skirt, which is essentially like a bike inner tube arrangement made from 120 gsm PU coated nylon running around the perimeter of the hovercraft. Small holes on the inner edge of the skirt allow air to bleed into the plenum to increase pressure and lift the hovercraft off the surface. Alan's little F1 Racer uses this type of skirt to great effect.

The skirt on Tim's hovercraft is a more complex 'Bag & Finger' skirt, as seen in **Fig.2** and nearby photos. This uses a bag skirt, as before, but individual fingers are added which

Close up of the skirt on Alan's F1 Racer. Double sided tape attaches it to the hull.

Under-skirt of Alan's F1 Racer showing the bleed holes that allow air to pass from the bag skirt into the plenum under the hovercraft. Cross-weave tape keeps the internal edge of the skirt in place.

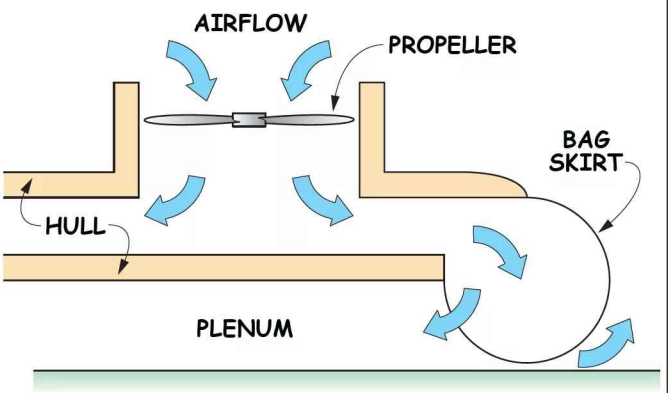


FIG.1 SIMPLE BAG SKIRT AS USED ON ALAN'S FI RACER

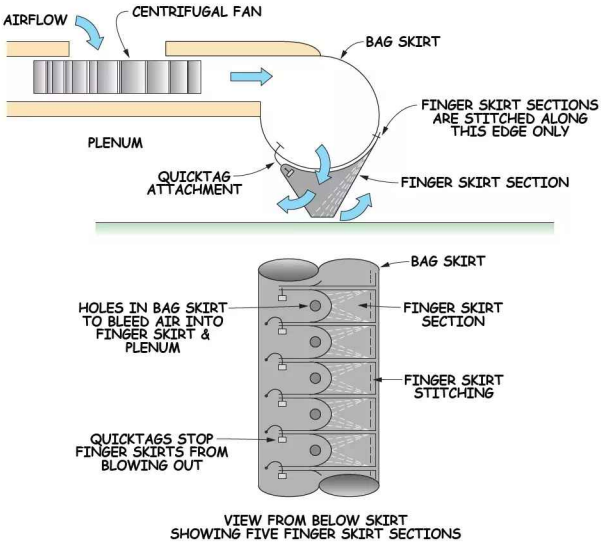


FIG.2 MORE COMPLEX 'BAG & FINGER' SKIRT AS USED ON TIM'S SR.N6

A look under the skirt of Tim Stevenson's SR.N6 hovercraft showing the combined bag and finger skirt sections. That keel down the centre inflates when the fan is running to create a baffle down the centre of the plenum to help reduce the loss of air if the hovercraft gets stuck.

Some of the air bleed holes from the SR.N6 bag skirt into the fingers can be seen here, as well as the 'Quick Tags' used to stop the fingers from blowing out.

A final look at Tim's SR.N6 hovercraft whilst on display and keeping the Weston Park Show's spectators amused.

Differential speeds of the thrust motors make Alan's hovercraft very manoeuvrable.

lift the craft further off the surface. A big advantage of the fingers is they have a much smaller contact area and are significantly more flexible, allowing the hovercraft to operate over rougher surfaces. This is similar to the skirt arrangement on the full-size SR.N6.

QuickTags (as used to fit tags onto clothes) prevent the fingers of Tim's scale SR.N6 from blowing out and the air pressure in the plenum pushes the sides of the fingers together to seal the gap between it and its neighbours. Tim's bag skirt is made from 60 gsm Ripstop nylon and there are nearly 150 fingers made from 120 gsm PU coated nylon equally spaced around the perimeter.

NO BOVER

It was great spending time with the MHA members. They are a friendly and welcoming bunch who are really keen to show off and discuss their hovercraft. I heartily recommend wandering over and having a look next time you visit Weston Park Model Show. In the meantime, check out their website at **www.modelhover.org** for some more insight and information. They even have some free plans to download if you fancy having a go at building one yourself. ■

Welcome to **RCM&E**. In each issue we aim to bring to our worldwide readership the very best selection of radio control model aircraft news, views and kit reviews, alongside informative and entertaining feature articles covering each and every aspect of the diverse model flying and building hobby.

Whether you are interested in radios, warbirds, gliders, electric power, IC or petrol/ engines, jets, multirotors, new tech, traditional modelling or the latest techniques, we aim to cover the R/C model flying hobby in all its aspects. There's even some free flight and control line coverage too! Not only that but each issue contains at least one full-size model building plan.

Kevin Crozier

Kevin Crozier

SUBSCRIBE TODAY

REASONS TO SUBSCRIBE

1. News, kit reviews & model flying features
2. Coverage from radios & warbirds to jets & gliders
3. Full-size building plan in every issue

GET ONE YEAR OF RCM&E FOR JUST £59.99

UK'S BIGGEST MODEL FLYING MAG PACKED WITH REVIEWS, FEATURES AND EXPERT OPINION

SAVE UP TO 45%

ON YOUR RCM&E SUBSCRIPTION

Scan me

EASY WAYS TO SUBSCRIBE

1. GO TO **CLASSICMAGAZINES.CO.UK/RCME2026**
2. CALL US **01507 529529** QUOTE **RCME2026**
3. USE THIS **QR CODE** TO GO DIRECTLY TO OUR WEBSITE

Lines open Monday-Friday, 8:30am-5:30pm. Calls charged at your standard network rate.

Finalists from the 2025 F3A World Championships.

TOP OF THE WORLDS

This month **Keith Jackson** reviews the BJ Craft Strato Ultimate SB and files a pictorial report from the 2025 F3A World Championships held in Muncie, USA

Words: **Keith Jackson**
Photos: **Keith Jackson, Ronald Brodersen**

I spent most of the last couple of seasons competing against pilots flying BJ Craft models and particularly the Anthem. Flyers who used this brilliant airframe drew lovely straight lines with ruler flat rolls and scored highly in the relatively simple P-25 schedule. This swept wing BJ Craft design, no doubt drawing on influences such as the Hui Yang Oreka, clearly worked very well in this context.

STRATO ULTIMATE SB

The Anthem has now been superseded by the Strato Ultimate SB which features slightly more sweepback with a broader root chord resulting in a more delta type wing planform. Additionally, the fuselage is now significantly narrower in an attempt to reduce Form Drag (otherwise known as Profile Drag). I built a Strato kit up in the middle of 2025 and the model went together very easily, just as all the BJ Craft kits do.

I finally got the new Strato SB in the air, maidening it at Hurley in October and then having some more flights at my local club in Middlewich. It was very different from the Glacial BP I have flown for the last couple of years and I have to say quite promising. The rolls are very 'delicate', in that it is quite easy to define point rolls in both of the long rolling manoeuvres in the FAI P-27 schedule. Whilst I'd say it is a pretty standard weight coming in at

BJ Craft Strato Ultimate SB.

DxG Contra drive installation.

3704 g, it felt very light in the air, not needing oodles of power to fly through tall manoeuvres like the first centre humpty bump.

The Strato SB needs only very slight mixing when built to the standard C of G of 315 mm from the leading edge and it looks great in knife edge, the colours being particularly vivid on a cold winter's day. The model can be held easily before the stall, allowing a good entry into the reverse spins.

The stall turn manoeuvre definitely benefits from having the C of G at the design's intended position. For initial flights I had it 20 mm in front of this and the stall turns were a bit variable and mushy. Things improved no end once I had reverted to the standard position.

DxG CONTRA DRIVE

The Strato SB is quite a departure for me and one reason for trying this model was to finally give the low cost DxG contra drive some airtime.

This is an unusual system using a centre pinion gear to drive two large gears in opposition, giving a gear ratio of 4.875:1. The drive unit weighs in at 547 g with its own brand D12-65 650 KV 10-pole brushless motor. Electrical power of this system is quoted as 3 KW with peak power of 4 KW possible. The mounting system is a bit hard and I will look to soften this in the winter period. The system turns Falcon 22" x 22" propellers front and back at 4000 rpm which is on par with the other systems around. In the air it sounds louder than my Akiba drive, more like the Adverun/VLV/Dualsky systems on offer, whilst flying power is absolutely fine and I have not had it anywhere near full throttle yet.

Just prior to submitting this article I changed to Falcon 23" x 20" propellers front and back and I have to say that the difference was astounding. The braking is really helpful between manoeuvres such as the difficult transition between the Trombone and Triangular loop in P-27. Also, during the very strange Square from Top with quarter roll, knife-edge flight, quarter roll manoeuvre, the braking due to the 23" propellers and D3 ESC allows consistent and tight radii to be defined with ease which helps this manoeuvre to be defined accurately. Power delivery is

Antonin Paysant Le Roux waiting to fly with his Atom design, now kitted by Hui Yang.

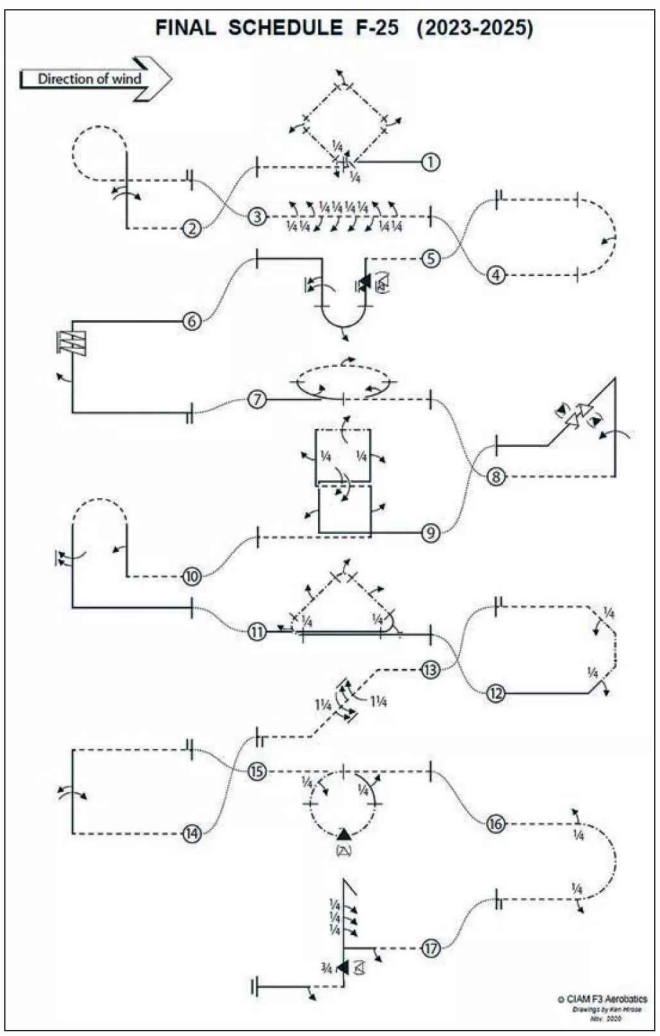
smoother and the whole system exudes a gentle noise which shows no sign of being strained. BJ Craft's Strato Ultimate SB is quite simply brilliant and I look forward to developing it and competing with it in 2026.

F3A WORLD CHAMPS

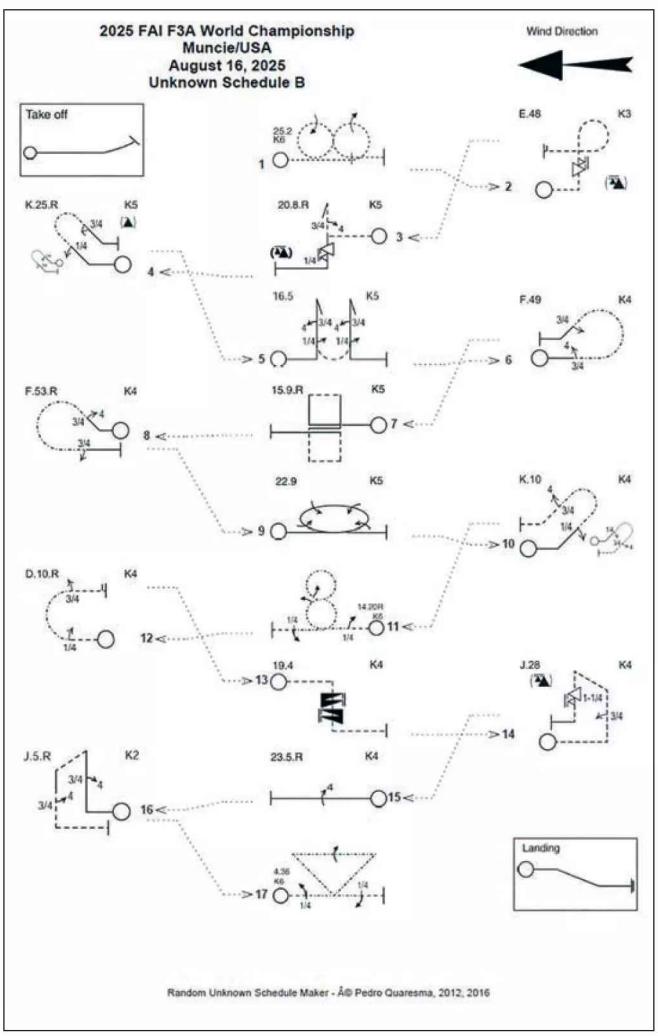
The 2025 F3A World Championships were held at the US national flying site in Muncie, Indiana. This event featured a relatively low attendance of only 62 competitors from 23 countries, the usual being around 100 pilots from over 30 countries. Of the teams that attended only 17 countries provided a full complement of three pilots, which is unusual for an event of this magnitude. No doubt the costs of attending these overseas events is a factor in the low attendance.

The schedules being flown at this year's FAI event included the Preliminary P-25 which was flown through the first four qualifying rounds. The top thirty pilots were then taken into the two semi-finals rounds where the semi-finals / finals F-25 schedule was flown which included the much more difficult manoeuvres such as rolling circles and the integrated rolling reverse humpty bump. The finals took the top ten pilots from the semi-final results and four further flights were then flown comprising two F-25 and two Unknown schedules.

The top echelon of F3A in the world is a healthy affair with competitors ranging from juniors such as Seth Huntingford from Australia to long standing senior pilots such as Marcus Zeiner from Austria and Ola Fremming from Norway. Former multiple World Champion Christophe Paysant Le Roux's son Antonin, the 2023 World Junior Champion, is now a senior pilot. How time passes! In fact, the



FAI F-25 Semi-finals schedule.



Unknown B schedule flown in Muncie.

Glacial v4 from Lassi Nurila.

UK pilot Tom David's own design Placebo caught in perfect knife edge flight. Or at least what we thought was perfect!

On the left, Gernot Bruckman chose to fly this CA Models Mantra biplane. To the right is Andrea Cervi's own design Soluna.

Dan Workman with his Skyleaf Leader G biplane.

Garry Peacock chose to fly his new Velar biplane at last year's event.

Dan Workman concentrates while Tom calls the manoeuvres.

average age for pilots was typically between 20 to 40 years old, dispelling any notion that it is an older pilot's sport. Have no illusions, F3A is a highly competitive sport in the field of aeromodelling and is very much alive the world over.

Top senior pilots competing in this event included the current European and World Champion Lassi Nurila from Finland, former 2018 World Champion Testsuo Onda from Japan, multiple World Championships runner up Andrew Jesky from the USA and the Italian number one pilot Andrea Cervi. Notable by their absence were former European Champion Stefan Kaiser (2014) from Lichtenstein, Spanish pilot Juan Rombaur and Sandro Matti from Switzerland.

UK TEAM

Qualification for the UK team followed a single Team Trial event that was held at the Plane Crazy Model Flying Club in Hurley, Warwickshire in September 2024 and included flying both preliminary and finals schedules. This then allowed the chosen pilots approximately a year to make the extensive preparations necessary to attend an overseas international event of this magnitude.

The UK team at the 2025 World Championships comprised Thomas David, Dan Workman and Garry Peacock, who also doubled as Team manager. Our UK judge, Alan Williams also attended this event as a standby judge in the preliminary / semi-finals rounds and then as a wrong manoeuvre judge during the Unknown rounds in the final.

The team arrived several days earlier than the official start date of 9th August to

allow themselves to acclimatize. It was hot and humid at 35°C! They could then practice in the very different and varying conditions that prevail at the Muncie site. I flew there in the 2011 World Championships and can tell you that the site is huge and can feature different weather conditions across the various flightlines used.

FIRST ROUNDS

Initial rounds saw the top pilots achieving 500+ scores from a possible 650 points, so averaging approximately 7.7 points per manoeuvre out of a possible 10. Due to the numbers of pilots attending these events two flightlines are normally used until the Finals, with the competitors flying two rounds on each flightline before different judging panels. This meant that the actual standings during the Preliminary rounds could only be calculated after Day 2 and then after Day 4.

F3A flights no longer wait for the sun to clear the flying area and sun discs are commonly used during competitions.

Andrew Jesky and Jason Schulman from the US team and their official supporters AC Glenn and Forrest Pilkenton watch fellow pilot Peter Collinson's flight during the preliminary rounds to provide support and feedback.

Aurora by VLV International flown by Spanish pilot Mario del Valle. Look hard enough and you can see that the nose section detaches!

RCB 209 design by Daniel Nieto and colleagues from Argentina. Placed 24th overall.

Judges rarely share the limelight with the top competitors, yet these events are totally dependent on their dedication to F3A.

Japanese pilot Tetsuo Onda with his stunning Skyleaf Leader ACE design. The Leader biplane in all its versions was the overall most popular design at these Championships.

Onda's Leader ACE on landing approach.

Epsilon biplane, designed by Akiba, flown here by German pilot Dominik Bellert placing 28th overall.

CA Models Mantra flown by Argentinian pilot Tomas Ezequiel Rivera.

Proteus monoplane flown by New Zealand pilot Hamish Galloway.

US number three pilot Peter Collinson with this Hui Yang Velar biplane.

A case of 'beauty is in the eye of the beholder'! Sebart Zeus biplane flown by Italian pilot Luigi Corona.

Fourth placed US pilot Jason Schulman with his VLV Aurora biplane.

Own design Soluna flown by Italian pilot Andrea Cervi, who placed 8th overall. This model was also set up for mono wing flight.

After the Preliminary rounds were completed the top standings were:

1. Lassi Nurila, FIN
2. Andrew Jesky, USA
3. Jason Schulman, USA
4. Yuhei Suzuki, JPN
5. Tetsuo Onda, JPN
6. Stephane Carrier, FRA
7. Gernot Bruckmann, AUT
8. Andrea Cervi, ITA
9. Peter Collinson, USA
10. Antonin Paysant Le Roux, FRA

The UK standings were:

37. Thomas David
45. Dan Workman
46. Garry Peacock

Australian junior pilot Seth Huntingford flew a Proteus biplane to become F3A World Junior Champion of 2025.

German pilot Christian Niklass' Leader ACE biplane caught in a knife edge climb.

Stephane Carrier from France took 6th place with his Velar biplane own design. Mono prop drives were very much in the minority at this year's event

Christophe Paysant Le Roux with Bryan Hebert of CK Aeros, with the Hui Yang Skybolt biplane powered by a YS twin.

The flight everyone wanted to see! The Skybolt takes to the air with the characteristic smoke trail from the mighty YS 220 twin.

Unfortunately, this meant that none of our pilots progressed further in this competition. The raw scores achieved by the UK team spanned 420 to 456, which is certainly lower than expected from competitions here in the UK. These scores are not atypical at international team competitions and it is hard to know why the UK do not achieve better results in these events. From memory there are differences that can be seen in schedules flown both here and abroad and teamwork will be required to help close this gap going forward. Looking at the spread of pilots/countries populating the top 30 spots suggests that anyone who flies well enough can reach those positions.

The semi-finals were held on the Friday with the preliminaries score added to the two F-25 flights flown to determine who would progress through to the Finals event. The top spot going into the final day was taken by US pilot Andrew Jesky, closely followed by Lassi Nurila and an emerging Tetsuo Onda.

Junior Championship winners. Left to right: Liu Yufei (CHN), Seth Huntingford (AUS) and Sean Galloway (NZL).

Andrew Jesky, F3A World Champion 2025, with helpers Forrest Pilkenton and AC Glenn.

Team Japan took second place in the team event.

FINALS

The finals event comprised one F-25 schedule and two Unknown schedules where the individual manoeuvres were selected by the top ten pilots the evening before. The manoeuvres were chosen individually and a schedule composed. Several schedules were created this way and two were selected by the organisers for the Finals event.

The three schedules were flown before a packed audience on Flightline 1 and after the dust settled the final results were:

1. Andrew Jesky, USA
2. Lassi Nurila, FIN
3. Tetsuo Onda, JPN
4. Jason Schulman, USA
5. Yuhei Suzuki, JPN
6. Stephane Carrier, FRA
7. Gernot Bruckmann, AUT
8. Andrea Cervi, ITA
9. Peter Collinson, USA
10. Antonin Paysant Le Roux, FRA

Ironically, Lassi Nurila didn't win a single round in the semi-finals and finals but did well enough to gain second overall position, even after one of his finals flights was badly marred by inclement weather. This result meant that the long-established runner up Andrew Jesky finally claimed his first and well-deserved World Championship.

Incoming and outgoing World Champions! Andrew Jesky and Lassi Nurila.

EURO CHAMPS

The next FAI team event is for the European Championships to be held in Saint Macaire-en-Mauges, France from 8th to 15th August 2026. The position of Team Manager is open for anyone wishing to get involved with UK F3A aerobatics (see https://ukf3a.com/smf/index.php?topic=8156.0).

Our thanks go to Ronald Brodersen for his pictures from the 2025 F3A World Championships featured here. Ronald supplied all the photographs, except for the picture of Dan Workman and his biplane which was kindly supplied by Dan. ■

AIRBRUSHES.com

EXCLUSIVE UK Distributor for Iwata & Sparmax.
Trade Enquiries Welcome!

SPARMAX®

SB88 Spray Booth

Max-4 Airbrush

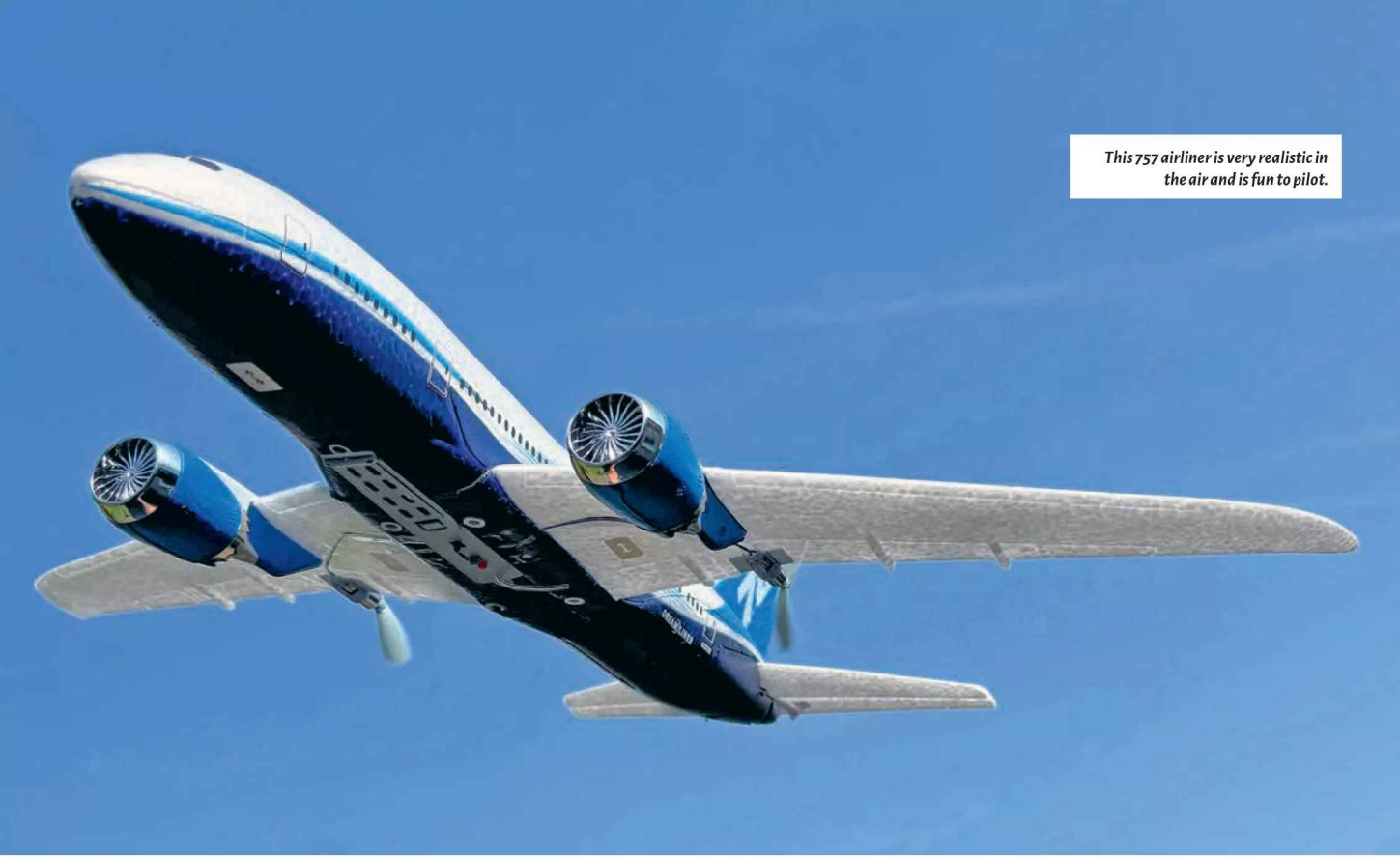
neo for iwata

Gravity-Feed
Airbrushing Kit

Start 2026 Strong!
Healthier Airbrushing
& Best Value Tools

www.Airbrushes.com 01903 767800 sales@airbrushes.com
The Airbrush Company Ltd. 79 Marlborough Road, Lancing Business Park, BN15 8UF

GodHand LIQUID PIGMENTS THE ARMY PAINTER LIFECOLOR ACRYLIC HOBBY COLORS MODEL CRAFT



This 757 airliner is very realistic in the air and is fun to pilot.

INDOORS & OUT

This month John **Stennard** looks at some small models for indoor as well as calm weather outdoor flying

Words & Photos: **John Stennard**

I'm starting this month's feature with a small outdoor model that gave me a lot of pleasure last year and I'm sure it will again as soon as we get back to regular outdoor flying. Don't let size fool you; a big foam RTF model is readily viewed as a 'real model' while a small RTF foam model can be dismissed as toy. However, the small one can often need more skill to fly than the large one!

787 AIRLINER

In a recent feature I mentioned how proportional motor control is often used in mini rather than micro-RTF models. I've tried two of the mini size but did not fly them using their proportional motor control. One was a C-17 and the other an Airbus 380. Both flew well in my converted mode. This involved removing the receiver unit and installing a micro-Rx and two 1.7g servos for rudder and elevator. Neither were suitable for indoor flying.

I noticed that a new proportional motor control model, a 550 mm wingspan 787 airliner, also had elevator control. I anticipated this would make the model much more controllable for outdoor and possibly indoor use. This model uses a 1S 300 LiPo and the AUW is 62g. It is made from a crash resistant, EPP type foam and can

757 looking rather good and fitted with its undercarriage.

Without the U/C and ready to hand launch.

The new twin with her well satisfied pilot. The motors give plenty of power and she flies well on a minimum of throttle.

be used with or without an undercarriage. I was absolutely delighted with this model; it is very well made and is quick and easy to assemble. It looks very realistic and is certainly the best I have had of this genre. The transmitter, although small, includes trims for the proportional motor yaw control and the elevator. The throttle control is on the left stick and the rudder and elevator on the right stick. The amount of elevator movement is proportional but very limited; I assume this is intentional.

My first hand-launch flight was over grass with the U/C in place. I subsequently removed it for later flights. Patio tests had shown that it would easily take off from a suitable surface and give the pilot the pleasure of taking off and landing. Flight performance is remarkable; there is ample power and the proportional motor control works beautifully. The elevator trim enables level flight to be set and the combination of elevator and proportional motor produces really smooth flight. The 787 looks very scale-like in the air, but the relatively small size must be borne in mind or it will become a speck in the sky! The model can be controlled via the motors when gliding but this is less smooth.

> "…flight performance and the model itself are a fine example of excellent design and the use of micro-RC gear"

The simplicity of the model and Tx does not reflect the super performance; it's nicely different and fun to fly. It was initially flown in virtually zero wind, so I was interested to observe how it coped in a breeze. In fact, a light breeze was no problem and beneficial. A combination of motor and elevator control made the model easy to fly and the duration was extended.

The flight performance and the model itself are a fine example of excellent design and the use of micro-RC gear. I do not think the model with its existing control system would be suitable for indoor use. Maybe a conversion to micro-RC with motor control and rudder

Guinot scheme was one of the more refined Stearman liveries.

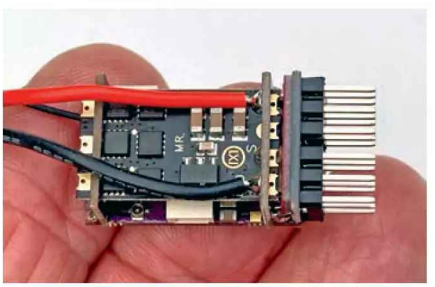
The Breitling formation were very eye-catching and the only time I saw four together.

would enable tighter turns for indoor use. However, I will leave my 757 alone and enjoy flying it outdoors.

Having now flown the airliner regularly I've come to the conclusion that to fly it well actually requires quite a high pilot skill level. I doubt if many non-model fliers could handle the delicate balance needed with the controls. It is easy to over-control and this could send a novice into panic mode. But the challenge to fly smoothly and precisely make it more rewarding for an experienced pilot.

MULTI-PURPOSE RX

I build quite a few small indoor/outdoor models and I am always trying to reduce the All Up Weight (AUW). The R/C gear, motor and battery are always the heavy but essential bits. Many of my models now use small brushless motors which are available at low cost in a huge range of k/v sizes. One way to reduce the weight, particularly if this is a performance related issue, is to use a receiver (Rx) with an integral ESC. This type of Rx, for brushed motors, has been around for a long while and there are also some micro size brushless versions. However, these are often restricted to 1S use. I was looking for a Rx for a small aerobatic model using a 2S LiPo and came across the Crossover FR7012. This is small, 35 x 15 x 5 mm in size, with a weight of 5.7g. It can be used with 2/3S LiPos and has a 15A output, much more than I needed, but this could be a useful feature for a small 2/3S EDF model. It is a 6-channel Rx with standard servo connectors and additional outputs, plus other features that I will not use. There are no instructions, but a Crossover FR 7012 web search found a supplier in the USA whose website includes extremely comprehensive information on all aspects of the receiver. It includes a standard red JST connector but there was no connector for the brushless motor.



New combined Rx/ESC has proved to work perfectly. Its small size and low weight make it ideal for both indoor and outdoor models.

Logic told me that three solder tags on the board were for the motor connections and this proved correct. I soldered on a connector, although one could solder the motor leads directly to the board. Following the usual binding and throttle limit setting it was up and running perfectly.

The FR 7012 is not expensive and is a very useful receiver for small/medium size indoor/outdoor models where a 2 or 3S LiPo is used.

PT-17 BARGAIN BUY

The Stearman PT-17, also known as the Kaydet, is one of the most instantly recognisable biplanes, although Tiger Moth and Pitts Special fans may disagree! First flown in 1934, the Stearman Company was taken over by Boeing and around 10,626 aircraft were built. Continental, Lycoming and Wright engines were used on different models. It was used a primary trainer by the USAAF, USN and RCAF and post war they were rapidly sold off to civilian pilots.

The show stopping model Stearmans featured animated wing walkers!

The 'Spirit of Aviation' summer fly-in usually includes a Stearman.

E-Flite UMX PT-17. A model show 'bargain buy'.

Here in the UK my Stearman experiences are two-fold. Firstly, when enjoying full-size Stearmans in 'wing walker' airshow mode, with fully cowled engines. Crunchy, Utterly Butterly, Guinot and Breitling liveries were admired, as was a wonderful four-ship display at The Royal International Air Tattoo (RIAT). Not to forget the amazing wing-walking Stearman models piloted by Richard Rawle and Steve Holland, complete with fully functioning wing walkers controlled by Sharon.

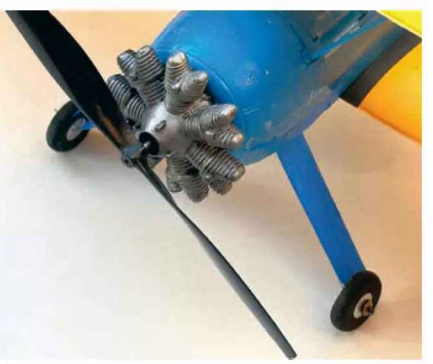
The second experience is a closer one as a Stearman is a regular visitor at our Spirit of Aviation summer fly-in. I've patted her but not managed a flight yet. Maybe next year!

Anyway, back down to earth with a UMX version. I've been meaning to build a Minimum RC, semi profile, foam version of the Stearman when, at Much Marcle, I spied an E-flite UMX version on a 'used bargains' stall. This is a charming little model and the price seemed right, it being a nicer looking model with UMX stability and five batteries. A bargain! The model looked very clean but as it was held securely in the box, I did not take it out. *Caveat emptor* springs to mind as when I removed the model from the box at home it had no undercarriage! However, four of the 1S LiPos charged up fine and I had the wherewithal to make an U/C, so I did not feel quite so bad about my not-quite-so-much-of-a-bargain. With its new U/C and a pilot installed, I soon had the 388 mm span PT-17 ready for take-off, with a flying weight of 47g.

> "Caveat emptor springs to mind as when I removed the model from the box at home it had no undercarriage!"

It was always going to be a great little plane to fly in our dedicated micro model slot and has not disappointed. She handles beautifully and looks so good in the air. A real treat to fly and a bargain after all!

After the first indoor flights, I pondered about whether she would loop and roll? A wind free day gave me the opportunity for an outdoor aerobatics trial. The loop was no problem at all, even from level flight, but the ailerons just did not have enough authority to achieve a roll. I also tried flying her inverted off the top of a loop and this was also fine but with such a small model orientation can quickly become a problem. I think I'll just stick to loops indoors as I'd hate to spoil her paintwork!



I had to make a completely new undercarriage for my bargain model and I also painted the engine.

MICRO-TINKER

The Micro-Tinker fits in here as she's also a micro size biplane.

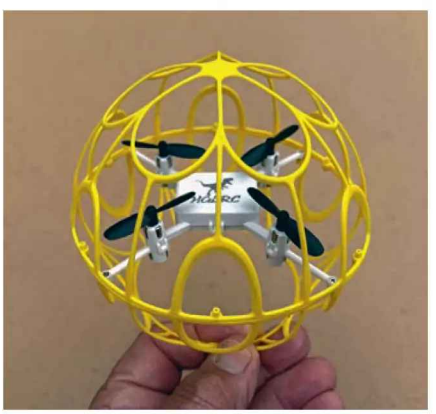
This is another of flying buddy Andrew's models and it's a shrunk down DB Tinker. Reduced to just 15 inches wingspan the ailerons were found to be ineffective but the model flies well on rudder and elevator.

Shrunk down versions of popular 'full-size' models for indoor/calm outdoor flying usually perform well, provided construction

Indoor 'Tinker' from Andrew looks sweet and flies well.

Gorilla contact adhesive has proved to be a very useful glue for use with many materials.

Yes, the QIDI-570 really does fly vertically!



An example of a 'non-professional' Soccer Drone. Teams to be picked next time!

is suitably modified. A lot of the integral strengthening required for the original model can be reduced to suit the much lighter AUW.

GORILLA GRIP

I spotted tubes of Gorilla contact adhesive in my local Lidl, although I'm sure it's generally available. The specs sounded good and I thought I would give it a try with my next model using foam/ply/carbon fibre. Price-wise it's dearer than a tube of UHU POR, my usual glue for these materials, but it might be stronger. The results have been very good, with no problems with foam and an excellent degree of strength.

COMING SOON

Next time the QIDI-570 gets a taste of indoor flying and proves to be fun to fly. Plus, the previously promised Soccer Drones, so get your kit on and decide who's going to be the goalie! ■

Walk in the footsteps of the Royal Flying Corps at Europe's largest surviving World War One aerodrome





- Visit the unique Janes Model Collection of WW1 aeroplanes
- Take a guided tour of our aircraft hangars and vintage aircraft
- Wander through fascinating exhibitions in original WW1 buildings
- Enjoy hearty home-cooked food in the original Airmen's Mess
- Open Friday to Sunday 10am to 4pm, children 0-10 now go free!

Stow Maries Great War Aerodrome, Hackmans Lane, Purleigh, Essex ///passports.glorious.mulled www.stowmaries.org.uk

Sporty is an easy to build high wing model with excellent slow flight characteristics.

SPORTY

Bernd Lewerenz assembles a quick build laser cut kit designed by aero-naut to have excellent slow flight characteristics

Words: **Bernd Lewerenz** Photos: **Bernd Lewerenz, Franz Josef Meyer**

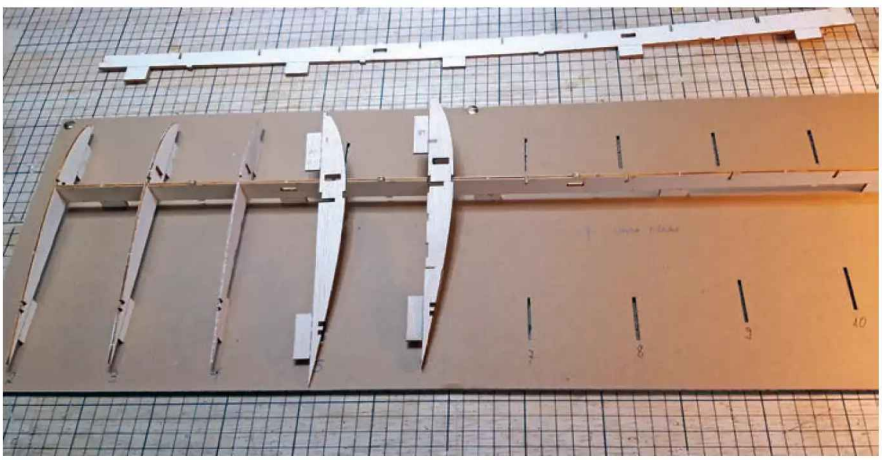
There are days during winter with sunshine and hardly any wind that make you want to go flying. However, when it is cold you might not feel like setting up and dismantling your models, so at those times it would be nice to have a model that is already assembled waiting in the car. Just take it out of your vehicle, plug in the battery, have a few flights and head back home to the warmth. That would be great!

I found what I was looking for at aero-naut with the Sporty, a model with a wingspan of 1300 mm and controllable across all axes. It even has flaps and a tow release but, best of all, it's a proper kit. For me, as a balsa lover and a passionate model builder, it looked ideal, so I ordered the kit.

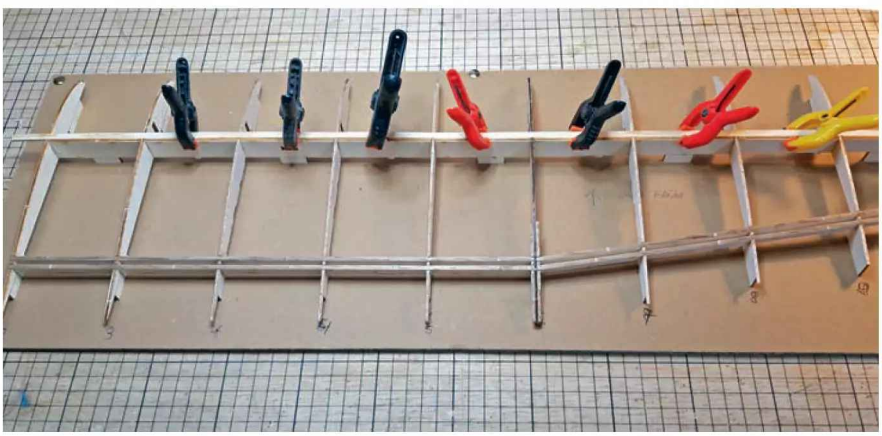
SPORTY KIT

The kit is fully equipped except for the power set and R/C gear. The wooden components supplied for assembly are accurately laser cut and provided on several sheets, all being of excellent quality. Wheels, pre-formed landing gear, control linkages and even covering for the tail unit are also included. There's no plan

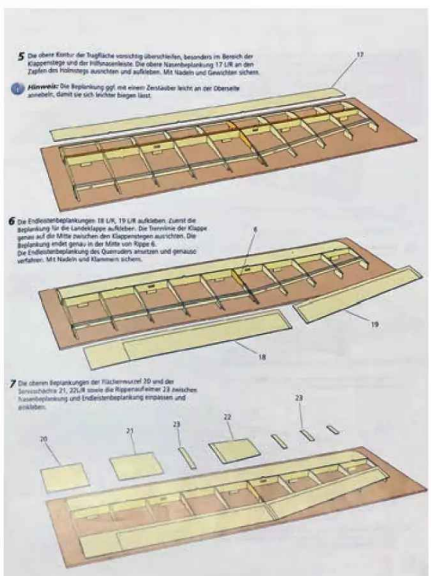
This easy to fly model can be equipped with optional flaps and a tow release for tugging up small gliders.



A cardboard building jig ensures correct alignment of the ribs and spars.



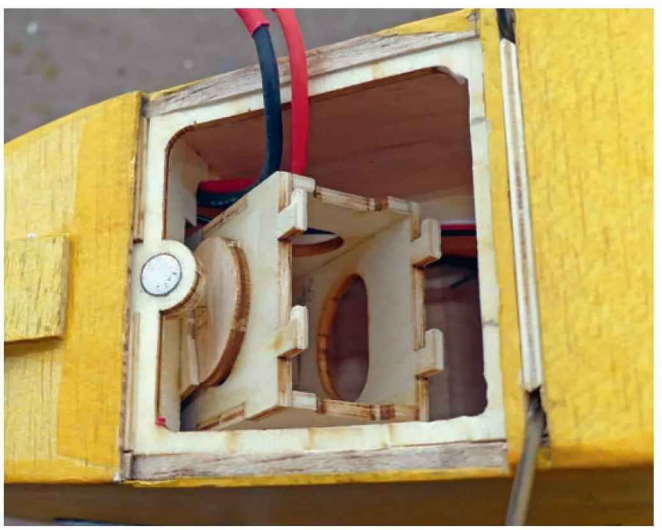
Using the jig the wings go together quickly and accurately, helped along by laser cut ribs.



No plan is necessary thanks to the well-illustrated step by step manual.

Wing sheeting almost complete, with the flaps and ailerons marked and ready for cutting out.

Sporty's body can be built 'in the hand' but as always the use of a simple fuselage jig protects against any inadvertent banana bends!



Take care when gluing in the angled battery box to make sure it doesn't interfere with the back of the motor.

Best hold off adding the top nose sheeting until the ESC has been installed and connected to the motor. Bernd's home-made dummy engine pots add to the character of the model.

but illustrated building instructions explain the model's construction step by step, so a plan is no longer needed.

Let's make a start.

WING

The manufacturer provides a great tool for assembling the wing. A cardboard jig, with precisely positioned slots, ensures that each rib is inserted and held in exactly the right position. This allows the wing to be assembled completely free of deformations.

After completing the wing, the ailerons and flaps are cut free with a razor saw and shaped. Reattachment is made with hinge tape, with the flaps being hinged from below. All these steps are very well described in the instructions and do not present any problems.

Tail parts are simple to build. Paper covering is supplied for this area.

FUSELAGE

Thanks to the 3D illustrations in the instructions there are no problems when building the fuselage either. However, the installation of the battery box requires some thought. I recommend that you provisionally install the motor beforehand. Only then can you prevent the battery compartment from touching the motor when installing it.

Similarly, the front upper part of the fuselage should not be sheeted too early. The reason is that although you can insert the ESC from the front, it is difficult to access the connections for the receiver and motor when the fuselage is finished. I therefore installed the ESC and made the connections accessible before sheeting the front part of the fuselage.

EMPENNAGE

The tail unit is of simple construction and is quick to assemble. Both the ailerons and the elevators are attached with hinge tape. I did this after covering the model.

FINISHING TOUCHES

The fuselage was covered with yellow Jap tissue paper and painted with clear varnish. Covering paper for the tail unit is included in the kit. If

The fuselage was covered with yellow Jap tissue paper and painted with clear varnish. Bernd covered the wings and tail with ProfiCover2 film which is ironed on and looks just like silk.

Sporty has generously sized control surfaces. The recommended movements result in an easy to fly model.

you have no experience of attaching covering paper you can scan the QR code in the building instructions to see a video of how the paper should be applied.

However, for my model I covered the wings and tail with ProfiCover2 from Practical Scale. The film is ironed on and looks just like silk.

FIRST FLIGHT

It's a sunny day with little wind and Sporty is standing on the runway.

The motor uses 13 amps at full throttle and the control deflections have been set according to the instructions. So, let's fly!

Sporty accelerates quickly and is airborne after about 30 metres. When I reach a safe altitude, I fly a few circuits to get used to it. Control movements as set according to the instructions suit it well and I quickly become familiar with the model.

At high altitude, I extend the landing flaps and immediately Sporty climbs almost vertically! To counteract this a good amount of down elevator needs to be mixed with flap. In the end I used a 70% mix!

Flaps are not necessary for normal flying and landing. Nevertheless, I recommend

Zoomed in from a distance so a bit fuzzy this image clearly shows Sporty's almost fun-fly like planform.

With full flap Sporty can be flown down the flightline at walking pace.

To land simply perform another slow & low flyby on full flap and gently ease off the power until she kisses the grass.

using them simply because it's amazing fun to fly across the field at walking pace at a height of five metres with the flaps fully extended. You can then retract the flaps and climb out.

When landing reduce the throttle when the model is just above the ground and Sporty will gently touch down.

SPORTY SUMMARY

Sporty is great fun to build and even more fun to fly. If you follow the building instructions, you will be able to build the model without any problems. Unfortunately, the instructions are only available in German but with so many pictures showing each stage of construction you can easily assemble the model. The parts fit perfectly and are of high quality.

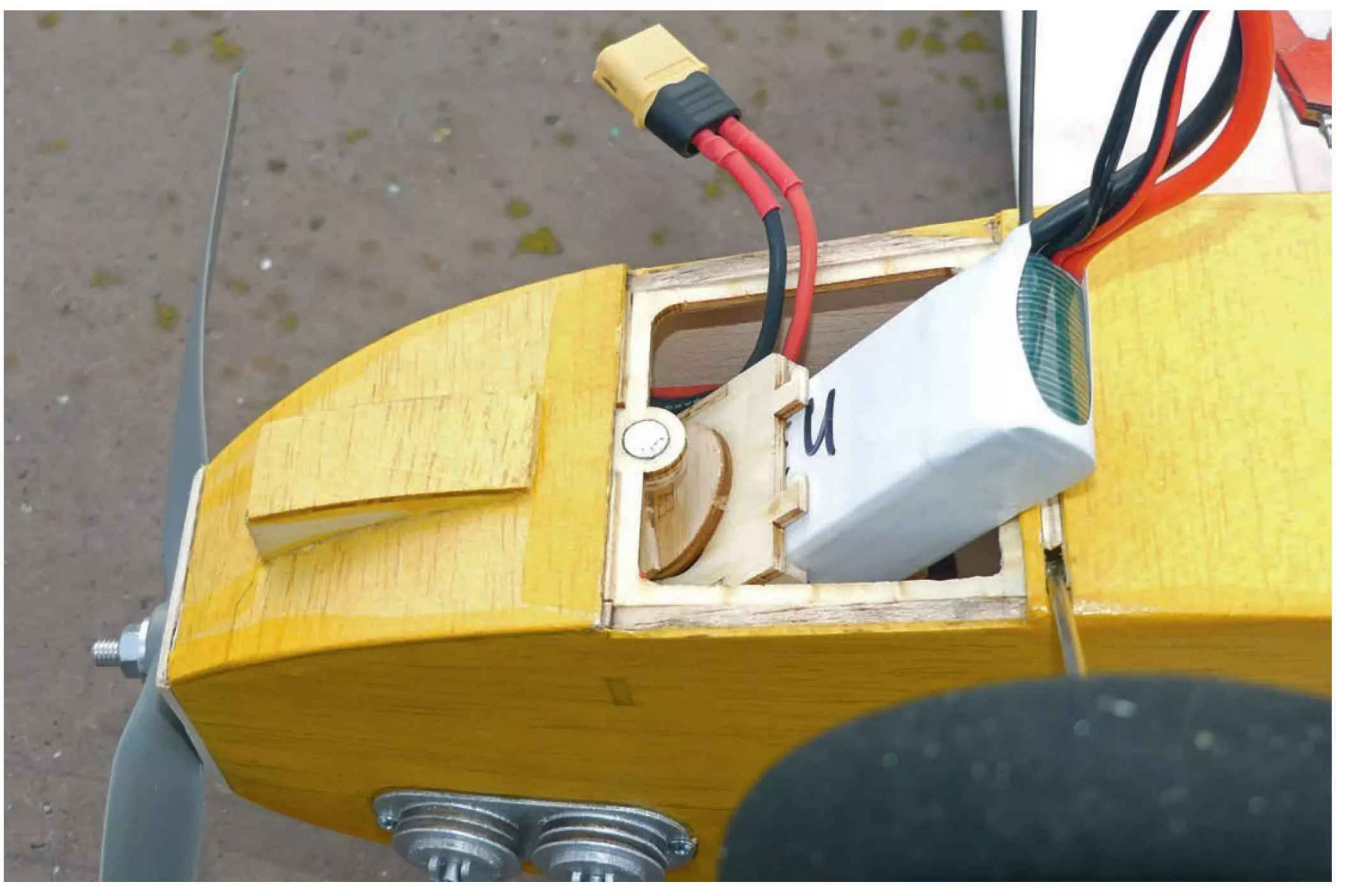
Using a 3S 2200 mAh LiPo flight times of approximately 10 minutes can be achieved. In the forums one point of criticism is that the flight battery needs to be fitted from below. But the model is very light and flipping it over onto its back is no real problem.

So, if you enjoy building with wood and aren't obsessed with flying gigantic models the Sporty may be the perfect choice for you. Especially in winter, as mentioned at the beginning! ■

DATAFILE

Model:	Sporty
Model type:	Slow flyer with flaps
Manufacturer:	aero-naut https://aero-naut.de
RRP:	Around £105 - £110 (in UK shops at time of writing)
Wingspan:	1300 mm (51.2")
Length:	880 mm (34.6")
Weight, RTF:	1200 g (2.65 lb)
Wing area:	27 dm2)
Wing loading:	44 g/dm2
ESC*:	actrocon 30
Prop*:	CAMcarbon Light-Prop 11" x 4.5"
Prop hub*:	4 mm
Servos*:	4 x AN-12-MGBBA (3 extra servos needed if fitting flaps and tow release)
Functions:	Ailerons, rudder, elevator, throttle. Optional flaps and tow release
LiPo:	2 - 3S 2400 mAh

*Items available together as the 'Sporty Drive Set'



Some owners have criticised the need to load the LiPo from underneath but Sporty is so light to hold that it's really not much of a problem.

TIRED EYES IN THE EVENINGS?

Reduce eyestrain instantly.

Light engine
Simulated high definition natural light. **Guaranteed for 5 years.**

Beam angle adjustment wheel
Intuitive beam adjustment offers beam personalisation.

Dimmer wheel
Allows you to precisely adjust the light output.

Standby switch & ergonomic handle
Helps you direct light beam precisely where you need it.

Frustrated by words blurring on the page? Opticians agree that better light could transform your vision. This is why we've spent almost 40 years designing the best lights we can.

What makes the HD Pro our most advanced light yet?

It's all in the detail. A Serious Readers High Definition Pro Light has been designed with a single objective, to help you see text, detail and colour as clearly as you possibly can. Every feature and component has been designed and engineered with you in mind.

In addition to Daylight Wavelength Technology™ for light that effectively mimics the spectrum of natural daylight, the HD Pro has a host of special features. A snooze timer that turns off the light if you fall asleep reading, a memory function that remembers your brightness setting, a flexible, stay-put arm, even a USB charging port for your phone*. Upgrade to a cordless model for up to 6.5 hours light, cable-free. You can even add optional filters for light sensitivity or a remote control for extra convenience.

- Up to 12 x more light on your page than a traditional 60w bulb
- Text becomes crisp and clear
- Recommended by over 500 opticians
- Available as a Floor or Table Light
- 90 day risk-free trial

*Table Light only

See the difference for yourself

Try at home for 90 days risk-free and if not delighted, we'll collect for free* & refund you in full.

*UK Mainland only.

The first night I read 80 pages of a novel, something I had not done in years.

Mrs Kerrigan | Wexford

THE HD LIGHT PRO

HD Pro Floor Light	HD Pro Table Light	
Was ~~£499.99~~	Was ~~£449.99~~	**SAVE £150**
NOW JUST £349.99	**NOW JUST £299.99**	plus get a FREE MYSTERY GIFT worth up to £10
		Quote offer code A154 at checkout or when calling.

FOR ADVICE, A BROCHURE OR TO ORDER.

0800 085 1088

Lines open 8:30am-5:30pm Monday - Friday

seriousreaders.com/A154

Serious® Readers
Serious about light™

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-njiiri@kelsey.co.uk**

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

FEBRUARY

Feb 22

Sale Model Flying Club Swapmeet at Merseyside Valley Sports Club, Banky Lane, Sale, M33 5SL. From 12 noon to 3 pm. Doors open to stall holders at 11.30 am. 10 round tables, 5 trestle tables. Entry £3.00 pp or Table £10.00 including entry. To book a table contact Brian Dorricott at secsalemfc@gmail.com

Feb 22

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

MARCH

March 7

Wrexham RC Model Swap Meet at Gresford Trust Memorial Hall, Off High Street, Gresford, LL12 8PS. What 3 Words: stubborn.scripted.nothing. All types of flying models, engines, R/C equipment, building materials and associated model flying paraphernalia. There will be 25 plus large tables at a cost of £6.00 each. Entry for stall holder from 9:00 am. Entry for buyers strictly from 10:00 am. Admission £3.00. Tea/coffee and biscuits will be available. For info/booking contact Malc on 07886 288371 or email malcolmpdi@yahoo.com

March 8

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

March 15

White Sheet Radio Flying Club Scale Event. Back up date 29th March. Weather call will be the Friday before. For more information visit https://whitesheet.bmfa.club/

March 15

Horam Swap Meeting at the Horam Village Hall. Horam East Sussex TN21 0JE. What3Words: self.planting.brave. Doors open to sellers 08:00-12:00 with a table and one person costing £9.00. Buyers, £3.00 from 09.00-12.00. Usual refreshments and delicious bacon rolls. Come and grab a bargain or catch up with friends. Booking ESSENTIAL. Contact Robert Richardson: rob.richardson@talktalk.net

March 22

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

March 22

Southern Counties Spring Swapmeet at Mountbatten School, Romsey, Hampshire, SO51 5SY. One of the largest swapmeets in Southern England with over 50 tables. Sellers with a booking admitted from 8:00am. Buyers from 8:30am onwards. Noon finish. Admission only £4, under 16s free. First table costs £10 (including one admission), additional tables cost £6 each. Refreshments will be available. More details at hmfa.bmfa.org/. To pre-book tables only call Mike Stokes on 07702 742647.

APRIL

April 3

Watton Radio Model Club Bring & Buy Good Friday at Hingham Social Club, Watton Rd, Hingham, NR9 4HB. Sellers from 5.30 pm. £6 per table to include 1-person additional helpers £1. Doors open 6 pm, entry £1, under 16s free. To book tables please contact Martin Pawsey on 01953 883892 or email: martin.pawsey@btinternet.com

April 12

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

April 11 – 12

The Great Cornish Model Show at Pool Academy, Church Road, Pool, TR15 3PZ. A celebration of modelmaking talent in Cornwall featuring working model train layouts, model aircraft (radio-controlled and miniature), model boats and ships, radio-controlled trucks and cars, military modelling, model engineers, miniature figure painting, paper modelling, plastic kit modelling, Lego models, wargamers, miniature roomsets and dolls houses, modelling demonstrations. Full trade support. Sat 10.00 am - 5.00 pm, Sun 10.00 am - 4.00 pm. Adults £9.00, U-16s £6.00, Family £18.00, U-5s free. Free parking, easy access, hot food and refreshments all day.

April 18

CADMAC Swapmeet at Stannington Village Hall, Stannington, Northumberland, NE61 6EL. Aeromodelling items only. Sellers' fee £7 per table plus the entrance fee, all tables are provided.

Admission £2, ladies and under16s free. Sellers set up at 12:00 pm. Buyers enter at 12:30 pm. Doors close at 3:00 pm. All proceeds go to Northumbrian Air Ambulance. Please contact Bob Brown on rwbrown17@gmail.com or 07515 682543 to book a table.

April 19

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

MAY

May 10

White Sheet Radio Flying Club Scale Event. Back up date 31st May. Weather call will be the Friday before. For more information visit https://whitesheet.bmfa.club/

May 24

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

May 30-31

ModelAir Mayfly at BMFA Buckminster will be a fly-in with as many of the modelling disciplines and attractions there used to be at Old Warden including R/C flying, C/L flying, F/F & Radio Assist, Tethered Cars, Drone Racing, Camping. Excellent cafe. Pricing for pilots is £10 per person per day. Spectators £5 per person per day. To trade or car boot at the event please use the form at: https://modelair.info/contact-us/

Car Booters will be charged £5 per pitch, Traders are free. R/C flying will take place from 10:30 am to 4:30 pm each day. All types welcome but unfortunately no gas turbines. 15 kg weight limit. A B-Certificate is required or an A-certificate for slow vintage types. Models must be flown on 2.4 GHz only. Free Flight and Radio Assist flying will take place twice per day, from early morning until 10:30 am. The second session is 4:30 pm into the evening. 500 g weight limit, with a max. engine capacity of 0.8 cc or 100 W. Radio Assist 2.4 GHz only. BMFA membership required. For more information contact modelair.oldwarden@gmail.com or phone 07966 439835 (evenings and weekends only). Camping available; please enquire at BMFA Buckminster: https://nationalcentre.bmfa.uk

JUNE

June 14

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

June 21

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

JULY

July 12

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

July 19

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

July 19

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

AUGUST

Aug 2

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

Aug 9

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

August 16

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

Aug 22 - 23

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

SEPTEMBER

Sept 5 - 6

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

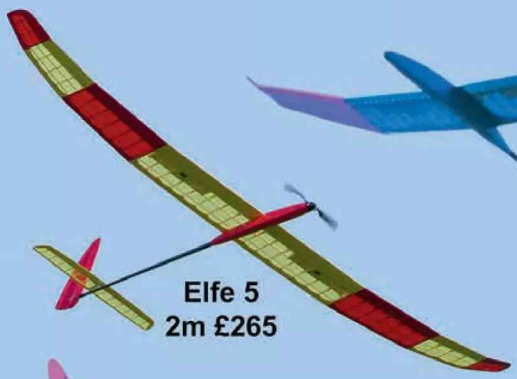
Sept 6

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

Hyperflight.co.uk

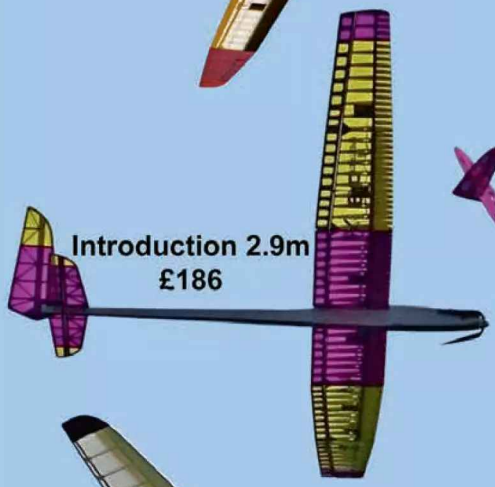
UK's largest stockist of RES, DLG, slope & e-gliders, folding props, KST, MKS & CHA servos

Circle Dancer 3.6m £945



Elfe 5 2m £265

Eli 2m £189



Introduction 2.9m £186

Encanto 2m £269

Purito 2m £265

Sugar Glider 1m £78

Resilience 2m £245

Mini Dart 2 1m DLG £199

Aria 1.2m £150

Hundreds of motors, folding prop blades, spinners and gliding accessories in stock.

Go to hyperflight.co.uk or phone 07821 351341

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

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

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

NEW KITS, Flightline Bearcat - £220. FMS 70mm Advanti - £220. FMS J-10 Vigorous Dragon Grey - £150. FMS Corsair 800mm - £100. Arrows 50mm Viper - £100. Kavan Twin Sarik Glider - £220. X-Fly Twin 40mm F18 - £100. Buyer to collect. 01763 663016 (Herts).

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

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

ADVANCED SCALE MODELS, C-130 100" Hercules and B17G 100" Flying Fortress. Both still boxed and untouched - £300 ono. 07947 822794 (Oxon).

SOARERS, 1980 Wildflecken 144" kit, built 1990 'Proton' 136", ailerons, flown a little but undamaged, well stored, both GF fuselages, servos, towline releases and accessories complete - £ free with a charity donation. Buyer to collect. Email Christopher on cjmail@flyskipper.com or call 07950 467485 (Kent).

FREEWING Grippen 80mm fan R/C model - £200. Freewing F-16 70mm fan R/C model - £150. Freewing Hawk 70mm fan R/C model - £200. FMS F18 70mm fan R/C model - £200. All kits are complete and unassembled as new. Buyer to collect. 01763 663016 (Herts).

RADIO CONTROL MODEL KITS, as new and not assembled. FMS Advanti, ducted fan - £200. FMS J10 ducted fan - £150. FMS Corsair, prop, £100. Flightline Bearcat, prop, £200. Arrows Viper, ducted fan - £100. X Fly F18 twin, ducted fan - £100. Kavan Shark, powered glider - £220. Buyer to collect. 01763 663016 (Herts).

RADIO CONTROLLED MODEL AIRCRAFT by David Boddington 2004, two unopened 1-72 scale Airfix Vulcan kits. XM607, series A5005 Falklands war, includes paint brush, series 09002 XH562 – offers plus P&P. Call Andrew on 01989 564932 (after 5pm).

OS GGT 15 gas/glow engine, new - £245. Call Julian on 07934 531930 (Cambs).

UNIQUE PRAZISE MODELLBAU R/C, all aluminium Hornet kit. Beautiful kit from some years ago and will need careful building - £300 ono. 07718 464066 (Dorset).

FLYWING FW200 GPS RC Helicopter, as new with 2 batteries and charger. Also scale Airwolf fuselage with good detail machine guns and nav lights, excellent condition. It can be flown like a drone, cost over £500 – offers around £300? 07415 093543 (Surrey).

65" WESTLAND WYVERN airframe only, elect retracts U/C doors open and close, double flaps, dummy prop, full cockpit with details, fuselage and plan all available. Wings not available - £500. Buyer to collect. 07759 396767 (Oxford).

LOSI TENACITY 1/10 pro V2 4WD Brushless ready to run smart fox racing. Brand new in box plus Spektrum 35 battery with charger also brand new in box. Cost over £600. Cost over £600 new - £400. 07415 093543 (Surrey).

OS FS 64V four-stroke, new in box - £190. Laser 150 plus engine mount, excellent condition and well looked after. Call Garry on 01822 258510 (Devon).

MODELLER giving up due to sight loss. Various scale, vintage, control line, gliders and free flight, engines, retro 2.4 GHz Tx. Rx sets plus lots of bits and pieces – offers? Call John on 07864 297226 (Dorset).

SLOPE SOARERS Phase 2, Gentle Lady, Algebra, Sonny 1500, Quad Copter, Twister – offers? Call Graham on 01453 757904 (Glos).

WANTED

GOLDBERG JUNGMANN kit, in box. Great Planes Super Skybolt ARTF in any condition. Great Planes Shoe String, fibreglass version. Top prices plus postage paid! Call Conor on 0857 317939 (Dublin).

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

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

FREE READERS' ADVERTISING

Please write your details in CAPITALS in the grid below, including a contact name and address or telephone number in the word count. Please also enter your full details in the address box below the grid.

PLEASE TICK: FOR SALE ☐ **WANTED** ☐

Free Readers' Ads will only be accepted on the coupon supplied.

Terms and conditions

We will endeavour to print your details in the next available issue of RCM&E. **Free Readers' Ads will only be accepted on the coupon supplied.** Coupons received after the copy date may be held over until the next issue. No responsibility can be accepted for misprints. Please comply with the Trade Descriptions Act when detailing goods for sale. This service is only available for private sales. Other services and trade advertisers must use the pre-paid classified section at the end of the magazine. Under 'The Business Advertisements (Disclosure) Order 1977', consumers must be able to differentiate between an advertisement for a private or trade sale.

Name .....

Address .....

..... Postcode .....

Tel. No. .....

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

Next issue

E-FLITE ERATIX

If you want the ultimate for indoor aerobatics, then an F3P construction kit will be high on your list. But what if you are short of time and just want something that you can drop out of a box, plug a LiPo into and start looping and rolling with inside a typical indoor model club venue. Step forwards the new 450 mm span UMX Eratix 3D FF from E-flite. We find out what this colourful little flat foamy is like to fly within the confines of an average size 4-court sport hall.

JETPOWER 2025

Following its successful relaunch in 2024, JetPower was again a great success when held at the airfield of Luftsportgruppe Breitscheid-Haiger from September 19 to 21, 2025. Approximately 90 international exhibitors exhibited on over 3,500 square metres of indoor space, with additional outdoor space. In addition to the trade fair, a corresponding air show was held by exhibitors and international show pilots. As usual, there was a continuous flight schedule during which manufacturers presented their models and technology. JetPower 2025 ended with increased visitor numbers, despite a rainy start. In total, over 8,000 international visitors, including our reporter Thorsten Häs, attended this major international air show and trade fair for jet and turbine model building in Breitscheid.

SKYBUG ONE

It's an odd name, granted, but let's be honest, Lindsay Todd's latest creation is rather an odd design. It was inspired by the creations of Gerry Anderson in those classic puppet-based television series when Lindsay wanted to fly something a little bit different. He even made up a storyline to justify this design based around insurance recovery specialists being sent into remote areas on recovery missions!

The initial design was for a six-wheel model with a V-tail. Whilst it flew okay, directional control on the ground was virtually non-existent. Some considerable thought went into a design review, resulting in a change of tail design to an 'H' format and reduction in wheels from six to four, making Skybug One much more accommodating to handle but just as much fun to look at.

Editor: Kevin Crozier
kevin.crozier@kelsey.co.uk

Publisher: Tim Hartley,
tim.hartley@kelsey.co.uk

Publishing director: Dan Savage,
dan.savage@kelsey.co.uk

Design: Druck Media Pvt Ltd.

Advertising:
fiona.leak@kelsey.co.uk
Tel: 01507 529573

Group Advertising Manager:
Sue Keily: Sue.Keily@kelsey.co.uk

Marketing Manager (Subscriptions)
Beth Ashby-Njiiri: beth.ashby-njiiri@kelsey.co.uk

Head of Customer Marketing (Subscriptions): Claire Aspinall

Customer Marketing Director:
Kevin McCormick

Editorial address:
RCM&E, Media Centre, Morton Way,
Horncastle, Lincolnshire LN9 6JR

Website: www.modelflying.co.uk

General enquiries and back issues:
Tel: 01507 529529
help@classicmagazines.co.uk
www.classicmagazines.co.uk

Subscription: Full subscription rates (but see page 74 for offer): (12 months 12 issues, inc post and packing) – UK £76.20. Export rates are also available – see page 74 for more details. UK subscriptions are zero-rated for the purposes of Value Added Tax.

Customer services:
Tel: 01507 529529

Lines are open:
Monday-Friday 8.30am-5pm

Distribution: Frontline Distribution Solutions, 2 East Poultry Avenue, London, EC1A 9PT

Subscription agents:
RCM&E, Media Centre, Morton Way,
Horncastle, Lincolnshire LN9 6JR

Printed: Acorn Web Offset Ltd, Loscoe Close, Normanton Industrial Estate, West Yorkshire, WF6 1TW

Published date: RCM&E is published on the third Friday of every month

Next issue: 20th March 2026

Advertising deadline: 27th February 2026

Pre order the next issue
www.classicmagazines.co.uk

Scan

Or call 01507 529 529

Just Ask

ISSN 0269-8307

RCM&E, ISSN 0269-8307 (USPS 25434) is published monthly by Kelsey Media Group Ltd, The Granary, Downs Court, Yalding Hill, Yalding, Maidstone. Kent. ME18 6AL

KELSEYmedia

recycle
When you have finished with this magazine please recycle it.

RCM&E Web Directory & Classified

RCM&E Web Directory & Classified

PARTING SHOT

LOW WINTER SUN

I took this photo in early November at The Great Orme. It shows Tim Mackey launching Peter Garsden's 3.4 metre span Slingsby Petrel vintage glider, a model designed by Chris Williams and a past feature plan in RCM&E. The model is being flown in good conditions off the SW slope in low winter sunshine, hence the backlit view from the launch point and some lovely atmospheric conditions. This is not a B&W photo; the colours are just lost in the brilliant light.

Phil Cooke

DATAFILE

Camera:	Canon EOS 7D
Lens:	Canon 100 - 400L EF
Aperture:	f/13
Shutter Speed:	1/1250 sec
ISO:	200

Pilot AEROBATIC PERFECTION

SBACH 342 V2

Green/Black/White (10)
PIL844

Wingspan: 75in (1.9m)
£629.95

Red/Silver/Black (11)
PIL845

Wingspan: 75in (1.9m)
£629.95

NEW PRODUCT

Green/Black/White (10)
PIL842

Wingspan: 103in (2.6m)
£1399.95

Red/Silver/Black (11)
PIL843

Wingspan: 103in (2.6m)
£1399.95

EDGE 540 V3

Red/White/Black (01)
PIL851
PP FOAM

Wingspan: 39in (990mm)
£149.95

NEW PRODUCT

Yellow/Blue/White (02)
PIL852
PP FOAM

Wingspan: 39in (990mm)
£149.95

EDGE 540 V3

Red/White/Black (01)
PIL848

Wingspan: 85in (2.15m)
£799.95

NEW PRODUCT

Yellow/Blue/White (02)
PIL849

Wingspan: 85in (2.15m)
£799.95

EXTRA NG

Blue/Yellow/White (08)
PIL883

Wingspan: 103in (2.6m)
£1299.95

Green/Blue/White (09)
PIL884

Wingspan: 103in (2.6m)
£1299.95

Blue/Yellow/White (08)
PIL871

Wingspan: 78in (1.9m)
£629.95

Green/Blue/White (09)
PIL872

Wingspan: 78in (1.9m)
£629.95

EXTRA NG

Pink/White/Black (10)
PIL873

Wingspan: 78in (1.9m)
£629.95

Blue/Yellow/White (08)
PIL896

Wingspan: 67in (1.7m)
£499.95

Green/Blue/White (09)
PIL897

Wingspan: 67in (1.7m)
£499.95

Pink/White/Black (10)
PIL898

Wingspan: 67in (1.7m)
£499.95

Green/Blue/White (09)
PIL901

Wingspan: 90in (2.3m)
£899.95

EXTRA 330SX

Blue/Orange/White (02)
PIL837

Wingspan: 75in (1.9m)
£619.95

EXTRA 330SX

Blue/White/Black (03)
PIL838

Wingspan: 75in (1.9m)
£619.95

Red/Silver/Black (01)
PIL836

Wingspan: 75in (1.9m)
£619.95

Red/Silver/Black (01)
PIL829

Wingspan: 103in (2.6m)
£1399.95

SKYWOLF V2

Green/Blue (04)
PIL795

Wingspan: 67in (1.7m)
£479.95

Orange/White (05)
PIL720

Wingspan: 88in (2.2m)
£699.95

Green/Blue (04)
PIL719

Wingspan: 88in (2.2m)
£699.95

MATRIX

Pink/Black (07)
PIL874

2.2m Composite Jet with Retracts
£3049.95

Green/Black (08)
PIL875

2.2m Composite Jet with Retracts
£3049.95

VIPERJET V2

Blue/Lime Green (13)
PIL846

2.2m Composite Jet with Retracts
£2799.95

PREDATOR V2

Pink/Silver (31)
PIL863

2.2m Composite Jet with Retracts
£2599.95

F-16 FALCON

Scheme 01

PIL805
2.5m Composite Jet with Retracts
£4399.95

DOLPHIN V2

Red/White (04)
PIL247

1.85m Trainer Jet with Retracts
£1199.95

Visit **www.macgregor.co.uk** to see the full range Pilot-RC Kits & Accessories. All Pilot-RC products are available to purchase from all good MacGregor Stockists.

Please Note: Price and availability are subject to change. Price and availability of all products shown were correct at time of design.

MACGREGOR INDUSTRIES LTD OFFICIAL SOLE UK DISTRIBUTOR OF PILOT-RC

BUSINESS CLASS ACT

XFly Model proudly presents the J-65 business jet – the latest addition to its acclaimed twin 40mm EDF series.

Designed with a 'compact yet refined' philosophy, it captures the authentic details of a real business jet, blending true-to-scale aesthetics with responsive and dynamic performance.

The airframe features a full painted finish enchanced by carefully applied decals, and is equipped with dual-wheel landing gears and twin power system setup, delivering the impressive stance and authority of a full-sized aircraft.

FEATURES:

- Twin 40mm EDF power system with dual 20A ESCs featuring reverse thrust for strong and responsive performance
- Landing gears with dual wheels for improved ground handling and stable taxiing
- Battery compartment accommodates 4S 1800-2600mAh LiPo batteries, offering 5-10 minutes of flight time
- Glue-free design allowing quick assembly
- Full painted finish with detailed decals for a realistic and refined appearance
- Optional plain white version for customization and personalization

IN ACTION!
SEE IT

SPECIFICATIONS:

- Length: 1087mm/42.8in
- 4CH- aileron, elevator, throttle, rudder/steering
- Wingspan: 1030mm/40.6in
- ESC: 20A x2 with reverse thrust
- Flying Weight: 900g
- Motor: 1413-KV5000 x2
- Servos: 9g servos x3, 4.3g servo x2
- Channels: 4CH- aileron, elevator, throttle, rudder/steering
- EDF size: 40MM EDF 12-Blade x2
- Skill Level: Intermediate
- Recommended Battery: 4S 1800-2600mAh
- Approximate Flying Duration: 5-10 mins
- Fixed main landing gear, steerable nose gear

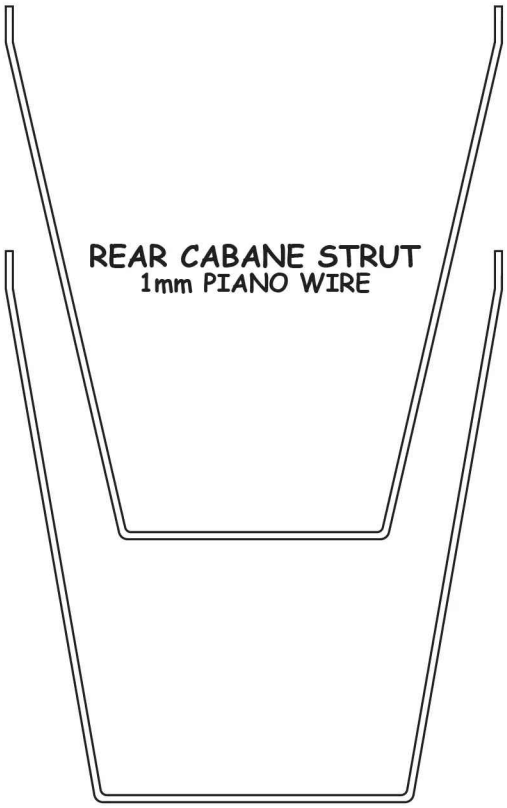
E&OE.

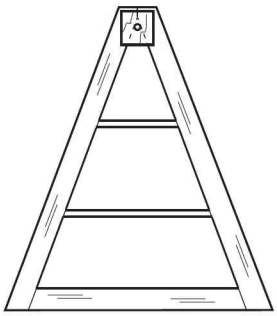
XFLY-MODEL

Part No: XF127P-B (Blue), XF127P-R (Red), XF127P-W (White) RRP: £179.99

CML PRODUCTS ARE AVAILABLE IN ALL GOOD MODEL & HOBBY SHOPS. CHECK OUR WEBSITE FOR FULL DETAILS

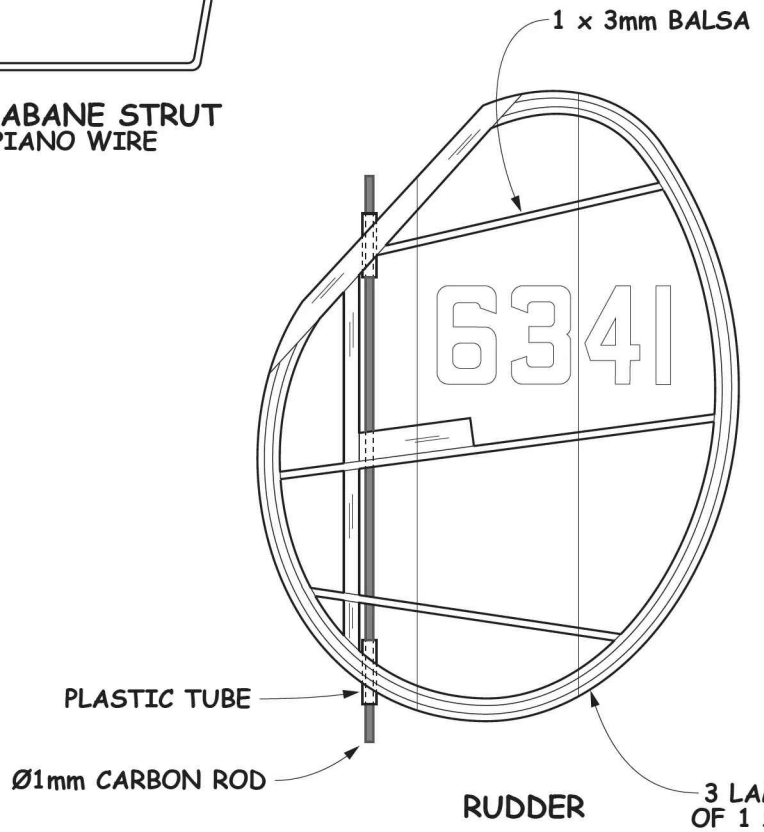
CML WWW.CMLDISTRIBUTION.CO.UK





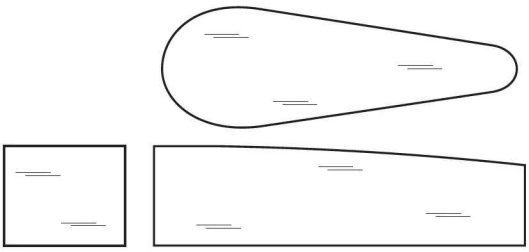
FIN

FRONT CABANE STRUT
1mm PIANO WIRE

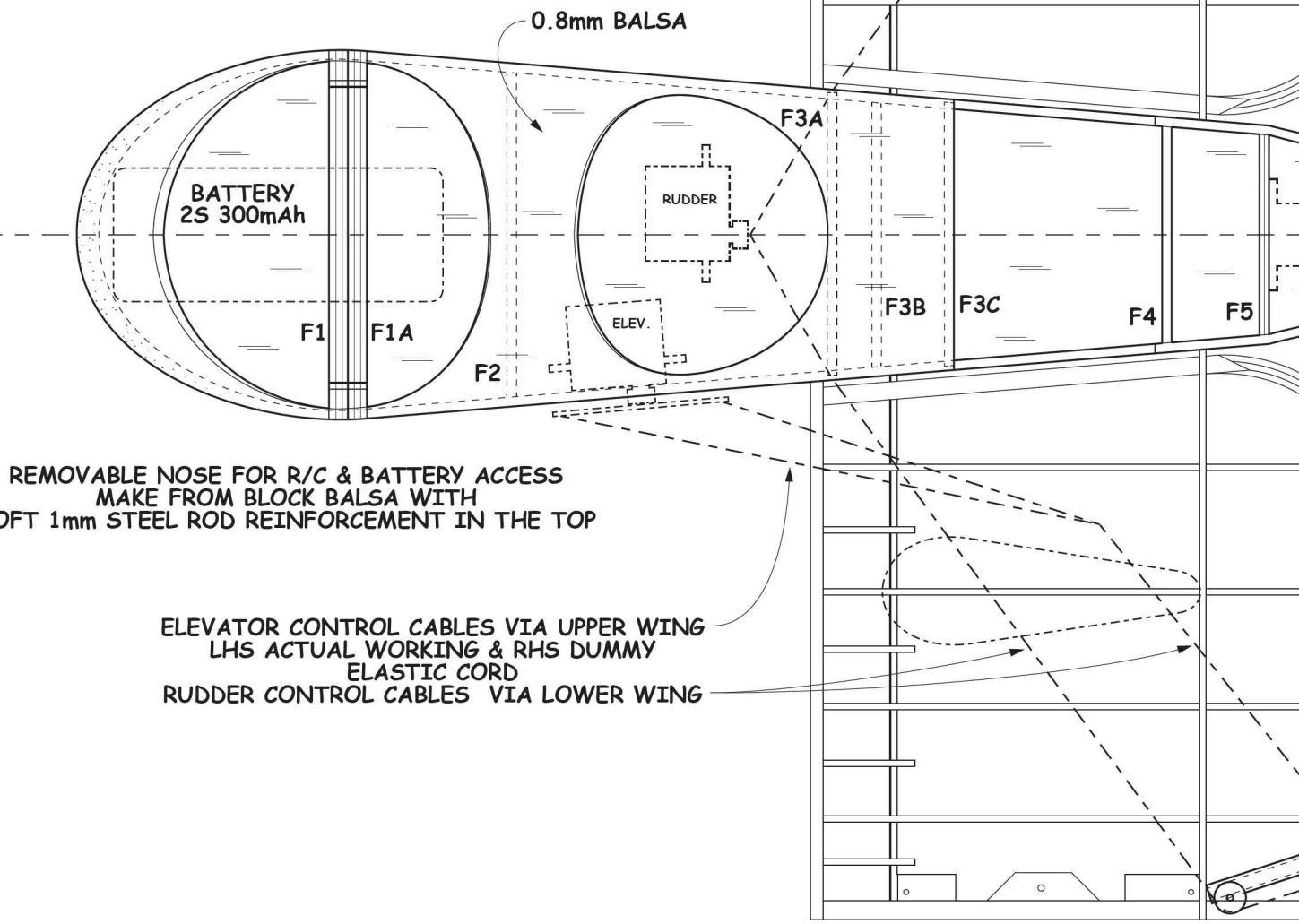


RUDDER

LANDING GEAR
REAR PART
1mm PIANO WIRE

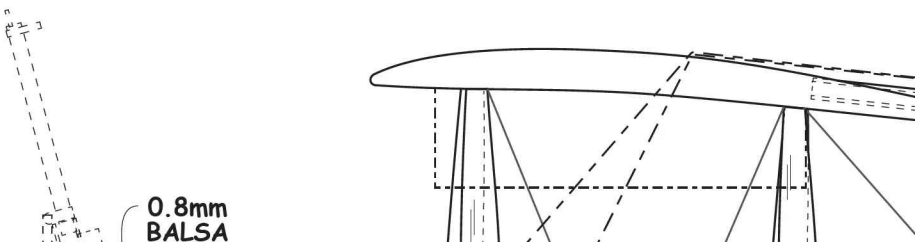


DUMMY FUEL TANK
1mm BALSA



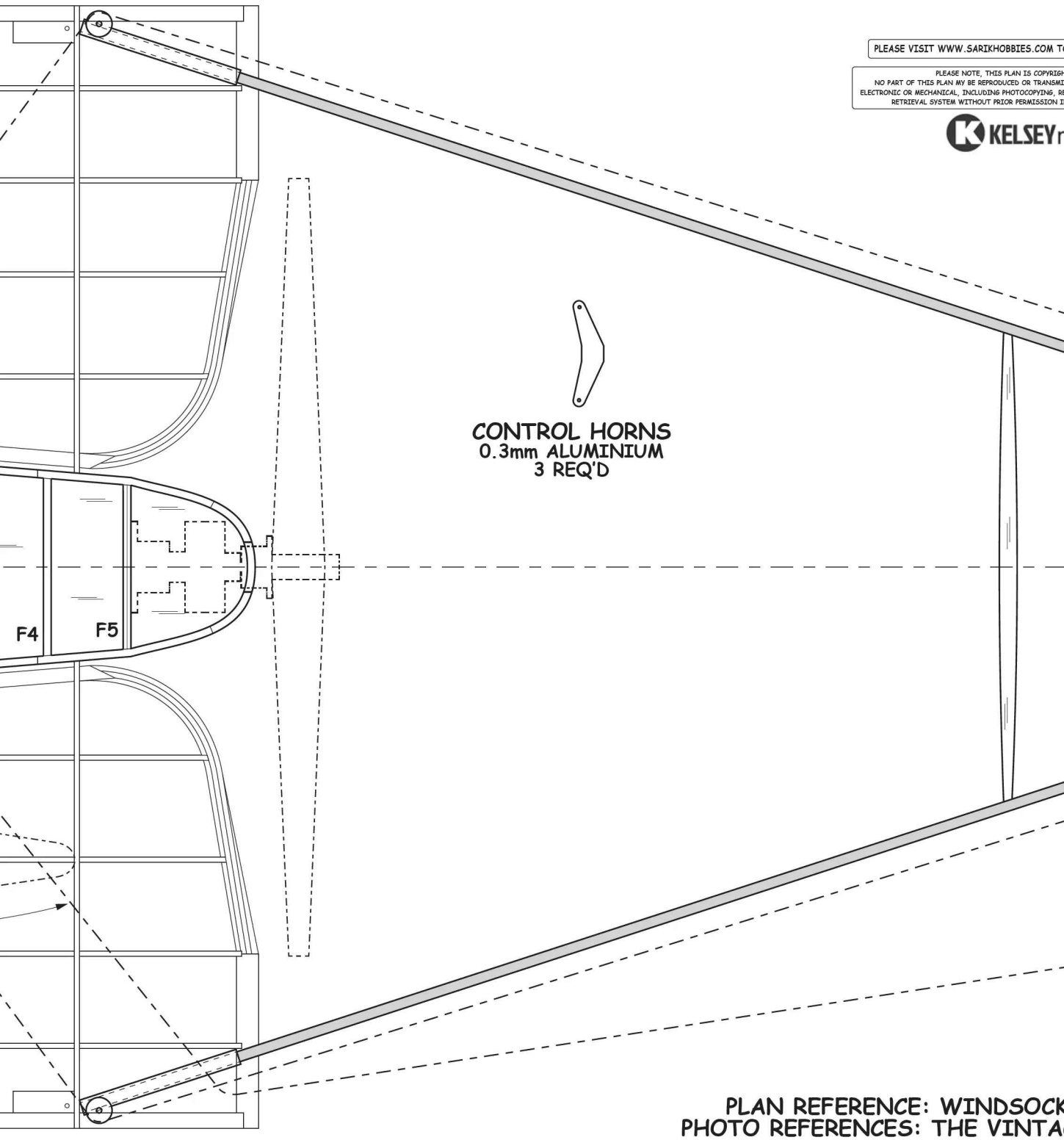
REMOVABLE NOSE FOR R/C & BATTERY ACCESS
MAKE FROM BLOCK BALSA WITH
OFT 1mm STEEL ROD REINFORCEMENT IN THE TOP

ELEVATOR CONTROL CABLES VIA UPPER WING
LHS ACTUAL WORKING & RHS DUMMY
ELASTIC CORD
RUDDER CONTROL CABLES VIA LOWER WING



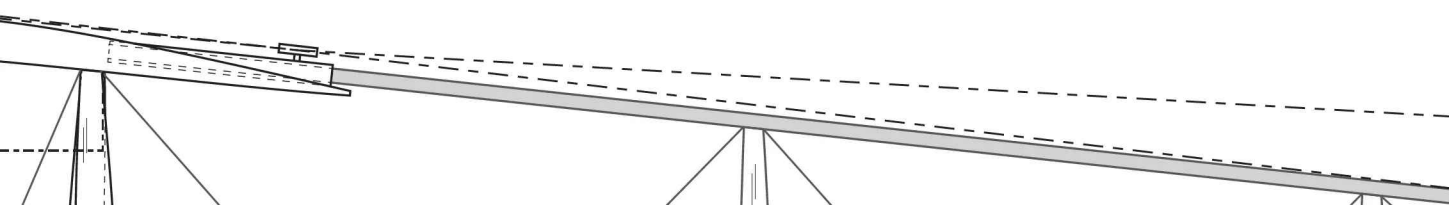
16 12 8

KELSEY



CONTROL HORNS
0.3mm ALUMINIUM
3 REQ'D

PLAN REFERENCE: WINDSOCK
PHOTO REFERENCES: THE VINTA



SCALE
INCHES

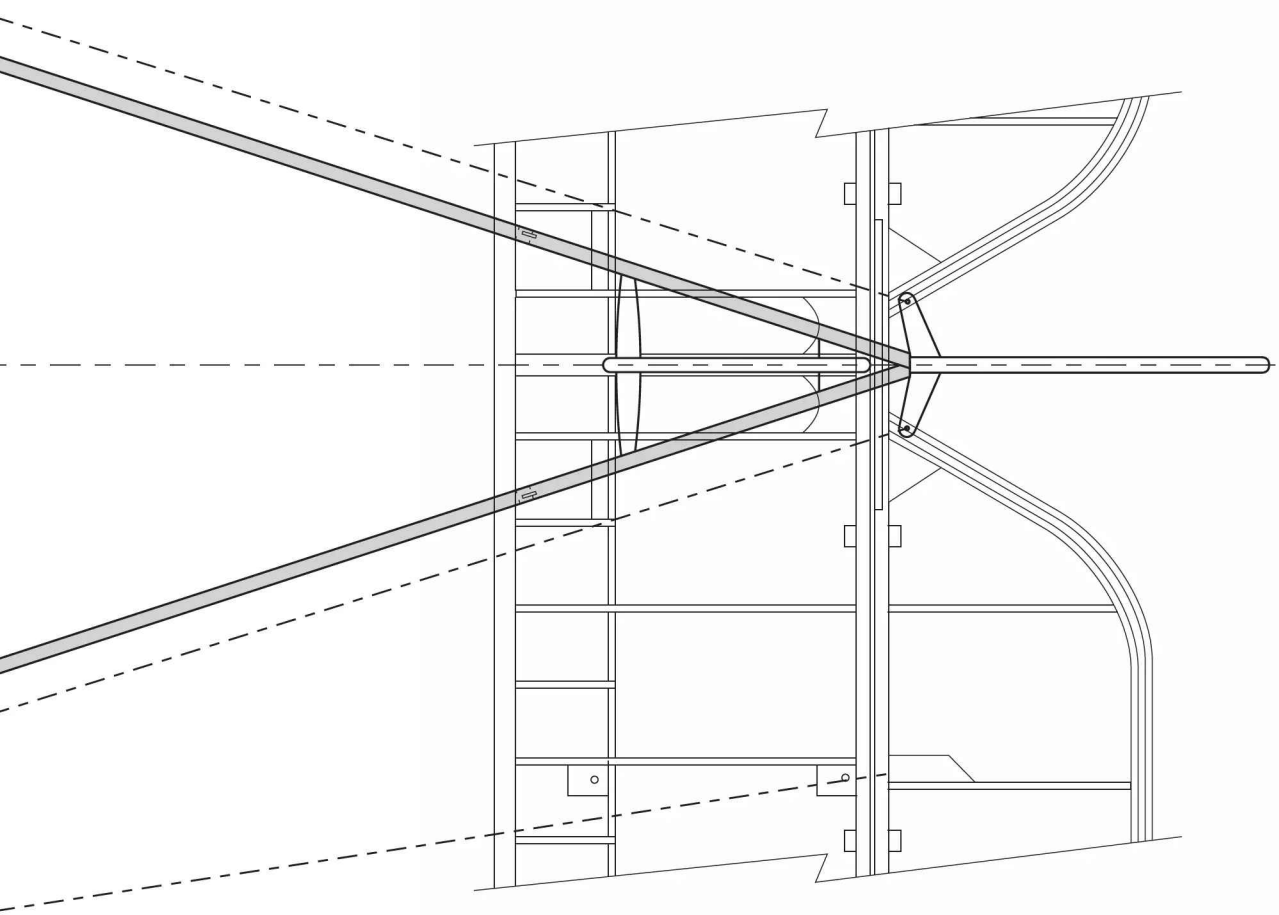
RCM&E

RAF FE2b

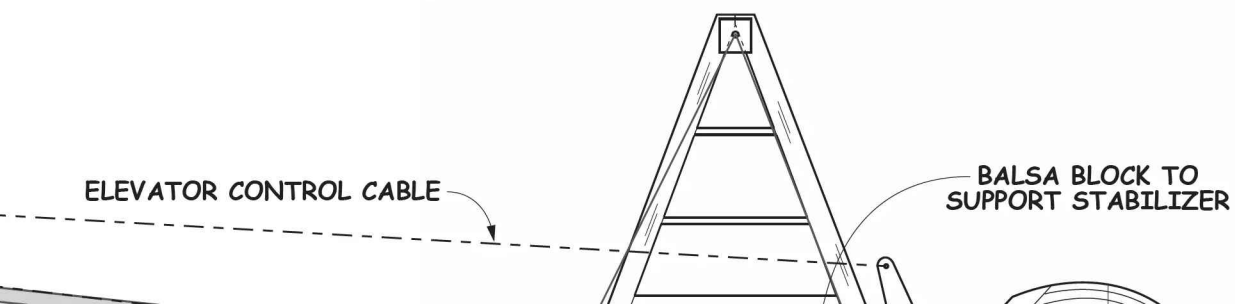
DESIGNED BY MATS JOHANSSEN

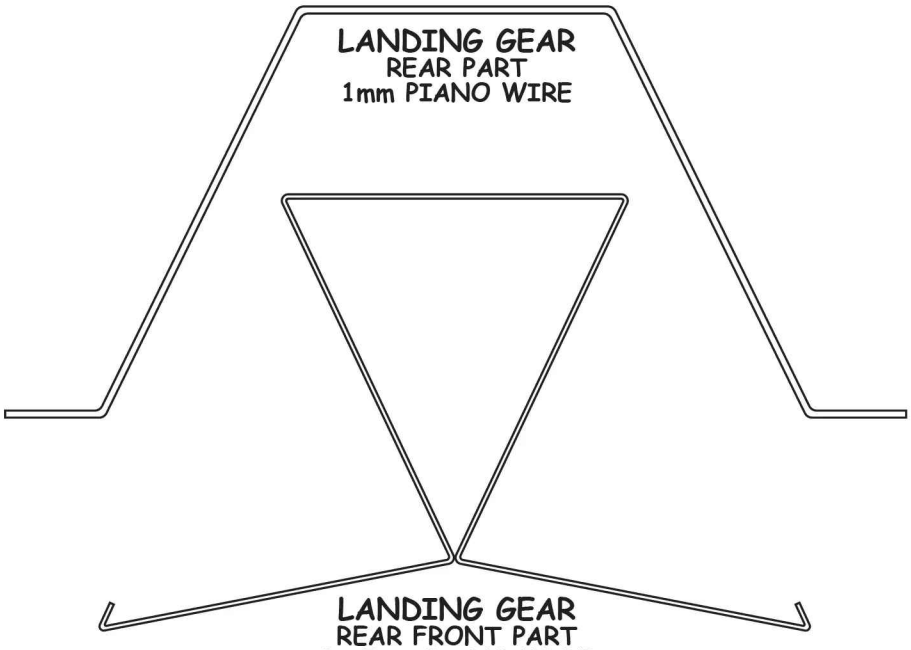
PLAN No: RC2281	No. OF SHEETS: 1 OF 2	First published in RCM&E March 2026

RC-SCALE INDOOR OPEN CLASS MODEL



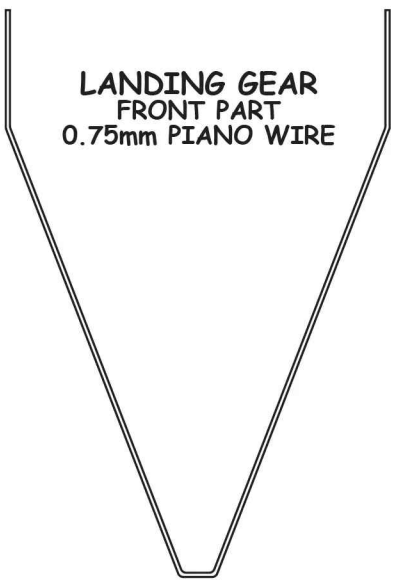
X DATAFILE No.25 - RAF Fe2b
GE AVIATOR & WINGNUT WINGS



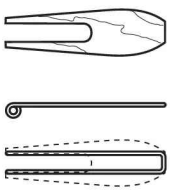


LANDING GEAR
REAR PART
1mm PIANO WIRE

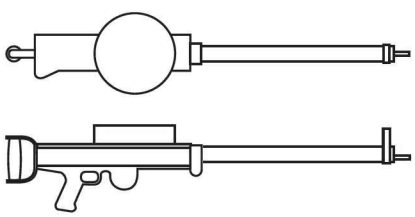
LANDING GEAR
REAR FRONT PART
0.75mm PIANO WIRE



LANDING GEAR
FRONT PART
0.75mm PIANO WIRE

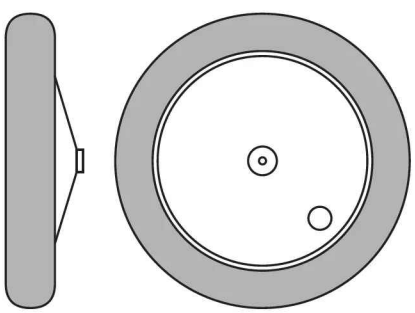


NOSE WHEEL FORK
0.5mm PIANO WIRE
SOLDERED TO FRONT PART



LEWIS GUNS
PLASTIC CARD & ALUMINIUM TUBE
2 REQ'D

PALMER CORD AERO TYRE



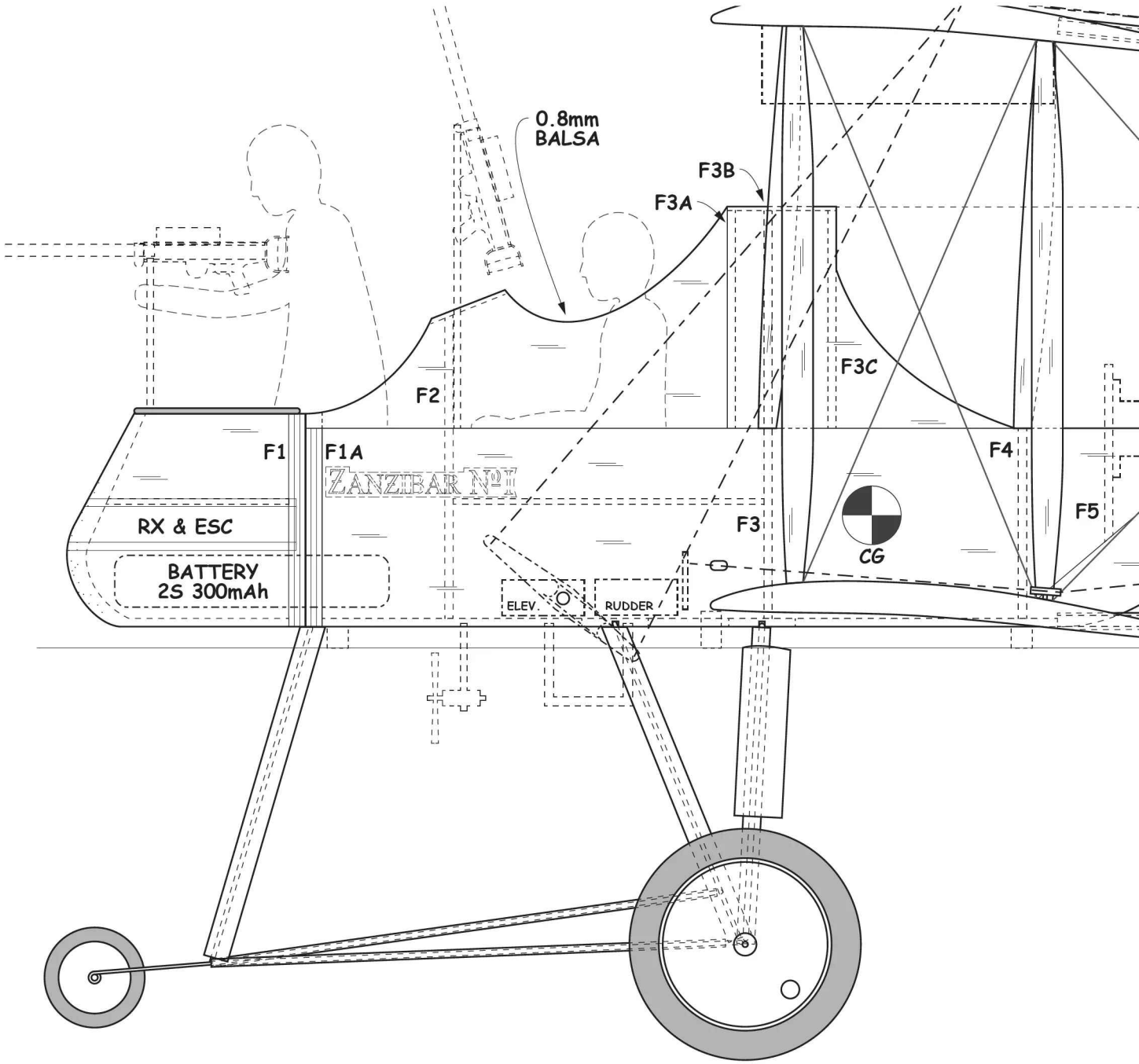
WHEEL
BALSA LAMINATI
1mm I.D. PLASTIC

SCALE
MM

200

100

100



THE SCOTCH EXPRESS

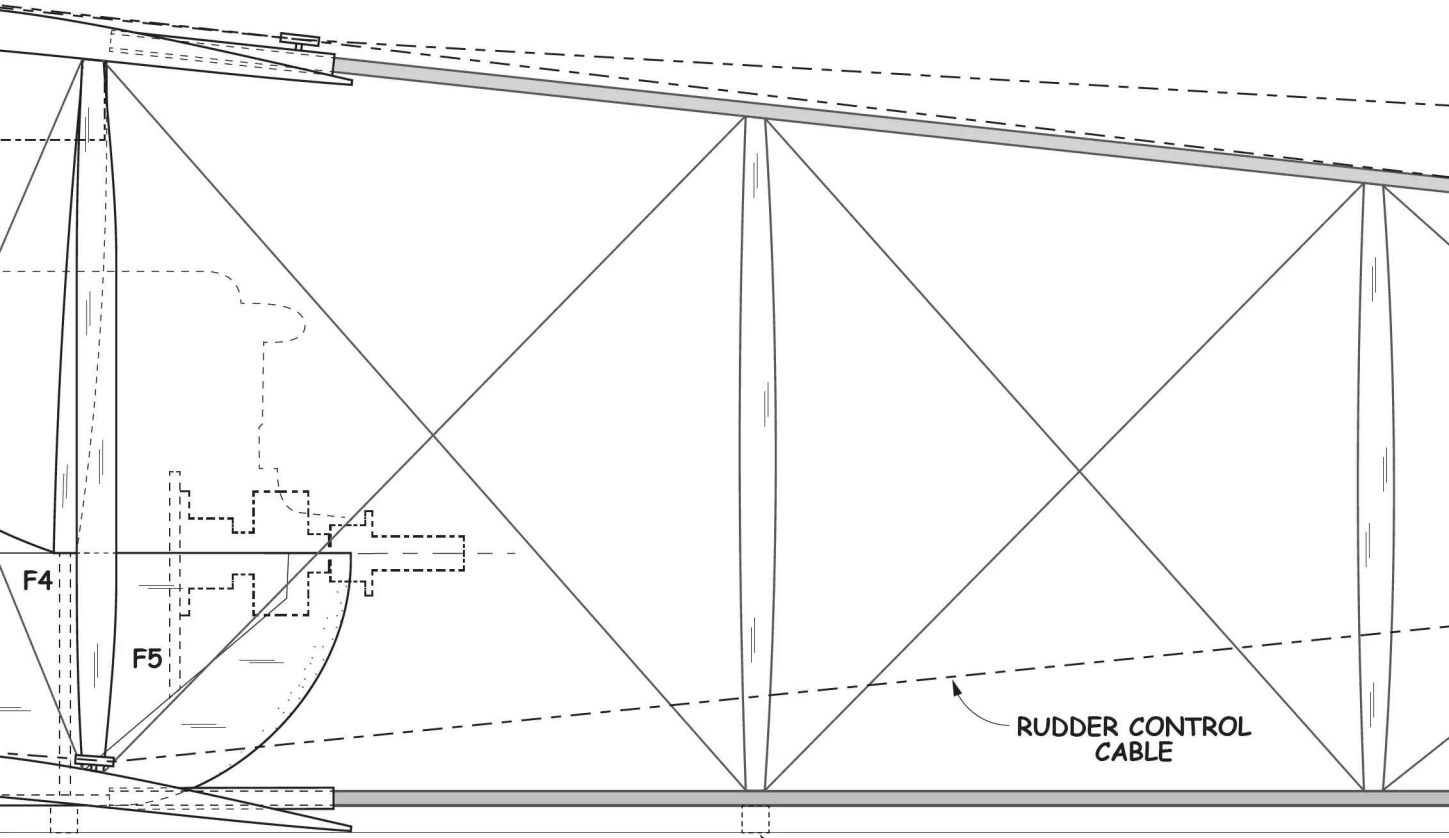
10

ZANZIBAR Nº1

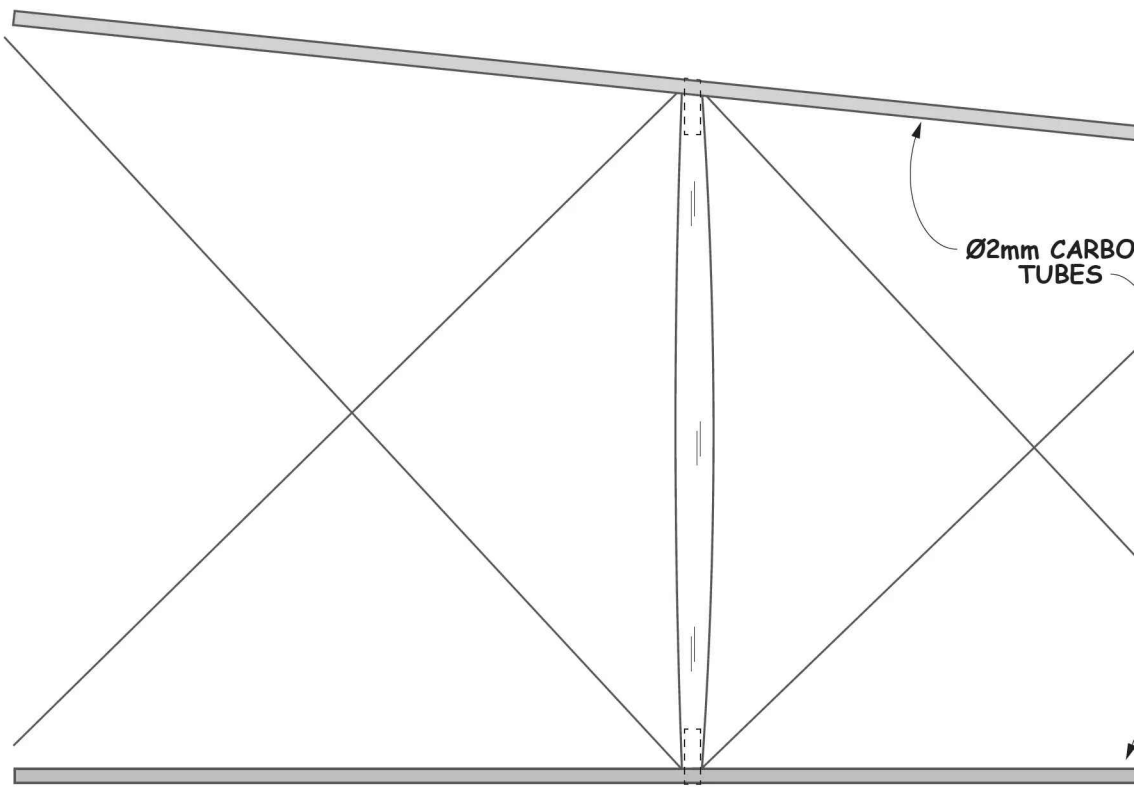
6341

LS
IONS WITH
TUBE CENTRE

200 300 400



BLOCK UNDER FRONT & REAR FUSELAGE
& ASSEMBLE TOGETHER WITH LOWER WING CENTRE S



OTCH EXPRESS

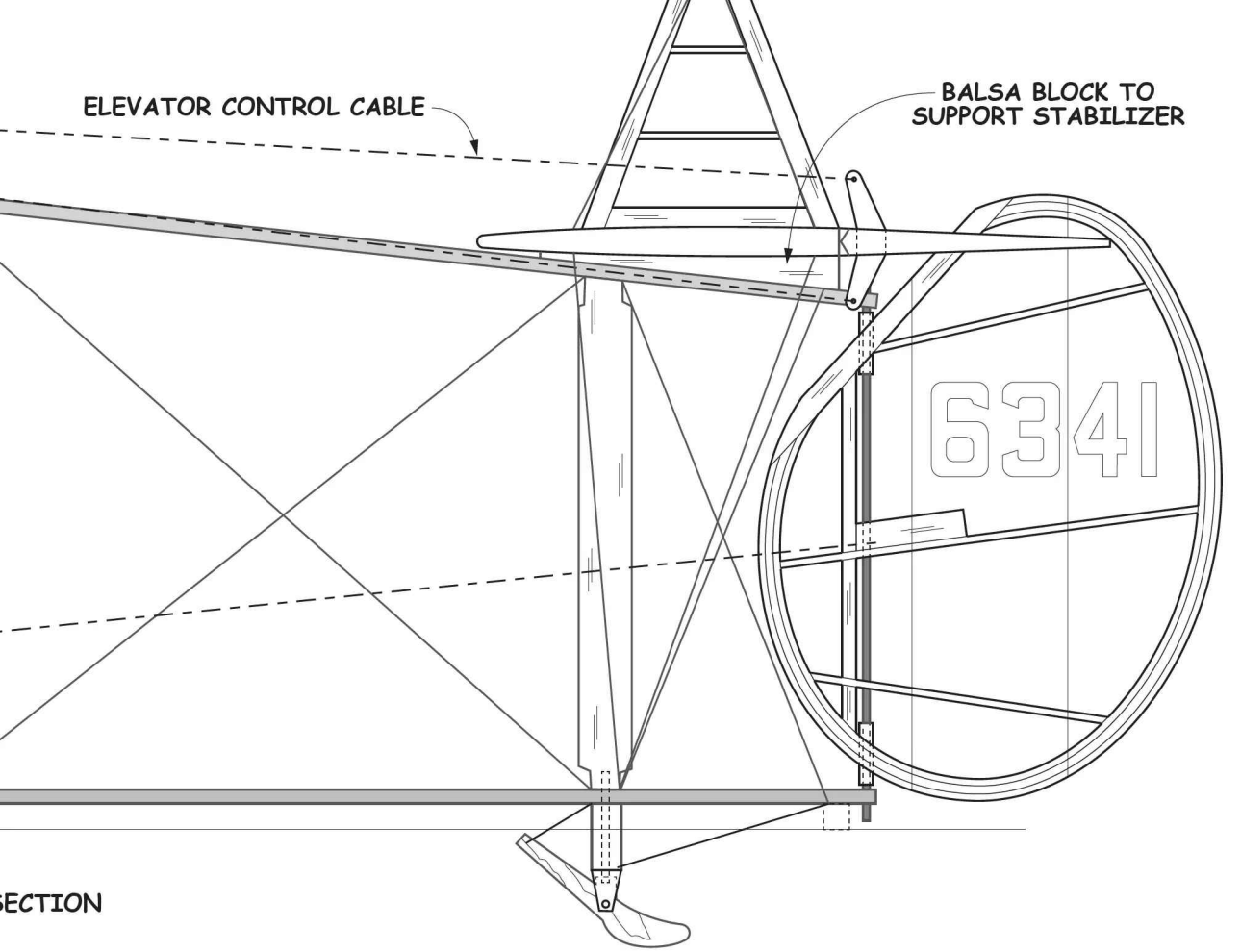
BAR Nº1

41

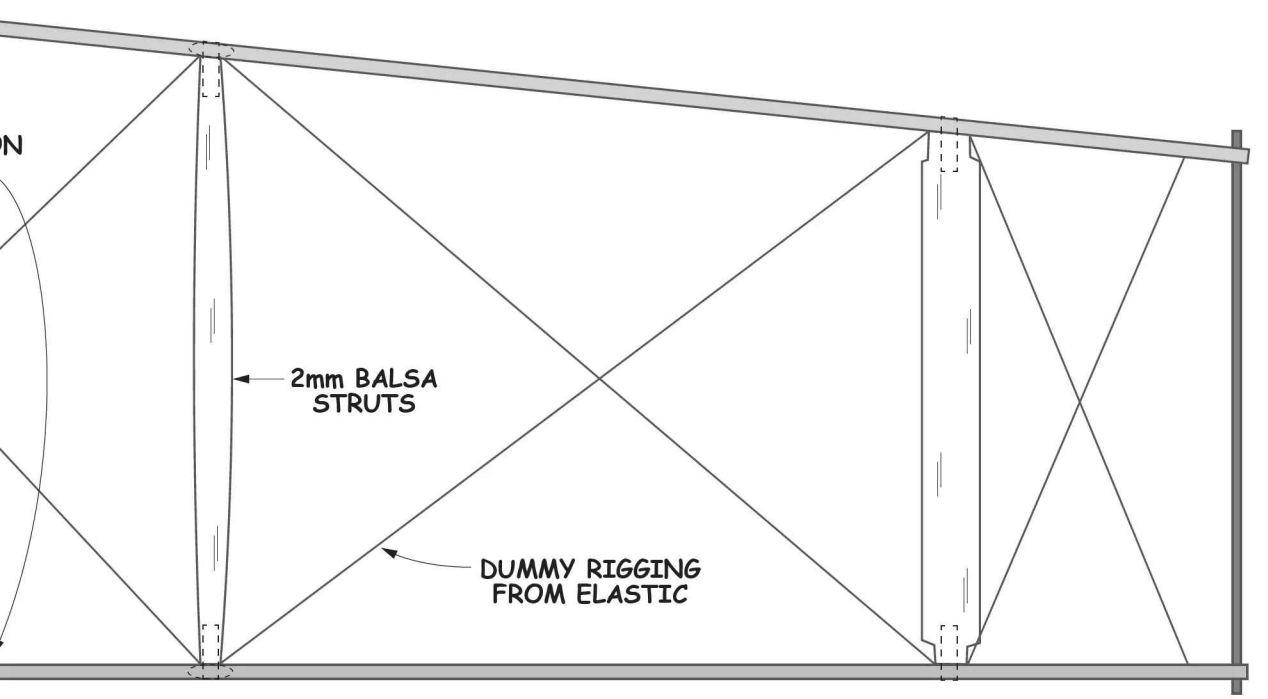
REAR

400

500

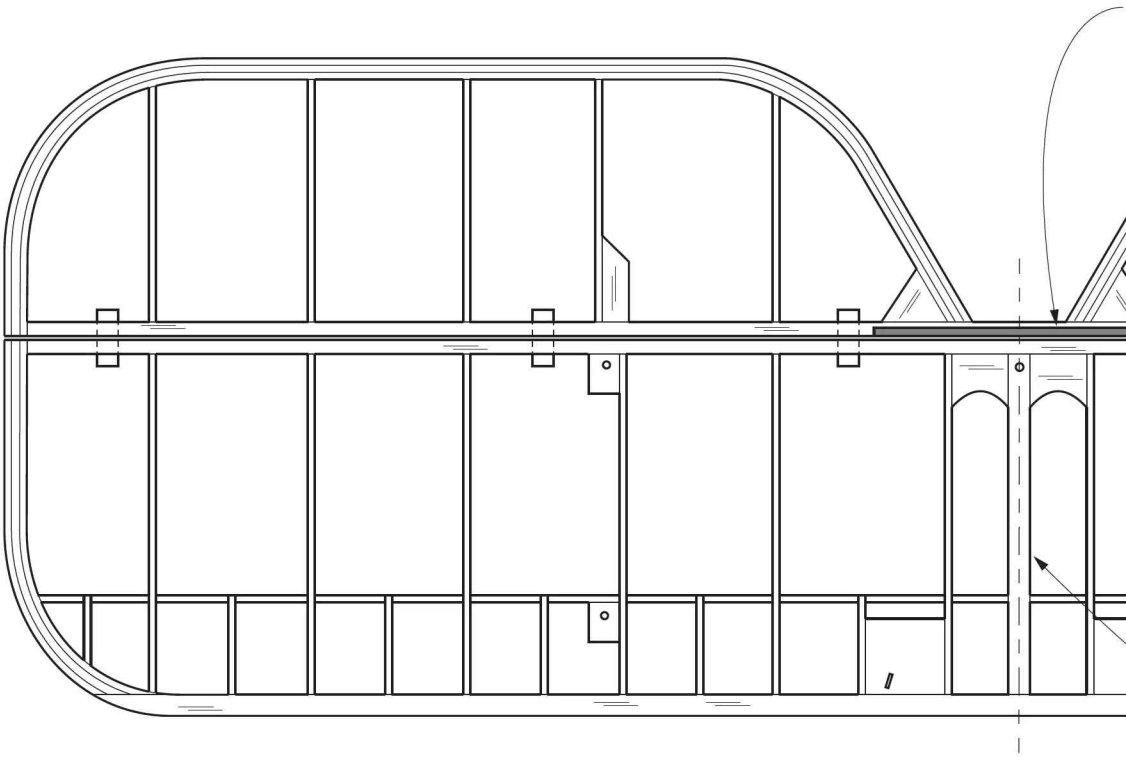


SECTION

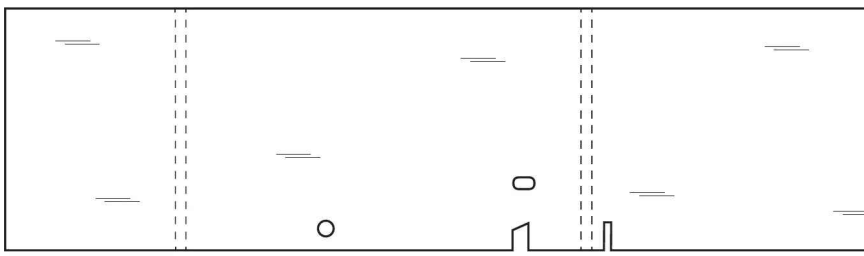


FUSELAGE TAILBOOMS
2 REQ'D

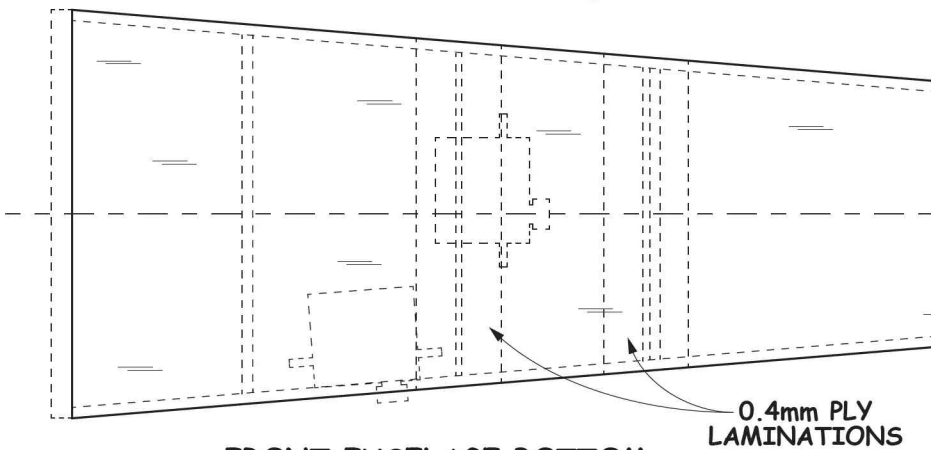
12
16
20
600
700



STABILIZER & ELEV



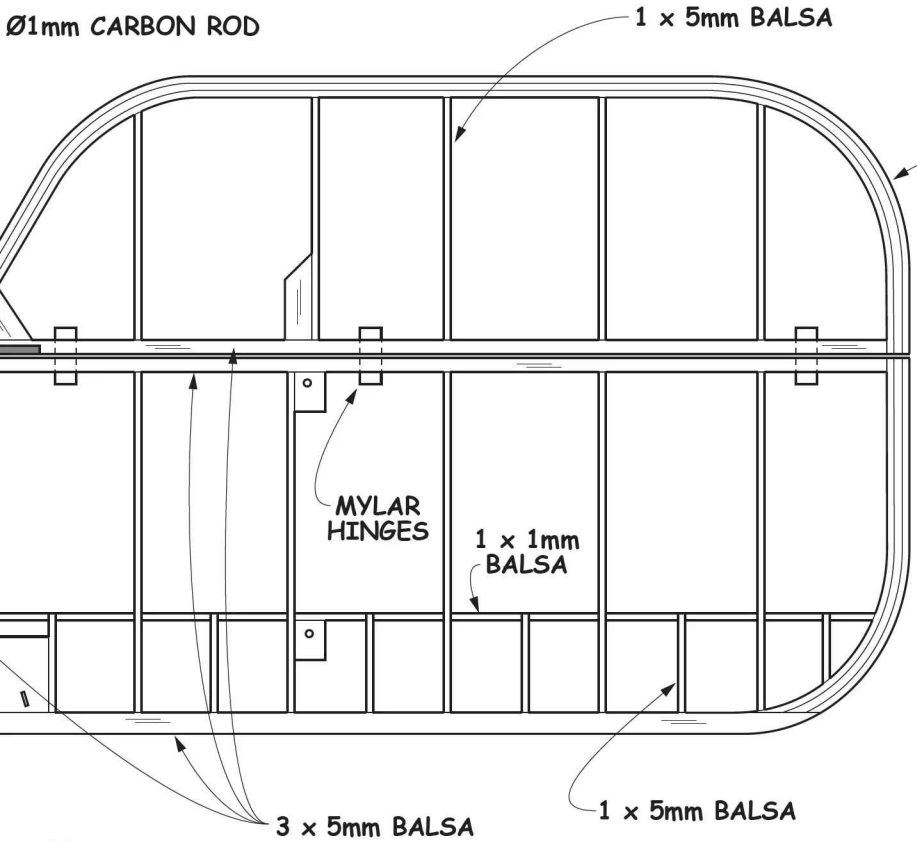
FRONT FUSELAGE SIDES
1.5mm BALSA
2 REQ'D

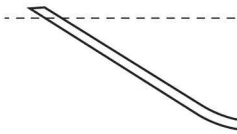


FRONT FUSELAGE BOTTOM
1.5mm BALSA

UPPER CENTRE SECTION

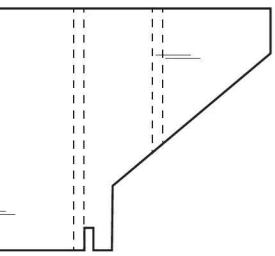
Ø1mm CARBON ROD



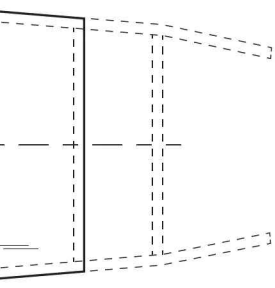


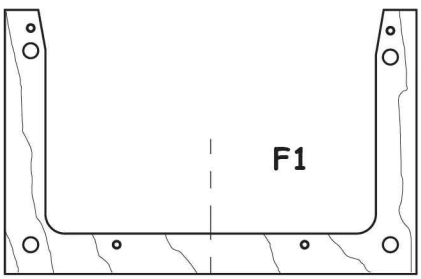
LOWER WIN
1.5mm ALUMIN
2 REQ

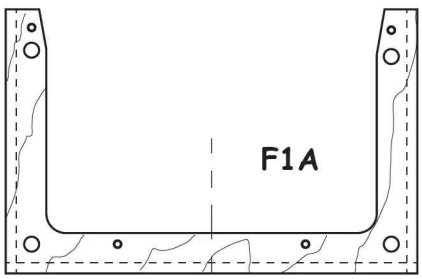
ATORS



DUMMY AILERON HORNS
PLASTIC CARD
4 REQ'D



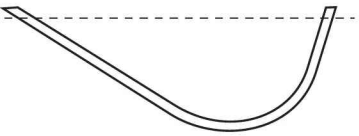




FORMERS F1 & F1A IDENTICAL
3mm PLY

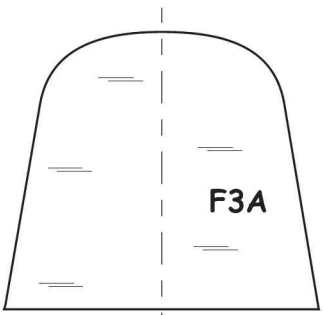
RIBS

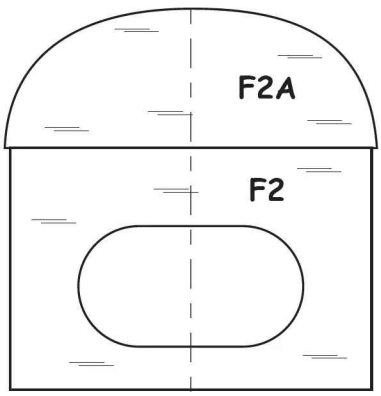
RIBS: 81 OFF 0.8mm BALSA
ROOT RIBS: 10 OFF 3mm HARD BALSA
RIBLETS: 72 OFF 0.8mm BALSA

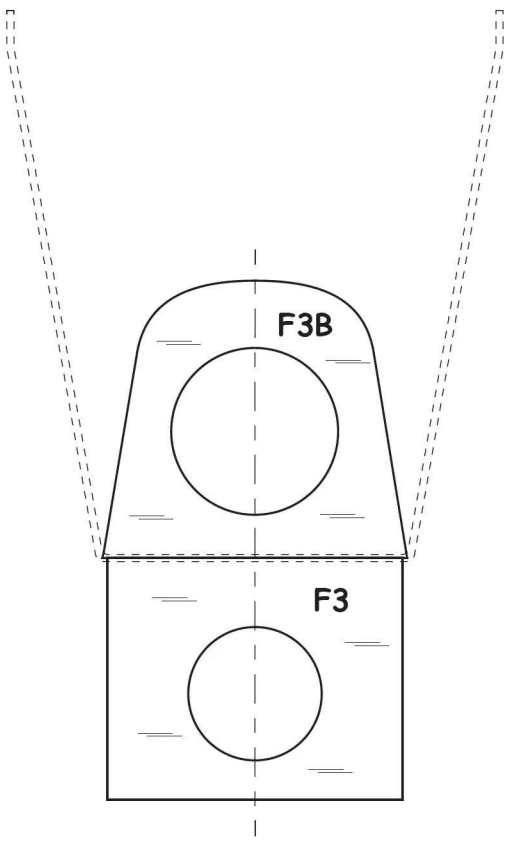


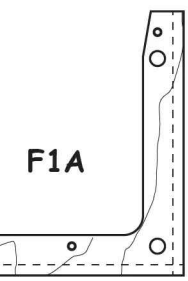
LOWER WING SKIDS
1.5mm ALUMINIUM TUBE
2 REQ'D

ERON HORNS
IC CARD
EQ'D









FORMERS F2 -
1.5mm BALSA

RIGHT HAND OUTER PANEL
UPPER & LOWER WING PANELS IDENTICAL

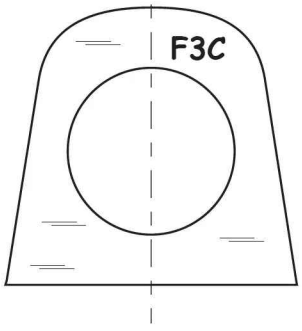
RCM&E

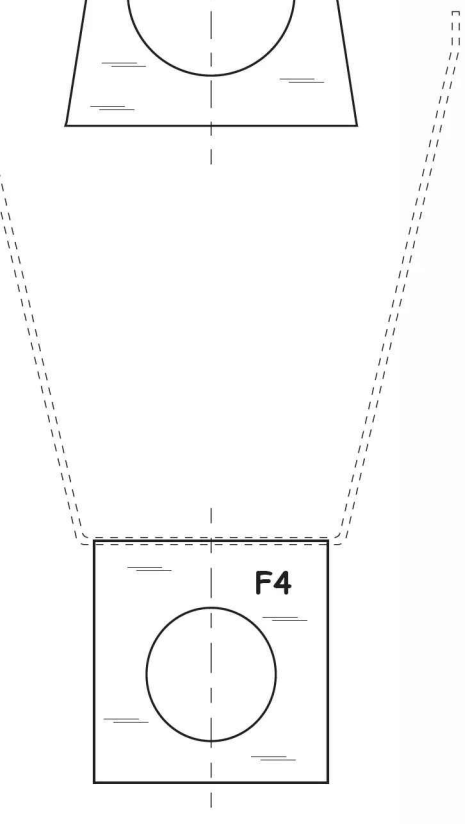
RAF FE2b

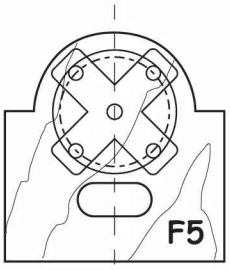
DESIGNED BY MATS JOHANSSEN

PLAN No: RC2281	No. OF SHEETS: 2 OF 2	First published in RCM&E March 2026

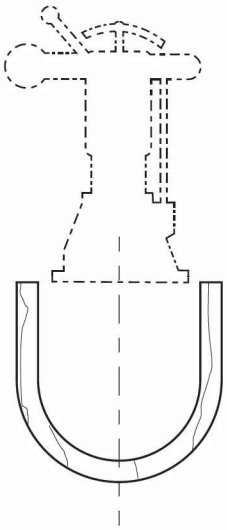
RC-SCALE INDOOR OPEN CLASS MODEL



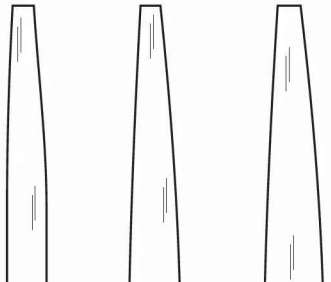




F5
1.5mm PLY



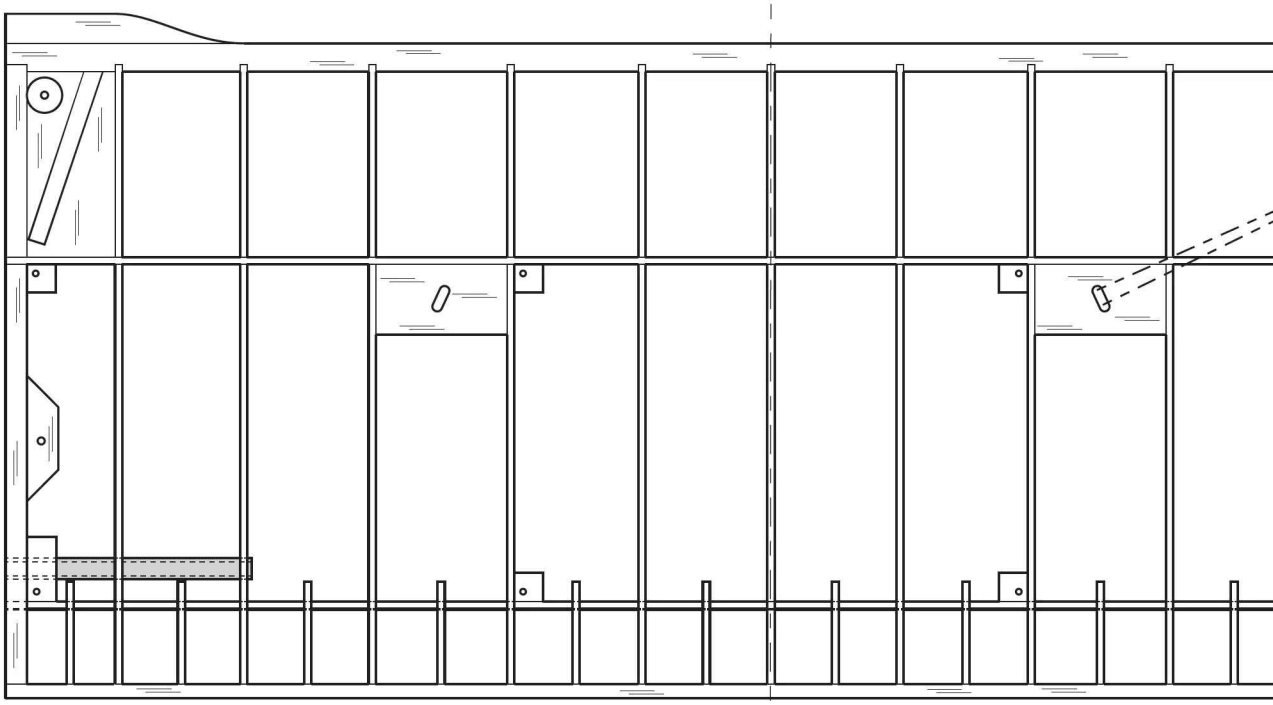
F4



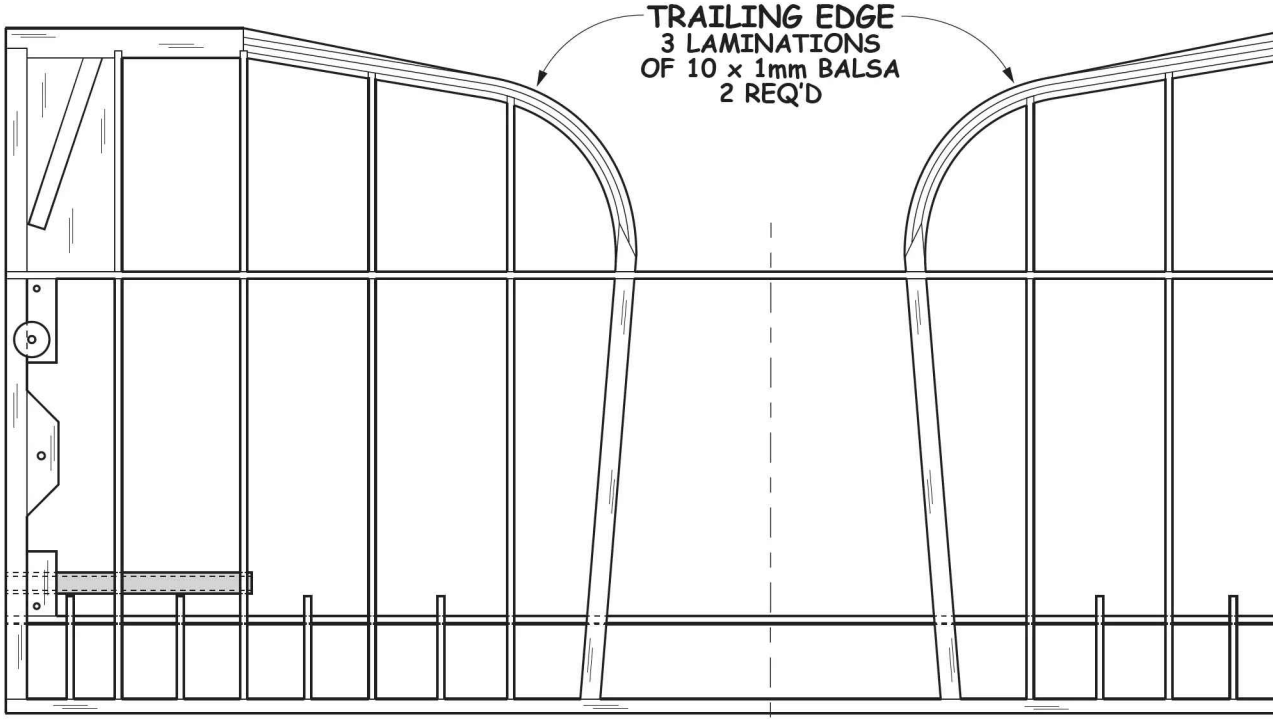
0.4mm PLY
LAMINATIONS

FRONT FUSELAGE BOTTOM
1.5mm BALSA

UPPER CENTRE SECTION



TRAILING EDGE
3 LAMINATIONS
OF 10 x 1mm BALSA
2 REQ'D



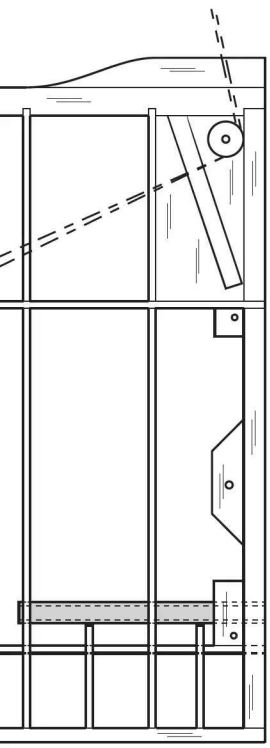
LOWER CENTRE SECTION

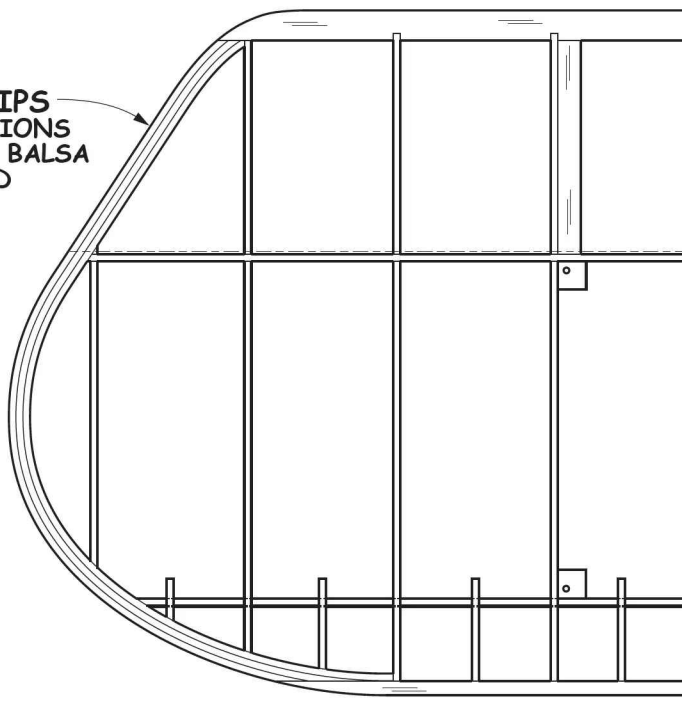
SCALE
MM

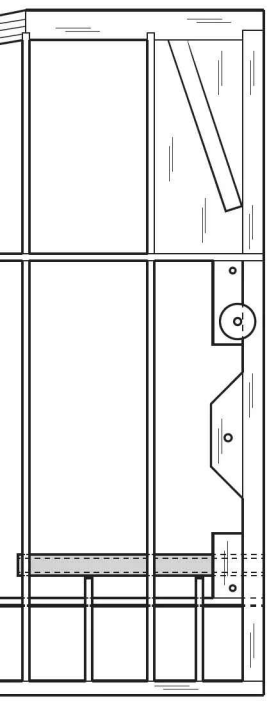
200

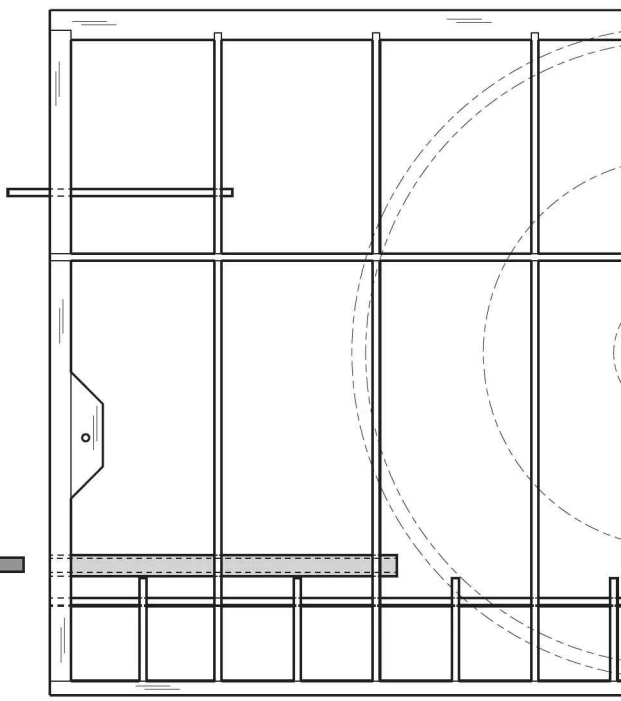
100

100





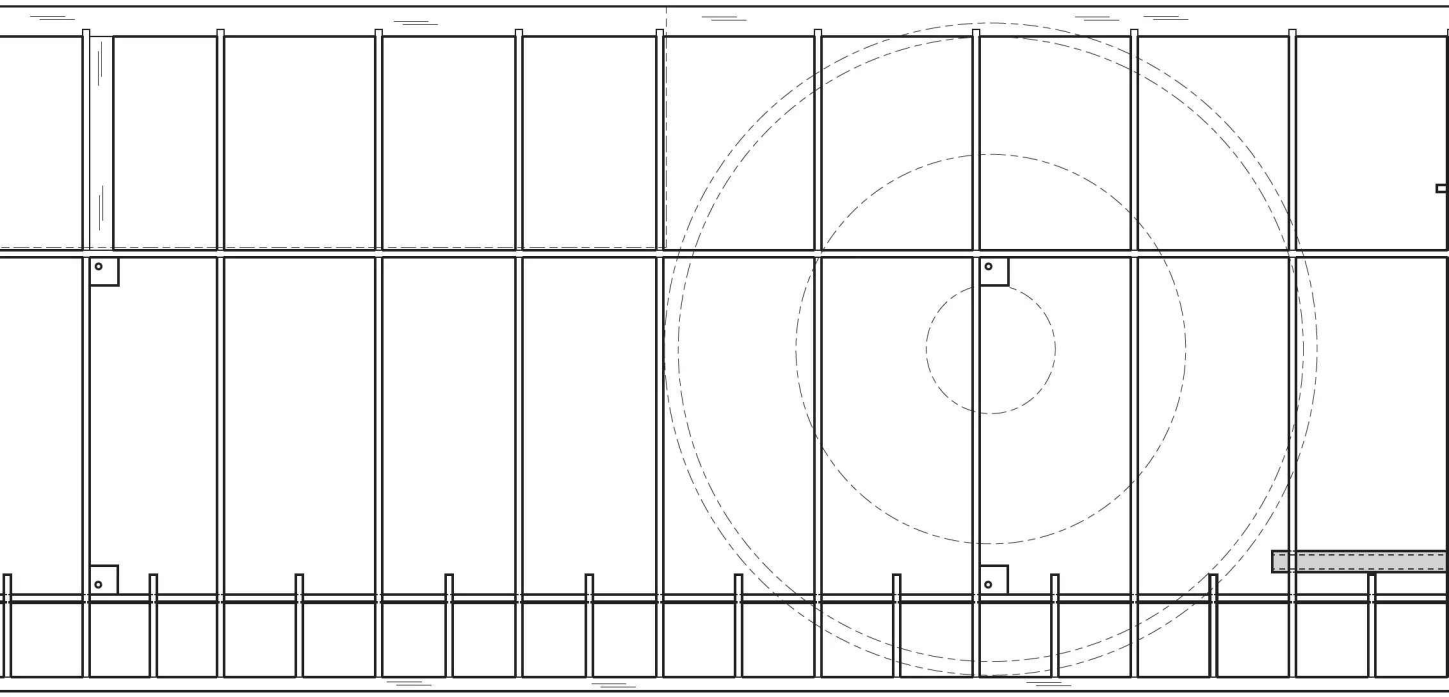




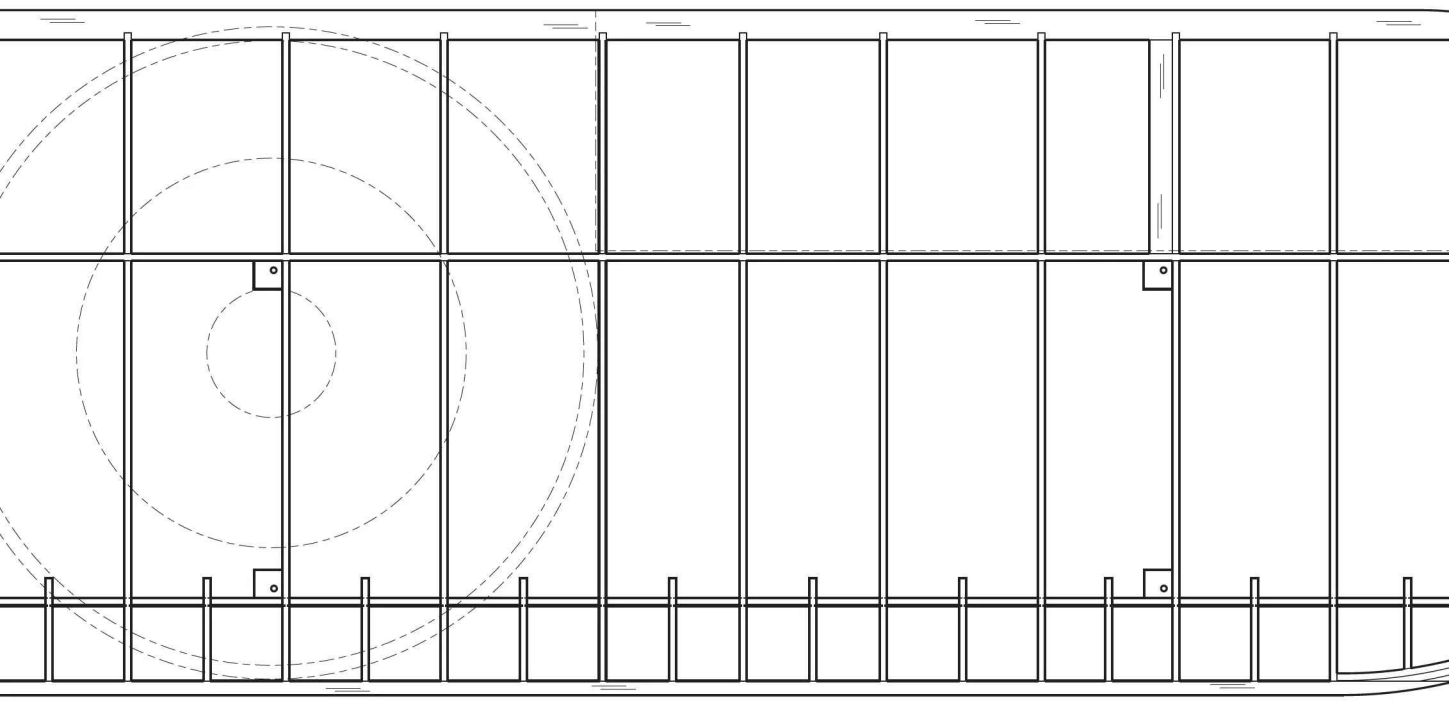
L.E: 2 x 3mm HARD BALSA
T.E: 1.5 x 4mm HARD BALSA
FRONT SPAR: 1 X 3mm HARD BALSA LAMINATED WITH 0.3 x 3mm CARBON
REAR LOWER SPAR: 1.5 x 1mm HARD BALSA
REAR UPPER SPAR: 1 x 1mm HARD BALSA

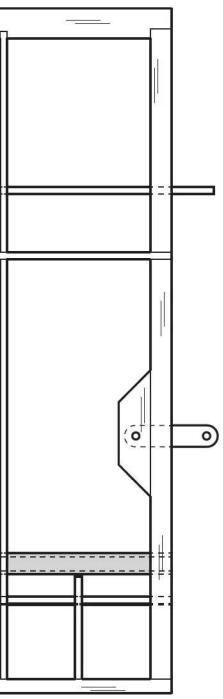
200 300 400

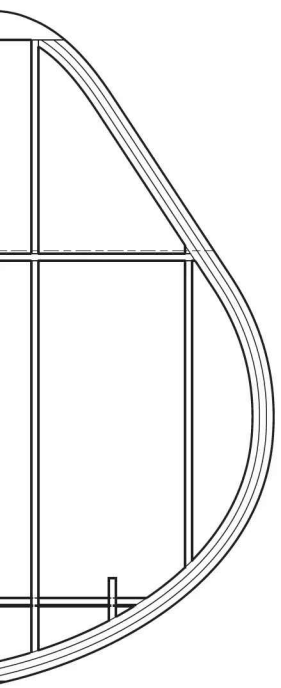
RIGHT HAND OUTER PANEL
UPPER & LOWER WING PANELS IDENTICAL

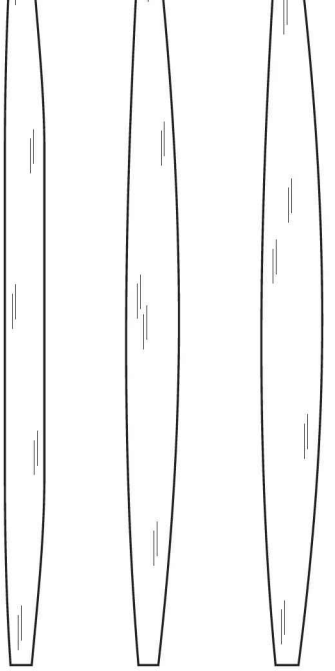


LEFT HAND OUTER PANEL



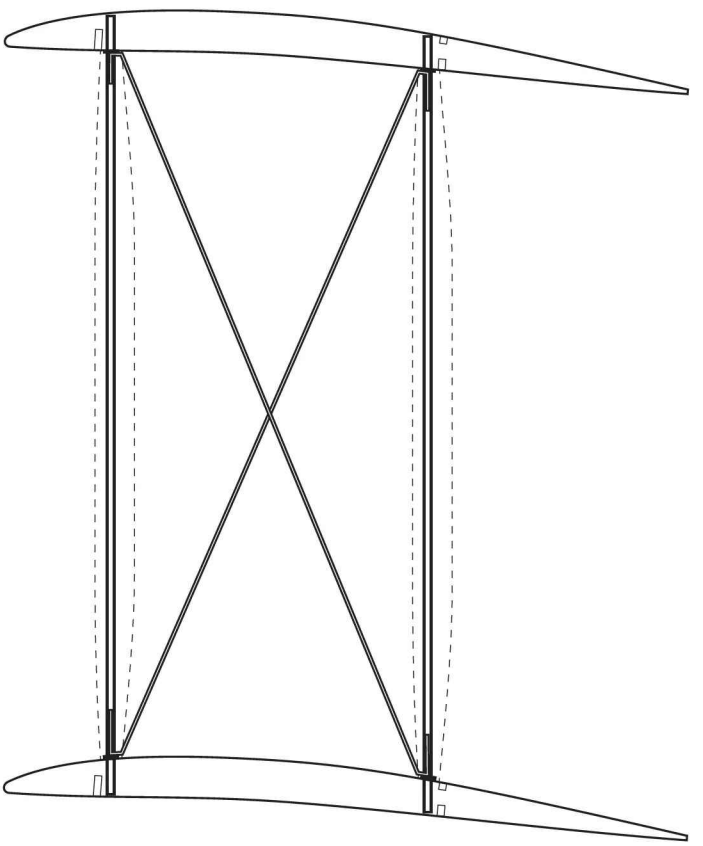






OUTER MIDDLE INNER

INTERPLANE STRUTS
1mm CARBON ROD COVERED
WITH 1.5mm BALSA
4 OFF EACH REQ'D



BUILD STRUTS IN JIG
WITH 0.3mm PIANO WIRE CROSS STRUTS

12

16

20

600

700