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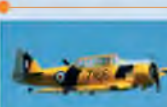
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Tony van Geffen builds a classic glider from the Cambrian Model Company. The 100" Elan was first introduced in the 1980s and this modern kit provides a quick, easy build and has great performance in the air. Elan is a two-channel thermal and slope soarer with a sturdy plywood and balsa fuselage and two-piece plug-in wings

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Living with a disability doesn't mean that you cannot enjoy flying R/C aircraft. Brian Collins, who was paralysed following a motorcycle accident, passes on some of his experiences, tips and advice on R/C flying from his wheelchair

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62 SCALE SOARING

Chris Williams was so enthused by the success of his electrified Slingsby Dart 17R that he started work on making another electric scale glider based on the Bergfalke IV from his recently published plan in RCMW (MW3750). Chris also reports from the Ghost Squadron Aerotow at Middle Wallop in early May

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More tales from a French model club, with ex-pat Dave Goodenough. This time Les Fous Volants prepare for their two-day scale model show, one of the largest in North-West France. Top notch pilots and their beautifully crafted creations were expected to gather at the runway of St Cyr-Coetquidan – but the weather had other ideas... However, some flying still went ahead

78 SOARERS' SLOT

Mike Proctor catches up on a vintage soaring project and witnesses the first flight of a 1960 designed Beatnik. He also visits the UK F5J International, held over the first weekend in July at Ashurst, West Sussex, before heading straight over to France to soar his gliders in the hot dry conditions at the annual Loire Valley F5J event

90 THE SPORT CHANNEL

Gray selects another batch of popular sport modelling topics

93 DIARY DATES

Our events page ramps up for autumn and the start of the indoor model flying season



FRONT COVER

Neil Hutchinson provides another of his stunning cover shots, this time from the LMA's inaugural East Anglian show at Tibenham, where his camera zoomed in on the Honey Bee built by Dave Horton. The full size Honey Bee was designed in the 1950s in the USA as a home build, from where you can still buy plans and accessories. Dave's model has a wingspan of 19 feet and is powered by a Westlake 350 cc petrol engine. It has some very interesting features, like a working dashboard complete with fuel gauge. There's even a working radio! Turn to page 66 to read Neil's full Tibenham report

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After a mild overdose on quadcopters, John Stennard returns to flying indoor model aeroplanes and helicopters. In his regular small models column he reviews the Blade AH-64 Apache and also discusses flying disc-shaped Bugs and Nutballs



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16

38 A SUPERB WACO YKC

Phillip Kent takes a close look at Paul Blakeborough's detailed model of a military Waco Cabin Series biplane. Built to 1:5.5 scale, Paul's YKC flew at the Pontefract 'Traplet Scale' competition in May. It is based on a full size example used by the Long Range Desert Group (LRGD), a covert force that carried out deep penetration and intelligence raids behind enemy lines, mainly in the Libyan Desert between 1940 and 1943

42 SIZE ONE

Looking around for something quick to build for a spare SC 30FS, Peter Miller scaled up his Size Zero design from RCMW March 2008 (MW3304) by 18%. The resulting 51" wingspan model provides the perfect dimensions for a .30 size, four-stroke engine, although Size One would also perform well on a .25 two-stroke glow. Peter changed construction from an open framework fuselage and built up tail surfaces to sheet sides and solid sheet tail tail surfaces, and also fitted a wing-mounted undercarriage

50 POLE DANCER

Pull out this month's free plan and construct this simple to build 40" wingspan Depron and balsa pylon racer, designed by Graham Dorschell for a 1500 KV outrunner and three function R/C

66 LMA AT TIBENHAM 2016

Neil Hutchinson visits the new home of the Large Model Association's East Anglian show, which was based at Rougham for many years, but because of a new road development and safety concerns a new site had to be found. The new site at Tibenham, which is approximately halfway between Thetford and Norwich, benefits from having a tarmac runway – ideal for flying big model aeroplanes!

83 QUICK QUADS

After a short break, to prevent multirotor overload with our readers, John Stennard returns to conclude his short series on sport flying with a racing quadcopter, plus lots of tips on FPV flying



Pre-flight

Welcome to the October issue of RC Model World. As I write this the Rio Olympics are in full swing and Team GB have already secured quite a hefty haul of medals. One cannot help but notice that most of our most successful athletes benefit from being able to train in world class facilities and it has been good to see the improvements made at the many of the UK training centres that specialise in these medal winning sports.

With this in mind, it is also good to note that work is progressing on the BMFA National Flying Site and Visitor Centre. Once this facility is up and running at full speed, following the proposed development plan, maybe, just maybe, it will inspire many more home grown aeromodellers to compete at the highest levels.

In addition to the work and facilities to support 'grass-roots' model flying at the centre, hopefully facilities will be put in place and appropriate resources allocated so that GB aeromodelling teams can practice there on a regular basis in preparation for World and European events.

The proposed location, on the borders of Leicestershire and Lincolnshire, and between the towns of Grantham and Melton Mowbray, is close to the long-standing but sadly missed (for 2016) home of the BMFA Power Nationals at Barkston Heath, so the area will be familiar to many BMFA members. With 43 acres of mostly flat, well drained land available there should be plenty of space, although the 6,000 foot main runway at Barkston will be hard to beat!

Even though many BMFA members live some distance from the proposed site and may not be able to make regular use of the National Flying Site, this project still deserves our support on the basis of the wider benefits to model flying. Let's hope the BMFA can address all of the 'gating factors' quickly and start the first phase as soon as possible.

Incidentally, I'm told that the BMFA are working hard towards a return to Barkston for the 2017 Nationals but the outcome is still subject to a number of factors and ongoing negotiations. Fingers crossed that they can come to an agreement in time to put all the arrangements in place for 'The Nats' next year.

Right, let's take a sneak preview of what's inside this month's magazine. Our main review this month concerns the Elan 100 polyhedral glider kitted by the Cambrian Model Company. The gliding theme continues with our regular Scale Soaring and Soarers' Slot columns, which largely cover scale slope soaring and aerotowing, and thermal soaring respectively. And if you've ever tried cross-country slope soaring (even for just a few hundred yards!) then our article on Pat Teakle's stunning 11 mile journey over the Mendip Hills will amaze you.

Scale models are always a main feature of RC Model World and this month is no different, with the spotlight being thrown on Paul Blakeborough's superb new Waco YKC. There's also a photo report from the LMA's new East Anglian show venue at Tibenham, which covers lots of gorgeous large scale model aeroplanes.

Our free pull-out plan is for Pole Dancer, which is Graham Dorschell's take on a quick build electric powered pylon racer for informal club events. And Peter Miller takes our main feature plan slot with Size One, a fully built up club sports model for .25 cu in size engines and above.

Other articles include a visit to Gloucester MFC's 'Scrapheap Challenge' for some fun-filled interclub rivalry. And Brian Collins gives hope to anyone struggling to continue R/C flying after a life-changing illness or disability, describing how he continues to enjoy the hobby from his wheelchair.

I hope you enjoy reading this month's issue, as well making the most of the late summer flying conditions! So until next time...

Happy flying!



Kevin Crozier

Editor | Radio Control Model World

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Take Off R/C News and Views

If you have any news or special interest announcements to make, or even a recently completed RCMW plan design, then why not drop RCMW a line or email RCMW@traplet.com

Thumbs Up For PowerModel Oil

Deluxe Materials Ltd, who recently introduced a specially formulated two-stroke oil to their range of model products, have been busy compiling a big list of engine manufacturers who have tested and approved the oil, which is called PowerModel 2T-S. The list includes NGH, DLE, Evolution and Airpower. The latest manufacturer to approve this oil is Saito Seisakusho Co., Ltd, who make the large and popular range of Saito model four-stroke engines.

You can see their recommendation for PowerModel 2T-S oil on the Saito website:

www.saito-mfg.com/english/top.html

PowerModel 2T-S is a fully synthetic, high detergent two-stroke oil. It works at all the recommended ratios for two-stroke petrol engines used in model aircraft. And as the approval from Saito shows it can also be used in four-stroke engines whenever the manufacturer recommends a good quality two-stroke oil.

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Distributed to UK model hobby dealers by Ripmax, PowerModel 2T-S costs £14.99 SSP for a 500 ml bottle.

Another KK Kid!

After revealing my desire to build new R/C versions of models that I enjoyed flying as a youngster, Richard Alford writes in with news of his own Keil Kraft conversions:

"Hello Kevin

There has been some recent discussion in the magazine of the KK generation and the kits which we more senior modellers cut our teeth on. More correctly we should probably say cut our fingers on as we laboured away with razor blades and pins, to say nothing about the hazards of steaming out warps that seemed to bedevil these light tissue covered structures.

My first kit was the KK Dolphin, which I did manage to complete and get into the air. I learned a lot and subsequent efforts were more assured.

Several years ago I decided to revisit the Dolphin and build it for R/C. A plan was obtained and I scaled it up to 50 in span. The wing section was kept the same but the spar structure was changed to a spruce I beam and other changes made to incorporate rudder/elevator control. It was flown off the slope but only in very light air as the wing section is very limiting.

As I became more comfortable with electric power I decided to electrify it so that it could also be flown off the flat. This has worked well, though again it is still only a light wind choice and care is needed getting down out of lift.

As far as the conversion went the big decision was where to mount the motor and yet still preserve the graceful fuselage lines. I eventually elected to use a small pylon mounted on top of

the nose block. This makes it easy to tuck the speed controller away in the fuselage next to the LiPo battery and doesn't seem to detract from the overall look in the air. Power is around 80 W with a 20 A controller and a 500 mAh 3S LiPo. It will take a bigger battery without complaint and this is probably the best way to go.

I have attached some pictures should anyone be contemplating this approach.

I have also tackled several other old KK designs and now use a modern section and revised wing structures to make them more versatile. I am also not past making small changes to the tail end areas to help with better flying characteristics."

Many thanks for sharing your Dolphin models with us, Richard. Please keep those KK conversions coming in, everyone. And let's see some modern interpretations of their R/C models too! Does anyone have an Invader, Elmira or Fleetwing ready for the air?



Pat Teakle Gliders

Whilst preparing Vaughn Entwistle's article, The Longest XC, for this month's magazine we established that the Pat Teakle range of scale gliders were in production once again. Pat's designs for sleek scale soarers are now being manufactured by Cliff Evans, whom we invited to send in more details of his range of models, which you can view on his website:

patteaklegliders.co.uk

Cliff has since sent in pictures of an elegant Vickers-Slingsby T-65 Vega. Of fibreglass construction, the model features linked camber-changing flaps and airbrakes, and sports a retractable main and tailwheel. The quarter scale model has a wingspan of 156 inches and weighs 12 lb. The version pictured was built by Peter Balcombe, who lives near Bristol.



Super Size Quo Vadis



Mike White, who has designed several Traplet plans, has forwarded details of a sizeable enlargement of one of his most popular designs, the Quo Vadis IV.

Mike writes

"The modeller's name is Dirk Wijns and he hails from Belgium. He does his own vac forming and, by the look of his products, they are excellent. I asked if he had a commercial vac machine and he asked me not to laugh – it was made from a shoe box! Dirk is quite a dedicated all round modeller and his real forte is steam, so I have attached an image for you to see his quality engineering."

As you can see, Dirk's 'Quo Vadis 150%' is ready to fly, but it was awaiting a test flight when he contacted Mike. However, the model has now flown, with total success. The model's weight, ready to fly, is 1.7 kilograms and the enlarged aeroplane now spans 1.84 metres.

Mike's own model is itself an enlargement of a traditional cabin free flight model, originally designed by Pete Monaghan. Mike re-sized it to 48" span and converted it for small IC or electric power. Flying weight is approximately 20 ounces. Quo Vadis IV suits .10-.15 or .20 four-stroke engines or 2822-1200 (120-150 W) brushless motors. Of traditional all wood construction, it is well suited to beginners, both to flying and model construction. The plan number is MW3623 and copies are available by telephoning the Traplet Order Hotline on +44(0)1684 588599, or by visiting the Traplet Shop website: gb.trapletshop.com/quo-vadis-iv



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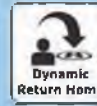
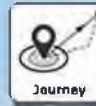
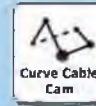
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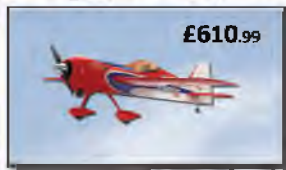
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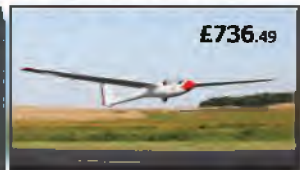
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New kits and accessories

BLADE TRIO 360 CFX



This is the three-bladed head version of Blade's popular 360 CFX. Its optimised servo geometry and lightweight design allows the high-voltage power system to provide exceptional performance with precision control. With an oversized hardened main shaft, metal gear servos, helical main gear and the durable belt driven tail design, according to Horizon, "It's all set up for hardcore heli pilots to start inventing the next generation of manoeuvres!" So if you're looking for a fully assembled, out-of-the-box 3D experience then the Trio 360 CFX answers the call.

www.horizonhobby.co.uk

PARAMODELS HYBRID 3



After the success of the Hybrid 1.8 parawing, Opale Paramodels have reacted to customer feedback looking for a bigger wing. So after pushing their design and development limits the Hybrid 3.0 is here! Focusing on a higher speed range, but without losing the spirit of a user-friendly wing and flexible handling, the new Hybrid 3.0 is an ideal multi-purpose parawing for outdoor flights. It's as good for paragliding activities as for paramotor ones, and it's suitable for beginners, intermediate and expert pilots alike. For anyone who wants a 3 m square parawing with a 4 m flat wingspan the Hybrid 3.0 is a fantastic piece of design and technology.

www.opale-paramodels.com

PICHLER P38 LIGHTNING



The P38 Lightning from Pichler Modellbau provides a real modelling treat. The 2100 mm wingspan model features a lot of scale detail and offers a great flight performance. Although developed initially for electric power the model can also be used with internal combustion engines.

www.pichler-modellbau.de

IWATA SMART JET



The Airbrush Company are pleased to announce a new addition to their range of Iwata Studio Series compressors – the Iwata Smart Jet. Similar in looks to the Sprint Jet but with an automatic switch like the Power Jet Pro, the Iwata Smart Jet features Smart Technology, automatically turning on the compressor

when you press your airbrush trigger. It provides instant air at the pressure you have set it, turning the compressor off again when the airbrush is not in use. The price of the Smart Jet sits nicely in the gap between the two price points of the Sprint Jet and the Smart Jet Pro, so there is now an Iwata compressor to suit all budgets and requirements.

www.airbrushes.com

E-FLITE ICON A5



Like the full-scale aeroplane, the ICON A5 park flyer makes it easy to discover the thrill of amphibious flight. The Bind-N-Fly version comes equipped with a powerful brushless motor and the smooth, stable response of a Spektrum AS3X receiver. If you're a relatively new R/C pilot you have the option of activating the receiver's built-in SAFE Select technology, helping you through those first few flights. The Plug-N-Play version comes with a powerful brushless motor, ESC and servos installed. All that's left for you to do is complete a little final assembly, install the receiver, charge a battery and fly!

www.horizonhobby.co.uk

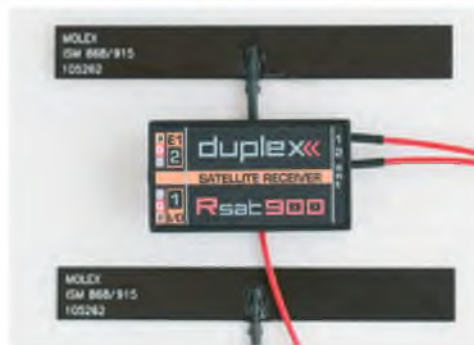
UNILIGHT SPOTLIGHTS



Now available from unilIGHT come these lovely Search Spotlights for helicopter and functional modelling. They come in six different sizes, with 15, 20, 25 and 30 mm in the standard series and 24 and 31 mm in the scale series, so unilIGHT can now offer a searchlight to match your needs. The 25 mm headlights are available in 040x2 and 080x2 power versions, with a temperature fuse. And each type comes in White or Warm White.

www.unilight.at

JETI DC-24



This is a 24 channel powerhouse transmitter featuring dual band radio technology that uses the well proven Duplex 2.4 GHz transmission with a back up fail safe system on 900 MHz, providing a seriously robust and solid link. Built to the same standards as

the existing Jeti transmitters using hall effect gimbals, a CNC machined case and utilising Jeti's extensive range of receivers and sensors, the DC-24 also incorporates a colour screen and stick vibrators. The DC-24 is supplied with a 900 MHz satellite receiver, which can be used in conjunction with the existing 2.4 GHz Duplex receivers and popular brands of servo power and control distribution units. For more information and price details check the eSoaring Gadgets website.

www.esoaringgadgets.co.uk

HOTWING EVO



Hacker's latest flying wing is made from 'almost unbreakable' EPP material and is suitable for both beginners and experts alike. This 1000 mm wingspan model is very flexible and has exciting flying qualities. A brushless motor can be used as a power unit. The kit includes the wing with pre-coloured surfaces, carbon pushrods and struts and other necessary accessories. You will need to supply a 3-channel R/C set with a V-mix (or a separate V-mixer), two micro servos and an 80 W electric motor.

www.zoomport.eu

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Elan 100

Tony van Geffen builds a classic 100 inch glider from the Cambrian Model Company for two channel R/C

Right:
Distinctive box label

The Elan 100 was first introduced into the market in the 1980s and has always been a popular 100 inch glider among builders and pilots alike for its quick, easy build and performance in the air. It is specifically a two channel thermal and slope soaring aeroplane, featuring a sturdy plywood and balsa fuselage and two piece plug-in wings.

The handling in thermals outshines other similar designs of that era, which is one of the reasons why this recently re-introduced all-wood kit is so popular.

I was asked to build and test fly one of the contemporary kits produced now by the Cambrian Model Company, a family run business now manufacturing the range of original kits. The kits are made with all balsa and lite-ply CNC laser cut parts to a very high standard.

The kit is initially intended as a two channel glider but with some forethought the builder can modify it for electric flight by using smaller than standard size servos and fitting a suitable in-runner motor with a cam prop. However, for this review we shall be building the standard kit.

General Description

The build is conventional using simple, traditional methods of construction, making it really easy for anyone who has built from a plan before. And if you are a novice builder then you shouldn't have any problems as long as you study the plan well and dry assemble parts before adding any glue. Speaking of which, I used aliphatic glue for the main construction in all areas and a little dab here and there of thin cyano (CA) to hold



This is no short kit! All wood is graded or accurately laser cut

some parts in place. It is also a good idea to use a jig for the assembly of the fuselage as it is essential that this is straight to get the best performance rather than having a banana shaped model.

The wood selection for the kit being reviewed seemed fairly good, with different grades of strip wood ranging from light for the

tail end to medium and hard for the wings; you will have to carefully pre-select from the bundles.

The build instructions consist of two folded A3 sheets printed on all sides, and in the preferred order of the step-by-step build. At the back of the manual there is a list of all component parts. Individual shaped wood



Small components and hardware are individually bagged



Two well detailed full size plan sheets are supplied



A minimum of tools and glues are required



Laying up the tailplane from medium grade balsa and pre-cut fin parts



Plywood ribs are doubled with balsa root ribs to give added support for the brass joiner tubes. The centre hole is for the wing retaining hook dowel



First stages of wing assembly

parts are numbered and are referred to on the plan, and in the instructions.

The two A1 size plan sheets are clear and drawn well, but with only one wing panel shown. So you will have to reverse the plan and trace through for the other panel

TOP TIP

To reverse the wing plan outlines simply place the plan on a window and redraw the lines on the back of the plan with a pencil and ruler.

A sheet of clear film was first laid over the plan on the flat building board before starting the assembly to avoid gluing parts to the plan.

It is recommended in the instructions that

the wings are built up before the fuselage so that the two 8 SWG wing joining spars can be aligned correctly, so this was the order of my build.

A small number of basic tools (scalpel knife, razor saw, razor plane, a Perma-Grit rat tail file, a small fingernail emery board and set square) were used, of the type that every modeller would normally have.

Tailplane And Rudder Construction

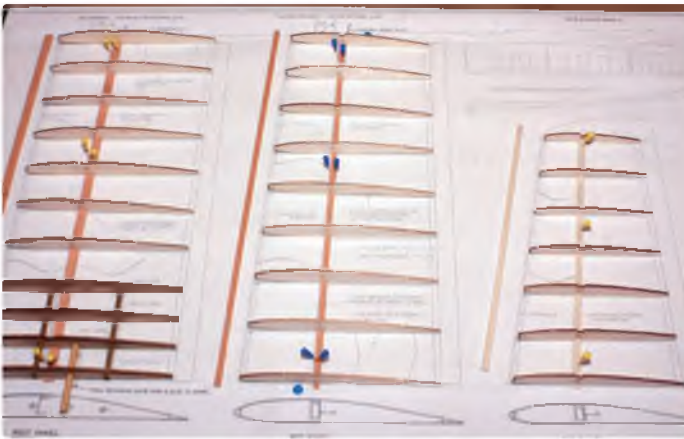
So as not to use the lighter wood in the wrong place, I considered constructing the tail parts first from the lighter 6 mm square balsa strip. These are simply cut to length and assembled over the plan. Pre-cut balsa sheet parts are included and need to be identified to complete the two assemblies; the fin is pre cut from 6 mm sheet balsa and

the elevator is pre-cut from sheet balsa. The rudder and elevator are hinged with Mylar strips.

Wing Construction

Building the individual wing panels flat over the plan and joining with the dihedral braces supplied will result in well aligned wings. To establish the two different dihedral angles of the wing panels correctly at the outer ribs I made up two simple templates from scrap balsa sheet to the angles shown on the plan.

Each wing is made up of three individual panels (inner, centre and tip) and the instructions clearly guide you through each stage, with specific explanations in numbered order. Following the instructions I found the build of each panel to be very quick using the wood sizes and part numbers shown.



Three wing panels are constructed simultaneously, allowing the glue to dry on each panel before the next stage



An angle template was made from scrap balsa to attain the correct dihedral for the roots and tips



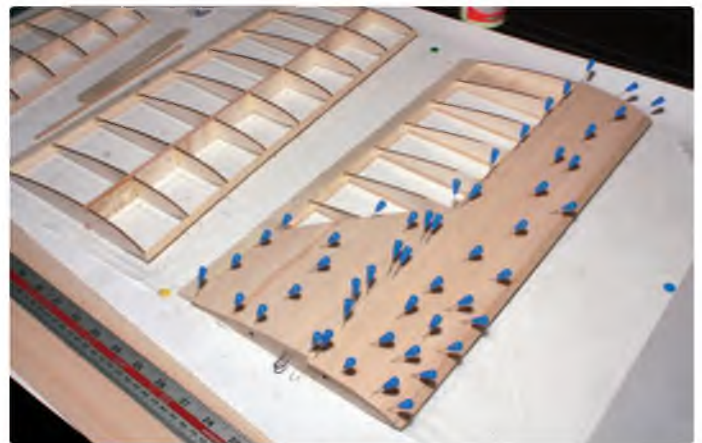
Assembling the wing retaining hook dowel



Bottom sheeting the root and centre wing panels



Vertical balsa webbing added to all panels



Glue and pin the top balsa sheet in place

For the root and centre panels the spars are made from spruce supplied (the tip panel has balsa spars), pinned over the plan. The first four 1.5 mm ply ribs on the inner panel are doubled up with balsa ribs for additional strength for the brass wing joining tubes. The remainder of the ribs are numbered accordingly upwards and were then set in place using a set-square to position them vertically over the plan. All ribs were then glued, apart from the outers as the angles of these were left to be set with the templates when all the panels were ready to join.

It is a good idea at this stage to insert the brass tube to get the correct alignment. The top spruce spars were then positioned.

A 6 mm hardwood dowel with a hooked wire is required for attaching for the wing band. Once cut to length a narrow slot was

cut in the dowel and a hole drilled through to position the hook. This was then inserted into the ribs and the dowel wrapped with thread and epoxied, as this will take a lot of tension from the wing joining rubber band.

The trailing edge is made up of 1/16" sheet with trailing edge stock glued on top. This gives a 'ledge' for the rear end of the ribs to sit in. The shaped trailing edges and 6 mm square balsa leading edges were added and then carefully placed together over the plan to set the outer rib dihedral angles. The bottom sheeting was added to each panel and full depth slots were cut in the appropriate ribs to take the plywood dihedral braces. Vertical grain balsa sheet webbing is added between each rib forward of the spar. After joining the panels and setting the angles the remainder of the individual panels

were then sheeted with 1/16" (1.5 mm) balsa supplied and capping strips were added to the ribs. Finally, the wing joining tape was added to the top joints only and held with aliphatic glue.

All the pre-cut ribs lined up perfectly, with no sanding adjustments needed. This shows the accuracy and ease of this build, and is very important when building wings.

Fuselage Construction

Each side of the fuselage are constructed from three pre-cut lite-ply parts, consisting of two outer parts with a splice joint and an inner doubler. Make sure you assemble left and right hand panels. The metal wing rods were used to align the parts after the holes were accurately cut to the marks in the wood.

Measuring carefully, the central formers



To construct the left wing, first the lines were traced through onto the back of the plan (using a glass door for lighting)



Applying the wing joiner ribbon with aliphatic glue



First stage of fuselage assembly is to align the wing joiners and glue doublers with back-to-back sides



Test fit the joiner tubes and fit formers



Sand to shape the bottom sheeting facing angles and fit the balsa longerons

were then added and positioned carefully, again using a set-square, and the brass tubes were positioned to check for alignment before gluing in place later. Holes were cut in the formers for the pushrod outers and balsa longeron strips were added to the top and bottom edges of the fuselage sides. The bottom balsa sheet was then positioned and the butt-joining edges were sanded to the correct angle without a gap. A pilot hole should now be drilled in the plywood former to take the eye screw as access to this after gluing the fuselage is difficult – don't ask me how I know!

Now comes the fuselage jig, and it is important to position the sides flat and level, and aligned over a centre line marked on the board. Then the remaining formers were added and the rear section pulled together

and clamped with the jig. They were then checked again before adding dabs of CA glue to hold them in place before gluing with aliphatic. When dry the front former was added and the front end pulled in to form a curve. Fine cuts were made to the front top plywood canopy edge supports to aid bending, but this wasn't actually necessary. In addition short lengths of waste wood were positioned inside the front area to help form the correct curved shape over the plan.

When dry the bottom sheet blocks were added. The top decking was added later to allow access inside the fuselage.

Now is the time to think about installing the two servos. I used standard size Savox SC-0352 digital types as these have good torque. They were mounted in tandem on the plywood rails provided.

With the control rod snakes supported down the rear fuselage the top sheeting and tailplane support were then glued in place. At this point it is wise to insert the fin over the tailplane and check they sit 90 degrees vertically to the fuselage and tailplane seat with a set square.

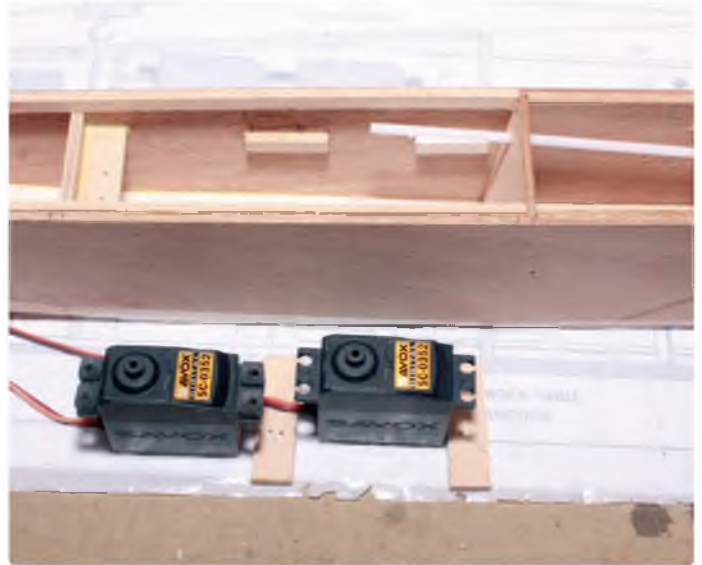
The nose block can then be added and the fuselage sanded to shape.

Covering And Finishing

Before applying the covering film the model was given a coat of Balsaloc to seal the wood and aid the grip of the film. The Elan was covered in white Oracover with a contrasting transparent red over the open framed areas. The red was applied first, with the white overlapping the straight edges.



Using a jig is the best option for correct alignment of the fuselage



Measuring up and fitting small rail supports for the standard size Savox servos



The method for retaining the canopy



The nose block is shaped and sanded



Radio bay installation



The elevator pushrod exits from inside the fuselage directly to the elevator horn

The white plastic moulded canopy is trimmed to shape, with a hardwood block screwed and glued to the inside. The hook screw was then fitted.

The plastic control rods were inserted through the snakes and the threaded solder ends added after trimming to length. These were then crimped in place onto the inner rod. Plastic clevises are supplied for the ends.

The receiver and its 4.8 V 2000 mAh NiMH battery were installed and positioned for the correct C of G at 77 mm from the LE at the wing root. 80 grams (2.85 oz) of additional weight in the nose was needed to achieve this. The final all up weight was 1268 grams (45.25 oz).

The controls were adjusted for the correct throws indicated on the plan: elevator 6 mm each way, rudder 40 mm each way.

All we needed then was a warm sunny day with a light wind to go thermalling!

Flying Notes

The instruction manual suggests that the best flight performance is achieved with a wing loading of 10-12 oz/sq ft, so ballast will depend on the final weight of the model, along with the wind speed to determine the optimum additional weight required. Experimenting in various wind conditions will determine the best performance and set up for your flying style.

Form a bungee launch, with practice the Elan will climb straight and at height will level off and ping off the hook. The model is sensitive to lift and sink and you will be instantly aware of this once off the line and soaring. Small corrections with the elevator and rudder to circle in lift will see the Elan

climbing well and long flights are easily achievable with good thermal activity.

Off the slope or a cliff a good updraft will snatch the model out of your hand and upwards on launch, so be ready for this. Once levelled off and settled down the Elan 100 will float around all day in slope lift until you need a rest. With the model ballasted up fast speed runs can be achieved and some off slope basic aerobatics such as loops and stall turns can be easily achieved. But a roll requires good height and speed, resulting in a lazy barrel roll!

Landing on a slope takes practice to get out of the lift, so fly crosswind along the slope to reduce height. If you go too far back then the model may disappear with the turbulent down draft, and if you turn into wind the Elan will just find the lift again and climb away once more!



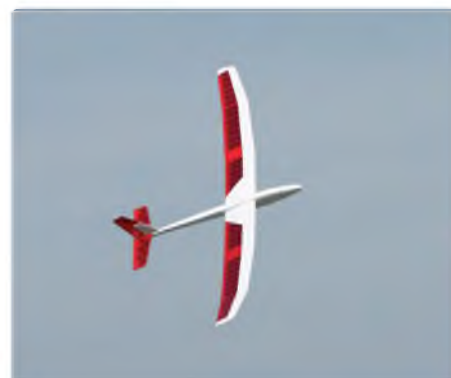
The long bungee meant the launch had to be from outside the strip perimeter and into the undergrowth. Away she goes!



High in the sky and the bungee line about to pop off the hook



Circling around to find that elusive spring-time thermal



Fast passes and gentle aerobatics are easily performed



Cambrian Model Company's Janice shows off their popular Fun Fighter Spitfire, while Steve gives scale to the Elan 100

Conclusion

Forty years ago I gained a lot of novice R/C modelling experience from building similar models from plans and flying from flat fields or from the Dorset slopes. The Elan 100 is probably one of the easiest ways for a novice builder to gain experience when considering a first build from a kit and plan. And in the air it will also suit a novice pilot because of its gentleness and stability.

It is equally at home on the slope or being bungee or tow launched from a flat field. In the hands of a more experienced pilot the Elan will produce a high performance and seek out the slightest lift, but it is docile enough to give a creditable performance in the hands of a less experienced pilot.

RCMW

RC MODEL WORLD

MODEL INFORMATION

NAME:	Elan 100
MANUFACTURER:	Cambrian Model Company www.cambrianplanes.co.uk
WEBSITE:	www.cambrianplanes.co.uk (search for Elan)
PRICE:	£69.99
MODEL TYPE:	Thermal or Slope Soaring glider
CONSTRUCTION:	All balsa and lite-ply, with hardware

R/C FUNCTIONS

- 1:** Rudder
- 2:** Elevator
- 3:** Optional electric power (not shown on plan)

MODEL SPECIFICATIONS

WINGSPAN:	100 in (2.5 m)
WING SECTION:	Eppler 205
WING AREA:	735 sq in
WEIGHT:	1268 g (45.25 oz)

DISLIKES

None

LIKES

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From The Scrapheap

Frank Skilbeck takes part in an enjoyable inter-club challenge



Group shot of the teams with their models before the carnage... Sorry, before the proving flights commenced



Scrapheap materials were a selection of Correx sheets, plastic and cardboard tubes, and a small assortment of balsa (not shown)



Teams were provided with a workbench and a gazebo, in case we got a dose of the British summer!

I'm sure a great number of us remember the Scrapheap Challenge programs that used to be on TV, where teams gathered in a scrapyards and were set a challenge to design and build a machine to fulfil a specific remit using scrap salvaged from around the yard. It was, for us shed tinkerers, enjoyable TV.

So when I received an email from the Secretary of the Gloucester Model Flying Club asking if our club would like to enter a team into their Scrapheap Challenge, I

was intrigued and circulated this around our club's members and very soon had solicited enough interest to put together a team.

The Rules

Prior to the challenge we'd been given some brief rules:

- Teams can have up to a maximum of five members
- Teams will have 3 hours to construct a radio controlled flying machine
- A pile of scrap will be provided

• Teams should supply their own radio gear and power train (can be IC or electric). Safety note: you must be able to cut/stop the motor from the transmitter

- Teams will also be allowed to bring a box of 'luxury items', which should all fit into a Chinese take away box (i.e. other model specific components that you may need)
- Each 'model' will then be set a series of flying tests to determine the winner

No details were provided on the required



Precision building - measure twice, cut once. The SC46 powered delta comes together



'The Gurminator' team consisting of (L to R): Andy Riley, Paul Gurr (pilot), Lloyd Wood and Derek England



'Gurminator 2 Bodgement Day' team (L to R): David Gurr (pilot), Paul Moustif, Tony Nixon, Bryan Grange and Andy Smith



'Newent Onions' consisting of (L to R): Dave Keen, Tony Pearson, Harvey Shayle, Frank Skilbeck (pilot) and Andy Parsons



'The Gurminator' team's Blue Baron triplane ready for the test flight



Delta from the 'Gurminator 2 Bodgement Day' team sits on the starting table, looking ready to tear up the sky

'flying tests' so we played it conservative and went down the electric power route to build a small lightweight model.

On the appointed day we arrived at the Gloucester Club with our power set-up and radio system. And a Chinese take away box of luxury items, which consisted of clevises, horns, control rods, screws, glue etc. and a selection of scrap balsa to donate to the scrapheap.

On Your Marks

There were three teams taking part. Two from the Gloucester Club, 'The Gurminator' and 'Gurminator 2 Bodgement Day', plus our team from the Newent club. We had been given the title 'Newent Onions' in recognition

of the local annual Onion Fair.

The team briefing explained the flying rules. The planes had to fly for two minutes on the proving flight and if the model didn't achieve this it would be excluded. Models completing this task would then be judged on their aerobatic ability to do a loop, stall turn and roll.

Building tables were provided, along with rolls of gaffer tape and a generator to run a hot glue gun from. The scrapheap consisted of many sheets of Correx lightweight plastic sheet. This was something of a surprise as none of us had ever worked with this material. Plus the other teams had both decided to go down the IC route. We decided to build a simple, small, 36" wingspan,

rudder/elevator model. But the other teams were more adventurous, building a large delta and a triplane. The final offerings are shown in the accompanying photos.

The allotted time to build the models flew by and it was a rush to finish fitting the servos and electronics. The IC teams had been hampered by one of the teams breaking the fuel nipple on their carburettor and then breaking the exhaust pressure tapping when trying to salvage that. Fortunately, in the spirit of the competition, the other team came to their rescue by donating the exhaust pressure nipple from their engine. This did level up the IC competitors as they would both be running their engines with an unpressurised fuel system.

Proof Of The Pudding

Once the competition adjudicator had instructed everybody to put their tools down and step away from their models, we all moved to the flight line.

First up was the 'Gurminator 2 Bodgement Day' team with their SC46 powered delta. After a few engine tuning issues they were ready to go, but unfortunately the engine sagged on launch and the model pancaked on the runway, breaking the propeller and loosening the engine.

Next up was 'The Gurminators'. Again a few minutes of engine tuning saw their MDS40 powered Blue Baron triplane ready for launch, but this time the engine didn't seem to have enough power and the flight was a powered glide into the long grass, breaking the propeller and silencer. But

setting a flight time of four seconds to beat!

I was the pilot for the 'Newent Onions' and we selected our tallest team member for the launch to give us the best chance of beating four seconds. Away the model went and from the off it was obvious it was tail heavy, but using all the down trim and holding in a significant chunk of down elevator it was coaxed around for two minutes and was therefore declared the winner.

Not to be defeated the 'Gurminator 2 Bodgement Day' team repaired their delta and spent a bit more time needle twiddling, just to prove the delta would fly. And this time it flew very successfully and would easily have beaten the winner, if only the engine had run reliably when required.

Not to be outdone 'The Gurminators' stripped the top wing off their triplane, turning

it into a biplane and with the engine running reliably this model flew very well too and was quite aerobatic. Meanwhile, we had added some nose weight and down elevator and flew the 'Newent Onions' plane through loops and stall turns, but it steadfastly refused to do a barrel roll.

Cracking Day

If you are looking for a simple to organise club competition, which is reachable to all levels of building skill, then this is a very good format. And making it a multi club competition all adds to the fun.

All in all a simple format, which makes for a very enjoyable day and one which we hope the Gloucester MFC will repeat next year.

I think now we've dipped a toe in the water we'll muster up more than one team to enter!

RCMW



'Newent Onions' went with a small electric powered simple rudder/elevator model



Blue Baron triplane about to be launched on the 'very short' inaugural flight



The Delta failed to get away on the test flight due to the engine cutting



First launch of the triplane resulted in a broken propeller and silencer



The Onion's simple model gets away from a hand launch





Once sorted the Delta ripped up the sky



The much-modified Blue Baron proved to be very aerobatic as a biplane



A specially commissioned trophy was on offer to the winners



The victorious 'Newent Onions' team being presented with the trophy

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Hand launching small models from a sitting position is relatively simple, even with some EDF model jets!

Model Flying With A Disability

Suffering poor health, limited mobility or living with permanent disability doesn't have to mean one cannot enjoy flying R/C aircraft. Brian Collins, who is paralysed following a motorcycle accident, passes on some of his experiences, tips and advice on R/C flying with a disability



Setting up my large eight foot span EDF Vulcan often requires help from my club mates

I have to admit when I was lying in hospital, having just been told I would never walk again, I never contemplated that I would be able to fly a radio controlled model aircraft. Learning to live one's life from a permanent seating position is difficult enough, especially following 37 years seeing the world from a 6' 2" vantage point! Spending the rest of one's life with everyone 'towering' above you can produce daunting feelings, even claustrophobic in some instances. However, given time the brain can adjust to just about anything.

Several people have asked me the question: "Do you find it hard flying a R/C aircraft from a seated position?" The answer is a definitive: "Yes, it is difficult. But with thought, planning and determination it can be safely achieved."

Indeed, it was not until I suffered the paralysis that I became absolutely determined to master the art of flying an R/C plane from my wheelchair. Upon asking several people

who already flew radio controlled model aircraft if it were even possible the replies varied from, "I don't see why not" to a definite "No chance!"

I don't know about you but the best way to motivate me to do something is to tell me I can't!

Join A Club

Anyone contemplating learning to fly R/C aircraft but whom doubt their ability, I would definitely recommend you seek advice from a local club. In addition I recommend contacting the BMFA (British Model Flying Association) who can provide lots of useful information (see Contacts).

The combined experiences of club members can provide a wealth of local information, including buying the correct equipment, adaptations required, model types and how to learn to fly in a safe yet enjoyable manner.



Getting a friend to hand launch a larger model for you will be much easier (and safer) than trying it yourself

Decisions, Decisions

Depending on your disability, ailment or medical condition you need to think about what type of aircraft you wish to build and fly. For some people a model with an internal combustion engine is a must. However, in my case I could immediately see several benefits that electric flight has to offer. In addition, since being a young child I have been interested in electronics so for me electric flight was a 'no brainer'.

Another point I took into account was the fact that electric models were (but not so much now) generally smaller, meaning they are easier to transport and handle from my wheelchair. Also, electric models do not need fuel pumped into them (and subsequently little cleaning), which is another advantage. It's simply a case of plugging in the flight battery, switch on and fly!

I understand electric flight is not for everyone but we are not all the same and

MODEL FLYING WITH A DISABILITY



Grip tape (from a pound shop) is excellent for fitting to hand launch models and is ideal if you have limited strength in your fingers!



A 'litter gripper' is ideal for picking up dropped items in the workshop and at the strip



Picking up things without having to bend down will help with back or joint pain



This magnetic pick up tool from Rolson only cost £5 and is great for picking up small magnetic items. The bright LED light is an advantage too!



Adapting an old golf trolley to transport a friend's model (and gear) to and from the car park via my wheelchair



Preparing for flight from a chair or wheelchair may require the help of a friend, especially with larger models

neither are our health issues. So you have to think about your individual circumstances and decide what is best for you.

If changing from IC to electric power means you can continue to enjoy your chosen pastime, surely that is better than having to quit altogether? Also think about the future. Will I still be able to get down on my knees to fuel up and try and start an IC engine? Would it be safe to start a particular IC model from a table, meaning I don't have to bend down on my knees?

Can I safely transport my models? These (and many more) are questions we all must ask ourselves. But I have found there are almost always solutions to particular issues, which can be resolved. Things may well be different and may take longer, but usually more often than not just about all problems are surmountable.

Having decided which discipline is right for you and joined your local club you are now in a position to start learning to fly. It may also be important to see what clubs in your area are able to offer you the best facilities for your individual circumstances. I have to say every club I have been a member of have been very flexible when it comes to understanding and catering for my disability. Things like allowing you to drive to the pits area to unload or load the car can be a 'deal breaker' if you can't walk very far, as is access to the various facilities.

Concrete, hard standing or tarmac car parks, runways or 'pit' areas are ideal for mobility scooters or wheelchairs. However, some grass field sites become inaccessible during wet winter months so this must also be taken into account, especially if you have limited mobility and rely on a scooter or wheelchair. Check with the club to see if they are in a position to accommodate your particular needs.

The 'L' Plate

There is nothing more rewarding than learning to fly an R/C aeroplane. Just about all clubs have dedicated instructors with a lot of experience who will become a big part of your early experiences with R/C flight.

I firmly believe the connection between instructor and pupil works best as a two way relationship so inform your instructor what effects your medical condition or disability may have on your flying ability so that he or she will be able to take this into consideration. You will be amazed how fast you will pick things up when working together instead of having to find things out on your own, possibly with disastrous consequences!

Sitting Comfortably?

If your health circumstances get to the point where you cannot stand for long periods of time it is still possible to fly from a seated



Flying friend, Tony Whiteley is a very seasoned pilot and due to health issues he often uses a chair to fly from. Tony took some of the pictures used in this article



Stable models like the Multiplex 'Twinstar' are ideal for learning to fly, especially from a seated position



A small picnic table is ideal for placing your equipment on and it saves a lot of bending down if you suffer back issues



Lining up my Habu jet ready for take-off. Note my 'lap tray', which is ideal for placing the transmitter (and many other items) on safely

position. There are however a few things which need to be taken into account before safely flying, but nothing which cannot be overcome.

One of the things I found difficult to master was perspective. Controlling a model from a permanent seated position provides me with a different visual perspective than someone flying standing up. I tended to fly a little too 'close in', as from my perspective the model seemed further away than it actually was. But again, given time and plenty of practice, you learn to adjust your flying accordingly.

Another issue which can arise (especially on maiden flights, when the model can be out of trim) and that can become a very serious problem is if the model goes behind you. Having both hands on the transmitter and being sat down means there is no way you can turn around to see the model quickly enough, so it is very important that you learn to fly with the model in front of you at all times (as one should anyway). I picture a line from left to right and ensure the model is always flown in front of this line, similar to flying at a show or public event, which I have done on several occasions after gaining my 'A' and 'B' certificates with the BMFA Achievement scheme.

One other important point to note when flying from a seated position is that should anyone walk in front of you they will almost certainly block the view of your model at some point. This is probably the most common issue I experience. But again things like keeping your model higher in the sky or simply letting fellow pilots know your restrictive view will solve such issues. Most of the time fellow pilots will not even know they have blocked your view so don't think they do it on purpose!

Help?

One thing I am always conscious of when I go flying is that at some point I may need some kind of assistance, whether it be setting up my equipment or setting up my larger models. I am also aware that my 'flying mates' have come to fly their own models and not spend hours of their time helping me out. So I try to be as independent as possible and 'plan ahead' whenever possible.

I make sure all my battery packs are fully charged. I have all my equipment/flight boxes ready and things like carrying a picnic table to put your gear on can be a big help. I find it very advantageous to write a 'check list' to ensure I don't forget anything and everything



Having an 'able bodied' clubmate to retrieve models, if they have landed a distance away, is a definite bonus!



Author with a rather large Freewing F16C 90 mm EDF jet!



Two pilots enjoying 'what we do' whilst sitting down on the job!

is packed and readily available.

In 16 years of disabled flying I cannot recall a situation where anyone has refused to help if I ask for it. But I try not to be a burden on my flying 'buddies if I can possibly help it. A good idea is to tell people you fly with on a regular basis that you will only ask for assistance if you need it. That way your flying mates will know exactly when to help.

Ready For Launch?

At some point it may become impossible for you to hand launch or even retrieve models due to mobility restrictions. This is a case when a flying 'buddy' can be of a great assistance to you. I have some models in my fleet that I can safely hand launch from my wheelchair, but using one hand to launch a model whilst balancing the transmitter in your lap is not the safest way to do things. So asking someone to launch your model for you is by far the safest way.

This is another instance where choosing the correct type of model can be important. Models which ROG (Rise Off Ground) and do not need a hand launch may be a better option. If you can safely taxi the model (depending on club rules/site restrictions) back to the flying area this may also be a benefit as it negates the need for retrieval.

Preparation

If you do think you will need help or assistance it's a good idea to call a fellow flying friend and plan the session in advance so they will know exactly when you will get to the flying site and in which ways they can assist you.

Also, you do not want to turn up for a day's flying if you are the only person there!

Equipment

You'll find purchasing a few simple items will be of benefit to you. I use a 'litter stick'

to pick up things that I inevitably drop on a regular basis, both in the workshop and at the strip.

People with back, leg or knee issues, who find it difficult to bend down, will also benefit from the use of another tool I use, which is a retractable magnetic pick up tool. This is a simple but very effective way of picking up anything magnetic like dropped screws, washers, nuts and the like. The one I use even has a bright LED light fitted to the end, making it even easier to find that elusive screw!

I also use a padded 'lap tray', which I find almost indispensable. I use it just about every day for numerous tasks, including building, as well as for placing my transmitter on at the flying field. I also use some self-adhesive 'grip tape' on some of my hand launch models, which helps if you have limited grip in your fingers as it provides a firm surface to hold. You will find that purchasing a few simple items such as these will dramatically help in the workshop and at the flying field.

Planning

You may well find that more planning is required for each flying session. I try to plan ahead as much as possible. Taking the relevant tools to help set up and service my models, and things like producing a simple check list so you don't forget that essential piece of equipment, are a great help.

I hope this article will help anyone experiencing health issues or a disability, who either wishes to learn to fly R/C aircraft or thinks one's flying days are coming to an end, that this is not necessarily the case. I can assure you the enjoyment, fulfilment and camaraderie gained will make all the effort worthwhile. **RCMW**

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The Longest XC

Vaughn Entwistle recounts Pat Teakle's epic cross country glider flight

I joined the West Mendip Soaring Association (WMSA) in 2014 and started flying from Crook Peak. Soon after that I met scale sailplane guru Pat Teakle and heard the story of an epic flight that Pat made back in 1984. After flying Crook Peak for more than a year, my admiration for Pat and his stunning flight continues to grow.

Pat Teakle

Somerset born and bred, Pat Teakle is a well-known name in UK R/C scale soaring circles. A good deal of that fame stems from the line of high quality scale sailplane kits that Pat produced for many years. A typical Pat Teakle kit consisted of a fibreglass fuselage in either epoxy or polyester resin, along with a set of blue or white foam wings covered in veneer.

At a time when the only scale gliders available in the UK market were exotic and pricey European models, Pat's gliders provided British soarers with an affordable alternative. In exchange for some fettling of the fittings and finishing, a Pat Teakle kit resulted in an attractive scale glider every bit the equal of the continental offerings but at a fraction of the cost.

When Pat retired the kits went out of production. But luckily the original moulds were saved and the full line of Pat Teakle kits is now available again, being produced by Cliff Evans. (www.patteaklegliders.co.uk)

The Crook

At 210 metres (627 feet), Crook Peak, home site of the WMSA, is one of the highest hills in the Mendips and the only true 'peak' because of its conical, rocky summit. (The name Crook derives from the old English word 'cruc' which means peak.) From the top of Crook Peak it is possible to look south west along the line of Mendip Hills, which rise in a great green bulwark above the flat farmlands of the Somerset levels.

One of the biggest attractions about slope soaring at Crook Peak is that it boasts a 'soarable' face for nearly every wind direction. The other attraction is that the Crook forms a natural horseshoe and is part of a line of hills that run for five kilometres (3.1 miles) from west to east and includes: Crook Peak, Compton Hill, Wavering Down, Cross Plain and Shute Shelve Hill.

The topography lends itself to long, ridge-running flights and the WMSA has been hosting cross country (XC) competitions since the 1970s. During the heydays of slope soaring XC competition the WMSA events would attract as many as a hundred or more pilots and many had to be turned away as competition slots quickly filled up. The WMSA club continues to run XC competitions and its two open events, one run in winter and one in summer, continue to attract flyers from as far away as Scotland and the Isle of Skye!

WMSA club members still turn out every Wednesday and Sunday for casual sloping, and many WMSA flyers still use the Crook's unique topography for short cross country flights. An out-and-return to the trig point atop Wavering Down is a popular aerial jaunt.

Back in the seventies and eighties, when WMSA club members were younger, hairier and fitter, it was a common thing for pilots to fly their gliders from Crook Peak to the trig point atop Wavering Down (Bronze Award), or farther along the ridge to Cross Plain (Silver Award). And a few hardy souls even flew beyond the end of the ridge to a landing near the Axbridge roundabout (Gold Award).

But then, in 1984, Pat recorded a flight that soon became the stuff of legend. At the time many WMSA members were one-upping each other with increasingly long distance flights. After Pat and club member Bob Merrit flew three miles to land in the football field at Draycott, the gauntlet had been thrown down. Fellow club members Andrew Fry and Bob Cook answered with a very impressive out-and-return flight to the Axbridge railway station.



A Cunning Plan

Although he hadn't formulated a definite goal in his mind, Pat started to plan a serious XC flight. This time Pat and friend Bob Merrit were determined to set a goal no one would easily eclipse. I won't insert a spoiler at this point, but suffice to say, when I heard of their ambitious plan it beggared belief.

In those days Pat was flying one of his scale gliders (a Vega) with the wingspan stretched to fifteen feet. The Vega was equipped with Sprengbrok Microprop radio gear that employed linear servos – remember those? Bob Merrit was flying another of Pat's designs, a 'Norseman' that had a smaller wingspan.

Pat's preparation extended to suitable clothing and stout footwear, and not much further. He put together a 500 mAh receiver pack for his Vega and a 2000 mAh transmitter battery in his jacket pocket connected to the transmitter with a long lead. His own physical needs were decidedly less well catered for and extended to a chocolate bar stuffed in a pocket. Hydration needs weren't deemed as critical back in those days, which both men would later learn to their regret.

A panoramic stitch of photos showing the long ridge run from (left to right): Crook Peak, Compton Hill, Wavering Down, Cross Plain to the Shute Shelve Hill. This part of the flight was the easiest leg in Pat's epic, long distance XC odyssey



Into The Void

The epic voyage began on a Sunday morning around 11.00 am. The weather was bright but overcast, with a 10/17 mph wind vectoring S to SSV. The early hour and the overcast sky meant that Part and Bob would initially be totally reliant upon slope lift. They launched from the south-facing 'Razor', quickly gained altitude, and then flew a circuit around the Peak while they hurried along the footpaths trying to keep up with the models. Soon they reached the lift zone of another south-facing slope WMSA members call the 'tump'.

Now, they had a straight shot along the ridgeline. From the tump they followed the lower footpath across the face of Wavering Down (avoiding the up and down climb to the trig Point) and onto Cross Plain. Beyond Cross Plain the Mendips are split by a valley, forcing Pat and Bob to follow the footpath that descended through a timber yard to the A38 Bristol road at the bottom of the hill. Pat and Bob then had to dodge traffic, crossing the main road while keeping their gliders high in the slope lift above Cross Plain.

After 'tanking up' with as much altitude as they could gain, they then jumped the gap between Cross Plain and Shute Shelve Hill.

After crossing the Axebridge roundabout, the two friends headed along the bypass toward Cheddar, keeping their models parked in the slope lift of Fry's Hill (directly behind the medieval village of Axemminster). The two friends now had to climb again, and left the bypass road for Venn's Gate Lane. By this time our heroes were beginning to suffer the effects of dehydration. Luckily, two fellow modellers, Clive and John Hall, lived on Venn's Gate lane, and Bob and Pat were able to glug down a refreshing pint mug of cold water before alarmed neighbours had time to call the police to report a pair of loonies staring into the sky and shouting out "John! John...!"

But this proved to be a temporary physical respite, for the journey was about to get much, much tougher. The route now required them to leave behind the open lanes and navigate through a heavily treed section. This was before the days of mobile phones or walkie-talkies, so they had to resort to more rudimentary forms of remote communication – shouting at the top of their lungs!

Each pilot took it in turn to run blindly through the tree lined section while the other bellowed directions:



Pat Teakle stops for a breather on the long and steep slog up Crook Peak. Today is a light wind day, so instead of one of his big scale ships he's lugging up a lightweight balsa floater and Pat's original design 'Rhubarb' in its flashy red and yellow colour scheme



Pat points toward the radio mast at Penn Hill in the far, far distance. The mast is lost in the haze in this photo. Pat basically followed this line of ridges for a stunning 9.1 miles (11 miles on foot)



THE LONGEST XC

"Left rudder. Now straighten. Pull up!" As soon as one got clear of the trees, he would then have to shout directions back to his partner. Amazingly, both gliders survived without a serious loss of control. But now the two modellers were about to encounter a truly formidable obstacle: Cheddar Gorge!

Climbing Jacob's Ladder

Having escaped the trees, the pair followed a footpath across a farmer's field and wound up at the bridge at the bottom of the gorge road. From here, they proceeded up Lippiatt Lane toward Bradley Cross in order to pick up the footpath that climbs the south east side of Cheddar Gorge past Jacob's Ladder and the 'tower'. Pat said this was the toughest leg of the trip. The high stonewalls on either side of Lippiatt Lane screened out much of the sky, forcing the pilots to leave the safety of the slope lift and fly to a position overhead where the models could be seen.

Once they reached the footpath and the high walls had been left behind, it was safe to send the gliders scurrying back to the slope lift. But by this point the smaller Norseman had lost much of its height and eventually it flew into the top of a tall, model-eating tree and parked there. Just like that, Bob's day was over, leaving Pat to continue the gruelling climb alone. Pat followed the walking path past the tower and onto the hill above Bradley Cross, where he picked up the West Mendip long distance footpath.

With the worst obstacles safely behind him, Pat was free to concentrate on his flying and his next goal of the Mendip Gliding Club field at Halesland, high above the village of Draycott.

But by now fatigue was kicking in with a vengeance and the Vega had lost a lot of precious altitude crossing Cheddar Gorge. Pat was suffering from tiredness and dehydration (he badly needed water!) and he was finding it difficult to focus. Still, he knew the slopes he was trudging toward very well from his days with the Air Training Corp, which had been based in Halesland years before the Mendip Gliding Club came along. He pushed ahead with the Vega to a slope he had often flown in a full size glider and was rewarded with stronger lift.

By now he was properly thirsty but his supply of serendipity had yet to run out as he ran across a group of hang glider pilots flying off the slope at Westbury-sub-Mendip. Remarkably, one of them was a friend Pat hadn't seen in over twenty years when they both lived in Stroud. Pat was able to cadge a much-needed drink from his old friend, and replenished with 'aqua pura', Pat resumed the long slog.

Meanwhile, as Pat's aerial drama continued to play out, Bob Merrit had hiked back to John Hall's home and the two had jumped into John's car and set off to search for Pat. (Of course, neither Pat nor Bob had bothered to consider how they would be recovered after the flight – so much for meticulous planning!)

Pat's eventual goal (which I've kept secret until this point) was the giant radio tower on Penn Hill, high above the city of Wells. By now the tower was a scant three miles away (probably more like four on foot). But the dehydration and miles had taken their toll on Pat, while a shift in the wind direction was

making it difficult to keep the Vega at a safe height above the slope.

Now Pat faced a decision: Press on and risk losing the glider trying to make it the next four miles to Penn Hill. Or land slightly short of goal and go home with a glider in one piece.

As the saying goes, discretion is the better part of valour and so Pat rolled the Vega into a landing circuit and gently slid to a halt on the green turf of Deer Leap, a popular beauty spot that enjoys spectacular views over the Somerset Levels. Pat's luck was still working its magic as he had landed close to the lane just above the village of Easton, and soon Bob and John rolled up in the car and gave Pat and his Vega a lift home.

Epic Odyssey

By the time he landed, Pat had been flying for over five hours while covering a distance of 9.1 miles as the crow flies, which equates to around eleven miles on foot!

And of course, this doesn't take into consideration the vertical height he climbed and descended along the way. And all this before mobile phones, 2.4 GHz radios, digital servos, on-board telemetry, and even bottled water to take along on the journey!

Now aged 71, and despite a recent heart operation to install a stent, Pat is still a very active member of the WMSA. Most Wednesdays and Sundays he makes the slog up Crook Peak with a backpack carrying his radio, lunch, spare jacket and tools, while carrying a large, fully assembled scale glider cradled in his arms!

RCMW



Taken at a recent White Sheet scale day, Pat poses with his recently completed Mosway 3 (yellow) and another own design, his so-called Celestial Horseman (red/yellow)

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Paul flew his Waco to second place in the Pontefract leg of the Traplet Scale competition



Built to 1:5.5 scale, the 72 inch wingspan YKC makes a nicely sized model aeroplane

Paul Blakeborough is the treasurer of the BMFA Northern Area and I have been the Northern Area Auditor for some years now. I meet up with Paul every year end to audit the accounts and after completing the audit we have a chat about our models. There was a surprise in store for me this time as I found that Paul was building a model of a Waco YKC.

The reason for my surprise was because I had been working on my own model of the YKC for some time. As a result of our chat my endeavours to complete my model increased dramatically and a first flight was made in the autumn of 2015. (See the January 2016 issue of R/C Model World for details of my model.)

Paul, however, was well ahead of me and his 1 to 5.5 scale model of the YKC flew in May of 2015. I had a chance to photograph and check over the model at the Pontefract Traplet competition in May of this year and I was most impressed with what I saw.

Big And Little

The model is based on a full size example that was used by the Long Range Desert Group, or LRDG, during the 1939 to 1945 war. The LRDG was a covert force that carried out deep penetration and intelligence raids behind enemy lines, mainly in the Libyan Desert between 1940 and 1943. There were two Waco cabin biplanes used by the LRDG, one named Little – a YKC, and

A Superb Waco YKC

Phillip Kent takes a close look at Paul Blakeborough's detailed model of a military Waco Cabin Series biplane



These pictures show the excellent rib stitching and corrugated control surfaces



Centre section details include the sleek wing fairings, the wing walk-way and the nicely reproduced curved rear cockpit glazing

one named Big – a ZGC-7. The Big and Little names were given due to the engine horse power ratings used in the two aircraft.

The one modelled by Paul was Little, the YKC. The Y in the designation was for the engine, a 225 hp 7 cylinder Jacobs L-4 radial. The K was for a Cabin Series aircraft and the C was for aircraft produced by Waco between 1931 and 1935. The ZGC, Big, had a 285 hp 7 cylinder Jacobs L-5, the G was for the Cabin series, the C for a Custom Cabin and the 7 for aircraft built by Waco in 1937.

Model Details

The model uses typical building techniques that use strip and sheet balsa, along with

ply and some blue foam for wing root fairings. The wings use rib for rib construction and both plug into the fuselage with piano wire dowels. The tail unit relies on the excellent balsa core construction, with the fuselage using a box padded out with formers that carry the multitude of stringers that give the model its attractive streamlined shape.

The struts use the K&S extruded aerofoil aluminium tubes that bolt together with 2 mm nuts and bolts. The undercarriage uses modified Uniract oleos built into triangular leg fairings. The model has a fully furnished interior, with access through an opening door. The dummy radial engine was built up using Williams Brothers cylinders modified to

resemble the Jacobs 7 cylinder unit.

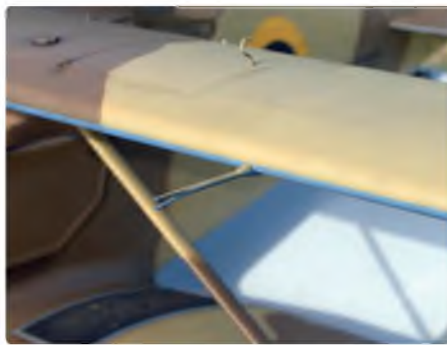
The model has a wingspan of 72 inches and is powered by a Laser 120 four-stroke. The weight is 12 lb 6 oz, giving it a wing loading of 21 oz per square foot. The Solartex covered camouflaged model is painted with Vallejo Model Color water based paints. The colours used are Azure 70.902 (blue) for the undersides, US Field Drab 70.873 for the darker brown and for the lighter brown a three to one mix of Buff 70.976 and Middlestone 70.882.

The photographs should give readers an idea of the quality of this superb model designed and built by Paul Blakeborough.

RCMW



Upper wing tanks are nicely detailed...



...as is the pitot tube



Every good scale model needs a pilot



Opening the cabin door reveals more sumptuous details, including the upholstered seats and door panels. Note the folded map in the seat pocket



Like a lot of British scale modellers, Paul has chosen a Laser four-stroke engine to power this scale masterpiece. A Laser 120 four-stroke is well disguised behind the big dummy radial and cowling



Fine scale modelling continues at the tail, which is made using the balsa core method of construction



'Little' on a medium level fly-past



The Solartex covered camouflaged model is painted with Vallejo Model Color water based paints. Azure on the undersides, US Field Drab for the dark brown, with a three to one mix of Buff and Middlestone for the light brown



Size One

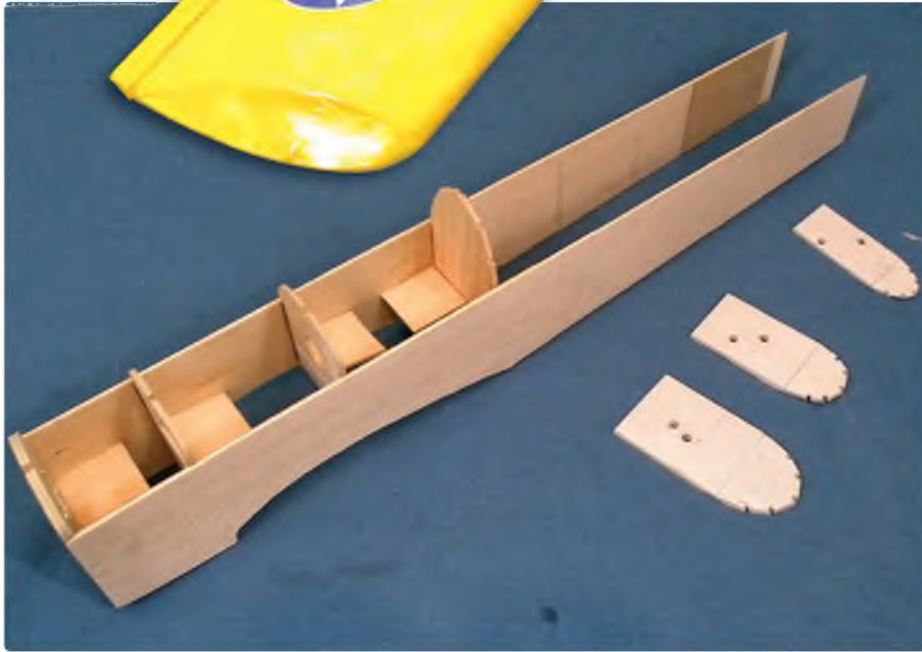
A 51 inch (1290 mm) span sports model design of all-wood construction, designed by Peter Miller. Size One will suit most builders and flyers when fitted with a small IC engine and four function R/C



MODEL WORLD

At A Glance

MODEL TYPE:	Sport aerobatic
WINGSPAN:	51 in (1290 mm)
LENGTH:	36 in (915 mm)
ENGINE:	.25 two-stroke or .30 four-stroke
CONSTRUCTION:	Balsa and plywood
RADIO:	Four function



The two sides have been joined. Note the scrap wood to hold the formers up, right from the first stage

Size One came about because I was suffering from designer's block; I just could not find inspiration in anything. I even looked at the idea of building a kit! I know that the only way to overcome this is to build something, anything, to get me going.

Looking around for something quick and simple to be powered by a spare SC 30FS,

I spotted my old 43" span Size Zero design; a nice, simple model that flew really well with a .15 two-stroke, which was published in RCMW March 2008 (Traplet plan no. MW3304).

A few calculations showed that an 18% enlargement (now 51" span) would provide the perfect dimensions for the larger engine.

I changed the construction from the very open framework fuselage and built up tail surfaces to sheet sides and solid sheet tail surfaces. I also increased the tail moment by 1 inch. Just for the sake of change, I fitted a wing-mounted undercarriage.

These changes did mean that I had to add three ounces of lead in the nose. But the model is light enough that this will not make any difference to the flying and by using lighter wood in the tail this amount of weight could be reduced.

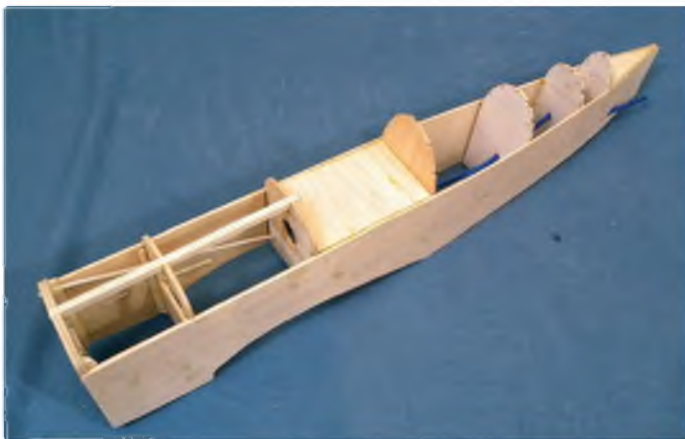
Flying

Well, the diabolical winter meant that we didn't get any weather suitable for test flying between December and April. Wind, rain and cold every Sunday made life miserable. I did actually have one brief test flight on one cold day but the throws were completely wrong and it was really a bit too breezy for my liking. But at least it proved that the model flew okay.

Then, in early April, we had a perfect weekday and three of us gathered on the field and I took Size One along.

Take-off was straight and easy, but slightly longer than expected. Once in the air I found that low rates were far too low and I flew most of the time on high rates. I needed a little trim adjustment, a click of left aileron and some down elevator.

Once I was happy I tried out the manoeuvres. Rolls were good, but I needed



The sides are pulled in at the rear, with the rear formers added and snake outers fitted



Detail showing the nose assembly



Rear view of the basic assembly



First stage of rolled sheet turtle deck



Turtle deck bent over and glued down. Stringers have also been added and the engine temporarily installed



The spinner backplate is used to locate the nose ring accurately

a quick dab of down in the middle of the four point rolls. Flick rolls were very fast in both directions.

Inverted flight needed a lot of down held in. Loops were easy and straight, with no tendency to screw out. I even did a couple of square loops! Slow speed flight was good, with no sign of a wing dropping and spin recovery was instant.

On the second flight I handed over the camera to a friend who was soon clicking away in spite of never having tried to photograph a model low and close before. Now this may sound strange but I do not normally fly for the camera; I have another friend who does that while I take the pictures.

I soon found that low, slow passes back and forth calls for a lot of care and patience. But apart from one or two hairy moments in

the early stages I was soon doing low, slow turns and flying back and forth with ease.

Looking back on the session I realised that the engine was not set as lean as it could have been and a little more power would have helped.

While Size One flies nicely on the .30 four-stroke, you could use a .25 two-stroke and then you would have a real hot rod.

Building The Fuselage

Cut out all the parts and glue the doublers to the sides with impact adhesive. I use spray on impact adhesive that works well, if a touch expensive.

It is best to fit all the blind nuts to F-1 at this stage as getting in at the back is tricky, to say the least.

Lay one side down and glue on the formers. I use aliphatic resin for all my wood joints. Note that I cut right angle squares and hold the formers vertical with these, which are spot glued with CA. You can cut triangles instead. You could also use small square boxes, etc. to hold the formers while they are drying. Once the glue has dried, glue the other side down on top of the formers and leave to dry.

Now you can glue in the cockpit floor to hold everything square and then pull the rear of the side together and glue in the rear formers. Fit the 1/4" square spine at the nose and add the snake outer tubes for the throttle and tail controls.

Fit the turtle deck sheet. This is best done by gluing the sheet to the fuselage sides and leaving it to dry. Then wet the outside of the



Inside the fuselage showing the wing bolt plate under the scrap balsa infill



Detail of the cockpit



Making the fairing blocks that fit at the base of the fin



Half inch sheet cowl pieces glued in place



Engine side of shaped cowl



First stage of building the wing

sheet and apply heat with a heat gun while gently pushing it down to match the formers. Trim the sheet and glue it down.

The underside of the fuselage is covered with 1/16" sheet and the stringers can be added. Fit the tailplane platform and the tailskid mount. Also make and fit the ply plate with the blind nut for holding on the wing.

The fairing blocks each side of the fin are easier to make if you take some scrap sheet and spot glue them in the locations for the tailplane and fin. Then spot glue scrap block or laminations of 1/2" sheet each side and carve and sand the whole assembly to shape. Once you are satisfied with the shape just split them apart and you will have two perfectly shape fairing blocks.

Mount the engine temporarily and glue the nose ring to the back of your spinner with 1/16" scrap sheet spacers. Mount the ring on the engine and build up the cowl with 1/2"

sheet between the nose ring and F-1. Leave to dry and then remove the ending before carving and sanding to shape.

This completes the construction of the fuselage.

The Wing

The wing follows my tried and tested sequence that guarantees a warp free structure. It has been used over the years and anyone who has built a few of my designs will be able to build it with their eyes shut.

Start off by laying down the leading edge sheet and trailing edge cap strip, and then gluing on the bottom spar.

Glue on the ribs, placing the undercarriage (U/C) mount in position but not gluing it in place for the moment. Add the trailing edge spar.

Note: if building both wings at the same

time do not fit R-1 to one wing at this stage as this will be fitted when the wings are joined.

Chamfer the bottom of the 1/8" leading edge to match the ribs and glue in place. Carefully raise the undercarriage mount and glue to the ribs. Add the various triangular bits and the beech block for the U/C upright. When this has dried drill the hole for the upright in the middle of the block and U/C mount.

Note that the U/C mount is shown as laminations of ply (on the plan) so as to leave a groove for the undercarriage leg. If you are feeling lazy it can be made from 1/4" ply with no groove.

Now raise the lower leading edge sheet and glue to the leading edge and ribs. I use aliphatic resin to glue it to the leading edge and then run Superphatic adhesive along each rib and also under the undercarriage



Leading edge added and lower L.E. sheet brought up and glued in place



Beech block and triangular stock glued in place



Dihedral brace being glued in place



Gluing down the top leading edge sheet using lots of clamps and map pins



First stage of joining the wings. The second R-1 has just been fitted at this stage



View of the bellcrank bay and lower sheet with pushrod slot

mount because it wicks into the joints nicely. Both wings can be built up to this stage, but now you need to complete one wing – the one with R-1 fitted!

Glue on the dihedron brace and then add the top sheeting to the leading edge. Use lots of clamps at the spar and map pins at the leading edge.

Add the small blocks for the hinges and then glue on the top trailing edge cap strip. When all the glue has dried the completed wing can be joined to the second wing.

Leaving the incomplete wing pinned down join the complete wing to it. Prop up the tip 2" of the completed wing and join onto the other wing. Now you can glue in R-1. The advantage of doing it this way is that you get a perfect fit between the two R-1s.

Now you can complete the second wing to the same stage as the first. Then, when the glue has dried, you can lift the complete wing

from the building board.

Next the ply plate for the servo mount is fitted. In fill the T/E with scrap as shown, to take the pressure of the wing mounting bolt.

Next the centre section sheet is added. The bellcrank mounts and bellcranks are installed with the 16 SWG pushrods. The bottom of the bellcrank bays are covered with 1/16" sheet. Also add the ply reinforcement round the exit slot for the pushrod to the ailerons.

Add the cap-strips to all the ribs and make and fit the wingtips.

Mark out the location of the undercarriage. I use pins to find the edges of the U/C mounts and then mark them down the middle. Cut away the sheet for the wires and saddles. You may also want to add some more Superphatic glue if the sheet is not stuck down completely to the ply mounts.

The ailerons are simply shaped from sheet, as shown on the plan. Cut them to length

and fit the fixed portion to the trailing edge spar. Cover the bottom with a 1/16" ply plate to take the loads of the mounting bolt.

Open up the hole at the leading edge for the front 1/4" dowel. The hole is made when the two R-1s are joined. When tested the hole in F-2 may be slightly high, this is to allow for some fine adjustment to get a perfect firm fit. The wings are now complete.

Tail Feathers

The tail is pretty simple. Use soft, light wood. On the original Size Zero they were built up, but I wanted to simplify the construction. This did mean that I had to add a little lead in the nose.

The elevators are joined with a 14 SWG joiner. Hinging is done with CA type hinges. I prefer the ones made by Kavan but that is my personal choice.

SIZE ONE



Servo bay in the centre of the wing



Underside of centre section showing the ply plate for the wing bolt head and U/C grooves



Wingtip construction



Servo bay showing treblers fitted to the sides



Side view showing colour scheme details

Covering

I used Solarfilm Supershrink Polyester for the covering. I like this material best of all as it covers well and goes round compound curves really well. It feels less 'plastic' and does not sag on hot sunny days. Yes, over the years we have seen a couple! Last, but not least, the polyester is much more tolerant of excess heat when applying it – something that this builder is guilty of using most of the time.

I chose the pre-war American colour scheme as it is simple to apply and looks really good. I bought the insignia from 'Stickers World' on eBay. This company has a truly gigantic range of stickers and, although based in Greece, delivery is about a week. Great service and they always throw in a few extras. They sell '41 Squadron' badge stickers too, which makes them a favourite with me!

Cover the tail parts before gluing them on. Naturally, you do not want to cover the areas where glue will be used.

Installation

There is plenty of room for all the radio, etc. I used a Spektrum Rx and Hitec HS322 servos. Power is an SC 30FS.

The tank fits into the tank bay but it is a good idea to fit the Rx battery in the nose under the tank. Possibly a 4.8 V 2000 mAh NiMH battery as that will reduce the amount of lead needed in the nose. The four ounce tank goes in easily. I apply silicone sealant round the neck as this seals the tank bay from the engine bay and also holds the tank in place. It is still quite easy to remove the tank if necessary.

The servos are fitted as shown. I fit 1/8" balsa treblers to the sides, with cut outs for the servo rails. This prevents the servos from coming loose in a heavy landing.

The aileron servo is mounted using servo mounting brackets. The two pushrods out to the bellcranks are joined in the middle with the connection to the servo. I use a short piece of 8 SWG brass tube and solder all three wires into it. I have seen one person who used a simple nut instead of tube.

The undercarriage can be mounted using nylon saddles. A very neat fairing for the wire legs can be made easily with 'back binders' from any stationary shop. Just bind and solder a short 'L' shaped piece of thin wire to the leg to stop the fairing from rotating and add a length of binder.

The windscreen is held on with very small screws and some canopy glue.

Set up the control throws as follows:

Ailerons:	High 3/8", Low 5/16"
Elevator:	High 3/8", Low 1/4"
Rudder:	High 1 1/2", Low 1/2"

RCMW



Ready to fly with Solarfilm Supershrink Polyester covering in early US 41 Squadron scheme



Flying for the camera! Size One handles slow turns and flying back and forth with ease



Basic aerobatics are achievable by an experienced pilot

PLAN DETAILS

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PLAN NUMBER:	MW3795
PLAN PRICE:	£15.99 (\$27.99)
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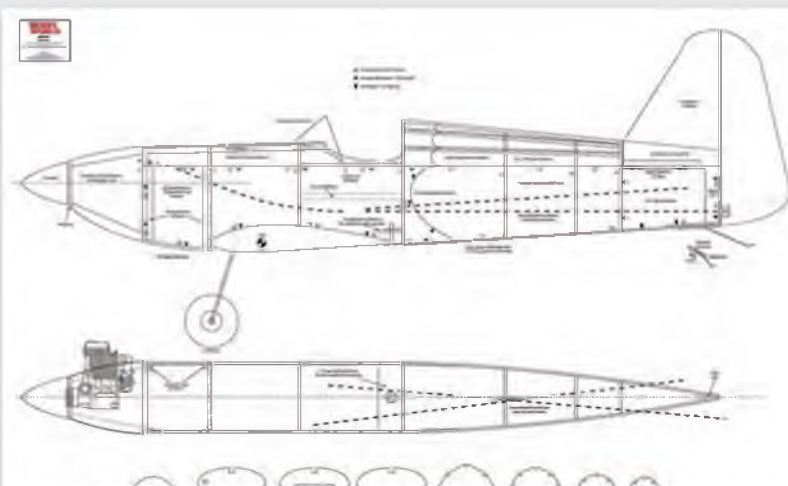
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Pole Dancer



Construct this simple 40" span Depron and balsa pylon racer, designed by Graham Dorschell for D3536 1500 KV outrunners and three function R/C

MODEL WORLD

At A Glance

SPAN:	1016 mm (40")
LENGTH:	860 mm (34")
WEIGHT:	620 g (22 oz)
RADIO FUNCTIONS:	Elevator, Ailerons, Throttle

MOTOR:	3536 1500 KV outrunner (Grand Turbo GT2815/05)
ESC:	40-60 amp
PROP:	8" x 6" APC-E
BATTERY:	3S 2200-3000 mAh LiPo
CONSTRUCTION:	Depron and balsa



Only a few simple tools are required

Description

Pole Dancer is a simple to build Depron pylon racer, using a 35 millimetre outrunner motor. It is constructed of foam board, packing tape and balsa.

It's a fast build airframe that utilises a folded wing and requires minimal tools. The model is very fast, stable, strong and lightweight. It is best described as agile and is not for novice pilots. But it is easily constructed and so is suitable for anyone who is starting to build model aircraft. It is also fairly cheap to produce, for a pylon racer.

Fuselage Construction

The main fuselage construction uses two sheets of Depron foam, 5 to 6 mm thick, which can be purchased from your local model shop. Prepare cardboard templates of the parts and draw the shapes onto the Depron. Then use a Stanley blade to cut them out.

The Depron sides are doubled up to 10 or 12 mm thickness for strength, using 3M Super 77 spray adhesive to laminate the two sides together. Do the same with the floor and roof of the fuselage. Lightly sand any debris from the edges of the fuselage components.

Next, construct a bulkhead for your chosen motor. Plywood is used on the plan, but the prototype has plastic bulkheads purchased in Asia from a friend who supplies me with made to measure custom parts. Glue the top and bottom deck using 'foam safe' contact adhesive and hot glue the bulkhead in place with foam packing.

Next, make up the battery tray compartment. I use Correx board and a lightweight non-slip rubber mat material used in the car industry. The battery is strapped in place using a Velcro tab.

Cut out the various slots for the main spar through the fuselage on one side. Then, using foam safe glue, offer up the second side and secure it with masking tape. When the contact adhesive is set you can cut away any excess from the fuselage and sand it to the desired shape. Replace the templates and cut out all the necessary access holes.

To add strength I use clear reinforced packing tape to cover the fuselage. But first spray the foam lightly with 3M 77 contact adhesive

Next, draw lines for the battery access hatch, which is cut-out with the Stanley blade. Use glass reinforced tape to make a hinge. Slot a hole in the rear of the fuselage to take the tail fin and then decorate with vinyl. Then fit the canopy, for which I used black Correx board.

Wing Construction

I have included details of a YouTube video to help you with make the folded wing. See 'How To Fold Depron Wings' in Contacts.

As with the fuselage, make up templates from the plan and draw around the opposite sides on the foam. Cut around, leaving 1 cm excess.



Make a template from the plan and draw up the four fuselage sides



Laminate to make two parts using spray adhesive



Cut four tapered parts for the fuselage, top and bottom. Then laminate to make two parts



After sanding the edges smooth test fit dry, then glue the bottom to one fuselage side



Attach the front former/motor mount with hot glue for added strength



Attach a small piece of rubber non-slip mat and fix a Velcro strap to the radio tray floor for the LiPo battery restraint

Place the wing on a flat table. Turn it over and liberally tape and flatten down to form the clear packing taped outer surface of the wing. Be sure you apply overlapping tape in the section to be folded.

Turn over the wing so that you are looking at the inside surface and score the intended fold line with a knife and long ruler. Placing one hand on the foam, briskly fold it over and hold it flattened using the ruler. Replace the template and cut out on three sides with a long blade; note the template folded side is open.

Cut out a 5 mm Depron spar and use contact glue to fix it in place. Chamfer the bottom section of the trailing edge and sand it down; this will produce a 5 mm end to the balsa aileron.

Add glass tape to the top rear section of the wing and use contact glue for the spar. When ready fold down over the spar, seal the rear

section and cap the wing tips. The ailerons are made up of 5 mm balsa.

Cut access holes to allow the servo extension lead wires to reach the battery bay. Then turn over and decorate the wing.

Tailplane

Cut out a new template from cardboard and start construction of the tailplane using 5 mm (3/16") balsa. Cut the elevator chamfer on one side and, using glass tape, fold it over and tape the opposite side to make a hinge. I used white vinyl over the balsa bit but Solarfilm or other methods can be employed.

Wing Installation

The wing installation is simple. There are two main 6 mm (1/4") thick hardwood spars that are simply pushed through underneath the battery tray box. Make sure that the spars align with the tailplane using a long ruler and

that everything is straight.

Using a hot glue gun secure the wing in place. Using spare strips of foam laminate the top surface only and chamfer.

Dry fit both wings before securing them to the body, and also make sure that all access holes are clear before installation. Once you are certain of a straight fit use epoxy or a hot glue gun to secure both wings to the body. Hot glue the tailplane and fin in place.

Power And Radio Installation

Pole Dancer is powered by 35 mm diameter 1500 KV brushless outrunner motor (a Grand Turbo GT2815/05 was used in the prototype) with a 60 amp ESC and a 8" x 6" APC-E propeller. For the controls I used three mini 9 g servos and a Spektrum AR400 receiver.

First, mount the outrunner motor to the ply bulkhead. Remember to check the rotation of



The radio tray is now glued in place



After adding the second fuselage side and sanding, cut out all the required holes, servo recesses and an access hatch



Attach the Correx profile canopy and the 5 mm (3/16") balsa fin with a hot glue gun. Add any decals required



For the 'folded wing' method cut the wing panel oversize. Then mark and fold



Trim along the trailing edge, root and tip with a sharp modelling knife



Carefully chamfer the trailing edges and sand to fit, ready to join

the motor before installation. As a safety tip always the install and test the motor without the propeller! Note that the motor is set up with three degrees of down-thrust and two degrees of right side-thrust

The weight of the aircraft without the battery should be around 620 g (22 oz) and the Centre of Gravity (C of G) is approximately 70 mm from the Leading Edge. Elevator and aileron throws are 12 mm each way.

The servo installation is simple and straightforward. They are just hot glue mounted in place.

Flying

Pole Dancer is a joy to fly. She is agile and is easy to launch solo. I would say the model

is not for a beginner but a confident aileron experienced pilot will truly appreciate the performance. However, when set up with small throws she can be flown by someone as an aileron trainer.

The model has no vices and can be flown inverted, either fast or slow. The wing loading is very low due to the low weight of the aircraft, so she is easy to launch and lands perfectly.

This is a high speed machine that can effortlessly take pylon style turns with no loss of speed. Reversals and low passes are very pleasing, while loops and rolls are again superb to fly. The test flights went extremely well, with minimal adjustment to the trims.

Conclusion

This is a speed machine for sure and in the hands of an experienced pilot it is a joy to fly. I'm sure that the speedy build of this model, added to its high performance and low cost, will mean that you and your clubmates will want to make several examples. Then you can have a tremendous amount of fun having impromptu club pylon races with your various Pole Dancers.

Making this model has been very gratifying and watching my fellow club members pouring on the coals and making high speed pylon turns with their own Pole Dancers is extremely exciting.

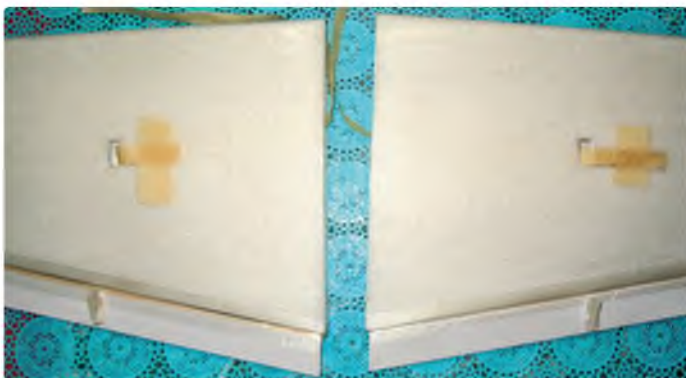
So, as they say... "Gentlemen, start your building!" **RCMW**



With the spar inset, glue the wing trailing edge, then tape up and allow to dry



Add tips and ailerons, plus the balsa trailing edge insert, then gently sand smooth



Aileron cut outs, with servo lead 'pull through' ribbons



Cut out and fit the 5 mm (3/16") balsa stabiliser and elevator, then cover as preferred. Hinge with glass reinforced tape



Fit the 1/4" thick hardwood spars with foam packers (top only). Apply hot glue to the spar and slide the wing panels on



Apply hot glue to the root edges of the wings and stabiliser to hold them in place



Accessories bundle



Motor side thrust is shown. Don't forget that all-important cooling air vent!

POLE DANCER



Final aileron and elevator servo installs, showing the pushrods and linkages



Position the battery to obtain the correct C of G



Pole Dancer's 'racy' shape in the air gives the model a speed advantage



Looking good in banked turns for the camera!



Designer and author, Graham gives the Pole Dancer some scale

CONTACTS

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'HOW TO FOLD DEPRON WINGS' VIDEO
www.youtube.com/watch?v=vYM-T4XPM-o

Or scan the QR code with your smart device

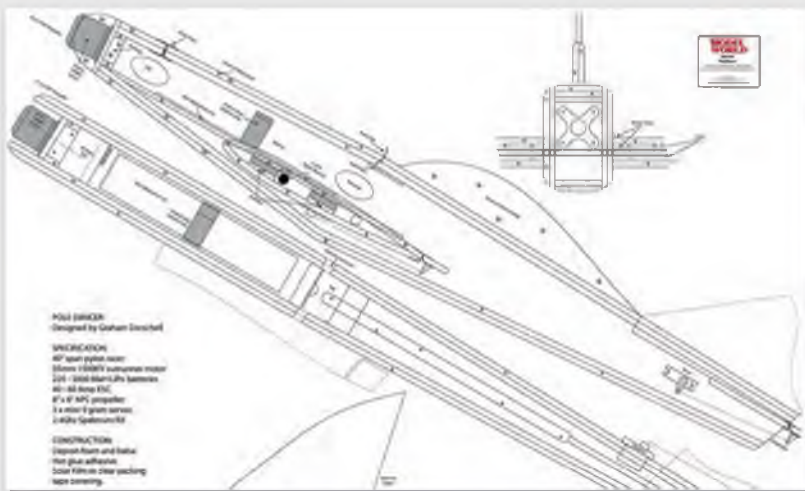


PLAN DETAILS

BUILD CATEGORY: Beginner
(but requires advanced piloting skills)
PLAN NUMBER: MW3796
PLAN PRICE: £11.99 (\$20.99)

Plans and parts are subject to Postage & Packing charges at standard rates.

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GT PD606



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GT PD606*	50W	1-6	—	—	10-18VDC 100-240VAC	0.1-6A	TBA	300mAh	£39.99
GT C607D	80W	1-6	1-15	2-20V	11-18VDC 100-240VAC	0.1-7A	0.1A-1A	300mAh	£42.99
GT X6	80W	1-6	1-17	2-20V	10-18VDC	0.1-7A	0.1A-1.5A	300mAh	£49.99
GT Duo 607	160W (2x 80W)	1-6	1-18	2-20V	11-18VDC	0.1-7A	0.1A-1A	300mAh	£67.99
GT 3B6-D	160W (3x 60W)	1-6	1-15	2-20V	11-18VDC 220-240VAC	0.1-6A	0.1A-1A	300mAh	£99.99
GT T610 Touch Screen	200W	1-6	1-18	2-20V	10-18VDC	0.1-12A	0.1A-5A	300mAh	£59.99
GT A612-D	200W	1-6	1-18	2-20V	11-18VDC 220-240VAC	0.1-12A	0.1A-5A	200mAh	£69.99
GT Duo 612	400W (2x 200W)	1-6	1-18	2-20V	11-18VDC	0.1-7A	0.1A-1A	200mAh	£99.99
GT X-Drive 607	320W (4x 80W)	1-6	1-15	2-20V	10-18VDC	0.1-7A	0.1A-1A	300mAh	£99.99
E-Flite Celecra 4 Way 1S	4x 1S	1	N/A	N/A	Internal Batteries or PSU	4x1S@ 300mA	N/A	N/A	£28.49

* = Can charge 6x1S or 3x2S or 2x3S or 1x4S+1x2S or 1x6S LiPo batteries



GT 3B6-D



GT T610



GT A612-D



GT Duo 612



GT X-Drive 607

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PO-2830-1210	28mm	30mm	1210kv	4mm	60g	20A-30A	£25.49
PO-2830-1350	28mm	30mm	1350kv	4mm	60g	20A-30A	£25.49
PO-2834-910	28mm	34mm	910kv	4mm	69g	30A-45A	£27.49
PO-2834-1020	28mm	34mm	1020kv	4mm	69g	30A-45A	£27.49
PO-2834-1160	28mm	34mm	1160kv	4mm	69g	30A-45A	£27.49
PO-3535-870	35mm	35mm	870kv	5mm	94g	40A-60A	£28.99
PO-3535-1090	35mm	35mm	1090kv	5mm	94g	40A-60A	£28.99
PO-3541-920	35mm	41mm	920kv	5mm	127g	40A-60A	£33.49
PO-3541-1070	35mm	41mm	1070kv	5mm	127g	40A-60A	£33.49
PO-3541-1270	35mm	41mm	1270kv	5mm	127g	40A-60A	£33.49
PO-3547-800	35mm	47mm	800kv	5mm	154g	60A-70A	£35.99
PO-3547-960	35mm	47mm	960kv	5mm	154g	60A-70A	£35.99
PO-3547-1190	35mm	47mm	1190kv	5mm	154g	60A-70A	£35.99
PO-5055-595	50mm	55mm	595kv	8mm	303g	60A-80A	£61.00
PO-5065-320	50mm	65mm	320kv	8mm	396g	60A-80A	£75.50
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Light Flight

After a mild overdose on quadcopters, John Stennard returns to flying indoor model aeroplanes and helicopters



Super Nutball is equally at home outdoors, even in quite windy conditions. See 'Bugs & Nuts'

Due to popular demand our club now has 14 sessions booked at our venue for both the winter and spring indoor flying sessions. We are very fortunate that we have a local school with a sports hall that can be booked in the evenings and we also have the financial resources to fund the hire charges. From an original attendance figure of around 20 we now sometimes reach 30 indoor enthusiasts per evening.

A word from the wise (after the event?) – make sure all your models and gear are all 100% ready for action or periods of intense frustration are guaranteed! It's worth considering a small and low cost indoor flying venue of the village hall/Scout Hut type if most members in a club want to fly small quads and helicopters, although of course any of the Vapor family will fly easily in even half a badminton court space.

So this month, with indoor very much in mind, I'm concentrating on a lovely helicopter and some well known indoor foamies.

Helis Deserve A Second Chance!

At our indoor meetings quads tend to dominate but there is still a dedicated helicopter following. The interest often focuses on small-scale helicopters and I'm one of the flyers who still enjoy the different and rewarding experience one gets from piloting a scale helicopter. When I saw the Blade AH-64 Apache I was immediately attracted to the size and appearance.

I did wonder two things after all my quad flying. Firstly, would I actually get much use out of a helicopter and, secondly, would I be very 'rusty' when in charge of an Apache? But the Apache does have both SAFE technology and a Panic Mode capability, so that'll help if I need it!



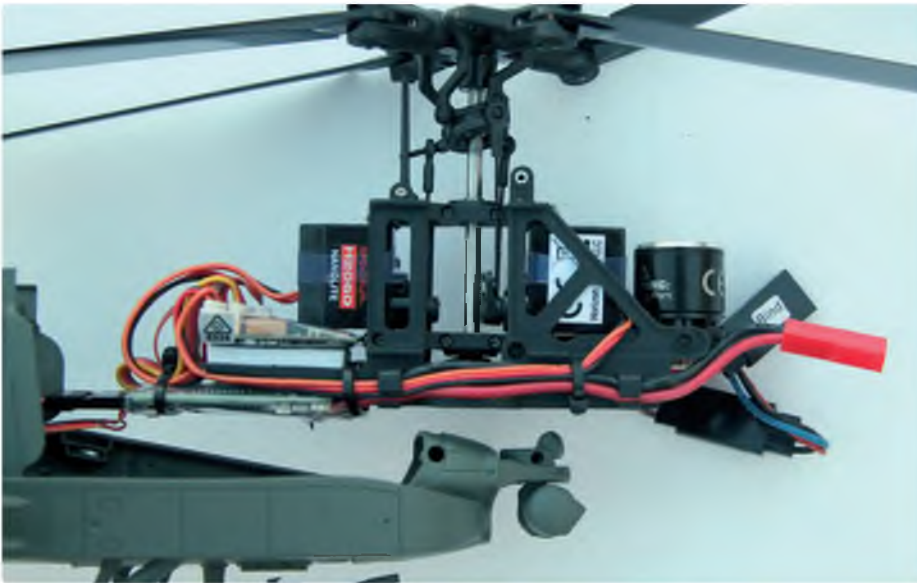
Ready for take-off, the Apache really looks the part



The Apache is not difficult to fly if you are a reasonably capable pilot



How realistic is this! The Apache is out hunting for targets



The module system is clever and totally unexpected



The gearbox is very easy to access and repair



Compare these two gears – very mangled teeth on the damaged one



The tail rotor is easy to replace. This damage was pilot induced



More pilot induced damage. The U/C leg needed a metal pin inserted but drilling a 1 mm hole in the leg strut has to be done with great care

The Apache is a conveniently small helicopter with a 318 mm (12.51 in) main rotor diameter, a length of 375 mm (14.76 in) and a flying weight of 190 g (6.7oz). She uses a 6000 KV brushless main motor, a 4800 KV brushless tail rotor and an AR 6335 receiver.

Getting ahead, I looked up the manual on-line and set to preparing the Tx for its date with an Apache. The Apache arrived very quickly from Andy at Robotbirds and I have to say she's a little beauty. The Apache includes one 2S 400 mAh LiPo complete with charger and accessories.

With the Tx already set up, once bound I was able to check out the main rotor operation before I fitted the four blades. The tail rotor is very scale looking and I was also able to check this out with the yaw control. While the battery pack was charging I fitted the main blades ready for the first flight. Starting off on low rates I soon had the Apache hovering and as soon as I got the

feel of the controls I was very happy with the quite stable hover.

It took a few flights to get the Apache trimmed out to my satisfaction, with just minimal changes to the throttle curve and pitch curve. Sadly, after around ten flights I found that the motor would spool up but the rotors remained static. I suspected a gear was loose on its shaft. The Instruction Manual provided no help so it was a question of unscrewing every screw on the fuselage and see what had happened.

I quickly found that the electronic and mechanics are all fitted to a module that slides in place in the fuselage – very clever and convenient. It was soon clear that it was not a loose gear as two of the gears on the gear drive reduction set had badly damaged teeth; in fact no teeth were left on the smaller gear wheel.

With new gears in place and more flight packs I was soon back in the air. I set my timer for 5 minutes but soon found this

was too long and reduced it by stages to 4 minutes. She looks fantastic in the air and does perform well once the quad-fingers have returned to heli-fingers! I just love flying her and am really enjoying the different skill base needed to pilot a helicopter with precision.

While working towards precision I had a couple of mishaps. Luckily the scale tail rotor is easy to replace but not so the undercarriage. Although it is held in place with screws the U/C is part of the helicopter body and is not sold separately. Some careful 1 mm hole drilling and a wire rod solved this problem. If you are into small-scale models and can pilot a small fixed pitch helicopter then the Apache might be for you. Just spend plenty of time on very basic handling before you start hunting for enemy assets in the garden. Piloting this helicopter has proved to be very refreshing after quads, quads and more quads!

Bugs & Nuts

Owe Carlsson, writing from Asarum in Sweden, revived fond memories of Bug flying. He is very pleased with his Bug models, which are literally built from looking at photographs of my original Bug. Owe asked if a plan was likely to be published but this is not possible as the Bug was a commercial kit from a firm in the USA. The Bug was one of the best models we ever had for indoor formation flying and it was also extremely agile.

I mentioned Nutballs to Owe and he sent a photo of himself and a Nutball, a model he



Wow what a flying venue! No excuse for any mid airs in here



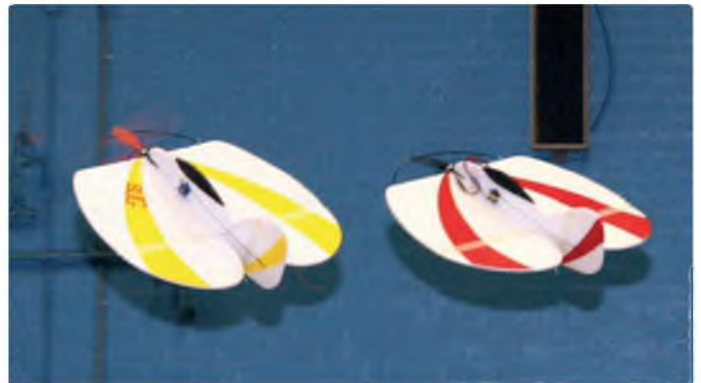
Owe with his Nutball



This is my original Bug next to my mini Bug version



Another photo of indoor Bug formation flying



The Bug could be flown very slowly and very precisely

also enjoys flying. He also included a photo of a superb indoor football pitch at Wäxjö where his club can fly. We were a Nutball free zone for a long while and then suddenly several appeared and they have proved to be tough and resilient indoor trainers. We do not have a specific 'trainer' session so the Nutballs have to take their chance in the 'big foamies' session.

Casting my conversion eye over the Nutball, I reckoned if I built it with elevons and fitted a more powerful motor it would be very agile and aerobatic. The stock Nutball is very easy to modify for elevons as the elevator can just be cut in two. The existing cut outs for elevator and rudder servos can be used for the two elevon servos with an addition cut out for a rudder servo.

The Nutball is not quite a disc as it's 505 mm (19.9 in) long and 460 mm (18.1 in) span. As I was fitting a slightly bigger brushless motor than the recommended 1306 3100 KV (mine is a Turnigy 2204-14T, 19 g) I needed to change the supplied motor mount for a larger 3 mm ply version. The stock Nutball uses 3.7 g micro servos but I fitted 4.7 g versions to cope with the increased elevon loads. The manual also lists a 2S 200 LiPo but I ended up using both

a 2S 300 and 2S 400 and the performance is excellent, even though my final flying weight was around 25 g heavier than the recommended 100 g.

No other modifications were required other than leaving off the undercarriage. I anticipated that I would be flying vertically from my hand launch and high alpha or catching for the landing. Indeed this proved to be the case and the Super Nutball's flight performance has exceeded my expectations. It hovers extremely well and can climb like a rocket vertically. It can pull really tight loops and sharp rolls, plus bunts and inverted flight.

One of my other reasons for exploring the Super Nutball concept was for exhibition flying in our 12 x 10 metre 'cage'. I'm hoping that the Super Nutball without its U/C will not get 'netted' so easily and be capable of a good aerobatic performance in the confined space. A final modification was to extend the elevon and rudder trailing edges with acrylic sheet to provide even tighter manoeuvres.

It's important to remember that flying this type of model indoors and in confined spaces requires a lot of throttle inputs to achieve a rapid response to elevon and rudder inputs. Combining all these control inputs

simultaneously can be demanding for a learner.

So thanks to Owe stirring my Bug memory and I hope I now have a model that I can fly outrageously in a 12 x 10 flying area without getting netted!

Tail End

A modelling nightmare tale with a happy ending! On a sunny Sunday afternoon my first few flights had been with my E-flite Whipet. On landing I went to change to a different model on my DX 9 Tx and noticed that the screen was blank. Okay, don't panic. Switch on and off; no change. Take the battery pack out and reconnect; no change. Try someone else's battery pack; no change. Hmm, is the Tx still transmitting? Yes, the Whipet is still bound and working fine.

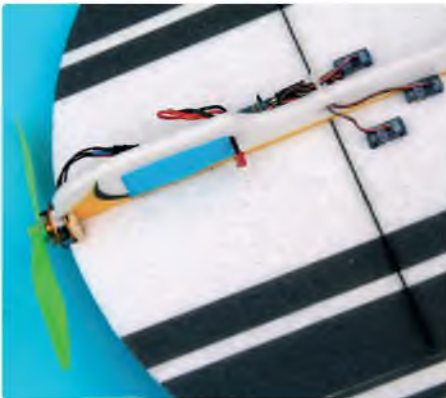
So the rest of the afternoon was spent seeking elusive lift with the Whipet. Back home I did the usual web search and found that I had already tried all the suggestions and only one remained – return the Tx to Horizon Hobby UK. Sometimes this is best done via the dealer where you purchased the item but I've had my DX9 since they were introduced so I decided to go direct.



The elevator was cut in two to make the elevons. The additional rudder servo can be fitted close to the elevon servo



I used a 3 ply motor mount and more powerful brushless motor



The Velcro battery fastening needs to be well forward. No U/C on my model



Ready to go, the Super Nutball does not really look much different from the standard version

Monday saw me hammering on the Post Office door to catch the first available collection. A few days later I contacted Horizon Hobby who confirmed that the Tx had been received and had been allotted a job number. Unfortunately they were very busy so I had to just wait my turn and be patient, which is fair enough.

My big fear, which I had passed on to the technicians, was that any repair might clear the memory. Why, oh why, had I not backed up my models on an SD card! In the meanwhile I bound a couple of my less complex models to the DX6 that I use for all my indoor models so I was able to do some flying.

Less than two weeks later a telephone call on Friday told me the Tx was top of the list and would be looked at on Monday. Anticipating a week or more wait I was overjoyed when on Tuesday my Tx arrived home safe, sound and repaired. The screen display had been replaced FOC and all the models were still there in the memory – phew! Thanks, Horizon Hobby UK! **RCMW**



Vertical flight and hovering are no problem with this configuration



Seeking even more agility, I extended the elevons



After test flights I also extended the rudder

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Printing your own 3D objects, parts and components is easier than you might think - if you can imagine it, chances are you can print it! Make your model as detailed as possible, without having to search for those elusive and expensive parts. Replace those broken parts without having to send your item back to the manufacturer, or pay a fortune for components.

So versatile you will wonder
how you managed without it!

Assembly

The Fisher Delta is supplied in kit form with component parts which are quick and easy to assemble by following the comprehensive online instructions, requiring only a few basic tools. All electronics are supplied ready to use with pre-made wiring harnesses - no soldering is required. Also available as a fully assembled unit at an extra cost.

The complete printer fits neatly into a corner of your desk or workbench, is quiet and odour free in operation and requires only a standard mains socket for power. An Ethernet port on the printer provides control via an easy to use website interface.

Parts

Parts printed from the supplied roll of PLA filament are very light and extremely strong, perfect for all modelling applications; whether structural or decorative.



SPECIFICATIONS

Firmware

- Calibration: automatic bed levelling and machine calibration routine
- Layer resolution: 0.3mm / 0.05mm
- Build surface: Removable bed, uncooled Buildtak print surface (For printing with PLA). Heated aluminium plate available as an upgrade, (allows printing with ABS, PETG, PC, HIPS, and many more).
- Print speed: 0.4mm nozzle, up to 16mm³/s
- Motion: Up to 250mm/s, 4000mm/s² acceleration, segmentation free real time delta movement
- Nozzle: 0.4mm diameter, maximum operating temperature 300°C, warm up time \approx 60secs.
- Power adapter: 100V/240V, 60W.
- Software: Machine control: On board web interface available via ethernet, USB control also available
- Standalone printing from onboard microSD card

Software

- 3D model processing: Slic3r open source software (free download - no license required) can generate G Codes for the Fisher Delta from .stl or .obj 3D model files.
- Supported platforms: Windows/Mac/Linux
- Prints G Code files generated by Slic3r and other open source slicing software

Materials

- Standard 175mm diameter filament (PLA Plastic)



3D printing is the perfect way to make bespoke scale details for all types of models. The builder of this big 1:3 scale RC model of a Druine D-31 Turbulent aircraft needed to represent the parts of the VW engine that protrude

from the side of the cowling. He was able to supply reference photos and drawings of the full-size engine, so creating a 3D printable model was fairly straightforward. He'll need to do some sanding/filling/finishing before painting and detailing it, but it should look just right when installed in the model.

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- Connectors
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- Tools
- Balsa Wood
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Scale Soaring

Electrifying the Bergfalke IV, with Chris Williams



Author, prior to the maiden flight of the electric Bergfalke IV

As I may have mentioned last time around, I was so enthused by the success of the electrified Slingsby Dart 17R that I almost straight away started to work on making another Bergfalke IV from my recently published plan. It might be worthwhile to explain at this juncture the reason for despoiling an otherwise perfectly good glider in this fashion.

In a nutshell, it's all down to Climate Change. Anyone who has been flying as long as I have cannot but help to have noticed

that fly-friendly weather has become a bit of an endangered species. But with E-Assist we can now venture out on a light wind day with an iffy forecast and know that if we fly and the lift disappears, there will be no need for the long walk to the bottom of the hill.

As an extra bonus we also find ourselves in smooth, gust-free conditions, where the scale realism of the flight far outweighs the disfigurement of the moustache on the nose. So far, since building the Dart, we have been out on three occasions whereby we

might well otherwise have stayed at home. (I should also point out that I'm talking slope soaring here, and E-Assist should only be used where local rules allow.)

The nose on most of the gliders I have designed is made up with a 2 mm ply support that is in-filled with car body filler in stages until the correct profile has been achieved. Also, to get the ballast as far forward as possible, lead is screwed to the bulkhead first. So, how to fit the electric motor? My first step is to consult my engineering pal



The E-Bergfalke in action at White Sheet



More White Sheet action!

Smallpiece (the Thinking Man's Heath-Robinson) who has the expertise to replace the original shaft in the motor with a longer one that now pokes out the other way.

A 12 mm hole is now drilled straight through the nose and the front bulkhead. Due to the fact that the inside of the fuselage at the front is usually reinforced with mat and resin on my designs, there is no guarantee that the motor will sit flush with the F1 bulkhead, so a 6 mm ply ring is made up to which the motor can be screwed. (The extra complication of captive nuts and bolts is not necessary, as all the screws have to do is to stop the motor from rotating, the thrust force is taken up by the bulkhead).

Now, the motor, attached to the ply, can now be epoxied in place with the shaft encased in an 8 mm ball race bearing that Smallpiece insists is necessary (I haven't the nerve to contradict him), set back in the hole in the nose. I suppose in theory there should be some attention paid to downthrust, but I find it much simpler to set up elevator compensation on the tranny. The motor can now be removed and the hole in nose widened to 14 mm, back far enough to accommodate the prop driver, then the motor re-fitted and the bearing epoxied in place.

The last job is to drill two 10 mm holes on the underside of the nose cone, aimed to exit inside the ply ring to give the motor some cooling. Is that enough, you might ask? Well, there are the mocked up sliding windows in the canopy and the gaps in the wheel well to allow the air to escape, but in practice an 8-10 second motor run is all you need to escape the clutches of the fields below, not time enough to generate a great amount of heat.

In the interests of neatness the cooling holes are lined at the front with thin-walled steel tube so that, with a dab or two of filler, a really neat exit hole can be achieved. After that, the rest of the set up is relatively easy.



Smallpiece launches Motley's new E-Bergfalke IV at White Sheet

A 1.5 mm ply floor is screwed securely to the bottom of the fuselage, with slots cut for Velcro straps. Two 3S 2200 LiPos are strapped together for powering the motor, with a single 3S 2200 used in conjunction with a voltage regulator to run the receiver.

In the event, the lead in the nose proved unnecessary, with the batteries all living in the rear cockpit, although this does allow for super-easy access. All up weight of the model, including the batteries, worked out at 12 lb, some three pounds lighter than its predecessor, the Dart.

Just for the record, the motor/ESC set up is the same as the Dart, being the following:

- Turnigy G60 Brushless Outrunner 400 KV
- Turnigy Brushless ESC 85 A, with 5 A SBEC
- 14 x 10 folding prop
- 2 x 3S LiPos

I wasn't the only one to be enthused by the success of the Dart. My pal Motley set himself the task of building another Bergfalke IV and it wasn't too long afterwards that we were maidenizing his version up at White Sheet Hill. It was quite a windy day on the North West slope and it came as some surprise to all when the lift suddenly disappeared, and Mott's Bergfalke sank down towards the trees at the bottom of the slope. Needless to say it was not a problem, so score one more for E-Assist!

I must admit that the lack of flying opportunities in recent times has left me somewhat downhearted, but now it seems to me that there is a least a chink of light on the horizon...!

You can see a video of the electric Bergfalke flying on YouTube, by searching for: E BERGIFICATION!

Ghost Squadron Aerotow

Middle Wallop, 7-8th May, 2016

Little wonder that the turn out of flyers for this event was high, as due to a falling out amongst the Weather Gods the weekend was preceded by a very favourable forecast. And so it proved, with bright sunshine and relatively light winds, and there was much to see and admire. As usual, the Ghost Squadron had one or two large models for us to gawp at, the first being Dave Horten's Gotha 242 troop carrier.

Dave Horton's liking for WWII German

troop carriers does not seem to abate with time, coming up as he does with a different one each season. The Gotha 242, a model which, whatever it lacks in grace, certainly makes up for in brutal purpose, is one such machine.

Dave acquired the Gotha at the Rheidt Euroflugtag show some five years ago. It was built in 1970 by a German modeller who also flew the full size. Dave reckons he's more of a restorer than a builder and as the model was in a sorry state and about to be thrown away, it floated his boat in no small

fashion. Five metres in span and weighing in at 18 kg, it is comfortably below the 20 kg limit whereby all sorts of regulations come in to force.

The model confounded expectations by soaring with the best of 'em during the weekend, and he pronounced himself well satisfied. It is rumoured that the Gotha has on-board smoke and a fully opening rear section with scale ramps and a rear gunner, and although not demonstrated this weekend, maybe next time? (It is intended to take the Gotha back to Germany at some stage, although, sadly, the original builder has since passed away.)

John Greenfield's massive Wien practically takes your breath away with its sheer presence. Unusually for John, this machine was built to someone else's design, being that of Rolf Fritschi, the only previous example being built by Marcus Frey, also well known for the Big Stuff. Ascending slowly behind the long-suffering Greenley tug, the Wien was a picture of grace and scale fidelity, and it was a shame that it flew only once over the weekend.

Brian Sharp's Olympia 463 has been around for a while now, but this time around he had stripped and refurbished the airframe to a new state of glory. The only problem, however, was that the paint was still soft,



Brian Sharp's Oly 463 with the paint still drying!



Dave Horton with his Gotha 242 troop carrier



Roo Hawkins displays his ASH 31Mi and DG 202



This Schweizer TG 2, built by Colin Cousins many years ago, made a reappearance at Middle Wallop



John Greenfield with his mighty half-scale Wien



The Wien in action at Middle Wallop



High turnout at the Ghost Squadron event



The Gotha in action

even after several weeks had passed since its application.

It seems that an aerosol form of two-pack paint was used and, intrigued, I looked into how such a thing could be done. Apparently the activator is stored in a separate compartment inside the rattle can and is released by pressing or turning something on the can so that the two components can be mixed together. I suppose there are advantages to not using a compressor and gun, but I imagine for each can it would be a one-time use only! Whatever, it would seem that in Brian's case the mixing did not

go too well, hence the softness of the paint. Fortunately, none of this detracts from the model's spritely performance and as usual, Brian strove hard to get his money's worth over the weekend.

Brave soul that he is, Roo Hawkins makes his scale glass gliders entirely from scratch, and his ASH 31Mi and DG 202 were well flown over the weekend at this, his first visit to Middle Wallop. He suffered a broken tail boom on one of the models but confessed that his visit had been entirely worthwhile.

Despite some of the administrative hurdles that the organisers had to overcome –

hurdles that seem to be ever more common when it comes to flying on MOD property these days – the Ghost Squadron's efforts were well rewarded with an excellent turnout and tremendous flyer satisfaction. Thanks must go to all the tireless tug pilots for the petrol they burned. And we can only hope the next event at this peerless venue will be just as successful... **RCMW**

CONTACT

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The Beecraft Honey Bee is an unusual design. There were many built during the 1950s in America and the company still survives today

LMA At Tibenham 2016

Neil Hutchinson visits the new home of the Large Model Association's East Anglian show



Hang onto your hats! John Greenfield revs up the big Westlake 350 cc petrol engine fitted to Dave Horton's Honey Bee



Perry Lambert's F-15

The second LMA show of the 2016 season is a new venue. For many years Rougham was the East Anglia venue but because of a new road development and safety concerns a new site had to be found. The new site is Tibenham, which is approximately halfway between Thetford and Norwich, and not far from Snetterton racetrack. Tibenham, unlike Rougham, which was a grassy area, has a tarmac runway. Its history started back in World War One with the Royal Flying Corp, when it was known as RFC Tibenham. It was during the Second World War that the runways were constructed. In 1941 the 6,000 ft main runway and two shorter 4,800 ft runways were built in the standard triangular layout; in fact the airfield was built to take heavy bomber aircraft.

Tibenham was handed over to the USAAF and in November 1942 the first B-24 Liberators arrived. At the end of the war the airfield reverted back to the RAF and it was eventually sold off into civilian use in 1959. Since 1960 the airfield has been the home of the Norfolk Gliding Club.

The weather forecast for the weekend was not too good, especially for Saturday, with strong winds and dull weather forecast. Sunday, on the other hand, looked very good, with light winds and sunshine. Unfortunately for yours truly, I could only attend on Saturday. The forecast proved to be spot on, especially the wind bit! The wind did not deter some of the modellers and although there were no proper slots, there was continuous flying throughout the day.

Sunday was an excellent day, with the predicted light winds and sunshine. It was therefore business as usual. As I could not be there on the Sunday, I have to thank



Above: Steve Carr's mini-me has been finished off and looks remarkably like him!

Left: Adverse weather conditions didn't stop Steve Carr from performing another superb aerial display with his huge Yak 54



Paul Needham's Bede BD8. The 11' 6" wingspan Bede is powered by a DLE 222 petrol engine

Save of the day. Despite the loss of the right side tailplane, Dave Johnson still managed a safe landing with Paul Needham's Bede BD8



A long walk back for Paul with his Bede

Dave Parry for some of the pictures from that day. Despite the less than favourable conditions there was still a reasonable crowd on Saturday. However, Sunday's show had a very good attendance.

At shows like Tibenham, when the weather conditions are less than favourable, many large models stay grounded for obvious reasons. Modellers do not want to risk their very expensive models; this fact gives

some of the smaller, less expensive models a chance to take centre stage. These modellers are the backbone of the LMA and don't get the praise they should do. These guys turn up to a lot of shows and without them the slots would not be as varied as they are. Terry Jessop is one such modeller. He flew his Sheliak jet so many times I lost count. Whenever the start up box was empty, Terry would turn up and fly!

Another pilot who flew I don't know how many times was Dave Wilde. He flew his Rafale and also a Skyhawk. Perry Lambert also flew many slots, too. He flew his Dakota, B-17 and F-15; the Dakota and B-17 are very old electric powered models. The B-17 was built in 1991 by Chris Willis and rebuilt by Perry after it crashed. And the Dakota was built by Perry's father, John, over 20 years ago!

One of the strangest aircraft I have ever seen is the Honey Bee, built by Dave Horton. Dave seems to excel at finding these obscure aircraft to build. The full size Honey Bee was designed in the 1950s in the USA and was designed as a home build. The company Beecraft are still in existence and although the design has changed they are still selling plans and accessories. Dave's model has a wingspan of 19 ft and weighs in at 85 kg. A big Westlake 350 cc petrol engine powers this large model. It has some very interesting features, like a working dashboard complete with fuel gauge. If you're getting bored there is even a working radio – tune in BBC Radio 2 or listen to the local air traffic control! John Greenfield was the pilot and he remarked that model needs a long runway to get airborne.

Mentioning some of the smaller models earlier, I should also talk about Mark Hinton's models. Mark displays his models at most the big shows and he usually brings a small squadron of superb scale models with him,



Saturday's star of the day, Dean Coxon with his Hangar 9 Extra 330



Although the wind speed down the runway was gusting up to 25 mph it did not stop Dean from putting on a thrilling display



Tony Hooper with his latest model, the Airworld F-100 Super Sabre



Tony's superb F-100 is finished in the colours of the Turkish Air Force. The painting was done by Phil Noel (Dave Parry picture)



Tibenham was the first public outing for Mark Hinton's latest model, a Der Jet Model's DH Vampire



and Tibenham was no exception. The list included the Super Scorpion, P-47, F-16 and Vampire. The Vampire is a new model for 2016 and still has some work to be done on it. Mark likes to do all the detailing and weathering paintwork to make the model looks as realistic as possible in flight. The Vampire is another model from the Der Jet stable; it is a composite ARF model and Mark has fitted a JetCat P180 RXI jet turbine. The wingspan of this lovely aircraft is 90" and it weighs 13 kg. The Vampire flew very well in the difficult conditions, looking very stable and Mark flew a very nice display routine with it.

I cannot close this report without mentioning one particular display on Saturday and that is Dean Coxon with his Hagar 9 Extra 330. The display was one of the best I have ever seen with a 3D aerobatic model. The wind speeds down the runway were gusting up to 25 mph and yet Dean managed to do all the usual display routine you would expect and even managed to vertically hover the Extra just above the runway. When he finished his display there was a huge round of applause from the crowd, which was fully justified. Dean's Hangar 9, 35% scale Extra is powered by a Desert Aircraft DA 120 cc petrol engine. Dean is also one of the latest

recruits to the Hangar 9 Display Team and will soon be flying the latest Hangar 9 Extra 300. Look out for his displays because they are superb.

All in all, and despite the difficult weather conditions, the Saturday show was reasonably successful, and I know that Sunday's show was very good. This has got to be a good start for this new LMA venue in East Anglia. I am sure next year will be even better and I am really looking forward to it. I would like to mention Dave Parry again for his pictures from the Sunday show and say thank you to him for his help.

RCMW



Mark Hinton's Jet Legend F-16. The model has a JetCat P180 turbine and also features a light system to simulate the afterburner



The Vickers Wellington built from a Tony Nijhuis kit by Tony Hooper. The 4 metre wingspan model is fitted with two Zenoah Zg 26 cc petrol engines

Perry Lambert put on a master class of flying with his ancient B-17 in the difficult wind conditions



Beautifully subtle weathering can give a model a more realistic look. Mark Hinton is an expert at this, as can be seen on his CARF P-47 Thunderbolt (Dave Parry picture)



Built by John Lambert over 20 years ago, the 10 ft wingspan Dakota flew very well in the hands of son, Perry. Model has two Power 52 electric motors



Michael Donnelly always puts on a great display with his 1/4 scale Airworld Aermacchi MB 339. A JetCat P180 RX powers the MB 339 and is also fitted with a full smoke system (Dave Parry picture)

Distinctive Corsair of Paul Williams, finished in American National Air Race colour scheme



Mathew Harrowven's Wilga PZL-104 is a Frisch Modellbau kit. It has a DLE 170 cc petrol engine and a wingspan of 3.7 metres



Dave Johnson's 1/3 scale English Electric Lightning takes to the air (Dave Parry picture)



Diminutive Rafale of Dave Wilde. The model is a Fly Eagle kit and has a 45" wingspan and uses a Kingtech 80 jet turbine



The Grumman Hellcat built from the Zirolì plan by Stewart Clifford



Mark Hinton's futuristic looking Aviation Design Super Scorpion. The Scorpion has a 2.16 metre wingspan



Terry Jessop's Red Wings Sheliak model. The Sheliak has a 2 metre wingspan and a JetCat P80 turbine



Another small model flown by Dave Wilde, the 45" wingspan A4 Skyhawk. Dave's Skyhawk is 8 years old and performs very well. The kit is available from Colchester Models



Meteo Madness

More tales from a French model club, with ex-pat, Dave Goodenough

Roger Nieto's new
Bucker Jungmeister.
Another aerial beauty from
the Master



Haul it round for another fast pass, then start stirring the sticks again!



Roger makes a tentative landing pass to gauge the wind



That's one trouser tester of a landing. Nieto wrestles with a nasty breeze up the ailerons!

Every year our club – Les Fous Volants (The Flying Fools) – girds up its loins and expends a mighty spasm of collective energy, culminating in our two day scale model show, one of the largest in North-West France and certainly the biggest here in Brittany, home of our merry band of model manglers. Top-notch pilots and their beautifully crafted creations foregather at the runway of St Cyr-Coetquidan to prep, primp and pose, then wow the crowds at our annual scale spectacular.

Early in the year snippets of news and occasional murky photos are passed around furtively, like clues to the Holy Grail, teasing us with tales of incredible new models to be aired publicly for the first time 'on the circuit' this year. Early May is always eagerly awaited, but this year it was all for naught; the Gods of Meteo had conspired to thwart

the combined efforts of us poor mortals and unleashed the two most feared denizens of our runway – strong cross-winds and torrential rain. With only three days to go and with all the equipment, tents, tables, etc. already out of storage, the email we all dreaded was sent by *Patron* Roger Nieto – the show was cancelled!

Put On A Brave Face!

My wife knows me only too well and though she has no real interest in my 'boys toys' obsession, she is well attuned to my aviation needs, nay, lusts! I have to have 'stick time' or my life lacks something – do all you tranny twiddlers out there suffer the same affliction? Standing by the *porte fenetre*, gazing at the sky and willing the rain to stop, the wind to relent and the clouds to break, "You sad

'erbert..." said my dearest, "...go and build something".

Shuffling dejectedly over to the laptop, I rechecked the forecast for the umpteenth time and saw a weather 'window' developing. Bank Holiday Friday (it's a French thing!) was going to be flyable after all. Phone calls were made, emails electronically squirted and a motley crew gave their promise of attendance – at least we'd get some flying in! With great trepidation the car was loaded and I made my way through the Broceliande and into the military terrain, muttering darkly at both the clouds and the heavy rain spots spattering on the car windscreen. As I approached the runway, I could see several cars, a couple of planes in the air and from the height of the runway ridge, the upwind clouds breaking – game on!



Johann's Gee Bee R2 howls and hauls round into another pylon turn – sound and fury!



Forgeard's Piper Pawnee turning in for another spray pass. It could be the real thing

Thin On The Ground

A few brave souls had set out their wares in the pits, making the best of the snatched opportunity of flying: Roger Nieto, world class F4C and H flyer, had brought his just-finished 'Olympic' Bucker Jungmeister, a rendition of the plane that wowed the 1936 Olympiad attendees. Though to a smaller scale than his normal sized models, this is by no means a 'hatchback' model. He reckons it's now his 'go to' hack model for general flying practice, yet the finish is well up to the level of his world class models – competition improves the breed? It certainly does in his instance, as the fine detail shows only too well, if you get in close enough.

Not one to just fly circuits and slowly expand the 'feel' of another new model, from minute one on the first test circuit he threw this beautiful biplane around with abandon. All of 'the usual suspect' aerobatics were grist to his aviation mill and by the end of the flight he had wrung the model out – "...ridden hard and put away wet!" It makes us trembling fingered, new model fearing, weekend wobblers look like complete wusses! This Bucker – his second – is yet another to be watched and marvelled at; a masterclass that can only drag us ordinary types along and force us to 'up our game'.

Another to watch is Johann Forgeard; not only a master of superb indoor models, he too is making inroads into the rarefied atmosphere of scale competition. He placed highly in the scale helicopter category last year – I believe it was at the French 'Nats'.



Johann Forgeard's Bell 47 liberally doses the Broceliande undergrowth on another low, slow, squirry pass

His Bell 47 'crop sprayer' is a gem, right down to the working spray system and the Terrier perched on the co-pilot's seat! Work keeps him away from our runway for much of the time, though he has managed to complete and find display time for his new Gee Bee R2 racer.

At around two metres span, this beast of a model sports a relatively huge 110 cc flat twin petrol engine. Just like the original, it's a monster on the ground that makes his

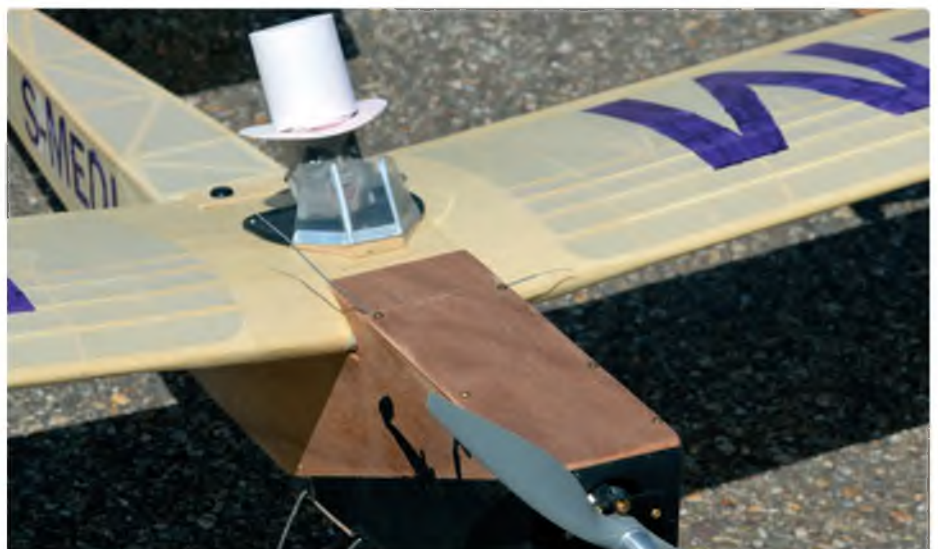
fingers (and underwear!) work hard. Once in its element the howling motor hauls the model around, with Johann flying his show regime with seemingly consummate ease. He does admit that 'it's a damnable handful' but that it's exciting to fly. His current practice model is the Hangar 9 Piper Pawnee that he's 'improved'. Now sporting more scale detail, it's a very convincing aircraft when he flies it 'as per' crop spray style – a lot of fun he reckons.

The Other End Of The Spectrum?

Mate and debutant apprentice (beginner) Dane is continuing his steady path into pilot-hood. His Multiplex Mentor suits current abilities and usually ends a flying session in the same condition that it arrived. Although scarred now, it continues to help him develop his skills – not so the old 'Baron' I donated to him; it continues to both confound and confuse him in equal part!

Its last session saw yet another reinvention of the original design, with an ominous twist – it had now become 'Baron Samedi'. The top hat wearing 'ghoul' pilot was...erm...different, but the 'tombstone' ailerons were new. *Les copains* and I were dumbfounded!

Apparently Dane had recently watched an old 007 film and made the Voodoo connection. Invoking evil spirits didn't help, as he'd still not reduced the thrust of the outrunner motor by fitting a smaller prop; around 800 watts to power a 2 kg beginner's airframe is overkill, as he soon found out.



My old donated Baron, after a Dane 'makeover'. I wouldn't like to meet this guy on a dark night!

A line-up into wind, whack the throttle open hard (why, oh why, do they do that?) and the Baron shot away like a pylon racer!

A bellow in the ear got him to ease off the motor speed but a panicking finger soon ramped up the power again. A half circuit at near warp speed had us other guys waiting for the obvious – and it wasn't long in coming. Despite manfully wrestling with the elevator stick, Dane couldn't circumvent simple physics; the huge power, combined with the built-in airframe down thrust, literally pulled the model out of the air! It almost made it through a sturdy pine tree *sans* wings, but the spiny cushion of the branches arrested its manic motion.

Despite shedding tombstones, top hat and a bit of fuselage, the old Baron will live to fly another day. How do I know? Dane has just filched the last of my 'Linen' Solartex to cover the patchwork.

To leaven the mix, so to speak, French hunk Yann was assisting a clubmate that I rarely see and whose name remains unknown. *M. Inconnu* had brought a flying wing to the piste, complete with a take-off dolly and high hopes. They say that pride cometh before a fall, well our unknown aviator was proud of his device and it fell – every time he tried to use the dolly!

I won't go into the reasons why, but suffice to say that I've been similarly blighted in the past, back in the early control-line speed days (if that sounds like gibberish, ask an aged club member or yer Grandad). I tried to help, honest I did, but to no avail – the two of them hopped all over the runway, forever picking up the ever more scraped model and bits of broken propeller.

On a final attempt the dolly hit a rut, bounced and threw the wing into the air, whereupon it promptly stalled and crashed to earth again, breaking the last usable prop. After bodily ripping the motor out, then stripping the electronics, the remainder was thrust at me with the rejoinder, "If you think you can do better, there's the b---y thing, get on with it!" – all in French of course. It's the first time I've returned from a flying session with more models than I set out with. And yes, I'll give it a go!



Yes, those 'ailerons' really are tombstones! I fear for Dane's sanity sometimes



It's all gone badly wrong for Dane but he didn't even have to climb up to retrieve it. Proves that there is indeed beginner's luck!



The face says it all. Yep – I can fix it



Yann and 'Inconnu' ready the wayward wing. Later trials emptied the spare propeller box



Ok, let's try it again. By this time it was on its third prop



Finally! A defect in the runway bounces the wing thing into the air – but only for a few metres

Cobra Bites!

'Jaques le Splatt' must remain unnamed, for fear of reprisal, legal action, or worse – if he ever hears about my writings, I may have to quit the country! Despite earning his FFAM show licence (how?), he manages to work his way through expensive ARTF models with a relentless and almost religious fervour. The most recent victim was a Seagull P39 'Airacobra', a super looking WW2 fighter, noted for its mid-fuselage engine position, 'stilty' tricycle undercarriage and a superb low-level fighting ability.

Just a week or so ago he arrived with this gorgeous plane, 'fiddled and farted' with the DLE 55 petrol engine in the noisy end, then cycled the retracts whilst the model was on its pits support stand. With everything to his satisfaction (he's easily satisfied) the fuelled model was fired-up and rolled out to the runway.

A collective intake of breath was heard from the throng as the plane took off, then a long sigh marked the successful climb to height. 'Jaques' doesn't do testing, ever! Up it goes and then whack the sticks about to make it look good in the air; so it was on this

fateful day. I'll admit that the aerobatics and hypersonic runway passes were spectacular. But where was the test of low speed handling on high approach or the stall check at height?

Needless to say the fun came to an end when his transmitter timer started to beep at him and he, at last, elected to try a low speed pass to feel out the low speed handling. It wasn't pretty! Too low, too slow and with a motor slightly out of tune, the big DLE stuttered and the model stalled, hit the runway, ballooned-up then stalled again before coming to rest in a puff of dust and shredded grass at the runway's edge.

Now by his own admission, 'Jaques' can do no wrong, so it was again with this model. He 'threw a wobbly', then started to blame anything and everything for the 'accident' – he probably thought sunspots were the cause, for all I know. His mates could have commiserated with him, but they've seen it all so many times before, including the brand new ARTF Cassutt that he 'threw away' three weeks before. Some people just never learn...



'Jaques le Splatt' poses with his brand new, unflown, P-39 Airacobra ARTF. It didn't stay this pretty for long!



'Jaques' gets the P-39 away on its first ever flight – straight as a die and nosewheel lifted



Crossed up and in a mess, almost at the point of stalling. It's hard to bring it back from here



Nope, he didn't make it. Undercart damage and lots of 'runway rash'. Le Splatt ponders over his new baby

METEO MADNESS

'Kevin' Grows a Pair!

Another Brit among the massed Breton Brotherhood is 'Kevin', my ex-apprentice and now in French parlance, an intermediate level pilot, able to hold his own without instruction. Well...not too much. Last time in the pits our Kev was terrified, the object of his fear being his latest plaything, a large ARTF Pilatus PC-9 in Oz markings. At something over two metres span it's nothing unusual, but the big (to him) ASP 120 two-stroke is a fearsome dragon of an engine.

After his Calmato mounted ASP 60 tried to remove my fingers, he's been less than happy around big methanol burners. The combined urging of his buddies (read threats!) eventually got him to the point of fuelling-up and attaching the glow lead. One spin of the starter resulted in a couple of 'burp' runs that scared the living daylights out of him and he looked ready to run away!

Continued mutterings that said he should 'man up' chivvied our anti-hero into trying again, whereupon the mighty engine fired-up and ran at a fast tick-over. With eyes like dishes, Kevin tapped the engine trims and eased the speed down until the usual high-low-high carby needle checking callisthenics proved that the motor had indeed been adjusted correctly.

Right: Kevin winds down with his PC-9 still in one piece. Despite the dour expression he really was a happy bunny!

With no more excuses he was ushered out of the pits and told to "...do it or be damned!" The rest was an anti-climax; off down the runway as straight as a die, a gentle nose up and away it went. A few seconds later he gibbered that I should adjust the elevator trim for him as his hands were somewhat otherwise occupied. A few chirps of up trim later and all was well. He began to relax and 'explore the envelope'.

After several minutes and some tense 'will it, won't it' test manoeuvres, our boy was exhausted and decided to bring the plane back. A greaser of a landing followed and after the taxi to the pits and engine cut, Kev finally took his shaking fingers off the sticks to a well-earned round of applause! Afterwards he told me: "It's funny, but after the first flight that engine doesn't seem quite so big." Kev... We've all been there!



Tailskid

My own efforts continue to come to a slow fruition, with the big Beardmore Inflexible finally 'in paint'. Whenever the weather conditions allow, I have to spray outside. Just a couple of coats of Olive Drab, some fuel proofer and then I can assemble the monster ready for testing. If all goes well I'll add all the scale 'twiddly bits' later.

Similarly, the 2.4m English Electric Wren heads towards completion, with me cursing Silver Solartex mightily as I go; it's great stuff for scale looks but it marks oh so easily if you get it wrong – I've already trashed over

a metre of it through bad handling and poor temperature control on the covering iron.

I'll get there in the end and hope that my rendition of the ABC Scorpion flat twin engine, disguising the 350 watt outrunner will fool some of the people, some of the time. I'll let you into a secret – don't tell anyone else – but it's really two pots off a 1/6 scale Wright J-5 engine, the super one produced by Williams Bros. in the USA. Leave a few bits of the engine kit off, play with the exhaust fittings and add some 'insulated exhaust' extensions, care of cut strips from an old loop-stitched wash-cloth I pinched from the

under-sink cupboard and – voilà! – it looks fine from some feet away.

If the editor lets this epistle through the Wren should have had its maiden flight by the time you read this piece. Whether good or bad, you'll read about it here and either laugh your socks off or smile with understanding when the tale of trials and tribulations reach you in print.

If you have something to relate, or want to expose your own *magnum opus*, email me anytime (see Contacts).

RCMW



The English Electric Wren nears completion. Pilot Charlie Farnes-Barnes seems happy with the fake ABC engine



My Beardmore ready for spraying. Leah, the fake cat, is most unimpressed!

CONTACTS

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Soarers' Slot

Summer thermal soaring highlights, with Mike Proctor



Martyn Wharrie gets his slightly enlarged Beatnik, a 1960 Open Power model design from Jim Baguley, away under R/C control and with electric power

The previous pictures of Martyn Wharrie's uncovered, 1960 Jim Baguley design raised interest from various people, so I am pleased to be able to report that first flights have taken place.

Completed in bright orange, for the flying surfaces and white for the fuselage, it can be seen quite easily! After a tiny bit of elevator tweaking, following a highly traditional 'hand launch over long grass' the Beatnik demonstrated that it was capable of a classic free-flight power climb and then settled into a very nice glide, seeming to penetrate upwind with reasonable ease. Scaled up to 2 m span for the purpose, this one might appear at a 2 m eSoaring event one day!

The UK F5J International

This event has gone to strength to strength over the last few years, under the guiding hand of Bernie Jones, aided by many and various hard working assistants. This year the first weekend in July at Ashurst, West Sussex, provided a wide variety of conditions for the 50 competitors, from half a dozen countries, who assembled for the fray. Kevin Beale took on the duties of CD and had the competition underway quickly, following the welcoming remarks.

The wind forecast was not good for the first day, with some improvement likely on the Sunday. But in fact the weather was better than forecast, although a fairly hefty shower or two did slow things up a bit from time to time! However, during these lulls the refreshment tent came into its own, putting the excellent 'catering crew' to the test, which it passed with flying colours – again!

The competition flying was best described as 'tricky'. The conditions were both breezy and turbulent; reading the air was very difficult and resulted in many a low score, with several people landing out of the field for zero scores.



Even against a rather uninteresting evening sky, Beatnik really looks the part and flies extremely well. Such designs are naturals for converting to electric power and they allow you to relive your youth without doing model retrieving!



Graham Wicks with his Maxa, just a few seconds away from discovering that a wire had come loose from his motor on the previous flight. His assistant, Colin Paddon is the same number of seconds away from discovering that he needs to run for the reserve model!



The Freundl family model stacking system, set up inside an event shelter. Only eight models were present because one was being flown at the time

Each of the wing slots in the 'Freundl Tower' is adjustable to accommodate any particular aerofoil thickness. Any such system needs to be well fixed to the ground; the prospect of it blowing over does not warrant thinking about!

Without doubt the best part of the proceedings was the arrival of a considerable number of juniors, the youngest being Andreas Freundl's son Leonard, just 10 years old, closely followed by his sister Sophie at 11 years! Both Leo and Sophie flew AVAs throughout the 2 days and despite the conditions hardly being ideal they handled all aspects of the flying very well, needing very little coaching from dad Andreas. It is regrettable that not one of the juniors were of UK origin.

Another aspect of Freundl family preparation is shown in the picture of their model stand. This tower-like construction was much admired and similar copies are likely to emerge later in the year but are unlikely to have the capacity of the original. You will see that the stand is firmly secured to the ground in the centre of a Coleman Event shelter and it is capable of holding nine fully assembled four metre gliders! Every wing slot is fully adjustable to accommodate the thickness of the aerofoil at that point. I have never seen so many AVA's in one place, nor so many aeroplanes in one stack! A great piece of engineering.

Sunday was scheduled for three rounds, followed by the fly-off, and the weather co-operated by slowly improving through the day. The top 14 flyers were to fly a further three rounds of 15 minutes (qualifying rounds are 10 minutes duration) with only four Brits making it that far. However it was encouraging to see two of the juniors included. The launch/landing line needed extending to its maximum to accommodate all concerned and the number 14 spot was rather close to the far hedge, but with a lessening wind it was not too troublesome.



Landing, when there are a dozen or so models all heading for the 'spot' at once, needs careful piloting if collisions are to be avoided. Most CD's ask competitors to line up early and not to move sideways on approach



11 year old Sophie is assisted by father Andreas as she prepares to fly her 4 m AVA in the UK F5J event. Both Sophie and the AVA coped well in the wind



Another AVA, this time that of 10 year old Leo Freundl, who is fairly dwarfed by the 4 m span of the glider. He eventually finished only two places behind his father



Fly-off competitors at Ashurst. When they all launch and land at the same time a great deal of pilot discipline is essential

SOARERS SLOT

Prior to the fly-off models were checked for compliance with the rules in respect of motor operation. Re-starting is not allowed in F5J and the firmware in the altitude logger prevents this happening, so competitors are required to demonstrate that after one motor run the Tx cannot initiate a subsequent one.

In the Qualifying rounds launch heights had been around 150+ metres. And even with improving conditions the chances were that most would still be going reasonably high, as lift was still tricky to find. After a short delay to re-set the timing apparatus and allocate timekeepers Round 1 got under way.

Fly-offs tend to be decided largely by events in one round and this time it was the first. Only three competitors flew out the 15 minutes, scoring close to 1000 points each. Nearly all the others missed the lift and scored around 400 points. By contrast rounds 2 and 3 had some good lift available and in each a significant number flew out the full time.



Steve Haley with the winner's trophy for the Ashurst round of the F5J World Cup

Loire Valley F5J Ramblings

July has become something of a F5J trek for some of us over the years. Rather than reporting this as a competition it might be worthwhile looking at tactics and models, which were flown in the hot dry weather that is often found in this area of France. It should



Patrick Pee (France) flew in both UK and French F5J events. Seen here at Angers, during the days prior to the Loire Valley competition, doing one of many low level launches. Several got away from near ground level. Fin and tail, in trademark lime green, show up remarkably well

In the final reckoning, Steve Haley was the winner, I was second and Nils Winkler (Germany) was third.

Bernie had done his usual excellent job of acquiring trophies and prizes, as well as providing mementos for all those who had taken part. Deciding who got the pick of the prizes was resolved by the CD when he let the Juniors have first choice – not a bad idea!



Checking that only one operation of the motor is possible before the first of the three fly-off flights. This can be time consuming, as most of the 14 competitors present two models for checking, but it is a necessary part of the organisation



Junior competitors at Ashurst; there is another generation out there! They had the first choice of prizes, which included for the top two a Jeti Radio from eSoaring Gadgets and a moulded glider from Valenta Models. Many other prizes were donated by various sponsors

be said straight away that the competition and everything associated with it was first class – again!

The Loire had suffered from heavy rain during the spring of 2016 and quite a lot of flooding occurred, mainly further upstream. However, the area around Angers (about

So, with thanks to all those who worked on the event organisation and especially the catering staff, the prize giving ended the UK F5J for 2016. Hopefully a new crew will take over in 2017 as Bernie really is retiring from the pivotal organisation role this time and he deserves our thanks for his work over the years.

100 km east of Nantes) was in good condition when we arrived direct from Ashurst, taking the Sunday night ferry from Newhaven to Dieppe and driving down to the campsite (cabin in our case) on Monday morning. The 'we' being myself, Phil Brandreth and Martyn Wharrie.



To demonstrate the power of low down thermals we were treated several times to the sight of twisters moving through the freshly cut hay, which formed part of the flying field. This was the biggest and the amount of straw it picked up was considerable. Even so it was only about 30 m across, giving a graphic view of something that is not normally visible

The weather on arrival was distinctly 'British' – overcast and with a steady breeze. The forecast, however, was for a distinctly hot week with little wind and that was how it developed. 27-30 degrees C was the temperature range during the week, with winds below 7 mph for most of that time.

I started by changing the programming of my motor set-ups and thereby hangs a tale.

Having watched European flyers use a motor with a throttle to stooge about looking for lift during the climb, I had finally got round to sitting down in a French field and putting that set-up on my models. I had pre-installed a rotary switch, on a spare channel, on the left side panel of my MC24 such that I could control it with my left forefinger without having to let go of anything else to operate it. The main throttle was still an 'On – Off' switch on the top right of the set, controlled by my right forefinger. All this is on Mode 1, with the brakes on the Throttle stick. All I had to do was mix them together. How could that be difficult?

I tried the set-up on my old Supra, on a copied program – just in case! Phil suggested I remove the prop blades to make handling the fuselage in the holder nice and safe for all around. In a few minutes I had a nice 'tick-over' established, slow enough so as just not to allow the flight switch to stop the motor. All I needed now was to reverse the action on the rotary, for the right 'feel', which was easily done and then sort full speed.

Two hours later I still had slow speed and 'a bit more speed', but neither Phil nor I could get the motor to go fast. About this time Martyn was passing en route for another flight and said, "I'd try it with the blades on. Geared motors never look fast without them." You don't need to me to tell you the rest really, but suffice it to say that it certainly was at full speed and had been all the time! Incidentally it took 15 minutes to do both the next two planes...

Models of light construction seemed the order of the day in the light conditions. Quite a few 1300 g versions of models, which would be 'light' at 1800 g in the UK, were evident and demonstrated their (or rather the pilot's) ability to thermal up from very low

height. Indeed, right down to the point where, if the model were any lower, the wingtip would catch the ground – and several did!

One other aspect of light models, not previously appreciated, was the need to take care on the descent from height. Typically, these light models cannot be flown down at warp speed as they are not as strong as their heavier counterparts. Slowing them down with flap during a long descent can cause servos to burn out or for the gears to fail. Steve Haley has been trying a setting with less flap and more up aileron, in an effort to spread the loads across all four wings servos.

Pete Mitchell had to miss the UK International but was okay for France, and we were most interested to see his Ultima 4 m model with a flying weight of 1100 g! Using skins pressed onto foam cores, rather than the more usual hollow moulded technology, flying surfaces of remarkable lightness have been produced. They have good torsional rigidity but the tips can be bent upwards fairly readily by hand. I have yet to see one do this in flight and there were a few to watch. This construction method is common in F3K hand launched gliders and

some 2 m electric ones. It is likely to become popular for larger models before long.

And Finally...

The flying site was a large grass field, half of which was already cut and cleared on arrival. The rest was cut and left a day to finish drying before baling. During that next day we were to witness several demonstrations of just how powerful and small in diameter low-level thermals can be. Most people will have seen small twisters in UK cornfields but these were bigger and lifted considerable amounts of cut grass into the air, as the picture shows. They continued to whirl upwards, often 'burning out' at 50 metres or so, but sometimes going to maybe 300 metres, but rarely attaining more than about 50 metres in diameter.

This was a very graphic demonstration of the need to circle tightly in this kind of lift, especially close to the ground, where they can be just a couple of metres wide. Also you need to expect a lot of turbulence in the process!

Next time we will be looking at the happenings at the BMFA Silent Flight Nationals. **RCMW**



The winning model in France was this Jaro Muller Egida, which is not a well-known plane but certainly worked well in the breeze in the final fly off round. It has an unusual wing planform, which makes it easy to spot



Pete Mitchell with his Ultima. This model is one of the first large electric Soarers to use pressed wings, where the skins are bonded to a foam core, a technique commonly used in F3K (hand launched glider) construction. Materials need considerable care in production, after which this 4 m glider can fly at 1100 g!



The people that make the whole thing possible gathered here in front of the Loire Valley F5J winners. The two Pike Perfections weigh around 1300 g but were ballasted for the final breezy fly-off round

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Quick Quads

If nose-in flying is a problem you need to spend time on it as it's an essential skill

After a short break, John Stennard returns to conclude his short series on sport flying with a racing quadcopter



Depending on your throttle curve settings the take-off can be quite vigorous. Watch out for loose stones as those four motors create quite a draft!

In Part 2 I left you at the stage of test flying and getting to know your racing quad, whatever the size. I did mention that new designs and sizes of racing quads are appearing on the market almost weekly. I note, for example, a new one at the time of writing – the Diatone Tyrant, which is available in 150, 180 and 215 size. With prices being quite competitive a new racing quad can cost you a lot less than a new plane, so don't be surprised if you end up owning several.

In the first two Quick Quads I've covered as simply as possible how to get a racing quad in the air. After that everything depends on your piloting skills and the amount of time you are prepared to spend flying the model.

But it was ever so! So in this last feature I'm taking a look at the flying and the FPV aspects of racing quads.

Practice Makes Perfect

With the small size of racing quads orientation is a vital factor if you are not flying in FPV mode. If you are then other factors come into play. For a new owner with previous quad experience you will be used to the general handling of a quad. And if you have flown either a quad or aircraft using FPV you know what's involved at this level.

Basically it is not a good idea to test fly in a confined space or in particularly windy conditions for obvious reasons. Although the racing quad design has low drag in wind you

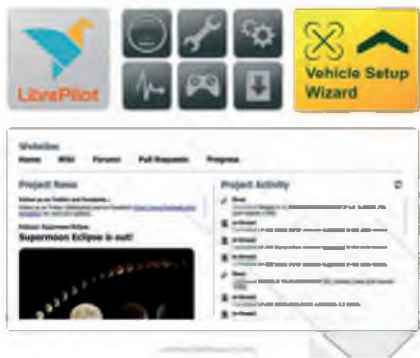


You should spend a lot of time just getting the feel of the controls without flying too far away

will have to apply continuous forward pitch to hold the quad in a hover position. Once you are used to flying like this and are familiar with all the required control inputs only excessively high winds will stop you flying your racing quad.

Once you are happy with flying circuits, hovering sideways on and nose-in, you will soon be flying further away and lower. This is where orientation can become an issue and lights become important, even more so with the smaller 130-180 size racing quads. In fact there is not too much point in flying too far away anyway and flying a tighter circuit pattern is usually more rewarding.

You may find that you want to return to the flight controller programming and adjust the



The Open Pilot flight controller program is now called LibrePilot



The hover is stable but does need constant fine control inputs, particularly in wind. Get used to seeing the quad from all angles. Use the old heli trick of moving yourself around the hovering quad



Even in quite bright sunlight a strip of rear lights show up well, especially the newer versions with alternating colours and animation



This top mounted Mobius camera can provide a high quality video record of your flight



The 180 size racing quad is significantly smaller so flying one without FPV can give orientation problems



Again, lots of airtime is needed to build confidence

PID and other settings to achieve the flight control that you are comfortable with. Expo can also be introduced and can be very helpful. The simple rule is to make small incremental changes to the flight controller settings and test fly to check out the results. In fact, I have not altered anything on the original settings for the 250 racer, but have adjusted the settings on the 180 model as I found it over responsive on the controls.

As your confidence increases you will want to fly lower and faster. This does increase the excitement factor a bit. Once you are feeling really happy with controlling your racer you may even want to try flying through a racing gate. It is, of course, intended that the gates are flown through using an FPV camera so this will never be easy without this view. However, with some skilful positioning you can certainly get the feel of the height and accuracy required. An online search will produce DIY designs for gates, as well as commercial gates. As a racing quad will usually have a camera fitted it makes sense to fly it using FPV and there are various options to get you in the pilot's seat.

FPV It

Unless you have built your own racer the chances are it came complete with both a camera and 5.8 GHz video transmitter. If it didn't, a budget camera and Tx need only cost around £20 and will allow you to try out FPV quad flying. The latest versions of 5.8 GHz Tx will probably be able to select and transmit on all 40 channels. The five bands – A, B, E, F and R – usually range from 5645 to 5945 GHz. Most of the earlier goggles are on F band 5740 – 5880 GHz. The eight 'racing' channels in band R use 5658 – 5917 GHz and have a wider spacing to avoid interference when the racing quads are flying low and close together.

If the camera Tx has the original 32 or the 40 channel option there should be no problem using it with the earlier goggles/headsets that can only receive on seven channels.

When testing cameras and goggles/headsets a monitor is extremely useful and these are getting less expensive all the time. You may even decide to first try quad racer FPV flying using a monitor but personally

I think that goggles/headsets give a much better piloting experience. The bonus of using a monitor is that, of course, you are also aware of what's happening around you when flying.

A monitor is a very useful piece of kit and certainly will not be wasted if you decide you prefer using the goggles/headset option. The monitor I have also includes a flight video recording facility using an SD card. However, the quality is not particularly high and most flyers who want good in-flight videos use an additional camera.

Most racing quads incorporate a dedicated, vibration protected camera mount on the upper chassis so that a camera of the Mobius or even GoPro type can be fitted. However, remember racing quads are not specifically designed for taking high quality photos from a hover position and if you want this there are plenty of quads specifically designed for this purpose.

Taking a quick look at some typical FPV equipment, my monitor is a Diversity DV 701 with an internal rechargeable battery plus an SD recording and playback facility. It has



A stable hover is essential for comfortable handling, but note the camera angle...



The camera is angled to match the nose down tilt of the quad in fast forward flight



The Blade Inductrix 200 FPV quad is of a very similar size to a 180 racing quad



This is deceptive as the Inductrix 200 is actually hovering in a strong wind! Orientation is an issue at a distance if FPV is not used. And with this model there are no helpful lights!



A typical mount for a monitor using a camera attachment screw

a 7" screen and weighs 606 g (21 oz) with the sunscreen/cowl, so it requires a robust mounting system on the Tx. The type I use is a special metal design and the monitor is attached with a standard screw fitting in common with cameras.

The Tx mounting has a hole for a neck strap and with the weight of the monitor I think a neck strap is essential. With the monitor attached the Tx is not well balanced and it can feel awkward if used without the assistance of the strap. This monitor has a 32 channel Rx, no racing band, and a resolution of 800/400.

I have a set of Fatshark Teleport V4 goggles and a set of Spexman SPX01 goggles. The Fatshark goggles came as part of a Vapor FPV package and there are newer and more advanced versions available from Fatshark. The resolution is quite low at 320 x 240 but the picture is adequate for indoor and slow flying use. These have a seven F band channel Rx and weigh 224 g (8 oz) with battery pack.

The Spexman goggles are more sophisticated and have dual Diversity Rx's and an 840/480 resolution, but again mine only have a seven F band channel Rx. The goggles include a Foresight front facing camera of 640/480 resolution and this camera can also give a PIP view. This basically provides a small picture from the pilot's head view in addition to the model camera picture. It can be used independently as a full view at the press of a button and is useful for seeing what's going on around you when walking out with your model etc. These goggles also include Inter Pupillary Distance (PID) adjustment and weigh 261 g (9.2 oz) with battery pack.

The headset I use is a Headplay type. This has a monitor type screen inside the large

casing and weighs 551 g (19.4 oz) with battery pack. The straps hold the unit firmly to the head but this is a weight positioned in front of your head and has to be reckoned with; inevitably you tend to drop your head whether you are sitting or standing when flying. This unit has a 1280/800 resolution and the latest versions have all 40 channels available.

All of these goggles/headsets have controls to set the display qualities, etc. A low cost option is to assemble your own headset and kits are available for this, as are all the parts you need. Basically, you need a suitable monitor and the type that are often used are designed for in-car cameras and are inexpensive. You also need a 5.8 GHz video Tx and a foam headset unit. The headset unit can be scratch-built or a kit can be purchased just for this part of the unit. The DIY option cuts the initial cost of FPV dramatically.

If you know a club member with goggles/headsets it makes sense to try out theirs before deciding what to purchase yourself. Once you have your own set of goggles/headset then camera/Tx combos are very inexpensive and you can start experimenting and enjoying FPV aircraft in addition to your racing quad.

FPV In Control

Obviously the first step in quad FPV flying is holding the model in the hover position. Directional positioning is always easier than holding the height. This flying can often be done in the privacy of your own garden rather than at the flying field. A useful aid is to position a target on the ground. I've even used my hat when flying in a field and this acts as a reference point.



A big monitor like this gives a good view. But a neck strap, or better still a tray, is essential



A sunshade is effective in most conditions



Goggle sets come from a number of firms and vary in functions, picture quality and price



The forward facing camera on these Spexman goggles allows you to see where you are and what's happening around you, if required



The Headplay headset provides a much bigger and sharper view but is quite heavy to wear



Our hotel in Jaipur, India was hosting a wedding and Sandi was providing aerial photographs. Quads get everywhere!

You may also find it useful to alter the camera angle as this is often initially set for straight ahead when the quad is tipped and flying forward. For early flights it can be helpful to see more of the ground ahead rather than the horizon. Really, you just need

to work on all your helicopter/quad flying skills when flying 'from the cockpit'.

If you are using a low-resolution goggles/headset and budget camera do not expect a crystal clear view ahead. I often describe the view as looking out of a well worn and slightly dirty cockpit! A monitor can give a clearer picture but it can be badly affected by sun glare, even with a sunscreen in place. You may also be wearing sunglasses, which does not help.

Unfortunately if you wear glasses then goggles are likely to present a problem. I found that the correcting lenses, which can be inserted, did not seem to help very much. A headset can offer the chance of wearing your glasses depending on the size and shape of headset. Again it depends on the type of glasses you wear, but I found that wearing my bifocals inside the headset were no help at all.

I took a camera, Tx and headset to a local store and tried different strengths and styles of reading glasses and spent a couple of pounds on a pair. These have narrow lenses and can be worn easily inside the headset and do help to make the picture a bit clearer.

It's also worth remembering that most camera lenses can be focused. They usually have a small set-screw and the lens can be screwed in and out to focus, in the case of FPV on infinity.

Please remember that all this time I've been writing about fun flying with racing quads and not hot racing flying. However, once you are happy with your FPV flying skills using

a racing quad you may want to try flying a course, and even through a few gates. You may also want to set yourself a mini course using upright poles as markers.

There's plenty of fun to be had on your own or with some like-minded racing quad owners who are only 'boy racers' in their dreams! Four members of our club now have the same Eachine 250 racer quad so it's a good experience to meet up, compare pilot's notes and do some flying around a simple course. At the moment this is non-competitive and non FPV. However, the enthusiasm is there, if not the skills! So let's move on to a final thought...

Final Thought

At 16, Luke Wolferstan-Bannister is the Dubai World Drone Prix Champion. We can learn from Luke, who says, "To develop a good skill level one has to get lots of stick time."

I think flying a racing quad is very satisfying and piloting one using FPV is even more so. But it is something you need to work at. It's an individual challenge that you can take on and possibly do without having to drive to your flying field.

Personally, I still think that the best route to FPV racing quad flying is through a fairly benign and less feisty version. I'm finding the Blade Inductrix 200 FPV to be a really good 'half way to racer' quad and, because its uniform shape gives orientation issues it's actually easier to fly using FPV!

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MW3380



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DESIGNER: Chris Williams
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SCALE: 1:3
RADIO FUNCTIONS: 5
Plan (MW3380) £34.50
Canopy: (CA3580CY) £28.50
FULL SET: (SET3371) £56.70

HW-4 FLAMINGO

MW3463



Designed by Chris Williams
RADIO FUNCTIONS: 4
WINGSPAN: 5 m / 196.85"
WEIGHT: 8.6 kg / 18.95 lb
Plan: (MW3463) £32.50
LaserCut Woodpack: (WP3463) £141.99
Canopy: (CA3463CY) £28.50
FULL SET: (SET3463) £180.87

ALSEMA SAGITTA 1

MW3324



Designed by Vic Steel
WINGSPAN: 147.5" / 3.745 m
WEIGHT: 10 lb 12 oz / 4.81 kg
RADIO FUNCTIONS: 4
SCALE: 1:4
Plan: (MW3324) £32.50
Canopy: (CA3324CY) £16.50
FULL SET: (SET3324) £44.10

SSVV URIBEL C

MW3244



Designed by Vic Steel
WINGSPAN: 152" / 3.86 m
SCALE: 1:4
WEIGHT: 11 lb 8 oz
RADIO FUNCTIONS: 4 - 5
Plan: (MW3244) £22.50
Canopy: (CA3244CY) £12.50
FULL SET: (SET3244) £31.50

RACEK 3

MW3192



Designed by Vic Steel
WINGSPAN: 181" / 4.6 m
SCALE: 30%
RADIO FUNCTIONS: 4 - 5
Plan: (MW3192) £23.50
Canopy: (CA3192CY) £17.50
FULL SET: (SET3192) £36.90

SLINGSBY T-51 DART 17R

MW3178



Designed by Chris Williams
WINGSPAN: 190" / 4.82 m
SCALE: 1:3.5
RADIO FUNCTIONS: 5 - 6
WEIGHT: 16 lb 8 oz / 7.5 kg
LENGTH: 85" / 2.160 m
Plan: (MW3178) £23.50
Canopy: (CA3178CY) £22.50
FULL SET: (SET3178) £41.40

PZL-SWIDNIK PW-5 SMYK

MW3150



Designed by Vic Steel
WINGSPAN: 157.5" / 4000 mm
POWER SOURCE: 4 - 5
WEIGHT: 13 lb 8 oz / 6.13 kg
Plan: (MW3150) £22.50
Canopy (CA3150CY) £22.50
FULL SET: (SET3150) £40.50

SCHNEIDER ES-65 PLATYPUS

MW3126



Designed by Vic Steel
WINGSPAN: 148" / 3657 mm
RADIO FUNCTIONS: 4
WEIGHT: 10 lb 8 oz / 4.7 kg
SCALE: 1:5
Plan: (MW3126) £22.50
Canopy: (CA3126CY) £17.50
FULL SET: (SET3126) £36.00

SLINGSBY T-50 SKYLARK 4

MW3106



Designed by Chris Williams
WINGSPAN: 177" / 4550 mm
WEIGHT: 13 lb / 5.9 kg
RADIO FUNCTIONS: 5 (6 with optional tow release)
SCALE: 1:3.5
Plan: (MW3106) £30.50
Canopy: (CA3106CY) £22.50
FULL SET: (SET3106) £47.70

EON OLYMPIA 465

MW3057



Designed by Vic Steel
WINGSPAN: 147.5" / 3750 mm
WEIGHT: 11 lb / 4.93 kg
RADIO FUNCTIONS: 4
SCALE: 1:4
Plan: (MW3057) £22.50
Canopy: (CA3057) £12.50
FULL SET: (SET3057) £31.50

SLINGSBY T-21

MW2706



Designed by Chris Williams
WINGSPAN: 163.375" / 4115 mm
RADIO FUNCTIONS: 4
WEIGHT: 12 lb / 5.45 kg
SCALE: 1:4
Plan: (MW2706) £24.50
LaserCut Woodpack: (WP2706) £188.99
FULL SET: (SET2706) £192.14

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MINIMO A (191")

MW2669

•••



Designed by Chris Williams
 WINGSPAN: 167" / 4240 mm
 SCALE: 1:4
 RADIO FUNCTIONS: 4
 Plan: (MW2669) £23.50
 Lasercut Woodpack: (WP2669) £121.99
 FULL SET: (SET2669) £117.85

MINIMO A (191")

MW2665

•••



Designed by Chris Williams
 WINGSPAN: 191" / 4850 mm
 SCALE: 1:3.5
 RADIO FUNCTIONS: 4
 Plan: (MW2665) £23.50
 Lasercut Woodpack: (WP2665) £147.99
 FULL SET: (SET2665) £152.98

ASW 17

MW2213

••••



Designed by Mike Trew
 WINGSPAN: 157.5" / 4000 mm
 Plan: (MW2213) £22.50
 Canopy: (CA2213CY) £8.50
 FULL SET: (SET2213) £27.90

SZD JANTAR 1

MW2206

••••



Designed by Mike Trew
 WINGSPAN: 145" / 3680 mm
 RADIO FUNCTIONS: 2 - 6
 SCALE: 1:5
 Plan (MW2206) £23.50
 Canopy: (CA2206CY) £11.50
 FULL SET: (SET2206) £31.50

SZD 8 JASKOLKA

MW2508

••••



Designed by John Watkins
 WINGSPAN: 158" / 4000 mm
 WEIGHT: 11 lb 9 1/2 oz / 5.195 kg
 RADIO FUNCTIONS: 3 - 5
 Plan: (MW2508) £22.50
 Canopy: (CA2508CY) £10.50
 FULL SET: (SET2508) £29.70

SZD 30 PIRAT

MW2314

••••



Designed by Tony Slocombe
 WINGSPAN: 147" / 3735 mm
 RADIO FUNCTIONS: 4
 WEIGHT: 10 lb / 4.48 kg
 SCALE: 1:4
 Plan: (MW2314) £22.50
 Canopy: (CA2314CY) £11.50
 FULL SET: (SET2314) £30.60

FAUVEL AV48

MW3392

••



Designed by Vic Steel
 WINGSPAN: 158.5" / 4 m
 RADIO FUNCTIONS: 3 - 4
 SCALE: 1:4
 Plan: (MW3392) £32.50
 Lasercut Woodpack: (WP3392) £88.99
 Canopy: (CA3392CY) £22.50
 FULL SET: (SET3392) £129.99

SCHLEICHER ASK-11

MW3657

••••



DESIGNER: Chris Williams
 WINGSPAN: 126" / 3.21 m
 SCALE: 1:4
 WEIGHT: 8-9 lb (3.6-4 kg)
 Plan: (MW3657) £22.50
 Lasercut Woodpack: (WP3657) £112.99
 Canopy: (CA3657CY) £22.50
 FULL SET: (SET3657) £140.37

SLINGSBY EAGLE

MW2211

••••



Designed by Mike Trew
 WINGSPAN: 140" / 3555 mm
 POWER SOURCE: 2 - 3
 SCALE: 1:5
 Plan: (MW2211) £22.50
 Canopy: (CA2211CY) £6.50
 FULL SET: (SET2211) £26.10

GÖPPINGEN GÖ-1 WOLF

MW3465

••••



Designed by Vic Steel
 WINGSPAN: 138" / 3.500 m
 WEIGHT: 10 lb 8 oz / 4.76 kg
 SCALE: 1:4
 RADIO FUNCTIONS: 3
 Plan: (MW3465) £32.50
 Lasercut Woodpack: (WP3465) £95.99
 FULL SET: (SET3465) £115.64

SLINGSBY T-45 SWALLOW

MW2320

••••



Designed by Tony Slocombe
 WINGSPAN: 129" / 3280 mm
 SCALE: 1:4
 RADIO FUNCTIONS: 4
 WEIGHT: 10 lb 8 oz / 4.7 kg
 Plan: (MW2320) £22.50
 Lasercut Woodpack: (WP2320) £100.99
 FULL SET: (SET2320) £114.14

SZD ZEFIR

MW2013

••••



Designed by Keith Humber
 WINGSPAN: 140" / 3550 mm
 RADIO FUNCTIONS: 4
 SCALE: 1:5
 Plan: (MW2013) £23.50
 Canopy: (CA2013CY) £7.50
 FULL SET: (SET2013) £27.90

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 You will need to source additional strip wood and balsa from your local modelling materials supplier to complete the model.
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Dennis Bryant



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Woodpack £58.99



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Tony Franklin from the Wirral paid us another visit, this time with his first-ever build. Electrified Aerotech Wayfarer was immaculate and flew nicely. Good work!

“I was rather impressed with the Fly For Fun. Interesting models and some very interesting people...”
(Visitor’s feedback)



Harriet and Brian Lacey ran operations from the pilots’ sign-in desk and gave everyone a warm welcome

The Sport Channel

Gray reports hot-foot from the North Cotswold MAC ‘Fly For Fun’

This Month’s Wise Words

It happens every year now – at our flying site at Far Heath Farm near Moreton-in-Marsh, Gloucestershire. For our Fly For Fun event, North Cotswold MAC takes a moment to ponder how a one-off idea to celebrate our club’s fiftieth anniversary could have grown into the fixture it is today.

No one remembers who suggested it but it was a genius idea, as was the one to hold a second! Since then the ‘FFF’ has weathered many storms, figurative and literal. At the mercy of the British summer, we wondered how we could approach the success of last year, when we got a steadily improving weekend and a glorious Sunday, basking in flying conditions that club members and guests still talk about long afterwards.

How could we top that for the weekend of August 13th/14th, 2016? Well, how about by doing it all over again! Saturday greeted us with overcast, a gusty crosswind and even a threat of rain. None of this deterred our guests. The model park and camp-site began filling up, with forty-two pilots booked in.

Once a model got airborne, something was in the air for most of the day. The mix of models and modellers was as eclectic as ever; an aspect of the show that always makes it special.

This year we welcomed back Derek and Val Foxwell of The Old School Model Aeroplane Factory. Everyone was delighted to see their stall on-site again. Our club’s Designer Events proved a success, with Saturday’s dedicated to the work of Vic Smeed. Derek kindly donated a ‘Tomboy’ kit as an additional prize for the winner – decided by votes for flyers’ and spectators’ favourite model.

Sunday’s event was given over to Sid King’s perennial ‘Novice’ trainer, with some nicely built and finished examples, including Sid’s original Mk 1 from 1974! Sid graciously presented the winner’s prize for us.

Our regular attractions were well supported, although the club was still reeling from the recent loss of our committee member and friend Gary Henshaw, not least for his involvement in the show and his legendary barbecues. Gary’s son, Paul offered to run the BBQ and did a magnificent job. He was joined by Gary’s younger brother, Richard and they’ve offered to come back next year! Thanks, both.

Our Bring & Buy area had some nice bargains, but one seller realised that he couldn’t command collector’s internet prices in a farmer’s field!

Sunday began with promise, the wind dropping to near flat calm and the sun soon

appeared. From then on flying was non-stop. The free flighters arrived and enjoyed an outstanding session in our adjoining field. Thermals abounded, but we had no flyaways. Control line was well supported and by late afternoon we had three circles operating.

The weather, the models, the company and incomparable ‘feel good’ atmosphere made for a day that will last in many modellers’ memories. One guest remarked our little show reminded him of the Nationals – almost too much to take in! We’re a small club and offer only club facilities, but we’ve seen that special magic happen many times now.

Special thanks to our Organising Committee, to our secretarial team of Harriet and Brian Lacey, whose efforts have transformed our club, and to our host at Far Heath Farm, Ann Herbert.

For those who’ve asked, you’ll see the dates for the 2017 event here, around December.

Contributions please to The Sport Channel, c/o the Traplet Publications address. All email correspondence to:

gray_rcmag@hotmail.com

RCMW



Models from our Vic Smeed design competition on Saturday. Standard was very high. Vic would have approved



Winner of the Vic Smeed event was Simon Rogers with his 'Airy Fairy'



Activity in the model park early on Sunday. Mix of types much in evidence here



Local and international modelling hero Sid King surveys the Novices entered in Sunday's event held in his honour



Former NCMAC member and your author's one-time mentor, Jack Sidebotham of Chepstow brought his 1/4 scale T-21 and Maule Skyrocket projects. Both based on full size aircraft that Jack has flown



Our F/F ace Dan Mellor brought his Whoopee foam CO2 quintiplane for its first flights. Dan has built several over the years. He trimmed it to perfection and it turned some heads...



Derek and Val Foxwell made a welcome return to Moreton with the Old School Model Aeroplane Factory and had a busy time



Yvonne Macdonald won the Novice event with her first model, on which she's learning to fly! Sid kindly agreed to present the prize



Steve Burns of the North Oxfordshire MAC with his electric Don Muddiman Flying Machine in authentic colours. Flies like the 1990s original - a real showstopper!



Richard and Paul Henshaw manned the club barbecue, continuing the tradition of Paul's late dad, Gary. Much appreciated by everyone, guys



Mike Spencer from Salisbury put in some great flights with his 1940 Spook 96. Model was rescued from a skip and refurbished in 2004!



Several single channel models were spotted on the flightline. Left: Mike Gilham from Cornwall with Smeed Madcap. Right: Rob Simmonds from Essex and electric Mercury Magna. Rob had just had his first R/C flight when we took this!



SC finally met correspondent Bill Wells, who arrived with a Performance Kits/Peter Fisher fleet. Bill flew his PK Sunbird biplane, mostly built from Mr Fisher's own original model components



Richard Preston's giant KK Eaglet in the circuit. Vintage models loved the thermal conditions on Sunday



Our own Graham Clayton's Popsie 60 poses for the camera on a fly-by. Everyone loved that colour scheme!



A happy band of control liners. Gareth Evans and Bill Wells with O/D Lepton and Chubby, and Stewart Hindle with his electric fleet



NCMAC's Dave Mumford was reluctant to fly his vintage Lanzo Bomber as it won't come down! See what you mean, Dave, but thanks for the 'pass the Tx session'!

CONTACTS

NORTH COTSWOLD MODEL AERO CLUB
www.ncmac.co.uk

Check our website for a full list of events

www.rcmodelworld.com

Diary Dates

INDOOR

1st Oct, 5th Nov, 3rd Dec '16

Fun Flying at Potters Bar, at Furzefield Sports Centre, Mutton Lane, Potters Bar, Herts. EN6 3BW. From 6 pm until 10 pm, flyers £9, spectators £2. Small rubber free flight and small electric models, wingspan will be limited to 20". All enquiries to Mike Quille, Tel: 020 8500 3549, Email: mp.quille@live.co.uk

8th Oct, 12th Nov, 10th Dec

North London MFC Indoor R/C Meetings, at Furzefield Sports Centre, Potters Bar, Herts. EN6 3BW (Junction 24/M25), 6 pm – 10 pm. All up weight limit for fixed wing 225 g, 36 inch span, Helicopters 400 g. BMFA insurance required. Admission: flyers £9, spectators £2.50. For more information contact Peter Elliott on 01707 336982

GENERAL

17th Sep '16

GBR/CAA F3A League competition, Skelbrooke. All schedules. See gbrcaa.org – then forum 'Competition News' for details and 'Competition Entry Form' for fees and payment. Visitors welcome but please contact Contest Director Bob Rowland on 07969 456441 for details

Sep 23rd to 25th

Lleyan Model Aero Club Bring and Fly, at Penyberrth, Nr Pwllheli, North Wales. As well as an excellent power site we have fantastic slope sites for the three-day event. Refreshments and a good camp site adjacent to the power site available. BMFA insurance is required or similar. For more info contact: secretary@lleynmac.org.uk or go to: www.lleynmac.org.uk

24th Sept '16

Huddersfield & District Model Aero Club Swap Meet, at Shepley Methodist Church Hall, Penistone Road, Shepley, Nr. Huddersfield, West Yorkshire HD8 8DB.

The Church Hall is situated on the A629, approximately 1/2 mile North of Sovereign crossroads (A629 and A635), on the outskirts of Shepley village. 09.00-12.00. Entrance fee £3, Tables FREE to sellers, 20 Tables, plus bring your own camping tables. No Table Bookings. Parking for 30+ cars to rear of Church Hall. Refreshments available: Tea, coffee, bacon Sandwiches! Contact: 01226 766636, mobile (24th Sept. ONLY) 07790 647827

1st & 2nd Oct '16

Festival of Flight Spectacular, at Ragley Hall, Alcester, Warwickshire B49 5NJ. Brand new, two-day model spectacular with fantastic night show Saturday evening. As well as top aircraft displays, fantastic trade support and on site camping, there will be model boats, cars, prizes and much, more! Entry: £12.00 adult, £6.00 child, £28.00 family. Camping £60 pre booked. Please visit the Weston Park Show website for more details, or contact Steve Bishop on Mobile 07758 895068

1st & 2nd Oct '16

GBR/CAA Championships, Hurley. All schedules. See gbrcaa.org – then forum 'Competition News' for details and 'Competition Entry Form' for fees and payment. Visitors welcome but please contact Contest Director Adrian Harrison on 07976 244004 for details

2nd Oct '16

North London MFC Large Model Day, at Warren Lane, Baldock, Herts SG7 6RR. Flying from 10 am. BBQ and drinks available. All pilots need BMFA A certificate or LMA proficiency, those flying >7 kg models need BMFA B certificate or LMA proficiency. Proof of insurance required. No noisy models please. £5 pilots entry fee. Contact Maurice Northcott on 07866 105721 or Email: mail@mpnltf.dfsnet.co.uk

2nd Oct '16

Wet Wings MFC 3rd Annual Splash-In, 9.30 am to 5.30 pm at Carr Mill Dam, Garswood old road, St. Helens, Merseyside WA11 7LZ. Electric and I.C. Water planes fun fly (I.C. Subject to 76db limit). Pilots pre-booking fee £5, on the day £7.50,

A FREE service, advertise your club's event, show, fly-in, bring and fly, swapmeet, sale or whatever. Simply send in the details to: 'Diary Dates', RC Model World, Traplet Publications Ltd., Traplet House, Willow End Park, Blackmore Park Road, Malvern, WR13 6NN, UK. Or Email to RCMW@traplet.co.uk Traplet Publications Ltd. are unable to take responsibility for event cancellations. Check before you go.

spectators free. Light refreshments, tea, coffee etc. and camping available at extra cost. There is also a Premier Inn located on the edge of the lake, please ask for details. Contact Christine Evans, WWWMFC secretary at wetwingsmfc@hotmail.com for more info

2nd Oct '16

Autumn Mega Swap Meet, at the Meir Community Centre, Meir Stoke-on-Trent, Staffs ST3 7DY. Tables £7, Entry £2. Doors open 9.30 am for sellers and 10 am for buyers. To book, Tel: 01782 853883 or Email: topgun@modelpilot.co.uk

8th & 9th Oct '16

PSSA 'Fly for Fun' event, The Great Orme, Llandudno, North Wales. Meet at the 'Tank Track' car park for 10 am each day. Open to non-PSSA members. Proof of insurance required. For more information contact Phil Cooke on 07772 224719 or Email: webmaster@pssaonline.co.uk

15th Oct '16

Salisbury Model Flying Club Autumn Swap Meet, at Alderbury Village Hall, for more information check out www.salisburymodelflyingclub.co.uk, or email: spikespencer707@btinternet.com

8th Nov '16

Southend Radio Flying Club Table Top Sale, The Ecko Club, Thornford Gardens, Southend on Sea, Essex SS2 6PU. From 20.00 to 22.00, Table set up from 19.30, Entry £2, Tables £4 (includes entry). Please book tables in advance. Refreshments available from the bar. For more info contact Les 07729 421939, or Den 01702 295988.

20th Nov '16

Southern Counties Swap Meet, at Mountbatten School, Romsey, Hampshire SO51 5SY. Admission only £4, under 16s free. Tables £8 including one admission. Sellers from 8.30 am, buyers 9 am to noon. More details at hmfa.bmfa.org/ To pre-book tables only call Mike Stokes on 07702 742647

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Rare kit Cambria Piper Tri-Pacer 1/4 scale, new in box, 88" span. Price £350 & shipping. Pictures available. Email airxav@hotmail.com. Switzerland.

More than 95 vintage kits for sale: Graupner, Robbe, Svenson, Wik, Rödel, Berkeley, Hasegawa. Ask for list. Email airxav@hotmail.com. Geneva.

Classic aerobatics rare kit mini K Zero 40 from Bertolani (1970). £150 & shipping. Pictures available. Email airxav@hotmail.com. Switzerland.

Enya 19 RC glow engine NIB £30, also Wasp 049 glow engine NIB £20. D.C Bantam £10. Good Enya 40 with silencer £20, new Merco 35 RC £15. Call 07909 766687. Suffolk

R/C Model World magazines. I've got every one from the first edition to December 2015. Collect only, £50. Call Bill, 01282 421029. Lancashire.

Multiplex "Bonito" electric hotliner kit 1.93 metre. Multiplex quality, formed foam veneer wing, epoxyglass fuselage, balsa, ply parts, hardware. Collection only. £100. Phone John on 01395 264331, kit is untouched. East Devon.

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Super Tigre S3000 30c.c. 2-stroke glow motor for sale, new-in-box with silencer & instructions. £120 + postage. Wood props. To suit above:- Pair 'Smart' 20 x 10; 'Smart' 22 x 8; 'Menz' 22 x 8, all £10 each. Phone Peter on 07810 000567. Herts.

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Hangar 9 PA-18 super cub, 1/4 scale. Flown only twice. Complete with lovely OS Gemini FT-160 twin 4-stroke engine, glow driver, batteries, servos. Going electric & need space, £950. Call Peter on 07876 681847. Bucks.

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Spacewalker 2 electric ARF 62" wing span, motor Turnegy 670 KV SBEC 70 AMP LI-PO 4500 mAh 5SiP Hi-Tec mini servos

X5 ASA3S 3-Axis stabilisation never flown, genuine reason for sale cost £400 + MY PRICE £275 (firm) Call 01253 622013. Blackpool.

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Wanted front housing for OS MAX 45FSR ABC engine. Call John on 0776 6762896. Oxon.

Wanted, silencer (muffler) for Super Tigre 3000. Call Graham on 01372 275968. Surrey.

Plan of A2 glider Daedalus by Otto Rosser, also pram Dinghy SHTS 1 & 2. All expenses paid. Call Colin 01271 830865. Devon

Any aviation collectables wanted. Made/unmade plastic kits, R/C kits, models, books, diecast models etc. Write 27-A The Grove, Biggin Hill, Kent, TN16 3TA or call 07973 885754.

Thunder Tiger 120 PRO 2 stroke side exhaust. Call Williams 020 8445 9567. London.

Laser 150 or similar size 4 stroke model engine. Must be in good working order. Please ring Richard on 01535 663187. Yorkshire

Wanted Futaba R617FS 204 receivers. Reasonable price paid. Call 01159 221849. Nottingham.

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Fly off land or water with this 1780 mm span amphibious flying boat, rescaled by Laddie Mikulasko for 700 W brushless motors or .45 IC engines. Thirty-eight full-size Teals were built and many of them are still flying in different countries. For this model Laddie designed the landing gear so it can be rotated manually to an up position when flown off the water. Steering on the ground is excellent too and surface take-offs are a non-event. The model is an excellent flyer and with its thick wing the model handles more like a trainer. The Teal will loop and roll but it looks much better when flown in a scale-like manner.



Pull-out next month's free plan to build this 660 mm span indoor aerobatic model, designed by Donatas Pauzuolis, Gold Medallist in the aeromusical competition at the World Air Games in Dubai. Arrow suits inexpensive lightweight R/C equipment and flies using a 2S LiPo. When flown indoors it does not take up a lot of space, so it suits small flying halls. And it can be easily flown outdoors during calm weather. Arrow is easy to build from Depron or EPP foam. You will need a little less than one square metre to build the model, and for structural reinforcement you will need some carbon rods and flat carbon strip.

NOVEMBER 2016 ISSUE ON SALE THURSDAY 20TH OCTOBER



Recent Traplet Open Scale competitions in Yorkshire and Lancashire have suffered a bit from poor weather. For Round Two of this year's event competitors had to cope with 30 mph wind gusts and a near gale blowing for the whole day on the first Sunday in August. But at least it was warm on the Wirral peninsula. The second round of the 2016 'War of the Roses' had been rapidly transferred to the Wirral Radio Control Flying Society after the Bickershaw Club lost their field in May. The Wirral club committee and members generously donated their field for the day and prepared the flying area for a competition, which was very much appreciated by the competitors and organisers. As a result of the strong wind aerobatic models such as Sukhois and Extras were the most popular choice, although several other model types braved the poor flying conditions too. Catch up on this popular event with our full report provided by Peter Maw.

PLUS... More features, columns and reviews from across the complete spectrum of the R/C model-flying hobby

All contents are subject to change without notice

The November issue will be on sale Thursday, October 20th, 2016. Order your copy TODAY from your newsagent or model shop. Alternatively check out the Subscription Offers in this issue and be among the first to take advantage of our FREE classified advertisement service

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