NEW Clarion

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Editorial

Here we are again, things seem to be getting back to something like normal with BMFA area competitions taking place, albeit the search for venues is still not bearing much fruit. I fear it will be the loss of FF flying sites that will finally put the nails in the coffin.
One bit of good news is the resumption of Tony Tomlins Vintage R/C meetings at Cocklebarrow farm, he has dates for three this year (see adds).
This issue is a little larger than usual, 63 pages, due in the main to the Aeronautical Society lectures by the Low Speed Areodynamics Research Association (LSARA). I thought I had best reproduce at full size for clarity.

Right, what have we got this issue?

Our chairman Tony has been fettling Mills .75's, the one he got from Roger is seen to be well gunged up and how it ever managed to run in the state shown is a mystery. Just goes to show what a wonderful engine the old Mills .75 was.

Next up is a short piece on adjustable nose-blocks by Chris Redrup in answer to a query I received. There is also a follow up piece on the same subject by John Worsley.

Pylonius's Topical Twists this month lacks a central theme and we are treated to swipes at a variety of subjects, it reminds me of Gilbert & Sullivan's HMS Pinafore; don't know why.

In short, in matters vegetable, animal, and mineral
He is the very model of a modern Major-General

Roger Newman looks into the life of Ted Evans, possibly the best modeller never to win the Wakfield Cup. He came close with his elegant Vansteed. When queried about the curiously shaped tips on his wings and tailplanes he said it was to enable him to argue about his models wing area during model processing.

I have had another dip into my computer picture archive and selected the Barkston file to put a pictorial piece together. I regard these articles as page fillers but I have a surfeit this month.

We managed to get a trip in to Colin Shepherd's indoor meeting at Leasowes High School in Halesowen, got fooled by the big clock on the wall and left earlier than intended but not having flown anything we were thoroughly cold and the curry supper waiting at my daughters was a big draw.

Peter Hall brings us up to date with the Southern Coupe League and proposes a 20th Anniversary year of 2026. The fixture list is published in the adds section.

I stuck a few commonly used aerofoils in for those who may not have the proper coordinates for their personal favourites. Someone told me that the upper surface of the RAF32 makes a good section for Gyminnie Crickets. I may try it for my last fling at this year's Indoor FF Nationals.

The rest is filled out by our stalwarts, Nick Peppiatt, Roy Tiller and Roger Newman who have penned their regular contributions.

Finally the plans for the models of the month, does anyone try to build from them?

The meeting adds section is worth a look as there are one or two new ones on meetings and info. The dates for the replacement FF Nationals meetings are listed in the Provisional events list.

Editor

Mills .75 Problems - Tony Shepherd

Uncle Tony's Mills

Last year I described my much protracted build of a Vic Smeed Popsie and in it made mention of the Mills 75 which provides the power and which used to belong to Mo's brother-in-law's Uncle Tony. At that time I promised to fill in the details of the history of this engine and to inform you of its return to running condition so now is the time to tell all, starting with a bit about its previous owner.

Uncle Tony was always making things. Whenever he was on leave from the RAF, or later when he was living in Norfolk, he was either in the garage, or making something on the table indoors. He was a very keen builder of model aeroplanes, both the flying variety and plastic scale versions and he was also a keen fisherman, spending many hours making floats or other small bits and pieces to use when beside the lake.

His main occupation was as a storeman, both in the RAF, BAC in Saudi Arabia, and later for a small lathe making company in Norfolk. This passion for organisation was evident when his house was cleared after he passed away – there were lists of items everywhere which made finding and disposing of things so much easier (if it was on the list, it would be there somewhere!).

However this organisation didn't naturally transfer itself to engines! He was a keen motorcyclist, and on occasions in the 60's the family would suddenly be called upon to head out in their minibus to pick him up (and his old Norton) from the side of the road, where he had broken down, again! Despite upgrading to more reliable motorcycles he still had the Norton (in bits) when he passed away, but what no one was expecting was to find every single nut, bolt and washer from engine, frame etc all mixed together in one large bucket (something still being resolved several years later!)

So, back to the flying model aircraft. Uncle Tony had a number of gliders, and the odd powered plane, though no one can remember seeing them flying. What happened to the planes after he passed away is not known but his nephew Paul ended up with a few random engines, mainly glow-plug, but also a couple of diesels and its one of those that ended up with me.

Knowing that I had an interest in our hobby, Paul, the twin brother of Mo's brother-in-law David, asked if I'd like any of the engines. Well, like most power flyers I have more engines than I will ever install in models but the offer of another Mills 75 is impossible to turn down and it was soon winging its way from Norfolk to Hampshire. Its arrival was greeted with much excitement and enthusiasm and it was soon bolted to the test bed and ready for a trial. As was expected, it took a little while to get some life out of it but with a bit of a prime on a closed exhaust port, flicking brought combustion and the occasional blurt of a few revs. However nothing more meaningful happened so, somewhat baffled, I gave up for the day and mulled over the problem.

A day or two later I had another go and after experiencing the same result as before it was apparent that a further investigation was required. Those of you that know these lovely engines will be aware that the cylinder has holes in the front which link the transfer port to the combustion chamber and holes in the back which are the inlet ports. Although the holes are of similar size their spacing and locations are different and it is a common fault when investigating a non-runner to find that the cylinder has been installed the wrong way round after a strip down.

So off came the carb assembly for a look into the inlet but that didn't come up with the answer as the little holes were as they should be. It was time to delve deeper and the next stage was to have a look at the piston but this required removal of the cooling fins and cylinder.

For this operation I resort to the oven and having removed the carb assembly in goes the engine at about 100C for a few minutes after which oven gloves are used to unscrew the fins. This is usually achieved by hand whilst still wearing the oven gloves but occasionally by holding the engine by the fins in the bench vice which has its jaws covered either in wood or some other soft material but NEVER just the plain jaws! A quick twist of the crankcase is usually sufficient to loosen everything up. With the fins off a similar exercise is carried out on the cylinder which is only a push fit into the crankcase but twisting is usually required to get things moving.

In the case of this Uncle Tony's engine, the removal of the fins and cylinder required the vice but with everything apart the problem was revealed. There is a step in the piston crown and this goes to the front but a previous owner had had this one apart and reassembled it with the piston the wrong way round. I didn't particularly want to take out the piston and con-rod as one lump as this requires removal of the screwed-in, rear crankcase cover which is a bit of a faff with a Mills. The alternative was to carefully wiggle the piston until a bit of the gudgeon pin was clear of the piston skirt with enough of it out to grip it with a pair of tweezers and bring it out through the inlet port. I have to admit that the Gods were looking favourably on me at this point as there is no way that I expected it to be as simple an operation as it turned out to be but it worked.

It was then comparatively easy to reverse the piston and pop the gudgeon pin back in, again using tweezers with entry via the inlet port.

The rest was plain sailing.
The cylinder went back into the crankcase making sure that it was the right way round and that the exhaust ports lined up with those on the crankcase casting.
The fins screwed back on and the carb assembly went back in the inlet port and all was good to go.
So the engine went back on the test bench soon after the reassembly was complete and the short bursts were replaced by proper runs and Uncle Tony's Mills was back in business.
And as you all know, it's now flying again.

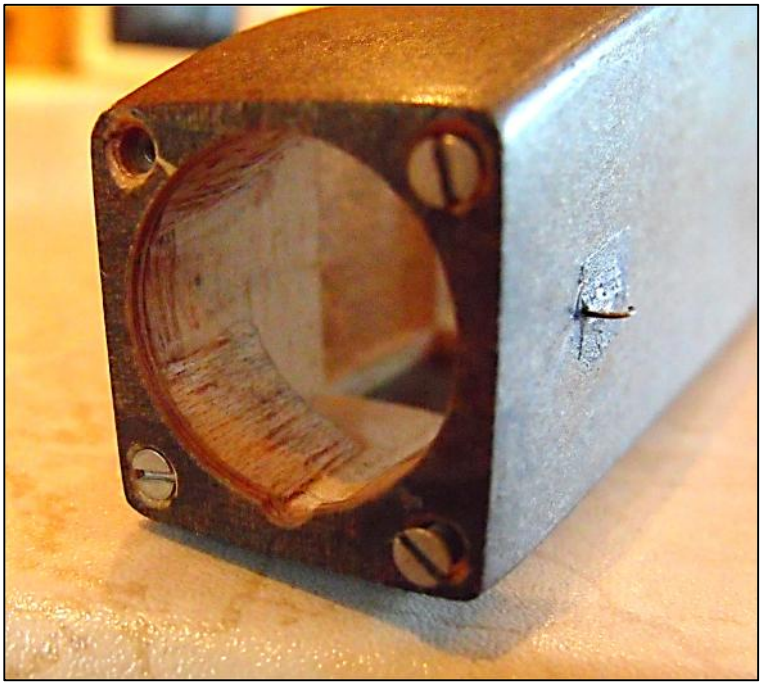
Tony Shepherd

Adjustable Nose-Blocks - Chris Redrup

Hi Andy, John Andrews passed on your email. querying thrust-line adjusting nose-blocks.

I can't remember when the article appeared in the Clarion but I have found the photo, illustrating the method I have used on a number of models. The one in the photo is an Etienvre vintage Coupe.

I fit four short lengths of plastic tubing to the front end and fit countersunk screws to provide adjustment. The rear face of the nose block is thin ply for these to bear against.



For this size model, the ideal tubing is the outer sleeve of a Sullivan Gold-N-Cable control rod set #508 as this has a ribbed outer surface and when super glued into some reasonably hard balsa fillets, is very secure.
A countersunk M2 screw will self-tap into this to achieve a firm grip such that the adjustment will not alter once set.
Alternatively an 8BA screw can be used, although you will need to run a tap into the tube first.
I have also used this method with smaller tubing and smaller screws where applicable. It also works well for tail plane incidence adjustment.

Hope this helps

Chris Redrup

Extract from Model Aircraft March 1953

Topical Twists

Not " Towing " the Line

A special timekeeping problem has arisen from the opportunist tow-line manoeuvres of the more advanced glider enthusiast. Seeking those few seconds duration advantage which can make all the difference to the comp. result, the idea is to stray as far upwind as possible before releasing the model.

And a good idea—son, but one which can, perhaps, be overdone. Or, so it would seem, from an extract taken from a recent club report which refers to a member " . . . who endeavouring to cure a tow-line wobble went off in a straight line and was out of sight in 3 mins. dead."

Must have placed the timekeepers in quite a dilemma.

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Snowmanship

It really has me beat
Why a model meet
Can't just be simple, unadorned and real.
But it seems the modern trend
Is more concerned to lend
An aura of spectacular appeal.

The latest model wheeze
Is a free flight comp. on skis
Or any other rise-off-snow device.
So the time's not far away
When with ballyhoo display
We're presented with " The Wakefield Cup on Ice."

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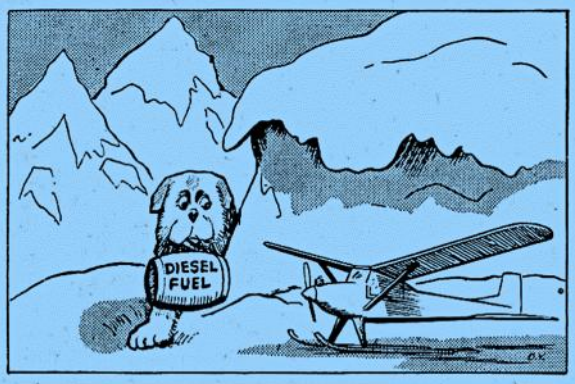
Mere Childplay

Writing on model aircraft in a popular weekly, a certain journalist endeared himself to the hearts of all model builders by indulgently referring to their machines as toys. Presumably such publicity can only be beneficial to our hobby, which, on the commercial side at least, is now mainly devoted to producing prefabricated play-things for the kit-conscious kiddiewinkies of this jet-minded age. But to we few diehards who, in the face of the general public's amused contempt, cling to the fond belief that aeromodelling is both a mature and intelligent pastime, this unwholesome emphasis on " toys " has a most humiliating effect.

I well remember, a few years ago, a screaming headline proclaiming our august Wakefield Event as an " Elastic Band Model Plane Contest." Now, having just about lived that one down my prestige has again been reduced to the toddler level by this latest toy tirade.



And, speaking of toys, I have been toying with the idea of a suitable fate for all journalists who snipe at us from behind the toy counters of their nursery imaginations. I suggest that they be put in front of a firing squad composed of P.R.O.s. After which, of course, the P.R.O.s meet a similar fate for allowing this sort of " toy " publicity to happen, anyway.

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UNDER THE COUNTER
The T.T. Trade Review

Forgotten the rubber bands again? Then you will be interested in the latest product of **Messrs. Stretchplus Ltd.**, a dummy packet of bands specially designed for leaving at home on contest days.

* * *

For the modeller who is trying to economise by giving up smoking, **Messrs. Wackywick** offer a unique type of D/T fuse, which can be readily ignited without using a lighted cigarette.

* * *

After exhaustive research the **Supertool & Supersonic Electronic Co.** are offering to the discriminating modeller the most efficient tool yet devised for the cutting of balsa wood ; an old razor blade.

* * *

A novel type of water transfer is available from **Pulchritudinous Products Ltd.** On the outside of the model will be seen a fully clothed version of your favourite pin-up girl, but when you look through the cabin window. . . .

* * *

From **Messrs. Eezi-Bild** comes the *Voodon't*, a completely prefabricated model of Tibet's latest fighter. This kit is so straightforward that it can be speedily assembled by the veriest nitwit. Just the kit *you* have been looking for.

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For your junk box! **Messrs. Diceymolds** have produced yet another plastic fuel tank. And for the contest-minded, a new glow-fuel from **Duffdopes**—definitely does not contain chlorophyll.

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A Lengthy Subject

In defending the present day Wakefield rules a correspondent to this journal states that " we have come a long way from Penaud to Bilgri."

And how true! Why, the distance from prop. to tail must be at least three feet.

Yet another correspondent on the Wakefield issue suggests that the introduction of a " pay-load " would present the world with a competition in keeping with British traditions.

Which is just one swell idea! Guess we Limeys of this li'l ole 49th State sure are suckers for that tradition angle.

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Uplift

We are reminded that, when first introduced, D/ts were criticised for the limiting effect they would have on model performance. Nowadays the demand of the duration fiends would seem to be, not for a dethermaliser to bring the model out of a riser, but for a " dedown-draughtiser " to reverse the procedure.

Pylonius

Ted Evans & The Model Shop - Roger Newman

Another Wakefield of Robin Kimber – the Jaguar

Long ago, when I was young & living in Wolverton. youthful pastimes were engine spotting & making model aeroplanes. Girls hadn't appeared on the horizon. Occasionally other things happened like learning to swim. The only issue was that the nearest swimming pool was in Northampton but not a problem, as we were young, healthy & possessed of bicycles. So we thought nothing of cycling 20 odd miles to Northampton, having a swim & then cycling home again. On route we would come into Northampton via Bridge Street, where Bassett Lowke had a shop – this involved a brief stop to press noses against the window front in amazement for a few minutes before proceeding to the Baths & a swim. After exercise, on to the Model Shop at 230 Wellingborough Road to make modest purchases of sundry items like dope, Model-span tissue & the like (all we could afford) before beating a slow & weary retreat home. Those indeed were the days of early teens & carefree living. At that time, being young & ignorant of such things, we were totally oblivious of the fame & modelling skills of one Mr Ted Evans.

As related in a recent issue of the NC, disposal of Wakefields built by Robin Kimber continues. You may recall that one of these "up for grabs" was a Jaguar designed by Ted Evans. It so happens that whilst browsing the Internet, I came across the website of the Model Shop, 230 Wellingborough Road, Northampton. This was, of course, the well-known model shop started & run by Ted Evans many years ago & now in the capable hands of Nick who has very kindly given permission for the following text to be taken from the Model Shop website. I am most grateful.

Ted Evans – his history & his model shop

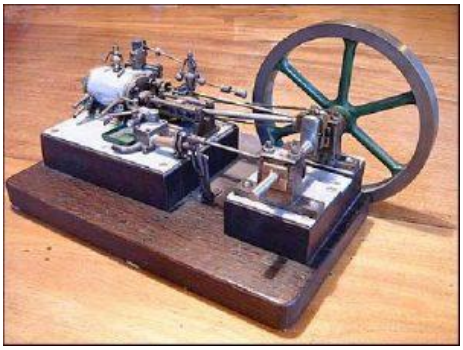
The shop was established by my father, Ted Evans, in 1937. This is a brief story of his life and how the business developed.

He was truly multi-talented: aeromodeller, high-diver, metal worker, water colour painter, and expert ballroom dancer. He was one of the foremost designers and builders of model aeroplanes from the mid-thirties until he retired from Wakefield Competitions in the early 50s.

This photo was taken in his home town of Leighton Buzzard where he was born in 1906, and we assume he was about 19 or 20 at the time.

My father was fascinated by anything mechanical but particularly cars, aeroplanes, airships. One of his earliest projects was the construction of a working model steam engine.

He was only 16 at the time and had no access to lathes or any power tools. After acquiring the piston and liner he set about producing all remaining parts by hand. This model still works perfectly today and the photograph shows it after he fitted a Stuart Turner fly wheel in 1966 – the original was never satisfactory.



During this time he bought a lathe and learnt how to use it. He built a Stuart Turner Beam Engine from a kit of cast parts and then went back to his old engine and built a governor for it. This addition can clearly be seen.

His engineering skills were put to use in other areas and he rapidly learnt the mysteries of watch making and soon found he was capable of repairing all types of clocks and watches.

His career path was initially determined by his father who was a coach trimmer in the motor trade. This was a good trade to enter in the 1920s and he upholstered seats for various car manufacturers including Rolls Royce. However, by the mid 1930s he could foresee the impending threat posed by mass production and the possibility of losing his job and so decided to open a model shop. Meanwhile his interest in aircraft had flourished into the hobby of aeromodelling. Full-size flying was out of the question but modelling gave him the chance to design, construct and fly his models. This led him to design a range of sailplanes and rubber powered models and establish his shop in Northampton in 1937.

I am pleased to include a photo (we think pre-war) of my father standing outside Super Model Aircraft Supplies, 220 Wellingborough Road, Northampton. These premises were small but sufficient to stock building materials and the few kits that were available. Initially, shop opening was restricted to Saturdays and a few hours in the evening but once my father was confident in the future of a model shop he left the motor trade and ran the shop full-time.

Three of his designs are displayed in the window. Partially hidden on the left is the Firefly (possibly the Eureka) and central is the Rocket, with the Gull sailplane on the right. During the war the shop was closed for five long years while my father served in the RAF as an instrument technician. When time allowed he continued his involvement in model aircraft design.

Some aspects of life in the 30s and 40s were more romantic than today. We are all familiar with aircraft names like Spitfire, Wellington, Hurricane and it is interesting that designers of model aeroplanes would also think it necessary to name their models: Victrace, Eureka, Albatross are just three pre-war examples used by my father. This habit continued during post-war years and the most interesting name used by my father was "Vansteed". It was an anagram of Ted Evans thought up by my mother. Ironically, the most beautiful of all the Ted Evans' designs – the 1953 streamlined Wakefield – was never given a name. I think the romance and the enthusiasm were beginning to disappear and my father's career was on hold until he took to designing control-line models for me in 1965.

The next photo is typical of a good day's flying before the war. On the right is the Tadpole. My father gave this model to a local modeller after the war and it was returned to me in 1980 in a damaged state.

The other model has a monocoque fuselage, and incorporates internal undercarriage rubber bands and wheel spats. Still in my possession it is finished with a high gloss medium blue fuselage with white silk covering on the wings. It was accepted by the Science Museum many years ago but they could not guarantee a date for its display and I decided it would be wrong to have it stored away for an indefinite time.

The car has been never been positively identified but a customer who frequented the shop shortly after the war thought it was a Riley. He said he cycled to the shop from his home in Kettering – about 16 miles away. Sometimes he used the bus.

Before my father owned the car he used a motor cycle and strapped his model box across his back.

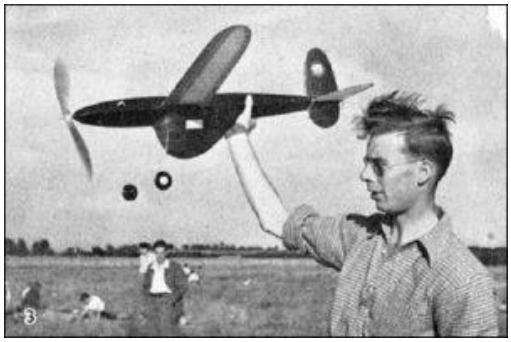
The most well known of the sailplanes was called the Gull. The original hung in the shop right up until the late fifties but like most of my father's models it was passed on to someone else. The Gull was featured on the front cover of The Model Aeroplane Constructor magazine in May 1937.
The magazine included an article by my father on how to build the model. This must have been so successful that the plans were available from most model shops and a kit was produced by Premier Aeromodel Supplies of London at 17/6 carriage paid – that's about 87p in modern language !

I thought it would be interesting to include a copy of the Model Engineer Exhibition Certificate awarded to my father in 1936 for his Gull sailplane. I think it is a wonderful example of traditional art work design and art deco.
The illustration of the twin engine aircraft, the Queen Mary and an A4 pacific loco shows Great Britain as a world leader.

For many during the 40s, access to a model shop was near impossible and shortly after the war my father produced a mail order catalogue which listed his designs, materials, accessories, books and kits. It was only by chance that I acquired a copy. Midway through the 90s an old customer came in the shop and asked if I would like a near mint copy of the shop catalogue. I had to admit I had no knowledge of it, but I am eternally grateful to this gentleman.

The illustration on the front of the catalogue shows the 1944 sailplane called the Avis. We can still offer for sale plans of this, and most of my father's other designs. Whilst the designs were always held in the highest esteem some felt his most successful competition designs were a little complicated and tricky to build. Priority for all of his designs was performance and attractive lines and he was not prepared to simplify a design in order to sell a few more plans.
The plan's section in the original catalogue states "All duration types and Sailplanes are designed by E. W. Evans – Silver Medallist Model Engineers Exhibition, and if properly constructed will give outstanding performance. Each model has a carefully disposed centre of lateral area, a point overlooked in many designs."

Following his war years in the RAF my father returned to running the shop and, a chance to pursue his quest to win the Wakefield Cup. In football terms this is equal to the World Cup with teams from many nations participating.



He was never afraid to take a clean sheet of paper and start a new design and was keen to try out new concepts. Although he was unsuccessful in his attempt to make the British team in 1948 it was his unusual, but most successful design that was to win the Cup in that year flown by Roy Chesterton. Named the Jaguar this model, shown here with Roy, was to become the most talked about model of its time. The competition was held in Akron, Ohio, USA.

Many years ago I stated that my father carved the propeller for Roy Chesterton's Jaguar. An innocent and interesting fact, which did not infringe the rules, or so I thought. Later, some of the old Northampton Wakefield enthusiasts explained what had happened and why I had arrived at that false conclusion. I now know my father had no hand in any part of the construction of Roy's Jaguar.

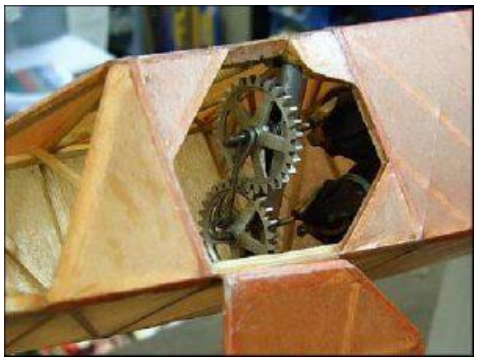
Either a competition day or flying at the local Northampton Club Flying site, this photo captures the activity surrounding rubber power flying shortly after the war. Here, my father is preparing the Jaguar for flight. Today, the Northampton Club is still a thriving club with excellent facilities and is keen to encourage new members. Their web site is: www.nmac.org.uk.
The Jaguar was built by many modellers and achieved success in competitions throughout the 1948, '49 and even '50. Plans of the Jaguar were shown in the October 1948 Aeromodeller to illustrate the article 'The Designer's Story'.

The Aeromodeller Annual 1948 then dedicated four pages and the front cover to the Jaguar. A photo of the model then appeared on the front of Model Aircraft, August 1949 magazine. Finally, a two page spread was given over to the Jaguar in Model Planes Annual 1949. This indicates the importance of this design. Despite the Jaguar's success my father felt the Jaguar could be improved upon and he set out to design the Clipper, and then the Vansteed. It was this model that gave him his best ever placement as a competitor coming second to the Fin, Arne Ellila in the 1950 Wakefield Cup in Finland.

Ellila's model featured twin motors running through a gear train and the competition report stated a motor run of approximately 120 seconds compared to the Vansteed at 75 seconds. The final score was the total of three flights. Ellila amassed 732 with my father's total score at 660. The October 1950 Aeromodeller featured the top three entrants together with their models. The section on my father stated "…he is probably one of the finest Wakefield builders in the world. His models are built with meticulous care and reach a standard of construction and finish which few can equal."

In 1952 my father's model was a geared version of the Vansteed called the Skylon. It incorporated the Vansteed tail section and wing but a wider fuselage cross section was necessary to allow for the gears. This model was used at the 1952 Wakefield competition in Sweden and gained a disappointing 9th place. Often referred to as the Geared Vansteed I thought it important to include photos as few modellers have seen it.
Plans were never published.

This is a truly wonderful piece of modelling incorporating a variable pitch propeller, with a trap door at the rear of the fuselage giving access to the gears.



Uncharacteristically, the twin rubber motors are still in the fuselage and I can only assume this model presented some frustrating moments. There are some minor repairs to the tissue covering. It is shown here against the original carrying box in which are handwritten instruction for motor preparation for this model and the Vansteed.
The 1953 Wakefield competition was held at Cranfield aerodrome, England.

My father produced a completely new design, and one that he thought was his best. Much has been written about the time keeper who thought he saw my father's model land well before it actually did, therefore scoring a low flight time. Who knows.
This was his most ambitious design in appearance and complexity. Unfortunately, the performance did not match the quality of workmanship and my father's Wakefield career was now at an end. The signature of Group Captain John Cunningham is still clearly visible on the fuselage. Within a couple of years Wakefield designs were very functional in appearance, and I imagine my father would have felt less interested. He still attended meetings and was glad to help out when called upon. The November 1955 edition of Aeromodeller has a photograph of my father helping Mr H. Revell of Northampton preparing his model in the South Midland Area Rally.

The new Wakefield rules which limited the amount of rubber used was not welcomed by my father but like everyone else he had to accept it and produce a new model. The next photo clearly shows the magnificence of his last design. The fuselage was skinned in sheets of 1/32nd sheet balsa, each being moulded to shape and laying the length of the fuselage like a banana skin.
This model is still in excellent condition and the fuselage joints are still impossible to see.

With two young children to bring up and a shop to run my father gave up flying competitively and was content to be an observer. Model aircraft meetings became a family outing. As time passed he drifted away from the model scene and gained his Private Pilot's Licence at Sywell Aerodrome outside Northampton, flying Austers and entered another word of aviation. Dad is seen here standing next to his favourite club Auster which was fitted with shoulder straps for aerobatics.

My brother and I had always built plastic kits and then a few balsa kits from the Keil Kraft and Mercury ranges. Dad quietly observed, teaching us how to cut balsa accurately, and cover models in tissue using acetone and dope (a technique long since lost). At fourteen years old I was flying control-line models and soon Dad could not resist the temptation to start dabbling again – even though he had previously thought of control-line models as "bricks on string".
After control-line I was fascinated with radio and we built a Keil Kraft Mini Super and used MacGregor radio operating two "Japanese" actuators – throttle and rudder. This worked fine but proportional radio was the latest thing in the mid 60s and so we acquired a British built Skyleader set

(I can remember the worried look on my father's face when he found out the price. In those days it was around £175.00).
More Ted Evans' designs followed and we enjoyed some success in competitions.

This last photograph was taken at the Southern Gala meeting held annually at Cranfield aerodrome. The year was probably 1966 and we took our favourite models for a day's fun flying. I am sure he really enjoyed the chance to mix amongst modellers again and I was amused at the comments from the control-line followers at seeing the maestro assist me. In this picture our C/L models are the Wolverine (Oliver Tiger powered profile design), the Spacehound (Merco 35 powered), a scale model of a Cessna Skymaster (Webra 2.5 cc diesel powered and designed and built by my father). Dad was somewhat surprised when I had shown interest in building one of his designs and he is seen here holding my Firefly. I was determined to build this myself but when it came to making up the motor dad took over.

It was at one of these meetings that my father was taken ill in 1971 and died a few weeks later.

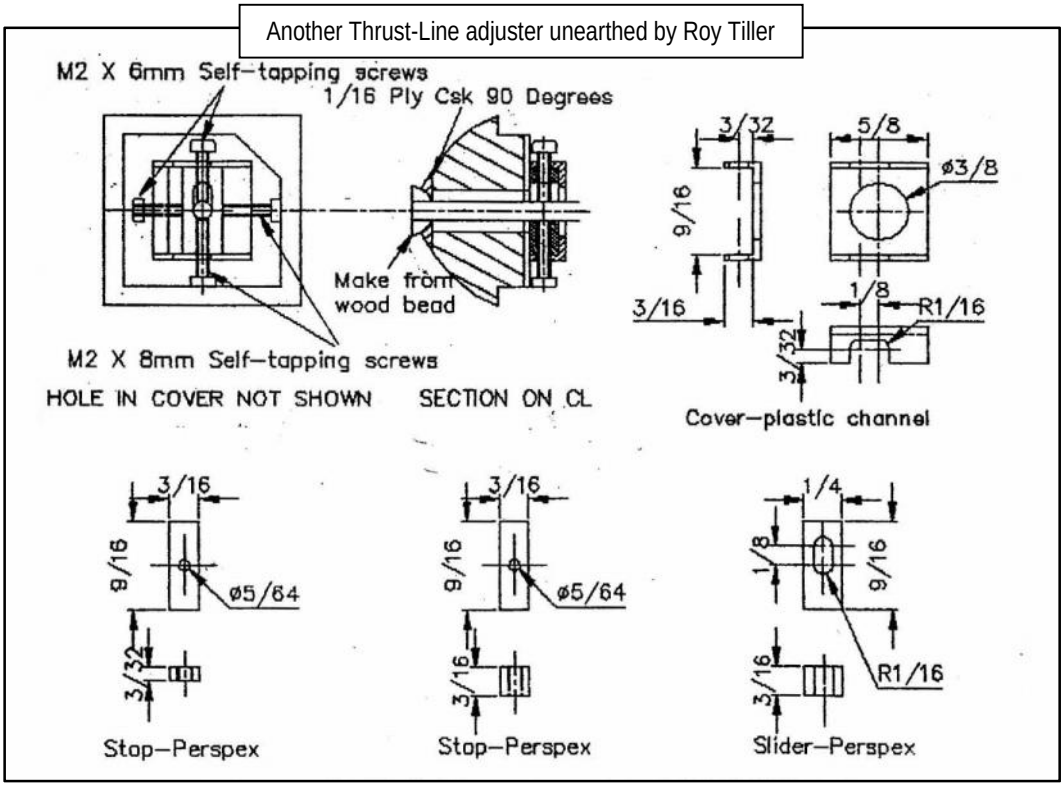
Nick Evans

Not quite the end of the story! When contacting Nick to ask his permission to reproduce the above notes, it occurred to me that he might like the Jaguar built by Robin for display in the Model Shop & yes, I am very pleased to say that is now where it will reside. Truly the right place for such a unique & famous model. Delivery is planned to be done later this Spring in person, so I can renew my acquaintance with old times & refresh a few memories from the past.

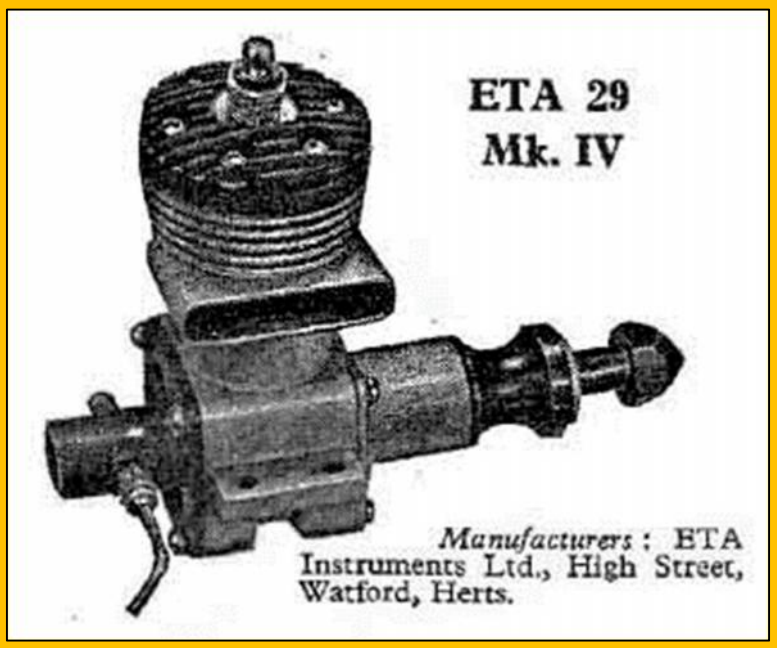
Roger Newman

Nose-Block Thrust-line Adjuster - John Worsley

Another Thrust-Line adjuster unearthed by Roy Tiller

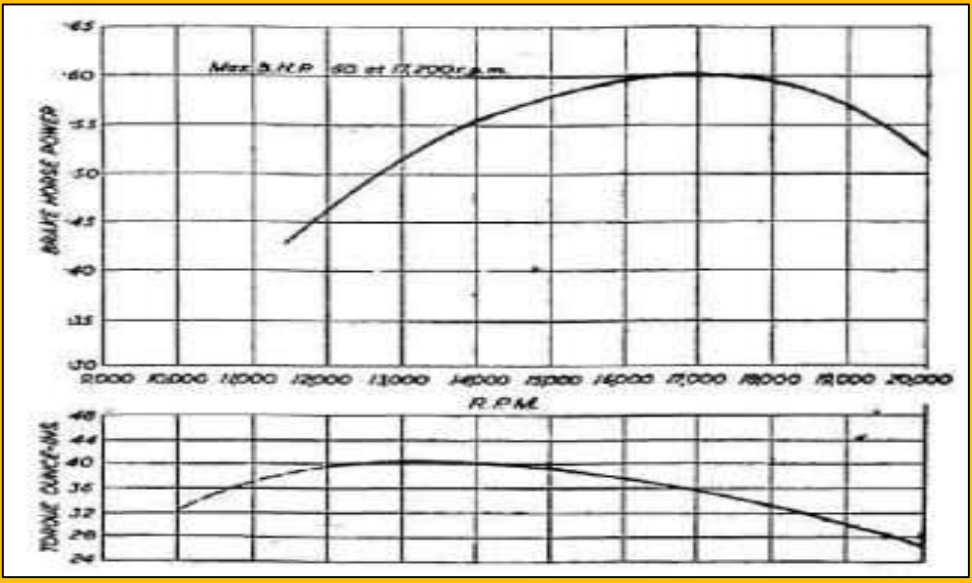


Engine Analysis: ETA 29 - Aeromodeller Annual 1957-58



Propeller dia. × pitch	R.P.M.
8 ×4 (Stant)	18,000
8 ×5 (Stant)	16,750
8 ×6 (Stant)	14,800
9 ×4 (Trucut)	14,300
9 ×5 (Stant)	13,000
10 ×4 (Stant)	13,000
8 ×9 (Stant TR)	12,100
8 ×8 (Stant TR)	14,600
7 ×9 (Stant TR)	14,500
7 ×8 (Stant)	18,000
7 ×6 (Stant)	18,800

Displacement: 4·884 c.c. (·2979 cu. in.).
Bore: ·750 in.
Stroke: ·674 in.
Bore/Stroke ratio: 1·11 Retail price:
Bare weight: 6½ ounces. £7/6/4 in. P.T.
Max. B.H.P.: ·605 at 17, 200 r.p.m.
Max. torque: 40·5 ounce-inches at 13,500 r.p.m.
Power rating: ·123 B.H.P. per c.c.
Power/weight ratio: ·0925 B.H.P. per ounce.



Another Mills .75 Problem - Tony Shepherd

Roger Newman's Indian Mills

Any of you that subscribe to the Aeromodeller will probably have read the article in the March edition by Andy Brough covering his dusting down of Tomboys No1 & 2 ready for permanent display at Buckminster. It's good to know that they'll be available for all to see. If I remember correctly No1 was brought to Middle Wallop when the Tomboy events started but I can recall few details - perhaps someone can tell us about what actually happened. Anyway, the reason for mentioning this is that it reminded me that lurking in my hanger is a 44" Tomboy that was very kindly given to me by our Hon. Sec. The intention has always been that it should be restored to flying condition so that Mo could experience the fun of sport free flight - and let's face it, there's no better way to do that than with a Tomboy.

The model Roger gave me is not in ready to fly condition but a bit of TLC should see it airworthy again and that process is now underway and you'll be kept abreast of progress through the Clarion.

Clearly Roger had flown the model on many occasions, evidence of which was the large amount of congealed castor oil that covered much of the Indian Mills and the engine bay so it seemed sensible to remove the engine and give it a thorough clean and run, starting with an hour-long dunk in a jar of cellulose thinners.
This had the desired effect of loosening up the oil on the outside and gentle teasing with a few cocktail sticks had it looking a bit more usable. The carb was stripped and with all its bits individually cleaned and pins poked through the various holes it was reassembled and looked good again.
However the crankcase and cylinder were a different matter as there was no sign of movement even with the propeller refitted to provide some leverage. Certainly the cocktail sticks picked out quite a few lumps of castor oil from the exhaust ports but there was clearly much more stashed away inside. It was time for a good warming in the oven and a full strip down.

The fins came off with a little persuasion in the vice but the cylinder clearly didn't want to leave home and further heating and a lots of twisting were required before it finally came free to reveal the piston. I have to say that I've never seen a piston quite like it - there was a layer of caked on castor oil across the whole of the crown to a depth approaching 1/16" and the step at the front had completely vanished. Clearly the engine had run in this condition as it couldn't go from clean to that level of oiling up in one flight. I've seen combustion chambers with a lots of congealed oil in them but nothing to match this. It came off easily and further application of thinners coupled with poking around with cocktail sticks cleared the fuel transfer passage and the ports in the cylinder.

I'd hoped that I could get away without having to take the crankshaft out but this wasn't going to be possible as even with further heating and attempting to achieve some degree of rotation with the prop back on there was very little movement. Fortunately this Indian Mills' screw-in backplate is much easier to get out than that of the British version as it's slotted like a PAW and it came out easily and it was then a simple matter to unhook the big-end from the crank pin and lift the piston/con-rod assembly out. This left me with just the crankshaft in the crankcase which should have been an easy push out job.

Not a bit of it! The only way I could do it was to push it out by closing up the jaws of the vice with the threaded end of the shaft up against one jaw and the back of the crankcase against the other and I was astonished at how much force had to be applied to get them apart. When they were eventually apart there was no evidence of the build-up of oil so it could only be that the end of the shaft, before the threaded, prop screw starts, must've had the slightest of bulges in it or maybe a very slight bend either of which might have come from a crash in years gone by. Whatever the cause, it didn't want to go back into the crankcase and only agreed to do so following the gentle application of a needle file to the last few millimetres of the shaft and a clean-up with some 1000 grit emery paper.

So with that lot complete, a few drops of sewing machine oil were applied to all the moving parts and the engine was reassembled - a much quicker exercise than the disassembly! With everything complete and a balanced prop fitted the Indian Mills was put on the test stand and fuelled up. Having been through a major strip down and thorough soaking in thinners, I wasn't expecting to get any fast results but astonishingly after just a few seconds of prop flicking it was firing and it wasn't long before it was running, and so sweetly. And several more successful run were soon completed.

Clearly the internal build quality of this Indian Mills is not as good as the original British version. I've wondered if the crankshaft problem was a machining fault during manufacture and the engine was originally assembled with the help of a vice or press but I'll never know and as mentioned earlier, crash damage is probably the most likely cause. It also speaks volumes for the design of the engine that it had obviously continued to run during all the build-up of all that castor oil inside - astonishing! Anyway it's now ready to go back into the Tomboy when the model's refurb is complete. More anon.

Tony Shepherd

April 1947

NEWS Review

Cover Story

Our Cover Picture this month depicts two well-known figures in the Model Aircraft movement, Ken Tansley of the Northern Heights Club and W. H. Lawton of the Whitefield Club, Manchester.

Ken Tansley has established himself as a consistent performer with power driven aircraft, and the machine which he is starting up possesses a performance under power which would do credit to an interceptor fighter, and a glide which is better than that of many gliders.

W. H. Lawton is the hard-working delegate representing the North-Western Area on the S.M.A.E. Council and an enthusiastic advocate of the Club Movement. He is also a keen wireless fan and has recently been made Chairman of the Radio Controlled Models Society, which has expressed its willingness to co-operate with those wishing to explore the field of radio controlled model aircraft.

The photograph was taken by your editor on the occasion of the Power Duration Contest 1946.

S.M.A.E. Developments

At the recent Annual General Meeting of the S.M.A.E. a number of important resolutions were passed which will undoubtedly have a considerable effect on the future development of the Society.

In the first place the important decision was made to accept the kind offer made by the Royal Aero Club of office accommodation at Londonderry House, Park Lane, the new aviation centre which they have recently established. The Society will therefore be in close association with the other national bodies dealing with aircraft matters such as the British Gliding Association, the Association of Aero Clubs and The Guild of Pilots, and will have a central office for the first time since its inception.

Coupled with this important step is the parallel one of appointing a secretary-typist to answer queries on the spot and deal with the routine secretarial work of the Society which has now grown to such dimensions as to be beyond the capabilities of a part time secretary alone. This step should accelerate the business of the Society and avoid the long delays, which have sometimes occurred in the past, in the reply to letters.

A further important decision made was to form the Society into a corporate body as a Limited Liability Company under the Friendly Society's Act to limit the liability of the members and facilitate transactions with the Air Ministry and other bodies which are at present rendered very difficult.

This will necessitate the re-drafting of the constitution and it was agreed at the meeting that this should be carried out as quickly as possible. A committee was elected to draft the proposed constitution for presentation to the Society's legal advisers in due course.

It is felt that these steps will place the Society on a much better footing and enable it to take its rightful place in the aircraft movement of this country and overseas.

"It's in the Air"

Here is a further list of bookings of this film. Clubs concerned are again reminded that they should endeavour to arrange with the manager of their cinema for a display of models in the foyer, and, if possible, a slide to be shown on the screen drawing attention to the club's activities.

April	14th.	Futurist, Kidderminster ...	6 days
,,	14th.	Kings, Ilkeston	6 days
,,	14th.	Queen's Wallasey	3 days
,,	14th.	The Regal, Dumfermline ...	6 days
,,	16th.	Majestic, Chadderden	2 days
,,	17th.	Victory, Stapleford	3 days
,,	21st.	Davenport, Stockport	6 days
,,	21st.	Picture House, Denny ...	2 days
,,	21st.	Plaza, Stockport	6 days
,,	21st.	Regent, Bolton	3 days
,,	21st.	Ritz, Doncaster	—
,,	21st.	The Don, Doncaster	3 days
,,	23rd.	Plaza, Bishops Castle	2 days
,,	23rd.	Cinema, Randalstown, Co. Antrim	3 days
,,	24th.	Imperial, Nottingham	3 days
,,	28th.	Palace, Hollinwood	2 days
,,	28th.	Tatton Cinema, Gatley ...	6 days
,,	30th.	Cinema, Irvinstown, Scotland...	2 days
May	1st.	Futurist, Bosford, Notts. ...	2 days
,,	3rd.	Southwold Cinema, Norfolk ...	3 days
,,	5th.	Majestic, Swadlingcote, Derby	3 days
,,	5th.	Queens, Waterloo	3 days
,,	7th.	Palace, Tunstall, Staffs. ...	2 days
,,	7th.	Vernon, Stockport	2 days
,,	8th.	Forum, Belfast	3 days
,,	8th.	Carlton, Bolton	3 days
,,	8th.	Majestic, Bolton	3 days
,,	8th.	Olympia, Wordesley, Staffs. ...	3 days
,,	9th.	Town Hall, Wirkwirth, Notts.	2 days
,,	12th.	Byron, Hucknall, Notts. ...	3 days
,,	12th.	Palace, Urmston	6 days
,,	12th.	Picture Drome, Mount Pottinger, Belfast	6 days
,,	12th.	Abbey, Wavertree	3 days

May	12th.	Rotunda, Dublin	3 days
„	12th.	Empire, Heywood	6 days
„	15th.	Mary Street Picture House, Dublin	3 days
„	15th.	Regal, Leicester	3 days
„	16th.	Gidlow, Wigan	2 days
„	19th.	Farview, Dublin	3 days
„	19th.	Belgrave, Leicester	3 days
„	19th.	Majestic, Burnley	3 days
„	22nd.	Tudor, Burnley	3 days
„	22nd.	Empire, Garston	3 days
„	25th.	Regors, Cresswell, Notts. ...	2 days
„	26th.	Ritz, Desborough, Northants.	3 days
„	26th.	Palace, Belper, Derby	3 days
„	26th.	Empire, Sherebrook, Notts. ...	3 days
„	26th.	Co-op, Meadowfield	—
„	26th.	Grand, York	3 days

An International Tailless Contest

News has just been received from the Rhône Aero Club, Lyons, France, of the contest for tailless machines, which they are holding on Sunday, July 6th, 1947, at the Corbas Aerodrome, near Lyons.

This is the third contest of this type which they are holding, and the small party of British modellers who attended the contest last year report that they had a very interesting and enjoyable time.

The contest, like its predecessors, has for its object the encouragement of the study of the problems of tailless aircraft, and is to be run under the following rules.

1. Tailless aircraft are defined as machines devoid of any horizontal tail surface, or of any other stabilising surfaces apart from the wings.
2. Four classes of machines can take part : gliders, internal combustion-driven models, reaction-driven models, and rubber-driven models.
3. The number of models entered by each competitor and their characteristics are unrestricted.
4. Each model must be entered on a special entry form handed in before the start of the contest.
5. The winner in each class will be the model obtaining the longest duration of flight from the moment of release from the cable, in the case of gliders ; from the moment of release in the case of the power-driven models, reaction-driven models, or rubber-driven models ; to the time of their landing or their disappearance from view.

   The gliders will be launched from a line having a maximum length of 200 metres.

   In the case of power-driven models, they must rise from the ground ; and in the case of gliders they may be launched by hand.

   The duration of run of internal combustion engines and reaction motors (rockets, etc.), must not exceed 30 sec.
6. Each machine will be permitted three flights, but must execute two of these during the morning session.

   The order of starting will be the same as that in which the models are presented accompanied by their entry forms at the time-keeper's post.

   The flights will not be timed except on the calling of the competitor by the time-keeper holding his entry form, between the time of starting and the closing of the contest. If a flight continues after the closing time of the contest, it will be timed until it is lost to view, or makes a landing.
7. In each class flights under 20 sec. will be considered false starts.

   Flights in which the engine of a power-driven model exceeds 30 sec. are also classed as false starts.
8. The jury is composed of three members of the Rhône Aero Club, and one member of each club represented at the contest on the condition that they are not contestants in the class of models for which they function on the jury.

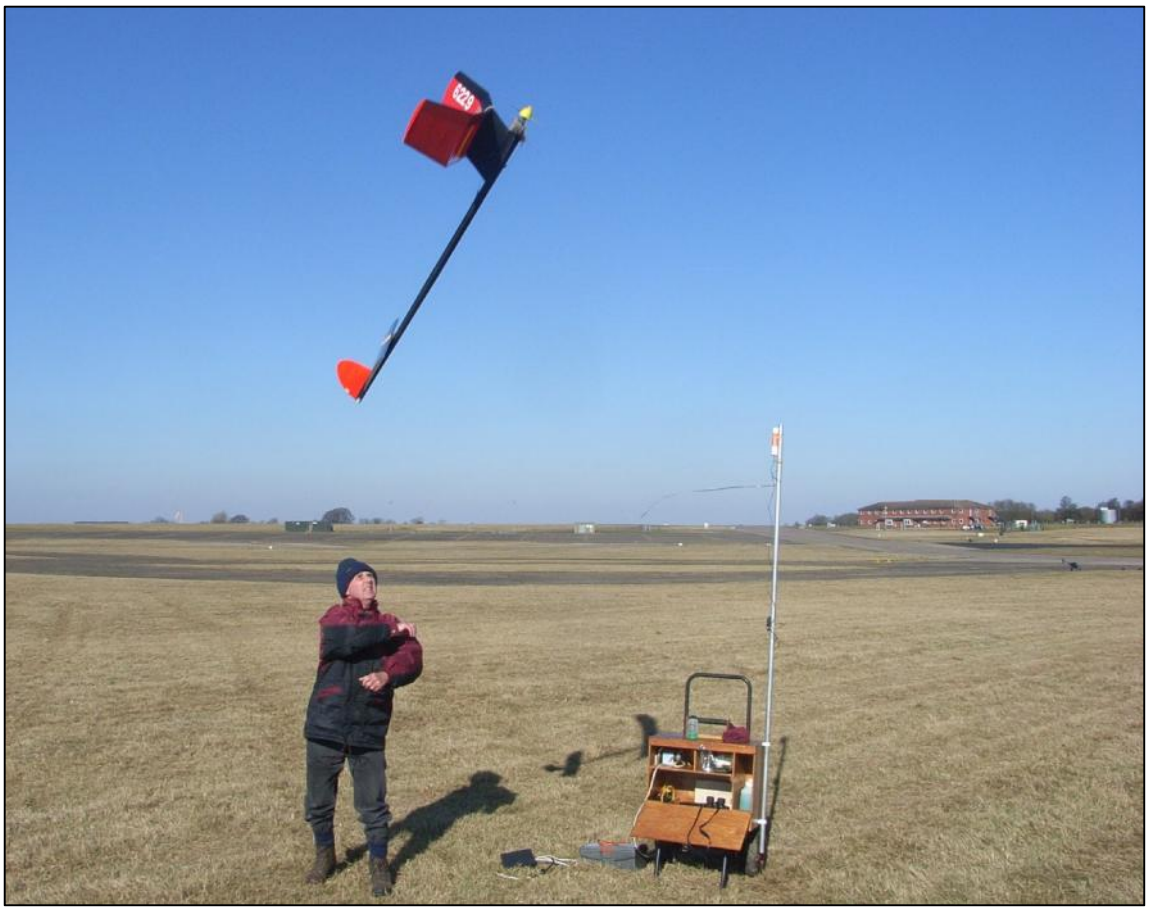
   The decisions of the jury are final, and they can modify the rules and time of closure of the contest if circumstances demand.
9. The entry fee is fixed at 20 francs per model, and they must be sent by letter to the Aero Club du Rhône, 30 bis, Place Bellecour, Lyons, France, by June 20th, 1947, at the latest.

   The contestants, who are not resident at Lyons are invited, in their own interests, to communicate, at the time of sending their entry, the probable time of their arrival at Lyons, and their requirements for hotel accommodation. Their travelling and accommodation expenses will be their own liability, but the Rhône Aero Club will be responsible for their transport between Lyons and Corbas.
10. The act of presenting his entry to the Rhône Aero Club by a competitor carries the obligation that he will abide by the regulations and all the clauses which they carry.

RAF Barkston Heath Pictorial - John Andrews

I thought a trawl through my picture files of meetings at RAF Barkston Heath might fill a page or two. So here goes, no theme just pictures that catch my eye.

January 2012, Typical me, mug of tea in hand and snack box at the ready, patiently awaiting fly-off.



BMFA 2nd Area 2010, Timperley's Terry Dobson launches.

6th Area July 2011. Peter Watson fettles his 'Top Banana'.
The dieselised Cox had prop on back to front as Peter said he could not trim it out with prop right way round.

7th Area Aug 2011. Timperley in action. Yours truly assisting the late John O'Donnell with his knitting

2012 FF Nationals. Mike Sanderson a Warring Wakefield ‘Voodoo’ & John Wingate ‘Its Me’ Wakefield (I think)

4th Area Jun 2019. Phil Ball waits for good air in F1B. Rachel on the bins and clock

Nationals May 2016. Rachel back from recovery. Could not fly without her services.

The Free-Flight Nationals is not necessarily all about model aircraft

John Andrews

Paper Airplane: Heptad Ring - Nick Robinson

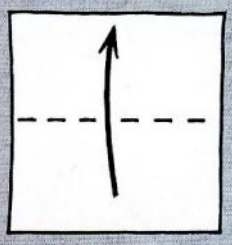
HEPTAD RING

JEFF BEYNON

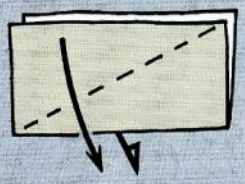
Jeff is a designer of origami who works exclusively with the combinations and possibilities of geometrically derived crease patterns. This can produce fascinating results such as this ring.

The Heptad Ring, whilst not designed with flight in mind, certainly makes an eye-catching and attractive pattern as it spins through the air.

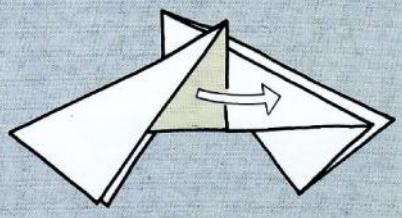
You need seven squares, preferably with different and bright colours on either side. Paper-backed foil is ideal because it has more weight than ordinary paper; you could even laminate (glue) two different coloured sheets together.



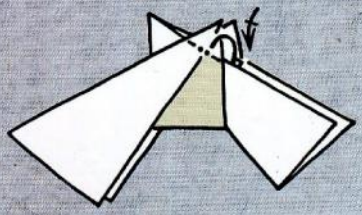
1 Fold in half upwards.



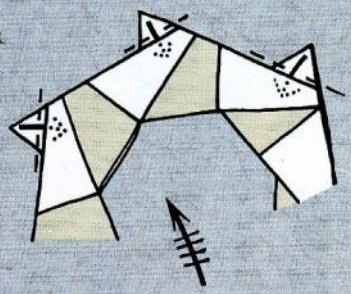
2 Make a crease that joins the left-hand end of the folded edge with the right-hand edge of the first upper edge. You can of course produce a mirror-image copy by reversing these creases from left to right and vice versa, but all seven units must be identical. Make six more "units".



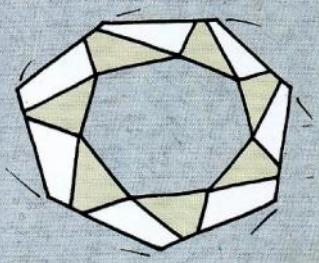
3 Slide two units together . . .



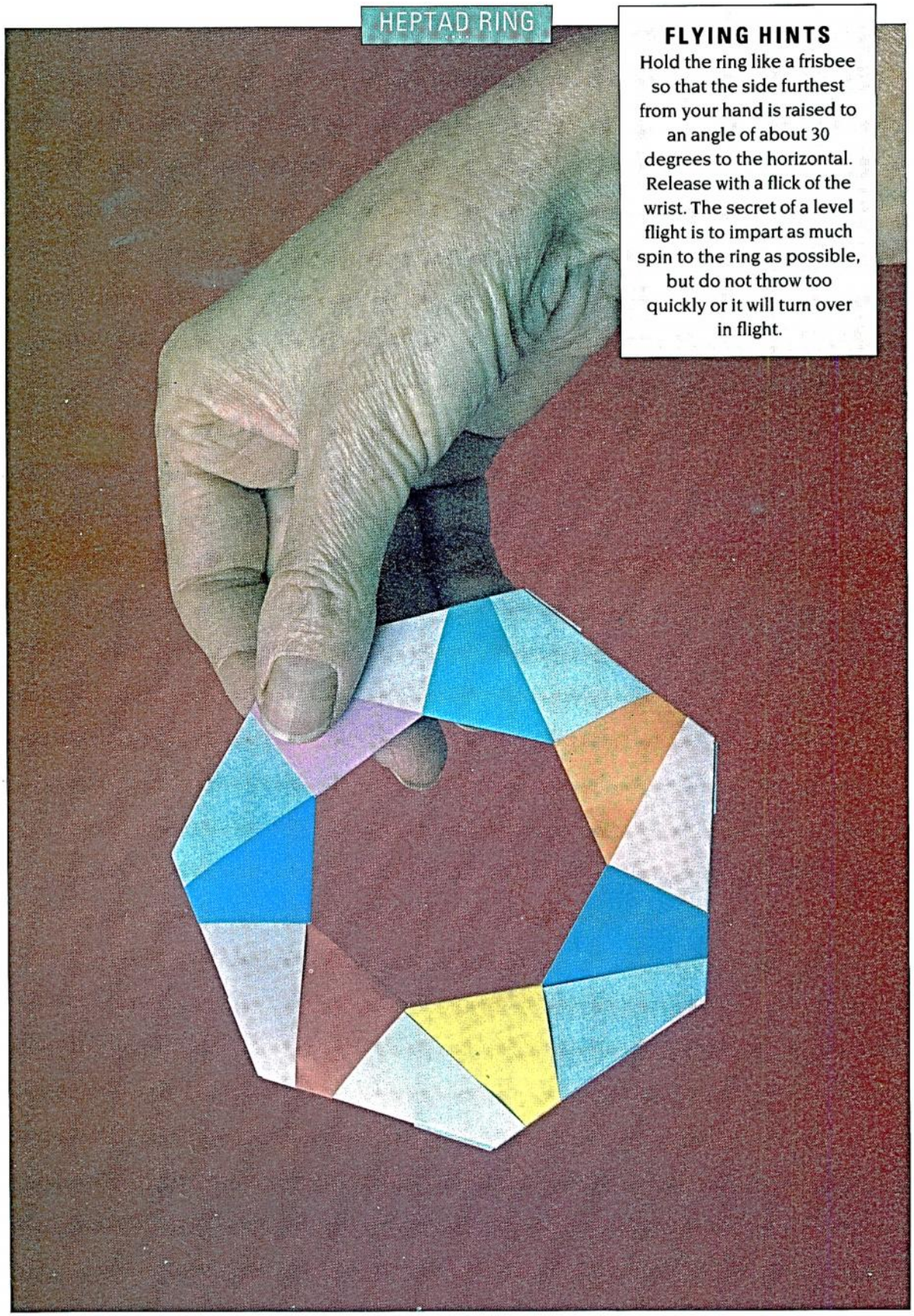
4 . . . as far as they will comfortably go. Lock the units together by folding the two loose tips on either side within. Join all seven units in the same way.



5 Lock further by folding the single tips into the pockets as well.



6 Complete



From the book 'Paper Airplanes' by Nick Robinson

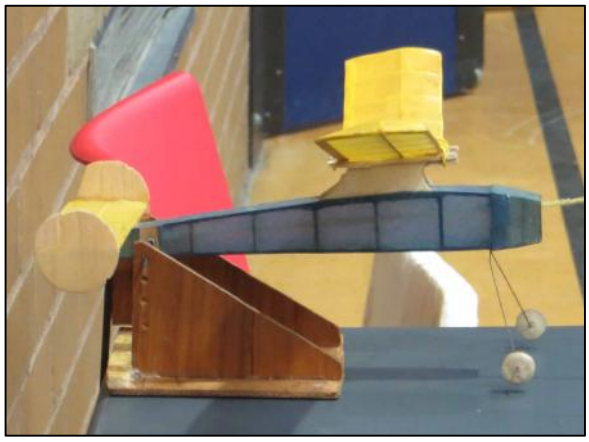
Leasowes Indoors - John Andrews

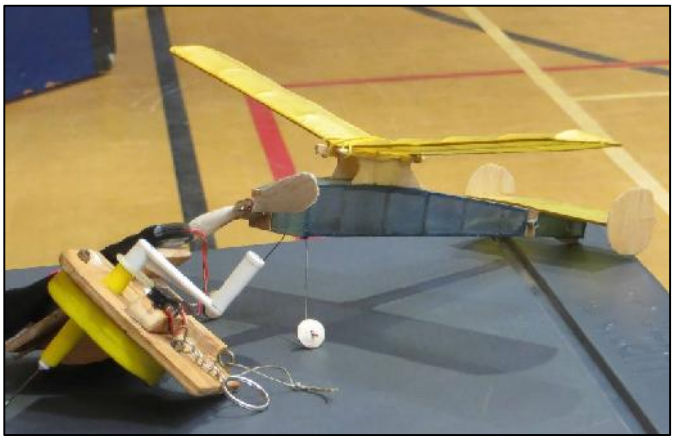
Saturday 5th March Rachel & I set forth on a trip to Colin Shepherds indoor meeting in Leasowes High School sports hall at Halesowen. As usual I ignored the satnav and travelled around the motorways below Birmingham to avoid traffic around Spagetti Junction, which is the satnav's preferred route. Not a good idea this time as the A46 from Coventry to the M40 was single lane all the way. Got more than a bit delayed, made mental note to use the satnav route via M6 for return journey.

It was bitterly cold and windy and I had decided that spectating and chit chat was all I would be doing, no flying. The hall was also very cold inside as there is no heating when we fly, prevents drift.

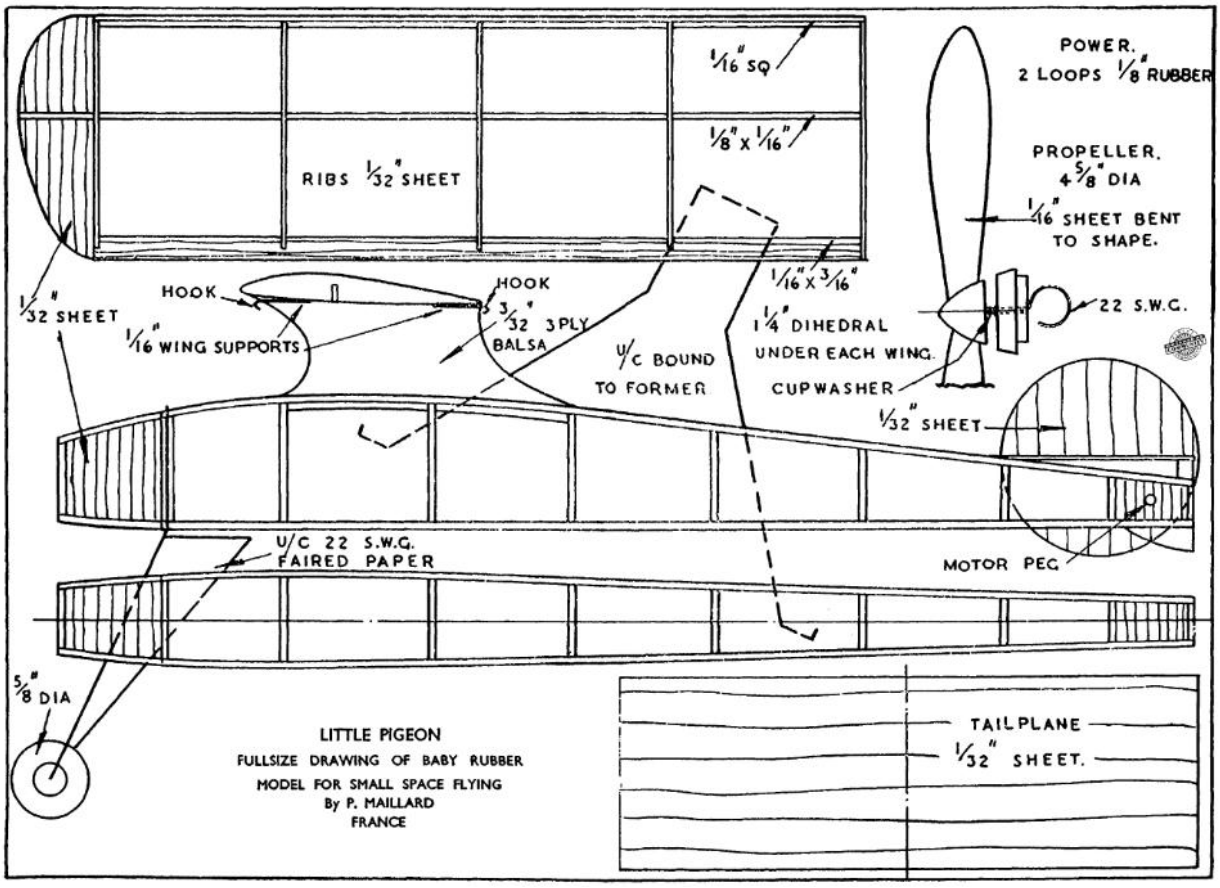
We grabbed a couple of chairs and sat ourselves down between Mick Brown and Colin Shepherd, good spot for keeping your eye on the goings on.

Mick had unearthed a 'Pigeon' I think he said it was, a design from around 1951. He struggled with it all afternoon and I did not see it make anything like a satisfactory flight

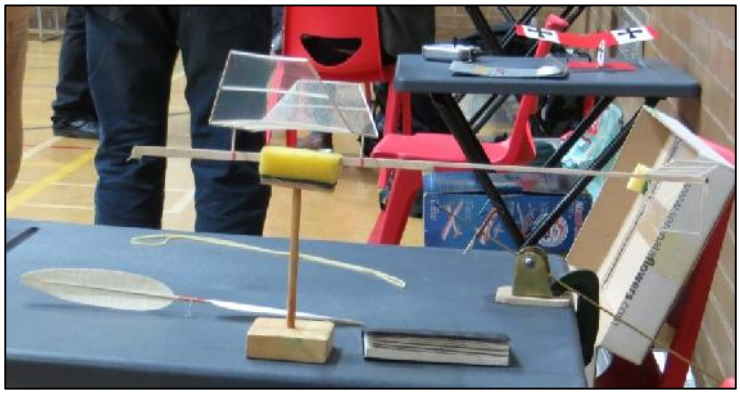




A neat looking Aircraft but it has not fulfilled its potential as yet



Colin Shepherd had dug out his lightweight Gyminnie Cricket to give it a bit of an airing. I recall a few years back the model had done a six minute flight at Thorns.
Our faculties have deteriorated over the years and it was amusing to see Colin's ageing eyes and bumble fingers trying to get the prop shaft through the holes in the bearing.



After assembly and making up a new motor Colin set about trying to get the model to fly. Like Mick Brown, Colin was having trouble and the Cricket persistently kept diving into the floor after launch and was lucky not to have broken the prop.
He eventually got it to fly after a fashion but I did not see it flitting around the ceiling girders like it should have been.
I think the air in the hall was far from good and it was quite cold. In fact Rachel got thoroughly chilled and we went home early. Actually earlier than intended as the big 24hr wall clock was 1 hour in advance which caused us to leave at 4-00 o'clock instead of 5 as we intended. Time drags a bit when you are not doing any flying yourself.

Rob Newton matching his transmitter to his Night Vapor before flight

The radio control slots saw the usual two or three 'Night Vapors' traversing the hall. Colin is particularly adept at making his virtually hover.
Mick Chilton was flying his polystyrene representation of the Starship Enterprise. The model is powered by two motors let into slots in the circular fuselage/wing and the model is somewhat noisy and fast. He eventually finished up stuck on a ledge halfway up the wall above Colin's 'Cricket'. Mick knocked his model down and no one seemed to be perturbed by the possibility of it dropping onto the 'Cricket. Did not miss it by much when it fell.
An accidentally short day out for us, went home via M6.

John Andrews

The L.S.A.R.A. - N. K. Walker

On the 25th of September 1954 the Low Speed Aerodynamics Research Association convened:
The Model Aeronautics Conference.
The conference was held at the Royal Aeronautical Society in London

The conference consisted of a series of lectures on varied modelling topics, the first of which is reported in this article. Others will follow in due course

THE WORK AND ORGANISATION OF THE L.S.A.R.A.

- by -

N. K. Walker, B.Sc., A.F.R.Ae.S.

Well Gentlemen, it may come as a surprise to some of you that the Low Speed Aerodynamics Research Assosication exists at all and I am quite sure that there are a number of you who have not the least idea of what it is for or what it does and who the people are in it. Well, it was formed in 1945 by a group of people at the Royal Aircraft Establishment and rapidly developed into the N.P.L. and various other centres. Its members were all aero modellers; that is to say they were interested in building and flying model aircraft. Now in the first World War and before it was something of a feat if you persuaded any heavier than air machine to fly at all. If you look back to the old "Flights" and "Aeroplanes" of those days you will find that the doings of people who made model aircraft were quite seriously reported and it was considered that anyone who had made a successful model aeroplane had made some small but significant contribution to aerodynamic science as a whole. At a later stage, between the Wars this whole idea went completely into eclipse. In the first World War many of our chief designers, people who are well known today in the aircraft industry, in fact, started by flying models. After the first World War definitely an impression grew up that flying models didn't help and the basic reason for this simply was that our model aircraft methods of design were all based on the old theories of 1913 and 1914, great progress had been made and the aero modelling people had not kept up. About the beginning of the second World War full-scale aeronautics made further big strides and these in fact did trigger off a certain resurgence in the model aircraft movement by people like myself, Annenberg and others at R.A.E. We felt that in fact the position was entirely false and the work of designing and flying model aircraft could still be useful as an introduction to full-scale work, research on flying models might well clear up small points here and there and the actual techniques that were employed might, again, find usefulness in the bigger picture. The Association was formed under the presidency of Sir Harold Roxbee Cox and the approach we started was three-fold. The first one was educational. We thought it essential to bring the flying model theory up to date. We applied full-scale theory to models, that is to say, neutral point, normal Nv, Lv, stability calculations and so on, none of which were used before and we investigated the variations that would have to be made to give the correct answers. As an example of this, a flying model normally has a static margin of about 30-50 % of the cord as opposed to 5% or 10% for a full-scale aeroplane. This is entirely because it has to fly by itself and a full-scale aeroplane has a pilot. Furthermore, the flying model is not normally meant to manoeuvre.

The second line we attacked was to do research work at low Reynolds Numbers of flying model aircraft. We investigated the design of low speed, low turbulence wind tunnels. We have made tests on aerofoil sections at low Reynolds Numbers, we have made stability tests, in flight, and we have done a certain amount of work on power plants such as our ducted rockets that we will describe later this afternoon.

The third attack was to apply to full-scale aircraft problems the model technique and here we found a tremendous lack of suitable research equipment. With Sir Harold's blessing we started work on a new radio control system (which will be described by Mr. Allen later on this morning) which is meant to take dynamic scale model testing out of the realm of qualitative work and make it quantitative. In other words, we can now know accurately from the ground station the actual position of the control surface. This, by the way, more accurately than you can telemeter it.

The membership of the Association at the moment is about 100 people and is largely drawn from people of University age, that is to say, from persons who are changing over from the boyhood enthusiasms for model aircraft into full-scale aircraft work and research and these are the people we find the most enthusiastic and keen to help. Our methods of work-well-the original work we did was all done independently. Any person who had a bright idea of his own, went away and investigated it and told other members the results. The second stage we started when we found that we did have to earn some money and increase our income to take care of clerical charges and so on. The independent work blossomed into the high climb work about which you will hear from Annenberg and Schmidt, that is to say, we applied full-scale theory to finding out how steep a model aeroplane should climb to get the best performance. We then investigated the problems of actually making a model aircraft which would climb vertically as predicted and required by theory. This has been successfully achieved. The second stage was to enquire from various firms whether there was any work we could to to help them. We have made wind tunnel tests on about fifty propellers, at model scale Reynolds Numbers, which disclosed interesting differences from full-scale characteristics, and we have also investigated ducted rockets, and the ducted rocket work apparently is of quite a high standard.

A third line, as distinct from the firms' sponsored research, is L.S.A.R.A. sponsored and this has developed because the increasing financial backing and facilities we have to offer. In the radio control work which was the first work effectively sponsored by the Association we started off by spending £10 in 1947, the Association provided £40 in 1948, about £80 in 1949. By this time with our total income about £200 a year it was getting a bit hard and Murphy Radio came in to help on the understanding that they would market the equipment if it were ultimately developed but, at that time, they were pretty well convinced by a preliminary work of three years it would succeed. In 1950 we spend £150, 1951 about £300, in 1952 about £550, 1953, 1954, up to about £600 or £700 a year. In 1952 we began to receive support from the Government. This started quite early on when the Aeronautical Research Council gave us a grant of £100 but we now actually hold a Government contract to test and develop the radio control system.

That is the way the Association has developed. I should also say we have invented various new organisational schemes to help this forward. One of the big snags of our Association, of which all the members are unpaid, is that if a man develops anything of commercial value, the property in this must obviously reside in him and we had to set out methods of combating the suspicion that the L.S.A.R.A. was very keen to pick other people's brains. Now if there is a pure research problem normally a number of people would band together into what we call a section and section work would be centered in some area and would report to the Research Committee which is elected annually from our full members. (A full member merely implies that you do research work.) We also have a scheme called a Project Group. People who have become a Project Group have reached a stage where they are independent of the Association. They still have a member on the L.S.A.R.A. Research Committee, they can use any of our facilities, and so on, but we expect them to pay out of their income anything they can afford towards the general expenses of the Association, in fact, in the case of the Radio Control Project, or Flight Control Project as we have now renamed it because of its interest in auto pilots, not only has all the original support been repaid (about £250) but it is also contributing quite heavily to the general running of our expenses.

I think I cannot do more after this minor preamble than to ask the Chairman if he will introduce the next lecturer.

THE DEVELOPMENT OF THE L.S.A.R.A. HIGH CLIMB LAYOUT

- by -

T. W. Smith

1. INTRODUCTION

The writer does not consider it possible in a short lecture such as this, to discuss the whole of the work leading to the present well accepted L.S.A.R.A. High Climb Power Model (H.C.P.M. for short). The main deliberations were the subject of a three part article in the November, December, 1951, and January, 1952, issues of "Model Aircraft" (which was in itself a summary of a larger more rigorous report).

Instead it is proposed to present something more like an historical survey, which would show by illustrations the way in which the problems were tackled.

2. THE PROBLEM

In its simplest form, the problem of the power duration model is:

"To produce the highest possible ratio $\frac{\text{rate of climb}}{\text{rate of sink}}$."

There are other effects, such as thermals, which assume significance when considering the actual magnitude of the rate of sink. For the present, we will ignore this.

3. PRELIMINARY REASONING (though not chronologically preliminary)

It is obvious, that if we had sufficient quantitative data on aerodynamics, props, etc., it would be possible analytically to determine, quite closely, the optimum size of model to yield the maximum value of the above ratio, for a given engine.

Without this quantitative data, it is evident that the problem is indeterminate.

It is also true, but not quite so obvious, that there is little point in obtaining flight test data from a model, if that data is to be used in designing a layout which may be quite different. In other words, it was required to find out what the model layout should be before any basic data could be obtained.

This then, was the first conclusion - we needed to determine a suitable layout, more by experience and qualitative analysis, than by calculation. This implied an extensive building and flying programme. When this was finished, flight testing to obtain aerodynamic data could be obtained and in conjunction with prop and engine tests, the optimum model could be determined. The programme would also determine the sort of weight that could be obtained.

In all fairness it should be pointed out that this conclusion was not reached until the programme of building and flying was well under way - indeed, the first results more or less forced this conclusion.

4. HISTORY

Interest in the power duration problem was stimulated in those concerned in this survey by the deliberations of Walker (L.S.A.R.A. Report No. 32) which illustrated the large rates of climb possible if high values of T/W could be obtained. Further it was suggested that the theoretically unstable pure vertical climb implied at this high thrust/weight ratios could be made stable by trimming to produce a steep helical flight path.

At that time, the amount of experience in this country of highly powered models was small. Also the amount of technically useful information available on trimming, layout, etc., was negligible.

In short, the start was from scratch, and as will be seen, the first attempts were often weird and wonderful by orthodox standards but nevertheless the result of logical thought.

The main difficulty in the early stages was to obtain a reasonable longitudinal set-up, because the small model required to produce a reasonably high T/W with engines available at that time meant that the engine was a high proportion of the total weight. Thus, one of the first distinguishing features, was the use of swept forward wings to bring the aerodynamic centre in a reasonable position relative to the cg (Fig.1 & 7).

The odd names are a concession to competitive Aeromodelling and do not necessarily improve the performance.

4.1 Wing position relative to slipstream

It became obvious after a while, that layouts with wings-in-the-slipstream could not be trimmed consistently without looping. This was explained at the time by the following argument. We normally start with a model trimmed for a good glide, i.e. high lift coefficient. The addition of excess thrust without any compensating trim change would result in a loop. Now the most powerful way of producing the necessary nose-down trim change to low lift coefficient, which is what we require on the climb, is by utilizing upwash from the airscrew on the tailplane, i.e. "downthrust". If part of the wing lies in the slipstream this also increases its lift (at least for moderate downthrust angles) and thus increases the downwash over the tailplane. This could conceivably cancel the slipstream upwash and the model would loop. However, it did appear that satisfactory trim could sometimes be obtained for wing-in-the-slipstream layouts, but there appeared to be no general rule. The only real conclusion that could be made from this (since slipstream effects are extremely difficult to analyse with high power) was that the setting of the wing relative to the thrust line as well as that of the tailplane was important in determining longitudinal trim under power.

Accordingly, since the primary object was to gain experience in the shortest time, the wing-in-the-slipstream model was abandoned for the time. (In the light of experience, it is perhaps unfortunate that this was so, since the subsequent gradual approach to this configuration from the known wing out-of-the-slipstream has shown that the solution may lie as much in the determination of satisfactory lateral trim and it is possible that these symptoms were masked in the rapid motion of the model, helped, no doubt, by the general ignorance of what was going on anyway.) The wing-in-the-slipstream layout does have considerable advantages in that it obviously allows a more compact model with less drag and less weight than its out-of-the-slipstream counterpart. It would be useful to determine the effects of slipstream on centre section, fuselage, fin and tail in a tunnel.

The successful outcome of these thoughts was Annenberg's "Scalded Cat" which features swept forward constant chord wings and a profile type fuselage. When demonstrated at the 1949 Nationals, the "Scalded Cat" attracted considerable attention with its high rate of climb (3,000 feet/minute) in a near vertical spiral. The use of tip fins, which on the swept forward wings increased damping in yaw "n_r" resulted in a model easier to trim by allowing a greater margin of error. A smaller version of this, "Scalded Kitten" (Aeromodeller Annual 1949), was less spectacular but made many flights (Fig. 2 and 3).

4.2 Structural improvements

It was soon apparent that something more than a mere simplification and reduction of material in the structure was required to achieve the necessary low all-up weight (e.g. airframe weight = 2 x engine weight). For instance, (i) wing thicknesses had been reduced to the order of 5% in order to cut down drag in the climb, (ii) the fuselage heights

necessary to place the wings-out-of-the-slipstream resulted in the presence of long inefficient spacers or ply formers.

This led to the adoption of extensive triangulation on fuselages, and wings with blunt trailing edges, shear webs and high density spars, with the tissue covering utilised to stabilise struts and ribs in one plane so that the material could be used to stabilise in the other.

4.3 Crystallisation

These two models were the beginning of what is now generally accepted as the high climb layout. From them was developed a whole series of models with small refinements of structure, etc. and which in general tended to grow bigger for a given weight, simply because a bigger model was easier to handle, and not because a definite improvement in performance resulted. The models were mainly used to determine:

(a) a foolproof method of trimming which could be used by people with no previous experience on the layout;

(b) the order of settings of tail wing and thrust line;

(c) the effect on performance of detail refinements such as engine cowlings, etc.;

(d) the efficiency of the layout from the competition point of view.

5. RESULTS

5.1 Built in settings

Of great value in determining data for (a) and (b) were small Dart powered models which could be quickly, cheaply and easily built and possessed the great advantage that they "bounced" rather than disintegrated.

From these emerged the fact that the slipstream effect on fuselage, fin and tail was causing the models to turn and roll viscously, against to the right. This was cured by using left thrust settings of the order 8-10° presumably correcting the turn by sidewash on the fin. (Shortly after this discovery, it was reported in Model Airplane News, November, 1950, that Wagner in America was using 18° left thrust to trim a 120 square inch Arden 199 powered model.)

Downthrust angles required to trim were not critical and varied between 5-15° relative to wing.

With the high power/weight ratios achieved, the best climb was near vertical with a very slow left hand roll, the model describing a right hand helix. This roll was obtained by a combination of differential wing incidence and the wing twist (though sometimes a wing tab was used - starboard wing only). The actual values involved were not critical and were of the order 1-2° differential and 2-3° wing twist (washin on starboard, washout on port).

The C.G. was far back with small static margins (power off) and this position and tail settings could be determined for the best glide. Only in extreme cases did this result in bad climb trim and this could usually be cured by altering the downthrust settings.

5.2 Trimming technique

This has been reported in detail elsewhere (see M.A. August, 1952). In brief the procedure is to trim for a slight right glide using settings as above. Then with FULL power (and a short fuse for dethermaliser),

the model is released in a near vertical attitude for a 3 second run. In all but the really extreme cases of mistrimming, this could get the model usfficiently far away from the ground to allow a fair chance of recovery from a dangerous climb. The short D/T provides an additional safeguard in the event of an oscillatory or poorly damped glide.

The ideal climb path is really a large radius loop (low C_L) which due to the built-in left roll may, by using slight right rudder, be turned into an intensely stable vertical helical climb. Normally, the roll takes care of itself with settings as suggested, while the side-thrust and rudder can be varied to produce the correct amount of slight right turn for both climb and glide.

Gradual increases in power run with careful analysis of the models behaviour is essential.

5.3 Performance and application to competitions

Of essentially similar layout, these models show the gradually decreasing wing loading and a general reduction in fuselage height, i.e. the wing going back into the slipstream (Fig. 4, 5, 6, 11 and 12).

The performance levels expressed as the ratio Total Flight time/ Engine time is indicated in the slide. These figures were obtained as averages of evening air flights (eliminating those obviously effected by thermals or downdraughts). The increases in performance may largely be explained by the decreases in weight, except in the case of the large change between T.F. and B.B. These models are approximately the same weight and are similar aerodynamically, save that B.B. has a spinner and an elementary cowling. This points out forcibly, the gain to be obtained by using spinners and cowlings to increase propr efficiency and reduce drag.

These performance figures are obviously very attractive from the competition point of view, e.g. on a 14 sec. run out of the allowable 15 F.F. will do 5:20 and B.B. 7:00 (!!) - which obviously leaves a fair margin for downdraughts with the present 4 min. maximum. However, in competitions, performance is not the whole story. The model must be capable of repeat performance, in any weather, without suffering from warps and without taxing the owner's nerves too much. This consistency requires a structure stiffer than that which would be satisfactory for research purposes.

Though, at present, these models do have a fair number of contest successes to their credit, there is much room for improvement (it would be foolish to say that here we have the optimum model). However, the layout described has several advantages:

(a) They have the performance margin that can take the extra weight necessary to make them robust and still be better than the "good" conventional model.

(b) The wings have straight dihedral and are invariably two piece; hence they are easily checked and kept free from warps.

(c) The height gained under power is usually an advantage in itself under thermal conditions.

In case the above remarks are taken to apply to Open Power models only, a few words on the International Class Models will not be amiss. Certainly, this class has received greatly increased interest now that the U.S.A. has joined the fray and wond the finals two years in succession.

With the high performance engines now available, it is possible to produce thrust/weight ratios sufficiently high in an Internation Class

Model to qualify for the title H.C.P.M. In other words, much of the experience summarised can be used. While it is too early to say whether there will be a distinct L.S.A.R.A. type International Class Model, the writer's experience of this class suggests that the type is as good as, if not better than the conventional approach. Certainly, if trimming technique described is successful on extreme models, it can easily cope with the slower model implied in the International Class.

6. COMPONENT WEIGHTS

The following component weights refer to three essentially similar models all powered with Elfin 2.49 beam mounted engines, and serve as a typical example of what can be achieved with reasonable weight control.

	"F.F."		"T.F."		"B.B."	
	oz.	%	oz.	%	oz.	%
Fuselage and fin	2.69	29.2	2.39	25.3	2.54	27.5
Wings	2.35	25.5	2.50	27.5	2.27	24.6
Tailplane	0.55	5.95	0.55	6.0	0.55	5.95
Engine and prop.	3.63	39.35	3.63	40.0	3.63	39.35
Spinner	-	-	-	-	0.24	2.6
TOTAL	9.22	100.0	9.07	100.0	9.23	100.0

7. FURTHER WORK

It is under the stimulus of competition that further efforts to improve performance will be made and it will depend largely on the L.S.A.R.A. and like minded people whether the necessary data is obtained. Certainly the time has come to embark on Flight Tests. We need aerodynamic data from glide tests, coupled with height checks to obtain rate of climb. We need to know much more about airscrew design, particularly the effect of blade thickness and width (the existing tests are useful, but the types tested are not the best propos). Also we need a reliable and easy method of engine testing which can be done in the average workshop without elaborate equipment.

Combined with a reasonable idea of what can be achieved in the way of light weight structures, we should then be able to determine with fair degree of accuracy, the "optimum" model for a given engine.

8. CONCLUSIONS

(i) The experience gained on high thrust/weight ratio models has shown that they can be trimmed and flown successfully.

(ii) The performance obtained can be much greater than the "conventional" open power model.

(iii) The experience gained can be used for advanced International Class Models.

(iv) More data of a quantitative nature is required before the "optimum" model can be designed. The data required is:

(a) Glide tests data on trimmable models.

(b) A technique to determine climbing speeds for use in the obtained optimum prop.

(c) Prop. tests to show the effects of blade thickness, width, etc.

(d) A reliable and easy method engine testing which does not require advanced equipment.

Acknowledgments are due to Bob Annenberg (especially), Ian Harrison and others too numerous to name individually, for their help and guidance.

T W Smith

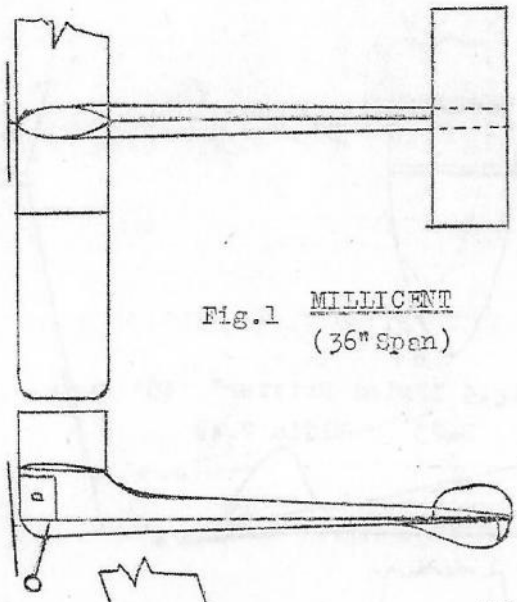
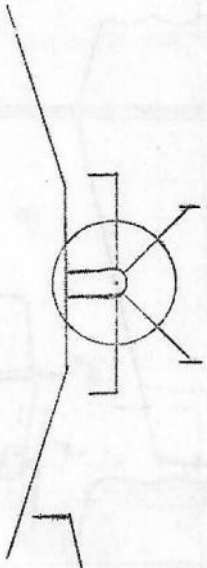


Fig.1 MILLICENT
(36" Span)



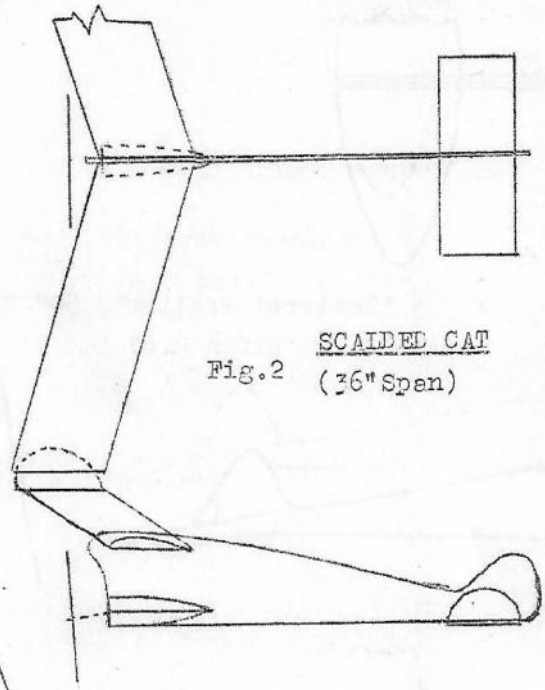
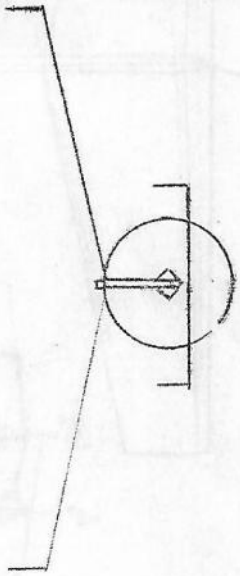


Fig.2 SCALDED CAT
(36" Span)



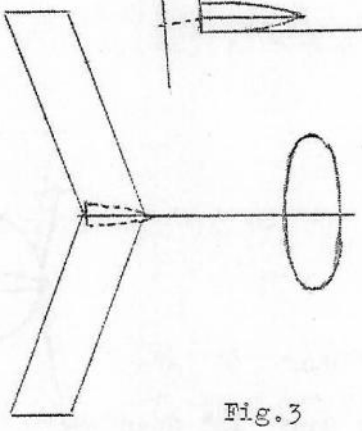
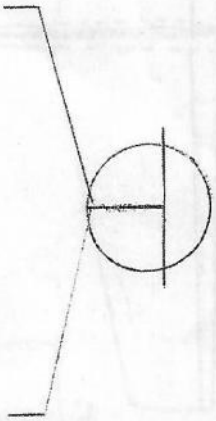
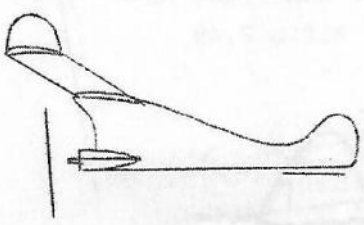


Fig.3 SCALDED KITTEN
(27" Span)





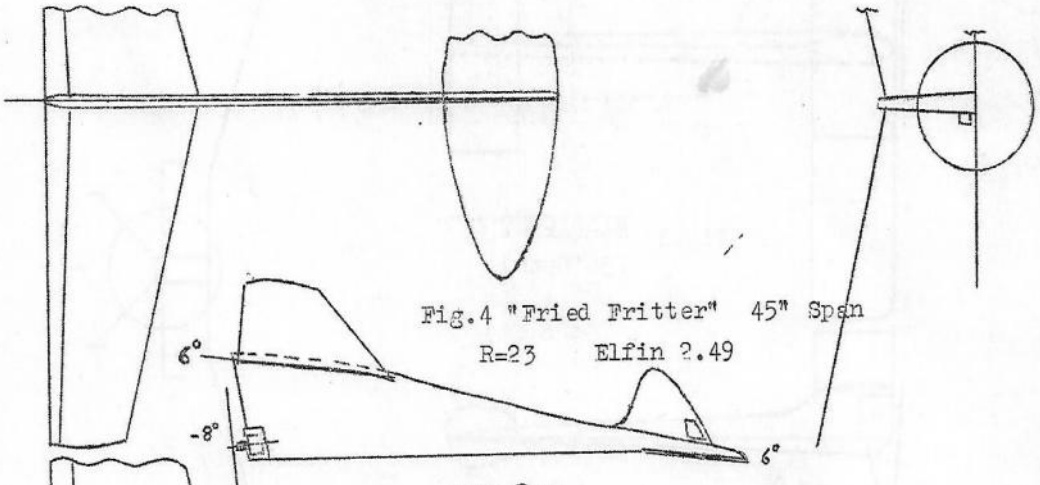


Fig.4 "Fried Fritter" 45" Span
R=23 Elfin 2.49

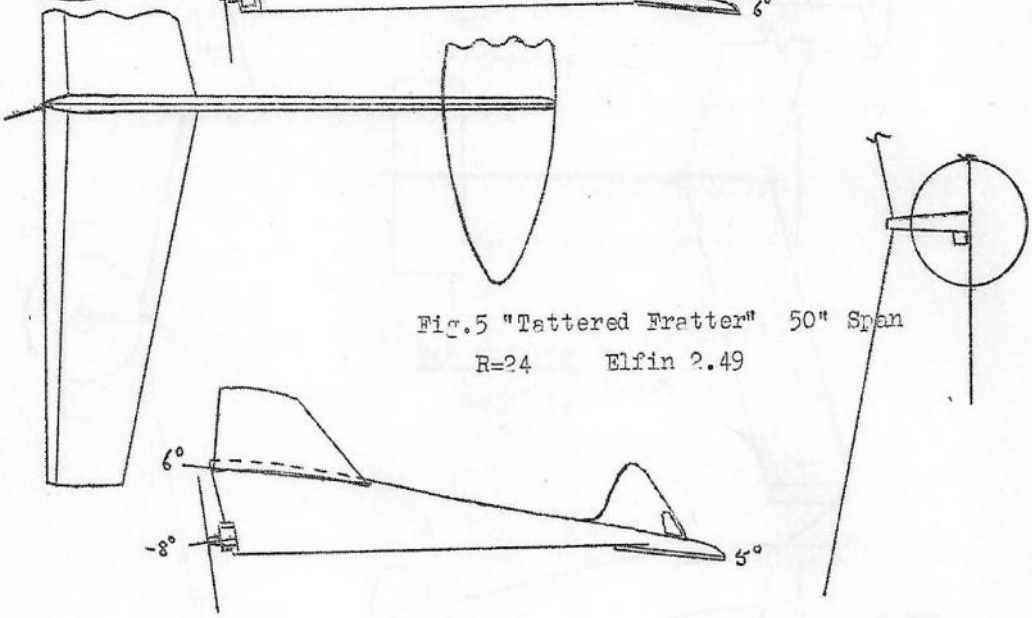


Fig.5 "Tattered Fratter" 50" Span
R=24 Elfin 2.49

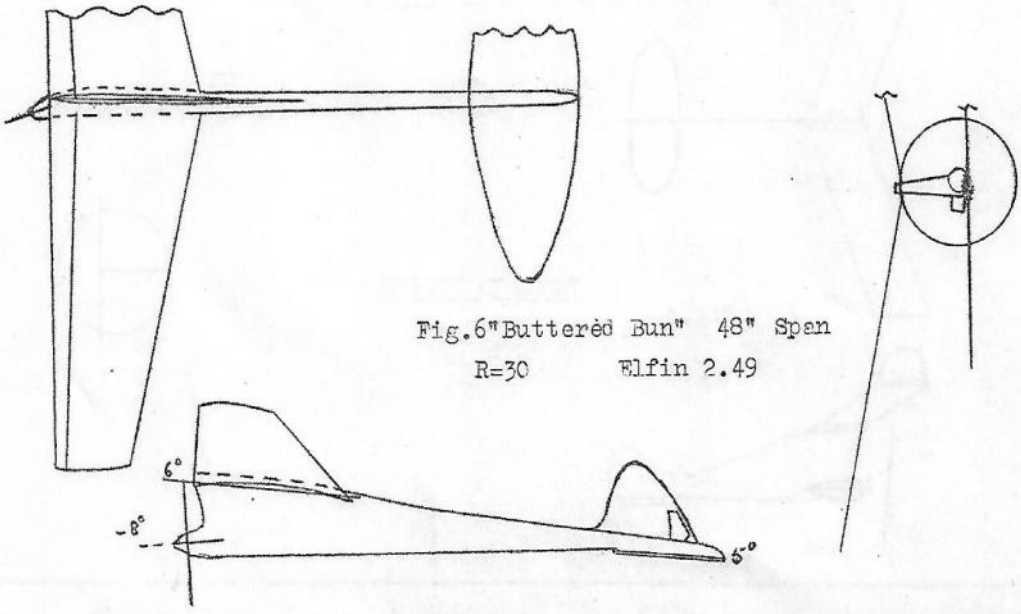


Fig.6"Butteréd Bun" 48" Span
R=30 Elfin 2.49

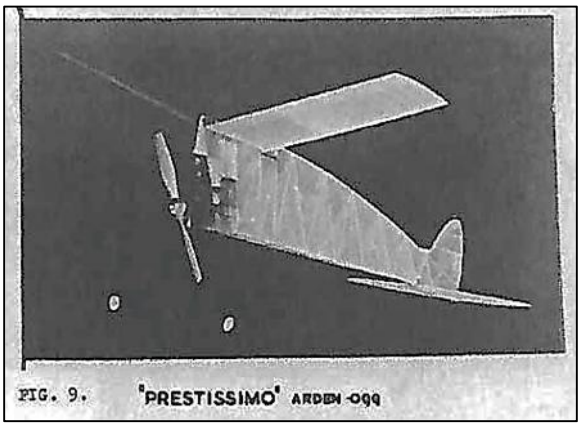
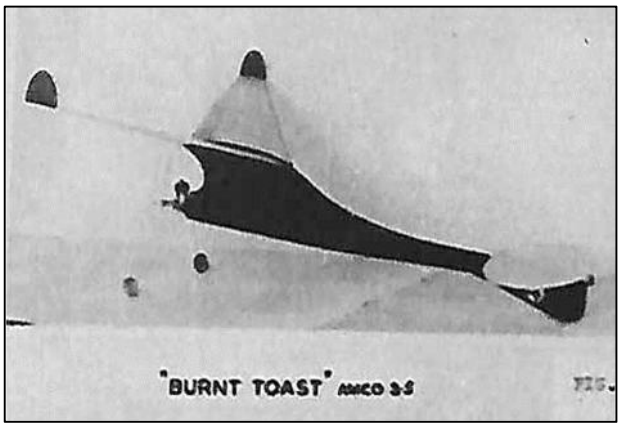
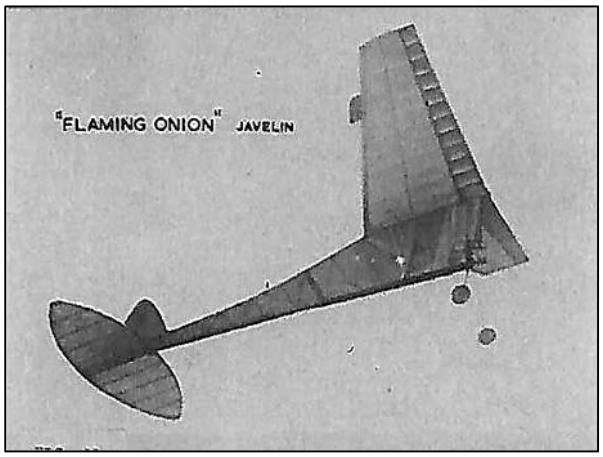
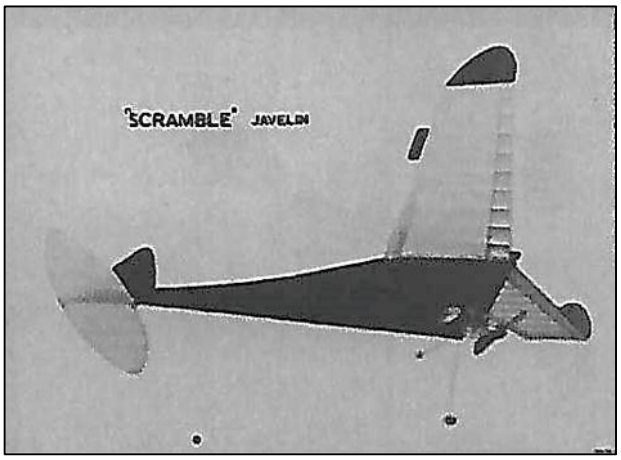
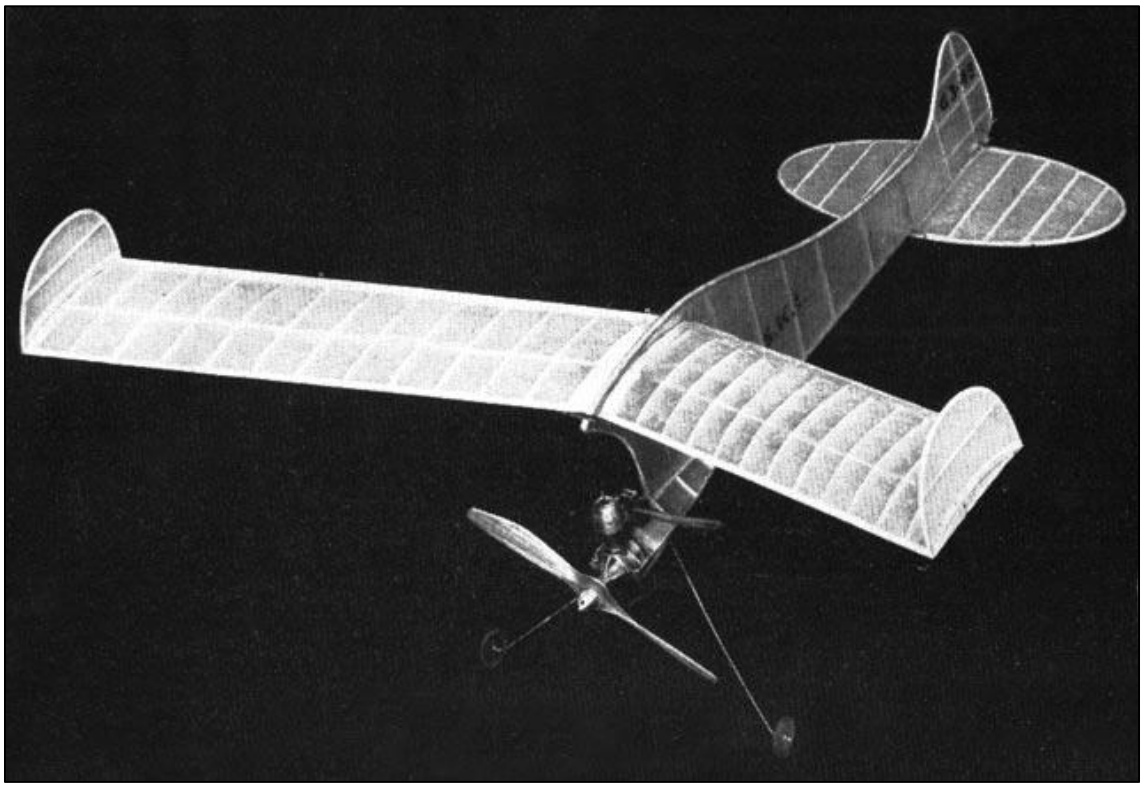


FIG. 9. 'PRESTISSIMO' ARDEN -099


'BURNT TOAST' AMCO 3-S


'FLAMING ONION' JAVELIN


'SCRAMBLE' JAVELIN


Scalded Kitten plan available on Outerzone

T W Smith

Editor:
A few examples of the experimental models
Sorry about the quality, best I could do with material to hand.

Indoor isn't for Everyone 51 - Nick Peppiatt

Peck Lobet Ganagobie build

I introduced the Bob Peck designed Ganagobie Peanut in my article last month, with some photographs of the full-sized aircraft, and a request as to whether anyone had any further photos.
Any information about this would be gratefully received.

Fuselage

The fuselage is unusual for a full-size aeroplane, being basically of a diamond form.
It reminds me to some extent of several of Reg Parham's rubber model designs e.g. the Gamage Cup winner (Model Aircraft August 1947) or the 1950 Wakefield (NC October 2012), but, it has to be said, Reg's flying surfaces are more elegant than the very straightforward rectangular Ganagobie planforms.

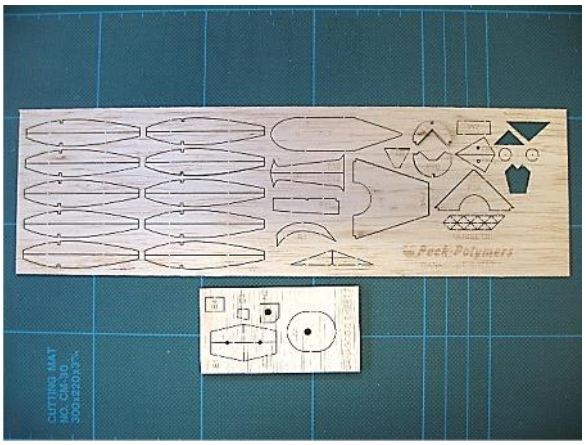


Fig 1 Cleanly laser cut sheet 'print-wood' from 1/32" and 1/8" sheet supplied in kit

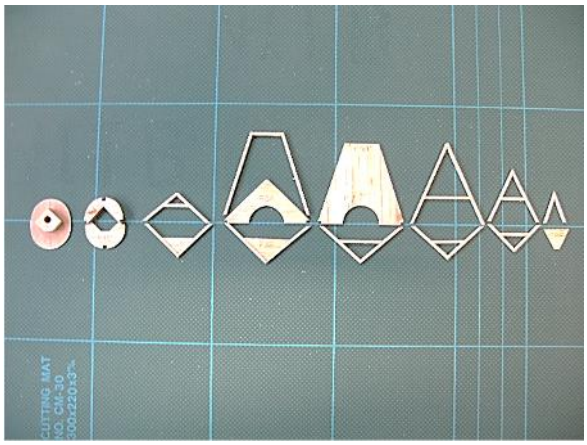


Fig 2 Fuselage formers, mainly from 3/64" sq.

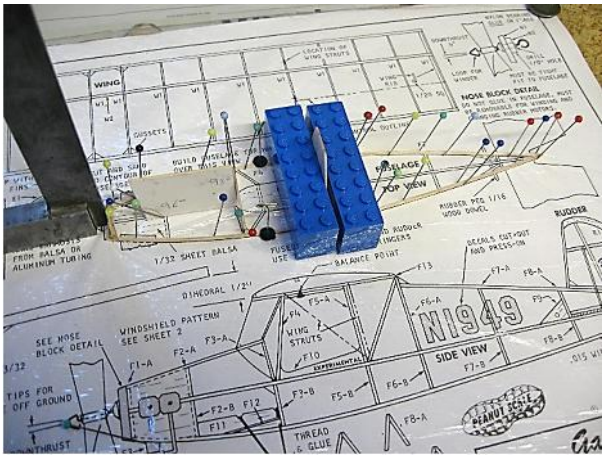


Fig 3 Beginning of fuselage construction

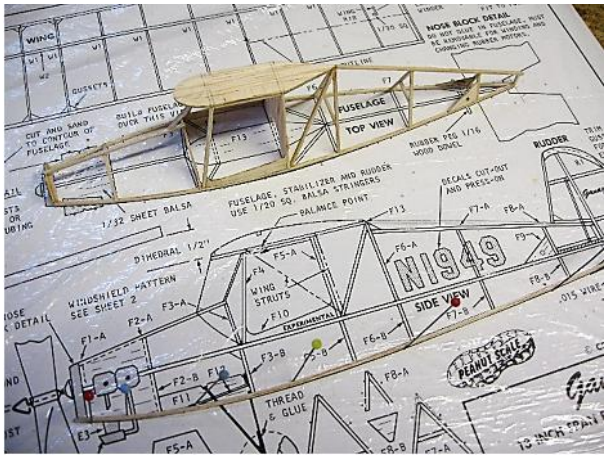


Fig 4 Upper half of fuselage frame. Note the temporary brace between the front top of the wing mount and front top longeron. The lower longeron has been soaked in water and pinned down

The fuselage is constructed from 3/64" square strips and 1/32 sheet.
The laser cut 'print-wood' was very cleanly cut with minimal charring (Fig 1).

After sorting the supplied strip-wood, harder for the longerons and lighter for the formers, the formers were made over the plan (Fig 2).
The side longerons were soaked in water, pinned down over the plan and allowed to dry.
Then the nose former, dashboard former and rear cabin bulkhead were glued on ensuring that they were square, or at the correct angle, as in the case of the dashboard former (Fig 3).
As can be seen, I used Lego bricks to support the rear cabin bulkhead. This part was quite flexible across the grain so I glued a reinforcing strip of 1/32"x3/32" behind it just above the motor clearance semi-circle.
The other fuselage top half components were then added (Fig 4).
It is worth pointing out that the kit plan shows a radiused fillet between the rear of the wing mount and the top longeron. This is a feature of the first Ganagobie, but not of N1949, so I took the rear longeron up to the wing mount/cabin top. This, of course, required a slight height adjustment to the two top rear formers.
I generally use thinned aliphatic resin adhesive for construction, as previously described in my detailed build of the Peck Nesmith Cougar, back at the start of this 'Indoor isn't for everyone' series in the New Clarion, in the spring of 2016. Where does the time go?
I did wonder how stiff the top fuselage frame would be when removed from the board, but the only additional bracing I added was a temporary member between the wing mount and the front top longeron.
The lower part of the fuselage was then added and the nose sheeting fitted.
The temporary brace was then removed (Fig 5).
I also added a 1/64" ply lamination to the front former at the nose.

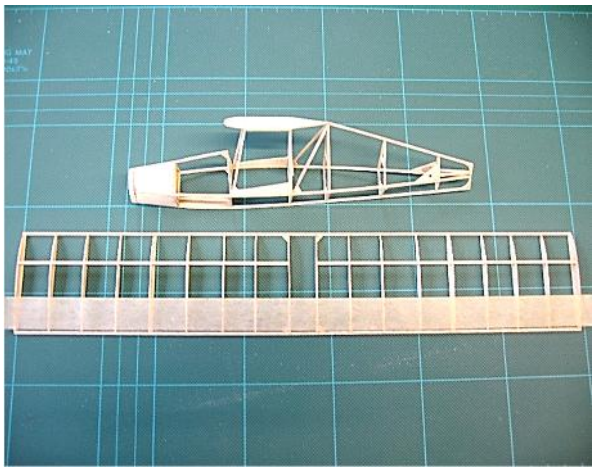


Fig 5 Fuselage and wing frames. Note strip of masking tape to protect ribs whilst sanding te

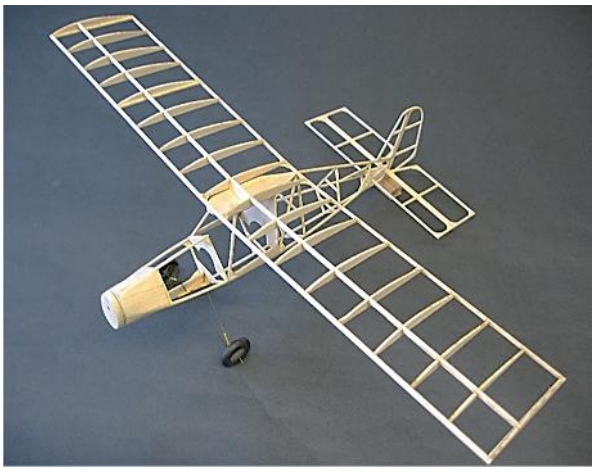


Fig 6. Bare-bones shot

Flying Surfaces

In comparison to the fuselage, the wing and tailplane structures are very straightforward.
The wing le, te and spar are 1/16" square. I used some lighter stock than supplied in the kit. The tail surfaces are from 3/64" square.
The tail moment arm of the Ganagobie is relatively short, so the tail area has been increased compared with true scale in the Peanut design to give a tail volume of 0.5. To aid flight trimming, I also separated the elevators and rudder, which will be hinged with short lengths of 15 amp fuse-wire.
The only other point is the use of some low tack masking tape to protect the ribs whilst sanding a slight taper on the top of the trailing edge to match the rib shape (Fig 5).

Weights

The weights of the components in the bare-bones photo (Fig 6) are as follows: -

Fuselage frame without nose plug	1.6gm
Wing frame	1.2gm
Stabiliser with elevator	0.2gm
Fin and rudder	0.1gm

It looks encouragingly light, so far!

Pilot

Fig 7. Balsa pilot blank

Fig 8. Carved pilot

The Ganagobie has a relatively large area of glazing for the cabin, so to my mind, it needs an occupant, and I prefer a 3-d pilot to a paper profile.
When carving a pilot from soft balsa, I turn to both Paul Plecan's Paper Peanut Profile Pilots and Doug McHard's article on carving a pilot for his SE5a in the December 1956 AeroModeller. A 9/16" pilot was chosen as appropriate for the Ganagobie. The profile was cut out and stuck to the side of a 7/8" wide soft balsa block with Pritt Stick and sawn out with my old Aeropiccola Vibro-saw.
It is then a matter of cutting and carving away following Doug's instructions to create a pilot (Figs 7 and 8).
I cut the semicircle through the torso to match the formers to provide clearance for the rubber motor. The figure was also hollowed out using tapered stone fitted to a mini-drill, to give a weight with a couple of coats of sanding sealer of under 0.4g.
There will be more on covering and finishing in a future article.
Will I get it finished in time for the: -

Indoor Scale Nationals.

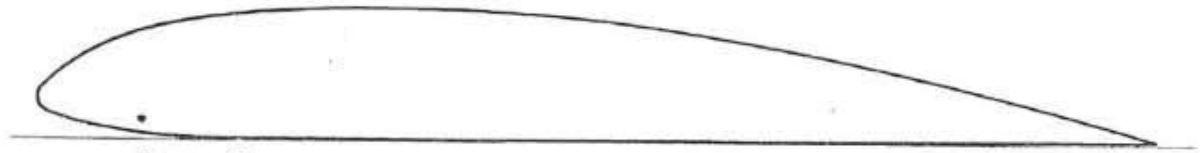
All being well, the Indoor Scale Nationals will be held at its usual recent venue, the sports hall of the University of Worcester Walsall Campus over the weekend of 23rd and 24th April. The RC competitions will be held on Saturday 23rd and Sunday 24th is for Free-Flight. Please see the BMFA website for further details.

Nick Peppiatt

DAVIS (A=1.0; B=0.2)

Station ...	0	2.5	5.0	10	20	30	40	50	60	70	80	90	100
Upper ...	0	3.4	5.0	7.2	9.8	11.1	11.5	11.0	9.9	8.2	6.1	3.4	0
Lower ...	0	-1.0	-1.2	-0.9	-0.2	0.6	1.2	1.7	1.9	1.9	1.6	1.0	0

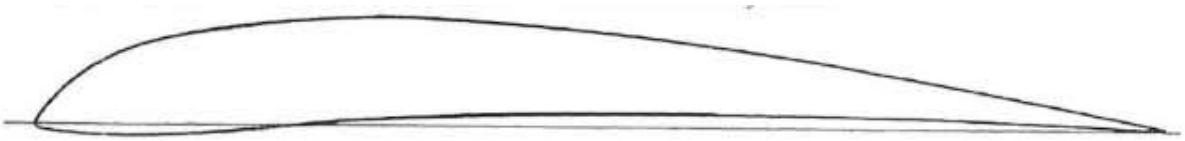
A reliable section for the average model.



CLARK Y

Station ...	0	2.5	5.0	10	20	30	40	50	60	70	80	90	100
Upper ...	3.45	6.5	7.9	9.6	11.4	11.7	11.4	10.5	9.2	7.4	5.2	2.8	0
Lower ...	3.45	1.65	0.9	0.4	0.03	0	0	0	0	0	0	0	0

An " old faithful " of the aeromodelling movement which can always be relied upon for general purposes. Its chief virtue lies in the absence of any vices.



N.A.C.A. 6409

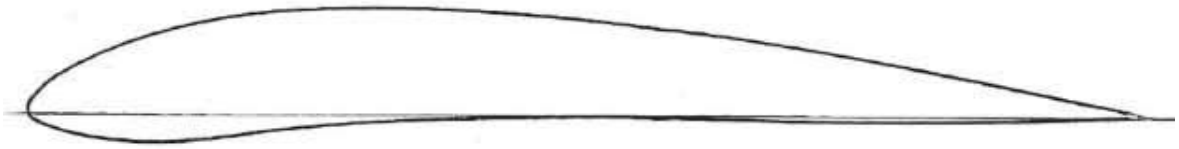
Station ...	0	2.5	5.0	10	20	30	40	50	60	70	80	90	100
Upper ...	0	2.96	4.3	6.31	8.88	10.13	10.35	9.81	8.78	7.28	5.34	2.95	0
Lower ...	0	-1.11	-1.18	-0.88	*0.17	1.12	1.65	1.86	1.92	1.76	1.36	0.74	0

This has been found particularly successful with medium-sized power duration models. N.A.C.A. 6412, 4409, and 6512 are related sections which have proved their worth, and ordinates may be found in *Airfoil Sections*, by R. H. Warring.

R.A.F. 32

Station ...	0	2.5	5.0	10	20	30	40	50	60	70	80	90	100
Upper ...	3.42	6.52	7.84	9.72	11.92	12.98	13.1	12.46	11.06	9.1	6.56	3.6	0.12
Lower ...	3.42	1.5	0.88	0.3	0.0	0.3	0.7	1.1	1.46	1.6	1.46	0.92	0.12

Models using this section have been consistent prize winners since early times. It is probably the best orthodox section for general use, due to its maximum camber being so far back.



GRANT X—9

Station ...	0	2.5	5.0	10	20	30	40	50	60	70	80	90	100
Upper ...	0	3.37	4.78	6.97	8.84	9.47	9.3	8.57	7.44	5.97	4.24	2.2	0.05
Lower ...	0	–1.5	–2.1	–2.48	–1.73	–0.8	–0.47	–0.54	–0.74	–0.83	–0.63	–0.37	–0.05

The Grant series of " X " sections vary in thickness to suit practically any size of model. The X—9 has proved very successful for power-duration, and both this and the thinner designs are suitable for rubber models. The complete range can be found in Grant's " Model Airplane Design."

R.A.F. 32

Station ...	0	2.5	5.0	10	20	30	40	50	60	70	80	90	100
Upper ...	3.42	6.52	7.84	9.72	11.92	12.98	13.1	12.46	11.06	9.1	6.56	3.6	0.12
Lower ...	3.42	1.5	0.88	0.3	0.0	0.3	0.7	1.1	1.46	1.6	1.46	0.92	0.12

Models using this section have been consistent prize winners since early times. It is probably the best orthodox section for general use, due to its maximum camber being so far back.

Southern Coupe League Update - Peter Hall

Southern Coupe League 2022

We now have a date for the Oxford Gala
Thursday May 26th on Portmeadow, Oxford as usual,
starting at 10 a.m.

And at last, Odiham is back on the 6th August.

We now have eleven qualifying events in the league this year.
Your best six will count in the final score.
So cancel your dental appointments or whatever.

I have been trying to convince myself that this year would be the twentieth anniversary of the Southern Coupe League and therefore an occasion to celebrate its myths and legends.

Roger Wilkes and Ted Tyson decided in the early 2000's to set up the league to promote more competitive coupe flying opportunities in the South. The cup was first awarded in 2006 and records the winners since then. but I am sure the league was set up before that date.
I have rummaged through the Clarion and Free Flight News archives and my own which go back to 1999 without success.
My first coupe competition was at Coupe Europa on December 5th, 2004 at Middle Wallop. Martin Dilly's report records perfect weather, 46 flew F1G, six flew off and Neil Allen won. 31 flew vintage coupe and John O'Donnell won. I can find no record of this being a league event.

Never mind. Unless someone proves otherwise the twentieth anniversary will be in 2026.

This could be on your mantelpiece

Photo Alan Brocklehurst

Peter Hall

Report No. 134 Our earliest magazines continued.

This month we move on to the next issue of ***The Aero Modeller***, July 1936.
The full size plan this month is the Rotator II, holder of the Autogiro R.O.G. Duration Record, designed, built and flown by L. B. Mawby.

ROTATOR II

INSTRUCTIONS FOR BUILDING A REPLICA OF THE HOLDER OF THE AUTOGIRO R.O.G. RECORD.

By L. B. MAWBY

[This article is intended to assist all those modellers who desire to compete in the S.M.A.E. R.O.G. Autogiro Contest on August 23rd, 1936.—Ed.]

Wind up to 250 turns, hold the machine level facing into wind until the rotor is rotating. Do not let it rotate too fast, just a steady rotation is enough. Then launch gently forward. Providing it gets away alright, do not take too much notice of the nose-up twirling at the end of the flight. They always do this as the power falls off.

If the first flight seems satisfactory try with 500 turns. You will find that twice the number of turns gives about four times better flight.

The motor will take about 700 turns fully wound. With this power the machine should be well up when the low-power twirling starts. When the propeller stops the machine should windmill down, nose to wind, to a real three-point landing.

As soon as it is performing in this manner, R.O.G. flights may be made with confidence. For R.O.G. flight always wind almost right up to get the machine quickly off the ground or disaster will almost surely follow. If the machine does not climb, or overclimbs and then dives, do not alter the position of the rotor. If it will not climb give a little more backward tilt to the rotor by wedging up the front of the pylon, but do not overdo it. If it climbs too steeply after this, or without this, give a little more down-thrust to the propeller.

None of this should be needed, however, as the plans give the same adjustment as the machine which created the Autogiro R.O.G. Record.

The small text in the box above refers to a competition to be held the following August to try to beat the existing Autogiro R.O.G. duration record. The box on the left shows the final part of the building and flying instructions.
I did not find any statement of the actual record time which the reader was challenged to beat, but how would one persuade a fully wound rubber powered autogiro to R.O.G. at all? Wear all your lucky charms, pray for a steady breeze at ground level, face a little to the right of the wind, and arrange for a colleague to distract the judge at the moment of launch to permit of a little judicious lift and push. Full article and three page plan available by email, please advise your best R.O.G. time.

METAL CONSTRUCTION IN GERMANY

The Aero Modeller comments as follows.
"Metal construction may not have any great appeal among British aeromodellers but it is interesting to know what is happening in Germany, where the significance of model aeroplane construction is fully appreciated by the authorities. Metal construction is not likely to supersede the more customary methods, but its evolution shows once more that model aeronautics is a most fertile field for experiment and research."

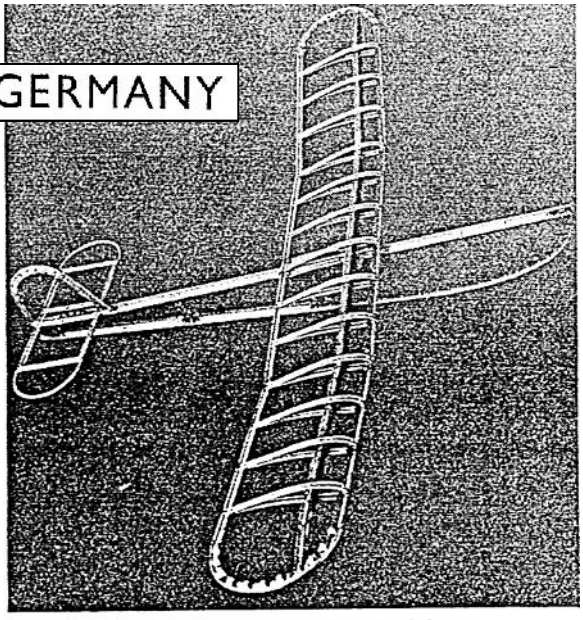


Fig. 10. The "Winkler Junior" in skeleton.

WIND-TUNNEL TESTING

By D. A. RUSSELL, A.I.Mech.E., A.M.Assoc.Min.E.E.

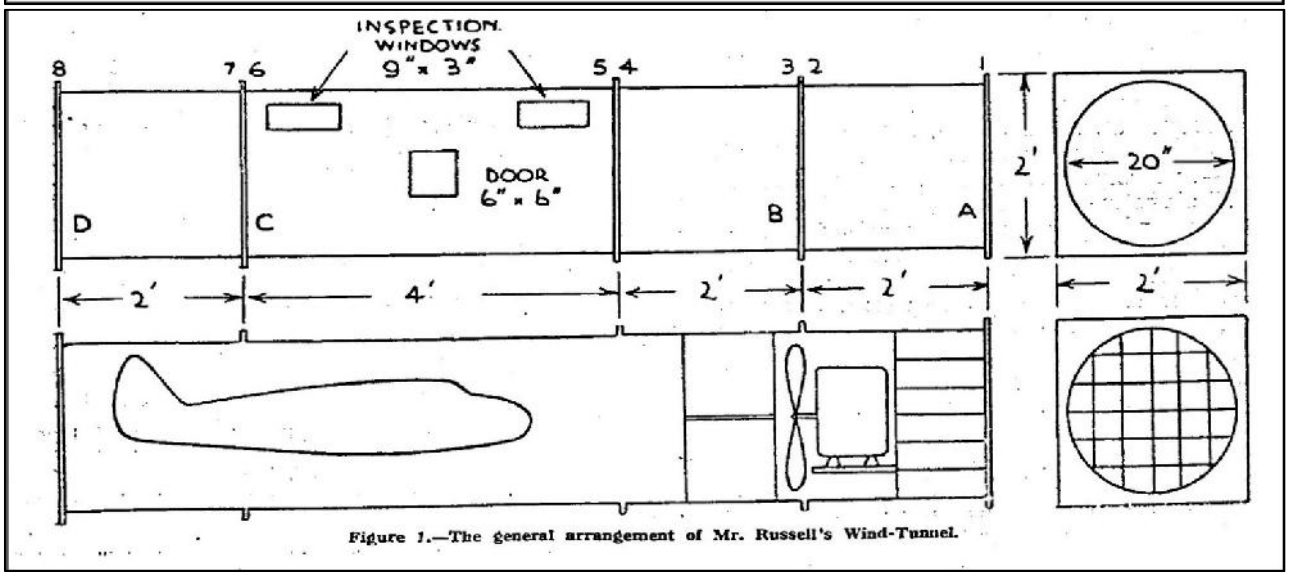


Figure 1.—The general arrangement of Mr. Russell's Wind-Tunnel.

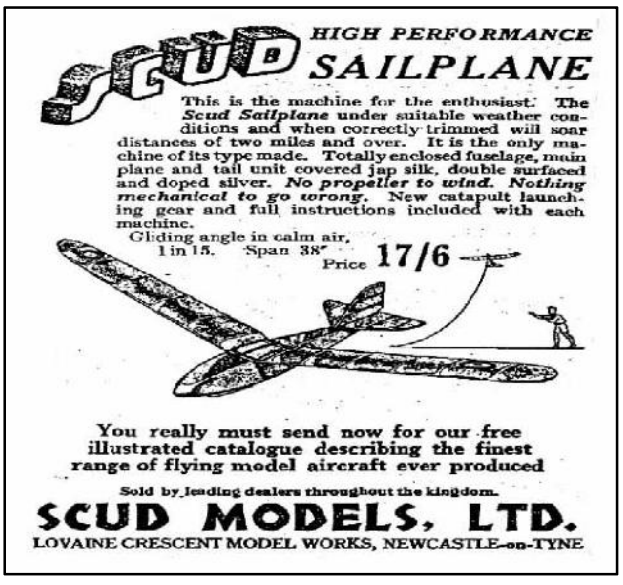
Russell described his wind tunnel and made the following offer.

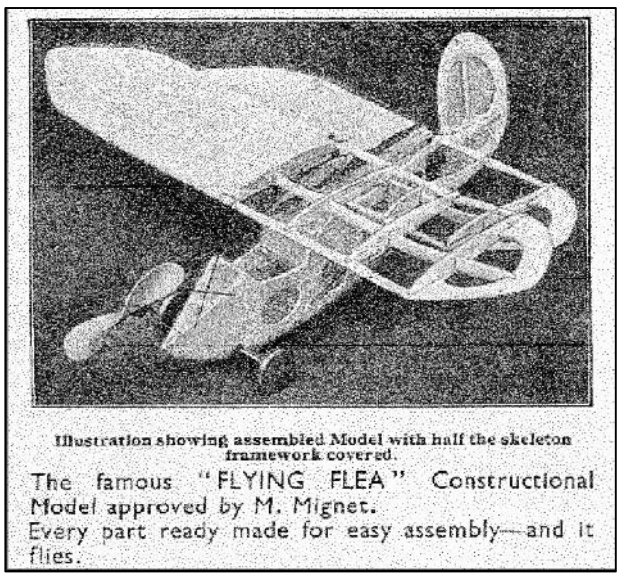
"Mr. Russell is prepared to conduct experiments for readers of "The Aero-Modeller" who desire any particular information which can be obtained from any of his testing equipment, which is very extensive. If the findings justify publication they will form the subject of future articles in this series."

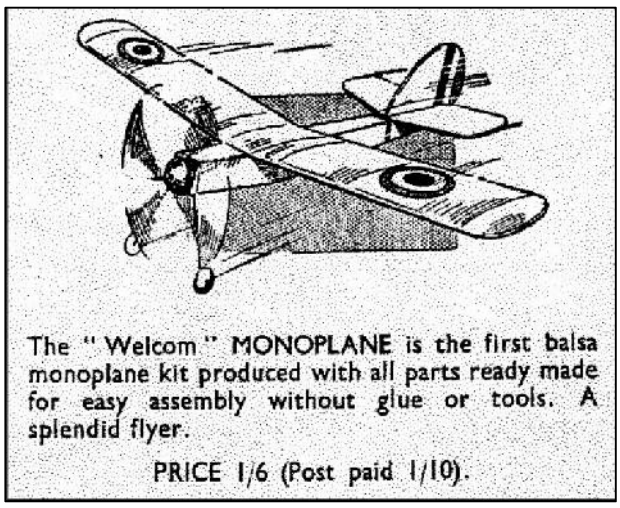
Next, a look at the advertisements in this issue.

The above two advertisements would seem to indicate that our cousins across the pond had a strong hold on the supply of kits, well perhaps they did in respect of small flying scale models, but there was competition.

The Model Shop, Newcastle-upon-Tyne, proudly states "And they are all British" and trading from the same town, Scud Models Ltd. offer their high performance sailplane.







Next, pop down to J. Hallam & Son, in Poole for a complete engine package or a bargain set of castings and drawings.

Visit "Welcom" in London for a free flight rubber model and a scale "Flying Flea".

Roy Tiller, tel 01202 511309,

Email roy.tiller@ntlworld.com

Roy Tiller

Secretary's Notes for April 2022 - Roger Newman

Yet again the weather proves totally unpredictable, this time to our benefit. After last month's storms - a period of relative warmth & calm. The Area meeting on Salisbury Plain (more later) was a splendid beneficiary.

My musings on the Nationals last month come to naught as they have been cancelled. No doubt you have all seen the BMFA News release, so I shall have to create another reason for travelling north at some stage in the summer. We are indeed a severely threatened species – Ron Marking advises that harsh restrictions have been imposed by Natural England in his part of the world down in Cornwall. Never mind, we shall have to enjoy what is left as best we can. In that context, don't forget our joint meeting on Salisbury Plain on Easter Monday in conjunction with the Croydon Club – dust off those vintage Wakefields, Marcus lightweights, vintage & classic gliders - plus of course the more modern E36's which did get a good airing yesterday at the Area meeting.

Also in the good news column, Peter Carter has been successful in obtaining permission for a Southern Area Free Flight Gala at RAF Odiham for the 1st weekend of August – old age strikes again cause I can't remember whether it's the Saturday or Sunday – with the inevitable caveats of licence approval & sufficient RAF bodies to be around on the day as their presence is mandatory. The events will be E36, Mini Vintage, Coupe d'Hiver, Vintage/Classic Glider combined, Vintage Wakefield combined 4oz/8oz. Vintage/Classic CLG/HLG – so something else for the planning ahead calendar.

We have managed to raise some £250 for club funds so far from the estate of the late Lindsey Smith, through the sale of magazines & small models, with hopefully a little more to come from the sale of (mostly) scale & indoor kits plus a load of aviation books over the coming months. This will allow the finances of the club some degree of stability for the near future. We owe a vote of gratitude to Lindsey's family in being so generous & helpful.

Lounge floor book store – this doesn't show the seven boxes already catalogued!

Other than yesterday's Area meeting, very little to report. Another successful indoor event took place at Totton during the month, but I forgot to take my camera, so no pics. The last of the season takes place on 20th April & bookings have been made for the Winter season starting in September – usual ad will appear in the NC giving details – many thanks to all those who have supported this event through the winter months.

2nd Area Meeting on Area 8

The weather gods came out in our favour with a lovely sunny day & light winds = mostly from the East which allowed use of the plateau & not too long retrievals – typically in the order of 600 yards until the late afternoon when the breeze got up for the fly-offs. Results are below:

F1G: Alan Brocklehurst 9.32; Don Thomson 9.20; Roy Vaughn 9.18; Chris Chapman 9.04; Chris Redrup 8.17; Ray Elliott 7.02; Peter Hall 6.00; Martin Stagg 3.32

E36: Trevor Grey 6.00 & 1.37; Wayne Butler 6.00 & 1.14; Chris Redrup 5.50; Jim Paton 5.02

Mini-Vintage: Tony Shepherd 6.00 & 3.00; David Cox 5.53; Jim Paton 5.31; Dave Etherton 4.43; Martin Stagg 3.01

Combined Power: David Cox 7.30 & 3.29; Brian Silcock 2.30

F1A: John Hook 6.18; Peter Tribe 1.25

A few notables from the day. Peter Hall having manfully overcoming one disaster of a broken prop to max on his 3rd F1G flight then failing to notice the loss of his tailplane on the homeward leg of recovery of the flight so capitulated - fortunately the tailplane was later found by Dave Etherton – what is the probability of that on such a vast area of the plateau!; Chris Redrup having a rare offday & not making any fly-offs; Wayne Butler making the fly-off in his 1st comp for Crookham; Brian Silcock having a very good 1st flight in CP with his Dixielander failed to recover the model after a bug battery failure; Ray Elliott back in the frame after his recent medical problems & Don Thomson flying a '69 Batiuk coupe into 2nd place against all the modern stuff! Mr Consistency (our Chairman Tony) topping out in Mini-Vintage with his ever reliable Le Timide. David Cox flying one of the late Robin Kimber gliders (a Nord) very successfully – David says with a few more tweaks there is more to come; John Hook enjoying himself with his Sans Egal in F1A. In fact it is fair to say that the day was enjoyed by all who attended.

Where's that thermal?

It's arrived – maybe?

A happy Wayne

Trevor
demonstrating the art of direction finding

Mr Consistency with Le Timide

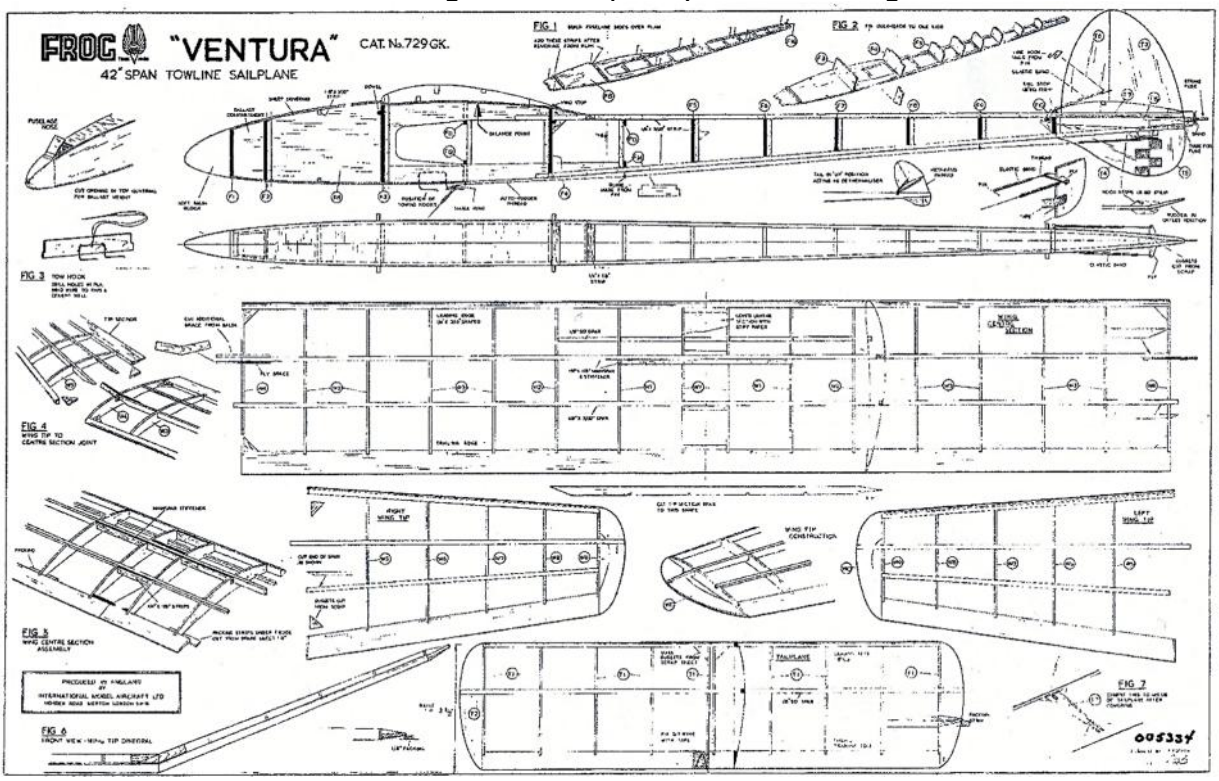
(pictures courtesy Alan Brocklehurst)

That's it for this month

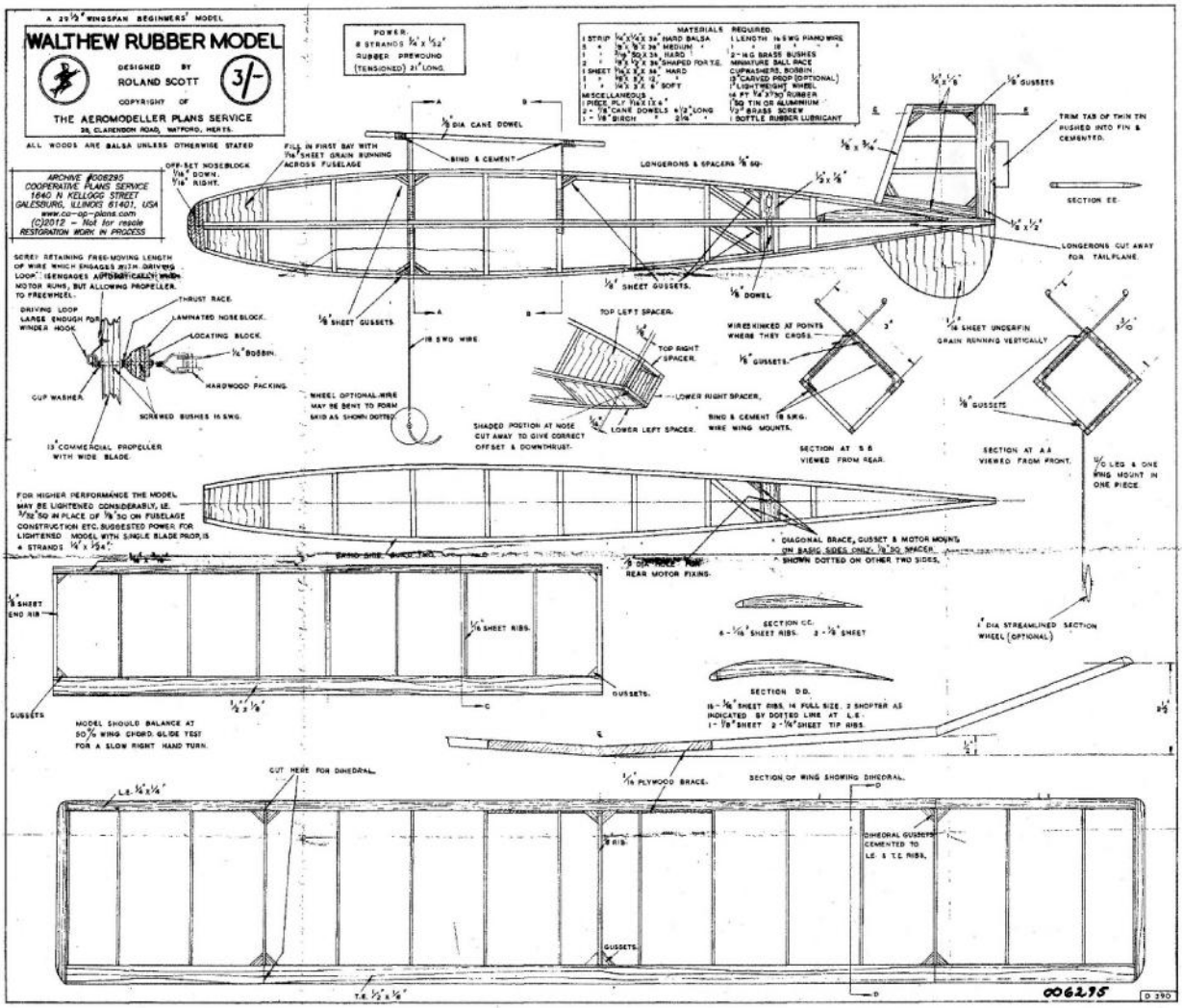
Roger Newman

Plans for the Month - Roger Newman

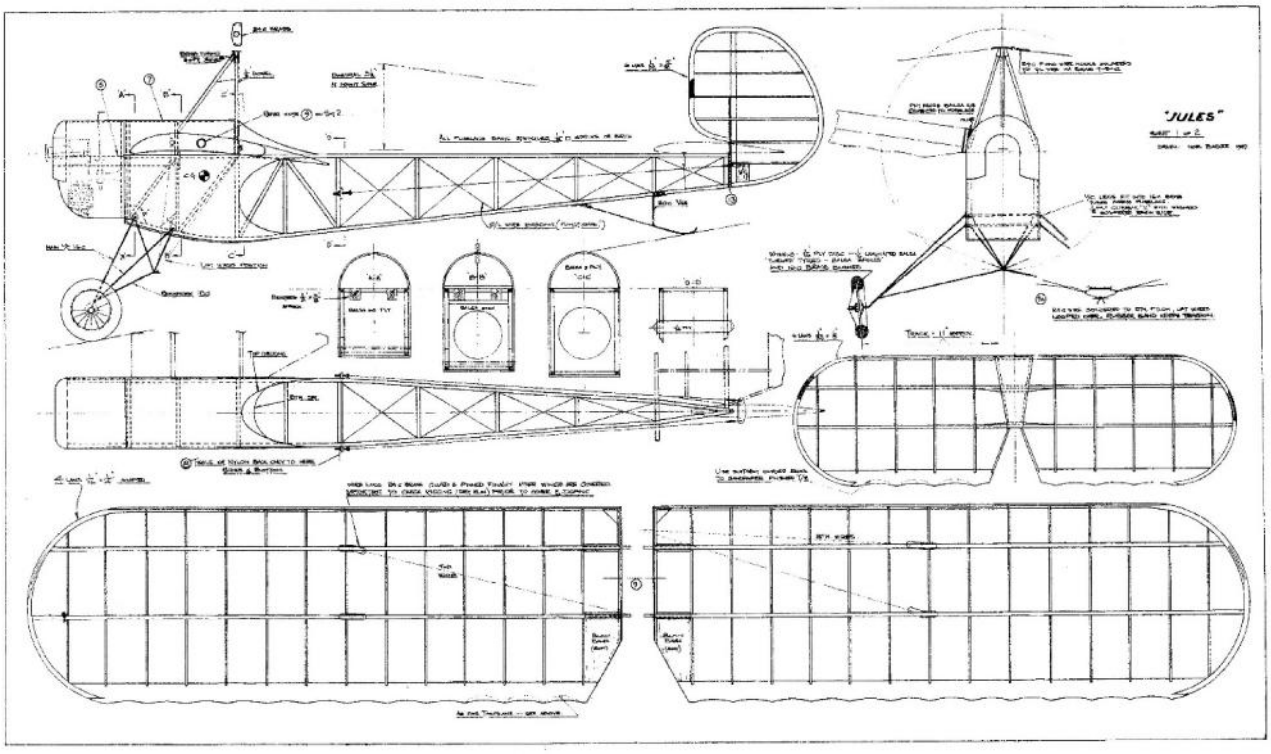
Glider: Frog Ventura – pretty little kit design.



Rubber: Walthew Rubber Model by Roland Scott of Bolton Model Shop fame



Power: Real "oldy" from France redrawn by Noel Barker in 1967 – Jules



SHEET 2 of 2.

"JULES"

SEMI-SCALE 1912 TYPE MODEL

DESIGNED BY M. BAYET. FRANCE.

NOTES.

THIS MODEL WAS FEATURED IN SAM 26 SPECIAL Nº 12 1985.
THE UNDERSIGNED OBTAINED THE XEROX SHEET FROM DAVID BARKER AND FROM THERE PRODUCED WORKING DRAWINGS, WITH SOME MINOR VARIATIONS PURELY FROM PERSONAL TASTE BUT RETAINING ALL THE ESSENTIAL DESIGN DIMENSIONS, ETC.
THE RESULTING MODEL TURNED OUT TO BE A REAL "FUN FLYER" — A SORT OF "BIG TYPE TOMBOY". IT'S REAL AND PLANS CAN BE A BIT TOO SNAPPY FOR 1912 BUT THE GLIDE WOULD DO CREDIT TO A DURATION MODEL.

THE MILLS 1.5 GIVES AMPLE POWER FOR THIS LIGHT MODEL BUT WATCH OUT FOR THAT RUDDER — IT'S EASY AND NEEDS ONLY VERY FINE ADJUSTMENT — HENCE THE NEED FOR THOSE WIRES AND SCREW ADJUSTMENT.
OUR FIRST FLIGHT AT CHOBHAM NEARLY ENDED UP IN A "FLYAWAY". LIGHT MODEL, INSERTS OF ONLY AN ESTIMATED ¼ TANK OF FUEL. DUE TO THE COWLING IT WAS ALMOST IMPOSSIBLE TO SEE THE FUEL LEVEL WHEN LAUNCHED — SO — ONE OF THOSE LITTLE PLASTIC TUBE TANKS FITTED NICELY INSIDE THE COWLING SIDE (12) WITH A WINDOW CUT TO SUIT.

A FEW GENERAL POINTERS ON CONSTRUCTION: —

MAP REF.

(1) LIFTING T/P SECTION (PERSONAL CHOICE) — WORKS WELL AND EASIER TO BUILD ON FLAT BOARD.
(2) TIP SPARS CUT FROM HARD ⅛" SHT BALSA.
(3) WING SPARS ⅜" Ø SPRUCE, TAPERED AT TIP AND "DOWELED IN" WITH ½ BALSA AT ROOT.
(4) THIS CAMBERED RUDDER SECTION IS AS PER M. MAURICE BAYET'S ORIGINAL. I'VE MADE THEM FROM SHEET (NOT CURVED STRIPS) AND AS PREVIOUSLY MENTIONED, IS VERY SENSITIVE. A FLAT SECTION MIGHT BE JUST AS EFFECTIVE AND OF COURSE EASIER TO BUILD.
(5) MOTOR BEARERS FIXED THROUGH FUSELAGE — NOT RUBBER RETAINED AS PART OF COWLING AS PER ORIGINAL.
(6) COWLING — FLAT ⅛ BALSA FLAT SIDES, TOP ⅛ BEDDING WITH FRONT & REAR ½ BALSA FORMERS AND LAMINATED 'U' FRONT BLOCK. COWLING RETAINED BY 2 OFF LIGHT SPRINGS ATTACHED TO FUSELAGE FRONT BULKHEAD. WHOLE COWLING COVERED WITH THIN ALUMINIUM SHEET, NOSE FORMER GIVES FINISH SLIGHTLY HEAVY COWL HELPS C.G. (MOST NEED)
(7) FUSELAGE COVERED WITH ⅛" SHT BALSA. TOP DECKING EASIER (AND POSSIBLY STRONGER) WITH 2 LAYERS ⅛" SHT.
(8) COVERING SHOULD BE LIGHT — WAR TISSUE, CLEAR DOPED RECOMMENDED. ½" WIDE TISSUE STRIPS AT ALL RIB POSITIONS LOOKS GOOD!
(9) ORIGINAL DESIGN CALLS FOR WINGS TO BE RETAINED WITH HOOKS (ONE ON EACH WING) AND BAND THROUGH TUBE IN FUSELAGE. WITH WINGS RIGGED ON THIS MODEL USING TOP (ANTI UP) WIRES SET AT DEAD LENGTH TO CORRECT DIHEDRAL AND LOWER (LIFT WIRES) TENSIONED AT LOWER CENTRE PYLON (9A), NO ADDITIONAL BRACING WIRES NEEDED — INDEED, THE PROPER "A" LIFT SAWER" ALLOWING WINGS TO MOVE ON HEAVY INFLIGHT IN TURNS OR ONCE UNDER FULL POWER IN A TIGHT TURN!!
(10) MAURICE BAYET USED 3x3mm BALSA DIAGONAL FUSELAGE BRACING. WITH ALL DUE RESPECT TO MAURICE'S DESIGN, THIS SEEMED TO LOOK A BIT "HEAVY" TO AN OLD FOOL (LIKE ME) WHO SERVED HIS R.A.F. RIGGING APPRENTICESHIP ON AVRO 504's, SO 2L. WIRE WAS USE AS SHOWN. NOT TOO EASY TO DO — NEEDS PATIENCE. VERY WIRE RAN OUT IN EACH END OF CROSS BRACE, SMART W/OS AND CEMENT STRUT BETWEEN LONGERONS KEEP WIRE TAUT — LET EACH BAY DRY, ONE AT A TIME BEFORE GOING ON TO NEXT — WELL WORTH IT!
(11) WINGS ALSO WITH BRACING BETWEEN RIBS/SPARS ON ORIGINAL OMITTED — AGAIN JUST A PERSONAL CHOICE.
(12) SEE "NOTES" ABOVE.
(13) 18G PIANO WIRE INTO TUBE STERNPOST — ORIGINAL ⅛ DOWEL (GUARD UP INSIDE RUDDER) BROKE — DIFFICULT TO REMOVE!!
(14) DISREGARD NOTE 9. RUBBER BANDS THROUGH FUSELAGE NOW THOUGHT TO BE ESSENTIAL FOLLOWING NEAR 'WRITE-OFF' IN STRONG WIND AT FULL POWER AT OLD WARDEN 1978!!

TIP WING RIB 2 OFF. ⅛" SHT.

TAKE CARE TO MAINTAIN TRUE/SMOOTH WING SECTION — IT WILL PAY DIVIDENDS WHEN YOU FLY!

⅛ Ø BALSA LEADING EDGE

MAIN RIB 26 OFF ⅛" SHT.

LOCATION OF WING RETAINING TUBE THROUGH FUSELAGE. HOOKED RUBBER BAND.

⅛ DOWEL FOR TUBE — WING LOCATION

WING ROOT RIB 2 OFF 3/32" BALSA. ⅛" PLY FACED.

ROOT RIBS ON FUSELAGE — SAME OUTLINE ⅛" BALSA AND FLY FACED.

CENTRE HOLE FOR TUBE ACROSS FUSELAGE ONLY IN FUSELAGE RIBS.

SPAR STIFFENERS.

⅛ Ø BALSA L.E.

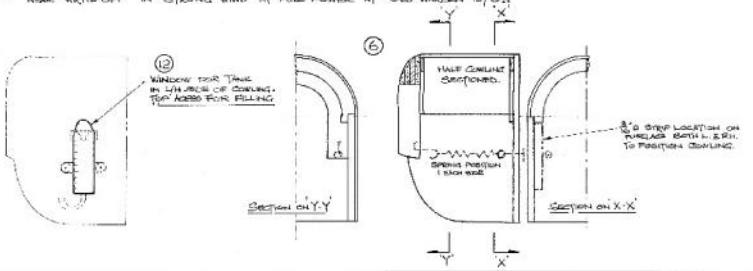
TAILPLANE RIB 8 OFF ⅛" SHT.

⅛" Ø BALSA FORMER

RUDDER RIBS ⅛" SHT.

WEIGHT — 17½ OZ.

GO EASY WITH POWER ON INITIAL TRIMMING FLIGHTS. MILLS NEEDS AT LEAST 2" DOWNTHRUST.
A SERIES OF CLIMBING LOOPS ON ITS VERY FIRST FULL POWER LAUNCH! — SOD GO EASY AND HAVE FUN.



Roger Newman

STOP PRESS

Free Flight Nationals 2022

Introduction

Following the non-availability of Barkston Heath the FFTC have agreed and alternative plan for the Free Flight Nationals, in doing this the FFTC have sought to minimise the confusion and disruption, to the overall contest calendar for 2022.

Venues

Alternative venues were considered and investigated. However, due to the shortness of time, it was agreed that we should not consider a new and untried venue but settle for tried and tested sites

- Area 8 Salisbury.
- North Luffenham.
- Buckminster

The plan

The replacement contests be a cut down Free Flight Nationals and will not be the same as the "real" Nationals. We will apply a "light touch" organisation in a similar vein to that was operated in 2021. The contests will be flown for their respective Free Flight Nationals trophies. The contests will be run to the standard free flight gala format. SAM35 will run their free fight and control line events at the SAM35 Retrofest event on 25-27 June at Buckminster. The only event not included is the 4/8oz Wakefield this will be added to the East Anglian Gala.

Entry and Fees

There will be no pre-entry requirement. Entry on the day. The entry fee is covered by the contest licence or payable at £10.00 per day allowing the entrant to fly in as many events/classes as they desire.

Facilities

There will be no camping or other facilities except for the provision of toilets. The entrance gate at Sculthorpe and Luffenham will be manned. We will arrange to collect the entry fees at the gate.

Awards

- Certificates and medals for events will be awarded.
- Hand launch glider and catapult glider will be flown at both North Luffenham and Salisbury Area 8. The best time at either event will decide the place and the awarding of trophies.

Details

- There will be no pre-entry requirement. Entry on the day. The fee would be a simple £10.00 per day charge. This fee would allow the entrant to fly in as many events/classes as they desire
- Management on the day at North Luffenham will be Ken Faux. Salisbury Area 8 Mike Woodhouse, who also has overall responsibility being the Free Flight Nationals coordinator.
- Number of flights and maxes to be decided on the day. There will be no rounds for FAI
- Start 09:00 finish 17:00

Free flight – Salisbury Area 8

Saturday 4th June – Start 0900 - 1700	Sunday 5th June – Start 0900 - 1700
BMFA Glider	F1A Glider
BMFA Rubber	F1B Rubber
BMFA Power	F1C Power
BMFA Electric	F1Q Electric
Classic Rubber/Power	Hand Launched Glider
Women's Cup	Vintage Rubber/Power
Catapult Glider	Slow Open Power
Frog Junior (J)	Classic Glider
Tailless	
Vintage glider	

Space – Salisbury Area 8

Saturday 4th June – Start 0900 - 1700	Sunday 5th June – Start 0900 - 1700
S3A Parachute	S6A Streamer
S4A boost Glider	S1B Altitude
S9A Helicopter	S2-P Payload
S5C Scale Altitude	S8E/P Rocket glider

Mini - North Luffenham

Sunday 29th May – Start 0900 - 1700
F1H (A/1 Glider)
F1G (Coupe d'Hiver)
F1J Power
BMFA ½A Power
E36 Electric
P30 Rubber
E30 Electric
Mini Vintage
CO_2 Duration
Catapult glider
Hand Launch glider

Free Flight Scale - Sculthorpe
The STC have been advised that they can run the flight scale events at the East Anglian Gala. The STC will decide and advise accordingly.

Bowden Trophy - Buckminster
To be run on Monday 6th June at Buckminster.

SAM35 - Sculthorpe
The 4.0 and 8.0-ounce Wakefield to be run at the East Anglian Gala

This event was postponed from 13th March to 3rd April

Le Petit Classique de Brum

North Luffenham Sunday 3rd April 2022

Update and reminders…

First the update; entry for this competition can now be confirmed as £10 for the day. So, you can fly all classes with two entries per class for a tenner.

As previously advertised, there are a couple of variations to the normal rules for this event. **Classic Glider** is flown on a **50m line** and **E36** has an **8s motor run** and will be flown as a combined event with ½ A power. Please don't get caught out, **make sure that you can fly to these rules**.

Competitors may enter **two** models, separately, in each event. Highest placed entry to count, NO SUBSTITUTION of parts nor model permitted.

To avoid an unnecessary journey, if you think that you'll be there please tell Gavin Manion
by email gavin.manion84@gmail.com.
The decision to go ahead or postpone will be notified by email by the evening of Thursday 10th March.

Salisbury Plain Permits

Salisbury Plain Area 8 will be available for General Sport Flying and Trimming every weekend (Saturday and Sunday) plus Bank Holiday Mondays, in 2022, from January to December.

During this period flying on area 8 is subject to clearance being granted by Army Air Operations on the preceding Friday. When the clearance is given, a clearance number and the times available will be notified to users via their email addresses.

Users must be in possession of a current permit. To apply for a permit you must complete the application form to be found on the 'Free Flight Technical Committee' website. The cost is £20. Retain the conditions of issue and code of conduct for future reference.

It is important that you read and understand the conditions of issue and code of conduct before submitting your licence application.

Please note that the use of Salisbury Plain Area 8 for Model Flying is delegated by the MOD DIO (SPTA) to the BMFA via the management of the FFTC.

No other use is permitted.

Free Magazines

There are:-

Aeromodellers: 7 x 1955, 6 x 1956 and Jan 2013 to Nov 2021 complete.

Sam Speaks 2007

AMI Aug '02 to Apr '04

The 2013 to 2021 Aeromodellers are all in perfect condition except for the removal of some free plans.

The 1955 & 1956 are without covers and consequently a little tatty.

The Sam Speaks are in perfect condition as are the AMI's

I want nothing for them just a good home!

They would need to collected either from my home or an Area meeting, as three boxes have a total weight of just over 20 Kg.

If interested contact john-richardson@btconnect.com or 01233 668767

Address is still 21 Beaver Road, Ashford

MODELS FOR THE CENTENARY EXHIBITION

As you probably know, there will be an exhibition at Buckminster next summer to celebrate a century (or a bit more) of British model flying. The aim is to look at our progress decade by decade, covering FF, RC and CL flying and models; obviously prior to the late 1940s there was only free flight to consider, but you, as a vintage enthusiast will know all about our first fifty years or so.

Jim Wright and Martin Dilly are organising this and we need offers of representative models, preferably original but possibly replicas, and significant bits of equipment to include in the exhibition. If you've been to the superb German museum of gliding and model flying at Wasserkuppe or the AMA museum at Muncie you'll know what's possible.

A few specifics. Does anybody have one of the L.G. Temple heavyweight gliders from the 1940s? A Rudderbug? A Chris Olsen Uproar? A Mick Farthing Lightweight glider (the one with the diamond fuselage and a pylon)? A 1920s-type compressed air model? A Banshee? A combat model from the days when they had fuselages? A Bill Morley Thunderbolt F2B model?

Any suggestions of what needs to be included, whether models, equipment or developments will be most welcome as soon as you like.

Jim is at jim.wright@dsl.pipex.com, phone 01525-221543 and

Martin is at martindilly20@gmail.com, phone 0208-7775533.

Cocklebarrow Vintage R/C

Sundays

17th July: 21st August: 25th September

Signposted from Aldsworth Glos.
on the B4425 between Cirencester/Burford
and off the A40 between Northleach & Burford
(follow SAM35 signs)

All types of R/C up to 1975
Sport flying, no competitions

BMFA Insurance Essential

Contact: Tony Tomlin
Tel: 02086413505 & 07767394578

Peterborough Flying Aces Nationals

Saturday 3rd September 2022

at
Ferry Meadows, Nene Park, Peterborough PE2 5UU.
Competitions 10.00 to 16.15

Scale Modellers Please Note! ALL scale classes, except Masefield Rubber Scale are judged for flight profile and realism by the Flight Judges. They may ask for some verification, so please have the plan or, if scratch built, the 3-view available on the field.
Masefield Rubber Scale: Any scale rubber model, to which **Masefield** type bonuses will be applied. **No flight judging,** just duration plus bonuses. Present model to control for processing.
Open Rubber /CO2 / Electric Incorporating KIT Scale: Judged for flight profile and realism. Any C02 motor/tank permitted. See note re verification. Up to 36" Span. Judged for flight profile and realism. See note re verification
TSP L-1 Rocketplane Duration (New for 2022!) Models can be of any type of construction, propelled by a single reaction motor of the TSP L-1 type. These motors will be supplied on the day. No others will be allowed and motors may not be modified in any way. All motors shall be mounted in a tube or clip securely attached to the model. Note the motors have a diameter of about 10.2mm. Best Three from five flights to count to a Max set on the day (see www.peterboroughmfc.org for full rules and details)
Jetex / 1 Shot Rocket Motor/ EDF Authentic Scale: Judged for flight profile and realism. See note with regard to scale model verification
Jetex/1 Shot Rocket Motor /EDF Profile Scale: Judged for flight profile and realism. See note with regard to scale model verification
P-20: 20" span and length. Max 8" plastic prop, 6 gram motors (may be external), 3 flights to a Max.
Cloud Tramp: 5 flights NO MAX. (best and worst times discarded, and the remaining 3 times totalled. Note! If fewer than 5 flights logged the best and worst are still discarded.
Frog "Senior" Rubber Duration: (for plan see http://www.houseoffrog.co.uk)
VMC "PILOT" & KK "ROBIN" Rubber Duration: Senior and Junior Classes.
Models must use plastic prop and kit prop size. Note! We would like to see that any junior has had a hand somewhere in the building of the model.
Rubber Ratio: NO MAX. Any rubber powered model with wingspan 15"- 25" (tip to tip).
(KK "Elf " is eligible). Flight score is total time in secs (for 3 flights) divided by span inches.
Catapult Glider: Catapult, max 2 grams rubber on a 6" max handle. Any model permitted. 9 flights to a Max set on day, all flight times recorded, best 6 to count.
Tabletop Precision: Precision flight time Rubber event - models must Rise off Table.
36 inch Hi-Start Glider: Any glider up to 36", tip to tip, not flat span, launched by the supplied "Hi-Start" bungee.
Best Unorthodox: Unusual models. Flight must be seen by the nominated Scale Judge
Open E20 Electric Duration: Max length and span, 20 inches. Any motor, battery and timer. Max motor run 8 secs. DT and RDT permitted. Certificate for best "Ferry 500" Restricted Class model. (for rules see www.peterboroughmfc.org).
Rubber Scramble: 20 minutes, use any rubber powered model that qualifies for one of the above events. Competitor must both wind and launch, from box, but may use a retriever.
Flying Swarm: Mass launch for any model that is eligible for one of the day's competitions. Last model down is the winner.
Young Flying Aces: Prize for Best Junior: Scrolls for top 3 (Jun.17yrs or under on 3/09/22)
Prize for 1st place: **Scrolls** for 1st, 2nd and 3rd:
Bumper Raffle: Note: this is a Free Flight event: No Radio Control: Proof of Insurance required for all flyers.

PLEASE NOTE! NO GROUND PENETRATING STOOGES PERMITTED
Revel in the special atmosphere created at this unique event.
Toilets, Café, and Park Visitors Centre.
Contact: Luke Goymour on 07752 236645 or revgoymour@googlemail.com
See also Peterborough MFC Website at www.peterboroughmfc.org
Where applicable, Maxes for each class will be set on the day
Govt. and BMFA Covid restrictions applying at the time will be enforced

Southern Area BMFA Free Flight Gala

R.A.F. Odiham

Saturday August 6th 2022.
0900–1800hrs,

The licence application is now being prepared,
having been given the OK by the RAF.
Date set for Sat August 6th with reserve date of Aug 13th.

General Sport flying and competitions

Competitions

E36, Mini Vintage, coupe d'Hiver, Vintage classic glider combi,
Vintage wake 4/8oz, Vintage classic HLG/CLG.

Models to be CAA registered (if qpplicable).
C.D. Chris Redrup.

For security reasons, all attendees are required to pre-register, therefore those wishing to attend must send the following details to Peter Carter by post including entrance fee with cheques payable to Southern Area BMFA.

Name
Address
Contact details(phone/e-mail)
BMFA no
Vehicle. Reg no, Make, model and colour.

Entry fee payment of **£12** for flyers.

Arrive RAF Odiham main gate from 0800hrs onward
and by 0945hrs latest and have a photo i/d

Peter Carter:-
74 Buckland Avenue ,
Basingstoke, Hants, RG226JA
Tel 01256 352922. E-Mail. P.carter34@btinternet.com

THE CROOKHAM GALA 2022

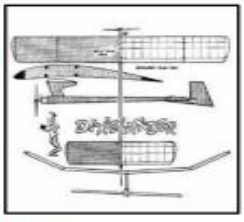
will be held on Sunday 18th September
on Salisbury Plain Area 8

EVENTS

Modern And Vintage Coupe combined
(3 flights only. Prize for best vintage score)

Combined Glider: Mini Vintage: E36
(Prize for best Classic A1)

COMBINED POWER
(Including George Fuller Trophy for best placed Dixielander)
1st, 2nd & 3rd cash prizes for best Dixielanders plus prize for best placed other George Fuller design.



CASH AND WINE PRIZES FOR ALL CLASSES

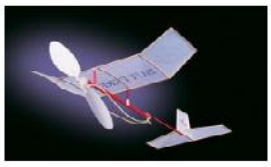
Comps Start: 10.00am Finish 5.00pm

Contact: Chris Redrup: Tel; 01483 487273
Mob; 07544533509, email chrisredrup@yahoo.com

Supported by Southern Area BMFA

Southern Coupe League Calendar 2022

Date	Event	Venue
7th Nov 2021	Coupe de Brum	N Luffenham
27th Mar	Second Area	Area Venues
8th May	London Gala	Salisbury Plain
26th May	Dreaming Spires	Port Meadow
tbc	Nationals	tbc
10th July	Fifth Area	Area Venues
24th July	SAM1066 Cagnarata	RAF Colerne
6th Aug	Southern Area Meeting	RAF Odiham
21st Aug	Southern Gala	Salisbury Plain
18th Sept	Crookham Gala	Salisbury Plain
9th Oct	Coupe Europa	Salisbury Plain



Flitehook
Indoor Free Flight

West Totton Community Centre
SO40 8WU

2021/2

Wednesdays: 12.00 noon – 4.00 pm

29th Dec; 19th Jan; 23rd Feb, 23rd Mar; 20th April

BMFA Membership mandatory
£8 per session
Easy access; Café; Toilets; Parking
Flitehook Sales Table
Spectators & Juniors are free of charge
Any queries – email rogerknewman@yahoo.com or phone 02392 550809

Supported by Southern Area BMFA

Impington Village College Model Aeroplane Club

Free Flight Indoor Flying on Sunday 3rd April 2022 - 9 am to 5pm

This is our first event for 2 years, so to celebrate 100 years of model flying please come along for some relaxed FF flying and some low key competitions.

There will be two free flight competitions and one car race –

1. **A Peanut event** using a simplification of the international rules. Max size of model either 13 inches span or 9 inches length excluding propeller. A GA drawing or any other proof that the actual aircraft existed. A single judge for all entrants to award up to 30 scale points and up to 90 difficulty bonus points. Any number of flights with a 10 second bonus for ROG. Total of the best two flights plus scale and bonus points to decide final score.

2. The usual **duration event for Bostonian models**. Any design to the Bostonian formula. Minimum air frame weight 14g and all flights to ROG. Total score from best three flights.

All competition flights timed and reported to control.

We will feature a car race event as usual. This will be a fun event for rubber powered cars. We will vary the distance and number of heats depending upon the number of entrants on the day.

Sadly due to space restrictions it will not be possible to hold RTP activities or an exhibition but there is still opportunity to fly as many and varied free flight models as you wish.

How to find us - Impington Village College CB24 9LX. Leave the A14 at junction 27 towards Histon B1049. After approx. ½ mile take the first right onto New Road. The college is at the end of this road approx ¾ mile on the right. See directions on the club website here

Admission Adult flyers £5.00. Children, spectators and car parking free. Drinks and snacks available in the Sports Centre.

There will be a raffle during the day and prizes will be gratefully accepted.

Contact Michael Marshall 01223 246142
email mandrshall@gmail.com

Waltham Chase Aeromodellers

Indoor Free Flight Meetings

At
Wickham Community Centre
Mill Lane, Wickham
Hants, PO17 5AL

Thursday Evenings 7-0pm til 9-30pm, £5

2022 Dates:

Jan 20th - Feb 3rd - Feb 17th - Mar 3rd
Mar 17th - Mar 31st - Apl 14th - Apl 28th
May 19th - Jun 9th - Jun 23rd - Jul 7th
Sep 22nd - Oct 6th - Oct 20th - Nov 3rd
Nov 17th - Dec 1st - Dec 15th

Due to current restrictions, for the immediate future the organisers will need attendees to pre-book their slot at each meeting with the maximum number of attendees being set at **14**. If the number of pre-bookings is significantly less than **14** then the organisers may have to reduce the meeting duration to avoid running at a significant financial loss. Hopefully, in the not too distant future, the coronavirus situation will calm down and we will enjoy greater numbers of attendees such that pre-booking and event duration adjustment will not be necessary. For the time being it is also a requirement that you wear a face mask.

To book a slot at a meeting (and for any further information) contact the meeting organiser, Alan Wallington, via email at alan@ajwallington.co.uk or by phone on 01489 895157. This should be with Alan by the morning of the Wednesday before the meeting you wish to attend. You will receive confirmation of your slot on the Wednesday evening.

And finally all flyers must be current members of the BMFA. Please bring your 2022 certificate with you to your first meeting or alternatively email it to Alan with your first pre-booking request.

Bodnar RDT

As many will be aware since my departure from LBE service of RDT systems has been 'tricky'
Over time I have received enquires as to if I could help, this was not possible.

However.
It is my intention to obtain the remaining parts of the RDT systems.
To that end I may be able to help.
I DO NOT intend to supply any new starter kits merely service systems of previous owners.

Once the remaining parts are sold they will NOT be remanufactured so supply is limited.

Contact me at fifiuk@hotmail.com or phone me on 07871 459291

Peter Brown

E30/RDT Batteries

I have had another delivery of 75mAh 1s lipo's which other users tell me are the best E30 batteries they have ever had. They are of course also suitable for RDT. If you send me £10 I will put 4 in a Jiffy bag and send them to you.

Ron marking, Pros Kairon, Pennance Road, Lanner

Redruth TR16 5TF

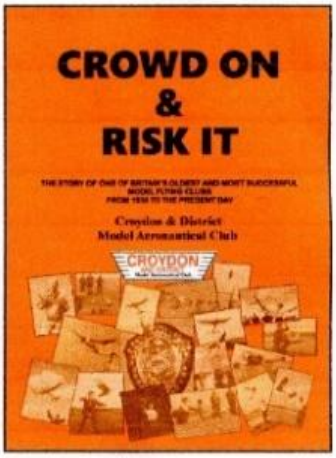
CARBON BOOMS
For Hand Launched Gliders

If you need tapered carbon tubes for HLG booms I may have what you want. As supplied they are 99cm long, taper from 5.2mm to 2mm and weigh 6.4gm. As a rough test a 58cm length, suitable for a Yashinskiy type of model, weighs 3gm after a little application of wet-and-dry paper (used wet, of course) and it looks as if there's quite a bit more that can come off. The thin end that's left is good for a catapult glider.
Price is £7.00. In normal times I'd sell direct at contests, but postage and packing would be extra, depending on how many you need.

Contact Martin Dilly to order

Tel: 0208 7775533 or e-mail martindilly20@gmail.com.

CROWD ON & RISK IT

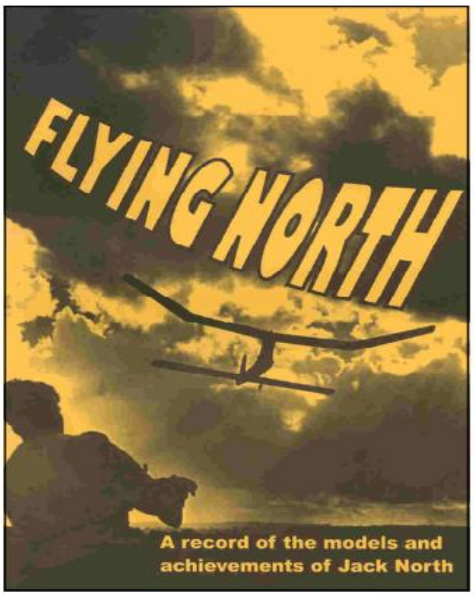


This is the story of one of Britain's oldest and most successful model flying clubs, Croydon & District MAC, from 1936 onwards. The club contributed much to aviation, both model and full-size, and the late Keith Miller compiled its history till around 1960. Now, this up-dated 73 page version of the club's history, copiously illustrated with many previously unpublished photos, takes the Croydon saga up to the present. Contributions by past and present members vividly capture the atmosphere of the heyday of free-flight, with almost weekly contests at Chobham or Bassingbourn.
53 designs by Croydon members have been published in the model press and 24 of its members have represented Great Britain in World and European Championship teams. Several have gone on to notable careers in aerospace. Crowd On & Risk It covers all this and more.

Just £8 by PayPal or cheque.

Contact Martin Dilly (martindilly20@gmail.com), phone/fax 020 8777 5533 or write to 20, Links Road, West Wickham, Kent BR4 0QW for your copy.

THIRD RE-PRINT JUST ARRIVED



FLYING NORTH
A goldmine for vintage and nostalgia model flyers -

FLYING NORTH traces the model flying career of Jack North, one of only three people to represent the UK on all three outdoor free flight teams, - Wakefield, Power and Glider. It covers his flying and models from 1938 onwards and includes no less than 24 of his previously-unpublished designs.

FLYING NORTH was compiled and edited by two of Jack's Croydon clubmates, David Beales and Martin Dilly, who had access to Jack's extensive notebooks, photographs, drawings and his original models.

FLYING NORTH is a fascinating 163 page book and includes 130 photographs, reminiscences by colleagues, re-prints of all Jack's published plans and articles, including his later extensive work on thermal detection, and an outline of the professional career that also made him such a respected name in high-speed aerodynamics.

FLYING NORTH proceeds go towards the costs of the national teams representing the UK at World and European Free-Flight Championships.

READERS' FEEDBACK

"... no other modeller's life and times can ever have been so comprehensively covered"

"I hope it becomes a classic."

"I am glad I bought Flying North. ..... such a huge chunk of nostalgia"

"... am immensely impressed. A splendid effort"

"A fitting memorial to an unforgettable personality. I am sure the book will become an instant classic, treasured by aeromodellers all over the world"

"A very balanced record of Jack's modelling and professional activities"

"The best aeromodelling book since the Zaic Yearbooks"

Price £20.00 in the UK, £24 airmail to Europe and £30 elsewhere.
Contact Martin Dilly on +44 (0)208-7775533 or e-mail martindilly20@gmail.com

FREE FLIGHT SUPPLIES

MICHAEL J. WOODHOUSE
12 MARSTON LANE, EATON, NORWICH
NORFOLK, NR4 6LZ, U.K.
Tel/Fax: (01603) 457754 International Tel +44-1603-457754
e-mail: mike@freeflightsupplies.co.uk.
Web site: http://www.freeflightsupplies.co.uk.
Face book https://www.facebook.com/groups/266212470107073/

I supply items, which are needed by the free flight modeller, or any other modeller, items that cannot be readily obtained through the normal model shop outlets. I also believe in the builder of the model principal so what you will find, on my list, are components, plans and kits etc. Although I am not a shop, if you are passing through Norwich, you are welcome to call in, a quick telephone call first to check that I'm at home will save a wasted diversion.

ORDERS and PAYMENT

Place your order by telephone, by e-mail, CASH, DIRECT TO FREE FLIGHT SUPPLIES BANK ACCOUNT, CREDIT/DEBIT CARD, MORE!
WESTERN UNION, PAYPAL

AVAILABLE

LIGHTWEIGHT COVERING MATERIALS - HI-TECH MATERIALS – FIXINGS - RUBBER - RUBBER MODEL PROPELLERS – TIMERS - KP AERO MODELS - TOOLS - PLANS – KITS - "HOW TO DO IT" PUBLICATIONS – BOOKS.

Full details of the above items are on
the Free Flight Supplies Web site.

DILLY JAP IS BACK

After a bit of a gap since the final 5 yards came off my last bulk roll of Japanese tissue several people have asked if it will be available again, so I've just received my seventh roll. Doing the sums, that means that there's now just over a mile of Dilly Jap covering models all over the world.

.To re-cap on the details, it's 12 gm/M2 and has a strong unidirectional grain. It's white and low absorbency, so remains very light when doped. For those of you old enough to remember, it's identical to the Harry York tissue sold at his South London model shop in the 1950s.

Anyhow, since the last roll came in 2015, the price is slightly higher (maybe as a result of you-know-what ...xit and its effect on sterling), but it's still only £13 for a five yard roll a yard wide, or £15 by mail to the UK. I normally sell it in rolls at contests, but lately many people have had it sent lightly folded, so I can do that if you prefer.

I'm on 0208-7775533 or e-mail: martindillv20@gmail.com

INDEPENDENT REVIEW OF DILLY JAPANESE TISSUE

The following appeared on the Hip Pocket Aeronautics Builders' Forum. Nine different tissues were tested, doped and un-doped.

"I am really impressed with how well this tissue performed. Dilly Jap tissue with 2 coats of thinned nitrate dope is around 8% stronger than the old 00 Silkspan with 2 coats of dope, yet Dilly Jap is 0.09 grams per square foot lighter. Here are the test results:

Test#	Tissue Type	gm/sqft	Avg Ten Str lb	Spec Str lb/gm
9a	Dilly tissue (UD)	1.20	14.74	12.28
9b	Dilly Jap Tissue (D)	2.04	19.70	9.66

So far, the Dilly Jap tissue has the highest specific strength of all the tissues and Silkspans tested. Doped Dilly Jap has nearly double the strength of doped Japanese Esaki tissue and yet doped Dilly Jap weighs 0.1 grams per square foot less than doped Esaki. Dilly Jap can't be beat for weight critical contest models requiring the torsional rigidity afforded by tissue papers!"

FREE FLIGHT FORUM REPORT 2021

Indoor Duration - A Challenge to Conventional Design - Tony Hebb
Coupe in a Box - Gavin Manion
Building Other People's Mistakes - Stuart Darmon
The Models of Ray Monks - Simon Dixon
Simulated 3D Flight Dynamics - An Approach to Gain Insight for Trimming and Aircraft Development - Peter Martin
Building During Lock-down - Phil Ball
Tame Your F1B and Related Thoughts - Mike Woodhouse
What Next for a Lady Flyer - Sue Johnson
F3 RES - RC for the Aging Free Flighter - Andy Sephton
From Wichita to Robin III - Mike Fantham
Further Thoughts on Carbon-Skinned Wings for F1A - Stuart Darmon
Geo Fencing and Electronic Stability - John Emmett

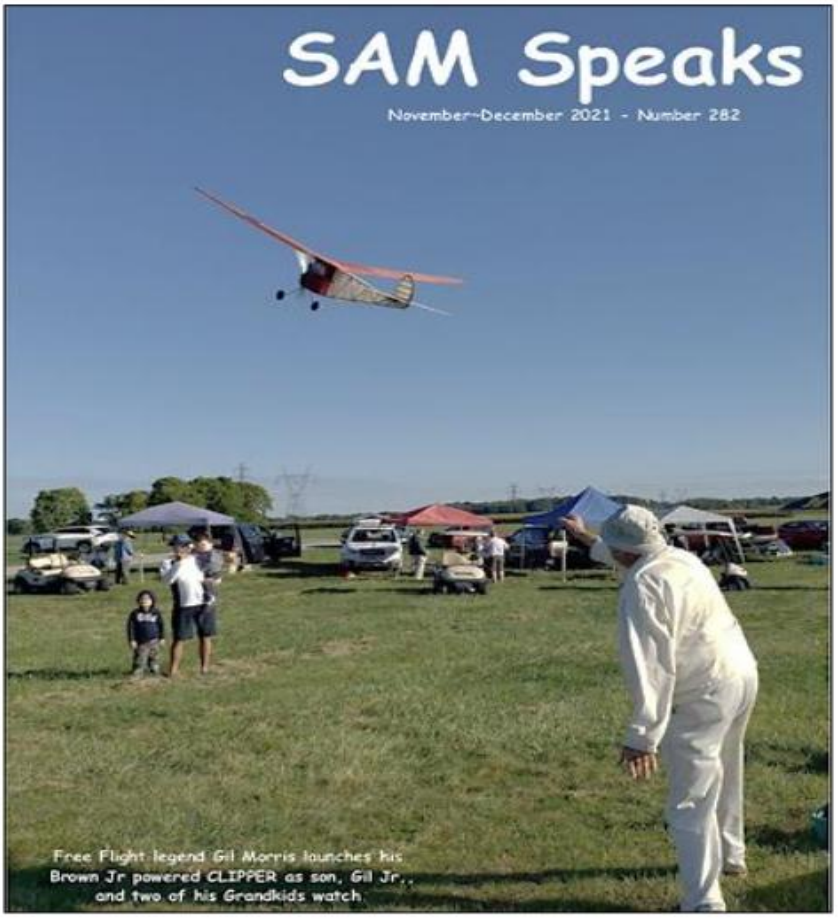
The UK price is £13 including postage; to the rest of Europe it's £16 and everywhere else it's £20. Forum Report sales help to defray the heavy expenses of those who represent Great Britain at World and European Free Flight Championships. Cheques should be payable to 'BMFA FF Team Support Fund' in pounds sterling and drawn on a bank with a UK branch. You can also pay by credit card, which is far easier (and cheaper).

Copies are available from: Martin Dilly,
20, Links Road,
West Wickham,
Kent
BR4 0QW

Or by phone: +44(0)2087775533
Or e-mail: martindilly20@gmail.com

SAM Speaks USA.

This bi monthly emagazine can be obtained from the Society of Antique Modellers. Web site http://www.antiquemodeler.org/ for the modest cost of $30 pa.
Quite a few UK people already belong, but a few more might help our Parent Body!



Provisional Events Calendar 2022

With competitions for Vintage and/or Classic models

All competitions are provisional and Covid restrictions may apply, **Check websites before attending**

February 27th	Sunday	BMFA 1st Area Competitions
March 27th	Sunday	BMFA 2nd Area Competitions
April 3rd	Sunday	Le Petit Classique de Brum, N Luffenham
April 15th	Good Friday	Northern Gala, Barkston
April 18th	Easter Monday	Croydon Wakefield Day & **SAM1066,** Salisbury Plain
May 1st	Sunday	BMFA 3rd Area Competition
May 7th	Saturday	London Gala, Salisbury Plain
May 8th	Sunday	London Gala, Salisbury Plain
May 29th	Sunday	**FF Nationals, Mini,** N Luffenham
June 4th	Saturday	**FF Nationals,** Salisbury Plain
June 5th	Sunday	**FF Nationals,** Salisbury Plain
June19th	Sunday	BMFA 4th Area Competitions
July 10th	Sunday	BMFA 5th Area Competitions
July 24th	Sunday	SAM1066 Club (BMFA) Centenary event. RAF Colerne
July 30th	Saturday	East Anglian Gala, Sculthorpe
July 31st	Sunday	East Anglian Gala, Sculthorpe
August 6th	Saturday	Southern Area BMFA Gala, RAF Odiham
August 21st	Sunday	Southern Gala, Salisbury Plain
September 3rd	Saturday	Peterborough Flying Aces, Ferry Meadows
September 3rd	Saturday	Stonehenge Cup, Salisbury Plain
September 4th	Sunday	Equinox Cup, Salisbury Plain
September 11th	Sunday	BMFA 6th Area Competitions
September 16th	Friday	Indoor FF Nationals, Daventry Leisure Ctr.
September 17th	Saturday	Indoor FF Nationals, Daventry Leisure Ctr.
September 18th	Sunday	Indoor FF Nationals, Daventry Leisure Ctr.
September 18th	Sunday	Crookham Gala, Salisbury Plain
October 2nd	Sunday	BMFA 7th Area Competitions
October 16th	Sunday	BMFA 8th Area Competitions
October 29th	Saturday	Midland Gala, Venue T.B.C.
November 6th or November 13th	Sunday	Buckminster Gala

Please check before travelling to any of these events.
Access to MOD property can be withdrawn at very short notice!

For up-to-date details of SAM 1066 events at Salisbury Plain check the Website – **www.SAM1066.org**

For up-to-date details of all BMFA Free Flight events check the websites **www.freeflightuk.org** or **www.BMFA.org**

For up-to-date details of SAM 35 events refer to SAM SPEAKS or check the website **www.SAM35.org**

Useful Websites

SAM 1066	-	www.sam1066.org
Flitehook, John Hook	-	www.flitehook.net
Mike Woodhouse	-	www.freeflightsupplies.co.uk
BMFA	-	www.bmfa.org
BMFA Southern Area	-	www.southern.bmfa.uk
SAM 35	-	www.sam35.org
National Free Flight Society (USA)	-	www.freeflight.org
Ray Alban	-	www.vintagemodelairplane.com
Belair Kits	-	www.belairkits.com
Wessex Aeromodellers	-	www.wessexaml.co.uk
US SAM website	-	www.antiquemodeler.org
Peterborough MFC	-	www.peterboroughmfc.org
Outerzone -free plans	-	www.outerzone.co.uk
Vintage Radio Control	-	www.norcim-rc.club
Model Flying New Zealand	-	www.modelflyingnz.org
Raynes Park MAC	-	www.raynesparkmac.c1.biz
Sweden, Patrik Gertsson	-	www.modellvänner.se
Magazine downloads	-	www.rclibrary.co.uk
Aerofred Plans	-	www.aerofred.com
South Bristol MAC	-	www.southbristolmac.co.uk

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Are You Getting Yours? - Membership Secretary

As most of you know, we send out an email each month letting you know about the posting of the latest edition of the *New Clarion* on the website. Invariably, a few emails get bounced back, so if you're suddenly not hearing from us, could it be you've changed your email address and not told us?
To get back on track, email membership@sam1066.org to let us know your new cyber address (snailmail address too, if that's changed as well).

P.S.

I always need articles/letters/anecdotes to keep the New Clarion going, please pen at least one piece. I can handle any media down to hand written if that's where you're at. Pictures can be jpeg or photo's or scans of photos. I just want your input. Members really are interested in your experiences even though you may think them insignificant.

If I fail to use any of your submissions it will be due to an oversight, please feel free to advise and/or chastise

Your editor
John Andrews