NEWClarion

SAM 1066 Newsletter

Society of Antique Modellers Chapter 1066

Issue nc092025

September 2025

Affiliated to ***Club No. 2548***

SAM 1066 Website: *www.sam1066.org*

Editor:- John Andrews
12 Reynolds Close
Rugby
CV21 4DD

Tel: 01788 562632
Mobile 07929263602
e-mail
johnhandrews33@outlook.com

I Pad users: If you are having trouble opening the New Clarion, hold your finger on it to display a menu, then select "open in new tab". You will find the new tab to the right of the sAM1066 tab.

Contents

		Page
Editorial	-	2
Southern Gala Report	Chris Redrup	3
Southern Gala Pictorial No1	Alan Brocklehurst	4
My Southern Gala	Roy Vaughn	7
Southern Gala Pictorial No2	Martin Dilly	8
BMFA Results for Southern Gala	BMFA Web	11
Topical Twists, Model Aircraft Sept. 1956	Pylonius	12
Indoors Isn't for Everyone No.90	Nick Peppiatt	13
Here and There	Model Aircraft September 1950	18
Another Hobby	Tony Shepherd	20
Heard at the Hangar Doors	Aeromodeller September 1955	23
A Busy Weekend	John Andrews	25
Grumman J2F 'Duck'	Wikipedia	31
Email from New Zealand	Barrie Russell	34
Engine Analysis: ED Bee 1cc series 2	Aeromodeller September 1955	36
Starfli	Ray Malmstrom	39
Notes from North Wales	Roger Newman	41
Secretary's Notes for September	Ray Elliottt	47
Plans for the Month	Roger Newman	48
Events and Notices	-	51

Editorial

ODIHAM All those wishing to attend this event must pre-register by Sept 1.
See add - If your really quick you may get in.

The **10th Grande Coupe de Birmingham will** now take place on the 6th or 7th of December and not the November date previously advertised.

Flying is in full swing and it gives me much pleasure to report that, thanks to Membership Secretary Martin Pike, I have been out and about. See report on my hectic weekend.
I was at Buckminster for the Senator competition, thanks again to Martin. The event attracted over 35 cars and I think proves that Buckminster can be used for free-flight competition, not ideal by any means but workable.

OK what's in this bumper issue?

- First up, reports and pictures galore on the Southern Gala, from organiser Chris Redrup (*well-done Chris),* Alan Brocklehurst, Roy Vaughn, Martin Dilly and full results from BMFA.
- Pylonius sympathises with speed fliers, takes a look at educational standards in aeromodellers, more sympathy, this time with kit manufacturers and finally siding with spectators.
- Nick Peppiatt, in his 90th submission to this newsletter, buries us in the theory of the position of the Centre of Gravity.
- Here and there from Model Aircraft 1950, reports on letters complaining of the venue for the Wakefield Final 100 competition held at Fairlop. A sign of the times is that this competition was for the 100 qualifiers for selection of the international Wakefield team. Also complaints of reporters and photographers invading the take-off area at the comp. Talk of providing a recovery service in future, allied to competitors failing to put names and addresses on their models.
- Tony Shepherd, Our Chair person, has penned an article on 'the other hobby' theme describing his garden model railway.
- Heard at the Hangar Doors from 1955 informs us that the French Government offers incentives for light aircraft constructors. The FAI conference is highlighted.
- I give a day by day report on my busy weekend in the company of Martin Pike.
- For full size interest I've dug out details of the Grumman J2F Duck. This odd looking aircraft's main claim to fame is its appearance in Peter O'Toole's film 'Murphy's War', a film well worth seeing.
- Barrie Russell, editor of New Zealand's Propwash magazine sent me an email which I felt was worth turning into a short article,
- Engine Analysis features the ED Bee series 2, everyone and his dog must have had an ED Bee at some point in their aeromodelling career.
- Plan of yet another of Ray Malmstrom's master pieces in the shape of his 'Star Fly.
- Roger Newman treats us to copious notes on this that and the other in his monthly report from North Wales.
- Our secretary Ray Elliott treats us to a complete discourse on his aeromodelling from child-hood to date.
- This bumper issue wraps as usual with Roger's three plans for the month.
  A jetex for power, another of Ray Malmstrom's rubber powered delights,
  and a vintage Chuckie, perhaps for the Gavin Manion event later this year.

Editor

Southern Gala Report - Chris Redrup

Sunday 27th July 2025, Salisbury Plain

The weather forecast for the weekend of the Southern Gala was pretty good for both days but Sunday was promised to be marginally better, with light winds from a north westerly direction and little chance of rain, so Sunday was chosen and communicated via emails and an announcement on the FFTC website. A north westerly wind direction at Area 8 means access is easy and the flights should stay clear of the trees, as proved to be the case for almost all.
With the very light wind and an overcast sky, conditions were ideal with air picking during the rounds not too difficult and retrieves were relatively short and easy. Attendance was good, with 21 people flying in one or more class and a number travelling from the Midlands. All the Groups apart from Micro had 6 or more entries, with 17 in Mini, which was dominated by the ever popular E36 class.
A very short, light shower coincided with the first fly off (Mini Group) but didn't prevent an excellent flight by Trevor Grey, who dt'd his model, still at height, when it became difficult to see in the hazy conditions.
All models, including a couple which had landed in trees were safely retrieved and everyone said they had thoroughly enjoyed the day. A special mention must go to Paula Butler, who manned the results table all day, accompanied by her glamorous assistant, Martin Dilly. Thank you both.

RESULTS

Open Group

1st	D. Cox	Crookham	VP	7.30 + 5.15
2nd	P. Watson	Birmingham	BE	7.30 + 5.04
3rd	B. Garner	Birmingham	SLOP	7.30 + 4.57
4th	C. Redrup	Crookham	BE	7.30 + 4.49
5th	J. Paton	Crookham	BR	7.30

Vintage/Classic Group

1st	C. Redrup	Crookham	CP	7.30 + 2.19
2nd	S. Dixon	Crookham	CG	7.30 + 1.51
3rd	D.Cox	Crookham	SLOP	6.23

Mini Group

1st	T. Grey	Crookham	E36	6.00 + 4.36
2nd	P. Watson	Birmingham	E36	6.00 + 3.18
3rd	C. Redrup	Crookham	E36	6.00 + 2.16
4th	G. Madelin	C/M	F1H	6.00 + 1.58
5th	D.Ginns	Birmingham	E36	6.00
	P. Ball	Grantham	MVP	6.00

Micro Group

1st	T. Grey	Crookham	E30	6.00 + 2.59
2nd	I Davitt	Morley	CO2	6.00

Chris Redrup

Southern Gala Pictorial No1 - Alan Brocklehurst

Pete Watson preparing his E36 for the Mini fly-off

Gary Madelin with his F1H in Mini fly-off

Gary Madelin somehow managing to circle-tow in the long grass!
(see later one of him towing and model released)

Ian Davitt flew CO2 in Micro, but had problems in the fly-off (Trevor Grey won with his E30).

A little dampness and dark clouds for the Mini fly-off

Simon Dixon's flew Rudolph Linder's Nordic in Classic/Vintage

Chris Redrup with his BMFA Electric prior to the Open fly-off

Dave Cox launches his Vintage Power Model

Peter Watson launches in the Open fly-off

pictures a little woolly due to weather conditions *Alan Broklehurst*

My Southern Gala - Roy Vaughn

F1J at the Southern Gala

For me F1J is a more practical class now that the number of rounds has been reduced to three. Moreover, it should provide a level of performance that makes it possible to challenge E36's in the mini class under the present rules.

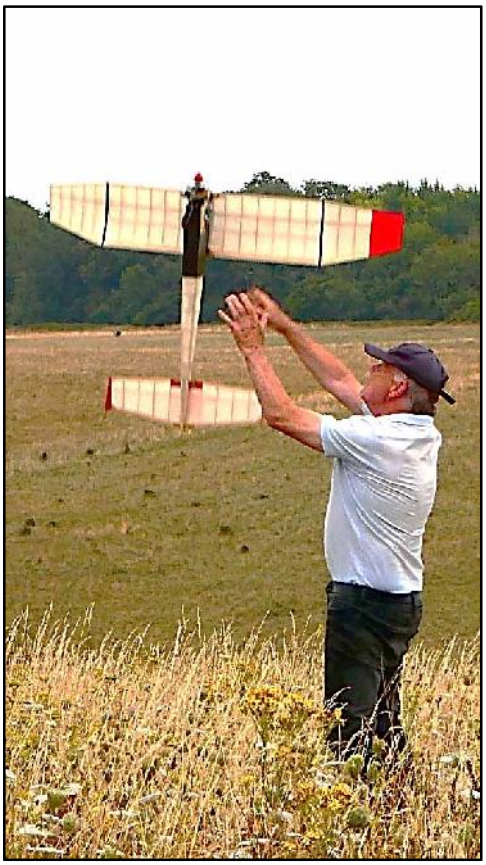
It was a first competition outing for my own design which I call "AG24" after its special ingredient, the aerofoil section. AG24 is a low drag section designed by Mark Drela for discus launched gliders. It seemed to promise good climb and glide performance for a big wing.

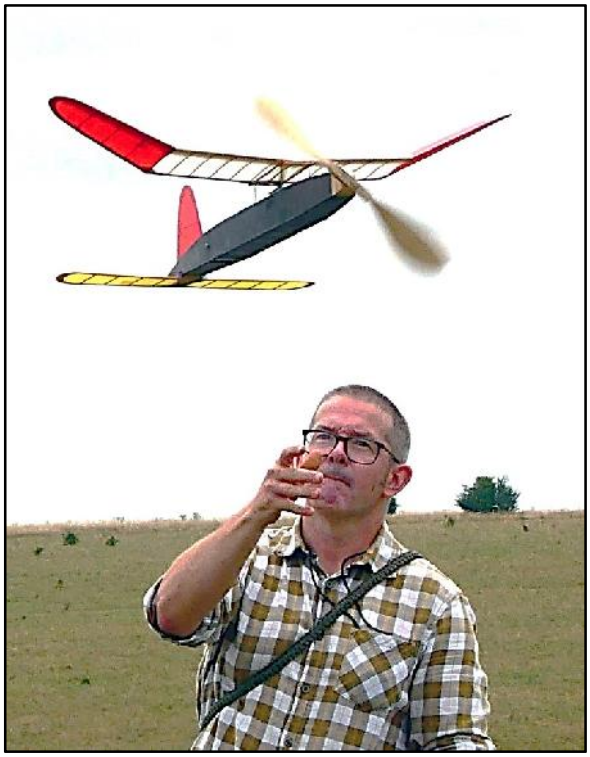
The check flight looked good but the first round was a disaster - the model DT'd at 30 seconds, the timer having not been reset from its trimming value. Old age. The second and third flights were easy maxes off fast climbs with what looked like remarkably slow glides. Although not a competitive success on the day, the result was pleasing, the model seemed to have the hoped-for level of performance.

I timed Trevor Gray's fly-off flight in E36. He contacted the best air, the model made nearly five minutes having been RDT'd down, an excellent flight for the conditions. It was maintaining height at DT, left to itself it would have been good for several minutes more. The BMK GPS tracker put it at just over 2km downwind, remarkable visibility for such a small model. The retrieve involved two cars and four people, several barbed wire fences I am told, and exhaustion! We left the field as the sun was setting. Thanks again to Chris Redrup for laying on an excellent event and good weather.

Roy Vaughn

Southern Gala Pictorial No2 - Martin Dilly





Martin Dilly

Southern Gala Salisbury Plain 27/07/2025

Weather
Midday:- Overcast, 0-6mph, Warm, Dry, Clear.
F/O time:- Overcast, 0-6mph, Warm, Dry, Clear.
One very short, light shower at first F/O.

Psn	Name	BMFA No	Club	Class	Score	F/O	BFFC
Group 1 (OPEN)							
1	D. Cox	73114	Crookham	VP	7.30	5.15	9
2	P. Watson	62397	Birmingham	BMFA E	7.30	5.04	6
3	B. Garner	55805	Birmingham	SLOP	7.30	4.57	4
4	C. Redrup	34457	Crookham	BMFA E	7.30	4.49	3
5	J. Paton	156623	Crookham	BMFA R	7.30	_	2
6	S.Dixon	75247	Birmingham	BMFA P	6.34		1
Group 3 (VINTAGE/ CLASSIC)							
1	C. Redrup	34457	Crookham	CP	7.30	2.19	9
2	S.Dixon	75247	Birmingham	CG	7.30	1.51	6
3	D.Cox	73114	Crookham	SLOP	6.23		4
4	D. Etherton	59852	Crookham	CG	5.26		3
5	C. Sharman	50942	B&W	CG	5.01		2
6	P.Ball	57180	Grantham	CR	5.00		1
7	D. Cox	73114	Crookham	VP	0.20		
Group 4 (MINI)							
1	T. Grey	33877	Crookham	E36	6.00	4.36	9
2	P. Watson	62397	Birmingham	E36	6.00	3.18	6
3	C. Redrup	34457	Crookham	E36	6.00	2.16	4
4	G.Madelin	41080	CM	F1H	6.00	1.58	3
5	P. Ball	57180	Grantham	MVP	6.00	_	1.5
"	D. Ginns	89235	Birmingham	E36	6.00	_	1.5
7	R. Jack	108315	Birmingham	F1H	5.46		
8	A. Brocklehurst	2547	B&W	F1G	5.43		
9	L. Pritchard	234919	South Bristol	MVR	5.21		
"	Sue Johnson	217096	MHMAC	E36	5.21		
11	L. Pritchard	234919	South Bristol	E36	5.19		
12	D. Ginns	89235	Birmingham	F1J	5.18		
13	J. Pritchard	234914	South Bristol	F1G	5.08		
14	R. Vaughn	69977	Crookham	F1J	4.57		
15	P. Masterman	54410	Vikings	MVR	3.34		
16	T. Pritchard	203105	South Bristol	E36	3.32		
17	P. Masterman	54410	Vikings	E36	3.00		
Group 5 (MICRO)							
1	T.Grey	33877	Crookham	E30	6.00	2.59	2
2	I. Davitt	69793	Morley	CO2	6.00	_	1

Topical Twists, Model Aircraft Sep. 56 - Pylonius

Topical Twists
by PYLONIUS

A Speedy End

The model journals have been unkind enough to hint that the speed boys are having it too cushy. They have wildly suggested that the holidays with pay scheme should be terminated forthwith. This seems most unjust. Anyone who flies (sic) a speed model deserves some compensation apart from the usual tin pot and the few meagre pounds which barely covers the cost of engine tuning. There are, after all, only four or so pylon prancers left in the business, and without some sort of inducement such as a free holiday abroad they might not feel inclined to suffer the yoke any longer. And think what a castastrophe that would be to this column.

A Matter of Degree

Contrary to popular belief model flyers are a pretty brainy bunch—well, a brainy bunch, anyway. There are exceptions, of course, but I've always been a good lad to my mother.

I'm reminded of this egghead business by a report that yet another modeller is about to have a Sunday off to take his B.Sc. Come to think of it, though, I can't remember having met a modeller who wasn't about to take his B.Sc. It seems to be a sort of occupational disease, coming on in the late teens and persisting well into middle age. Possibly when the B.Sc. taker begins to get a bit doddery—dragging along his grandson for model retrieving, for instance—I suppose the worried parents take a firm stand and hide the modelling equipment.

A few B.Sc. takers, possibly with an ostrich size in eggheads, do manage to squeeze in the exams. and an odd thesis or two between Wakefields, but when they do their studying is quite another matter. The typical B.Sc holder is to be met at every model event from Land's End to John o' Groats, not to mention a few continental forays. Each time out he has half a dozen new models to his credit—all up to exhibition standard and trimmed to a hair. You're wondering how he manages to squeeze 48 hours into a day, when, lo and behold, you learn that he's just got his degree and is something or other in aircraft. While you're staring at him boggle eyed, he picks up the shattered pieces of his power job and trots off to design a new jet airliner.

Not many years ago anyone trailing a glorious B.Sc. behind his name wouldn't dream of venturing out of doors without a top hat and spats. If, during his evening constitutional through the local park, a vagrant A Frame Pusher was to come within ten feet of his august person he'd be whipping off a stiff letter to *The Times* that very night. Now it is rarely anyone but a B.Sc. or a potential one who ever flies a model plane. A fact which must be quite distressing to the few non-model flying B.Sc.s, striving to live up to the dignity of their high academic status. "Oh, yes. I know a chap whose got a degree. Flies model aeroplanes. Saw him only last week, as a matter of fact, being chased out of a field by a farmer. I think he's a B.Sc.—though that wasn't quite what the farmer was calling him."

Flying Kit

These model flying types just won't leave the poor old kit biz people in peace. Apart from this column, which leads them a dog's life generally, there is a steady succession of busybody characters demanding all sorts of extravagant things from the trade—even kits of models that actually fly!

The latest gent to rear up in righteous anger seems to think that its high time the trade gave up parlour games and turned its attention to model flying. He's already made umpteen frustrating attempts at the bulkhead puzzle. He frankly admits that cutting twenty 1/32 square notches in a bulkhead 1 in. in diameter of substitute teak is beyond his fumble fingered powers. He's also prepared to haul up the white flag to the fascinating problem of covering a wing consisting of two $\frac{1}{16}$ cheesy spars and two 5 in. spaced ribs. All these games might make a welcome change from television and no doubt they keep the kiddywinkies happy on long winter nights, but all he asks is a five bob kit that not only can be built by anyone less than a watchmaking version of Ted Evans but will also stagger across a flying field.

The trade came back at him right away. They wanted to know where he got the ridiculous notion that the kit biz had anything to do with model flying. After all, the kits they produced were selling like hot cakes, even if the flying prowess of hot cakes wasn't all that it could be. Anyone who really wanted a flying model aircraft could copy a plan out of a model book, buy a few sticks of balsa and he's half way (and, in some instances, all the way) to becoming an expert. And let him think himself lucky. Most people in the kit trade, with the possible exception of the designers, were model flyers themselves once. For the sake of old times they aren't going to allow our clear, unsullied airfields to be invaded by a swarm of rampant kit chuckers. Why, if only half the people who built kits were to charge over to the local airfields on Sunday morning you wouldn't be able to move for wreckage.

A Poor Look-Out

Frankly the model spectator is getting more than a bit fed up. All the same old sideshows going through the same old creaking routines with nothing new or exciting in sight. The radio circus puts on the same moth eaten figure-eight act, stunt models look much the same inverted as up the right way, whatever that might be, team racing remains a dark, confusing mystery, and speed models can't be seen anyway. In fact, the situation has become so desperate that, at a recent meeting, a few baffled bogglers were seen to be lurking in the F/F areas. Some abandoned characters even strayed into the remote wilderness of the rubber event, where their presence was viewed with the darkest suspicion. They were taken to be snooping airfield officials on the look out for some booting-off pretext. The rubber modellers, not being used to strangers, felt quite embarrassed. One veteran recalled that he hadn't seen a spectator since the days when they would come by the coachload on the offchance that someone would get a diesel engine started.

The model that this brave old veteran was flying wasn't perhaps of that early spectator vintage, but I'd swear having seen the same trousers and shirt in the pre-diesel era. This raises a vital question. If the novelty glutted public is going to watch some model flying for a change, our F/F scarecrows will have to spruce up a bit. I'm not saying they should go in for shaving, or anything cissyish like that, but the removal of some of that oil-soaked motor cycling kit would improve the appearance of the airfield no end. With the exception of a few devil-may-care types who casually discard their crash helmets when the temperature hits eighty, full riding kit is the established order of things even in a pulverising heat wave. The fact that modellers are becoming more car-conscious may improve things, though the sort of decrepit wreck that is all the vogue is no easier on the eye than the animated bundle of gas surplus clothing.

321

Indoor Isn't for Everyone No.90 - Nick Peppiatt

Calculating centre of gravity positions

As a result of the initial problems I had with the capacitor powered Micro-Starduster, reported in IIFE 66 (NC July 2023), I have carried out further investigations of how the centre of gravity (cg) position of a model aeroplane can be calculated.

A number of what appear to be empirical formulae for this calculation have been published over the years. They are all of the form: -

$$X/C = K_a + K_t \times T_v$$

(1) where X is the distance of the cg from the wing leading edge,
C is the mean wing chord
K_a and K_t are coefficients, and
T_v is the tail volume, = $T_a \times M_a / (W_a \times C)$, where T_a is the stabiliser area, W_a is the wing area, and M_a is the moment arm (or tail arm). In some formula, M_a is the distance between the leading edge of the wing and the leading edge of the tail surface, as shown in the drawing below; in others it is the distance between the quarter chord points of the wing and tail.

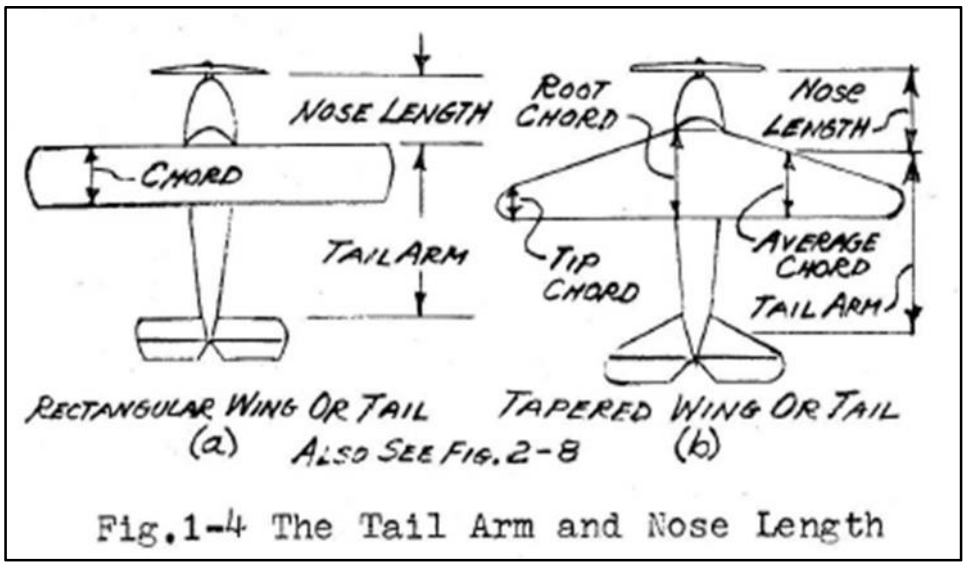


Fig. 1-4 The Tail Arm and Nose Length

Figure above from 'Making Scale Model Airplanes Fly', by Bill McCoombs

In an article 'How to trim free-flight models' by Chris Bashford, published in several AeroModelling Plans Handbooks around 1978-1980 the following formula is given: -

$$\text{C.G. Distance in inches Measured from the Wing Leading Edge} = \frac{\text{Wing Chord (ins)}}{7} + \frac{3 \times \text{Tailplane Area} \times \text{Moment Lgth.}}{8 \times \text{Wing Area}}$$

Dividing through by the wing chord, C, and treating X/C as a percentage, this formula can be put in the same format as equation (1), with K_a = 14.3, and K_t = 37.5, i.e.

$$X/C = 14.3 + 37.5 \times T_v$$

(2) The moment arm here for T_v is between the quarter chord points.
The formula given by Bill McCoombs in his book 'Making Scale Model Airplanes Fly', first published in 1981, is similar to equation (2)

$$X/C = 16 + 36 \times T_v$$

(3) The moment arm used here is the distance between the leading edges, as shown in the drawing above.

In the September 1983 edition of AeroModeller an article by René Jossien was published entitled 'Calculating the correct balance point'. It was a good issue, this one, as there was also the plan for Siegfried Glöckner's Peanut Scale Clutton Fred.

Capacitor powered Micro-Starduster

Clutton FRED Peanut, based on Siegfried Glöckner's plans

René Jossien's formula is as equation (1), but the coefficients K_a and K_t are dependent on the type and design of the model, but they are both typically around 25. Tables are given in the article giving the adjustment values various types of free-flight models.

For the Micro-Starduster, I used K_a = 38 and K_t = 27, as it is a power model with the wing mounted on a pylon. The moment arm is the distance between the leading edges. For details of the tables, I have supplied OEE a copy of the original September 1983 AeroModeller article to be published alongside this one. Unfortunately, there are a few typos. I cannot make sense of his old formula, but this is a minor issue.

The coefficient KT, should be KT = 25 + D + E.

There is a plus sign missing between the 25 and D terms.

For many of the models I have built the McCoombs and Jossien calculations are within a couple of percentage points.

Finally, more recently, Trevor Waters has produced an Excel spreadsheet form, which calculates the position of the neutral point and the cg position for a range of stability margins in accordance with Alistair Sutherland's formulae published in the August/September 1999 edition of Radio Control Jet International. Here, in the formula to calculate the neutral point, K_a = 25 and $K_t = 25 \times A_r^{0.25}$, where A_r is the wing aspect ratio. The fourth root of the aspect ratio is used, i.e. the square root of the square root. The moment arm used is between the quarter chord points. For stability the centre of gravity is necessarily in front of the neutral point. The stability margin is specified as a percentage of the mean aerodynamic chord. As model jets were being considered in the article, the calculation presented also has terms for the effect of such items as long noses, foreplanes and engine nacelles, which are unlikely to apply to the typical free-flight model. Details of Trevor Waters' spreadsheet can be found in an article entitled 'The gravity of the situation' published in the BMFA News edition of October 2021. The spreadsheet form is also described in Trevor's article 'The Controversy over Lifting Tailplanes' in the October 2024 edition of AeroModeller. I should, perhaps, point out that Trevor's views on lifting tailplanes have stimulated some lively correspondence. For instance, please see Peter Martin's letter in the August 2025 edition of AeroModeller.

With its rectangular flying surfaces the Micro Starduster is a nice, simple model to carry out a comparison of results of the various formulae.
The wing chord, C, = 3.73", wing area, W_a, = 73.85 sq.", stabiliser area, T_a, = 22.4 sq." and moment arm, between leading edges, M_a, = 9" (8.63" between quarter chord points).

Source of cg calculation	CG position, %C
Micro-Starduster article	74%
APS Handbook, equation (2)	41%
McCoombs, equation (3)	42%
Jossien, equation (1), K_a = 38 and K_t = 27	58%
Neutral point, Sutherland's formula, K_a = 25 and K_t = 38	52%
Sutherland's formula 5% stability margin	47%
Sutherland's formula 10% stability margin	42%
Sutherland's formula 15% stability margin	37%

Alexandre Cruz's Micro-Starduster plan was published in the April 2019 edition of Free-Flight Quarterly. In the accompanying text a cg position 70mm (2.75") from the leading edge was given. This certainly did not work for me and is considerably aft of the neutral point given by Sutherland's formula. I could get the model to glide well with this rearward cg position, but when power was applied it would dive and not recover. Moving the cg forward to the position given by the Jossien criteria was successful, although this is still aft of Sutherland's neutral point. Clearly, the other calculated cg positions are safe, but they would require considerably more nose weight than I needed to add. The APS and McCoombs formulae correspond to a 10% stability margin from the Sutherland approach. Also, the tailplane is clearly lifting, otherwise it would not turn to the left on the glide with tail tilt.

So, Jossien's approach worked for me in this case, and I have generally found it gives good results. Of course, René Jossien was an extremely experienced and capable free-flight aeromodeller, with many fine published designs to his name. His empirical approach to the calculation of the optimum cg position is, in my view, well worth considering.

Checking the cg position of the Micro-Starduster.
Note the coil of cored solder around the motor as nose weight.

CALCULATING THE CORRECT BALANCE POINT

by Rene Jassien

I CANNOT imagine and this has been true for the past 25 years, that I could go to the flying field with a new model and not know, within a few per cent, the proper location of its correct balance point, taking into account its design and peculiarities and I must say that 'my' early formula for establishing position of the centre of gravity was proven back in 1966. It was successful almost every time: a little 0.5mm shim here or there and the model was adjusted in five or six launches.

Only DOMINO, a Coupe d'Hiver on which I had used thin and very cambered airfoils, had required a second test outing due to warps from dampness. Moving the centre of gravity forward a few per cent and the addition of a turbulator enabled DOMINO to place fourth in the 1959 Coupe d'Hiver, its first competition. That year, my faithful AILBASS placed second to prove it was still in good shape in spite of its six years of age.

Here is my *old formula*, as a reminder:

$$C\% = \frac{K \cdot TA \cdot TM \cdot PS}{WA \cdot WA}$$

C% = position of CoG in % of mean chord.
TA = Tail Area in dm²
WA = Wing Area in dm²
TM = Tail moment (between Wing TE and Stab LE).
PS = Projected Wing Span

K is a coefficient to be chosen according to the wing position i.e. 53 to 58 for a low wing, 60 to 65 for a medium wing, 70 for a wing on top of the fuselage, and 80 for a parasol wing.

New trends since the 1960's

Various changes in the Wakefield rules, especially the reduction of rubber allowance, the use of new Coupe d'Hiver design criteria: large area with a short powerful climb and the reliable launch of gliders into lift, prompted a change in the trimming methods for models. As a general rule and apart from FAI Power, the centre of gravity crept forward noticeably. The reasons can be analysed thus as follows:

In Wakefield, before the shortening of the motor run (due to reduction of motor weight), a high altitude was reached by means of a long run and a good glide was obtained by using a rearward CoG (or was that a misconception?).

Nowadays, one tries to get the best from the 40g motor and in the interests of a good climb, the CoG is moved forward. Following that, the model stays in the thermal it was hopefully launched into.

A forward CoG for a Wakefield model has become common and only on fly-off type models is the more rearward CoG to be found, the modeller then trusting the model more than the conditions.

For Coupe d'Hiver, the CoG is found to be most forward of all classes. From the 70 to 80% of the 50's, it has now moved to 50 to 65 per cent.

Two main reasons for this. First the typical wing area has enlarged from 9dm² to 14 or 15dm² and sometimes 19dm² (Super Trumal: 48 per cent) or even 24dm² (Super Outdoor: 59 per cent). This means that the relative tail area is reduced and makes a forward CoG necessary. Second reason, the large areas mean less camber in the airfoil hence a forward CoG again. With a fixed wing area and weight the Wakefield model did not require a change in camber.

In FAI Power, the reduced motor run and the ability to climb high, allowed the retention of a rearward CoG. The use of variable incidence tailplane also permits this by making a flat bottomed airfoil react like an undercambered one. In this model class, the calculations for the CoG position will have to rely on different coefficients.

Two years of reflection, calculations and checks based on successful models made me come to the conclusion that two coefficients were to be introduced instead of just one as in the early formula. I also proved that the Tail Moment as used heretofore had to be replaced by a dimension I call the Great Moment, (GM) which is not the distance from the wing trailing edge to the tailplane leading edge, but the distance from wing leading edge to tailplane leading edge. (See figure 1).

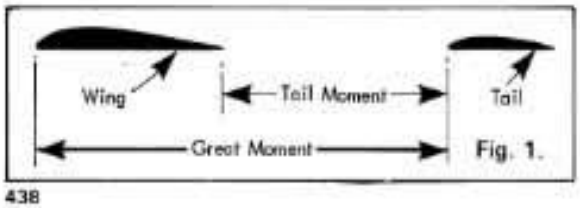


Fig. 1.

The two coefficients to use are related, one to the wing characteristics, the other to the tailplane characteristics.

I am too much of a perfectionist to write down my ideas without a thorough checking. The final formula detailed below has been checked on over 50 models designed by serious modellers with excellent results. The criticism of flyers using a CoG position more than six per cent away from the result of my calculations will not be easily accepted; the formula is not at fault, the model may well not be at the top of its form! The largest variations in Wakefield and Coupe d'Hiver are found on older modellers' models, who have retained the habit of a rearward CoG (are they right or wrong?), amongst them are Goublaire, Wantzenriether, Jessieu, and the most devious of all, Pierre Serres with 5.7 per cent on his Coupe d'Hiver 'ALTUS.' On Wakefield models the largest difference found was 2.6 per cent.

The formula for calculating the best position for the centre of gravity is:

$$C\% = KA \cdot \left(\frac{KT \cdot TA \cdot GM \cdot PS}{WA \cdot WA}\right)$$

In which C% = distance in % of the CoG from the wing mean chord LE.
KA = Numerical coefficient for the wing KA = 20 + A + B + C.
KT = Numerical coefficient for the tail KT = 25 + D + E.
TA = Tailplane area in dm².
GM = Distance from Wing LE to Tail LE in dm.
PS = Projected wingspan in dm.
WA = Wing area in dm².

(For scale models, delete the fuselage width from both wingspan and area).

The coefficient KA (KA = 20 + A + B + C)
A: varies with the wing position relative to the fuselage axis use values as shown

A = + 2 for low wing
+ 3 for medium wing
+ 4 for wing on top of fuselage
+ 5 for small cabane or large dihedral
+ 6 for high cabane

B: varies with the camber of the airfoil off the wing use

B = + 0 for symmetrical airfoil
+ 1 for semi-symmetrical airfoil
+ 2 for flat bottomed airfoil
+ 3 for undercambered airfoil
+ 4 for highly undercambered airfoil

C: depends on the class and the use of the model

	Scale and Peanut Coupe d'Hiver Salmi Class	F1A (Glider) F1B (Rubber) HL Gliders	F1C (Power)
Rough weather or good climb	+ 0	0	+ 6
All weather or medium climb (HLG efficient)	+ 4	+ 2	+ 8
Calm weather or good glide (HLG indoor)	+ 2	+ 4	+ 10

The coefficient KT (KT = 25 D + E)
D: varies with the type of fins used:

D = + 0 central fin
+ 1 small tip fins
+ 2 large tip fins

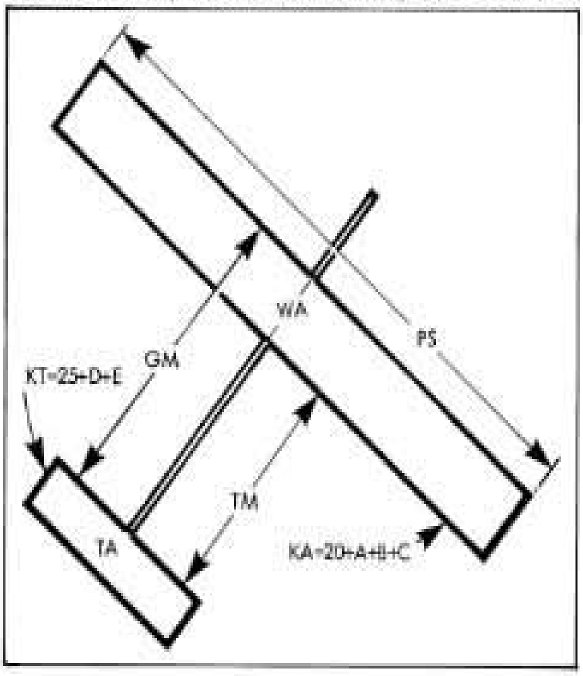
E: varies with the tailplane airfoil section used:

E =	+ 0 for symmetrical	+ 0	If model is very well built
	+ 1 for semi-symmetrical	+ 1.5	
	+ 2 for flat bottomed		
	+ 3 for undercambered	+ 4.5	
	+ 4 for highly undercambered	+ 6	

An example of the calculation

The models are the Wakefields of B. Boutillier and J. Petiot who placed first and second in the 1977 French National Championship. The are both very competent modellers and one can trust that their models are well adjusted.

GOTH-ELAN by B. Boutillier Centre of gravity as used: 75.4%, WA = 16.14cm² TA = 2.81dm² GM = 8.64dm. PS = 17.3dm. Mean chord 95.5mm KA = 20 + A + B + C KT = 25 d + E.
KA? A: wing on small cabane, +5 B: highly undercambered airfoil, +4
C: All weather Wakefield, + 2 KA = 20 + 5 + 4 + 2 = 31
KS? D: Central fin, + 0 E: flat bottomed airfoil, + 2 KS = 25 +0 + 2 = 27



$$C\% = 31 + \left(\frac{27 \times 2.81 \times 8.64 \times 17.3}{16.14 \times 16.14} \right) = 31 + 43.53 = 74.53\%$$

Actual CoG: 75.4% Calculated CoG 74.53% . . . not bad?

LA FLECHE by J. Petiot Centre of Gravity as used 75%
WA = 15.8dm² TA = 3.6dm² GM = 8.03dm PS = 13.5dm
KA? A: wing on top of fuselage, + 4 B: highly undercambered airfoil, + 4
C: All weather Wakefield, + 2 KA = 20 + 4 + 4 + 2 = 30
KS? D: Small tip fins, + 1 E: undercambered airfoil, + 3 KS = 25 + 1 + 3 = 29

$$C\% = 30 + \left(\frac{29 \times 3.6 \times 8.03 \times 13.4}{15.8 \times 15.8} \right) = 30 + 45.33 = 75.33\%$$

Actual CoG: 75% Calculated CoG: 75:33% . . . not bad!

On these two fairly different models, the CoG was located within one per cent. Using this formula the designers will be happy to save time and the neophytes will save a few mistakes.

Here are a few of the checks done on proven models

Class	Model	Modeller	Year/ Country	Actual CG	Calculated CG
Wake	Gnoulal	L. Dupuis	French Champion 1976	69%	69.3[illegible]
Wake	Ki Iti Ki	Paik Chung Sun	World Champion 1975	67%	68.30%
Wake	Mini Ostrogoth	E. Gouverne	Morigny 1976	73%	73.17%
Coupe d'Hiver	Gorlet	A. Merlin	French Champion 1967	59%	59.30%
Coupe d'Hiver	Puss 60s	A. Landeau	Coupe d'Hiver 1967	67%	67.56%
Coupe	Atilans	R. Jossien	Coupe d'Hiver 1984	64%	63.29%
F1C	Sin-Poke	Ch. Martin	USA	65%	67.30%
F1C	BR-26	Verbitsky	USSR	67%	67.09%
F1A	Multi 77	H. Metsch	BRD	67%	66.87%
F1A	Multi 77	Y. Daron	France	60%	59.61%
Wake	Groovy Tuna	J. Davis	USA 75	69%	69.47%
Wake		H. Gevenee	Morigny 75 GiR	70%	70.7%
Indoor	The Time Machine	P. Andrews	World Champion 1972	72%	71.54%

Nick Peppiatt

"It's a noise complaint"

HERE AND THERE

The Editor Comments on Current Topics

WAKEFIELD "100" VENUE Quite a number of letters have been received from Wakefield "100" finalists concerning the organisation and general arrangements. The chief complaint, at least from those outside the London Area, is against the choice of Fairlop Aerodrome as the venue for this important event.

Whilst it must be agreed that Fairlop is not the ideal flying ground, in fairness to the S.M.A.E. Council it should be explained that it was originally intended to hold the trials at Cranfield Aerodrome, the scene of last year's Wakefield Contest. Unfortunately this was found to be impossible as the aerodrome was required for flying purposes on the date of the trials. Kidlington Aerodrome, near Oxford, was next tried, but again the negotiations fell through.

With the finals drawing near the Council had to make a prompt decision and, as at the meeting where this matter was discussed none of the Area Delegates could suggest any other venue, Fairlop was somewhat reluctantly decided upon.

Next year it would help, of course, if the selection of the trials venue was put in hand earlier.

PHOTOGRAPHERS AD LIB. Surprising thing to me was the fact that no protest seems to have been made concerning the number of photographers who invaded the take-off area at the trials. In an event such as this where competitors have so much at stake they should not be expected to fight their way through hordes of camera fans before finding a space for take-off.

Mind you, some of the competitors themselves did not help matters. I saw one chap who arrived on the tarmac with three helpers (one to hold the model, one to light the D/T fuse and one to give the wind direction), *plus* three club-mates armed with cameras!

Next year the S.M.A.E. might well consider issuing press badges to photographers from the aeromodelling and daily press and to recognised agency and freelance camera-men, only those wearing such a badge being allowed on the actual take-off area.

RETRIEVERS I understand that there is a strong feeling that at future trials a recovery service for all competitors should be organised. The provincial flyers are of the opinion that the local boys had a big advantage over them in this respect.

Writing in *Aero Notes*, that excellent little magazine of the Blackpool and Fylde M.A.S., J. Owen, reporting the trials says: "Many of the local chaps, however, were in the position to use cars and motor-cycles or had bands of retrievers stationed down-wind. At times Fairlop resembled a cross between the Isle of Man and Silverstone. This was a great asset to them and, while I don't begrudge them the co-operative efforts of their own club members (in fact I admire them) or the use of vehicles, it does seem that some pooling of resources would even things up a little."

There is a lot in this suggestion and it is to be hoped that it will be borne in mind in future. Incidentally, Messrs. E. Keil & Co. Ltd., again provided one of their vans for retrieving purposes at Fairlop and it travelled many miles during the day bringing back models which had been reported found. This seems to have been overlooked by most people, including some of the officials present!

MODEL IDENTIFICATION It seems inconceivable in these days of high performance models with the urge to pick up thermals that so many aeromodellers fail to take the elementary precaution of marking their models with their names and addresses so that they can be identified if they are lost. This has been brought to our attention by the large number of models which have been returned to the officials at this season's major events and which have been found to be entirely devoid of any means of identification as to who is the owner.

Obviously one cannot expect the finder to go to a great deal of trouble to locate the owner of an unidentifiable model and if you lose your model through not taking the elementary precaution of marking your name and address on it, you have only yourself to blame.

Another point. Do not label your model "Finder

will be rewarded" unless you are prepared to pay such a reward. At this year's Nationals quite a number of fliers seemed rather surprised that the local lads would not part with the models until they had been paid.

R.O.G. v. H.L. Amongst the many area proposals for next season's contests which were discussed at the last S.M.A.E. Council meeting none showed more variation of opinion than those dealing with take-offs. This will be seen from the following list of proposals :

(*a*) Hand-launching shall be optional in all contests. (Midland.)

(*b*) Hand-launching with a penalty of 10 sec. (East Midland.)

(*c*) Hand-launching be permitted in *all* contests. (South Western, Northern, South Eastern.)

(*d*) Hand-launching be permitted in all power duration contests. (London.)

(*e*) Hand-launching be permitted in trials at judge's discretion. (South Western.)

(*f*) There shall be *no* hand-launching. (South Midland.)

(*g*) All competitions r.o.g., but pushing allowed. (South Wales.)

The Council decided to recommend no change in the present rules, but feel sure that we have not yet heard the last from the hand-launching advocates. They claim, with some justification in my opinion, that contests are intended to test a model's *flying* capabilities and not its undercarriage. Also they do not agree that because a full-sized aircraft has to have an undercarriage that a contest model should also be compelled to have one. On the other hand those in favour of retaining r.o.g. claim that there must be hazards in any contest and they consider r.o.g. a justifiable one. In addition it is felt by some that members of the general public who watch contests are far more impressed by a model taking off like a full-sized machine than they would be by the sight of one being hurled into the air. What do you think ?

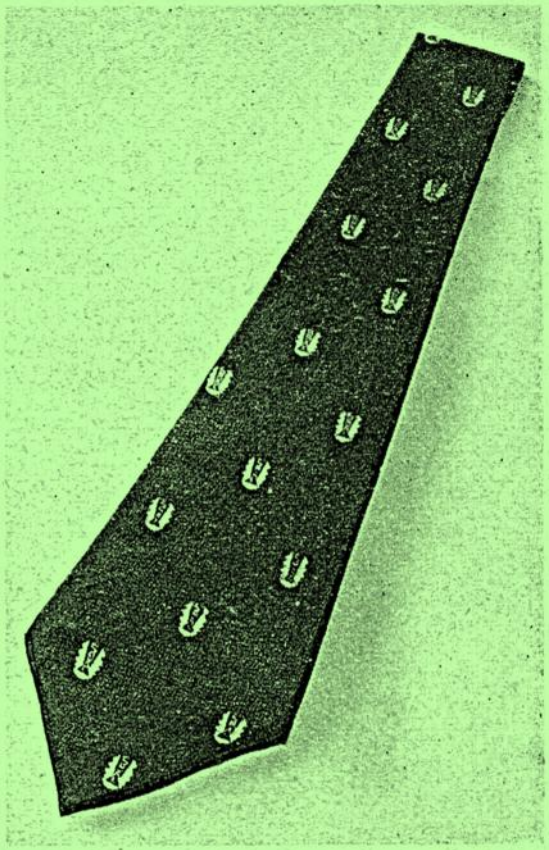
FREE-FLIGHT JET A London model dealer informs us that one of his customers reported to him that a 6 ft. span flying wing jet powered model landed in his back garden at North Finchley recently. The owner of the model, which had been launched from Hadley, near Barnet, Herts, had followed it in a Rolls-Royce car and was on the spot as soon as it landed. It was not possible to ascertain his name and address, but Hertfordshire modellers might look out for this individual and point out to him the very great risks involved in flying jet-driven models in free-flight and, presumably, uninsured.

THE "M.E." EXHIBITION Whilst the continued increase in the sales of MODEL AIRCRAFT gives us a good deal of satisfaction it has also provided some headaches for our production staff. It is now necessary, for example, for each issue to go to press three weeks before the date of publication and this explains why *The Model Engineer* Exhibition, which has just closed its doors, is not reported in this issue.

The October issue, however, will contain reviews of the trade and competition exhibits, together with photographs of the winning models in the model aircraft competition section.

NEW WORLD RECORD We have just learned that a new international altitude record has been promulgated by the F.A.I. This is for rubber driven hydroplanes and was set up on August 18th, 1949, by Mathia Gasko of Hungary, whose model attained an altitude of 939 metres.

THEY SAID "NO !" I witnessed an amusing incident at the Northern Heights Gala Day which is worth relating. Max Coote was endeavouring to clear a space for Queen's Cup competitors to launch their models and after much pleading, shouting and bullying he managed to persuade the spectators to move. All except two large foreign looking gentlemen who stood right in the line of take-off and seemed to be deaf to Max's entreaties. He walked up to them and asked them to move—no response. When tackled they replied, "We are Russians" !



THE NEW S.M.A.E. TIE

Supplies of this attractive tie, which has small S.M.A.E. badges in silver on a royal blue background, are now obtainable from the S.M.A.E. offices. The prices are : Silk 14s., Rayon 11s. 6d.

Another Hobby - Tony Shepherd

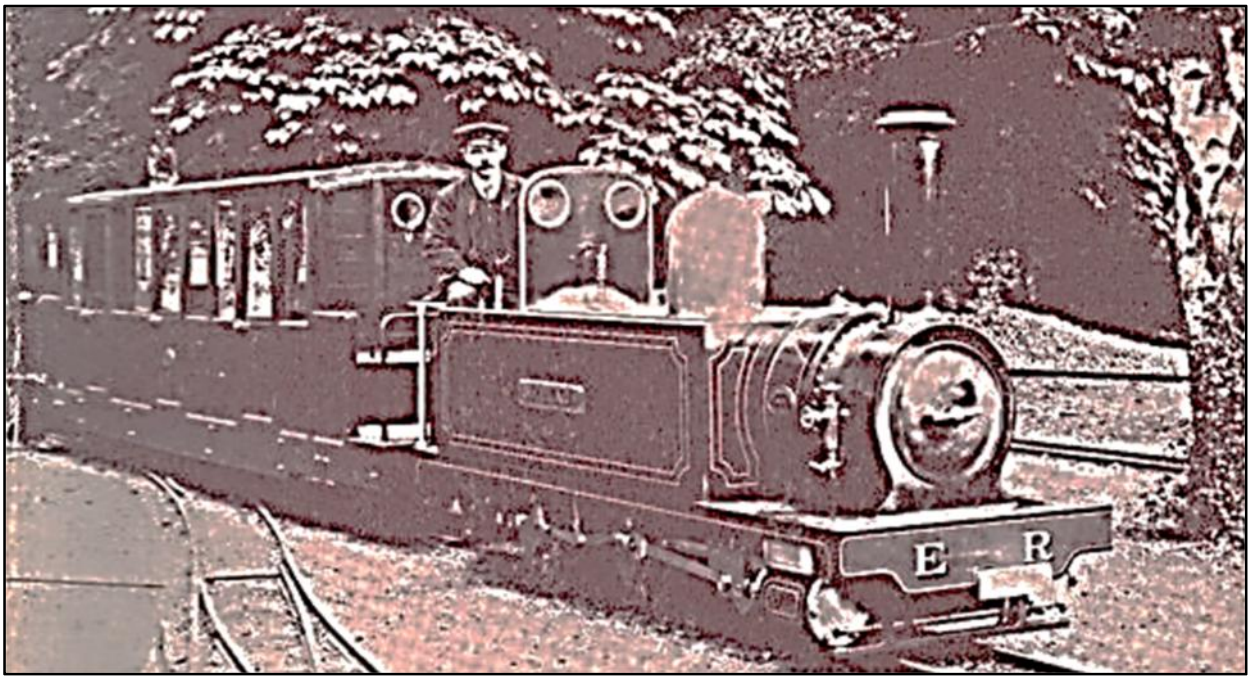
A Bit More For The Board

So the last month has seen me stumbling off in several directions as my modelling head has homed in on whatever happens to have taken my fancy at the time. Those of you that know me or who have read the New Clarion for quite a few years will know that much of my hobby time revolves around narrow gauge railways in both full size and model form. We are fortunate enough to have quite a long garden and over 12 years ago I built a 32mm gauge outdoor railway line which still keeps me occupied both with running and building yet more items for it. If you fancy a quick trip around the line, you'll find a cab ride here

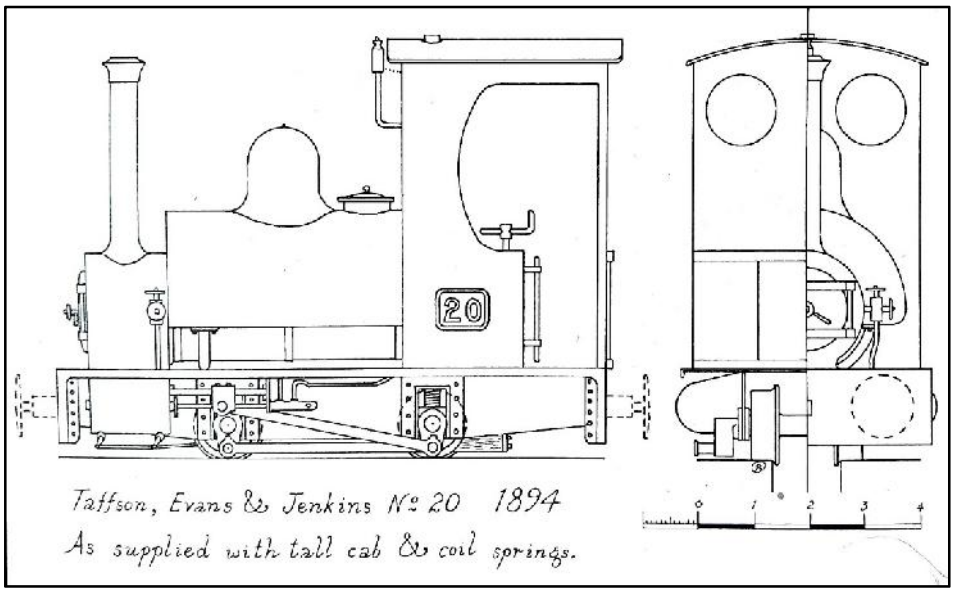
https://www.youtube.com/watch?v=-RXn21QbjHc (control/click)

32mm gauge is particularly useful as it offers several options for running and I operate it as three different scales for sub-standard gauge use. The most common use for narrow gauge modelling uses a scale of 16mm/ft so 32mm represents 2 foot gauge which is the most common full size narrow gauge to be found in Britain eg the Ffestiniog Railway in North Wales. Going up a size we come to 7/8ths of an inch to the foot and here the full size equivalent when using 32m track is 18" gauge. This is nothing like as common as 2 foot but there used to be a few large 18" gauge lines, the most notable being within military and associated support depots like Chatham and Deptford, and following their closure, in industrial and private estate railways. I operate rolling stock in both 16mm and 7/8" scales some of which are scale models whilst others are in the "typical of" category which just come out of my head but look like they could have existed.

There is another scale which I have been dabbling in during the last year or so and that is 1" scale, or to be precise, 1" to the foot. A 32mm gauge line in this scale represents 15" gauge pretty closely and there are still a few full sized lines built to this gauge such as the Romney, Hythe and Dymchurch in Kent, the Ravenglass and Eskdale in Cumbria and the Bure Valley Railway in Norfolk. These lines run with miniature versions (albeit very large ones) of standard gauge locomotives or at least of comparable types of locomotives. But prior to the creation of these a gentleman by the name of Arthur Percival Heywood (one of the English Landed Aristocrats and later Sir Arthur) came to the conclusion that 15" gauge was the smallest gauge which was suitable for use as a working railway not just a pleasure thing. He felt that it was ideally suited to use in private estates using purpose built small locomotives and rolling stock and to prove it he proceeded to built two lines in his own grounds and another, the Eaton Railway, at Eaton Hall, the home of the Duke of Westminster, in Chester.



In practice the gauge never brought the success that Sir Arthur hoped for but despite this there is now a small but enthusiastic following amongst the modelling fraternity. This was further enhanced by the writing, probably in the 1980's, of a book "Slate Railway to Churchwater" by Brian Clarke which gave a detailed account of the rise, fall and subsequent restoration of a small 15" gauge line in Mid-Wales. It includes maps, track plans, scale drawings of locomotives and rolling stock and all the sort of things that modellers love and in recent years some of us have started to recreate it or invent our own similar railways, all of which is acceptable as the Churchwater story is totally fictitious!



So the model making for July has largely concentrated on adding to the stock and personnel that has previously been built for my 1" scale recreation of the (also total fictitious) 15" gauge, Purbrook and Widley Light Railway (Brewery Division).

The locomotive is very similar to those produced for many years by Mamod but subsequently improved versions were manufactured by other small scale concerns. This one was made by IP Engineering and features a higher pressure boiler (40psi rather than the 20psi of the Mamods) along with a higher build standard. They were built for 16mm/ft but by adding some height to the chimney, dome, cab frontsheet and, of course, the driver, something approaching an 1" scale model of a small, 15" gauge estate locomotive can be produced. This one came out of IP Engineering at some stage in the late 90's but I acquired it a few years back and the conversion works were carried out a year or so ago. As for the wagons, they are an ongoing project and various experimental vehicles are underway, based partly on the dimensional details in "Slate Railway to Churchwater" but mainly from what happens to come to mind.

I have to say that this is a wonderful hobby and one which very comfortably shares my time with aeromodelling. Both of them are great fun and that's what it should all be about. And all things being equal, I'll have some aeromodelling activity to tell you about next month.

Tony Shepherd

Heard at the HANGAR DOORS

Home built

In France one is encouraged by generous Government subsidies to build and fly light aircraft. It is quite a natural step to graduate from model building to constructing one's own full-size airframe, and most of the model clubs are in fact allied to, or part of, full size flying clubs. Readers will already be familiar with the shape of the Jodel D.9 Bebe, which is the most popular of the French home-built single seaters and will doubtless recognise the similarity in outline of the two-seater in our heading picture.

It is in fact the Jodel D.11 Club, a side-by-side cabin design for a variety of engines, and F-BBBF happens to be the prototype with a 45 h.p. Salmson radial having 800 flying hours (with the same airframe) to its credit. Jean Delemontez, co-designer with Monsieur E. Joly, is seen returning the Club to its hangar at Beaune after giving us the opportunity of examining the aeroplane in detail. Over 100 of this type have been made in Europe from plans supplied by Avions Jodel.

Honour accorded

As team manager for the British control-line team in Paris, Doug Gordon, Honorary Secretary of the S.M.A.E. was able to receive in person the Paul Tissandier Diploma in recognition of his services to the aviation movement. It was perhaps an act of spontaneous diplomacy that Jacques Allez, President of the Aero-Club de France (*right*) should have called upon Commissar Stepanov, the Russian delegate to the F.A.I. Models Commission and official Soviet observer at the World Speed Championships, to make the presentation. Readers will have to forgive us for the view of Doug's back, but will surely agree that the smile on Mr. Stepanov's face signifies the manner in which aeromodelling overcomes the political boundaries of the world. The same spirit of camaraderie was extended by the whole of the Czech team at the speed meeting.

F.A.I. Conference

READING S.M.A.E. Vice-Chairman Bob Gosling's report of the F.A.I. Conference we found many items of interest to modellers. Firstly it was reaffirmed that no changes in the Sporting Code would be made before 1957. Countries suggesting rule changes should give them a thorough testing nationally before submitting same to the F.A.I. Model Commission.

It was agreed that for control line speed a single control line may be used, providing the minimum section of the wire is equal to twice the *section* of one of the wires in the equivalent two-wire control. With .25 mm. being the standard diameter fo- 2.5 c.c. speed, then for single line we may interpret that .34 mm. would be required. Converted to s.w.g. this means using 29 gauge wire (·0136 in.), while for the equivalent class of model in the U.S.A. it is current practice to use 27 gauge (·0164 in.). With more than 50 feet of line it is difficult to transmit sufficient torsion via "Monoline" on less than 27 gauge, so that the F.A.I.'s regulation would appear suitably practical.

The proposal from the S.M.A.E. to cancel R.O.G. for International contest work met with a mixed reception and was defeated by 7 votes to 5, with 5 abstentions. Great Britain's other proposal to reduce the number of flights from five met with no support whatsoever.

It was agreed to reduce motor run to 15 secs. and towline to 50 metres for F.A.I. Certificates.

The A/1 class glider was not considered suitable for International competition, but a sub-committee was set up to discuss proposals for a beginner's sailplane contest. Any country can submit plans for a suitable model.

A proposal from Denmark that 2.5 c.c. should be standardised for all types of International power championships was agreed. This will be operative from 1956. As the present series of Control Line Speed Championships terminates this year, the decision above will mean that in future there will be only one class, *i.e.*, 2.5 c.c.

It was felt that the faster speeds in Team Racing necessitate longer lines as this reduces congestion and makes passing safer. For this reason, and in view of the fact that the new F.A.I. line length of 15.92 metres (52.21 ft.) had met with general approval, no consideration was given to reducing

line length. (S.M.A.E. line length for Class A racing is 46 ft. 8 in.) Various amendments to the rules were to be put into practice at the Brussels meeting in October and it is hoped that the December F.A.I. conference will then finalise Team Race rules.

The most important amendment was that for marking out the circle in 8 segments. Racers draw lots for starting in 4 consecutive segments (4 racing at a time?) and competitors must refuel in the nearest rearward segment to that of his point of rolling to a halt. If that segment is engaged he can move forward to the next segment.

Presumably this is intended to place a safety take-off gap between racers, an item normally left to the commonsense of competitors and referee in British events.

Continental Trade

In recent weeks we have had the opportunity of taking a look at the model shops in France, Italy and Switzerland. It's amazing how one finds such contrasts in crossing from one country to another. Terrain, supplies and flying conditions change with the language, and if we had our choice should we live across the Channel, we would select the flat calm areas of Northern Switzerland for flying, and the model shops of Italy for selecting our material. Not that the vast spaces in Central France are unattractive, though it did happen to be windy when we were there, but the real bugbear for French modellers appears to be the high cost of supplies, particularly engines.

British balsa is obtainable everywhere, but some beautifully sanded sheet is now imported from the U.S.A. into Switzerland where we find many other interesting items including no less than five different types and sizes of pulse jet, ranging from £5 10s. to £7 each. In most countries there is a greater trade in plans and raw material than for kits, which are in any case limited to those cheaper lines for small scale models, plus a few imported items from the U.S.A. There is nothing new to report and we gather that no spectacular announcements are expected other than a big boost for Super Tigre engines after their performance at Paris.

B.O.A.C. enters the Contest Field

Among the many trophies to be awarded at the All-Britain Rally on September 25th at Radlett are new "B.O.A.C. Speedbird" awards for first places in Class A and B team racing. This marks the entry of a British airline into the aeromodelling world, and we trust that the sponsors will be gratified by the response to their generosity. B.O.A.C. have also offered to take all contest winners of the Radlett meeting on a behind the scenes tour of London Airport—a trip which will be worth winning.

Volunteer Helpers

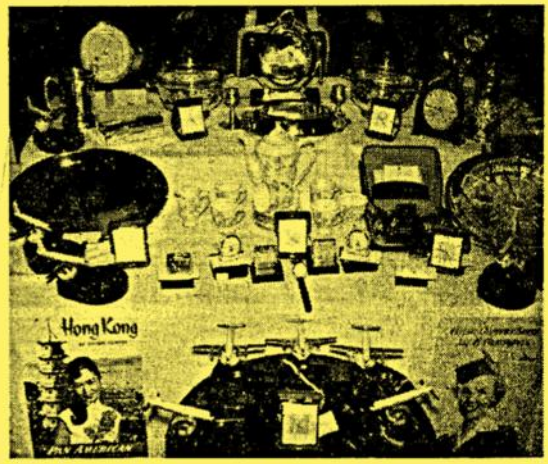
Though age and avoirdupois have long since boosted us from two to four wheels (yes, the three wheeled bath chair comes next!) we take an annual delight in reading the excellent accounts of the Isle of Man T.T. races in the *Motor Cycle*. This year our eye was caught by the following item penned by veteran writer Ixion, and it seemed so parallel to affairs in our own hobby that we reproduce it here in the hopes that some of the points will sink it.

Does it ever occur to you, when you casually scan The Motor Cycle's *reports of weekend motor-cycling fixtures, that thousands of folk must have toiled like galley slaves to make the events a success? The vast majority of the administrators who run the innumerable smaller meets are lucky if they even get out-of-pocket expenses. You may also have overlooked the fact that many of these honorary volunteers are by no means young. A man must have had some experience of command (and also of obedience) before he develops that indefinable gift of authority. But organisers are increasingly disturbed to find that the younger generation dislikes the "chores". I underline this disturbing aspect of the sport at the express request of some of the men who have been bearing the burden and the heat of day for many a year. Such fellows do not wish to be publicised by name, or even to be thanked. But they would appreciate more eager and good-natured help from the juniors whom they hope to train for command in the years ahead.*

"Motor Cycle" 16/6/55.

Granted, we could name a considerable number of old hands who are never seen with a stopwatch in their hand unless it is to check on the official timekeepers; nevertheless the vast majority of competitors found at aeromodelling meetings are in their teens, and it is high time they learned to take their share of responsibilities.

We favour the suggestion of some system of 'time-keeping credits' by which any contestant who cannot prove that he has pulled his whack during a contest is eliminated. The number of volunteers for the important task of clock-pushing is very rarely adequate for the job, and the sooner we adopt some method of coping with the situation the better.



Array of prizes at right are items for domestic decor to be distributed at the Scottish Festival of Model Aviation, Heathfield, on September 17th-18th. The hostesses are not included.

A Busy Weekend - John Andrews

Martin Pike our Webmaster and Membership Secretary stayed with me here in Rugby for the weekend 25th - 29th July and ferried me to three events. It was a bit hectic for me but thoroughly enjoyable as I do not get out much these days.
We went to the air-display at Old Warden on the Saturday, Coventry Gliding Club on Sunday and topped off the weekend with a visit to Buckminster on the Monday.

Old Warden Air-Display

Conditions were ideal and all the old world war one aircraft were flown, bi-planes, triplanes, also a Lysander, Gloster Gladiator and an Avro Anson.

During the afternoon session we were entertained by a lengthy display by the 'Battle of Britain' flight. The Lancaster and a couple of Hurricanes did numerous fly-bys, singly, in twos and threes. A magnificent sight.
Conditions for the evening display were perfect, practically dead calm.
The event commenced with arrival of an RAF Typhoon, it appeared from behind us over the hangars and we did not hear it coming but when it passed overhead the noise was horrendous and it flew on doing flick rolls illustrating its extreme manoeuvrability.
(incidentally the last job I was working on before I retired was the enclosure & circuit board design of the electronic anti-skid braking system for that aircraft. That was over 30 years ago, goes to show how long it takes for a new aircraft to get into service)
The Collection then trotted out all the really old aircraft including the Bleriot. The poor old thing, with its three cylinder Anzani not performing at its best, traversed the strip in a series of hops barely leaving the ground. How anyone dared to cross the channel in one I cannot comprehend. It looks right but needs a good engine.

The really old aircraft in the Shuttleworth Collection

The Coventry Gliding Centre

Sunday saw us parked alongside the road, near Husbands Bosworth, adjacent to the strip, I have never seen so many gliders in one place before.

There were also eight aircraft tugs to launch the gliders. We sat for a while and there was no signs of any activity so Martin drove round and onto the site to enquired as to what was taking place.
He was told that there was a competition on where 60 gliders were to be launched and stacked, then they had to fly some designated triangular course.
Soaring conditions at that time were not suitable but it was expected that they would improve in the afternoon. We then ducked out and went to Kilworth Springs Golf Club a mile or so up the road, a course I'm familiar with from my active golfing days, and had lunch.
We returned to the strip after lunch and things were in full swing. Aircraft towing up gliders one after the other whilst returning tugs landed to pick another glider. It was all go.

Some of the tugs


G-CMEV


G-CMEV


ROBIN
G-JBUZ

To wrap up the weekend we travelled, on Monday, to Buckminster the BMFA HQ and flying field. Unfortunately we took no pictures.

Mondays are recognised as free-flight days and sure enough when we got there, the ever present free-flighters from Peterborough were set up on the FF mown area at the top of the field behind their windbreaks. These guys are some of the competitors I mixed with at the end of my flying career, it was very pleasant to see them again, there was much hand shaking and Martin sat me down in his camping chair with them . If I counted correctly Bert Whitehead shook my hand on five occasions, in the past Bert and I teamed up a couple of times at Peterborough's annual meeting at Ferry Meadows to fly Cloud Tramps, I think he beat me on both occasions. Martin did a bit of 'A' frame flying with the models I acquired when Walsall's Tony Hall passed away.

It took Martin and assistance to get me up from the chair when it came time to leave.

All in all a marvellous weekend, but tiring.

John Andrews

Grumman J2F Duck - Wikipedia

The **Grumman J2F Duck** (company designation **G-15**) is an American single-engine amphibious biplane. It was used by each major branch of the U.S. armed forces from the mid-1930s until just after World War II, primarily for utility and air-sea rescue duties. It was also used by the Argentine Navy, who took delivery of their first example in 1937.

After the war, J2F Ducks saw service with independent civilian operators, as well as the armed forces of Colombia and Mexico.

The J2F was an improved version of the earlier JF Duck, the main differences being a longer float and a more-powerful engine (900 horsepower versus 775).

JF Duck

Grumman JF-2 Duck in United States Coast Guard service

General information	
Type	Utility amphibian
National origin	United States
Manufacturer	Grumman
Primary users	United States Navy United States Marine Corps Argentine Navy United States Coast Guard
Number built	48
History	
Introduction date	1935
First flight	24 April 1933
Variants	Grumman J2F Duck

Development

The J2F-1 Duck first flew on 2 April 1936, powered by a 750 hp (559 kW) Wright R-1820 Cyclone, and was delivered to the U.S. Navy on the same day. The J2F-2 had an uprated Wright Cyclone engine of 790 hp (589 kW). Twenty J2F-3 variants were built in 1939 for use by the Navy as executive transports with plush interiors. Due to pressure of work following the United States entry into the war in 1941, production of the J2F Duck was transferred to the Columbia Aircraft Corp of New York. They produced 330 aircraft for the Navy and U.S. Coast Guard. If standard Navy nomenclature practice had been followed, these would have been designated JL-1s, but it was not, and all Columbia-produced airframes were delivered as J2F-6s.

Several surplus Navy Ducks were converted for use by the United States Air Force in the air-sea rescue role as the **OA-12** in 1948.

Design

The J2F was an equal-span single-bay biplane with a large monocoque central float which also housed the retractable main landing gear, a similar design to the Leroy Grumman-designed landing gear first used for Grover Loening's early amphibious biplane designs, and later adopted for the Grumman FF fighter biplane. The aircraft had strut-mounted stabilizer floats beneath each lower wing. A crew of two or three were carried in tandem cockpits, forward for the pilot and rear for an observer with room for a radio operator if required. It had a cabin in the fuselage for two passengers or a stretcher.

The Duck's main pontoon was blended into the fuselage, making it almost a flying boat despite its similarity to a conventional landplane which has been float-equipped. This configuration was shared with the earlier Loening OL, Grumman having acquired the rights to Loening's hull, float, and undercarriage designs. Like the F4F Wildcat, its narrow-tracked landing gear was hand-cranked.

Operational history

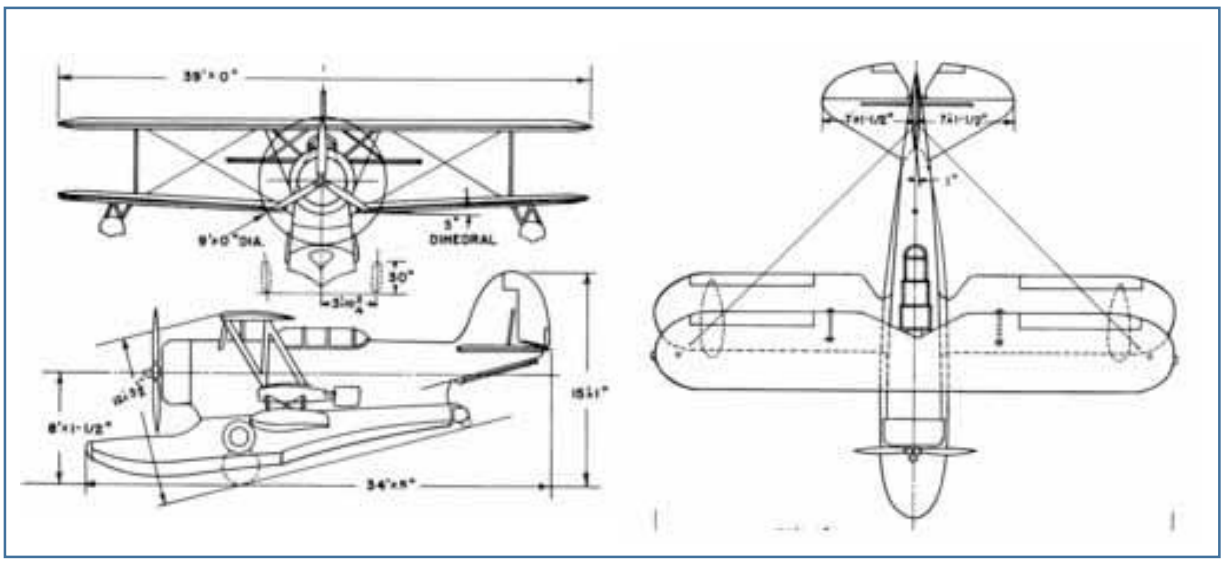
The J2F was used by the U.S. Navy, Marines, Army Air Forces, and Coast Guard. Apart from general utility and light transport duties, its missions included mapping, scouting/observation, anti-submarine patrol, air-sea rescue work, photographic surveys, reconnaissance, and target tug.

J2Fs of the utility squadron of US Patrol Wing 10 were destroyed at Mariveles Naval Section Base, Philippines, by a Japanese air raid on 5 January 1942. The only Duck to survive the attack had a dead engine but had been concealed at Cabcaben airfield during the Battle of Bataan, to be repaired afterwards with a cylinder removed from a destroyed J2F-4 submerged in Manila Bay. Following repairs the J2F-4 departed after midnight on 9 April 1942, overloaded with five passengers and the pilot, Roland J.Barnick, becoming the last aircraft to depart Bataan before the surrender of the Bataan to the Japanese only hours later. Among its passengers was Carlos P. Romulo (diplomat, politician, soldier, journalist, and author), who recounted the flight in his 1942 best-selling book I Saw the Fall of the Philippines (Doubleday, Doran & Company, Inc., Garden City, New York 1943, pp. 288–303), for which he received the Pulitzer Prize for Correspondence.

Variants

2F-3 at NAS Jacksonville in 1940

J2F-6 painted as an OA-12
at the National Museum of the United States Air Force



Specifications (JF-2)

General characteristics

Crew: 2–4
Length: 33 ft 0 in (10.06 m)
Wingspan: 39 ft 0 in (11.89 m)
Height: 12 ft 8 in (3.86 m)
Wing area: 409.0 sq ft (38.00 m^2)
Empty weight: 4,100 lb (1,860 kg)
Gross weight: 5,760 lb (2,613 kg)
Fuel capacity: 150 US gal (120 imp gal; 570 L)
Powerplant: 1 × Pratt & Whitney R-1830 Twin Wasp
14-cyl two row air-cooled radial piston engine, 775 hp (578 kW)

Performance

Maximum speed: 185 mph (298 km/h, 161 kn) at 7,000 ft (2,100 m)
Cruise speed: 155 mph (249 km/h, 135 kn)
Stall speed: 63 mph (101 km/h, 55 kn)
Range: 620 mi (1,000 km, 540 nmi)
Service ceiling: 22,000 ft (6,700 m)
Rate of climb: 1,600 ft/min (8.1 m/s)

Cultural impact

A J2F Duck was used in the 1971 film ‘Murphy’s War’, which includes a spectacular three-minute rough water take-off scene along with numerous flying and aerobatic sequences. The actual airplane used in this film is on display at the National Museum of the United States Air Force near Dayton, Ohio, although it has been restored and painted to represent a rescue OA-12.

Wikipedia

Email from New Zealand - *Barrie Russell*

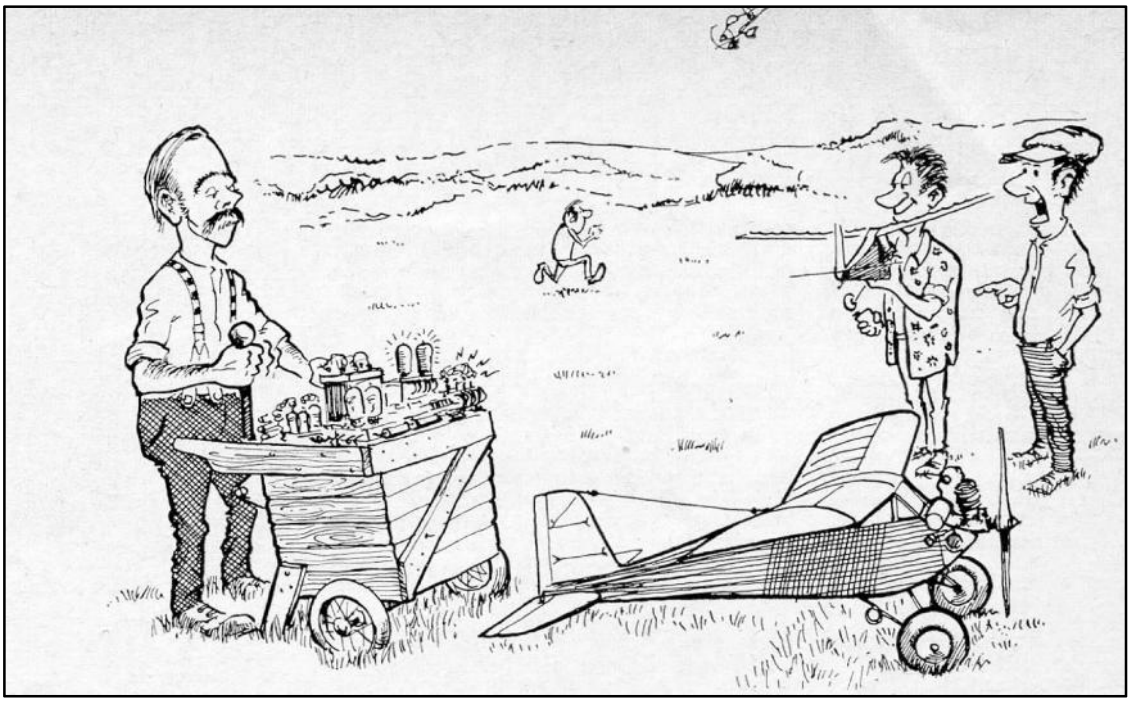
Editor: I received an email from Barrie Russell, the editor of the New Zealand magazine 'Propwash' which had enough content to turn into this article.

Hello John,
Many thanks for your continuing copy, I thoroughly enjoy reading your publications and stealing the odd bit of content.
Winter here so I'm more workshop orientated than out to the flying field.
Been busy building a new Stardust for my Vintage competition, and at the same time re-furbishing my fly away one which fortunately has my contact details in it so at least I got the fuselage back largely undamaged though thoroughly soaked in brackish water !

I have a modelling friend in Christchurch who has just converted an old Guppy 2 channel Tx to 2.4 for me and added a Single Channel sequential push button plus a rotary throttle knob. I'm setting it up in my Senior Tomboy, the plan being to fly it single channel (Rudder) only, but if I get into trouble as I did in the past with the Pixie TX, I'll be able to revert to the other three channels and fly it home. You may remember reading that I lost it on its first test flight with the Pixie Tx and very fortunately got it back after being found by a cyclist on a bike trail about six kilometres away ! I'll send you the article on it once Barry writes it up, as I'm going to publish it in our newsletter.
Yes age waits for none of us, I'll be 90 next birthday and am grateful for still being able to build and fly. Keeping the brain active is the number one priority, you certainly do a great job with the New Clarion.
I'll send you the full article on the transmitter conversion once I have it, hopefully later this month in time for my next issue of Propwash.

In the meantime I'm waiting to test fly the Senior Tomboy with the new gear installed once we get some decent calm weather !! Will be in touch once I've relived the past !
'best,

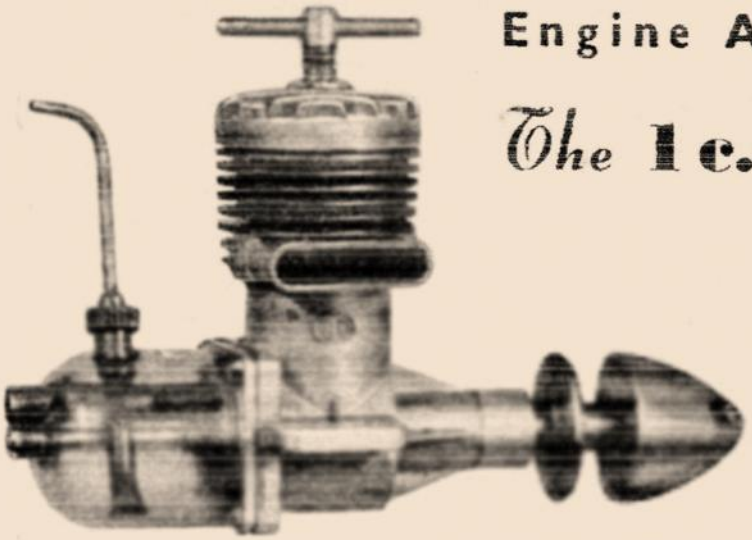
Barrie Russell (New Zealand)



'He's dead against all this commercialism.'

Engine Analysis: ED Bee 1cc series 2 - Aeromodeller September 1955

AERO MODELLER 490 September, 1955



Engine Analysis No. 13

The 1 c.c. E. D. Bee

SERIES 2

Reviewed by

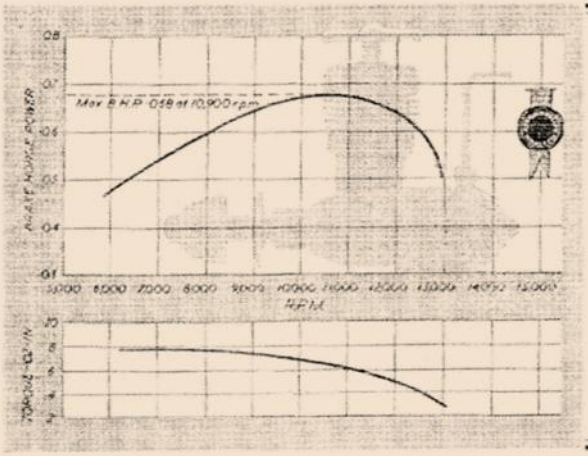
R. H. WARRING

LATEST VERSION of the popular 1 c.c. "Bee" represents, essentially, a thorough "clean up" of the original model. Bore and stroke remain the same (the measured bore actually being a few thou greater on the latest model) but the overall appearance is markedly changed at the expense of an increase in weight of ½ oz. Thus in spite of certain common features, the latest "Bee" is essentially a new model.

External appearance is vastly improved. With all due respects to the original "B", it was a rather crude looking production with the cylinder unit cast integral with the crankcase. In the new "Bee" the crankcase casting is extended only to exhaust level, the cylinder being an integral unit machined from steel complete with its cooling fins. It is secured by three screws through a cast finned head in light alloy, the screws locating in the finned flange at the top of the crankcase casting. The cylinder itself beds down on a narrow flange formed inside this casting against an extremely narrow gasket and is an entirely new design with machined by-pass grooves on the inside opposite the exhaust ports.

The crankcase itself is very much neater, terminating in a square flange at the rear end. The back cover is also square and attached with four screws, instead of screwing in as on the original "Bee". A similar rotor disc and metal intake tube are employed, but it is no longer possible to alter the port timing by rotating the backplate as on the old Bee. The same needle valve and spray bar assembly is used.

The .218 in. diameter hardened and ground steel crankshaft has a .008 in. (total) taper at the front, to which is fitted the bossed propeller driving disc. Boss diameter is ¼ in., calling for this size of propeller hole. An aluminium spinner screws on to the threaded end of the crankshaft, closing up sufficiently to the drive plate to accommodate 4 in. or greater propeller pitches. Finer pitch propellers require either a spacing washer or a trimming of the drive plate boss length for proper grip. There is a generous allowance of metal around the threaded portion of the spinner and so the possibility of stripping this thread is remote,



E-D "BEE"

Displacement: .99 c.c. (.0605 cu. in.)
Bore: .438 in.
Stroke: .40 in.
Bore-stroke ratio: 1.095
Bare weight: 3½ oz.
Max. B.H.P.: .068 at 10,900 r.p.m.
Max. torque: 8 oz.-in at 7,000 r.p.m.
Power rating: .07 B.H.P. per c.c.
Power/weight ratio: .021 B.H.P. per oz.

Specification

Crankcase: pressure die-cast light alloy
Cylinder: case hardened steel
Piston: cast iron
Crankshaft: ground and hardened steel
Con. rod: case-hardened steel

Manufacturers

Electronic Developments (Surrey) Ltd.,
Villiers Road, Kingston-on-Thames
Retail Price: £2. 15. 0.

with normal usage (often a failing with this type of alloy propeller nut).

The crankshaft web is a pure disc .110 in. thick with an integrally machined crank pin .140 in. diameter. The cast iron piston has quite thick walls and the connecting rod is case-hardened steel. Rotational unbalance, therefore, is on the high side, but since the stroke is short, vibration is not excessive at normal operating speeds. This is undoubtedly one of those engines which will give its smoothest performance with a slightly unbalanced propeller, the heaviest blade being set opposite to the piston at top dead centre. We had a certain amount of vibration trouble during the test runs, both with the eddy current dynamometer and a sensitive reaction rig and it would appear that fairly generous bearer sizes are required for rigid mounting, particularly as the integral tank gives a considerable overhang.

We found the new "Bee" very easy to start and adjust. Priming through the exhaust produced rather easier starting than finger choking, although this operation is made a little difficult by the presence of the exhaust stack. Two generous size exhaust ports are cut in a groove machined in the cylinder proper, facing the exhaust stack cast in with the main casting and ejecting on the right hand side of the engine. The tendency is to overprime, but the engine will normally fire straight away, although indicate that it is overcompressed. Slackening off, re-flicking and taking up the compression again as the engine gets running, is best procedure in such cases.

With finger choking we found it necessary sometimes to increase compression slightly to start, re-adjusting almost at once. A particular virtue is that the "Bee" will start over quite a wide range of compression settings according to whether the engine is over or under primed and can then readily be adjusted to consistent running.

Yet it can be stopped quite easily by slackening off the compression one quarter to one half turn.

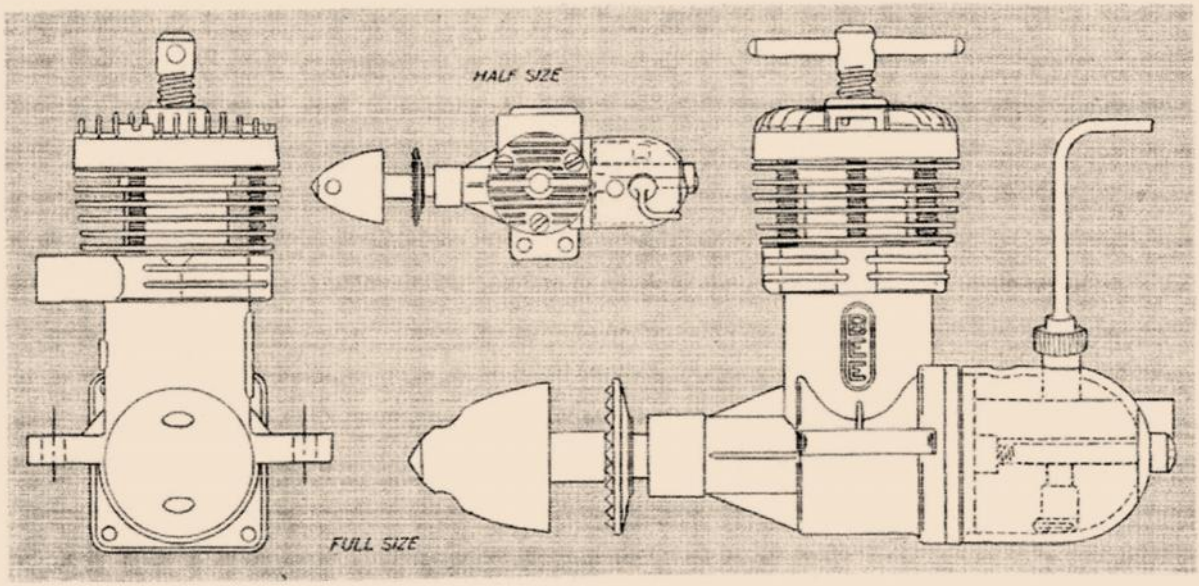
The needle valve control is quite responsive. The recommended setting was one turn open, but we found for small propeller loads that the needle had to be closed right down for optimum "lean" mixture. With all loads, however, opening up the needle valve produced a definite throttling effect, the engine speed dropping slowly and progressively with increasing rich mixture and with steady running maintained all the time. It is quite easy to run this engine too rich without realising it when a further closing of the needle valve could increase speed appreciably. For sports flying, in particular, it would probably be an advantage to run slightly rich rather than lean.

With smaller propeller loads, we found a tendency for the "Bee" to run a little erratically, but this was traced to the head having worked loose. If the head screws are checked after the initial runs and tightened down when hot, this trouble is unlikely to occur. But check this point if the engine does not hold a consistent speed with a particular propeller load. At very high speeds we found it impossible to adjust the compression to eliminate missing, using normal commercial fuels. This effect is more pronounced on some fuels than on others. It could undoubtedly be cured by increasing the nitrate content of the fuel but essentially the "Bee" appears to be a moderate speed engine.

PROPELLER-R.P.M. FIGURES

Propeller dia. x pitch	r.p.m.
8 x 4 (Stant)	7,900
7 x 4 (Stant)	9,500
6 x 4 (Stant)	10,750
6 x 4 (E-D plastic)	11,800
6 x 3 (constant g.m.p.)	12,200
7 x 5	9,600

Figures approx. common to E-D, Mercury No. 8 & Allbon fuels.



The torque and power curves established are representative of normal fuel running, no marked differences being shown with a range of fuels tried.

Peak horse-power was established at 10,900 r.p.m. and of somewhat moderate value for an engine of this size. As mentioned previously, the vibration level of the tests was somewhat higher than normally considered desirable and undoubtedly a better B.H.P. figure could be achieved under what we could term "laboratory" conditions as opposed to representative practical operating conditions. Maximum torque is sustained well over the 6–9,000 r.p.m. range, and up to the 10,000 r.p.m. mark running is particularly consistent and the controls most flexible. As well as being responsive to the controls, both the compression adjustment and needle valve are easy to grasp and adjust and well clear of the propeller.

We would say that to get the best out of a new "Bee", a careful, and if necessary prolonged, running-in period is necessary. Even after an hour's initial running there were still obvious signs of friction leading to a hunting tendency at high speeds and the main bearing still lacked a smooth, polished appearance. It is an engine which will certainly pay for running in for it is sturdy enough to last a lifetime.

Apart from its lack of high speed performance, its weight also classifies it as a sports type engine, for 3¼ oz. is quite a high figure for an engine of this size. The cylinder, incidentally, accounts for 1 oz. of this figure.

For free flight power work, a 7×4 propeller should give about the best results, equivalent to a flight operating r.p.m. slightly in excess of 10,000 r.p.m. A 6×5 or even a 7×5 might be tried for control line work. An 8×4 could be used for free flight work to operate the engine in the region of maximum torque and take advantage of any increase in propeller efficiency given by the larger diameter. Running was not particularly satisfactory on the 6×4 plastic propellers tried (which in any case are normally intended for a smaller engine).

The fact that the "Bee" is fitted with an integral exhaust stack limits the exhaust spray to the right hand side of the engine and also means that it could effectively be coupled to a silencer for quiet running, not that the "Bee" as it is, is a very noisy engine. Had "open" exhaust porting not become so universally popular, we might have seen some concrete attempts made to silence model engines and eliminate the chief cause of complaint against the flying of control line models in built-up areas. Ignoring questions of efficiency, the only practical objection to the integral stack on the "Bee" is that it limits the length of the mounting bolts which can be fitted in the lugs to ⅝ in. maximum, if mounted head up, or prevents a box spanner being used to tighten up the nuts if the mounting bolts are fitted head down. A shorter stack or a rounding of the ends would have eliminated this criticism.

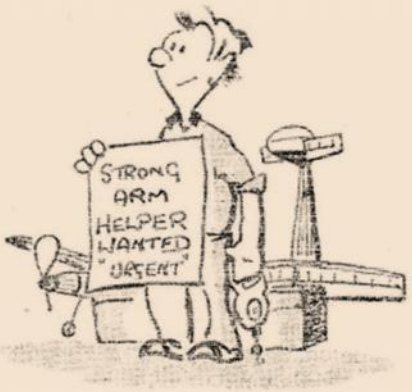
Our overall impressions of the engine were most favourable—an excellent little power plant for sports models of all types, but watch the weight factor if you are using it to replace a much lighter engine on a standard design. And do not take it apart unless you really have to. The cylinder gasket is already marginal in size and all too readily damaged. The cylinder is automatically aligned when replacing by positioning the exhaust ports opposite the stack. A certain amount of exhaust is free to bleed around the cylinder and can escape via small cut-outs in the top of the main casting, so do not be too worried at seeing dribbles of dirty oil appearing here.

What's the answer?

Harry was the club "Handyman", always around to lend a hand to hold a rubber model for winding up or a glider for launching. But he was always a bit dubious about holding George's Wakefield.

"Can't understand it", he said to one of the club's other Wakefield fliers. "When I hold for you I never get pulled all over the place. Yet I know you put on more turns. I've counted as you both wind."

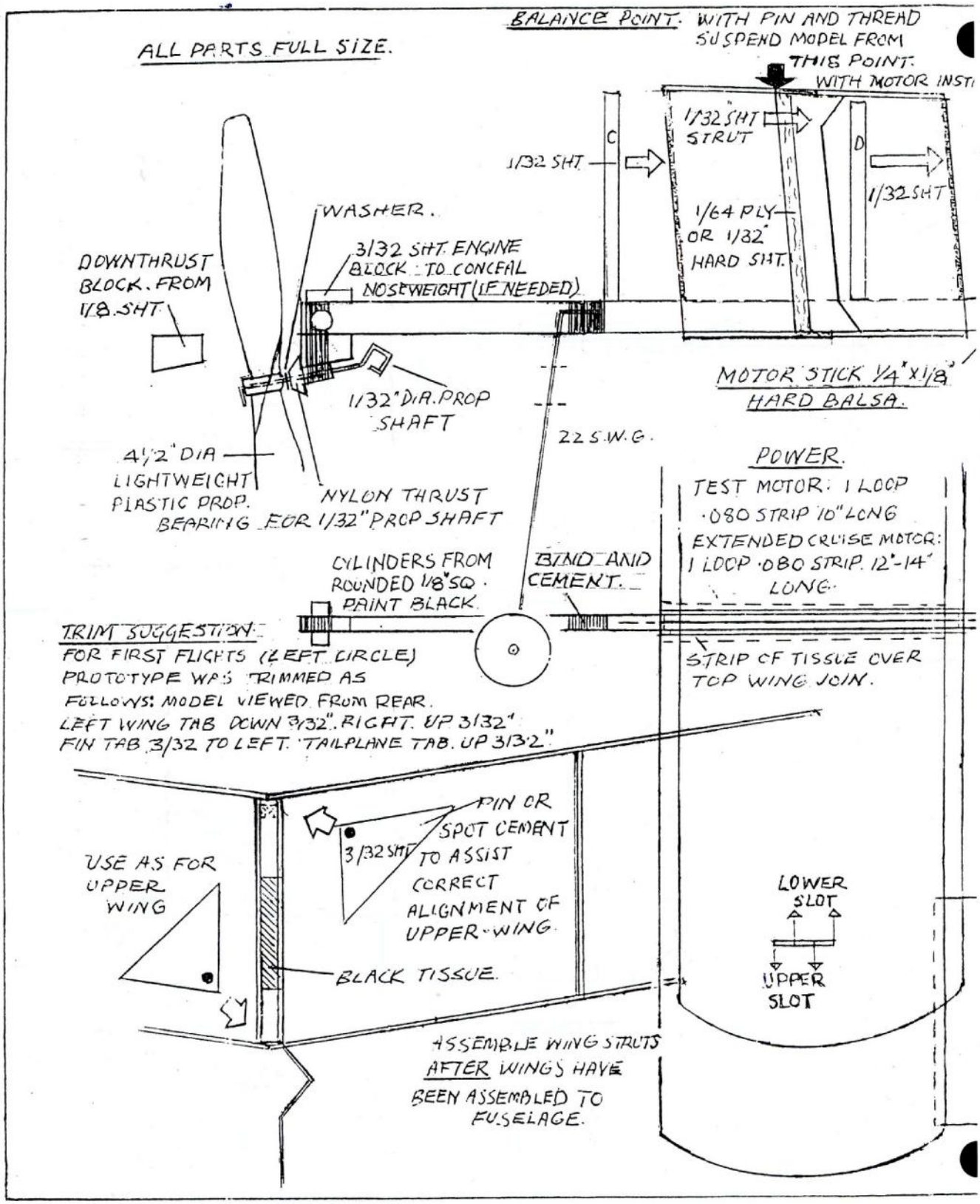
Obviously George's winding technique was wrong somewhere, but why?

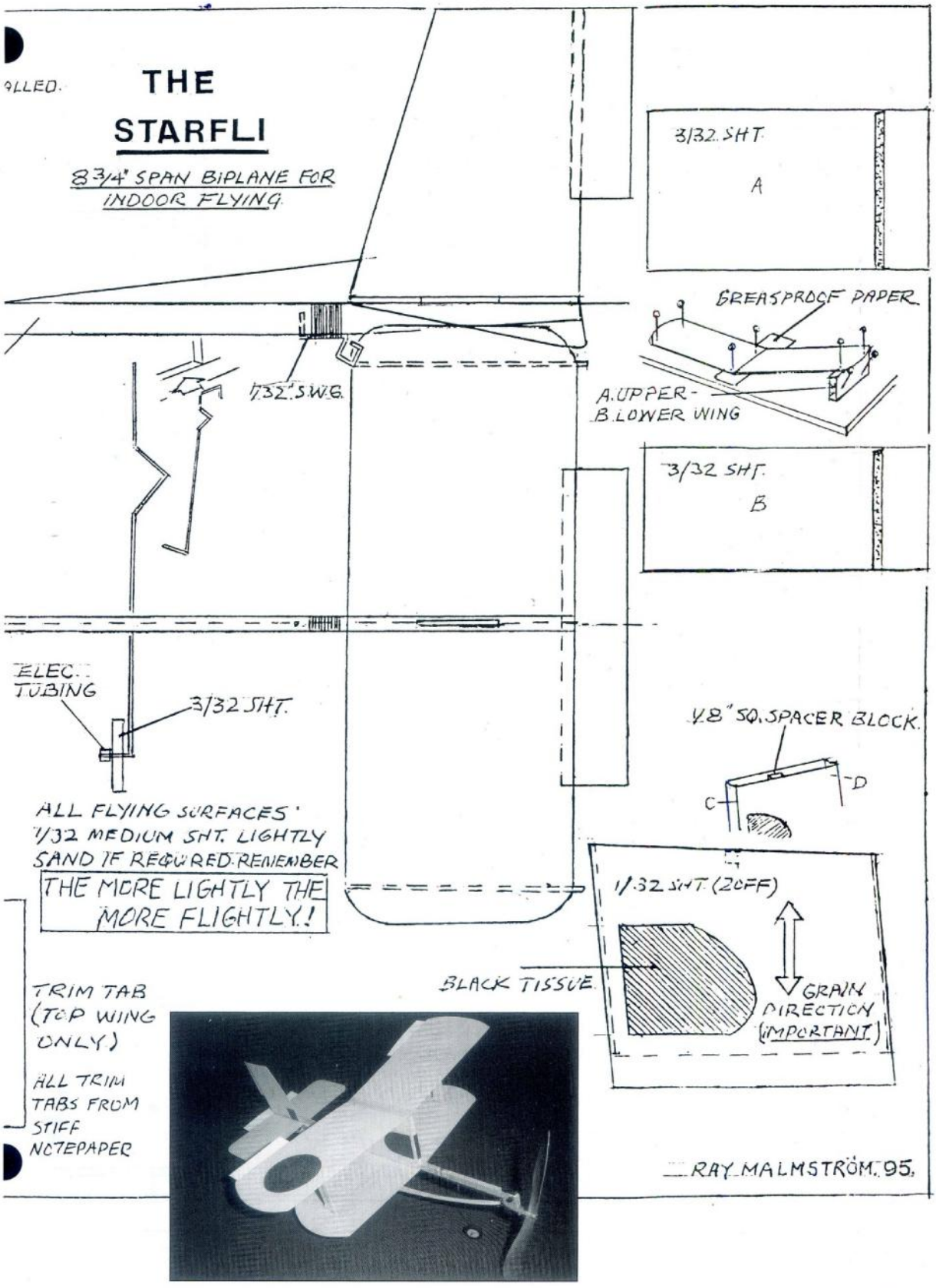


What would YOU do in a case like this? Think a moment, then twist the page for the solution to the problem which is printed below

Star Fly - Ray Malmstrom

From the book 60 years of IVCMAC, courtesy Chris Strachan





87

From the book 60 years of IVCMAC

Ray Malmstrom

Notes from North Wales - Roger Newman

Occasional Notes from North Wales: September 2025

Very nice to see another excellent NC edition. We do owe a huge vote of thanks to our Hon Editor for the effort he puts into the magazine every month..

"Highlight" thus far into the current month for me has been a visit to RAF Cosford Museum. Highlight in as much that it is quite a while since I last visited, however I do have mixed feelings about the place. There are some wonderful exhibits on display, but - in my view & I am sure there will be others who disagree, too much on show in too small a space. This coupled with inadequate signage on many exhibits greatly detracts from the overall quality that makes a great Museum. Be interesting to hear experiences from any other 1066 members who have made the visit to Cosford.

The mighty AVRO Vulcan, once seen in flight – never forgotten.

Back end of its compatriot – the Handley Page Victor.

Quite how they built & flew them out of Radlett all those years ago is amazing. Airfield of the All-Britain rallies long time past.
A few of the aircraft on show – highlighted by all three V-Bombers clustered in a single group & one of the two TSR2 survivors.
Coincidentally, I'm most of the way through the Crowood Press book on the TSR-2 project, it makes for fascinating reading.
Could be a really good model for the LMA guys?

Interceptor role for the English Electric Lightning – suspended from the ceiling!

The one that might have been

& the other end!

One of the two TSR2 airframes left, the other is at Duxford. killed by politicians following program slips & cost escalations.

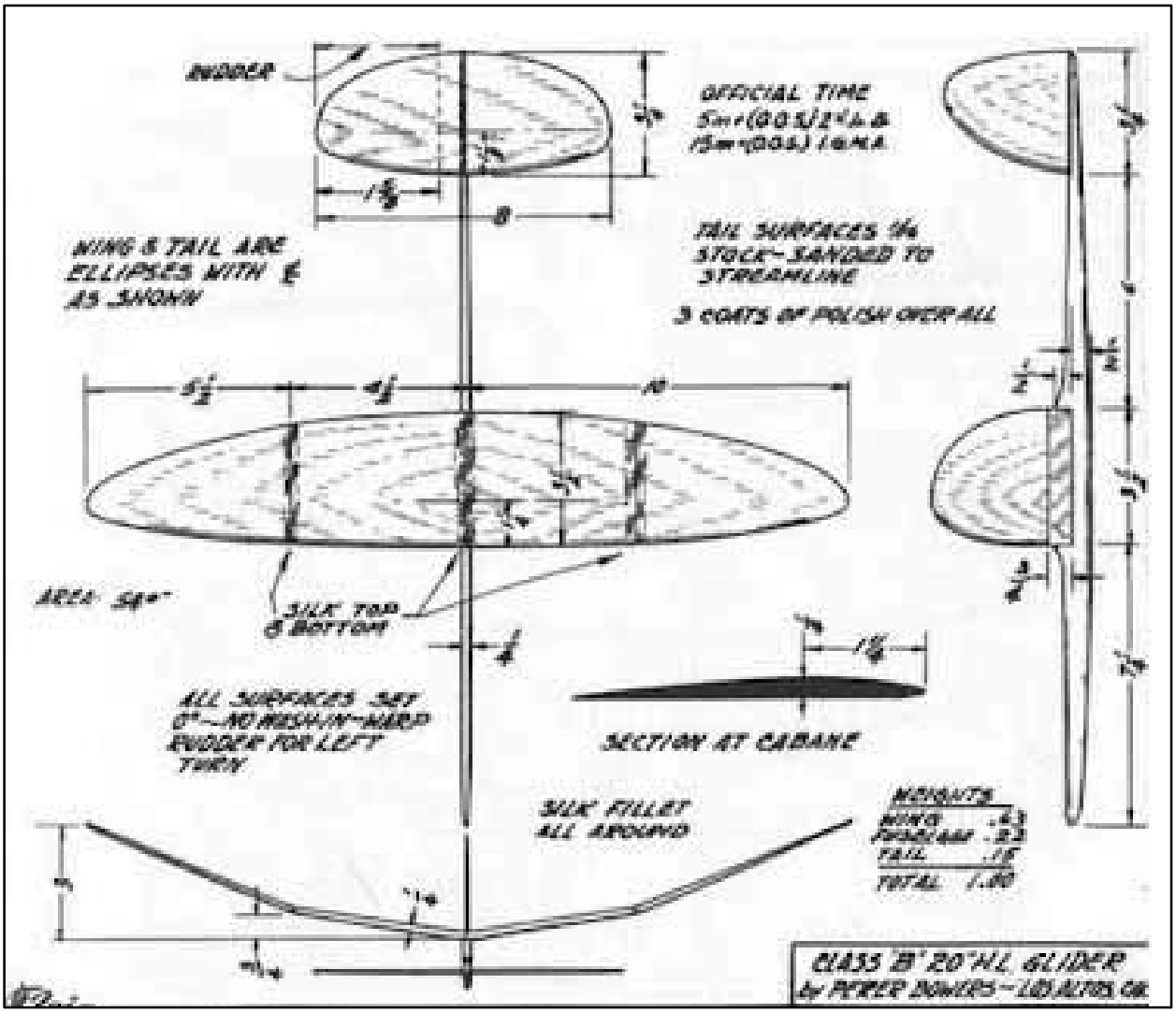
A model of the Vickers Swallow, submitted as a proposal by Vickers as one of the competitors to the TSR2 bid. Designed by Barnes Wallis & years ahead of its time in concept.

Another from the old English Electric stable – modern day Typhoon

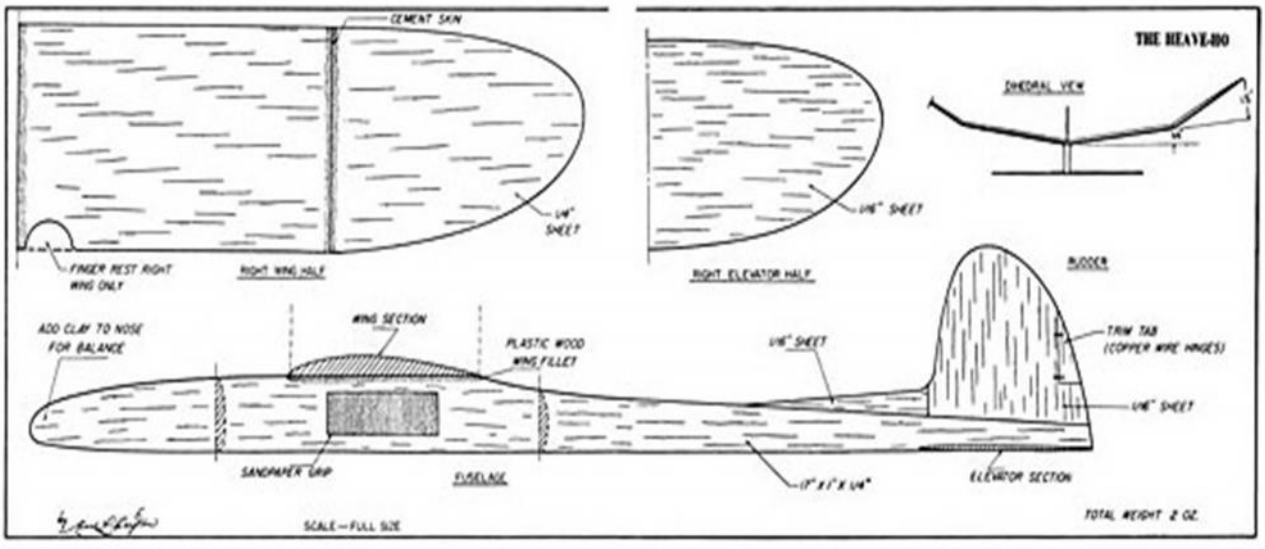
& finally, one of the iconic post war designs – the Hawker Hunter

On to topics aeromodelling & Gavin's comments about a comp for vintage chuckies.

A possible candidate is the Bowers 20" model, published in the 1930's.



Another is the Heave Ho from 1950.



It would be good if I could find the energy, time & inclination to have a go at his comp in Nov.. We shall see.

Also of interest was our Hon Sec's piece on alternative hobbies/pastimes. Jam making is indeed a fruitful therapy as the end product is (usually) most enjoyable. Our participation is to make marmalade when Seville oranges become available. An old brass jam panful produces 12 jars that keep us going through the year.

The past few weeks have seen a plethora of proposed new rules & regulations concerning eVTOL & drone craft. These appearing from the FAA, the EU & the CAA. The BMFA indicates that very little affects modellers. However, reading between the lines, Dave Phipps is probably fighting an uphill battle with the CAA to keep us on an even keel. The 250 gram boundary has been reduced to 100 grams & there appears a inferred push towards designated flying fields. Extracts from the latest on-line BMFA News: *(CAA proposal: It is also proposed to amend the weight threshold for exclusions from Flyer ID and Operator ID requirements in the Open Category from 250g to just 100g, and will exempt most model aircraft from the requirements for Remote ID subject to the following three provisos (Section 5.11):*

1.The remote pilot has an active membership of an Article 16 authorised model aircraft flying club and is operating within the rules set out in that regulation.

2.The UAS meets defined criteria for a low-risk model aircraft – i.e. excluding commercial UAS or hight(?) sophisticated Model Aircraft platforms; and

3.The flight takes place within the bounds of a model aircraft flying site declared by a model club in their Article 16 Authorisation)

Neither free flight nor Country Members get a mention anywhere that I can see. Interpreting proviso 3 above appears to mean that if you are a BMFA member but not a Club member & fly in a local farmers field, remote ID is mandatory! Looks like a case of carrying on & keeping under the radar, which is also the feedback I get from colleagues in the USA, where designated airfields & remote id are being enforced by the FAA. No doubt draconian laws will be drafted as a deterrent?

The European Air Sports (EAS) organisation reports a notional 10% reduction in membership of model associations across Europe as a consequence of regulation & has an interesting article in its latest edition.

All these documents can be accessed via the following links should there be sufficient interest!

The EAS Newsletter: EAS Newsletter Summer 2025_0.pdf
The CAA proposed changes: https://www.caa.co.uk/publication/download/25025
BMFA Issue 186 (latest) Newsletter: Issue 186 - Final (page 20)
EU: moc-5_sc-vtol_-_issue_1_consultation.pdf
FAA: Fact_Sheet_BVLOS.pdf

The vast majority of content of these documents makes for extremely turgid & largely incomprehensible reading.

Turning away from heavy & overbearing bureaucracy to something a little more interesting & a somewhat different slant on flying vehicles. Hybrid Air Vehicles, based in Cardington, has a somewhat chequered history to be polite. Wikipedia relates it very well – see Hybrid Air Vehicles – Wikipedia. The Company occupies one of the old airship hangers at Cardington, home of the R101 & in more recent times some excellent indoor flying activities mainly organised & run by the late Laurie Barr.
Now of course "out of bounds" to such activities.

Airlander 10

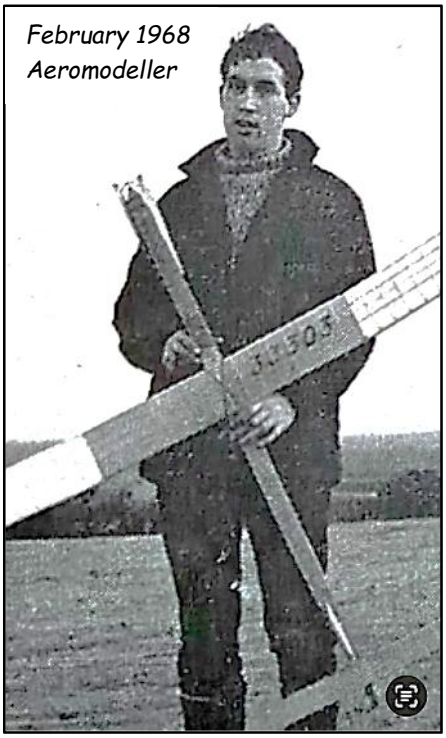
There is a quite recent interesting press release concerning possible operation in Scotland later this decade. See Six Airlander 10 Aircraft to Enter Service in the Scottish Highlands and Islands - autoevolution – whether it will happen is a mute point. One can only wonder & doubt? The certification process has been started with the CAA. Airlander 10's first flight is planned for 2026 and its entry into service 2028, with the obvious caveat that certification is achieved in the requisite timescale. It will be the first large aircraft the UK's CAA has certified since 1979.

Model Aircraft published a plan for an unorthodox model of an "airship" - Windbag.
One appeared at Middle Wallop many years ago, under power – sort of OK but the glide! Left a lot to be desired.

Tailpiece

On that happy note, plans for the month follow Secs. notes. *Roger Newman*

Secretary's Notes for September - Ray Elliott


February 1968 Aeromodeller

As you read this, I'll have just had my 80th birthday so I thought it might be a good time to reflect on my nearly 70 years of aeromodelling.

I can't remember exactly how I got interested in model aeroplanes, but I do recall being given a World War 2 spotters handbook with profiles of the many aircraft flying at that time. This led me into building 1/72 scale models of WW2 planes, both solid balsa and Airfix. I think my results of the former were quite crude and, to this day, I've never considered my building skills good enough to build scale models, so I truly admire the efforts of those who create these masterpieces.

Somewhere along the line I joined the Portsmouth club and started building free flight models. My first effort was a Keil Kraft Ajax, which I did at least manage to get to fly. This was followed by a few other similar models and then around 1960 I designed and built a 40 in span Open Rubber model with a single blade prop. I was quite pleased with the way it flew and from then I carried on designing and building my own Open Rubber models. I also slipped in a few Power Models, again mainly own design but also a couple of Dixielanders. My first win in a contest, for Open Rubber, was in 1962, flying at Beaulieu.

This was a time when Chobham Common was probably the most popular Free Flight site in the country with, it seemed, a contest almost every Sunday.

In 1965 I decided to have a go at F1B and came up with a model based on a design by Pentii Alto from Finland. This trimmed out quite easily and I had reasonable success with it. One contest I remember clearly was the 1967 Trials at Topcliffe. It was breezy and then started raining; a hold was put on flying and I remember Ray Monks saying he wouldn't mind if the comp had to be cancelled. He was leading in all three classes at the time!

In 1968 I joined the Croydon club, and I have been a member ever since. At the time it was one of the most successful Free Flight clubs in the country, winning the Plugge Cup numerous times as well as having many individual successes. One example comes to mind: at the 1972 trials for the World Championships 5 of the top 8 places in Wakefield, including all 3 members of the team, were taken by Croydon members (I was 8th).

(1972 was also the year I got married and passed the Professional Examination to become a Chartered Civil Engineer).

Throughout the 70's and for many years thereafter my main interests continued to be Open Rubber and F1B although I did manage to build a couple of Coupes and even an F1A (with which I won the Southampton Gala in 1978 and came 9th out of 152 at the last Pierre Trebod comp in 1981). This model was essentially a copy of Elton Drew's Lively Lady with a few minor mods. It is probably the best gliding model I have ever built. Great wing section. However, I have never built another F1A – let's just say that, notwithstanding those early successes, glider flying and I don't get on very well.

This must have been quite a successful time for me by my standards as I also won F1B at the 1976 Nationals and was 4th in Open Rubber at the 1978 Nationals.

Throughout the 80's, 90's and into the 2000's I continued to fly mainly Open Rubber and F1B plus more Coupe. Then, around 2005 I "discovered" Vintage and SAM1066 and SAM35 and it wasn't long before I built a RAFFV and then, courtesy of John Hook's emporium, a Lanzo Stick from a Lee Campbell kit. The following year it was another RAFFV, a Lanzo Classic 8oz Wake

and a Joe Bilgri 1955 Wake. I remember those great days at Middle Wallop, particularly the Euro Champs.

In 2013 I was encouraged to have a go at E36, building a Satellite and Nig Nog. I was very taken with how well they flew and the Electric Classes, except for E30, have become my main areas of interest. I've had a couple of significant wins; the inaugural F1S contest at Moncontour in 2015 and F1Q at the Nationals in 2022.

Looking back over the last 70 years there have been numerous changes to our hobby/sport, including the removal of the builder of the model rule resulting in the growth of "factory" built models, the extensive use of high-tech materials, and rule changes to reduce model performance, but the most significant is the massive drop in the numbers of people participating. I browsed the results of comps from the 70's and as examples here are the number of flyers in 2 comps in 1978.

2nd Area Open Glider 124 flew

Nationals Open Glider 139 flew

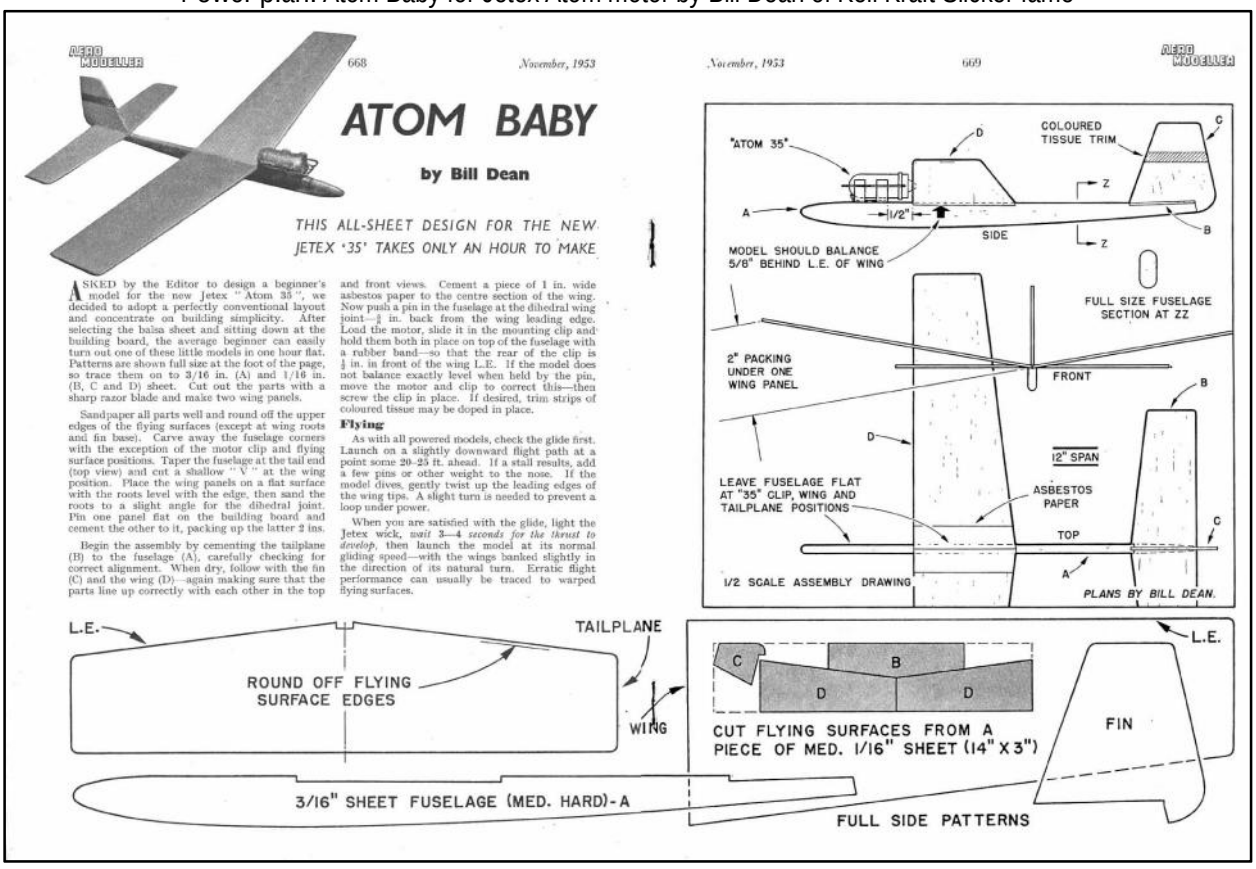
If you'd like to see more visit freeflightnews.org,uk and look for electronic copies of back numbers.

We all know that the numbers participating in free flight are a fraction of what they were. What intrigues me is where have all the flyers gone. I know we are an ageing demographic but is it as straightforward as people dying or becoming too infirm or do many just lose interest. I don't have an answer but all I would say is that I will continue to participate as long as I am physically and mentally able to. To me there is something almost metaphysical about Free Flight that makes it more than the sum of its parts. What could be a better way to enjoy the great outdoors?

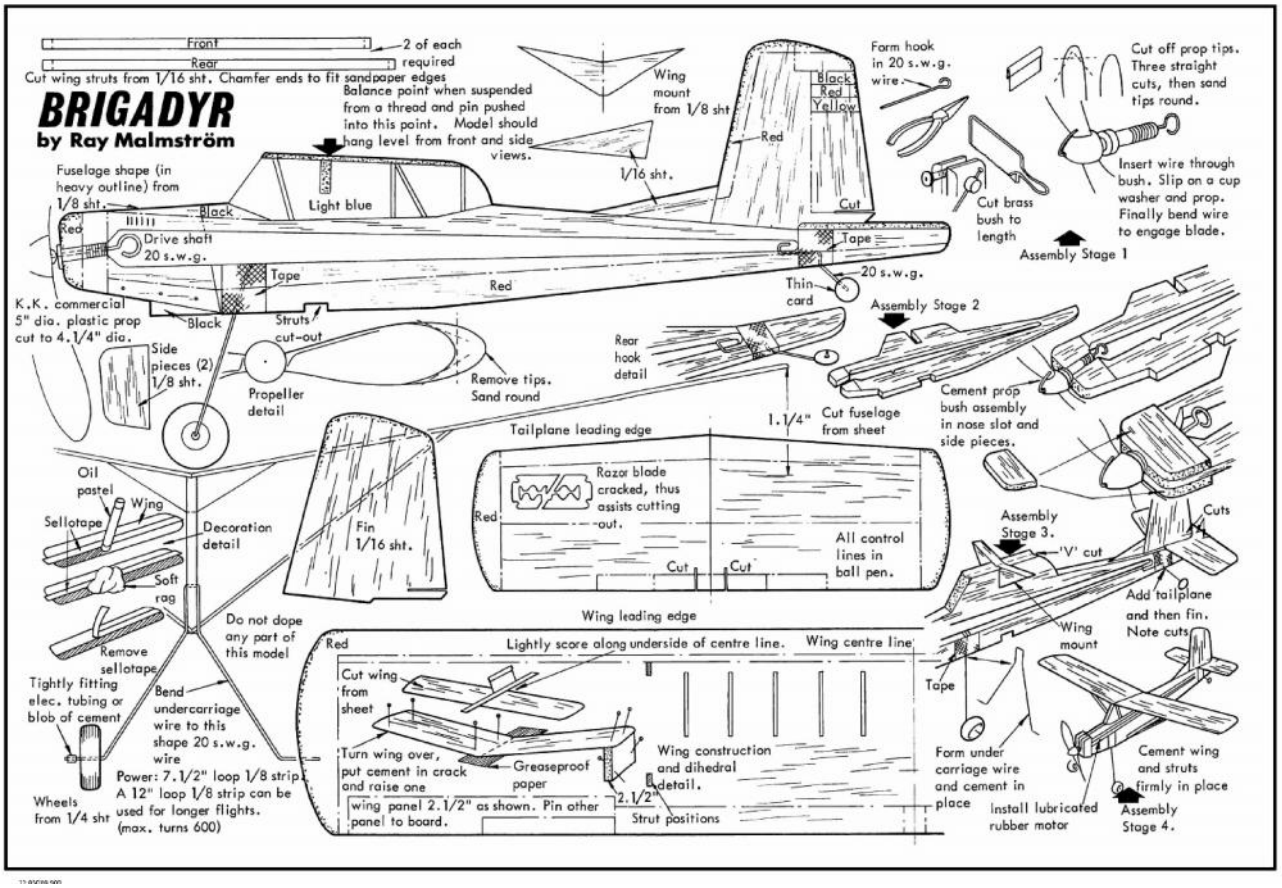
Ray Elliottt

Plans for the Month - Roger Newman

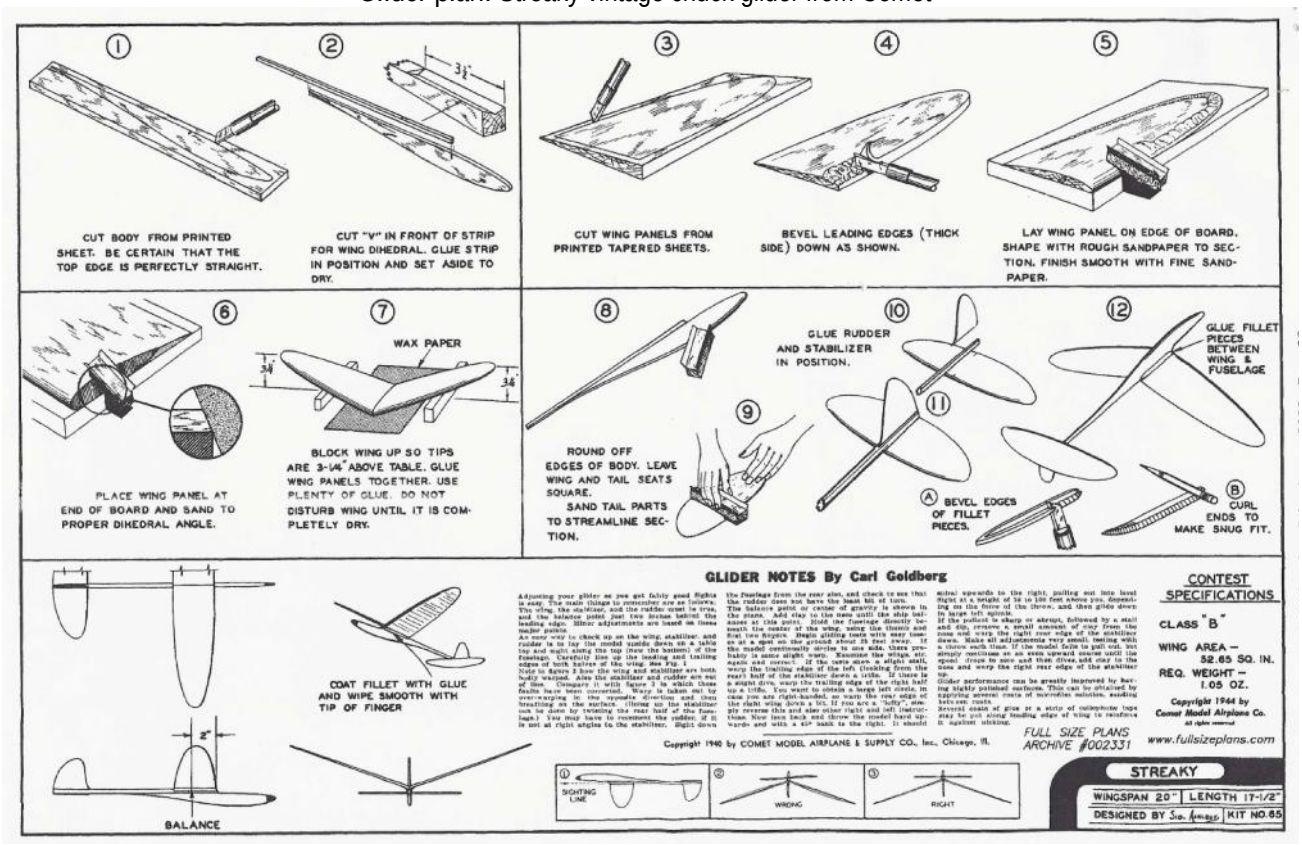
Power plan: Atom Baby for Jetex Atom motor by Bill Dean of Keil Kraft Slicker fame



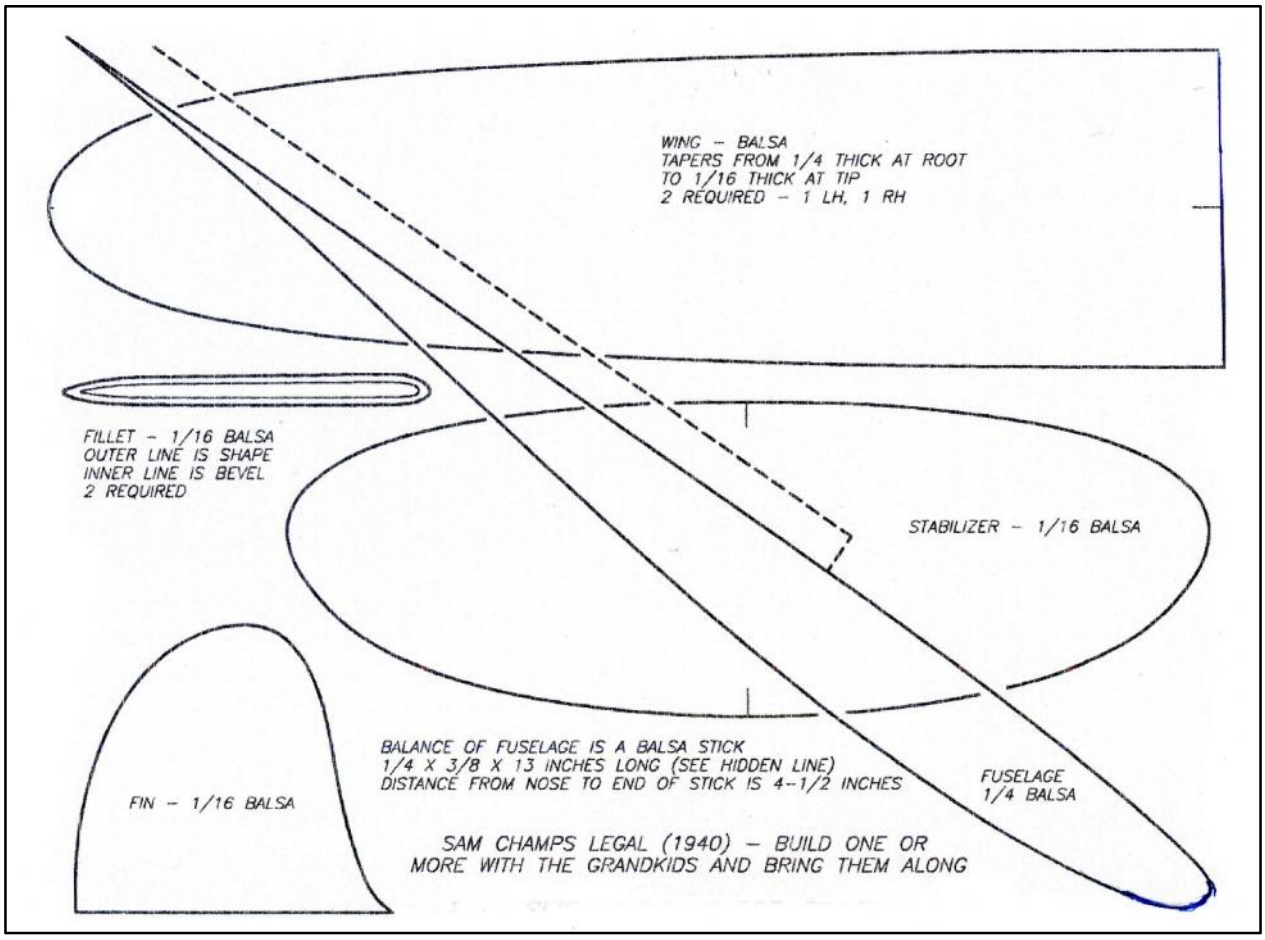
Rubber plan: Brigadyr – another from the stable of Ray Malmstrom designs.



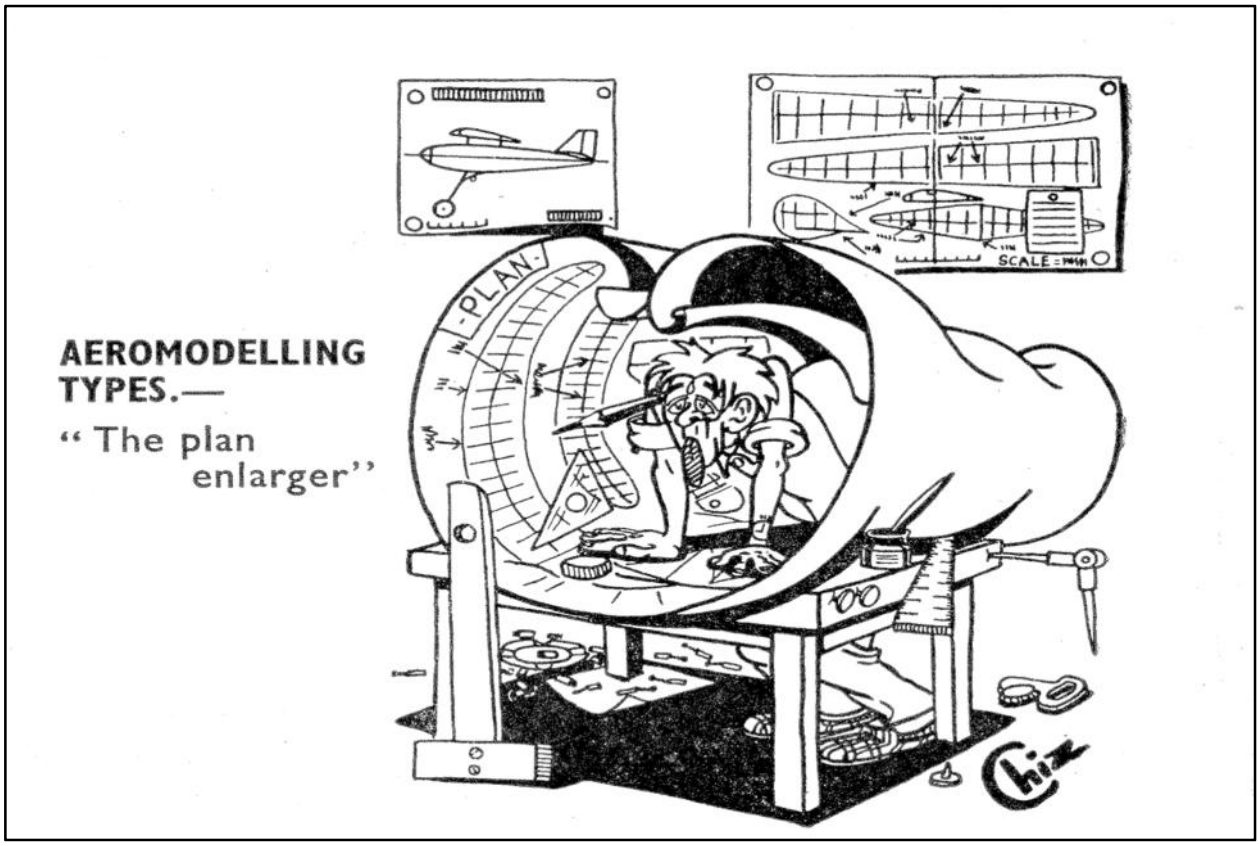
Glider plan: Streaky vintage chuck glider from Comet



Full size parts outlines follow on next page



Streaky Parts Oulines



Roger Newman

Events and Notices

Southern Coupe League 2025

Provisional list of qualifying events as at 21/4/25

Now that the FFTC calendar for 2025 is settled the following events are (reasonably) confirmed and form the list of qualifying events for 2025.

1	Croydon Cagnarata	14th or 15th June	Salisbury	ray.elliott8@btinternet.com
2	Crookham Gala	28th or 29th June	Salisbury	chrisredrup@yahoo.com
3	BMFA Nationals	25th August (3rd day?)	Sculthorpe	Check day
4	Oxford Duration	30th August 09.30–13.30	Portmeadow	gmlaw7@btinternet.com
5	Birmingham Classic	20th or 21st September	Luffenham	gavin.manion84@gmail.com
6	Coupe Europa	4th or 5th October	Salisbury	ray.elliott8@btinternet.com
7	Coupe de Brum	1st or 2nd November	Luffenham	gavin.manion84@gmail.com
8	Buckminster Gala	15th or 16th November	Buckminster	stuartdarmonf1a@yahoo.com

The scoring system is as last year, 12 points for 1st place then 9 for 2nd down to 1 for 10th, all regardless of the number of entries.
Best 5 from 8 events to count, in the event of a tie at the end of the season then the number of 1st, 2nd etc. places will be used to resolve.
Additional events may become available as the year progresses and any other "privateer" events which people may choose to hold will be notified as they become available.

Croydon Coupe Europa / SAM1066

4th or 5th October:

Salisbury Plain Area 8. Start 10.00

Croydon Classes: F1G (in rounds), Vintage Coupe

SAM1066 Classes:

A1 / Vintage / Classic Glider (combined) to SAM1066 rules,

Mini Vintage to BMFA rules, E20 to NFFS rules

Actual date will be decided on the Thursday before the contest dependant on the weather forecast.

Contact Ray Elliott on 07513 649734 or email ray.elliott8@btinternet.com.

Southern Area BMFA Free-Flight Gala

Sunday 14th September 2025

RAF Station Odiham, Hants.

Cagnarata Comp CD…Nick Peppiatt.. nickpeppiatt@hotmail.com

Sports Flyers Welcome

For security reasons all attendees are required to pre-register
Those wishing to attend must send the following details to;

Peter Carter
74 Buckland Avenue
Basingstoke
Hants, RG22 6JA

Tel: 01256 39252…Email: p.carter34@btinternet.com

Car: make & model, Registration No., BMFA No.
Together with contact details.

Entrance Fee £15 payable at the gate.

Arrive at Station main gate - 0800-0945 hrs

SAM 1066 'Cagnarata' Contest

This contest format is popular in Italy and is basically an all-in event where models of different classes are flown against each other. Differences in performance of the various classes are taken into account using a handicap system (K factors) with different maxes depending on the K factors. The classes to be flown with associated K factors and maxes are set out below. The total flight time score is calculated by taking the sum of the actual flight times and multiplying it by the appropriate K factor.

Class	K Factor	Max (secs)
E36 (motor run 8 secs)	1	120
Mini Vintage Power (motor run 10 secs)	1	120
F1G/Vintage Coupe	1	120
F1H/A1	1	120
Mini Vintage Rubber	1	120
Open Vintage/Classic Glider	1	120
Tailless	1	120
E30 (motor run 40 secs)	1	120
P30	4/3	90
CO_2	4/3	90
E20 (NFFS Rules – motor run 20 secs)	4/3	90
Under 25in Vintage Rubber	3/2	80
Hi-Start Glider	3/2	80
CLG/HLG (modern)	2.5	48
CLG/HLG (classic/vintage)	3	40

Note 2: Four flights for comp, no rounds
Note 3: Competitors may enter more than one class
Note 4: DT fly-offs may be used as appropriate, fly-off time as per max in class.
Note 5: Free competition entry, prizes for the first four places.
Note 6: Competition will begin at 10.00 and end at 16.00, followed by any fly-off.

Options for Flying on Salisbury Plain, Area 8

The flying of competitive events on Salisbury Plain occasionally requires the launch site to be changed from the usual trimming field to the north east side of the airstrip. This is often problematic as in the past access has proved difficult but a new route has now been found which has proved to be much easier, even after wet weather. The image below shows the route.

It is hoped that on competition days organisers will place their entrance marker flags in whichever entry to Area 8 is appropriate to the location of the day's launch point.

Permits for Salisbury Plain & North Luffenham

There is a tab on the free Flight Technical Committee website
Where you can apply and buy the permit that you require on line

The costs are:
£30 for Salisbury Plain - £35 for North Luffenham

The details of the Conditions of Issue
And Code of Conduct are included with the application
And must be strictly followed

Birmingham Classic

20th or 21st September 2025

Luffenham

Revised format

This will be, I think, the fourth B'ham Classic that we've held and over time there have been some tweeks to the classes we've flown, so no surprise that there will be few more for this year's event.

The first change is necessitated by the inclusion of the Classic into this year's Southern Coupe League. We will now fly "F1G" which is open to all coupes with prizes for 1st, 2nd and 3rd with at least one prize reserved for the highest placed pre1970 Coupe. For an example if all the top places are taken by "modern" F1Gs then the 3rd prize (not place) will be awarded to the top placed pre1970 coupe.

Then we have a couple of changes which we hope will make for a more open competition or encourage more participation.
Mini Vintage will have a 15 second engine run for power models.
Classic A1 (50m line) will be open to any straight tow A1 glider (no minimum weight). Prizes for 1st, 2nd and 3rd with at least one prize reserved for the highest placed Classic A1. For an illustration of how this may work out see the example for F1G above.

The remaining events which are Classic Glider (50m line) and combined E36 + 1/2A (both 8 second run) will be run as in previous years. As ever competitors will be allowed to enter two different models separately in each event if they wish, top placed only to count.
All events 3 flights not in rounds, max 2 minutes or as determined by conditions on the day.

Stu and I hope that this will maintain the character of this event which has so far been popular with competitors. If this all proves a step too far then we are very open to consider new proposals for 2026.

Stu Darmon
Gavin Manion gavin.manion84@gmail.com

Messrs Barnes and Foster (hopefully) enjoying themselves last year

SUPERLIGHT CARBON E-20 AND HLG BOOMS

New stock just in.

First come, first served.

Carbon rod blanks, ideal for E-20s and hand or catapult-launched gliders. Long enough for two booms.

97cms long, 4mm diameter tapering to 1.5mm. 3.4 grams, but some wet-and-dry action will lower this figure.

£8.00 each + postage from Martin Dilly on +44 (0)208 7775533 or martindilly20@gmail.com.

A CENTURY OF BRITISH FREE FLIGHT

A new book, A Century of British Free Flight, has just been published to mark the BMFA's centenary. 155 pages of text, plans and photographs in colour and black and white trace the development and history of free flight from before Bleriot crossed the Channel to the present day. Nine authors have pooled their talents to cover everything from the rise of the Vintage movement to electronic timers and GPS tracking.

The histories of gliders, scale, rubber, electrics, power models and indoor are all explored by people who've spent most of their lives flying their classes. Although there's no 2022 Free Flight Forum Report we think A Century of British Free Flight will more than fill the gap. All proceeds will go towards defraying the expenses of those representing the United Kingdom in teams competing at the World and European Free-Flight Championships.

The UK price is £20.00 on the flying field or £22.00 by mail; to Europe it's £25.00 and anywhere else it's £28.00. Cheques should be payable to 'BMFA F/F Team Support Fund' in pounds sterling, drawn on a bank with a UK branch; you may also order by credit card, which is a lot easier (and cheaper).

Copies are available from:
Martin Dilly, 20, Links Road, West Wickham, Kent BR4 OQW
or by phone: (44) + (0)20-8777-5533,
or by e-mail to martindilly20@gmail.com .

E30/RDT/BMK/E20 Batteries

The 75mAh lipo's which I sell for E30 now come with Micro JST plugs which make them suitable for BMK timers etc. Since they do not have the current limiter, they work well with the Band Burner and can also be used as lightweight E20 batteries. Just send me £10 and I will put 4 in a Jiffy bag
Ron Marking, Pros Kairon, Pennance Road, Lanner, Redruth TR16 5TF. Alternatively, use PayPal but e-mail me your address. ron.marking@btinternet.com

DILLY JAP IS BACK –AGAIN

Well, that seventh roll of tissue went pretty fast, 300 yards in a bit under three years. I've just received a new roll; almost inevitably there's a slight price rise but it's still only £15 for a five yard roll a yard wide, or £17 by mail to the UK, folded. I normally sell it in rolls at contests, but if you want yours mailed in a roll let me know and I'll sort out a length of plastic pipe and find a courier price. Doing the sums, there's now well 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.

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 Silk-spans 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 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.

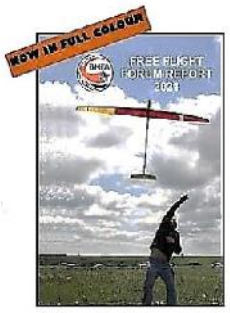
ORDERS and PAYMENT
Place your order by telephone, by e-mail, CASH, DIRECT TO FREE FLIGHT SUPPLIES BANK ACCOUNT, CREDIT/DEBIT CARD, MORE!
WESTERN UNION, PAYPAL

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.

FREE FLIGHT FORUM REPORT 2021

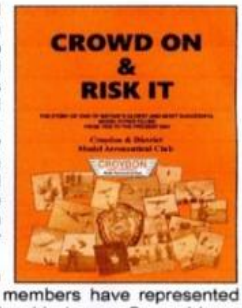
Indoor Duration - A Challenge To Conventional Design - Tony Webb
Coupe In A Box - Gavin Manion
Building Other People's Mistakes - Stuart Dancer
The Merlins Of Ray Marks - Simon Dixon
Simulated 3d Flight Dynamics - An Approach To Gain Insight For Trimming And Aircraft Development - Peter Martin
Building During Lock-Down - Phil Ball
Tame Your F1b And Heated Thoughts - Mike Woodhouse
What Next For A Lady Flyer - Sue Johnson
F3 Res - R/c For The Aging Free Flighter - Andy Sautter
From Wichita To Robin II - Mike Tantram
Further Thoughts On Carbon-Skinned Wings For F1a - Stuart Damon
Gee Fencing And Electronic Stability - John Emmett



The UK price is £13 including postage; to the rest of Europe its £15 and everywhere else its £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 'UMFA 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, **WestWickham**, Kent BR4 0QW
Or by phone: +44(0)2087775533 Or e-mail: martindilly20@gmail.com

CROWD ON & RISK IT

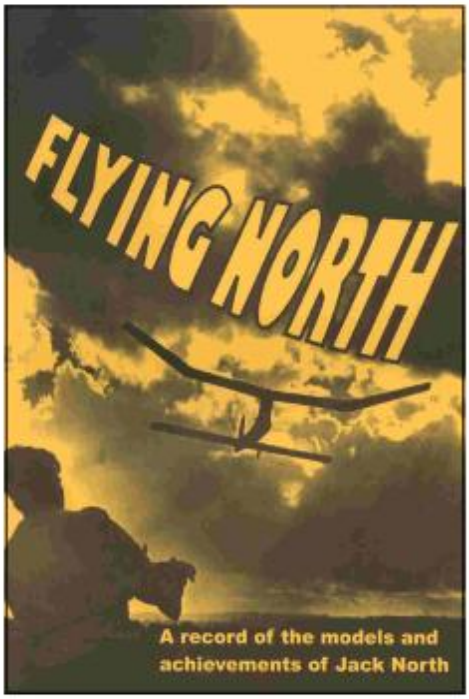


This is the story of one of Britain's oldest and most successful model flying clubs, Croydon & District MAC, from 1936 onwards. The club contributed much to aviation, both model and full-size, and the late Keith Miller compiled its history till around 1960. Now, this up-dated 73 page version of the club's 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 £10 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"

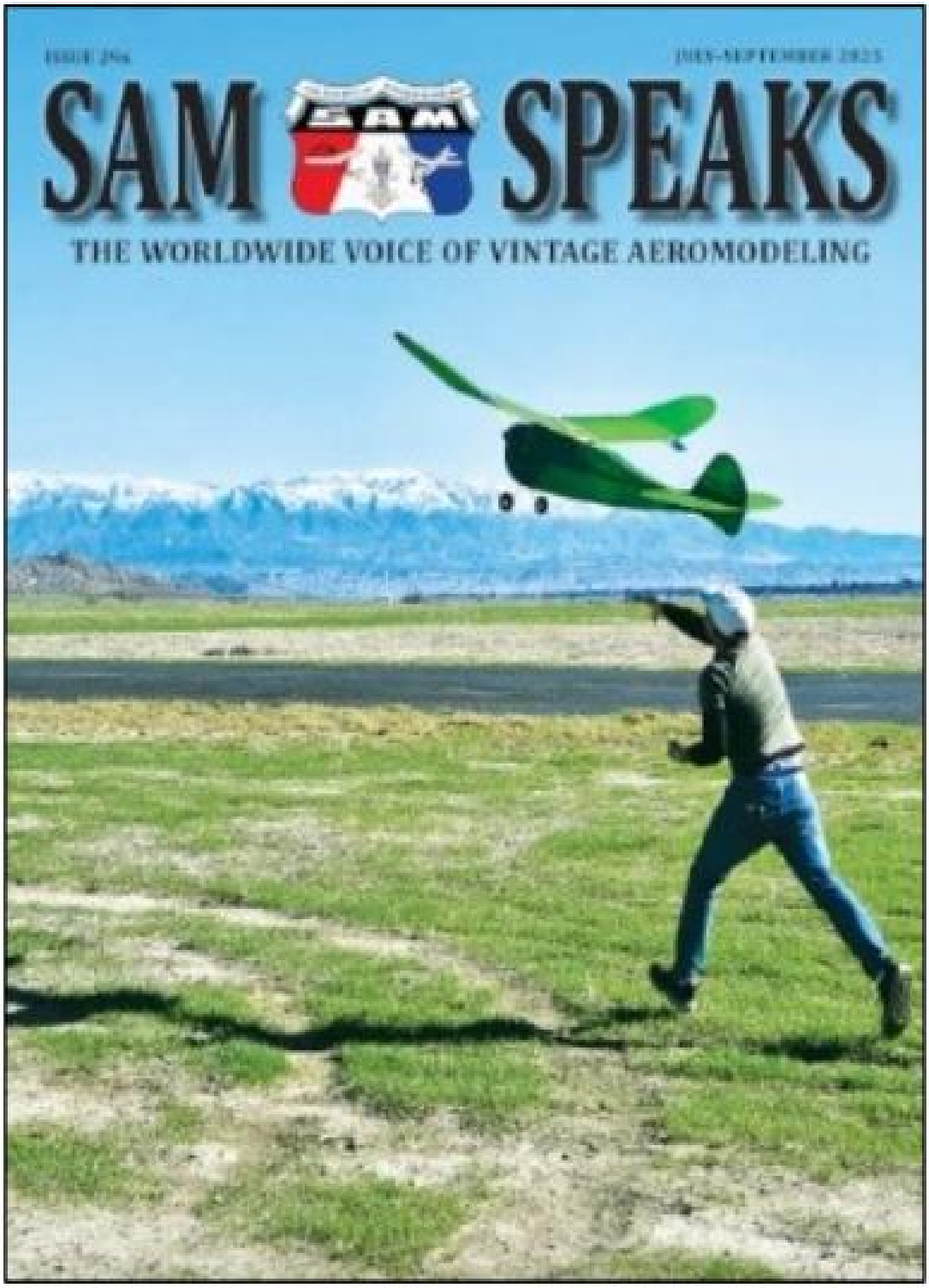
"... am immensely impressed. A splendid effort"

"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 £22.00 in the UK, £26 airmail to Europe and £32 elsewhere.
Contact Martin Dilly on +44 (0)208-7775533 or e-mail martindilly20@gmail.com



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 2025

With competitions for Vintage and/or Classic models
All competitions are provisional. **Check websites before attending**

February 22nd	Saturday	Coupe De Brum, Luffenham
or February 23rd	Sunday	
March 9th	Sunday	BMFA 1st Area
March 23rd	Sunday	BMFA 2nd Area
April 6th	Sunday	BMFA 3rd Area
April 18th	Friday	Northern Gala, Luffenham
or April 19th	Saturday	
May 4th	Sunday	BMFA 4th Area
May 24th	Saturday	London Gala, Salisbury Plain
or May 25th	Sunday	
June 1st	Sunday	BMFA 5th Area
June 14th	Saturday	Croydon, & 1066, Salisbury Plain
or June 15th	Sunday	
June 28th	Saturday	Crookham Gala, Salisbury Plain
or June 29th	Sunday	
July 6th	Sunday	BMFA 6th Area
July 26th	Saturday	Southern Gala, Salisbury Plain
or July 27th	Sunday	
August 9th	Saturday	East Anglian Gala,Sculthorpe
or August 10th	Sunday	
August 23rd	Saturday	**FF Nationals,**Sculthorpe
August 24th	Sunday	**FF Nationals,**Sculthorpe
August 25th	Monday	**FF Nationals,**Sculthorpe
September 7th	Sunday	BMFA 7th Area
September 13th	Saturday	Stonehenge
& September 14th	Sunday	& Equinox cups, Sculthorpe
September 14th	Sunday	Southern Area BMFA Gala, Odiham
September 20th	Saturday	Birmingham Classic, Luffenham
or September 21st	Sunday	
October 4th	Saturday	Croydon & 1066, Salisbury Plain
or October 5th	Sunday	
October 12th	Sunday	BMFA 8th Area
October 25th	Saturday	Midland Gala, Luffenham
or October 26th	Sunday	
November 15th/16th	Sat or Sun	BMFA Mini Gala, Buckminster
or November 22nd/23rd	Sat or Sun	
November TBD	TBD	Vintage Chuck Glider, Buckminster
December 6th	Saturday	Coupe de Brum, Luffenham
or December 7th	Sunday	

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 website
www.SAM35.org

Useful Websites

SAM 1066	-	www.sam1066.org
Mike Woodhouse	-	www.freeflightsupplies.co.uk
BMFA	-	www.bmfa.org
SAM 35	-	www.sam35.org
National Free Flight society (USA)	-	www.freeflight.org
Ray Alban	-	www.vintagemodelairplane.com
Belair Kit's	-	www.belairkit's.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.org
Model Flying New Zealand	-	www.modelflyingnz.org
Raynes Park MAC	-	www.raynesparkmac.c1.biz
Sweden, PatrikGertsson	-	www.modellvänner.se
Magazine downloads	-	www.rclibrary.co.uk
South Bristol MAC	-	www.southbristolmac.co.uk
Vintage Model Co.		www.vintagemodelcompany.com
John Andrews		www.johnandrewsaeromodeller.webs.com

control/left click to go to sites

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