NEW Clarion

SAM 1066 Newsletter

Society of Antique Modellers Chapter 1066

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Affiliated to **Club No. 2548**

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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.

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Editorial

Hi, first up, good news for **E20** flyers. Chris Redrup has included a competition for said models in the Crookham Gala, see add for details.
More good news, Odiham is back, see adds.
Been thinking (makes my brain hurt), our society is barely functioning, we run piggy back events on the meetings of others and that is all. We always were a one flying field only society but the halcyon days at Middle Wallop are long gone and we are badly in need of a flying field to base activities on. We could use Salisbury Plain I suppose but I'm not sure the members would approve. Anyone know of a flying site, North London area would be great. We've put out feelers before to no avail, but it will not hurt to try again. Any thoughts anyone?

OK, what's in this issue.

- Our Chairman reports on a Wickham indoor event with interesting pictures.
- I've dug up another Pylonius piece, manufacturers and airfields are one topic followed by a swipe at beginners articles then a go at club names.
- Paul Lovejoy sends in his second article, still claiming non-expertise.
- Engine review is the Italian 'Barbini'. This old fashioned looking engine of just under 1cc has a remarkable performance which belies its appearance.
- A Model Aircraft News Review from 1949 talks of the Wakefield contest and of the Americans new method of team selection which could well be cribbed from our own. There is mention of records, also a French International R/C Comp and a bit on Tailless models.
- Peter Hall submits another coupe profile, this time Richard Fryer is the victim.
- I found an appreciation of one of our well known experts of the past, Jim Bagley.
- 1954 Heard at the Hagar Doors comments on a bad start to the new season *(nothing new there)* and highlights the slow response by CD's in sending in comp results and resulting loss of times for some entrants. It also talks of '**only**' 46 entrants in the Gamage cup. The formation of the 'Society of Aero Artists' is applauded. The resurgence of indoor flying is reported as the Cardington Airship Hangar is to be made available on several dates.
- I've dipped into my picture files and selected a few from Middle Wallop in 2011.
- There is more on Zeppelins.
- Nick Peppiatt reports on an indoor flying exercise he put together for his school teacher daughters' class of 5 & 6 year olds.
- Martin Pike came across a box of 1950's Practical Mechanics with occasional aeromodelling articles. I picked out the oldest article, one on model engines.
- Martin, in addition, gives a run down on his indoor meets at Bangor.
- The D.H.60 Moth is this issues aircraft described. Suitable for indoor I think.
- Alan Brocklehurst reports on the London Gala with emphasis on F1G and Roy Vaughn weighs in with the Southern Coupe League latest results tables.
- Roger Newman presents yet more of his own personal opinions on the wacky world of eVETOL, together with pictures of more machines in the pipeline.
- Roy Tiller has more on 'The Eagle Book of Balsa Models'.
- Our secretary pens his monthly report.
- We wrap up this issue with the usual three plans submitted by Roger Neman.

Editor

Wickham Indoor - Tony Shepherd

Wickham Indoor 14th March 2024

I've finally managed to get to my first indoor free flight session of 2024 with a visit to Wickham, following several failed attempts due to various reasons that really don't justify recalling. I have to say that I was surprised at the number of new faces I saw amongst the 11 flyers – there were 7 that I didn't recognise which is a healthy situation given that we are continually being told that our hobby is fading away and people are just giving up. Among them it was particularly good to see Harry Brown who is clearly a keen and highly proficient aeromodeller and at a mere 30 years old makes me wonder if there is indeed some hope for the future!

The evening was the usual two and a half hours of chat and fun flying with the only competition being between the flyers and their models as they try and get the best out of them.

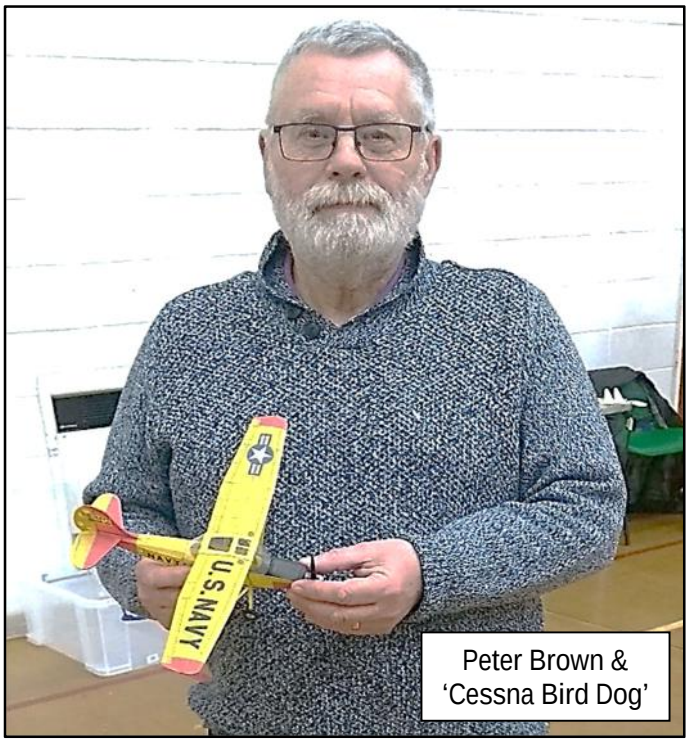
Colin Hutchinson was again flying his beautiful no-cal Buzzard Bombshell very stylishly whilst Paul Lovejoy had one of his triplane squadron with him but I was forbidden to photograph it for fear of me putting the hex on it which is apparently is what normally happens.

Paul Lovejoy & Harry Brown chatting on covering

Harry's 'Dumas Citabria'

I hadn't met father and son duo Peter and Harry Brown before, but they put in some very good flights. Peter had two lovely models with him – a scaled down Cessna Bird Dog and a Gasparin powered Jim Dandy that bore a resemblance to a much- reduced Record Breaker.

Meanwhile Harry was flying a couple of high wingers - a Mick Flack Tiddler and a Dumas Citabria - both finished to very high standard prompting much chat on covering and other related topics. I understand that the guys are regulars at the meetings at Trinity near Newbury but it will be good to see more of their work flying at Wickham in the future.



Peter Brown & 'Cessna Bird Dog'

Steve (sorry I didn't pick up your surname) flew one of Ray Malmstrom's models very well which definitely justified the picture of it on the table. I must track that one down and dig out some 1/16th basla.

As for me, my mylar Ikara Butterfly put in a good shift despite the first flight bouncing off the lights several times.

Peter Brown's Jim Dandy

Meanwhile the Waffle 2 performed as well as ever – it's getting rather old now with performance details scribbled on the inside of its box suggesting it could have started flying in 2005! A bit of useless information – Waffle 2 is the name of a new design of trainers being manufactured by Nike - I did tell you it was useless.

Thanks to the Waltham Chase club for continuing to support this event and in particular to their club member, Alan Wallington, who very kindly runs it.

Tony Shepherd

Extract from Model Aircraft May 1955

Topical Twists

Talking Shop

Manufacturers, we are informed, are to make an effort to improve the flying field situation. The purpose of this purely charitable gesture is a trifle obscure, since the sales of kits and engines seem to be affected only beneficially by the steady whittling away of our fliable territory. Possibly they have been suddenly smitten with a sense of frustration ; after many years of turning out all the apparatus and gadgetry of model flying, they perhaps feel it is high time some of the stuff began to get airborne.

From the manufacturers' point of view this flying field crusade might involve certain unpleasant hazards. There is, for instance, the very real danger of the cash customer giving up the spendthrift hobby of kit collecting, and partaking of the simple and inexpensive joys of model flying.

How disastrous that could be to the trade is evident from the attitude of the model shop proprietor, who regards the model flier as a particularly nasty brand of poison. And for every good reason. Picture his despair as he is just about to clinch a lucrative transaction with a prosperous newcomer to the kit collecting hobby, when he sights a know-it-all aeromod breezing his way into the shop. The poor old proprietor can do nothing but await the inevitable.

" First job, eh ? "

" Well, I've built one or two solids."

" Not thinking of building that kit, are you ? "

" As a matter of fact. . . "

" Waste of money. Chap in the club built one. Even I couldn't make it fly."

" Well, what do you suggest ? "

" Ever tried a rubber job ? Lend you a plan if you like. . ."

After that episode, our aeromod friend, proceeds to tear the shop apart in search of half a dozen strips of medium grade blasa ; finally making a reluctant and disdainful departure, having spent the princely sum of one and threepence.

No End to it

We, in the model world, suffer from a chronic plague of books and articles written especially for the beginner. Indeed, at the moment it seems that there are more people writing for beginners than there are beginners. A view which is strengthened by the fact that I have never met a modeller who was a self-confessed beginner ; although such an admission is very often implicit in some of the works written for this elusive class of unskilled balsa labour.

The art of beginner-writing lies in a peculiar flair for describing in minutest detail those elementary phases of construction which are only too painfully obvious even to a backward ten year old. Probably you've read the sort of thing : " Grasp cement tube gently but firmly in left hand. With your free right hand select a pin—plastic headed for preference—and secure between thumb and index finger. Insert the sharp end of pin—that is, the end opposite to the plastic head—into the nozzle of the tube, using a slight amount of pressure in order to pierce the solder seal. Now transfer tube from the left hand to the right hand, remove pin (with left hand), and squeeze gently at the bottom (of tube). If the operation has been correctly carried out a small blob of cement should emerge from the nozzle, in which case the tube is ready for use."

I always imagine the people who write this sort of stuff are those highly impractical types to whom knocking a nail into a piece of wood is a major operation, calling for the deployment of the full family resources. Emerging, one day, from the almost incredible feat of building a beginner's model plane, they reach eagerly for their pens in order both to record for posterity this superhuman achievement, and to demonstrate, step by step, the whole fabulous process for the enlightenment of all who may suffer from hammer stricken thumbs.

It is a pity that all this fine effort should be wasted on the non-existent beginner. The trouble is that the newcomer, or potential beginner, doesn't play the game. In pursuing his model career he completely overlooks the beginner stage. After turning out his first model he assumes full expert status and proceeds to write an instruction book for the benefit of beginners.

Uncharted Climes

When, in Club News, we light upon a rapturous report of the breathless activity of some hitherto unknown club, we are always curious to know exactly which hallowed spot on this earth has become the focal point of such superlative flying. We can usually get some rough geographical idea from the references made to that reason for which model flying in this country is regarded not as a sport but a dedication : southern clubs are too polite to mention the subject of the weather, whilst their northern counterparts can think of nothing else.

However, I had to admit complete bafflement at a somewhat boastful claim made by the Southport club to the effect that Southport enjoys an almost perfect climate and weather chart for model flying.

Getting out the atlas I began to forage in the Antipodean area, being about the furthest removed from our own anti-model clime. Gradually, I eliminated all those far flung earthly paradises which did not include among their exotic charms the homely name of Southport. Ultimately, I

tracked down this miracle of climatic perfection to the wet and windy coastline of Britain, some 15 damp miles from Manchester.

Without being too sceptical over the perfect climate blurb, I'd take my goloshes, just in case.

A recent confab among senior members of the Foresters M.F.C., for the purpose of choosing a club model resulted in the selection of one with the almost unmentionable name of Black Chiffon.

We can only trust that the junior members were firmly excluded from the clubroom during this sophisticated discussion, and that the model in question was a model aircraft.

One club item which caught my attention was that the champion of the same Foresters Club was closely followed by a Mr. Puddephat.

I wonder if he was heard to say : " I tawt I taw . . . (No ! Editor. Put down that chair ! I promise. . .)

Pylonius

I'm No Expert No.2 - Paul Lovejoy

Memories of mucking around with control line during my school days meant that, once I had returned to aeromodelling, it was probably inevitable that sooner or later I would give diesel power another try. Powered free flight was, however, a new diversion for me. So I decided to go back to where it all started, with an original Mills .75 and a Tomboy plan. One year on, here are the main lessons I have learned to date.

1. Tomboys really do fly away:

Yes, I'd heard all the cautionary tales, but the Tomboy is so boxy and the Mills so mild that surely as long as you're careful…… And careful I was during my first trimming session.
Prop on backwards, engine barely burbling, hardly any fuel, short d/t.
All went so well that, despite Dave Etherton's and Tony Shepherd's sage advice, I decided to step things up a bit.
Increasing confidence led to 2 simultaneous errors: forgetting to allow for lower fuel consumption with a leaned-out engine (pretty obvious really), and an imperfectly calibrated viscous d/t. We fly in a natural bowl so, once over the boundary tree line, it really could have gone anywhere.
Given that Dave Etherton had already warned me twice about this happening, it was game of him to join in the search. An entertaining hour scouting bramble patches, solar farms and paddocks proved fruitless, so with a heavy heart and torn trousers I eventually accepted that I had re-learned the first rule of free flight. I decided to put my trust in the address label, but in truth had low expectations of being reunited.

2. Tissue over Mylar works:

Impressed by the performance of Tomboy 1, I decided to build another straightaway.
This did the trick and 6 weeks later, within hours of starting to cover Tomboy 2, I received a text from a nice man called Charles who had "found a toy plane with this number on it". He said it looked complete, but the intervening period had been marked by extreme heat followed by an almost biblical thunderstorm, so I feared the worst.
With a bottle of wine donated to Charles, I realised that Mick Blundell had been right to urge me to try using Mylar (10 micron as advised by Mike Woodhouse, a bit chunky but easy to work with). The model had spent 6 weeks in long grass (about 50 yards on from where we had stopped looking) with no other shelter, the nylon prop had faded impressively but all flying surfaces were still straight and true. The red Esaki on top was now a delicate pink, but stripping and re-covering over the Mylar was a piece of cake. Thanks, Mick. I also replaced the viscous d/t with a KSB timer, having acquired some good examples from Stuart Darmon.

3. Diesel fuel goes stale really quickly if not stored properly:

A frustrating August day was spent searching fruitlessly for non-existent fuel line blockages while perfect flying conditions went to waste. The fuel had only been left in the filler bottle for 4-5 days since the last flying session, and it had been lovely and warm in the garage, so what could possibly go wrong? In retrospect, this may explain my inability to get anything from my normally-reliable Frog 150 at the school's model engineering exhibition in about 1974. This was probably a blessing in disguise, as we had been turfed off the playing field onto an asphalt quad. I doubt whether my Rascal stunt trainer would have survived the experience.

Tomboy 1 following recovery but prior to re-covering

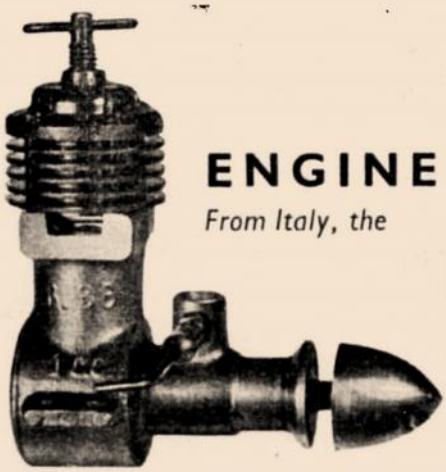
4. Phil Smith knew a thing or two about model aircraft design:

After the Tomboy(s) I had to try a Cardinal, again with a Mills .75. An elderly Replikit example went to together quickly and easily.
The rudder trim tab worried me though, as it looked puny compared to the chunky Tomboy version. So I extended it to a substantial rectangle. It only took a few instances of right spirals followed by left spirals to realise that the original was perfectly suited to the aircraft, and the Cardinal now potters around very happily having reverted to the correct design.

5. Onwards and (not too far) upwards:

At the conclusion of my first year of powered free flight, I still have all 3 models in good flying order.
This is probably due to me (eventually) accepting Dave's advice that a 45 second d/t is about right for our field.
The Tomboys' perform similarly except that, if the d/t trips with engine running, Tomboy 1 (Mills) stalls while Tomboy 2 (Irvine) loops – and somehow keeps its wings on.
Given this, Tomboy 2 is possibly a candidate for converting to radio assist (which of course would make it a Tomboy 3). I rather like the idea of Dave Boddington's Carina biplane version of the Cardinal.
Beyond this, a trip or two to Salisbury Plain is in order for 2024, together with perhaps a venture into free flight powered scale. Which is where the Mercury Tiger Moth that I couldn't resist at the autumn Aeromodeller auction may come in.
I'll close with sincere thanks to everyone mentioned in my last two articles.
Free flight aeromodelling really is characterised by the friendliest group of people you could ever hope to meet, and I am truly grateful for all the advice and generosity that I have received so far.

Paul Lovejoy



Actual size photo

ENGINE ANALYSIS Number 35

From Italy, the

Barbini B 38

reviewed by R. H. Warring

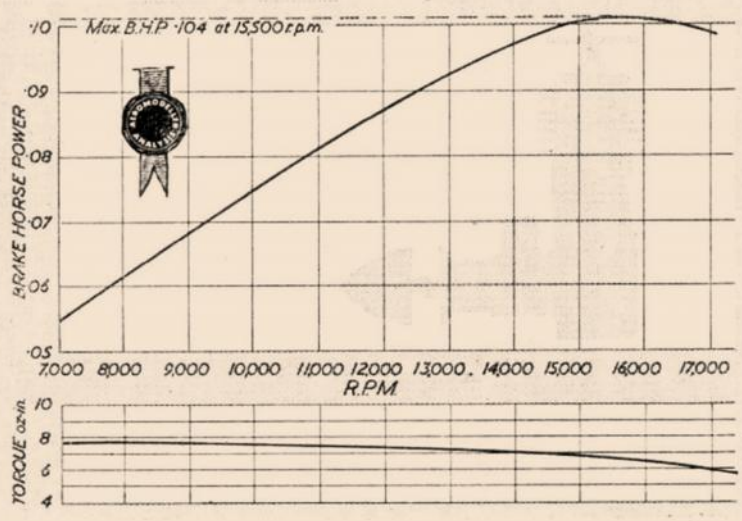
THIS IS A remarkably fine Italian diesel, rather old fashioned in external appearance but with interior workmanship and finish of the highest possible order. In other words, maximum attention has been given to the parts which need it most, with apparent disregard for "eye appeal" in the finished product. Its performance is outstanding for an engine of this size, with a specific output of ·1 B.H.P. per c.c. It is also small in overall size and quite light (under two ounces). It is essentially a high speed engine, peak power being developed at 15,500 r.p.m., which is appreciably higher than usual with a plain bearing engine.

The B.38 tested had pleasant starting characteristics, requiring only a couple of finger chokes to prime. Compression adjustment is non-critical and the engine can be "throttled" by reducing compression. The engine will continue to run on all sizes of propellers with the compression backed off to its limit and on all propeller tests had, in fact, to be stopped by grasping the spinner nut. This was done in preference to closing down the needle valve as this adjustment can be left alone for starting and running, although opening up a little helps starting and optimum performance with any load is, of course, found by closing down the needle to the finest mixture setting at which the engine will continue to run consistently.

One fault which did develop during the test runs was that the liner rotated inside the cylinder jacket, blanking off the exhaust ports and gradually "throttling" the engine down. To prevent this taking place, the hold down screws had to be tightened really hard when the engine was hot. These are quite small screws (approximately 8 BA size) with small diameter heads, so this does not appear an entirely satisfactory arrangement. On the other hand, the cylinder liner itself has a very generous wall thickness and quite free from distortion when tightening down, so there are no troubles in this respect.

The interior discloses a number of features of high-class engineering workmanship. The connecting rod, for example, is machined from steel to a thin, flat section, subsequently hardened and tempered. The big end is left fully hard with a generous length of big end bearing (3/16 in.), which is also slotted for lubrication purposes. The gudgeon pin is hollow, located in the piston with tiny circlips, so that its ends are well clear of the piston exterior surface.

The cylinder (liner) is of steel, formed with a conventional "collar" into which are cut the diametrically opposed exhaust ports. The transfer ports under the exhaust ring are end milled upwards at an angle and their effective opening overlaps the exhaust to a considerably useful extent, probably the key to the fine performance. They are extremely generous in depth, giving appreciable sub-piston induction. The intake closes very early,



SPECIFICATION:

Displacement: ·973 c.c. (·059 cu. in.)
Bore: ·3955 in.
Stroke: ·483 in.
Bore/Stroke ratio: 0·82
Weight: 1¾ ounces.
Max. power: ·104 B.H.P. at 15,500 r.p.m.
Max. torque: 7·8 ounce-inches at 8,000 r.p.m.
Power rating: ·107 B.H.P. per c.c.
Power/weight ratio: ·0555 B.H.P. per ounce.

Material specification

Crankcase: Gravity die casting in light alloy
Cylinder: Hardened steel
Piston: Cast iron
Contra Piston: Cast iron
Cylinder jacket: Dural (anodised red)
Crankshaft: Hardened steel
Main bearing: Bronze
Connecting Rod: Steel, hardened and tempered.

British Agents:
Solaria Ltd., London, S.W.1.

Retail Price:
(Italy) 4,250 Lira

indicating the sub-piston induction is used deliberately rather than "accidentally". There is quite a narrow space for the transfer passage (between the bottom of the cylinder and the crankcase casting), but at the bottom, twin gas passages are grooved to correspond to semi-circular cut-outs in the bottom of the liner, although the main function of the latter is to provide clearance for the con. rod.

The exhaust porting on the crankcase casting is cut away completely at the top, the cylinder bedding down on a shoulder below the bottom line of the port. The cylinder jacket is of dural, anodised red, and formed with a rather "old fashioned" domed head. Interesting feature on the head is a vent hole drilled to relieve air pressure over the contra-piston.

The piston is of cast iron, reasonably light, perfectly plain with a slightly conical top and grinding marks on the bearing surfaces.

The crankshaft is of generous diameter (6 mm. or ·236 in.) with a 3·5 mm. (·1385 in.) crankpin machined on. The crank web is cut away at the crankpin side to give an attempt at counterbalance. The crankshaft runs in a bronze (or possibly brass) main bearing and is extremely well finished and fitted. All the interior work, in fact, is very well done with the running fits just right. The cylinder appears to have been internally ground and lapped, with adequate taper relief at the bottom end to give minimum sliding friction. Very little running in time was required to ensure that the engine was completely free.

By comparison, the external appearance of the crankcase is quite rough, this being a gravity die casting with a minimum of machining to finish. It is not even a very accurate casting as regards external geometry. A nice touch is the fitting of a thin steel washer behind the propeller driver, the latter being an aluminium or dural machining pressed over a splined section of the crankshaft. Propeller retention is by means of a turned spinner nut. The length of shaft is adequate to accommodate any of the propeller pitches likely to be used with this engine.

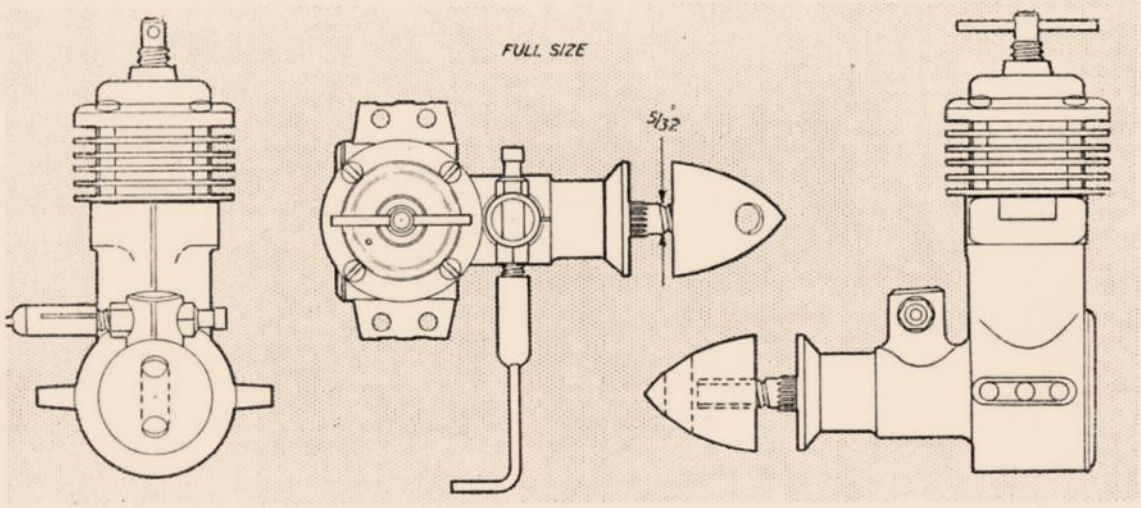
Large transfer ports, angled to overlap exhaust are obvious in this view of dismantled B.38

Summarising, the real merits of this engine are hidden under a rough exterior. It is extremely well made where it has to be and its performance puts it in the outstanding class for its size. Maximum performance would appear to demand a propeller size giving around 13-14,000 r.p.m. static—e.g., something like a 6 x 4 or 7 x 3 for free flight and a 5 x 6 or 6 x 6 for control line. Certainly it should give a good account of itself in either category.

PROPELLER TEST DATA

Propeller dia. x pitch	*r.p.m.*
6 x 4 (Stant)	13,400
7 x 6 (Stant)	8,800
8 x 4 (Stant)	8,600
8 x 5 (Stant)	8,000
6 x 6 (Stant)	11,200
7 x 4 (Stant)	10,800
6 x 3 (Trucut)	13,300
5 x 3 (Trucut)	16,000
6 x 4 (Frog nylon)	16,300
6 x 9 (Tiger)	8,800
8 x 3½ (Tiger)	10,400
8 x 4 (Tiger)	9,000

Fuel used: Mercury No. 8



NEWS Review

The Wakefield Cup

As we go to press the latest news of the Wakefield Cup Contest is that it will be held at Cranfield Aerodrome, Bedford, the home of the College of Aeronautics.

While it is a little further from London than is strictly desirable, its many amenities make it outstandingly suitable for this particular contest where the housing and feeding of the foreign competitors is an important and integral part of the event.

The preliminary programme is for the visiting teams to be received at Londonderry House on Friday, July 29th and transported to Cranfield in the evening. Saturday, the 30th to be occupied in the checking and control of models and trial flights. The contest for the Wakefield Cup to take place on July 31st as previously advised. August Bank Holiday Monday, August 1st, will be devoted to the contest for the Bowden Trophy (Precision Power contest) and to the International Power Contest (Ratio system).

From information already received there is indication that eleven countries will be sending teams, exclusive of those who will be sending their models to be flown by proxy.

It has been decided that any proxy flyers required will be drawn in rotation, in order of their placing, from the unsuccessful competitors in the British Wakefield Trials. Those who are successful in reaching the final trials but fail to get into the team may therefore still have a chance to compete.

The American Nationals

The American Nationals will again be held at Olanthe and on the same day as the Wakefield Cup event. This clashing of dates is unfortunate, as it will undoubtedly prevent some American enthusiasts from visiting this country and possibly prevent some of our boys from attending their Nationals.

The actual members of the American Wakefield team will undoubtedly be robbed of the opportunity of competing in their own Nationals, but both events are sufficiently popular to stand the clash and we are quite sure that both will be successfully run with very little inconvenience to aeromodellers in general.

The American Wakefield Team

It is interesting to note from our American contemporaries that the A.M.A. are contemplating using a method of arriving at their 1949 Wakefield team which is almost identical in its main features with that employed by the S.M.A.E. to select the team which regained the Cup last year.

According to the information at our disposal the suggestion is that each A.M.A. district will hold preliminary elimination contests to select teams (number unstated) to compete at a final Team Trial to determine those who will actually form part of the United States' team to travel to England for the contest.

From our own experience we can commend this method of selection to our American friends as being both fair and effective.

Record Hiatus

A sound move on the part of the S.M.A.E. is their announcement that a waiting period of two months will be imposed in future between the time a record is submitted to them and the time it is actually accepted.

This arises from the fact that, although the council and officers concerned take every care to see that the terms of the attempt have been carried out properly, they are not present at the actual record attempt in most cases, and are therefore entirely reliant on the integrity, experience and ability of those officiating at the trials.

One or two cases have come to light where additional information on the conditions under which the record was made would have affected the council's deliberations, and it is to enable such vital points to be brought to the council's attention *before* the record is ratified that the waiting period is being introduced.

It is the duty of anyone who is not satisfied that all the conditions appertaining to any record claimed have not been complied with, to inform the council forthwith so that they are in possession of all the facts and can investigate any points of omission or doubt while these are still fresh in everyone's mind.

Control Line Classes

Control-line fans will be glad to learn that two additional classes have been added to the Speed Record classes in order to avoid undue penalisation of certain engine sizes.

The S.M.A.E. has now subdivided Class III into two sections. The first, to be known as Class III (a) in the future, covers engines between 2.51 c.c. and 3.5 c.c. The second will be known as Class III (b) and will encompass engines from 3.51 c.c. to 5 c.c.

Engines close to the 2.5 c.c. mark will, therefore, not be asked to compete with engines of greater capacity than 3.5 c.c. in the future and will no longer be faced with the heavy handicap of direct competition with motors of double their capacity.

International Radio Controlled Contest

We have just received information to the effect that the Aero Club of France are running an International contest for radio-controlled model aircraft on June 12th on an aerodrome in the Paris district.

Briefly the contest is open to all types of aircraft, which can be launched by any method except towing by full-sized aircraft, and the following tests will be imposed :—

(a) A quality test judged on a basis of workmanship and technical excellence of the radio equipment.
(b) Set manoeuvres consisting of two " S " flights and a straight flight of at least six seconds duration.
(c) Some free choice manoeuvres which must be specified by the competitor before the flight takes place.
(d) A precision landing test wherein the machine must be made to land as close as possible to a landing point which will be indicated.

The method of scoring proposed is somewhat involved and consists of allocating basic points for each of the above tests up to 5, 10, 10 and 10 respectively and multiplying the result by 10. Then deducting marks for failure to start ; deducting points in the ratio of $\frac{P^2}{4}$, P being the total weight of the aircraft (large machines are therefore more heavily penalised than small light ones) ; multiplying the result by .9 if two radio-frequencies are used ; .8 if three radio-frequencies and .7 if four radio-frequencies are used—and so on ; deducting 1 point for each watt of emission if the radio-equipment is quartz controlled or 5 points for each watt of emission in cases where the equipment is not quartz controlled.

In the case of a tie between two or more competitors the final placing will be decided on a basis of the competitor using the lowest power of emission.

A full translation of the rules will be sent to anyone who is desirous of entering this contest on application to the Secretary of the S.M.A.E., Londonderry House, 19, Park Lane, London, W.1.

Irish Nationals

We learn that the Irish Nationals will this year be held on August the 14th at Dublin, and it is expected that a number of modellers will make the crossing to attend this now popular meeting.

The S.M.A.E. has again decided not to send an official team as it is felt that this event is not a *team* event and is thus more suited to individual entry. It nevertheless receives S.M.A.E. approval and support and all who have made the journey to this event before will undoubtedly look forward to attending it again this year and renewing the pleasant contacts made on previous visits.

To those who have not attended the Irish Nationals we can recommend a visit to this event which is well and pleasantly run.

Aeromodelling in Germany

From time to time enquiries are received from German aeromodellers for assistance with literature or information, often on an exchange basis.

While this interchange of information may seem desirable we must draw the attention of British aeromodellers to the fact that the Foreign Office are not in favour of the encouragement of model aircraft activities in the British zone.

However much one may be tempted to encourage international model aviation it must therefore be remembered that the ex-enemy countries are not in a condition where the free exchange of ideas and information with them is desirable since the Foreing Office obviously have very good reasons for imposing their ban.

More Tailless Classes

Tailless enthusiasts will rejoice in the fact that the additional F.A.I. Record Classes, which were agreed to by the members of the Model Commission, have now been promulgated and established in the list of approved records.

Separate record classes for tailless machines now exist in the following categories :—

AEROPLANES

Rubber driven free flight	Duration, Distance, Height, Speed.
Motor driven free flight	Duration, Distance, Height, Speed.
Motor driven circular flight	Speed classes I, II, III.
Motor driven Tele-controlled ...	Duration, Distance, Height, Speed.
Reaction Motor ...	Speed.

HYDROPLANES

as above.

GLIDERS

Free flight	Duration, Distance, Height.
Telecontrolled ...	Duration, Distance, Height.

As the majority of these classes are quite new and have no holders here is a profitable sphere for those who favour tailless machines and aspire to World Record honours.

Since the U.S.S.R. predominates on the World Record list, it behoves our tailless experimenters to place this country's name and their own against as many of these classes as possible.

A World Record for Great Britain

We have just learned that the F.A.I. have officially ratified the following record which was claimed by the S.M.A.E. :—Outdoor, rubber-driven helicopter, R. Musgrave (Oldham), 1 min. 6.8 sec.

Congratulations, Mr. Musgrove !

A claim for a world record has also been submitted to the F.A.I. in respect of the flight of 1 min. 50.8 sec., made by J. Marshall (Hayes and District), on February 13th, 1949, with a power-driven free-flight tailless model.

Couprofile 19: Richard Fryer - Peter Hall

Richard launches FK1

Peter:

- Richard, could you tell us something about your aeromodelling history and your dedication to coupe flying?
- What is your approach to the coupe class - design, construction, flight pattern etc?
- How do you pick the air.
- Looking forward, what developments would you like to make?

Richard:

I started flying Vintage models back in the mid-eighties,
I flew rubber Vintage lightweight, Glider and Occasional 4 and 8oz Wakefield.
I was drawn to vintage as I had grown up flying stick and tissue models.
My job meant I did not have much free time and vintage models were fairly straightforward, well to build anyway! I was lucky that my interest in model flying coincided with the boom in vintage flying and was able to fly at some of the truly amazing competitions organised by David Baker and SAM 1066 at Middle Wallop in the 90's.

I began to be drawn to modern F1G because, unlike other modern classes, there is still a wide variety of approaches to model design and all of them seem to be competitive.
Initially to get some experience of flying F1G I built a couple of Dennis Davit's DIG 150 designs, this from a plan and construction article in the Aeromodeller.

The models flew really well and I learnt a lot from flying them.
Deciding that I did enjoy the class I wondered how I could progress? I had bought a Stepanchuck F1G model to try out and although it was an amazing model, trying to reproduce that level of engineering at home was beyond me.

I decided I wanted to try and build a systems free, mid tech model of my own. Luckily my friend Robin Kimber lived not far from me and we often spent evenings together trimming models. After a bit of badgering Robin agreed to help with the design.
The initial plan was to try to use prefabricated parts to both save time in construction, I still worked full time, and to try to incorporate some modern structural methods in the model. This would allow me to produce something from home with basic tools (I only have hand tools and a dremel!) and that would be, hopefully, competitive.

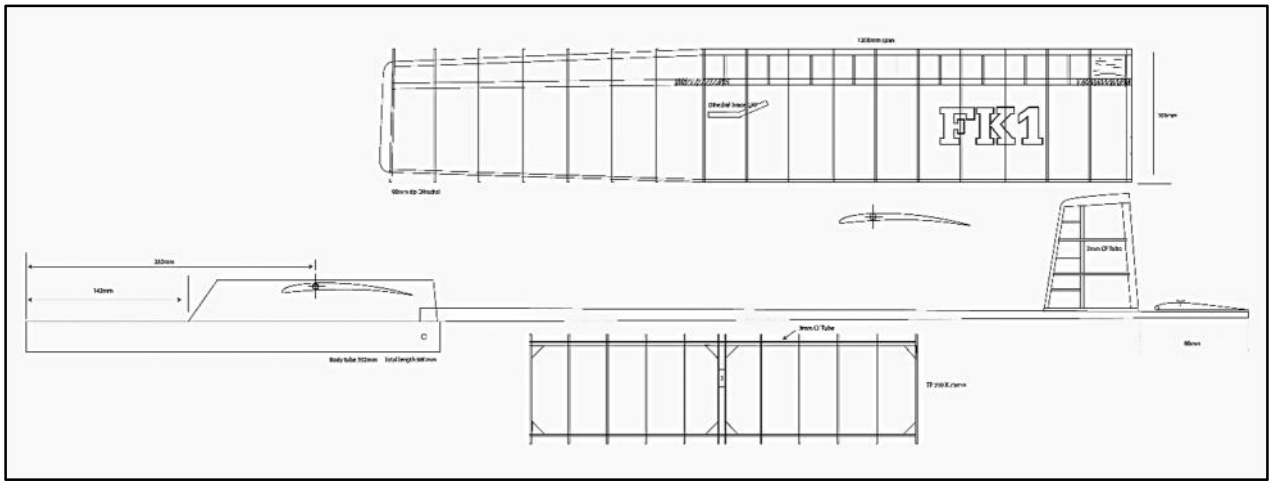
We decided to base the model roughly on the Stepanchuck's F1G design, at the time Stepan sold a kit of parts for his F1G wing.
The wing used a carbon tube main spar, carbon te, balsa le and was fairly stiff and light.
The tail is sparless using a 3mm carbon tube as a leading edge.
Looking for a supplier of hubs I had heard that Edguardo Figueroa, a South American model flyer and builder of a successful TOP Coupe design, still sold his own design prop hubs and fuselage tubes. After a few emails he very kindly agreed to make me some.
The finished hub design with prop blades, fold bands etc, weighs around 14 grams.
The prop Blades are from a design Robin had produced based on John O'Donnell's articles in the aeromodeller on prop design.

The blades are made on a mould, covered in 20 gsm GF and weigh 3 grams each.
The prop is 20" span on 40mm wire outriggers and is turned by 12 strands of 1/8th.

The fuselage is one piece and looks a bit like an under and over shotgun! I wind in the model with a blast tube and I wanted easy access to broken motors, without having to disassemble the model.

The booms are carbon from Freeflight supplies and very light.
The model uses RDT but has no other mechanical systems.

The model weights are 25g wing, 23g fuselage, 3.8g tail, 14.5g prop and hub, RDT is 6g.
I am currently trying BMK trackers as they save a gram or two over Bodnar ones that are sadly no longer available.



I use a Torque meter when winding and the motors are usually trashed after one flight.
The models fly Right/Right with a bit of tail tilt, Right prop blade folded a fraction more out in the breeze and a touch more fluorescent paint on the right wing than the left! I find it easier to trim models R/R and I find it's better in breezy conditions.
The only warps are a little washout on the left wing.

For thermal detection I use a streamer but I must admit that I could do a lot better than I do. Coupe really is an air picking contest and I am not great at it. I recently saw on FaceBook that BMK are going to produce a thermal finding bit of electronics, if it happens that will certainly be very useful.

Next developments are for a lower profile TOP model, still without systems. Roughly the same planform as the FK1 but with a band on wing for a bit more crash resistance. Just in case the theories don't work!
In 2023 I built a new prop for the model using a mould with a more helical pitch distribution than the last model. I will hopefully trial the prop this year. As always with a new design the aim is to control weight.
I am currently looking at lighter body tubes, hubs and covering materials in an effort to build the new model down to weight.

Robin Kimber with FK1

Peter Hall/Richard Fryer

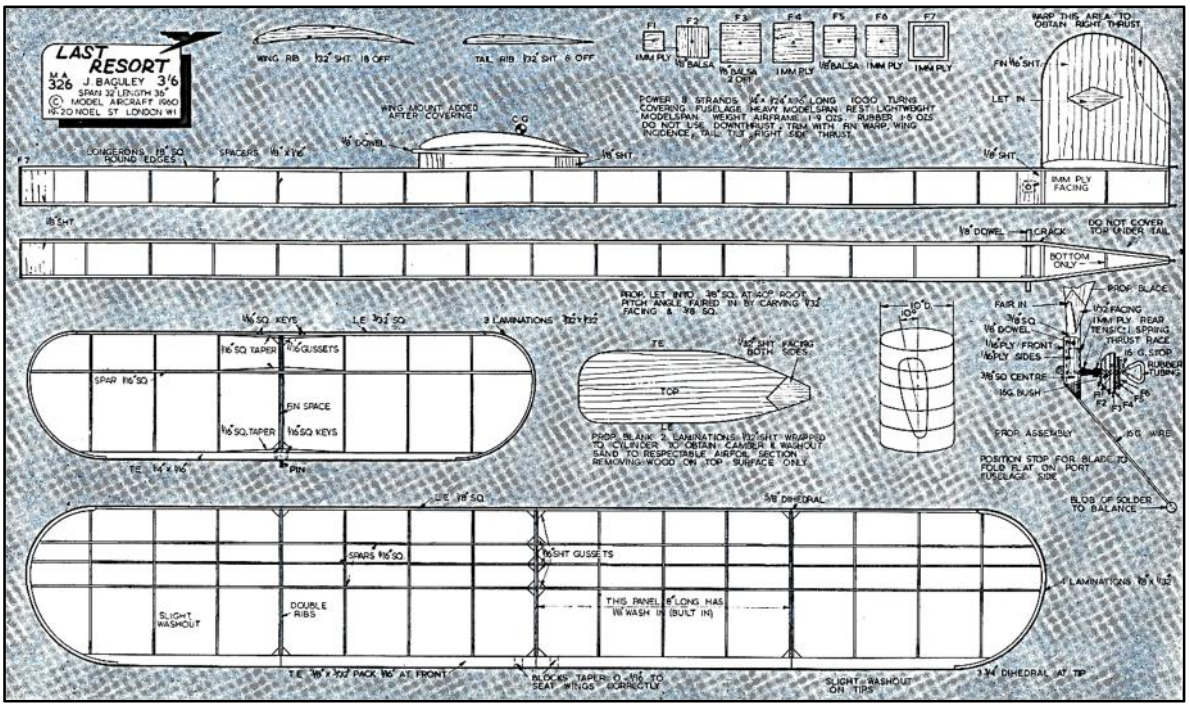
Jim Bagley: an Appreciation - Josh Marshall

This is an article from the old Paperback 'Clarion' of October 1995.
Jim Bagley was a master aeromodeller, well known for his iconic 'Last Resort' rubber model.

Early this week, I was saddened to hear, via Laurie Barr, that Jim's-career had come to an early and abrupt end.
There can be no serious members of SAM who have not met Jim, or knew him through his writings.
Our thoughts and sympathy are extended to his wife Beryl and her family. Jim was one of those people who somehow manage to pack ten times as much activity into life as do normal mortals
Living in the past as I do my thoughts went rushing back to 1959 when a younger Jim, with a much envied crop of hair, came to join the Hayes model club and he stayed with us for a memorable 15 years, although then still at school, he was never a beginner in aeromodelling.
His output of models was prolific, also his consumption of new engines, it is certain that nobody built and flew more competition model planes than Jim, at this time power, rubber and gliders.
Somehow, Jim also found time to study, lay the foundations for a business career, write a series of magazine articles and plans.
Competition success however did not come quickly or easily, and I have memories of trips with him in hired transport to the S.M.A.E. Nationals at Hemswell and the A/2 Trials at Spitalgate. By the time the Nats moved to Waterbeach, Jim had become a physical fitness addict (weight training etc.) and cycled there and back, his models and tent were left for me to transport.
Jim won a place in the A/2 British Team in 1963,which was to be held in Austria, however he then had developed a peculiar. complex, and was reluctant to travel there, it took a lot of persuasion, and most of the Hayes funds to put him enroute.
Following from this he had an A/2 put out in kit form by Keilkraft, for some reason Jim was dissatisfied with the end result and sometime later he started his own cottage kit industry, with another A/2 kit followed by other gliders, a rubber model and a radio glider.
There were also the many galas which Jim ran at Chobham Common almost single handed, the entry fees were shared out, and subsidised as prize money.
Jim was initiated into aeromodelling by an uncle who took him out as a fetchermite, his father was an engineer/machinist at Fairey Aviation, where I spent most of my time, we saw each other daily, and I knew his dad Bill for more than ten year's' before Jim and it was this connection that brought him into the Hayes Club and organised aeromodelling.
Memories come flooding back, perhaps of the time when he bought his first banger.. a dangerous contraption in which I was chosen to accompany him, a far cry from his latest motor.
Yes also his wedding to Beryl too. Following his long stay 'with the Hayes club, Jim made several changes of address and we rather lost touch for a lengthy period until he was re-infected with the modelling bug.

Josh Marshall. 18th October 1995.

Josh has really summed up a great all round modeller! I of course knew him in the pages of the magazines and it was really only in the last few years of Middle Wallop that I got to know him personally. I was impressed and flattered that, with all the effort that went into his flying, there was always time to chat.
We will all miss him.. Thanks Jim.. David Baker.



Heard at the Hangar Doors - Aeromodeller May 1954

AERO MODELLER 234 May, 1954

Off to a Bad Start!

The 1954 contest season opened with poor weather pretty general all over the country, high winds being the main factor that competitors had to cope with. The London contingent also had a nice juicy bog to contend with in their chase after models that went quickly out of sight, so it says much for the prowess of the boys that such good times were recorded.

The ever-present Johnny O'Donnell placed top in the Gamage Cup results, bettering even the glider times, and many other well-known names appear in the top section of this and the Pilcher Cup events. It is good to see a number of new names high up in the results, though the overall support for these "season openers" was very poor in relation to previous years. Only 68 entries were received for the Pilcher, and of these three were received after the closing date for entries, and four were not included in the official results owing to incorrect fees being forwarded. For the Gamage, only 42 chaps braved the elements with their rubber jobs, and of these again two were disallowed owing to the returns arriving too late at H.Q.

It passes our understanding why it takes some Comp. Secs. over a week to send in the results of a contest, particularly when the numbers are so small, and we trust that the firm line taken by the Society will wake some folk up in regard to strict attention to regulations. Our sympathies are with the actual fliers who have been penalised through the defalcation of an official, but the remedy lies with them!

J. D. Henderson of Sunderland has a greater measure of condolence, for his total time of 9 : 19 in the Pilcher would have given him the trophy, but he, together with another member of his club and two fellows from Tynemouth, had their entries disallowed through an error on the part of the official who forwarded their entries. Under the circumstances, we trust that the Council will allow the result to be modified, for the fault lay in the misinterpretation of a rule, and was in no way a disregard of requirements.

Brushes in the Sky

Progress in flying and in everything connected with the Royal Air Force and Civil Aviation has been so rapid since its inception a generation or so ago that its importance both in the present and the future tends to be overlooked. It is regrettable that in the early experimental years there were so few artists with opportunity and sufficient interest to record the epoch-making attempts at early flight.

Charles Cundall, R.A., Terence Cuneo, G. H. Davis, S.M.A., Hesketh Hubbard, P.R.B.A., R.O.I., F.S.A., Roy Nockolds, Norman Wilkinson, C.B.E., P.R.I., R.O.I., S.M.A., and Frank Wootton have gathered together to remedy this long-standing omission by forming the Society of Aero Artists.

They hope to bring together the best painters and draughtsmen of the day from those with a genuine interest in aviation.

An exhibition will be held in London during the month of June and all artists and other persons interested in the subject are invited to write to the Secretary, The Society of Aero Artists, 23 Albemarle Street, London, W.1.

My Goodness....

Yes, Guinness will probably be needed for fuel in one event at the All-Britain Rally this year. We refer to the introduction of a Clipper Cargo comp., which, as we mentioned in an Editorial comment a month or two ago, is a logical and interesting development in model flying and one which really gives design a chance with virtually no luck element. While applauding the organisers for including this event (Pan American have presented a cup, incidentally) we cannot help feeling that the rules are a bit dismal, or, rather, that one of them is. Engines of up to 1·5 c.c. are permitted, and this means that, based on the winning model at last year's U.S. Nationals, the top model is likely to be 8 ft. 6 in. span and 10 in. chord, and should weigh 9½ oz. empty, lifting a weight of approximately three pounds. Hmmmmm.....

S.M.A.E. £100 Crossword

AS mentioned in our Editorial this month, funds are urgently needed to enable this country to participate in the coming World Championships in the U.S.A., and for this purpose both we, and our contemporary "Model Aircraft" have organised a crossword competition that should appeal to

aeromodellers in general. You can send as many entries as you wish, happy in the knowledge that you might win £100, and at the same time support a very worthwhile cause. The puzzle can be found on page 272 of this issue and may we at this juncture remind you to *thoroughly read the rules*.

One final word—don't keep it to yourself. Let Dad and Mum, and even Little Willie have a go! The more entries the merrier, and the merrier our chances of bringing back both the Wakefield and Power Trophies to this country. Your local model shop has additional supplies of entry coupons, and you can if you wish make further entries on plain paper.

Indoor Sport—Again

For many years, the art of indoor flying has been almost non-existent in Great Britain, the sole reason being a sad lack of facilities for the conduct of this fascinating type of model flying. Before the War enthusiasts enjoyed the spaciousness of the Albert Hall in London, and much fine flying was witnessed within the dim precincts of this famous concert hall.

With one or two exceptions, notably the efforts of the North Western Area who for many years staged winter meetings in Manchester—albeit in surroundings that limited the scope of competitors, little or nothing has been done to revive interest in microfilm models, etc., but we are happy to announce that through the good offices of Group Captain Turner, Commanding Officer of R.A.F. Cardington, use of the enormous balloon shed at the Station will be available on July 3/4th, August 7/8th, September 11/12th, and October 9/10th.

Saturday afternoons will be devoted to practice and trimming flying, with the full Sunday taken up with record attempts and contests organised according to requirements on the spot.

Though traditionally indoor flying has been limited to the winter months, neither heating or artificial lighting are available in the Cardington shed, and meetings must be held during the lighter periods. For the 1954 meetings at least, flying is strictly limited to free-flight. Would-be competitors will realise that the extraordinary facilities placed at our disposal (height of ceiling over 180 feet to the first obstruction!) must be devoted to those who are rarely able to get the best out of their specialised models, and such offshoots as R.T.P. must be relegated to smaller halls which can usefully accommodate them.

As the Station is operational, admission is perforce limited to competitors only, and application for admission must be submitted to the S.M.A.E. by the 25th June, 30th July, 3rd September and 1st October respectively in order that the necessary passes may be prepared. No accommodation can be provided for overnight visitors, but with Bedford within easy distance no difficulties should be experienced. More news will be published from time to time, but indoor enthusiasts can now get down to the 1954 "revival."

Straight from the board

Factual commentary on up-to-date aeromodelling activity throughout the British Isles. Follow this new feature for all that's news on what the experts are flying.

Brian Eggleston of Leeds, top in 1st '54 power eliminator has an Oliver Tiger model worth watching. Underfin is split at 45° to give three point support without vulnerable tip fins normally used. This also gives projected horizontal area which must be taken into account. Average flight is 3 : 15 on 15 secs. with the Tiger producing 12,000 revs on an 8½× 4 in. prop. Other Leeds trend is to ⅞ths size Wakefields with 3-4 oz. rubber and 2-3 oz. airframes. **Ken Rutter's,** with high pitch 16 in. folder prop and 32 in. span, climbs like a "Convertaplane."

From Blackpool **Tom Smith,** the swept-forward addict for high climb power models is pleased with a new one known as "Oliver Twist." This is built extra light, with spars tapering to $\frac{1}{16} \times \frac{1}{8}$ in. and utilises a hotted-up Oliver Tiger for which he has duly paid the Oliver works the extra £2. 10% power more than stock motor output is claimed. Weight is still 6½ ounces, accounting for the lightweight 11 ounce airframe. Another Annenburg protégé is **Ian Harrison** using straight dihedral, with auto rudder arrangement to get away from the enormous amount of left thrust previously required for this type of model. Future plans are for a tailplane negatising arrangement to slow up the glide . . . .

On team racing we learn from **Norman Butcher** that the famour Croydon "Sorcerer" team of Martin/Cameron/Butcher will be operating this year in all circles. They have just concluded tests on a poppet valve ETA 29 conversion, after an idea tried by Peter Buskell on a 246. This is a spring loaded valve of ½ in. diameter, mounted in the dummy backplate which replaces the disc system. Valve seating was ground to 45° and on the crankcase depression, it opened automatically for the inlet, sealing again for compression, etc. Trials gave 24 laps at 85 m.p.h., as against an immediate switch back to disc with 30 laps at 96 m.p.h. so the poppet is out and the ETA runs as before. Though made by one of the leading watchmakers in the country, this Butcher experiment is definitely past tense and not to be advised for 5 c.c. No fuel, prop, line or other changes were made to detract from the comparison.

Some genuine red and yellow Jap tissue came our way recently and enabled tests to be made against Modelspan. For colour, it's richer, goes more translucent with doping, is "harder" and takes one coat less dope for same surface as equivalent Modelspan. But it sags more, is not as strong, and to one of our acquaintance, is harder to handle.

Second in the "Damage" was **John Palmer** of Croydon who is engaged on 300 sq. in. open rubber jobs with geared 16 strand 30 in. motors on a 22 in. × 22 in. Bilgri type prop. For his Wakefield, a cabin diamond making around the 3 : 20 mark in average conditions, the prop blades are skew hinged lightweights of only 0·1 ounce each, and specially arranged to fair in with the fuselage on folding. 14 strands of Pirelli take it up—next model will have same diamond side area; but narrower fuselage.

Wallop Pictorial 2011 - John Andrews

A few pictures from my files, of the 2011 Championships at Middle Wallop in August that year.

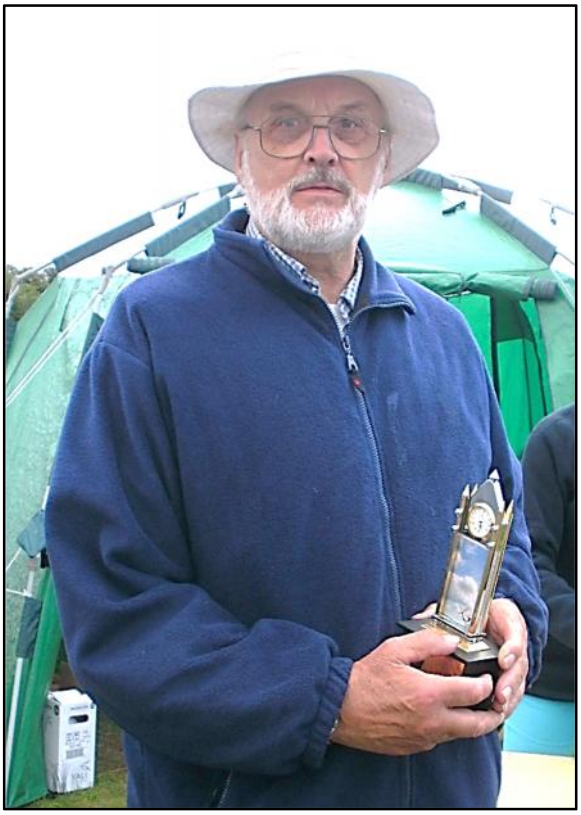
Pick of the bunch has to be our Membership Secretary & Webmaster toting, I think, No1 son Rory.

The well laden prize table, and a bottle for all the winners

Walsall's Alan Price surveys the rewards for his success on the day.

Carol Farley dishes out the most sought after reward of the day
Recipients: Roy Tiller; Peter Jackson; Chris Redrup; & our late Chairman John Thompson.

A couple of Urchins



Birmingham's Colin Shepherd with the 'best time of the day' trophy donated by the late Dick Twomey

Pictures from Wallop 2011 Champs: John Andrews

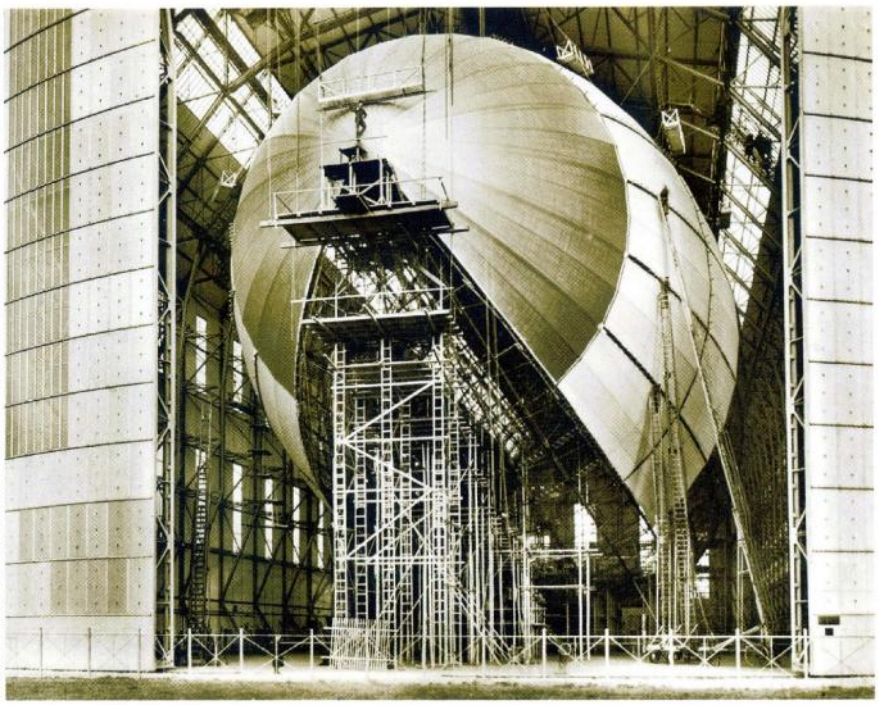
Zeppelin (continued) - Editor

Extract from the book 'The Zeppelin Story' by John Christopher

World traffic via airships has begun By the expansion of weather-services on land and sea on the one hand and the increased safety, comfort and practicality on the other it will spread out over all the seas and continents. The world should be grateful to Germany as the trailblazer

Ernst Lehmann on the conclusion of the *Hindenburg*'s first transatlantic season in 1936

Following on from the successes of the LZ127 *Graf Zeppel n* Hugo Eckener proposed a new and expanded version the LZ128 which would offer accommodation for th rty to th rty four passengers As with all previous Zeppelins she was to be nflated with hydrogen but, following the loss of the R101 in October 1930 Eckener determined that the next generation of passenger airships should be flown with non-flammable helium The LZ128 was passed by and n its place came the bigger LZ129 later christened the *H ndenburg*



A new larger hangar was built at Friedrichshafen for the construction of the LZ129 Hindenburg.

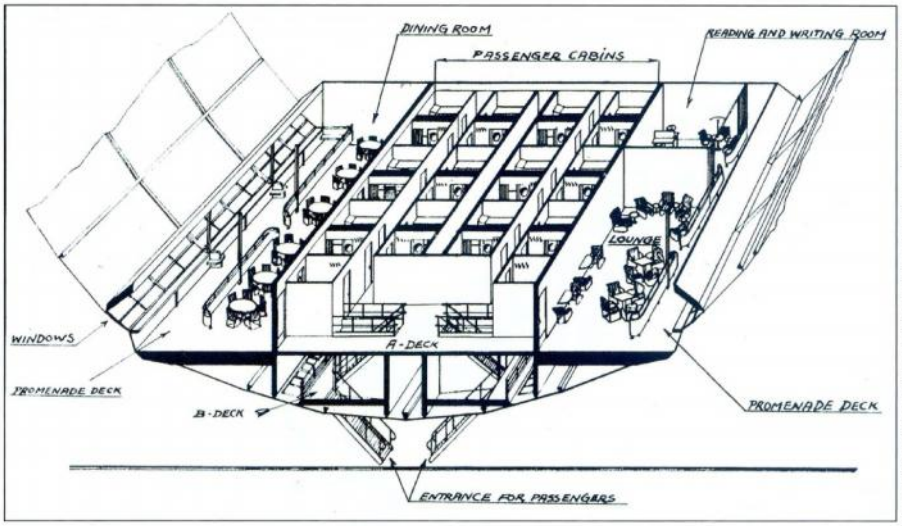
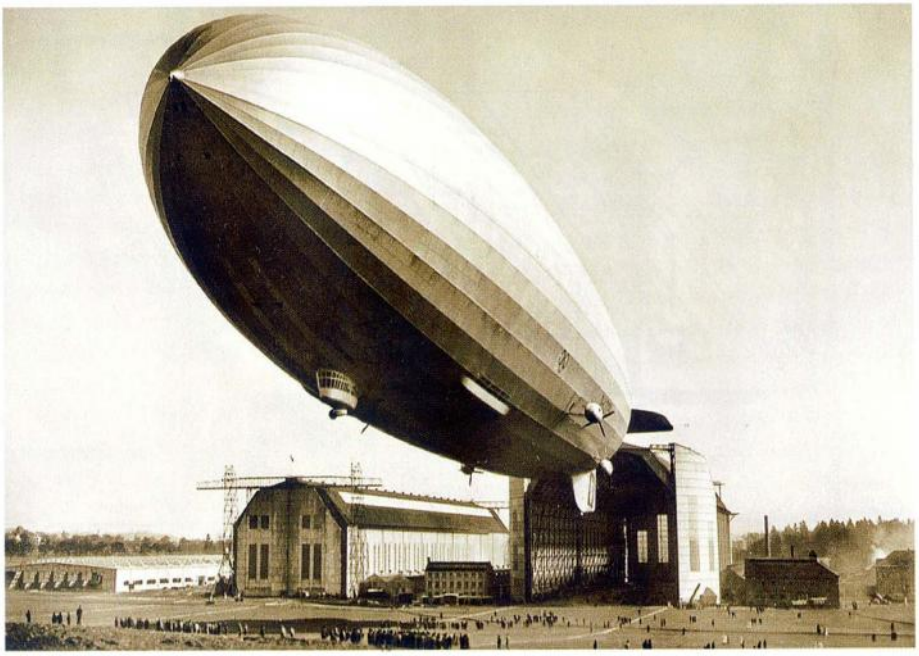


Diagram of the accommodation on board the Hindenburg. *The cabins are located centrally, with the public areas to either side.*

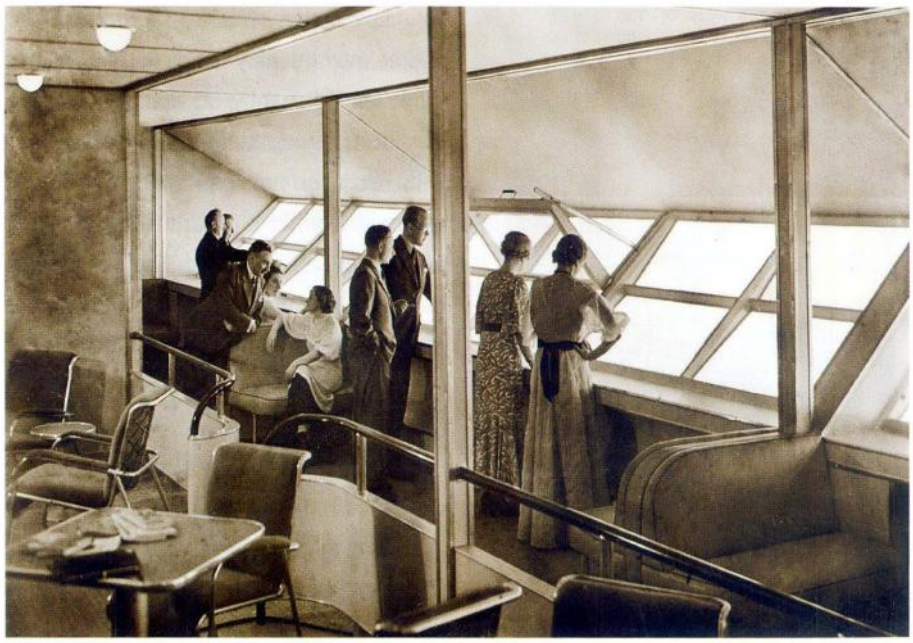
This was a truly awe-inspiring leviathan, the largest the world has ever seen – 805ft (245m) long with 7,062,900cu ft (199,880cu m) of lifting gas.

In keeping with standard Zeppelin practice, the LZ129 had a duralumin framework with fifteen main rings, giving a maximum diameter of 135ft (41.2m) –

The LZ129 made her first flight on 4 March 1936 without the name Hindenburg *applied to the outer cover, giving rise to speculation that the Nazis had wanted the airship named after the Führer.*



almost twice that of the *Graf Zeppelin*. The number of main longitudinal girders running lengthwise was increased to thirty-six and, with intermediate girders in between, the result was a smooth streamlined hull. Unlike the *Graf*, there was no facility for



The modernistic styling of the Hindenburg's spacious lounge and promenade area is evident in this photograph, and contrasts dramatically with that on the Graf Zeppelin.

carrying Blaugas as fuel, and instead the sixteen gas cells would contain helium. At least that was the plan. Power would be supplied by four 1,200hp diesels developed by Maybach and later known as Daimler-Benz DB602 engines.

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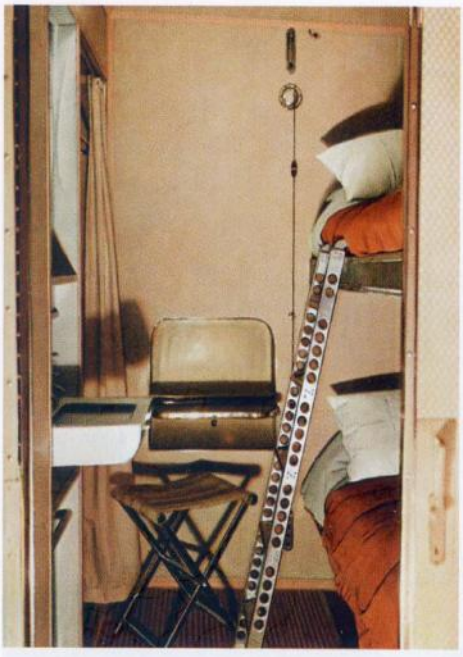
One of the Hindenburg's compact cabins complete with bunk beds and fold-up table and sink. These internal cabins had no windows, although this was rectified to some extent after the addition of further cabins for the 1937 season.



In 1930 work began on the LZ129, but it soon became clear that the Americans, who held the world's main sources of helium gas, were not going to let Germany have any as they were fearful that the Nazi regime might deploy the airship for military purposes. Reluctantly, Eckener approved the modifications necessary to inflate the LZ129 with hydrogen and on 4 March 1936 she emerged from the Friedrichshafen hangar to make her maiden flight. The hull bore no name on that three-hour flight, and it has often been suggested that this was because Eckener was being pressured to name it after the Führer. But in truth the name *Hindenburg* had already been chosen and it was emblazoned in red gothic-style lettering by the sixth test flight. Nevertheless, the Zeppelin Company was not immune to the powerful political forces within Germany. The Air Ministry had provided the funding to complete the airship and by 1935 a new operating company, known as the Deutsche Zeppelin Reederei (DZR), was

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formed with the involvement of the state-owned Lufthansa airline.

If the mechanics of the LZ129 were impressive, then the accommodation was beyond comparison with any other form of air travel. Travelling on the new airship has been described as similar in comfort and elegance to an ocean liner. Passengers entered the underbelly of the airship via a pair of aluminium stairways. Inside, the accommodation was arranged on two decks. On the upper A deck there were twenty-five double birth cabins with large public spaces, dining areas, lounges, plus promenade decks arranged on either side of the hull. The cabins were compact, but functional enough with bunk beds and a foldaway sink with hot and cold water.

'The saloons provide ample lounging space for the fifty passengers which the ship is designed to carry,' recalled one passenger in 1936. 'The port saloon contains the dining accommodation, cleverly isolated by modernistic metal railing, the starboard holds a music room and small writing room. A feature of the former is a very handsome grand piano.' This special Blüther baby grand, weighing only 400lb (180kg), was constructed in

➤ *At the Zeppelin Museum in Friedrichshafen a full-scale section of the* Hindenburg *has been constructed, including this faithful re-creation of the lounge and promenade areas.*

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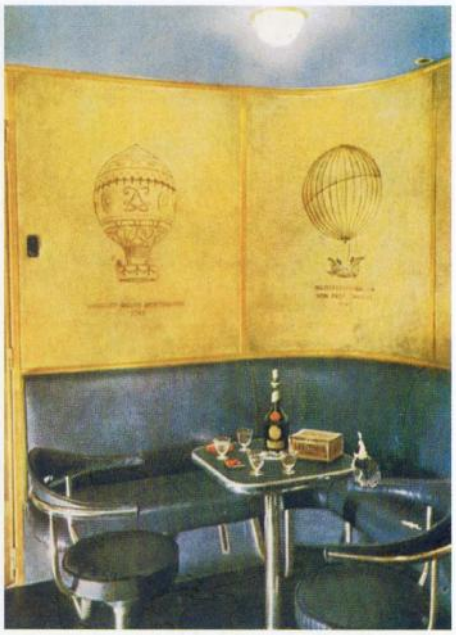
➤ *The* Hindenburg's *smoking room which was located on the lower deck and entered via an airlock to keep any stray hydrogen out.*



aluminium and covered with yellow pigskin.

On the lower B deck there was the kitchen, a spacious affair compared with the cramped galley on the old *Graf*. It had an aluminium electric stove with four rings, plus roasting and baking ovens to make fresh bread, and a refrigerator. The remainder of B deck housed toilets, a shower room, crew facilities, the chief steward's cabin, plus a small bar and smoking room in which passengers could enjoy a cigarette or cigar under the strict supervision of the bar steward. This was entered via an airlock and the room was maintained at slightly higher air pressure to prevent the admission of any hydrogen.

Following a propaganda flight to drop election leaflets over German cities, the *Hindenburg* was made ready for her first transatlantic trip, not to the USA but to Rio de Janeiro. Hugo Eckener was on board, but his reluctance to kowtow to the Nazis had seen him relegated to the status of a 'non-person' and it was the former wartime

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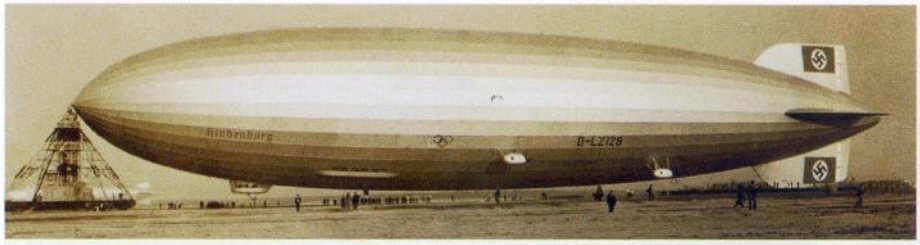

Side view of the 804ft-long LZ129 Hindenburg at Lakehurst, bearing the Olympic rings to mark the 1936 Berlin Games.

Zeppelin commander Ernst Lehmann who commanded the ship.

The *Hindenburg*'s first flight across the north Atlantic followed soon afterwards on 6 May 1936, landing at Lakehurst after an uneventful sixty-hour crossing. On returning to Germany she landed at the new international Zeppelin terminal at Frankfurt, and this would serve as the main base for future passenger operations. During that first season the *Hindenburg* made a total of seventeen round trips across the Atlantic; ten to Lakehurst and the remainder to Rio. She also made several internal flights at the request of Goebbel's Propaganda Ministry, including an appearance above the Berlin Olympic Games in August 1936. In addition, the *Graf Zeppelin* had been kept busy servicing the South Atlantic route, and justifiably there was a mood of optimism within the DZR as 1936 drew to a close. As Ernst Lehmann recorded in his memoirs, 'World traffic via airships has begun... it will spread out over all the seas and continents. The world should be grateful to Germany as the trailblazer.'

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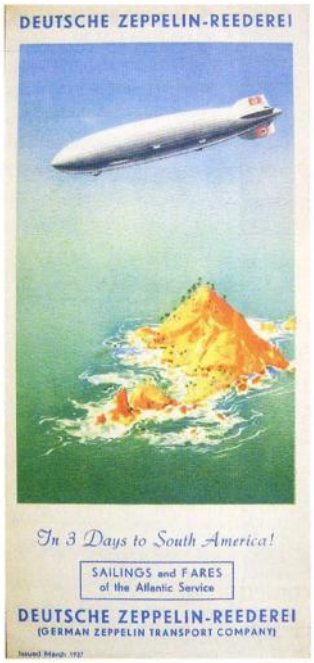

Published in March 1937, a DZR publicity brochure for the South America services.

Zeppelin Cars

Between the two wars there was a fashionable fad among the motoring elite on both sides of the Atlantic to own opulent cars built with aircraft or even airship engines. Maybach, founded in 1909, was originally a subsidiary of the Zeppelin Company and became known for its superb diesel and gas engines developed for the airships and for rail cars. It began building a series of luxurious motor cars in 1919, and these included the 1930 DS7 Zeppelin, which was powered by a 6967cc V12 putting out 150hp at 2800rpm. These engines make a wonderful deep burbling rumble, but while the V12 might sound like an airship, this heavy vehicle drives more like a lorry and today's enthusiastic owners require an HGV licence before they can go for a spin. Top speed is 90–93mph (145–150km/h) and around 200 DS7 and DS8 were built.

Production of Maybach cars did not resume after the Second World War, although the marque was revived in the early 1990s. These highly prestigious cars are now marketed alongside Mercedes-Benz and the company is owned by Daimler AG.

Beautiful in black, a superb Maybach-engined Zeppelin car.

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Editor

Indoors Isn't for Everyone 76 - Nick Peppiatt

Key Stage 1 Adventure

Our daughter is a primary school teacher, currently teaching early years. Each half term, history and geography topics are alternated. The good news for aviation buffs and aero-modellers alike is that a new history topic that has been recently introduced is titled 'First Flights'. So, I received a request from our daughter asking what I could do to assist. We agreed that her class of five and six year olds could construct a simple chuck glider to fly in the school hall. This is the section from her parent overview of the topic: -

History

This term in history we will be exploring the birth of aviation through an exciting scheme of work called 'First Flights'. We will be learning about the first aeroplanes that were made and looking at the developments in technology and the role of flight in modern society. We will even have a day with a very special guest who will help us create our own three component aeroplane to fly!

In previous lessons, our daughter had covered a number of related topics, including one on the pioneer aviatrix Bessie Coleman, which, I'm ashamed to say was a new name to me, and had added a number of dates to a timeline on the classroom wall.

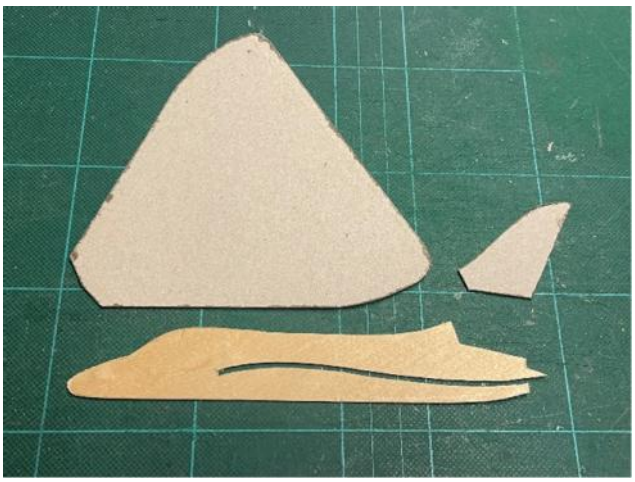
Profile Skyray, built to Bill Dean's drawings, left, with simplified version, right.

As far as the model was concerned my thoughts turned to Bill Dean's wonderful 'Eagle Book of Balsa Models', which Roy Tiller has recently reviewed in his DBHLibrary Report No 157, and in particular the Skyray profile chuck glider. Being a delta wing, this does not require a tailplane, or cracking the wing for dihedral, so it just requires three parts – wing, fuselage and fin to make a relatively stable model aeroplane. To save balsa, I substituted a simplified wing shape from 2mm thick expanded polystyrene white insulation roll, which seemed to work just as well

as the 1/32" thick balsa wing. This version flew more slowly, being 1.5g in weight, compared with 2.3g for the all balsa version. The expanded polystyrene can be easily curled with the fingers to make adjustments.

The result is a simple indoor glider that can be hurled about indoors by an enthusiastic youngster without causing any significant damage, apart from to itself. So I set to work to produce about thirty sets of components. The wing and fin templates were produced in card, with the edges reinforced with cyanoacrylate adhesive and fuselage template from 1/32" ply.

It is worth noting that the Skyray was a modern aircraft, seventy years ago, when I was about the same age as these youngsters. This is, of course, a rather larger time gap than between the Wright Flyers and the development of the Douglas F4D Skyray itself.



Simplified Skyray templates (left) and piles of components (right)

So our daughter set up a 'Red Arrows Aviation Day' for her class, which happened to coincide with Red Nose Day. This started with a video of a Red Arrows aerobatic display. The children were then divided into small groups, with various activities including identifying some aeroplane components, decorating and making paper helicopter type spinners and decorating the parts with colouring pens prior to assembling a Simplified Skyray. The aircraft were assembled using slightly diluted PVA glue, applied with a blunted single ended cocktail stick. The fin was held in place with small pieces of painter's blue masking tape whilst the glue dried. The children, with adult help, managed to complete all their models before the mid-day break, allowing the glue to dry over lunch.

A fleet of Simplified Skyrays awaiting the glue to harden. All very individual in their decoration! Note the copy of the Eagle Book of Balsa Models in the corner.

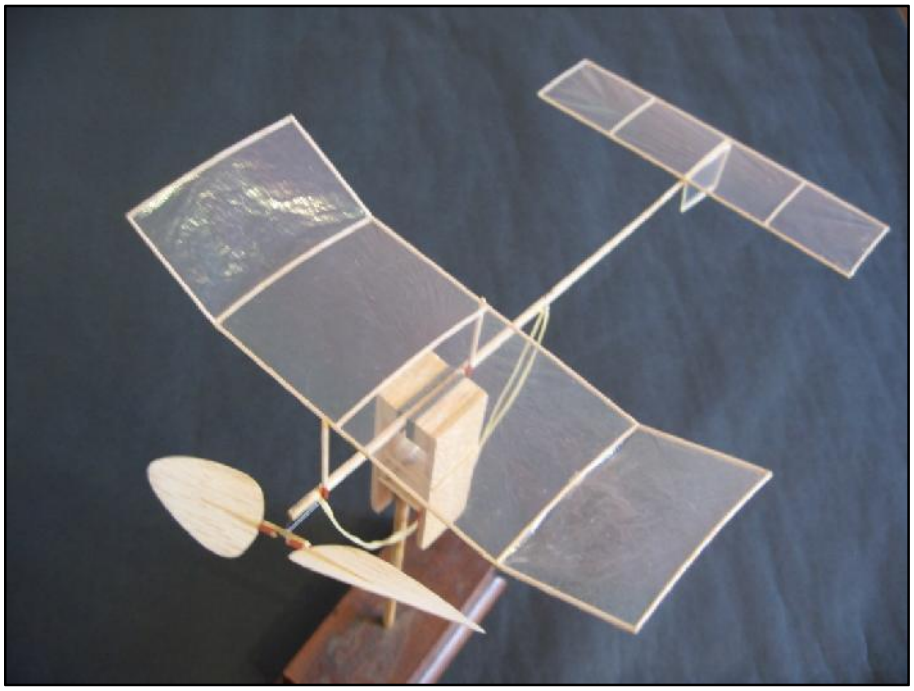
After the mid-morning break, we assembled in the school hall, which is of one badminton court size, but with a high pointed ceiling, so that I could give some demonstration flights of model aircraft.

I had brought along an old Living Room Stick Insect, a design by Brian Kenny, published in the first edition of the Flying Model Designer and Constructor magazine, together with my equally venerable Puddlebug, a three channel radio design by Stevens Aero, which is highly responsive and manoeuvrable in small indoor spaces.

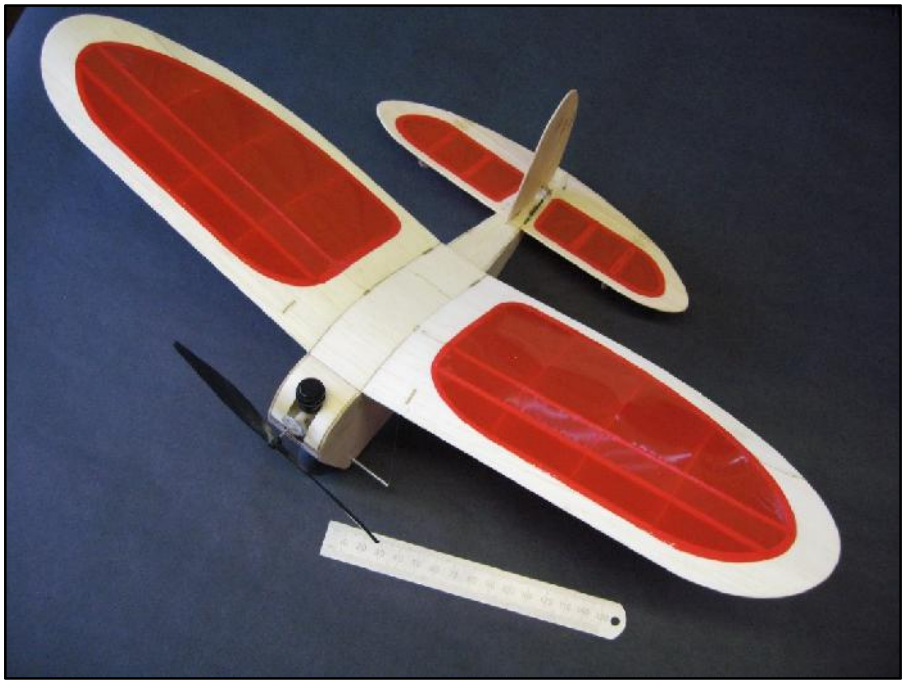
Whilst winding the Living Room Stick Insect, I commented that the first known successful rubber powered model aeroplane was built about 150 years ago, by the Frenchman Alphonse Penaud.

I put 1750 turns on the LRS and it climbed slowly to the ceiling, where it bumped around, before descending and ending up caught on a fitting on a wall, after a flight of several minutes. It was easily removed from where it had lodged with the aid of broom handle. I then made a short flight with the Puddlebug, without mishap. The walls approached very quickly!

We then returned to the classroom to finish off the group tasks.



My 7" wingspan Living Room Stick Insect on stand



Stevens Aero Puddlebug. Uses a Parkzone Vapor three channel RC brick (PKZ3351 or PKZ3352) and a geared 8.5x20mm coreless motor (PKZ3624)

After lunch, the bits of tape were removed from the Simplified Skyrays and a pea sized piece of red Plasticine was handed out as a nose weight (It was Red Nose Day, remember). We again went to the hall where the children test launched their models whilst standing on a bench in groups. I must admit that my trimming instructions were totally ignored! After some mayhem and much repairing, by guess who, a distance competition was held and certificates given to the three children who achieved the longest distances. This kept the teaching assistants busy with moving the distance markers. The kids went home buzzing! However, I don't know how many Simplified Skyrays survived the following weekend.

Nick Peppiatt

Extract from Practical Mechanics February 1950

Model Internal Combustion Engines–2

A Review of British Commercial Model Engines

By C. E. BOWDEN, A.I.Mech.E.

(*Continued from page 97, December issue*).

INTERNATIONAL Model Aircraft Ltd., Morden Road, Merton, London, S.W.19, have seriously gone into flow production of model I.C. engines and their accessories such as plastic propellers, spinners, marine flywheels and water propellers suit these engines. Large production requires careful organisation and good testing, which benefits the public in a reliable product at a low cost. If an engine is not good it will not sell in quantity, and flow production does not pay. "Frog" engines have sold in thousands, having given satisfaction to many newcomers to power modelling as well as the old hands. I always feel I can fit and forget a Frog motor. This makes them attractive for my experimental models because one wants to concentrate on the model's performance undisturbed by the whims of a motor. "Frogs" were the leaders in this country of the plastic propeller, which is now becoming a popular line with several leading manufacturers. Particularly is this so with the latest flexible propellers which are so difficult to break.

Frog "100" Series II, 1 c.c. Diesel

This little 1 c.c. diesel makes an ideal boy's motor, for it suits small models, is inexpensive to produce and easy to carry. The price of the motor is low and spares are very cheap. It is an easy motor to start and manage. Provided it is run inverted, and a certain recommended technique is followed which prevents flooding, I have found that the many "100s" which have passed through my hands are quite foolproof. Of course, if people depart from a recommended method, the results must fall upon their own heads. Manufacturers always have the greatest difficulty in getting owners to "follow the book of words," and also not to take the engine to pieces as soon as purchased "to see how it works." Incidentally, a "Frog" 100 fitted to an aircraft won the Bowden International Power Trophy in 1947, a trophy to be flown for yearly. A special sleeve is provided for this engine if it is to be run upright. The sleeve is then fitted into the induction pipe. Bore .375 in., stroke .55 in. Rotary induction valve; weight bare, 3.25 oz.; static thrust, 12 oz. plus; speed range, 600 to 6,000 r.p.m. with plastic propeller, 8in. diam. 5in. pitch, free flight; or 6 to 8in. pitch for control-line work. A special boat propeller and transmission, and a hydroplane hull kit are available for this engine. The mounting is a cone to be bolted to a front bulkhead, the cone also acting as a fuel tank. The performance has been increased recently by a new type of spray-bar carburettor. (See Fig. 11.)

Frog "180" Diesel, 1.66 c.c.

A rotary valve and cone mounting are provided, as on all "Frog" engines. The capacity is larger than the "100" by increasing the bore, thus making a nearly "square" engine, which is helpful towards high revolutions. This engine produces a good deal more power than the "100," although the weight and the appearance are nearly the same. An adjustable pitch propeller of 10in. diameter is available. Altogether a very useful engine for the larger size "small" models or the smaller "middle size" models.

Bore .485in., stroke .55in., weight (bare), 3.75 oz., static thrust, 20 oz., speed range, 1,000 to 7,500 r.p.m., max. revs., of course, vary according to propeller pitch.

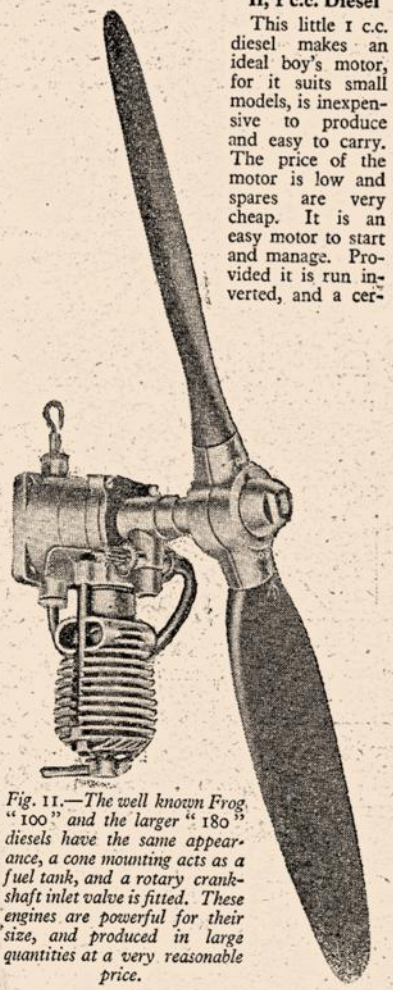


Fig. 11.—The well known Frog "100" and the larger "180" diesels have the same appearance, a cone mounting acts as a fuel tank, and a rotary crankshaft inlet valve is fitted. These engines are powerful for their size, and produced in large quantities at a very reasonable price.

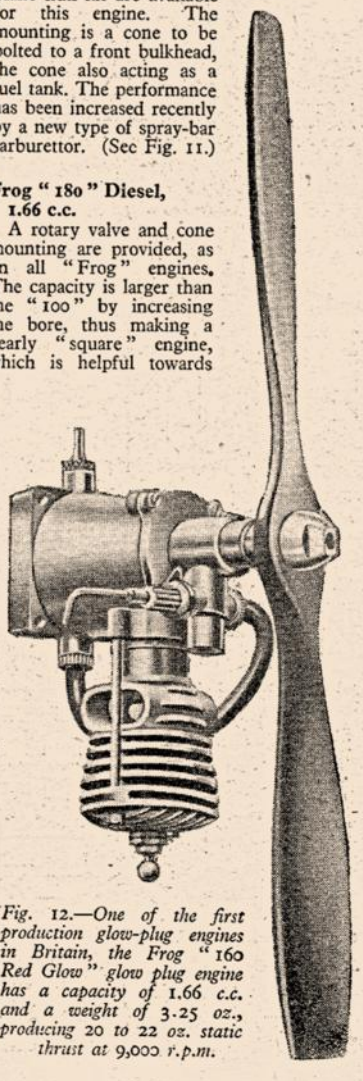


Fig. 12.—One of the first production glow-plug engines in Britain, the Frog "160 Red Glow" glow plug engine has a capacity of 1.66 c.c. and a weight of 3.25 oz., producing 20 to 22 oz. static thrust at 9,000 r.p.m.

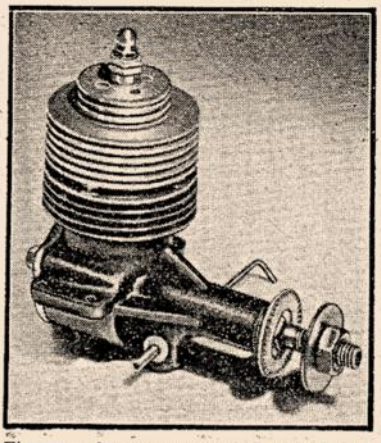


Fig. 13.—A very compact and unusual glow-plug motor, the Yulon 30 of 4.9 c.c. has a "hot" racing performance. The height is only 3⅛ in. This short stroke engine has a ring of exhaust ports located completely around the cylinder.

Frog "160 Red Glow", Glow-Plug Engine

This engine was one of the first glow-plug engines to be made for production in Britain, and comes in the small (but very powerful) class provided one of the Frog plastic propellers is fitted, which will ensure that the engine can turn at high revolutions. This motor has recently been slightly altered internally to increase its already high performance, and a new needle valve to give less critical fuel flow has been fitted to suit centrifugal force factors in control-line flight. I have used these engines considerably for free flight as well as C/L. The claimed thrust is 20 to 22 oz. (static), at 9,000 r.p.m. under a load of 8in. diam., 5in. pitch pro-

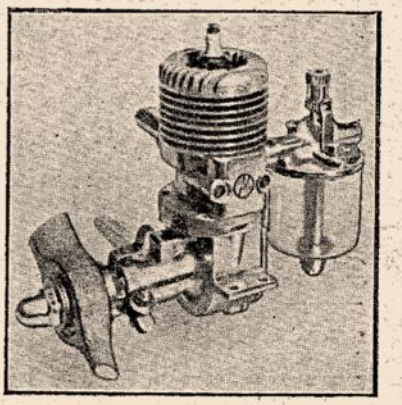


Fig. 14.—A well known medium size petrol spark ignition engine which also operates well on McCoy glow-plug, is the Majesco "45", having a capacity of 4.5 c.c.

peller, free flight, and 8in. by 6 or 8in. for control-line. Cubic capacity 1.66 c.c. Weight 3.25 oz. Special castor methanol based on "Red Glow" fuel is used, produced by "Frog." (See Fig. 12.)

The New Frog "500, Red Glow" Glow-Plug Engine

A powerful glow-plug engine of 5 c.c. is required in this country for the larger control-line model and also for radio controlled models which are becoming so popular. Frog has recently entered this market by a very powerful but outstandingly flexible engine selling for a very reasonable figure. It has the appearance and finish of the most advanced American engines. Most glow-plug engines are not flexible. The new Frog can be run comparatively quite slowly at around 4,000 r.p.m. by fitting a large propeller and using a slightly richer mixture, or maximum power can be obtained by using a propeller of approx. 10in. diam. at high revs. in the neighbourhood of 8,000 r.p.m. to 9,000 r.p.m. This is a most useful asset for radio control models or boats. The best cruising speed for good stability can be obtained by fitting a larger propeller to "throttle down the motor" as desired. I have one of these engines and find it a very easy starter as well as outstandingly flexible.

The weight is 7¾ oz., bore .75 in., stroke .680 in.

The 5 c.c. Yulon

The Yulon Engineering Company, 53, Woodland Road, Northfield, Birmingham, 31, have recently introduced a glow-plug engine of great promise and an unusual set up, called the Yulon 3c (Fig. 13). This engine has already won several local speed and stunt events in its home area. I have one of these engines which has greatly impressed me by its fierce performance, very compact size, due to design, and a "square" bore and stroke, not to mention an exciting exhaust note due to very high revolutions and a ring of exhaust ports located completely around the cylinder like the American Arden. The short stroke and the porting have a lot to do with the high performance, assisted by a large crankshaft rotary inlet valve. A small propeller revolving at extremely high speeds in American glow-plug fashion is a performance secret of this engine. Here it may interest

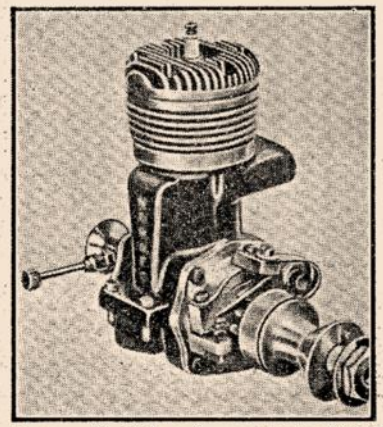


Fig. 17.—The high performance racing Nordec 10 c.c. engine is available in glow-plug ignition or spark ignition form. It is noted for great power at high revolutions and has gained a British record control-line speed of 95.3 m.p.h. Fitted with two piston rings and two ball bearings.

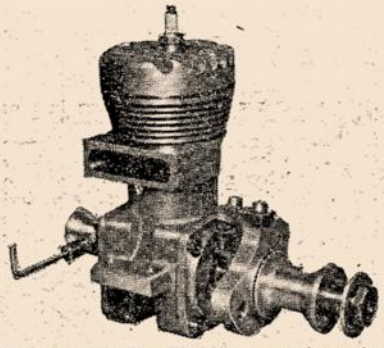


Fig. 15.—The Rowell 60 is a true racing engine on American well-tried lines having a very high performance. This 10 c.c. petrol engine has been officially timed to do 84.4 m.p.h. in a model car and can be bought as an integral unit with spur gearing and axle complete.

readers to observe that where an engine is designed for very high speeds and has large porting, steady performance can be obtained only by keeping the revolutions very high. A large propeller kills revolutions and upsets the suction through the large inlet orifice.

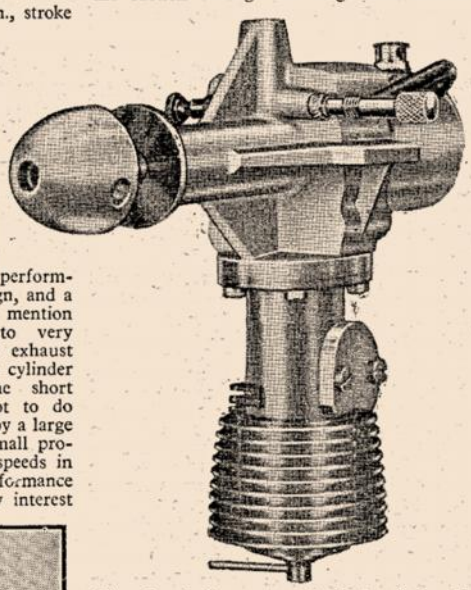


Fig. 16.—A Scots 5 c.c. diesel of well thought out detail construction is the "Clansman" provided with a crankshaft rotary inlet valve and a specially domed piston.

This engine is worth keeping an eye upon. The bore is 0.746in., stroke 0.691in., weight 5½oz., length 3¾in., width 1 11/16in., height 3 7/16in. Mounting beam or radial. 360 degrees transfer, 360 degrees exhaust port. The makers claim 11,000/12,000 r.p.m. on a 9in. by 6in. propeller, or 20,000 plus with flywheel, using a straight undoped methanol castor oil fuel. Naturally, nitromethane fuel will increase performance. It comes as a surprise that the capacity of the engine is quite large, namely 4.9 c.c. This surprise is due to the small overall dimensions.

The Majesco "45", Petrol or Glow-Plug Engine, 4.5 c.c.

Majesco Miniature Motors, Vale Road, Parkstone, Dorset, are well known for reliable and easy starting engines, and were in the business years before the last war. The 2 c.c. diesel appears to have been dropped, which is a pity, for it was one of the most reliable of motors. The firm are concentrating upon their well-known petrol and glow-plug engine.

This is one of the few medium-size petrol engines available on the British market. It forms a very reliable source of power for quite large models down to the medium small model, for those who are fond of the old well-tried petrol engine. Certainly one could not wish for a more steady performer with a good power output than the "45," and those interested in the smaller radio-controlled model having controlled engine speed by spark advance and retard, might do well to consider the "45," which has recently had an improved contact breaker fitted, designed to eliminate any tendency to "float" at the increased performance speeds obtained. This contact breaker is not shown in the accompanying photograph. (Fig. 14).

The bore is ¾in., stroke ¾in, capacity .275 cubic inches, power 1/5 h.p. at 7,000 r.p.m. Best airscrew diam. is 11in. Four-port design. Height 3¼in. This motor is supplied as a marine unit with flywheel, which I have used in several of my model planing speed-boats with success.

The Rowell 60 Racing Engine, 10 c.c.

Rowell Motors Ltd., 93, Victoria Road, Dundee, have concentrated on a large capacity 10 c.c. petrol engine after the "hot" American racing pattern, especially for racing cars. These engines are also suitable for high-speed work in the aeroplane and boat field. In fact, I have one fitted to a hydroplane. Control-line flying is especially suitable for this powerful motor when a large model is used. The spark ignition timer points are set and cannot be varied by hand lever once the engine has started. The engine is also suitable for glow-plug ignition and is supplied with plain front housing for this purpose. The engine has put up an officially timed speed of 85.4 m.p.h. in a model car and therefore comes very definitely in the "high performance" class. The Rowell racing engine is also produced as a spur gear unit integral with back axle, or front axle, ready to bolt into a model racing car. Spur gearing is much favoured by the high-speed American racing cars. The firm also supply many race car accessories of interest.

This engine has rotary disc induction,

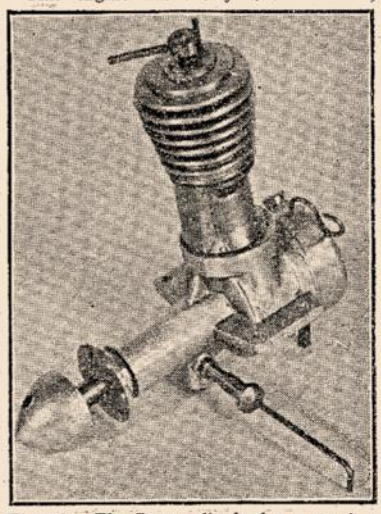


Fig. 18.—The Reeves diesel of 3.4 c.c. is a medium-capacity motor which can be converted to glow-plug ignition if desired. A rotary crankshaft valve is employed with a plain bearing crankshaft and fuel tank situated at rear of the crankcase with positive fuel cut off to time the duration of flight.

with ball-bearing crank-shaft and light alloy piston having a special shape to ensure high turbulence combustion with low turbulence scavaging. Two piston rings are fitted with car type ignition make-and-break contact breaker. Very large porting for easy gas flow with a carburettor having a big throat located at the rear of the crankcase makes a compact engine. Finish is good, as is to be expected from a firm of racing enthusiasts. Bore 15/16in., stroke ⅞in., max. r.p.m. 20,000 plus. (See Fig. 15.)

The "Clansman" 5 c.c. Diesel

The Caledonia Model Co., of 5, Pitt Street, Glasgow, C.2, make a nicely finished and well thought out 5 c.c. diesel. A further engine will shortly be announced called the "Chieftain."

The 5 c.c. diesel is a useful "large" size motor in this type, and owing to high torque at comparatively low revolutions can fly quite surprisingly large and heavy models if a large diameter and suitably pitched propeller is used to take advantage of this characteristic of the larger size diesel. Many modellers get confused over the characteristic performances of diesel and glow-plug engines. The diesel is a slower revving pulling type and the glow-plug engine, with its "early ignition" effect, is by nature a power producer at high revs. This is slightly qualified by the smaller diesel having higher revs. than the larger diesel.

Specification: Bore 11/16in., stroke 13/16in., height 4½in., length 5½in., width (over brackets) 2in., weight 9½oz. approx. Compression ratio 16 to 1. Rotary valve induction. Crankshaft dia. ⅝in., crankpin 9/32in. dia. Piston cast iron domed. Long bearing for crankshaft to give steady running and long life. Rotation of engine clockwise, an unusual feature for model engines, which normally run anti-clockwise. The domed piston is claimed to give a high degree of cut-off and excellent turbulence. The engine uses "Clansman" fuel with three parts ether B.P. (Fig 16.)

The North Down Engineering Company, Godstone Road, Whyteleafe, Surrey, are responsible for a nicely finished high-performance petrol and glow-plug engine in the large 10 c.c. racing class, designed along well-tried American lines which have proved so successful in this size. A sensible car type contact breaker is fitted, and porting is really large and efficient for high speed. The induction is at the rear of the motor direct to a rotary disc valve.

Britain for a long time lagged seriously in this class of engine, but is now well up in the race. I have used the Nordec engine in various models and have been struck by its great power. A friend has recently fitted a glow-plug version in a large speed vee-bottomed planing hull of my design, called the "Sword Fish." This is fitted with radio control, and the Nordec engine has been found to provide plenty of power when allowed to revolve at high speed by fitting a small, correctly pitched propeller, remembering that this is the glow-plug version, and my previous remarks on the necessity of high revs. for glow-plug ignition. Nordec engines are used for racing cars as well as aircraft and boats. A British control-line record was put up by a Nordec engine with a speed of 95.3 m.p.h.

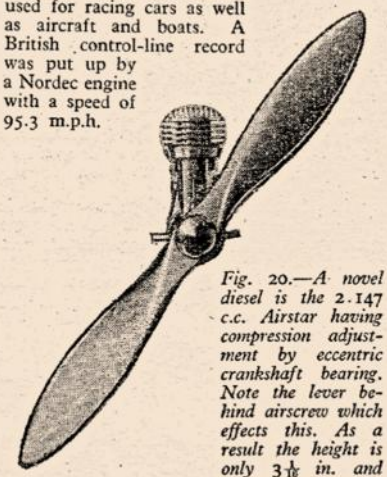


Fig. 20.—A novel diesel is the 2.147 c.c. Airstar having compression adjustment by eccentric crankshaft bearing. Note the lever behind airscrew which effects this. As a result the height is only 3 1/16 in. and damage can not be done by screwing a contra-piston down too far.

The Nordec R.10 and RG10 Petrol and Glow-plug Engines]

Bore .940in., stroke 875in., capacity 9.95 c.c. Height 4.2in., width 2-5in., length 4.5in., weight 14.5oz. Performance (on bench): Standard flywheel, 22,000 r.p.m. Prop. 9in. by 10in. pitch, 12,500 r.p.m.; 10in. by 8in., 11,800 r.p.m.; 12in. by 7in., 11,000 r.p.m. and 10in. by 10in., 10,000 r.p.m. Two piston rings and two ball bearings are fitted, which, together with large and well-designed porting, account for the high performance figures. (Fig. 17.)

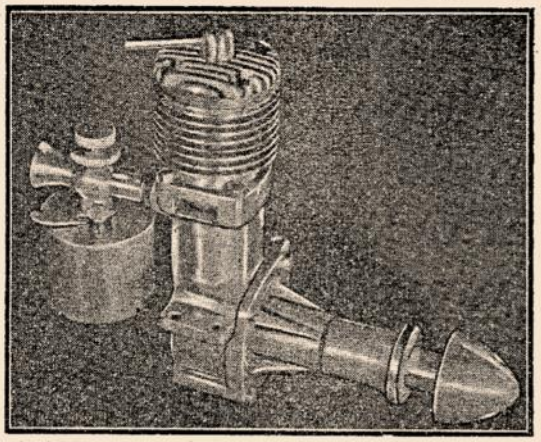


Fig. 19.—The Wildcat diesel is 5 c.c. and has recently undergone improvements to port design with a 20 per cent. increase of power. The makers find their new vernier fuel adjustment, seen in the photograph, gives better burning of the mixture and more even running.

Reeves 3.4 c.c. Specification

The Reeves Engineering Co., Victoria Road, Shifnal, Shropshire, manufacture a medium size diesel engine of 3.4 c.c. with rotary crankshaft valve and plain bearing, suitable for glow-plug conversion. This engine is recommended by the makers for 'planes of 2ft. 6in. to 6ft. wingspan, or control-line or car models. Two exhaust ports and one transfer port are provided with a long, plain, main bearing. The fuel tank is situated at the rear of the beam-mounted crankcase. (Fig. 18.)

Bore .570in., stroke .760in., weight approx. 6½oz., r.p.m. 2,000 to 7,000. Propeller 11in. to 13in. dia., 6 to 9in. pitch. Cut-out, positive valve type. Main bearing 11/32in. dia. Fuel recommended, 45 per cent. ether, 20 per cent. X.L. oil, 35 per cent. paraffin.

Wildcat II 5 c.c. Diesel.

Davies Charlton and Co., 13, Rainhill Road, Barnoldswick, via Colne, Lancs, make a large 5 c.c. diesel called the Wildcat. A 36in. span stunt control-line aircraft kit supports this engine. A 20 per cent. increase of power has been obtained during development work recently. Free flight models up to 7ft. span are recommended. A fully machined kit to build the engine is also obtainable (see Fig. 19). The engine is also suitable for glow-plug conversion after it is well run in. A special head is provided.

Specification: Bore 11/16in., stroke ⅞in., weight 9½oz., height 4¼in., max. r.p.m. 11,000, recommended range 5,500 to 6,500. Vernier fuel adjustment provided. Recommended fuel is 10 per cent. castor oil, 40 per cent. diesel oil or paraffin and 50 per cent. ether.

The Airstar 2.147 Diesel

J. P. Steward and Co., Ltd., York Street, Luton, Beds, last year introduced a very interesting little diesel having several novel features which perform very well in practice, as I know from the experience of trying one of their engines.

The J.P.S. Airstar is a diesel of 2.147 c.c. of small overall height, because instead of the usual contra piston and adjusting lever at the top of the cylinder the compression ratio is increased or reduced by moving a hand lever behind the propeller, which rotates the main bearing mounted in an eccentric. This causes the bearing to move towards or away from the cylinder head, thus increasing or decreasing the compression, as desired.

Fixed Fuel Jet

Contrary to usual practice on model engines, the Airstar has a fixed fuel jet and an adjustable air supply by throttle screw, which certainly gives easy starting and reliable running.

The height of the motor is only 3 1/16in., and an excellent feature not often seen on diesels is a drain screw in the crankcase which permits clearing out the crankcase in no uncertain manner should a mistake be made and the engine grossly over-flooded. There are two sizes of fuel tank provided which are easily changed over and have graduated ring markings so that the operator can send off the model when the fuel is at a known ring which produces a certain duration of engine run. One tank is larger than the other. This method should prevent flyaways due to time switches possibly sticking.

Specification: Bore .12 mm., stroke 19 mm., compression ratio (high) 30-69 (normal), 15-33 (low), 10-23. Weight without propeller 5oz. No nuts and bolts are used in the assembly. Propeller for free flight, 10in. dia. by 6.5in. pitch. Engine may be run in either direction. Fuel: Ether 60 per cent., Castrol X.L. oil 25 per cent., paraffin 15 per cent. (Fig. 20.)

(*To be continued*)

Schoolboys' Exhibition

AT the Schoolboys' Exhibition, held at the Royal Horticultural Hall from December 31st, 1949, to January 14th, 1950, a large exhibit, sponsored by Johnsons of Hendon, Ltd., the photographic chemical manufacturers, showed by practical demonstrations, how easy it is for boys to start home photography.

The process of developing films was explained and contact prints, exposed by the boys, were developed on the spot. An enlarger was in operation for the visitors to see and, after finishing with a demonstration on toning and tinting, every boy received a free copy of a book on photography.

Bangor Indoors - Martin Pike

Indoor model flying in Bangor, North Wales
April 7th 2024

I have been organising small indoor flying meetings for several years. I reasoned that even if I made a loss, it would be cheaper than regularly travelling to Birmingham or Manchester for meetings.

This year we have moved to a larger hall; 6 rather than 4 badminton court size. The increased cost (£39/hour) is offset by the greater flying area. I book two or three hour slots, depending on availability. Personally I'd be happy to fly for four or more hours, but others seem happy with the relatively short slots.

There were not many free flight aeromodellers in the area, so I tried to recruit local radio flyers, some of whom have become interested in either flying indoor R/C or venturing into free flight. The radio club are considering sponsoring future indoor events for their members.

In summer weather we fly over a freely accessible upland bog and also at a radio club - on agricultural land. We are fortunate in having good flying sites in North Wales.

I always bring spare models to indoor events that people can fly, as well as winders and a small stock of model kits. Aeromodelling is not a great spectator sport. I show novices how to wind and launch; then let them try it for themselves. Having simple kits available means that there is at least a chance they'll build something for a later meeting.

The Gyminnie Cricket models from the BMFA and Steve Midson foam models have been most popular - both sadly no longer produced.

On Sunday 7th April we had a three hour slot with seven attendees. With only a few radio flyers and a large hall there was no need for formal time slots.

John Charles - an experienced RC flyer - had been working on his Gyminnie Cricket, getting up to 40 seconds from an entirely stock model. I could do no better with my stock model.

John Andrews has recently given me some of his models. Two of his 'BMFA 35 cm challenge' models were brought out of retirement. Despite long storage and having been extensively repaired, both flew up to two minutes out of the box with the first rubber that came to hand. Although dauntingly delicate, these 'large' duration type models are remarkably forgiving and allow relative novices to experience longer flights. I find most modellers can fly them after a brief demonstration, and they are eminently repairable.

I had hoped to have my Scale National entries ready for this meeting, but I'd had to go away. The Auster J4 flew (but needs repair) and the peanut is yet to be completed.

My scale J4 model, built in part from a kit given to me by John Wingate
Sleek Streak - kit from Volare products

Allan Patrick's radio models - Yellow J3 on park zone box.

Son Rory flying his radio triplane.

The ever popular 'Hangar Rat'

Rory Photographs ex John Andrews's 35cm model

Martin Pike

Prototypes Worth Modelling

No. 28. THE D.H. 60 MOTH

Photograph by courtesy of "Flight"

By C. B. Maycock

THOSE who are fortunate enough to live in the London area can go and see the late Amy Mollison's old *Moth* "Jason" hanging in the galleries of the National Aeronautical collection in the Imperial Institute at South Kensington. This machine typifies all the famous records held by *Moths* in the early 1930's. Particularly was it used by the women pioneer aviators, Amy Johnson (Mollison), Lady Bailey, Mrs. Bonney, Jean Batten and others.

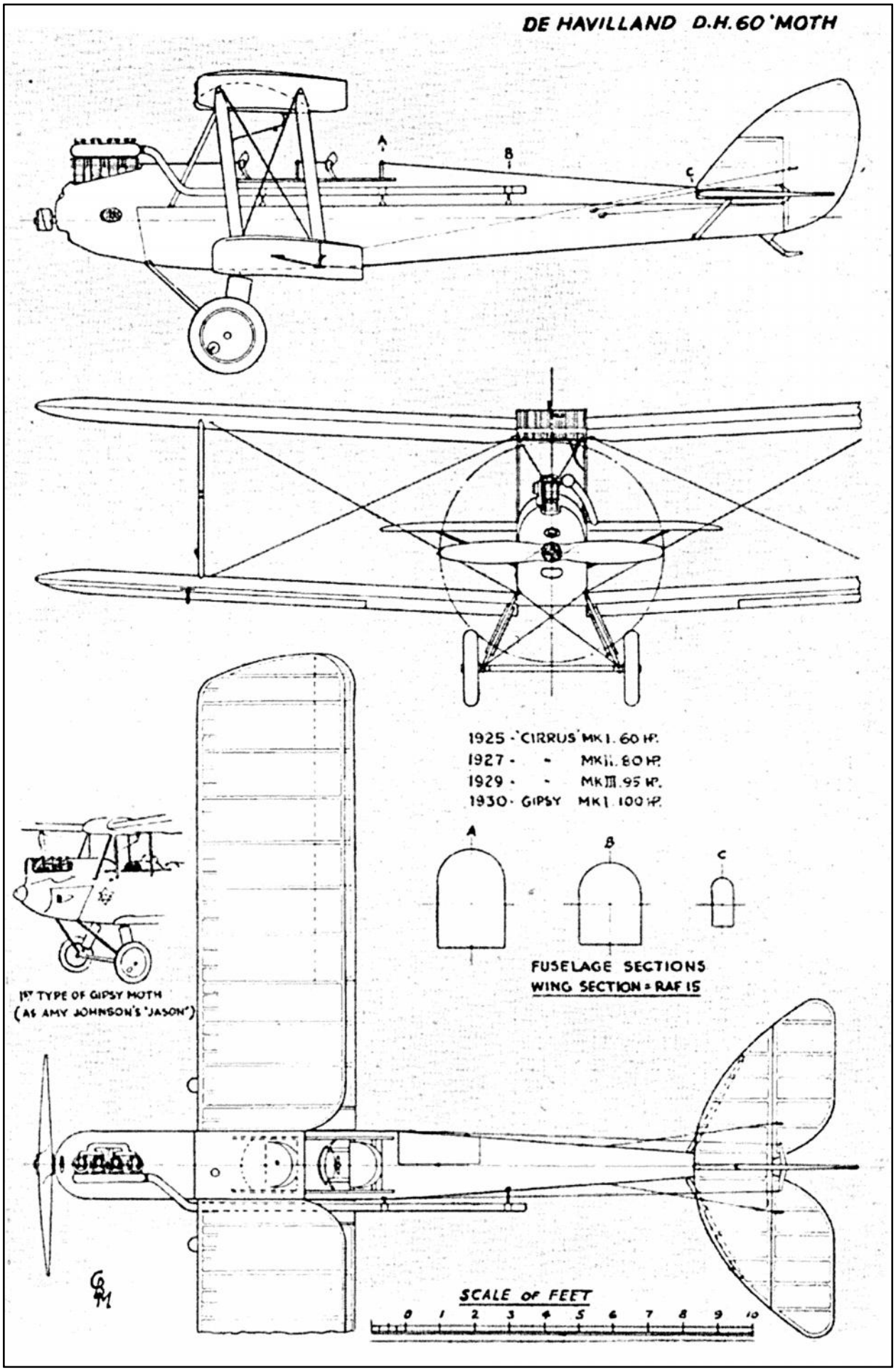
The original De Havilland *Moth*, G-EBKT, first flew in February, 1925. It had a Blackburn "Cirrus" motor of 65 h.p. giving it a top speed of 91 m.p.h. The original model had a non-balanced rudder, but was followed almost immediately by the famous balanced rudder of characteristic shape.

The *Moth* was a machine of conventional construction, having a spruce and plywood fuselage, slabsided with a half-round turtle deck of plywood, and fabric covered. The wings had I-section spars with built-up ribs, eleven per wing. Two nose ribs were fitted between the main ribs on the upper L.E. and one between each on the lower L.E. The tips of the wings, rudder and tailplane were of bent light alloy tubing. All surfaces were fabric covered. The wings folded against the fuselage side to aid storage and for this purpose a jury strut was fitted between the upper and lower front spars at the wing roots. Both sets of wings had equal span and equal chord. There was slight forward stagger and the dihedral was uniform. The tailplane had a single bracing strut from the bottom longeron of the fuselage to the underside of the spar. The mainplanes were supported by streamlined spruce interplane struts, and at the centre section by steel tube A-struts forward and vertical struts aft which also carried the main fuel tank. The undercarriage of the early marks of *Moth* had the straight-through axle supported by a pair of hinged struts forward, and by rubber sprung compression legs aft, which were nearly vertical.

One of the first batch of Moths with an unbalanced rudder. Photograph by courtesy of the Director off the Science Museum.

The *Moth* was easily converted to a seaplane. Short Bros of Rochester supplied two long duralumin floats for this purpose. It was a *Moth* of this type, ZK-AKK, that Francis Chichester flew across the Tasman Sea in 1932, subsequently writing a fascinating account of this adventure. This machine was a *Gipsy Moth* a model introduced in 1928.

The first *Moths* were registered G-EBKT, 'KU, 'LI and 'LR to 'LY inclusive. Known as the 60X, the third production model had a "Cirrus" Mk II engine. These machines had certain modifications to the wings and empennage with consequent increase in speed. The "Cirrus" engine like its successor the "Gipsy" was an air cooled, in line, four-cylinder motor, exhausting into the characteristically long tail pipe which ran along the top of the fuselage decking to approximately half way between the rear cockpit and the leading edge of the tail plane. Amy Mollison's "Jason," mentioned earlier, was registered G-AAAH and had a greengage green fuselage with silver doped flying surfaces. The registration letters were in silver on the fuselage sides and black on the wings. The main dimensions were as follows: span 30 ft.; chord 4 ft. 4 in.; length 23 ft. 11 in.; height (tail up) 8 ft. 9¼ in.; track 4 ft. 8 in.; gap 5 ft.; stagger 4 in.; dihedral 3 deg.; tyre size 650 mm. × 125 mm.; airscrew diameter 6 ft. 4 in.; ailerons (bottom wings only) 9 ft. 7½ in. long by 14¼ in. wide; width of petrol tank at centre section 24 in.; spar centres 29 in. apart; tailplane span 9 ft. 10 in.; height of rudder 4 ft. 6 in.


DE HAVILLAND D.H.60 'MOTH
A
B
C
1925 - 'CIRRUS' MK I. 60 HP.
1927 - - MK II. 80 HP.
1929 - - MK III. 95 HP.
1930 - GIPSY MK I. 100 HP.
A
B
C
FUSELAGE SECTIONS
WING SECTION = RAF 15
1ST TYPE OF GIPSY MOTH
(AS AMY JOHNSON'S 'JASON')
SCALE OF FEET
0 1 2 3 4 5 6 7 8 9 10

London Gala - Alan Brocklehurst

Report on F1G activities at the London Gala
Salisbury Plain 14 April 2024

A few days before the event, the weather forecast didn't look good, but as the day approached, the prospects looked better and, whilst it would be rather windy on the Saturday, it should at least be flyable for Coupe on the Sunday. Then came an email saying the event was cancelled due to MoD activity, so I started to make alternative plans. Then another email said it was 'on' and that MoD didn't need Area 8 for training after all. Fortunately, I managed to re-arrange and get everything prepared in time and, as luck would have it, the forecast on Sunday now offered mean wind speeds of 7-8-10mph (Westerly) which would be much more viable for Coupe.

I made an early start to try to take advantage of the lighter winds earlier in the day. Access to the plain went well thanks to the efforts of Chris Redrup who provided planks and sand-bags near the entrance and signs to a long drive over the grass field (thankfully now dried out). The line of cars eventually increased to about 15 on the Sunday, but entries were fewer than had been hoped. From what I gathered from organiser Simon Dixon, Saturday was quite breezy, though flyable.

My first flight (with C-03, the red one) climbed steeply to begin with, but then more slowly, not getting very high, before being influenced by the valley and D/T'd just above the horizon to make the max. My Second flight was a more obvious max, but according to the BMK GPS tracker still only reached about 50m altitude and then lost height on the glide until it flew back into good air and climbed for the last 20 seconds before it D/T'd and descended into the valley.

Unfortunately, my B&W club-mate, Martin Stagg didn't get good air on his first flight and his model went over the edge of the valley for only 1:23. Meanwhile, Ben Hobbs made a poor launch and scored only 0:57 on his first flight, but maxed on his second flight. I suggested to Martin that he ought to carry on and make another flight, but although the model got away well, it spiralled-in on the glide for only 1:17.

During the competition, I didn't have much time for noting what others were doing and, indeed, no time to stop and take any photographs! My third flight eliminated any fly-off hopes that I might have had, as the launch didn't go well and the air wasn't good either, hence 1:39, sucked down once again into the valley!

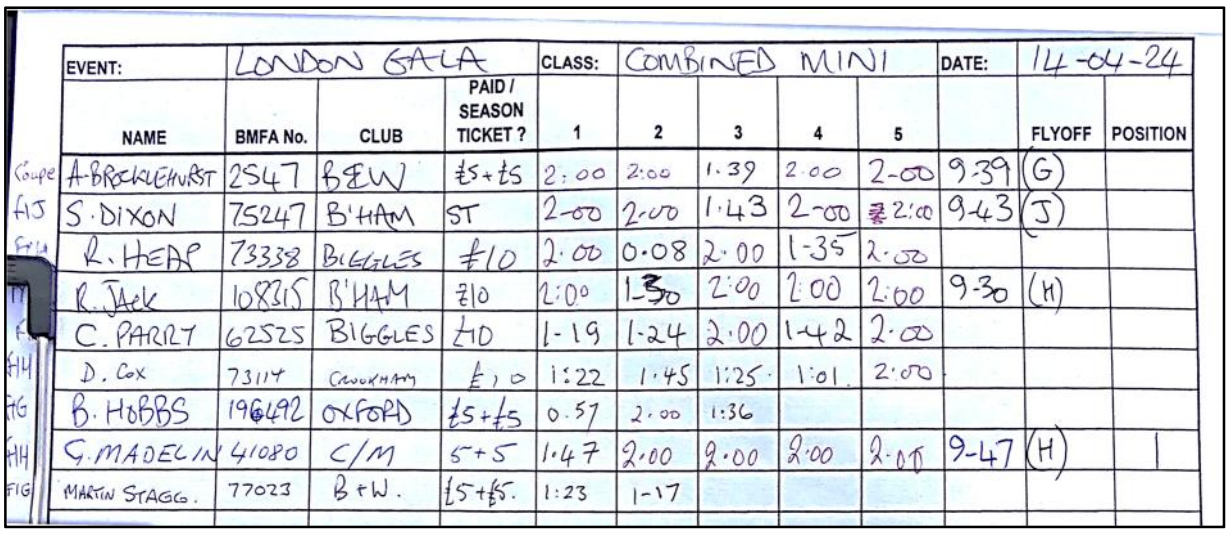
After a much needed lunch break, and with the wind increasing slightly and the temperature dropping, I wound again and this time launched into reasonable air. The wind took the model along the field and then across the end of the valley such that we could clearly see where it landed. This was a nice max, though quite a long walk due to the increasing wind strength and the undulations of Salisbury Plain.

After bit of an odd launch in rather turbulent air for my fifth flight, I was lucky that the model recovered quickly and climbed away as well as it did, although again it didn't get very high and just flirted with tiny bits of buoyant air which prolonged the glide to scrape a final max.

The retrieve was interesting, as it had flown along the edge off the field in the westerly breeze and then went over into the eastern end of the valley quite low. The GPS took me to a point where there was no sign of the model and I slowly came to realise that this must be where the signal had been lost, so was the last-known GPS position. Whilst I have experienced several over-the-horizon flights on the 'Plain', the BMK device must have previously picked up signals

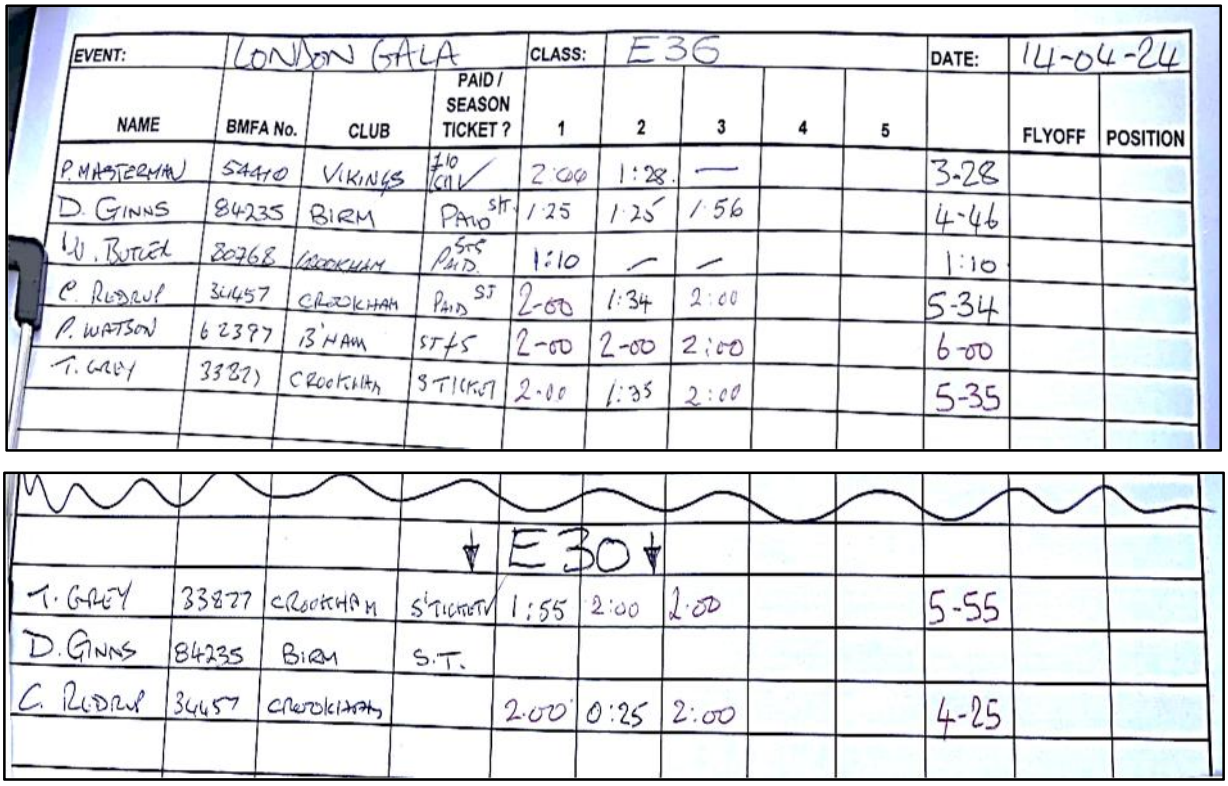
as I walked along so it had always taken me directly to the model (I can't recall noticing previously any sudden jumps in the GPS distance or direction, but one lives and learns!). Anyway, after talking to others who were retrieving their models, I carried on down the valley and climbed quite a way up the other side, with GPS distance increasing and the instrument telling me to go back. I felt sure that the model couldn't have gone this far, but I also know that Salisbury Plain is famous for swallowing models. Then, as if by magic, the BMK GPS device indicated 175 m further on and to the left – surely not my brain replied! I checked with binoculars and saw nothing from my vantage point! I think it was Simon Dixon who said I should believe it! I therefore followed the arrow to the new GPS location, and low and behold, I walked straight to it! The model was 'hidden' behind a slight ridge and dip in the terrain. Brilliant! Thank-you BMK! It was a long walk back and I was relieved that this was my last flight and I had come 3rd overall and top in the F1G section of the Combined Mini.

Combined Mini Results from London Gala (only 3 flew F1G)



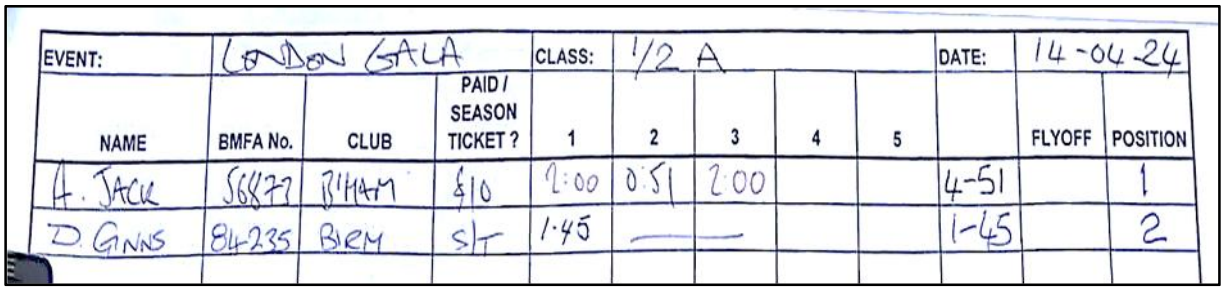
EVENT:	LONDON GALA			CLASS:	COMBINED MINI					DATE:	14-04-24	
NAME	BMFA No.	CLUB	PAID / SEASON TICKET ?	1	2	3	4	5		FLYOFF	POSITION
A. BRICKLEHURST	2547	B&W	£5+£5	2:00	2:00	1.39	2.00	2-00	9.39	(G)	
S. DIXON	75247	B'HAM	ST	2-00	2.00	1.43	2-00	2:00	9-43	(J)	
R. HEAP	73338	BIGGLES	£10	2.00	0.08	2.00	1-35	2.00			
R. JACK	108315	B'HAM	£10	2:00	1.30	2:00	2:00	2:00	9-30	(H)	
C. PARRY	62525	BIGGLES	£10	1-19	1-24	2.00	1-42	2.00			
D. Cox	73114	CROOKHAM	£10	1:22	1.45	1:25	1:01	2:00			
B. HOBBS	196492	OXFORD	£5+£5	0.57	2.00	1:36					
G. MADELIN	41080	C/M	5+5	1.47	2.00	2.00	2.00	2.00	9-47	(H)	1
MARTIN STAGG.	77023	B+W.	£5+£5.	1:23	1-17						

E36, E30, 1/2a and P30 Results from London Gala

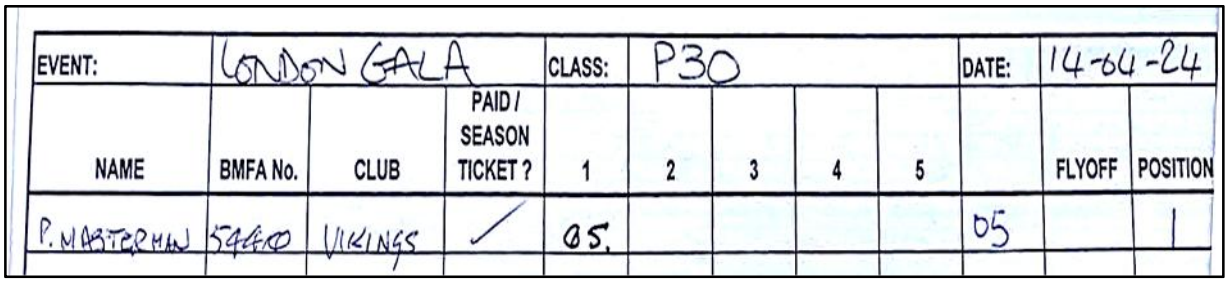


EVENT:	LONDON GALA			CLASS:	E36				DATE:	14-04-24	
NAME	BMFA No.	CLUB	PAID / SEASON TICKET ?	1	2	3	4	5		FLYOFF	POSITION
P. MASTERMAN	54410	VIKINGS	£10 CAV	2:00	1:28.	—			3.28		
D. GINNS	84235	BIRM	PAID ST	1:25	1:25	1:56			4-46		
W. BUTLER	80768	CROOKHAM	PAID ST	1:10	—	—			1:10		
C. REDRUP	34457	CROOKHAM	PAID ST	2-00	1:34	2:00			5-34		
P. WATSON	62397	B'HAM	ST £5	2-00	2-00	2:00			6-00		
T. GREY	33827	CROOKHAM	STICKY	2.00	1:35	2:00			5-35		

				E30							
T. GREY	33827	CROOKHAM	STICKY	1:55	2:00	2.00			5-55		
D. GINNS	84235	BIRM	S.T.								
C. REDRUP	34457	CROOKHAM		2.00	0:25	2:00			4-25		



EVENT:	LONDON GALA			CLASS:	1/2 A				DATE:	14-04-24	
NAME	BMFA No.	CLUB	PAID / SEASON TICKET ?	1	2	3	4	5		FLYOFF	POSITION
A. JACK	56877	B'HAM	£10	2:00	0:51	2:00			4-51		1
D. GINNS	84235	BIRM	S/T	1·45	—	—			1-45		2



EVENT:	LONDON GALA			CLASS:	P30				DATE:	14-04-24	
NAME	BMFA No.	CLUB	PAID / SEASON TICKET ?	1	2	3	4	5		FLYOFF	POSITION
P. MASTERMAN	54440	VIKINGS	✓	05.					05		1

Only 2 entries in 1/2A and a sole entrant in P30.
No-one flew in HLG, despite flags being set up to mark the 'box'

Alan Brocklehurst

London Gala - Southern Coupe League Results

London Gala			
	Entrant	Club	League Score
1	A.Brocklehurst	B&W	12
2	B.Hobbs	Oxford	9
3	M.Stagg	B&W	8

League Standings after Round 2

	Entrant	Club	Coupe De Brum	London Gala
1	P. Woodhouse	Morley	12	
=	A. Brocklehurst	B&W		12
3	C. Foster	Morley	9	
=	B. Hobbs	Oxford		9
5	S. Philpott	Birmingham	8	
=	M. Stagg	B&W		8
7	I. Taylor	Birmingham	7	
8	G. Manion	Birmingham	6	
9	B. Whitehead	Peterborough	5	
10	A. Moorhouse		4	
11	B. Dennis	Oxford	3	
12	M. Marshall		2	
13	S. Darmon		1	
14	A. Hewitt			
=	L. Drennan			
=	G. Warburton			
=	R. Vaughn			
=	R. Elliott			
=	P. Carter			
=	G. Peck			

Roy Vaughn

Chapter 2 Certification & Regulation

Certification & Regulation form much of the discussion in this month's note on the eVTOL world. Whilst pundits, economic forecasters & respected government bodies pontificate about the wonderful future that is coming with the introduction of the eVTOL revolution, those organisations tasked with the issues of certification & regulation are trying to get to grips with a constantly changing & evolving scenario driven primarily by technology & technological limitations. It is highly probable that many severe headaches have already arisen. Again these notes are a personal view which may well turn out to be well wide of the mark!

As an adjunct to finish this month's note, a look at a few more contenders in a fast burgeoning & already crowded market sector.

But first, what is the certification process?

Before a newly developed aircraft – in our case an eVTOL air vehicle, may enter into operation, it must obtain a type certificate from the responsible aviation regulatory authority. Since 2003, EASA has been responsible for the certification of aircraft in the EU and for some European non-EU Countries. The issue of a certificate testifies that the type of aircraft meets the safety requirements set by the European Union. It is mainly reciprocal with the FAA (USA) & the CAA (UK) who have similar processes. Since Brexit, the CAA has to run its own course.

As a "for example" the four stages of the certification process currently defined by EASA are briefly:

1. Technical Familiarisation & Certification Basis

The aircraft (eVTOL) manufacturer presents the project to EASA when it is considered to have reached a sufficient degree of maturity. The EASA certification team & the set of rules that will apply for the certification of the specific aircraft type are being established (Certification Basis).

2. Establishment of the Certification Program

EASA & the manufacturer need to define & agree on the means to demonstrate compliance of the aircraft type with each requirement of the Certification Basis. This goes hand in hand with the "level of involvement" of EASA during the certification process.

3. Compliance Demonstration

The aircraft (eVTOL) manufacturer must demonstrate compliance of its product with regulatory requirements: the structure, engines/motors, control systems, electrical systems & flight performance are analysed against the certification basis. This compliance demonstration is done by analysis during ground testing (such as tests on the structure to withstand bird strikes, fatigue & tests in simulators) & also by means of tests during flight. EASA experts perform a detailed examination of this compliance demonstration by means of documentation in their offices in Cologne & by attending some of these compliance demonstrations (test witnessing). This is the longest phase of the type certification process & may be extended if necessary.

4. Technical closure & issue of approval

If technically satisfied with the compliance demonstration by the manufacturer, EASA closes the investigation & issue the certificate. EASA delivers the primary certification for European aircraft (eVTOL) models which are also being validated perhaps in parallel by foreign authorities for operation in their airspaces e.g. the FAA for the USA. Conversely EASA will

validate the FAA certification of US aircraft (eVTOL) models according to the applicable Bilateral Aviation Safety Agreements between the EU & the concerned Third Country.

The Challenges of Certification & Introduction into Service

The certification process & introduction into service for eVTOL air vehicles presents multiple complex challenges. Let's have a look at some of them & have a quick look at seeing what progress is being made by some of the responsible authorities:

5. *A Desired Accelerated Timeline:*
   Unlike traditional aviation, eVTOL developers/manufacturers aim to achieve certification much faster than traditional aircraft designers & manufacturers have ever achieved.
   a. The airline industry took nearly a century to develop & establish a world wide industry that embraced production, operation, safety, utility, and efficiency for the masses. In contrast, those companies developing eVTOL air vehicles strive to achieve this in a fraction of that time.
   b. For this to happen, activities such as (for example) design, training of pilots & support staff, operating procedures & infrastructure implementation would have to happen concurrently. Not perhaps impossible but exceeding difficult for the certification process as it has a constantly moving field to contend with – consider the introduction of the Lockheed F-35 as a prime example of an exceedingly complex project where this has been tried to some degree & spectacularly failed to date in terms of expected performance & reliability criteria, cost over-runs & timescale.

6. *Development:*
   a. Historically, aviation certification has followed a fairly linear path: design the aircraft, build the prototype/s, certify the aircraft, confirm provisional orders/set up volume manufacturing whilst addressing pilot training and operational aspects.
   b. With a burgeoning eVTOL sector, parallel development could be crucial. Certification, training, and preparation for operations will need to progress together – can this be successfully achieved?
   c. Infrastructure readiness, & airspace regulation inclusive of air traffic management & control is equally vital – without these, eVTOL operations would be severely limited.
   d. The introduction of specialised Vertiports for operational flights has the potential for ramifications in other infrastructure issues – e.g. external power generation for battery charging, local authority approval, location & accessibility of suitable & usable sites.

7. *Unique Aspects:*
   eVTOLs introduce new & novel issues & features – some of which for example are:
   a. Electric Distributed Propulsion: Different from traditional engines currently used in aviation,.
   b. High Voltage Architecture: Requires specialized safety considerations.
   c. Complex battery management due to flight profiles of eVTOL
   d. Fly-by-Wire Flight Control Systems: Complex electronic control systems for thrust & flight control.
   e. Crashworthiness Requirements: Ensuring safety during normal operation & emergencies.
   f. Operation from an entirely new form of "airport" - the "Vertiport"
   g. Unknown "downwash" issues arising from aspects of multiple eVTOL operations
   h. Noise issues when multiple eVTOL operations give rise to community concerns

8. *Public Acceptance & Marketing*
   a. Convincing the public of eVTOL safety and reliability is essential.
   b. Competitive pricing for Users
   c. Convenience of service & availability of use will be crucial, particularly if 24/7 & all-weather operation is demanded by Users
   d. Effective marketing, volume manufacturing and distribution strategies - all will be crucial for any widespread mass adoption.

9. *Regulatory Barriers:*
   eVTOLs challenge existing aviation regulators & regulations due to their unique features.
   - Public Authorities will have to adapt and create performance-based planning rules & requirements in a timely manner e.g. for Vertiports in previously unconsidered areas.
   - Leveraging existing compliance methods may assist in expediting certification but equally could be a complication.

10. *Cost & Rigour*
    - The certification process is potentially expensive, exacting & time consuming.
    - Are there enough staff in the various regulatory bodies to cope with potential demand?
    - eVTOL manufacturers face rigorous scrutiny to establish, ensure & maintain safety and reliability for a very new & novel form of transportation.
    - Introductory services will likely be loss making for quite a while.
    - Capital acquisition & new infrastructure costs will not be cheap.
    - Return on investment may well take a considerable time.

In summary, while eVTOL's offer the promise of exciting advancements, overcoming multiple challenges will be essential for their successful operational integration into any already crowded airspace! This without addressing the considerable financial barriers of launching services that are not likely to be financially viable for quite a few years into the future. It is probable that limited piloted services will be introduced during the latter half of this decade with autonomous operation following in the next decade, but will there ever be the volume operation that makes a major & significant impact on the use of road vehicles to alleviate already existing traffic congestion problems – I very much doubt it! More likely yet another niche activity for those who can afford to indulge & wish to do something a bit different?

A short pot pourri of regulatory activities in the UK

China apart, the major certification activities are in the USA & the EU – in both cases there seems to be a great deal of documented activity in drafting consultations & issuing preliminary rules. In the UK the Dept for Transport has very recently published it's "Future of Flight" Action Plan, not a regulatory document but full of good intentions with very little direct action or immediate material support by way of funding relative to the private venture capital being poured into start-up Companies – for example "*This document presents a plan for the development and industrialisation of emerging aviation technologies and their integration into the existing civil aviation system, where they can provide material economic, environmental and social benefits.*" & talks about building an industry "*Forecasts and scenarios about the potential future size of the UAS market vary widely and are highly uncertain. UAS could add tens of billions of pounds to the UK economy in the next 10 years through productivity benefits and lower costs. If the UK adopts UAS at scale, PwC estimates they could contribute up to £45 billion to the UK economy by 2030, through significant cost savings to the agriculture, water, energy, transport, logistics and public sectors.* (Any funding mentioned seems to be collaborative between Government & Industry.)

Estimates of the market size for AAM also vary, though industry forecasts suggest the global market could be worth billions of pounds in the coming decades. We aim to secure for the UK a significant share of the global market, with UK specific studies indicating AAM use cases as having the potential to significantly contribute to the UK economy. Notably, regional air mobility is highlighted as an attractive option for connecting locations where the construction of large-scale infrastructure may not be cost effective. Vertical Aerospace, building on global analysis from Roland Berger, estimate UK AAM market annual revenue could exceed £1 billion from 2035". Perhaps a degree of financial optimism is overwhelming reality on various fronts?

Some CAA activities

The CAA already has Bilateral agreements and arrangements with several partners, inclusive of the EU & the USA, that allows (amongst other topics) the airworthiness certification of civil aeronautical products to be shared between two countries. In the UK, the CAA has indicated that it will look to taking on evolving EASA/EU rules for certification of eVTOL air vehicles which does make sense if it happens.

The CAA has previously established an eVTOL Safety Leadership Group (eVSLG) consortium which it co-chairs, that contains potential operators, existing rotorcraft experts and aviation companies, including the Bristow Helicopters and Virgin Atlantic, as well as eVTOL manufacturers such as Joby and Vertical Aerospace. However, the eVSLG consortium is an open space for industry and is outside of usual Civil Aviation Authority governance and assurance processes. While eVTOL aircraft are not yet in operation, these vehicles have the potential to launch commercially in the UK "within the few years". In order to begin operations and receive regulatory approval, any eVTOL aircraft will need to stand up to the strictest standards of aviation safety, hence the attention of the CAA.

Quite separately, the CAA has recently launched a consultation on the initial configuration, operation & use of Vertiports. Interesting in so much as it appears to broadly follow the approach of the FAA in that it regards the Vertiport is an "add-on" to a regular airfield & not something entirely new. I guess this makes sense from a regulatory perspective, as a pre-requisite for any eVTOL operations but is hardly revolutionary relative to all the hype surrounding a new form of air travel in as much as it offers very little difference from regular light aircraft movements except that of course range limitations of initial eVTOL aircraft will severely diminish the scope & potential competitiveness of commercial operation?

More Contenders

A few more contenders from the throng, in no particular order of significance other than three are from the Far East & one from the UK plus one more from the USA. All have differences from the previous bunch mentioned last month, again none are yet certified & none have flown extensively as prototypes.

AutoFlight Prosperity – China

Lift & Cruise

Published statistics include:
250Km plus range
200Km/hr cruise speed
approx 350kg typical payload
4 passengers plus pilot
anticipated entry in service 2027

Overair Butterfly

Vectored Thrust

100 mile + range
200mph max speed
low acoustic noise
5 passengers plus pilot
anticipated entry in service 2028

Sky Drive SD-05 – Japan

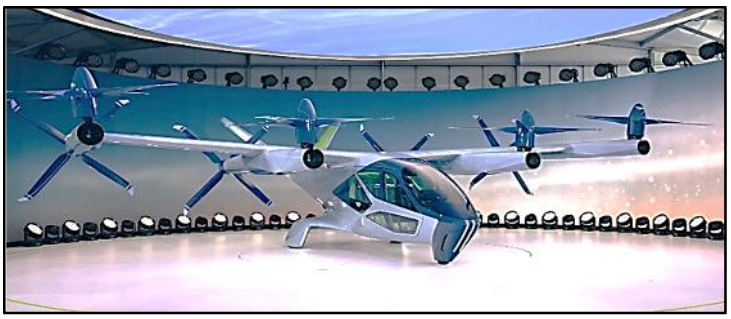
MultiCopter

range approx 15km
max cruise speed approx 100km/hr
scheduled to be debuted 2025
2 passengers plus pilot
anticipated entry in service 2026

Supernal SA-2 (Hyundai) – South Korea

Vectored Thrust

range approx 25 – 40 miles
typical cruise speed approx 120mph
4 passengers plus pilot
planned entry in service 2028



Vertical Aerospace VX4 UK
Vectored Thrust

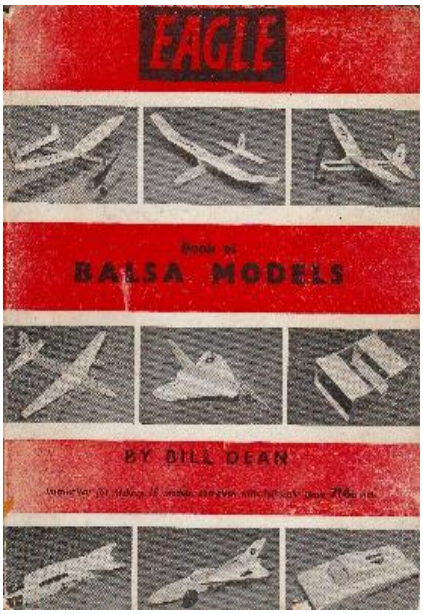
4 passengers plus pilot
planned entry into service 2027
typical range 100 miles
typical cruise speed 150mph

What of these? All have differences of course, lots of questions & few answers.
The AutoFlight Prosperity is reported to have had the furthest certified flight, hence one assumes a greater range but is not forecast to become certified until 2028 as a piloted eVTOL & has a paucity of published information; the Overair Butterfly bears some resemblance to the Boeing Osprey, particularly with its large rotors but will that cause downdraught issues?; the Sky-Drive has a very short range & minimal passenger capability; the Supernal looks the part but is only at prototype stage & has yet to fly; the first Vertical VX-4 prototype suffered a hard landing at Kemble during a test flight & has been written off, so a lot depends on the next prototype. Time will tell, as will the ability to keep funding development & limited production whilst generating minimal revenue in the short term assuming successful certification is achieved.

Roger Newman

DBHLibrary (Magazines) - Roy Tiller

Report No.159 Eagle Book of Balsa Models, date of publication.



Last month I asked the question "What was the date of publication of the first edition of the **Eagle Book of Balsa Models by Bill Dean?**" The reason for the question was that the book itself carries no indication of the publication date.

Both the second and third editions indicate that the first edition was copyright Bill Dean 1959, which I had taken to also be the publication date, but that is not the case.

Thank you to Nick Peppiatt and Andrew Longhurst for raising the question and providing the answer.

The first edition was published by Hulton Press Ltd. (Eagle) in 1954. The date has been confirmed by the British Library.

Bill Dean acquired the copyright in 1959.

The second edition, titled **Bill Dean's Book of Balsa Models** was published in 1970 and is copyright Bill Dean 1970.

The third edition, titled **The Solarbo Book of Balsa Flying Models** was published in 1990 and is copyright Bill Dean 1990.

So that is finally sorted, thank you to all involved.

Next month, at last, back to our earliest books.

Roy Tiller, tel 01202 511309, email roy.tiller@ntlworld.com

Roy Tiller

Secretary's Notes for May 2024 - Ray Elliott

Well, Easter has come and gone and, for the third time in four years, we had to cancel the Croydon Wakefield / SAM1066 Day. On this occasion it wasn't because of access difficulties or bad weather (although that might have been the case), but because the military needed the site for drone activities. We will endeavour to rearrange the contest for later in the year.

The London Gala, held on the 13th and 14th April, almost met a similar fate; our contact with the powers that be, David Palmer, was told on the Thursday prior to the weekend that Area 8 was again required for drone activity. This resulted in an announcement cancelling the contest. However, in a call directly to the army it transpired that there was no drone activity planned for that weekend, so the contest was back on.

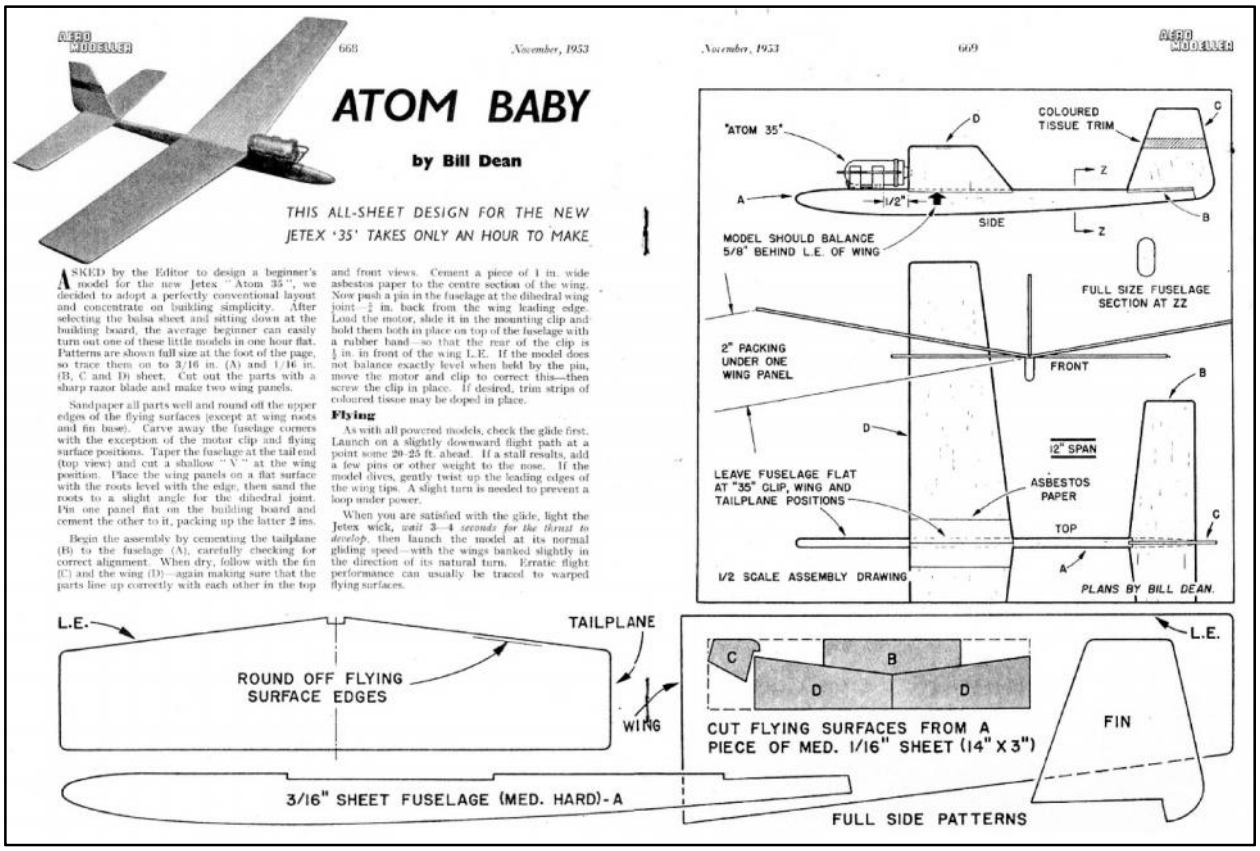
Peter Carter tells me that the Southern Area BMFA Gala at Odiham will take place on the 18thAugust. Unfortunately, this clashes with the BMFA Southern Gala to be held on Salisbury Plain on that day but as we have not been offered an alternative date for Odiham we'll have to live with it. Full details are in the flyer in this issue.

Finally, a brief reminder that permits for Free Flight flying at North Luffenham and Salisbury Plain can be obtained via the BMFA website.

Ray Elliott

Plans for the Month - Roger Newman

Power: Has anyone a Jetex 35, If so, here is a Bill Dean design all sheet Atom Baby in Nov 53 Aeromodeller



AERO MODELLER 668 November, 1953

ATOM BABY

by Bill Dean

THIS ALL-SHEET DESIGN FOR THE NEW JETEX '35' TAKES ONLY AN HOUR TO MAKE

ASKED by the Editor to design a beginner's model for the new Jetex "Atom 35", we decided to adopt a perfectly conventional layout and concentrate on building simplicity. After selecting the balsa sheet and sitting down at the building board, the average beginner can easily turn out one of these little models in one hour flat. Patterns are shown full size at the foot of the page, so trace them on to 3/16 in. (A) and 1/16 in. (B, C and D) sheet. Cut out the parts with a sharp razor blade and make two wing panels.

Sandpaper all parts well and round off the upper edges of the flying surfaces (except at wing roots and fin base). Carve away the fuselage corners with the exception of the motor clip and flying surface positions. Taper the fuselage at the tail end (top view) and cut a shallow "V" at the wing position. Place the wing panels on a flat surface with the roots level with the edge, then sand the roots to a slight angle for the dihedral joint. Pin one panel flat on the building board and cement the other to it, packing up the latter 2 ins.

Begin the assembly by cementing the tailplane (B) to the fuselage (A), carefully checking for correct alignment. When dry, follow with the fin (C) and the wing (D)—again making sure that the parts line up correctly with each other in the top and front views. Cement a piece of 1 in. wide asbestos paper to the centre section of the wing. Now push a pin in the fuselage at the dihedral wing joint—$\frac{3}{4}$ in. back from the wing leading edge. Load the motor, slide it in the mounting clip and hold them both in place on top of the fuselage with a rubber band—so that the rear of the clip is $\frac{1}{2}$ in. in front of the wing L.E. If the model does not balance exactly level when held by the pin, move the motor and clip to correct this—then screw the clip in place. If desired, trim strips of coloured tissue may be doped in place.

Flying

As with all powered models, check the glide first. Launch on a slightly downward flight path at a point some 20-25 ft. ahead. If a stall results, add a few pins or other weight to the nose. If the model dives, gently twist up the leading edges of the wing tips. A slight turn is needed to prevent a loop under power.

When you are satisfied with the glide, light the Jetex wick, *wait 3—4 seconds for the thrust to develop*, then launch the model at its normal gliding speed—with the wings banked slightly in the direction of its natural turn. Erratic flight performance can usually be traced to warped flying surfaces.

AERO MODELLER 669 November, 1953

"ATOM 35" COLOURED TISSUE TRIM

MODEL SHOULD BALANCE 5/8" BEHIND L.E. OF WING

SIDE

FULL SIZE FUSELAGE SECTION AT ZZ

2" PACKING UNDER ONE WING PANEL

FRONT

12" SPAN

LEAVE FUSELAGE FLAT AT "35" CLIP, WING AND TAILPLANE POSITIONS

ASBESTOS PAPER

TOP

1/2 SCALE ASSEMBLY DRAWING

PLANS BY BILL DEAN.

L.E. TAILPLANE

ROUND OFF FLYING SURFACE EDGES

WING

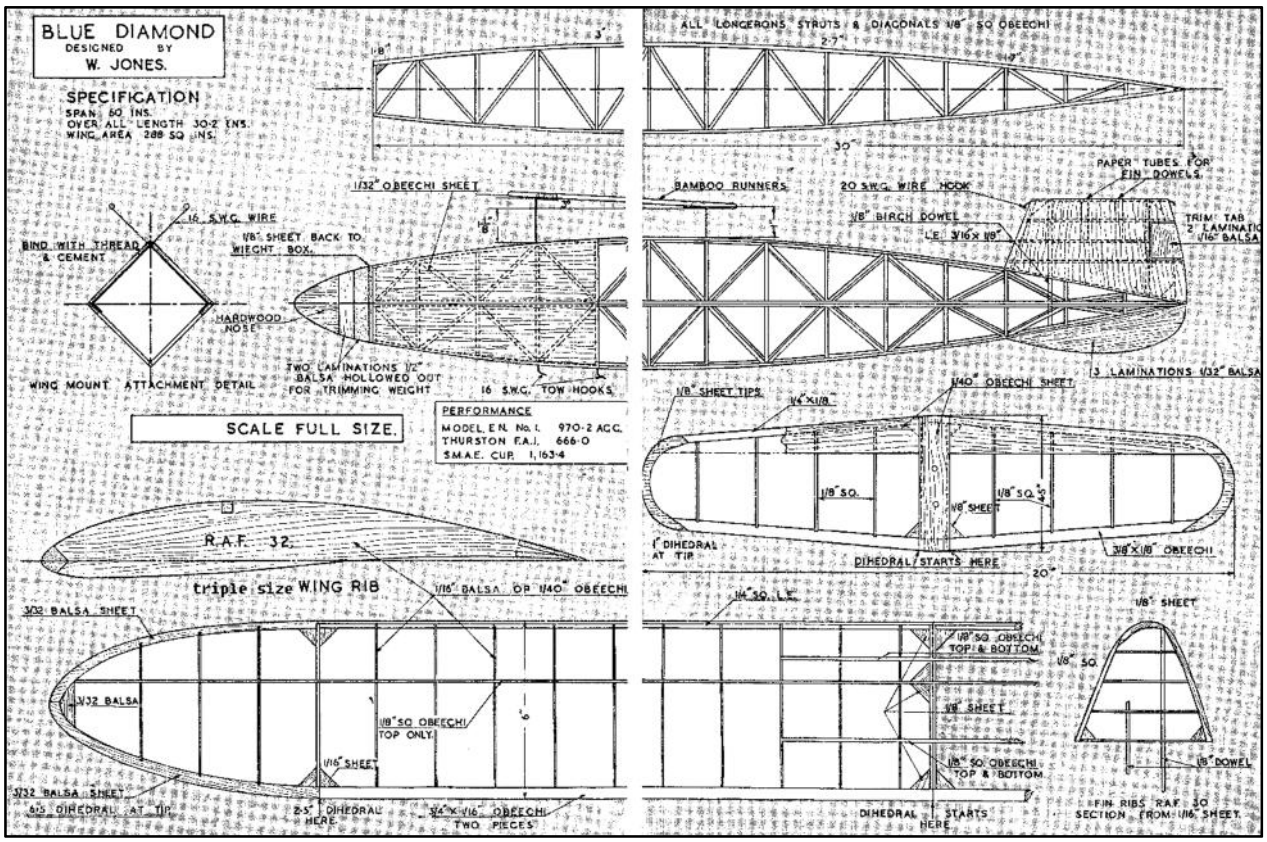
3/16" SHEET FUSELAGE (MED. HARD)-A

CUT FLYING SURFACES FROM A PIECE OF MED. 1/16" SHEET (14" X 3")

FIN

FULL SIDE PATTERNS

Glider: 60" parasol wing job, Aeromodeller Sept 46 - Blue Diamond - design for small parks!



BLUE DIAMOND
DESIGNED BY
W. JONES.

SPECIFICATION
SPAN 60 INS.
OVER ALL LENGTH 30·2 INS.
WING AREA 288 SQ INS.

1/32" OBEECHI SHEET

16 S.W.G. WIRE

1/8" SHEET BACK TO WEIGHT BOX.

BIND WITH THREAD & CEMENT

HARDWOOD NOSE

WING MOUNT ATTACHMENT DETAIL

TWO LAMINATIONS 1/2" BALSA HOLLOWED OUT FOR TRIMMING WEIGHT

16 S.W.G. TOW HOOKS

SCALE FULL SIZE.

PERFORMANCE
MODEL E.N. No. 1. 970·2 ACC.
THURSTON F.A.I. 666·0
S.M.A.E. CUP 1,163·4

R.A.F. 32.

triple size WING RIB

1/16" BALSA OR 1/40" OBEECHI

3/32 BALSA SHEET

1/32 BALSA

1/8" SQ OBEECHI TOP ONLY

1/16" SHEET

3/32 BALSA SHEET

6·5° DIHEDRAL AT TIP

2·5° DIHEDRAL HERE

3/4" X 1/16" OBEECHI TWO PIECES

ALL LONGERONS STRUTS & DIAGONALS 1/8" SQ OBEECHI

BAMBOO RUNNERS

20 S.W.G. WIRE HOOK

PAPER TUBES FOR FIN DOWELS

1/8" BIRCH DOWEL

L.E. 3/16 X 1/8"

TRIM TAB 2 LAMINATIONS 1/16" BALSA

1/40" OBEECHI SHEET

3 LAMINATIONS 1/32" BALSA

1/8" SHEET TIPS

1/8" SQ.

1/8" SHEET

1° DIHEDRAL AT TIP

DIHEDRAL STARTS HERE

3/8" X 1/8" OBEECHI

1/8" SHEET

1/8" SQ OBEECHI TOP & BOTTOM

1/8" SQ.

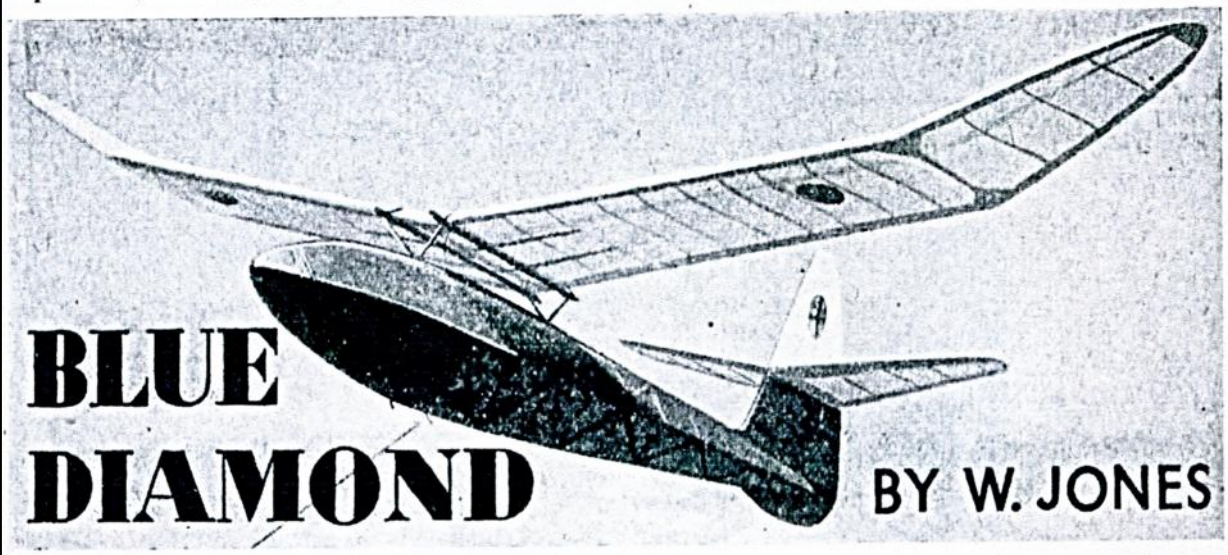
1/8" SHEET

1/8" SQ OBEECHI TOP & BOTTOM

1/8" DOWEL

FIN RIBS R.A.F. 30 SECTION FROM 1/16" SHEET

DIHEDRAL STARTS HERE



BLUE DIAMOND

BY W. JONES

"BLUE DIAMOND" was built in the early summer; the span being about the limit for gliding in a small public park, such as are usually found in any urban district. Wing span is 60 ins., with a chord of 6 ins., the popular parasol wing mounting is employed and the tail placed high on the fin to reduce risk of damage on landing.- In the first contest in which it was entered, the M.E. No. 1, aggregate was 970·2 secs. (Best flight 672·2 secs., o.o.s.) Using the model again in the Thurston Cup, the aggregate was 666·0 secs., one flight being 360·4 secs. In the S.M.A.E. cup the model flew away again, this time o.o.s. for 13 mins. 53 secs. and landed three fields away, the aggregate for three flights being 1,163·4 secs., which placed it fourth in the competition. So much for the model's performance to date.

Fuselage Construction.

The two sides are built in the usual way as for slabsiders. The hardwood longerons are first bent, or steamed, to the correct shape before the uprights are cemented into position. It is wise to make four cross struts for each bay, these all being the same. This makes it simpler to secure a truly square fuselage. The diagonals or cross-bracing struts can be put in after the two sides are joined together. Fill in front of fuselage with $\frac{1}{8}$ in. sheet hardwood to form back for weight-box. The hardwood nose and hollowed out laminations of balsa comprising the weight-box are the next step. Final sanding should be left until the bays are sheeted in. The bottom fin rib is cemented to rear fuselage after making platform, the top longeron being cut away 6 ins. from the rear to allow for this.

Wing Mount.

Next bend 16 s.w.g. wire to shape and bind and cement to longerons and cross braces as shown on plan; the oval bamboo runners are then cemented and bound with strong silk to the wire wing mounts. The two 18 s.w.g. wire tow-hooks are then fitted, bound with strong silk and well cemented in. The first four fuselage bays are sheeted with 1/32 in. obechi sheet; use plenty of cement, glueing to all longerons and cross braces. When it is thoroughly dry, sand down well to get a smooth finish.

Tail and Fin.

The bottom part of upper fin is now completed, the $\frac{1}{8}$ in. dowelling fits flush with the top rib and goes through the other four ribs, and platform into fuselage, and is flooded with cement. The trim tab is fitted as shown on plan and the whole of the lower fin covered with 1/32 in. balsa sheet. The upper part of the fin is attached by means of two dowels glued to it and sliding into tubes in the lower part. These two dowels pass through holes in the tailplane and serve to anchor it. An elastic band ensures a firm seating even if fit of dowels and tubes wears loose in time.

Wing.

The wing construction is quite straightforward and should present no difficulties. Fit the leading edge of $\frac{1}{4}$ in. sq. hard balsa (or hardwood if preferred); the $\frac{1}{8}$ in. × $\frac{3}{8}$ in. hardwood spar is then cemented into ribs. Care should be taken in cutting out ribs so that the hollow trailing edge can be fitted accurately. First, lay the ribs on the plan and attach the upper side of the trailing edge, then turn over and fix the lower part. This results in an exceptionally strong wing. The gusset plates are added after the dihedral is put in.

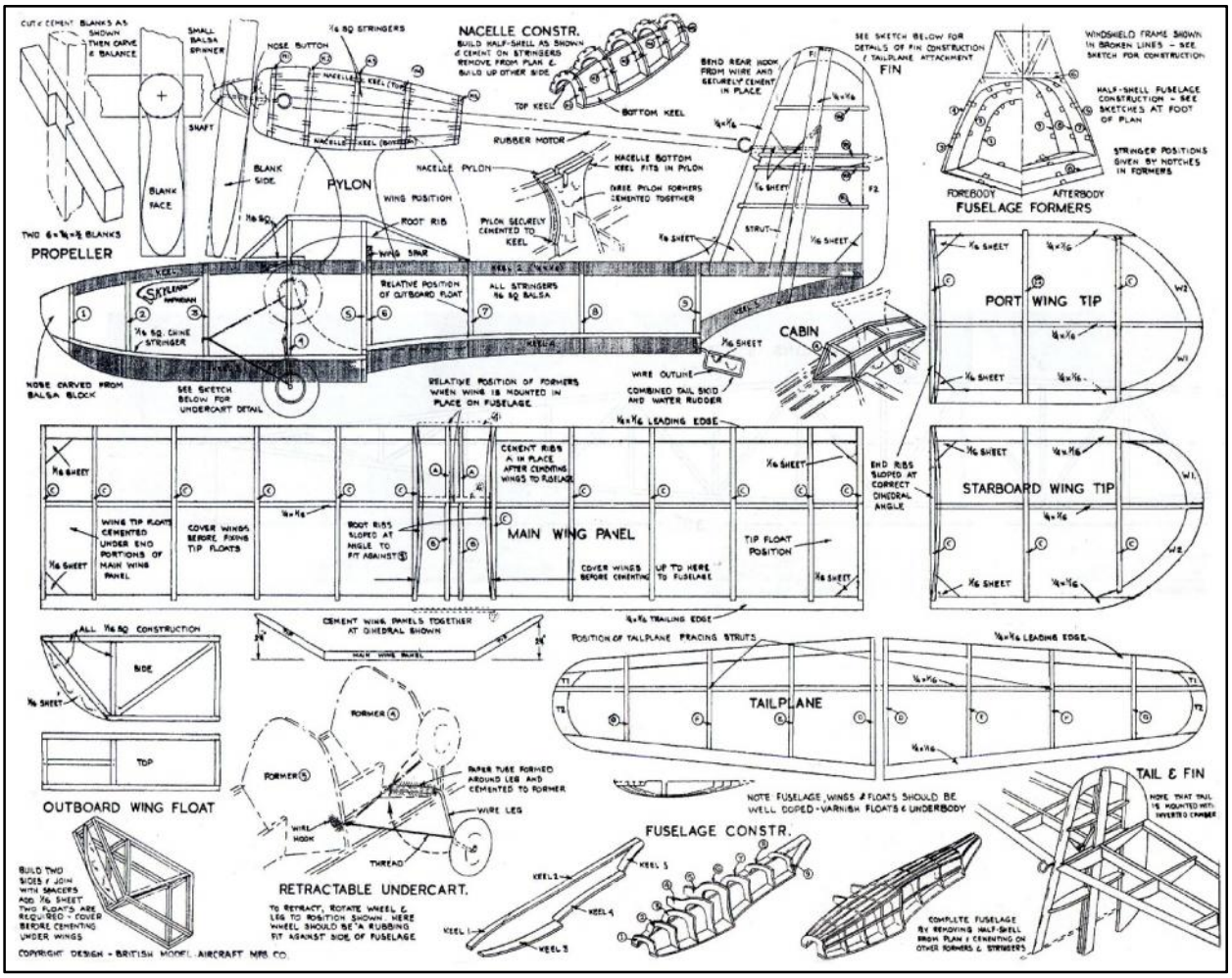
Covering.

The fuselage and wings are covered with blue bamboo paper and water shrunk. When thoroughly dry, two coats of clear dope and one of banana oil are given; the tail and fin are covered in white tissue and one coat of clear dope given. Bamboo paper may be hard to secure and normal tissue will probably have to be substituted. A new grade of paper is now on the market that, while very weak in its natural state, is exceptionally strong when doped. This paper, which is available only in white, looks very like thin blotting paper and should *not* be water shrunk.

Trimming the Model.

Put sufficient weight (lead shot) into the weight-box so that the model balances about one-third back from the leading edge when held about half-way along the wings. Choose a fairly calm day, with only slight breeze. Hand-launch, pointing the model slightly downwards, aiming at a point roughly about six yards ahead. Take out lead if slightly nose heavy, or add more if model tends to stall. Do not alter the incidence. The model may next be tried on a 50 ft. towline with rubber tensioner. It has a remarkably good glide and takes advantage of any slight air currents without becoming unstable.

Rubber: Skyleada Amphibian - make it in the summer before the rainy season starts



Roger Newman

Events and Notices

Free Flight Nationals 2024 – Official Notice

Venue
All three days to be at Salisbury Area 8

Facilities
There will be no camping or other facilities except for the provision of toilets.

Awards
- Certificates and medals for all events will be awarded.

Details
- There is no pre-entry requirement. Entry will be on the day. The fee will be a simple £10.00 per day charge. This fee would allow the entrant to fly in as many events/classes as they desire on the day. There is no exemption for season ticket holders.
- A payment of £25.00 will cover all three days entries.
- Number of flights and maxes to be decided on the day. There will be no rounds for FAI.

Free Flight Open FAI classes and mini classes – Salisbury Area 8

Saturday 25th May Start 10:00 – 18:00	Sunday 26th May Start 10:00 – 18:00	Monday 27th May Start 10:00 –18:00
Combined Glider	F1A Glider	F1H glider
Combined Rubber	F1B Rubber	F1G rubber
Combined Power	F1C Power	F1J Power
Combined Electric	F1Q Electric	BMFA 1/2A Power
Classic Rubber/Power	Vintage Rubber/Power	E36 Electric
Women's Cup	Slow Open Power	P30 Rubber
Catapult Glider	Classic Glider	E30 Electric
Frog Junior (J)		Mini Vintage
Tailless		CO2 Duration
Vintage Glider		Catapult Glider
		Hand Lunched Glider

Provisional Southern Coupe League Calendar 2024

The calendar this year is a little different to normal with the delayed Coupe de Birmingham within calendar year, dates of some host events shuffled round, only one Coupe event in the Areas rather than the usual two and Coupe (F1G) absorbed into the new "Combined Mini" class at the London Gala. Combined Mini should be won by an F1J so League points will be awarded in accordance with the scores of Coupe entrants in isolation. Scoring will remain as now with nine league points for first place on the day then six down to one point for the following places with five highest score to count toward final placings. The League trophy will be presented at Coupe Europa. Here's hoping for better weather.

Round	Competition	Date	Location	Notes
1	Coupe de Brum	24 or 25 February	N.Luffenham	Ask organiser for notification of selected date
2	London Gala	14 April	Salisbury Plain	Coupe scores in Combined Mini to count
3	2nd Area	28 April	Area venues	
4	Nationals	27 May	Salisbury Plain	
5	Crookham Gala	23 June t.b.c.	Salisbury Plain	
6	Southern Gala	18 August	Salisbury Plain	
7	Coupe Europa	13 October	Salisbury Plain	

CROOKHAM GALA 2024

This year the Crookham Gala will be held on either the

22nd or the 23rd of June

on Area 8, Salisbury Plain.

An announcement will be made 48 hours in advance to confirm which day, based on the weather forecast.
There will be the usual mix of classes, offering something for everyone plus trophies and prizes galore.

CLASSES:

Modern and Vintage Coupe combined
(3 flights only. Prize for best vintage score.)
Combined Glider (prize for best Classic A1)
Combined Power (including George Fuller Trophy for best placed Dixielander)
Mini Vintage. E36 & E20

Comps start 10.00am. Finish 17.00pm.

If you intend coming, please let me have your email address so that I can contact you 48 hours before the event to confirm the day.
Chris Redrup 07544 533509. chrisredrup@yahoo.com

Crookham Gala - New event added

This year we are adding an event for E20 models at the Gala, which takes place on the 22nd or 23rd of June; to be flown to the NFFS E20 rules. This is an inexpensive and fun class, full details of which can be found in the excellent series of articles in the March, April and May 2024 editions of the Aeromodeller, including a free plan for an E20. There is still time to build one for this event and it would be great if we could see some of the Peterborough club experts come and show us how it is done.
If you are thinking of coming to the Gala, please send your email address to chrisredrup@yahoo.com and you will receive email confirmation of the final date, on the Thursday before the weekend.

Southern Area BMFA Free Flight Gala

Sunday 18th August 0900-1800 hrs

RAF Station ODIHAM, Hants

CAGNARATA Comp. CD Nick Peppiatt. nickpeppiatt@hotmail.com

SCALE Comps. CD Mike Smith. michaeldocsmith@gmail.com

& SPORT Flying

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

Phone 01256 352922 - p.carter34@btinternet.com

Name, - Car: make, model and registration no.; BMFA number, together with Contact details.

including entrance fee of £10 with cheques made payable to Southern Area BMFA;

Arrive at Station main gate from 0800-0945hrs.

Please note those attendees that paid the entry fee for last year's cancelled event are exempt from payment this year.

Croydon / SAM 1066 Contests 2024

1st April (Easter Monday); Croydon Wakefield Day / SAM1066

Salisbury Plain Area 8. Start 10.00

Croydon Classes:
F1B (in rounds), 4oz and 8oz Wakefield (combined),
Marcus Lightweights, P30

SAM1066 Classes:
Mini Vintage to BMFA rules,
Vintage / Classic Glider (combined)
Vintage / Classic Power (combined) to SAM1066 rules.

Contact; Ray Elliott tel 07513 549734, email ray.elliott8@btinternet.com

13th October: Croydon Coupe Europa / SAM1066

Salisbury Plain Area 8. Start 10.00

Croydon Classes:
F1G (in rounds), Vintage Coupe

SAM1066 Classes:
Mini Vintage to BMFA rules,
Vintage / Classic Glider (combined) Vintage / Classic Power (combined) to SAM1066 rules.

Contact; Ray Elliott tel 07513 649734, email ray.elliott8@btinternet.com

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:
£20 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

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 0QW
or by phone: (44) + (0)20-8777-5533,
or by e-mail to martindilly20@gmail.com .

Cocklebarrow Vintage R/C

Sundays

14th July, 18th August, 22 September.

Signposted from Aldsworth Glos.
on the B4425 between Cirencester/Burford
and off the A40 between Northleach and Burford
[follow SAM 35 signs].
What 3 Words: positives arrival calculate

All types of R/C up to 1975
sport flying no competitions.
BMFA insurance essential.

Contact:
Tony Tomlin Tel.02086413505 Mob. 07767394578
pjt2.alt2@btinternet.com.

Bloxwich Indoor Flyers

Indoor Model Flying
Bangor, North Wales

at the

Brailsford Centre LL57 2EH

2024 Dates:
14 Jan - 1700-1900:
04 Feb - 1600-1800
10 Mar - 1600-1800
07 Apl - 1700-2000
05 May - 1700-2000

Free-Flight Models & Lightweight R/C
Beginners Encouraged
Contact: Martin Pike, 07831 141418
Email: martin.pike.xray@btinternet.com

TWIFF
(Totton West Indoor Free Flyers)

Please bring all your toys (Free flight only)
Wednesdays, from 12:00-16:00
Admission for flyers £10.00
Free for spectators and helpers
2023
20th September - 18th October
15th November - 20th December
2024
10th January - 21st February - 20th March
17th April - 15th May

The West Totton centre has plenty of parking, although there are a lot of people coming and going at Vaccination times.
There is a Tesco Local and the world's best Card shop on site (no commission!)
The centre has a café with hot drinks and meals.

Location
www.google.com/maps/place/West+Totton+Centre/@50.9103094,-1.5097122,15.5
Or, if you like, car park entrance at
///playroom.pump.dorm

Contact: Ken Brown:
email - brown53hh@gmail.com
Tel: 07913814492 or 0238057866

Waltham Chase Aeromodellers

INDOOR F/F MEETINGS

Waltham Chase Aeromodellers have booked the Main Hall at **Wickham Community Centre, Mill Lane, Wickham, Hants PO17 5AL** for a series of twenty events on the following Thursday evenings:

2023:		
	September:	21st.
	October:	5th., 19th.
	November:	2nd., 16th., 30th.
	December:	14th.
2024:		
	January:	4th., 18th.
	February:	1st., 15th., 29th.
	March:	14th., 28th.
	April:	11th., 25th
	May:	9th., 23rd.
	June:	6th., 20th.

All meetings will run from 7.00 p.m. to 9.30 p.m. The Main Hall at Wickham Community Centre is particularly suitable for indoor free flight models of all types, with a ceiling free of obstructions. Tables and chairs will be available in the hall, the organisers are always grateful for assistance with moving furniture. A hot drinks machine is available on site.

Admission to the meetings will be £6 for fliers and £1 for spectators and junior fliers, whilst accompanied junior spectators and parents of junior fliers will be admitted free. Fliers will be required to show proof of insurance.

No R/C models may be flown at these events.

Waltham Chase Aeromodellers look forward to welcoming all indoor F/F fliers to these events.

For further details please contact:

Alan Wallington, "Wrenbeck", Bull Lane, Waltham Chase, Southampton, Hants.
(Tel. 01489 895157)

(e-mail: indoor@wcaero.bmfa.club)

or see our web site: https://wcaero.bmfa.club

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

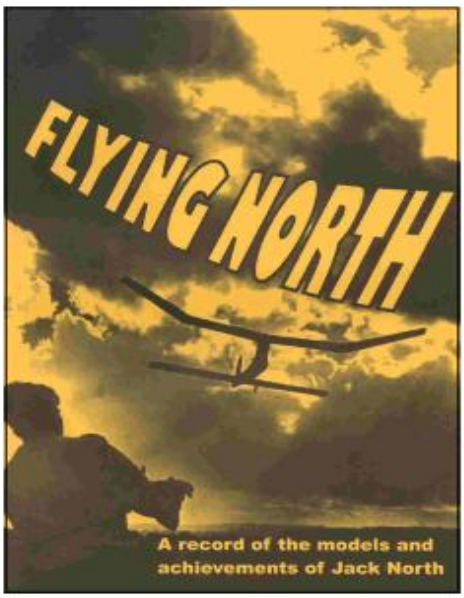
The following appeared on the Hip Pocket Aeronautics Builders' Forum. Nine different tissues were tested, doped and un-doped.

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

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"

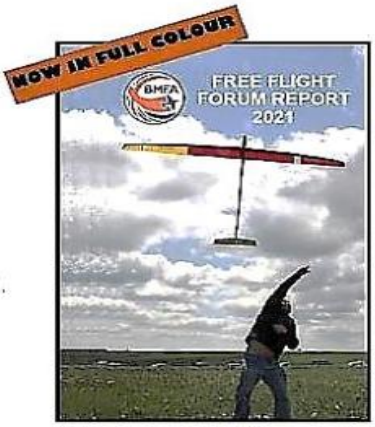
"A very balanced record of Jack's modelling and professional activities"

"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

FREE FLIGHT FORUM REPORT 2021

Indoor Duration - A Challenge To Conventional Design • Tony Hebb
Coupe In A Box - Gavin Manion
Building Other People's Mistakes - Stuart Damon
The Models Of Ray Monks - Simon Dixon
Simulated 3d Flight Dynamics - An Approach To Gain Insight For Trimming And Aircraft Development - Peter Martin
Building During Lock-Down - Phil Ball
Tame Your F1b And Related Thoughts – Mike Woodhouse
What Next Tor A Lady Flyer - Sue Johnson
F3 Res • Rc For The Aging Free Flighter – Andy Sephton
From Wichita To Robin Iii – Mike Fantham
Further Thoutghs On Carbon-Skinned Wings Tor F1a - Stuart Darmon
Geo Fencing And Electronic Stability - John Emmett



The UK price is £13 including postage; to the rest of Europe its £16 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 OQW
Or by phone: +44(0)2087775533 Or e-mail: martindiHy20@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 2024

With competitions for Vintage and/or Classic models

All competitions are provisional. **Check websites before attending**

February 24th	Saturday	Coupe De Brum, Luffenham
or February 25th	Sunday	
March 10th	Sunday	BMFA 1st Area
March 16th	Saturday	Le Petit Class'Q de Brum, Luffenham
or March 17th	Sunday	
March 29th	Good Friday	Northern Gala, Barkston
April 1st	Monday	Croydon Wakefield day + SAM1066 - SP
April 13th	Saturday	London Gala, Salisbury Plain
April 14th	Sunday	London Gala, Salisbury Plain
April 28th	Sunday	BMFA 2nd Area
May 19th	Sunday	BMFA 3rd Area
May 25th	Saturday	**FF Nationals,** Salisbury Plain
May 26th	Sunday	**FF Nationals,** Salisbury Plain
May 27th	Monday	**FF Nationals,** Salisbury Plain
June16th	Sunday	BMFA 4th Area
June 22nd	Saturday	Crookham Gala, Salisbury Plain
or June 23rd	Sunday	
July 7th	Sunday	BMFA 5th Area
July 21st	Sunday	BMFA 6th Area
August 3rd	Saturday	East Anglian Gala, Sculthorpe
August 4th	Sunday	East Anglian Gala, Sculthorpe
August 18th	Sunday	Southern Gala, Salisbury Plain
August 18th	Sunday	Southern Area BMFA Gala, Odiham
September 1st	Sunday	BMFA 7th Area
September 14th	Saturday	Stonehenge Cup, Salisbury Plain
September 15th	Sunday	Equinox Cup, Salisbury Plain
October 6th	Sunday	BMFA 8th Area
October 13th	Sunday	Croydon Coupe Europa + SAM1066 - SP
October19th	Saturday	Midland Gala, Venue, Barkston
November 5rd	Sunday	Buckminster Gala, BMFA Centre
or November 17th	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 Kits	-	www.belairkits.com
Wessex Aeromodellers	-	www.wessexaml.co.uk
US SAM website	-	www.antiquemodeler.org
Peterborough MFC	-	www.peterboroughmfc.org
Outerzone -free plans	-	www.outerzone.co.uk
Vintage Radio Control	-	www.norcim-rc.club
Model Flying New Zealand	-	www.modelflyingnz.org
Raynes Park MAC	-	www.raynesparkmac.c1.biz
Sweden, Patrik Gertsson	-	www.modellvänner.se
Magazine downloads	-	www.rclibrary.co.uk
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*