NEW Clarion

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Contents

Editorial

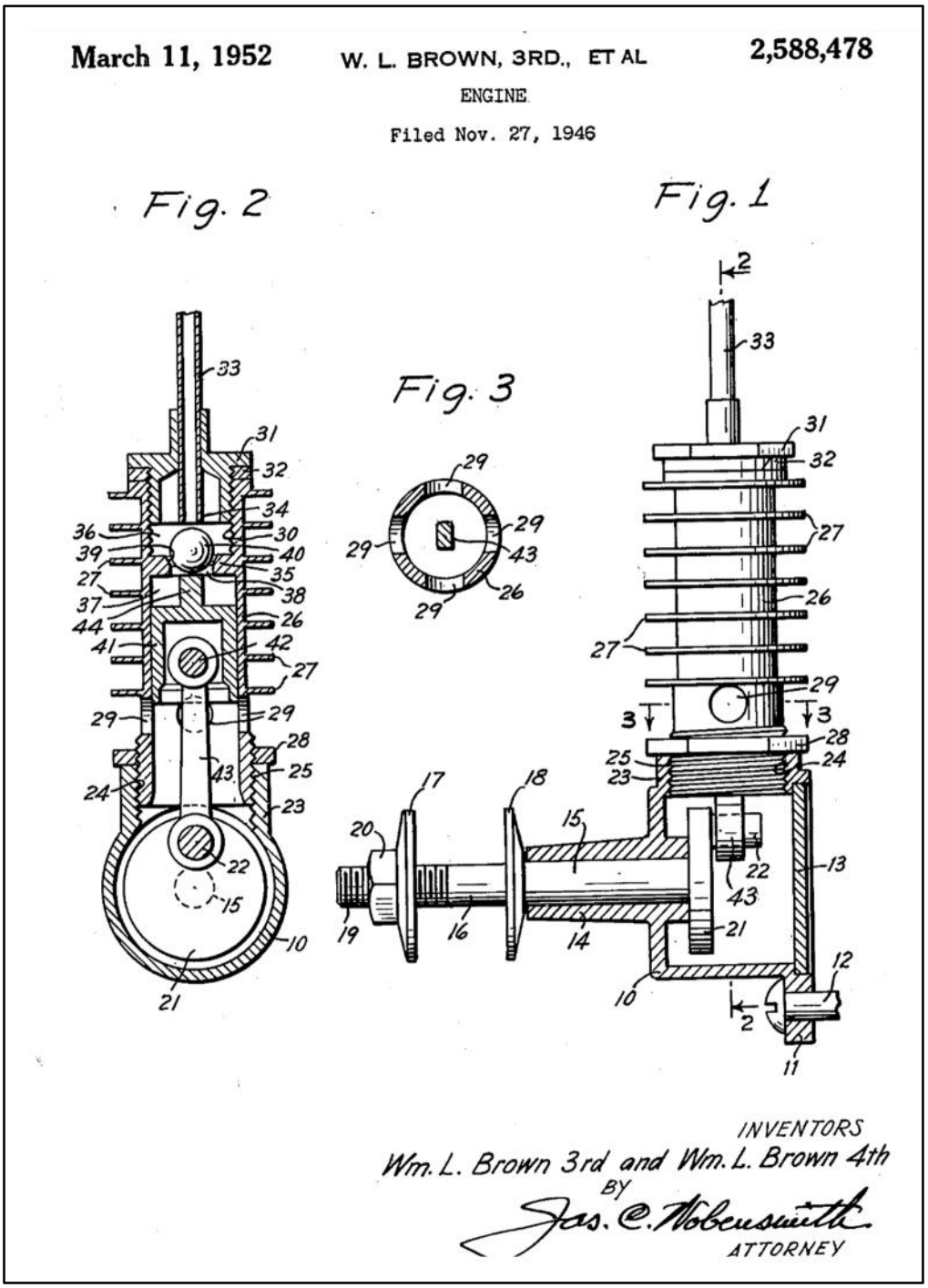
Here we go again, as I start to write this editorial it's snowing outside with a good covering on the lawn, does not bring flying models to mind at all.
Right, what have we got this issue, first to appear in my email in-box was the continuation of Nick Peppiatt's Co2 motor articles, for those of us who were not too sure how the motors worked, we ought to be wiser now.
There was a bit of a delay in the appearance of any more clarion fodder in my in-box so that gave me time to dig out some more of the old Pylonius articles. Most of us old fuddy duddies can remember the era he refers to but it's quite surprising how a lot of his stuff can still be equated to today's situations.
The next thing to appear in the in-box was Roy Vaughn's engine tuning piece for the AP15. I must confess that I had never heard of the motor but scratching around I found a recent Aeromodeller test on the latest version. Just goes to show how well I read my Aeromodellers. I wanted to use some of the aeromodeller data to supplement Roy's article and as it had been published in the re-incarnated magazine I thought it best to seek permission to use it. A quick email to Andrew Boddington brought an immediate positive response together with useable files of the data to make my task easier (thanks Andrew).
I then popped in another Paper Airplane from Nick Robinsons book. I still do not know if anyone is trying them out as I have had no feedback as yet.
Still scratching for content I weighed in myself, having made my first indoor foray of 2018 to the Thorns meeting. The meet turned out to be more of a social gathering with chit-chat the order of the day. I myself only made 6 flights during the afternoon, two with a radio model and 4 with an old EZB. I was lucky with the EZB as the first full turns attempt hung up on the furry end of a piece of rope dangling from a roof truss. How the rope got up there is any ones' guess, but I was lucky to pole it down. The model ran into it with the prop which stopped immediately, if the prop had kept turning for a few revs the ensuing tangle would have meant destruction of the model with the pole.
I found a small Super Tigre engine test, I was unaware of this .94cc engine.
Dick Twomey had penned a piece for an English language magazine in Mauritius and thought the historic content might also be of interest to us.
The new Vintage Coupe League is reported by Gavin Manion, I think I will have to try and build one myself although I do not seem to have the drive to build anything these days.
Still being light on content, and having only one taker providing old photographs, I have banged in another wad of pics from my own album. There may be some that have been used before as I have no record of usage, but I doubt you will remember.
I pinched another article from an old Aeromodeller Annual, my go to source when content is slow appearing then Roy Tiller's column continuing his research into Peerless Models turned up. Roy is beginning to getting feed-back from his requests for info and there is yet more to come it seems.
The one and only old photograph that appeared in my in-box was used, together with the email's meagre content, to constructed an article. You've got to be keen to fly in the conditions shown in this picture.
As usual our secretary's report together with the plans of the month wrap up this February issue.
Roll on some decent flying weather for the first area events.

Editor

Indoor isn't for Everyone Pt.19 - Nick Peppiatt

CO_2 Motors Part 3

More on the Brown CO_2 motors – the Brown patents

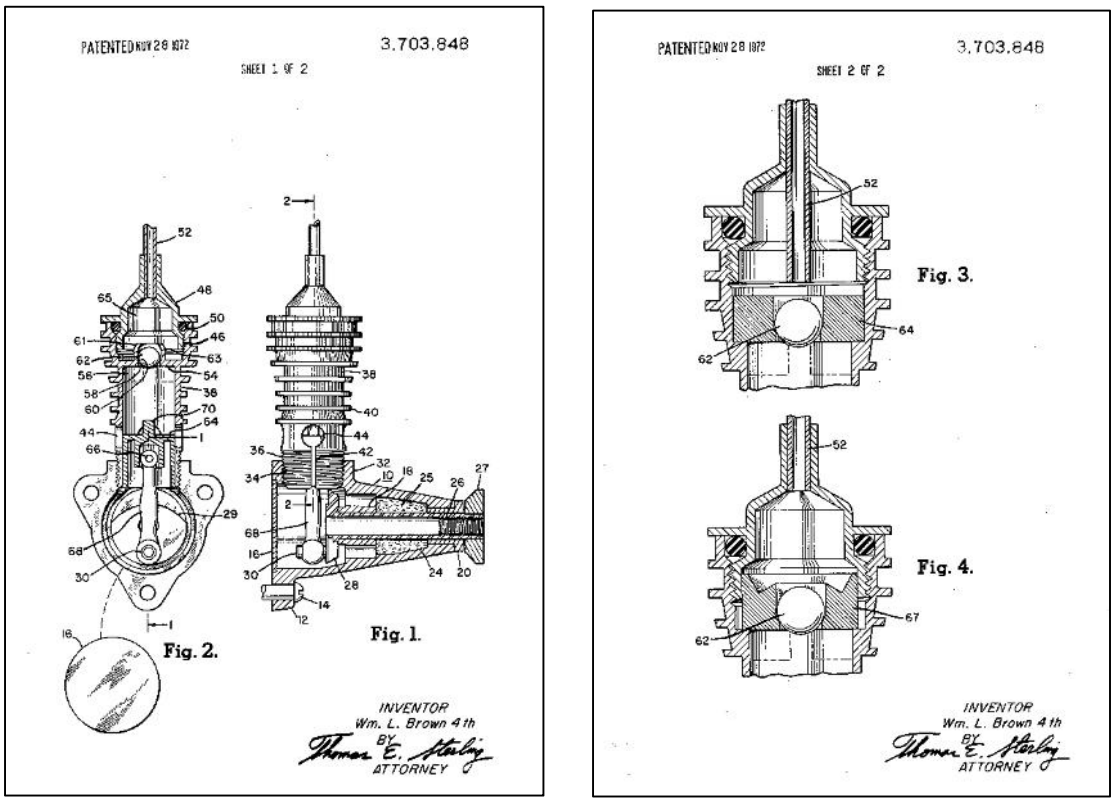


Drawings from US patent no 2588478,
filed 27th November 1946, showing the ball valve arrangement.

In further correspondence with Chris Hutchinson he gave a reference to one of Bill Brown's patents. I had not realised that US patents, at least, are readily available online, so I was able to download an earlier one, US2588478 and extract the figures. The purpose of patent drawings is to illustrate the claimed inventive steps and so they are not necessarily working engineering ones.

With that proviso, the figures above clearly show the ball valve, 40, contacting a seat, 35, that is integral with the cylinder, as shown in the photographs of the BJ .005 last month. The cylinder is threaded into the crankcase and the motor speed is controlled by screwing it in and out to adjust the lift of the ball valve by the push rod on top of the piston, 44. The rotation of the cylinder is prevented by a locking ring, 28, which is a feature of the OK, the 1940s Brown and the later Gasparin motors.

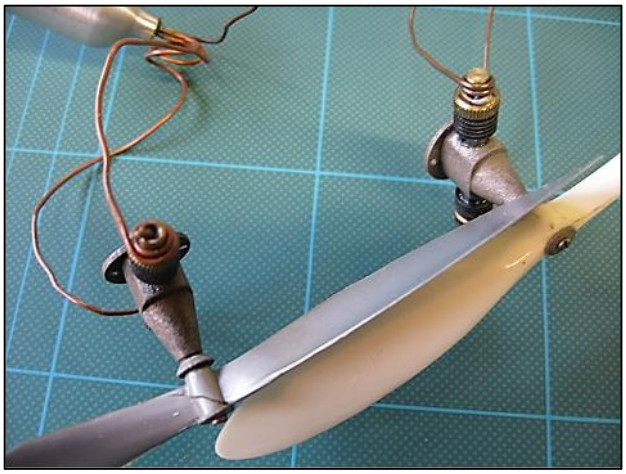
Last month I speculated that the BJ .005 now in Chris's possession might be the one featured in John Stennard's 1972 AeroModeller article. He has pointed out that this is not the case. The number on John's motor was 279, as reported in his article, whereas the number on Chris's is 977.



Drawings from US patent no 3703848,
filed 14th September 1970, showing improved valve seats.

The later patent US3703848, that Chris referred me to, shows some of the features incorporated in the Brown MJ70 and MJ140 motors. The valve seat integral with the top of the cylinder shown in Fig. 2 looks fiendishly complex to manufacture and maintain. Of more significance are the separate valve seats, 64 and 67, shown in Fig. 3 and Fig. 4, which, in the patent, are described as being 'comprised of plastic material or metal'. The MJ engines have separate white plastic seats, which, I think, are acetal resin. The cylinder locking ring is dispensed with, as the bottom of the cylinder has splits, 42, and is flared to give a friction fit of the thread. Interestingly, the plastic type piston, with the integral sealing lip is not shown in the patent drawings.

This patent does not deal with the problem that the feed pipe to the top of the cylinder has to be twisted when the motor speed is adjusted. The Brown motors clearly underwent continual development during their production runs. I have two MJ140s. The earlier one has the copper feed pipe soldered to the brass cylinder cap and then spiralled round to give limited cylinder rotational movement. The later one has a sealed rotational joint, making the cylinder cap far easier to remove, but more likely to leak! See photo below.



Brown MJ140s, showing differences
in the attachment of the feed pipe to the cylinder head

Equipment required to improve valve seat sealing
shown with Telco valve seat and 3/32" dia ball.

Maintenance of CO_2 motors

I am enjoying this foray into this subject. It has given me a good excuse to dig out, oil up and run my motley collection of CO_2 motors. A very useful article 'CO_2 Engine Maintenance' by Maris Disler was published in the July 2017 edition of AeroModeller containing many hints, including improving the metal ball /metal seat valve sealing used in the OK motor and the early Brown motors and as shown in the figures from the earlier patent above. More recent motors, of course, have hard plastic valve seats, as already described. One thing I found with several motors using a hard plastic valve seat was that the ball valve seal was good at the start of the run, but was leaking towards the end of it. This is probably not surprising as at the start of the run the higher pressure on the ball will distort the seat surface enough to seal well, but as the gas pressure reduces there is less force on the ball to do this. The plastic seat seal can be improved using the following method, which I first came across in an article 'Hot Hints for CO_2' by Steve Philpott published in the July 1986 edition of AeroModeller.
The procedure is to gently tap the valve ball smeared with toothpaste into the valve seat using a light hammer and a suitable punch, see photo above. The ball needs to be repositioned after each tap. As something like 50 such taps are recommended, it is rather a mind numbing process, so you have to be in the mood. I got away with about 40 taps on a couple of valve seats the other day, which gave a significant improvement. This is best done in a shoe box lid, or similar, to minimise the possibility of the tiny ball escaping. Before reassembly the parts need to be thoroughly cleaned and lubricated with light oil.

KeilKraft CO_2 Motor

In response to my request last month our arch archivist, Roy Tiller, kindly emailed me with the details of this motor as published in the 1949 KeilKraft handbook, which are similar to those in the Aeromodeller advertisement. Unfortunately, the David Baker Heritage Library does not have a copy of the 1948 KeilKraft catalogue, so if you have one spare, you know where it would find a good home.

Nick Peppiatt

Post Script:

Crawley meeting 2018

Don't forget the annual SEBFMA Free Flight Indoor meeting at the K2 Leisure Centre, Crawley on Sunday 4th February.

Extracts from Aeromodellers December 1957 & March 1977

Electrifying

As a. so-called model humorist I take off my tattered cap arid bells to a witty word spinner of the first Teddy Boy era. Back in the year 1909 a certain Mr. Cannon had the gentle readers of those pioneer days exploding in bewhiskered mirth at his straight-faced skit on the new-fangled model flying.

Taking the rise out of the lack of rise exhibited by the india-rubber-powered models our whimsical friend introduced his super scientific electric model, complete with cardboard cut-out wing and a wing loading per cardboard square foot that would stagger a supersonic fighter. Climb was achieved by a new and revolutionary process —a tall pair of steps, while the d/t apparatus was simple in design and faultless in execution: a long piece of string.

An unusual feature of the model was the absence of a rudder. This omission being possibly due to the fact that the builder hadn't the strength to cut this out of corrugated iron after twisting his solid oak propeller into shape.

Perhaps a more practical model would have been the camphor ball special. Instead of the wing being cut out of a plain piece of cardboard, a more scientific principle is used: successive laminations of cornflake cartons. The cartons used should comprise a complete set, so that in the event of the model crashing, the wing can be carefully unglued and sent away in exchange for a spaceman's helmet.

For the fuselage, the planks of stout timbers can be replaced by a length of 3 in. galvanised iron piping. A chamber—non domestic—is located at the tail end to receive the heated camphor balls. The wing should be mounted parasol fashion.

Any good quality umbrella can be used for this purpose, although a walking stick type is recommended so that the handle might be utilised for short passenger trips. No propeller is required as the machine operates entirely upon the moth induction principle; for the sake of appearances a dummy can be fitted. Be sure, however, to remove the ring from same before twisting into shape.

Owing to high all-up weight, some difficulty may be experienced in launching. Therefore, to make your helper heave, add more camphor balls.

Branching Out

We modellers have been exhorted to get together more. Great though the gulf that divides the free flighter from control liner, and indoor flyer from the radio pylon fan, we are brothers under the skin, be it microfilm, tissue or plastic, all sharing a common pursuit.

Quite right, too, I thought. That radio flyer may not be a rich banker or the bloke who robs him, but just an ordinary poor bloke like myself who just happens to keep his wife very firmly in her financial place. And that control line chap; he may be quite civilised really - might listen to Beethoven and read poetry. Who knows? They may be approachable. Why not give it a try?

Nothing lost, I took the plunge. Holding my rubber model as a badge of identity I strode boldly over to the group of radio flyers.

"Good afternoon . . ."
" You can't fly that thing here. This is strictly radio."
"I had no intention of doing so. I. . . ."
"Come to that, you have no right to be on the take-off area at all. It says it quite clearly in the flying field rules: flyers and helpers only."
"But I come in a spirit of detante."
"I don't care what fuel you're using. pxxx Off."

Bloody but unbowed, I next made my way to the control line circle.

"Good afternoon."
"Can't you see I'm lap counting."
"Well, I only want to ask a few friendly questions."
" You won't if you stand there. You need a head for that sort of thing."
"Sorry. I was only trying to find out what C/L is all about."
"That's all right. Come back when we're not so busy."

Not all that encouraged by my progress so far, and not wishing to look in on the Indoor flyers in case I opened the door too quickly and brought about a general catastrophe. I decided that 'togetherness' between the various branches of the hobby needed the services of a Kissinger if any sort of rapport was possible. Meantime it was back to the old desperate factions and the usual acres of flying field betwixt our pet obsessions.

Narrow Mindedness

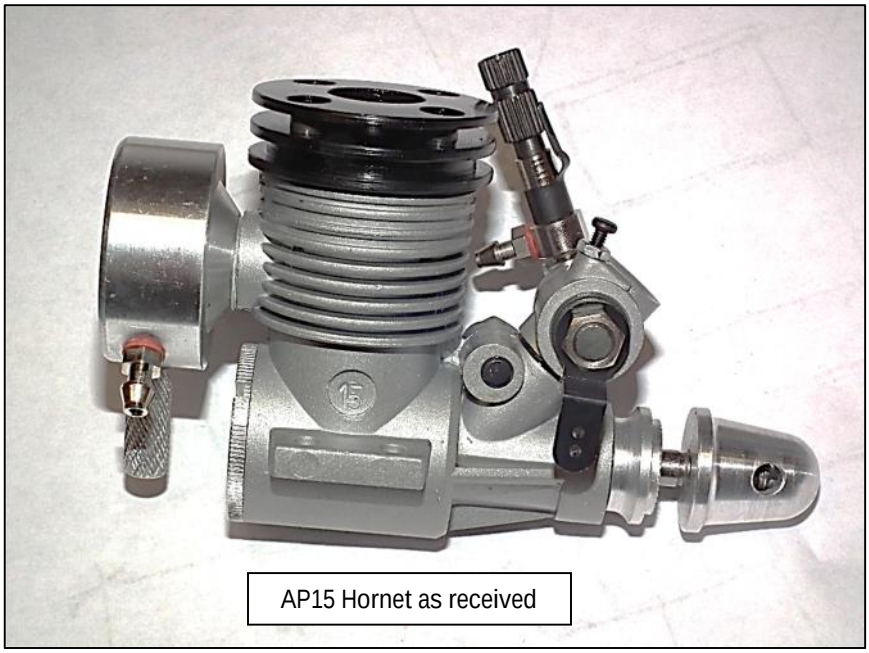
One particular authority, floundering about in the mire of bureaucratic restriction, has introduced a 'toy size' limit of 36in. wing span on model aircraft using its open spaces. This is something of a blow, particularly in these days of high aspect ratios, but the ruling, however silly, could be taken as a challenge. It is surely not beyond the ingenuity of model flyers who get out of sight flights on 10grammes of rubber strip, to produce a viable Wakefield or A/2 within that span limit. Could be the basis of an exciting club contest - or even a national one.

Pylonius

Tuning an AP15 Hornet - Roy Vaughn

The AP15 Hornet for Classic Power

It was probably the late John Thompson who first drew my attention to the AP15 Hornet. At the time I was looking for a more powerful motor for my Classic power models to replace the OS10's I had used up until then. Its specification was promising with an ABC piston-liner, twin ballraces and modern porting system. Even more interestingly it cost only £18 from HobbyKing, so I ordered one out of curiosity. It is promoted by HobbyKing as the antidote to electric power for R/C models and therefore comes with throttle and silencer. Note that there are two versions of the motor, an 09 and a 15, which appear to differ only in the bore of the liner. The motor is very compact suggesting that it started as an 09. Stretching it to a full 2.5cc appears to have been impossible and the actual capacity of the "15" is only 2.3cc.

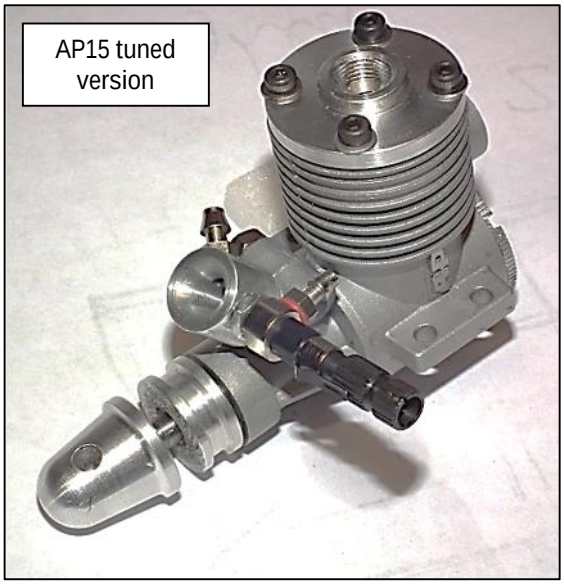


AP15 Hornet as received

The silencer is a small drum attached to the back of the engine where it simply screws into the rear exhaust stack. The outlet from the drum to atmosphere is a small tube (the knurled fitting at the bottom of the drum) with a bore of only 4mm. One would think that this feature alone would restrict the performance, and it does. Running on an APC 7x4 and 10% nitro fuel it achieved 15,200 rpm which compares with a (smaller capacity) OS10LA at 16,300. Fortunately, there is a lot of opportunity for tuning. First went the silencer which yielded an additional 2000rpm at a stroke. The throttle assembly was then replaced by a large bore venturi for operation on bladder pressure and the head replaced with a version to suit the Nelson plug. Finally, the engine was run on 40% nitro fuel. This resulted in 20,600rpm on the APC 7x4. According to the prop calibration curves published in the April 1994 Aeromodeller, this is a power improvement approaching 200%. In this state it was good enough for second place in Classic power at the 2015 Nats in a Dixielander, flying against Mike Quinn's missile-like Creep. More experience has shown that an APC 7x3 is a better prop for a less draggy model like the Creep.

Externally the motor looks like a quality product and the inside is equally good. The fits and finishes are beyond reproach in all four of my engines. How even the Chinese can do it for the price is beyond me. No expense has been spared on the needle assembly which is O-ring sealed and includes a right-angle joint which allows the business end to be positioned well away from the prop. I was able to re-use the body of the NVA in a more conventional layout screwed directly into the side of the new pressure venturi: new needle assemblies can cost as much as this motor! The silencer pressure nipple was also re-used as the attachment for the flood-off line. In the modified state the weight is only 122 grams.

More performance could possibly be extracted, for instance by fitting high quality bearings, but there is no pressing need with the present Classic engine run. All-in-all the AP15 is a remarkable engine considering the price, even though this has crept up to the £30 mark with the Brexit bonus!

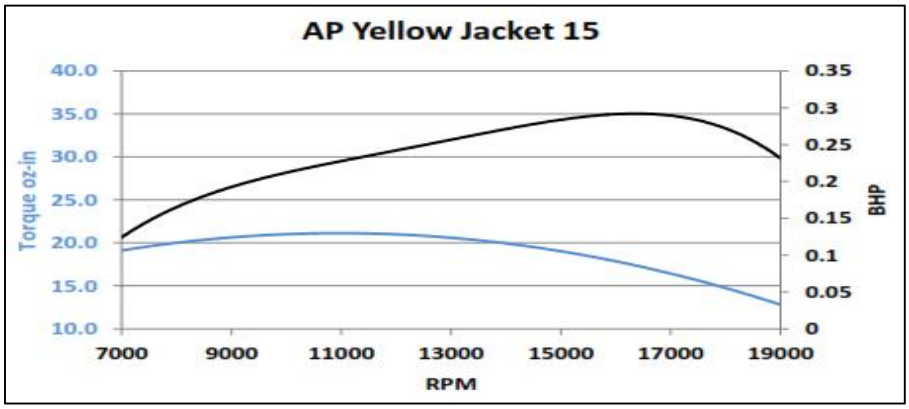


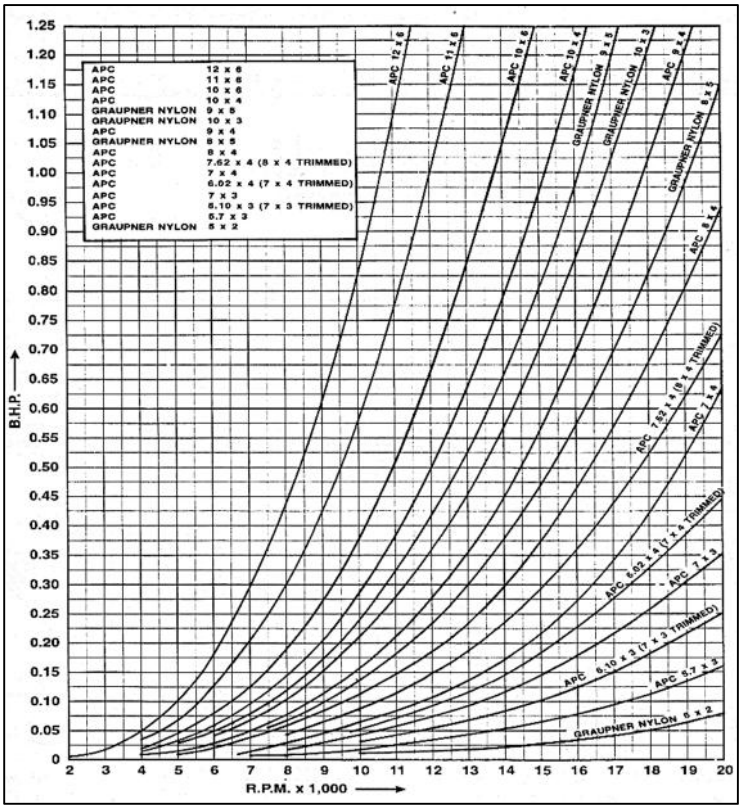
	With silencer and throttle, standard head, 10% nitro	As first column but without silencer	As previous column but 40% nitro	With Nelson plug and pressure venturi, 40% nitro
APC 7x4	15,200	17,300	18,100	20,600
APC 7x3	17,700	20,400	21,100	23,900

(Editor) **The following data is for comparison purposes**

This data is from tests on the later AP15 Yellow Jacket in the Aeromodeller November 2016

Propeller	RPM
RAM 8x6	10,700
APC 9x4	11,000
APC 8x6	11,600
APC 8x5	11,700
Master S-2 8x6	11,800
Graupner 8x5	11,900
Graupner 8x4	12,500
Master S-2 8x5	13,200
JXF 7x6	13,400
APC 8x4	13,700
APC 7x6	14,100
Zinger 7x4	14,700
APC 7x5	15,000
Master G/F 3 8x3	15,200
APC 7x4	16,200
APC 7x3	18,500





These curves of BHP against RPM were produced with a range of Aeromodeller standardised test propellers, and are from the article in the April 1994 Aeromodeller referred to in the text above.
Once again they are for comparison purposes.

This data is reproduced courtesy of the 'Aeromodeller', the magazine devoted to Free-Flight.
It is published monthly and details may be found on:
http://www.aeromodeller.com

Roy Vaughn

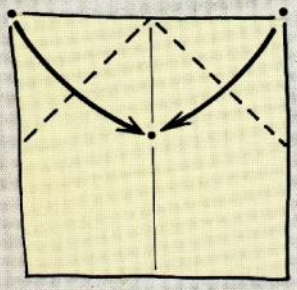
Paper Airplane: Avion - Nick Robinson

AVION

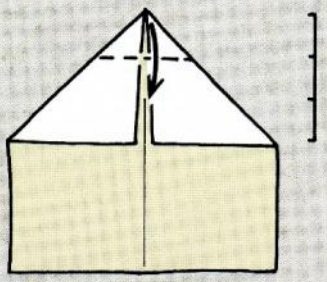
DIDIER BOURSIN

The Avion is a slow, graceful flyer and has a very steady flight-path due to the large wings. The large wing area lends itself to a crisp decorative paper. Fold carefully and try not to put any unwanted creases on the surface of the wings. This design is an object lesson in simplicity and balance.

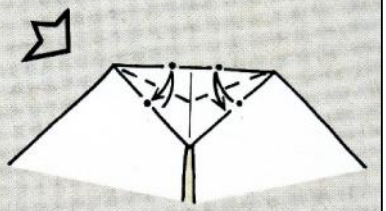
Start with a square, coloured side upwards. Fold the vertical centre crease.



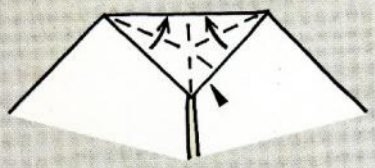
1 Fold the two upper corners to lie along the centre crease.



2 Fold the tip down about ⅓ of the way down the centre edges.

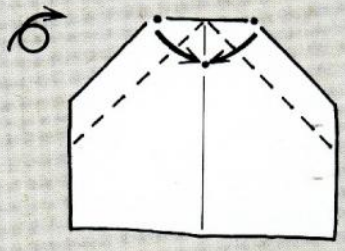


3 Enlarged view of the tip. Fold both inside edges of the small triangle to the upper edge, creasing only as far as the centre.

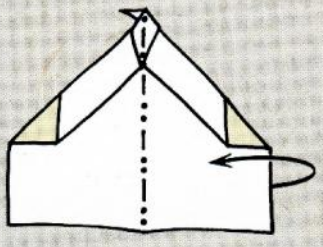


4 Use these creases to squeeze the triangle into a small point (known as a "rabbit's ear") then flatten this point to the right . . .

5 . . . like this. Turn the paper over.

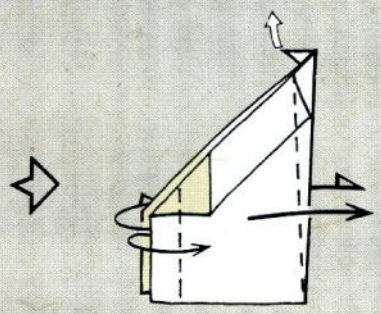


6 Fold the upper corners to lie along the centre crease.

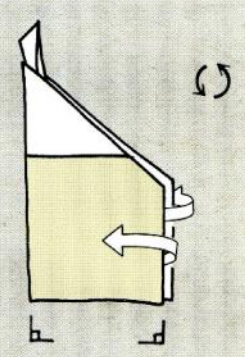


7 This is the result. Mountain fold the paper in half to the left.

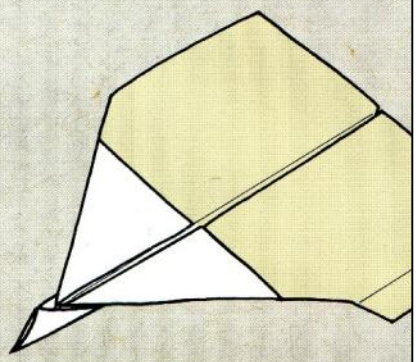
AVION



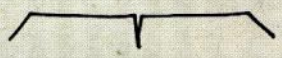
8 Pull out the hidden paper at the tip and make small valley folds at the edges of the wings (these form rudders). Fold both wings across at a shallow angle.



9 Open the wings out to right angles, the rudders to around 45 degrees, as shown in the profile.



10 L'avion c'est fini!



Profile of finished craft.

FLYING HINTS

Because the wings are so large, they are very prone to bending, so this plane flies best indoors away from strong air currents. Launch gently.

Nick Robinson

January at Thorns Indoors - John Andrews

A quick zip along the A45, A46, M40, M42, A491 up Quarry Bank and into the Thorns Leisure Centre sports hall for the first of the South Birmingham's indoor meetings of 2018.

The first 1/4hr is for lightweight radio so plenty of time for me to set up my FF table and make an entry in my brand new flight record book for 2018.

Then out with my lightweight radio model, not strictly mine as it was actually given to Rachel by Terry Beeze, who presumably had had enough of it. I can understand why, as now I have flown it a few times, the trolling back and forth with only rudder control gets a little tedious. Mind you, with ceiling lights and my somewhat dicky eyesight, flights can get a little exciting at times. On the plus side one can only marvel at the intricate nature of the model and wonder how they can be produced at the price.

For my models for the day I had opened up the garage, selected the first indoor box to hand, lifted the lid to check there were models in it and dumped it into the back of the car. It turned out that I had selected my EZB box and opening the box at Thorns revealed two fuselages and three wings. I cannot remember how long ago it was that I last used the contents and, as there were no markings on the components that made sense, I took out one fuselage and guessed which wing might match.

I return to base with my EZB

Next problem was motor size, I only had my new record book with me without any entries so it was guessing again. I opted for a 14" loop of .080" and put the model together. I wound on 5 or 600 turns and launched the model. Wonders will never cease, the combination worked perfectly and no adjustments were required. I had a lazy afternoon and only made 4 flights: the test flight; a hang-up on a piece of rope around a roof truss; followed by 2 flights just short of 4 minutes. I did get out the second fuselage but the fin had become detached so I fixed it and then put it back in the box because I made a mess of the job.

Sandwiches, a cup of tea and a few more forays with the little radio model completed my afternoon.

Rachel, with Pat (her on the door) Shepherd, seen here discussing genealogy. The good lady did find time to circulate and get a few pictures of some of the attendees and their models. Not all are known to us.

Colin Shepherd & Alan Price discuss the merits of their models,

Mike Brown winds his ½ scale 'Jaguar' Wakefield

Colin's ½ scale 'Gordon Light' Wakefield was flying like it was on rails, Alans cabin model not so much, kept spiralling in at the end of the power run.

Eric Hawthorn fits prop to a 'Living Room Stick'

Rob Newton airing his 'Gyminnie Cricket'

Eric Hawthorn's 'Living Room Stick' models were going well even tho' one had lost one of its twin fins. Rob Newton was flying a 'Gyminnie Cricket', these models seem to be the bread and butter of indoor duration and are a perfect jumping off point for duration flying.
The standard kit cricket will achieve about 1min in the average sports hall.

Mick Chilton chats with a couple of newcomers

Then improvements such as airfoil sections on wing and tail, lighter covering material (Wilco food bag plastic) & reduced material sizes will get you past the 2min mark. And finally the 3gm BMFA rules version using good light wood and Mylar covering will bring durations up to the 4minute mark.

To sum up the afternoon, there was much more chatting than flying but after all we had not met since well before Christmas.

John Andrews

SUPER TIGER G-32

Via Paolo Fabbri 4, Bologna, Italy
Retail price: 4,800 lire (not available in Great Britain)

Specification

Displacement : ·9471 c.c. (·0578 cu. in.)
Bore : ·414 in.
Stroke : ·429 in.
Bore/stroke ratio : 1 : 1·0003
Bare weight : 3 ounces
Max. B.H.P. : ·0965 at 15,000 r.p.m.
Max. torque : 8·8 ounce-inches at 8,500 r.p.m.
Power rating : 1·02 B.H.P. per c.c.
Power/weight ratio : ·032 B.H.P. per ounce

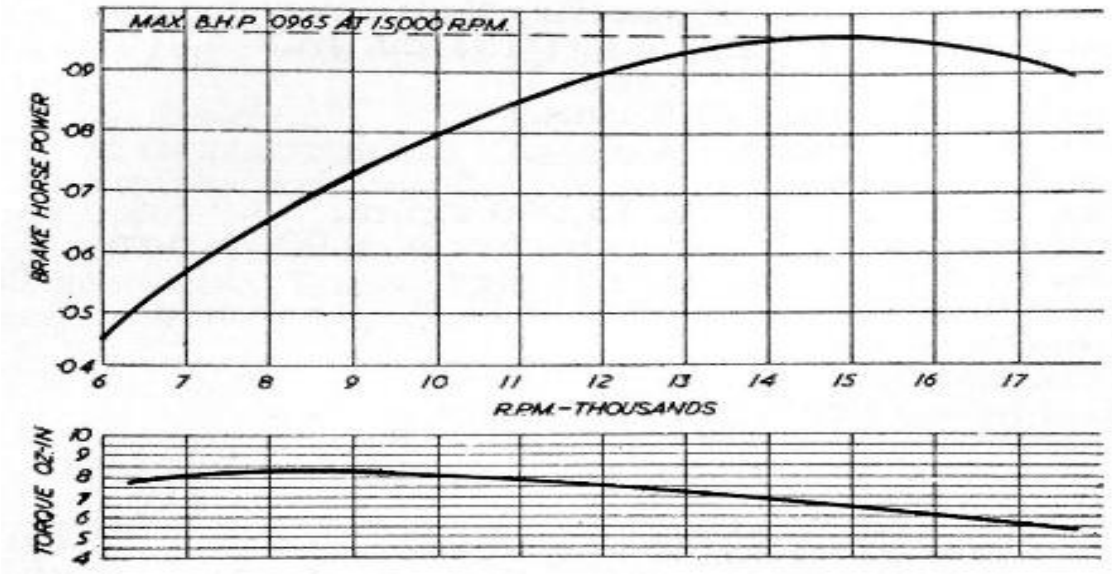
Material Specification

Crankcase : light alloy pressure die casting
Cylinder : hardened steel
Cylinder jacket : turned aluminium alloy, anodised dark red
Piston : Meehanite
Contra piston : Meehanite
Crankshaft : hardened and tempered nickel chrome steel
Connecting rod : machined aluminium alloy
Main bearing : single ball race and cast iron bush
Drum valve : steel
Drum valve bearing : bronze bush
Spraybar : brass
Manufacturers:
MICROMECCANICA SATURNO,

PROPELLER—R.P.M. FIGURES

Propeller dia. × pitch	*r.p.m.*
8 × 4 (Tiger)	9,500
8 × 3½ (Tiger)	10,000
6 × 4 (Frog nylon)	16,000 (max.)
9 × 4 (Trucut)	6,900
8 × 4 (Trucut)	8,800
8 × 3 (Trucut)	9,400
7 × 4 (Trucut)	11,200
7 × 3 (Trucut)	13,000
6 × 4 (Trucut)	12,500
5 × 3 (Trucut)	16,200
6 × 6 (Trucut)	10,700
8 × 4 (Stant)	9,200
7 × 4 (Stant)	10,600
6 × 4 (Stant)	12,800

Fuel : standard diesel mixture, 3 per cent amyl nitrate



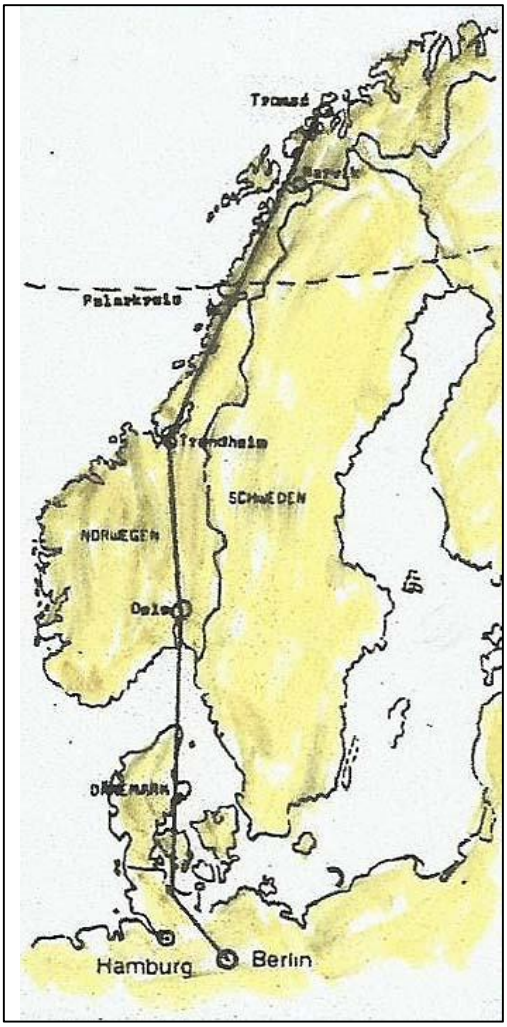
Solstice - Dick Twomey, Mauritius

Story of a Solstice in the Land of the Midnight Sun
Dick Twomey, Aeronautical Society of Mauritius

I was reminded recently that 21/22 December was our "longest day" (not because of its closeness to the date of the No.18 Elections!), but because the BBC last week made a great occasion out of the Other Hemisphere's shortest time between sunrise and sunset. So what is a "solstice"? My dictionary says it is "either of the two times a year when the sun is at its greatest distance from the celestial equator". Is this interesting? We who live at a latitude of only 21 Degrees South experience only a small difference in the hours of daylight between our summer and winter, but for the folks whose homes lie at far higher latitudes the contrast of these seasons is enormous, and a solstice there does matter.

Some years ago I had been posted to Berlin by my employer British Airways, and spent 10 interesting years in what was in fact walled-in and Russian tank-surrounded Cold War "West Berlin". I got very fond of the beleaguered citizens of that half-city, whose only access to the rest of West Germany and the free world during that time - as older readers may remember- was by flying through the Potsdam Agreement's Berlin Air Corridors over Communist East Germany with BA, Panam, AF or other airline companies of the WWII allied nations. As a result, I found it not at all surprising that most West-Berliners appreciated very much any chance that was offered to take holidays and to visit the world outside their restricted "island".

As BA pilots, our bread-and-butter German domestic flights connected W Berlin's Tegel Airport with Hannover in the north, Dusseldorf and Cologne in the centre of West Germany, and Stuttgart in the south. Panam and others looked after Frankfurt, Munich etc. Flights along these air corridors were permitted through the workings of the Berlin Air Safety Centre, where representatives from the USA, France and UK had to "notify" each flight to their opposite number from Russia. The corridors had a height limit of only 10,000 ft and were surveyed night and day by Allied radar. Overhead the Russian Migs patrolled, watching for deviations and ready to escort any wanderer quickly to a nearby E German airport. A diplomatic incident would then surely follow.



Better-off West Berliners rejoiced in their annual holidays, and were forever looking out for new destinations in which to relax. So it happened that a go-ahead travel agency came up with the idea of capitalizing on the unusual meteorological conditions of the high Summer Solstice season , i.e a period of several weeks either side of the 21st June. Their advertisements, like **"Erleben Sie eine Nacht, in der es nicht dunkel wird" ("Live through a night which will NOT become dark!")**

This attracted many customers, who then paid a lot of Deutschmarks (pre-Euro days) in order to lose a complete night's sleep! I flew two of these "ballades" to and from Tromso (69 Degrees N) in North Norway, enjoying the experience as much as our customers did.

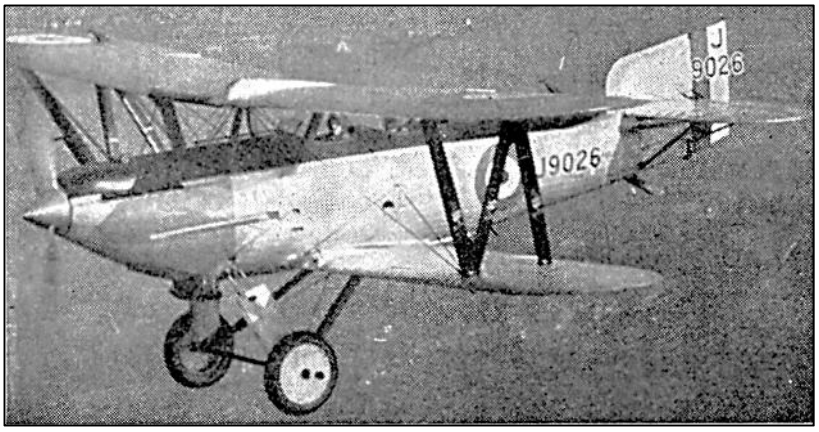
Taking off at 8:30p.m. local time our Boeing 737 was packed full, and each flight took a little over 3 hours. We flew NW to Denmark and then due north overflying Oslo, then Trondheim, turning finally NE to cross the over the Arctic Circle and onwards to the icy city of Tromso lying between snow-streaked mountains and the grey waters of the fjords. Our landing was met by a pleasant Tourism Guide, who then spent 3 - 4 hours showing us around the city… It would be well after midnight by now but we were always in broad daylight. We learned that in the Northern Summer the sun would not set for period of some two-and-a-half months … and to balance this out …the golden orb would not rise in the mid-winter for an equally long period.

Of course then comes the inevitable question: "What on earth do the 64,000 people who live in Tromso do with themselves?", to which our Guide is quick to respond (she has obviously been asked this many times before): "Ah well, in summer we fish and make love….. In winter it's too dark to fish!"

Good repartee, even if there is no proof of its truth in the size of the average Norwegian family unit. Other activities do in fact abound, making Tromso a highly sought after tourist destination, especially in the cold dark winters! So here's to the "solstices", and to their measurement of how the world goes round, even if we don't notice them much in Mauritius!
We got back to Berlin at about 7:30 the next morning. The same sun was still there.

Dick Twomey

"OUT OF SIGHT, OUT OF MIND!"



AIRCRAFT DESCRIBED No. 119

FAIREY FOX

Described and Drawn by
G. R. DUVAL

THIS MACHINE WAS yet another example of a highly successful design stemming from the Schneider Trophy racing seaplanes, in this case, the American *Curtiss* type of 1923.

When on a visit to the United States, Mr. C. R. Fairey was impressed by the performance of the Curtiss biplanes developed from the Schneider machine, and particularly by their Curtiss-Wright D.12 engines. He purchased a batch of these engines, along with some Curtiss designs and brought them back to England. The result was the subsequent production in Great Britain, in 1926, of the Fairey Fox day bomber, fitted with the Curtiss-Wright D.12 engine.

It was the small frontal area of the D.12 that made the production of such a compact and fast machine possible, and when the aeroplane was demonstrated to Air Ministry officials, it fairly astonished them. There was, however opposition in certain quarters to the use of American engines in British aircraft, but such an obviously high performance aircraft could not be ignored, and so it was decided to order enough machines to equip one Squadron, No. 12.

The first machine was delivered to the Squadron at Andover in June, 1926 and within twelve months the re-equipment had been completed.

No. 12 Squadron became the envy of all the others, for the Fox proved far superior to any R.A.F. machine in service, and was actually faster than the current first line fighter, the *Gamecock*. In Air Exercises, the Fox proved almost impossible to intercept, and at the Hendon Air Displays it became the star performer, opening the show with a spectacular dive over the stands at full throttle.

The Curtiss engine, with its unfamiliar layout and systems, gave some trouble, however and several forced landings resulted. This spurred Rolls-Royce to even greater efforts in their developments of an engine of low frontal area to outrival the Curtiss product. This was the F. XII, forerunner of the famous Kestrel series.

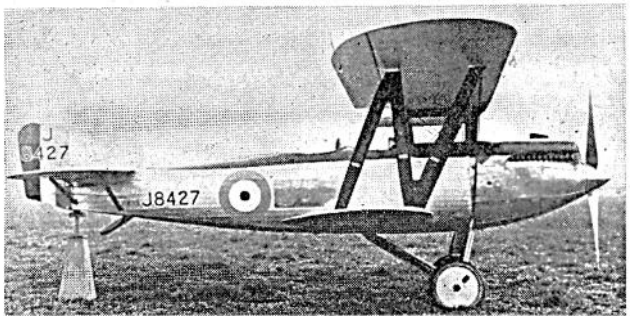
In January, 1929, the first Kestrel-engined Fox was delivered to No. 12 Squadron, designated Fox IA. This machine had a larger propeller to absorb the greater power of the Kestrel, and the top speed was increased by 30 miles per hour. "A" Flight of the Squadron was equipped with the IA. the other Flights retaining the original version.

By now, the fame of the Fox was indelibly recorded in the Squadron's crest, officially approved as a fox's head and painted upon all their aircraft.

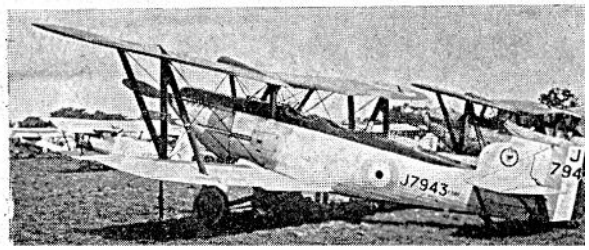
The Fox remained in service until 1931, the last two Foxes going to Special Duty Flight, Boscombe Down on the 9th of March, leaving behind them many memories and an illustrious record of service.

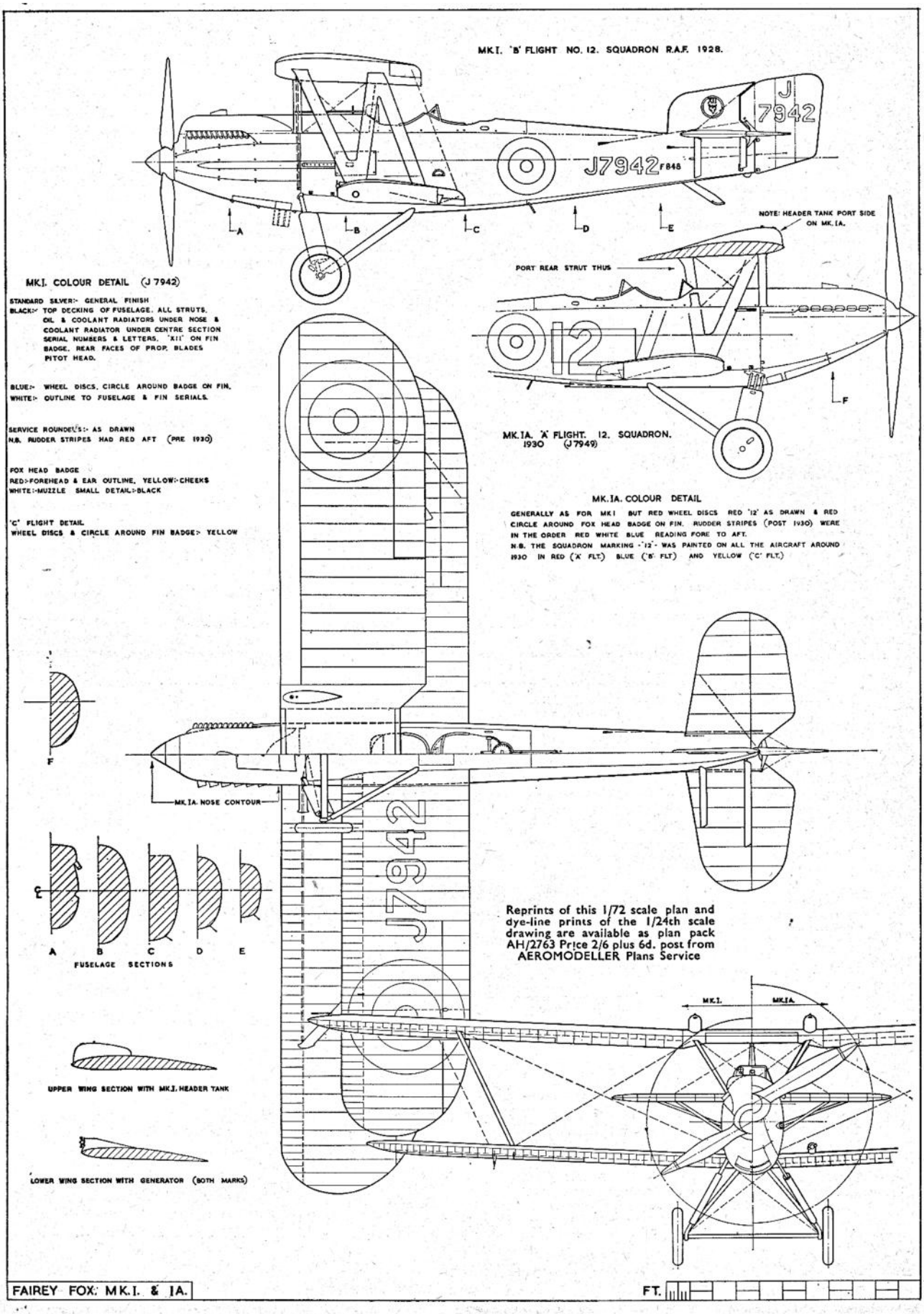
Technical Data:

Type: Two-seater light day bomber.
Engine: Fox I—Curtiss-Wright D.12, 480 h.p.
Fox IA—Rolls Royce Kestrel, Ib, 525 h.p.
Dimensions: Span—38 ft. Length—29 ft. Height— 11 ft.
Performance: Fox I. Fox IA ( ).
Max. speed at sea level—156.5 m.p.h. (184 m.p.h.).
Max. speed at 5,000 ft.—154.5 m.p.h.
Max. speed at 10,000 ft.—150.0 m.p.h.
Max. speed at 19,000 ft.—123.5 m.p.h.
Climb to 10,000 ft.—11.25 mins.
Rage—500 miles.
Loaded weight: 4,117 lbs.
Fuel capacity: 78 gals.
Armament: Front—synchronised Vickers gun. Rear—Lewis gun, on Fairey high speed mounting. Bombs—2 x 230 lb. or 4 x 112 lb.
Construction: (Wings)—wooden structure, fabric covered. Leading edges ply-covered on top.
(Fuselage)—forward section metal cowled steel tube. (Fox I cowling was polished alumium, Fox IA was anodised dural). Rear section wire braced wooden frame, faired to oval section.
(Undercarriage)—cross-axle wire braced, with rubber in compression shock absorbers. Streamlined tail skid.
Serials: J 7941 to J 7958; J 8423 to J 8427; J 9025 to J 9028.
(J 7941 was fitted with dual control, J 7943, J 7945, J 7949, J 7958, J 9025 and J 9028 had Kestrel engine, including Curtiss-engined versions re-engined with Kestrel.)



Left: Fairey Fox I which used the original Curtiss D.12 engine. (Courtesy: Real Photographs Co. Ltd.)
Right: Fairey Fox of B Flight No. 12 Squadron, fitted with the Kestrel engine or F12 Rolls Royce as from January, 1929. (Air Ministry Photo.





G R Duval, Aero Modeller January 1963

Vintage Coupe League - Gavin Manion

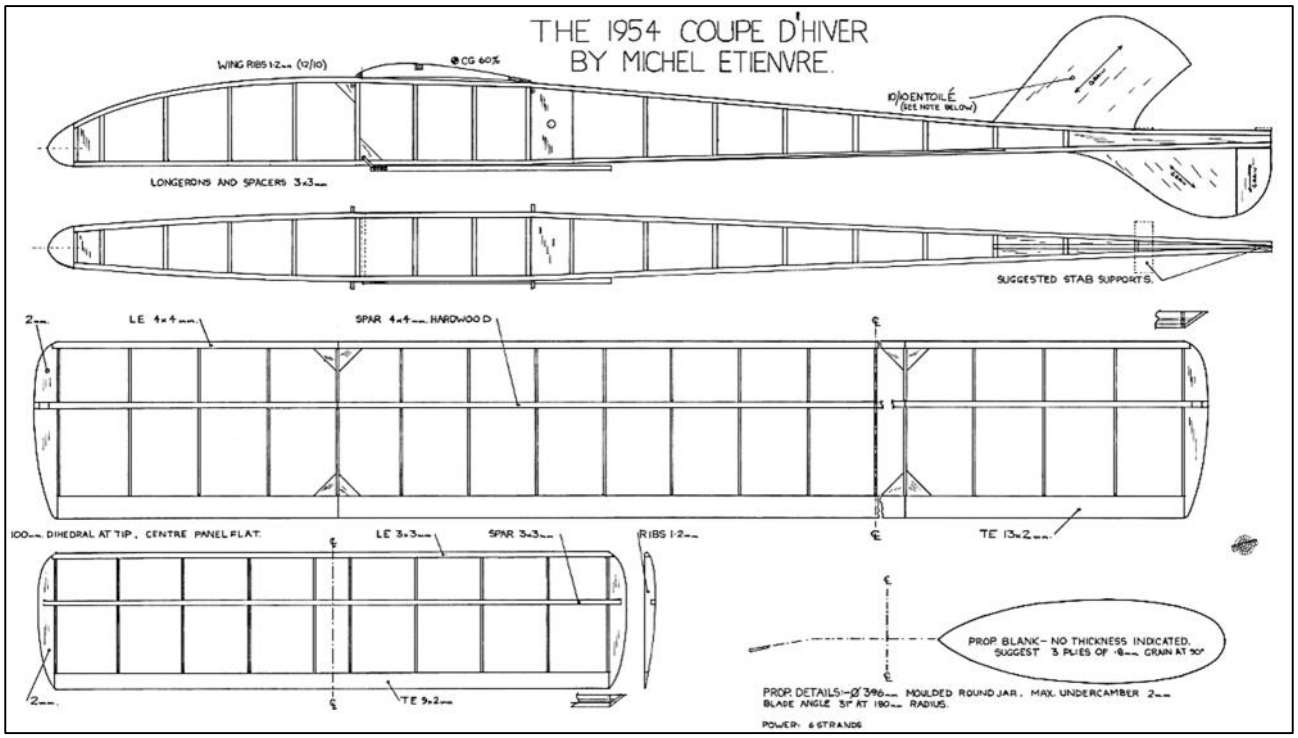
The 2018 Vintage Coupe League is underway and the first event is behind us. The first meeting, Coupe de Brum at North Luffenham, mustered 11 entries so the available points were not easily earned for the top three finishers.

Winner Chris Redrup – 3points,
Second. Bill Dennis - 2 points,
Third. Gerry Ferer - 1 point.

There are four more events to go and there is plenty of time to get that new Vintage Coupe built and trimmed before the second event, the SAM1066 meet on 17th June on Salisbury plain.

Brian Stichbury's 'Machoan'

2018 Vintage Coupe League Table							
Place	Competitor	Coupe de Brum	SAM1066 1	SAM1066 2	Crookham	Croydon Coupe Europa	Total Points
1	Chris Redrup	3					3
2	Bill Dennis	2					2
3	Gerry Ferer	1					1



Gavin Manion

More from the Photo Album - John Andrews

My request for photographs from other modellers' vintage photograph albums seems to have fallen on stony ground so you only have yourselves to blame for a second helping from my old album.

In the 50's, before HM Forces got me in their grasp, I was well into the popular form of flying at that time, namely control line flying. My club, Rugby MESAS, had the use of the local St Andrews Rugby Club sports field on Sunday mornings and a number of us would be there every weekend. Also we were in demand for exhibition flying at one or two garden fetes, folks did not seem to worry about engine noise in those heady bygone days.


John Andrews
Stunt King Frog500


Jim Whitehorne
Musketeer Frog500


Gerald Jeanes
Skystreak 40 Eta29


Laurie Moon
Small Fry K 1.9

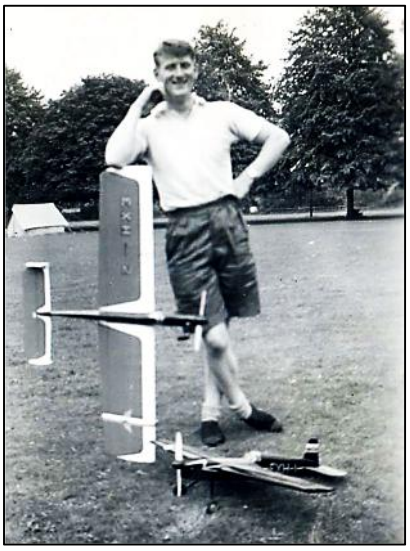

Tommy Forrest
Dervish Elfin 1.8


Ken Marriott
? ED3.46 Hunter

The demonstration team for various garden fetes.

Health and Safety would have a fit these days with often nothing between us flyers and the public. At best a bit of tape on bamboo stakes lining the flying circle. At one event I was flying my Stunt King when the control horn pulled out of the soft balsa elevator and I was left without control. The model gradually developed oscillations and, although attempts were made to throw rags at the motor to no avail, the Stunt King eventually ploughed into the ground at full bore. Exit one Stunt King.

After my demob from National Service in 1956, I took up where I left off and control/line flying was still my main obsession, although radio control was beginning to grab my attention. The club still demonstrated at fetes, and at some fetes, if there was an adjacent field, John Bickerstaffe would fly a tuned reed radio model with an open topped box strapped to the top wing surface and fly over the crowd, do a roll showering toffees down on the kids below, H&S nightmare again.

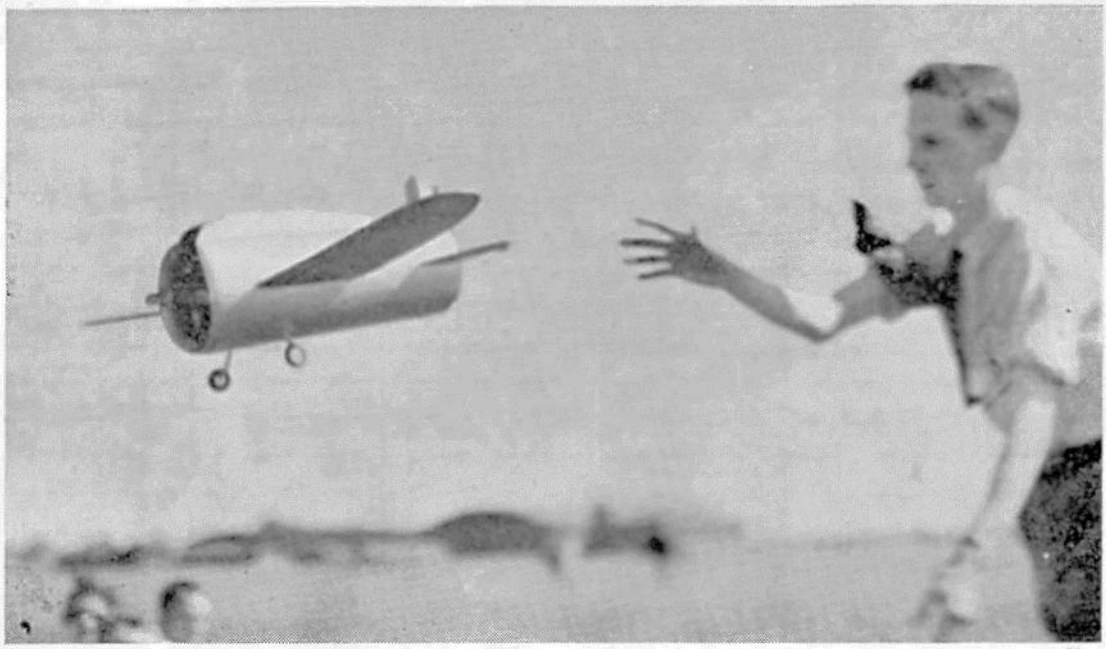


Yours truly with mate Ian retiring from the demonstration area at a fete in the late 50's held in the Whitehall Road park behind the war memorial gates in the center of Rugby. My model was powered by a Yulon 49 which eventually blew its head off, shearing at the multiple exhaust port holes.
We also were keen on C/L combat flying which surfaced in the same era, and our Sunday morning sessions on the football field were mainly occupied with this type of flying.

Here we have a couple of my combat models, I wish I had managed to retain that BMFA number. We did compete in one or two rallies and Ian seemed to last longer in the eliminations than I did, although quite often he finished up flying one of my models as the rest had been destroyed.
The picture on the right is of 'The Three Musketeers': myself; John Bickerstaffe; Ian Lomas gathered for a picture after a Sunday morning session, the oil stained clothing was the uniform of the times.

C/L aerobatics was not neglected, here is a pic of a couple of our stunt jobs. I flew in the Gold Trophy at the nationals a few times to no great effect I must add.
Somebody else please send in a few pics.

John Andrews



No ! Not quite such a dreadful example as it looks ! This annular fuselage is open at the ends, and, in theory at any rate, provides a comparatively drag-free entry, reminiscent of the Caproni Campini ducted fan full-size machine.

STREAMLINING

THE VIRTUES of streamlining in low-speed aerodynamics are highly debatable. In the older days when the unrestricted rubber Wakefield was the outstanding "performance" model the respective aerodynamic merits of the "slabsider" and "streamliner" were argued at length, usually missing the main point that the ultimate performance of these models was largely determined on the propeller-rubber motor combination and the ability of the individual flyer to achieve the optimum in trim. Yet according to the type of model and its function, drag is both extremely important and relatively unimportant. It is a matter of appreciation where drag effects are high, and where streamlining can usefully be employed.

Drag is most significant in the case of control line speed models—and almost equally significant with any type of control line model designed for maximum performance. Unfortunately, in this case by far the major proportion of the drag which ultimately limits the speed or performance of the model is line drag. About the only way in which drag can be reduced to show a measurable improvement is by using thinner lines, or a mono-line. Model drag is unimportant by comparison, and apart from the fact that close cowling on a high-speed model will reduce model drag to a minimum, the rest of the model shape is not all that important.

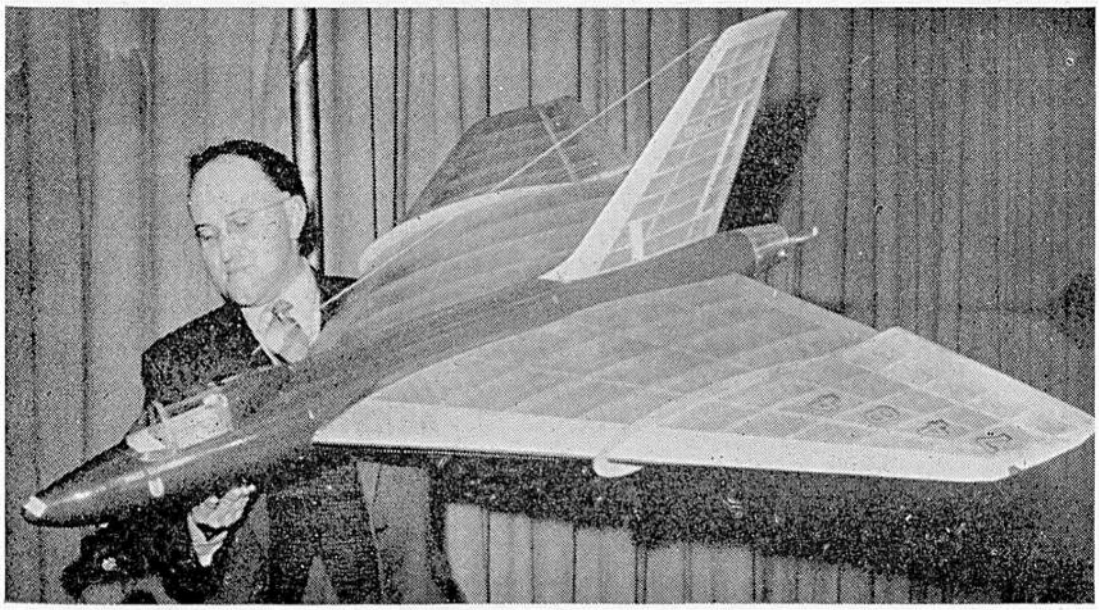
What remains as important on a high-speed model, however, is model *weight*. For a given wing area, the lighter the model the lower the angle of incidence needed to supply the required amount of lift and hence the lower the wing drag. Wing drag, as a single item, will be higher than the drag of the rest of the model, hence this feature of being able to operate at minimum incidence will be more significant than streamlining applied to the rest of the model.

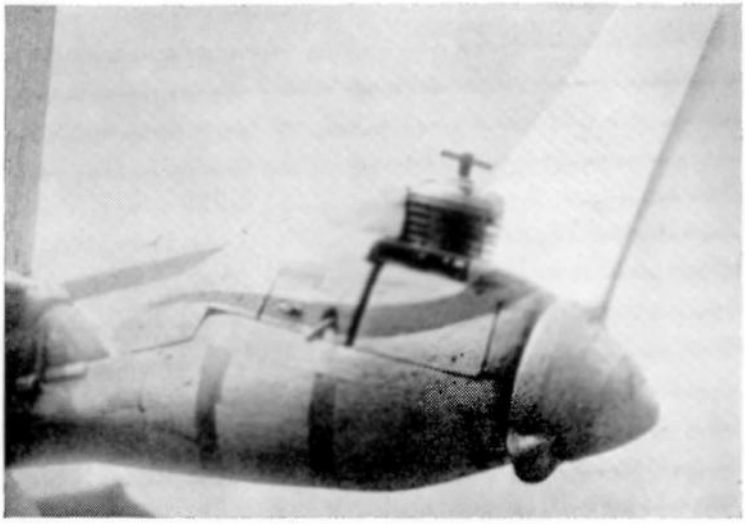
In particular, the importance of spinner shape is usually over-emphasised on speed models. Although a high-speed *model*, speed is still low in the aerodynamic scale and a relatively blunt entry is better from a streamlining point of view than a pointed or extended spinner. In fact, the main virtue of a spinner, apart from appearance, is usually in masking off any possible "air trap" offered by an open ended fuselage. At lower speeds, *e.g.*, on free flight models, a spinner is quite worthless from the aerodynamic point of view.

This also underlines the fact that "front end" streamlining is relatively unimportant, at the low to moderate speeds with which we are concerned in model design. Even a relatively large flat plate area offered to the airstream does not appear markedly to detract from performance. Thus, the flat front former, typical of the average free flight power duration design, is quite an acceptable feature with the engine mounted directly on it, or to bearers protruding from it. There appears to be no advantage at all in cowling in the engine, and several disadvantages. These include restricted accessibility and possible "fin effect" of a cowling affecting stability. About the only thing to avoid, in fact, is a "bucket shape" entry in which the airstream could be trapped and have to reverse its flow to escape. A cowling may well reproduce this condition accidentally, unless adequately vented.

The main requirement of good low-speed streamlining is a good *leaving* or *trailing* shape, drag being caused far more readily by the airstream eddying around a bluff trailing section and breaking up into a wide wake than in being disturbed by a bad entry. A fuselage which ended in a "flat plate" area, for example, would show a quite high drag, but this feature is relatively unknown since fuselages normally taper away to a thin section (vertically or horizontally) at the extreme rear. The same reasoning, however, argues in favour of "knife-edge" trailing edges for wings and tailplanes, rather than leaving these sections relatively blunt. A thick edge section may not *appear* to be a drag producer, but it does tend to increase the depth of the wake, and consequently the drag. A similar effect is realised when the trailing edge is canted to give a flap effect,

A radio-controlled delta wing model by A. S. Bailey of Cheadle, winner of *Aeromodeller* championship trophy at Northern Models Exhibition, which demonstrates a high degree of model streamlining in interesting form. (Photo: Arthur Hamer).





Something of a rarity ! This continental contest power model "power egg" shows what can be done in streamlining a difficult subject. Builder has gone further than usual in that a single-bladed balanced prop. is used to cut down drag to the lowest possible amount.

but here there is also an aerodynamic gain in increased lift and the overall effect may be favourable, for certain applications, if not overdone.

As far as fuselage streamlining is concerned, the actual shape appears relatively unimportant. A rounded section, theoretically at least, involves less risk of eddies developing along the edges under the influence of a spiralling slipstream. As a concession to this possibility, box fuselages can have the edges of the longerons rounded off, but any difference between that and the performance of a cross section with sharp edges in normally undetectable. What is far more significant is the *wetted area* of fuselage involved. The smaller the area of fuselage surface over which the air has to pass, the smaller will be the resulting drag. This effect is appreciable right down to the lowest free flight speeds, althought the *principal* advantage of the "stick" type fuselage still remains in its simplified construction.

Despite the fact that drag effects, as so far discussed, appear relatively low, model drag is relatively high, compared with full-size practice, considering the speeds involved. That is to say the drag coefficients, derived by dividing drag by the square of the speed, are appreciably higher. And the major source of drag is again the wing. For higher speed flying it is essential to trim the model to operate at a low angle of attack ; while at the other end of the scale for optimum glider performance the wing angle of attack must correspond very nearly to the stalling angle. The section chosen may have to be capable of coping with both extremes without introducing excessive instability problems.

The best low-drag sections for model work are relatively thin, drag also increasing with the amount of camber. The greater the amount of camber, as a general rule, the greater the instability of the section. Thus, if driven fast, the change in trim produced may be very difficult to control. A flat undersurfaced section on a power duration wing is generally easier to trim for power flight than a cambered undersurface wing. But the latter may have a better glide performance and, because it has better lift characteristics, develop the amount of lift required for "power on" flight at a lower angle of attack and less drag, if it can be controlled. Usually, however, the amount of undercamber, which can safely be incorporated on a modern power model wing, is strictly limited. Overall there is probably little to choose between the favoured sections from the point of view of drag saving.

Next to the wing, the propeller is the major drag producer on the glide, even in the case of a power model where the propeller diameter may be relatively small. There is often a measurable difference in glide performance between a high pitch and low pitch propeller of the same diameter—the higher pitch giving less drag in the stopped position. A well-trimmed rubber model of Wakefield proportions with a *freewheeling* propeller can outperform a much larger (and therefore theoretically more efficient) power model on the glide.

With a propeller of the proportions common to rubber models (at least one-third of the span, ranging up to one-half the span), drag on the glide if the propeller is fixed is prohibitive. The methods of "streamlining" the propeller are to allow it to freewheel or fold, or to automatically feather the blades.

The latter method is logically the best, since it does not affect the trim of the wheel, but is relatively complicated to arrange. The folding propeller is almost universal on contest designs, but can involve trim changes. The freewheeling propeller is largely outdated for pure contest work, particularly with the favouring of very large diameter sizes on modern designs, but up to 18 in. in diameter would still hold its own for glide performance against models with "feathered" or "folded" propellers in anything but still air conditions, provided the model was trimmed out to its limit. The additional drag of a freewheeling propeller can, in fact, be an advantage in gusty conditions in dampening out accidental stalls.

None of these solutions is generally applicable to power model propellers, for reasons of practical limitations. Folding propellers have been used, and have been rejected for various reasons (not the least being a tendency to shed a blade under power due to the heavy stresses on the fixing pins). Feathering and freewheeling propellers have been similarly rejected for contest work as being too complicated mechanically. Yet this is about the only part of the modern free flight power duration model remaining which could benefit from "streamlining".

Magnificent Mercury! Noel Barker's model of this popular A.P.S. beauty demonstrates what is perhaps the highest degree of streamlining built into a sports power design. For the record: power unit is Forster 99; spinner and u/c fairings are fibreglass. Single-channel r/c is installed. All up weight is 9¾ lbs.

The DBHLibrary (Magazines) - Roy Tiller

Report No. 84. Name not known, continued.

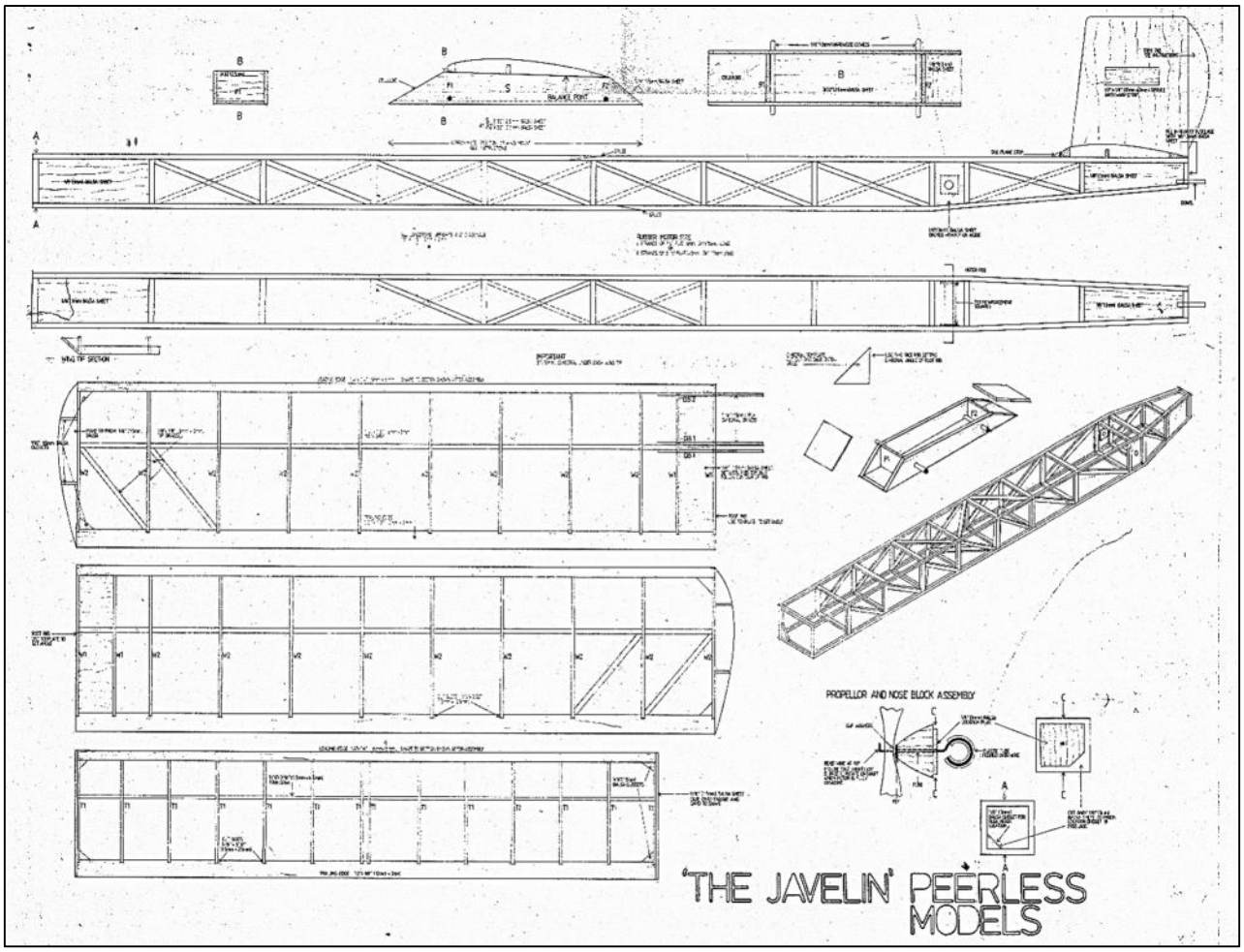
Continuing with Peerless Models but first more on the history of Wolverhampton Models and Hobbies with this communication from Keith Garbett.

"Wolverhampton Models and Hobbies were in the model shop directory of the 1959-1960 Aeromodeller Annual, the address was Farmers Fold and was listed as Staffordshire, as the West Midlands did not exist then. The move to Bell Street was in the mid 1960`s. Then they moved to Summer Meadow in the 1980`s and closed in the late 1990`s.

Bill was always supportive of the Clubs in the local area and the clubs helped with the moves."

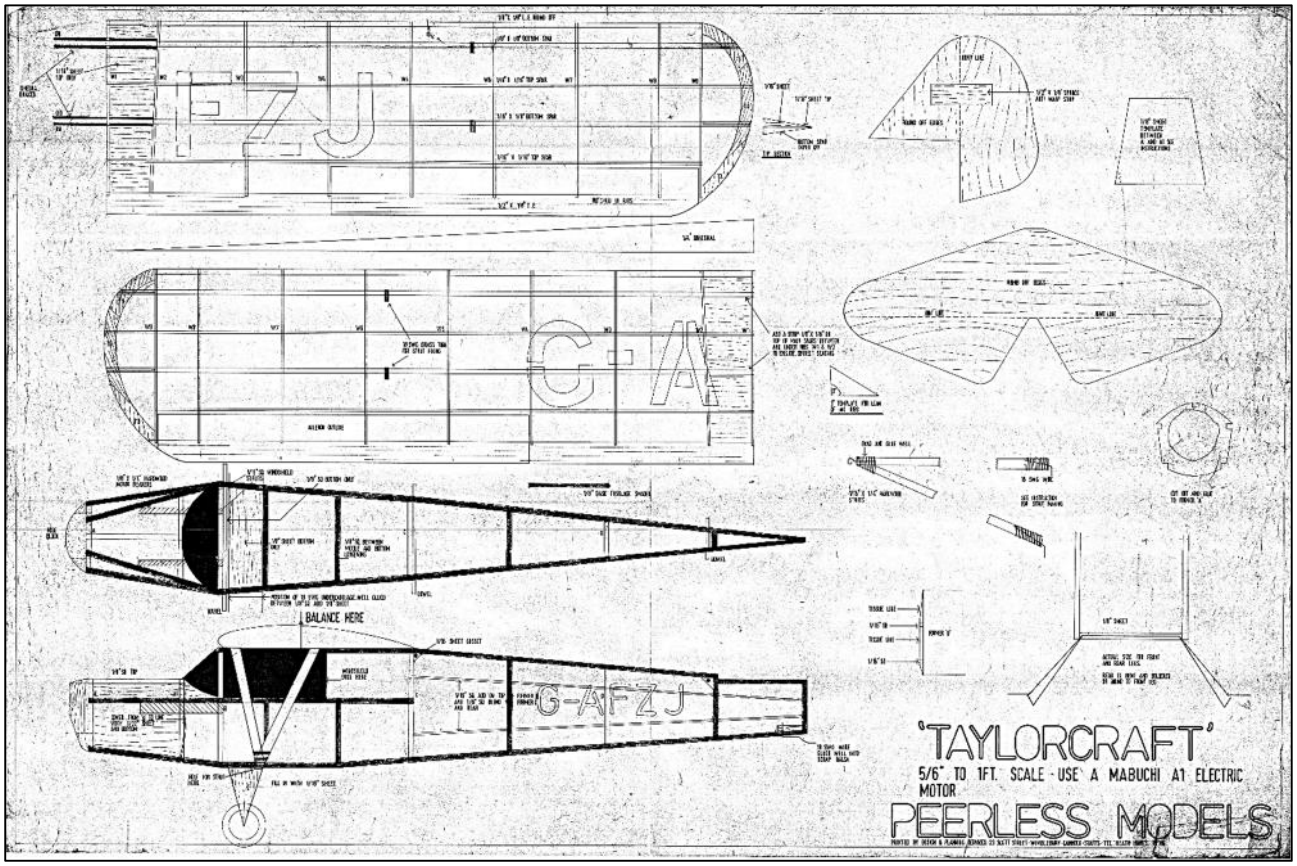
To recap, the proprietor of Wolverhampton Models & Hobbies was Bill Daniels and it was his son, Robert, who ran Peerless Models from 103 Wolverhampton Street, Walsall.

Keith Garbett advises that the Peerless Models designs were by various local modellers.



We have two more Peerless plans since last month, the Javelin 37" wing span rubber power model and the Taylorcraft 30" scale model for Electric power using a Mabuchi AI unit. The Mabuchi unit was advertised in Aeromodeller December 1975, but I have found no advert for the Taylorcraft kit, so cannot give it a date.

Thank you to Martin Ambrose and Adrian Culf for the plans.



The plans of Javelin and Taylorcraft have been passed to Derick Scott and will hopefully appear in his list once he has had time to digitise and weave his magic over them. Here is the updated list of known Peerless Models designs and plan availability. As usual, if you have, or know of a source of, any of the missing plans please get in touch.

Peerless Model Kits	Span	Type	Construction	First Advert Found	Plan From
Ganymede	38	Power	Built Up	Am Jan 1977	D. Scott
Marinda	38	Power	Built Up	Am Jan 1977	D. Scott
Ricktica	38	Power	Built Up	Am Jan 1977	D. Scott
Sky Queen	36	Glider	Built Up	Am Jan 1977	D. Scott
Chuck It	12	Hlg	All Sheet	Am Jan 1977	
Thermal King	18	Hlg	All Sheet	Am Jan 1977	
Zoomer, V Tail	24	Hlg/Clg	All Sheet	Am Jan 1977	
Yardstick	36	Glider	All Sheet	Am Jan 1977	
Peregrine	33	Glider	Built Up	Am Dec 1978	
Predator	21	Control Line	All Sheet	Am Mar 1979	
Javelin	37	Rubber	Built Up	Am Apr 1980 P231	D. Scott
Easi Flyer	?	Rubber Stick	All Sheet	Am Apr 1980 P191	
Ring Leader	21	Control Line	All Sheet		
Little Miss Philly	32	Electric	Built Up		
Taylorcraft	30	Electric	Built Up		D. Scott

Just as I thought I had wound things up for this month, a pleasant surprise arrived in the post.

Peerless Models staff on a "Works Outing" to Old Warden 1977.

On the left Robert Daniels and on the right, Ian James
Thank you to Ian who sent a letter and photos, more of which next month
Contact- Roy Tiller, tel 01202 511309, email roy.tiller@ntlworld.com

Roy Tiller

Sunshine & Showers - Mick Chilton

Model flying is not always a nice day out in the sunshine,
there can be showers.

The place is RAF Henlow in 1982 at the international coupe contest.
Can tell you for sure it was pelting it down with rain
and poor old Eric Hawthorn is trying to keep the model dry.

I know it looks dark but it was actually light enough to fly.
And after all that effort a certain Mr J O'Donnell won the fly off.

Mick Chilton

Secretary's Notes February 2018 - Roger Newman

Another quiet month as to be expected in the dull & dark days of January, but a little look forward to the first Area meeting on 18th February which effectively signals the start of the 2018 competition season. The opening events are:

F1A(SMAE), F1G (Plugge), Combined Power (White), Combined Rubber, Combined Glider, Combined Electric, E36 (Plugge), Mini Vintage (Plugge), HLG/CLG.

As per Free Flight Tech Committee notes - the 2018 Calendar will include a Combined Rubber, Combined Glider, Combined Power, Combined Electric and HLG/CLG event at all eight Area Competitions in 2018. To encourage increased participation a Championship in each class will be awarded at the end of the year based on Senior Championship points with the best five scores out of eight to count.

So time to dust off those models, banish winter blues & get out for a bit of exercise. The only comp missing is a rise off water, which at this time of year could be highly appropriate for Beaulieu!

A question of canards

The publication in last month's NC of Bill Deans little canard chuckie sparked my attention, having built a canard chuckie published around 1947 in an American magazine & converted it to catapult launch. For the life of me, I can't remember its name or the publication, but I still have the model & it is very stable, albeit not possessed of a brilliant glide performance. However, it set me thinking about building another larger canard. I have previously built & lost two McCannard 27s & a Quack – all of which flew very well & again were extremely stable. At this point, I have to confess to also building an ED powered Ascender designed by Jim Fullerton & to my chagrin, failing dismally to get it to perform. More due to my incompetence rather than the design I fear. This prompted a search through our plan list, knowing we had several models listed. In the end I found 10 rubber, 8 power & 10 gliders. Having built & flown canard power models, these were temporarily ignored, likewise the rubber powered models as they hold no real interest for me. That left the gliders & amongst these was an Egret designed by Dick Twomey in 1949. At approx 40" span, this fitted the bill for bungee launch & has the desirable feature of a KSB timer to provide a dt on the foreplane a feature missing from my McCannards, hence their loss. A quick email to Dick elicited the response that it was a good performer, although a "bit twitchy" on tow. It's now on the build list but will it survive bungee launching?

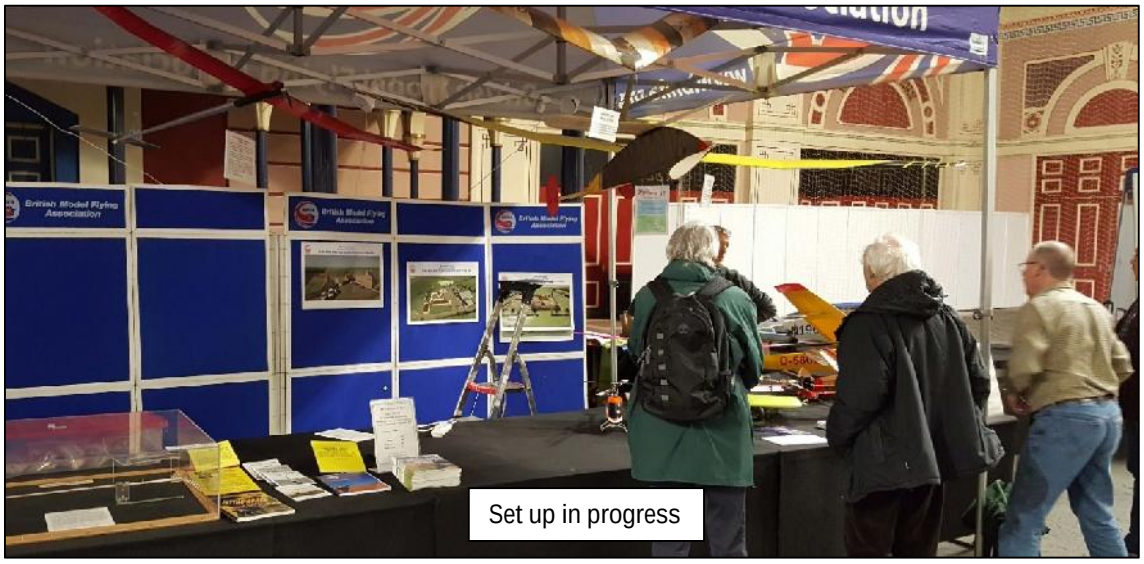
It also set off another channel of thought on why canards have not been pursued for competition models, as interestingly quite a few modellers obviously have designed them but never seemingly developed any particular model beyond a single design iteration? The list of designers includes Radoslav Cizek, who produced some fine models, including La Mouette. Does this indicate that the canard cannot be considered as a sufficiently good performer to win competitions? If anyone has an enlightened views, maybe a letter to our Editor?

Ramblings

During this month, we wrapped up contributions from a variety of modellers derived from the sale of models & other modelling goods from the estate of our late Chairman & were able to donate over £850 to Naomi House Childrens Charity, as nominated by John. We also know that other funds have been contributed to the same cause through the efforts of Flitehook & others, to push the total well over £1200. So many thanks to all those who contributed to a very worthy cause – we are most appreciative as is Anne Thompson, who acknowledged our efforts with a very kind letter of thanks, as did Naomi House.

The Aquarius progresses at a slow but steady rate. Wings & tailplane are complete, covered & doped. The fuselage is ready for final finishing once the model has been balanced up. Weighing the assembled model at this stage gave a weight of approx 350 grams, which I thought was a bit heavy. But no – Tony Shepherd kindly dug out the Aeromodeller review & their finished model came out at 550 grams. I estimate I will need about 120 – 150 grams of lead in the nose to get to the correct CG, so it isn't too bad after all. Next on the list is the electric Orion (West Wings) – being built to test one of Alan Bond's latest electronic timers that has a default facility to trigger the dt servo in the event of an RDT failure. Not sure yet how it works, but I guess all will be revealed in due course.

The London Model Show has come & gone. The BMFA stand was supported by folk from the London & Southern Area under the supervision of Mannie Williamson. In spite of inclement weather, attendance was pretty reasonable with ample visitors to the stand. Mostly they fall into two categories – grey haired variety generally reminiscing & pleased to see "proper" models or a rather younger variety interested to know where they could buy one! Models were supplied mainly from the Southern Area guys plus an F1C from Ken Faux. This was his 2013 World Championship model & is a magnificent example of modelling to a very high standard, to which many of us may aspire but very few achieve.



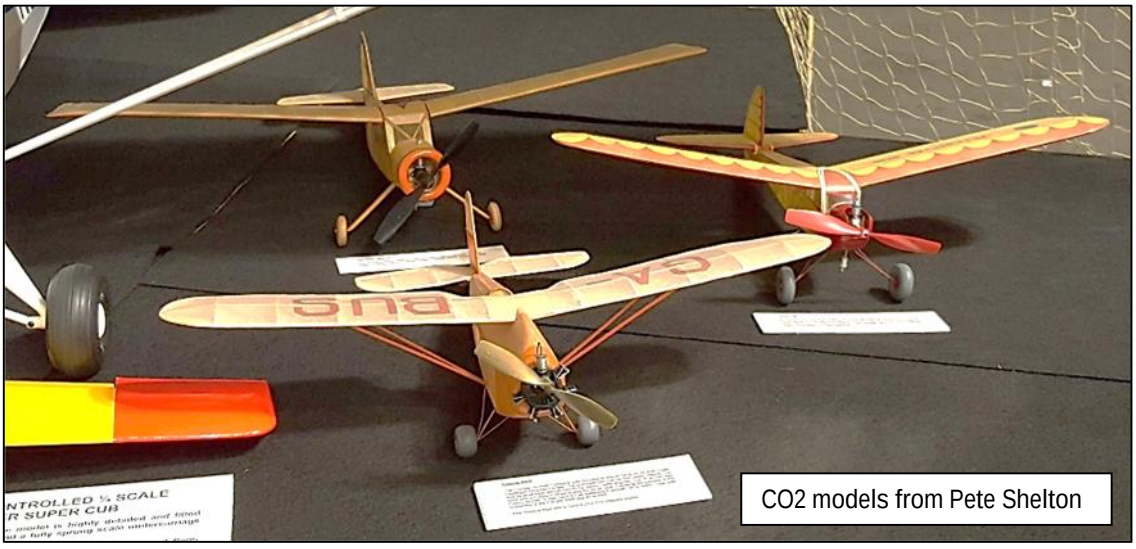
Set up in progress

Ready to go

Ray & Peter admiring the view

Large & Small

A variety on show



CO2 models from Pete Shelton

Photos – what does one do with photos, particularly when they have not been annotated with any text? I have boxes of them, donated by various modellers over the years & am loath to dispose of them but they do take up an awful lot of room. However, there are several, from the late Keith Miller which do have notes, these are in addition to the set provided to our editor that appear in the NC at frequent intervals. Most are concerned with Croydon Club activities some 60+ years ago. Amongst them are some energetic activities of our esteemed Treasurer, included here for your entertainment!

Ed on parade

Energetic heave No 1

Energetic heave No 2

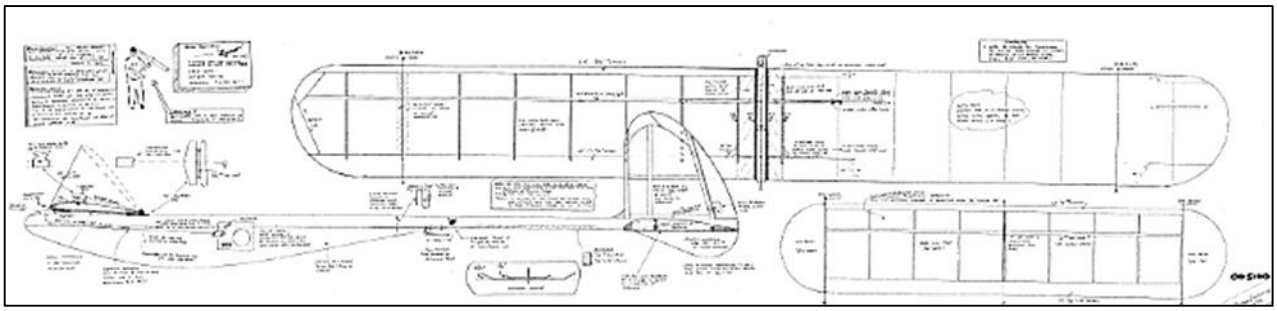
Roger Newman

Plans for the month - Roger Newman

Well, as canards appear above, we have to provide examples:

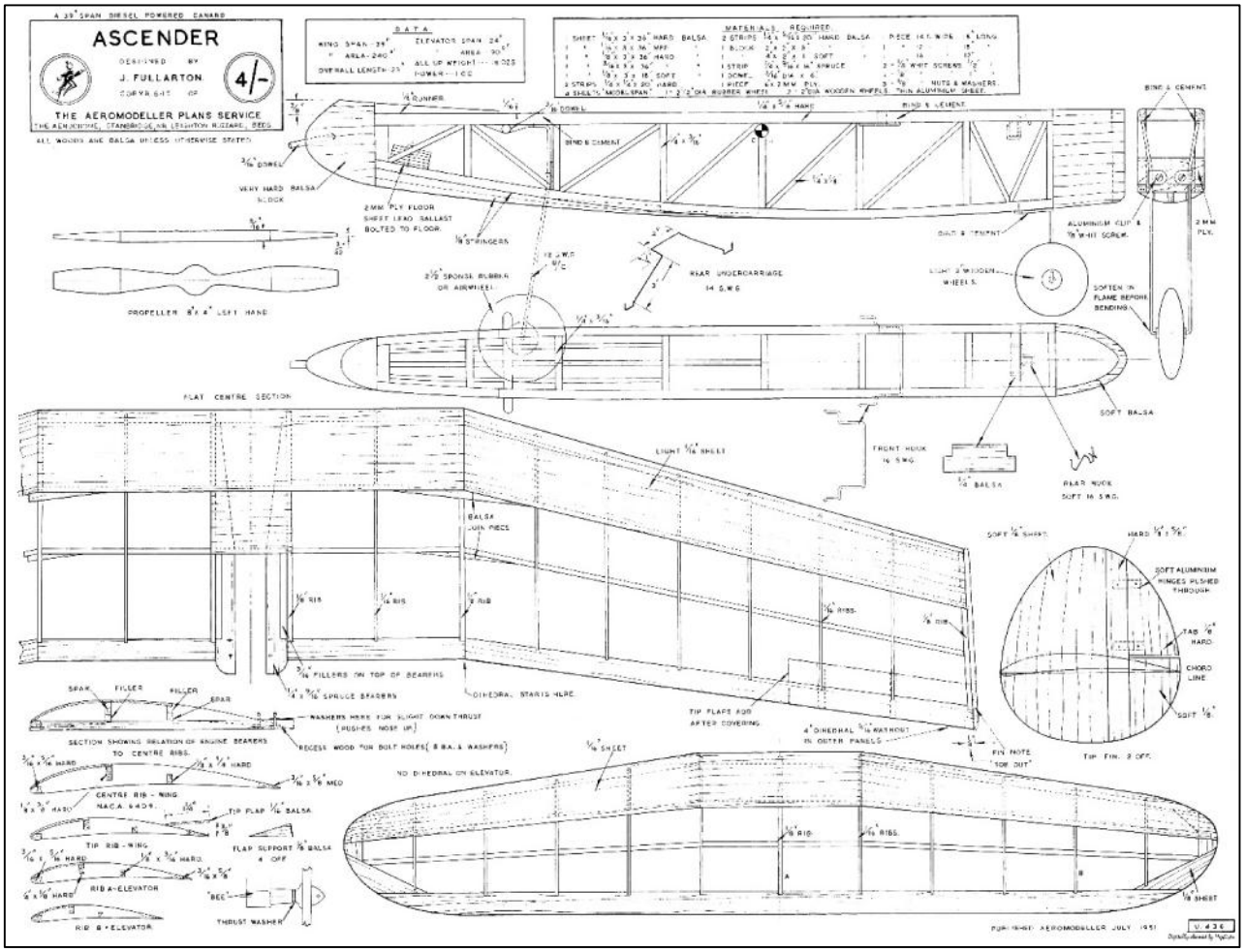
Glider:

Has to be the Egret by Dick Twomey, designed in 1949 & redrawn in 2003 by Dick.



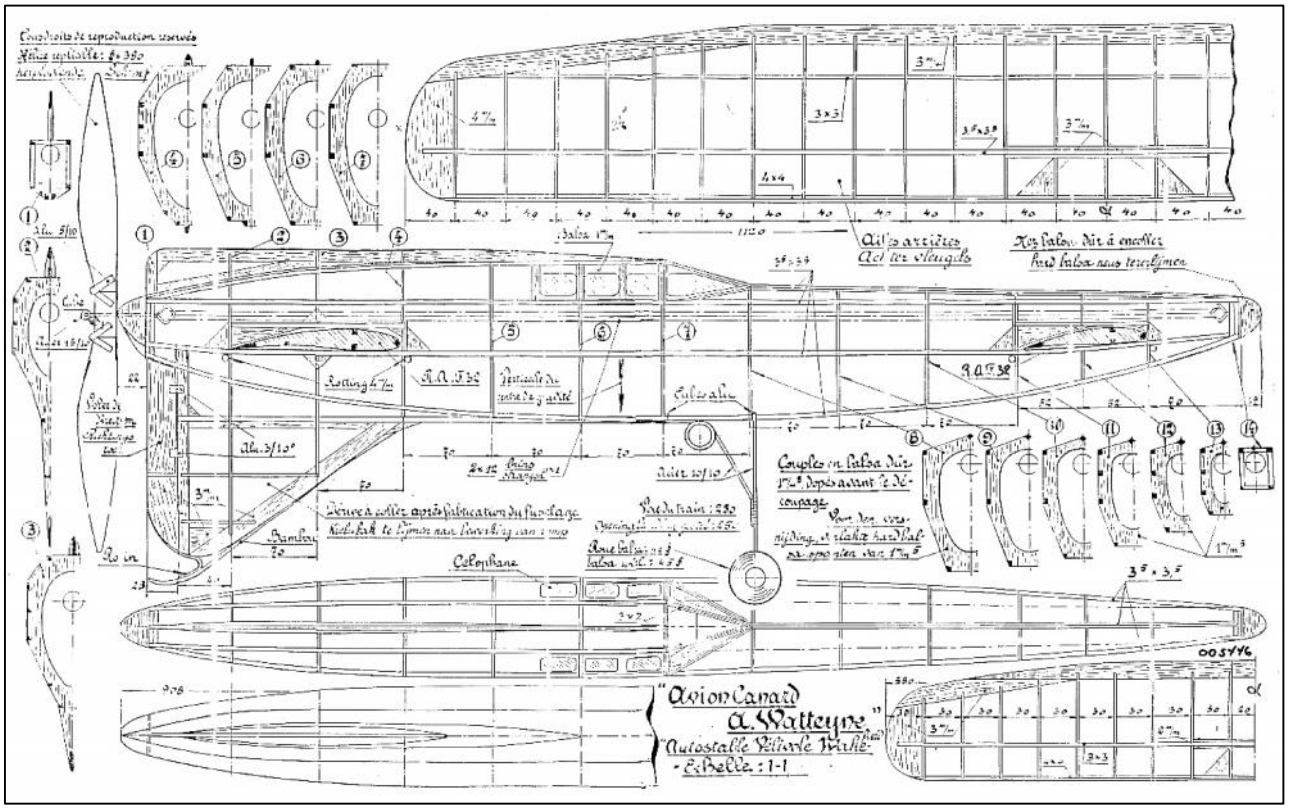
Power:

Likewise has to be the Ascender, published in July'51 Aeromodeller.
Mine came out very back end heavy with an ED Bee, so needing much lead up front & a nose dive destroyed the front end of the fuselage. Given up as a bad job.



Rubber:

One from France by A Wattayne – the Avion canard.



Salisbury Plain Area 8. 2018.

Area 8, Salisbury Plain is available for Free Flight use every Saturday/Sunday, plus 3 Bank Holiday Mondays from January to December. This is always subject to confirmation the preceding Friday morning. An annual permit is available for sport flying/trimming, and is issued by the BMFA Office. Apply through donna@bmfa.org or by phone/letter. The conditions of use, code of conduct, and undertaking remain the same as in 2017. The annual permit fee has increased slightly to £18.

The permit is for sport flying/trimming only. Anyone entering a contest will be required to pay a 'field access fee' of £5/day, whether they have an annual permit or not. The exceptions to this are those BMFA Centralised contests, plus the Stonehenge/Equinox Cups, for which the contest entry fee, or if applicable, a BMFA Free Flight Season Ticket, also covers the 'field access fee'.

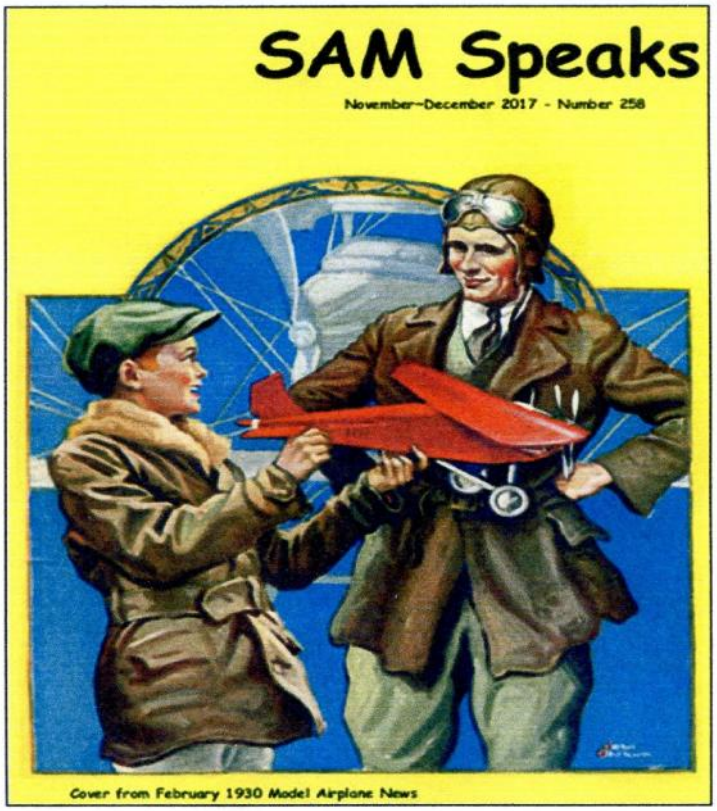
Anyone not having a permit can enter organised contests, or sports fly/trim on contest days, on payment of the appropriate fee.

This apparently cumbersome fee structure is considered to be the fairest way to raise the necessary income to cover the cost of the annual licence to use the Area.

SAM Speaks USA.

This bi monthly emagazine can be obtained from the Society of Antique Modellers. Web site http://www.antiquemodeler.org/ for the modest cost of $30 pa.

Quite a few UK people already belong, but a few more might help our Parent Body!



F1G and Vintage Coupe Contests 2017-18

Compiled by Gavin Manion

Date	Venue	F1G	Vint	Organiser	Comments
3rd Dec 2017	North Luffenham	✓*+	✓	gavin.manion84@gmail.com	Grande Coupe de Brum. F1G for A/M Trophy, Vintage for Vintage Plate
17th Dec	BMFA Buckminster	✓		mark.benns@btinternet.com	Experimental trial of this venue, check before as may be cancelled if windy
18th Feb 2018	Area Venues	✓*		BMFA areas	1st Area. F1G (Plugge)
28/29th April	Salisbury Plain	✓*		BMFA - TBC	London Area Gala, F1G on Sunday 29th
28th May	Barkston Heath	✓		BMFA	FF Nationals. F1G Mon 28th for 308 trophy
17th June	Salisbury Plain	✓	✓	SAM 1066	Combined Vintage and F1G
24th June	Area Venues	✓*		BMFA areas	5th Area
1st July	Oxford Portmeadow	✓*		laurencemarks64@googlemail.com Andy Crisp 01865 553800	F1G
15th July	Salisbury Plain		✓	SAM 1066	
18th Aug	Salisbury Plain	✓*		BMFA - TBC	Southern Gala
2nd Sept	Salisbury Plain	✓*	✓	Crookham	Crookham Gala Combined Vintage and F1G?
9th or23rd Sept	RAF Odiham	✓*		TBC	TBC
30th Sept	Salisbury Plain	✓*+	✓	Croydon	Coupe Europa. Vintage for the AAA trophy, Team F1G for the FliteHook Trophy
27th Oct	North Luffenham	✓		BMFA	Midland Area Gala

*Qualifying event Southern Coupe League. + Qualifying event Eurochallenge F1G 2017/18

All five Vintage events for SAM1066 Trophy, 1st – 3points, 2nd – 2pts, 3rd – 1pt; no points for last place!

SAM 35
FREE FLIGHT CALENDAR, 2018

(Events are open to all insured BMFA members)
(and some invited overseas members of SAM 35.)

Postal Contests:

25th Mar to 20th May Under 25" Vintage Rubber + award for best Achilles*

16th Sept to 27th Oct Lulu and Friends - Class A Lulu, conventionally towed.
Class B Lulu Hi-Start
Class C Open Hi-Start

Area Postals

(at any Area venue on dates as listed, or at any Gala or Rally excluding the Nationals in between those dates with approval of the local CD.)

4th Mar (2nd Area) or
25th Mar (3rd Area) or
30th Mar (Northern Gala)
The "March Wynde" for Lightweight Rubber. plus award for the best "Non-Senator."

20th May (4th Area) or
24th June (5th Area)
"Summerglide" for Vintage and Classic Glider. Plus award or Best Lulu

16 Sept (7th Area) or
14th Oct (8th Area):
The "Autumn Trophy" for P30.

At the Free Flight Nationals:

27th May Sunday: Vintage Wakefield 4oz./8oz. (combined, with class awards.)
Lulu Duration

28th May Monday: 36" Hi-Start Glider and Under 25" Vintage Rubber
(with separate award for best Achilles.*)
Low wing/Biplane Cabin Precision (hand launch, classes for Rubber and IC.*)

At Old Warden:

13th May Sunday: Small Models Day:
Frog Senior Duration: Class A: High Wing, Class B: Low Wing/Biplane*
K.K.Elf Duration.

22nd July Sunday: Scale Duration Day: Concours award.
Masefield Trophy for Rubber Scale.
Earl Stahl Scale: Class A: High Wing, Class B: Low Wing/Biplane

23rd Sept Sunday: Precision Day:
Rubber Bowden: Class A: High Wing Cabin, Class B: Low Wing/Biplane Cabin

At Buckminster:

(dates of contests to be confirmed: please check SAM 35 website)
7th July Saturday: Ajax/Achilles, 36" Hi-Start Glider, Open Hi-Start*
All-In Precision, Cloud Tramp,
Hi-Start Shootout, (evening event. Time & date to be decided.)

NB * award may be dependant upon number of entries in class.
All towlines 50 metres. Maxes for Area Postals 120 sec. (20 sec attempt)
Maxes for postals 90 sec. (15 sec attempt.)
Please check for alterations/updates. Rules for most events and explanation of "Area Postals" on SAM 35 website.
Enter Postals/Area Postals via John Ashmole, 164 High Road, Weston Spalding Lincs PE12 6JU. £3 per class.
Or £3.50 by PayPal to editor@peterboroughmfc.org
Extra categories under consideration for future events: Classic A/1 Glider, Vintage Coup d'Hiver.
NB: Further events may be added. Visit SAM 35 website and check FF Updates.

L'AQUILONE SAM 2001

TOMBOY RALLY INTERNATIONAL POSTAL CONTEST 01/06/2017 – 31/05/2018

We wish to present this competition to all the lovers of this nice model with the only aim of having fun in a postal contest which is organized to provide some fun flying together or at the same time as are all postal contests.
The Tomboy Rally wants to prove the performance of this model along with the ability of the builder and pilot, without reaching the peak agonism of usual contests and only wishing to fly the model having fun in a relaxed manner. After having carried out some tests we have decided to admit the use of i.c. engines and electric motors trying to reduce the gap between them.
Model - The 36" or 44" wing span (as per plan Aeromodeller) and 48" (as per Boddington plan or 36 "scaled up) models are admitted;

- - Models may be fitted with floats as per plan (scaled-up for 48" version);
- - no minimum weight;
- - reinforcement or lightening the structure with respect of the basic outline of the original model is admitted;
- - materials to be used are those found on the plan;
- - plastic covering in place of tissue, silk or other is admitted.
- - More than one person can use same model;
- - Same model can flight in L.G. or float version;
- - Lone fliers can self launch and time

Engine/motors
I.C. engines and electric motors are admitted within the following limits:
36"-44" Wingspan - I.C. Engines:
Any engine with 1 cc. maximum displacement; - Fuel tank : 3 cc. - R/C carburettor is admitted.
Electric Motors: - Any electric motor is admitted with direct drive - The motor cannot be stopped and re-started: the motor must run continually without interruptions till the end of the battery charge or competitor's decision; - no folding prop is admitted; if a folding prop is used the blades must be held open.
freely assembled admitted batteries: - -450 Mah 2 cell LiPo - separate battery pack for Rx is allowed
48" Wingspan - I.C. Engines:
Any engine with 2, 5 cc. maximum displacement; - Fuel tank : 6 cc. - R/C carburettor is admitted.
Electric Motors: - Any electric motor is admitted with direct drive - The motor cannot be stopped and re-started: the motor must run continually without interruptions till the end of the battery charge or competitor's decision; - no folding prop is admitted; if a folding prop is used the blades must be held open;
freely assembled admitted batteries: - -500 Mah 3 cell LiPo - separate battery pack for Rx is allowed.

Flights and results
Each competitor may fly as many flights as wished during the admitted period but only the best flight will be considered for the final result. - Hand launches are admitted. - The flight time start when the model is released or takes off. The flight time ends when the model lands or hits a fixed obstacle. In case the model flies out of sight, the timekeeper will time for 10 seconds after losing sight of the model. Timing will continue if model is seen again or stopped after 10" deducting this time from the total time of the flight.
Awards: - A diploma for all competitors and prizes for the first three in each version rank. Special prize for best flight in float version.
Results: - Results, address, photos and technical specification about model must be forwarded to the Organization by the 15th June 2018 - to Curzio Santoni cusanton@tin.it - or - to Gianfranco Lusso gfl@orange.fr
Many pleasant flights and happy landings to ALL !!!!
Special Prize Vic Smeed - An extra Diploma will be awarded to the best flight by Tomboy floatplane version (36",44" or 48") taking off from water. The Editor will send to the winner a Diploma signed by SAM 2001 President and a bottle of special Italian Wine to drink to Vic Smeed! - Good ROW and flight.
Special Prize David Baker
We have scheduled a special prize for the three best flights obtained with 36" Tomboy Free/Flight. Only diesel engines max 0.75 c.c. shall be used. The other rules are the same for 36" or 44" wingspan type. It is possible to use an R/C Tomboy, however, being this a free-flight contest, the time must be stopped when transmitter is used, since the aircraft model should fly freely from any control from the ground.

Good thermals

DREAMING SPIRES FREE-FLIGHT RALLY 2018

DATE:— 1st JULY 2018, STARTING at 10 a.m

VENUE:— PORT MEADOW, Wolvercote, OXFORD

CLASSES:—

FIG (Coupe d'Hiver) } 5 FLIGHTS
FIH (A1 glider)

MINI VINTAGE RUBBER (max 34" span) }
VINTAGE/CLASSIC GLIDER (comb) } 3 FLIGHTS
HI-START GLIDER
E30/P30/CO_2 (combined)

HLG/CATAPULT (comb.) 7 FLIGHTS
All towlines 50 metres

FREE-FLIGHT SCALE to "Dreaming Spire" rules — No Documentation, static judging, quality of flight. i/c motors up to 1.5cc allowed.

ALL FLIERS MUST BE INSURED
No streamers on poles, thermistors, bubbles etc.
No i/c powered models to be flown outside of the SCALE CONTEST.

CONTACTS:— LAURENCE MARKS
laurencemarks64@googlemail.com
& ANDREW CRISP
4 GROVE STREET OXFORD OX2 7JT
tel:- 01865 553800

Indoor Flying in Wales

Indoor Model Flying Events

Canolfan Hamdden Plas Ffrancon leisure centre
Bethesda LL57 3DT

I have organised a further series of indoor flying meetings. They are held on the first Sunday of the month, starting in September. All 1300-1600 at Plas Ffrancon Leisure Centre, Bethesda, Gwynedd, North Wales.
Anyone is welcome, seasoned aeromodeller, complete novice or child. I have a number of models ready for people to fly at each event. There are more details and some hints on how to build your own models on my Facebook page - Indoor Model Flying in Bethesda. *Martin Pike.*

Come and have a go at flying model planes. You can fly rubber powered models, gliders or even small radio models (<100g). I have planes you can borrow, or contact me for details of kits for you to build yourselves.

martin.pike.xray@btinternet.com 07831 141418

Find us on Indoor Model Flying in Bethesda

Indoor Flying with the South Birmingham MAC

Mainly Free Flight

Thorns Leisure Centre.

Stockwell Ave.
Off Thorns Road - Quarry Bank - West Midlands - DY5 2NU
Saturdays 1pm until 4pm

2018

Jan 13th - Feb 10th - Mar 10th - Apl 7th - May 5th

Admission - Flyers £6 - Spectators £2.00

Ultra-light R/C models may be flown for the first 15mins of each hour (quad copters or heavy fast flying models not accepted)

For further information phone Colin Shepherd 0121 5506132 or e-mail cosh43@hotmail.com

Bloxwich Indoor Flyers

Free Flight & lightweight RC

Sneyd Community School

Vernon Way, Sneyd Lane, Bloxwich, WS3 2PA

Saturdays 2pm until 5pm
Flyers - £8 Spectators £2
2018 dates
Jan 27th - Feb 24th - Mar 24th - Apr 14th

Contact:- Allan Price: Tel: 01922 701530
e-mail: montrose32@btinternet.com

FLITEHOOK

Indoor Free Flight Meetings

West Totton Centre,
Hazel Farm Road,
Totton, Southampton.
SO40 8WU

Café on Site

Contact Flitehook
E-mail flitehook@talktalk.net Tel. 02380 861541

Flyers £8 Juniors & Spectators Free

Sundays 10.00a.m. to 4.00p.m.

2017

10th September 2017 - 8th October 2017
12th November 2017 - 10th December 2017

Friday 29th December 2017 - 10.00a.m. to 4.00p.m

2018

Sundays 10.00a.m. to 4.00p.m.

14th January 2018 - 11th February 2018
11th March 2018 - 8th April 2018

INDOOR F/F MEETINGS

Waltham Chase Aeromodellers
in association with South Hants Indoor Flyers
announce the continuation of the Indoor F/F Meetings
at the Main Hall at Wickham Community Centre,
Mill Lane. Wickham. Hants PO17 5AL.
These meetings will he held on the following dates:

All Tuesday Evenings

3rd Oct 2017 - 7th Nov 2017 - 5th Dec 2017
2nd Jan 2018 - 6th Feb 2018 - 6th Mar 2018 - 3rd Apr 2018 1st May 2018 - 5th Jun 2018 - 3rd Jul 2018

All meetings will run from 7.00p.m. to 10,00 p.m.
The Main Hall at Wickham Community Centre is suitable for indoor free flight models of all types, with a ceiling free of obstructions. Tables and chairs will be available in the hall and the organisers are always grateful for assistance with moving furniture.
A hot drinks machine is available on site.
Admission to the meetings will be **£5** for fliers and **£1** for spectators, whilst accompanied children will be admitted free.
Junior fliers will be charged as adult spectators.
Fliers will be required to show proof of insurance.
No R/C models may be flown at these events.
Flitehook, who carry a large stock of indoor models and accessories, will attend many of the meetings.
Waltham Chase Aeromodellers welcomes all indoor F/F fliers

For further details please contact:
Alan Wallington. "Wrenbeck", Bull Lane, VValtham Chase,
Southampton. Hants. Tel. 01489 895157
or see our web site: www.wcacro.co.uk

BMFA South West Area

Indoor Flying

organised by

Cornwall Vintage Aeromodellers

at

Saints Health and Fitness Centre
St Austell Rugby Club
Tregorrick Park, St Austell
Cornwall, PL26 7AG

Flying from **1200** to **1600** on the following dates,

2017	2018
Sunday 24 Sept	**Sunday 14 Jan**
Sunday 22 Oct	**Sunday 11 Feb**
Sunday 19 Nov	**Sunday 18 Mar**
Sunday 17 Dec	

Mainly free flight
but some micro R/C (fixed wing & helicopters)

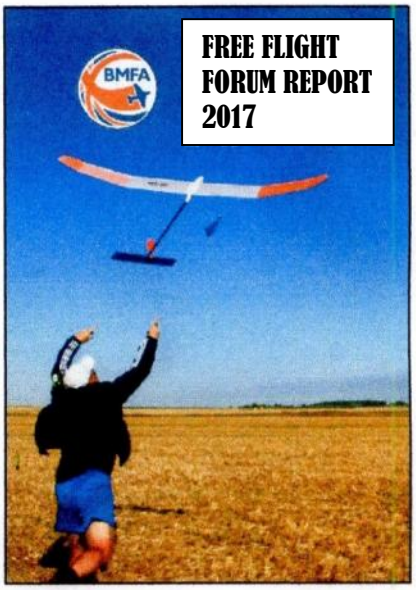
Admission: Flyers **£10** Spectators **£1**

Phone: David Powis on 01579 362951
Email: dave_powis@hotmail.com

THE NEW 2017 FREE FLIGHT FORUM REPORT

For thirty-three years these Reports have covered a wide range of free-flight topics and this year is no exception, as the following contents list shows.

A Lightweight Power Model Starter Box - Simon Dixon; Jigs and Fixtures - Mike Woodhouse; Measuring the Shape of Aerofoils: Knowing What You've Got and How to Evaluate it! - Alan Brocklehurst; Sopwith Snipe - Mike Smith; Encouraging Children to Fly Free-Flight - Martin Pike; An Altogether Different Man's Approach to F1A Glider - Stuart Darmon; Developments with Carbon Skin Wings - Mick Lester; Buying Parts and Subcontracting Work Out - Mike Woodhouse; A Removable Radio Dethermaliser - Russell Peers; Calculations on Non-Smooth Aerofoils at Low Reynolds Numbers: The Potential Benefits of Lumps and Bumps! - Alan Brocklehurst; Cheapo Carbon Tubes in Lightweight Flying Surfaces - Gavin Manion; Life as an Aeromodeller Editor - Andrew Boddington; Aeromodeller Covers - Andrew Crisp; To Buy or Not to Buy - John Carter; My Approach to Buying F1C Models and Components - Ken Faux; Notable Models of 2016.



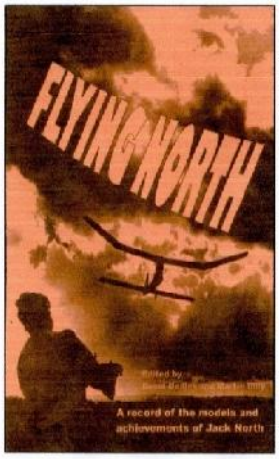
The UK price is £12.00 including postage; to Europe it's £15 and everywhere else £17. Sales of the Forum Reports help to defray the heavy expenses of those representing Great Britain at World and European Free-Flight Championships. Cheques should be payable to 'BMFA F/F Team Support Fund' in pounds sterling, drawn on a bank with a UK branch; you may also order by credit card, which is a lot easier (and cheaper).

Be the envy of your friends and get yours now.

Copies are available from :

Martin Dilly
20, Links Road,
West Wickham,
Kent,
BR4 OQW

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

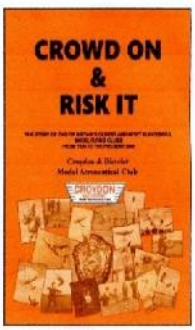


Flying North is a 163 page book covering the model flying career of Jack North, and including 23 previously un-published plans of his aircraft. Access to Jack's drawings and notes dating back to 1938 means that there are a number of designs in the book likely to be tempting to the nostalgia-minded.

Contact: Martin Dilly on 020 8777 5533 or write to: 20, Links road, West Wickham. Kent BR4 OQW or e-mail: martindilly20@gmail.com

The price in the UK is £18; airmail to Europe £20 or to anywhere else £22. Cheques should be payable to BMFA F/F Team Support Fund, in pounds sterling only, and drawn off a bank with a branch in the UK, you may also order by credit card, all proceeds help to fund the expenses of those representing Great Britain at World and European FF Championships

CROWD ON & RISK IT



This is the story of one of Britain's oldest and most successful model flying clubs, Croydon & District MAC, from 1936 onwards. The club contributed much to aviation, both model and full-size, and the late Keith Miller compiled its history till around 1960. Now, this up-dated 73 page version of the club's history, copiously illustrated with many previously unpublished photos, takes the Croydon saga up to the present. Contributions by past and present members vividly capture the atmosphere of the heyday of free-flight, with almost weekly contests at Chobham or Bassingbourn.

53 designs by Croydon members have been published in the model press and 24 of its members have represented Great Britain in World and European Championship teams. Several have gone on to notable careers in aerospace. Crowd On & Risk It covers all this and more.

Just £8 by PayPal or cheque.

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

Provisional Events Calendar 2018

With competitions for Vintage and/or Classic models

February 18th	Sunday	BMFA 1st Area Competitions
March 4th	Sunday	BMFA 2nd Area Competitions
March 25th	Sunday	BMFA 3rd Area Competitions
March 30th	**Friday**	Northern Gala, North Luffenham
April 2nd	Monday	**SAM1066 Meeting, Salisbury Plain** (Croydon Wakefield Day)
April 28/29th	Sat/Sunday	London Gala & Space, Salisbury Plain
May 20th	Sunday	BMFA 4th Area Competitions
May 26th	Saturday	BMFA Free-flight Nats, Barkston
May 27th	Sunday	BMFA Free-flight Nats, Barkston
May 28th	Monday	BMFA Free-flight Nats, Barkston
June 17th	Sunday	**SAM1066 Meeting, Salisbury Plain**
June 24th	Sunday	BMFA 5th Area Competitions
July 8th	Sunday	BMFA 6th Area Competitions
July 15th	Sunday	**SAM1066 Meeting, Salisbury Plain**
July 21st/22nd	Saturday/Sunday	East Anglian Gala, Sculthorpe
August 18th	**Saturday**	Southern Gala, Salisbury Plain
September 2nd	Sunday	Crookham Gala, Salisbury Plain
September 16th	Sunday	BMFA 7th Area Competitions
September 30th	Sunday	**SAM1066 Meeting**, Salisbury Plain (Croydon Coupe Day)
October 14th	Sunday	BMFA 8th Area Competitions
October 27th	Saturday	Midland Gala, North Luffenham
December 2nd	Sunday	Grande Coupe de Brum, Luffenham

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

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

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

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

Useful Websites

SAM 1066 -	www.sam1066.org
Flitehook, John & Pauline -	www.flitehook.net
Mike Woodhouse -	www.freeflightsupplies.co.uk
GAD -	www.greenairdesigns.com
BMFA Free Flight Technical Committee -	www.freeflightUK.org
BMFA -	www.BMFA.org
BMFA Southern Area -	www.southerarea.hamshire.org.uk
SAM 35 -	www.sam35.org
MSP Plans -	www.msp-plans.blogspot.com
X-List Plans -	www.xlistplans.demon.co.uk
National Free Flight Society (USA) -	www.freeflight.org
Ray Alban -	www.vintagemodelairplane.com
David Lloyd-Jones -	www.magazinesandbooks.co.uk
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 -	http://www.norcim-rc.club
Model Flying New Zealand -	http://www.modelflyingnz.org

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*