NEW Clarion

SAM 1066 Newsletter

Society of Antique Modellers Chapter 1066

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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

Note: The Stonehenge Cup & Equinox Cup will be held at Sculthorpe (not on Salisbury Pain)

OK folks here we go again. It's getting towards the end of the flying season and as yet I have not received a plethora of articles from members reporting on meetings, neither indoors nor out and individual general articles are severely lacking.
Where goes SAM1066? Currently we have no flying site other than Salisbury Plain to promote meetings and competitions of our own. We piggy back on two other clubs events and, thanks to Peter Carter, we have the RAF Odiham event,.
Our aging membership find The Plain a little too arduous and we know entries would be low.
We are grateful to the promoting clubs for the piggy back events and these probably will have the largest 1066 attendance.
Odiham is a splendid airfield but the requirements of pre-entry and movement restrictions do put some people off attending.
How much longer can we exist before we have to wind up the Society? **Opinions Please.**
At age 91 how much longer can I continue to scratch together the 'New Clarion', is there anyone who could take over when I depart?

That's enough doom and gloom, What have I cobbled together for this issue:

- I continue to look back at my indoor articles of the past.
- Pylonius has a dig at people who take his articles too seriously, he also has yet another at R/C. Finally despairing of young flyers ? who just attend meetings to run engines and discard fuel bottles to the four winds.
- I have purloined an amusing article from New Zealand's 'Propwash'. Tickles me pink.
- Indoor rubber from old golf balls, interesting source.
- News Review Sep 49: UK/Dutch Wakefield contest; A proposal for exchange visits to Switzerland; Lack of youngsters in Wakefield contest; and finally Northern Heights balloon race, over 500 released.
- I unearthed some vintage info from John Taylor on the Bournemouth club.
- DC Spitfire MkII is the engine analysis.
- Pictures from my files on 2011 nationals
- Heard at the Hangar Doors Sep 1954: R/C duration record; introduction of 5 x 3min flights for World Champ eliminators; and the dropping of A2 Glider fuselage formula resulting in models such as the winning model that year.
- A bit of Wikipedia on supersonic flight followed by an article by Ron Marking on his work on Concorde wing design.
- Nick Peppiatt writes on differential thrust electric powered models with numerous examples pictured.
- A short report by Ireland's Peter Watt on the East Anglian Gala at Sculthorpe. Followed by the results from Stephen Bowles and Brian Waterland.
- Roy Tiller dips again onto our Magazine archive with observations on the 1910 edition of "The Theory and Practice of Model Aeroplaning" written by V. E. Johnson'
- Another of Nick Robinson's paper Airplanes, this time 'The Sky-Flying Butterfly.
- More notes from North Wales by Roger Newman, our ex long time secretary.
- Our current secretary's notes for September 2024.
- Wrapping up with the usual three plans from Roger.
  Bambinetta, power; BH5 utility glider; and Astra, rubber

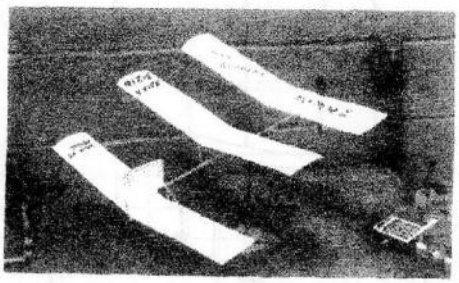
Editor

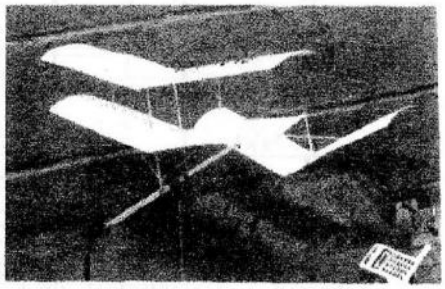
John Andrews Goes Indoors Pt4 - Editor

Extract from old paper-back 'Clarion' May 2003

John Andrews - Goes Indoors - Part 4

Here we are again, I'm really on a roll now; could be the excitement generated by this new computer I'm using. Before I move on I refer you back to last issue when I buried you in the delights of polystyrene wall-foam.



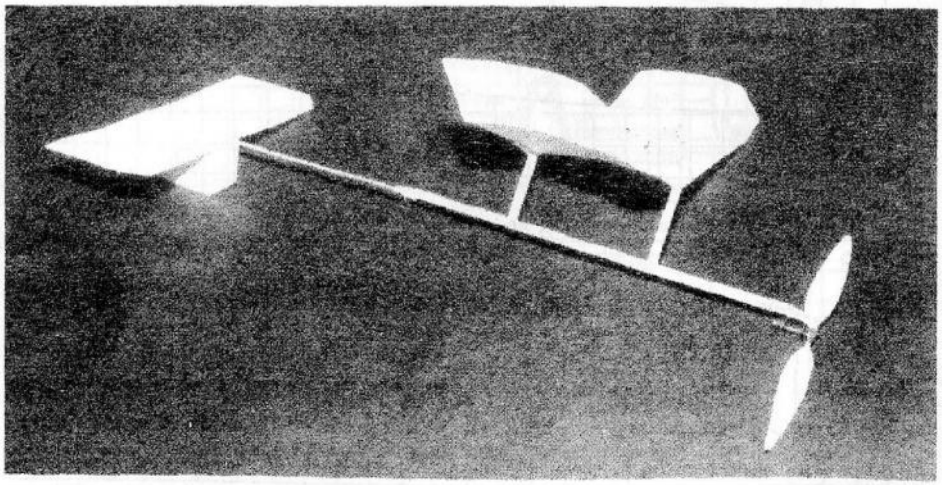


Here are a couple of variations to the norm you could have a go at

If you recall I expressed interest in the Foam 200 plan that I had come across and in particular the unsupported wing construction.

Up to that time all my foam wings had one wing rib in each half and wing braces back to the wing posts for support. My later models have only one wing brace each side from the front wing post to the wing rib centre unlike the Poly-Rat described and pictured with double wing braces.

I'm a simplicity man, I build parallel wing chords, rectangular fuselages 'cos tapers and ellipses bring me out in a cold sweat. The Foam 200 plan with no wing ribs or wing braces was my kind of model so I cut up some foam and built a 10-inch polyhedral wing. The glue joints at the breaks retained the aerofoil curve and the wing seemed quite stiff. I mounted the wing on a fuselage stick 3/16 x 3/32 x 8 inches long with tail feathers on 5½ inch long x 1/16th square boom. I used a 6-inch diameter prop from one of my old living room stick models but I think it could stand a bigger prop than that. The airframe weight came out surprisingly light at 2.5 gms which was quite acceptable.



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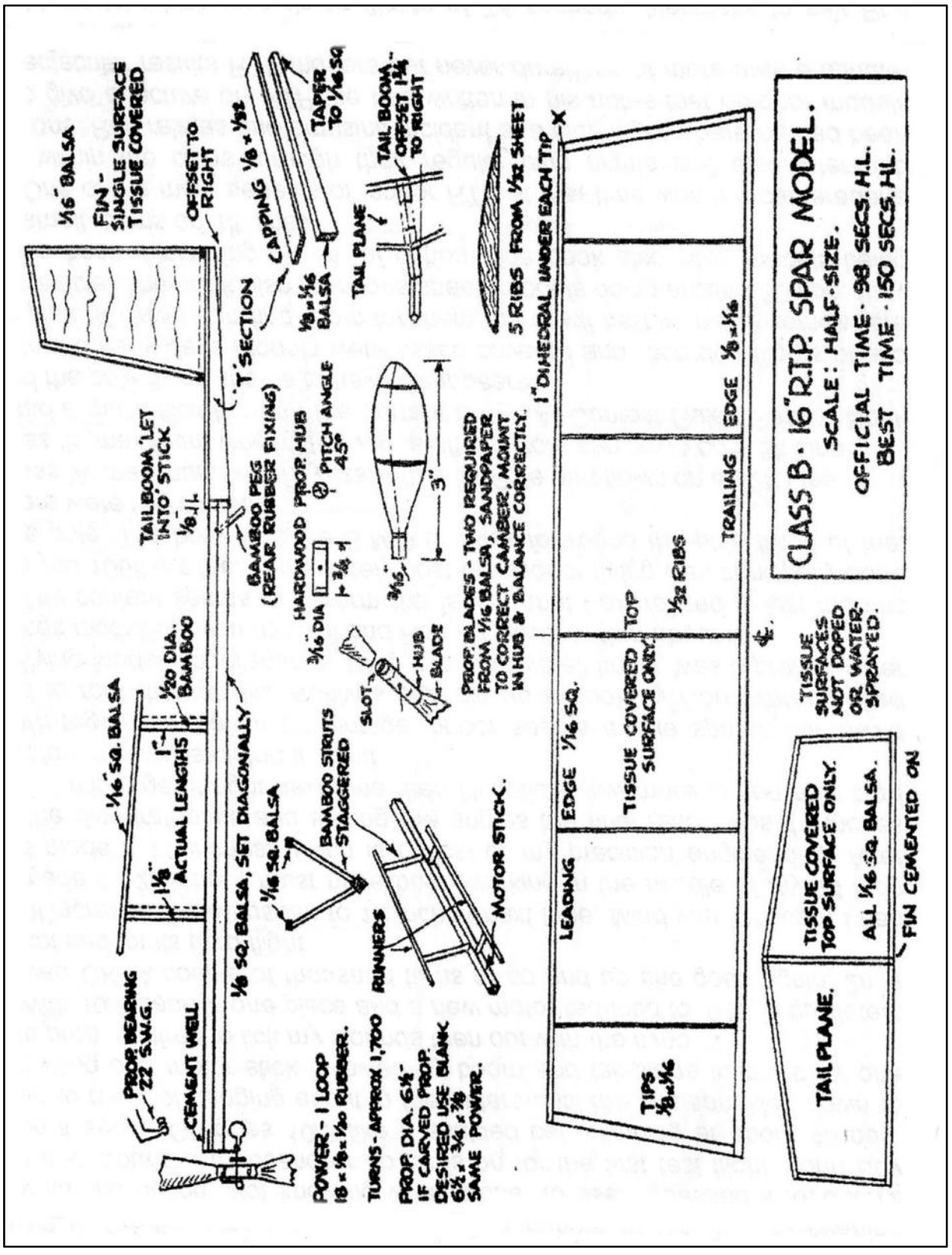
Small Foamy described above and named 10/3 (that's the wing size)



INDOOR FLYING MODELS 1946

R.H. Warring

I took 10/3 to Cradley Heath to one of the Birmingham gangs Sunday evening meets for its first outing. Not knowing what rubber to use I guessed a .070 x 12 inch loop and wound a thousand or so turns on for the first test flight. John Boy had blown it again. Off goes 10/3 like a scalded cat, climbing at about 45 deg. straight up to the roof banging about in the rafters until the bits sprinkled down to the floor. Wing and motor stick followed by boom and tail-plane followed by one half of the prop. I retired to lick my wounds then out with the cyno.

With 10/3 back in one piece and a new motor reduced to .040, a quick test flight proved OK. A couple of thousand turns or so and up she goes again, 2min 24secs, not bad for its third flight.

I'll increase the wingspan to 12 inches next time. Mind you I thought I had already made it 12ins but I must have been working in the middle of my 24 inch ruler and made it 11 inches, which is typical of my precision engineering. After shaping the dihedral joints and setting the angles the final result was 10 inches wingspan. I might get it right next time then I'll build a few more to see how big I can go before the wings distort in flight.

***Vintage.** Information on vintage indoor seems a little sparse but David managed to root through his archives and dig up a book by Ron Warring titled 'Indoor Flying Models' published in 1946. Ron, as we all know, was a prolific writer on all things modelling, you name it and Ron will have written about it.*

The content seems to confirm the feeling that I expressed in last months epistle to you 1066'ers that immediately post war indoor flying was principally done round the pole. The book lists the S.M.A.E. rules for round the pole flying at that time. There were two classes:

Class 'A' maximum weight 2ozs with a 6ft.Pole and flown on a 12ft.Line
Class 'B' maximum weight 1oz with a 3ft-6in Pole and flown on a 6ft.Line

I have had a quick flick through the current B.M.F.A. Contest Rules Record Book but round the pole flying seems to have disappeared.

In the early days models were tissue covered and recorded flights of two minutes plus. If David can find room for them there will be two plans somewhere near this article. The book also mentions speed models doing around 30mph; they must have been interesting on 6ft. of cotton. The book also cites models being flown in small rooms on 3ft. lines

One of the main benefits of indoor RTP at that time was the camaraderie fostered within the clubs through their regular club nights and also inter-club competitions. Ron relates one amusing incident at a club night where he had been invited to give a lecture on RTP, he had written in his notes that outdoor models gave spectacular results RTP indoors but never durations of more than a minute. On his arrival at the meeting he was treated to a demonstration by an RTP Wakefield model which was doing flights of 74 seconds. Needless to say Ron smartly modified that section of his notes.

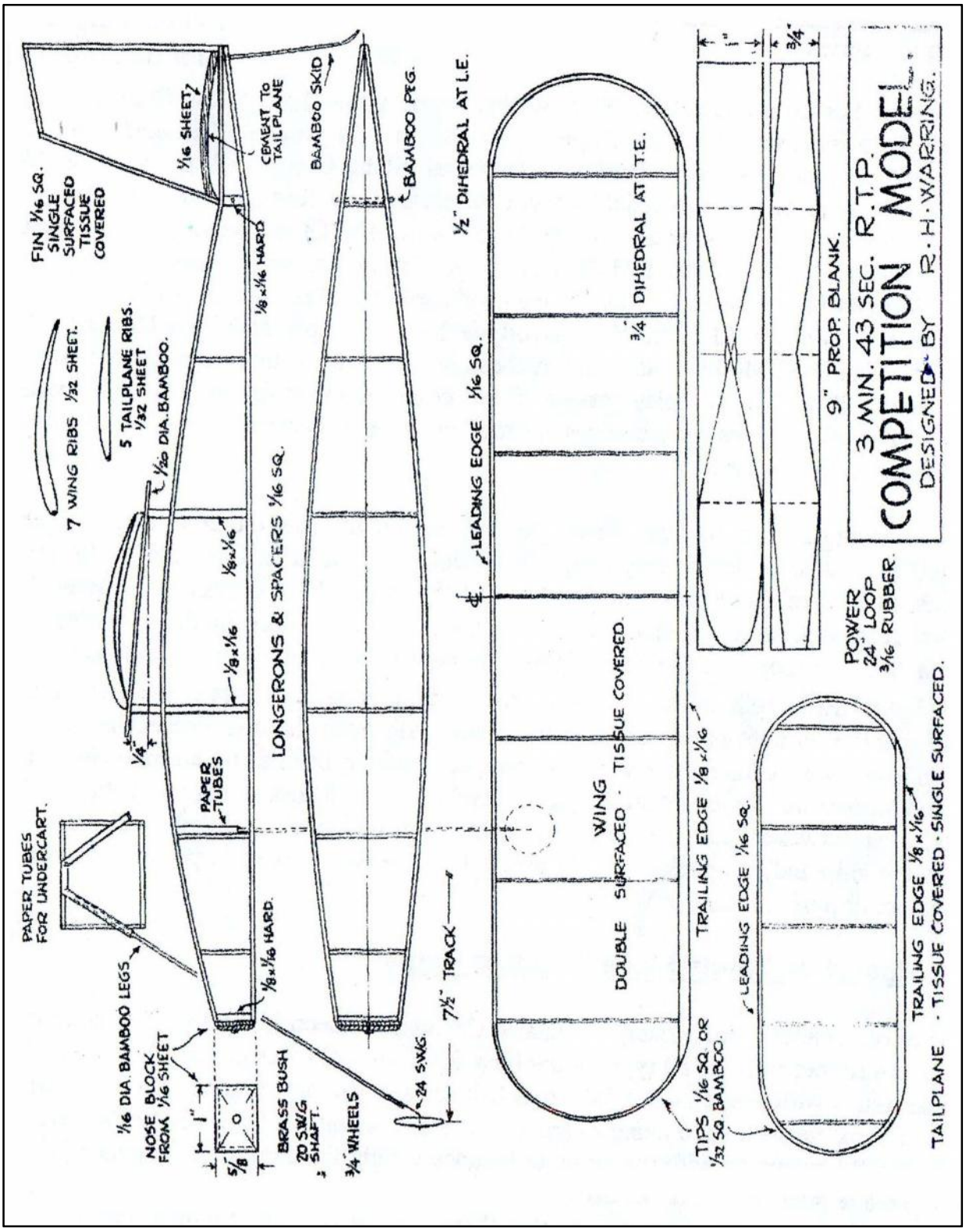
This article must be something of a record for me; I don't seem to have digressed at all.

OOPS! I've just received April's CLARION, on reading my missive to the afflicted in that issue I note my clanger on page 12 re yoghurt pot prop blades.

Should read 10 & 15 degrees sloping left to right from tip to root.

Back next time with a bit more on indoor free-flight and Wilco's food bag covering.

(if)



INDOOR FLYING MODELS 1946

R.H. Warring

Editor

Topical Twists

Sand-Storm

The most crushing way to insult this column is to take it seriously. When someone does I dolefully exchange my corn-flake cut-out Jester's outfit for the conical, but no less comical, headgear, inscribed with a large D, and retire into a dark corner.

The latest sober-sided criticism to bring about this quick-change act comes from a northern bod, styling himself "Sand-grounder." Now, not being an expert in the more obscure occupations of the northern natives, I don't pretend to know what sort of dismal operation a "Sandgrounder" must perform for his daily crust, but I will be charitable enough to put his peevish attitude down to a particularly rough session with Gilbert Harding in "What's my Line?" and leave it at that.

Anyway, he takes me to task over a slight geographical inaccuracy in the number of damp miles which separate Southport from Manchester. He also takes pains to remind me that Southport is near Blackpool, where he can remember countless thousands of human fritters being grilled to a turn.

Well, I can only assume that he has a long and ancient memory, in which case he may have found the Wilfred Pickles programme more to his book. Or, perhaps, he has been delving into old municipal records. If so, he possibly came across a reference to the appearance over the city of a large, glowing body, sometime towards the end of the last century. The town councillors, uncertain of the nature of the phenomenon, but boldly enterprising as always, erected a large steel tower, from which it was hoped to capture the mysterious orb for the purpose of using it as a centrepiece in the illumination scheme. The ruse proved unsuccessful, but the elusive sphere did make one or two return journeys to hover tantalisingly over the Tower, until eventually it was frightened away for ever by the organ music.

This explains why, on the crowded beaches, the atmosphere is warmed not by thermonuclear energy but by the thermo-human element in dense concentration, and why the nearest thing the younger generation have seen to the sun is the almost white hot radiance of Uncle Fred's nose as he dips an exploratory toe into the ice-cold briny.

Flying on the Brain

Back in the old days R/C was simply a matter of flipping a fin about in order to execute a number of realistic aerial maneouvres which can be found in any aircraft manual under the heading "When to Bale Out." All rather crude, but good clean family fun, with crack-ups, fly-aways, and disaster enough to satisfy the most primitive urges of the ghoulish onlookers.

But that's all old history. We have moved into a new electronic era of multi channel control, with the simple receiving set replaced by a sort of electronic brain that can fly the model through a series of inverted bunts and work out the Election results at the same time. The archaic bleep button has given way to a jolly little joystick, and the happy, carefree operator can enjoy his fun without his oral cavity being encumbered by the presence of his cardiac organ.

At this point I put away the model books and went out to face the stark reality of a modern radio event. The first noticeable improvement in flying technique was the smooth nature of the r.o.g. attempts; each model running straight and true across the tarmac and embedding itself cleanly in the grass verge. Only occasionally was a model smitten with the more flippant delights of the pre-electronic age. expressing its unfettered gaiety in a series of frolicking ground loops. The crowd-pranging maneouvre was also of a more polished order, with greatly increased range. The dive-in scramble, which at one time was the exclusive delight of the more adventurous spectator at the take-off area, now provided athletic fun for even the most distant onlooker.

Otherwise everything seemed to be in the good old bang-bang rudder tradition, with the crowd clapping respectfully when a model made a safe return to earth, and cheering wildly when one didn't. But perhaps on this occasion the electronic brains were suffering from clots, although possibly it would be unfair to attach too much blame to the operators.

Letters on metal wallpaper have been so numerous of late that, by now, the subject should be more fully covered than a one armed paperhanger.

Spirit of Youth

Aerodromes are getting in pretty short supply; at least as far as model flying is concerned. This state of affairs is attributed to the juvenile antics of the type of youth who is usually referred to as air-minded, although it is generally recommended that brain is a more effective head-filling agent. When unleashed on to an airfield they immediately set up a highly organised fuel bottle dispersal system, through which the empties are dumped in all the strategic positions of greatest nuisance value. Other activities include the establishment of new airfield access points ("See that we bring a decent pair of wire clippers next time") and general arson and skulduggery on a grand scale. What intrigues me, though, is this fuel bottle business. Judging by the prodigious number of empties they leave behind, that ½ c.c. engine (never been flown) which is their only slight connection with model flying, must have a fuel consumption comparable with that of an airline fleet.

"Let's ask them if they've seen our cross-Channel R/C job."

Timers, Gentlemen, Please!

We hear that Jim Walker, noted C/L expert, who made the headlines, as it were, by a nifty spot of cranial control, is still going just as strong as his equally famous namesake, Johnny. Which makes us wonder if, after one of his three-model gyratory sessions, he suffers the same dizzy after effects as is produced by that gentleman's beverage.

Speaking of hangovers, we are pleased to usher into the fold the newly affiliated Freemasons Arms Model Club; a club which obviously believes in combining model business with pleasure. The members, we are told, although filled with the right spirit, have no connection with those tap-room aeronauts, known as barflys; nor is it likely that model operations will be hampered by too many strong down-draughts. However, it is interesting to conjecture on some of the remarks that might be overheard on any convivial evening:

"Ur-r-r. Moighty strong dropee cider this. . . ."

"Has anyone seen my glowplug fuel?"

". . . Took one look at George's pylon job and signed the pledge. . . ."

"Lifted any good pots, lately?"

Pylonius

NZ 'Propwash' Extract - Barrie Russell

Editor: These are extracts from 'Propwash', the club magazine of New Zealand's 'Model Flying Hawkes Bay' group, edited by Barrie Russell.
I just could not resist passing them on, they really tickle my sense of humour.

A man was flying from Seattle to San Francisco. The plane had a layover in Sacramento. The flight attendant explained that there would be a delay, and if the passengers wanted to get off the aircraft, the plane would re-board in one hour.

Everybody got off the plane except one gentleman who was blind.
Another man had noticed him as he walked by and could tell the gentleman was blind because his Seeing Eye dog lay quietly underneath the seats in front of him throughout the entire flight. He could also tell he had flown this very flight before because the pilot approached him, and calling him by name, said, "Keith, we're in Sacramento for an hour, would you like to get off and stretch your legs? "
The blind man replied, "No thanks, but maybe my dog would like to stretch his legs."
Picture this:
All the people in the gate area came to a complete standstill when they looked up and saw the pilot walk off the plane with a Seeing Eye dog! The pilot was even wearing sunglasses. People scattered.
They not only tried to change planes, but they were trying to change airlines!
True story....**Have a great day and remember... Things aren't always as they appear !**

Early Plumbers " The Sharp Edge Guys"

Barrie Russell, NZ.

Odd-ball Rubber Source - Mark Harper

An Interesting Way of Getting Hold of Small Section Rubber for Lightweight Indoor Models.

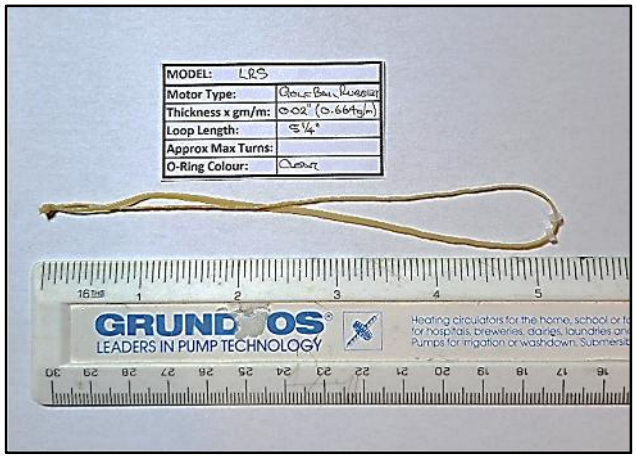
As well as being a member of the Essex Flying Group, I also belong to the Essex Quiet Flight Association (a fairly small club mainly flying electric gliders & vintage models) & every Thursday a group of us meet up for a lunch time natter at a local pub.

Late last year, at one of these get-togethers, I was handed a plastic bag containing a fair quantity of small section rubber strip, by my good friend Ray Pavely. He knew that one of my passions was flying indoor duration models & wondered what I thought of it.

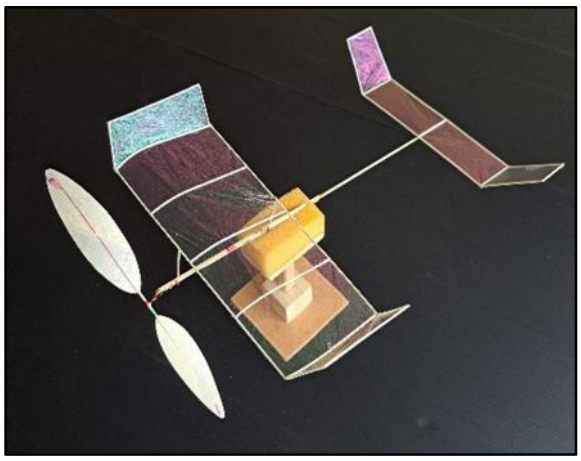
It looked very similar to the Tan2 rubber I use, but was very thin in section & had a slightly "crinkled" look about it. I asked where he got it from & he grinned & said that in a moment of curiosity, he had carefully taken apart one of his old golf balls!

After carefully cutting through & removing the white dimpled casing, Ray found several metres of this rubber, wound tightly around a spherical core. As this poor old rubber had spent its life in a very hostile environment (under tension, encased in & its outer surface bonded to a moulded-on plastic casing, never mind being whacked by golf clubs), I thought that it might be past its best.

At the beginning of this year, I decided it was about time that I tried it out. I made up a small motor to suit one of my Living Room Stick indoor duration models.



Golf Ball Rubber – Test Motor


Living Room Stick (7" Span Indoor Duration Model)

Well, I got a surprise! The rubber performed amazingly & after a couple of test flights my model was flying as well as it did on Tan 2 rubber. I have since used this motor several times & despite its odd crinkled appearance is still going well after about 10 flights.

The hall I fly in is relatively small with a 4-metre ceiling & the motor length used is very small. So, I am looking forward to testing it out in a larger venue with say a 10m ceiling. I am also interested to see how it performs on larger indoor models, by using multi-strand motors.

I told Ray about this & a few weeks ago he turned up at one of our get-togethers with three golf balls, one of which had a quarter of its outer casing removed to reveal the tightly wound rubber inside.

Ray then very kindly explained his method of extracting the rubber & gave me the golf balls for me to experiment with. A few days later I decided to have a go, so I followed Ray's method to complete the process on the part-stripped ball & had great fun!

Should anyone else feel inclined to give this a try, I have outlined the procedure explained to me by Ray, using the following annotated photographs

(Stage 1 to Stage 10).

Stage 1

Stage 2

S.1 Roughly mark the ball into quarters using a permanent marker. This will help with Stage 2.

S.2 Very carefully cut through the outer casing, using a razor saw, or similar. It is important not to cut too deeply & damage the rubber beneath.
Great care must be taken at this stage to avoid cutting your fingers. I used an old shallow plastic egg cup (not shown in the photo) to stop the ball rolling around.

Stage 2a

Stage 3

S.2a Shallow plastic egg cup used to steady golf ball, when cutting.

S.3 Using a suitable screwdriver blade, very carefully prise off the casing in four sections. This is probably the hardest stage, & not only requires care, but a little patience.
The casing is bonded to the rubber beneath with what appears to be a white rubbery adhesive which forms a very strong bond

Stage 4

Stage 5

S.4 First quarter of case removed showing the rubber inside.

S.5 Complete outer casing removed.

Stage 6

Stage 6a

6. Starting to unwind rubber. It's advisable to wear some form of eye protection at this stage, as small bits can fly everywhere.

6a. When starting to unwind the rubber, it takes a few minutes to find a cut end that leads to the main length of rubber. After a few false starts & short lengths of rubber, the right end will be found & unwinding can begin in earnest. This stage is quite amusing, as the ball can spin around, unravelling itself in fits & starts.
Small glue deposits on initial length of rubber. If these can't be removed, discard the affected length of rubber.

Stage 7

7. Unwinding well under way

Stage 8 Completely unwound revealing core

Stage 9
Final skein of unwound rubber,
after removing any knots & twists

Stage 10
Rubber bagged, labelled & ready for use.

This golf ball produced the following rubber yield:
Length: - 18.90m, Cross Section: - 0.063" x 0.022" (1.60mm x 0.56mm)
Unit Weight: - 0.648g/m

I have been advised that not all golf balls are constructed in the same way & some may not be suitable for this form of butchery!
The ones used in these experiments were "Titleist Nos.1 & 2".

So, if anyone has an hour or so to spare & can get hold of some suitable old golf balls, I recommend this rather unusual way of obtaining small section rubber for some indoor flying.

To close, I would just like to again thank Ray for explaining the method I have described above & providing the old golf balls for me to play with!

Mark Harper

NEWS Review

The Anglo-Dutch Contest 1949

By arrangement the Anglo-Dutch contest this year has been coupled up with the Wakefield contest to save Holland the necessity of sending teams to this country on two separate occasions in the one year. The relative positions of the British and Dutch teams in the Wakefield contest therefore determines the winning nation this year.

Analysing these results we find that the scores are :

GREAT BRITAIN

E. Smith ...	...	144.57
R. H. Warring	...	141.63
F. Holland	...	120.33
R. Chesterton	...	90.00
R. Hines ...	...	24.60
R. Clements	...	—
		521.13

HOLLAND

S. H. Lutjen	...	64.60 (J. van der
H. L. F. de Kat	...	47.23 Caay)
J. de Jong	...	46.97
J. Gaillard	...	37.83
H. van der Woerd		1.50
K. L. Suls	...	—
		198.13

Thus the British team win this round of the annual friendly contest between the two nations.

Holiday Exchange

A holiday exchange scheme between aeromodellers in this country and Switzerland has been proposed as a result of the visit of four West Essex aeromodellers to Switzerland this year.

Briefly the proposal is to arrange properly organised visits between modellers in each country on the basis that those taking part bear their own travelling expenses, but that they will live with an aeromodelling family on arrival, who will provide board and lodgings for the period of the stay. The accommodation may be divided between more than one family in order to relieve the load but this is a matter for arrangement.

The idea is to time the visits on either side with one or more major contests so that the modellers concerned see as many different models as possible.

The exchange will be limited to members of the S.M.A.E., and the Aero Club of Switzerland, and in general between members of individual clubs, so that should a party of West Essex members be accommodated by members of the Zurich club then the West Essex members will in return be responsible for the accommodation of a like party from the Zurich club.

The S.M.A.E. would be glad to hear from any clubs who are interested in taking part in a holiday exchange of this nature, but it must be clearly understood, that it involves obligations on either side which must be honoured strictly if it is to be a success. It is also a condition that the participants take a model with them to take part in the contest concerned.

Modelling Age

Judging from the results of the Wakefield trials in this country and the foreign competitors in the actual contest, it would appear that serious rubber model flying is not the popular pastime of the younger generation.

There was but one junior in the Wakefield " 100 " trials and only one in the actual contest ; young Klaus Wirth, of Switzerland, who is 15.

The next youngest was the New Zealand entry J. H. St. Clair Woodley at an early 16, closely coupled with J. H. Sala, the South African entry. Another entrant just over the border line was the baby of the Canadian team R. J. Lequyer, of Hamilton, Ont., who is an advanced 16.

At the other extreme we find Alberto Leardi, the Italian at 44 and the Swiss Traugott Haslach at 43.

Averaging out the ages of all the competitors it would appear that the most successful age amongst aeromodellists is 25½.

Northern Heights Balloon Race

An innovation at the Northern Heights Rally this year was a balloon race, organised on their behalf by Ripmax Limited, which proved most popular. Altogether, over 500 balloons were released by the modellers and spectators present, and of these some 100 were found and their tickets returned to the organisers. The first prize for the longest distance travelled, goes to Mr. R. Hawkins, of Evesham, whose balloon was found by Raymond Balavoine, at Bretingnolles-le-Moulin, near Lassay, Mayenne (not far from Le Mans, France).

The second prize winner was Mr. J. Nunn, of Barking, Essex, whose balloon was found by Mr. A. Stewart on Portsdown Hill, Hants, while third price goes to Mr. M. A. E. Emslie, of Gosport, Hants, as a result of his balloon being found by Mr. E. P. Harman, at Hunston, near Chichester.

Bournemouth MAC - John Taylor

Editor: *I was having a bit of a tidy up in my computer room when I found the following items of Bournemouth MAC history. I must give myself a kick in the pants for losing these items for so long. John's letter is dated March 2017. Still, history is still history.*

WITH DEEP REGRET, we have to report the death of Maurice Hunt, Vice-President and Founder Member (in 1930) of the **Bournemouth Model Aircraft Society.** He was a very keen and active modeller and indeed a successful competitor in his early days. In May 1942 he gained the British R.O.G. record with a flight of 2 minutes 37 seconds, and the following year took the R.O.W. record with the same model re-equipped with three floats and named *Seagull*. The record achieved was 1:46.

Rubber-powered scale and speed models were amongst his interests, and he pioneered the use of a plug-in front fin on the then heavy slope soarers to prevent them from turning back into the hillside. In the mid-30s he designed and constructed a three cylinder radial electric solenoid motor, complete with pistons, connecting rods and common crankshaft which functioned quite well, but lack of a suitable lightweight battery prevented it from being used as the power unit in his large balsa lightweight models.

For many years his home was the regular meeting place for the B.M.A.S. Committee and the generous hospitality of both Maurice and his wife will long be remembered by older members of that Society. To his wife and family, we join his friends in offering our sincere sympathy.

Aeromodeller, March 1974

Maurice Hunt with his model seaplane 'Seagull' at Queens Park pond, Bournemouth, after breaking the existing British R.O.W. record with a flight of 1 minute 46 seconds. Overall length of model 39½ in., with a wing span between 5 and 6 ft. and weighed 10 oz. Used twin skein motor.

Note the attire worn by Maurice Hunt when out with his model. Anoraks and jeans were not invented then I suppose.

After he won the trophy outright he presented the club with a trophy for gliders. We still have it, a chrome plated glider 7" span mounted on a dome shaped plinth.

When the old Heath Trophy was lent to the Wessex Aeromodellers league for the 600RES models comp. we saw real aeromodelling reappear. The comp. was for gliders up to 2.4Mtr span. Radio control was rudder, elevator and spoilers (optional), hence RES.

All models used the Multiplex Permax 600 can motor and the same 7 cell 2200 pack and the same Graupner 9"x4.5" folding prop.

Models were launched in groups of 4 and the timekeepers would countdown 25 seconds power run after which all motors were switched off.

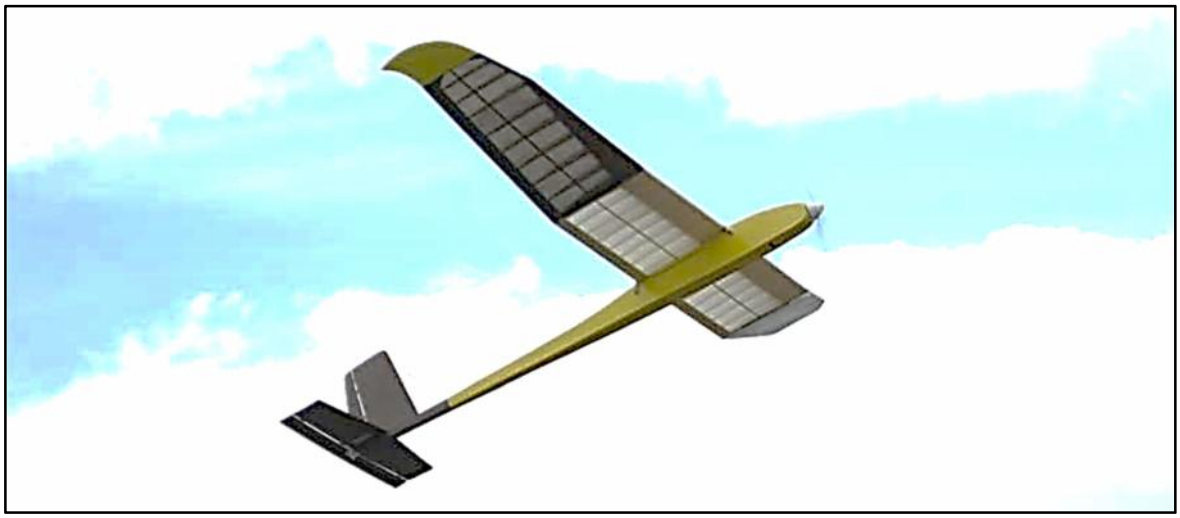
The last model down took 4 points then 3 and 2 and first down 1 point.

The rounds were arranged so that everyone got to fly against everyone else.
Points not times were the decider, it was the flyer who could find the best air in any round that won the day. There was a max of 10mins.

The popularity grew locally and flyers started to design and build their own models realising that lightweight models flew best. Eventually ready-made foam models were side-lined.
It was refreshing to see the ingenuity of genuine aeromodelling engineers once again.
Unfortunately the competitions stopped when the organiser Chris Hague stepped down.

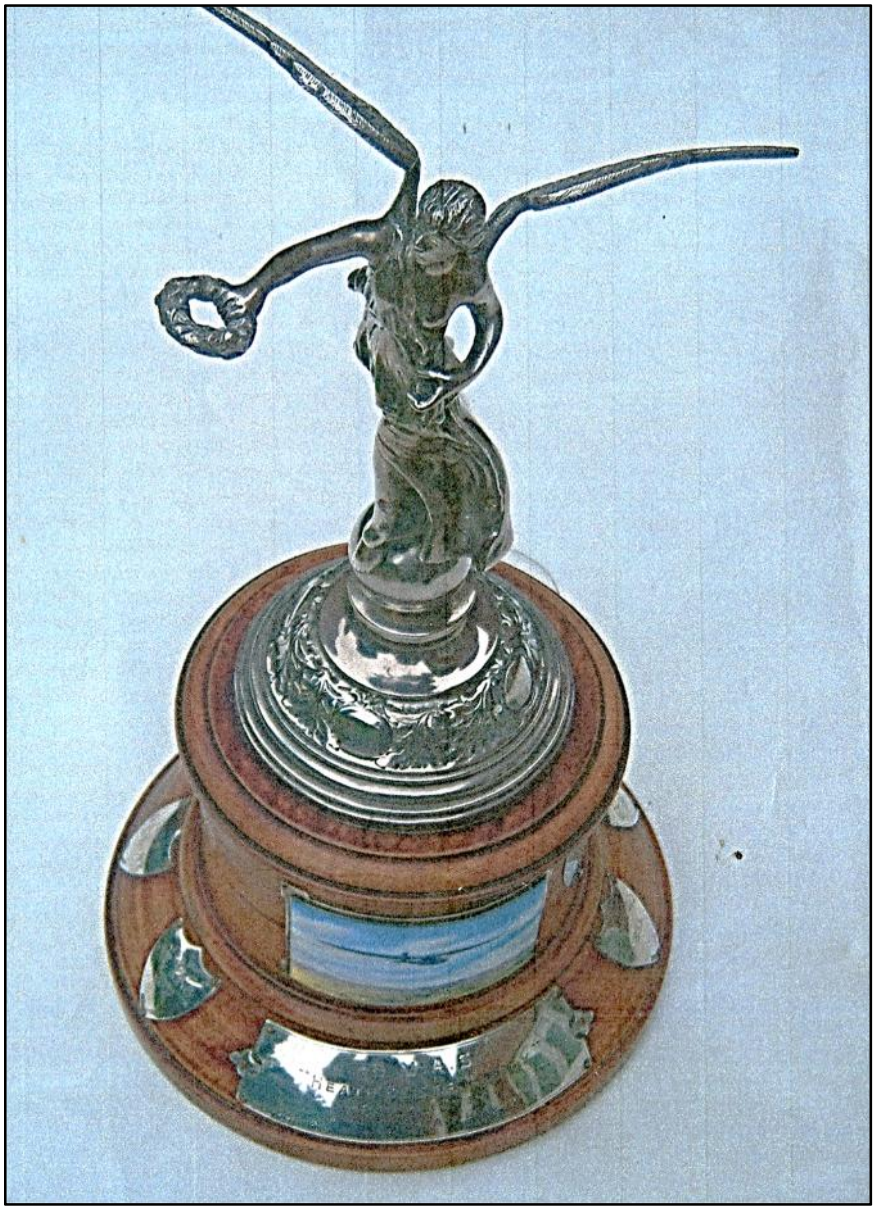
John Taylor

Peter Kessell



John Taylor/Cashmoor in flight

Heath Glider Trophy History



After Maurice Hunt died in 1974, the Heath *Glider* Trophy which he had won outright in the early 1930's passed into the care of his son Clifford.
A few weeks before the Bournemouth Club Rally in 2007 we were searching around for a trophy for the Classic Glider free flight competition.
Out of the blue a week before the event I had a surprise 'phone call from Clifford Hunt asking if I would like the trophy back.
We had no idea of its existence and were pleased to receive its return.
And quite a trophy it turned out to be. So the trophy was used at our 2007 rally.
Our annual free flight rally was started in 1998 by Pete Redhead. It proved to be one of the highlights of the competition calendar, always held at Middle Wallop, the home of Vintage and Classic free flight competition.

In 2012 the rally had grown in popularity and became too big for our dwindling membership to manage. At this time we were also required to undertake risk assessment and all the attendant Health and Safety requirements. So reluctantly we discontinued the rally.

The trophy was loaned to SAM 1066 and competitions for the trophy were held up to 2015.

With the closure of Middle Wallop for all free flight flying the Bournemouth club decided to loan the Heath Glider Trophy to Chris Hague. It will be competed for in his 600 REG. glider competition. This seems very appropriate as most competitors are designing, flying and developing their own models. It is just this kind of endeavour that the original donor, Mr Heath, wished to encourage.
March 2017

John Taylor.

Chairman Bournemouth Model Aircraft Society.

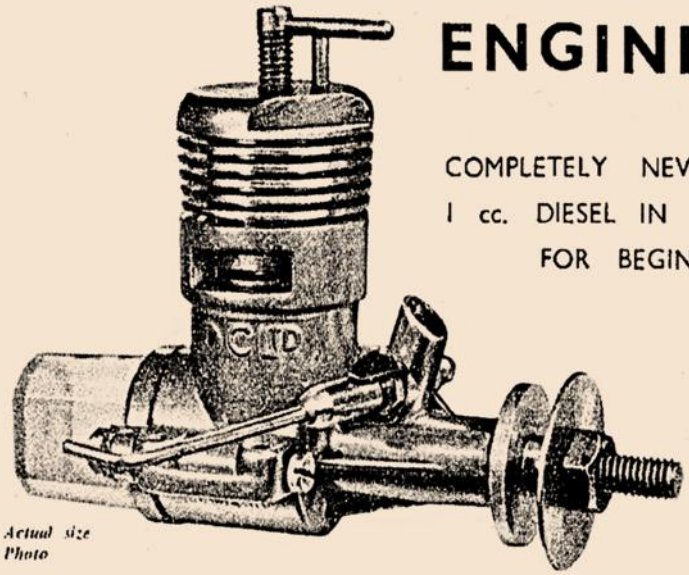
Engine Analysis: DC Spitfire MkII - Aeromodeller September 1957

AERO MODELLER 482 September, 1957

ENGINE ANALYSIS

NUMBER 39

COMPLETELY NEW VERSION OF THE POPULAR 1 cc. DIESEL IN THE DAVIES-CHARLTON RANGE FOR BEGINNERS & SPORT FLYING



Actual size Photo

DAVIES-CHARLTON SPITFIRE MARK II

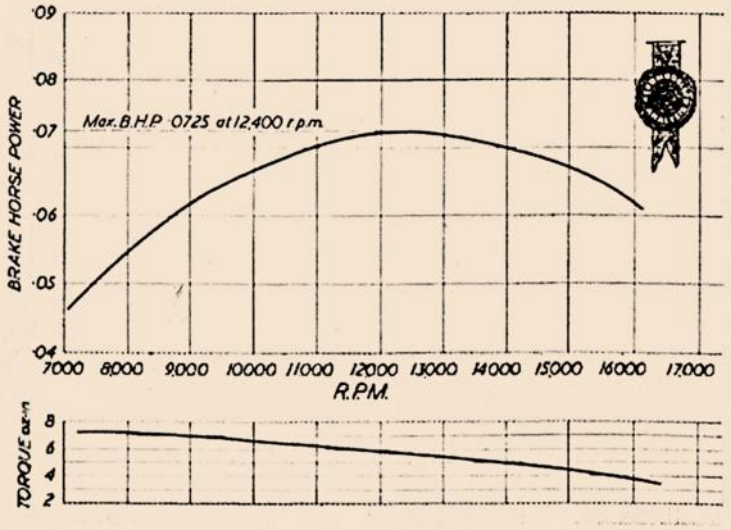
reviewed by R. H. Warring

THE MARK II *Spitfire* is not a re-design of the original 1 c.c. *Spitfire*, but rather a re-design of the larger *Sabre*. The *Spitfire II* incorporates all the standard *Sabre* parts *i.e.*, crankcase casting, cylinder, etc. —with the exception that the bore is reduced in size, and consequently a new, smaller piston is required, and the top of this piston is domed instead of flat. The only other points of difference between the Sabre are the revised propeller driver (hub), which is plain with a spigot extension, the revised compression screw tommy bar, and the needle valve thimble is not knurled. This latter point was criticised in earlier reports, the spring being so strong that it rapidly wore away the knurling. With a plain thimble and the same spring, the necessary locking action is maintained without this failing.

Stronger engine

Structurally the revisions have resulted in a much stronger engine. The cylinder, in fact, is now a quite massive affair (in thickness) for a 1 c.c. engine and as a consequence, completely free from any likelihood of distortion under heat or tightening down of the cylinder jacket. As one would expect, this results in a particularly consistent engine which, although the power output is not in the top class, is particularly easy to handle.

The range of compression adjustment is limited to one turn by the single-sided tommy bar meeting a pin mounted in the head. Provided the engine is not completely flooded, this does make for easier starting for the owner less experienced in handling diesels. All that is necessary to do is to ensure that the fuel line is full up to the spray bar, give two or three turns with finger choke, slacken off the compression to the fullest extent and flick. Compression can then be advanced if the engine does not fire, and advanced a little more when running, as necessary, to achieve consistent running. Even an absolute beginner should need little practice to master the technique for the starting characteristics of the *Spitfire II* are excellent and adjustment completely non-critical. About the only limitation of the compression stop (apart from the fact that if the engine *is* flooded, it must be cleared by blowing out surplus mixture), is that the compression cannot be backed off enough to stop the engine. For bench



SPECIFICATION

Displacement: ·9915 c.c. (·6053 cu. in.)
Bore: ·427 in.
Stroke: ·422 in.
Bore/Stroke ratio: 1:1·01
Weight (with tank): 3¼ ounces.
Max. B.H.P.: ·0725 at 12,400 r.p.m.
Max. torque: 7 ounce-inches at 8,000 r.p.m.
Power rating: ·073 B.H.P. per c.c.
Power/weight ratio: ·023 B.H.P. per ounce

Material Specification:
Crankcase: pressure die casting in light alloy
Cylinder: hardened steel
Contra piston: steel
Piston: cast iron
Connecting rod: light alloy forging
Cylinder jacket: light alloy, anodised green
Spraybar assembly: brass
Tank: transparent acetate plastic
Propeller shaft thread: 2 B.A.
Mounting bolts: 8 B.A.

Manufacturers:
Davies Charlton Ltd.,
Hill Meadows, Douglas, Isle of Man.

Retail price £2 12s. 7d. including tax

running, this means either closing down the needle valve or squeezing or removing the fuel line to stop. Backed off as far as it will go the *Spitfire II* continues to run at slow speed quite happily, which feature can be used to advantage on initial test flights with a new model.

A pleasure to test

Without reserve, we thoroughly enjoyed handling and testing this engine. It ran so consistently at all speeds that accurate readings were easily obtained and plotted on a torque curve with a minimum of "scatter". The *Spitfire II* does, however, appear to have a "vibration period", during which speed range it is prone to vibrate noticeably when running on semi-flexible mounts (*e.g.*, equivalent to mounting in a model). This speed range is between 11,500 and 12,500 r.p.m., or immediately approaching the speed for peak power output. Maximum power, as recorded on test, was ·0725 B.H.P. at 12,400 r.p.m., where running was inclined to be a little rough. At higher speeds, however, the *Spitfire II* settled down again quite happily to smooth running and performed well right up to 16,000 r.p.m. on propeller loads.

The power curve is relatively flat, so that there is no sharp power peak. For getting near maximum performance out of the engine, in fact, it can be operated over a range of 10,000 to 15,000 r.p.m., if desired. The best propeller size for free flight application should be one giving about 10,000 r.p.m. static, such as a 7 x 4 wooden propeller, or an 8 x 3 to take advantage of the better efficiency of larger diameters. For control line work the *Spitfire II* will comfortably handle a 6 x 6 in. propeller at about the right speed for maximum performance. It has a certain amount of "bite" for hand starting if handled carelessly on 6-inch diameter (or smaller) propellers, but in no way could be called a vicious engine even loaded for a running speed of 15,000 r.p.m. or more.

Interchangeable with the Sabre

The crankcase, as mentioned, is the standard *Sabre* casting, finished to a pleasing shiny appearance by tumbling. The hardened steel cylinder fits into this unit, sealing by means of a fibre gasket and held down by the cylinder jacket screwing into the crankcase. The lower part of the cylinder has the same overall diameter as the Sabre cylinder (it is the same basic unit, in fact) and in consequence of the reduced bore has a wall thickness to the exhaust flange of some 0·1 in. The upper part of the cylinder is reduced in overall diameter to 0·547 in., being finished externally by grinding. Why the makers have gone to this trouble is a little difficult to understand since the cylinder jacket is a "rattling good fit" over the cylinder, and not a plug fit. As a consequence, heat transference from liner to jacket (and hence dissipation by air cooling) is relatively poor, but the cylinder showed no signs at all of overheating after prolonged high speed running, so this point would appear of little consequence.

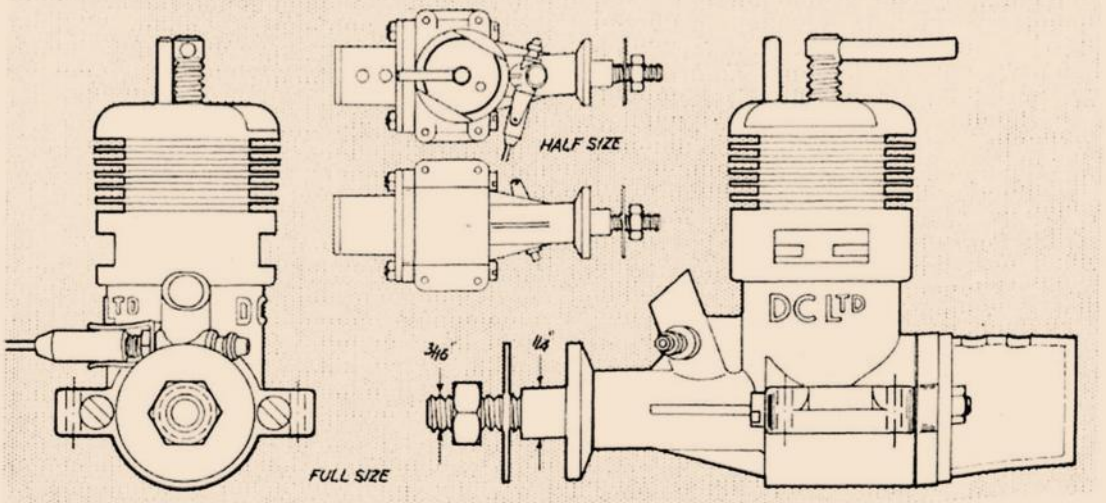
Propeller R.P.M. Data

Propeller dia x pitch	*r.p.m.*
6 x 4 (Stant)	12,200
6 x 5 (Stant)	11,800
6 x 6 (Stant)	10,300
7 x 4 (Stant)	9,800
7 x 6 (Stant)	8,500
8 x 3½ (Tiger)	9,700
8 x 4 (Tiger)	9,300
5 x 3 (Trucut)	15,400
6 x 3 (Trucut)	12,400
6 x 4 (Trucut)	11,500
7 x 4 (Trucut)	10,700

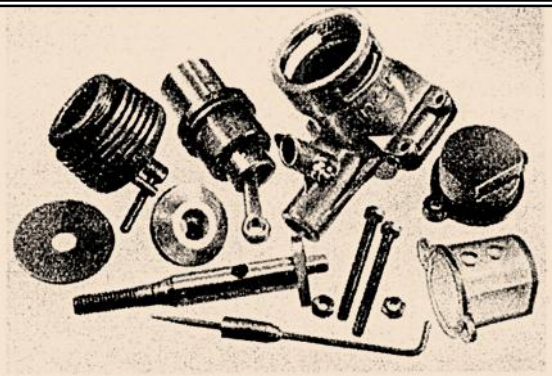
Thick walled piston

The cast iron piston is quite thick in the walls and a relatively heavy unit, but well made and an excellent fit. The light alloy connecting rod is a forging (the original Javelin unit, it appears), which could have been increased in size somewhat at the little end, but again this is a quibble rather than a criticism. The crankshaft is also identical with the original Javelin, with the exception that the taper is now turned instead of ground. Crankshaft diameter is ·283 in. reducing at the front to a 2 B.A. thread. Crank pin diameter is ·156 in. and gudgeon pin diameter ·125 in. The crankshaft runs in a plain (unbushed) bearing and is a very nice fit.

The whole engine, in fact, is very nicely made. Probably the only feature which can be criticised at all is the tank. This unit looks very nice mounted on the back of the engine, but the lug mounting is weak and the acetate plastic prone to warp out of shape after it has had a certain amount of fuel through it. The



controls are nicely placed and easy to handle. The *Spitfire II* appears to have no vices at all as regards starting and general handling—except for the rough running speed range mentioned—and should be an ideal choice for sports models of all types. It is sturdy enough to take most knocks you care to give it, and if you want to take it apart you are not likely to suffer any power loss through distorting the cylinder on re-assembly. It probably won't win any performance records for its size, but it will give the average owner all he wants in the way of a reliable, easy-to-handle workhorse of a power plant.



Component parts of the Spitfire Mark II show how it is closely related to the Sabre 1.5 c.c. from the same manufacturer. Accent is on strength and easy handling rather than hot contest performance

Nationals 2011 - John Andrews

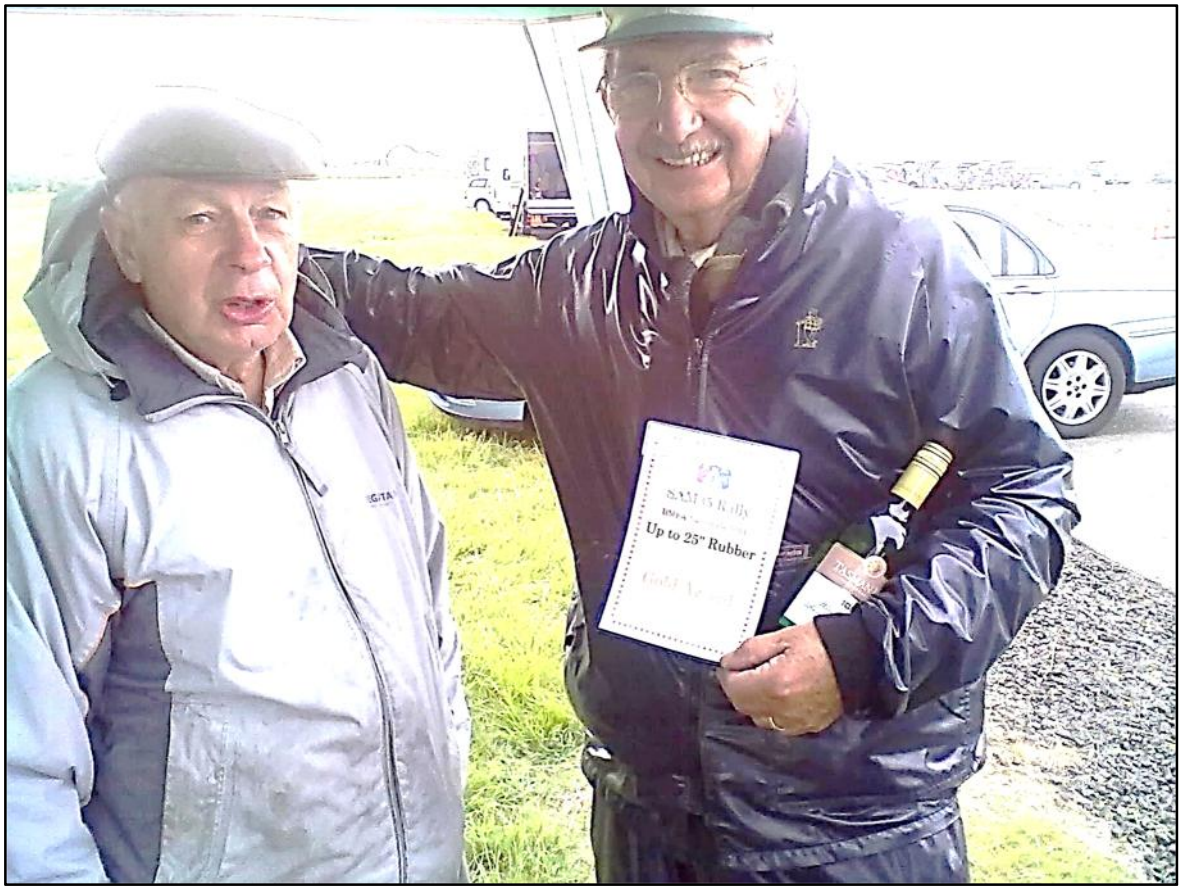
Once again shortage of copy has made me dip into my picture files, it's Nationals 2011.
If memory serves, it was much of a washout with wind and rain most of the time. I recall spending most of the meeting in the Hangar and that is where most of my pictures were taken.

John Andrews: Winner, most pints consumed in three days

Tony Rushby, actually 3rd
In under 25" Rubber

John and Kath Wingate on SAM35 control duty

Mike Sanderson: Winner 8oz Wakefield in SAM35 Rally



John Wingate with Peter Jackson, Under 25" Rubber Winner in SAM35 Rally

John Wingate with Kathy querying the wine distribution. Keith Miller offers opinion in the background

Our current Membership Secretary's young son Rory peeps out from within one of the Fire Tenders

John Andrews

Heard at the Hangar Doors - Aeromodeller September 1954

This fine action shot of Sid Miller with his prototype "Rohma" was taken at the Northern Heights Gala, further details of which can be found in "Round the Rallies" on page 464.

Heard at the HANGAR DOORS

New Radio Records

On the 11th of July, Geoff Pike of Nottingham made a successful attempt on the World Record for radio-controlled powered aircraft, at present held by Peter Velitchovsky of Russia with a duration of 1 hr. 31 min. 14 sec.

Using the model we described in the July "AEROMODELLER," Geoff achieved a time of 1 hr. 40 min. 35 sec. at Tollerton Aerodrome after two previous flights that day of 1 hr. 10 min. and 30 min. respectively. We gather that Geoff has acquired an almost permanent stiff neck as a result of all this record flying, and when one considers 3 hr. 20 min. flying time in one day, it is not surprising. However, we congratulate him on his persistent efforts which have finally borne fruit, subject to ratification of the record by the F.A.I.

Aeromodeller PAA-load Contest

We remind all readers who have not yet entered for this 1 c.c. payload event, that copies of the rules and model specifications can be obtained from the Editorial Offices.

Entry is free, and the event will be held at the 1954 All Britain Rally at Radlett Aerodrome on Sunday, 26th September. There are three magnificent Bulova gold watches for the top place men, and special prizes for A.P.S. designs that place in the first twelve positions.

For home-constructors

A monthly bulletin of some 22 closely typed pages that will satisfy many aspirant home-constructors of ultra-light aircraft is the "Amateur Aircraft Builders" News Letter published by A. Lee Spencer, 621 N. 9th Street, Fredonia, Kansas. Covering all subjects allied to the home-builts, Mr. Spencer's information sheets will help the many applicants we receive for further gen on types like the Luton Minor, Bebe Jodel, etc., which have been featured in George Cull's "Aircraft Described" series and also carry advertisements for sets of plans to build the famous American ultra-lights like the Irwin Meteorplane, etc.

Five Three's v Three Four's

Following representations from competitors—who after all are the ones who count in such matters—future Team Eliminators and Trials will be conducted to the same standards as met in the Finals of World Championship events. We welcome this step which calls for five flights of three minutes maximum each, as the purpose is to select the most consistent fliers to represent the country. However, it must be realised that it is a full day's work to conduct a five-round contest, and it will not be possible to run more than one Eliminator on the same day, and future programmes will be arranged to accommodate single eliminators at Area meetings. With airfield arrangements, coach bookings, etc., already made in most cases for this year, the double eliminator scheduled for October 3rd will have to stand, but from 1955 the new practice will come into force.

Five-flight trials will require a full two-day meeting instead of a Saturday afternoon/all day Sunday as took place this year, but we are of the opinion that if a competitor feels it worth while to try for a place on a British Team, he will find the time to participate in a full two-day Trials meet.

As it will require six separate days to conduct the two eliminators for three classes of event, a further application to hold both eliminators early in the year of operation was turned down, and the current practice of staging the first eliminators in the autumn of the previous year will continue.

Win yourself £100

There is still time to enter the S.M.A.E. £100 Crossword Competition and at the same time swell the International Contest Fund for sending teams abroad to represent the Old Country. Entry forms were printed in the August "AEROMODELLER" and

are also available in your local model shop, or from the Editorial Offices.

New trend in A/2 Gliders

The surprise decision of the F.A.I. to drop the old-established fuselage formula has already affected A/2 glider design, as this year's event bears witness.

A full report of the World A/2 Glider Championship held at Odense in Denmark appears on page 468 of this issue, and we publish below details of the winning model by R. Lindner of Germany.

It is significant that this winning design has a stick fuselage, and it will be no surprise to those who study contemporary design trends, that Max Hacklinger is a clubmate of Lindner's. What does surprise us, is the absence of turbulators, considering Herr Lindner comes from Munich, where Central European "still air" conditions normally prevail. All the more credit to this young German modeller, who under appalling weather conditions, and in a five-round "marathon" beat the best of Europe's glider fliers.

STOP PRESS!

World Championship Results

WAKEFIELD CONTEST

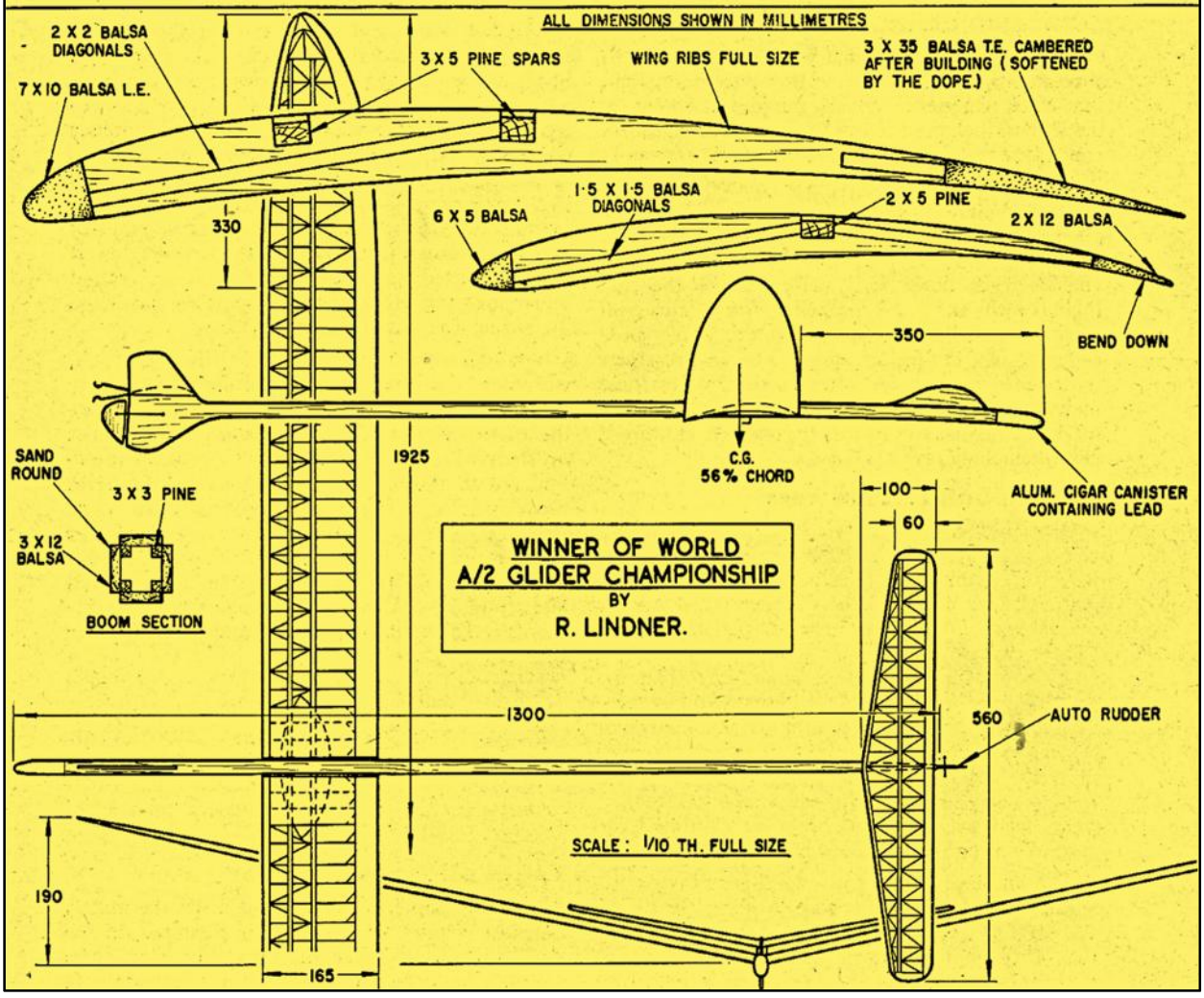
	Individual:		Team:	
1.	King Australia	900	1. U.S.A.	2404
2.	Jackson G.B.	866	2. England	2334
3.	Joon Australia	863	3. Canada	2322

POWER CONTEST

	Individual:		Team:	
1.	Wheeley U.S.A.	844	1. U.S.A.	2204
2.	Lanfranchi Switz'l'd	831	2. Argentine	1826
3.	Kneeland U.S.A.	783	3. Canada	1712

About the winners:—**Alan King** of the Eastern Suburbs M.A.C., Victoria, Australia, is something of a legend in his country. For three years he held the honoured title "Champion of Champions" in the Australian Nats., and at the '54 Meeting he was voted to be selected Australian representative at the World Championships. Though not in the original Australian Wake. Team, he topped the Power Elims.

Carl Wheeley came to Cranfield last year in the U.S.A. Power Team and is the popular Technical Director of the Academy of Model Aeronautics. His Senator design is well known internationally, and his work in connection with the organisation of the meeting at Long Island will have been appreciated by all present.



The Bell X-1, the first aircraft to officially break the sound barrier

The British Air Ministry signed an agreement with the United States to exchange all its high-speed research data and designs, including that for the M.52, with equivalent US research but the U.S. reneged on the agreement, and nothing was forthcoming in return.

Chuck Yeager in front of the Bell X-1, the first aircraft to break the sound barrier in level flight

The Bell X-1, the first US manned aircraft built to break the sound barrier, was visually similar to the Miles M.52 but with a high-mounted horizontal tail to keep it clear of the wing wake. Compared to the all-moving tail on the M.52 the X-1 used a conventional tail with elevators but with a movable stabilizer to maintain control passing through the sound barrier.

It was in the X-1 that Chuck Yeager became the first person to break the sound barrier in level flight on 14 October 1947, flying at an altitude of 45,000 ft (13.7 km).
George Welch made a plausible but officially unverified claim to have broken the sound barrier on 1 October 1947, while flying an XP-86 Sabre. He also claimed to have repeated his supersonic flight on 14 October 1947, 30 minutes before Yeager broke the sound barrier in the Bell X-1. Although evidence from witnesses and instruments strongly imply that Welch achieved supersonic speed, the flights were not properly monitored and are not officially recognized. The XP-86 officially achieved supersonic speed on 26 April 1948.

On 14 October 1947, just under a month after the United States Air Force had been created as a separate service, the tests culminated in the first manned supersonic flight, piloted by Air Force Captain Charles "Chuck" Yeager in aircraft #46-062, which he had christened *Glamorous Glennis*. The rocket-powered aircraft was launched from the bomb bay of a specially modified B-29 and glided to a landing on a runway. XS-1 flight number 50 is the first one where the X-1 recorded supersonic flight, with a maximum speed of Mach 1.06 (361 m/s, 1,299 km/h, 807.2 mph).
As a result of the X-1's initial supersonic flight, the National Aeronautics Association voted its 1947 Collier Trophy to be shared by the three main participants in the program. Honored at the White House by President Harry S. Truman were Larry Bell for Bell Aircraft, Captain Yeager for piloting the flights, and John Stack for the NACA contributions.
Jackie Cochran was the first woman to break the sound barrier, which she did on 18 May 1953, piloting a plane borrowed from the Royal Canadian Air Force, with Yeager accompanying her.

Wikipedia

Nearly but Not Quite - Ron Marking

Extract from CVA Without Feathers May 2001

Nearly But Not Quite

Most of what follows is not widely known and at the time was probably classed as "Company Confidential" but as it took place nearly 30 years ago, who cares?

As you probably realise, any aircraft design, be it model or full size, is continually being updated but at some time the decision must be made to freeze the design and build. Concorde was no different. The prototypes were designated 001 and 002, the former being the French one which flew first and the other was British. Both of these made extensive flight tests including supersonic ones producing lots of data to help with design improvements. At the same time a great deal of wind tunnel testing was still being carried out to check out any new ideas to improve the efficiency of the aircraft. Next, two "pre-production" aircraft were built, numbered 01 and 02 but this time it was the British one which flew first. Several design changes were incorporated, the most obvious being the provision of windows for the pilots!!

01, which was based at Fairford in Gloucestershire, quickly completed its subsonic testing and then in the autumn of 1971 it took off for the first supersonic flight out over the Bay of Biscay. All went well until the pilot throttled back and lowered the nose. There were two loud bangs and both outboard engines surged (went out!!). Once the aircraft was subsonic the engines were restarted and it returned safely to base. You can imagine the panic! Nothing wrong was discovered but the same thing occurred on the next flight and so the underside of one wing was coated in a layer of thick grease so that the airflow could be photographed by strategically placed cameras. They discovered that the shape of the leading edge, which had been changed from the prototype, was the cause of the problem. When the nose was lowered a vortex was generated under the wing, and on the prototype, the LE was quite markedly "hooked" which contained the vortex until it was well outboard but on the pre-production aircraft the LE was much more rounded and the vortices were now able to detach themselves much earlier and in fact went straight down the intake of the outboard engines!! The change had been made as a result of wind tunnel tests which showed a worthwhile reduction in trans- sonic drag with this more rounded LE.

The race was now on to find a LE which satisfied both requirements. I was working in the wind tunnel department at Filton at the time and was one of the team responsible for checking the new designs. We had a 1/13th scale model of Concorde with a fully articulated engine intake, and instrumentation at the engine face to determine the pressure recovery and smoothness of the air being delivered to the engine. The model was modified to have replaceable LE's and we were all shipped out to France to do the testing. (The only British supersonic wind tunnel big enough was already fully booked.)

Over a period of six weeks early in 1972 several LE's were tried and eventually enough data had been accumulated to make a decision. As we were in France and they had overall control of the wing the LE's were not called that but Bord d'Attaque and so the various designs were given BA numbers. If my memory is correct we tested BA8, BA9, BA10, BA11, BA9a, and BA10a. The latter two being added as a result of the first phase of testing. The Chief Aerodynamicist for Sud Aviation was in fact an ex pat Englishman and he stayed with us in our hotel for the final tests and decision making. He wanted a further test to be done on a shape slightly more rounded than BA9a (which appeared to be the best) but did not want to call it BA9b. Now, it so happened that the barmaid in the hotel was a pretty, young lady called Maria with a nicely rounded figure and so the design was given the title BAMa.

This was tested but did not appear to be any better but if it had been, then the leading edge on Concorde would have been named after the shape of a French barmaid's breasts!!

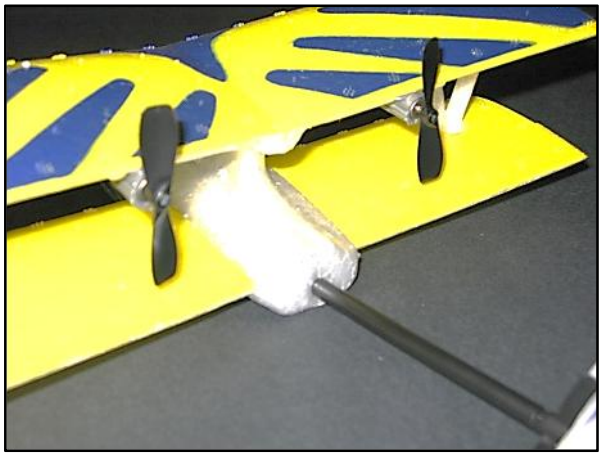
Ron Marking

Indoor Isn't for Everyone 80 - Nick Peppiatt

Differential Thrust Propulsion

This article was inspired by the POWERUP 4.0 that my son got me for my birthday earlier this year. This is a differential thrust device that can power paper darts and other small aircraft. More on this later.

I first became aware of this form of propulsion and control, where the difference in thrust of the two motors put the model in a turn, with the Silverlit flying toys that were available in the mid-noughties. The power for these was provided by two 6mm diameter coreless motors driving 45mm diameter clockwise and counter clockwise propellers, and the control was a two channel 27 MHz radio control system, with a throttle lever and a steering lever controlling the use of differential thrust. The limitation of this type of system is that, of course, there is no steering control in the glide.



Silverlit X-Twin Bi-Wing, 220 mm wingspan, 18 g weight

The main components of the planes are made from EPP (expanded polypropylene), which made them very tough. The power is provided by a 130 mAh Lipo battery, which gives more than adequate flight times. Moving the steering stick of the controller in one direction or the other gives full differential thrust so that the stick needs to be blipped to control the diameter of the turning circle.

Silverlit X-Twin Sports Flyer,
with propellers behind the wing trailing edges

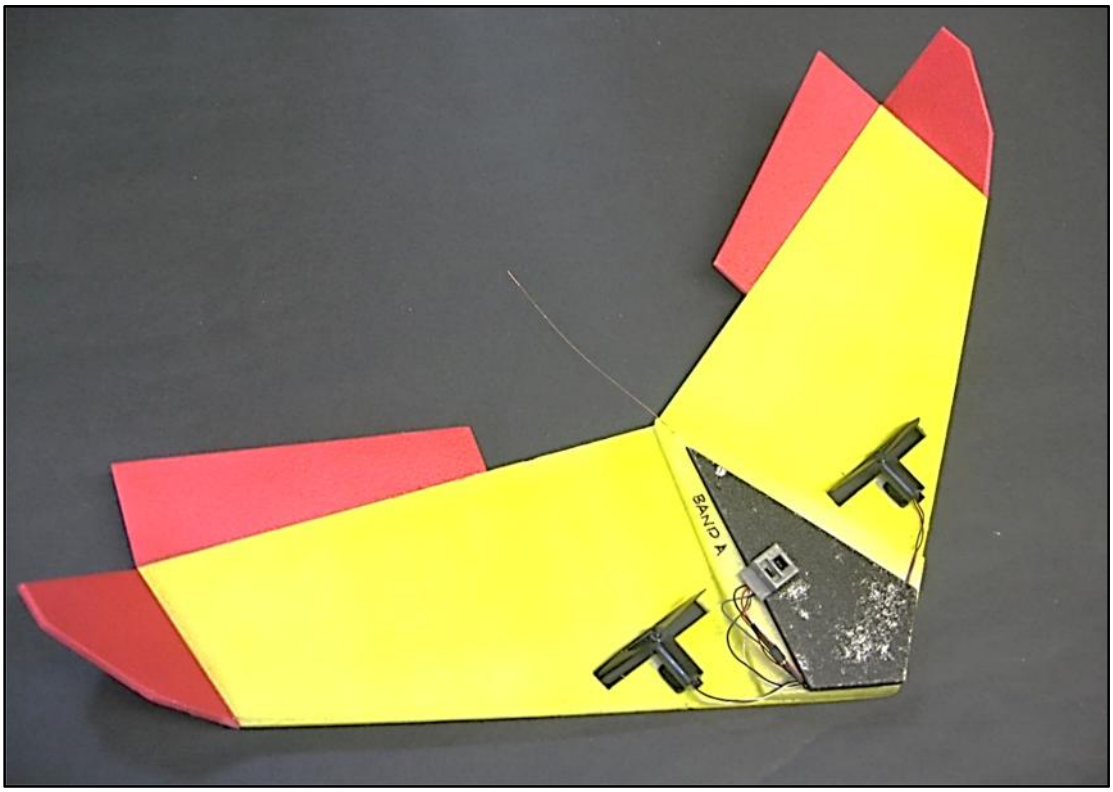
X-Twin Jet (propellers in wing slots)

At that time, the Silverlit company produced other designs using the differential thrust system, including a Sports Flyer and a Jet. Like the Bi-Wing, the Sports Flyer flew very well indoors or outside on calm days. However, I found the performance of the Jet less than satisfactory, being difficult to control.

Not surprisingly, enterprising modellers used the X-Twin electrics to produce other designs. Many of these are still available online at

AAtoolbox Plans Hop Ups and Mods (imagination-3d.com)

The example I made was Torsten Hill's Dizzy Chick. This was built with the additional dihedral recommended on the AA Toolbox website. It has proved to be a fun flyer, living up to its name. It is made mainly from 3mm thick Depron, with a span of 405mm and a weight of just over 18g.



Depron Dizzy Chick with Silverlit X-Twin electrics

390mm wingspan, six engined C-17 transport – four dummies and two pushers at the wing trailing edge.

Of more recent origin is the semi-scale Boeing C-17 Globemaster lll, available from far-eastern sources, such as Banggood. The actual manufacturer of the kit (yes, it does require some assembly*) is something of a mystery, but the product is much more sophisticated than the early Silverlit X-Twins. Using a 2.4 GHz radio system, the turn control is proportional, and there is a built-in gyroscopic control to give flight stabilisation. It is propelled by two 7mm diameter coreless motors driving 53mm diameter propellers. A 300 mAh Lipo battery provides the power source for this 390mm wingspan model with flying weight of just over 50g. The model is again constructed mainly from EPP. The wing has a nice under-cambered section and it ROGs from a smooth surface beautifully!

* Later versions of the kit do not appear to require any gluing, relying on magnets and screws. I needed UHU Por to construct mine.

POWERUP 4.0 fitted to Invader paper glider

and to Tornado Updraft 12 balsa glider

So now to the POWERUP 4.0 https://www.poweruptoys.com/

This is a differential thrust device that can be fitted to various designs of paper glider, but also to other small flying machines. It is controlled from an App on a smartphone. In flying mode there is a button in the centre of the screen that is pressed by the thumb and then moved upwards along the screen to open the throttle. The differential thrust (turn) is controlled by the tilt of the phone.

The App allows you to select the model. The interchangeable power and control unit has two 6mm diameter coreless motors powering 37mm diameter propellers at the rear, with the control system at the nose, connected by a carbon fibre boom. The battery is of 150 mAh capacity, the weight of the unit is just over 22g, and the weight of a plane folded from a sheet of standard A4 paper is 5g. The control connection between the smartphone and receiver is via

Bluetooth (2.4 GHz). It is clear that there is two way communication between the plane receiver and the App. The Rx control unit also has gyroscopic stabilisation. There is a settings screen, which allows adjustment of the gyro parameters, although I'm not clear how these are optimised. The default settings for the two planes I have flown are clearly not the same.

POWERUP 4.0 App settings screen for Invader paper glider (left)
and Tornado Updraft 12 balsa plane (right).
The adjustments are for pitch, yaw, roll and angle of attack. The values shown are the factory settings.

As recommended, I started with the Invader folded paper glider, supplied as a printed sheet (four copies) with the POWERUP 4.0. The online instructional videos suggest carrying out some test gliding, but I could not get a sensible glide from a hand launch out of the thing, nor could I find any film online of glide testing. However, under power and control it is a totally different matter. Provided the elevons are set close to the correct angle, it flies in a fine and controllable manner. There are a number of paper glider designs available from POWERUP, and no doubt, many of the designs from Nick Robinson's Paper Airplanes book, which OEE occasionally features, would be suitable.

I tend to fly these small machines early in the morning on my local recreation ground, when conditions are likely to be calmest. However, early morning wet grass and a paper aeroplane do not go well together, so I acquired the Tornado Updraft 12 kit, a design by Nighthawk gliders Nighthawk Gliders - Home , made from balsa. There are also some sheet foam designs available, but I do like balsa wood. I waterproofed this to some extent with a coat of sanding sealer. This 12" span plane weighs 8.2g without the power unit. Some parts from the add-on installation kit are required so that the power unit can be attached.

Initially I did not get the launch correct for this plane. Being right handed, I obviously use this to hold and operate the phone, so the launch had to be with an unaccustomed left hand. However, I found that a gentle trot and a hurl gets the aircraft flying well. The App gives some feedback on the flight, and if it thinks the pilot has done really well, there might be the reward of a virtual cup! The POWERUP 4.0 unit is great for giving some flying fun in an area of a couple of football pitches in relatively calm conditions. I've not had the opportunity of using this indoors – I'd be concerned about the effectiveness of the Bluetooth communication link in a crowded 2.4GHz environment.

A recent visit to the Silverlit website Flying Toys – Silverlit shows that they are still producing flying machines controlled by differential thrust, now using 2.4 GHz radio. They also have a product to attach to a paper dart, in a similar manner to the POWERUP 4.0, but this uses a conventional transmitter.

Nick Peppiatt

East Anglian Gala - Peter Watt

Sculthorpe 2024

Just got back from my annual trip to Sculthorpe for the East Anglian Gala, it felt a little strange to be staying at Erika`s B&B for the first time without John and Rachel Andrews. I did manage to team up with the Yorkshire contingent for evening meals.

I came over from Ireland a few days before the contest and managed to visit Geoffrey Lefever (now 92) and his wife Jane. They did come up to the contest on the Sunday to watch and chat. Like John, Geoffrey has great difficulty walking.

The reported lack of fences and cattle has not led to an idyllic flying site, for although there were no electric fences or cattle the grass was high and full of banks of thistles and nettles which made retrieval difficult. Not only was the walking difficult but I would get a strong bug signal and after one step it would disappear. I thought it was me but heard others say the same.

From my point of view the Saturday proved to be a bit disheartening as I lost my best P30 on the 3rd. flight over the road into a field. I could get a signal but no way that I knew of getting to the model.

On the Sunday I maxed with my Senator on its first flight but was so tired after the retrieval I stopped flying and spent the rest of the day with Gordon Warburton looking for the lost P30. Spencer Willis had a similar problem retrieving his Mini Vintage model and he headed for home. Later in the day Roger Heap spent an hour looking for my model. He managed to get into the field and had a signal but couldn`t see it. Thanks to Gordon and Roger for their efforts.

I think it was Roger who did an amazing bit of retrieval in finding a flyaway glider on the Norwich Road in Fakenham which I reckon to be at least 5 miles away.

My best P30, now gone but not forgotten

Peter Watt

East Anglian Gala Results - Stephen Bowles

Day 1 - Cloudy Morning With Light Showers 9-13mph Wind, Brighter Afternoon And Lighter Wind.

Classic Glider

1.	C.Parry	63335 Biggles	7.30	F/O 9.58
2.	N.Botham	12255 Morley	7.30	1.40
3.	D.Cox	73114 Crookham	7.30	
4.	C.Foster	17203 Morley	6.52	
5.	S.Barnes	51987 Morley	6.44	
6.	R.Heap	73338 Biggles	6.36	

Clg/Hlg

1.	P.Gibbons	76597 Peterboro'	4.10	
2.	M. Benns	72523 Peterboro'	3.48	

P30

1.	B.Lavis	72364 Biggles	6.00	
2.	P.Watt	108095 Mid Ards	5.39	
3.	D.Norwood	193646 Delyn	5.24	
4.	A.Rusby	52251 Cleemac	4.58	

E.36

1.	J.Cooper	3422 Biggles	6.00	F/O 2.45
2.	C.Foster	17203 Morley	6.00	1.07
3.	D.Ginns	84235 B'ham	6.00	0.46
4.	N.Botham	12255 Morley	5.58	
5.	S.Philpott	64218 B'ham	5.37	
6.	C.Redrup	34457 Crookham	5.34	
7.	P.Woodhose	00679 Morley	5.31	
8.	S.Johnson	212096 Imhmac	5.01	
9.	G.Warburton	58428 Morley	4.13	
10.	P.Gibbons	76597 Peterboro'	2.35	
11.	G. Williamson	170419 Peterboro'	2.05	

Vintage Rubber/Power

1.	C.Foster	17203 Morley	7.30	
2.	S.Willis	34982 Croydon	6.43	
3.	N.Botham	12255 Morley	6.31	
4.	D.Cox	73114 Crookham	6.01	
5.	D.Ryalls	177259 Morley	5.00	
6.	S.Barnes	51897 Morley	1.52	

Tailless

1.	A.Moorhouse	62373 Vikings	5.36	
2.	S.Willis	34982 Croydon	2.30	

Combined Rubber

1.	M.Benns	72513 Peterboro	7.30	F/O 3.24
2.	P.Woodhouse	00679 Morley	7.30	2.40
3.	C.Redrup	34457 Crookham	7.30	2.31
4.	A.Moorhouse	62373 Vikings	7.30	2.29

Day 2

Mini Vintage

1.	N.Botham	12255 Morley	6.00	F/O 0.42
2.	C.Foster	17203 Morley	6.00	
3.	A.Rusby	52251 Cleemac	6.00	
4.	K.Faux	52579 Vikings	5.55	
5.	D.Norwood	193646 Delyn	5.11	
6.	P.Watt	10895 Mid Ards	2.00	
7.	S.Johnson	212096 Mhmac	1.14	
8.	B.Lavis	72364 Biggles	0.53	

Vintage Glider

1.	R.Heap	73338 Biggles	5.48	
2.	N.Botham	12255 Morley	5.38	
3.	C.Foster	17203 Morley	5.35	

Classic Rubber/Power

1.	S.Barnes	51987 Morley	7.28	
2.	S.Darmom	67790 B'ham	7.30	
3.	M.Chapman	88776 Grantham	1.08	

Combined Electric

1.	M.Benns	72513	Peterboro'	7.30	F/O 7.07
2.	C.Redrup	34457	Crookham	7.30	5.35
3.	P.Woodhouse	00679	Morley	7.30	4.57
4.	G.Williamson	170419	Peterboro'	7.20	
5.	D.Ginns	84235	Crookham	7.06	
6.	N.Botham	12255	Morley	7.00	
7.	P.Gibbons	76597	Peterboro'	4.36	
8.	C.Foster	17203	Morley	2.19	

Combined Glider

1.	C.Parry	62525 Biggles	7.30	
2.	C.Foster	17203 Morley	6.20	
3.	B.Halford	31735 Vikings	4.56	

Combined Power

1.	M.Chapman	88776 Grantham	3.46	
2.	S.Barnes	51987 Morley	2.30	

Co2

1.	P.Woodhouse	00679 Morley	6.00	
2.	S.Philpott	64218 B'ham	5.42	

Stephen Bowles

Results from events run by Peterborough MFC

THE BOWDEN TROPHY

1st	Andy Jeffreys:	Performance Kits "Meson".	Frog 100
2nd	Ken Stanley:	"Frog 45",	PAW1.5
3rd	Doug Campbell:	O.D. "Jess",	Mills 1.3

STAN HORNE MEMORIAL SHIELD

1st	Charlie Jeffreys:	"Ace of Diamonds"	Mills 0.75
2nd	Bob Stanley:	KK "Junior 60",	Frog 3.46
3rd	Ken Stanley:	"Frog 45",	PAW 1.5.

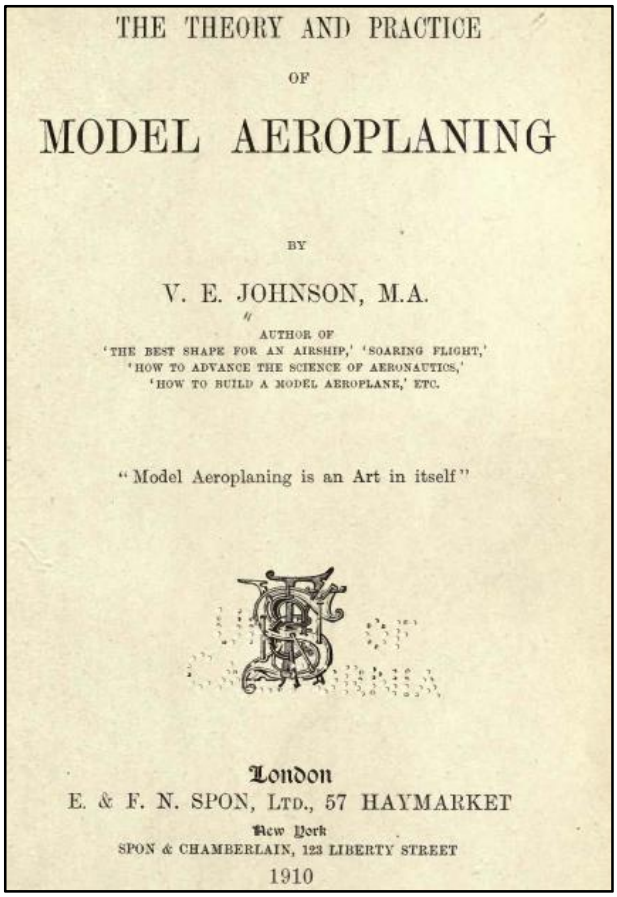
Note: The Stan Horne Trophy was presented by Peterboro' MFC member Tony Wilson in memory of Stan who ran the Bowden event for many years at the British Free Flight Nationals. It retains the 45 second target time of the BMFA Bowden event but allows larger than 2.5 cc engines and Hand Launches, for a penalty.

Brian Waterland

(Peterborough MFC)

Report No.163 Our earliest books.

Continuing in 1910, we next come to "The Theory and Practice of Model Aeroplaning" written by V. E. Johnson and published by E. & F. N. Spon, 57 Haymarket, London.

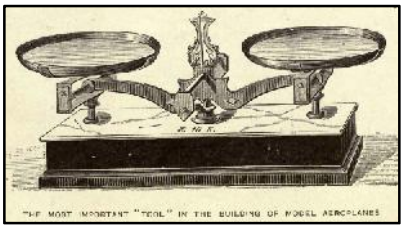

THE THEORY AND PRACTICE
OF
MODEL AEROPLANING
BY
V. E. JOHNSON, M.A.
AUTHOR OF
'THE BEST SHAPE FOR AN AIRSHIP,' 'SOARING FLIGHT,'
'HOW TO ADVANCE THE SCIENCE OF AERONAUTICS,'
'HOW TO BUILD A MODEL AEROPLANE,' ETC.
"Model Aeroplaning is an Art in itself"
London
E. & F. N. SPON, LTD., 57 HAYMARKET
New York
SPON & CHAMBERLAIN, 123 LIBERTY STREET
1910

In his "Introduction", the author discuses two classes of model. The first class is a model intended to fly, while the second class is a model of a full-size machine. An example of the second class is the model railway steam locomotive which can be built complete with working parts, such as pistons, valves, connecting rods etc., and operated much as the full-size prototype. To quote the author, "When you try to build a scale model of an "Antoinette" monoplane, including engine, it cannot be made to fly unless the scale be a very large one. If, for instance, you endeavoured to make a 1/10th scale model, your model petrol motor would be compelled to have eight cylinders, each 0.5" bore, and your magneto of such size as easily to pass through a ring half an inch in diameter. Such a model could not possibly work."

"'Model Aeroplaning is an Art in itself.', and as such we consider it in the following pages."

The chapter headings are listed below, together with excerpts from each.

Chapter 1. The Question of Weight.



"To all model makers who wish to make a success I would say, strip all that useless and heavy chassis off, cut down the 'good, honest stick' that you have for a backbone to half its thickness, stay it with wire if it bends under the strain of the rubber, put light silk on the planes, and use an aluminium propeller."

Chapter 2. The Question of Resistance.

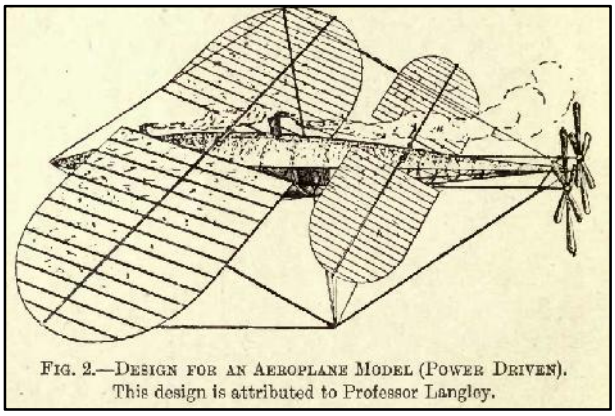


FIG. 2.—DESIGN FOR AN AEROPLANE MODEL (POWER DRIVEN).
This design is attributed to Professor Langley.

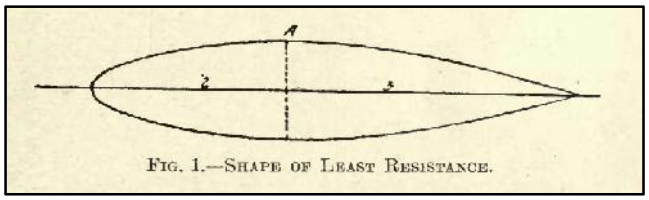


FIG. 1.—SHAPE OF LEAST RESISTANCE.

"The design in Fig. 2 is interesting, not only because of its probable origin, but because of the shape of the body and arrangement of the propellers; no rudder is shown, and the long steel vertical mast extending both upwards and downwards through the centre would render it suitable only for landing on water."

Chapter 3. The Question of Balance.

"The following are a few of the results arrived at from theoretical considerations; they cannot be too widely known.

(A) Surfaces concave on the under-side are not stable unless some form of balancing device (such as a tail, etc.) is used.

(B) If an aeroplane is in equilibrium and moving uniformly, it is necessary for stability that it shall tend towards a condition of equilibrium.

(C) In the case of "oscillations" it is absolutely necessary for stability that these oscillations shall decrease in amplitude, in other words, be damped out."

Shown above are just items A to C, with the full list running through to letter P.

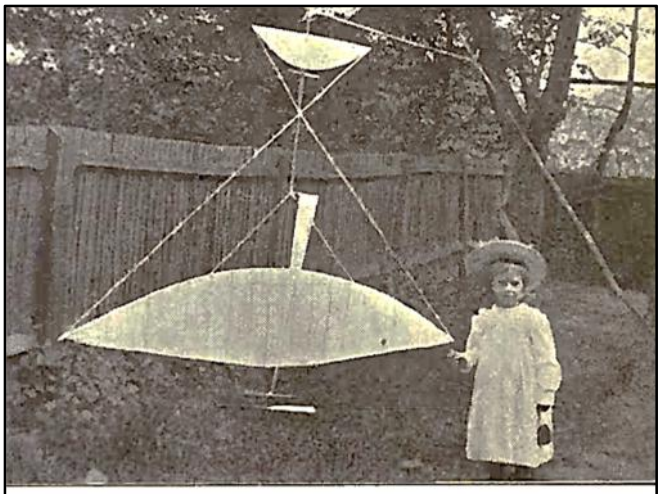


FIG. 10.—LARGE MODEL MONOPLANE.
Designed and constructed by the author, with vertical fin (no dihedral angle). With a larger and more efficient propeller than the one here shown some excellent flights were obtained. Constructed of bamboo and nainsook. Stayed with steel wire.

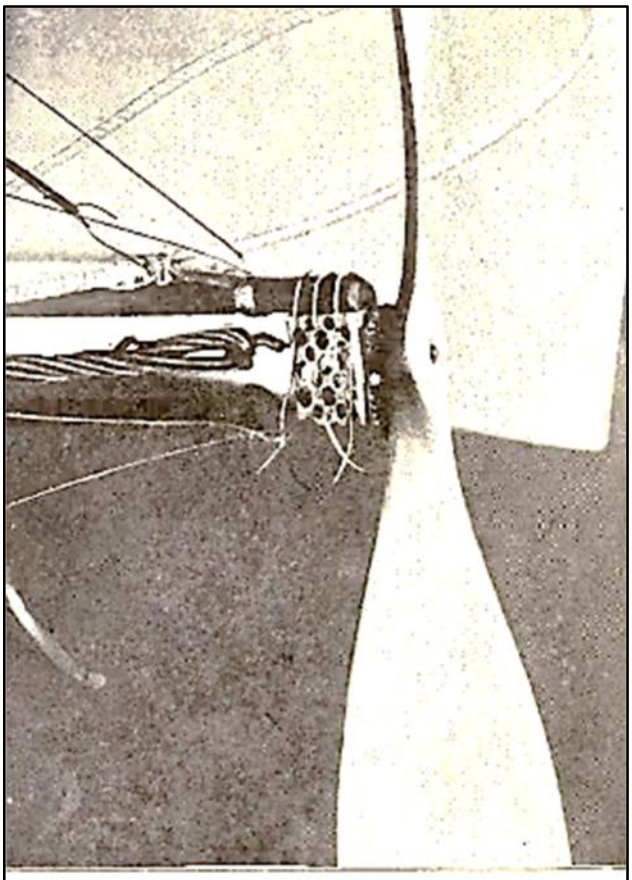


FIG. 17.—GEARED RUBBER MOTOR.

Chapter 4. The Motive Power.

"Rubber motors

Some forty years have elapsed since Pénaud first used elastic (rubber) for model aeroplanes, and during that time no better substitute has been found. Nor for the smaller and lighter class of models is there any likelihood of rubber being displaced.

"Spring Motors.

This question has already been dealt with whilst dealing with rubber motors, and the superiority of the latter over the former pointed out. Rubber has a much greater superiority over steel or other springs, because in stretch-twisted rubber far more energy can be stored up weight for weight.

"Compressed Air Motors

This is a very fascinating form of motor, on paper, and appears at first sight the ideal form. It is so easy to write: "Its weight is negligible, and it can be provided free of cost; all that is necessary is to work a bicycle pump for as many minutes as the motor is desired to run. This stored-up energy can be contained in a tube, of aluminium, forming the central rib of the machine, and the engine mechanism necessary for conveying this stored-up energy to the revolving propeller need weigh only a few ounces."

"From calculations made by the writer the entire weight of a compressed-air model motor plant would be at least one-third the weight of the aeroplane, and on a small scale probably one-half, and cannot therefore hold comparison with the steam engine discussed in the next paragraph.

"Steam-Driven Motors.

Several successful steam-engined model aeroplanes have been constructed, the most famous being those of Professor Langley.

Some ten months after Professor Langley's successful model flights (1896), experiments were made in France at Carquenez, near Toulon. The total weight of the model aeroplane in this case was 70 lb.; the engine power a little more than 1 H.P. Twin screws were used- one in front and one behind. The maximum velocity obtained was 40 miles per hour; but the length of run only 154 yards, and duration of flight only a few seconds.

"Petrol Motors.

Here it would appear at first thought is the true solution of the problem of the model aeroplane motor. Such a motor has solved the problem of aerial locomotion, as the steam engine solved that of terrestrial and marine travel, both full sized and model; and if in the case of full sized machines, then why not models?

FIG. 18.—MR. STANGER'S MODEL IN FULL FLIGHT.

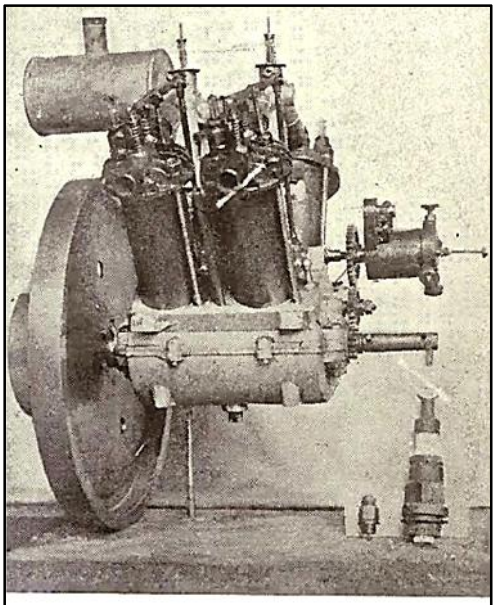


FIG. 20.—MR. STANGER'S MODEL PETROL ENGINE.

"One-cylinder Petrol Motors.

So far as the writer is aware no success has as yet attended the use of a single-cylinder petrol motor on a model aeroplane. Undoubtedly the vibration is excessive; but this should not be an insuperable difficulty. It is true it is heavier in proportion than a two-cylinder one, and not so efficient; and so far has not proved successful. The question of vibration on a model aeroplane is one of considerable importance. A badly balanced propeller will seriously interfere with and often greatly curtail the length of flight.

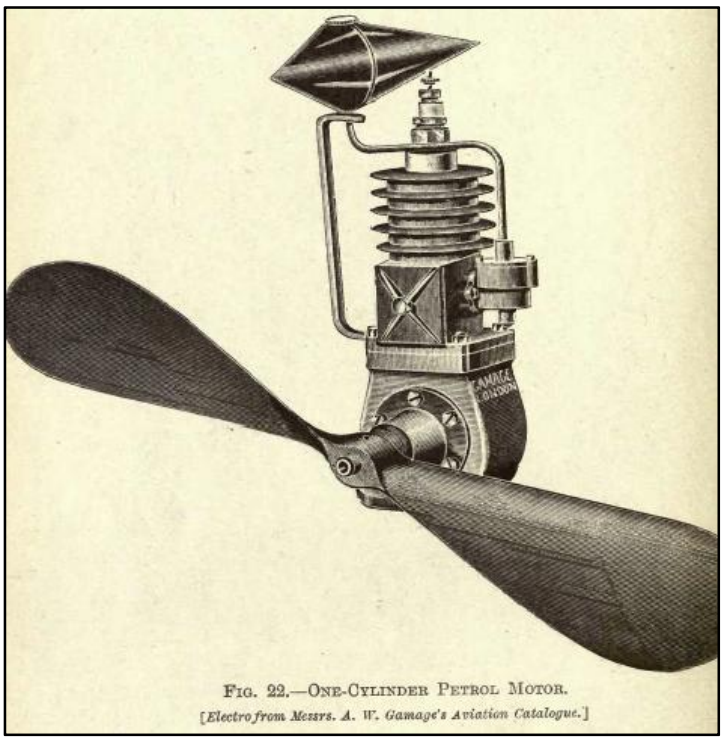


FIG. 22.—ONE-CYLINDER PETROL MOTOR.
[*Electro from Messrs. A. W. Gamage's Aviation Catalogue.*]

"Electric Motors.

No attempt should be made to use electric motors for model aeroplanes. They are altogether too heavy, apart even from the accumulator for the power available from them."

Chapter 5. Propellers or Screws.

"The design and construction of propellers, is without doubt one of the most difficult parts of model aeroplaning.

General Design.

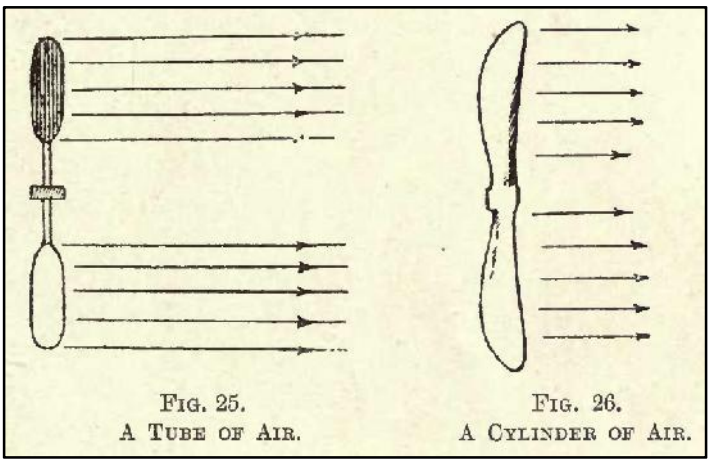
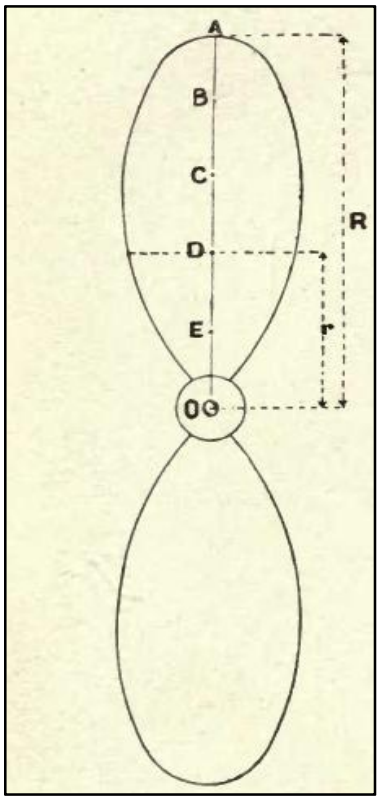


Fig. 25.
A Tube of Air.

Fig. 26.
A Cylinder of Air.

The propeller should be so constructed as to act upon a tube and not a "cylinder" of air. Many flying toys (especially the French ones) are constructed with propellers of the cylinder type. Ease of manufacture and the contention that those portions of the blades adjacent to the boss do little work, and a slight saving in weight, are arguments that can be urged in their favour. But all the central cut away part offers resistance in the line of travel, instead of exerting its proportionate propulsive power, and their efficiency is affected by such a practice.



Pitch Coefficient or Pitch Ratio.

If we divide the pitch of a screw by its diameter we obtain what is known as pitch coefficient or ratio.

Mr. T. W. K. Clarke recommends a pitch angle of 45°, or less, at the tips, and a pitch' ratio of 3 (with an angle of 45°). Within limits the higher the pitch ratio the better the efficiency. The higher the pitch ratio the slower may be the rate of revolution. Now in a rubber motor we do not want the rubber to untwist (run out) too quickly; with too fine a pitch the propeller "races," or does something remarkably like it. It certainly revolves with an abnormally high percentage of slip. And for efficiency it is certainly desirable to push this ratio to its limit."

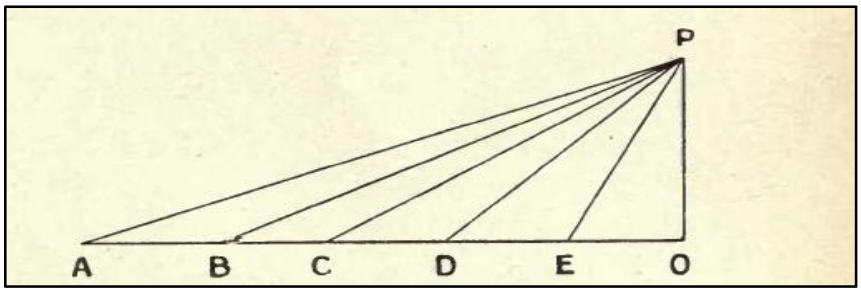


Fig. 23. Fig. 24.

$A O = 2 \pi R$; $D O = 2 \pi r$.

Fig. 23 must be set in order that a uniform pitch may be obtained.

Well chaps, that is about halfway through the book and, considering the date of publication, a lot of fairly sensible stuff. A century on, the view of electric motors is completely the opposite but the "Tube of air" drawing looks, in principle, very much like a modern F1B propeller.

To be concluded, next month.

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

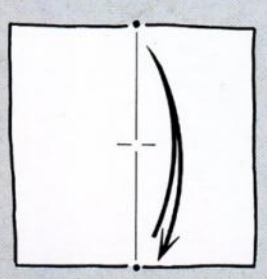
Paper Airplane: Sky-Flying Butterfly - Nick Robinson

SKY-FLYING BUTTERFLY

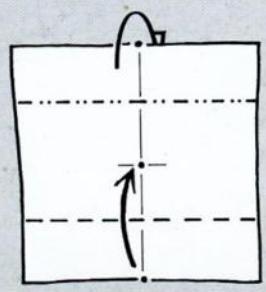
YOSHIHIDE MOMOTANI

Yoshihide is one of Japan's master-folders and has written many books on the subject. Along with his talented family, he travels all over the world teaching and displaying his superb exhibits. The design here starts with a series of apparently unpromising pleats to produce a butterfly that swoops, dives and loops.

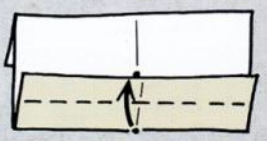
Start with a 6in (15cm) square of thin and suitably attractive paper, colour side down. Crease the vertical centre fold.



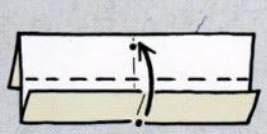
1 Gently pinch the centre point of the crease.



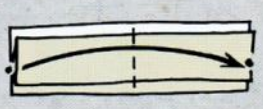
2 Valley fold the lower side to the centre mark, repeat behind with the upper side.



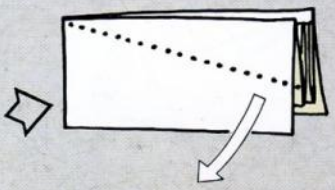
3 Take the lower folded edge to the centre.



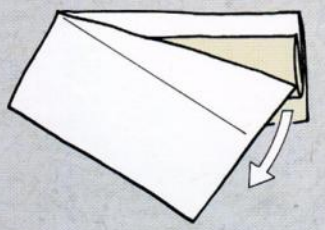
4 Take the lower edge upwards to leave the same gap below the folded edge as above it. Note that this crease is not a centre crease. Check the next diagram for help.



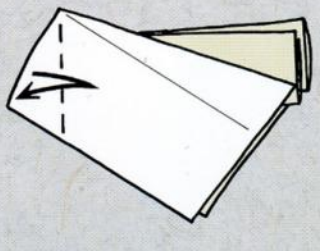
5 Fold in half from left to right.



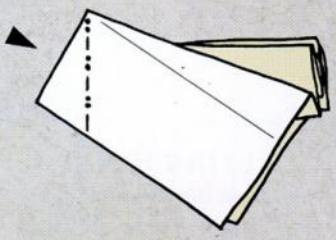
6 Enlarged view. Gently pull out the upper single layer to the position shown in the next diagram. The new crease meets the right-hand edge where two hidden edges meet . . .



7 . . . like this. Repeat on the other side.

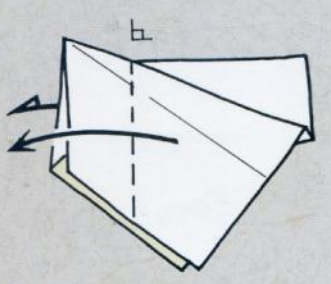


8 Pre-crease along a hidden vertical edge.

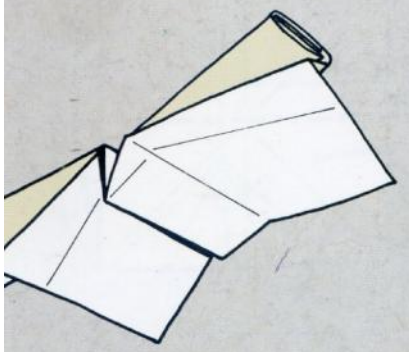


9 Now push the triangle inside, making a reverse fold. It doesn't matter which side of the inner layer it goes.

SKY-FLYING BUTTERFLY



10 Fold both wings over making a vertical crease starting at the angle change on the top edge. Open them out to right angles.



11 The Sky-Flying Butterfly ready for flight.

LAUNCHING POSITION

VIEW FROM BELOW

FLYING HINTS

Because the paper is very light, it is easily affected by air currents. This results in an unpredictable flight pattern, very much in keeping with a real butterfly. Launch at almost any angle or speed.

From the book 'Paper Airplanes' by *Nick Robinson*

Occasional Notes from North Wales - Roger Newman

Quiet month again, with domestic tasks taking much of the time. However a short visit south for a family get-together ensured that I had to quickly produce a couple of CLGs for great grandsons. In so doing, it made me realise how stupid it was of me to get rid of pretty well all my modelling stuff. However that's life.
The good thing was that I had time to make a quick visit to Roy & Barbara Tiller, very nice to see them both & also to see our Chairman, equally good particularly as both gave me a few bits & pieces to resurrect the prospects of some winter building.
In this context, there is a Blackpool Model Show in mid-October which hopefully I shall attend, as SLEC will be there to give me an opportunity to stock up on some much needed balsa.
Downside was that I didn't have time to go & see John Taylor, who – in conjunction with Roy Williams, is busy converting a few of my old models to electric RC. So old models never die, they either crash, fly away or get converted! Good to see that John is doing an excellent job in getting them airborne again.

Roger Newman

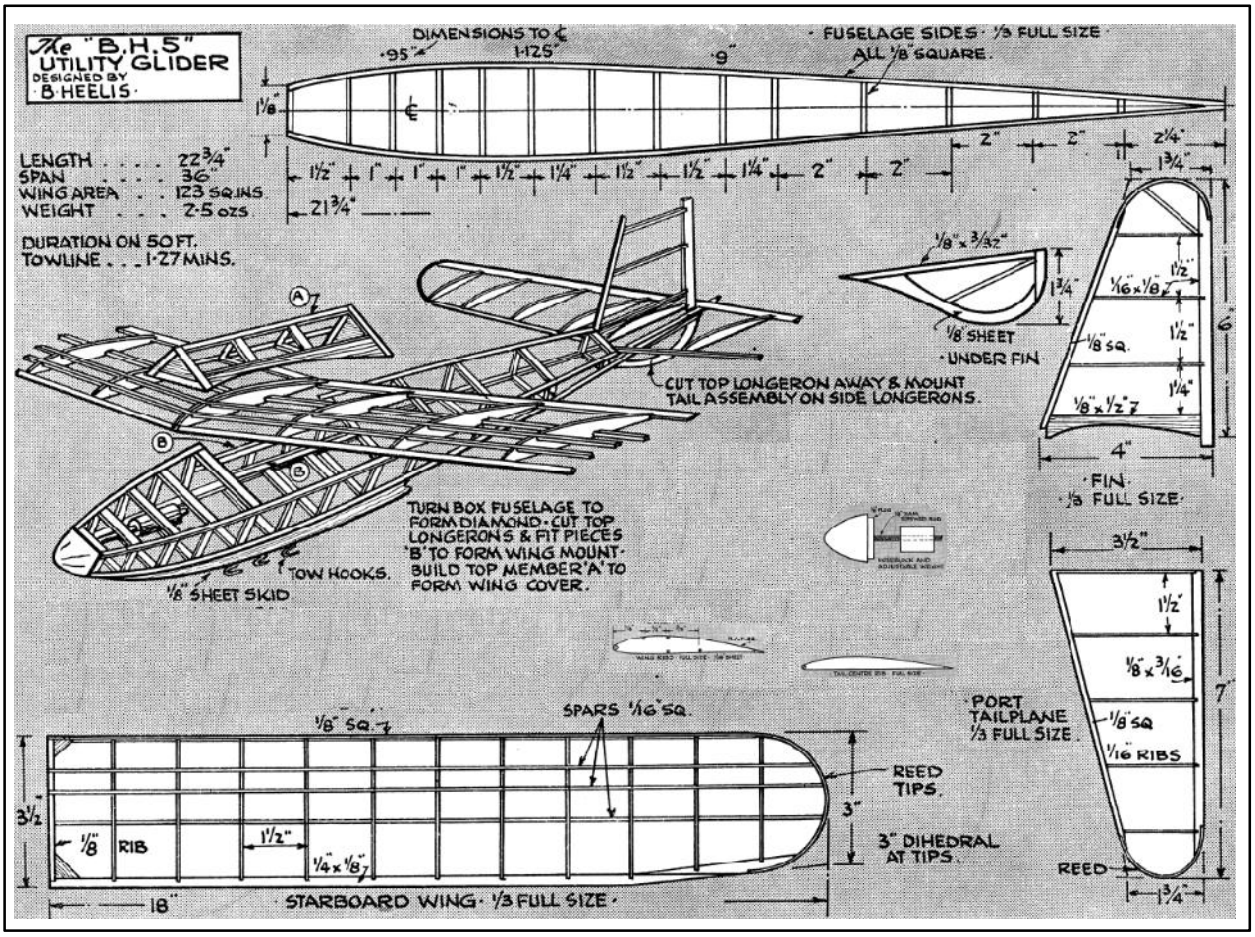
Secretary's Report for September 2024 - Ray Elliott

For many years August was the month when I, along with many British modellers, would make the trek to France to fly in the long running Moncontour and Poitou contests, enjoying flying in (usually) warm, sunny, calm conditions.
Add in the delights of sampling French cuisine and meeting old friends they were an idyllic few days. Unfortunately, that went out of the window in 2019 when my youngest son decided to get married at the same time as the Moncontour contest; I therefore couldn't go. Little did I know at the time that I wouldn't go again.
First there was Covid and then I lost my regular travelling partner, Peter Jellis, and then I had a heart attack, which has had long term consequences. Any thoughts I might have had of attending again were diminished when another regular, and clubmate, Don Thomson, passed away in November 2022. Maybe I'll have a different view in the future.
I was unable to fly in either the Southern Area Gala or the Southern Gala this August as I was on holiday in (not so sunny) Scotland. I couldn't have flown both anyway as both contests were unavoidably held on the same day (at Odham and Salisbury Plain respectively).
The results of the Southern Gala are on the BMFA FFTC website whilst hopefully there will be a report by Nick Peppiatt on the Southern Area Gala in the next issue. Both contests turned out to be windier than forecast.
For the contest minded the coming weeks will be busy with the 7th Area meeting on the 1s September, F1E the following weekend, Stonehenge and Equinox Cups on the 14thand 15th, the Petite Classique de Brum on the 21st or 22nd and the Crookham Gala on the 28th or 29th.
I hope to be at all except the F1E comp (I don't fly F1E).
All we need is good weather.

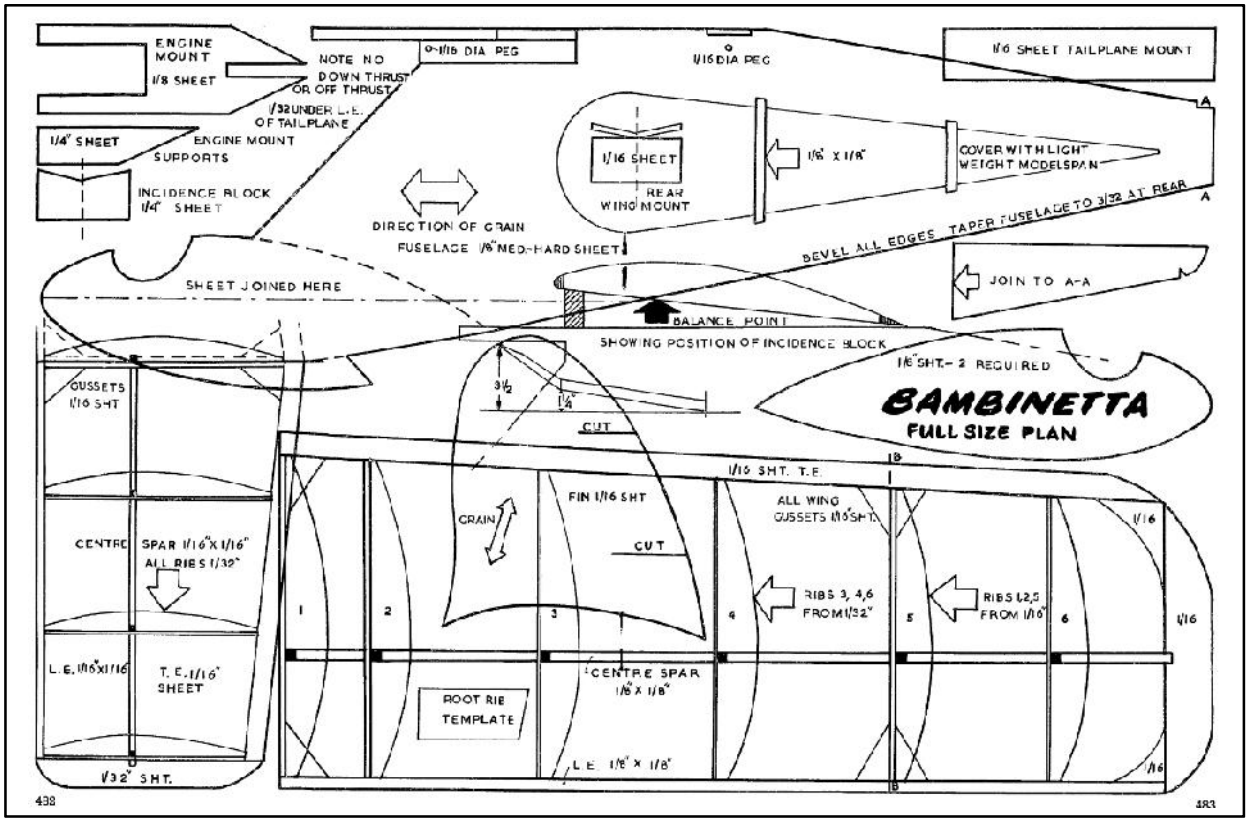
Ray Elliott

Plans for the Month - Roger Newman

Glider: B.H.5



Power: Bambinetta



BAMBINETTA

FULL-SIZE PLANS OF A DIMINUTIVE FREE-FLIGHT JOB FOR THE BAMBI DIESEL

by Ray Malmström

WHEN I lovingly caressed my Bambi diesel for the first time I knew I had to wrap something very special around this minute bundle of power. At the risk of having my head referred to as being rather larger than normal size (!) I think Bambinetta is that "something." An all up weight of less than 2 oz. ensures that your Bambi won't have to tear its heart out hauling Bambinetta aloft, and there is no fear of bending that precious metal prop. on landing.

The fuselage is from medium hard 1/8 sheet thinned to 3/32 at the rear. Cover the cut-out portion with lightweight Modelspan. Cement in position the 1/8 ply engine mount supports, and the rear wing mount Add the pod sides, made from 1/8 sheet, and round off all edges with fine sand-paper. Complete by adding wing pegs, and give two coats of clear dope after water-stretching the tissue. Fuel-proof the engine mount.

The wings need little explanation. Check for correct polyhedral angles and do be sure your wings are free from warps. Water-stretch and give one coat of clear dope. Fuelproof the three centre panels.

Add the tailplane mount to rear of fuselage. The fin is cut from sheet; note the small trim tab. Tailplane is perfectly conventional, and of simple construction. Give fin and tailplane one coat of thin, clear dope.

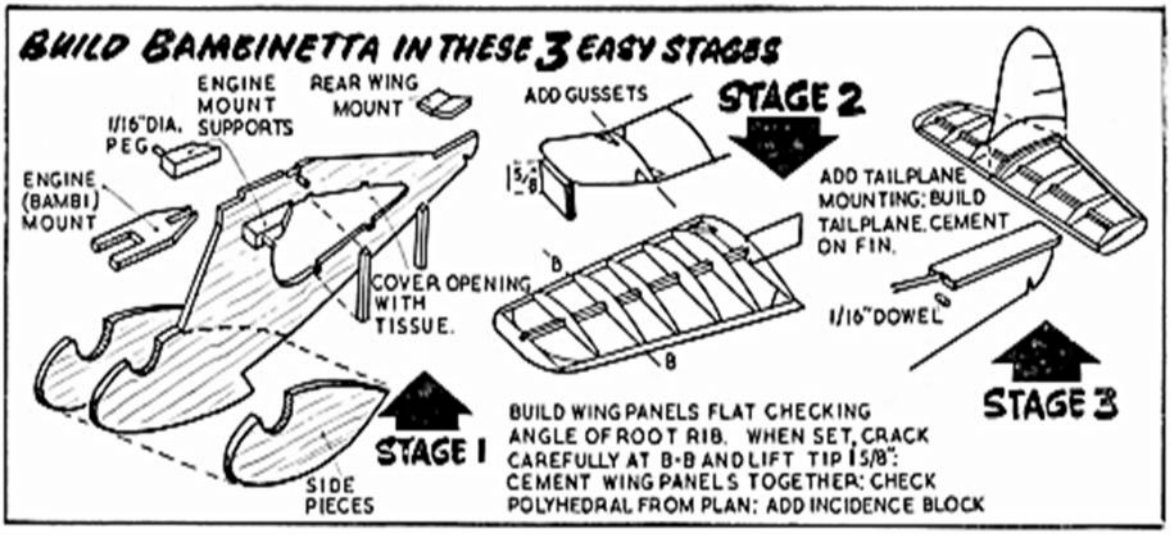
Flying

Make sure your balance is correct (see plan); original balanced without any weight adjustment, and has 1/8 packing under leading edge of tailplane. Test glide over long grass. Obtain a reasonably flat glide, without any suspicion of a stall, or turn to the right. Then with your Bambi giving less than full revs, try your first power-on flight. A gentle climbing turn to the left should result. Avoid a sharp left turn by slightly offsetting the fin. Do make all adjustments gradually. On full power, Bambinetta should fly into a left hand climbing circle. When the engine stops, the model should settle into a flat glide with a wide left-hand circuit. Avoid any tendency to turn to the right, which on this type of model can be very dangerous.

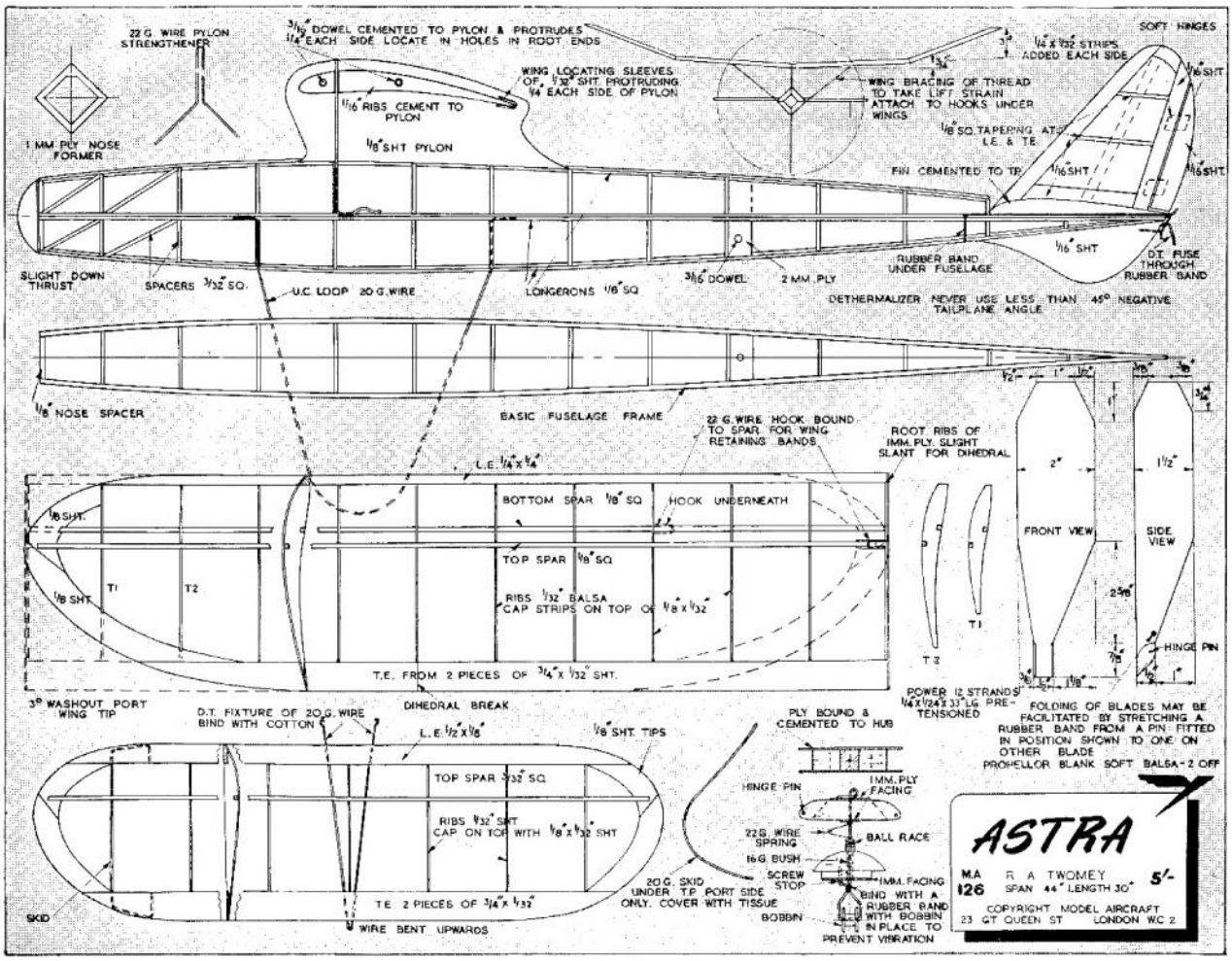
Less than 2 oz. is not much to battle against half a gale so please fly Bambinetta on calm days! It is my hope that Bambi owners will try this little job, as I feel sure they will get a great deal of fun flying it.

I should be delighted to hear from any aerobod who builds Bambinetta. Please write c/o MODEL AIRCRAFT.

FULL-SIZE DRAWINGS OVERLEAF



Rubber: Astra



ASTRA is an attempt at a competition rubber model large enough to catch the thermals (and stay in sight), but without the trimming difficulties one associates with Wakefields. This is not meant as a slur on that fine type of model ; it is generally agreed, however, that the successful Wakefield men (with a few notable exceptions) have virtually to specialise and to fly nothing else.

Astra is of approximately Wakefield wing area, weighs 6 oz. in flying trim, and has a very narrow fuselage and small amount of rubber. Models of this type are singularly easy to trim and one does not need to be an expert to get good results. Not possessing the kind of courage that rubber winding requires, the writer has never dared to put on more than 650 turns, which gives a motor run of around 45 sec. and a climb to about 350 ft. The glide compares well with many sailplanes.

The original model won the 1951 R.A.F. Championships (open rubber event) at Coningsby with two flights of 2 min. 33 sec. and 5 min. 00 sec. It had previously qualified for the championships by taking top place in the rubber team of Flying Training Command. On this occasion one of its flights clocked 9 min. 13 sec. o.o.s., which was submitted as an R.A.F. record. A second model, the builder's second-ever rubber job, went o.o.s. in its first week of life with a 6 min. flight on very few turns. Best *Astra* flight so far is 13 min. 15 sec. d/t.

Wing construction

Build each wing separately on the plan, beginning construction with l.e. and bottom half of t.e. (built up from sheet). Front of t.e. should be chocked up about 1/16 in. to allow continuation of rib contours. Cement wing ribs in position and add top spar and wing tips. Now add top half of t.e., and rib capping strips (top only). Next crack wing l.e., t.e., and spar in the position shown on plan and prop wing tips up to 3 in. to give correct dihedral. Cement dihedral break and allow to set. Finally remove from plan and add lower spar. Cement wire wing-fixing loops on top spar at wing root (rubber band holds to other wing) and on bottom spar 6 in. from wing root (to accommodate thread wing bracing, which takes all the strain and is looped at the other end to clip over fuselage wires).

Fuselage

Fuselage is built as any normal slabsider, then rotated through 45 deg. to become a "diamond fuselage." Add pylon, pylon bracing wire, undercarriage loop and underfin. Cut away tail end of top longeron to allow tailplane to sit on the two "centre-line" longerons.

Tailplane and Fin

Built in the normal manner, it has also a built-up t.e., and rib capping-strips (top only). When completed, cement and bind d/t wire (shown on plan) underneath tailplane. Fin is built on the plan and then cemented firmly to tailplane. Underfin (port only) is of 20 s.w.g. wire and is tissue covered.

Propeller

Propeller is a 15 in. dia. twin-bladed folder and is carved from block. Check balance of blades and ensure they cannot fold forward. Check firmness of hinge-pins and positive folding blades (rubber band from one blade to the other will help).

Covering

Lightweight Modelspan. Clear dope, one coat. On the writer's model prop. blades also were tissue-covered and doped, but banana-oil fiends may prefer to go their own way !

Trimming Notes

Make up the rubber motor with 12 strands of 1/4 in. × 1/24 in. 33 in. long, tension and insert. With rudder and slight variation of tailplane incidence (if necessary), achieve a glide trim of fairly tight right-hand circles, just off the stall.

Material required

Balsa:	8 lengths of	1/4 in. × 1/4 in. × 36 in.
	5 " "	3/32 in. × 3/32 in. × 36 in.
	2 " "	1/4 in. × 1/4 in. × 36 in.
	2 sheets of	1/32 in. × 3 in. × 36 in. hard.
	1 " "	1/8 in. × 3 in. × 18 in.
	1 " "	1/16 in. × 3 in. × 18 in.
Block (med. soft)		15 in. × 2 in. × 1 1/4 in.

1 mm. ply; piano wire, 16, 20, 22 s.w.g.; bush, 16 s.w.g.; large bobbins, 1 pair; 3/16 in. dia. dowel; light Modelspan tissue; clear dope, cement, rubber, etc.

Roger Newman

I have 2x KP 10:1 indoor winders.

One is fitted with a magnetic counter and the other has all the counter parts but not installed.
If anyone would like them they can have them for free.

Contact through my e mail address.
Peter Watt
peterwatt745@btinternet.com

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	

Rescheduled Petit Classique de Brum

MOD North Luffenham, Sat 21st OR Sun 22nd September 2024

A competition of 3 flights, no rounds. Start 10.00 end 16.00,
followed by Fly-offs as required. Max and Fly-off (not DT)
to be determined by the CD on the day with regard to weather and other conditions.

Classes will be:
pre 1970 Coupe (incl. Vintage Coupe), Classic A1,
Combined E36 + 1/2A power (both 8 second run), Classic Glider (50m line)
and Mini Vintage.

Competitors may enter two models, separately, in each event.
Highest placed entry to count, NO SUBSTITUTION of parts nor model permitted.
Entry £10 for the day, prizes for 1,2&3 in each class.

NOTE TO POTENTIAL FLIERS: -
If the forecast is for VERY INCLEMENT weather on both days,
then WE WILL POSTPONE.
The decision whether we go ahead will be notified by email
by the evening of Thursday 19th.

If you received a personal email from me late on 16th March
cancelling the previously scheduled event then you're on "the list".
If you didn't then you need to contact me by email
if you think you might attend so I can add you to it

Gavin Manion gavin.manion84@gmail.com
Stu Darmon tel 01858 882057

CROOKHAM GALA 2024

Replacement Date Announcement
28th or 29 September

Following the disappointment of the site not being available in June, the Crookham Gala will now be held on EITHER the 28th or 29th September on Area 8, Salisbury Plain. An announcement will be made on the Thursday evening prior to the weekend to confirm the chosen date, dependent 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.)
(Additional prize for the best Vintage Coupe score).
Combined Glider (Additional prize for the best Classic A1 score).
Combined Power (Including George Fuller Trophy)
(for best placed Dixielander).
Mini Vintage - E36 - E20

As always there is an additional prize and trophy for the best score achieved by a Dixielander flown in the Combined Power class, so if you have a "Dixie" please bring it along and compete and get your name on the Trophy.
This year we have added an event for E20 models, to be flown to the NFFS E20 rules.

Competitions start at 10.00 and end at 17.00.
Entry is £10 only

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

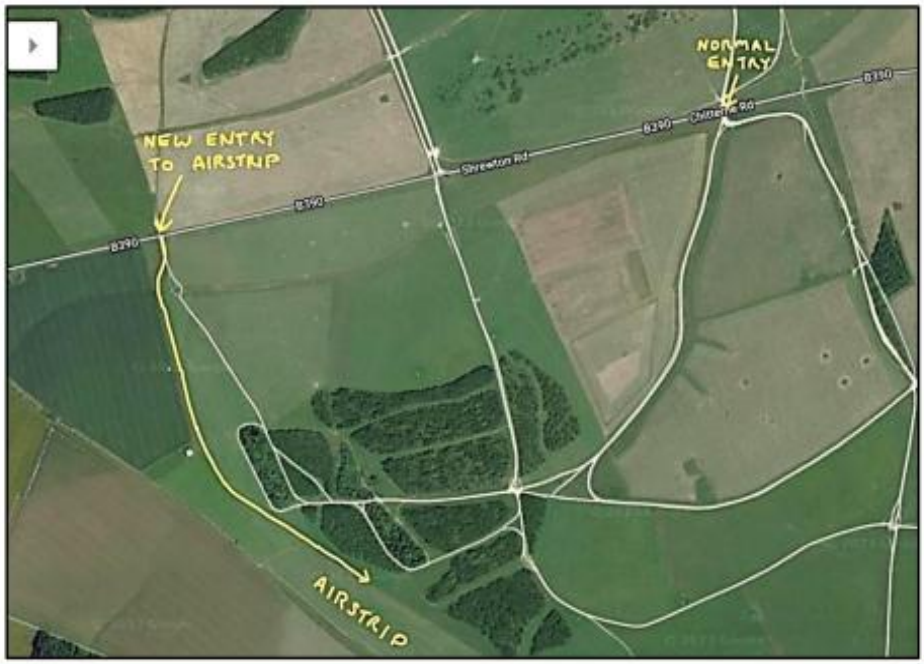
SAM1066 Classes:
Mini Vintage to BMFA rules,
Vintage / Classic Glider (combined) Vintage / Classic Power (combined) to SAM1066 rules.

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 OQW
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.

TWIFF

(Totton West Indoor Free Flyers)

Please bring all your toys (Free flight only)

Sundays, from 13:00-17:00

Admission for flyers £15.00
Free for spectators and helpers

2024
15th Sept - 20th Oct - 17th Nov - 15th Dec

2025
19th Jan - 16th Feb - 16th Mar
27th Apr - 25th 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 on site and the world's best Card shop (no commission!).
Café inside the centre 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: 02380578866 or 07913814492

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

CARBON HLG AND E-20 BOOMS

I expect to have by mid-July a small number of carbon booms suitable for E-20s and HLG/CLGs, in fact probably long enough to make one of each. They'll be 80cm, 4mm tapering to 2mm.
Price uncertain at present, but please let me know if you might be interested as it will have to be first come, first served.
I'm on 0208-7775533 or martindilly20@gmail.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: martindilly20@gmail.com

INDEPENDENT REVIEW OF DILLY JAPANESE TISSUE

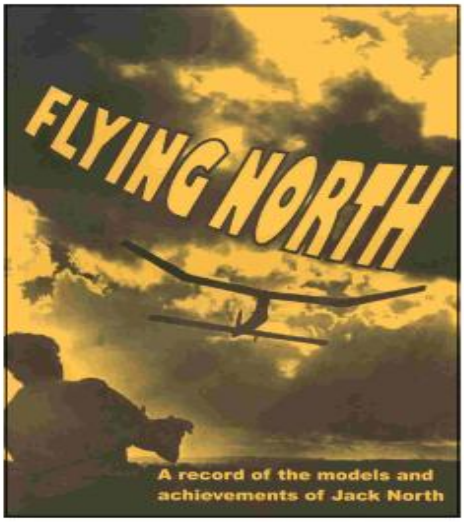
The following appeared on the Hip Pocket Aeronautics Builders' Forum. Nine different tissues were tested, doped and un-doped.

"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"

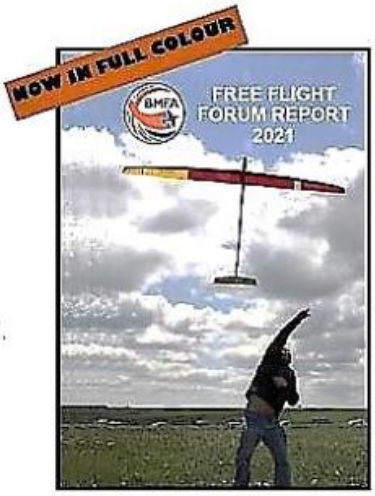
"A very balanced record of Jack's modelling and professional activities"

"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@gmait.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 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
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, Sculthorpe
September 15th	Sunday	Equinox Cup, Sculthorpe
September 21st	Saturday	Petit Classique de Brum, North Luffenham
or September 22nd	Sunday	
September 28th	Saturday	Crookham Gala, Salisbury Plain
or September 29th	Sunday	
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
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

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 members@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*