# NEW Clarion

## SAM 1066 Newsletter

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## Contents



### Important Message

**Due to the current somewhat fluid situation regarding use of MOD sites our Chairman John Thompson has asked that we all keep a watchfull eye on our website sam1066.org. which is the quickest method of advising all the membership of any short notice changes to the contest calendar or flying site access etc.**

## Editorial

Got a bit desperate this month, seemed to start writing and assembling the magazine a little late and material was a little scarce at first but I have just about got out of jail and the mag should be on time, more or less.

I report on Sneyd Indoors which is still functioning thanks to Alan Price and the Walsall Club.

Some time ago Geoff Smith gave me some copies of an article, from a magazine, on his Dolls House and the copies were a little blurred around the edges but I've finally constructed an article. Although totally different to aeromodelling the building skills required for this hobby are of a similar order.

I came across the detailed re-analysis of the two most popular diesels for the vintage flyer therefore you will find performance details of the ubiquitous Mills .75 and 1.3 motors.

John Thompson details yet another of his vast stock of FF Power models in the shape of the American 'Texan'. He also provides the article on the design from the American Magazine.

In Roy Tillers report we find details of whip controlled model aircraft. I did not know this form of control ever existed. It's fascinating to think of a model on the end of a piece of string attached to a rod like a fishing pole.

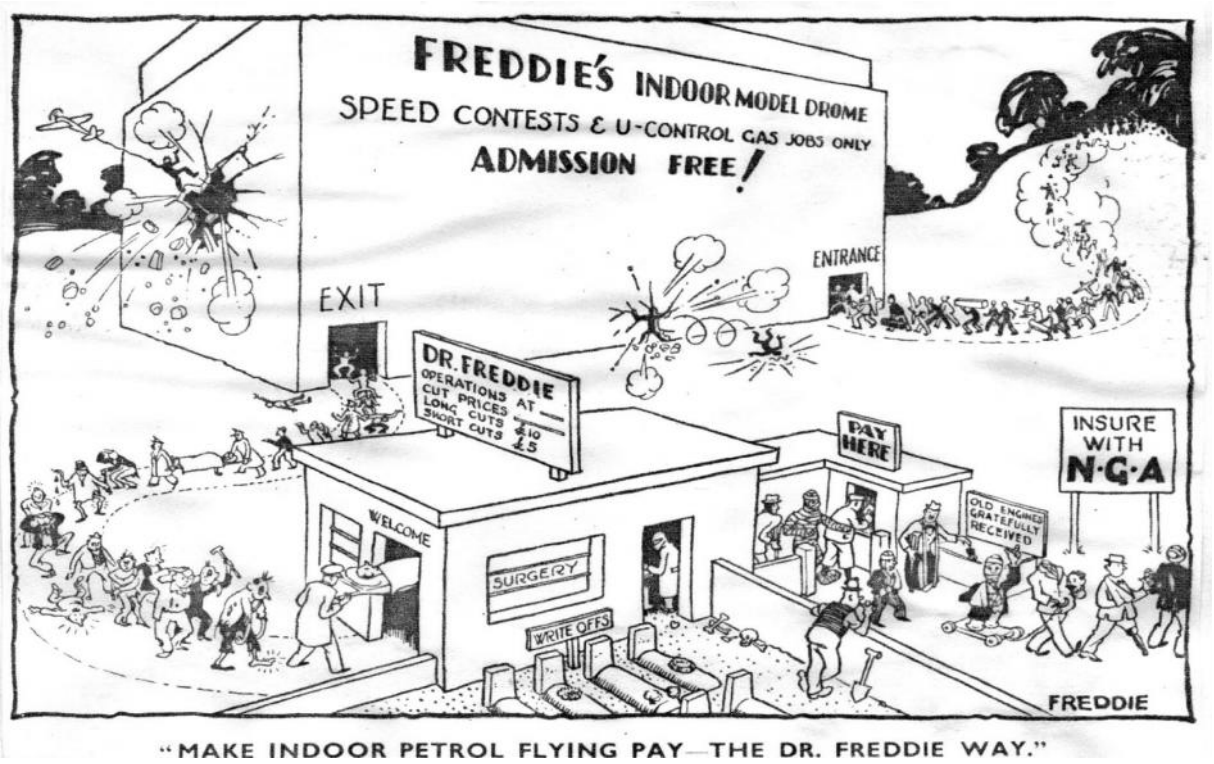
I managed to buttonhole Jim Paton at the Northern Gala and as usual he fired off a report to me as soon as he got home. He never came through with any pictures tho' so I tagged on some of my own.

I found a detailed test article on rubber by Ron Warring and Bob Copland, I'm not too sure whether members interested in rubber testing will find any relevance compared to the rubber of today, perhaps someone would care to comment.

I report on my indoor flying demo to a local cub-scout group. It seemed like hard work at the time and I sweat buckets but I think it was worthwhile, you never know who might get infected with the aeromodelling virus.

In the adds you will find details of an indoor meeting being promoted by Brian Stichbury, hopefully the first of many so please give support of you are able.

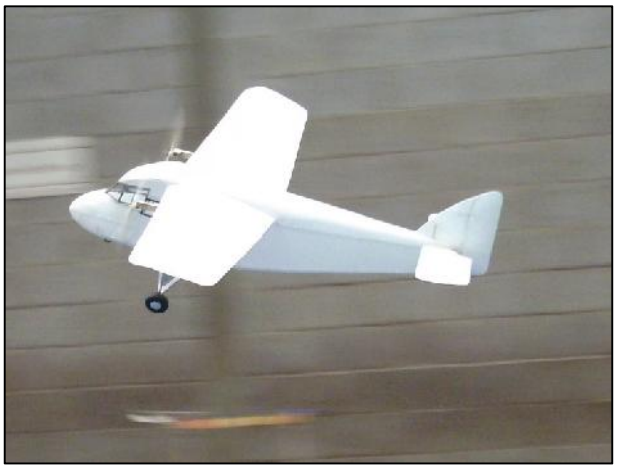
*Editor*

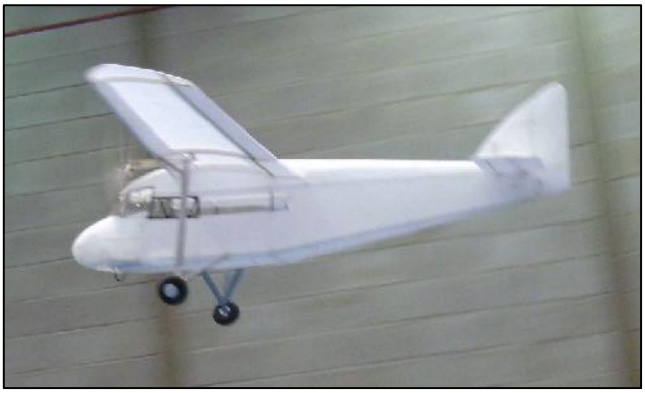



"MAKE INDOOR PETROL FLYING PAY—THE DR. FREDDIE WAY."

## Sneyd Indoors February - John Andrews

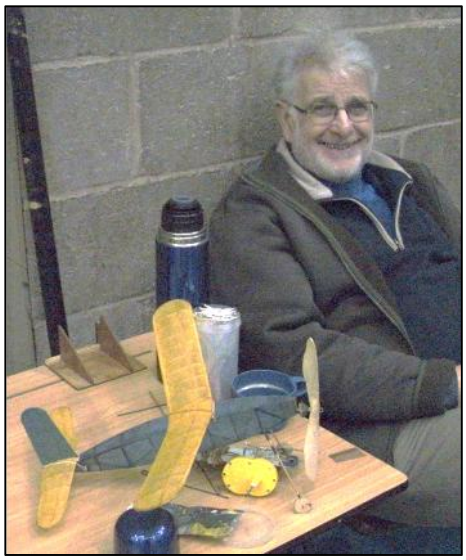
I was at Sneyd but I was still getting over my new year flue/cold and was not feeling too bright, in fact it is now a week into March and the damn thing has resurfaced and I had to give March Thorns Indoor a miss.
Having sorted out my old models for the Cub Scout demo at the end of the month I had left them boxed away ready and I took my 35cm starter models and had one or two flights but most of the time I just spectated.
Graham Smith was there again flying one of his larger styrene scale models. He really has his latest performing better than ever.

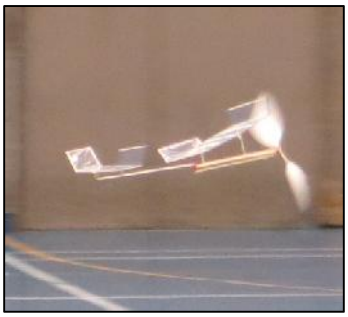


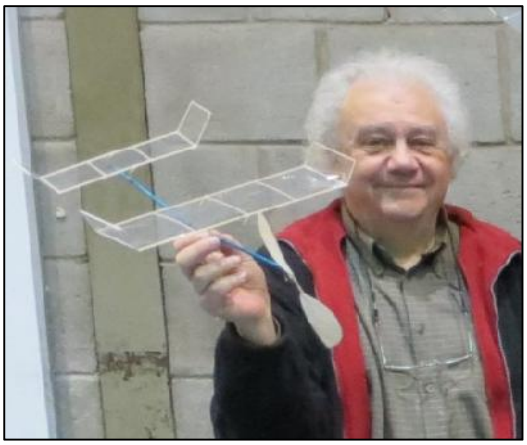
There were one or two of the regulars airing their models: Mike Turner flying a Legal Eagle; Colin Shepherd with his latest Kit Standard Gyminnie Cricket;


Mike Brown had his ½ scale Wakefields. This one here looks like a '36 Copland if my model ID is working correctly. Mike has a very large stable of these vintage designs, I would not even hazard a guess as to how many, he just keeps turning up with box full after box full. He certainly is not reluctant to fly them and they are seen fizzing around all afternoon. The art of getting these models to circle within the confines of a sports hall sometimes leads to amusing trim flights where wing warps fight sidethrust and models crab about part stalled and finish up visiting the walls. Most of Mike's models have the nibbles and chibbles of regular use, but he seems to get them all to perform well in the end. His Ted Evans Jaguar looks particularly neat skidding around the hall.



Peter Thompson was flying together with his father and friends. There seemed to be one of his indoor models, the 'Petes Plank', in the air all the time as there are so many folks who have built them. Pete gave me an up to date plan and a pair of propeller blades so it looks like I'm going to have to make a serious effort to make one and break into my stock of indoor wood.





Above we see Peter launching his somewhat blurred 'Plank' and also a couple of equally fuzzy pictures of models in flight. Since Peter's acquisition of some, I think, 15 thou sheet for prop blades, flight times of 5 minutes are regularly being recorded with his models.

The meeting organiser Alan Price has also put one of Pete's Planks together and a point of note is the coloured motor stick. There are so many versions that modellers are finding it necessary to colour their models for identification.

*John Andrews*

**Another Hobby** - Geoff Smith

The following is an extract from Dolls House World May 2004 telling of how Pauline and I completed a project started by a dear friend Ivan Skinner.

# Ivanhoe manor

*How Pauline and Geoff Smith completed their Elizabethan house and hall in honour of a dear friend*

If you are destined to meet someone, fate has its way of making your paths cross. Take Pauline Smith for example. Following an illness she was attending the hydrotherapy unit at Frimley Park hospital when she met master craftsman Ivan Skinner, who was also receiving treatment within the same group.

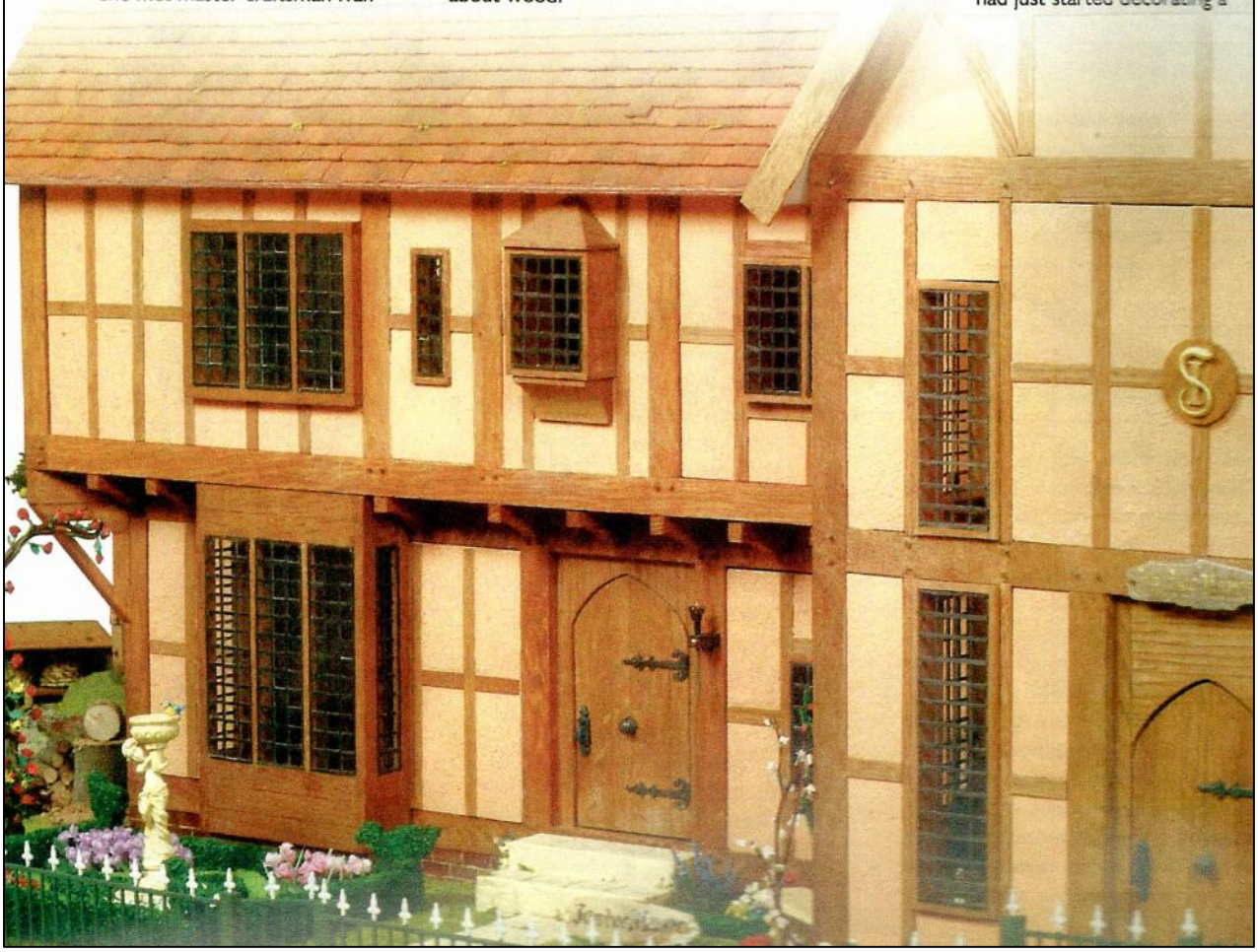
After each therapy session attendees had to sit and rest, but while some talked about the weather, Pauline and Ivan were deeply engrossed in conversations about wood.

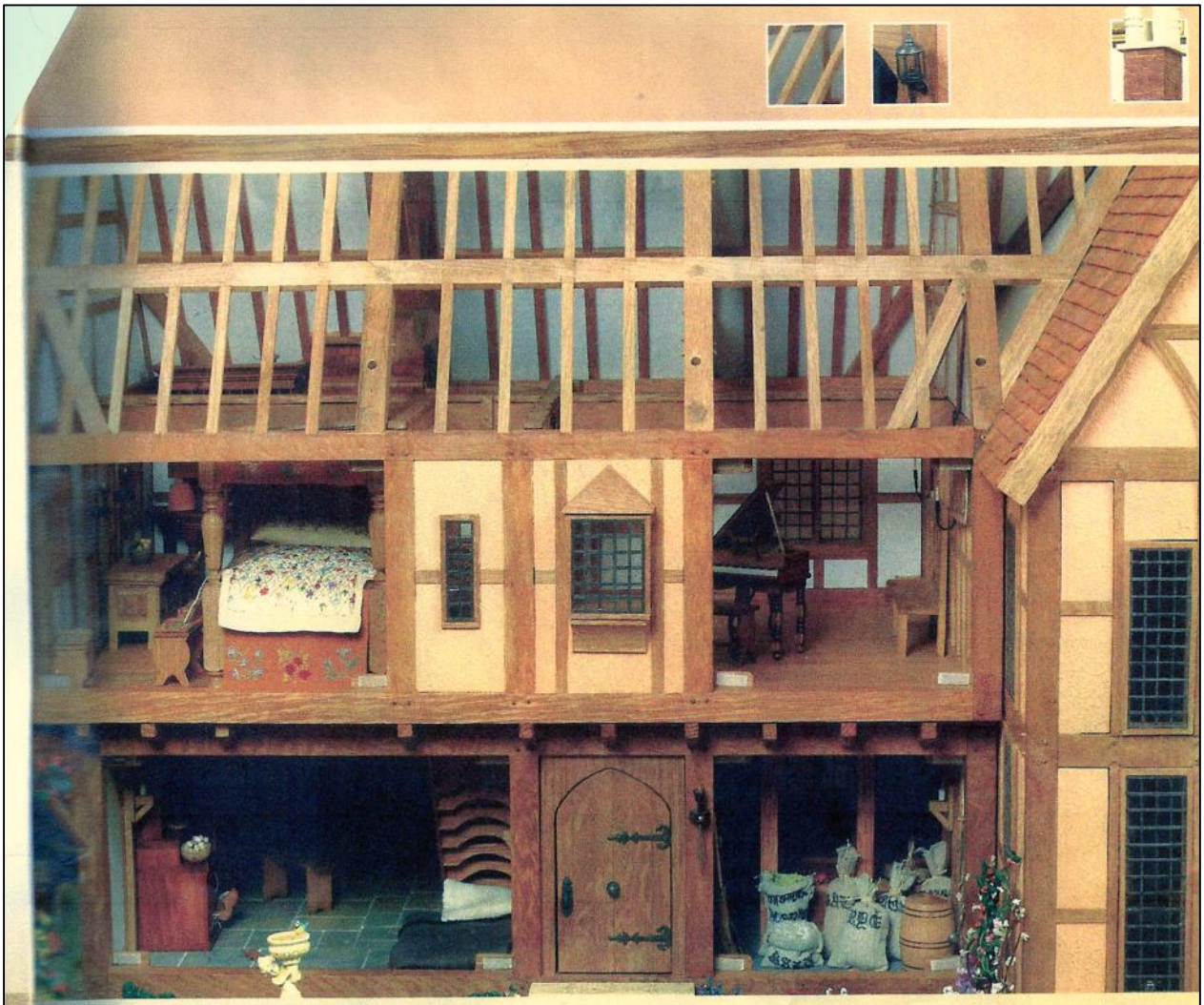
**RIGHT:** Pauline and Geoff Smith

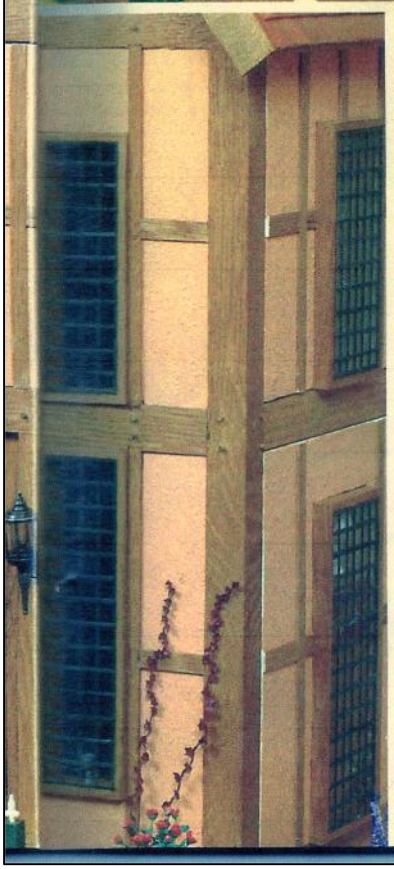
**BELOW:** The handsome exterior of the manor house

"Ivan had a mild stroke and a reversion and I had eight opera and two new hips," said Pauline "We hardly made a whole pers between us we found and share great enthusiasm for miniatures

Pauline and her husband Ge had just started decorating a







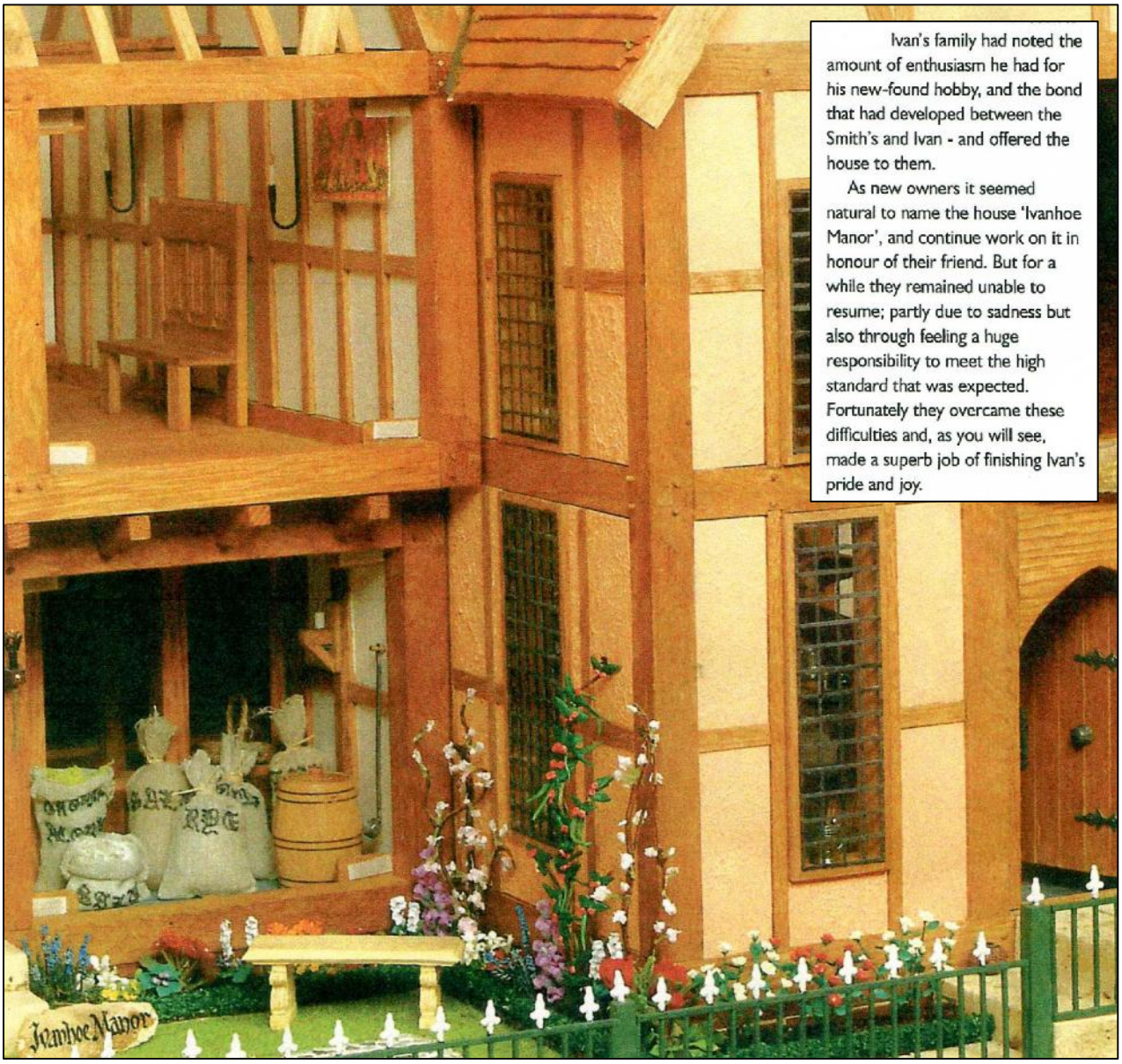
**ABOVE:** With roof sections and wall panels removed to show the interior

**RIGHT:** Front and side panels removed to allow access to the main hall

Victorian villa (as featured in DHW 132) and had called on Ivan's expertise as a craftsman to help them with some suitable off-cuts of wood. This kindled an interest for Ivan, who later set about making his first ever twelfth scale kitchen table by scaling down plans from an old woodworker's manual from 1901. A dining table with fold down leaves, a dresser, two beds and a cot followed - in exchange for Pauline's home made cakes.

Pauline and Geoff invited Ivan to join them at Kempton Racecourse fair where his curiosity got the better of him - he disappeared for three hours. Ivan still had a packed order book for making full-size furniture but this was soon to become second in importance to his recent twelfth scale discovery.

Several weeks later, Ivan had embarked on his own miniatures project. He had found 'challenging' plans for an Elizabethan manor house and this soon became an obsession. Pauline and Geoff visited his workshops on many occasions as the masterpiece developed. Then, tragic news. Ivan died.




Ivan's family had noted the amount of enthusiasm he had for his new-found hobby, and the bond that had developed between the Smith's and Ivan - and offered the house to them.

As new owners it seemed natural to name the house 'Ivanhoe Manor', and continue work on it in honour of their friend. But for a while they remained unable to resume; partly due to sadness but also through feeling a huge responsibility to meet the high standard that was expected. Fortunately they overcame these difficulties and, as you will see, made a superb job of finishing Ivan's pride and joy.

A little different from aeromodelling but something in common we can enjoy.

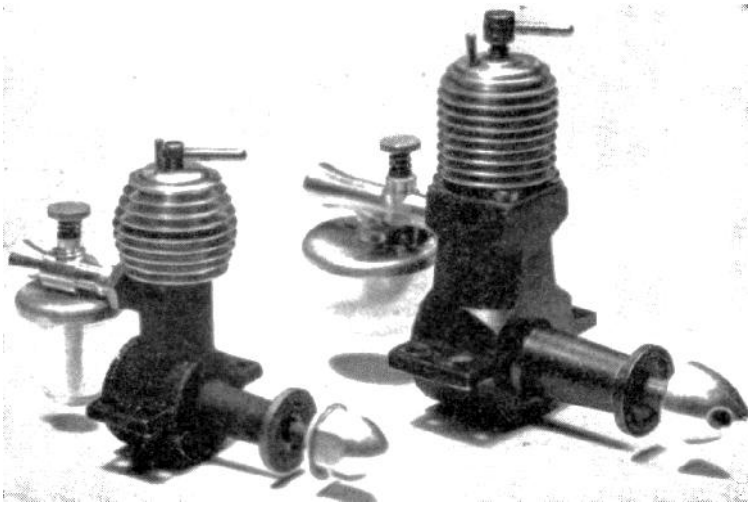
*Pauline & Geoff Smith*

## Engine Analysis: Mills .75cc/1.3cc - Model Aircraft Dec.1960

**A re-evaluation of two of the most popular engines produced—**

# THE MILLS

## .75 and 1.3 c.c. diesel motors



The Mills Diesels occupy a rather unique position in British modelling. The Mills 1.3 was one of the earliest model compression-ignition engines made in Great Britain, the original Mk.1 being first marketed in 1946. The Mk.II model was introduced in 1948 and for 1950, was slightly modified to increase the length of the induction period, a modification which resulted in a considerable increase in top-end power. This model continues in production, virtually without change, at the present time. The .75 first appeared, in 1949, as a scaled-down 1.3, but, in the following year, its construction was altered to the present, simpler, layout. The current engines, therefore, have both been in production for some 10 years—which constitutes something of a record.

This situation is all the more remarkable when one remembers that, even 10 years ago, the three-port, long-stroke, Mills was regarded as, more or less, an "out-of-date" design. In truth, the fact remains that, in some respects, the Mills has never been bettered and seldom equalled by more modern designs.

In particular, the Mills stands out as being as near to the perfect beginners' engine as anything that has yet been offered: it is easy to start, the controls are conveniently and safely placed, it is complete with fuel tank in which the fuel level can be observed and it can be made to run very slowly and so facilitate safe test-flying.

Several examples of both types have been tested over the past few years and some variation in performance between individual samples has been evident—as, in fact, would be expected. Of the two types, however, the 1.3 proved by far the more consistent, each engine equalling or slightly exceeding the maker's claimed output of 0.10 b.h.p. and the latest engine proving to be the most powerful. In the case of the 75, outputs varying from under 0.05 b.h.p. to over 0.07 b.h.p. have been recorded in the process of tests on five models during the past 10 years. The present engine's output of 0.054 b.h.p. at 11,000 r.p.m. may, therefore, be slightly below the general level. In actual practice, of course, the average Mills user is not excessively concerned with power output and, in any case, either engine, will deliver all the power generally needed.

### The Mills P.75

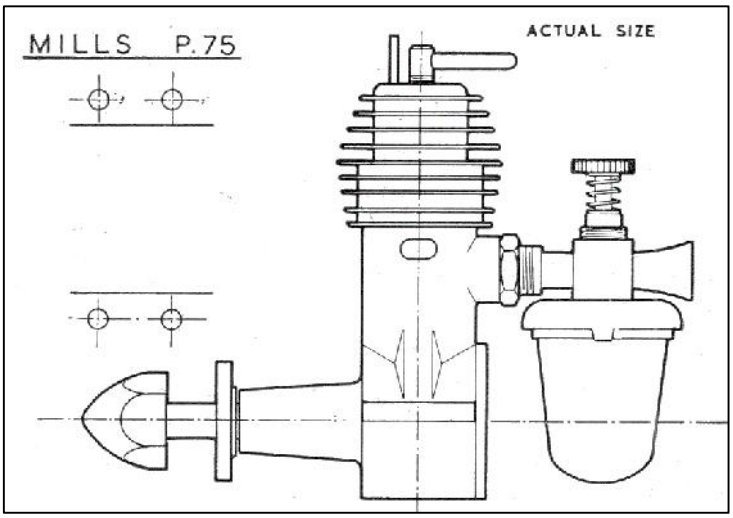
Two models of the Mills .75 are available: the P. 75 model, costing £3. 3s.10d. and the S.75, which is identical, except for the addition of a cut-out device, costing an extra 6s. 5d. The standard P. 75 was used for our test. The 75 is assembled around a magnesium alloy casting comprising crank-case, lower cylinder section and main bearing, the latter being phosphor-bronze bushed. The crankshaft has a journal diameter of 3/16 in., which, compared with the relatively long crank-throw, looks very modest, but, in fact, is quite adequate for the job that it has to do, since it does not have the weakening valve port of the more popular shaft induction type engines. The piston is very long (1/2in., or 1 ½ X bore) and is of heavy construction, with a small deflector step milled in the front of the crown which is otherwise flat. The cylinder liner, which is flanged near the top, to seat on the top of the casting, has the usual Mills porting arrangement of two exhausts of moderate area, disposed on either side, a pair of small circular transfer ports at the front and the intake port for the

carburettor (in this case also in the form of two holes) at the rear. Incidentally, the measured cylinder bore of our example was 0.336in.—slightly over the maker's nominal dimension.

## Specification .75cc

Type: Single-cylinder, air-cooled, three-port two-stroke cycle, compression ignition.
Sub-piston supplementary air induction.
Nominal Bore and Stroke: 0.330in. X 0.52in.
Swept Volume: 0.0446cu.in. = 0.731c.c.
Stroke/Bore Ratio: 1.576 : 1.
Weight: 1.75 oz. including fuel tank.

## General Structural Data

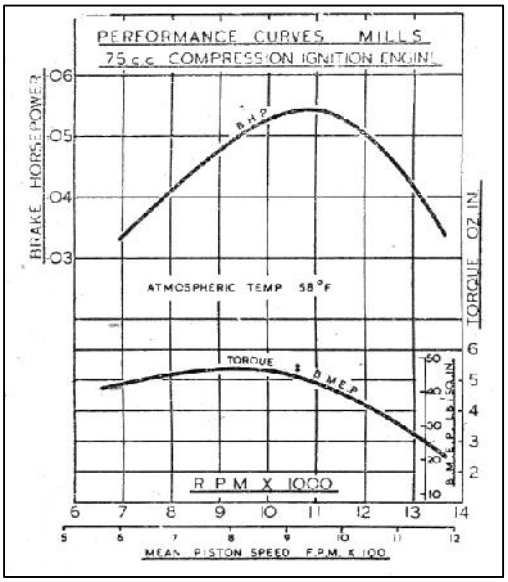



Gravity diecast magnesium alloy crankcase/cylinder-block mainbearing-housing unit, chromate treated and with phosphor-bronze main bearing bush. Nitralloy steel cylinder, hardened, ground and lapped and closely fitted to main casting. Piston of tool steel, hardened, ground and lapped and fitted with fully-floating 3/32in gudgeon-pin. Connecting-rod machined from high duty duralumin, with plain eyes. Counterbalanced, hardened, alloy steel crankshaft with 3/16in. dia. journal and 1/8in. dia. crankpin. Machined aluminium alloy finned cylinder barrel, internally threaded to screw over main casting and retain cylinder liner. Machined aluminium alloy carburettor body with transparent fuel tank and screwed into main casting. Assembly may be rotated and locked in any position for inverted, inclined or side mounted running. Beam mounting lugs

## Test Engine Data

Running time prior to test: 1½ hours. Fuel used: Mercury No. 8.

## Performance




Starting procedure with the Mills 75 is just about as simple as it is possible to be with a variable compression diesel. Some recent small glowplug engines are also very easy to start (especially when equipped with spring-starter devices) and it is purely a matter of opinion as to which is the easier to handle. For years, however, the Mills has enjoyed a reputation in Britain, as an ideal beginner's engine and, so far, there is no sign of its taking a back seat in this respect.

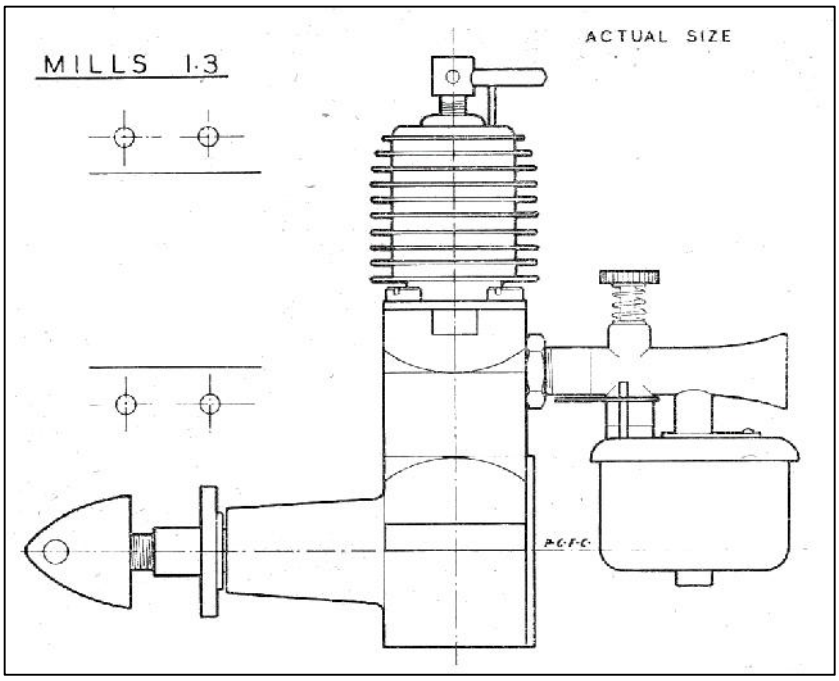
One advantage of the Mills over the small glow engine (and, to a lesser extent, over many other diesels) is its ability to " throttle down " to a speed not much more than a tick-over, by adjustment of compression and mixture, and to swing quite large props steadily at low speed. A stop-pin is fitted to the cylinder head, the purpose of which is mainly to assist the beginner in maintaining compression adjustment within the normal operational range. To fully appreciate the wide speed range of which the Mills is capable, however, it may be necessary to remove this pin—either to enable the compression lever to be taken further back (for low speeds and big props) or to enable compression to be fully advanced for the highest r.p.m. on the smaller props.

On our present test engine it proved desirable to remove the pin to allow the engine to run at the correct compression setting when loaded for speeds below 6,000 r.p.m.
On a previously tested example, it was necessary to remove the pin to enable r.p.m. to go above 12,500 r.p.m. In other words, the pin position is not precisely the same on all 75's relative to the compression lever position at a given speed. It does, however, allow ample lever movement to cope with the full range of speeds likely to be required by the beginner and the foregoing remarks are not intended to be taken as a suggestion that the newcomer should remove the pin.
The speed range over which our 75 was tested was 5,000-14,000 r.p.m. The engine started easily and ran well when loaded for speeds through this range, moreover it seemed particularly happy at speeds around the peaking r.p.m.—i.e. about 11,000. There was an occasional tendency to start in the reverse direction on small props (a common occurrence with engines not having rotary-valve induction) but this was easily corrected, after stopping the engine, by reducing compression very slightly and giving the prop a smarter flick.
In conclusion, we can only reiterate the opinion of nearly every experienced modeller who has been consulted on the subject. As a beginner's engine, the Mills 75 is hard to beat. It is easy to handle, smooth running and, treated properly, durable and trouble-free.

*.75cc - Power/Weight Ratio* (as tested): 0.49 b.h.p./lb.
*Specific Output* (as tested): 72 b.h.p./litre.

**The Mills 1.3**

The 1.3 costs £4.15s.9d. inclusive of purchase-tax and is not, therefore, especially cheap for a plain bearing small diesel. This price does, however, include a useful built-in cut-out device, plus a neat, leakproof translucent fuel tank suitable for F/F use.




Structurally, the 1.3 is a little different from the .75. The magnesium alloy crankcase is entirely machined and the cylinder is attached to it, via a flange, just above the exhaust port level, with four screws. The finned alloy cooling barrel is then screwed over the upper section of the liner. The piston is similar, but the connecting-rod is a forging. In place of a simple flat prop driver, keyed on to flats on the crankshaft, the 1.3 has a heavier pattern driver fitted to a tapered section between the journal and threaded portion of the shaft. The carburettor body is diecast and machined and the tank top is provided with a small swivelling flap to close the filler aperture.
As on the smaller engine, the actual bore measurement (0.407 in.) was slightly in excess of the figure quoted in the manufacturer's literature. In both cases, however, the engines are still well within any class capacity limits (e.g. 0.8 c.c. or 1.5 c.c.) in which they might be entered for contest purposes.

**Specification 1.3cc**

Type: Single-cylinder, air-cooled, three - port, two - cycle, compression ignition.
No sub-piston supplementary air induction.
Nominal Bore and Stroke: 0.400 in. X 0.640 in.
Swept Volume: 0.0804 cu. in. = 1.32 c.c.
Stroke/Bore Ratio: 1.60 : 1
Weight: 3.5 oz. including fuel tank

## General Structural Data

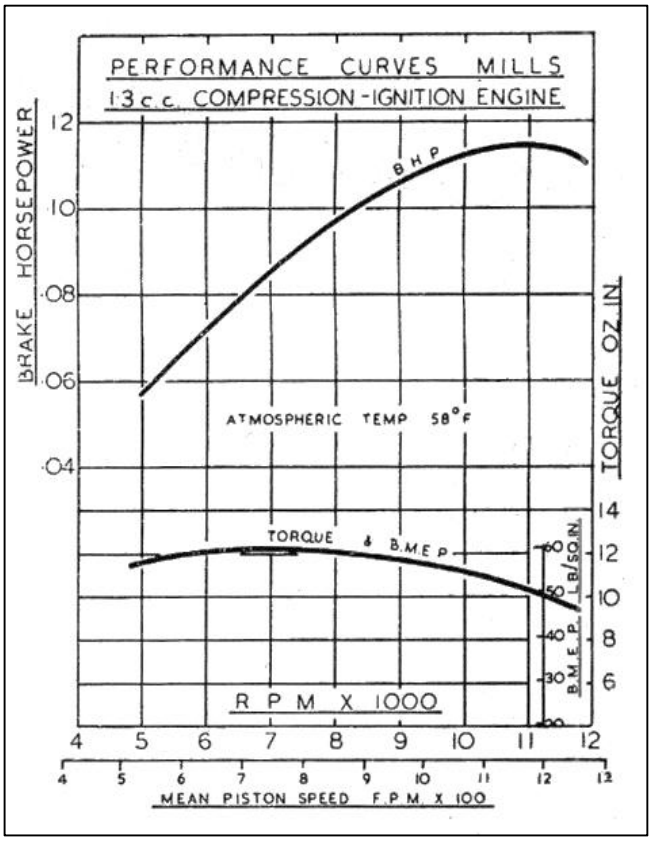
Machined magnesium-alloy crank-case/cylinder-block/main-bearing-housing unit, chromate treated, with phosphor-bronze main bearing bush. Nitralloy steel cylinder-liner, hardened ground and lapped, flanged and secured to crankcase with four cheese-head screws. Ground and lapped piston with stepped deflector and fully-floating 1/8 in. dia. gudgeon-pin. Connecting-rod of forged high-duty duralumin with plain eyes.
Counterbalanced, hardened alloy steel crankshaft with 7/32 in. dia. journal and 5/32 in. dia. crankpin. Machined, aluminium alloy finned cylinder barrel, internally threaded to screw over upper section of cylinder liner. Pressure-diecast and machined aluminium alloy carburettor body with translucent plastic fuel tank and self-resetting air-bleed type cut-out device. Complete carburettor tank assembly-screwed into back of cylinder block and can be rotated and locked in any position for inverted, inclined or side-mounted operation. Beam mounting lugs.

## Test Engine Data

Running time prior to test: 1 ½ hours. Fuel used: Mercury No. 8.

## Performance

Most of the remarks already made concerning the starting qualities of the .75 apply, in equal measure, to the 1.3.
Notwithstanding its "old-fashioned" long-stroke, three-port design and its docile handling characteristics, the Mills i .3 is by no means a sluggish performer. Our test example, for instance, actually developed a maximum torque comparable with that of some current 1.5 c.c. diesels. Beyond the speed at which maximum torque was reached (around 7,000 r.p.m.) torque declined quite slowly up to 10-11,000 r.p.m. as a result of which, a b.h.p. of 0.114 was recorded at a peak of just on 11,000 r.p.m. Beyond 12,000 r.p.m. however, the 1.3 became a trifle erratic and although this was cured by trying a more heavily nitrated fuel, there would seem to be little point in forcing the 1.3 beyond its peak revolutions.
At the lowest speeds, i.e. below the r.p.m. at which maximum torque was developed, a slight loss of power on warming up—a normal occurrence with diesels—was noted, but at speeds approaching the peak, losses were negligible. The cut-out worked positively at medium and low speeds, being rather less than instantaneous in action at the highest speeds.




*1.3cc - Power/Weight Ratio* (as tested): 0.52 b.h.p./lb.
*Specific Output* (as tested): 84b.h.p./litre.

Basically a 14-year-old design, the Mills 1.3 is the oldest model engine still in current production in the U.K. On renewing one's acquaintance with the 1.3, it is not difficult to see why there is still a demand for these very sound engines.

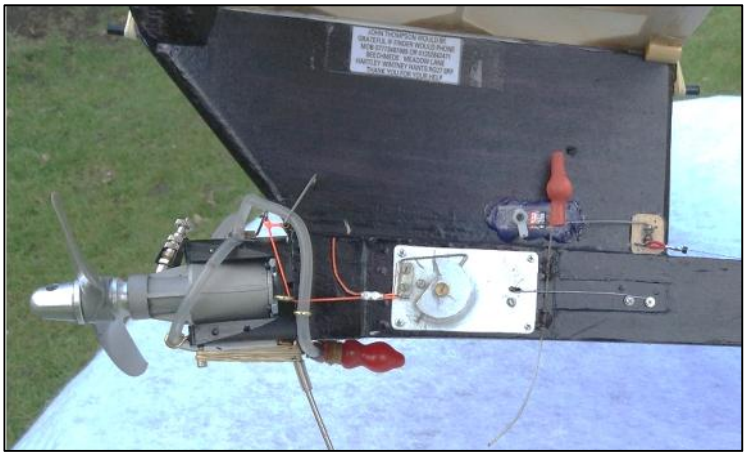
*Model Aircraft Dec.1960*

## The Texan - John Thompson

This design is very popular in the USA, in various sizes. It is a Classic model for our rules, the plans being published in the Aeromodeller Annual 1960 and the American Modeler January 1960.

I have never seen one, but decided that it merited a try in that it is basically a simple build model, but seemed to have excellent performance.

I decided on the 0.9 version, 430 sq. inches wing area, needless to say I chose a power plant slightly more powerful. The Hornet 2.5cc, which on a 7x3 APC prop turns at 24.3 k, say 2.5 times more powerful than any 0.9 of the 60's.



In fact the model is in my opinion a little too large for an 0.9, but at that time in the USA people were going away from the screaming climb, which could prove unreliable in many people's hands. A larger slower climb but better gliding model appealed to many. The model that Ed Miller used at the 1960 World Champs, although it followed the general layout, utilised an all sheeted top surface undercambered wing. He made the famous fly off but had a poor transition on one flight, down he believed to the slacking on the silk under covering in the English rain on the day, which resulted in an alteration of the wing warps. He utilised an OS Max which he had heavily modified, which was probably the equal of any of the best ball raced glows at the champs.

The original 0.9 version only weighed in at 12 ounces all up, very light indeed, but not really strong enough I would say for our rough and tumble weather .

The model is a straight forward build. I made the pylon a little thicker (in line with rules permitting small modifications to allow for DT's) to accommodate the RDT and Servo. I anticipate the compulsory use of this and, as I have said previously, I will not fly without RDT.

The model trimmed out fairly easily, right/right – not right/left like the original, a trim set up much liked over the pond -, just had to add a bit of extra tail tilt to the build set up and reducing the decalage from 1.5 to 1 degrees or thereabouts.
Launched vertically it reaches 952 feet in 10.5 seconds, transition is excellent and the glide quite floaty. I can well see how this design became, and is, so popular and would recommend it to any one setting out on power models.

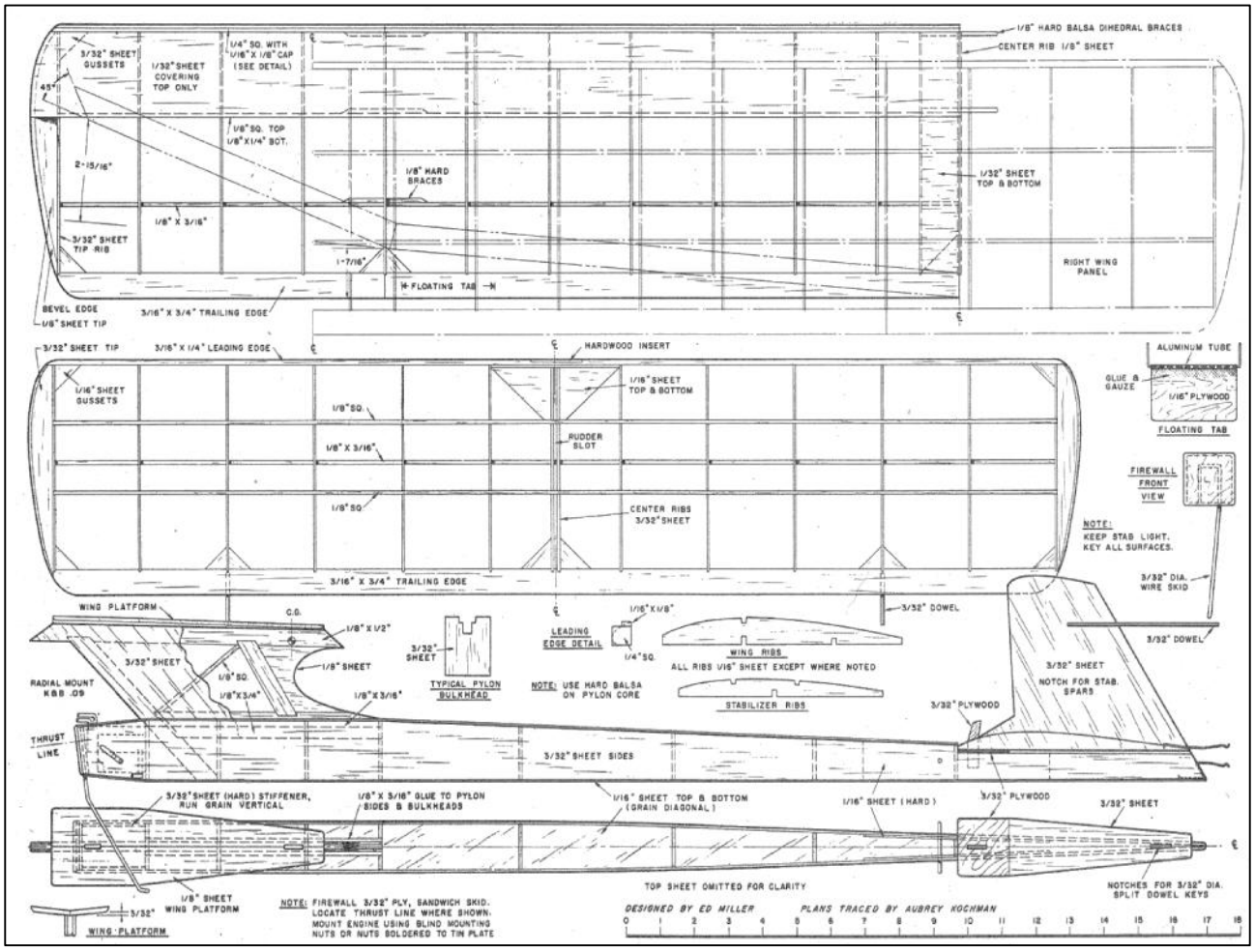
**Model Data.**

Wing 91g , Tail (inc fin 4g ) 40 g , Fuselage ( box 38g , pylon 24 g ) 85 g , Engine Timer etc. 184g for a **Total of 400 g** (14.1 ounces).

Wing, no warps, both tips washout 2 degrees. Wing +2.25 deg , Tail 1.25deg , CG 90% .
Thrust line 6deg down and 4deg left.

*John Thompson*

## The Texan - Ed Miller




The Texan originated early in 1952, with both Jim Summersett of San Antonio, Texas, and myself designing and building the first two 660 square inch planes. Both proved quite successful in Class B-C, with my entry taking fifth in Class B Open in the 1952 Nationals.
Since the two originals, dozens of models have been built in the sizes listed in the 7-plane "size" table. Many wins and places have been won with the design, most notable being two firsts, 1/2A Open, B-C Open, and fourth in Class A Open at the '58 Nationals. This latter is the model featured here.
Actually, the design has changed little since 1952. Major changes have been cleaning up, lighter construction, and the use of smaller engines with larger areas. Percentages remain the same as the originals. I have conducted many experiments with airfoils, pylon height, rudder area. Tip plates were tried, but finally discarded, as no particular benefit seemed to be gained.

One of the most impressive contest-winning free flights to come out of the Southwest—Ed Miller's Class A...

American Modeler—January 1960


The model has the ability to handle a terrific amount of power with excellent VTO characteristics. A "wild" engine is just the ticket for the design. So, if you have a hot .09 collecting dust, clean it up, and let's get started with the model.

The construction of the Texan is simple. Once all the parts are cut out, it is amazing how rapidly it will go together. Contest balsa should be used throughout, and every attempt should be made to keep the stab as light as possible.

Wing and stab should be built and finished first to provide curing time. Cut out rib templates from 1/16" thick plywood. Be sure they are accurate. Wing ribs which have 1/32" relief for planking are *1/16"* medium sheet with the exception of dihedral ribs. Notch trailing edge carefully and pin down with spar and leading edge. Notice that the wing L.E. has a 1/16 x 1/8 cap strip in order to obtain proper L.E. airfoil. Glue in all ribs with exception of dihedral joint ribs.

Bevel a light piece of 1/8 sheet balsa and glue on at a 45 degree angle for the wing tip. Do not install top spar at this time.

Allow to dry, remove from plan, and with a straight edge laid on top of ribs, mark curvature of wing tip. Carve and sand to the level of top of the ribs. Don't forget to relieve forward portion of tip to accommodate 1/32 planking.

Construct the right half of the wing in the same manner. When dry install tip dihedral, ribs, gussets, and hard balsa dihedral braces. Next comes center dihedral, braces and top spar. When assembled, the leading edge planking may be installed. Butt joint it behind the leading edge, glue to all ribs and to the top spar. Pin down until dry. Take pains in installing this planking to insure a strong, smooth and neat job. Then plank the bottom and remainder of the top center section.

Sand the entire wing carefully and accurately. Use plenty of elbow grease. When sanded, apply at least two coats of 50-50 clear nitrate dope. Sand between coats with 3'20/0 wet or dry paper. Glue on wing keys made from 3/32 inch hardwood dowel cut in half.

Stab construction is similar to wing. All ribs are 1/16 sheet with exception of two center ribs. Tips are constructed same as the wing. Use light, but strong and straight balsa for stab. Weight is very important here. Cut rudder from light 3/32" sheet, notch for spars, and glue into rudder slot. The bottom of rudder should be flush with the bottom of the stab.

Cut kick-up peg from 3/32" plywood and glue in where shown. Be sure to make a good glue joint here. Next install all gussets, planking, hold down wire, VTO, pegs, rear key, and hard wood in leading edge. Sand carefully and dope.

Cover surfaces with Jap tissue, water shrink and apply two or three coats of dope. Apply any trim if desired, and then finish doping. I usually use six or seven coats of Butyrate dope. Keep an eye out for warps.

Construct a floating tab as shown. Glue and gauze to bottom of wing trailing edge at location indicated. Be sure to bend wire so that the bottom of the tab is flush with the bottom of the wing.

Now that the surfaces are completed, we may begin fuselage construction. Cut sides from medium-hard 3/32" sheet. Use straight grained balsa, preferably from the same sheet. Mark bulkhead locations on insides, then glue on hard 1/16" sheet stiffeners at the tail section.

Construct firewall from 3/32" hard plywood. Bend skid from 3/32" diameter wire, cut out firewall core to accommodate skid. Pre-glue all plywood parts. Then assemble firewall, sandwiching the skid. Clamp and allow to dry.

Pylon core construction is as shown. Make good glue joints. Notice that the leading edge goes all the way to the bottom of the fuselage. Plank with 3/32" sheet, and sand to streamline shape.

Drill engine mounting holes in firewall. Try to maintain engine thrust line location as shown. Glue on blind mounting nuts, or nuts soldered on tin plate, to back of firewall.

To assemble the fuselage, tie rear of fuselage together with rubber bands, glue in firewall and immediately install pylon bulkheads. The bulkheads should be notched as shown on the plans. At this point line up fuselage accurately, and allow to dry. Then install remainder of bulkheads and glue tail together. Continually check for straightness. When dry, beef up front of fuselage as shown on top view with hard sheet balsa.

The pylon comes next. Check the plans carefully, and be certain that the pylon is installed with the amount of incidence shown. When dry, glue in the two 1/8" x 3/16" strips to the sides of the pylon and bulkheads. Install the fuel tank, cut out "Tick-Off" hole in side of fuselage, then plank the top and bottom of fuselage diagonally with medium 1/16" sheet balsa.

While planking is drying, construct the wing and stab platforms. The plans give the details, but don't forget to glue in the dihedral in the wing platform. When dry, cement platforms to fuselage carefully, being sure they line up. If you wish, set the fuselage on your work bench, and check platform heights with a ruler. Sand the entire fuselage carefully, rounding all corners. When sanding is complete, install stab hold down wire and 1/8" diameter dowel. Gauze nose section, top of wing platform and sides where platform joins the pylon. Give the fuselage three or four coats of clear dope, then cover.

Install engine, prop, timer. Assemble the model and check for balance. It should balance at the point shown on the plans. Before any glide tests are made, the model should be carefully checked for warps. Practically all the models built have required these same adjustments: WING: Right tip, flat. Right center panel 1/4 to 3/8" wash-in (trailing edge down) and entire left half of wing flat. (Occasionally a small amount of wash out is required in this left panel.) STAB: Slight wash-in in both trailing edge tips. RUDDER: Slight left warp. Needless to say, each airplane requires its own individual adjustment, so what holds true for one may not be true for another. However, these adjustments should be kept in mind and used for a starting point. Continued checking of all surfaces is necessary, as light construction tends to warp easily.

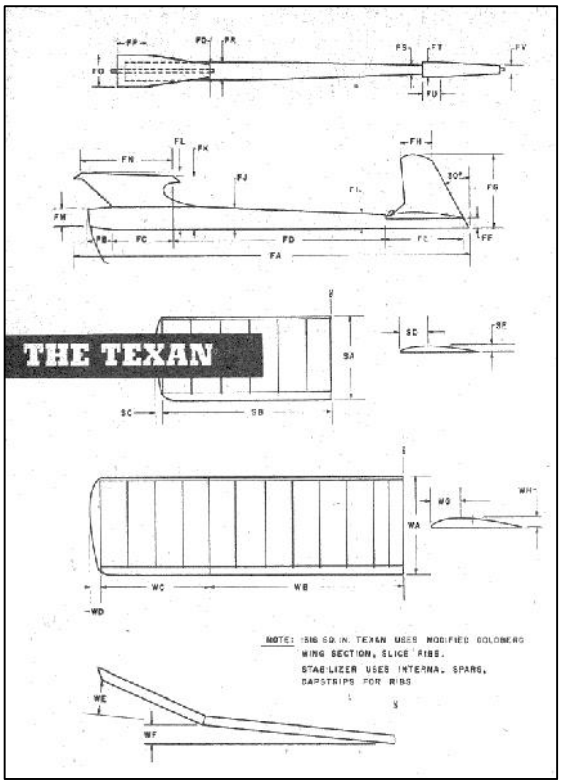
Hand glide the model. It should be flat with *a* left turn. Add clay to the floating tab or block up the left side of the stab if more turn is required. If the model balances but shows a tendency to mush, add strips of masking tape to the front of the stab platform, increasing the incidence. Don't let the ship mush. Keep the forward speed up.

If hand glides are satisfactory, we are now ready for power. Idle the engine down and use a run of 7 or 8 seconds. It should have a slight right turn. Adjust thrust as necessary. Gradually increase power until full power is reached with 1 ½ to 2 turns in 20 seconds. Then try a VTO. With a good engine it will VTO nicely into the wind.

The model pictured weighed twelve ounces complete. If you should be fortunate enough to be living in some part of the country where contest flyers are still flying under the 100 ounce power loading, you will find that the Texan will fairly scream up and grab that altitude. Naturally, under the "new" power loading, the climb is slowed down, and you may find it necessary to tighten up the turn slightly under power to provide better pull out.

With careful workmanship and serious thought in adjusting, I am certain that you will find your .09 powered Texan an excellent, high performance contest free flight model.

*Ed Miller*
*American Modeler January 1960*

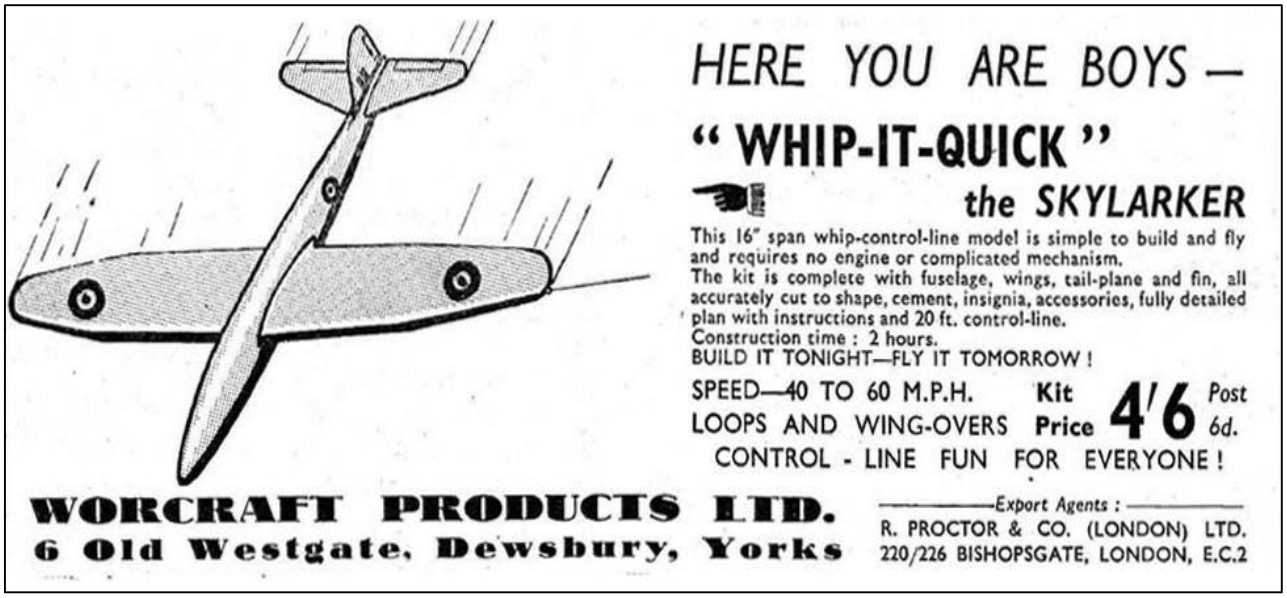



| DIMENSIONS — INCHES | | | | | | | |
|---|---|---|---|---|---|---|---|
| MODEL | 319 | 575 | 660 | 832 MODIFIED | 1025 | 1204 | 1316 MODIFIED |
| FA | 29-1/4 | 40-1/2 | 42-7/8 | 48-5/8 | 53-3/4 | 58 | 64-1/2 |
| FB | 2 | 2-3/4 | 2-7/8 | 3-3/4 | 3-3/4 | 4-3/4 | 6-3/4 |
| FC | 4-5/16 | 6-1/4 | 6-7/16 | 7-3/8 | 8-7/8 | 10 | 10-7/8 |
| FD | 14-7/8 | 21-7/8 | 22-7/8 | 25-3/4 | 28-5/8 | 30-5/8 | 34-1/4 |
| FE | 6-3/16 | 7-7/8 | 8-1/2 | 9-5/8 | 10-5/8 | 11-5/8 | 11-7/8 |
| FF | 3/4 | 1 | 1-1/8 | 1-3/16 | 1-5/16 | 1-3/8 | 1-1/4 |
| FG | 5-7/16 | 6-7/8 | 7-1/2 | 7-7/8 | 9-3/4 | 10 | 10-1/4 |
| FH | 2-1/4 | 2-7/8 | 3-1/4 | 3-1/4 | 4 | 4-1/4 | 5 |
| FI | 1-1/16 | 1-3/8 | 1-5/8 | 1-5/8 | 1-7/8 | 1-7/8 | 1-3/4 |
| FJ | 1-5/8 | 2-1/8 | 2-5/16 | 2-7/16 | 2-5/8 | 2-11/16 | 2-15/16 |
| FK | 3-7/8 | 5-1/8 | 5-9/16 | 5-3/16 | 6-3/8 | 6-1/2 | 5-7/16 |
| FL | 4-1/32 | 5-7/16 | 5-3/4 | 5-9/16 | 6-13/16 | 7 | 5-3/4 |
| FM | 1-5/16 | 1-3/4 | 1-13/16 | 1-13/16 | 2-1/8 | 2-1/8 | 2 |
| FN | 7-5/16 | 9-1/2 | 10-1/16 | 11-3/8 | 12-1/2 | 13-3/4 | 14-1/16 |
| FO | 2 | 3 | 3 | 3-1/2 | 3-1/2 | 4 | 4 |
| FP | 2 | 2-1/4 | 2-1/2 | 2-3/4 | 3-3/8 | 4 | 4 |
| FQ | 1 | 1-1/2 | 1-3/4 | 2 | 2 | 2-1/2 | 2-1/2 |
| FR | 1-1/4 | 1-1/2 | 1-7/8 | 1-7/8 | 1-7/8 | 1-7/8 | 2 |
| FS | 11/16 | 7/8 | 7/8 | 1-1/16 | 1-1/4 | 1-5/16 | 1-1/8 |
| FT | 1-1/4 | 2 | 2-1/2 | 2-1/2 | 3 | 3 | 3-1/2 |
| FU | 1-1/4 | 1-1/4 | 1-1/2 | 2-1/4 | 2-1/4 | 2-1/4 | 2-1/2 |
| FV | 5/8 | 1 | 1-1/4 | 1-1/4 | 1-1/2 | 1-1/2 | 1-3/4 |
| SA | 6-1/4 | 7-7/8 | 8-9/16 | 9-1/2 | 10-5/8 | 11-5/8 | 11-7/8 |
| SB | 12-9/16 | 17-9/16 | 18 | 21 | 23-1/2 | 25 | 26-1/2 |
| SC | 7/16 | 5/8 | 3/4 | 13/16 | 7/8 | 15/16 | 1 |
| SD | 2-1/4 | 2-5/8 | 3 | 3-5/16 | 3-9/16 | 4 | 4-1/4 |
| SE | 7/16 | 9/16 | 3/4 | 13/16 | 7/8 | 15/16 | 15/16 |
| WA | 7-1/4 | 9-1/4 | 10 | 11-1/4 | 12-1/2 | 13-3/4 | 14 |
| WB | 14-1/16 | 19-15/16 | 21 | 23-1/2 | 26-3/8 | 28-1/16 | 30 |
| WC | 8 | 11-1/8 | 12 | 13-1/2 | 14-3/4 | 16 | 17 |
| WD | 5/8 | 7/8 | 15/16 | 1-5/32 | 1-1/4 | 1-3/8 | 1-3/8 |
| WE | 2-7/16 | 3-1/2 | 3-11/16 | 4 | 4-1/2 | 4-11/16 | 5-1/2 |
| WF | 1-1/4 | 1-11/16 | 1-11/16 | 1-13/16 | 2-3/16 | 2-1/4 | 2-5/16 |
| WG | 2-7/16 | 3 | 3-1/16 | 3-7/8 | 4-1/4 | 4-3/8 | 5 |
| WH | 19/32 | 15/16 | 1 | 1-1/8 | 1-5/16 | 1-3/8 | 1-7/8 |

## DBHLibrary Report (Magazines) - Roy Tiller

**The David Baker Heritage Library (Magazines) – Roy Tiller**
**Report No. 63. Whip control**

Back in the January report I showed some Worcraft kit advertisements which included the "Whip-it-Quick" whip control model named the Skylarker. Thank you to Ian James who kindly responded as below.




Dear Mr Tiller,

Your nostalgic column in the 'New Clarion' Always gives me great pleasure and I spotted an item in the January issue that rang a bell in my ancient memory.
This was the Worcraft 'Whip-it- Quick' (aka Skylarker)

Not that I ever made one or ever saw the kit, however as my aeromodelling career started with some attempts at C/L (soon abandoned for free-flight) I did come across a kit for a whip-control line model, which I think came in a paper packet. It was an all balsa profile model which resembled a Tempest or Typhoon.

I more or less threw it together. At that time (the late 1940's) sandpaper and I were comparative strangers and I guess I did little more than round off the edges. Never the less the model flew after a fashion and was capable of simple manoeuvres -- so long as centrifugal force was maintained. Whip control has died the death these days along with free flight rubber powered speed.

Reverting to my Tempest or Typhoon whip control model, I wonder whether any other modeller remembers this kit and who produced it? I can't have been the only tyro to stick one together.

Very best wishes,
Ian James

The "Solarbo Book of Balsa Models" was first published by Model & Allied Publications, Argos Books Ltd. in 1968. The article and plans below are from the 1981 reprint.

# WHIP CONTROL MODELS . . .

Whip control models have no engine, yet they are flown like a control line model with you, as pilot, controlling their speed as well as making them climb, dive and perform single aerobatics such as wingovers and loops. The model, in fact, is really a glider with a nose-heavy trim, attached to the end of a flexible pole (such as a stout bamboo cane) with a length of thin but strong line. The model is 'whipped' around in a circle by twirling the pole, the speed of whipping controlling the speed at which the model flies. At the same time, raising the tip of the pole causes the model to climb, and lowering it causes the model to dive—so you can control the manner in which the model flies as well as its speed. Simple, but very effective. You can adjust the line length to suit the amount of flying space available, which makes whip models ideal for flying in almost any garden. Neighbours cannot object to engine noise for there is none—and the model costs absolutely nothing to fly!

Construction is quite simple and straightforward and ideal for simple scale model subjects—so we have chosen the Spitfire and Messerschmitt of World War II fame. Two pilots can fly these models simultaneously in mock combat. The parts required are shown full size on the plan opposite, so trace these for patterns for marking out. The same constructional details apply to both models.

## TRIMMING AND FLYING

Weight must be added to the nose of each model so that it balances level when supported on the finger tips placed under the leading edge of the wing. Ballast weight must be securely attached, so use thick metal washers for the weights (preferably lead washers) secured by a small bolt and nut (4BA or 6BA size) passed through the fuselage at the point shown. The use of washers also makes it easy to adjust the amount of balance for fine trimming.

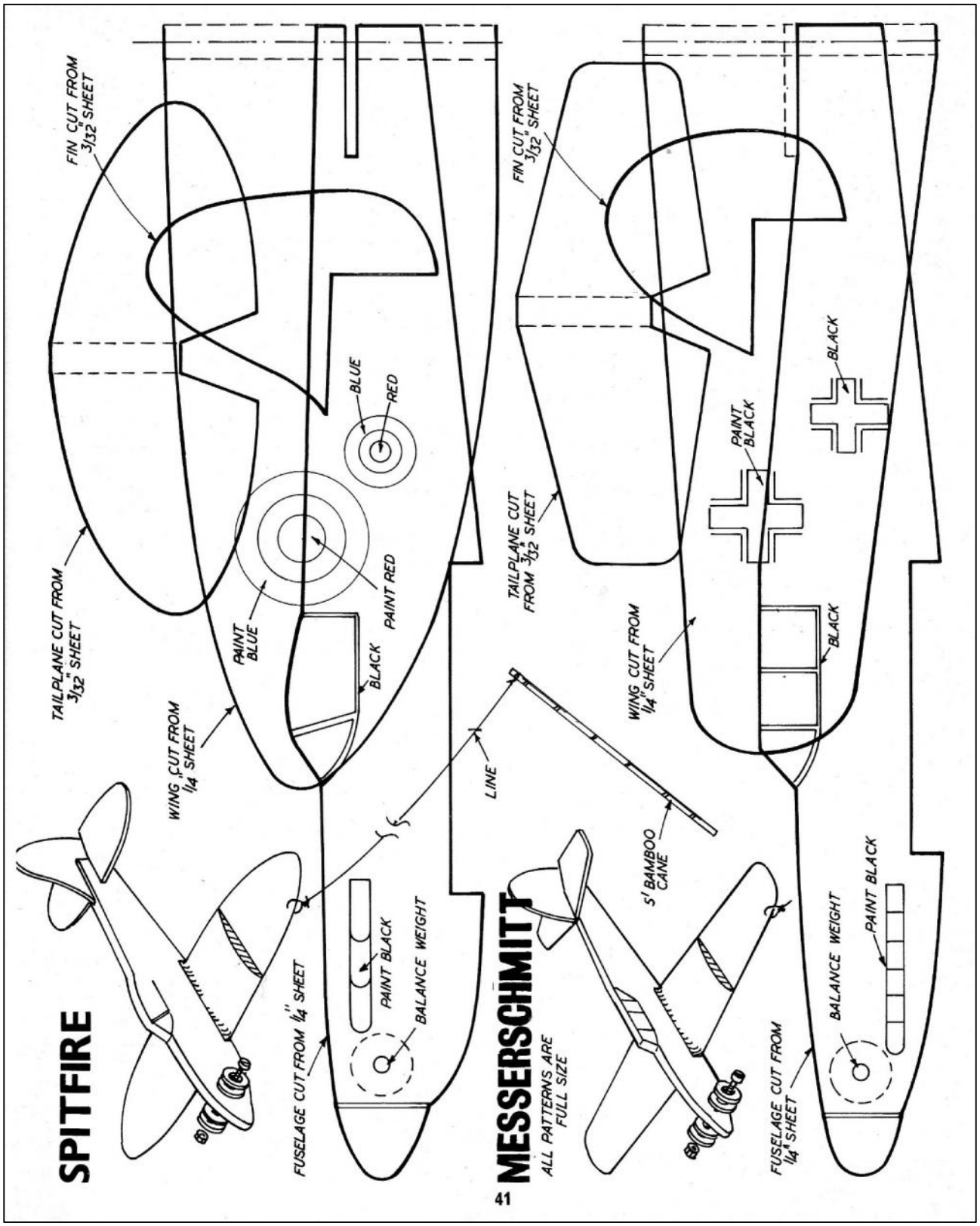
The line should be strong linen thread, which is fastened to the left wing tip at the point shown. For a start, use about a 10ft. length of line, making the other end off securely to the tip of a 5ft. bomboo pole (or a fishing rod). You are then ready to start test flying.

Once you have got familiar with the technique of 'whipping' and controlling dives and zooms by lowering or raising the tip of the pole you will be ready to try experimenting with different ballast weights and different line lengths in order to extend the range of performance of your models. The following notes can be consulted as a guide.

(i) **More** ballast weight will make it easier to keep the model flying smoothly and under control—so add weight if you find it difficult to keep the model at the end of the line.

(ii) The longer the line you use the more ballast weight you will probably need for good control.

(iii) **Reducing** the ballast weight will make the model more aerobatic—loops will be tighter, for example. At the same time it will be easier to lose speed and control. The more proficient you become at 'piloting,' the more you can reduce the weight to improve the aerobatic performance—but this will place a higher premium on your skill as a pilot.




Next month more whip control models including "Two line" models for elevator control. Can these possibly do stunts? Watch this space.

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

*Roy Tiller*

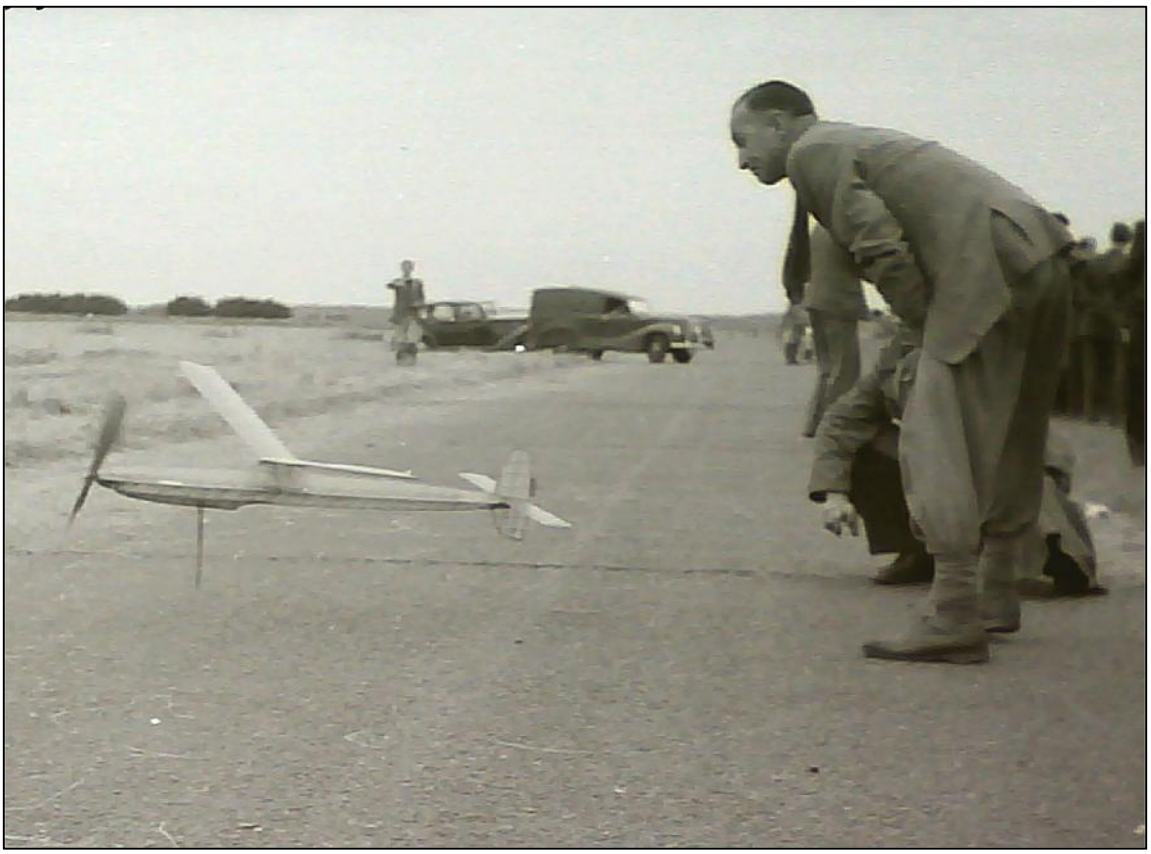
Ron Ward's "Colossus" (Super Cyclone powered)
ROG's at a Lasham Gala in the 50's. Bob Ladd assists. Both CDMAC.

Roy Chesterton of Northern Heights club
ROG's his model at the Wakefield trials at Digby in 1952.

**Unknown modeller ROG's his model at the Wakefield trials at Digby in 1952.**


**Peter Jackson (Satyrs) ROG's his O/D Wakefield at the trials at Digby in 1952.**

**Vic Dubery of the Leeds club ROG's his model ("Red Swan"?)
at the Digby Wakefield trials in 1952.**



**Ted Evans (Northampton) ROG's his Wakefield
at the trials at Digby in 1952.**

*Keith Miller Archive*

## Secretary's Notes for April 2016 - Roger Newman

Following on from last month's not so welcome news is that the Flight Safety Officer at Middle Wallop has confirmed that she is happy to work with me on redrafting & getting our risk assessment into suitable shape. All things being equal, I hope we will be in place for April as I have now received the endorsed licence back from BMFA & it has been sent to MoD DIO with payment.
The provisional comp schedule for the April meeting remains as:

**Saturday 23rd April:**
36" Bungee Glider – combined Vintage/Classic, SAM1066 rules;
Vintage Coupe d'Hiver, SAM1066 rules; Under 25" Vintage Rubber, SAM1066 rules:
E36 Electric, Crookham rules - Motor run to be set on day.

**Sunday 24th April:**
Vintage/Classic CLG/HLG, SAM1066 rules;
Up to 50" combined Vintage/Classic Glider, SAM rules & 50m line;
Small Vintage Rubber, SAM1066 rules; 8oz Wakefield, SAM1066 rules.

As more information becomes available, it will be communicated via the website & where appropriate in the NC.

**Ramblings**

*News from overseas – Part 1*

Dick Twomey has been in touch regarding work he is doing in Mauritius to promote aeromodelling in schools. His letter follows:

From: Dick Twomey of the MAURITIUS Chapter of SAM 1066
To :Roger Newman, Secretary of the Real SAM 1066 March 2016

Dear Roger,
When I wrote to a while ago about the efforts of our "Aeronautical Society of Mauritius" to set up a "Design, Build and Fly" small model glider competition for Secondary School students, you kindly asked to be kept in touch. I can now give you Part I of a progress report on this item!
The ambition of our full-size Aero Society to introduce a competition of this sort involving school children came from seeing the success of the UK's iconic Royal Aeronautical Society's ambitious project to get students to build full-size Microlites from kits. As I am sure you know, several such aircraft were built and flown, one has even been sold! But having little of an aviation industry in Mauritius we were sure that we were not ready for that, and instead decided to start more simply with models. After discussion with the Ministry of Education we joined forces with a Science Centre which is attached to that Ministry, and with their help, the *SMALL MODEL GLIDER COMPETITION (SMGC)* was launched to all the schools in the island in January. Within two weeks, to my surprise and delight, we had received positive replies from 71 Secondary Schools!
With the aid of a pilot friend who is also an aeromodeller (RC here of course: no space for F/F), we held two days of workshops when we explained basic aerodynamics and model construction to a total of 550 children, girls as well as boys. At this stage I was surprised to find that not one student, right up to HSGC Physics level, knew anything related to aerodynamics, other than to have heard that long ago a certain Mr Bernouilli had been interested in fluid flow! But words like "Incidence" or "Dihedral"?...Never heard of them! We were clearly in green pastures, with difficulties compounded by the lack of any balsa supplier

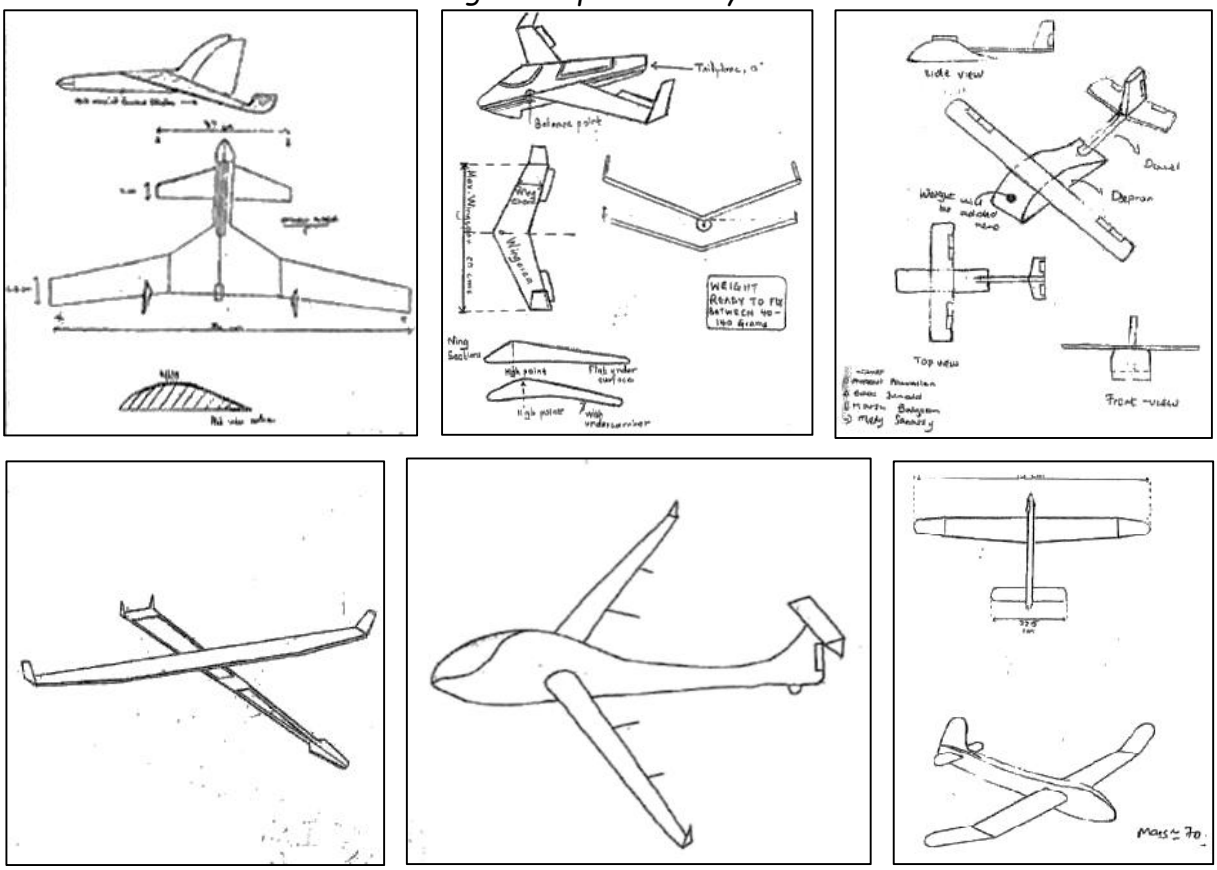
in the island, so that the majority of the school teams would be using Depron, which is available in hardware shops.

Another two weeks gave our contestants time to get their act together and confirm their interest. The students had been encouraged to show some design originality and had to provide a sketch of their planned creation as evidence.

NOW: I have just finished going through 126 such sketches, and I'll show you just a handful , just to prove that my eternal wish to see a bit of novelty in design, such as we saw in Frank Zaic's Year Books of happy memory, is not going to be disappointed! Some of these design ideas look promising, others may not make it to the Flight Test Finals of the Competition, which will be held in May, under the following rules:

Model wingspan max 80 cms (about 31"); A.u.w ready to fly between 40 and 140 grams. We have booked a Sports Stadium for the "Fly-off", when each team (of 4 students each) will be allowed 4 hand-launch flights from a launch height of 5 metres , the winner being the team whose model makes the longest distance over the grass. I won't attempt to predict that distance, but a gradient of 1:10 might be a reasonable one, who knows? We are not expecting MW thermals at our Stadium ground level! *END OF PART ONE: Part TWO IN JUNE, IF YOU WANT IT>>> (D.T.)*

*Design examples sent by Dick*

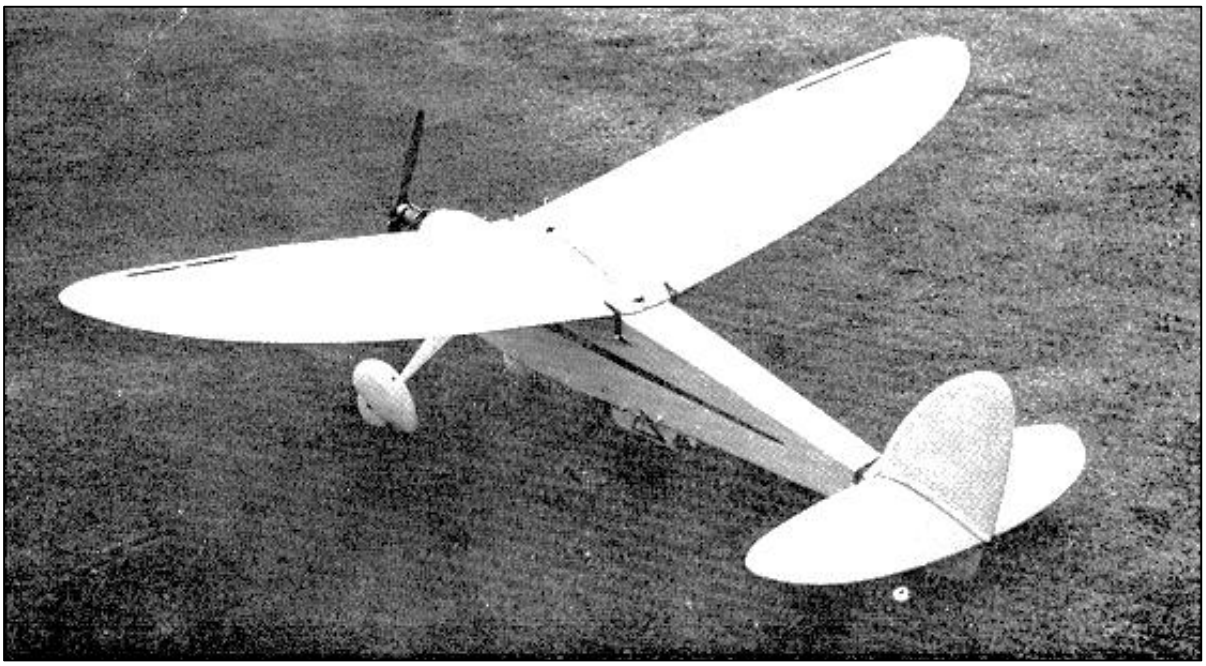



Good to see & well done to Dick. We have decided to return the Top Time Trophy to him – he was the original donor & the days of the longest flights at Middle Wallop are now over. So it seemed appropriate.

*News from overseas – Part 2*

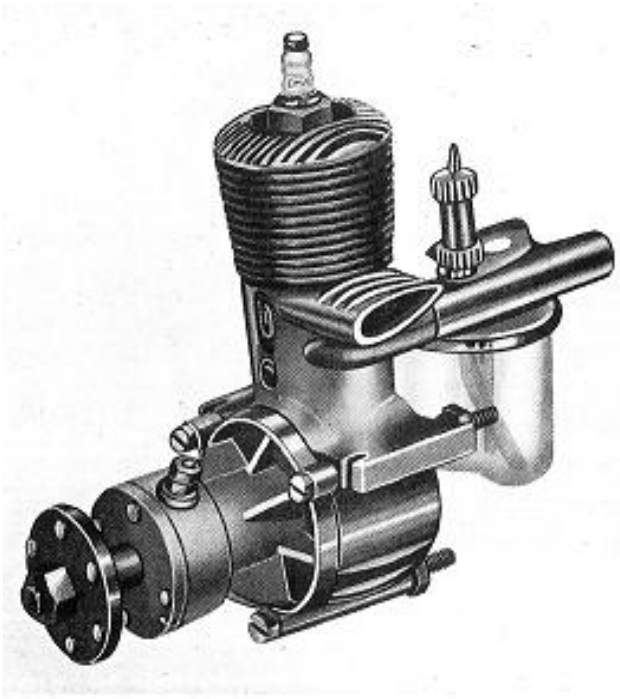
A package arrived in the post this week from Pino Carbini, who is the hard working SAM 2001 Secretary. It contained a couple of printed editions of L'Aquilone & a memory stick holding some 60Gb of data on what I presumed to be the Italian vintage modelling scene. Not so, as there are other very interesting files – for example, a book entitled "The History & technical

development of Model Aircraft" by Lt-Col C E Bowden, published by Harborough Press in 1946 – 78 page treatise of post war modelling with many fine pictures of models from that era. Other fascinating publications include a short French book on "aeromotors" published in 1946, "Model Diesels" by Laidlaw-Dickson & Russell from 1947 & "Model Jet Reaction engines" by C E Bowden from 1948. For those of you who are fluent in Russian, there are two volumes (approx 250 pages) of a Model Aeroengine Guide from 1983. Loads of plans of course – that means more work & I'm way behind on our own DBHL backlog!



Bowden Contest model – photo from above mentioned book

Picture below taken from Model Engine catalogue of 1940. How about the price?



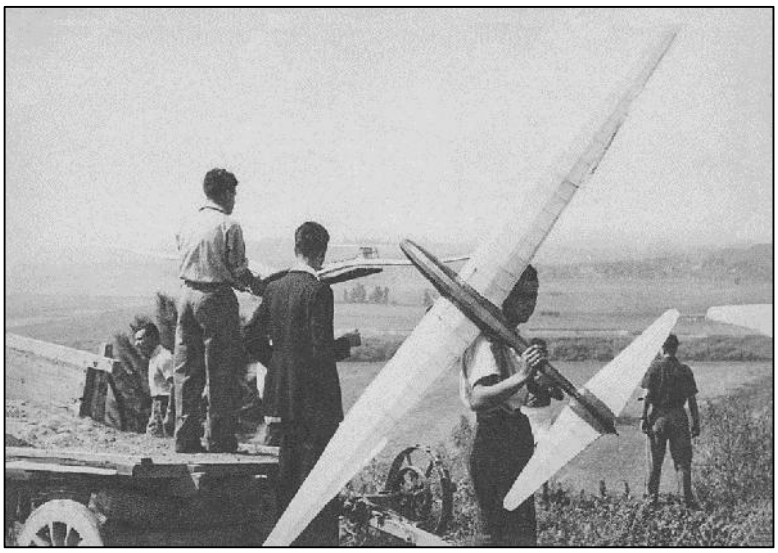
**OHLSSON - 19**

**SPECIFICATIONS**

| | |
|---|---|
| Horsepower—1/7 | Displacement .031 Cu. In. |
| Bore ⅝" | Stroke ⅝" |
| No Piston Rings | Class A |
| Weight | List Price, $14.50 |

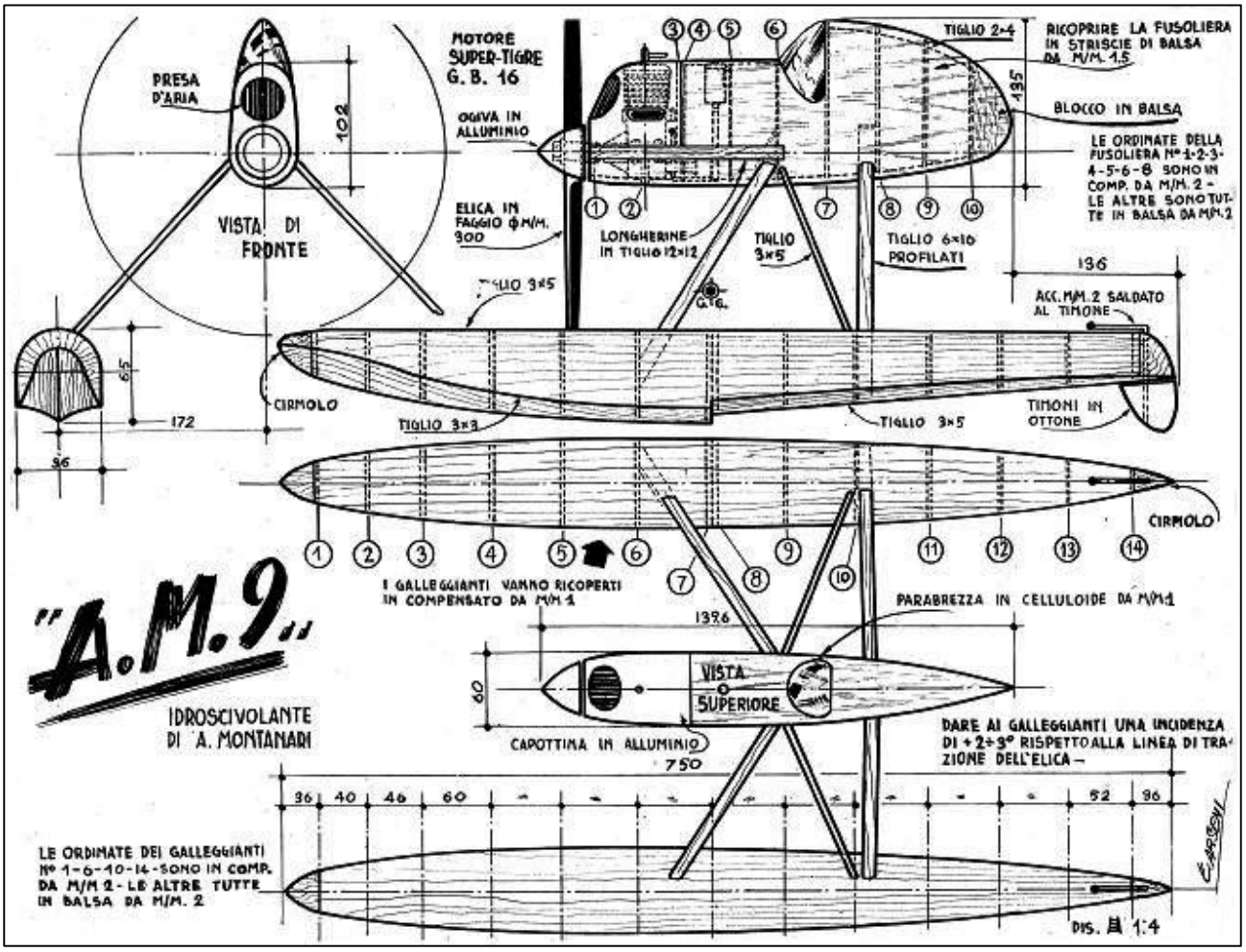
**The accessories shown on the above motor are standard equipment. Replacement accessories are listed on pages 28-29.**

It will take quite a while to sort through all the information. Pino must have spent ages collating – as for who did the scanning? There is a huge amount and from the little I've looked at, it has been very well done with many vintage era photos. Here is a magnificent glider, dating to the 1940's.



No idea where they flew these models, but Gianni tells me that nowadays free flight sites are more rare than hens teeth in Italy. I guess we are now following the same path in UK.

For something different – how about a hydroplane from 1948? Enough to give the average modern day H&S person an instant fit of apoplexy.




Pino & Gianni Lofredo have also been very helpful in sorting out the publication date of the Allievo, which is an Italian wartime glider of some 1.6m span that I mostly built some time ago & has now been passed to younger legs to complete & fly.

The plan is from Aviominima & the date of publication is written on the plan as XXI.

After some investigation by Pino, he traced the one surviving brother of the designer. This brother was a high ranking officer in the Italian Air force, now in his '80s, who explained that the "XXI" was 21 years after the Fascist revolution. As this took place in 1922, the design date works out to be 1943!

***On the Home front***

Not a lot going on, as other things have dominated my life this month. Found time to order 5 more Lemon Rx modules, which arrived extremely promptly. One has been fitted to a Lulu. The stack of unflown, hence untrimmed models is mounting! A couple with electronic timers, others with this new fangled "sports" RDT. All that is required is some spare time that coincides with half decent weather at Beaulieu & the motivation to get out & active again!

In recent email chat with David Parker, he sent a photo of one of his recent models – must confess it puts my meagre efforts to shame. It is an EIK34, a very pretty Italian float plane from 1947 complete with floats apparently set to precise angles. No tests off water yet – the flooded runways at Beaulieu beckon but they are rather a long way from Norfolk! He drew up the plan from a 3 dimensional view published in May 2001 SAM Speaks, with (I suspect) a fair amount of research. Nice!

For those who are interested in vintage flying full size style – the Shuttleworth Trust are holding three "At Home" days this summer – on Saturdays 21st May, - 18th June & - 16th July. The concept is that 'At Home' will be reminiscent of an Engineering Open Weekend, with plenty to see inside the engineering hangar as well as outside.

There will be flying throughout the day, weather permitting, in a relaxed programme that has no dedicated 'display time', meaning aircraft can fly any time after the gates open until close to dusk. If the weather is kind it means almost certainly that the pilots skilled with the Edwardians will take the chance to get airborne! From 10.00 am till late – book on-line for £14.50. Sounds like a good day out provided you look at the weather forecast first.

Blackburn Monoplane Type D – a few of these have appeared at Middle Wallop in the past, powered by the inevitable Mills .75. Alas, no longer – how can a dt be fitted to such a model? Only Old Warden remains for such pleasures.

**Vintage Coupe Plans**

Ed Bennett has kindly sent these to me for digitisation & Derrick Scott should have them by the end of this month. So sometime in April, those which are not already in our collection (in red) will be added to the DBHL digital library. The plans comprise:

| | | | | | |
|---|---|---|---|---|---|
| Fuit III; | Machaon; | Bagatelle; | Eros; | Ailbass; | Altair; |
| Babar; | Jump Bis; | Jenniso; | Lo Zigolo | Michel Etienvre. | |

Ed also sent spare paper copies of the following:

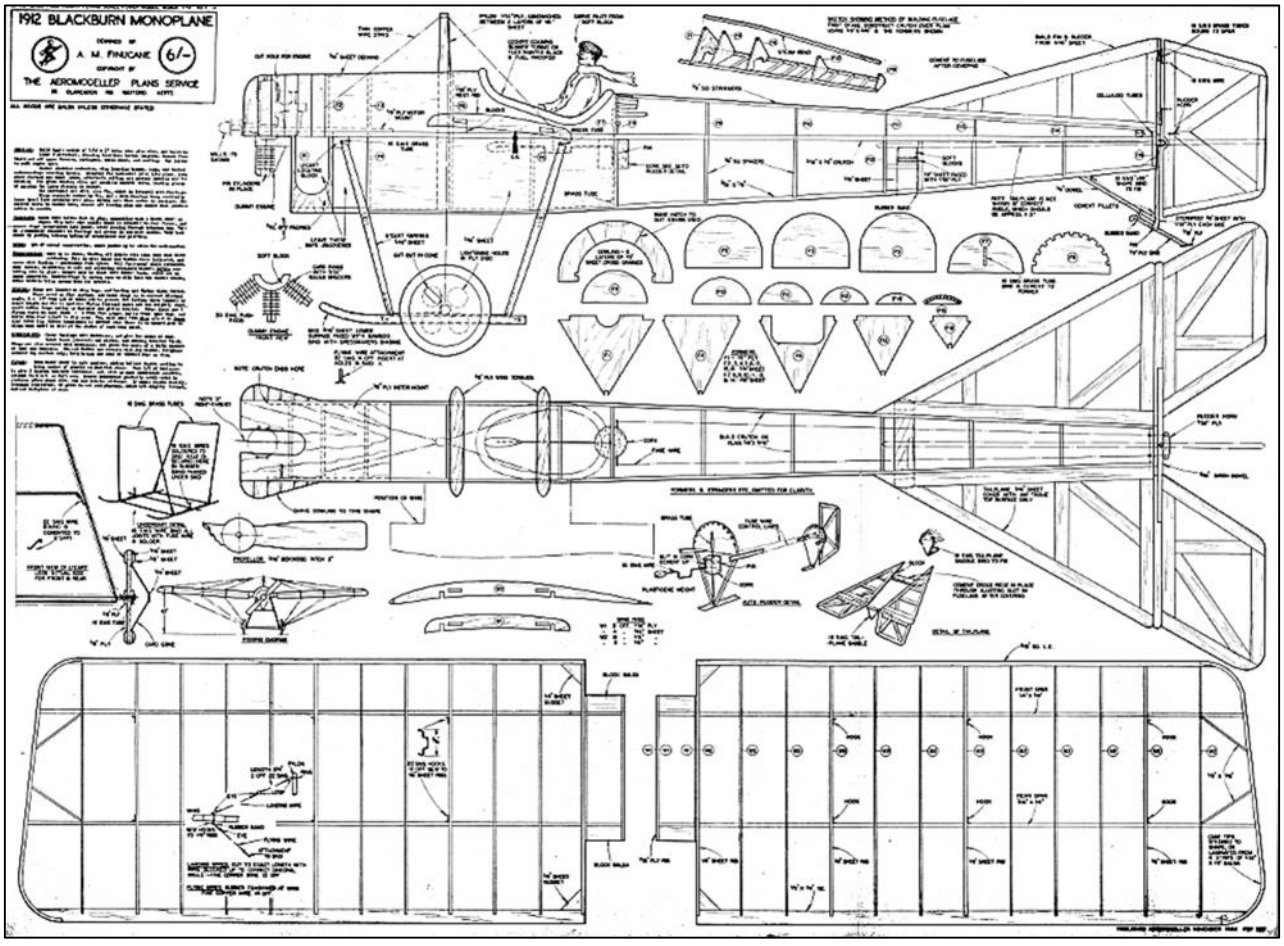
| | | | | |
|---|---|---|---|---|
| Eros x 6; | Altair x 3; | Lo Zigolo x 5; | Jenniso x 4; | Babar x 6; |
| Ailbass x 3; | Jump Bis x 4; | Machaon x 4; | Bagatelle x 4 | Fuit III x 2. |

So if anyone would like a paper copy, drop me an email & it will be posted to you for the cost of postage – say £1.50. Money goes to club funds.

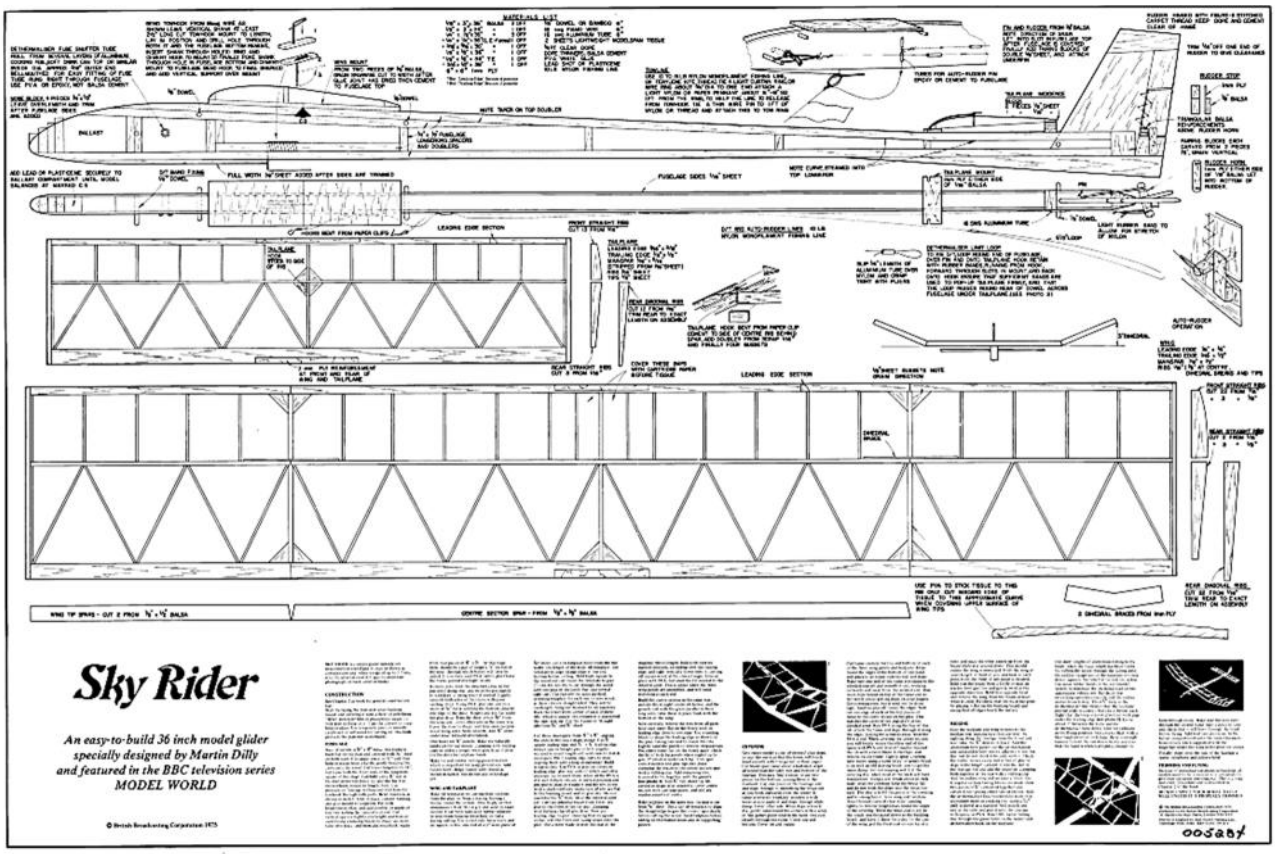
*Roger Newman*

## Plans for the Month - Roger Newman

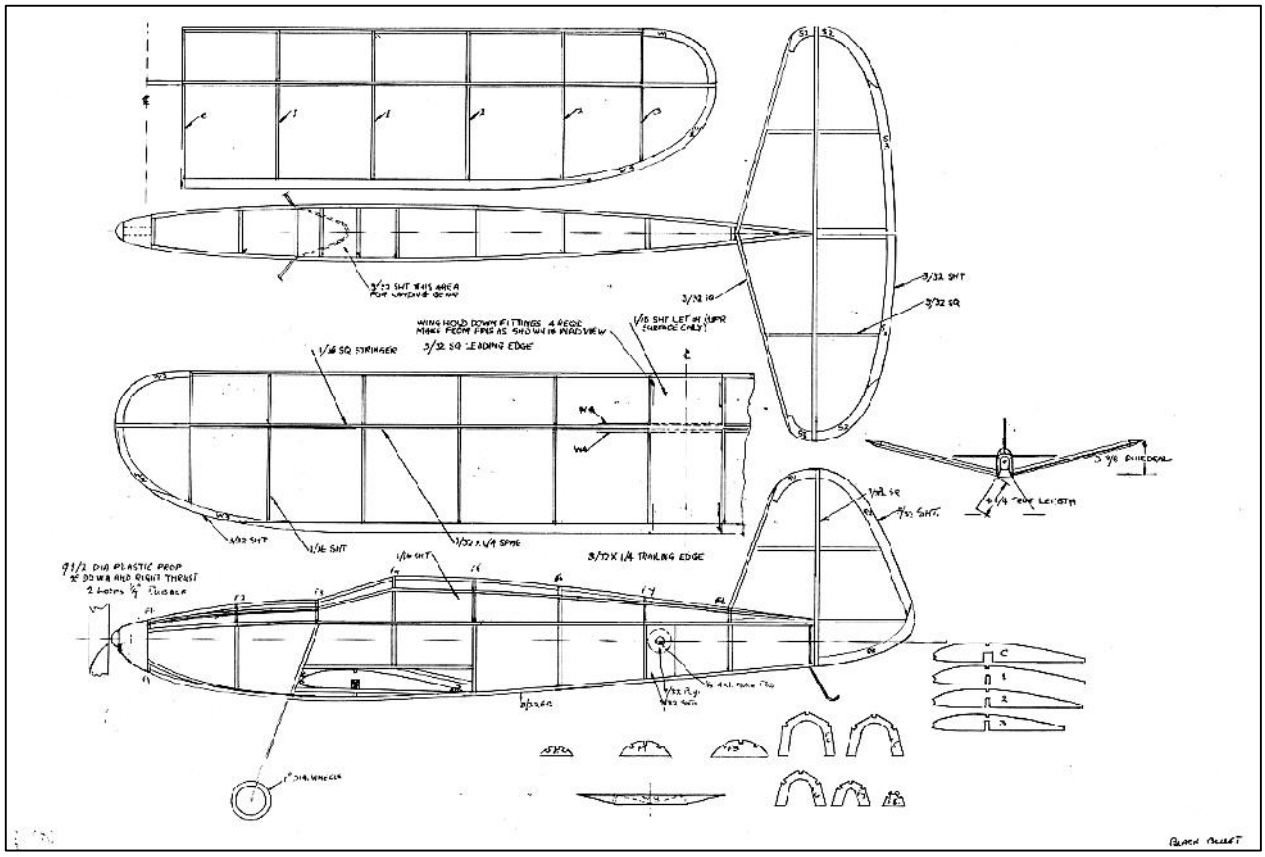
***Power:*** Has to be the Blackburn Monoplane from the Aeromodeller, a very detailed plan.



***Glider:*** A Martin Dilly special for the BBC, suitable for bungee launch – Sky Rider




***Rubber:*** Attractive low wing monoplane of 1940 era from Modelcraft? - Black Bullet

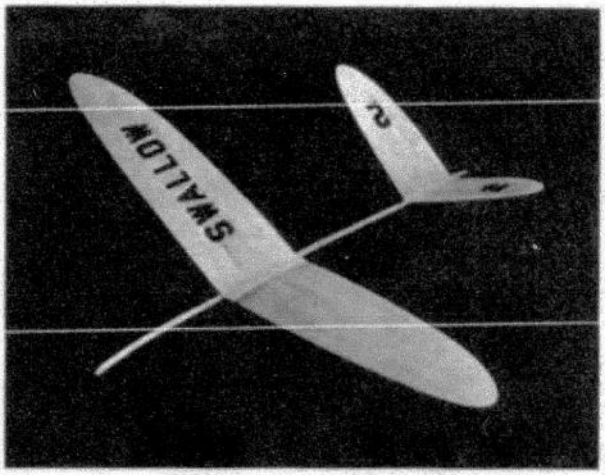


*Roger Newman*

# SWALLOW

## 18-in. SPAN TOWLINE/CATAPULT LAUNCHED GLIDER


BUILDING TIME
4 HOURS




THE butterfly-tail *Swallow* is a highly efficient glider capable of flights of much longer duration than the smaller *Hawk*. The two factors mainly responsible for the increased performance are the airfoil-sectioned flying surfaces and the special towline/catapult launching method.

1. Trace all the parts (A, B, C, D, Y and Z), then attach them to the appropriate thickness sheet, noting the grain direction. Choose *medium-hard* (*MH*) balsa for the fuselage pieces (A and B) and *medium* (*M*) balsa for the flying surfaces (C and D). Cut out all the parts, then pin 'C' and 'D' to pieces of sheet and use them as patterns for the other panels.

2. The fuselage consists of three pieces of laminated sheet. Smear one side of the central core (A) with cement and pin it over the top of one of the rectangular sides (B), as shown in the center photo below.

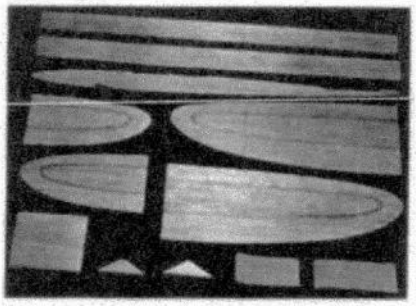
3. Trace the 'trimming lines' on to the wing and stabilizer (top surfaces) and mark with a ball-point pen. Carve the sheet *outside* the trimming lines with a very sharp razor blade—to obtain the required airfoil section—then smooth down with the sanding sheet. Finally, complete the flying surface panels by sanding away the trimming lines.

4. Unpin the fuselage assembly from the building board and carve away the surplus wood from the 'B' piece—with the exception that *no cut-outs should be made in 'B' for the flying surfaces*. Smear cement over the other face of 'A' and place it over the top of the second 'B' piece. Pin down to the building board and leave to dry.

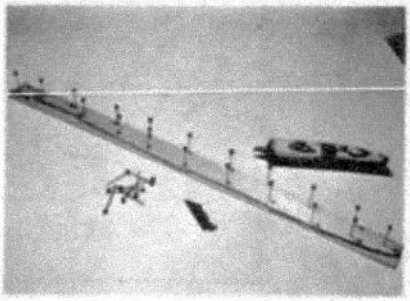
5. Now turn back to the flying surfaces again. The roots of these must be shaped to the correct dihedral angles, so place the panels on the building board and sand them, using the building board edge as a guide (see photo 4 on adjoining page). Coat the end grain of the roots with cement—to provide the best possible joining faces.

6. Pin the right-hand wing panel down flat on the building board. Mark the position of the 'Z' dihedral packing on the *underside* of the left wing panel, then cement the two panels together, packing up with 'Z'.

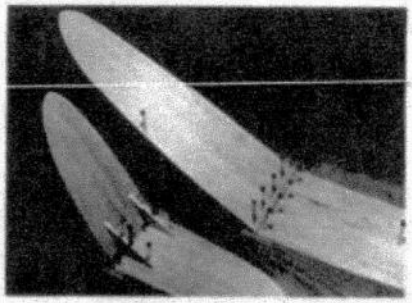
7. Pin the right-hand stabilizer panel down flat on the building board. Pin the two 'Y' dihedral angles to it as



*Shaped parts for SWALLOW. Note the trimming lines on flying surfaces.*



*Pin fuselage core (A) over one of 'B' sides Add other side later.*



*Join the flying surfaces together with aid of dihedral angle pieces.*

shown in the photo, then cement the left panel to it—pinning securely to the upturned arms of the 'Y' angle pieces.

8. Unpin the fuselage from the board and carve away the surplus wood from the second 'B' side. Slightly 'vee' the top edges of the 'B' side pieces at the wing and stabilizer positions—to allow for the dihedral angles of the flying surfaces. Unpin the flying surfaces from the board and add 1-in. wide cloth patches to the central joints.

9. Squeeze cement in the fuselage 'vee' for the stabilizer. Pin the stabilizer in position and check that it lines up correctly in the top and front views before the cement has time to set—then install the wing in a similar manner. Smear plenty of cement around the fuselage/flying surface joints.

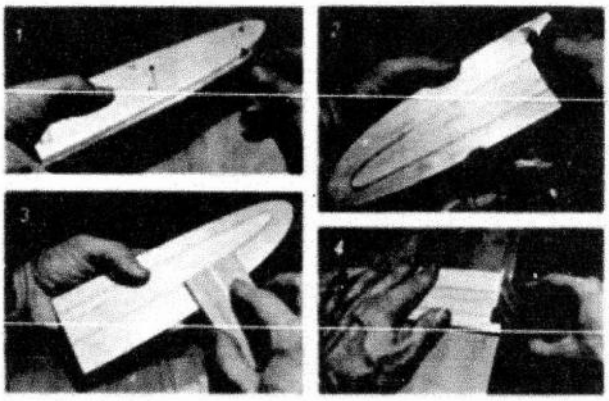
10. All that now remains is to push a pin into the wing at the central joint (above black arrow) and add nose weight until the model balances level. Make up the towline/catapult as described in the following paragraph.

11. Cut a 6-in. length from a piece of $\frac{3}{16}$-in. diameter hardwood dowel and sharpen one end like a pencil. Close to the other end, cut a shallow groove and tie a 10-ft. piece of $\frac{1}{4}$-in. flat model aircraft rubber in place. Tie a 20-ft. length of strong white thread to the other end of the rubber, then tie an extra large paper clip or small curtain ring to the other end of the thread. Finally, fasten a small piece of cloth (4 × 1 in.) to the thread, 6 in. from the paper clip.

## FLYING

In view of their thickness, the flying surfaces are not likely to warp easily, but it's still a good idea to check them carefully before taking the model out to the flying field. Obtain the correct trim by gently test gliding into wind, from shoulder height, varying the amount of nose weight as required. Add a little more weight to correct a 'stall' or take off a little if the model dives. When trimmed to the best gliding angle, the model should touch down at about 30 ft. away from the launching point.

Gently twist up one of the wing front edges to obtain a *wide* turn. Leave the stabilizer panels strictly alone, except to correct warps. Quite long flights can be obtained by hand launching, with the wings banked to obtain a circular flight pattern, but for maximum duration use the towline/catapult.



*MAKING WING PANELS. 1. Cut second panel using first one as pattern. 2. Carve airfoil shape. 3. Finish with sandpaper. 4. Sand roots to correct dihedral.*

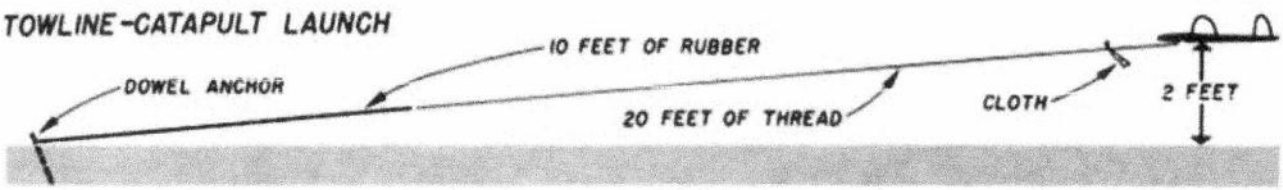
Push the sharpened end of the dowel into the ground and lay out the rubber and thread *downwind*. Place the tow-ring in the fuselage notch and stretch back until the model is 40 ft. from the dowel-anchor. Hold the model on a level keel at a height of 2 ft. above the ground—then release. A loop will probably result, followed by a circling flight. Note the direction of the turn, then bank the wings *slightly* in the opposite direction for the next flight. This will give an 'S'-shaped flight pattern, with the model levelling out at a considerable height.

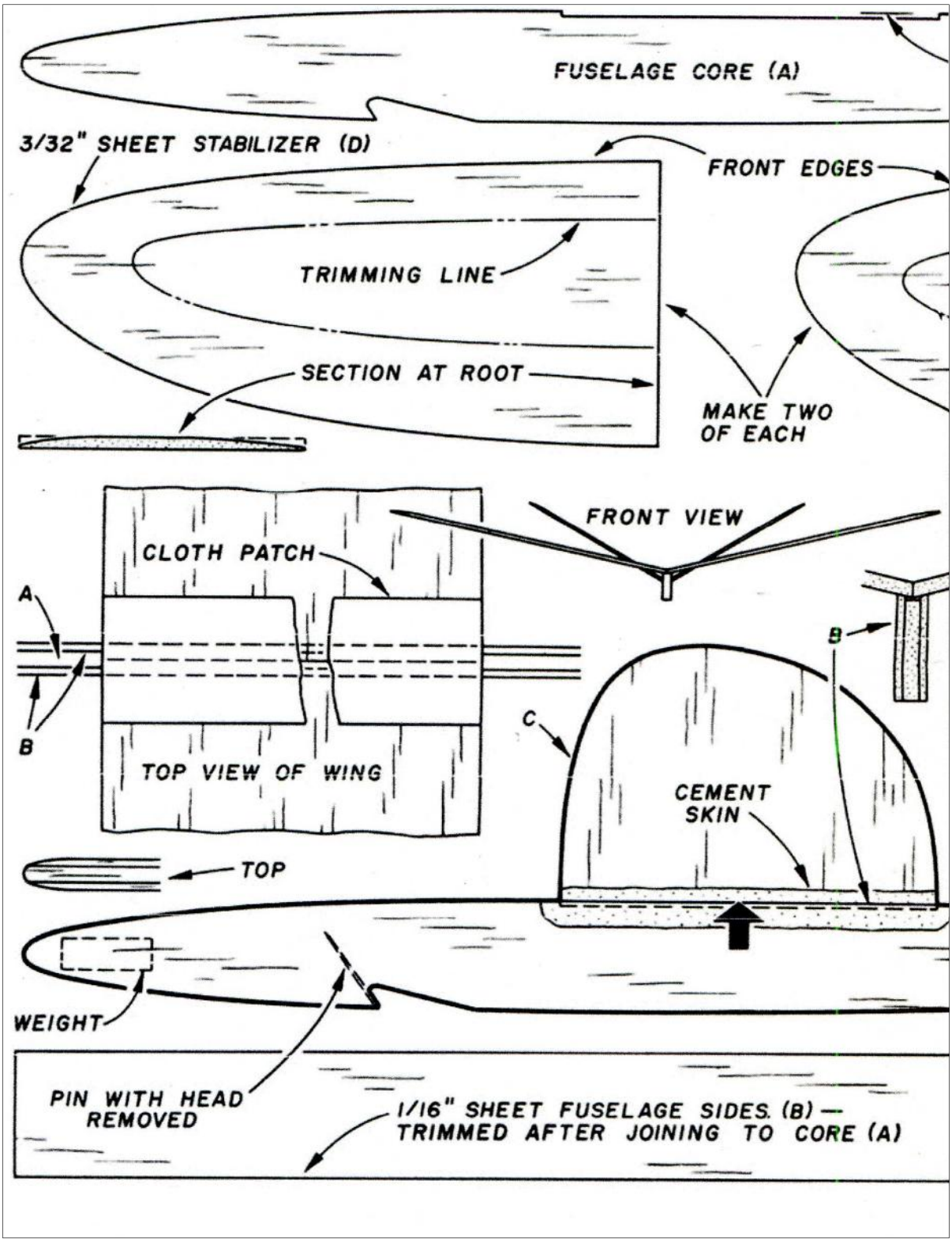
Providing the model does not turn too sharply, increase the stretch to about 50 ft. from the dowel-anchor. However, the wings must only be banked very slightly, as the increased launching speed will have a tendency to tighten up the turn.

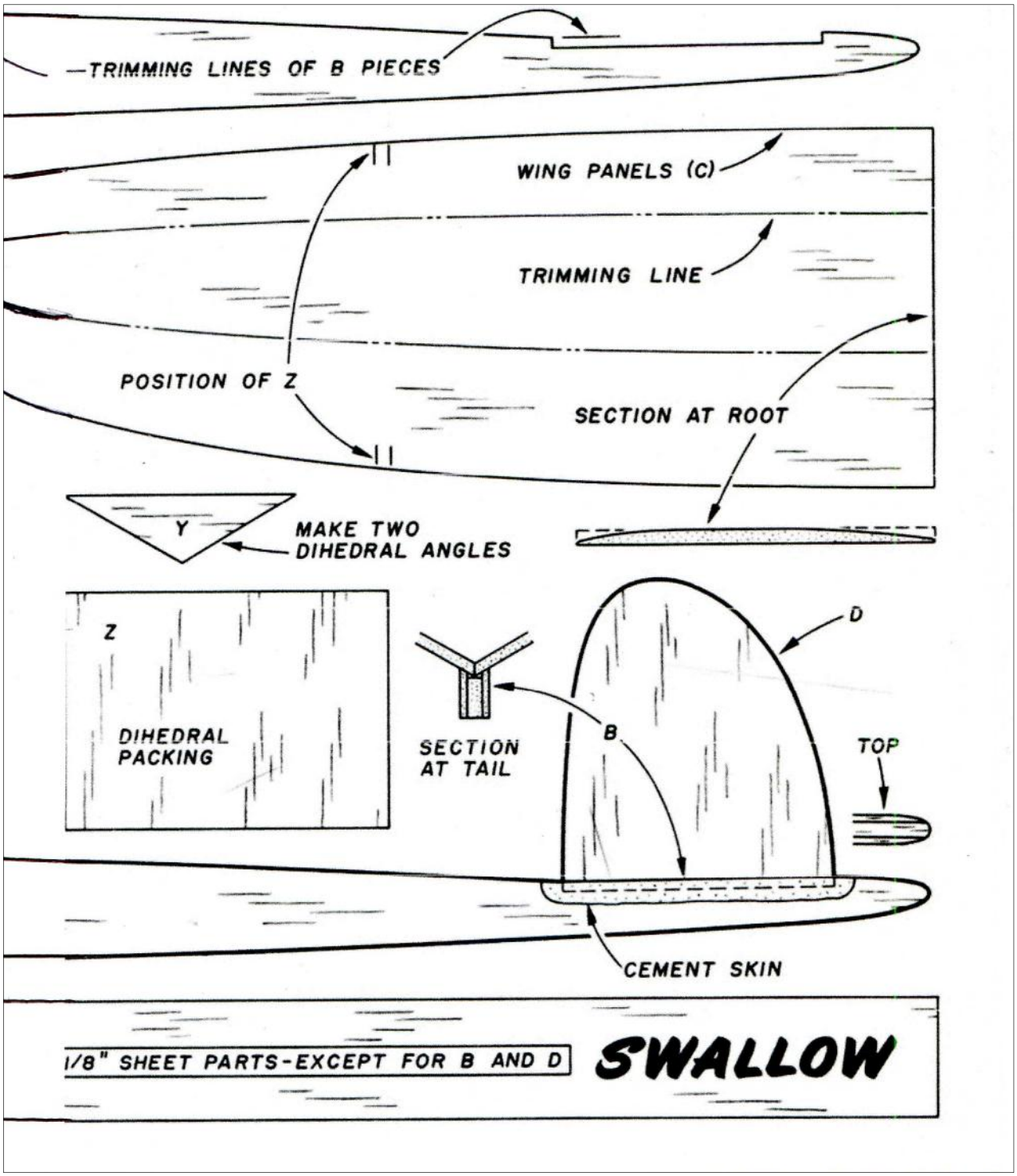
After a few tests, you will find that the longest flights *do not* always result from pulling back the line to the maximum amount. Good flights may also be obtained by gently hand launching into wind from the top of a hill or rising ground.

**MATERIAL LIST**

| | |
|---|---|
| Sheet—$\frac{1}{16}$" × 3" × 18" (MH) | 6 in. of $\frac{3}{16}$" diameter dowel |
| Sheet—$\frac{1}{16}$" × 3" × 12" (M) | 10 ft. of $\frac{1}{4}$" rubber |
| Sheet—$\frac{1}{8}$" × 3" × 30" (M)* | 20 ft. of strong thread |
| *MH fuselage | TOTAL COST: About 75¢ |




FUSELAGE CORE (A)
3/32" SHEET STABILIZER (D)
FRONT EDGES
TRIMMING LINE
SECTION AT ROOT
MAKE TWO OF EACH
FRONT VIEW
CLOTH PATCH
A
B
TOP VIEW OF WING
B
C
CEMENT SKIN
TOP
WEIGHT
PIN WITH HEAD REMOVED
1/16" SHEET FUSELAGE SIDES. (B) — TRIMMED AFTER JOINING TO CORE (A)




*Bill Dean*
*From 'The Book of Balsa Models'*

## Northern Gala - Jim Paton

**Northern Gala, North Luffenham, Friday March 25th.**

There was excellent weather with a not too cold sunny day. Slightly breezy at times. The air was a bit turbulent at times but plenty of lift and sink about to test air picking skills. It was my first outing since October. I consulted my black book which informed me my models were well trimmed! First tested was my better open rubber model. It stalled and flopped all over the place. After a few rudder and elevator changes I discovered the thrust adjustment screw was loose and the prop unit was wobbling. By now the rudder and tail adjustments were out and it did a terminal coupe swoop. It broke a prop blade and the pylon, so I put that away. I spent the next quarter of an hour looking for the tracker bug. Fortunately my Biotrack Rx is good for such operations, which are becoming a bad habit for me. By that time I was getting a bit blaze', so I got out my Buckeridge Lightweight and gave it a trimming flight. It was indeed in trim, so I proceeded to enter and got two maxes in good air. Unfortunately the third flight was in sink for 53 seconds. Later in the day Spencer Willis showed us how a Buckeridge should fly with a rocket climb and good glide. His first flight was under a max due to too much right rudder. His second and third were excellent due to the addition of a gurney strip to the rudder. I next got out my second open rubber model, found lift and maxed. It was in good trim. I dropped my last flight in rubbish air. The competition was fierce with lots maxing out. I had an arm aching time for Chris Redrup in the flyoff. Fortunately I was using a monopod for my binoculars. He managed 11 minutes out of sight!! Phil Ball, however did 11.39 o.o.s. Chris and I and Pete Tolhurst went looking but no tracker signal was obtained. A Pyrrhic victory. This is why I rarely make flyoffs! All in, an excellent day for resuming aeromodelling.

Although Middle Wallop was cancelled, the rest of the weekend is forecast for gales, so there has been no loss there. In fact it has saved organisers a wasted time. I collected a CO2 Tiger Moth that I bought on eBay on the way back. As if my workshop was not full enough. I got it for less than the usual rate for the Gasparin 120 that I wanted and I got a couple of CO2 bottles with adaptor. The model is beautifully made and puts me to shame. I hope to take it to Old Warden.

*Jim Paton,*

**Editors Pictures from Northern Gala**

Ken Bates preparing his 'Buckeridge' lightweight. Your editors Fetchermite for the day, Ken's grandson James, with 'Last Resort' in hand. Model was off trim for first flight but removal of one sliver of card cured the problem.

MODEL AIRCRAFT APRIL 1954

# Rubber ★ ★ on Test

*The test data given in the following pages was obtained from typical samples of commercial rubbers available—namely Dunlop and Pirelli. In view of the significance of rubber power under the new Wakefield contest rules, test motors were made up to Wakefield size in each case.*

by RON WARRING and BOB COPLAND

RESTRICTING rubber weight to a maximum of 2.82 ounces under the new Wakefield rules places a premium on rubber performance, and also renders the actual making-up of the motor a little tricky. It is difficult to measure rubber *accurately* by length—accurate enough, that is, to work right up to the limit allowed under the Wakefield rules. Measuring out a motor by *weight* is the obvious solution, but then makes it very difficult to sub-divide the skein so measured into the required number of strands.

A practical solution is to aim at making up a motor slightly undersize, so leaving that little margin for possible error. What you may lose in power output this way can safely be ignored. Thus a Wakefield motor made up to 2⅝ ounces dry weight is a good standard size. Lubricant will then add a further five per cent. or so, making the total weight of the motor between 2 11/16 and 2¾ ounces, on average —comfortably within the weight limit.

A number of sample motors were measured out to a dry weight of 2⅝ ounces and their average physical dimensions taken to provide the data summarised in Table I. Allowing for the fact that there is often a slight variation in density between different skeins of the same brand, and sometimes even between different ends of the same skein, motors cut to the length indicated should, when lubricated and made up, come safely within the weight limit. The higher figures in brackets indicate lengths to which the rubber should be cut to end up with a lubricated rubber closer to the limit.

Table II reduces these figures to layout dimensions for making up motors of different cross section, substantially correct to the nearest half inch. After breaking in, the motor will have stretched somewhat, due to its taking up what is termed a permanent set, and if it is necessary to re-make the motor at this stage corresponding lengths will be approximately as summarised in Table IIa.

Various specimen motors were then broken in carefully and winding continued to find a nominal maximum turns figure. By this is meant the motors were not actually wound to destruction but as tight as possible without them actually breaking. Many factors affect actual breaking turns, such as temperature, condition and age of the rubber, individual winding techniques, etc. Also, of course, maximum turns will be reduced if the motor is roped or corded. Allowing for such factors, the figures in Table III should be obtainable with similar rubbers, although for safety a working maximum about ten per cent. lower would be advised. Table III data is reduced to equivalent terms for standard Wakefield motors of various cross sections in Table IV.

The data in Table V is intended only as a general guide. It does not follow that the power output of a motor is directly proportional to the cross sectional area of the rubber, although if the rubber were of identical form and constitution in each case, this should hold true. (Theoretically torque or power is proportional to cross section[1.5]). Table V can, however, indicate what size of motor might be a good alternative choice to, say, a 14 strand ¼-in. motor which is a little too weak, or a little too powerful. In such a case, 18 strands of 3/16-in. Dunlop would give slightly less cross section —19 strands of 3/16 in. slightly more cross section.

**TABLE I. PHYSICAL DATA SPECIMEN RUBBER STRIP**

| BRAND | Nominal cross section (in.) | Actual cross section (in.) | Actual cross section area (sq. in.) | Average density (oz./cu. in.) | Lengths for 2⅝ oz. (Av.) |
|---|---|---|---|---|---|
| Dunlop ... ... ... | ¼ x 24 | 0.248 x 0.042 | 0.0104 | 0.56 | 37 ft. 8 in. (40 ft.)* |
| Dunlop ... ... ... | 3/16 x 24 | 0.188 x 0.042 | 0.0079 | 0.56 | 49 ft. 6 in. (53 ft.)* |
| Pirelli ... ... ... | ¼ x 24 | 0.242 x 0.045 | 0.0109 | 0.565 | 35 ft. 9 in. (38 ft.)* |
| Pirelli ... ... ... | 3/16 x 24 | 0.175 x 0.042 | 0.0074 | 0.56 | 54 ft. (58 ft.)* |

*These figures are approximate lengths for maximum size motors.

**TABLE II. MAKE-UP LENGTHS (IN INCHES) FOR WAKEFIELD MOTORS. (Approx. 2¾ oz. lubricated)**

| RUBBER | NUMBER OF STRANDS 12 | 14 | 16 | 18 | 20 | 22 | 24 |
|---|---|---|---|---|---|---|---|
| Dunlop ¼ ... | 37½ | 32 | 28¼ | — | — | — | — |
| Dunlop 3/16 ... | — | — | 37½ | 33 | 30 | 27 | 24½ |
| Pirelli ¼ ... | 36 | 31 | 27 | — | — | — | — |
| Pirelli 3/16 ... | — | — | 40½ | 36 | 32 | 29½ | 27 |

**TABLE IIA. APPROX. MOTOR LENGTHS WHEN RUN IN. (2¾ oz. motors, well lubricated)**

| RUBBER | NUMBER OF STRANDS 12 | 14 | 16 | 18 | 20 | 22 | 24 |
|---|---|---|---|---|---|---|---|
| Dunlop ¼ ... | 42 | 36½ | 32 | — | — | — | — |
| Dunlop 3/16 | — | — | 42 | 37 | 33½ | 30½ | 27½ |
| Pirelli ¼ ... | 39 | 34½ | 30 | — | — | — | — |
| Pirelli 3/16 ... | — | — | 45 | 40 | 35½ | 32½ | 30 |

**TABLE III. NOMINAL MAXIMUM TURNS**
(Turns per inch)

| RUBBER | NUMBER OF STRANDS 12 | 14 | 16 | 18 | 20 | 22 | 24 |
|---|---|---|---|---|---|---|---|
| Dunlop ¼ ... | 25 | 22.5 | 20 | 17.5 | — | — | — |
| Dunlop 3/16 ... | — | 30 | 26 | 23 | 21 | 20 | 18 |
| Pirelli ¼ ... | 27 | 24 | 21 | 18.5 | — | — | — |
| Pirelli 3/16 ... | — | — | 31 | 28 | 25 | 22 | 20 |

**TABLE IV. NOMINAL MAXIMUM TURNS**
(2⅝ oz. rubber)

| RUBBER | NUMBER OF STRANDS 12 | 14 | 16 | 18 | 20 | 22 | 24 |
|---|---|---|---|---|---|---|---|
| Dunlop ¼ ... | 940 | 720 | 565 | — | — | — | — |
| Dunlop 3/16 ... | — | — | 970 | 760 | 630 | 540 | 440 |
| Pirelli ¼ ... | 970 | 740 | 565 | — | — | — | — |
| Pirelli 3/16 ... | — | — | 1,250 | 1,000 | 900 | 650 | 540 |

**TABLE V. APPROX. MOTOR EQUIVALENTS BASED ON CROSS-SECTION AREA**

| RUBBER | EQUIVALENT STRANDS | | | | | |
|---|---|---|---|---|---|---|
| Standard Max. 24 (Dunlop & Pirelli) | 12 | 13 | 14 | 15 | 16 | 18 |
| Dunlop 3/16 ... | 16 | 17 | 18 (18½)* 19 | 20 | 21 (21½)* 22 | 24 |
| Pirelli ... ... | 17 | 18 | 20 | 21½ | 23 | — |

*Geometric equivalent.

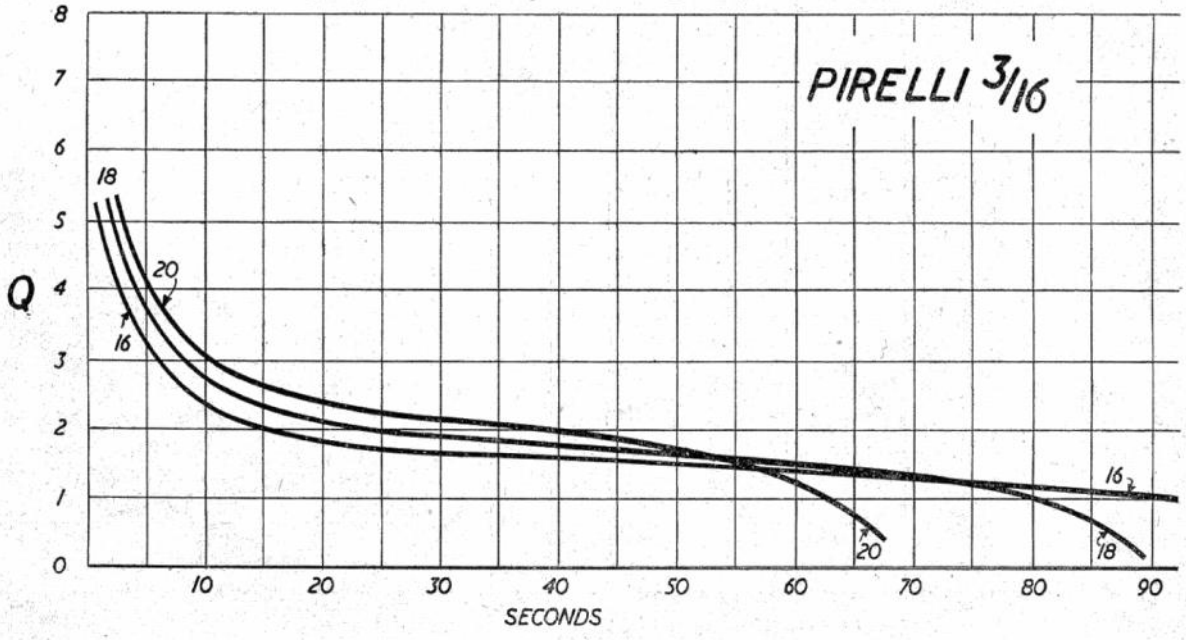
Such general conversion should, however, be studied in conjunction with the characteristic torque curves of the four different rubbers tested.

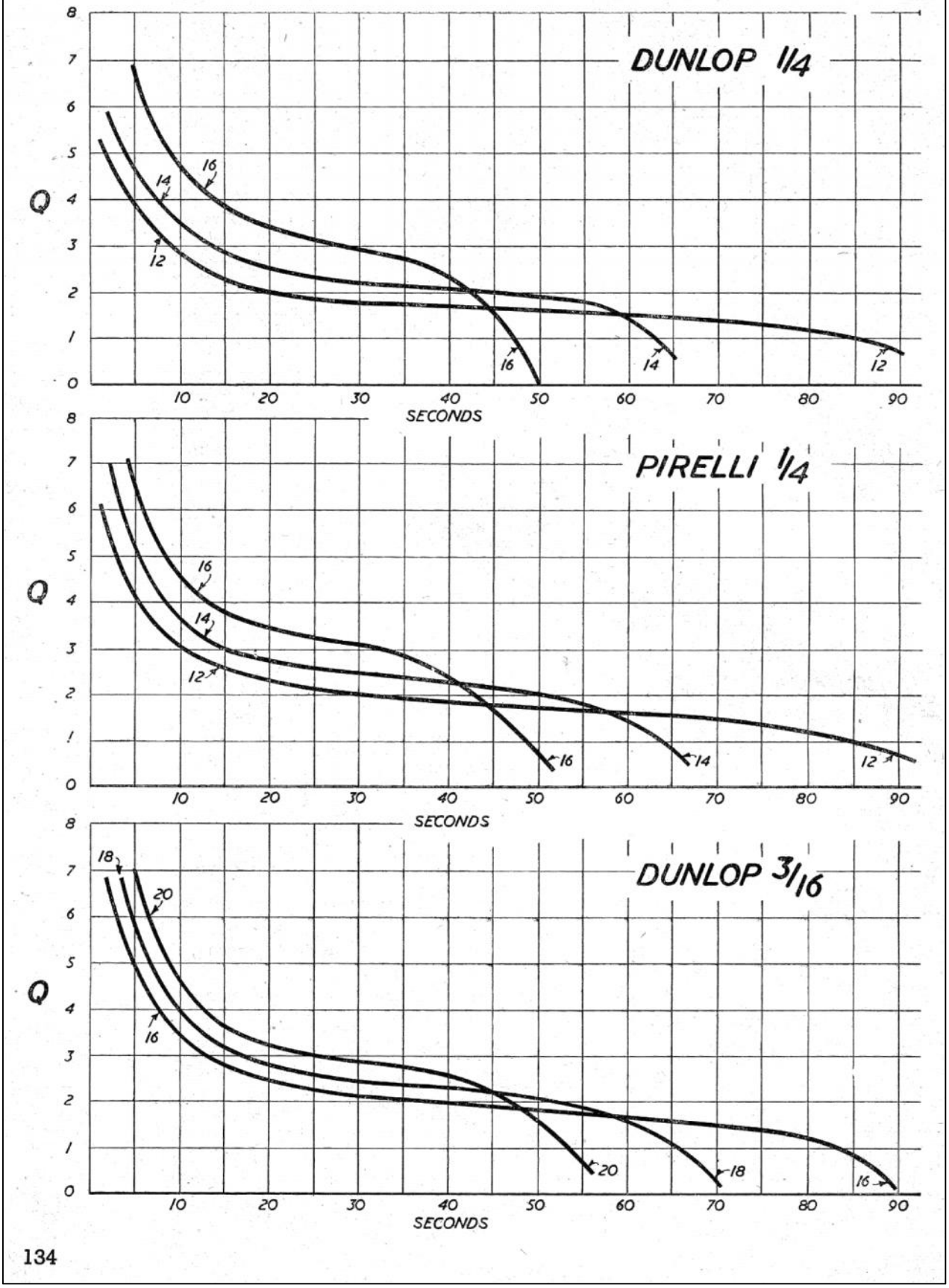
The torque curves were obtained by carefully running-in sample motors of the appropriate size, up to about 90 per cent. nominal maximum turns. They were then rested and torque test readings taken with each motor, in turn, made up into three different arrangements—12, 14 and 16 strands in the case of ¼-in. strip; and 16, 18 and 20 strands in the case of 3/16-in. strip. These motor sizes embrace the whole range likely to be required in a Wakefield model. The same motor was used for each of the three separate tests appropriate to that particular size and brand. This eliminated any possibility of variation between different motors of the same brand and size. The possibility of fatigue affecting the results was also eliminated by winding all motors to 80 per cent. nominal maximum turns for the purpose of testing, whatever size they were made up into. At 80 per cent. maximum turns, fatigue effects are almost negligible until after the sixth or seventh winding, and often delayed for a dozen.

Since we have no simple means of using actual torque figures generated (e.g. torque measured in ounce-inches), torque is quoted with regard to an arbitrary linear scale ranging from 0 to 8. The scale being linear, figures are truly proportional to actual torque and so can be used as a basis for direct comparison. To assist in this all four graphs have been drawn to an identical grid pattern.

For each brand and strip size, three separate curves are shown. These correspond to the test motor being made up into the number of strands indicated and with each corresponding motor then wound to 80 per cent. of its nominal maximum turns. The load in each case was the same—a 19 in. diameter 30 in. pitch Wakefield propeller of conventional form and blade area.

It is not the purpose of this article to comment on the comparative performances of the different brands and strip sizes concerned. This can be done by individual readers, bearing in mind their particular requirements. For instance, the designer who prefers a long, slow climb will be more concerned with power output towards the middle and end of the power run, rather than with high initial torque, which may present unwanted difficulties in trimming out under full turns. The model designed for high climb with a short power run and a folding propeller will normally call for a motor with high average torque.








*Ron Warring/Bob Copland*
*Model Aircraft April 1954*


*Model Aircraft May/June 1955*

### Money Flies

It pays to be an expert. That much is clear from the recently published budget of a successful American multichannel flyer. All in all it cost this genius about is. 6d. per flight, which is less than the average junior spends on diesel fuel to warm up the motor. Unhappily, the average radio beginner doesn't get by on such a slender shoestring. In fact, after a year's "flying," he has hardly enough left to buy a pair of bootlaces. In pursuit of further details we visited a typical radio beginner, Mr.Joe Bloggs, now resident at the poor people's home at Much Sticking.

From this interview we learned that Joe had logged a total of six flights in two years, with an average of 30 minutes per flight. Five of the flights lasted between 6 and 10 seconds, and the sixth was a glorious o.o.s. The whole programme was carried out with only six models,50 gallons of fuel,10 transmitters and 20 receivers. Joe had forgotten how many batteries he had used, but advised that I might ask the local electrical supplier - the one with the new Jaguar.

Joe also mentioned that aspirin was used in great quantity. A useful pick-me-up when the model is one degree under - the deck.

### Timely Twists

It is reported that a new, all-plastic, ready-built radio job has a wing loading that even a Bell rocket-plane might envy. Designed especially for the greenhorn beginner, you have to be an expert to bring it down in one piece. All that's needed now is an all-plastic, ready-built expert.

Newest craze in stamina stints is the round-the-pole marathon. Instead of squatting up-the-pole you squat outside the pole, where, fortified by pep-up-pills and strong coffee, you endeavour to keep a C/L model on the wing for 60+ hours.

The only thing that puzzles me about this, apart from any sane reason for doing it, is how they keep the machine in fuel. Must use hollow lines.

From Liverpool comes news of a power model suffering severe glide stall due to the weight of the d/t. Let this be a warning to all beginners to remove the lamp from the lamp-wick before attaching the latter to the model

### Without Pier

Are there two Wigans ? Geographers and historians are earnestly debating this question since two club reports bearing that honoured name appeared in the same issue.

Some anxiety is felt that, overnight, a new Wigan has mushroomed into existence, complete with duplicate pier and model club. If this is so, where is the new Wigan ?

We don't yet know the answer to that, but we have good reason to suppose it is either on, or close to, a decent flying field. Living in Wigan is no fun for the model flyer. It is an historic fact that the inhabitants of this land-bound town suffer from the strange delusion that they live on the seashore, hence the fabulous pier for which the place is famous. For this reason there are no flying fields. Which is quite logical, for whoever heard of a flying field six fathoms deep?

Disgusted by this situation a few of the rational members of the model club have packed up their model boxes and struck westwards to build a new Wigan in flyable territory.

The story of this epic journey will be the feature of a new television series, called "Wigan Train."

### I.C. Era

I don't pretend to understand American trade jargon, so what is meant by "the age group encompassing a 22 million segment of the American Public" apart from 22 million eager hands reaching into dollar bulging jeans, only a cigar chewing tycoon would know. But it can't be denied that the American public is taking to the model engine in a big way. The toy train, once Junior's favourite; nursery companion, now puffs belatedly behind the model engine in the toy popularity poll. The skyscrapers gently vibrate to the steady rhythm of 22 million pistons oscillating in an ecstasy of togetherness, and the great highways rumble beneath the weight of huge tankers bringing fresh fodder to bruised fingers.

But here I must stop, ere I receive a segment of the editorial chair upon my nut, for this column is supposed to concern itself with model flying and not the toy trade.

*Pylonius*

## Indoors with Cubs - John Andrews

Near to my home we have a scout group hut and it has recently been rebuilt and looked quite large and tall from a passing viewpoint whilst construction was underway. I was fortunate enough to have a contact Brian, in my rifle shooting club, who had been involved in the construction of the new hut and I had spoken to him about the possibility of giving the youngsters a demonstration of indoor flying models.

When the new hut was completed Brian reminded me of my offer and put me in touch with the cub pack leader. I had a look on their website and the plans of the new hut were there and there appeared to be about an eight metre square hall with a 10 or twelve foot ceiling, just enough to fly in I figured. I arranged to inspect the hall and my visit confirmed that there was enough space to fly and a date was agreed for my demo.

I raided my so called debris box for models and decided that I would use my old Polystyrene Hanger Rat, my Wilco Foodbag Special and an old EZB wing on an even older fuselage stick together with what I think was a living room stick wing for a tailplane. I trimmed the models at a couple of indoor meetings to tighten up the flying circles and waited for the big day.

In the meantime Brian had enquired about the possibility of some sort of follow-up building activity for the group and of course the BMFA Dart was mooted as the normal way in for beginners. I thought I'd better find out what the model was like so I sent away for a kit and it arrived a few days before the demo.

I decided to build the Dart to fly at the demo, so one afternoon I built it and was able to trim it at an indoor meeting the weekend before the event.

The build was interesting to say the least. You pin the paper plan/covering upside down on a building board, cut strip to size, put cement onto the paper plan then place the strip down onto the glued plan and pin in place. Not the norm by any means but proved quite effective. You cut around the framework on the plan then assemble the ready covered component parts.

In order to ensure a tight flying circle I added a small rudder tab with right turn, a small aileron/gurney flap on the right wing to keep it up in the tight turn and during trimming an elevator to give a bit of up. Turned out A1.

**The Wilco Special cruises around, I did not time flight but must have been well over 1 min.**

The demo itself was quite an experience, trying to keep a dozen or so 8-10 year olds amused. I first flew the Dart, then the polystyrene Rat, then the Wilco Special.
The Special is quite large and its slow flight lead to a few OOh's and AAh'S so I knew the flying had made some sort of impression. I finished up flying the sort of EZB but it was not any slower than the Wilco but did demonstrate really lightweight construction. I had with me a couple of Penny Planes but knowing that the youngsters would not remain seated in line on the floor forever I finished the demo without flying them.
I needed to get the lads involved so I started to get them, in turn, to release the wound Hanger Rat from the ground for a take-off flight. This proved OK to start with but then hands and arms interfering with the ancient 2mm foam wings lost all the trim settings so I then resorted to letting them hand launch the wound Dart. This proved quite successful and only one relative failure occurred.
All in all it was a worthwhile exercise and it is hoped that some sort of build programme can be set up. Watch this space, I think I've let myself in for something.

*John Andrews*

## South Birmingham MFC

## 2016 Clubman Mini Speed competition

### Sunday Apr 10th at Cofton Park

### B31 2BQ

A) Two classes of engine, to be run in their original mode and on suction fuel feed only.
(1) Diesels
(2) Glow plug engines.
Both engine types, max capacity O.8cc or .049 Cubic inches.
It is permissible to replace burnt out glow heads with units utilising standard 1/4" UNF glow plugs. The use of Nelson, Glowbee and similar aftermarket plugs are forbidden. The PAW .55 and .8cc single ball race engines are allowed but **No** twin ball raced engines, only plain bearing units allowed. Examples are Cox tee Dee 049 and DC Merlin etc.

B) The contest will be timed run of 12 laps (l/2Mile) with the time to start from the pilots hand signal (raised Hand). The time recorded will be divided by 2 and read off a speed chart in MPH. The pilot must keep the flying handle on their chest during the timed part of the run. Approxmately head height during the run. No high flying. There is a total time limit of 7 minutes for the attempt.

C) Five runs can be recorded with the fastest to count. One re-run will be allowed per attempt if the timed run is less than two laps. Incomplete attempts over two laps will score zero points.

D) Steel lines with a minimum diameter of 0.010 inch. Length from centre of model to handle 35.00 feet. No minus tolerance but up to 6 inches over length allowed. Line groupers not allowed.

E) Only the Tom Jolley designed **"Burp"** Jan 1969 Aeromodeller
or the Chris Coote **"Meece III"** Oct 1970 Aeromodeller allowed.

F) The model can be fitted with either beam or radial mount engines.

G) Propellers must be commercially available. They can be made from Wood, Nylon or plastic (Cox propellers) No Glass fibre or Carbon fibre items allowed. Diameter may be trimmed but only one blade can be reworked to balance the prop.

H) Glow fuel will be supplied by S.B.M.F.C. with 15% nitro content total oil should be 20% castor/synthetic blend.
Diesel operators can use their own fuel mixes.

I) Proxy pilots are allowed. 'Builder Of Model' rule will not apply The entrants. BMFA membership number must be visible on the top surface of the wing.

J) Undercarriage optional

Details: contact Eric Hawthorn tel: 01384423547 email: erichaw33@hotmail.co.uk

# Croydon Wakefield Day

## Sunday 8th May 2016

**Salisbury Plain Area 8**

F1B for the Thurston Trophy,
4oz Vintage Wakefield for the Fairlop Cup,
8oz Vintage Wakefields for the Ted Evans Trophy.
SAM eligible models allowed.

**Marcus Lightweight Challenge**
for the four Norman Marcus designed lightweights;
RAFFV, Supa Dupa, Dinah Mite and Bazooka.

Contest starts 10am. F1B will be in rounds.

Contact: Ray Elliott
ray.elliott8@btinternet.com, or tel 0208 997 7745

## 24th WorldWide Postal Contest 2015/2016

Flights may be made outdoors between **July 1st. 2015** and **June 30th. 2016** inclusive; it is not required that all flights in any event be made upon the same day but each is to be pre-nominated as 'official'.

A full report will be published in "Endless Lift" after the scores are received and compiled. To enhance the same, a brief account of weather, site, flying anecdotes, photographs, etc. would be appreciated when scores are submitted. Please ensure that all scores are posted there in **Comments** , under the **Leave a Reply** heading, below, by July 15th 2016; earlier submissions would be most gratefully received! Please provide clear notice as to which class/event they should be posted to. Reporting scores all along should stimulate participation. I welcome any comments regarding amendment to any event rules that might make same more attractive, or suggestions for other classes that might be considered of general interest in any future Contest.

For list of event classes see September New Clarion

http://www.endlesslift.com/24th-worldwide-postal-competition-2015-2016/

**GOOD FLYING – GOOD LUCK – and ... above all ... HAVE FUN! - Gary Hinze**

## OXFORD MODEL FLYING CLUB

## FREE FLIGHT RALLY

## 11 & 12 JUNE 2016

**Venue: Port Meadow, Wolvercote, Oxford**

Sat. 11 June '16, from 6:30 p.m. "CHAMPAGNE" fly-offs.
F1G, F1H & HLG/Cata (combined)

Sun 12 June '16, from 10 a.m

Max decided on the day

- F1G
- F1H
- E30/P30/$CO_2$ (comb.)

} 5 flights in ROUNDS

- MINI-VINTAGE RUBBER (max span 34")
- VINTAGE + CLASSIC GLIDER (comb.)
- HI-START GLIDER (any design, 36" max span)
- TAIL-LESS R+G (comb.)

} 3 flights NO ROUNDS

H.L.G/Cata (comb) 7x1 min max

ALL TOWLINES 50m. HI-START 30m. TOTAL inc. 7.5m. rubber
NO I/C POWER MODELS TO BE FLOWN
NO bubbles, thermistors, streamer poles etc.
ALL FLIERS MUST BE INSURED!

contact: ANDREW CRISP
4 GROVE STREET
OXFORD OX2 7JT

tel:— 01865 553800

## 14th Sam European Championship - June 2016


We tried our best to make the competition a pleasant meeting for all people interested in these historical models, often called "old timers". We believe that our club has done everything possible so that the forthcoming championship will be a success for the competitors, companions and all people present at the event.
The event will take place at Gravity Park, partner of the organization. Without their help, it would have been impossible to organize this event. Gravity Park is a leisure centre focusing on aeronautic sports and nature discovery. Situated near the Lacs de l'Eau d'Heure, at approximately one hour from Brussels and Namur, the park spreads out over more than 60 hectares. The site opens its doors to passionate flyers and to a wider audience. On the menu, aeroplane, microlights, (motorised) gliders, helicopter or still, skydiving!
The park has all needed equipment, a huge field in an open space surrounded by nature, and all facilities needed for such an event. The restaurant has a terrace giving on the field, and it's possible to camp on the site.
We hope that the competition will not only be a sporting event and competition, but also a pleasant meeting for all modellers present.
On the following website you will learn all the necessary information about the event itself and get information concerning interesting places nearby and, of course, operational rules of the airfield.

http://www.sam-belgium.net/chapter2010/index.php?option=com_content&view=article&id=147&Itemid=261&lang=en

Organising committee of SAM 2010

## Southern Area BMFA Rally

### RAF Odiham Saturday September 3rd 2016

I have confirmation that Saturday September 3rd has been booked
This is of course provisional and I now can apply for the Licence etc.

John Thompson CD

## Coupe Europa

### Sunday 2nd October 2016

### Salisbury Plain Area 8

F1G and Vintage Coupe D'Hiver.
Flitehook Trophy for F1G teams.
Contest starts 10.am. F1G will be in rounds.

Contact Ray Elliott
Email: - ray.elliott8@btinternet.com.
Tel: - 44 (0) 20 8997 7745

## Brian Stichbury's Indoor Meeting

**Sunday May 15th.**

**at**

**The Grange, Midhurst, West Sussex**

**GU29 9HD**

**10am to 4pm**

Rubber free flight only. No R/C

Admission £10.00. BMFA members only.
Proof of insurance essential. No insurance no flying.

Depending on attendance, slots for general flying, Duration (F1L, LRS, etc.) and scale.
Maximum wingspan 18".
Floor area 107ft x 58ft, ceiling height approximately 30ft.
Cafeteria on site, car parking currently free on Sundays.

Further info. Contact:
Brian Stichbury, Tel: - **01730 812 485.**
Email: - jbstichbury@btinternet.com

## BMFA South West

**Indoor Flying**

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

Flying from 1200 to 1600 on the following dates,

| 2015 | 2016 |
|---|---|
| Sunday 27 September | Sunday 17 January |
| Sunday 25 October | Sunday 14 February |
| Sunday 22 November | Sunday 6 March |
| Sunday 13 December | |

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

**Admission:**

**Flyers £10** **Spectators £3**

Contact:
Cornwall - David Powis on tel: 01579 362951
Email: dave_powis@hotmail.com
Devon - Roger Bellamy on tel: 01752 257826
Email: randmbellamy@gmail.com

# Flitehook

## Indoor Free Flight Meetings

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

**11th Oct 2015, 8th Nov 2015**

**27th Dec 2015,**

**7th Feb 2016, 6th Mar 2016**

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

Flyers **£6**, Spectators **£2**

Café on Site

Contact Flitehook
E-mail flitehook@talktalk.net
Tel. No. 02380 861541

## Bournemouth MAS

**Indoor Flying Meetings**

**at the Allendale Centre,**

**Hanham Rd,**
**Wimborne,**
**Dorset, BH21 1AS,**
**7.00 p.m. to 10.00 p.m.**

**Free Flight only.**

Competitions including Gyminnie Cricket League.
Flitehook normally in attendance.
Free parking in public car park in Allendale Road.
Contacts John Taylor Tel. No. 01202 232206
Roy Tiller e-mail roy.tiller@ntlworld.com

**2015 Tuesdays**
**27th Jan - 24th Feb - 31st Mar - 28th Apr**
**22nd Sept - 27th Oct - 24th Nov**

## Indoor Flying with the South Birmingham MAC

**Mainly Free Flight**

## Thorns Leisure Centre.

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

**Jan 9th – Feb 6th – Mar 5th – Apl 2nd – May 7th**

**Admission - Flyers £5.50 - Spectators £2.00**

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

**For further information phone Colin Shepherd 0121 5506132**
**or e-mail colin@colinwilliam.wanadoo.co.uk**

## Bloxwich Indoor Flyers

**Free Flight**

**Sneyd Community School**

**Vernon Way, Sneyd Lane,**
**Bloxwich, WS3 2PA**

**Saturdays 2pm until 5pm**
**Flyers - £8 Spectators £2**

**Jan 23rd–Feb 20th–Mar 19th–Apl 16th**

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

BMAS

BOURNEMOUTH MODEL AIRCRAFT SOCIETY

# INDOOR MODEL FLYING 2016

## ALL TUESDAYS

**26TH JANUARY, 23RD FEBRUARY, 22ND MARCH,**
**26TH APRIL, 24TH MAY, 28TH JUNE,**
**26TH JULY, 23RD AUGUST, 27TH SEPTEMBER,**
**25TH OCTOBER, 22ND NOVEMBER.**

## 7pm to 10pm

# ALLENDALE CENTRE

**HANHAM RD. WIMBORNE BH21 1AS**

**FREE CAR PARKING IN PUBLIC CAR PARK IN ALLENDALE RD**

**FREE FLIGHT ONLY**

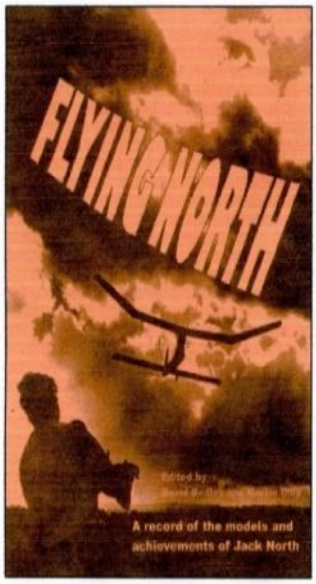
**COMPETITIONS incl GYMINNIE CRICKET LEAGUE**

**ALL FLYERS MUST HAVE BMFA INSURANCE**

**FLITEHOOK NORMALLY IN ATTENDANCE**

**Adult Flyers £5** **Spectators £1.50**

**CONTACTS: John Taylor Tel. No. 01202 232206**
**Aubrey Bugden e-mail bugden863@btinternet.com**




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

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

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

HOT OFF THE PRESS

## THE 2015 FREE FLIGHT FORUM REPORT

For thirty-one years the BMFA Free Flight Forum Reports have provided information on new developments in a wide range of free-flight activities. This year is no exception, as the following contents list shows.

Recent F1D Developments - Tony Hebb;
Electronic Timers for F1B - Mike Woodhouse;
Personal Observations on Classic Power - John Thompson;
The F1Q Mystery - Trevor Grey;
Experiences with Electronic Timers – Roy Vaughn;
Free Flight, Flying Sites & the BMFA - Dave Phipps;
The Cursed S - Why Won't It Keep Going Up? - Alan Jack ;
Rubber- Powered Kit Scale Competition - Andy Hewitt;
New Ideas for the F1 Rules - Mike Woodhouse;
Revisiting Rubber Scale 55 Years On - Ivan Taylor;
Some Interesting & Successful Models from 2014, which include includes Andy Hewitt's Fokker D-VII Nats Rubber Kit Scale winner, Ed Bennett's Thin Man Classic Rubber model, Frank Rushby's 1/2A Mini Creep, Chris Redrup's BMFA Rubber model; Andy Crisp's Blue Note F1A for BMFA Glider and Trevor Grey's Kaon E-36.


**The UK price is £12.00 including postage; to Europe it's £15 and everywhere else £17.**

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

Copies are available from

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

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

# L'AQUILONE SAM 2001
## TOMBOY RALLY INTERNATIONAL POSTAL CONTEST
### 01/06/2015 – 31/05/2016

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

**Model**

The **36" or 44"** wing span (as per plan Aeromodeller) and **48"** (Boddington plan or 36 " scaled up) models are admitted; Models may be fitted with floats as per plan (scaled-up for 48" version); - no minimum weight; - reinforcement or lightening of the structure with respect of the basic outline of the original model are admitted; - materials to be used are those found on the plan; - plastic covering in place of tissue, silk or other is admitted. - More than one person can use same model; - Same model can flight in L.G. or float version; - Lone fliers can self launch and time.

**Engine/motors**

I.c. engines and electric motors are admitted within the following limits:

**36"/44" WINGSPAN** - I.C. Engines:
Any engine with 1 cc. maximum displacement; - Fuel tank : 3 cc; - R/C carburettor is admitted.

**Electric Motors**:
Any electric motor is admitted with direct drive; - The engine cannot be stopped and started again; - the motor must run continually without interruptions till the end of the battery charge or competitor's decision; - no folding prop is admitted; if a folding prop is used the blades must be held open with a rubber band;
freely assembled admitted batteries: - **450 Mah 2 cell LiPo** - separated batteries pack for Rx alimentation is allowed.

**48" WNGSPAN** - I.C. Engines:
Any engine with 2, 5 cc. maximum displacement; - Fuel tank : 6 cc.- R/C carburettor is admitted.

**Electric Motors:**
Any electric motor is admitted with direct drive; - The engine cannot be stopped and started again: the motor must run continually without interruptions till the end of the battery charge or competitor's decision; - no folding prop is admitted; if a folding prop is used the blades must be held open with a rubber band;
freely assembled admitted batteries: - **500 Mah 3 cell LiPo** - separated batteries pack for Rx alimentation is allowed.

**Flights and results**

Each competitor may fly as many flights as wished during the admitted period but only the best flight will be considered for the final result; - Hand launches are admitted; - The flight time start when the model is released or takes off. The flight time ends when the model lands or hits a fixed obstacle. In case the model flies out of sight the timekeeper will time for 10 seconds after losing sight of the model . Timing will continue if model is seen again or stopped after 10" deducting this time from the total time of theflight.

**Awards :**

A diploma for all competitors and prizes for the first three in each version rank; - Special prize for best flight in float version.

**Results**

Results, address, photos and technical specification about model must be forwarded to the Organization by 15th June 2015
Curzio Santoni cusanton@tin.it or to Gianfranco Lusso gfl@orange.fr )
Many pleasant flights and happy landings to ALL !!!!

**SPECIAL PRIZE VIC SMEED**

SAM 2001 have scheduled an extra Diploma that will be awarded to the best flight in Tomboy floatplane version (36",44" or 48") taking off from water. The Editor will send to the winner a Diploma signed By SAM 2001 President and a bottle of special Italian Wine to drink to Vic Smeed!

Good ROW and flight

**SPECIAL PRIZE DAVID BAKER Free-Flight**

The 2012 was the 5° edition of SAM 2001 Tomboy Rally and we have scheduled a special prize for the three best flights obtained with 36" Tomboy F/F. Only engines diesel max 0.75 c.c. shall be used. The other rules are the same for 36" or 44" wingspan type. It is possible to use a R/C Tomboy, however, being this a free-flight contest,the time must be stopped when transmitter is used, since the aircraft model should fly freely from any control from the ground.

Good thermals

# MSP PLANS PRESENTS

**Vintage, Classic, Sport and other Duration Designs**

*MSP PLANS* drawn by Martyn Pressnell, offer a collection of model aircraft designs selected for their aesthetic qualities or unique origins. 'Popular Plans' are stocked, the more complex 'Collectors Plans' are printed to order including Historic Notes. All drawings are AO size, some as twin plans.

The list below includes Vintage Models generally pre 1951 and Classic Models 1951 to 1961.
Photos of most models can be seen on my website - www.msp-plans.blogspot.com

**POPULAR PLANS - £7.00 EACH INCLUDING UK POSTAGE. FOLDED FOR POSTING**

| | |
|---|---|
| ***MICK FARTHING 1942*** | The 40 in span Lightweight Contest rubber model with a diamond fuselage. |
| ***MICK FARTHING'S THE PAPER BAG'*** | Mick Farthing's last lightweight rubber model of 1946. |
| ***RAFF V*** *1947* | Designed by Norman Marcus who was National Champion in 1946. |
| ***ODENUAN'S 1950*** *NORDIC A2* | Swedish Championship glider, placed second in the first World International in 1950. |
| ***SENATOR 1950*** | RUBBER Designed by Albert Hatfull and kitted in 1950. Twin plan with Ace |
| ***ACE 1950 RUBBER*** | Designed by Bill Dean and kitted in 1950. Twin plan with ***SENATOR.*** |
| ***ENGLISH VIKING*** *1953 A2 GUDER* | Designed by Bill Farrance twice winner of the SAM Radislav Rybach trophy. |
| ***CRESTA*** | A 38 in wingspan low-wing design for small diesel or electric motor installation. |
| ***FRED BOXALL'S 1956 OPEN RUBBER MODEL*** | Twin plan with Boxall's ***SEAPLANE.*** |
| ***FRED BOXALL'S SEAPLANE (1965)*** | Twin plan with the 1956 *OPEN* ***RUBBER MODEL*** |
| ***LAST RESORT 1956 CLASSIC RUBBER*** | Open Rubber Model designed by Jim Baguley, Twin plan with ***FIRST RESORT.*** |
| ***FIRST RESORT 2006*** | by Martyn Pressnell for the BMFA Rubber Class. Twin plan with ***LAST RESORT.*** |
| ***WINDING BOYII 1956*** | by Urtan Wannop, 38 in.span, Twin plan with ***McGILLIVRAY's LIGHTWEIGHT.*** |
| ***JACKMcGILIVRAY's LIGHTWEIGHT 1958*** | 36 in. span lightweight rubber model Twin plan with ***WINDING BOYII.*** |
| ***CAPRICE 1959 GLIDER*** | The renowned lightweight glider of 51 in span. Twin plan with ***GAUCHO.*** |
| ***GAUCH01960*** | power duration model for 1.5 cc engines. Designed in 1959 Twin plan with ***CAPRICE.*** |
| ***VAKUSHNA1959 A2*** | Designed by Brian Dowling this glider won the 1960 Richer Cup |

**COLLECTOR'S PLANS - £10.00 EACH FOLDED OR ROLLED. WITH HISTORICAL NOTES**

| | |
|---|---|
| ***JUDGE 1945 WAKEFIELD*** | by Bert Judge to the 1945 rules as a direct descendant of his 1936 Wakefield Cup winner. |
| ***HERMES MAJOR*** | A 150% enlargement to 61% in span, of the 1949 *HALFAX* ***HERMES*** |
| ***FRANK LOATES' 1949 WAKEFIELD*** | Canadian Wakefield 5th in the World Championships at Cranfield, England, in 1949. |
| ***BORJE BORJESSON'S 1949 WAKEFIELD*** | Swedish Wakefield 6th in the World Championships at Cranfield, in 1949. |
| ***GHOST WAKEFIELD 1951*** | John Gorham's 1951 Wakefield, a successful rubber model from the early 1950's. |
| ***RON WARRING'S 1952 WAKEFIELD*** | The geared geodetic model, developed by Ron Warring for twin motors, |
| ***NIGHT TRAIN Mk I 11960*** | George French's Night Train which pioneered the use of VIT systems in the UK |

**MSP PLANS PRESENTS NEW PLANS**

**HI-START GLIDERS 2013 - 36 in span**

| | |
|---|---|
| ***AVENGER 1952*** | John Gorham's classic A2 |
| ***CAPRICE 1959*** | Neville Willis' classic lightweight glider |
| ***VINTAGE A2 1950*** | Odenman's. |

**HI-START GLIDERS 2014 – 36 in span**

| | |
|---|---|
| ***SATU 1950*** | J Bennett's vintage A2 |
| ***PETREL1964*** | Frog's beginner's kit glider |
| ***MAD'S DREAM 1959*** | Brian Dowling's classic A2. |

**To order plans for UK delivery please write with cheque (£ sterling) made payable to Martyn Pressnell, 1 Vitre Gardens, Lymington, Hants, S041 SNA.**
**For overseas delivery of Popular Plans send local bank notes equivalent to £10.00.**
Enquiries: please write or email martyn.pressnell@btinternetcom

Check my website : www.msp-plans.blogspot.com

This identifies the collection of plans that I have produced for aeromodellers together with the rules for the Bournemouth Club Classic Rubber class. There is also a sample of the publications produced over the years with 'Rubber Motors - Maximum Turns' as the current offering.
I hope you find this a useful website which will be updated with more information from time to time. Martyn Pressnell

# DBHL Plan Service

**The rules for obtaining plans.**

If you want a copy of any plan from our library, please read the following:

*As from 31st July 2011 only digital files of plans from the DBHL will be available. It is up to the recipient of such files to get them printed, as my local Copy Shop has closed & at present there is no alternative source for me to get plans printed at an economic rate.*

The process for obtaining a digital file of a plan is:

Email request to rogerknewman@yahoo.com,
quoting Plan Name & I.D. number ( 1st & 2nd Cols respectively in the list).

If the plan has already been digitised, the requester will receive an email with an attachment of the plan in a digital format that can be printed at a local Copy Shop. The easiest ways to do this is either to download the plan from your PC to a memory stick & take the memory stick to your copy shop (but check with them first that they can handle digital files!), or – if your copy shop accepts emails, send them an email with the attachment, asking them to print the attachment. Scaling is automatic.

If the plan has not yet been digitised, a scan of the paper plan has to be done but this could take up to two weeks, sometimes longer if a clean-up is necessary. Once I have received the digitised file back, the requester will receive an email with an attachment of the plan.

This service is provided at no charge.

You are reminded that many more plans are available through our cooperative venture with partners in the USA, New Zealand & Slovakia. The combined list of these plans can be accessed via www.co-op-plans.com. Any plans requested via the Coop incur a small charge – see the web site for details. Exactly the same principle applies in that only digital files of **plans are available.**

# Provisional Events Calendar 2016

With competitions for Vintage and/or Classic models

| | | |
|---|---|---|
| February 14th | Sunday | BMFA 1st Area Competitions |
| March 6th | Sunday | BMFA 2nd Area Competitions |
| March 25th | Friday | Northern Gala, North Luffenham |
| March 27th | Sunday | Middle Wallop **CANCELLED** |
| March 28th | Monday | Middle Wallop, **CANCELLED** |
| April 10th | Sunday | BMFA 3rd Area Competitions |
| April 23rd | Saturday | Middle Wallop, SAM1066 Competitions |
| April 24th | Sunday | Middle Wallop, SAM1066 Competitions |
| April 23/24th | Sat/Sunday | London Gala & Space, Salisbury Plain |
| May 15th | Sunday | BMFA 4th Area Competitions |
| May 28th | Saturday | BMFA Free-flight Nats, Barkston |
| May 29th | Sunday | BMFA Free-flight Nats, Barkston |
| May 30th | Monday | BMFA Free-flight Nats, Barkston |
| June 4th | Saturday | Middle Wallop, SAM1066 Competitions |
| June 5th | Sunday | Middle Wallop, SAM1066 Competitions |
| June 25th | Sunday | BMFA 5th Area Competitions |
| July 24th | Sunday | BMFA 6th Area Competitions |
| July 30th/31st | Saturday/Sunday | East Anglian Gala, Sculthorpe |
| August 20th | Saturday | Southern Gala, Salisbury Plain |
| September 11th | Sunday | BMFA 7th Area Competitions |
| October 16th | Sunday | BMFA 8th Area Competitions |
| October 29th | Saturday | Midland Gala, North Luffenham |
| November 20th | Sunday | Middle Wallop, SAM1066 Competitions |

**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 Middle Wallop check the Website – **www.SAM1066.org**

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

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

## Useful Websites

SAM 1066 - www.sam1066.org
Flitehook, John & Pauline - www.flitehook.net
Mike Woodhouse - www.freeflightsupplies.co.uk
GAD - www.greenairdesigns.com
BMFA Free Flight Technical Committee - www.freeflightUK.org
BMFA - www.BMFA.org
BMFA Southern Area - www.southerarea.hamshire.org.uk
SAM 35 - www.sam35.org
MSP Plans - www.msp-plans.blogspot.com
X-List Plans - www.xlistplans.demon.co.uk
National Free Flight Society (USA) - www.freeflight.org
Ray Alban - www.vintagemodelairplane.com
David Lloyd-Jones - www.magazinesandbooks.co.uk
Belair Kits - www.belairkits.com
Wessex Aeromodellers - www.wessexaml.co.uk
US SAM website - www.antiquemodeler.org
Peterborough MFC - www.peterboroughmfc.org
Outerzone -free plans - www.outerzone.co.uk
Vintage Radio Control - http://norcim-rc.club

**Are You Getting Yours?** - Membership Secretary

As most of you know, we send out an email each month letting you know about the posting of the latest edition of the *New Clarion* on the website.

Invariably, a few emails get bounced back, so if you're suddenly not hearing from us, could it be you've changed your email address and not told us?

To get back on track, email membership@sam1066.org to let us know your new cyber address
(snailmail address too, if that's changed as well).

*P.S.*

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

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

*Your editor John Andrews*