Aero Modeller

October 1975
30p
USA & Canada $1·50

INCORPORATING
MODEL AIRCRAFT

MAP HOBBY MAGAZINE

SOLARBO

Yes, it's a genuine 'Brisfit' – and a wonderful subject for a flying-scale model. Admittedly, a rubber-powered flying-scale Bristol Fighter tends to be a bit 'vulnerable' unless really well trimmed – and flown only in really calm weather. The trick is to build it as light as possible, and choose a rubber motor size that is slightly underpowered. Trim can then be on the 'floaty' side.

For a powered version, radio control is the answer. Choose a fairly small engine, so that you need about three-quarters throttle to maintain level flight. That will still leave plenty of power in hand for take-offs, and that big-scale rudder will give good directional control as soon as you start rolling. Aileron linkage may be a bit tricky (the servo will have to go in the fuselage). Worth it, though, for the sheer delight of making slow aileron turns (with a bit of 'top rudder' to keep the nose up).

Only one answer to airframe construction – built-up balsa frames, tissue covered throughout. That's where Solarbo comes into the picture. It's the 'quality' balsa you *must* use for models like this. In fact, specifying Solarbo automatically guarantees you top quality *aeromodelling* balsa for any model – and that makes good aeromodelling sense!

Buy and Fly the Best... VERON

THE SUPER ROBOT 60" (1523 mm)

FLY WITH PRIDE THIS ELEGANT FULL HOUSE SPORT FLYER & MULTI-TRAINER

For Motors from .25 up to .40 cu. ins. (4.1 to 6.6 cc) with Rudder, Aileron & Engine Speed on 4 Propo. Radio.

Kit contains:- Spinner, Nylon Engine Mount, Pneumatic Wheels, Pre-formed Fixed Nose-wheel and Main-leg Undercarriage Wires, Nylon Wing Bolts and Attachment Plates, K-Links, Hinge-Tape. Pre-formed and Key-slotted Leading Edge and Ribs for Easy-to-Build Flat Bottomed Hi-glide Section, Vacuum Formed Wing Tips; A host of pre-formed and pre-fabricated parts and fittings.

YES! MAY WE REPEAT—YOU GET SUPERB 2½" SPINNER, NYLON ENGINE MOUNT, 6oz. CLUNK TANK, 2¼" & 3" AIRWHEELS, K-LINKS IN THIS 'FULL VALUE' KIT.

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ROBOT RADIO TRAINER 45" Span (1143mm)

For 1.49 to 3.5 cc (.09 to .19 cu. ins.) for Single Channel up to rudder, elevator & engine. Tough, solid and everlasting. Ideal for Fox 15 or Webra "Glo-star".

KIT PRICE **£12.25**

TWO MORE STALWART FAVOURITES IN THE VERON RANGE FOR R.C.

54" Span (1372mm) CESSNA SKYLANE

Beautiful swept fin elegance—so stable it can be flown "free-flight"—for 1.49 motors up to 3.5 (.09 to .19 cu. ins.) on rudder, elevator & engine speed. Ideal for Fox 15 or Webra "Glo-star", "Winner" or "Record".

KIT PRICE **£15.68**

AND HERE'S OUR FINE SOARING TRAINER

IMPALA RC. HILLSIDE SOARER

SPAN: 52" (1320mm)

KIT PRICE **£9.62**

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More Impala's have been sold the world over for Sport & Training than any other kit. For 1 or 2 Channel.

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Aero Modeller

INCORPORATING
MODEL AIRCRAFT

October 1975 Volume XL No. 477

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Comment

In last year's *AeroModeller Annual*, we stated: *'Among the three reigning individual (free flight) champions from 1973 are a Russian glider and an East German Wakefield. Their skills are well known, but the 1974 Soviet International in East Germany saw North Koreans almost sweep the board, a foretaste for an exciting 1975!* Well, it's happened! North Koreans *have* swept the board in Wakefield in 1975 at the World Championships.

Next month, we will be carrying the first of a series of reports on this much-maxed meeting; meanwhile, here are the results in brief:

F1A (Glider)

1. B. A. Tchop	*USSR*	1260+240+300
2. P. Alnutt	*Canada*	1260+240+131
3. D. Henke	*E. Germany*	1260+233
4. I. Horezi	*Czech.*	1260+224
5. J. P. Challin	*France*	1260+210

British placings: 22. M. Fantham (1260+151) 35. J. Cooper (1260+109), 70. J. Boon (1136).

Team results: 1. USSR, 3780; 2. N. Korea. 3780; 3. E. Germany, 3772.

F1B (Wakefield)

1. Paik Chang Fun	*N. Korea*	1260+240+300+303
2. R. White	*USA*	1260+240+300+281
3. H. Zachalmel	*Austria*	1260+240+300+280
4. Kim In Ful	*N. Korea*	1260+240+300+243
5. A. Oshatz	*E. Germany*	1260+240+300+235

British placings: 31. R. Pollard (1203), 42. M. Woodhouse (1183), 65. A. Wells (1093).

Team results: 1. N. Korea, 3715; 2. Poland, 3674; 3. Canada, 3667.

F1C (Power)

1. L. Olofsson	*Sweden*	1260+180+180+158
2. E. Verbitski	*USSR*	1260+180+180+148
3. M. Burns	*Canada*	1260+180+180+141
4. S. Reda	*W. Germany*	1260+180+180+130
4. R. Truppe	*Austria*	1260+180+180+130

British placings: 21. K. Fax (1260+180+180+0), 54. R. Bailey (1213), 65. R. Collins (1148).

Team results: 1. Austria, 3780; 2. Czechoslovakia, 3780; 3. USSR, 3780.

on the cover

A pair of scale models flown at the Parcel Proxy Peanut contest organised by Model Builder *magazine as reported by Bill Hannan on pages* 906/8. *Sharon Stroman has John Krekovich's Pietenpol 'Sky Scout' in her right hand (modified from a Peck Polymer Air Camper kit) and one of Ottokar Saffek's entries from Czechoslovakia in her left – Pioneer Rapid.*

next month

A full report from the 1975 World Free Flight Championships – a very well supported event held under superb conditions. Plans for Graham Howard's Nationals-winning Goodyear Racer 'Ol Blue', plus drawings for a very novel free flight sports scale (!) model of a Dolphin – that's right, the fish variety! These are just a few of the features in the November issue, on sale 17th October.

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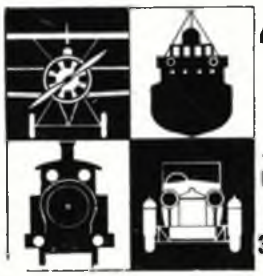

45th Model Engineer Exhibition

30 Dec 1975 - 10 Jan 1976*

MODEL LOCOMOTIVES, BOATS, AIRCRAFT, TRACTION ENGINES, MILITARIA, CRAFTS

At Seymour Hall, Marylebone, London W.1.
(Just north of Marble Arch)

WHAT WILL BE FEATURED
All the popular features of past years will again be provided: ME Workshops with expert consultants and well-known contributors, plus SMEE members; SMEE passenger track with steam locomotives; MARINA, 98ft. by 28ft., for R/C boat demonstrations; large flying circle for electric RTP aircraft – better than ever. Trade stands, demonstrations, plus all the beautiful competition entries. Militaria, craft demonstrations.

ENTRIES
Every kind of model is eligible to entry. Over twenty trophies; over £300 in prizes, plus the pleasure of displaying your efforts and seeing those of other people. Rules and entry forms now available. All small models displayed under glass to keep them clean and untouched.

PRIZE POOL ALLOCATION
Classes attracting six or more entries have 1st Prize £5, 2nd £3, 3rd £1. Over 12 entries 1st £7, 2nd £4, 3rd £2, 4th £1. Under six entries 1st and 2nd only, or at judges' discretion, may be combined with other classes.

CLUBS
Club parties are especially welcome. Some clubs are arranging with us for a special day, when they will put their boats on the pool, arrange for their best locomotives to enjoy 'track time' – and even have their varied contest entries grouped as a combined 'club show'. If yours can do something special, please tell us soon so that we can work it in. Individual boating demonstrations also welcome.

MILITARY MODELLING
In addition to contest classes, we shall be staging war games sessions. If your club wants to take part, or have good experts available to steward, please tell us.

STEWARDING
We can always use a select band of stewards expert on model subjects. If you have time, strength (it's a hard day!) and knowledge, please tell us.

CLOSING DATE
Model entries should be in by Monday 13th October – please enter early, it helps us.

AIRCRAFT COMPETITION CLASSES
AA – Flying models of all types: (a) free flight, (b) control line, and (c) radio control. AB – Scale flying models of all types: rubber, glider, power, control line or radio control. AC – Scale non-flying models. AF – A piece of radio control equipment built to a design published in *Radio Control Models & Electronics*, *AeroModeller*, or *Model Boats*, from a commercial kit or of original design. S – For any type of model (other than military) or mechanical work by a Junior under the age of 16 by 31st December, 1975.
Junior Prize additional in each class with three or more entries (under 16 on 31st December, 1975).
Schools can enter for Schools' Competition under Craft Section.

*NOT open on Sunday.

Entry Forms and Advance Bookings from:

EXHIBITION MANAGER,
M.A.P. Ltd., PO Box 35,
HEMEL HEMPSTEAD, HERTS.
HP1 1EE

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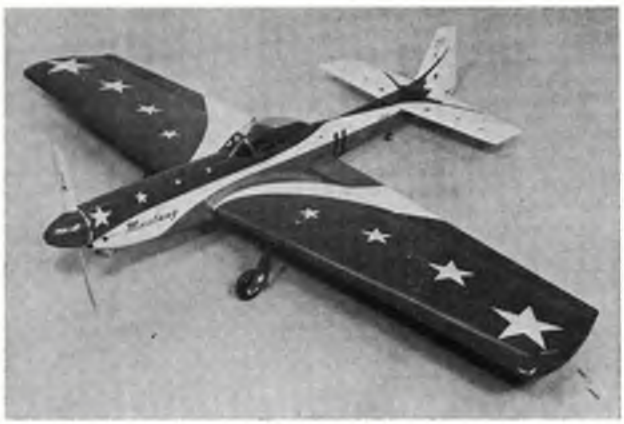
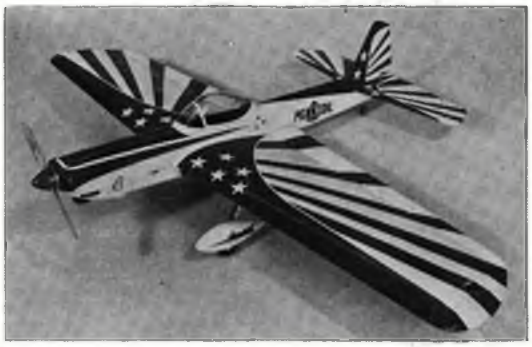
OUR APOLOGIES

To the many control-line enthusiasts who sent in their orders for the SIG control-line kits in August in response to our first ad for these fine models, only to find out that we had sold out within days of the ad appearing because we had not anticipated such a demand. Ample stocks are due to arrive this month (October), but due to the decrease in the value of the £ against the $ prices are increased.



The SIG MUSTANG STUNTER semi-scale control-line model designed by Mike Gretz builds quickly and easily into a good-looking and fully aerobatic aircraft with its many moulded plastic parts and foam wing cores. 50" span for engines 29–40. KIT PRICE – £12·55



The SIG SUPER CHIPMUNK is an advanced control-line stunt design with really handsome lines. Kit includes SIG balsa and ply, moulded cowling canopy and wheel pants, complete hardware pack and formed torsion-bar landing gear. A great kit that builds into a fine model. 53½" span for engines 29–40 cu.in. KIT PRICE – £12·55

SIG's ZLIN AKROBAT semi-scale stunter was designed by Mike Stott with the idea that the model would be near as possible as aerobatic as its world-famous prototype. Kit has many preformed parts, making for rapid and accurate construction. Span 51" for engines 29–40 cu.in. KIT PRICE – £12·55

FOR THE FREE-FLIGHT ENTHUSIAST

Graupner Hi-Start Bungee on drum with parachute ..	£13·44	(p & p 60p)
Braided Bungee for above, 30m long	£6·50	(p & p 50p)
Graupner Tempo Glider Winch, geared 8:1. ..	£5.80	(p & p 60p)
For FAI F/F power flyers, we have imported the new **STOP-A-PROP** engine brake. Works from engine timer and prevents that deceptive prop overrun ..	£1·75	(p & p 15p)
Tatone Timers – fuel cut-off and D/T types	£3·75	
Rubber Model Ball Thrust Races, 18 and 16swg ..	20p	(p & p 10p)
BARTELS PROPS. We always carry a stock of the more popular sizes of these, the only true fibreglass prop ..	£1·55	

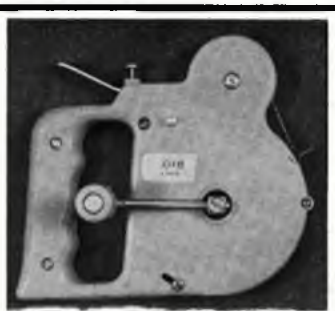
Please enquire as to availability of size before ordering.

SEND FOR YOUR FREE LEAFLETS BY SIG

SIG Manufacturing have issued the following excellent leaflets to be issued free of charge by their accredited dealers. Just send large stamped self-addressed envelope (min. 9"×4") for your choice of the following:

'Basics of Radio Control', by Hank Pohlman.
'The Finishing Touch', by Claude McCullough.
The SKYBOLT Leaflet – details of SIG's latest kit with beautiful colour illustrations.

The ROBERTS HANDLE is a must for three-line control of scale C/L models giving engine and elevator control with positive simple action. Handle £4·15. Bell crank, £2·05.
N.B. Please state whether upright or inverted bell crank required.



The U-REELY CONTROL-LINE HANDLE is the luxury handle that comes complete with 200ft. high grade stranded C/L wire, friction brake and positive lock. No more tangled lines. Price complete £6·95. Replacement h/dty lines, £2·60.

OUR NEW ILLUSTRATED CATALOGUE will be ready some time in October. Thousands of items by all the leading manufacturers and many pages of illustrations. Price 50p plus postage 15p.

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Send self-addressed stamped envelope for simple application form which gives full details of our easiest of easy payment plans for any goods over £65 in value with up to 24 months to pay.

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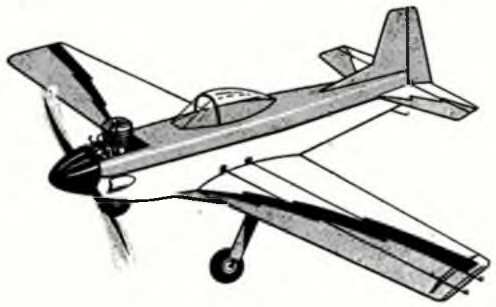
ALL MAIL ORDER ENQUIRIES TO HOLLOWAY, PLEASE!

MICRO-MOLD

HORNET Sport Control Line Kit



Span 24" for 1–1·5cc (or ·09–·10 glow). Built-up fuselage, wings and tail assembly from precut balsa/ply. Bellcrank, linkage, hardware, formed wire u/c, canopy, trims and transfers. Clear full plans and instructions. Easy to build and fly, makes into a tough model which is fun to fly. Price £4·16

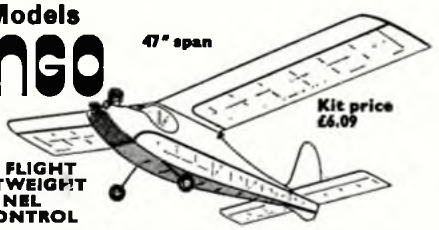
Useful MICRO ACCESSORIES: Control line bellcranks (four types), wire clamps to fit most wire sizes, hinges and hinge material, wing fixings, wheels from 1" dia. upwards, engine mounts from ·049, spinners, horns, cockpit canopies, large range of nuts, bolts, washers, screws, transfers and trims, plus many more items for the aeromodeller. Nine control line kits, Eagle chuck glider, also several models suitable for free flight and some 50-plus R/C aircraft kits.

Make Britains Premier Range of R/C Accessories including many items useful to general aeromodellers

D. B. Models

GRINGO

47" span



Kit price £6.09

FOR FREE FLIGHT OR LIGHTWEIGHT 1–2 CHANNEL RADIO CONTROL

47in. span for 1cc to 1·5cc (or ·09cl) engines. Designed for free-flight but equally suitable for one or two function lightweight R/C. Designed by David Boddington for the sports free-flight enthusiast who requires an attractive, easy-to-build cabin model with stable flying characteristics. Construction is quite conventional but makes a model strong enough to take the rough and tumble of free flight in the hands of a beginner. 1cc to 1·5cc diesels are to be preferred as they will turn a large diameter small pitch propeller, but an ·09ci glo engine can be utilised if preferred.
The 'Gringo' may also be used as a beginner R/C model but the designer suggests this merely as a method of guidance with either single-channel or one-function propo. on rudder or two for rudder and motor control.
The kit includes pre-cut balsa and ply fuselage parts, pre-cut balsa wing and tailplane ribs and parts. Ample supply of strip and sheet wood, preformed wire u/c, wheels, cabin glazing, transfers, clear plan plus building and flying instructions.

The above prices include V.A.T. at 8%
For brochures on the above models please send SAE to the distributors

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1-2 UNIFAX WOODS WAY GORING-BY-SEA SUSSEX Tel: WORTHING 46999

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ASTEROID £2.45

48" contest-winning A1 Towline Glider adopted by several clubs. (Also see *AeroModeller* 'Back to Square One', 1973).

NOVA £4.86

78" A2 Towline Sailplane with the highest performance of an A2 kit.

PERFORMER £2.35

36" Beginner's Rubber Duration Model with the highest performance of a rubber duration kit (see coming *AeroModeller* review).

METEOR £2.35

34" Sport Model for up to ·8cc engines. Extensively prefabricated

SATELLITE £2.16

48" Beginner's A1 Towline Glider, specified by SMAE for the Nationals Junior kit contest.

Other models in our range

B.B.T.V. Hawk	60p
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Ariel	
36" Beginner's Quick-build Towline Glider	£1·85
Pluto	
24" Beginner's Sport Rubber Model ..	£1·95
Atoms 12 & 18	
12" & 18" Hand-launched Gliders -	63p & 91p
124" Super Nova Radio Soarer	£16·75
124" Super Nova with Glass Fibre Fuselage	£26·94
100 Super Nova Radio Soarer	£15·83
100 Super Nova with Glass Fibre Fuselage	£25·99

AVAILABLE FROM ALL THE BEST MODEL SHOPS.

Designed by Jim Baguley, using 20 years of contest winning experience.

MORE RADIO AND CONTROL-LINE MODELS COMING SOON!

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YOUR ONLY CHOICE WHEN QUALITY COUNTS.....

DORNIER Do27 **£11.40**

Genuine authenticity in this superbly detailed control line scale model, which is a pleasure to build, own and fly. Kit includes wheels, cement, tissue, dope, decals, etc.

Span: 31¼". Length: 25". Suitable for 1.5cc diesel or .09 glow motors.

FOCKE WULF 190

Span: 39". Length: 28½". Wing area: 182 sq.in. **£13.80**

Authentic control line scale model (study the detail in the photo). Kit designed for QUICK ASSEMBLY. Includes wheels, cowl, balsa, ply and plastic parts, etc. Suitable for 2·5cc diesels (or ·15–·19 glow).

RUBBER POWERED 'QUICKIES'

Fun to build – and with a flying performance that will surprise you! These are most realistic looking little models with a span of 21½ inches. Kits are fully prefabricated and very easy to assemble.

MONSUN BO-209 (right) £5.10

PIPER SUPER CUB (left) Complete de luxe kit £5.45

Kits include QUICKBUILD plan, die-cut shaped and contoured sheet balsa wings printed in colour, die-cut wood parts, shaped wire parts, plastic propeller, wheels, etc.

GLIDERS

KATY A2 SAILPLANE £13·40
Span 67". Kit includes milled and die-cut balsa parts; wing fairing and other parts in plastic. Model features auto-rudder and dethermaliser.

JUNIOR A1 GLIDER .. £7·95
All-sheet profiled wing with turbulator. Model also features auto-rudder and dethermaliser. Span 53".

63" Span DANDY .. £11·95
Extensively prefabricated kit.

48¾" Span NANCY .. £6·95
A1 glider with auto-rudder and D/T.

39" Span BEGINNER .. £4·70
Specially designed Quickbuild kit.

50" Span FILOU .. .. £8·40

JOLLY A1 GLIDER .. £6·20

78¾" Span AMIGO II .. £14·35

27½" Span SONNY .. £2·55

UHU Basic A1 GLIDER £4·25

90½" AS-K14 POWERED GLIDER £61·60

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AT YOUR MODEL SHOP

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Heard at the

HANGAR DOORS

K&MAA, or *Kite & Model Aeroplane Association*, was the original name for the national body responsible for organised acromodelling in the UK until the mid-twenties. It derived from the Kite Flying Association, but over the years the kite part has disappeared. In fact, there is no control organisation at clubs for kite flyers today, although there is considerable resurgence of interest. This interest prompts us to run a '*K&MAA Festival*' on 12th October at Old Warden, near Biggleswade. The Shuttleworth Collection has kindly given sanction to use the airfield for what we hope will be a truly vintage fly-in. All models over 25 years vintage are welcome (pre-1950 designs) and, of course, the older the better. A-frame pushers flown in period dress of flat cap and knickerbockers, or plus-fours, would be just the thing! Dig into the attic, bring out the oldies, and have fun! Don't forget the kites. There's plenty of room for the kite events, old or new designs, and a special prize will be given to the most original kite of the day. Another vintage aspect we are considering is a swap-shop for old kits, engines and literature and accessories. If you have old material for disposal, there will be a table-top market-place for you to set up shop to sell or swap. This kind of meeting is very popular in the USA where the *Model Engine Collectors' Association* (MECA) has regional rallies. So if you've an old Frog Intercepter, a Brown engine, or a Megow kit, early magazines, etc., bring them along with the kites and a vintage model to Old Warden on 12th October, from 11am to 5pm.

COUPE D'HIVER International. Thanks to the kind co-operation of the Commandant, Royal Air Force Halton, the 1975 C. d'H. event will now definitely take place on 30th November. RAF Halton, near Wendover in Buckinghamshire, has a long-standing association with aeromodelling. It was the scene for early Wakefield Internationals and also several memorable Northern Heights Club galas. Details of this *Aero-Modeller* event have yet to be finalised, but pre-entry info will be available from our editorial offices by the time this issue is distributed.

FIRST ELECTRIC RTP CONTEST? For many modellers, the annual *Model Engineer Exhibition* has been their introduction to that fascinating form of model flying, electric round the pole, so what better place to stage a contest? There will be two separate events, namely scale and aerobatics, and contestants will be able to make their flights on any day they choose during the period of the Exhibition – i.e. from 30th December, 1975, to 10th January, 1976 (*not* including the Sunday). Pre-entry is not required (nor will a contest fee be charged), but if anyone who wishes to fly (whether in the contest or not) sends a postcard to the Editor with the date and approximate time of his intended visit, then he will receive priority over other flyers. If at all possible, avoid the Saturday dates as the flying circle is frequently over-subscribed on these occasions!

Harry Butler (Models) have generously donated two control boxes/mains transformer units as main prizes, and these will be supplemented by prizes for the most meritorious flight daily, plus special awards for Juniors flying in the main contest categories. Just two points to remember:
(*a*) the connecting plug we will be using is the miniature two-pin plug and socket No. W21 available from Harry Butler (Models); (*b*) the line length being used is approximately 23ft. long – so make sure your model can cope with this.

REMINDER. That excellent television series *Model World*, which was transmitted on BBC2 last May, is soon to be repeated on BBC1. Model aircraft enthusiasts will be particularly interested in the first three programmes which cover building the 'BBC-TV Hawk' rubber model, free flight and controlled flight respectively. The dates to remember are Saturday, 11th, 18th and 25th October, respectively – the programmes commencing at 10am.

US TEAM TRIALS, to decide their representation in the FAI team race event at the 1976 World Champs, resulted in the following selection: 1. Jolly/Kusik (South California), 2. Plaunt/Plaunt (Texas), 3. Dunkin/Wright, who recorded an average time (over six flights) of 4:32·4, 4:37·7 and 4:38·3 respectively – all using Rossi diesels. Point of interest centres around the No. 2 team of Jim and Sue Plaunt – a husband and wife team with Sue doing the pitting, their best times of the meeting being a very respectable 4:30.

Two of the main prizes for electric RTP models flown at the 1976 Model Engineer Exhibition – donated by Harry Butler (Models). Above right is the CB 03 transformer/rectifier power unit – a piece of equipment which we can thoroughly endorse as we used a similar outfit at the 1975 Exhibition. Below is the CB 01 power/control box with storage space for hand controls, plus a transformer unit.

a 'take it anywhere' Coupe d'Hiver model by Ian Sutton

WINTER HERALD

WHEN I RETURNED to aeromodelling after a break of twenty years, I sought a simple introduction to free-flight rubber competition, and the Coupe d'Hiver class seemed to fit the bill. An *APS Garter Knight* was the first of many 'coupes' and some success with this model inspired further endeavours. Model flyers always dream of the ideal model, and this eventually means designing one's own – and mine was drawn after the 1972 Coupe d'Hiver competition in France.

It had to be simple to build and fly without gadgets (I'm a very tense flyer and nearly always forget some essential move, like not lighting the D/T, etc.). I wanted a model that I could trim and fly quite alone (living, as I do, in the 'wilds of Somerset'), thus the prop. hold and rear winding arrangement, and I wanted a model that would break right down into its component parts, and pack, with a reserve model plus the winding gear, motors and all the other 'bits and bobs' that the competition flyer needs, into a box 24×12×9in. Yes! It all goes in!

This, of course, meant two-piece wings and fuselage which result in added weight. The model was built to the 100-gramme rule, but can with care in wood selection be built down to 80 grammes. A number of variations have been tried – thin balsa tube and glassfibre booms, twin fins, dihedral tail, etc. – but none have made any real difference to performance.

I always start by building the wings and tail of a new model first, as I like to leave the uncovered airframe on the building board as long as possible. Wings and tail *can* be built directly over the plan (cover it first with polythene sheet), but I always use a jig for flying surfaces.

Ian applies the last few turns to the motor – note how the model is held in a strongly-braced self-winding 'stooge' so that flying is totally a 'one-man' operation.

This is just a building board incorporating dihedral and $\frac{1}{4}$in. wash-out at the wing tips, with the TE, LE and rib positions drawn directly onto the board; it makes for quick and accurate building.

The construction of wings and tail is straightforward – use a PVA glue throughout. The ribs are light quarter-grain, cut by the sandwich method. I find the Warren girder arrangement of ribs helps to keep the structure true, and the leading edge riblets provide a smooth airflow over the important front third of the wing. A button-thread turbulator at 7 per cent chord delays the stall and seems to make trimming an easy job.

The wing fixing is, I think, the lightest one can devise for a two-piece wing, but must be made accurately or the wings will be at different angles of incidence. This fixing seems floppy when the model is at rest, but is quite adequate in flight and helps prevent breakage when the 'plane has 'cartwheeled' along the runway!

The two-piece fuselage is also straightforward, only the join and motor peg fixing presenting any difficulties. The motor tube is rolled from a 4in. wide sheet of $\frac{1}{16}$in. or light $\frac{3}{32}$in. straight-grained balsa. My method is to sand the balsa on both sides with very fine garnet paper. I then coat one side (to be the inside) with thin cellulose paste, allow this to dry and then lay a piece of damp Modelspan tissue on to the pasted side, and brush thin cellulose paste through the tissue; this is again allowed to dry before the tissue is doped with full-strength shrinking dope. After the dope is dry, soak the balsa sheet in a bath of hot water, and then wrap it wet round the mandrel; any straight tube or rod of $1\frac{1}{8}$in. or $1\frac{1}{4}$in. diameter will do – a cardboard mailing tube is quite satisfactory, if it's *straight*. Bandage the sheet on tight with a crêpe bandage and leave for twenty-four hours. Then remove from mandrel. I use a scarf joint to join the edges of the balsa sheet, employing PVA glue. I lay a strip of adhesive tape along the mandrel. sticky side out and fastened at each end; this will lie under the seam and will prevent glue from the seam sticking to the mandrel. It remains in the motor tube and helps to seal the joint against rubber lubricant. Fit the $\frac{1}{32}$in. ply reinforcements at each end. Make the rear boom in the same way using a tapered mandrel (table leg or billiard cue) and use very light wood $\frac{1}{32}$in. sheet.

The joint between the motor tube and the boom shown on the plan should be self explanatory. Make sure that the mating faces are true and flat and the plug is a good push fit in the socket. All fixing hooks are epoxied on. The hole for the prop. holding pin is made in the motor tube after the prop. shaft and nose block have been made and fitted; the pin should go through the bobbin when the rubber motor is tight.

If a rubber model is to perform well, it must have a good propeller; this is the most critical component of the whole model. I make mine on a wood mould, using three laminations of hard $\frac{1}{32}$in. sheet balsa soaked and bound on to the mould, cooked in the oven, Regulo $\frac{1}{4}$, for about an hour, then glued with Cascamite and bandaged to the mould for at least twenty-four hours. When you assemble the prop. on the wire hub, make sure the blades track properly and are balanced.

Use Jap tissue to cover the wings and tailplane, if you have any. I reserve what little Jap I have left for the tailplane and cover the rest of the model with lightweight Modelspan. I cover wet and use PVA as an adhesive. Cut the tissue to shape and pull the piece across the surface of a bowl of water, lay it on a newspaper while you paint thinned (with water) PVA glue on to the airframe, ribs, LE, TE, spars – the lot! Lay the tissue on the frame and gently pull out the wrinkles, leave to dry on the building board, then dope with thin shrinking dope (one coat of a 30 parts dope to 70 parts thinners mix), followed with one coat of 50/50 thinned banana oil. Fuselage, prop-blades and fin are all done in the same way.

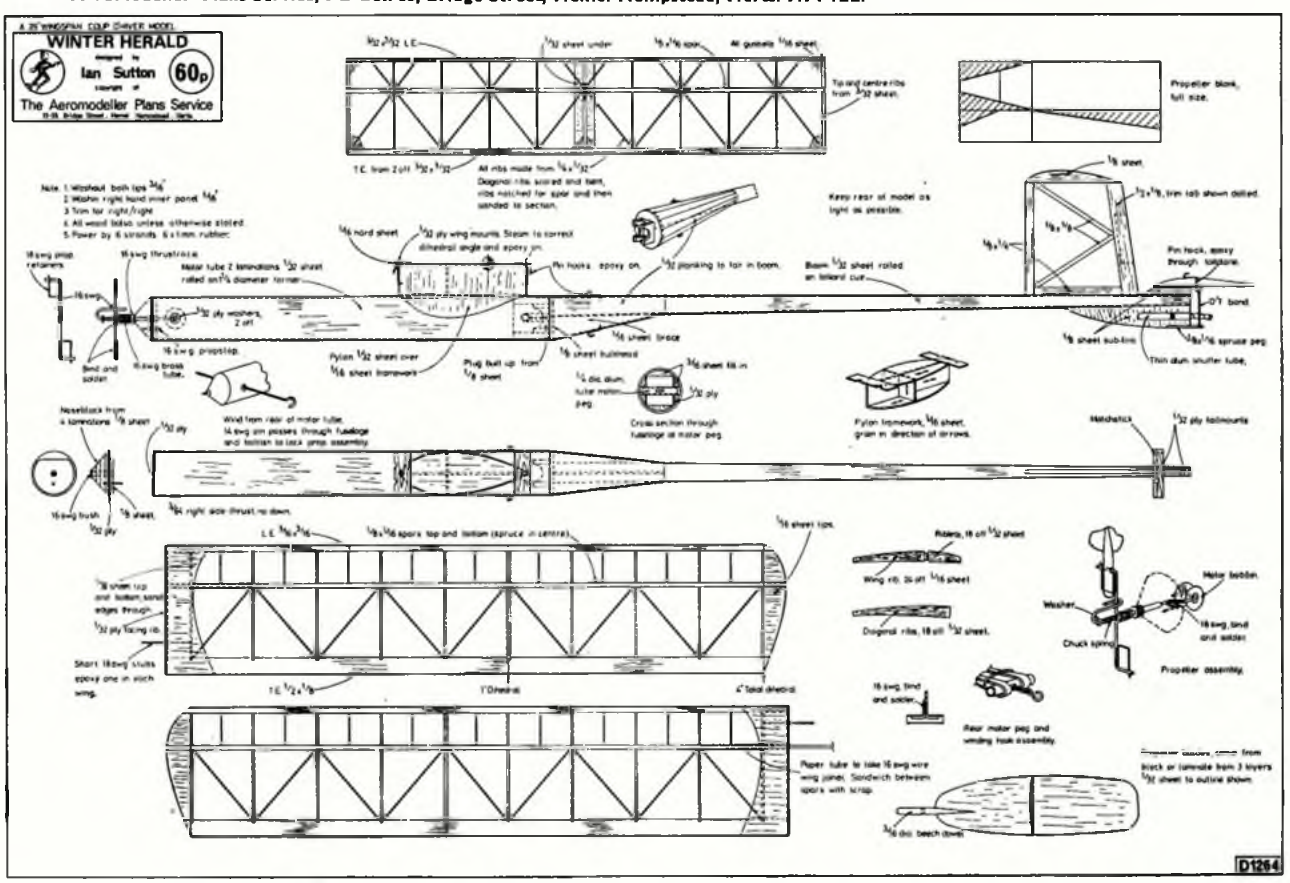
When all the parts are finished, assemble the model, including the prop. and motor to determine the centre of gravity position. Adjust the position of the pylon until the CG is at 65 per cent of the chord from the LE, then fasten the pylon and the $\frac{1}{32}$in. ply wing brace attachment point, and you're ready to trim the model!

Choose a very calm day – very early in the morning is the best time for this procedure. Test glide, and pack up the TE of the tailplane until the model just stalls. Note any turn. If there is a slow left turn, remove $\frac{1}{32}$in. of packing from under the TE of the tailplane. If a right turn or straight glide, bend the TE of the fin to give a slow left return. When satisfied, wind on 50 turns and hand launch, packing the left side of the nose block to give a straight flat power flight. Progressively increase motor turns until at 375 turns, almost full power on six strands, you get a fast, right, spiral climb and a gradual transition to left glide.

When trimmed correctly, you can give the model a full-blooded 45° upward throw, with the breeze on your right cheek. In competitions, use a new pre-stretched motor for each flight. Develop a routine and always stick to it.

Detaching the rear fuselage boom gives access to the rear motor peg for winding. Note the size of the model box in the foreground – two models plus all associated flying equipment packs into that small container!

Full-size copies of this 1/16th scale reproduction are available as plan No. D.1264, price 60p (inclusive of VAT and postage) from 'AeroModeller' Plans Service, PO Box 35, Bridge Street, Hemel Hempstead, Herts. HP1 1EE.



Eric Coates'

FLYING SCALE COLUMN

Brian Taylor's FW190 A8 which took top place in the Class 2 R/C scale meeting organised by the Flying Druids club – yet another victory for this very active scale modeller!

LAST MONTH, I wrote of an excellent scale meeting held by the Metz club which I attended in June. It is pleasing to write this month of a somewhat smaller, but equally well organised, scale meeting I attended on 9th August, organised by the *Flying Druids* club at Middle Wallop. It was not exclusively scale, for a helicopter event was featured also – a pleasant combination, much better than the aerobatic/scale combination which is common at small all-R/C events. At least, helicopters do not take *all* the sky up with their high-speed manoeuvres, which can be so off-putting to scale flyers.

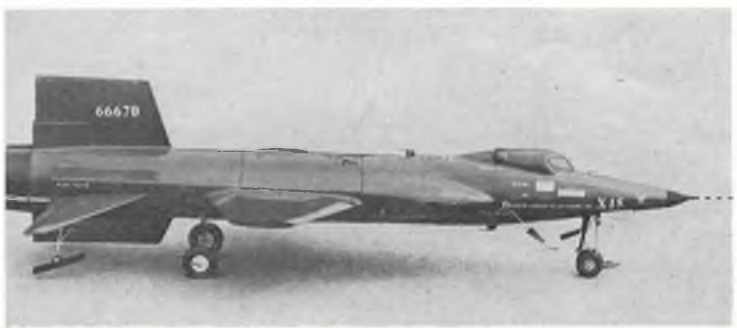
A fair entry of 22 partook in the R/C scale event, run basically to SMAE Class 2 rules. I say basically, for two models entered which would have been ineligible under SMAE rules – a *B25*, powered by a pair of ·40cu.in. engines, and a *Cirrus* sailplane which was aero-towed by a semi-scale *Aeromaster* biplane to operational altitude. It, in fact, took two tows per flight to complete the flight schedule. No one objected, as neither model featured on the leader board, and it was all good fun anyway on a beautiful calm sunny day, the likes of which the mid-summer period in England has been blessed so well in 1975.

Middle Wallop airfield can have changed very little since that equally fine summer 35 years ago, when it was in the front line in the defence of our shores. It is still an all-grass airfield – there cannot be many left operational in England these days; but, instead of Fighter Command *Spits* and *Hurricanes*, Army helicopters are resident there now. The short grass used for take-off did not seem to seriously handicap the competitors. Some of the more 'hairy' WW2 fighters, with retract gear, bumped a bit on take-off, and tended to nose over, but that was all. In fact, unlike Metz, no prangs occurred, that I saw, during competition flying. I believe the only prang of the meeting occurred during a lunch-time demonstration – a pylon race, would you believe, between two helicopters. At the first pylon the tail rotor of one 'chopper' struck the main rotor of the other. One 'chopper' dropped like a stone; the other careered off spinning violently, and flagmen were to be seen running in all directions!

The average standard of model competing in the scale event was considerably higher than observed at Metz, and this was reflected in the static scores. I took the *Elephant* along to sample for myself Class 2 R/C flying in England for the first time and was rather surprised that at the end of the day I found myself in second place, with only Brian Taylor, flying his *FW190A8*, in front of me. I did not think I flew particularly well, but the judges seemed to be kind! I might add that Brian did not seem to be flying at his best, either, but the judges were also equally kind.

Highest scoring flight was made by Chris Foss with the *Loving Wayne* at 451, closely followed by A. Vaus flying an *Akromaster* at 432.

The most impressive flying, I thought, came from F. Coulson with his *F4U*. This machine, with its owner-manufactured 90° turn retract gear, looked fine in the air in its midnight blue finish. The higher static marks



Above left: fine Pitts S2A in full Rothmans' colour scheme by Master ACM John Lomas AFM, has MRC radio control and Webra Blackhead 61 engine – performs extremely well. At left, Cpl Chris Hinsliff of RAF West Raynham built this scale North American X-15 for control line and a Dynajet pulse jet unit! Both models seen at RAFMAA champs.

attained by the *FW190* and the *Elephant*, however, were sufficient to keep them in the lead when everything was totted up at the end of the day.

RESULTS:		Static	Best Flight	Total
1. B. Taylor	*FW190A8*	621	416	1,037
2. E. Coates	*Martinsyde Elephant*	582	407	989
3. F. Coulson	*Chance Vought F4U-4*	557	426	983
4. C. Foss	*Loving Wayne*	521	451	972
5. A. Vaus	*Akromaster*	529	432	961

Old Warden '75

Though bright enough, it was unhealthily breezy for free flight at Old Warden and a rather novel display was the result. Sheltered in the lee of a tall boundary hedge, the free flighters set up a parade of lightweights. There must have been well over a hundred to see, and uniquely it was John Blagg's little Peanut, *Sparrowhawk*, which did brave the breeze often enough to take the prize at the end of the day. Half an ounce can take the landing tumbles with surprising impunity. Other models which were flying persistently included a couple of *Flying Fleas* by Derek Hughes and Charles Essex, and a delightful rubber-driven *Moth Minor* by Terry King of Impington of which we shall all be seeing much more, as it has been selected for the cover of the next *AeroModeller Plans Handbook*. Wandering among the F/F camps, with family groups 'brewing up' – others scornfully watching repair sessions, it was like those glorious Northern Heights galas of yesteryear. B. Martin of Aldershot had a weird crop-sprayer which everyone took to be a *Pawnee* – it wasn't! Scaled from the *Observers' Book*, it was a Brazilian *Embraer 200*, if you please. More readily identifiable were David Carpenter's *electric VA Walrus*, which is said to fly well despite its 22oz.; and the most colourful model on the field, a hand-camouflaged *Albatros D. Va* by Rex Oldridge of Virginia Water.

While F/F was hampered by wind, R/C only had one problem – too many wanting to fly! Congestion on the regular frequencies led to delays, not helped by some who took their tag to fly when not in the least ready to launch. Still, 92 *different* scale models made flights, most more than once. Voted most impressive scale flyer was the chance *Vought Corsair* by F. C. Coulson, rivalled by J. Jackman's *A. W. Whitley*; while best Shuttleworth subject (of all classes) was, once again, J. Larter's *Bristol F2b Fighter*, which even has a scale exhaust system!

But though these models took the awards, the performance of dozens of others were no less meritable. W. Brotherton's incredible twin electric-powered 80in. *Britten Norman Islander* had everybody talking. It has two new Ripmax motors, at present under development. P. Froude's 6ft. *Westland Widgeon*, Colin Agate's 56in. *Gloster Gladiator*, Den Bryant's *Pfalz D XII*, Mick Daish's *Skyraider*, Norman Warner's *Mew Gull*, Duncan Hutson's *Sirocco*, M. J. Kelk's *Stampe SV4* and R. Parkhouse's *Hornet Moth* could be said to exemplify the variety. The latter was specially interesting, being a model of the aircraft operated by the builder twenty years ago, and using the rotating u/c fairings to act as air brakes just like the real *DH 87b*. *Mustangs*, *Spitfires*, *Pitts*, *Sopwith 1½ Strutters*, *Tiger Moths* and *Tomtits* are obviously popular R/C kit subjects, appearing in profu-

More Old Warden pics: at top right is Mike Ennis' Lockheed SR71 C/L model which was underpowered with its two Enya 35s – a pair of 40s would be a useful 'mod'. Certainly an impressive model though. Below is Tony Nelson's huge Lightning — now modified by addition of Merco 61 in the tail. Beneath that is prototype British plastic/metal CO_2 motor by Glynn Hargreaves in Alan Callaghan's Sopwith Tabloid – ideal conversion from rubber power. At bottom is close-up of David Carpenter's APS Walrus, showing electric unit in nacelle – uses three 1·2A/hr nickel cadmium batteries.

Above: Er' no Wal – a threepoint landing does not refer to prop nut cowl and wing tip! Wal Cordwell's C/L Avro Tutor gently noses over. At right, that man Tony Nelson with yet another of his large C/L aircraft – a Hercules – with two motors in the inboard nacelles, plus two 'free wheelers'. Both aircraft seen at Old Warden.

sion – it seems a pity that the *Hurricane* was only represented by a single example.

The wind also affected the control-line flyers, several untried models staying firmly locked away inside cars. However, those annual contestants for the most spectacular models – Mike Ennis of the Guildford MFC and Tony Nelson of North Norfolk Modellers were not so reticent! The former's 'show stopper' this year turned out to be a 6ft. 11in. long, 41in. span version of the *Lockheed SR71* – powered by a pair of Enya 35 R/C motors, and utilising a drop-off undercarriage. Just a week prior, it had had its first flight – which unfortunately ended abruptly after a few seconds when it turned into the circle. The Guildford club lads struggled valiantly all afternoon to get the big black beast airborne, but when it did the result was as before – the model stalled on take-off, turned into the circle and nose-dived in. Had the ground been softer, it would have resembled an arrow quivering in the ground; as it was that long slender nose was crumpled up, and is now some 12in. shorter.

Despite Mike Ennis' efforts, he was undoubtedly up-staged by Tony Nelson and his huge 'airforce'. Biggest of all was his (unfinished) 1/22nd scale Boeing *B-36D* (featured on the cover of the September issue), but he also brought along his familiar *Hercules*, *Hunter* and *English Electric Lightning* – the latter now modified by the addition of a Merco 61 with pusher prop. in the tail in lieu of ballast (!) – as well as the O.S.80 'up-front'.

Right: Peanut pair by Butch Hadland at Old Warden – the Tailwind at rear also won SMAE Indoor Nats and placed second in US Peanut Champs. In foreground is the Lacey M10, a regular 60-second plus flyer – plans from Swindon Model Centre. Below right, David Ashfield with fine flying C/L Isaacs Fury – took second award at Old Warden. Below: Alex Imrie converted a Mercury Tiger Moth to a Moth Majorette, with straight wings, no stagger and pre-war insignia from its Edinburgh base.

For his efforts and his consistent flying, Tony was awarded first prize.

Also capturing the judges' eyes was David Ashfield's *Isaacs Fury*, which placed fourth at the Nationals and second at this meeting. With the CG now in the correct position, the model flew extremely well, the Merco 49 having ample power for this 2½in.:1ft. scale 7½lb. model which features a 'working' control column, Laystrate wire bracing and home-made tyres cut from rubber blanks. Just behind him in this strictly informal 'contest' was evergreen Wal Cordwell with a variety of machines, including his *Avro Tutor* which flew well in the wind.

Otherwise, the mixture was pretty much as seen before – it was a little disappointing that there were not more C/L flyers in evidence this year. The weather was not *that* bad, and the large grass area was very well mown, resulting in ample room for flying and perfect for good take-offs.

Above: left: Fred Longbon with the incomparable 'Fairy Facula', the classic pre-war kit by MAS, and Mike Beach's superb Jim Walker 'Fireball' complete with K&B 29, coil, condenser and batteries!

VINTAGE at Old Warden

AUGUST 10th was one of those idyllic days that sports free-flight modellers dream about. The gentlest of breezes wafted across Old Warden for an appreciative attendance to thoroughly enjoy. Though termed a 'sports' flying day by organiser O. F. W. Fisher of *Performance Kits,* the annual event has become more inclined toward the vintage rather than the topically current model. Thus, a noisy pylon racer was distinctly out of place among compressed-air, four-stroke petrol and more Mills-powered models than we could ever expect to be still flying.

It was also the first run of the *Haggart-Bowden Trophy* rules for precision free flight. Just before his untimely death, John Haggart had been working hard on a revival of the classic Bowden Contest. He was making a trophy, and this is now being finished by another skilled modeller for future events. As a trial, the entry of twenty was most heartening, and when fully organised we can foresee that the *Haggart-Bowden* will become a prestigious event for devotees of the vintage model.

Aside from prototype CO_2 models using a new British unit, and some spectacular thermal 'lifts' over the field, there were two other noteworthy innovations. Vintage control-line, largely encouraged by Michael Beach, produced some soul-stirring veterans while old-timer radio assist (see this year's *AeroModeller Annual)* by Bill Daniels and friends put new life into some *very* old models with fascinating results. The sight of a Custom *Cavalier* cruising around the circuit on half throttle, then touching down at its owner's feet, all with unfashionable but cheap tuned filter R/C, inspires as it adds a new dimension to flying fun for remarkably little cost.

Upper right: Charles Essex and his lads, winner of the Haggart-Bowden precision event with an error of only one second in three flights. Model is a 'Sunduster' with Elfin. Next, an R/C assist 'New Ruler' by Jim Shelley with ignition Bunch Tiger engine, ridiculously light at 4½lb. Centre is R. Ball's 'Ethereal Lady', 8th in the contest. Mike Beach produced his Bowden Mouse for Joe Taylor over from Virginia to admire. Bottom is 1½ times 'Super Scorpion' which would have walked away with Concours d'Elegance – had there been any. Below are A. Crawley with his original 'Gamages Compressed Air model' and A. Askew's pair of ex-Fred Rising models, respectively 30 and 40 years old, still going strong with R/C assist!

Peanuts by Post

Bill Hannan reports on an unusual International contest

ONCE UPON A TIME in the town of Bridgeport, Connecticut, USA, two fellows got together and decided to originate a new class of flying scale models for the local *Flying Aces* model airplane club. They decided that the rules should be kept simple, and model cost low. The object was to create an event for scale models which would place the emphasis on FUN, rather than museum-like accuracy.

Thus was born the Peanut Scale contest! The first organised event was won by renowned model builder, Henry Struck, with a Howard 'Pete' racer, based upon pre world war two 10-cent kit plans.

Before long, enthusiasm for these tiny (13in maximum wing span) flyers spread westward to Southern California, where it was enthusiastically received. Needless to say, letters were sent back and forth across the country to compare notes regarding model design and performance. Finally, it was decided that correspondence did not really provide enough information, and an actual Peanut aircraft was mailed instead. Before long, several models had made the cross-country journey, to be proxy-flown to enable direct comparison of building and flying techniques.

After a few years of this, the idea evolved to extend the range of destinations. After all, with such small and lightweight models involved, postage was a relatively small factor, even over international distances.

Concurrently, the model aircraft publications including *AeroModeller*(!) began featuring articles devoted to Peanuts, and this also accelerated the interest to a widely-spread audience.

Flightmaster club member, Carl Hatrak, was apparently the first to openly suggest the possibility of undertaking a truly *international* proxy Peanut event, but pointed out the rather formidable organisational problems involved.

So the idea remained dormant for a couple of years.

Meanwhile Peanut Scale (PS) meets were taking place regularly in California, Nevada, Connecticut, Ohio, Chicago and Florida. Soon, 'trial balloon' contests were taking place in England and France, and in each case, reception was surprisingly favourable. Letters to writers for *Model Builder* magazine began to arrive from all corners of the globe in support for the magazine's policy of featuring a full-size Peanut Scale model plan as a centre-spread. As in the case of the girlie magazines, it seemed that most readers opened the publication to that place first! At this point in time, your author was working with Bill Northrop, MB's editor on a freelance, part-time basis. During our many early-morning hours spent in preparing the copy for press, we began to kick around the idea for a postal Peanut meet, thinking at first in only limited terms. The concept 'grew like Topsy'. Prizes and volunteer services were offered, which almost *demanded* the execution of the international postal event.

At about this time, the Internats were taking place in New Jersey, USA, and the opportunity arose to send a Peanut model via Russ Barrera to be forwarded to England for proxy flying. Through the kind co-operation of Ron Moulton and Vic Willson, the little craft was safely conducted to Eric Coates, who proceeded to compete with it during a number of UK meetings. Later, Walt Mooney, probably the 'King of US Peanuters', forwarded a model for competition in a French meet organised by Jacques Pouliquen in the south of that country. Previously, we had been concerned with the possible detrimental effects of changes in temperature and humidity, since most Peanuts are only

Heading picture shows just one table of models, representing entries from three countries. The whole success of the contest was in many ways a tribute to the postal services of the many countries concerned! At right are two entries from Otaker Saffek of Czechoslovakia – the open cockpit craft is a Czech pioneer 'Rapid', while the cabin model is a Russian 'Leningrades'. Otaker is also current world space model scale champion – quite a contrast in modelling skills.

quite lightly constructed and doped. These fears proved groundless, as both models flew without need for readjustment.

Thus, the last remaining obstacle was removed, and the 'go' decision was made by *Model Builder* magazine.

Response to notice of the impending event was overwhelming, as over 400 requests for order blanks were received. Happily, only 104 models actually appeared by deadline time, which was fortunate for the organisers!

An unexpected SNAFU arose, when the anticipated blimp hangar flying site became unavailable, owing to a political boondogle, which as of this writing still appears unsolved. Happily, Chuck Conover rose to the challenge, and after some weeks, located an alternative venue.

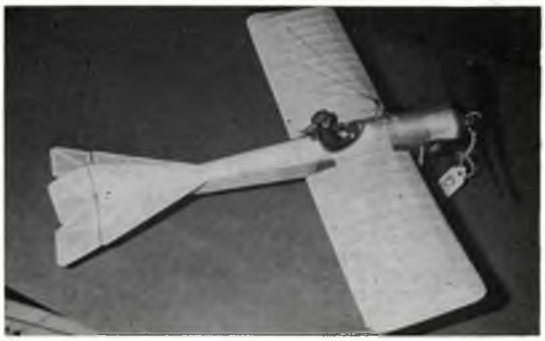
In the interim the staff of *Model Builder* magazine was being inundated with containers of all sorts. Each mail delivery brought additional crates, cartons, and suitcases, laden down with tiny aeroplanes. Soon, even the office rest room was literally piled floor-to-ceiling with the overflow of these packages. The logistics involved in storing 104 crates of odd shapes and descriptions can well be imagined, and ultimately a mobile home was utilised in transporting them to the contest site, California State College at Long Beach.

The actual event occupied the better part of two days, over the weekend of 7th and 8th June. Static Judging was conducted starting early Saturday morning, under the direction of US Nationals scale judge, Russ Barrera. A six-man crew consisting of Bill Stroman, Fernando Ramos, Granger Williams, Jack McCracken, Warren Shipp and your author utilised a system which completely eliminated the usual 'committee' type action. Each man was assigned responsibility for judging only one portion, such as, for example, workmanship, and thus worked alone without distracting discussions. Models were arranged on tables, identified only by numbered tags. As each table was completed, these numbers were duplicated in another room, where the proxy fliers were waiting. Numbers were drawn at random, out of a box, thus no-one knew in advance what he would be flying. Since some of the proxies had models of their own entered, they were allowed only written instructions to their proxy fliers, exactly as furnished by entrants from far-flung areas.

It was interesting to note the wide variation in these directions, which ranged all the way from absolutely nothing, to completely illustrated 'factory manuals'. While most contestants had understood the fun intent of this frankly experimental meet, it was surprising to discover a few who actually admonished proxies to 'not damage my aircraft!'. Needless to say, these people could hardly expect the all-out effort to achieve top performance accorded to more enthusiastic entrants!

A few models had arrived damaged in postal transit, and some rather extensive rebuilding was necessary to return them to airworthy condition. An additional few models were damaged during the course of flying, but in most cases, repairs were effected, and flying continued. It is difficult to appreciate the actual amount of effort involved in proxy-flying even ONE model, let alone a large number, and the crew really 'came through' with flying colours. Altogether too many models arrived inadequately tested (suspicions arose that some had not been tested at all!). 'Let those West Coast magicians trim out this bird' . . . which was done. Where possible. In the case of a few exceptionally stubborn models, second, third, and even fourth proxies tried their hands at qualifying. Such is the nature of accumulated experience, that a different approach (philosophy?) sometimes would 'save' a seemingly hopeless example. In the end, only a limited number of entries failed to qualify, and then it was certainly not for lack of effort expended!

Clyde Cessna's 'Bleriot' – very like the first aircraft 'Peanutted' by Butch Hadland with basswood longerons and all bracing.



Above, Butch Hadland sent his 'Blackburn Monoplane' from the UK and was rewarded with third place in the Pioneer Class – beaten by another pair of this popular machine. Below, is the WW1 class winner by Clarence Mather of USA – a 'Morane Saulnier'.

Below: another Clarence Mather entry, voted 'Grand Peanut of 1975' overall winner This 'Nesmith Cougar' weighs just 5·2 grammes without rubber motor and achieved highest total score – winning a Kraft R/C outfit!

An unusual, and ambitious, entry was this 'Grainger Archaeopteryx' submitted by Major Lindsay Smith – just shows what a wide range of prototypes are available as Peanut models.

Countries represented included Australia, Canada Czechoslovakia, England, France, Germany, New Zealand, and the USA. *Model Airplane News* columnist, Dave Linstrum submitted his entry from Kuwait, where he was working at the time, but arrived back home only a few days after his model was safely delivered.

In terms of variety, great success was also achieved. Evidently the small size and low cost of Peanuts brings out an experimental urge, as virtually every configuration known to full-scale aviation was represented in miniature, including pushers, canards, flying wings, twins, etc.

Most numerous entrants by far, were the Nesmith Cougars, with ten examples on hand. Pietenpols were next in popularity, with six registered.

An amazing coincidence was the appearance of *three* Blackburn monoplanes, which ultimately placed first, second, and third in the pioneer class.

Results were as follows:

Pioneer

1.	Blackburn Mono	John Blair, USA
2.	Blackburn Mono	Don Eble, USA
3.	Blackburn Mono	Butch Hadland, UK
4.	Castabert	W. Mooney, USA
5.	Ellehammer	Ted Dock, USA

WWI

1.	Morane Saulnier	C. Mather, USA
2.	Fokker EIII	R. Stewert, USA
3.	Sopwith Tripe	R. Tweet, USA
4.	B.A.T. Baboon	W. Mooney, USA

Golden Age

1.	Waterman Racer	Phil Cox, USA
2.	Luton Minor	A. Moorhouse, UK
3.	Pietenpol Air Scout	J. Krekovich, USA
4.	Monocoupe 110	John Blair, USA
5.	Zlin Z XII	Milan Kacha, Czechoslovakia

WWII

1.	Jungmann	W. Mooney, USA
2.	Heinkel 112-B	R. Roden, USA
3.	FW190	G. Ringel, USA
4.	Jungmann	Al Borer, USA
5.	P-51	Bruce Kennewell, Australia

Modern

1.	Fike 'E'	Jim Gerz, USA
2.	Nesmith Cougar	John Blair, USA
3.	Nesmith Cougar	G. Gobeaux, USA
4.	Lacey M-10	John Martin, USA
5.	Tailwind	Butch Hadland, UK

Top time for single flight: Fokker EIII, R. Stewert, 75 seconds.

Top static scale points (100 possible): Sopwith Tripe, R. Tweet, 82 points.

Model(s) most damaged in shipping: A. Pedashenko, Australia. Both models were canards, and really looked the part of 'dead ducks'. Yet both were repaired, and one was successfully qualified. (Lockspeiser and Shinden.)

Most realistic pilot award went to Dennis Norman, for the startingly life-like occupant of his Nakajima Hayabusa.

The '*Best Container*' award, was a tie between Ronald Tweet, for his 'factory stencilled' Sopwith triplane case, and Jim Hyka, who submitted his entry in a miniature two-bay hangar, which in turn was enclosed in a life-size 'Snoopie's Doghouse' complete with cocardes and bullet holes.

Tired but happy, Bill Northrop and Taylor Collins of *Model Builder* magazine and Carl Hatrak, CD, expressed willingness to go through it all again next year, so we polled the judges and proxies for suggestions. The static scale judges pointed out that although the requirements for documentation were minimal, many entrants simply 'threw away points' by not providing three-view drawings or markings information. This became particularly obvious when a number of similar aircraft were rated.

The proxy fliers, including Walt Mooney, Fudo Takagi, Fred Reese, Kingsley Kau, Clarence Mather, Curtiss Mooney, Dick Baxter, Bob Peck, Sandy Peck, Fernando Ramos, Bill Warner, Jack McCracken, Don Eble, Hal Cover, Bill Stroman, and yours truly, reached the following conclusions:

1. Be certain your model is strongly constructed and carefully packed. Loose parts, such as nose blocks and propellers must be secured, as they can inflict severe damage during shipping.
2. Allow an adequate opening for winding. Tiny nose buttons are infuriating under pressure. Ditto ill-fitted propeller shafts which defy thrust adjustments.
3. Pre-test and adjust model BEFORE sending.
4. If you are unwilling to risk damage, *don't* send the model!

A brace of canards posted from Australia by A. Pedaskenko. Unfortunately, the Shinden and Lockspeiser models were badly damaged in transit, but were repaired in time for the contest. At least N. Pedaskenko received a prize – for the 'worst damaged models in shipping'!

BETWEEN THE LINES

with Dave Clarkson

VIEWPOINT – Obstruction, the rules make it legal!

THERE CAN BE little doubt that today the *real* art in team race piloting is centred around obstruction (a nasty word). Obstruction is the art of slowing down – or preferably 'cooking-up' – an opponent in team racing such that he records a poorer time than he could simply by flying legally, i.e. in FULL ACCORDANCE with the rules. The second part of the art is for the obstructed pilot to get out of this situation without collecting a warning. I explained the dynamics of 'legal obstruction' a long time ago in this column, but will reiterate for those new to the scene.

Assuming that pilots walk in a 2ft. radius circle, and have a 2ft. wide shoulder, and follow all of the rules TO THE LETTER, *Figure 1* shows the basic obstruction circumstance.

If pilot 'B' is coming to overtake pilot 'A', then 'B's' lines hit 'A's' shoulders with the models separated by about 45° of arc. To reduce this angle, 'B' must raise his lines over 'A's' shoulders and, if normal flying height is to be retained, this means that his hand MUST come off his ('B's') chest. 'Handle off the chest' is allowed for just two laps, so in two laps 'B' must advance a full 90° on 'A' (the finish of overtake position according to the rules is given by transposing 'A' and 'B') i.e. a quarter of a lap. Now to advance a quarter of a lap in two laps means a speed differential of 12½ per cent, i.e. if 'A' is doing 25 seconds/10 laps, 'B' must do just worse than 22 seconds/10 laps – a very big difference by modern standards.

There are many ways 'A' can make things harder for 'B', and I am not going to publicise such methods! What we do have to consider is how 'B's' life can be made easier. The only way is to reduce the 'obstruction angle' and the principle method pilots employ is to raise the handle such that his lines go, with the model at legal height, up to 'A's' neck; then with the lines into 'A's' neck, 'handle off the chest', overtake and get it back onto the chest as soon as possible. Otherwise 'B' has to persuade 'A' to duck (make himself shorter) or move towards the centre of the circle; if 'A' likes 'B', no problem, but when the reverse applies – NO WAY and thus either 'B' gives in or gets very angry, fast.

I am still convinced, despite their lack of response to pleas from many notable people (including Derek Heaton) to 'do something', that the rule-makers do not intend the situation I have described to be inherent in the rules. But inherent it is, and until the 'hand on the chest' rule (or one or two other rules) are relaxed, then 'obstruction' remains the name of the game in racing piloting. So, when you read about 'tactical' flying as in the recent European Championships, remember that this type of flying is seemingly implicit in the rules; good pilots should not be criticised for flying legally!

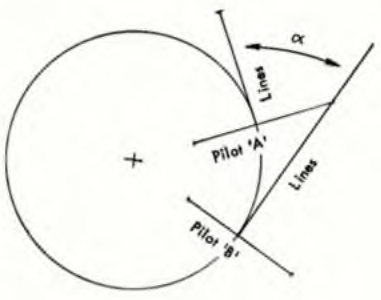


Fig. 1

Allan Cooper warms up his own-designed team race diesel (see box lid for details!) aided by pilot Gerry Green. We understand that pressure of work has caused Allan to cease his 'Team Racing Components' business – a great shame as the many enthusiasts who are using his handicrafts will agree.

The Fifth Stockport Combat Rally – *20th July*

Perhaps because of summer holidays and the closeness of the date to the Derby International and the European Championships, this year's Stockport Rally only attracted a moderate size of entry – well down on last year. However, good pre-publicity on Granada TV and Radio Manchester ensured a respectable audience and the magnificent *Mainstream Trophy* drew some of the country's best flyers for what turned out to be one of the happiest combat contests of the year. The weather at first was most unpromising, being very wet underfoot even on the freshly-mown circle, but sunshine after lunch dried everything out and the threatening wet streamer problem never really materialised. Very light breezes contributed to good, open combat which, no doubt, helped the 'fast motor' operators – notably Rod Bamford who used ST G15 FI glows converted to diesels run on crankcase pressure feed and 7 × 4in. props. Also running fast motors were John Hammersley and Graham Hayes who were on ST G20 and ST G15 glows respectively. Despite the presence of such fast machinery, which obviously helped their users in the conditions, the 'pilot's pilots', Dave Wood and Mick Tiernan, found their way, with difficulty at times, to join Alec Herring and Rod Bamford in the semis and they sorted themselves out as follows:

1. D. Wood (GO)
2. R. Bamford (AHA)
3. M. Tiernan (AHA)
4. A. Herring (Chesterfield)

Besides the *Mainstream Trophy* and plaques for the first three places, the winners received cash prizes (£10, as always, for first) plus some really excellent trade sponsorship prizes (thanks to Fox UK Ltd., The Model Shop – Manchester, Solarbo Ltd., Pegasus Models and Micro-Mold for these).

It surely cannot be long now before our very best UK pilots will be using faster machinery – already Vernon Hunt has experimented with K&B 15 Schneurle glows, while Mick Lewis and Dave Wood now have new 'combat' Rossi diesels. Certainly Martin Fox's diesel conversions on G15 glows go really fast and appear to handle much better than the other types of pressure-fed diesels that have been used in the past.

London Area Rally – *RAF Wyton, 27th July, 1975*

Glorious sunshine, high temperatures and just about no wind made this rally the best-weather contest of the year, so far. Events run were Goodyear, FAI, 'B', Combat and Speed; I report on the racing events below.

FAI – Team Race

A high-class field (except for the absence of Heaton/Ross), perfect weather and a good flying surface, gave expectations for fast times and this is what resulted from the heats as the semi-final qualifying times show:

Clarkson/Daly	*Norwest*	4:18	K&B
Rudd/King	*Feltham*	4:25	ST G15 RV
Smith/Fry	*Feltham*	4:28	Bugl
Daly/Howard	*Norwest*	4:34	K&B
Horton/Haworth	*Wharfedale*	4:35	ETA
Giles/Harknett	*Feltham*	4:40	Rossi FI

Again notice the big variety of motors used, proving once more that it is *how* a motor is used that really matters, as opposed to the

Steve Bingham, well known for his exploits at combat is now turning his attention to team-race, where he has proved a most able pit-man.

source of the motor. In their second contest together, James/Bingham looked disconcertingly competent again with a pair of 4:49s in the heats – not enough for the semis in this company though.

Under the watchful eyes of John Gray (the organiser) and Bob Horwood (SMAE C/L Committee Chairman) who had spotted that one of the airfield buildings made an excellent height marker, the final was well mannered and very close, although a little slow. Clarkson/Daly squeezed 40 laps/tank out of their K&B and this made the difference.

1. Clarkson/Daly		9:15
2. Smith/Fry		9:22
3. Hudd/King		9:27

'B' – Team Race

A small entry composed of most of the fastest teams in the country made for a very relaxed event under the direction of Ian Russell. This small entry meant no semis and Clarkson/Daly/Howard just failed to qualify by 0·7 second with their 4:06 heat for the final which turned out as follows:

1. Giles/Harknett	*Feltham*	8:07	ST G21/29RV
2. Gray/Lopez	*Feltham*	10:00	ST G21/29RV ABC
3. Ridley/Burns	*Hinckley*	10:29	ST G21/29 FI

Notice the dominance of the Super Tigres. As a result of the Nats debacle, a lot of sleeved-down Schneurle 40s are in preparation to be joined shortly, according to Ron Irvine, by a 29 version of his side-exhaust 40. Ron had the prototype of the side-exhaust Irvine 40 Schneurle with him; well ported and beautifully made, especially the superb investment – cast crankcase. Both the 40 and the 29 should be formidable. I suspect that a lot of 'B' men are going to be knocking on Ron's door soon – thanks very much Ron for looking after we 'B' team race men.

Goodyear

With all of the top Rossi operators present anyone would have been forgiven for thinking that the outcome would be a Rossi benefit, but this was not how it turned out. Fry/Smith opened well with a record-breaking 4:41 heat, but a split tank in the final made for a very long repair job (using the ubiquitous elastic band) which put them out of top spot. Daly/Howard were getting better starts from their fast Rossi but dirt in the tank, plus two broken models, stopped them. Dave Balch, here on holiday from the USA, piloting instead of Stewart Willoughby, couldn't improve the fortunes of the Summerfield/Haycock Rossi which suffered from slow starts and lean runs. So the Rossi threat faded and a lowly G20 diesel, well pitted and going surprisingly well in the air, did the tortoise on the (Rossi) hares.

1. McMahon/Myska	*Wolves*	10:32	*Argander Special*
2. Fry/Smith	*Feltham*	10:47	*Miss San Bernadino*
3. Daly/Howard	*Norwest*	rotd.	*Ol' Blue*

A disappointing end to what threatened to be a very fast contest considering the lenient rule interpretations followed by the CD Mr Tribe (senior) and honourable No. 1 son, Ron.

At the recent European C/L Champs Youri Knjazev of USSR used this home-built glow motor in his combat model – note how the leading edge is recessed to accept the cylinder.

The Woodvale Rally *RAF Woodvale – 3rd August, 1975*

Following on from Wyton the previous weekend, where the northerners invaded a southern stronghold and came away with a fair amount of success, Woodvale was the chance for the southerners to take their revenge. Whilst the major event winners were long distance travellers, I am sure that they will regard their revenge to have been incomplete, as the results show. As at Wyton, the weather was glorious – maybe a bit too glorious since the temperature built-up during the day to top the 90° mark. Events run were FAI team race, Goodyear, Combat and Speed. With the assistance of the racing event organisers John Daly and Jim Wooside, I report on the racing events below. Combat was so poorly supported that a report is hardly deserved.

FAI – Team Race

With entries from just three clubs (Norwest, Feltham and Wharfedale) despite the excellent prizes on offer – in sharp contrast to Wyton – the organisers had the time available to do tank measuring for the finalists who came from the following:

Heaton/Ross	4:10	Bugl Mk II
Horton/Haworth	4:35	ETA 15
Giles/Harknett	4:38	Rossi 15 FI
Daly/Howard	4:39	K&B 15 S
Smith/Fry	4:40	Rossi 15 FI

Notable occurrences in the heats were Heaton/Ross doing a 4:10 using their Verviers model (now inscribed to tell the story of dive-bomb landings) and Smith/Fry planting *their* Verviers model hard on Woodvale's excellent tarmac.

On measuring the tanks, out went Giles/Harknett (7·2cc) and Daly/Howard (7·1cc) and in came the eventual winners, Smith/Fry – despite a very marginal tank. In the final everything possible went wrong for Heaton/Ross despite the jury collecting money that had accidentally fallen from Derek's pocket in the race! so they opted not to finish.

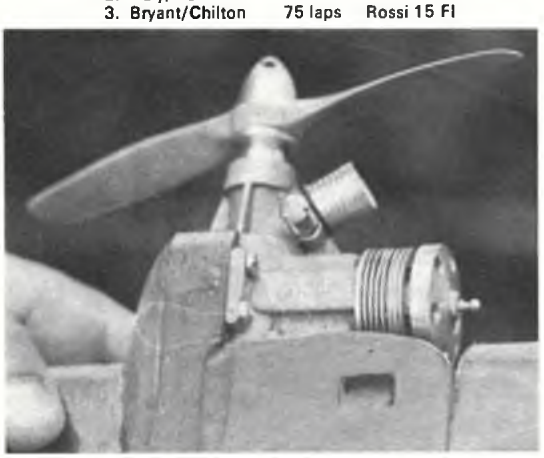
1. Smith/Fry	9:04	*Feltham*
2. Horton/Haworth	9:39	*Wharfedale*
3. Heaton/Ross	195 laps	*Norwest*

Goodyear

The Rossi 'hares' were out in force again with Daly/Howard's the fastest in the air, Bryant/Chilton's (yes, Mike Chilton doing the flicking – another ace combat pilot turned to pitting) the best starter and Fry/Smith by far the most temperamental. Fastest in the heats were Daly/Howard with a 4:41; Heaton/Ross also surprised with a 4:51 using a diesel converted K&B (the disease appears to be spreading!).

The final started and finished in spectacular fashion. At the start both Graham Howard and Mick Chilton got excellent starts bu both Rossi's promptly flooded-off after only one lap each and long. wet restarts resulted for both. Meanwhile, Horton/Haworth 'tortoised' on with their diesel (strange we all used to think this model disgustingly fast) and were totally in control many laps ahead until lap 198 when their motor cut. In the seconds it took John to glide his model that last two laps, Mike Daly's Rossi howled by at least five times and Don Haworth's concern was obvious to all. Still, the trusty diesel just made it home in front; the second successive contest at which this has occurred.

1. Horton/Haworth	10:08	PAW 3·5 Special
2. Daly/Howard	10:16	Rossi 15 FI
3. Bryant/Chilton	75 laps	Rossi 15 FI



Boris Krasnorutsky (USSR) gave a very convincing display of the practicality of retracting undercarriage when he flew his latest racer at Verviers. Note how in the view above the well-door is shut even when the leg is extended – a very useful feature, preventing dirt and dust from entering.

When retracted, the underside of Krasnorutsky's team racer presents a very 'clean' picture. Unit retracts under centrifugal force, extends on operation of the engine shut-off i.e. when sharp down elevator is applied. Several top teams are now working on similar devices.

SPEED SCENE '75 (by Mike Nash de Villiers)

There are two important items to report. Firstly a bit of politics: at the 22nd June SMAE Centralised Meeting, a ballot was held of all people present, and everybody concerned in speed had his name voted upon. This resulted in three names showing a clear majority: namely Martin Radcliffe (Feltham), Ken Morrissey (Sharston) and Mike Billinton (Elliott). These three will now act as a form of committee for speed flying, helping to settle disputes and problems that might evolve, and also to represent speed flyers to the SMAE. Incidentally, these are probably the most experienced trio of 'big speed' flyers one could choose without picking two from any one club, and I am sure they would be very pleased to help you with any problems you might have.

And now for a technical matter. Last year the SMAE banned line groupers *en-masse*. I am sure this was done without any consideration for *Open* speed – there is no blame to be laid for this, it was purely a case of nobody representing us at Area meetings.

Since this happened, Mike Billinton has formed a petition to find out how many people are for, or against, groupers (against his own interest I might add). The results show that almost everybody is in favour of line groupers for Open class speed. This was proposed at the London Area SMAE meeting, and will be voted upon around the areas. The re-introduction of groupers will close the vast gap between one- and two-line flyers and, in my opinion, this can only be good for competition and for the sport.

Of course groupers can be dangerous if set up incorrectly: but have you ever flown on kinked, single-strand lines? At a later date I shall go into the use of groupers more deeply.

London Area Gala – *27th July, 1975*

The weather was a complete contrast to last year – perfect! The Meagers made it a hat trick for the ·049 brigade – Mike Gagg with his new record at the Nats, Bob Meager at North Luffenham, and now son Nicholas Meager at Wyton! Not bad for a 14-year-old! 88·8mph was recorded, which is 110 per cent of the old record. Bob also managed third place at 100·7 per cent of the old record, i.e. 81·3mph.

Probably the most spectacular flights of the day again came from second-placed man, Mike Billinton, with his K&B 40. His first run was perfect in his usual style – 178mph, a new record (his previous best speeds, all records, were 172, 173-4) and he followed this with an almost unbelievable 180·4mph! The needle man on this and all his other record runs was 'old golden fingers', Gordon Farnsworth, who for many years held the 2·5 open record (149mph with a Super Tigre G15).

The results for the whole day were as follows:

		Class	*Speed*	*% of existing record*
1. N. Meager	*N. Sheffield*	·049	88·8	110%
2. M. Billinton	*Elliott*	·40	180·4	105%
3. B. Meager	*N. Sheffield*	·049	81·3	100·7%
4. D. Smith	*Southend*	FAI	132·3	95·4%

THE STUNT SCENE (by Glen Alison)

Technical stuff this month is on silencer pressure for the fuel tank. Here are the opinions of two of America's top stunt men who use it with different engines:

Gene Schaeffer uses OS Max 35S and ST 46 and says that using pressure adds consistency to the engine run and helps maintain a constant speed in both level flight and manoeuvres. The pressure fitting, drilled to $\frac{1}{16}$in. diameter bore, should be sited fairly near to the exhaust flange, and the fuel tubing, silicone type, should always be left on the fitting and removed from tank vent when filling. This is to help avoid the possibility of the tubing coming off causing the motor to go lean and possibly 'cook' itself.

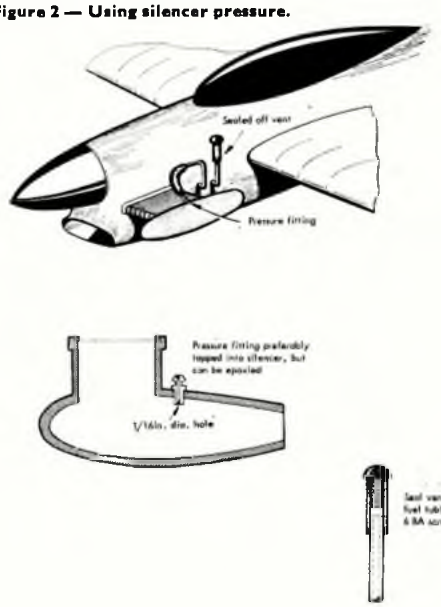
Bob Gieske, current World Champion, uses a Fox 35 and finds that using pressure improves the two-stroke/four-stroke run tremendously and takes away the disadvantages of running a Fox on a silencer, as they are critical on exhaust back pressure. He also states that it helps sort out discrepancies in tank alignment causing differing runs when level or inverted.

Tanks should be left as they are, both Uniflow and siphon system work well using pressure. Do not forget to seal off the other vent, however, to get an airtight system.

I have found two side-effects, however. Firstly using pressure will cut down the running time of a motor because of the extra richness it gives, and secondly, if you lean out the needle to combat this then adjustment may be necessary when starting from cold. I like to leave a needle setting alone as quite small adjustments can have a considerable effect on the running time of a tankful of fuel, especially with a big engine.

So that's it, the system works. If you have tank or engine run problems why not try pressure? You can easily convert your silencer by using an old spraybar as shown in Fig. 2 below.

Figure 2 — Using silencer pressure.



GADGET REVIEW

a selection of readers' hints and tips

THERE ARE OCCASIONS when a simple, cheap dethermaliser timer is needed, and yet the obvious solution – our old friend the smouldering fuse – is not suitable due to the fire risk. Magnet steering enthusiast, Brian Faulkner of Lymm, Cheshire, developed the system shown in *Sketch 1*, as burning D/Ts are not permitted on his Clwydd slope-soaring site. The principle it operates on is just the friction developed between the pencil rubber and a length of piano wire which is pulled through it. To set, feed the nylon line from the tip-up tail through the plastic tube in the fuselage and loop the 'noose' over the 20swg piano wire to hold tailplane in the horizontal (flying) position. Now latch 'B' onto catch 'A'. When launching the model, release catch 'B' so that the elastic band slowly pulls the wire through the rubber. The original took up to four minutes to allow six inches of wire to pass through it – the time taken may be adjusted by tightening the 10 BA clamping nuts.

One of our younger readers, R. Cedar of London, has a very simple solution to a 'messy' problem. Many people ignite dethermaliser fuses from a longer length of burning fuse as it obviates holding a naked flame close to the highly inflammable tail surfaces of the model – quite a wise precaution! However, once the model is safely aloft, the 'lighting fuse' is either left burning (expensive) or is snubbed out with fingers, underfoot or with good old saliva! In any event, the fuse is hardly improved by these afflictions – so Mr Cedar suggests a short length of aluminium tube should be kept on the fuse to act as a 'snuffer'. Squash one end of the tube slightly to prevent it from falling off accidently, and use as in *Sketch 2*.

How do you make sure that undercarriage legs are exactly the same length to avoid having a lop-sided model? Simple really, as *Sketch 3* shows! Dave Greenfield of Headingley, near Leeds, just uses strips of balsa (around $\frac{1}{8} \times \frac{3}{8}$in.) from the last bend to the side of the pliers for the next bend. The same reader also sent us *Sketch 4*, which is a very useful jig for bending up to 12swg piano wire. It is ideal for forming coil springs, and can make these either left or right handed. The base-plate is only 2-3in. long overall, and the $\frac{1}{4}$in. rod results in springs with approximately a $\frac{5}{16}$in. I.D. For best results, support the piano wire with a piece of wood when bending it around the $\frac{1}{4}$in. steel mandrel.

John Gibbins of Brackley, Northants, is fortunate in that he can fly a control liner in his back garden, although his wife soon tired of the novelty of releasing his model every five minutes! The answer, of course, was a self launcher, as drawn in *Sketch 5*. All his models are now converted by having a loop soldered to the tailwheel, so that when the model is securely anchored by the nail, start up, walk to the handle, pull the string and you are away! Incidentally, John warns that the release string *must* be attached to the board; bitter experience has proved that failure to do so results in tangled feet or lines!

Yet more ideas from the prolific Mr Greenfield in *Sketch 6*! The upper drawing shows a conventional marking gauge, which can be used as a balsa stripper once the spur is suitably sharpened. Can still be used as a marking tool, remember. Below this is shown a 'de luxe' balsa stripper, working on the same principle. The 'handle' consists of $\frac{1}{2}$in. diameter aluminium or brass rod. One end is drilled out to hold a spare scriber blade, and is then tapped 2 BA to accept a screw 'cap'. The other end is then drilled and tapped 2 BA for a screw to clamp the cutting blades in place. The faceplate is cut from $1\frac{1}{2}$in. diameter aluminium or brass, and is drilled for the handle, then drilled and tapped for the clamp screw, which consists of a 2 BA screw with a 16 gauge brass plate soldered across the head as a 'wing nut'.

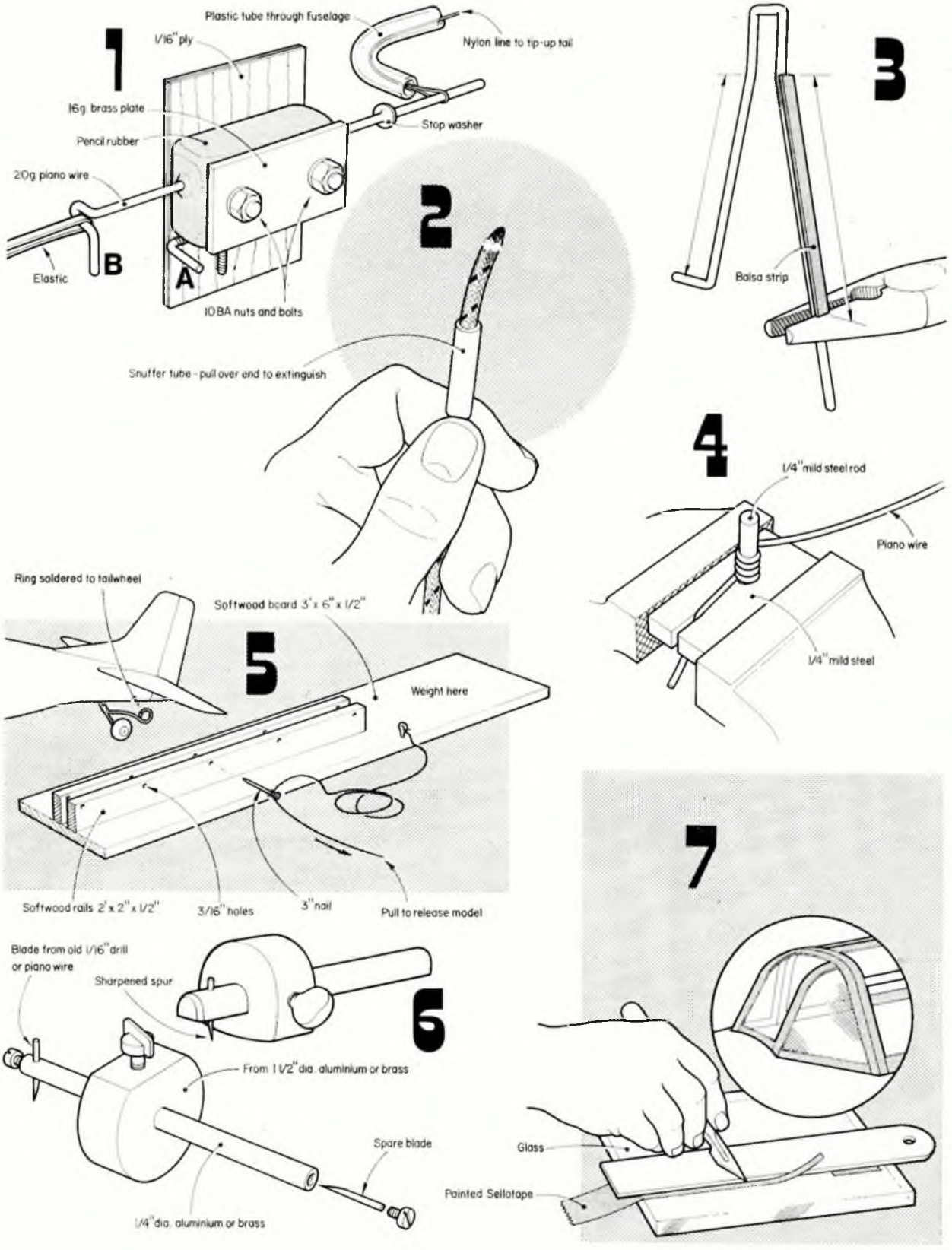
Painting a cockpit frame can be a tricky job to accomplish neatly, but Londoner, Martin Tuck, has found an easy solution – see *Sketch 7*. Firstly, clear adhesive tape is laid on a piece of glass and this is then painted black. When dry, use a steel ruler and sharp knife to cut into strips, then peel off the glass and stick in place. Result, instant neat framing! Fuel proofer may be applied over the strips to prevent them from lifting.

Not illustrated

Over the past ten years or so, Mr T. Child of Tonbridge, Kent, has often found himself in the situation where he has wanted to dope something, but had run out of thinners with which to clean the brush! However, this is no problem for him now, as he discovered that household cleansers such as *Vim* or *Ajax* can do the job too! Just shake some of this powder into the palm of your hand, dip the brush in water, then thoroughly work into a paste. Rinse well in warm water and dry with a clean cloth, or leave overnight in a warm room.

Anyone who has followed stunt flier Jim Mannall's progress over the years will know that he is something of an expert at repairing or renovating models! He always uses Humbrol enamels and fuelproofer for finishing his models, but found that repairs are difficult as cellulose dopes ruin the existing paint job. Being faced with a major repair job, he decided to strip a model. Polystrippa paint remover took off the fuel proofer and enamel paint, but Eureka! it left the doped tissue unharmed. However, if the Polystrippa is left on the model too long it will soften the dope and slacken the tissue, but if washed off with plenty of cold water after around two or three minutes, the tissue re-tightens with no ill effects.

Neat and light address labels for the flying surfaces of a model can be made by typing direct onto a piece of the same colour tissue used for covering, and doping the resulting label in place, relates Martin Dilly. Sometimes a wing or tailplane may be the only piece blown down from a tree-d model, and brief details of the owner may be of more use on *it* than on the main label usually attached to the fuselage. This method also mystifies people who wonder how you got the wing into the typewriter. . . .



INTERNATIONAL INDOOR MEET 12th-13th July

being sub-titled 'A BARR TO BRNO'

Laurie Barr reports on his memorable journey

At left is the large hall with its domed roof used for the venue – the only snag being the 25ft. diameter vent at the apex of the roof, which caused problems with strong updrafts. Picture below shows a general view of the contest site – namely the timekeeper 'pool' and the jury.

MID-JUNE, I received a postcard from Jiri Kalina, showing the exhibition hall in Brno, and written on the back was an invitation to fly in the Czech Internats over the weekend of 12/13th July. At first I had mixed feelings, remembering the hard time I had driving through Hungary and Rumania to fly in the Slanic salt mine. I eventually figured that it was likely to be more congenial above ground than under, and that it was no good having a box full of indoor models if one did not go and chance one's arm in 'man to man combat'!

As no other British flier was able to join me, I was faced with the awesome prospect of a solo drive to Brno plus a petrol bill of more than £200. A phone call to the London offices of the Czechoslovakian Airlines (CSA) resulted in permission for the model box to accompany me as hand luggage. So the decision was made to go, and in the event both CSA and British Airways were most helpful – I received first class co-operation all the way.

On arrival at Prague I was met by Jiri Kalina, who due to a combination of a slow post, and his being in Bulgaria the preceding week for a F/F World Champs practice session with the Czechoslovakian team, had not been sure of my arrival date, and had in fact waited at Prague airport all the previous day. Fortunately, the clear perspex side of my model box swiftly got me through customs, etc. – the European officials seem to know much more about our hobby than their English counterparts. The models and all the associated gear were bundled into Jiri's small saloon, and we went to his home in Prague, and met with Rudi Cerny. Both Rudi's and Jiri's cars were loaded to the gills, and we took off for the 4½-hour drive from Prague to Brno with all the models and luggage for five people! The weather was very hot and close, and a tired, cramped and hungary 'task force' arrived duly at Brno at 11pm.

Practice started the following morning at 7am, the comp starting in 2½-hour rounds at 10.30am and it was soon evident that a different trim and method of winding was needed compared to Cardington. The snag was that although the hall was ideal for indoor flying at approx 135ft high, in the centre at the apex was a roof ventilator some 25ft in diameter, and due to building regulations, it was not possible to block this hole. From around mid-day a strong up-draught was grabbing any model that flew within 20ft of it. Sometimes it would suck up models not even flying directly underneath – all very unpredictable – and if you flew too low, you would not get a good time.

The other hazard was low level turbulence, so one needed a fastish beginning to the climb to get through the turbulence, then to hold back the climb, and take 15 minutes or so to level out some 25ft under the domed roof. In previous years models had been shredded through the venetian blind covering the ventilator, but to minimise damage to models some muslin cloth had been stretched tight across the opening. However, models would get caught in the perfidious thermal and stick like flies on a sticky paper trap, and would stay there until someone prodded them down, although this usually caused a broken wing. Alternatively, you waited until late at night when the model would fall free on its own, once the draught stopped.

Since the adjustment of the model had to be so exact, it was better to risk bringing the model down, and repair (if possible) then, by backing off turns after winding, next time one was more confident of hitting the right spot to level out.

The very first flight in the comp by Jiri Kalina showed his complete mastery of this site, and he broke the existing hall record with a time of 34:39, without ever going more than 100 feet high – I have seldom seen a model that circled so consistently, flew so slowly, and at about 32rpm on the cruise! Apparently he wound on 2,100 turns, backed off 120, and let the prop run for 30 seconds before launching – the model landing with 300 turns still on the motor. This works out at a flight rpm average of about 44rpm! His model was the same layout as that used at the 1974 World Champs at Lakehurst, USA, except it had a 'banana' shaped double-ended section similar to that used by Pete Andrews and Aurel Popa. The standard of construction of this and all his models was immaculate, as was his repairing ability, for he damaged the wing several times, and it flew the same each time. The Polish team were also flying well, and had good control over the climb/cruise of their models, but the only other competitor who came close to Kalina was that low ceiling expert, Eddy Ciapala who made 34:10 on his second flight. For my part, I hung two different models on the first three flights, and thought I would never get it right. The next day, I tried a prop more like those of the successful fliers, and playing safe, backed off too many turns. It did not get up high enough, nor cruise well enough, but at least I got a flight of 25:22 that took me onto the score board.

Indoor fliers are a special breed, and I know of no other sport, where a rival competitor would lend you an item of equipment that would enable one to do better – at this point Kalina lent me a couple of motors, from his best stock, I wound to 1,800 turns, backed off 120 and let my prop run for the 'mandatory' 30 seconds, and after 20 minutes flying time elapsed, the strains of 'Rule Britannia' echoeing round the hall meant that a good flight was in prospect. The model had to be steered with my line/balloon twice, losing some height but it eventually landed for the fifth best flight in the contest at 31:55. It had 180 turns left on, so the average rpm worked out at about 45rpm, and I was happy to have made at least one good score, and not to have wasted the journey! Assuming that none of the other competitors improved on their best flights (none of those ahead of me in fact did) and if I could repeat the same flight again I could have

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It's Peanut time again!

B.A.T. BABOON

an unusual prototype but with ideal proportion for indoor flying; unearthed by Walt Mooney

full size plans overleaf

THERE ARE MANY different reasons that one can have for selecting a Peanut Scale subject. Being limited to 13in. span, it is desirable to have relatively low aspect ratio wings, so as to result in the largest possible wing area. This airplane meets the low aspect ratio criteria, and has two wings! The design should have a fairly long tail moment – which this aircraft also has, while for good ROG take-offs it should have a stable landing gear arrangement. The *Baboon* has probably the widest track landing gear of any WW1 airplane. Some dihedral is also desirable.

Of course, the real reason a design is selected to model can be different from all of the above. In 1918 the British *Aerial Transport Company* constructed their Type FK24 ('FK' for Frederick Koolhoven) and gave it the name of 'Baboon'. What better reason to build a model than the fact that its name is unforgettable?

The prototype was intended as a very simple-to-build, easy-to-rig and simple-to-maintain trainer – this tends to make for a simple model and it is, with the exception of the dummy seven-cylinder engine. Thanks to the availability of Williams Brothers' plastic cylinders, even this problem is overcome.

The fuselage is constructed by first making two side frames directly over the plan – these are shown hatched for clarity. The very first bay of the sides is filled with sheet balsa. When the cement is dry, remove the sides from the plans and separate the two side frames (if desired the frames can be built separately, but it is more accurate to build one on top of the other). Now cement the side frames together at the tail end. Set this above the top view of the fuselage so the correct angle of the sides at the tail post is obtained, and let it dry thoroughly. Then add the horizontal cross braces at each station, moving toward the nose. Note that the longerons will have to be cracked at the first station forward in order to give the sharp corner. Everywhere else the longerons will bend enough to take care of their change in direction.

When the basic box structure is complete, the top formers (A), through (F), can be added. Cut the 'nose square' (A) and cement it into the nose of the box so it is just flush with the front end. Use soft, flexible $\frac{1}{32}$in. sheet balsa to cover the upper deck of the fuselage, and carefully cut out the cockpit openings. Add $\frac{1}{16} \times \frac{1}{8}$in. cross braces across the bottom of the box at positions in line with (B) and (B). These are cemented to the normal $\frac{1}{16}$in. square cross braces and to the uprights, and will provide some structure between the roots of the lower wings.

The tailplane and rudder are simple structures built directly over the plans, using $\frac{1}{16}$in. square sticks, and corner gussets cut out of $\frac{1}{16}$in. sheet balsa. Remove from the plans and carefully sand the outlines to a half-rounded section. Do not omit any of the gussets; they are essential to prevent covering wrinkles from occurring.

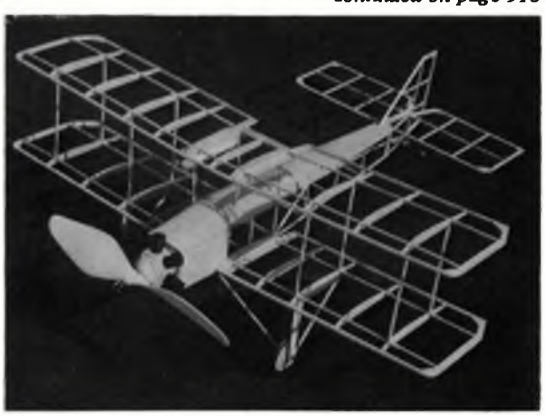
The wings are conventional structures, using notched ribs, leading and trailing edges and two top surface spars. The tip pieces are $\frac{1}{4}$in. square balsa. Again, remember the gussets. Cut four root ribs from $\frac{1}{16}$in. sheet (or cut twelve from $\frac{1}{16}$in. and laminate them three at a time to give the correct thickness). Cut out twenty-one of the regular ribs from $\frac{1}{16}$in. sheet.

Pin the leading and trailing edges to the plan. Cement the ribs in place. Cement in the tip structure and the gussets. Add the two spars. After the cement is dry in the rib notches, cut the spars to exactly fit at the tips and cement them in place. The spars should be flush with the top of the tips.

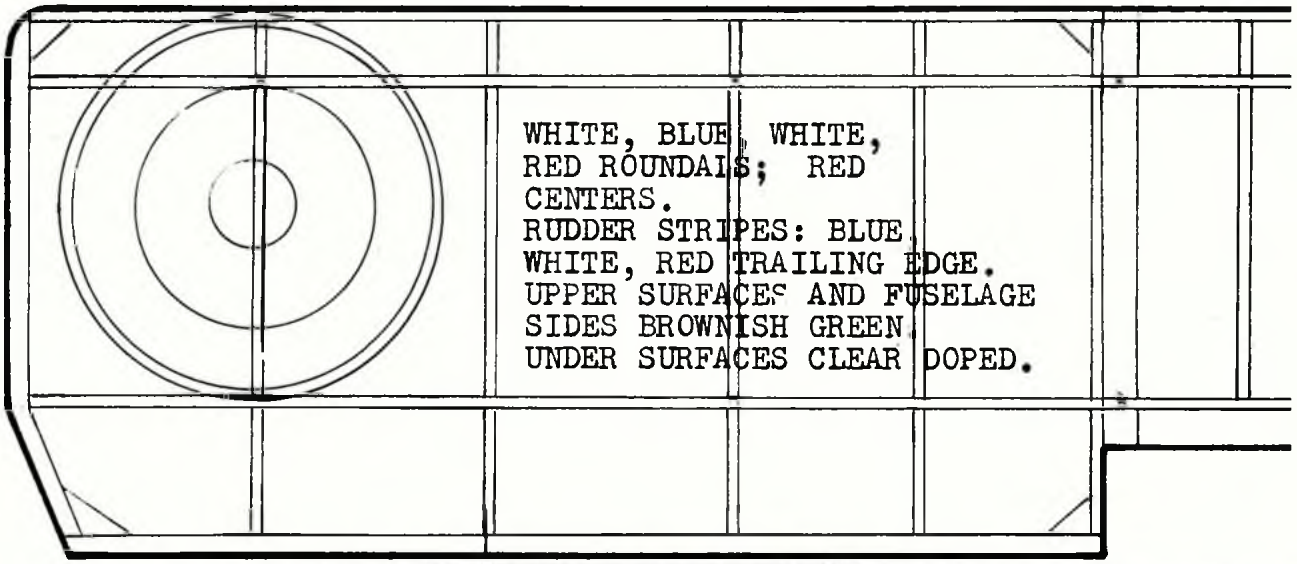
The lower wings end just at the inside of the root ribs – the top wing has a centre line rib. This is cut off even with the back of the aft spar and a triangular cross-section piece of balsa is used to fill in between the root ribs. The dihedral break for all wings is located at the outside of the thick root ribs. Carefully cut the outer panels free of the roots and reassemble the wings with $\frac{3}{16}$in. dihedral under each tip. Taper the ribs to give a good fit. When the cement is dry, sand the leading and trailing edges to the rounded and tapered cross-sections shown. Wing tips are also rounded.

Use lightweight tissue for covering all the components. To get an approximation of the right colour for the upper surfaces, I used 'Brown' and 'Olive Green' RIT dye dissolved in rubbing alcohol to dye a sheet of plain white tissue. To dye tissue, you first have to make a frame to hold the sheet that is to be dyed. Cement one together out of $1 \times \frac{1}{4}$in. or similar balsa, like a picture frame, and

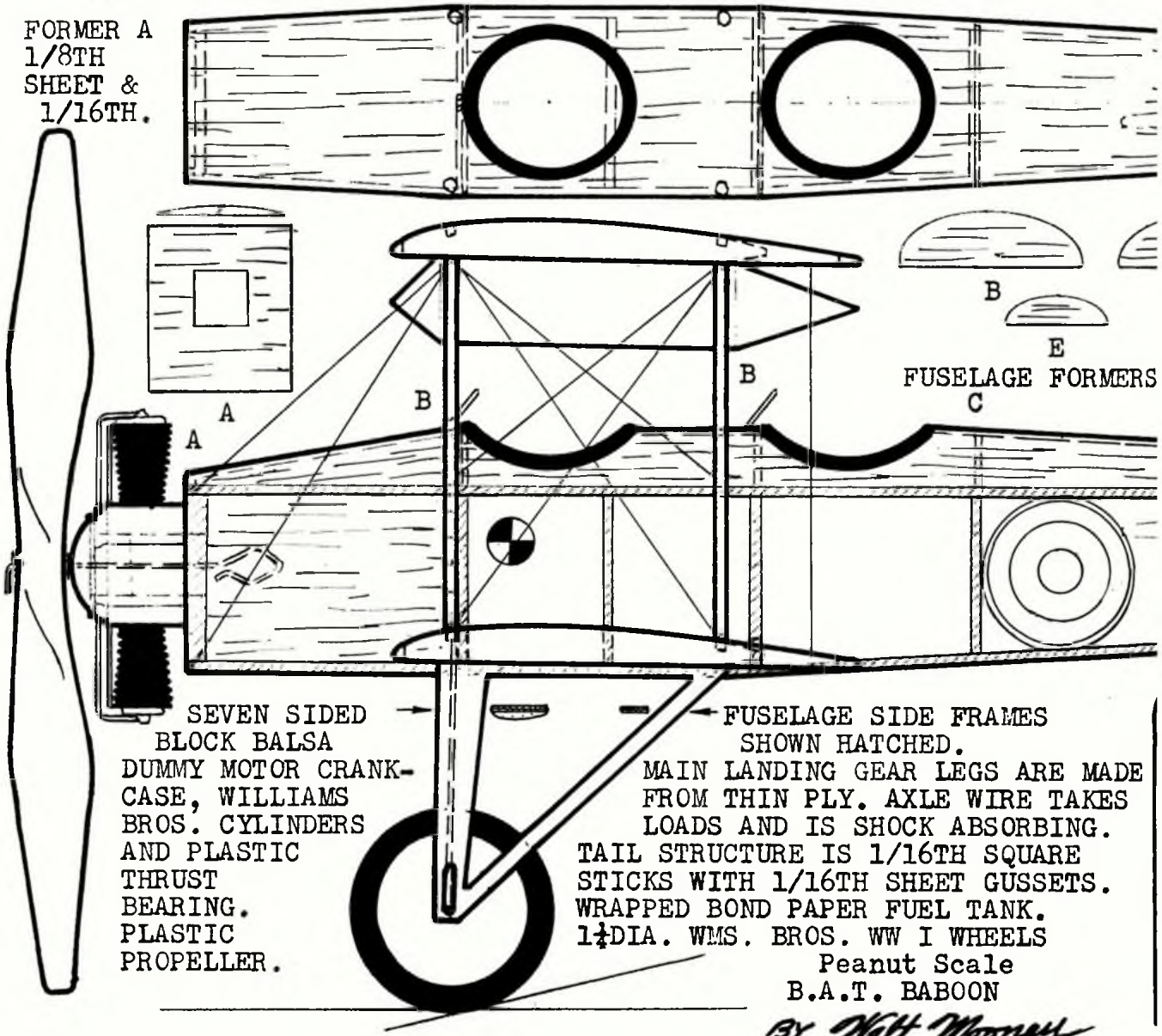
continued on page 918



WING TIP 1/8TH SQUARE, LEADING AND TRAILING EDGES 1/16TH by 1/8TH,



FORMER A
1/8TH
SHEET &
1/16TH.



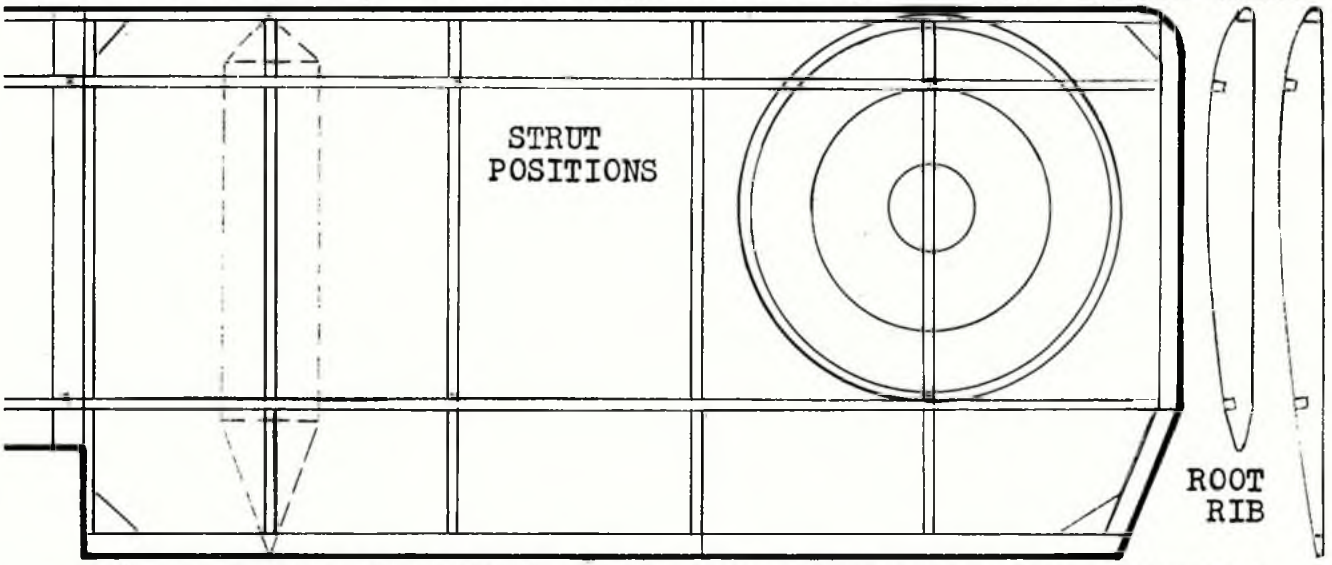
SEVEN SIDED
BLOCK BALSA
DUMMY MOTOR CRANK-
CASE, WILLIAMS
BROS. CYLINDERS
AND PLASTIC
THRUST
BEARING.
PLASTIC
PROPELLER.

FUSELAGE SIDE FRAMES
SHOWN HATCHED.
MAIN LANDING GEAR LEGS ARE MADE
FROM THIN PLY. AXLE WIRE TAKES
LOADS AND IS SHOCK ABSORBING.
TAIL STRUCTURE IS 1/16TH SQUARE
STICKS WITH 1/16TH SHEET GUSSETS.
WRAPPED BOND PAPER FUEL TANK.
1¼DIA. WMS. BROS. WW I WHEELS

Peanut Scale
B.A.T. BABOON

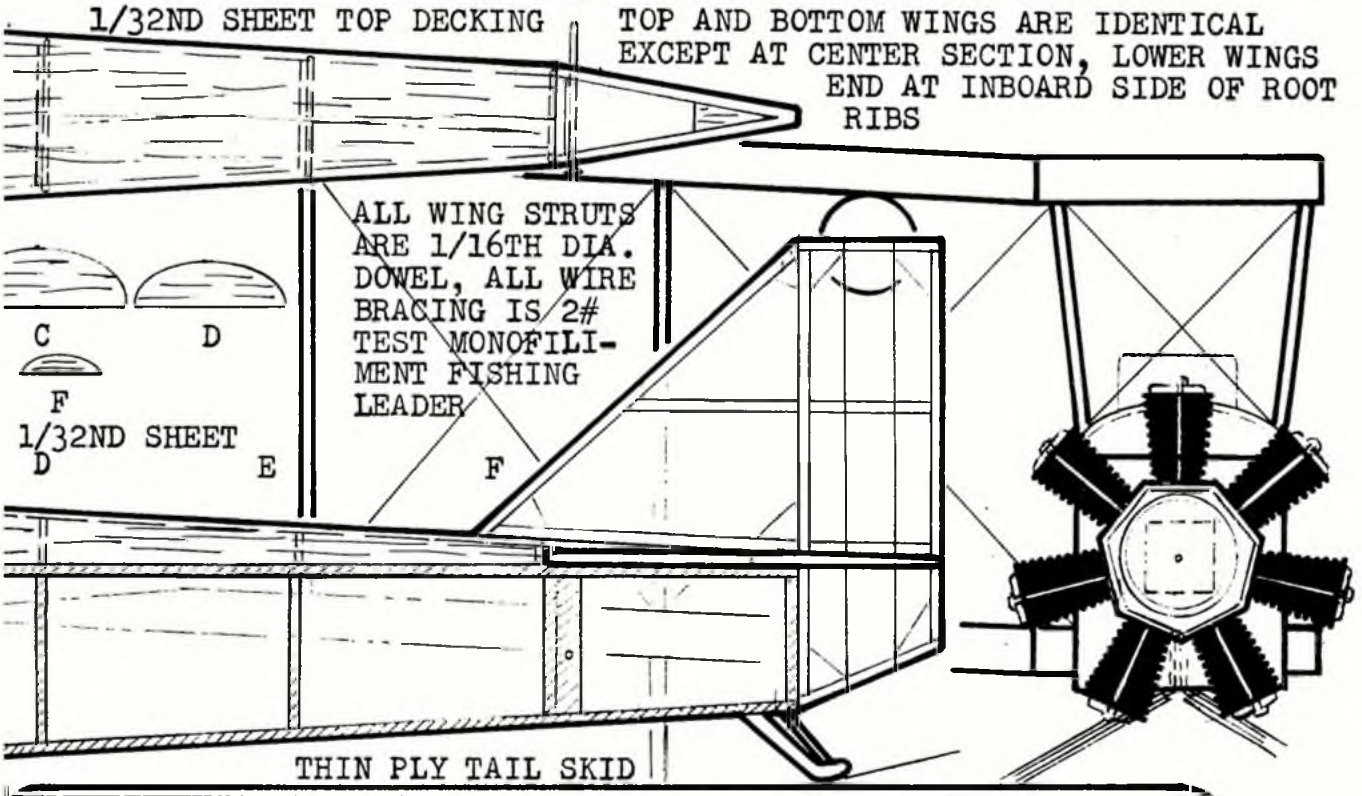
BY Walt Mooney

SPARS 1/16TH SQUARE, ROOT RIBS 3/16TH SHEET, OTHER RIBS 1/16TH SHEET.

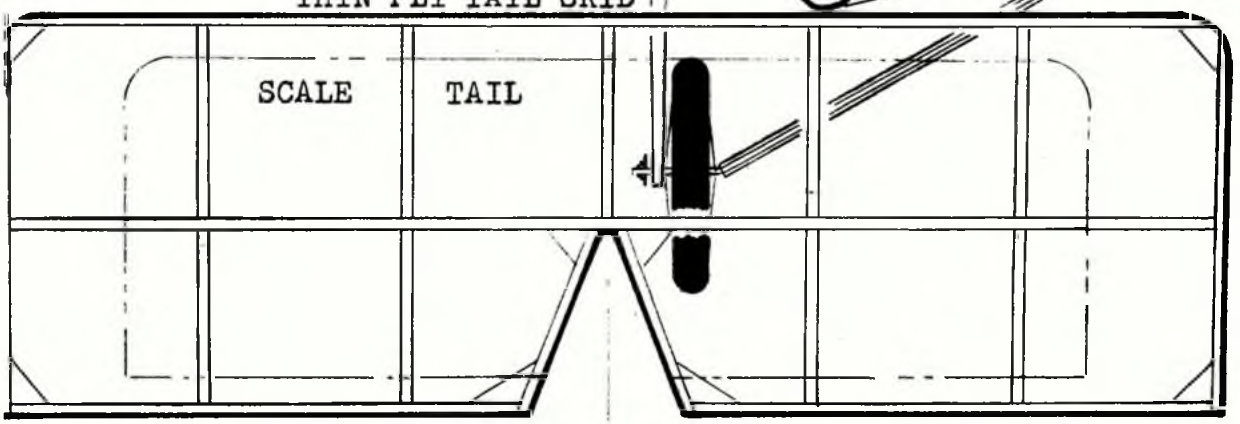


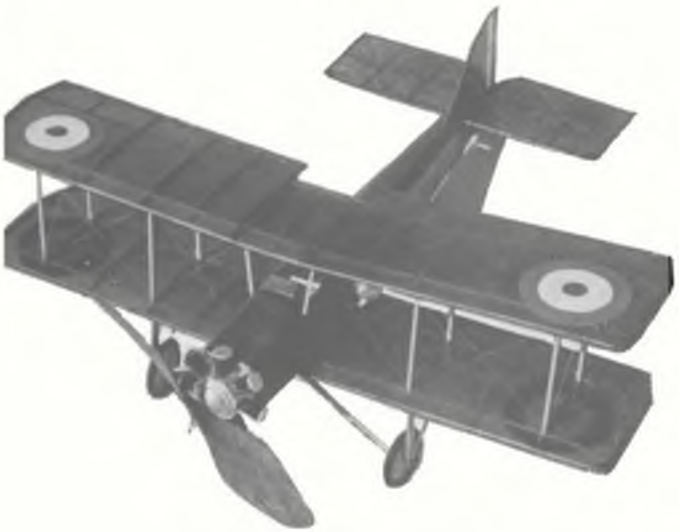
1/32ND SHEET TOP DECKING

TOP AND BOTTOM WINGS ARE IDENTICAL EXCEPT AT CENTER SECTION, LOWER WINGS END AT INBOARD SIDE OF ROOT RIBS



THIN PLY TAIL SKID





cement your sheet of tissue to it. Pull it as tight and smooth as possible, then spray the dye on to the tissue as evenly as you can. If you have no spray gun, it may be possible to dye the sheet using a cotton wad wet with dye, but much care will have to be exercised.

After the parts are covered, use a light fog of water to tighten the tissue. A single coat of clear dope (thinned about 50 per cent with thinner) was applied all over and then a second coat was applied to the fuselage. If you can get decals for the insignia, use them; if not available, then now is the time to paint on the roundels.

Assembly of the major components can proceed after the struts are made up. The struts are of round cross-section, not streamlined, and can be made from lengths of $\frac{1}{16}$in. diameter dowel. Drill a small hole through each end of the struts – this is used after assembly of the wings to facilitate the installation of the rigging. Cement the tail parts in place, then cement the lower wings to the fuselage sides. Make sure they are in the right place, and block up the tips to give the correct dihedral. Cement the four cabane struts in place on the top of the fuselage – a small hole will have to be cut into the top decking to accommodate each strut. Note that the rigging holes should be arranged to line up in a spar-wise direction. Carefully cement the top wing in place on the cabane struts – check their alignment.

When the cement holding the struts in place is dry, install the rigging, using 2lb. BS monofiliment fishing line – drafting tape is handy to hold the loose ends as the rigging is threaded through the holes. When all the rigging is in place, check the wing alignment, then put a small drop of cement at each of the strut holes to hold the rigging permanently. Trim off all the excess ends. Now cut the tail skid and the two main landing gear legs out of $\frac{1}{32}$in. ply and bend the main gear axle.

Cover the inverted 'V' portion of the wire with $\frac{1}{16}$in. diameter tubing to give the axle the right diameter. Cement the wire in place in the bottom of the fuselage – adding a filler to the bottom of the first bay of the fuselage to reinforce it. Cement the tailskid in place. Slip a wheel over each end of the axle wire and cement the gear legs in place on the bottom of the lower wings. A washer and a drop of cement retains the end of the axle in the leg.

Now for the dummy engine. The crankcase is a piece of block balsa with the grain parallel to the airplane centre line – use the front view to get the seven sides accurately carved. Cut the square hole to fit the thrust bearing. Install the cylinders by making a hole to fit the base of each cylinder exactly in the centre of the seven faces, then add a circular balsa cylinder head to each one, and use cut-off straight pins to simulate the pushrods.

The fuel tank is wrapped from three pieces of bond paper – the ends can be carved from block balsa and the centres can be wrapped out of bond paper. Paint in silver, and cement in place on the wing.

Before flying your model, make sure it balances somewhere near the CG shown. Look at the wings and make sure that you have about $\frac{1}{8}$in. washout at each tip. This can be incorporated by holding the wings in the correct position and holding the airplane over a source of heat which will shrink the loose wires and hold the wing permanently twisted with the correct washout. Too much heat will break the wires, so hold a bare hand between the heat source and the model. When it hurts, remove everything from the heat source!

This model is a rather large, draggy model for a Peanut Scale, and requires a bit more rubber to fly than you might expect – the original was powered just about right for outdoor flying with a single loop of $\frac{3}{16}$in. Pirelli approximately 12in. long.

INDOOR INTERNATS

continued from page 914

placed fourth. As it happened, I only needed another 1:19 seconds to be second overall in the comp – I did not think I could catch Kalina as this would have required a flight of 35:39 or an increase of my best flight of 3:44. The model was flying well as if not better than ever (only the week before had done 35:40 in practice at Cardington) and having tweeked more pitch into the prop, and put more turns on, I let the prop run for 40 seconds before launching. I could hardly bear to look, as it all depended on just this last flight for me.

By this time (about 4pm) it was hot and windy outside, and after flirting with the demon draught, it finally hung at 13:15, and that was that. Oh for just one more flight! Kalina definitely won the 'man of the match' award, as he not only won the contest and had the best model, he also found time to help me and his fellow team mates, and also did most of the climbing up the *outside* of the dome, to retrieve his and my models, along with anyone elses that happened to be there.

At the banquet, prizes were distributed and every competitor received a signed certificate of his contest position – they also gave me an LP record of folk songs as a permanent reminder of the country. A good dinner was followed by much toasting in the best European style, with Mr. Ivan Bobocel from Rumania leading the way – doing his best to get us all more than merry. The usual 'bull session' followed until 1am, with all the different nationalities mixing freely, and discussing the hoped for World Champs at Cardington 1976, when we all resolved to meet again. By this time the trams had stopped running, and as no taxis were about, we wearily walked some two to three miles back to the hotel. Up again at 6am, to pack finally for the return drive to Prague, where we arrived around mid-day even hotter and more claustrophobic than ever, to a welcome rest.

It is not often one gets the chance to look in great detail at someone else's top class models, and of particular interest was Jiri's incredibly light (only $\frac{1}{2}$ gramme for 65cm span) 1968 and 1970 World Champs winning models, like those he won with in Rome and Slanic. He hopes to come to England for a holiday, and try for an absolute world record at Cardington for indoor, held by Earl-Heinze Reike for many years at the same venue.

The best trip I have ever made was culminated by having the whole first class cabin of the Russian built jet for myself and model boxes on the return journey. The hospitality and un-ending kindness shown to me, will linger as a most happy memory, and I resolved to return at the first opportunity with some compatriates, to give them a better run for their money next time.

RESULTS:

						Best two Flights		
1. J. Kalina	*Czechoslovakia*	**34:39**	13:40	12:58	27:42	**32:15**	16:31	66:54
2. E. Caipala	*Poland*	29:13	**34:10**	14:54	20:20	**30:18**	14:12	64:28
3. E. Chlubny	*Czechoslovakia*	09:15	23:50	12:04	**31:02**	**32:26**	10:58	63:28
4. –. Czechowski	*Poland*	26:56	23:24	**29:14**	28:35	**30:16**	23:12	59:30
5. A. Valenta	*Czechoslovakia*	11:48	13:50	15:00	**28:55**	**30:20**	28:55	59:15
6. A. Pospichal	*Czechoslovakia*	**29:16**	23:54	**29:00**	09:25	00:00	22:27	58:16
7. L. Barr	*UK*	07:56	04:17	07:10	**25:22**	**31:55**	13:15	57:17

topical twists

by 'Pylonius'

illustrated by Sherry

'He's the only contestant fit enough to fly in the fourteenth round.'

Wiser Councils

WE ARE AGAIN called upon to give the local authorities the old razzmataz, and with aerials rampant and cries of *Magna Carta*, *Rule Britannia* and *Keep Britain Red/Yellow/Brown/Green*, *etc.*, to darken the municipal greeneries with fleets of freedom-loving radio models.

I heed the call, but with certain reservations. Perhaps those very reservations to which I think large power radio models should be banished. I like to feel I have the freedom to take the dog for a walk – or, dare I say it, fly my little rubber-powered model – without fear of being suddenly transported to those even greener pastures which, however inviting to our celestial craft, we wish to defer operating upon.

Desperate though the plight of the commercially cultivated radio modeller may be (it doesn't tell you on the coloured box where you can fly it), I cannot think he could find life in the local park all that entrancing, not with a wrathful local council breathing down his neck, and an outraged John Citizen (and his dog) holding a clenched fist under his nose. How much happier he would be on one of the reservations, where his chances of clobbering anything with his model is so much less, and his insurance would at least be valid. Think of the service he would be rendering to the man and his dog, not to mention my little rubber-powered model. And, who knows, he might even get the man and his dog along to mow his bit of meadow.

Magna Carta notwithstanding, anyone going around inviting people to fly radio models on public places is asking for a ban far more widespread and rigorous than anything we have had up to the present. And, don't forget, I was there first with my little rubber model, and hope to be when the radio faddist has worked out his expensive stint and gone on to the next thrill stage of hang gliding or water ski-ing.

Half-a-sec . . .

It would appear from the seven-second engine run controversy that absolute power not only corrupts, it baffles and perplexes. Timekeepers are torn between the sound of the engine and the fury of the revving prop., not to mention the sound and fury of the outraged competitor if he makes a marginal difference in favour of an overrun. That disputed split second can mean a spiked contest hope, and a long-distance piece of miss-the-next-round retrieving for nothing. Little wonder the competitor is prepared to argue the fractional difference until the cows – and his model – come home.

Rocketry no doubt has its place, if you have the electronic equipment to track the missiles; but since the power duration model has got out of hand in more ways than one, isn't it about time we got it on to a standard 1cc engine with a 20-second motor run? Not nearly so dangerous and noisy, either.

Last legs

The news that a not-too-young free-flighter was disqualified for retrieving his model by car gives little encouragement to those fair (minded), fat and over-forty enthusiasts to compete with bounding youngsters in the seven-flight marathons. All thing being equal, the model flyer with the best organised retrieving system has an obvious advantage – he is there with his model intact for the next round. And the strongest underpinning of any retrieving system is a healthy young pair of legs. True, anyone not exactly decrepid can wobble down the runway on a bike, but once out in hostile countryside the quick-on-the-draw farmer presents an ever-growing threat to the older members of the retrieving herd. And, then, the younger person has the benefit of his boyish cheek in penetrating the more private enclaves: '*Can I have my model plane back, mister?*' springs readier to young lips than old. And, being less sensitive, he is not so hesitant in treading on other people's corn(s). You could say that retrieving is all a question of the quick and the dad.

Some dads, though, have the good sense to bring up their children to become their retrieving legs when the sinews begin to stiffen up with the gouty distempers of advancing years. Others find their youthful legs and undimmed eyes as doyens in large club groupings.

Generally, to be in the running in the contest world you have to be in the running physically, not only to get back to base in time for the next round but to beat the chew-happy cows and the smash-happy vandals to the model.

Wintage

'*And this is the vintage event.*'

'Oh, I see. It's the way the competitors are dressed – all those braces and things.'

'*No. It's the models that are vintage.*'

'But they're just the same as the little models you all flew in that club contest last week. A. J. something.'

'*Oh, Ajax, you mean. Well, they might seem to be, but if you look closer you will see that only the upper part of the wings are covered and the prop. blade folds back. Supa-dupas.*'

'Can't imagine why you sound so enthusiastic – they look anything but super-duper to me. Anyway, who do you think is going to win?'

'*That chap over there – the one with the braces and his trousers tucked into his socks.*'

'And so he should – pure vintage.'

READERS' LETTERS

The complete saga of the correspondence between a model club, a manufacturer and our own views expressed in the July issue

The approach . . .

Dear Sir,

The above club recently formed with a membership of 35 including several airline pilots from nearby Ringway Airport, seek a good club trainer and wish to enquire of the possibility of obtaining a . . . full house trainer at trade price.

Having seen this model perform we feel if would do escellently for the several members whom are being taught the rudiments etc. of R/C flying.

We hope you can oblige.

R. Wilson
North Cheshire Radio Model Group.

. . . and the reply

Dear Mr. Wilson,

Thank you for your letter concerning your newly formed Club and the proposed use of a . . . Full House Trainer.

Unfortunately we are unable to help you with goods at trade prices since we have a strict policy of only supplying our appointed stockists.

Moreover, many clubs build up a good relationship with their local model shop and enjoy support which would not be forthcoming if we supplied the clubs ourselves.

We wish you much success with the Club and hope you find the Full House Trainer to be ideal for your purpose. I personally have learned on this model and it really is very suitable for training. To make it more manoeuverable I have increased the rudder and elevator area by about 50%; much more responsive.

Wishing you every success.

p.p. . . . .

The club's reaction, Part 1

Dear Sir,

It is regretted not replying to your letter of 25th March in answer to ours requesting a cost price " . . . Trainer", this is due to a recent committee in which retailers and wholesalers were on the agenda for discussions in varying aspects.

At the meeting your letter was read out and the general feeling by those present 33 members out of 40,were that this was typical of Mr . . . ,and somewhat "shabby" attitude, considering as it was generally accepted that modellers *"built"* the . . . company.

However the members felt it would not serve any purpose to support . . . products and accordingly two sets of radio control equipment ordered were cancelled,and no item of any kind from . . . be purchased by the 40 members the voting to such being unanimous,and no . . . Item will be advertised or supported at our Fun-Fly event on June 1st.

It may be of interest we were, without asking, presented by two kits from a very popular manufacturer,free of charge, and you can understand that 11 of these models now fly in the club and a good splash of advertising be given at our Fun-Fly event. The old adage of "one good turn-etc".

R. Wilson

The club's reaction, Part 2

Sir,

After reading the editorial in the June (July) issue of your magazine,the members of the above club were to say the least somewhat amused,that a firm such as . . . should send a complaint to a magazine,instead of to the club whom they accuse quite incorrectly,of abuse etc, and it is hoped you would find space in your magazine,which incidently is royally supported by the above club,to print our reply.

Quite correctly,Messrs . . . were approached for a Full-House trainer simply because some members of theclub wished to train with it,although we may say we were using a new quite excellent trainer,wich filled all needs,it was felt a change to ailerons the order of the day,thus . . . were approached,and quite rightly the person writing the reply refused and as you say pointed out about the retailers etc.

The reply to Messrs . . . was as you state but not in the tone of any abuse at all–firstly,buy cancelling orders was because one of our members bought the . . . . . 6 and had occaision to send off for two simple jobs be undertaken ie fit a servo case,and receiver case–the set,contrary to whate he was told,was away for 5 weeks–instead of "yes Sir,repairs done within 10–14 days at the most"– The member remarked he should not have purchased the set,instead a set from a local manufacturer—now–two other members with orders for . . . 6-quite within their own freedom-cancelled two sets,after learning of the 5 week wait,which is understood to be the case often,in favour of a local made set. Is this then abuse or out of order.Then coming to the selling of kits wholesale to clubs–great surprise is shown at this statement, that it is not done,so as not to tread the toes of the retailers,whom it is known can and do make great profits with certain goods,and are not as far as we know,starving. It is also known that certain of the trade DO give free kits,and sell at wholesale to modellers and clubs,so why were we out of order.This also is done universally,and is still done,even free radio gear is given we know. So is it wrong to ask a wholesaler, whose edifices have been ably assisted in the construction of by Mr British modeller,to supply a kit NOT FOR NOTHING MARK YOU–but to be paid for,in spite of the insinuation of the magazines that letter-heads are used to seek such-we pays our ways.

Finally,as to not adverising . . . ,and withdrawing such–quite true Sirs–it had been decided had we obtained the Trainer,it would have been flown at our June do and an ad put in to such,but–since no model was purchased,quite rightly we withdrew the ad' and stated so to Messrs . . . . .

In closing we sincerely trust this is printed, and that the magazines will be as ready to print such complaints from modellers about manufacturers etc,and that Messrs . . . won't mind if we now don't touch any of their products,for why they chose to moan to the magazines is beyond us,and we are prepared to photocopy this letters content, and send to every club etc here and abroad, should its printing be refused by the magazines which choose to try to discredit us,for no reason except one of the magazines advertisers choose to send their moan to them instead of to the club concerned, knowing that quite honourably said magazines won't take sides in the matter,and refuse to print our club news etc,etc.?

R. Wilson
Hon Sec/Treasurer
North Cheshire Radio Model Group

92 Mottram Old Road,
Gee Cross, Hyde,
Cheshire SK14 5NJ.

(Enough said, end of story – Ed. . . . name of manufacturer deleted to preclude defamation.)

Leg power only?

Dear Sir,

In my Free Flight Scene column last month I wrote that attending World Championships 'even with some SMAE help . . . is by no means cheap these days'. To set the record straight I should point out that the SMAE's financial help to our teams for this year's Free Flight World Championships in Bulgaria has been significantly greater than on some previous occasions, since entry and accommodation fees *and* travel costs are being paid. On a trip to Bulgaria for ten people that involves a substantial amount of money. I am delighted to acknowledge that my comment was perhaps misleading and to congratulate SMAE Treasurer, Ted Roycroft, on having ensured the Society's currently very sound financial situation. And credit also, of course, to Paul Masterman and others for having ensured that our teams are getting the financial and administrative support that – as Britain's representatives – they certainly justify.

And while I'm here I'd like to take the opportunity to clarify one of the points I made in our report on free flight at this year's Nationals. In discussing the Laurie Barr incident, I suggested – not altogether seriously – that bicycles for model retrieval should either be banned or made compulsory. Unfortunately, the mice must have got in the works because one exclamation mark and one entire sentence vanished by the time the paragraph was printed, the irony was a bit lost and the emphasis of the argument had shifted.

The point I wanted to make was that if the 'no motorised retrieval' rule was introduced purely for safety reasons then there is no difficulty. Any other justification for the rule could cause all manner of problems, if only because the dividing line between what should and should not be allowed would be so difficult to identify. To give just one very simple example: if retrieval by car is not allowed because it gives an advantage to the flyer with the car, what about having a colleague down-wind to retrieve your model for you? Should that be allowed?

Our sport is taken sufficiently seriously for detailed rules to have been devised. But the implications of, *and justification for,* the rules must be examined very closely – and in advance of the competition.

Michael Warren
Barnet, Herts.

The Free Flight Scene

this month: Bob Bailey

Team practice weekend

THIS WILL BE the last F/F article to be written before our teams depart for Bulgaria, and at this point it seems appropriate to make some comment on the team 'practice' weekend held on 12/13th July. A meeting took place at the Duke's Head Hotel in King's Lynn with RAF Marham (a *very* large airfield on the same scale as Sculthorpe) nearby, and where incidentally the RAF Championships were held at the same weekend – a brief report on which follows later.

The main items discussed, and decisions made, were as follows:

1. Nearly everyone opted for train travel (taking about 52 hours) to Plovdiv, there not being enough support for a coach.

2. Weather conditions – it is expected to be hot (35°C during the day) with maximum wind speeds of 4 m/s (about 10 mph!). Such conditions are of course unusual in Britain but common on the mainland continent. It is expected that there will be plenty of thermal and downdraught activity during the day, which places a premium on stable thermal seeking aircraft – I think most team members are well aware of this fact, though ignorance of it led to some downfalls at Wiener Neustadt in 1973.

The contest round times will take place in the early morning and evening to eliminate the necessity of flying during the windiest, and most thermally, part of the day.

3. Retrieving tactics and thermal aids were discussed – most team members including the power men were in favour of using a bubble machine – the St. Albans one should be available for this purpose. The famous George Fuller brolly (consisting entirely of Union Jacks – don't think anyone else is using the Union Jack yet) will be invaluable for signalling to the retrieving crew downwind. It has been found that walkie-talkies are next to useless at the W/C since everyone else tries to use a more powerful one than everyone else; the resulting interference has to be heard to be believed.

4. Team strategy was discussed; it was very gratifying to see a strong team spirit emerging with no opposition from any member – this is more than can be said for some previous teams. Each team discussed its own strategy in terms of flying order. It was strongly emphasised at the meeting that it will be essential for someone to be ready to fly *immediately and at all times* during the round until at least two have flown in that round.

5. Some models were processed; this was a useful opportunity for everyone to look at each other's models to see *(a)* what they look like and *(b)* how the systems work. The latter will be particularly important in pre-flight checking, if only to avoid Ray Monk's misfortune at Wiener Neustadt when he was distracted while setting up his model, and did not hook up the D/T line. The model then proceeded to D/T when the engine stopped. A particularly annoying thing to do – it has happened to me several times! Talking of power systems leads me naturally to the next topic:

FAI power development

There are two main topics worth discussing this month – prop brakes and triple fins.

Prop Brakes

What might these be needed for, many may ask; aren't FAI power models complicated enough already? The answer is a qualified 'yes', but circumstances change with, for example, the introduction of a seven-second engine run, starting in Britain immediately after the World Champs, may I remind you.

As regular power fliers will know, stopping the engine *quickly* is not easy; the faster the model flies, the longer it takes the engine to stop, for the simple reason that the aerodynamic drag on the prop decreases as the model speed increases. A ground check gives a beautifully quick stop with flood-off which is the most efficient stopping method in present use. Now fly the model and notice how much longer it takes the engine to stop – this is particularly noticeable on an off-trim flight when the engine run down could exceed one second!

The prop brake puts an end to all that – and it's use is essential to make use of the seven seconds available. There are two types at present available and these are shown in *Figures 1 and 2*.

Figure 1 shows a brake sent to me by the Editor for testing; it is imported by H. J. Nicholls and retails at a price of £1.75. It will be observed that the engine timer releases a trailing brake shoe which engages the prop driver – the brake is actuated simultaneously with the engine cut off, be it flood off, pressure release or fuel shut off. Unfortunately, pressure of preparing for Bulgaria (together with repairing the newest model after folding the wing) and of work (writing this article!) have prevented me from testing it as yet.

However, the other design of brake, shown in *Figure 2* is made specially for the team members by Ian Bracken and Ted Roycroft for £5 each (the 'Brackencroft Brake') being based on the American Hardy Brokenspar brake which Martin Dilly assured readers I would be testing. Ken Faux and I have gone one stage better – we have one each on our latest models and have used them for a short time. No difficulties have yet emerged and the cleanness of cut off, particularly on the ground, is very impressive and while it can be improved, not by very much. We have found that the brake will not stop the engine on its own, so it is essential to fit a good cut off system. At present it seems adequate to actuate the brake and cut off simultaneously – *Figure 3* shows the system that Ken and I have on our newer models. These incidentally both have triple fins, the subject of my next point of discussion.

Triple fins

Again, why bother with them – they may seem just like a Scandinavian fetish and full of potential difficulties. I certainly thought so when I first saw them – what's wrong with the good old British rear-mounted fin? I decided to try one to find out the reasoning behind the Scandinavian approach, using a tail anchoring system

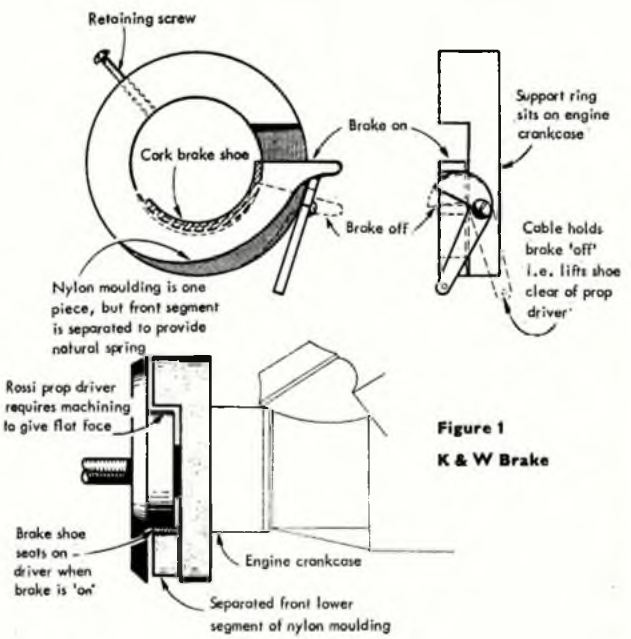


Figure 1

K & W Brake

The K & W Enterprise 'Stop-a-prop' engine brake for FAI class power models, as imported by H.J. Nicholls and Son, retailing at a modest £1.75. A Rossi prop driver needs slight machining to provide a flat face for the brake pad material. Unit is very neat and light. See diagram at left.

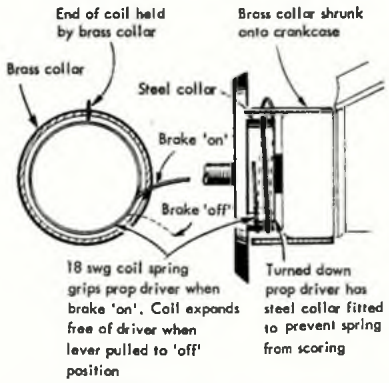


Figure 2
'Brackencroft' brake

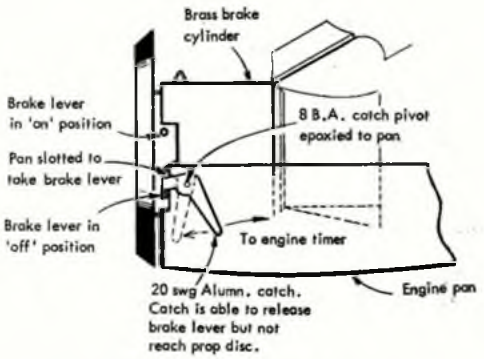


Figure 3
Faux/Bailey brake release system

similar to that seen on Tom Koster's designs, on an experimental model. There was one problem, the climb turn was a bit variable, due probably to indifferent engineering on fixing the front of the tail (done so that it could not be placed in different positions laterally on the tail mount). The problem was immediately cured by keying the tail at the back, using the climb packing to hold the tail.

Use of the triple fins offers two big advantages over the more conventional (from the British point of view) rear fin model.

(a) The model is, if anything, less sensitive to climb rudder position than a rear fin model – this will improve consistency in power pattern from one month to the next.

(b) A triple fin model is forgiving of a bad launch; if the model is released pointing off course i.e. yawed to the left, it will immediately yaw to the right and take up the normal climb attitude. I have had this happen several times when the model recovered from a bad launch which would have caused a rear fin model to do an impressive stunt schedule, consisting mainly of a barrel roll to the left!

Figure 4a shows the method I use for keying the tail to the fuselage (modelled on Roger Melville's system). Ken Faux has used the system shown in *Figure 4b* on his very successful model used to place equal first at the Trials, and fifth at Pierre Trebod last year.

Engine run timing

Back on this thorny topic – the main items to report on since my last article are the discussions at the last F/F Sub-Committee Meeting, and readers' reactions.

The last meeting provided some lively discussions on the method of timing runs; the main items emanating from the discussion were:

(a) The FAI ruling on judging the end of the motor run is grossly unsatisfactory since the propeller is not visible at the end of the climb.

(b) The engine run should be timed until all audible noise has stopped – personally I do not like this since the end point is singularly ill-defined, and can lead to a long decision time for the poor timekeeper.

(c) Only *one* attempt per flight as regards over-runs to be allowed – this will stop someone who has a bad climb from getting another go because of the long run down time which can be used to give him an over-run.

Several well-known fliers have suggested a time penalty for an over-run, to the extent of specifying that for each second of over-run, the model must fly for, say, an extra 50 seconds to be given a max. This would eliminate the situation of 0·1 second over-run disallowing a flight. The idea seems worthy of further consideration.

Referring to John O'Donnell's letter in August *AeroModeller*, he makes the very valid point that the use of a prop brake will make timekeeping easier – this will be so because the end point in terms of a sharp change in sound level is much easier to determine when a brake is used. As I said earlier, the seven-second run makes the use of a brake very advantageous – the higher the standard of competition, the more important this is.

Indoor Nationals, Cardington, 5/6th July

Dry weather for the week previous and warm weather for the weekend ensured buoyant air, ideal for EZB in particular. As a consequence the increase in EZB times over previous contests was, to say the least, dramatic. Most people who entered EZB beat their best times by at least a minute.

I was fortunate in managing to get things almost dead right (with a new model built to replace the one with which I set a rather unusual precedent – that was to lose it through a hole at the very top of the shed! This happened at the last comp which Butch Hadland won, with a best time of 15:21 and a back-up of 14:15).

This time my luck was rather better, my best flight being 17:34 which is a new world best ever time, beating Pete Andrews' 17:10 set up three years ago at Lakehurst. The model would have beaten 18 minutes had not the 'O' ring holding the rubber at the front caught on the fuselage near the end of the flight! My back-up time of 16:46 was enough to keep me in the lead throughout.

Andrew Barr, with no help from Dad, put up a flight of 17:00 after the comp blowing up a considerable number of motors – a

Figure 4a Bob Bailey's triple fin tail system

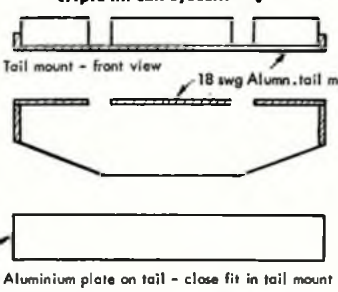
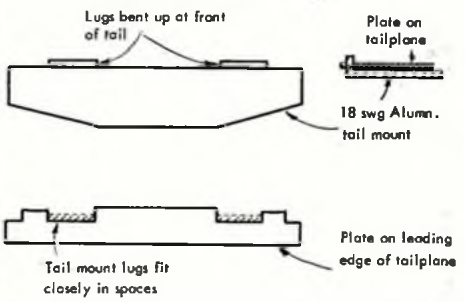


Figure 4b Ken Faux's triple fin tail keying system



Andrew Barr (15) toppled many of his elders with five 'Easy B' flights at the Indoor Nationals – the best one being of 17 minutes 5 seconds duration.

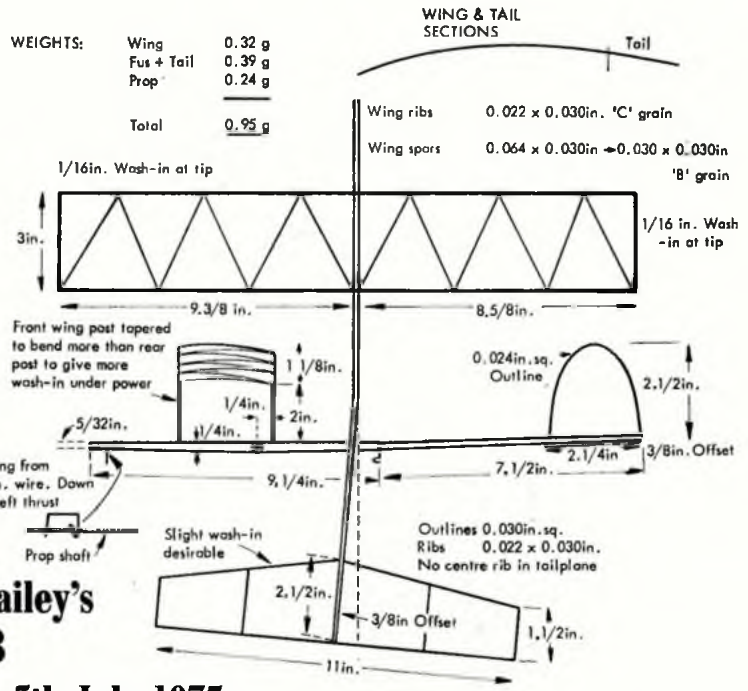
Butch Hadland does not only fly Peanuts – here he tunes the motor of his ¼A design at the RAFMAA Champs, held at the huge Marham airfield.

THE MODEL SHOWN features a modified Laurie Barr wing outline and Pete Andrews' tail. The main features are the fairly stout prop. blades to cut prop. distortion down to help the climb, and the soft (51b) quarter-grain motor stick (it will not handle thick rubber).

Another important feature is the wing warps – wash-in on the tips only to prevent the outer wing from washing *out* under high power. The front wing post bends more than the rear post to promote more wash-in on the inner wing under power – all indoor models fly in left turning circles.

EZB's are easier to make than microfilm models, but when they are really light (i.e. 1 gramme or less) the models are quite flexible, which causes interesting trimming problems under high power. Building time is minimal (two or three evenings) and durations amazingly high for such apparently simple aircraft. Cost is just 50p, even when using Micro X wood!

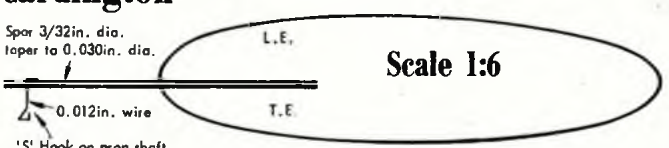
The prop. pitch distribution is unusual, but works – it is calculated by assuming a pitch of 15in. and adding 5° to each pitch angle calculated. The resulting prop. pitch varies between 17in. and 20in., depending on where it is measured!



Bob Bailey's EZB

MOTOR: 0.85g; 18in. loop; 2,300 turns

unofficial world record holder, 5th July 1975, Cardington



Prop 13.1/2in. dia. x 15in. pitch, + 5° added all along the blade (gives 17-19in. pitch)
Blades 0.016in. 'C' grain

remarkable performance by any standards. He ended up third with John Blount in between. I suspect next year (or maybe the next meeting) will see further improvement in EZB times, given equivalent conditions.

Interest in Pennyplane and Open Microfilm was minimal, but Reg Parham put up some impressive flying with his Microlite covered Pennyplane.

In FAI Microfilm, the one most people put most effort into (naturally enough with the Trials coming up in September), some excellent performances were seen. Ron Green finished his No. 3 model at 3am on the Saturday morning, then got caught up in the traffic going to the Pink Floyd pop festival, which delayed us both ¾-hour in getting to Cardington, and he then proceeded to put up the highest official time of the weekend with it – 33:35. This well and truly initiated Ron into the 30 minute club and he was also joined by Geoff Lefever with success richly deserved after *much* tribulation during the year. Geoff's best time was over 31 minutes.

The times were not as good as would be expected for such conditions, due mainly to a large amount of sideways drift which whisked models from nicely under the catwalk into the side. Many very promising flights were unhappily terminated in this way.

The Trials, to be held on 20th/21st September promise to be very interesting with most of the 'newer fellas' – Ron Green, Geoff Lefever, Derl Morley and myself in with a chance. However, the schedule for the contest seems shrouded in uncertainty with the possibility, to my knowledge not yet confirmed, of running the Trials in rounds – a procedure which will give the old hands an advantage in terms of sorting out the rubber for the conditions *quickly* – not an easy task. Talking of uncertainties leads to an inevitable question about the finishing time for indoor contests.

There was considerable dissention at the Nationals about the closing time for competition flights. Many argued that it should be 6pm, and in fact the contest was stopped (rather arbitrarily) at 6pm on the Sunday. This time was presumably chosen from the SMAE rule stating that contests shall finish at 6pm, or one hour before sunset at Greenwich whichever is earlier. It should be pointed out that this ruling applies *only* to Area centralised contests, and *not* to any other contests, the Nats and the 2-day FAI meets being particular examples.

However, I believe that starting and finishing times must be clearly shown on the information attached to the score sheets, so that there can be no arguments and disallowing of flights which could conceivably affect the final placings. Starting and finishing times are matters for the Indoor Sub-Committee, in conjunction with the SMAE Council, to decide.

Chuck glider, held down at the far end of the shed, provided an interesting turn-up in that Dave Greaves revisited Cardington after 12 years with the same chuckie, and proceeded to win the comp by 4½ seconds from Pete Bayram.

All in all, a great meeting, thoroughly enjoyed by all who participated. Many said it was the best weekend's flying they had ever had – I certainly would not disagree!

EZB. 1. R. Bailey (St. Albans) 16:46+17:34=34:20 total; 2. J. Blount (Croydon) 16:10+16:41=32:51; 3. A. Barr (Hayes) 15:01+16:13=31:14. **FAI Microfilm.** 1. L. Barr (Hayes) 30:37+31:19=62:06; 2. R. Green (St. Albans) 33:35+28:26=61:44; 3. J. Blount (Croydon) 30:05+31:13=61:18. **Open**

continued on page 928

Trevor Gray, another flier who combines indoor and outdoor interests, works on his 'Easy B' model at the Cardington Indoor Nats. Performances in this class have been rapidly increasing, culminating in our columnist's newly established (unofficial) world record of 17 minutes and 34 seconds. Who will be the first to break the '18 minute' mark?

GOLDEN WINGS AEROMODELLER MODEL CLUB

Are you between 10 and 16 years of age? Then don't delay, join today

THE LAST CONTROL line manoeuvre we described was the loop – a very basic, simple 'stunt', although to fly two or three consecutive loops accurately (i.e. all the same size, perfectly round and superimposed on top of one another) is extremely difficult – ask any competition stunt flyer! However, with this previous experience under your belt, the next manoeuvre to master is the 'figure eight' – a very satisfying stunt and useful, too, as it teaches the principle of reversed controls, leads easily to inverted flying and best of all can be continuously practised without the lines getting twisted!

Horizontal Figure Eight

The manoeuvre is quite easy, and can be flown by virtually any semi-aerobatic models – but do remember to fly the whole figure downwind, as this will maintain line tension. Start by flying past the downwind position at a 'safe' height (i.e. around 10–15ft.), then start to apply up elevator, just as if flying a loop. However, as the model begins to turn on its back, reduce the amount of 'up' until the handle is at neutral, then apply a little down elevator. Down?

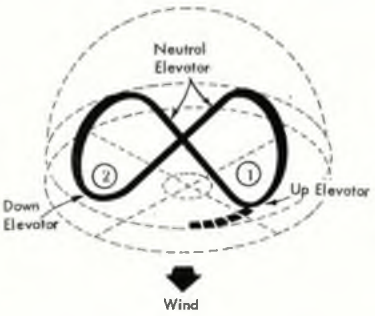
16-year-old Peter Deane flew this modified 'Super Master' in the Nationals Junior stunt event – his first contest after four years of modelling.

Yes, remember that when the model is upside down the controls are reversed – 'up' is 'down', 'down' is 'up'. Hold the model in your hand and it becomes clear!

By now the model is in a shallow inverted dive, so as it gets to within 20ft. or so of the ground, apply full 'down' to make the model climb back up into a loop – the right way up again. From this position, apply gentle down elevator to put the model in a shallow dive, back to the position in which you started the manoeuvre.

Not as complicated as it sounds, really – but one word of warning! After the first loop, which is followed by the inverted shallow dive – you cannot change your mind! You *must* apply down elevator to recover – either into the second loop of the eight or, if you are clever, into inverted level flight. Do not try to 'chicken out' by applying 'up' elevator, as there will not be enough height.

Once you have conquered this stunt, try flying consecutive figure eights – you will soon find that you develop a rhythm – and that you can easily fly out a full fuel tank just flying in this manner. Practice keeping the



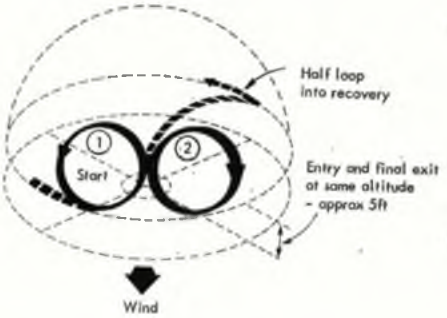
entry and exist points at the same height.

When really proficient, you can try a 'proper' horizontal eight – as shown in the second figure – but note the differences: the manoeuvre is started and completed at the intersection point of the two circles, and the inside loop is flown first – i.e. before reaching the downwind point. When you

David Scot (12) was the youngest Junior Stunt competitor at the 1975 Nationals with his PAW149 powered ¼A combat model after he broke his best model in practice. Although he has only been flying C/L for a month, he flew inverted with confidence!

can fly two or more consecutive manoeuvres with each one exactly superimposed on the previous one, then you really *can* fly well!

Briefly, the flight pattern is this: firstly



flying at about 5ft. altitude, apply up elevator so that the model is vertical at the downwind point. Keep applying up elevator (varying the amount as necessary to produce a nice large, round loop) until the model is once more vertical and at the same position as the manoeuvre was started. Now neutralise the controls, then apply down elevator to fly the second inverted loop to the left of the first one. Continue around back to the intersection point, then recovering into normal flight by performing a half-loop.

Pen Pal wanted

I read your advertisement in an *Aero-Modeller* that I bought in Czechoslovakia. I'm 16 years old. So I'd like to go in for correspondence with young British people. I think you can help me in this way. I'll beg you to mediate my address to some young British aeromodellers with an age of 14 to 16 years. I'll be very pleased if you can do that for me. I'm interested in R/C thermal soaring. *Martin Schrock, Str.d.70kt.50, 69 Jena, G.D.R.*

Dear John Bridge,

I am between 10 and 16 years of age and would like to become a member of the 'Golden Wings Club'. With this application I enclose postal order (International Money Order) for 25p to cover cost of the enamel club badge, two coloured transfers and membership card.

NAME IN FULL.....

ADDRESS.....

.....

YEAR OF BIRTH..... **SCHOOL**.....

NAME OF ANY OTHER CLUB OR CLUBS TO WHICH I BELONG (if any).....

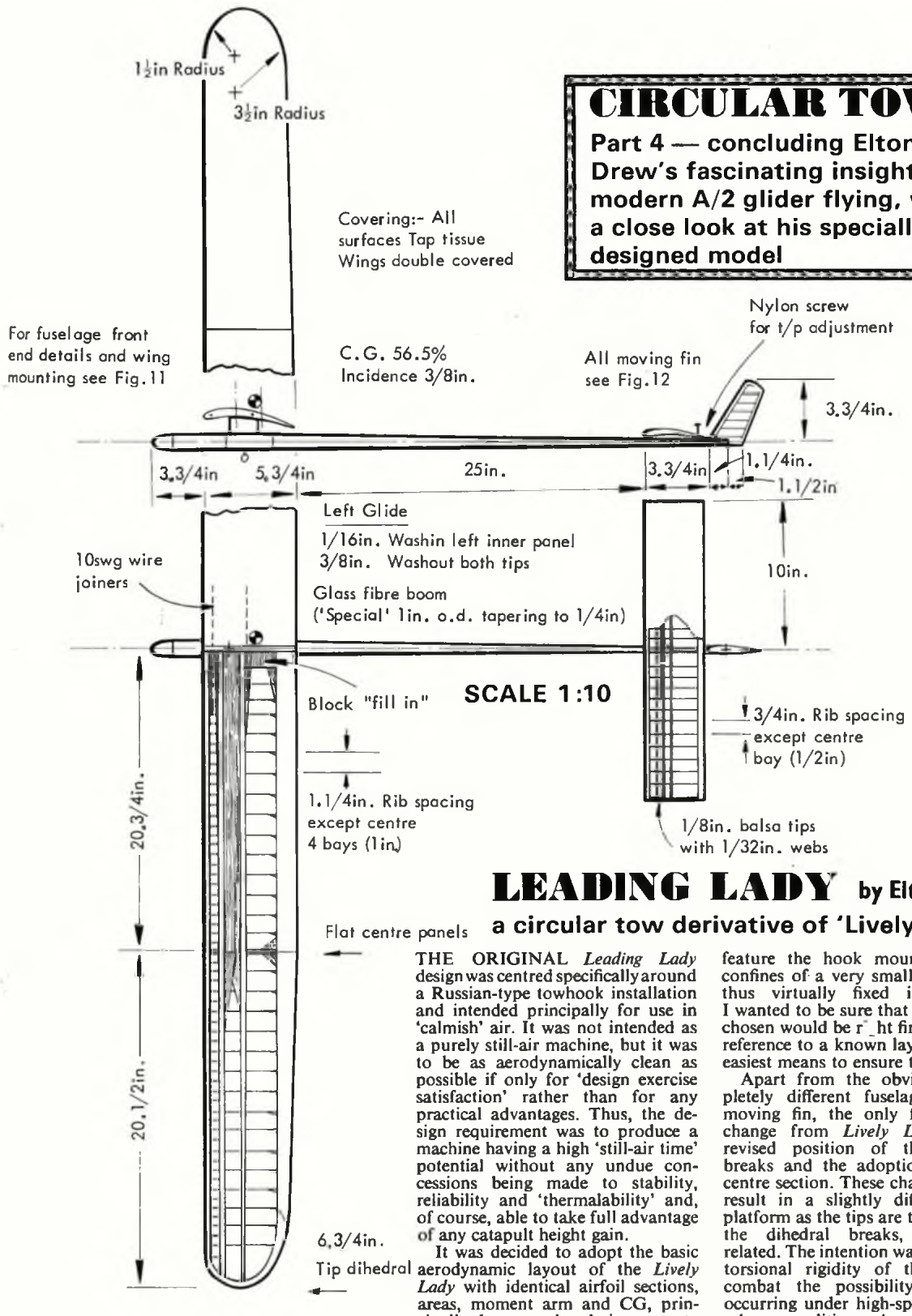
Send to: **GOLDEN WINGS CLUB, AEROMODELLER, P.O. BOX 35, BRIDGE STREET, HEMEL HEMPSTEAD, HERTS HP1 1EE.**

10/75 15p in the £1 Rebate plan purchase coupon for Golden Wing Members

G. W. No._____

CIRCULAR TOW

Part 4 — concluding Elton Drew's fascinating insight to modern A/2 glider flying, with a close look at his specially designed model



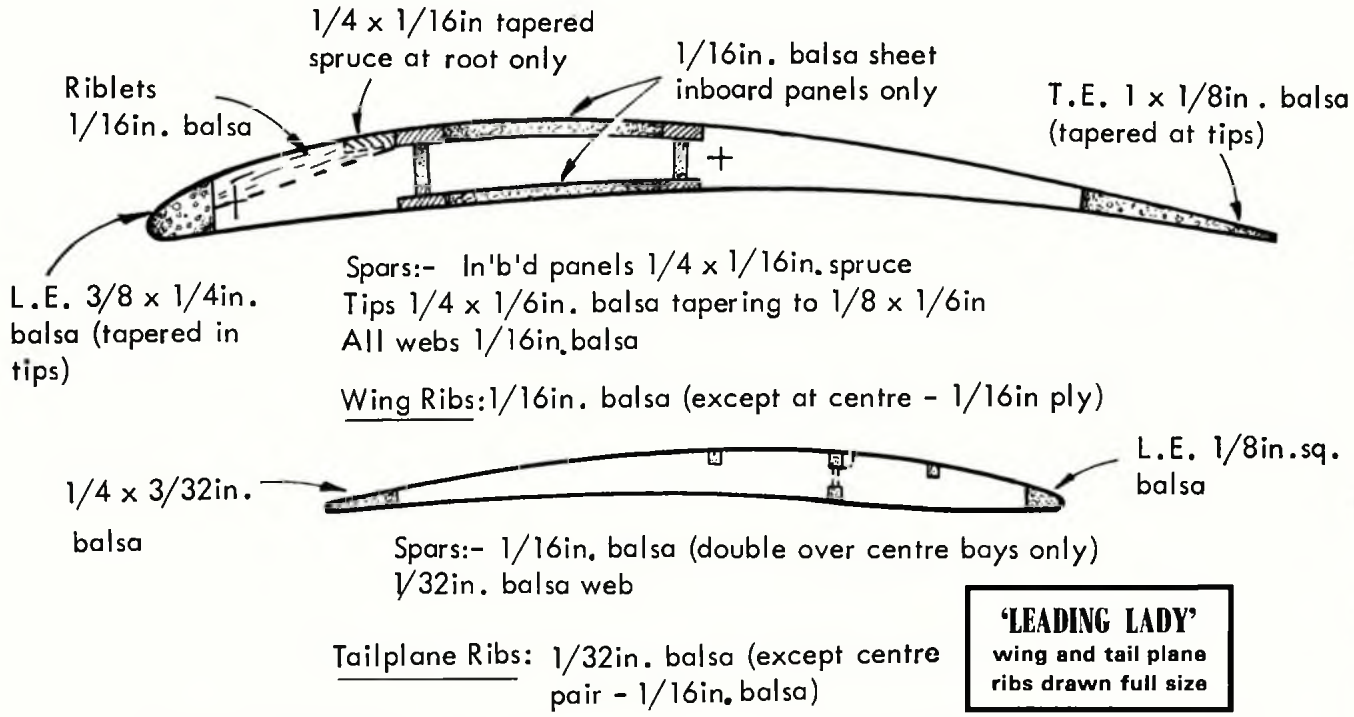
LEADING LADY by Elton Drew

a circular tow derivative of 'Lively Lady'

THE ORIGINAL *Leading Lady* design was centred specifically around a Russian-type towhook installation and intended principally for use in 'calmish' air. It was not intended as a purely still-air machine, but it was to be as aerodynamically clean as possible if only for 'design exercise satisfaction' rather than for any practical advantages. Thus, the design requirement was to produce a machine having a high 'still-air time' potential without any undue concessions being made to stability, reliability and 'thermalability' and, of course, able to take full advantage of any catapult height gain.

It was decided to adopt the basic aerodynamic layout of the *Lively Lady* with identical airfoil sections, areas, moment arm and CG, principally because the design was to feature the hook mounted in the confines of a very small pylon, and thus virtually fixed in position. I wanted to be sure that the position chosen would be r_ht first time, and reference to a known layout was the easiest means to ensure this.

Apart from the obviously completely different fuselage and all-moving fin, the only fundamental change from *Lively Lady* is the revised position of the dihedral breaks and the adoption of a flat centre section. These changes, which result in a slightly different wing platform as the tips are tapered from the dihedral breaks, are interrelated. The intention was to increase torsional rigidity of the wing to combat the possibility of flutter occurring under high-speed catapult release conditions. Accordingly, the



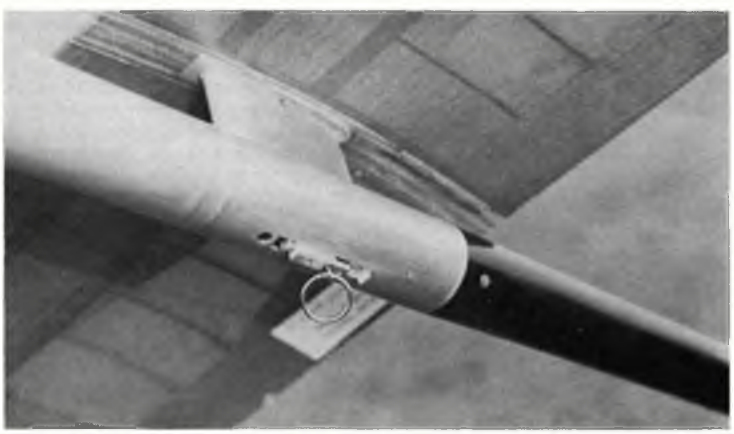
'LEADING LADY'
wing and tail plane ribs drawn full size

centre panels feature a torsion box, achieved by the addition of $\frac{1}{16}$in. sheet between the 'I' beam spars. To keep the moment of inertia as low as possible with this heavier form of construction, the inboard panels where reduced in length. Bending strength was also increased with the addition of tapered spruce fillets to the front spar over the inboard rib bays. This was only a precautionary measure, as the *Lively Lady* structure has never given cause for concern in bending, although flutter does occur quite readily, though this, too, has never produced problems. In order to utilise my standard wing-building board, with fixed dihedral angle incorporated, it was decided to use tip dihedral only, the longer tip panels giving the same total dihedral for the fixed wing dihedral break angle. The flat centre section also fitted in conveniently with the pylon wing attachment method chosen. This was to be a spring-loaded knock-off device inspired by Thoman's famous *Aquila* design, but adapted to suit a small airfoil-sectioned pylon. A very low drag wing mounting resulted, retaining most of the resilience and knock-off ability of a conventional rubber-band attachment with a positive location – the latter achieved by use of an 8BA nylon screw shear pin. This adequately holds the wing for normal flying and landing loads, but shears readily on an impact.

The heart of the model is a nylon 'plug' inserted in the pylon top and attached by three 10BA countersunk screws. See the exploded view in *Figure 12*. This plug carries the wing fixings and the main towhook pivot, thereby transferring all towing loads directly from wing to towline. The original Russian-type hook was later replaced by the 'spring and ring' adaptation of the type illustrated and described earlier (*Figure 10*).

The 20swg dural pylon is slotted and epoxied into the 1in. diameter dural tube front fuselage. This houses the Seelig timer, access to which is gained by sliding the whole nose off forward of the pylon (see photograph). The timer is activated directly from the hook latch mechanism on release of the towline. The rear fuselage is a glassfibre boom specially produced by Laurie Burroughs, and is an extended version of his standard Wakefield boom. This, despite its larger front end diameter, is considerably lighter than a conventional A/2 glassfibre rod; the larger diameter permitting a thinner wall thickness. This boom is attached by three 10BA countersunk screws, being removable to provide access to the 'works'.

The 'all-moving' fin follows a practise I have used from time to time over recent years. My interest was aroused by an article by George Xenakis in the American *National Free Flight Society Digest*, pointing out that such a fin would be less sensitive to airspeed changes in that the lift generated by a symmetrical section would not increase at the same rate as that due to the section presented by a conventional fin and rudder, which is in effect a flapped section. Thus, such a fin should be less likely to promote a spiral dive, the bane of most A/2 flyers from time to time. Further, a symmetrical section has less drag than a flapped one. Small, but perhaps significant advantages. However, the main attraction for me was their simplicity of construction and ready interchangeability if required (see *Figure 13*).



The assembled unit (drawn opposite) installed in 'Leading Lady'. Note the adjustment stops and the hole for the spring compressor tool. Also visible is one of the 10BA countersunk screws which retains the rear glass fibre boom onto the dural tube. The timer is hidden from view behind the detachable front fuselage tube.

One frequently expressed comment is that such fins must be more critical to adjustment than the conventional fin and rudder. In fact, I have found the reverse to be true and have been rather surprised at the large offsets required with 'all-moving' fins, and their docility.

Despite being completed in early 1972, the model has not been flown extensively to date. It is undoubtedly aerodynamically very clean, and despite its close relationship to a standard *Lively Lady* shows very different flight characteristics. In particular, even though sections and CG position are identical, the flying speed is definitely faster. With the limited flying undertaken, assessment of 'still-air' potential is difficult, but indications are that it is slightly higher than a standard *Lively Lady* even without the catapult height advantage. Whether the additional complexity of the model, as a practical contest machine, is worthwhile is certainly open to question. I must admit, I became intrigued with the challenge presented as a design exercise with regard to the installation of the hooks and the hook-activated timer start mechanism, together with the wing attachment method, etc., and I do regard it as a very rewarding, shall we say, diversion from that aspect alone.

To finish, and to enable this design to be viewed in its correct perspective, perhaps it should be stated that it was never intended as a complete substitute for my conventional A/2s, rather to supplement them, particularly in circumstances when a specialised circular tow machine can be used to advantage.

In producing and flying it, I have learnt a lot – not all of which is of a positive nature. However, often 'negative' lessons are the most valuable.

End piece

It is hoped – and, indeed, intended – that this series of articles has provided some food for thought regarding the use of circular tow devices. One feels that British A/2 flyers, in the main, are too conservative in their approach to the game – it is all too easy to dismiss anything other than straightforward 'tactically based' flying as being unnecessary and unrewarding, arguing that the simple direct approach is the right one for our conditions and contest 'scene'. Many adopt the attitude that the British contest calendar provides numerous glider events and thus, if conditions on any particular day do not lend themselves to tactical flying, then the chances are that those of the next weekend will. It is an undoubted fact that the contest days which are ideally suited to a specialised approach, be it a special still-air design, circular tow technique or whatever, are limited.

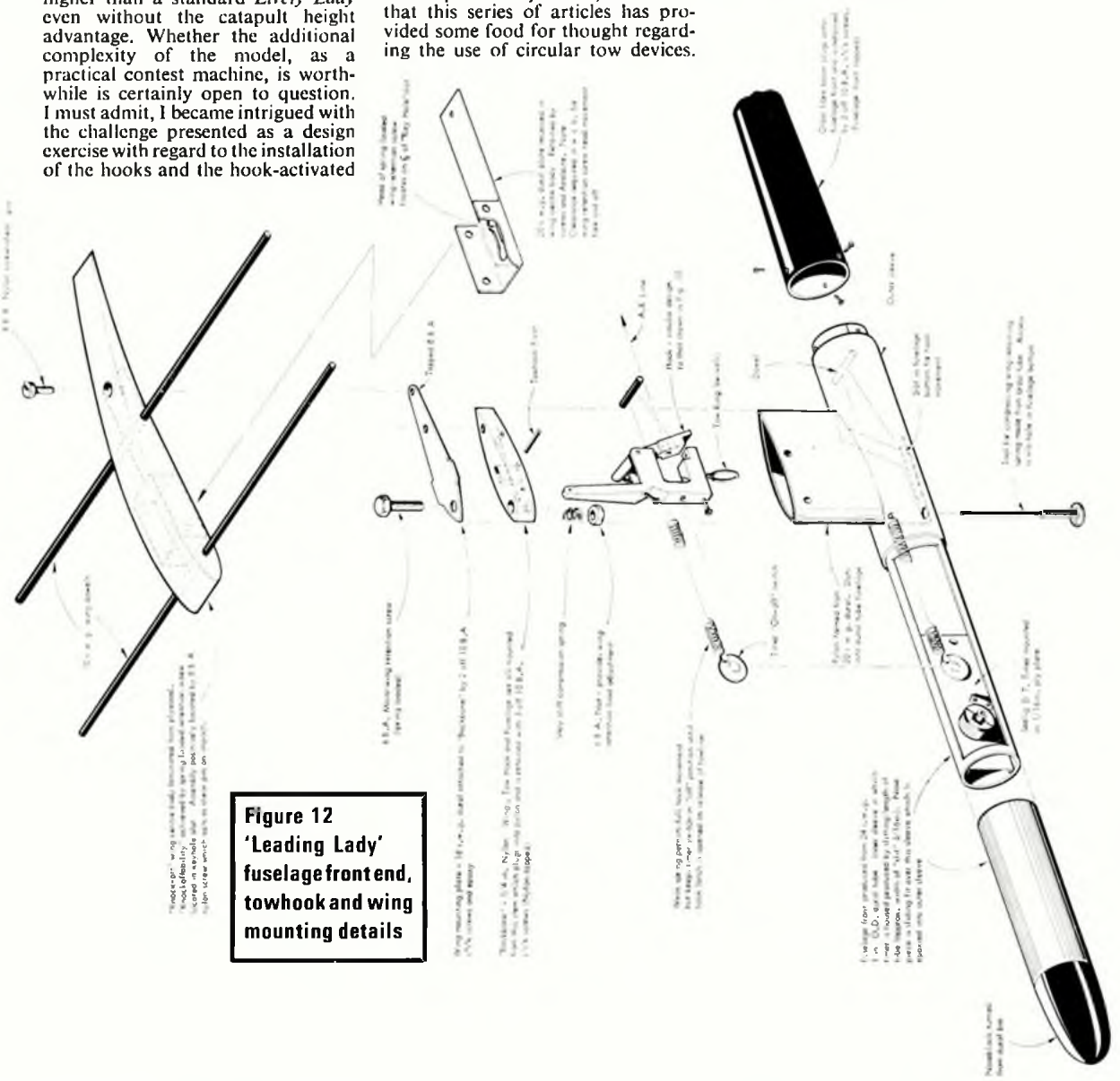


Figure 12
'Leading Lady' fuselage front end, towhook and wing mounting details

However, the author feels that with our rather insular tendancy to ignore, or too readily dismiss, such developments as circular tow, we are in danger of falling way behind in A/2 technology. It is my opinion that we should give more attention to such techniques, and not only adopt them but, more importantly, adapt them to suit our particular requirements. This is surely the way to improve the breed, not only with regard to A/2 flying in Britain, but also to improve our relative standing alongside A/2 flyers internationally. Both A/2 flying technique and model design has tended to become very stereotyped in this country over recent years. This must restrict the interest, and indeed challenge, offered by this class of model. The adaptation of devices such as circular tow can provide a vital stimulus in design, construction and operation of a glider and the potential benefits are enormous.

Study of various foreign magazines and newsletters over recent months indicates the development and usage of circular tow is given much more attention than in Great Britain. As a final point, I would mention that at the 1973 World Championships circular tow was employed by many competitors, not least of all by Ekhtenkov, the Russian winner, and the runner-up, Krejcirik from Czechoslovakia, both from countries where the system has been largely pioneered and is extensively used.

We can be certain that Ekhtenkov's World Championship victory will not be the last to be gained using circular tow.

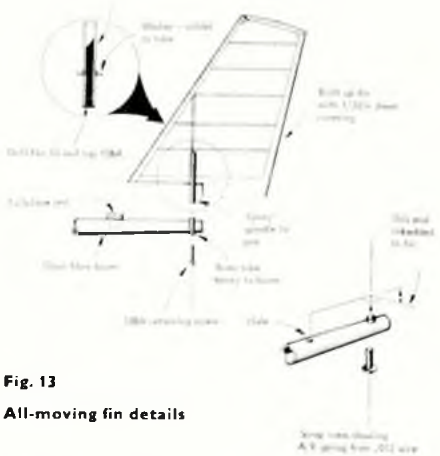


Fig. 13

All-moving fin details

The Free Flight Scene

continued from page 923

Microfilm. 1. J. Blount (Croydon) 10:55 + 17:45 = 28:30.
Pennyplane. R. Parham (Worcester) 9:37 + 10:48 = 20:25.
All the above are best 2 from 6 flights.
Chuck Glider. 1. D. Greaves (Birmingham) 59:00 + 59:00 = 118 sec; 2. P. J. Bayram (Richmond) 58:15 + 59:00 = 117·5 sec; 3. M. Shepherd (St. Albans) 56:2 + 57:5 = 113·7 sec.

RAF Championships RAF Marham, Norfolk, 12/13th July

As usual, the *Thurston Trophy* for Wakefield was open to civilians and started at 6am on Saturday – this enabled Mike Woodhouse to fly before coming to the team discussion at Kings Lynn. Very effectively he did too – winning with a 6 flight score from Geoff Lefever. Butch Hadland was forced to retire when the control van did not materialise; he had to go and materialise it! However, he made up for this by winning Open Rubber. Brian Baines continued his excellent run by topping all in FAI with his A/2.

The Mini competition was all-in as opposed to separate events as last year, with 5 x 2min and 7 sec run for ½A – won also by Butch Hadland. Brian Baines added to his successes by winning the Open glider event.

Ginger Toohey won Open power using two faithful aircraft a *Dixielander* and a *Night Train*, both very safe and dependable designs. Chuck glider was won by R. Collins (not Roy!) and he also used his model to place second in the scramble.

We arrived from the Duke's Head just in time to help time for the half-hour scramble held early on Sunday afternoon to round off the free flight events. Three flights of about 2 minutes each with a ½A were sufficient to win – good going in a stiff breeze.

Air Marshal Sir Reginald Hailand was fifth with many flights from a chuck glider, each flight being a few seconds in duration. When his car was brought round after prize giving, his uniformed chauffeur was to be seen very carefully placing Sir Reginald's chuck glider in the boot! Last but not least, Concours was won by an A/2 from Frank Houveraghagel from Brize Norton. Our other Brize Norton flyer put his rubber model on a stand for safekeeping and it won an award without his entering!

The prizegiving, held also in Hangar No. 4 was a lesson for the SMAE. The cups, presented by Lady Hailand, filled a table fifteen feet long, and most of them are magnificent. The main point is that they are presented *on the day* (or the weekend) of the contest. The main shortcoming with SMAE prizes is that they appear at least three weeks after the contest – I am not even attempting to criticise the Records Officer – he is very efficient at getting the plaques distributed, but why does not the SMAE give *trophies* at the end of each centralised event? In some cases, the cup is presented more than six months after the competition, by which time the glory of winning, so to speak, has worn off somewhat.

In addition, I know that many competitors would like to receive something other than a plaque as a prize. Surely some modelling goodies would be as acceptable and sometimes more useful? Why not have a choice of either a plaque, or say, goodies?

Derl Morley coaxes his FAI class microfilm model to achieve a better flight – no luck though. How about breathing hot air from underneath next time Derl?

As a footnote, Butch Hadland has been invited to participate in the American Indoor Nationals at Lake Charles, Louisiana, USA, and to be the guest speaker at the prizegiving dinner – a fine recognition of his efforts in promoting the sport both here and abroad.

½A power competitor Ginger Toohey sets up his model for the combined Mini event at the RAFMAA Champs. He topped the Open Power event and placed second in the scramble. These championships are only open to RAF personnel but civilians may fly in the Wakefield event for the Thurston Trophy.

PIERRE TREBOD 1975

Michael Warren reports on this 14th annual International free flight meeting — photographs by Trevor Grey

Heading picture shows the top two glider fliers just before the last deciding round. On the left is Austria's Werner Klaus, while on the right is eventual winner Peter Seelig. Below is the Wakefield Victor – none other than our very own David Greaves.

REGARDED by many as being second only to a World Championships, this annual event was rewarded with its highest ever entry – some seventeen countries being represented, many by flyers managing the quick dash from the previous weekend's World Championship in Bulgaria before making their way home.

Having been told time and again that *'the weather is always good at the Pierre Trebod'*, it was a bit disturbing to find that the weather had been generally unsettled, and to notice a huge bank of evil-looking black cloud building up during the late morning of the practice day. A period of flat calm followed, but it was, quite literally, the calm before the storm; within the space of ten minutes the field was transformed from a free-flighter's paradise into a nightmare – torrential rain, runways awash and a violent gusting wind.

Not a good omen for the weekend, but by Saturday morning (scheduled for the glider event) the mainly blue sky and the light breeze had returned, and at 7.30am the *Pierre Trebod* got off to a pleasant and promising start. (As it turned out, it did not rain again until Sunday night, one hour after the end of the contest, and that *is* good planning!)

There were seventeen launch points, with a pair of timekeepers and about six flyers allocated to each. With 1½ hours allowed for most rounds, that meant that on a 'fair shares for all' basis each flyer had about nine minutes in which to launch – though as the contest progressed, those doing well were given the choice of, and longer time, in which to fly. In the conditions, nine minutes was by no means enough to be sure of having a chance to max. The weather pattern was fairly consistent – there was an initially slow build-up of temperature with, at the peak, lift sufficient to take models to at least four or five times line height. This was followed by a swift drop in temperature as the breeze came in, in effect, to fill the gap left by the warm, rising air. Drawn to fly in the few minutes immediately after the cold in-fill, there was little one could do to ensure a good flight – except, of course, to extend *your* period and thus allow the others less time in which to fly. This was certainly done by some flyers – not always with the complete approval of their colleagues – and was carried to extraordinary lengths by Canadian Tam Thompson, who circle-towed for some thirty-five minutes in one of the later rounds – he must have had some understanding people at his launch point!

At lunchtime, with four of the rounds completed, there were still over forty flyers with full houses. In the afternoon, however, things started to get difficult. I had heard that conditions in France could be treacherous; but it was still a shock to see four or five models, including that of Britain's Phil Owens, being sucked down for flights of less than a minute, whilst others, launched only a few feet away, climbed away for safe maxs.

By the end of the sixth round there were over a dozen people with perfect scores, including two from Britain: Peter Stewart and Dave Barnes. In an increasingly chilly breeze, Peter chose to fly on his own, picked bad air and put himself right out of contention with a sub-two minute flight. Meanwhile, Dave Barnes was providing all the drama. He had launched with three or four other models into fairly promising air, and after about a minute the group of them were climbing, slowly, but well enough for a max to look pretty well assured. Then two models collided and it was Dave's which came off worse, spinning down with a fair-sized dent in the leading edge of one wingtip. He was allowed a reflight, but in those difficult conditions that was no great comfort. After swift repairs with super-glue and masking tape, Dave launched once more. The model was chased across the field by a dozen or so of the British contingent, all waving sweaters and shirts in an attempt to break any incipient thermals away from the ground and keep the model up. Either it was good air anyway, or our efforts were successful, because the model maxed and Dave was through to the fly-off along with six others – including Canadian Peter Allnutt, who had placed second in the World Champs only the previous weekend.

Held at around 6pm, the fly-off was something of an anti-climax from a British point of view. All but two of the seven models were in more or less the same patch of air, which gave flight times in the region of 2–2½ minutes. Dave Barnes was one of them, ending up in a fine sixth place.

Two flyers meanwhile had managed to make the required four-minute flight and so went forward to the second fly-off when a five-minute flight was required. Werner Kraus of Austria and Peter Seelig of West Germany were flying fairly conventional models – neither, for example, used circling tow – though Kraus' sheeted-wing model did have the increasingly fashionable swept-back tips and Seelig's model was fitted with a Hofsass-style shock-release towhook. Kraus, as in the first fly-off, towed up as soon as the four-minute period started, but there was no advantage to be gained in the steady, cooling air. There was never any chance of either of them maxing and it was Seelig – son of Hans Seelig of timer and power model fame – whose model was down last, after a flight of two minutes forty-six seconds, just thirteen seconds better than his opponent.

Sunday was devoted to the Wakefield and power competitions, and again the weather was bright and sunny, with little drift. It was obviously not going to be an easy day – lift was available, indeed was massive from time to time, but neither consistent nor reliable. Less than half the field maxed in the first Wakefield round, and two of the favourites – last year's

winner, Chmelik of Austria, and Bob White of the USA – were among those to go down. By the end of Round 4 it was apparent that a Wakefield fly-off was by no means certain: two Britons, David Greaves and Geoff Lefever, were still in with a chance of reaching any fly-off, but the majority of the field had failed to max on at least one flight.

Five flyers (still including David Greaves) had full houses by the end of Round 6 but, as on the previous day, conditions deteriorated and maxes were hard to come by in the seventy, crucial round. David Greaves waited to fly . . . and waited . . . and waited. Eventually, he started winding, the bubbles from the Liverpool bubble machine started rising, the pointer on the dial of Bob White's thermister suddenly shot off the upper end of the scale, and David launched into superb air – the model climbing steeply away from a certain max.

Only one other person – Lepage of France – had managed seven maxs, so we were set for a two-man fly-off. Lepage was away first with his somewhat Russian-looking model (outrigger prop. and forward fin), but his climb was not impressive and he was down in 2½ minutes. David Greaves' model climbed better, had a fine glide and, like David Barnes the previous day, got excellent support from the British 'thermal-makers' with their coats and sweaters and endless energy. His model was airborne for nearly 3½ minutes and there was great jubilation in the British camp as we realised that at long last we had an international Wakefield win under our belts. David Greaves' model was comparatively simple – indeed, almost old fashioned with its square fuselage and lack of gadgets – but it is the product of years of experience and was thoroughly well flown.

Meanwhile, the power contest had been progressing, with models that are now distinctly well ahead of the rules. One of the last major contests to be held under the ten-second engine run rule, it was notable for model after model screaming skyward gaining such impressive height that one began to wonder just how much difference next year's engine run reduction will actually make.

In the end, seventeen flyers – nearly one-third of the entry – maxed out, including no fewer than five of the British. The standard of flying was very high and it was, as usual, a test of consistency, a matter of making no mistakes. The British unfortunately *did* make mistakes or had bad luck – Bob Bailey, using his triple-finned 'fly-off special', D/Td early, and Ray Monks, whose model had been climbing as if on rails from the second round onward, had his VIT line break as he launched and his model climbing on its guide setting, survived only by virtue of the limited engine run allowed.

At the four-second engine run stage (usually the decider, particularly in evening air) three models managed to max, and the final fly-off eventually took place in the increasing gloom – and with those dark clouds again looming in the sky. Truppe of Austria and Seydal of Germany had nasty transition problems, and it was Werner Kraus, after this second place in A/2, who came out on top. His model was Rossi powered – of course! – but was a typical in *not* having fully sheeted flying surfaces.

At the prizegiving later that night, we got the best news of all – that Britain, by virtue of the performances of Davids, Barnes and Greaves, and of the performance of Roy Collins, who took sixth place in the power event, had won the Jean Magniette Prize as the top nation. The celebrations were on long into the night . . . and for some of the British, even into the next morning!

A/2 Glider (142 *entries*, 7 *in fly-off*)
1. P. Seelig (W. Germany) M+240+166, 2. W. Kraus (Austria) M+240+153, 3. P. Alnutt (Canada) M+166, 4. E. Maiworm (W. Germany) M+145, 5. G. Verbree (Netherlands) M+142, 6. D. Barnes (GB) M+139.

Best British placings: 19. B. Baines (1205), 23. G. Lefever (1191), 24. P. Stewart (1190).

Wakefield (69 *entries*, 2 *in fly-off*)
1. D. Greaves (GB) M+203, 2. P. Lepage (France) M+156, 3. R. White (USA) 1258, 4. O. Uiggiano (Argentina) 1242, 5. J. Barnes (GB) 1233.

Other best British placings: 10. D. Hipperson (1205), 16. K. Proctor (1174), 17. L. Barr (1173), 17. I. Kaynes (1173) 19. G. Madelin (1158), 23. G. Lefever (1147).

Ray Monks had been performing well in the power class, but in the second fly-off round his VIT line broke on launch, ruining his chances, but fortunately not his model.

Power (34 *entries*, 16 *in fly-off*)
1. W. Kraus (Austria) M+180+180+180 +147, 2. S. Seydel (W. Germany) M+180 +180+180+132, 3. R. Truppe (Austria) M+180+180+180+126, 4. A. Landeau (France) M+180+180+152, 5. S. Reda (W. Germany) M+180+180+134.

Best British placings: 6. R. Collins (M+ 180+180+113), 7. P. Buskell (M+180+ 180+87), 10. J. Allen (M+180+142), 11. R. Monks (M+180+62), 15. R. Bailey (M+134).

At left, Pete Buskell launches in the third fly-off round of the power event – the round that put him out of contention with an 87-second flight. Below is the highest-placed British flier in the A/2 event – David Barnes with his sister Judy, who took a well deserved sixth place.

CLUB NEWS

SMALL-FIELD FLYING, for A/1 glider, coupe, etc., may not be quite so challenging as the big league stuff, but it is the ideal involvement for the younger flyer, being low in cost, making use of local rather than far-off flying fields, and economical in model loss and crashery. It also provides a pleasing outlet for the older modeller who may not be attracted to the expense and complications of radio control.

With this in mind, we welcome a letter from a reader in the **Maidstone** area. He is Mr. John H. Foster, who, with a friend, have been doing quite a bit of free-flighting on their local patch, Mote Park, right in the centre of Maidstone. They are keen to expand this activity with the formation of a club or group. The park could not be all that small, for Mr. Foster talks of durations of 2–2½ minutes. Just how you fly the mini class of model depends very much on the weather, but in the club of which I am a member a one-minute max seems to be the general order of the day – it's usually that windy. Anyway, if you are a freeflighter, living in the Maidstone area, Mr. Foster would like to hear from you. His address is 72 King Edward Road, Maidstone, Kent, or telephone Maidstone 58830.

Neil Brindle is the secretary of the newly formed **Chorley & District Model Society**. He writes to inform us that the society meets on the first and third Wednesdays of each month at the Chorley Blind Centre, Crown Street, Chorley, at 7.30pm, when competitions are held and lectures and film shows given. The society caters for all types of modelling, from radio flying and other pursuits of our playing fields to miniaturised battles of Waterloo. Anyone interested is invited along to the meetings, where they will be warmly welcomed. Alternatively, they can contact Mr. Brindle at 12 St. James Place, Chorley, Lancashire (Telephone 72424). The society has acquired a flying site (with runway under construction) and a boating lake suitable for power boats and yachts at Park Hall Leisure Centre, Charnock Richard, Chorley.

Yet another letter from an acromodeller keen to form a club in his home district – Mr. D. Kiss lives in the **Doncaster** area and will be pleased to hear from anyone interested. His address is 58 Craithie Road, Town Moor, Doncaster, Yorkshire.

By the time this column goes to press, the **Finchley & District MAC** will have competed in the Rotterdam combat event on 9th August. We wish them good luck. John Goodwin't report goes on to say that the club's C/L gala was a success, in spite of other events attracting away many of the star performers. Winner of the aerobatics was Ken Burton of South Birmingham, and 'A' combat by Finchley's own Ken Lesser (definitely no fiddle!). And what does the keen C/L club do between contests? Why, displays, of course – and Finchley is no exception. Policy is to recruit new members who are interested in this public side of things, and also anyone who is a control line enthusiast. John Goodwin also tells us that improvements have been made to the club site at Scratchwood, making it suitable for that up-and-coming activity, C/L scale. Will also suit Carrier Deck, which, of course, is a C/L scale sport. Following the last AGM, Ken Lesser is now chairman and Dave Budd secretary.

Worcester MAC has decided not to renew the lease on its old club hut. No reason given by PRO Ian Nicholls, but we are told that the good landlord of the 'Cavalier' has offered the use of the pub skittle alley. Thus, no one can now complain that club life is not all beer and skittles! Plenty of fun, too, on the flying field – or should be, on the evidence of the summer and autumn calendar. All three branches of the hobby fairly represented, with R/C pylon, C/L aerobatics and F/F power and glider to prove that all is not frivolous. Betwixt contests, the club hopes to fit in a few displays. At one such 'do', Keith Green's *Galahad* is reputed to have felled a tree. Not one that was put down in 'Plant a Tree Year', he claims, but a bit of the deadwood you find around fetes. But what about plant a model for '75, the report asks? Less than the usual number of prangs this year is the answer, but whether this is due to an improved standard of flying or less models taking the air is a moot point. And, by way of spinning a yarn, there is the story of member Andrew Stephenson travelling to Middle Wallop to compete in the Flying Druids' R/C Airshow. Using his trusty and aptly named *Vertigo*, he managed 104 spins in three minutes, beating his nearest rival by some 35 spins. Postscript to that 'Plant a Model' mention. There has since been an absolute plethora of prangs, including Ian Nichols' *Craftsman* and that spin-happy *Vertigo*, which, perhaps, did a spin too many.

John McAlroy, PRO of the **Wharfedale DMAC**, reports that members of the club have been on a pot-hunting expedition in the C/L circles, and have already chalked up a few wins and places in the earlier part of the season, and in the stunt comp held at Ilkley in July it was Junior Geoff Richardson who came out top of a strong field. The club, together with guest club Wakefield, fielded no less than thirteen entries, and 35 flights were recorded in the afternoon. Ray Atkinson, who came fifth, now goes to the top of the club stunt league. Over to Goodyear, the Wakefield 500 – a new contest which, it is hoped, will be run annually – was won by the Horton/Haworth team. And Don Haworth proved he could chuck 'em up as well as sling 'em around by winning the club Chuckie event at Baildon Moor.

Not allowed at the Edgwarebury field of the **Watford Wayfarers MAC** are children and dogs, according to the club newsletter. The reason is SAFETY, and part of a general ruling that the only people allowed in the flying area are those involved in the actual radio flying. Accidents most often occur as models come in to land, and the clearer the landing area the safer for all concerned. Only the other week, I saw women with babes in arms wandering around a R/C flight area, indicating the need, I thought, for the constant vigilance of a safety officer. Very little other news in the sheet, apart from a change of chairman to Alan Clarke.

Question posed in the **South Eastern Area**'s *Seadog* newsletter is by no means new, but very much worthy of consideration: should the Nationals be split? *Seadog* appears to think so. The range of the hobby has grown to such an extent over the past years that power R/C has now the interest in depth and the support to go it alone. At the same time, C/L, F/F and R/C thermal soaring can more than fill an airfield. Even so, it was felt that the Nationals was well run, although the placing of part of the airfield out of bounds to free flighters reduced the field to half its operational use. Sticklers for punishment, the area still holds its centralised meetings

on prickly Ashdown Forest. But they seem to cope with the situation, with people putting in full houses of maxes and high figure fly-offs. The support for these long-established free-flight events comes from the Brighton, Crawley, East Grinstead and Sittingbourne clubs.

We often see the names of people who top the contest lists, but seldom those of the people who put in the hard club work behind the scenes. By way of redress, the **Leicester MAC**'s newsletter prints a nice little panegyric to Ken Worrall, whom they style the control line king. All enquiries about public displays go straight to Ken, who expends much spare time, petrol and energy in arranging with the various organisations those necessary details like site suitability, public address systems, etc., in order to stage both a good show and a safe show. Mentioned here are some of the high fees now being charged by some clubs for putting on displays, presumably at the bigger events, with the thought that the club might be losing out on these £80 to £150 fees. Now that radio is becoming more and more 'countrified', it is only at such shows that the public can see such models in action!

A good day out at the *AeroModeller* Old Warden Scale Day for members of the **Three Kings Aeromodellers**, but, ah, that wind. Wal Cordwell describes in *Court Circular* how a lot of the radio modellers were actually flying backwards. Quite a threat to the peace of our future flying sites, if any, were the sight of the multi-motored 'heavies'. One potential crowd scatterer had a 10ft. wingspan and six Merco 35s ready to strain at the leash (featured on the cover of the September *Aero-Modeller*). A *Lockheed Blackbird* did actually make some dicey attempts at levitation, but it was a case of 'Bye-bye Blackbird' when it upped and pranged in from about 15ft. More successful for the multi-engined stuff on the lines, though, Geoff Burkett putting in some good flights with his *Catalina*. Quite a scare when Mick Clanford showed up with what was thought to be his latest Goodyear engine – a 30cc petrol engine! Seems, though, Mick is one of our foremost engine collectors, and got this little beauty from the legendary Colonel Bowden. Again, two fine examples of the C/L modellers' art in the *Model of the Month* competition. Winner was Dick Large's *Owl* mini-Goodyear racer. It has a harvest gold fuselage, white wings and tail, and violet wing tips. Runner-up was Tony Fontaine's semi-scale *Rothmans Pitts* aerobatic biplane. Line patterned blue and white, it is complete with pilot and instrument panel.

A considerable area of *Free Flight News* is taken up with the formidable details of how to tune a Rossi 15. Definitely for the *cognoscenti*. A lesser feat of engineering is the FAI World Record Rubber-powered Helicopter featured. It actually stayed aloft for 28 minutes 45 seconds, but just how it did it I haven't a clue, mainly because I cannot make out which bit goes where on the plan.

From California comes the **National Free Flight Society's** *Free Flight*. Some intriguing photos on the cover. One is of a twin fuzz rubber speed job. Model is launched by holding the props. together with 'socks'. The string between the socks is cut, and the socks fly away. There is also a real oldie, stringer-fuselaged, *Seagull* glider, and what looks like a gull-winged, three-blade prop. Wakefield. There are pictures, too, of people getting those gargantuan trophies favoured by our American friends. For the British flyer the outlook is still a plaque one. And what about this for a golden oldie – a chunky gas model on floats.

Flying Druids report a welcome and substantial profit from their Middle Wallop 'do' in early June. Only complaint was that the weather was too hot! Helped the ice-cream sales, though.

Clubman

CONTEST CALENDAR

20-21st September	**SMAE INDOOR TRIALS** for FAI class F1D for 1976 World Champs. Six flights on either day; best two cuont. Venue: Cardington.
21st September	**SOUTH BRISTOL GALA.** C/L: Racing and Combat. F/F: R/G/P/, HLG and Vintage precision. R/C: Thermal Soaring. Venue: RAF Little Rissington, Gloucester. SMAE members only.
28th September	**SOUTHERN GALA.** F/F: Open R/G/P/, ½A, C d'H, HLG, A/1. Scale: F/F, C/L, R/C Class 2. Also Novice R/C aerobatics. SMAE and RAFMAA members only. Pre-entry details circulated to all clubs. Venue: RAF, Odiham, Hants.
28th September	**C/L STUNT MEET.** Doug Blake Memorial Trophy. Venue: Rickmansworth. Details: G. Allison, 62 Berry Lane, Rickmansworth, Herts.
5th October	**NORTHERN GALA.** Venue: Rufforth, York.
5th October	**SOUTH COAST R/C RALLY.** Fun events and Class 2 Scale. Scale pre-entry (free) to J. Adams, 18 Birch Crescent, Aylesford, Kent. Licence and proof of insurance required. Venue: Golden Cross, Sussex.
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5th October	**F/F MAGNET MEET.** Details from P. Fynn, 18 Teal Avenue, Knutsford, Cheshire. Tel: Knutsford 52948. Venue: near Leek, Staffs.
12th October	**NORTHERN AREA 5th GOODYEAR MARATHON.** One-hour C/L race. SMAE members only – no spectators. Venue: RAF, Driffield, Yorkshire.
12th October	**SMAE SCALE MEET.** F/F, C/L, R/C Class 1. At RAF, Little Rissington, Glos.
12th October	**SMAE 6th AREA CENTRALISED.** Team Rubber, FAI glider, ½A power – Area Venues.
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19th October	**SMAE INDOOR MEET.** General indoor flying at Cardington, Beds.
19th October	**NORTHERN AREA FAI GALA.** FIA, FIB, FIB (flown in rounds, 1st and 2nd rounds together from 10am to noon). FAI team race and combat and R/C pylon. SMAE members only. Venue: RAF, Elvington, nr. York.
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25-26th October	**SMAE 2-DAY FAI MEET.** FAI rubber, power, glider. Venue: Sculthorpe, Norfolk.
26th October	**WHARFEDALE 16th RUFFORTH 1000.** C/L Class B race SMAE only – no spectators. Details J. Horton, 10 Lawn Avenue, Burley in Wharfedale, Ilkley, West Yorks L529 7ET.

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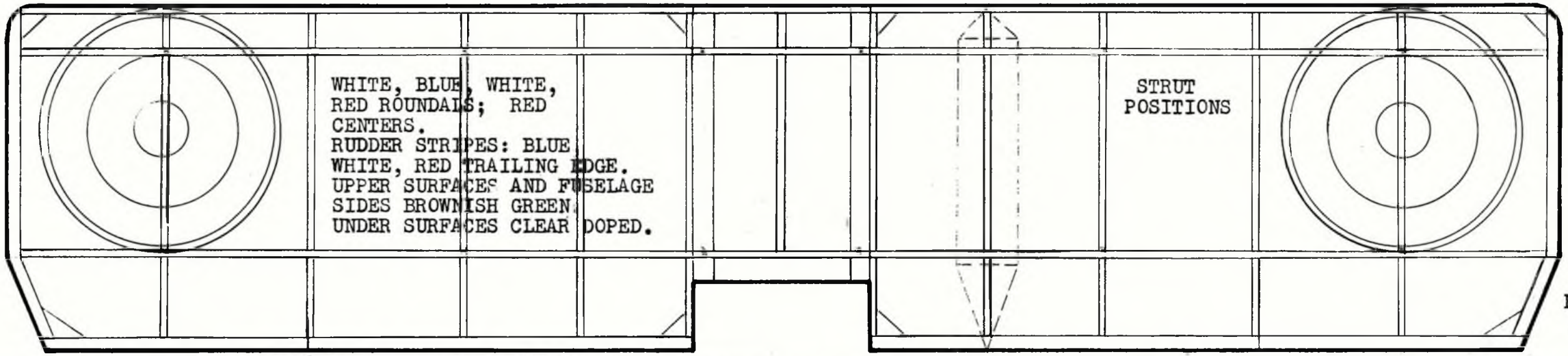

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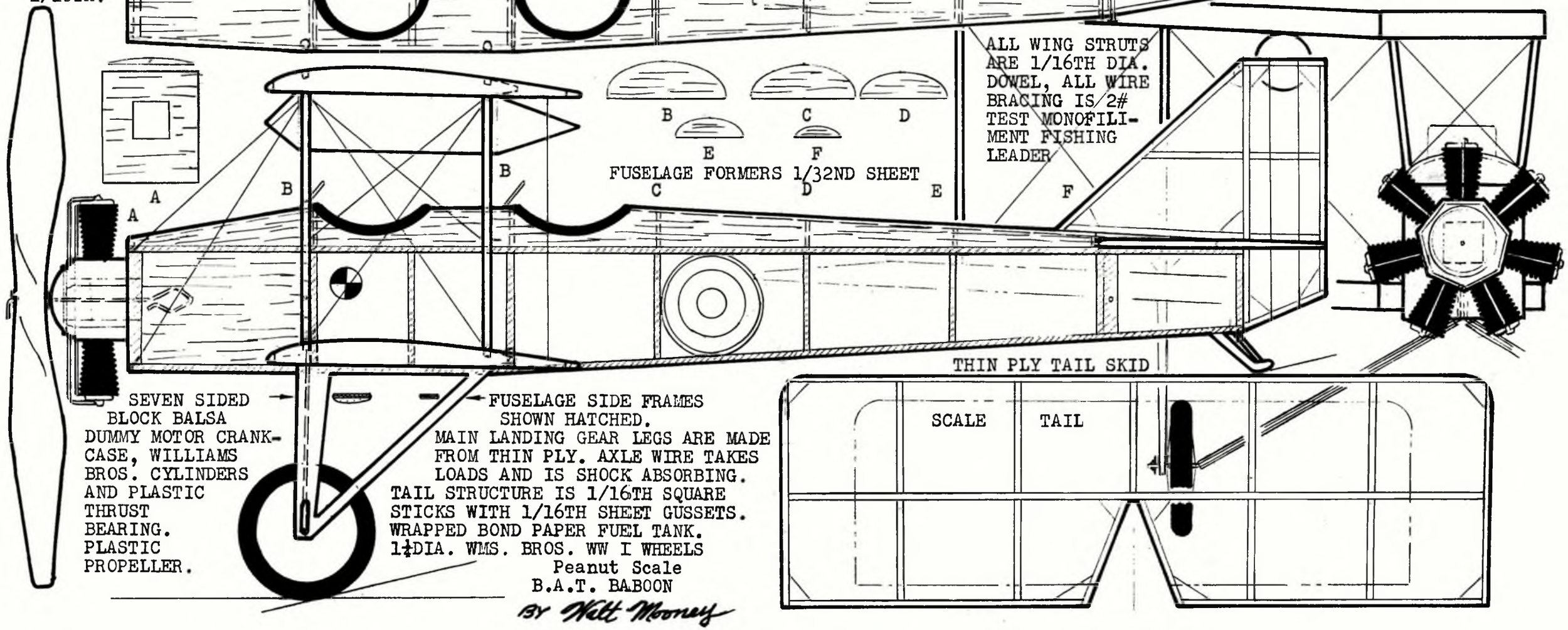
TOP AND BOTTOM WINGS ARE IDENTICAL EXCEPT AT CENTER SECTION, LOWER WINGS END AT INBOARD SIDE OF ROOT RIBS



ALL WING STRUTS ARE 1/16TH DIA. DOWEL, ALL WIRE BRACING IS 2# TEST MONOFILIMENT FISHING LEADER

THIN PLY TAIL SKID

SEVEN SIDED BLOCK BALSA DUMMY MOTOR CRANK-CASE, WILLIAMS BROS. CYLINDERS AND PLASTIC THRUST BEARING. PLASTIC PROPELLER.

FUSELAGE SIDE FRAMES SHOWN HATCHED. MAIN LANDING GEAR LEGS ARE MADE FROM THIN PLY. AXLE WIRE TAKES LOADS AND IS SHOCK ABSORBING. TAIL STRUCTURE IS 1/16TH SQUARE STICKS WITH 1/16TH SHEET GUSSETS. WRAPPED BOND PAPER FUEL TANK. 1½ DIA. WMS. BROS. WW I WHEELS

Peanut Scale
B.A.T. BABOON

By Walt Mooney