

January 1975

Aero Modeller



25p USA & Canada \$1.25

INCORPORATING
MODEL AIRCRAFT



HOBBY MAGAZINE

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free-flight design
Polish trainer drawings**





DART
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 inc. VAT



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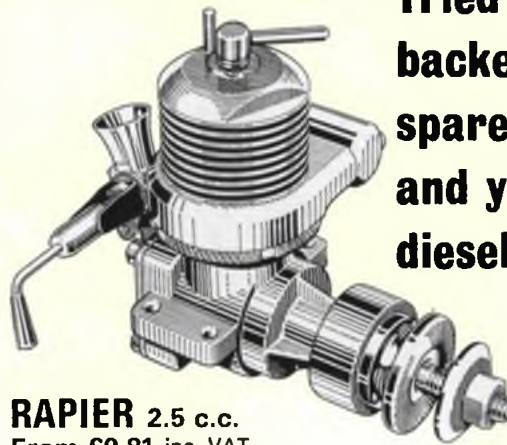
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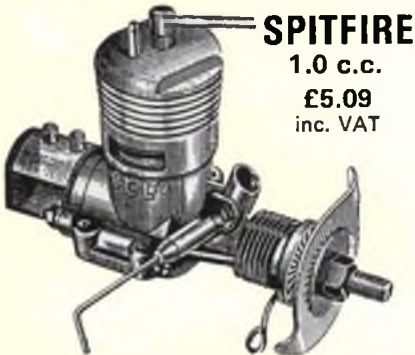
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*The Motors
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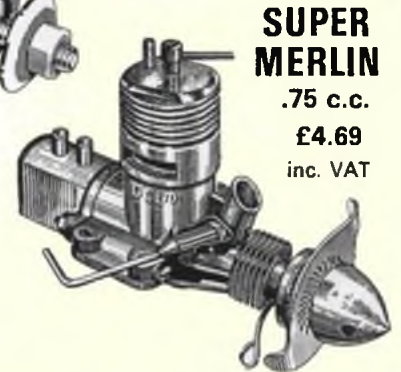
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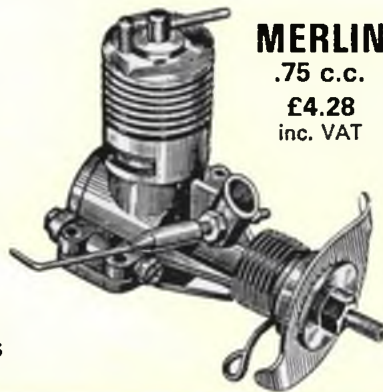
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You've a foam wing to 'surface' and finish. Balsa or obechi is the usual choice for planking. Tissue is out because it does not add any strength or rigidity. Hardwood veneers can also be used – you can prove they are lighter if you use really thin veneer – but do not give that same smooth surface. They usually need 'filling', too, before a final sanding down.

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But an obechi 'skin' is tougher and less liable to be indented by an accidental knock. So many modellers prefer it (and most kit manufacturers use obechi). But why should we worry. We produce both balsa and obechi sheet in true aeromodelling quality. So, as long as you ask for Solarbo Balsa – or Solarbo Obechi – you are getting the best material available for the job, anyway!

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Aero Modeller

INCORPORATING
MODEL AIRCRAFT

January 1975

Volume XL No. 468

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HOBBY MAGAZINE



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Advertisement Manager M. GRAY

Comment

In an atmosphere of universal economic depression, looming like a huge black cloud to dim enthusiasm for almost anything connected with business and general trade, the hobby enthusiast provides a warm glow of bright hope for the coming year. 1974 was an eventful twelve months, and one which some traders would prefer to forget. It also brought difficulties for organisers with security restrictions as well as the inevitable problems of balancing the financial books. But the aeromodeller is not one to be influenced by such mundane affairs. He lives in perpetual optimism, anxious only to progress with his next model, to fly on the nearest pitch and to cast aside the worldly cares for his own individual blinkered views which are his paramount interest. Thank goodness for such dedication! It gives one hope for 1975. Particularly so when the national society, the S.M.A.E., presented such good figures to its members at the Annual General Meeting in Leicester. An excellent bank balance, no change in membership fees, and sound relations with authority for continual use of M. o D. airfields, add up to three good reasons why all aeromodellers should join for united support of their mutual interests.

on the cover

Dennis Binnie and his free flight Bleriot XI at one of the S.M.A.E. free flight scale contests, R.A.F. Little Rissington last year. Powered by a Rivers 3.5cc diesel the model astounded all onlookers by performing well in very strong winds, flying at incredible angles without stalling and landing as though it was a parachute!

next month

Plans for Dave Rudd's control line Goodyear racer 'Miss San Bernardino'. Fascinating feature on the design aspects of free flight Autogyros. More useful advice for the beginner to rubber powered models, plus ways of cutting the costs of your hobby. Other informative articles for beginner and expert alike, plus all the regular features in the February issue, on sale 17th January. Don't miss it!

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SUPER

NEW!

STUNTER

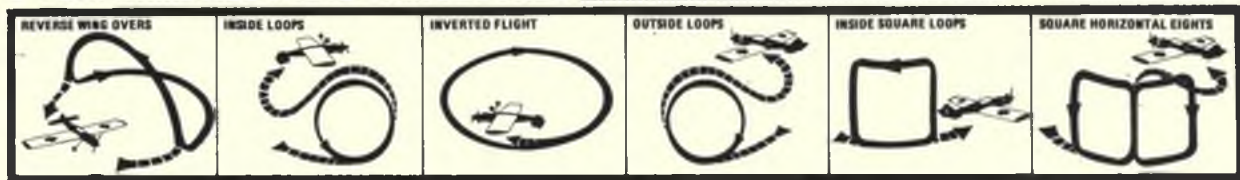
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POWERED BY COX .049 ENGINE

- READY TO FLY IN JUST 10 MINUTES
- 30½" WINGSPAN



■ PERFORMS ALL THESE MANOEUVRES



- DOUBLE PORTED COX .049 ENGINE DELIVERS ALL THE POWER NEEDED FOR FULL STUNTING
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READY TO FLY



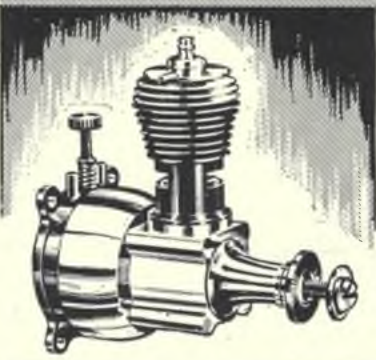
PT 19 TRAINER
 Cox's all-time popularity winner, this is a superb air-plane for the beginning flyer. The PT-19 has trained more control-line enthusiasts than all others. Features exclusive adjustable thrust angle that can be set for super stability for the beginner and gradually increased for more advanced flying. Powered by a Cox .049 engine. Complete with student and instructor pilot figures, control handle and lines. Wingspan 22".

Full instructions for flying and maintaining these READY to FLY Models are supplied. Also a complete list of replacement parts. Treat it well and it will reward you with many hours enjoyment.



Ju87d STUKA

Accurate in every detail, this ready-to-fly model carries all the features of this famous plane from the massive inverted gull wing down to the tiny propeller-driven generators. Cox's Stuka features sliding front and rear canopy, rear mounted machine gun, a simulated four inch bomb that can be dropped in flight plus detailed pilot and gunner figures. Comes equipped with easy-to-start Cox .049 engine with spring starter. Wingspan 23 1/2".



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8164	Fokker D7	11-27
8364	Fokker Tri-plane	11-27
8664	Super Sport Trainer	13-67
8764	Bushmaster	14-21

READY-MADE PLANE WITHOUT STARTER PACK (EX CANADA)

7800	Spitfire	12-69
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All these Cox models and many others are available from Hamley's and most good Toy and Model shops.



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FRECHDAX — £9.95

43" span, free flight or R/C cabin model for 0.8 to 1.5cc diesels, or 0.49 glow. Kit contains die-cut balsa and ply parts, shaped undercart, wheels, tissue covering, decals, etc.



TWEN — £8.40

Highly developed towline glider — with superb towline stability. Prefabricated kit includes die-cut parts, canopy moulding, etc. An excellent and easy-to-build model for beginners.



HEGI 70 — £12.30

A stunt control-liner for ab-initio training up to aerobatic contest standard. Pilots speak highly of its smooth response! Span 40". Suits motor sizes from 2.5cc or .19, up to .29. Fully prefabricated kit for easy building.

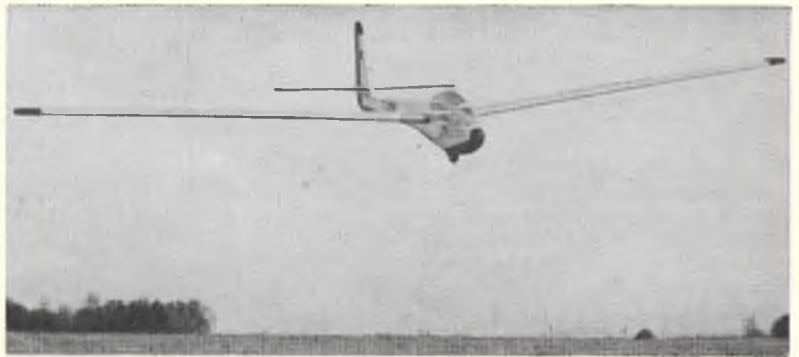


LEAR JET 61" span — £50.80

Superb scale model (pusher prop powered). De luxe 'ultra-fab' kit includes moulded glass-fibre fuselage, balsa-planked foam wings, moulded plastic (ABS) jet nacelles, tip tanks, prefabricated wooden parts, shaped u/c, wheels, etc.

ALADIN — £22.20 (opposite)

As the photo shows, 'Aladin' looks right in the air. It flies — and handles under R/C — just like a full-size sailplane. An outstanding 86½" span model which we confidently recommend to glider enthusiasts — for sheer pleasurable building and flying!



It is impossible to do justice to these magnificent kits in a single page advertisement! Inspect them for yourself at your local model shop!

POWER KITS

- FRECHDAX (233) £9.95
- SNOOPY (235) £20.70
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- T45 (242) £24.80
- 51½" R/C sports and trainer for engines up to 6.5cc.
- BURDA PIPER (240) £29.80
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- 61" span for 10cc. engines (not illustrated)
- L19 BIRDDOG 47" span £11.80
- PIPER TWIN COMANCHE 59" span. £31.80
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- FOKKER D-8 50" span £17.40
- AUSTER AIGLET £10.90
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- DS22 HELICOPTER £139.50
- BELL-HUEY COBRA 'COPTER

- Fuselage £42.00
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NEW POWERKITS!

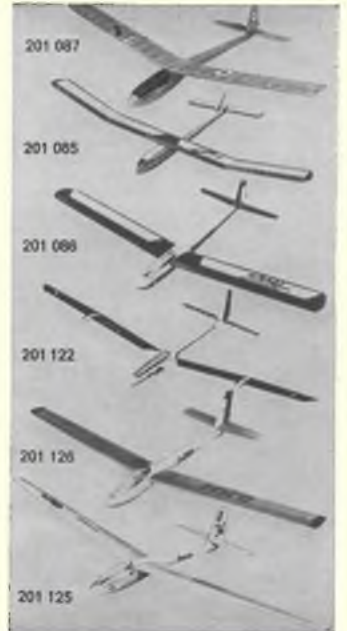
- FIPSI 31" span .. £3.85
- A really attractive high wing semi-scale model for 0.49s or .5 diesel.
- SKYLAB 63" span .. £41.50
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GLIDER KITS

- PAT (087) £7.40
- 47½" span semi-scale.
- SPASSVOGEL (085) — £6.80
- 50½" span hi-performance.
- TWEN (086) £8.40
- 55" span mid-wing soarer.
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- 74" span super sailplane.
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- 86½" span. Ideal for R/C.
- ASW-15 (125) £46.40
- 118" span scale sailplane for free-flight or R/C.
- FOKKER D-8 50" span £17.40
- SB-7 90½" (T-tail) £17.20
- (not illustrated)

NEW GLIDERS!

- JIM 39" span £4.70
- Kit complete with die-cut and numbered parts, ready slotted TE and easy-to-follow plans.
- DOHLE 47" span .. £5.55
- Another highly prefabricated kit with die-cut and shaped parts.
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see **SCHUCO KITS** at your model shop

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NIEUPORT 11 KIT 203

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each



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KIT 204**



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**PIPER CHEROKEE
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All engines are now specially ported to produce a good performance when used with silencers or mufflers. All now also feature Squish Head type combustion chambers.

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the finest, most comprehensive range of precision equipment in the world with something to suit every requirement and pocket.

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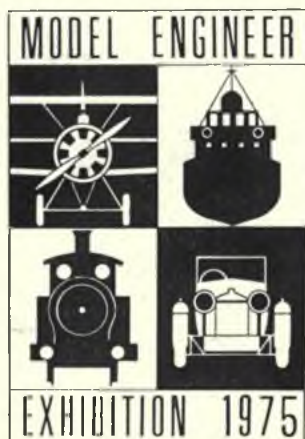
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Write to us today enclosing a stamped addressed envelope for more details or call and see our products for yourself at your local model shop. We feel sure you'll want us to help you make your wish come true!

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44th. GREAT SHOW! SEYMOUR HALL, LONDON, W.1.

Seymour Place, off Edgware Road

31st December – 11th January 1975
(Not Sunday)

Daily 10 a.m. - 9 p.m. last Sat. closes 7 p.m.

Model Aircraft, Locomotives Boats, Traction Engines Military Models, Crafts

COMPETITORS

£300 in prizes . . . some 30 cups, trophies and other awards. Championship Cups for permanent retention. A win confers 'Expert Status' Edgar Westbury Memorial Challenge Trophy.

ENTRY CLASSES

Examples of every form of modelmaking activity on show. Model Engineering masterpieces, locomotives, traction engines, aircraft, boats, yachts, cars . . . simple plastic creations . . . Classes include Military Models (four classes) and Craft entries (furniture, jewellery, glass-fibre, etc.).

WHAT WILL BE ON DISPLAY

OPEN PLAN arrangement of the MAIN HALL provides excellent access and viewing, whilst retaining the central concourse. A slight change in S.M.E.E. WORKSHOP will allow spectators better viewing without blocking a door. 'Bill' Carter will again be in charge of the S.M.E.E. PASSENGER RAILWAY with non-stop service during opening hours for young and old. The team of experts from the Society will be providing practical work and advice to visitors.

LARGE FLYING CIRCLE — balcony to balcony — again in operation with even more exciting and expert models, and operators. All-electric models that do most of the things that i.c.-powered control-line models do. It gets better every year.

TRADE STANDS — We have increased numbers this year in view of increasing demand from exhibitors. These are in MAIN HALL; further trade and DEMONSTRATION STANDS in BRYANSTON ROOM will show construction techniques and use of tools.

Introduction of a MODEL ENGINEER WORKSHOP manned by the S.M.E.E. proved immensely popular and will be increased in size and scope, again with experts from S.M.E.E. in charge and assisted by M.E. consultants. Working models under compressed air and I.C. engine testing.

BRYANSTON ROOM will be devoted to display of model boats, yachts, sailing craft, both working and miniature, together with some TRADE STANDS and SOCIETY DISPLAYS.

LECTURE HALL will contain demonstration stands, craft displays, and some SOCIETY STANDS together with special features. BALCONY AREA will be devoted to militaria, both static displays in show cases, including dioramas, and will also provide largest yet WARGAMING AREA. Adjacent COMMITTEE ROOM will house larger diorama displays. BOATING MARINA: Timed sessions will be held. TRADE DEMONSTRATIONS OF RADIO-CONTROLLED BOATS will be welcomed (please let us hear early), which will be varied with CLUB EVENTS (mainly in evening) and STAFF EXHIBITS. There will be no selling at the poolside, but demonstrations can be announced and suitable display cards shown advising visitors where products obtainable and information given. Club features or displays specially invited — drop us a line! GALLERIES provide sitting-out space for several hundred persons, and offer best view of model aircraft flying. There will also be club exhibits displayed and entries in our BOYS' EXHIBITION, and other displays.



SOUVENIR GUIDE

Another CHRISTMAS EXTRA issue of *Model Engineer* will be coming out 2nd Friday in December with entries, trade stands, articles galore to assist the visitor and soface the stay-at-home.

PRIZE POOL ALLOCATION

Classes attracting six or more entries will enjoy prizes to value of: 1st £5; 2nd £3; 3rd £1. With over 12 entries: 1st £7; 2nd £4; 3rd £2; 4th £1. Classes under six will have 1st and 2nd only, or at discretion of the judges, may be combined with other classes.

REFRESHMENTS

Restaurant Service (licensed) available on ground floor. Parties may book in advance. Also soft drinks, cakes, sandwiches.

ADMISSION

Price of admission at the door will be: 35p adult, 20p child inc. V.A.T. A child is regarded as anyone still at school. Children under five who have not started school and are accompanied will not be charged. Reduced admission charges for pre-booking as under: Single and small number pre-booking tickets available from these offices. Adult 27p, Child 15p. Parties of more than 10: Adult 22p, Child 12p. Teachers i/c parties free — one per 10 in party. A combined family ticket can also be bought in advance.

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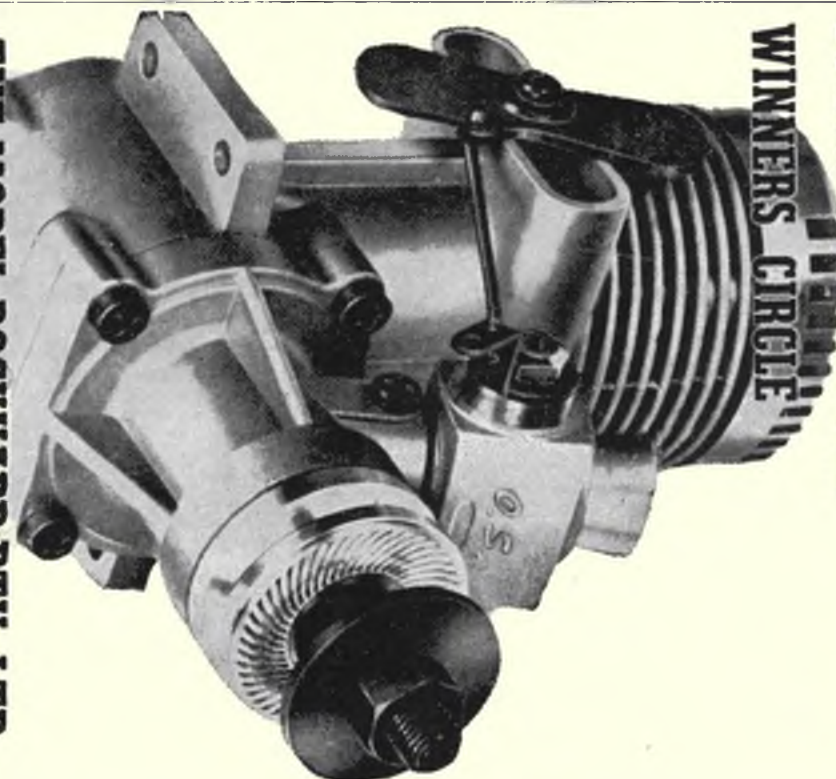
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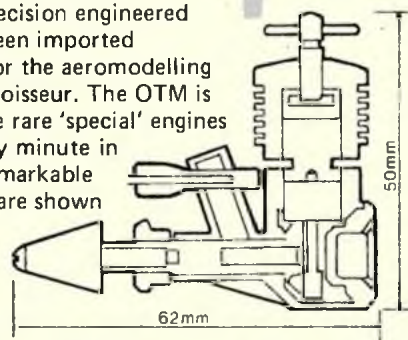
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Heard at the HANGAR DOORS

(BAD) NEWS FLASH. Following an S.M.A.E. indoor flying meeting at Cardington last September, the Society received complaints concerning a certain amount of damage caused to panels and test equipment, whilst a considerable amount of litter was left behind. This is particularly unfortunate as it is the first complaint against the Society after some twenty years of flying in the Airship Sheds.

Consequently, in future only adult or fully paid-up Junior members of the S.M.A.E. will be allowed access, and under no circumstances will anybody other than those qualified, and who's name appears on the list held by the police at the main gate, be admitted. All litter must be taken home. Failure to adhere to these elementary rules would ultimately lead to the loss of the finest indoor facility in the world. All applications for entry to Cardington should be sent to Laurie Barr at 4 Hastings Close, Bray, Berkshire - stating full name, S.M.A.E. number and club.

SINGERS FLY HIGH! Following hard on the heels of the news that **Mike Oldfield** is a keen R/C slope-soaring fan (one of his gliders appears on the cover of his *Tubular Bells* LP) we now learn that **Daniel Boone**, million-selling hitmaker of *Hi Hi Hi Beautiful Sunday* and



Control line jet speed enthusiast, the late **Ralph Gould**, pictured with one of his Dyna-jet, mono-line models, set up for clockwise flight. Mainstay of speed flying within the **RAF MAA**, Ralph will be sorely missed by all.



Daddy Don't You Walk So Fast, is an ex-member of the West Essex Club. His enthusiasm is as great as ever, his current 'stable' consisting of several R/C models, both powered and gliders, as well as a free-flight Keil Kraft *Gaicho*, while he made one of his two R/C outfits. Combining his two hobbies of aeromodelling and 8mm film-making with his music-making talents, Daniel is currently scripting and writing a music score for a film on model aircraft. When completed, the film will be 'premiered' at his former club and then used to promote the music which will eventually be used as album tracks, to be released on the *Penny Farthing Records* label.

'Flying models is an ideal way to relax', explains Daniel. *'The public don't realise what a strain making records can be. Sometimes, I work all night in a dimly-lit studio and, in the morning, I get out onto a hill to fly the planes instead of going to bed.'*

'The room where I write my songs faces the workshop so, when I finish, I can pick up a model and put in a couple of hours on it.'

Modellers who would like more details on how Daniel is approaching his project can get in touch via his

Pop singer and song writer **Daniel Boone** still finds the time to continue his boyhood hobby, and believes that building and flying model aircraft provides the necessary relaxation to relieve the tensions of his highly commercial field.

record company at 4 Tilney Street, Mayfair, London W1.

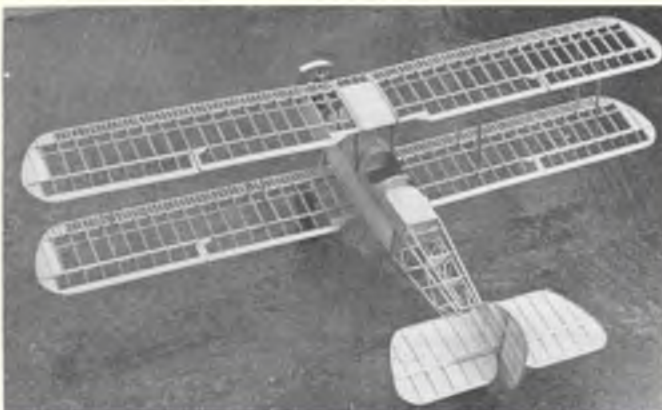
RALPH GOULD, well-known RAFMAA control line speed flier died suddenly on 7th November, aged 44 years. Ralph was the mainstay of speed interest within the RAFMAA, and was very well-known for his partnership with Gus Johnson when he was a member of the famous FASTE club. Over the years he attended all the RAFMAA and S.M.A.E. speed contests that his job as a flying instructor with the Royal Air Force (he flew all types from *Vampires* to *Britannias*) permitted. We shall all miss the sight of his well-finished models 'on song', and who can forget the sight and sound of his jet at RAFMAA meetings? It should also be mentioned that he has held the British jet speed record since 1956. Most of all, however, we have lost a quiet and unassuming modeller who was always ready to help with advice and loan of equipment. His workshop was full of other people's motors for repair or modification. Ralph's workmanship was superb, he had many successes in speed, stunt, and rat-race competitions, and his home-built '40' flown at this year's Nationals was equal to the very best factory models. To his large circle of friends his passing is a real loss. Our deepest sympathies go to his wife Marion and her three children.



De Havilland D.H. 9A

FIRST APPEARING in 1918, the D.H.9A was probably the best single-engined bomber of the First World War. With a top speed of 123 mph and a maximum bomb load of 750lb., it was the culmination of the remarkable development of British bomber design in the relatively short (four-year) period since the commencement of the war. Like the much better-known Lancaster bomber of the Second War, it evolved from previous designs which were far from satisfactory – in the case of the D.H.9A these predecessors were the D.H.4 and the D.H.9. The D.H.4 was a very fast machine, when powered by the Rolls-Royce Eagle engine, but communication between the crew (who were separated several feet by the petrol tank) was almost impossible. The D.H.9 was designed to rectify this problem; but, unfortunately, the B.H.P. engine fitted was woefully lacking in power and subsequently the D.H.9's performance was much inferior to the earlier '4'. This fault was rectified by fitting the 400-h.p. American Liberty motor – the vast engine giving the D.H.9A, as it then became, its unmistakable bluff front end, so useful for hiding a long-stroke model engine! The extra weight of the Liberty necessitated the wing span being increased from 42 to almost 46ft, and in this form it became one of the truly great aeroplanes of the Royal Air Force. Although only operational for the last few months of the war, it remained in service until the early 'thirties.

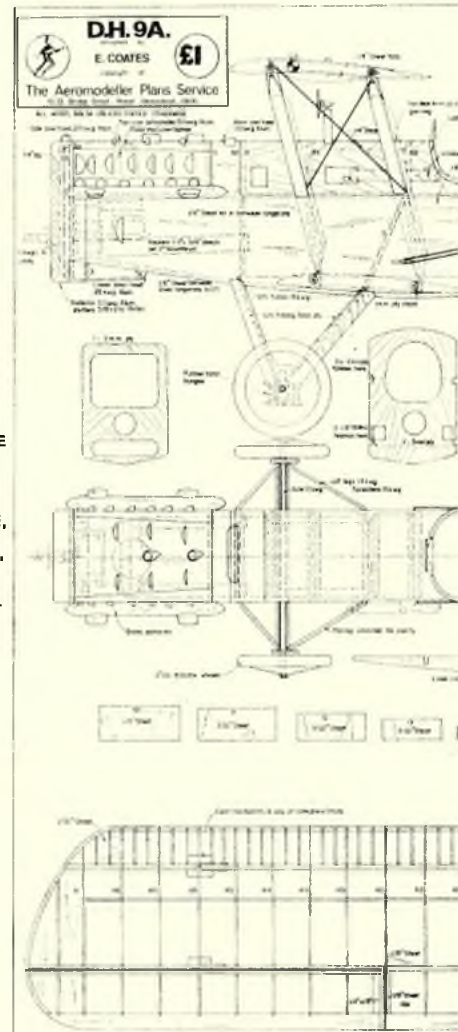
Now to the model. I built the prototype during the early months of 1972, completing it in time for the



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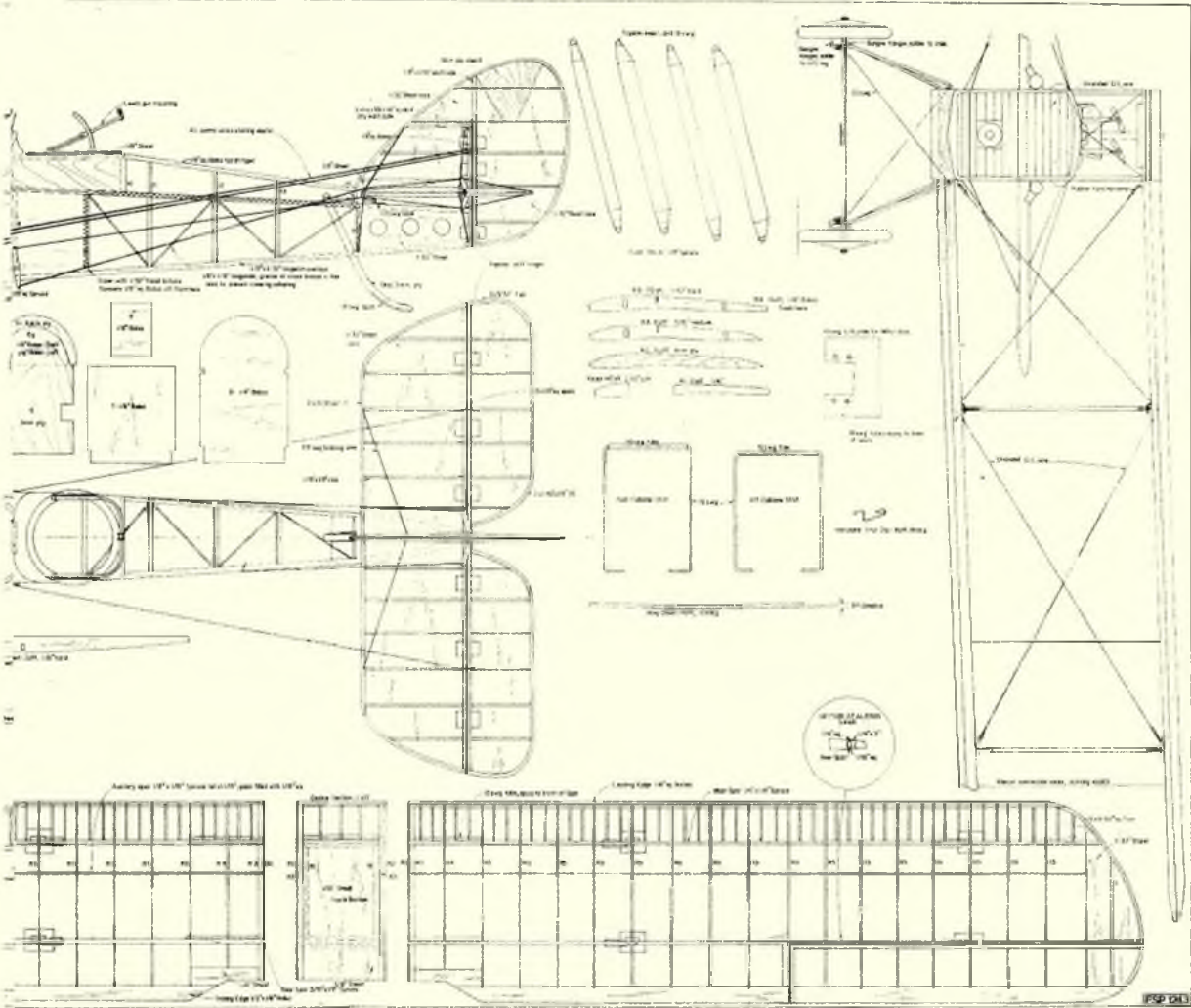




Nationals, but unfortunately it did not behave too well that year, apparently lacking longitudinal stability, and was easily induced into a stalling condition. In the winter of '72/'73, I critically examined the model and decided that the trouble probably lay in the relatively short tail movement, so I moved the C.G. half an inch further forward. The model was then re-trimmed: test glides allowed the elevators to be brought back to the horizontal - previously, they had to be depressed about 5° to prevent a stall. More downthrust was then found to be necessary in order to keep the nose down with full power on. When re-trimmed in this forward C.G.

configuration, the 'Ninack' has been one of the most consistent flyers I have ever had, and this is reflected in the results of the 1973 Scale contest season, when it was entered in five contests - and won all of them!

These competitions included the *Super* at the Nationals, the *Eddie Riding* at Woodford, and the *Selby* at the Northern Area Rally. The model is 'bang-on' scale: tail areas are exact, the dihedral is correct at 3°, providing ample lateral stability, while wing incidence and section are also exact scale. Although thin, the spruce spars, assisted by the working bracing wires, are adequate to carry the loads. The design is the culmination of over





All the tail surfaces consist of a central core of $\frac{1}{16}$ in. balsa sheet, to which are added the half ribs and balsa strip outlines either side – this results in a thin warp-free section.



View of fuselage rear end reveals the sprung tailskid (note elastic band from top of skid to piano-wire hook) and $\frac{1}{16}$ in. sheet balsa stiffening below tailplane mount.

twenty years of development of practical working-scale structures which look delicate, yet are strong enough for years of hard flying. The structure is designed to bend and 'give', in an awkward landing, rather than knock off. The only part I have reservations about is the undercarriage – I normally fit a torsion-bar type on this class of model, but for the sake of authenticity I fitted a rigid job, allowing the scale bungees to do all the work. This has performed well since the model has been re-trimmed, but some of the early, stally flights caused the rear legs to bend and splinter the fairing. I issue this as a warning to prospective builders!

Over the past few years, I have covered in great detail the construction of scale models, such as the 9A, in *Flying Scale Column*, and therefore do not intend to do so again, but will highlight one or two of the less obvious points.

Fuselage

This is relatively simple, but incorporates several novelties. In full-size practice the fabric covering is not stuck to the structure, but is laced to the longerons and one or two uprights only, so in order to achieve this appearance on the model the longerons have $\frac{3}{16}$ in. \times $\frac{1}{4}$ in. overlays to keep the covering away from the uprights. In order to impart torsional rigidity to the rear fuselage, $\frac{1}{8}$ in. \times $\frac{1}{16}$ in. diagonals are fitted – formers 11, 12 and 13 are undersized to lie beneath the stringer/longeron line. These formers, and all diagonals and uprights, are greased with a candle to prevent the covering adhering. Some

Nose cowling and radiator shell are beaten from aluminium, both as described in previous 'Flying Scale Models' series. Techniques are simple once hardwood formers are made.

$\frac{1}{4}$ in. sheet is let-in solidly between formers 2 and 6 and local $\frac{1}{4}$ in. sheet reinforcement is used in the region of the curved portions of the longerons between formers 6 and 8. The upper deck between formers 6 and 10 is 1mm ply, while $\frac{1}{16}$ in. balsa sheet is laid over the flat portion of the fuselage between former 3 and the first upright aft of former 8. The ply, $\frac{1}{16}$ in. sheet and $\frac{3}{16}$ in. \times $\frac{1}{4}$ in. overlays, will therefore all 'flush up' to a smooth outline. All the nose cowlings are beaten from 22 swg soft aluminium – don't worry about how heavy the nose is, it will save ballast later.

Centre Section and Cabane

Sixteen swg tubes are epoxied to the forward face of former 6 and the respective cross members prior to covering the top decking with ply. The 16 swg cabane struts, enclosing the upper tubes, are entered into the fuselage tubes after the decking is fitted – the cabane struts are then braced with 22 swg tie wires soldered to their extremities. The centre section is then epoxied to the upper cabane tubes prior to covering with $\frac{1}{16}$ in. sheet. Make sure that the cabane struts work freely in their respective tubes; the idea is to allow the centre section to distort in a prang and not tear out of its mountings. Finally, epoxy $\frac{3}{16}$ in. \times $\frac{1}{8}$ in. fairings to the forward edges of the cabane struts.

Tail Surfaces

These are made by marking the position of all spars and ribs on either side of $\frac{3}{16}$ in. sheet, cut to outline shape.

Undercarriage detail reveals axle bound to spreader bars at centre and sprung with rubber band 'bungee'. Axle travel limited by slots in fairings.





Underside of tailplane - note 22 swg bracing wires soldered to tinplate tags epoxied to framework. Rib tapes are from heavy-weight tissue doped over the silk covering.

The structure is built up either side of the sheet and then sanded to the sections shown (the curved edges can best be produced by nicking the inside of the strip, at about $\frac{1}{8}$ in. intervals, with a thumbnail).

Wings

Apart from the rather large number of ribs and riblets, the wing construction is quite straightforward if a little tedious - centrally disposed spars are used, as on the original, so as not to foul the fabric surface. The ribs are pushed onto the two main spars *en bloc* and then slid out to the correct spacing. Spars are then pinned down over the plan with suitable packing interposed. The $\frac{1}{8}$ in. \times $\frac{1}{8}$ in. auxiliary spar is let in $\frac{1}{8}$ in. below the upper surface and the slots in the ribs filled with portions of $\frac{1}{8}$ in. square - this spar is fitted to prevent elliptical dihedral forming after covering. Tips are made in exactly the same manner as the tail surface. The interplane strut clips are epoxied to the spars, and the bracing wire guidance tubes are similarly attached to the forward face of the spars at the inner strut position. In order to facilitate covering, 'hard points' are glued to the ribs at the interplane strut positions.

Covering and Finishing

The whole model is covered with lightweight Modelspan tissue, clear doped, and is then covered again with lightweight silk to obtain a strong and realistic fabric finish. Wartime D.H.9A's were painted in the standard P.C.10 khaki on the upper surfaces, and clear doped underneath. Many had the forward fuselage painted pale grey - E.9903; the subject I based my model on was so finished. After the war, most D.H.9A's were silver doped overall. For a concise compendium of '9A' photographs and colour schemes, I would recommend the purchase of *Profile*, No. 248, D.H.9A (R.A.F. 1918-30), by Chaz Bowyer. This slim volume is packed with information about the venerable aircraft, and will give full details regarding the multitude of hardware which was hung from this maid of all work, but do not regard the drawings as the ultimate in accuracy.

Rigging

The wing bracing wires are made from lightweight control line wire. Sufficient friction is developed between this wire and the angled tubes at the inner interplane struts to hold the wings under normal flight loads, with the assistance of 12 swg dowels. During a prang, however, the wires freely run through the tubes, allowing the wing cell to distort.

The tail surfaces are braced with 24 swg piano wire soldered to tinplate tags which are epoxied to the structure. All incidence wires and control cables are made from black shirring elastic.

Flying

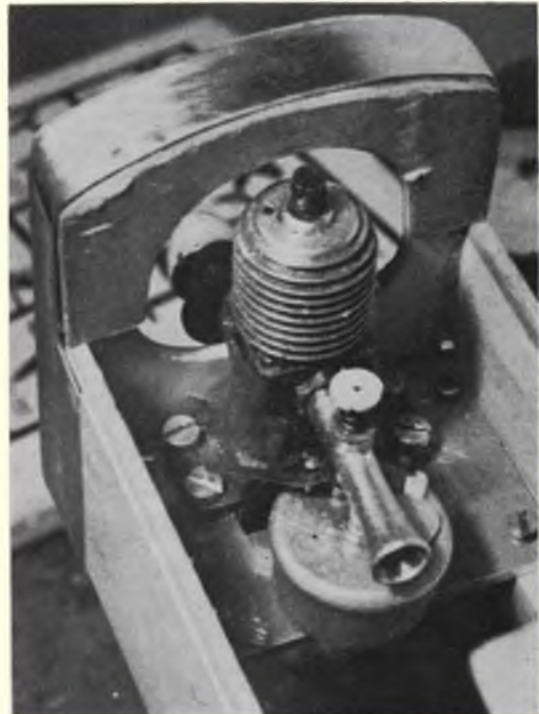
The original weighed 33oz. when ballasted to the correct forward position. The glide is fairly fast but flat, and due to the drag a fair rate of sink also exists.

Power flights are made slowly, increasing the power from an extended glide to the point where a slow left-hand climbing turn is achieved - if a tendency to stall is noted, then further downthrust is applied to the engine by placing washers under the rear lugs. The elevator and rudder are attached to the tailplane and fin respectively with stiff tinplate hinges - trim changes are achieved by small angular adjustments of these surfaces.

When trimmed, the take-off performance of the 'Ninack' is perfection, with no tendency to veer left or right, just a long straight run followed by a clean climb out. The axle, however, is only about $\frac{1}{8}$ in. forward of the C.G., therefore a smooth take-off surface is necessary; otherwise, a nose over can occur at the commencement of roll.

This is not the simplest of scale models to construct, but it is not difficult for anyone who has successfully built and flown a scale model previously. Providing the C.G. is kept well forward, trimming is relatively simple and the model possesses ample reserves of stability for flying in quite breezy conditions. It also looks very impressive in the air.

'Old Faithful' - Eric still prefers the 'slogging power' of the long-stroke Mills 1.3cc diesel, sadly no longer in production. Motor is mounted on 12 swg light alloy plate, which allows for easy adjustment of thrust line.





FREE FLIGHT COMMENT by John O'Donnell

THE AUTUMN is always a busy time for contests, and this year has followed the usual pattern. The 'reasons why' are pretty obvious. Difficulties with retrieving models from cultivated farmlands make mid-summer unpopular for contests, and there is a widespread belief that the weather is calmer and more settled later in the year. On average this may well be the case but, as will be recounted, some recent events have suffered from very inclement weather.

One of the luckier meetings was the **South Bristol Gala**, held at the R.N.A.Y. Wroughton on 29th September – Brian Silcock sent results and details of the free-flight side of this meeting. Fortunately, the weather was much better than predicted and a light north-westerly wind made for enjoyable flying conditions. Lift was moderate in the morning, but became less frequent during the late afternoon.

Seven entrants reached the glider fly-off which was won by Elton Drew, beating John Cooper by a single second. Both had towed for a long time before releasing into air good enough for 'five-minute plus' flights. Steve Marriott came third with the same approach but less helpful air.

Open rubber had only three entrants reach the fly-off, as many competitors inexplicably failed to max-out in the easy conditions. Gerry Ferer was a deserving winner with over six minutes *lead*. Phil Uden, a newcomer to aeromodelling, was second; whilst Pete Harris's model stalled on glide to come third.

There were also three qualifiers for the power fly-off – but as Pete Ward had no models left to fly, this left only Russell Peers and Pete

Harris. Both models looked good in the air, but Russell's had the better glide to win its second contest of the weekend.

Vintage Precision was well supported with South Bristol members doing well. John Barton won with a Keilkraft *Pirate* powered by a Mills 0.75, Pete Hollis was second with a Keilkraft *Rover* (actually built in 1947) and Richard Greenslade was third with a Mercury *Junior Mallard* equipped with a Spitzzy Senior. Keilkraft domination of this event is continuing!

Hand-launched gliders were flown to current S.M.A.E. rules and Dick Cummins was a convincing winner. Pete Bayram managed second place despite spinning problems, whilst John Mayes was third with a Joe Herrat design dating back to 1938!

Thanks are due not only to those who organised – but also to the material support provided by the model shops in Bristol.

Passing over the following weekend, scene of the second Trials (already reported by Tony Cordes), we come to the seventh and last of the **S.M.A.E. Area-centralised** meetings. Held on 13th October at various area venues around the country, it appears that the whole of England had good weather. Some Areas, in fact, reported quite exceptional conditions.

Naturally enough, scores were high, even though entries were respectable rather than extraordinary. The A/2 and Team Rubber events each had just over eighty entrants. Since glider is usually the more popular by far, this equality of numbers is presumably due to



Heading picture shows the Southampton Club at the 1974 Nationals. The bodies encased within the appropriate club Tee-shirts belong to (left to right) Alan Jack, John Cooper, Mandy Parks, Phil Ireland, John Hook and Stuart Godwin. Southampton won the Plugge Cup by a clear margin from their nearest rival, Norwich – who occupied second place throughout the season.

At left is Phil Uden who placed second in the Open Rubber event at the South Bristol Gala, thanks to a 3:30 fly-off time, although this was some 4 minutes poorer than winner Gerry Ferer's flight. At right is Mike Fantham the 1974 British National Free Flight Champion – he started off well with a third in Open Rubber and fourth in F.A.I. power at the Nationals.

the influence of team (and *Plugge Cup*) considerations – or could it possibly be the need to make seven flights in A/2?

Five F.I.A. fliers managed to record a string of seven maxs in the *S.M.A.E. Cup* – but the following scores fell away quite quickly with only three others being over twenty minutes. The top fly-off was a very convincing 5:07 by Alan Jack flying at Beaulieu, his second 'Area' success this year. Runner-up was Brian Baines with a still respectable 2:53. Third and fourth were two Liverpool members, Tony Evans and Phil Owen, flying at Chetwynd in very calm conditions. Until about 4 o'clock there was plenty of lift and only the requirement of returning flight cards to control made it difficult to relaunch into the same thermal. The remaining fly-off qualifier was Jack North flying as a change from mere thermal detecting.

Liverpool was also conspicuous in the Team Rubber event for the *Farrow Shield* – providing both Team and Individual winners. Joe Barnes had the weather at Chetwynd to suit his light and fragile 'good' model and recorded an eight minute fly-off with, so it is said, little thermal assistance. This was ably supported by Derl Morley (flying apart from the others at Barkston Heath) with a 6:08 fly-off, Ken Brown struggling to wind and launch with an injured arm, and Mick Duce who finally snagged a finger in his cotton wing bracing with disastrous results!

Despite there being just over thirty individual trebles in this event, there was only one other team with a perfect total. This came from Southampton 'A', comprising John Cooper (flying at Bassingbourn), Alan Jack, John Hook and Dave Hewitt (all at Beaulieu). Their combined fly-offs came to 14:14 – well short of Liverpool's seventeen minutes plus. Grantham were very competitive at third, with two trebles and two near misses of 8:50 odd.

Even though disappointed in the *Farrow* itself, Southampton must have been very pleased with their day's flying since their rubber scores gave them a convincing victory in the *Plugge Cup* – awarded to the champion club over six stipulated area-centralised contests. Points are awarded on the basis of 100 for first place, zero for last, and equi-spaced in between. The formula necessary to calculate the points for the intermediate positions seems incomprehensible to the non-mathematician! The total possible points approach 1,800, out of which Southampton managed to aggregate 1,512.

Their main opposition came from Norwich who occupied second place all season. This East Anglian club has never been keen on Open Rubber, and this cost them any hope of catching the leaders – no other club was really in the battle once the pattern of positions became established in mid-season. In fact, the top half-dozen placings remained unchanged over the last four contests.

The third event at this final Area-meeting was for $\frac{3}{4}$ A power and attracted some thirty-odd entrants. Flown to three-thirds off ten seconds' engine run – as distinct from the '5 x 2' approach tried at the Nationals – there were only five trebles. Fly-off winner was Dave Pymm with 4:11. The next two places were very close with Ray Monks recording 3:40 to the 3:38 of E. Lewin of Grantham. Pete Bayram and Ewan Jones made up the quintet.

October 20th saw an unfortunate date clash between the **Wolves Club Gala** at Chetwynd, and the **S.M.A.E. Southern Gala**

at Odiham. The date for the latter had been finalised only in mid-season and differed from that suggested provisionally.

I went to the comparatively local Wolves meeting to find weather that was the complete antithesis of the previous weekend. In short it was windy with frequent showers! Consequently both attendance and participation were at a level that must have disappointed the host club especially as they obviously had tried to provide the groundwork for a successful meeting. A largish frame-lent supplied welcome shelter for both officials and fliers, whilst the hot refreshments found a ready sale!

Entries were not high, with the relatively popular Open Glider barely reaching double figures. Towing gave the usual problems to some fliers, and most scores were a mixture of good and bad flights. There were a few lulls in the wind, usually just after the rain, but surprisingly little advantage was taken of them. I managed first place at the price of losing one of my ancient A/2's in a massive 'bump' just in front of a hailstorm – through binoculars I saw the model enter cloud before it D/T'd! Runner-up was Terry Dilks, despite or because of, helping his young son Philip win the junior award with his *Caprice*. Third by just one second was Wolves member, D. Davies. His clubmate, John Watkins, started well with a near max, but failed to find his *Rolling Stone* in the downwind woods.

Open Rubber and Power were down to three fliers apiece, with Russell Peers topping both events. He notched up three maxs in rubber, compared with two from John Burke, and a solitary one from Phil Ball. In power, Russell only needed two flights as Pete Harris suffered a double over-run whilst Brian Worthington had severe pattern problems.

The three Mini categories were flown as separate contests. A/1 glider developed into a battle between Tony Slater and Pete Oliver, with both dashing out for a final flight in the closing moments of the contest. Neither got away, so the positions remained at Tony first, Pete second. Third place went to John Hanson's balsafuselaged model on only three flights. $\frac{3}{4}$ A power was topped by Doug Scott flying a *Mini Weaver*, well ahead of second man Pete Harris – both only making four flights. Mick Duce stopped after three steady flights for 'reasons unknown'. I took Coupe d'Hiver with three respectable scores from my D.P.R. model, and would have made two less if I could have foreseen the outcome – sole opposition came from D. Kirby who 'retired hurt' after his second launch.

When the need for fly-offs disappeared there was talk of extending the flying time by half-an-hour or so. This idea produced an immediate and unfavourable reaction from several competitors who had flown in the worst of the wind. Their arguments carried sufficient weight for the original closing time to be retained. It is a change to encounter organisers who respond to criticism! Prizes were pre-engraved trophies – and were awarded down to third places despite the low entry. The policy of guaranteeing prizes always encourages flying in adverse conditions and it is noteworthy that some of the trophies were hand-made – a refreshing variation on the usual prefabricated 'plastic and chrome' affairs.

One week later saw the **Whitefield Gala** at Chetwynd, and simultaneously the Northern Area F.A.I. Rally at Elvington – a definite conflict of interests despite my club's attempt to find a 'clear' date via the official channels of the *Model Flying* check system.

Naturally enough, I supported my own club's venture at Chetwynd. Unbelievably, the weather proved to be an even more extreme version of the previous Sunday's gale – and led to even worse attendance, participation and scores. In the Open events every score (bar John Cooper's disaster) earned a prize! Russell Peers won both Rubber and Power with the only real opposition coming from Pete Harris who broke two power models in the process. Russell was lucky to save much time through the assistance of local farmworkers, first in returning a model to the 'drome' and later in offering him a lift back from well downwind.

Terry Dilks won glider thanks to a good second flight. The next attempt hit some pylon cables to shear off a wing-tip panel that promptly disappeared into an adjacent wood! My own efforts netted two second places by dint of a single glider flight that terminated in a very dense wood (and defied all my retrieving efforts that day and the following weekend), plus a couple of quick Wakefield flights very late in the day.

Chuck glider looked like being a close flight between Tony Slater and Roy Roberts – until the late arrival of Julian Hopper, all the way from Stanstead. He then managed no less than four one-minute maxs out of only six launches for a deceptively easy win. Despite the regular use of a vane D/T he lost one model.

Again the awards were guaranteed – and included some impressive perpetual trophies with histories going back to the days of the pre-war Lancashire M.A.S.



A couple of 'Hells Angels', model variety that is, not the notorious gang of 'one percenters', by John Mayes and John Down, both using Mills 1.3 power. Both flown in the Vintage Precision event at the South Bristol Gala.



Meanwhile, over the Pennines at Elvington, the **Northern Area F.A.I. Meeting** also suffered from weather which was 'not very encouraging for model flying' – according to the report sent to me by John Godden.

Although the event was intended to be of seven flights, it was curtailed to five, with revised round times. These were very strictly enforced, with competitors being given a run-down to zero when required. The starting line was abandoned to allow fliers to pick better recovery ground, and to enable a greater distance upwind to be used.

The wind direction was from the far side of the main runway, across the 'drome, onto the village of Elvington itself. Flights of about 1½ to 1½ minutes landed on the concrete 'square'. The only maxs recorded (one in each class) gave retrieving problems, but two of the models were found just before dark.

Power was the first event to start, with both contestants flying together shortly after the start of the first round. Brian Martin failed to score because of damage after over-running, thus effectively concluding the event. Doug Scott consequently won with but a single max.

Wakefield saw the only 'battle' of the meeting – between Ian Kaynes and Tom Hargreaves. The former required (and got) a little over two minutes on his second attempt at his fifth flight – with his third model held together with masking tape! Perseverance is clearly a virtue, an aspect underlined by Ian requiring the second attempt on several flights.

Brian Baines had an easier win in A/2, needing only three flights to beat Arthur Wharne who never really got away. Brian Picken had the opposite problem with a very long first flight (seen for over 4½ minutes) and no model thereafter.

Last but not least it is appropriate to report the results of the **S.M.A.E.'s British Senior and Junior Free-Flight Championships**. These titles are computed on a *Plugge* points basis over a selection of the S.M.A.E.'s centralised contests. A senior's score is decided by his best seven events out of the fifteen eligible events. Juniors have a similar but less extensive arrangement of five from nine.

The Southern Gala decided the outcome of both championships. The meeting itself suffered from wind – but I lack the necessary details to compile a report. Nevertheless, I know from Mike Fantham that his final glider flight won him not only the *Pilcher Cup* – but also the Senior Championship.

Mike had realised after the Spring F.A.I. Meeting that he had a reasonable start to the Championship. He went to the Nationals with models to fly in all six eligible events – and managed very useful third and fourth placings. Now in with a real chance, he entered all three events at the First Trials, but in the prevailing conditions decided to drop Wakefield in favour of Power. A/2 'went quite well' (and even better a fortnight later!)

Subsequently he tried to find how he stood – likely contenders being Bob Wells and John Cooper – but only got the necessary information at the Southern Gala itself. Quick calculations indicated that Bob had a few points lead – but less in fact than Mike thought!

At Odiham, Bob Wells dropped a few seconds on his second rubber flight to miss the fly-off, whilst John Cooper went on to a treble in the same event. By the time Mike came to make his last glider flight the position was clear, with a near max being enough to 'clinich' both contest and championship. In fact he did a 'three' to conclude a

John Mayes placed third in the hand launch glider event at the South Bristol Rally with a vintage design by Joe Herrat – could have caused quite a stir in the Vintage Precision event too no doubt!

very successful contest season by gaining the National Championship – not to mention an A/2 team place!

Mike is 25 years old, has been modelling for nearly ten years and contest flying for seven. He is a real all-rounder, as he flies R/C gliders and power for 'fun' – and has done well over twenty minutes indoors! He works in the aircraft industry as a member of Hawker Siddeley's stress office. As the retiring holder, I am happy to offer my congratulations to a worthy winner – and would point to a rather interesting coincidence. When I was within a couple of years of Mike's age I was in the same job (with Avro, now H.S.A.), and was also National Champion and A/2 Team member!

The Junior Championship went to 14-year-old Alex Cameron of Crawley, mainly by virtue of third place in Open Glider at the Southern Gala. He also flew in all three of the Nationals' glider events (including the non-eligible A/2) – and hence edged out Cliff Waddilove. From the published scores it would seem that points have been computed on the basis of junior positions *alone*. Apart from not being what the rule-book stipulates, the system is basically unsound when there are only a handful of entrants. Fortunately the overall result remains unchanged. Like some others amongst the few juniors flying in contests, Alex has the encouragement of an aero-modelling father – Pete Cameron, one-time of Croydon and rather more recently one of the Chavenay Coupe d'Hiver regulars.

It is fitting to end with Mike Fantham's comments, that far more practical interest in the Championships could be stimulated by plenty of publicity early in the year – and regular 'running checks' on the current position. This is already done for the *Plugge*, and there is nothing impossible about having a similar scheme listing those who declare an interest in the individual titles. Apart from anything else such a service might overcome the deterrent of $\frac{100(n-p)}{(n-1)}$

Results

South Bristol Gala, R.N.A.Y. Wroughton – September 29th, 1974
Open Glider (24 entries) – 1. E. P. Drew (Bristol & West) M+5:07; 2. J. Cooper (Southampton) M+5:06; 3. S. Marriott (Oxford) M+3:53; 4. P. Scrivens (Cheltenham) M+3:25. **Open**
continued on page 53



BETWEEN THE LINES

with Dave Clarkson

Important Rule Changes

THE RATHER GRAND surroundings of the United Services and Royal Aero Club in Pall Mall saw the S.M.A.E. Council approve rule changes for control line that will come into force as from January 1st, 1975. Of course, the S.M.A.E. will inform its members in the usual way of the precise wording of rule changes, but wider publicity for the more important changes will, I am sure, be most welcome. Note surprisingly, the important changes apply to the team racing classes ($\frac{1}{2}$ A, F.A.I., Goodyear, 'B' and Rat) mainly because of the Government requirement of metrication. The opportunity has been taken to remove anomalies between classes and also to improve some of the general rules. Personally, I welcome these rule changes because the real changes made should improve these classes; congratulations to Bob Horwood and his men of the S.M.A.E. C/L Technical Committee for a difficult job well done.

Grouper

We end the 'Year of the Grouper' with their banning in the U.K., a move that all of us must hope that the F.A.I. will follow. The ban is encompassed by a new rule (7.5) which means that it is a general ban applying to *all* control line classes. The rule has been written so that the handle grouper safety device is still permitted.

Nose-skids

'People Power' obviously works, because we Goodyear fans have got our nose-skids back! This is a qualified reinstatement, and the qualification that only nose-skids where 'no part of the skid is in front of the point of exit of the skid from the model' (i.e. the forward-pointing 'ski'-type skid is now banned) applies to all racing models.

$\frac{1}{2}$ A Team Race

Besides the legal requirement to metricate this 'inch' class (applies to 'B' and Rat, too), changes have been made to race distances and circle markings. The Dutch have flown 'metric $\frac{1}{2}$ A' for some years and attention was paid to their experience when formulating our new rules which are summarised below.

Class B Team Race

A great deal of deliberation on the metrication of 'B' was called for since many people, including some of the top competitors, had felt that the old rules were not entirely satisfactory and therefore that a straight metric conversion was not all that was needed. As a result of this, changes have been made (as we see from the rule summary), to the line length, race distances and circle markings. I have a feeling that we may find that these new rules have changed 'B' quite a bit. 1975 should be very interesting indeed!

		Class $\frac{1}{2}$ A	Class B
Models	Motors	0-1.5cc	2.51-5.0cc
	Tanks	6cc max.	30cc max.
Fuselage	x-section	40 x 75mm min.	50 x 100mm min.
	Wing area	6 dm ² min.	9 dm ² min.
	Wheel dia.	25mm	25mm
Lines	Length	14.00m	17.70m
	Wire dia.	0.25mm	0.35mm
Races	Heats	100 laps (= 8.8km)	90 laps (= 10km)
	Finals	200 laps (= 17.6km)	180 laps (= 20km)
Circles	Inner	3.00m	3.00m
	Outer	17.50m	21.20m

Rat Race

Besides a straight metric conversion of the few Rat rules that exist, race distances and line length (not wire diameters) have been unified with the new 'B' team race requirements. A most interesting *proposed* addition to the rules goes 'Silencers are permitted but are not mandatory'. However, this proposal was *not* passed at the Council meeting, being referred back to the sub-committee.

Bad weather and lack of time caused two combat contests (the Luton club's Burns-Brown meet and the South Midland Area event) to be curtailed prematurely, and consequently these competitions were completed at the South Bristol Gala, where the host club also held its own combat rally! Above right, shows Burns Brown finalists, Steve Bingham, Richard Evans and Mick Tiernan (who placed 2, 1, 3, respectively) while below them are the South Bristol victors with winner, Mick Chilton in the centre, flanked on the left by Mick Tiernan (2nd) and Mick Levin (3rd).

Apart from these racing classes rule changes, we now have a clarification of the Combat 'knot cut rule' which now had added to it 'a cut of thread is defined as a cut not including any of the streamer and the knot is defined as including a piece of the streamer' - should stop some of the arguments. For the speed men a real beauty, your equipment now has to withstand a 40G pull test; let me see now, a 40oz. '60' model now requires a pull of 100lb., all organisers start weight-training immediately!

These are the major changes for 1975 - more changes than we have ever had before in one go (Napoleon has a lot to answer for). I strongly recommend that all competitors read their S.M.A.E. rule amendments most carefully when they come out.

The Rufforth '1,000'-lap B Team Race - October 20th, 1974

On a cold, clear day with a stiff breeze, the fifteenth annual running of this, the original 'marathon' event, took place at R.A.F. Rufforth, near York. Following two rounds of 200-lap heats to find the six qualifiers for two simultaneous three-up finals, these finals started at 3 o'clock with the top qualifiers being:

Clarkson/Daly/Davies	10:20.5	ST G21/29 RV
Hill/Barker	10:29.0	ETA 29
Horton/Haworth	10:33.5	ETA 2.8cc Special

followed by three Enya 29BB users: Everitt/Cooke, Gardner/Wilson and Fitzgerald/Pickles/McAlroy, in that order.

John Horton produced his usual and excellent progress chart showing how the finals went, although unfortunately space prevents its publication. First to retire at only twenty laps were ourselves when the motor decided to digest itself, followed much later by Hill/Barker/Robinson when a detached push-rod caused a model-and-motor destroying crash. Meanwhile, Horton/Haworth, flying (possibly for the last time) their over-bored ETA 15 diesel-powered *Super Nova* (a venerable model), circulated like clockwork



to an unchallenged win in 54:08.0. In the other circle, the three Enya users sorted out the remaining places with Fitzgerald/Pickles/McAlroy slowed by blown plugs right at the end, and Everitt/Cooke by a painfully slow cold start right at the beginning. This left Gardner/Wilson from Sunderland to finish second in 59:57.0 with Fitzgerald/Pickles/McAlroy third and Everitt/Cooke fourth despite manifold efforts to make up their start handicap.

The three Enya 298B's (non-standard motors, made up by Enya and only available from Bob Ashby in Batley) were most impressive, showing excellent range and hot restarts with adequate airspeed. Under next year's increased race distances the range and reliability of these Enya's will put their users in strong positions.

'Goodyear Marathon' – R.A.F. Driffield, October 13th, 1974

Ably-run for the fourth consecutive year by Wharfedale, conditions this time were cold and damp with little wind. No less than thirty-three different combinations of personnel (and models) had a 'bash' at this one-hour race that included twenty compulsory stops, and most survived intact and exhausted. The '1,000-lap barrier' marked the League points award area, this time with all six non-novice point winners going over the 1,000. Again John Horton produced an admirable chart telling all and it is interesting to see how critical are the last few minutes when it comes to final placings at the top (also highlights the hard luck stories). With only thirteen of the thirty-three starters finishing, survival is definitely the name of this game so all congratulations to the points winners who were:

1. Heaton/Ross	1,161 laps	ETA 15 'Deerfly'
2. Everitt/Cooke	1,107 laps	Oliver Major 'Argander'
3. Horton/Haworth	1,099 laps	PAW 3-5 Spl. 'Johnson Special'
4. Carr/Penton	1,088 laps	G 15/19 (D) 'Argander'
5. Morton/Moretton	1,059 laps	Oliver Major 'Deerfly'
6. Crampton/Gray	1,011 laps	MVVS D7 'Argander'

All using diesels and four out of the six big ones at that – 'no substitute for inches', as the Detroit car-makers would say.

South Midland Area Rally – Cranfield, September 22nd, 1974

Cranfield this year continued with the feature of the '74 season in that again the weather was rough – very high winds and squally showers. This bad weather made Stunt flying obviously very difficult and mitigated against the completion of Combat, it also meant two-up races in the racing events.

F.A.I. – Team Race

Despite the rough conditions both weather-wise and under foot, heat times were quick reflecting the highly competitive state of F.A.I. in the U.K. at the moment. We headed the heats with our Bochum motor installed in our original *Sprint* model, now re-named *Patches*, illustrating the extensive wing repairs performed following the Little Rissington meeting early this year! Following were Heaton/Ross flying a new 'flying wing' model that behaved perfectly in the wind and Hammond/Williams with their very light (and handsome) G.20D powered model. Best heat times were:

Clarkson/Daly	4:36	K & B
Heaton/Ross	4:38	Bugl
Hammond/Williams	4:42	G.20D
Harknet/Smith	4:49	Bugl
Bryant/Haycock	4:50	G.15 RV

Dziuba of Poland uses this torsion bar sprung, tandem wheeled main undercarriage unit on his MVVS 35 powered stunter – a small wheel being embedded in the outboard wing tip to protect it from abrasion.



No doubt because of the inclement weather, the organisers opted for a very strange final – two separate two-ups, thus running the risk of unequal opportunities for those involved and that is how it turned out. The first final saw Heaton/Ross doing a 'Joe Devenish' (sorry Joel), i.e. arresting the progress of Hammond/Williams at a pitstop with their lines and yet securing a re-run. The second final featured an amazing display of piloting by Steve Smith in which he so perfectly combined whipping and obstruction that he got himself disqualified by a very lenient C.D. I fought my way through, aided particularly by excellent pitstops by John, to a quickish time. The two re-run candidates, now knowing what time they had to beat, flew clean and 'quick' in their re-run to take the top two places with very fast times considering the conditions.

1. Heaton/Ross	(Norwest)	8:55
2. Hammond/Williams	(Feltham)	9:12
3. Clarkson/Daly	(Norwest)	9:26

Goodyear

For the third contest in succession where we had the full North/South confrontation, the Northern fliers soundly beat the Feltham glow operators. It is perhaps not fair to include the Woodford results in this comparison but I think that the Feltham dominance of the Nationals Goodyear event has been more than compensated for by both Cranfield and Wymeswold!

Again the organisers opted sensibly for two-up heats but, as opposed to F.A.I. – T/R, wisely ran three two-up semi's and a proper three-up final. The heats were uneventful except for a very fast time by Everitt/Cooke and, most welcome, a highly competent performance by youngsters Allcock/Gennard of Tipton club – a pair who have steadily improved over the last season and are now a power to be reckoned with. The semi-final qualifiers were:

Cooke/Everitt	4:45	Oliver Major	Argander
Horton/Haworth	4:50	PAW 3-5 Spl	Johnson Special
King/Rudd	4:55	ST.G15 FI	Argander
Allcock/Gennard	4:59	MVVS TRS	Deerfly
Heaton/Ross	5:08	ETA 15	Deerfly
Clarkson/Daly	5:09	MVVS TRS	Deerfly

from which emerged the three Northern finalists who finished:

1. Clarkson/Daly	(Norwest)	10:04
2. Horton/Haworth	(Wharfedale)	10:07
3. Everitt/Cooke	(Norwest)	10:42

Surprisingly (for me anyway), all three models were about the same for airspeed, the final therefore being decided by time lost on the ground.

C/L Stunt Team Trials – Reported by Jim Mannall

Trials for the 1975 *Criterium of Aces* were held on November 3rd at Croydon Airport by kind permission of the *Three Kings Club*, who also provided the contest organisation. The five judges, Messrs. Alison, (Doug) Blake, Gardner, Harvey and Perry were only just outnumbered by the competitors, the latter being (in order of flying) J. A. Newnham, P. D. Tindal, C. W. Draper, J. Lynch, J. R. Mannall and S. Blake.

Three rounds were flown, the best two flight scores being added to decide the results. A heavy thunderstorm which passed over just before the competition started, left most people's models somewhat soggy and was to affect Bill Draper's chances for the rest of the competition.

East German team race fliers Krause/Fauk pay careful attention to the cooling ducts for their factory prepared MVVS diesel. Note the split duct to provide separate cooling for cylinder head and crankcase.





Glass fibre team race fuselage mouldings are now available from Bill Graham of 24 Purbrook Avenue, North Watford, Herts. At top is seen the full length lower moulding, in the centre the top piece moulding, and at bottom a short cowling piece for 'pod and boom' models. Prices are £1 plus postage for a pair of mouldings, i.e. top piece plus either of the lower units. Overall length is 16½ in. while weight of full length bottom fuselage is approx. 1½ oz., other two mouldings are around 1oz. each.

race levels of performance as shown by our World Championships results. Team racing (particularly F.A.I. and to a lesser extent Goodyear and 'B') has become a lot more competitive here with more teams than recently capable of winning, and what is more important believing that they can, and *desiring* to win.

I believe that the prognosis for beginners is good. Quite a few people are now willing to supply, at reasonable prices and with some degree of reliability, the essential 'Goodies' and in the last couple of years some top class plans have been published. No-one can complain now that he cannot get pans, props, shut-offs, refuelling systems and also plans and just information. However, there is a motor problem – a problem of price and supply that is perhaps worse than it has ever been. It used to be the case that two mass-produced and freely available British motors (the Oliver Tiger and the ETA 15) were highly competitive and, until very recently, so were the equally mass-produced and freely available Super Tiger G20D and G15RVD motors. Now only the Bugl and Rossi diesels, both available in only very limited numbers and at considerable prices, are competitive at the top levels, and if you cannot get one then no *real* success can possibly result unless you are very friendly indeed with one of the very few good 'conversion/tuning' experts, or are lucky enough to come across one of those one-in-a-thousand competitive mass-produced motors. This motor situation is basically bad and until a manufacturer decides to 'go commercial' on a modern T/R diesel (which could be commoned with a ½-midget R/C pylon motor, e.g. the K & B and Taipan Schnuerles, both of which would make excellent T/R diesels if the manufacturers were interested), it will not improve. Over to you Mr. Manufacturer; what used to be an important part of the market is dying from starvation. As a passing thought, I suspect that a front rotary, modern T/R diesel would be taken up avidly by both the Goodyear and Combat fraternities as well.

Now to perhaps a less basic but equally important problem – that of rule enforcement. We British have always been informal, even gentlemanlike about rule enforcement and whilst everyone 'plays fair' and keeps not only to the letter, but also the *spirit* of the rules, then maximum pleasure and enjoyment result. If, however, pilots particularly start to 'test' the standard of enforcement and find this to be lax, and exploit this to the detriment of other perhaps more 'sporting' pilots, then things get more serious. This year quite a few pilots (including myself) have tested the standard and found it virtually absent! As a result, some quite unpleasant and unenjoyable contests have happened, as more than one team can acknowledge. There are reasons for this 'testing', in my case as I suspect in most, I have been motivated by a deep desire to win. Two possible courses of action are open but there may be others, a fair bit of thought is required by our C/L Committee and others. The first is for us all to go back to being gentlemen, for individuals to stop pushing, indeed to cut out much of the competitiveness that has recently arisen. An admirable solution some would say; restore the 'status quo' and everything will come good again. This is a conservative attitude that rarely seems to be practical in these modern times. The alternative would seem to be to go all serious and enforce the rules strictly and fairly – a most difficult job for a three-man jury and quite impossible for one man, from my own experiences anyway. Now it may be impossible to 'go serious' at every contest but I think that there is a case for three or four premier contests a year which count for something real (like U.K. Team Selection, U.K. Champion, etc.) and do the full 'rule-book' bit at these, even down to safety nets, processing and warning boards to get the atmosphere right, and have a full three-man jury. All of the other contests would then have most of the 'heat' taken out of them, and I am sure would be de-pressurised and as a consequence most enjoyable – not entirely serious, a bit of fun, etc., which is at least part of all of our motivations.

Obviously I would prefer the second course of action but other T/R men must have other ideas, perhaps 'a public debate' is called for.

The Other Side of the Coin. . .

As F.A.I. team race organiser at the Cranfield Rally on several occasions, together with experience gained at running many team race events over the years, particularly during his team of office as C/L Technical Committee Chairman, the Editor would like to express his opinions as 'an official' in reply to my above comments.

Firstly, let us examine Dave's report of the 1974 Cranfield events. The weather was unkind, and because of this there was a great

First to fly, John Newnham, had no time for a practice flight, and indeed had not flown since the Cranfield rally in September. His old *Shindig* was its usual reliable self, and John was clearly on form. Pete Tindal had built (?) a new *Chipmunk* fuselage the previous week and repainted an old pair of wings to match! However, as is the way with stunters, the old 'uns are best and he flew his old faithful *Chipmunk 7*, finishing in fourth place in Round One just fifty points (aggregate of three judges) behind John Newnham. Bill Draper called off an attempt due to a flat battery and flew after John Lynch. The latter fell foul of 'trials nerves' and forgot his triangular loops, thus losing about 150 points and effectively wasting the flight. Bill Draper made no mistake on his second attempt but his model 'felt a bit sluggish' and inspection showed the wing trailing edge top and bottom sheeting to have parted. Was this damp in a P.V.A. joint I wonder, or just old age? Whatever the reason Bill was forced to use his reserve for the two following rounds. Jim Mannall (*Nimrod 5A*) also had starting problems with a flooded engine, but a second attempt taken straight away was successful. Steve Blake (*Starmaker*), consistent as ever, made no mistake and finished Round One in first place just nineteen points ahead of Jim Mannall.

The first four places were to remain the same for the rest of the day, with everyone improving their scores in Rounds Two and Three. Steve Blake increased his lead in Round Two but Jim Mannall had a marginally better flight in Round Three, just fifteen points ahead of Steve. Thus was honour satisfied, Steve being the overall leader by 6,443 points to 6,320. The battle for third and fourth places was closer (and more important when third gains a team place). Pete Tindal improved his score in the second round slightly more than John Newnham, but in the end had to be content with fourth place. John had an attempt in round two; his engine started late, but he had reached the centre of the circle and was ready to take-off when a glance at his stop-watch showed a minute gone, and thirty points lost. Should he continue? At such moments are contests won or lost.

So the day ended with the 1974 team again occupying the top three places with Pete Tindal a worthy, if disappointed, fourth place.

Results

Scores are the sum of three judges. The highest and lowest of five judges' scores being discarded.

	Round 1	Round 2	Round 3	Best 2
1. S. Blake	3,004	3,171	3,272	6,443
2. J. R. Mannall	2,985	3,033	3,287	6,320
3. J. A. Newnham	2,741	2,836	3,012	5,848
4. P. D. Tindal	2,691	2,802	2,978	5,780
5. J. Lynch	2,081	2,628	2,808	5,436
6. C. W. Draper	2,442	2,180	2,688	5,130

The Problems of Standards in Team Racing

Now that the season has ended it is worthwhile reflecting upon the last season to see whether we can improve things for 1975. Two aspects of team racing have stood out as possible 'problems' from the last year: firstly the increasing gap in performance between newcomers and the experts and secondly the difficulty in enforcing the rules as they are written, particularly with respect to piloting. Both of these, in my view, are a result of the recent upsurge in team



reluctance from many competitors to fly at all – and thus we ran two-up heats, a contingency not specifically allowed for within the rules. Many of today's lightweight racers are not at their best in windy conditions and thus a certain amount of leniency was allowed in respect of whipping – blatant whipping for increased performance was penalised by warnings, but where it was felt that conditions were particularly gusty, or the pilot was adding very little to speed, then it passed unchecked. The important point, in my eyes, was to be equally fair to all competitors without letting the races in progress degenerate into 'strong-arm' affairs.

Why the unusual final arrangements? Basically, with so few competitors, full semi-finals of nine persons was impractical, and thus the fastest six was the 'obvious' solution. However, the competitors were not 'playing ball'. As organisers, we were equipped with ample time-keepers and lap counters, etc., and had been 'on duty' for at least six hours in cold conditions, much of the time being spent waiting for competitors to come and fly. Indeed Pete Rabjohn, who ran the Goodyear event, and I spent much of our time banging on car windows, imploring competitors to come and fly! It is not fair to keep either competitors, who are ready to fly, or organisers, standing around idle. Those who say that teams should be made to fly at set times or suffer disqualification are not being practical – you cannot run solo heats, and would you disqualify someone who has made a round trip of over 200 miles? Perhaps a few examples will have to be made by a more hard-hearted contest director!

Back to our particular problem. . . . With time running out and darkening skies, I opted to forego trying to rustle up the six semi-finalists, and as competitors still did not relish the thought of risking expensive motors and valuable models in a three-up final, decided on two, two-up finals. Not the perfect solution perhaps, but under the circumstances, expedient.

As for Heaton/Ross being allowed a re-run despite the fact that their lines snagged their opponent's model, this was admittedly contrary to the F.A.I. rule-book – but again this may be explained.

At the time of the incident, Malcolm Ross was pitting his model as Jim Hammond came in to land. Standing right next to Malcolm I was carefully watching his actions in anticipation of an 'offence' – as were many other spectators. Malcolm saw the landing model and thus not only made sure that his inboard wing-tip was on the ground, but also pressed the lines hard down against the ground with his left hand – incidentally neglecting all attempts to 'service' his model. Derek Heaton's handle was also on the ground as per rule-book. Now under these circumstances, when a model snags against the lines, there is only one 'culprit' – the unevenness of the tarmac. Should a team be disqualified because the flying facilities are not perfect? My view is that the reasoning behind the rule-book should be examined when the expressed letter of the rule seems unjust. Surely the rule was written to prevent careless pit-men from impeding their opponents – and this was not the case in this instance, hence the re-run allowed.

Whilst regretting that the above explanations have consumed so much space, perhaps they will also provide food for thought. In addition, perhaps a few more 'practical' solutions could be offered in response to Dave's comment concerning stricter marshalling – views incidentally with which I thoroughly agree. Several novices have made comments about the ridiculous amount of whipping that is practiced and it is imperative that these beginners are not put off F.A.I. racing by the bad examples of some 'experts'.

Don Haworth has been 'playing around' with a flying-wing F.A.I. team racer recently – this example first being seen at the '74 Nats. Features a short nose to bring the undercarriage nearer the prop and has tailskid under outboard fin in order to keep inboard wing-tip firmly on ground during pit stops.

Frankly, I would regard the provisions of safety fences as desirable, but totally impractical, due to their initial expense and also the question of storage and the attendant problems of collection from a storage place, if such a storage place could indeed be found.

The major problem that I have found is effectively issuing warnings – it is little use telling the pit-man that his pilot has a warning for whipping if the pilot cannot be told that he has been 'spotted'. Shouting instructions is not practical, and by the time that a pit-stop is made the pilot has obtained too much advantage from his misdemeanour. Let's be honest, taking full advantage of the rules is all part of the game – the Russian team-race teams have often demonstrated this in World Championship events, incurring two warnings to obtain maximum performance, then flying the remainder of the race in flawless style.

Two solutions are available. One is the use of a Tannoy or similar public address system so that the C.D. can immediately inform the pilot of the error of his ways. This was used most effectively at the 1973 Trials – flying styles were altered quite dramatically when Peter Freabrey's voice caught the offender in the process of committing an offence! Total cost of the equipment used was in the region of £70 – quite an investment really for a National Society as it could be used for all other competitions, etc. – the one used, in fact, being the property of the South Midland area.

The second, cheaper solution, involves the pilots wearing coloured bibs, and the C.D. displaying visual signs on a score-board appropriately colour-coded per team. Cost? A few pounds and a little work.

Either of these systems could easily 'clean-up' the racing classes – and, incidentally, prevent the current situation whereby the contest director has to run between pitting stations to chastise the culprits, thus probably not observing other infringements occurring meanwhile.

Stunt League Table

Glen Alison, keen to encourage interest in aerobatics, has now gathered all the results from 1974 and produced his 1974 Stunt League Table – the top ten positions being filled as follows:

1	Jim Mannall	77 points
2	Pete Tindal	76 points
3	John Lynch	66 points
4	John Heanen	64 points
5	Glen Alison	56 points
6	Ken Burton	50 points
7	John Newnham	34 points
8	Ted Fowler and Steve Blake	32 points
10	Doug Blake	31 points

The table was compiled by awarding the winner of a contest 10 points, 2nd received 9, 3rd, 8 points, etc. Only a fliers best 8 competition results counted, so the maximum possible score is 80 – this allows for holidays, illness, etc., preventing attendance at a meet.

Jim Mannall just topped the 1974 Stunt League Table using his familiar Nimrod design. (APS plan No. CL1161, price £1.00) – pictured here at World Champs.





AIRCRAFT DESCRIBED No. 227

TS — 8 BIES

described and drawn by Felix Pawlowicz

AN OFFSPRING of the Polish Aeronautic Institute (*Instytut Lotnictwa*) and designed by a team under the leadership of Tadeusz Soltysik, the *TS-8 Bies* trainer first flew on July 23rd, 1955. This was, in fact, the first Polish design to be produced following the Soviet reorganisation of the Polish national aero industry. Three prototypes were constructed at the Aeronautic Institute, but series production took place at W.S.K. (*Transport Equipment Manufacturing Centre*) works at Warsaw - Okęcie.

It was quite a triumph for Poland's aircraft industry to use an engine of Polish design in this machine — the engine in question being the Narkiewicz WN-3 seven-cylinder, air-cooled radial engine which was rated at 320hp at 2,350 rpm.

The third prototype was first shown to the general public at the Poznan Fair in July 1956, and by this time had proved to be fully aerobatic. It was also fully equipped for night and all-weather flying. The following year a prototype fitted with additional fuel tanks carried

under the wings was demonstrated at the *XXII International Aeronautical Exhibition* in Paris.

On December 12th, 1956, a *Bies*, flown by test pilot A. Ablamowicz, established a new international altitude record for aircraft of its class (1,000–1,750kg), reaching a height of 7,084m (23,242ft.). In May of the following year, the same pilot in the specially prepared first prototype established an international record for distance in a closed circuit for aircraft weighing 1,750–3,000kgs, managing 2,884.5km (1,792.3 miles). For this record, the rear part of the cabin was used to house additional fuel tanks, giving a total capacity of 700 litres.

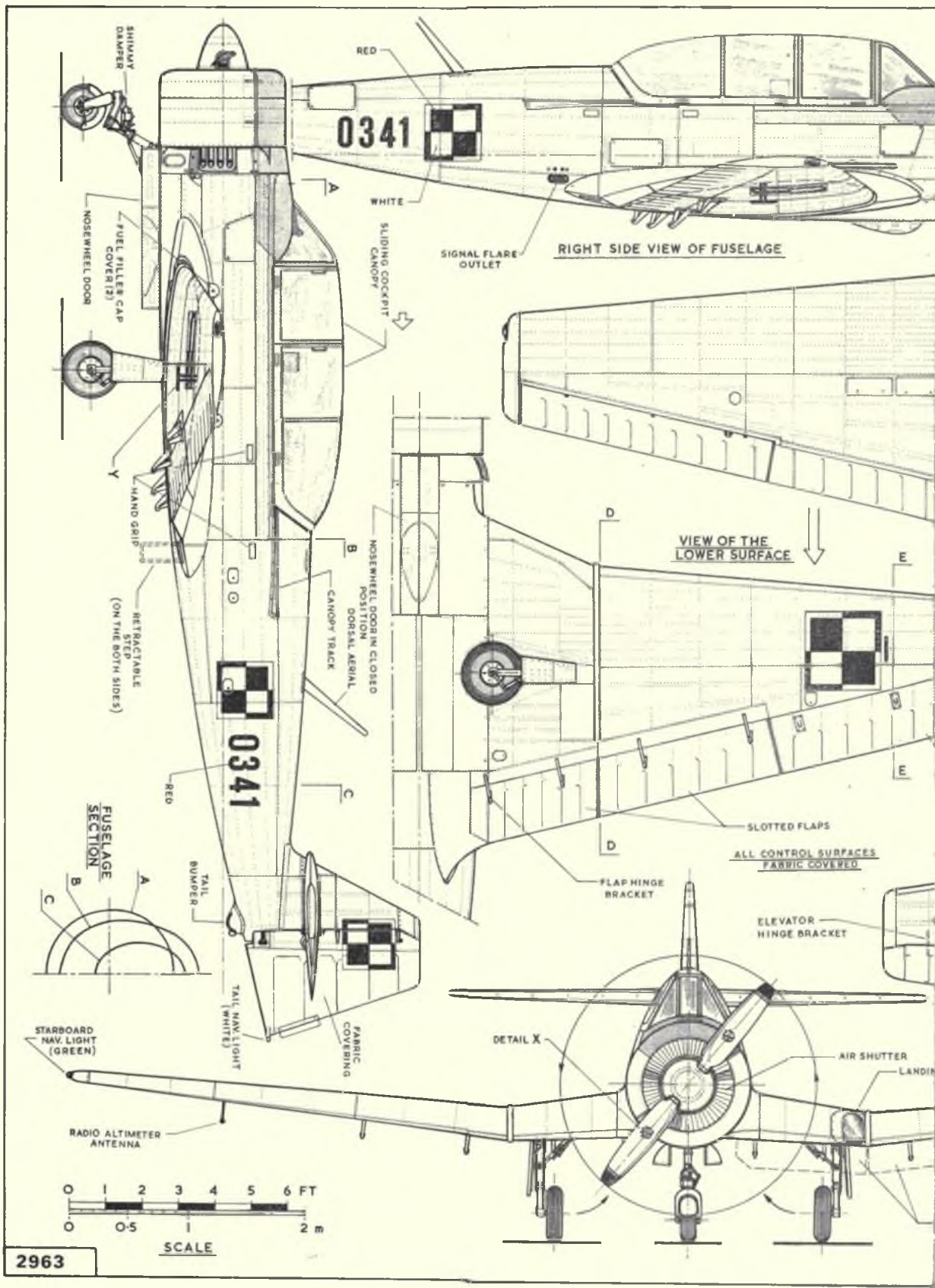
Another pilot, L. Natkani, on the thirtieth of that month also set an international record — this time in the class for aircraft weighing 1,000–1,750kg over a 2,000km closed circuit. The speed achieved was 320 km/hr (199 mph).

Construction consisted almost entirely of metal with the exception of the fabric-covered control surfaces. The tricycle undercarriage, designed to cope with

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Heading picture shows the clean, simple lines of this Polish trainer featuring fin-mounted tailplane plus the nose-leg reaching forward right underneath the engine cowl. At right may clearly be seen the inverted gull wing centre section which was built integral with the fuselage. Landing light and camera carried in port centre section of wing. Photographs used in this feature by Zbigniew Luranc and Waclaw Holy.





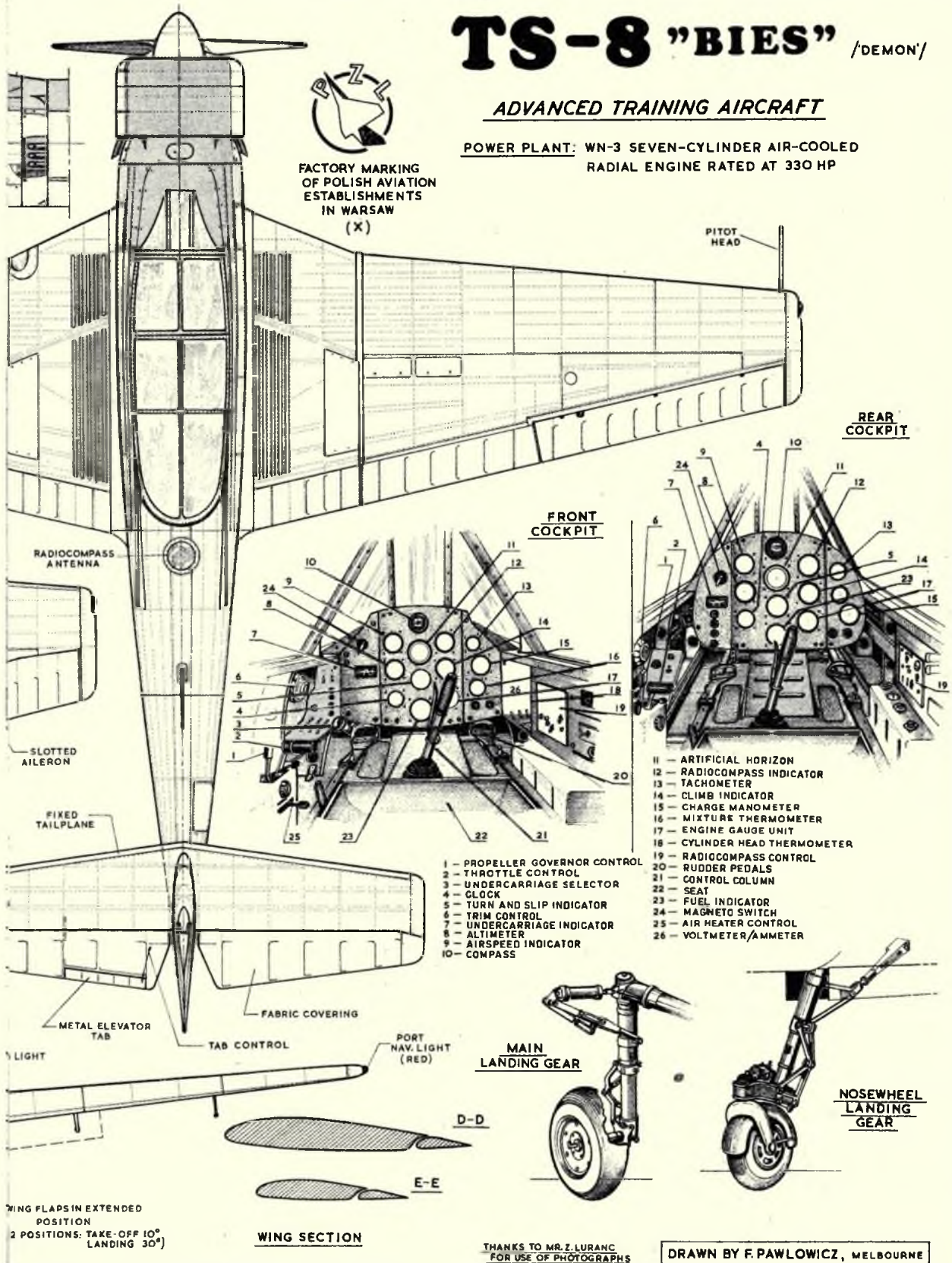
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- 16 - MIXTURE THERMOMETER
- 17 - ENGINE GAUGE UNIT
- 18 - CYLINDER HEAD THERMOMETER
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- 20 - RUDDER PEDALS
- 21 - CONTROL COLUMN
- 22 - SEAT
- 23 - FUEL INDICATOR
- 24 - MAGNETO SWITCH
- 25 - AIR HEATER CONTROL
- 26 - VOLTMETER/AMMETER

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- 9 - AIRSPEED INDICATOR
- 10 - COMPASS

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WING SECTION

THANKS TO MR. Z. LURANC
FOR USE OF PHOTOGRAPHS

DRAWN BY F. PAWLOWICZ, MELBOURNE

WING FLAPS IN EXTENDED POSITION
2 POSITIONS: TAKE-OFF 10°
LANDING 30°



Above, short nose moment and forward cockpit position gave excellent visibility for the trainee pilot who occupied the front cockpit position. Production aircraft used constant speed, metal WR1 propellers.



Above: Both canopies slide rearwards to provide access for the cockpits. Fully duplicated controls were fitted although the radio was operated from the front seat only.



A Narkiewicz WN-3 seven cylinder radial, air-cooled engine nestled behind the cowling, (left), which featured variable air cooling via shutters at the front.

Right: Close up of front wheel reveals hydraulic shimmy damper and oleo-pneumatic shock absorber. Low pressure tyre has closely fitting alloy mudguard.



all-grass airfields, was fully retracting (pneumatic). Nose wheel was fully castoring, self-centering, and fitted with an hydraulic anti-shimmy damper.

The semi-monocoque fuselage of elliptical cross section used stressed-skin construction of dural sheeting 0.6-1mm thick and the centre portion of the inverted gull wing was built integral with the fuselage. Built around a single duralium mainspar, which passed through the fuselage and was then swept backwards and downwards to suit the anhedral, the centre section was rigged at zero incidence at the root, 3° positive at the dihedral breaks. The outer wing sections changed to 1° negative incidence at the tips and featured conventional stressed-skin construction. Fabric covering was used on the ailerons and flaps - the latter pneumatically operated.

The long, jettisonable, canopy housed the two seats in tandem - the instructor occupying the rear seat. A section of canopy over each cockpit could be opened rearwards, individually.

Span	34ft. 5½in.	(10.50m)
Length	28ft. 0½in.	(8.55m)
Height	9ft. 10in.	(3.00m)
Wing area	205.6sq.ft.	(19.1m)
Empty weight	2,743.74lb.	(1,245kg)
Maximum loaded weight	3,637.62lb.	(1,630kg)
Maximum speed at sea level	192.6 mph	(310km/h)
Cruising speed	167.77 mph	(270km/h)
Landing speed	71.77 mph	(115km/h)
Maximum ceiling	19,685ft.	(600m)
Range	462 miles	(750km)

Bomb racks could be fitted under each wing to carry a total load of 440lbs of practice bombs. All wheels fully retracting via pneumatics.



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No. 513-C X-ACTO XTRA HAND

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No. 514-C

X-ACTO X-TRA HANDS

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Packaged on attractive blister card.

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Six ball joints allow adjustments to the exact angles you need — tightened by thumb screws. Alligator-type spring clips hold work firmly and are replaceable. Heavy iron base prevents tipping; can be held in vise or clamped to bench. Unit measures: 5 1/2" high with a crossbar of 5 1/2". Packaged on attractive blister



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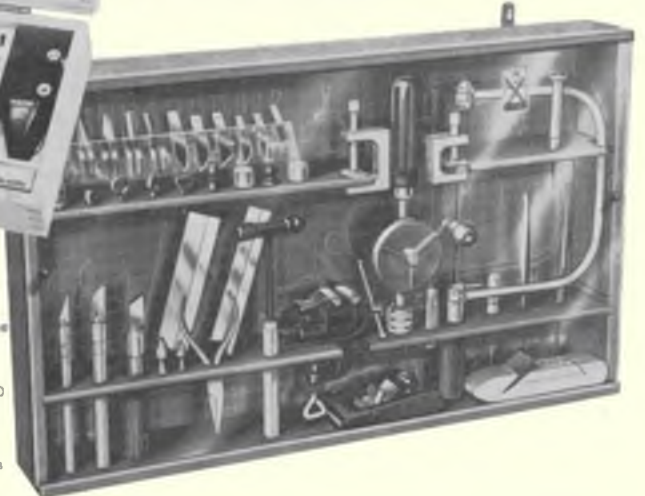


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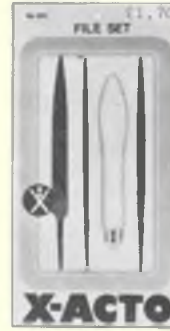
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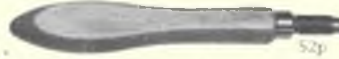
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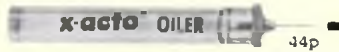
No. 12d-C drill stand set

20 carbon steel wire twist drills. Nos. 80-81 Plastic stand with acetate cover. Numbered place for each drill bit.

£5.20



No. 360-c universal file handle — Safe, quick change, comfort-grip handle accommodates all files



No. O-C X-ACTO PINPOINT LEAK-PROOF OILER Does delicate oiling jobs quickly, easily, neatly. Can't drip or leak. The slim cylinder and extra long pinpoint nozzle enable you to reach hard-to-get-at places. Contains super quality oil, inhibited against oxidation, rust and foaming



No. 70-c screw driver set



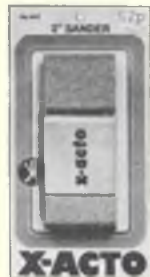
365C jeweler's drivers



No. 40-c block planer
Refill Blades: No. 29
22p (2)



No. 41-c sander — 1"



No. 42-c sander — 2"



No. 45-c spoke shave
Refill Blades —
No. 30 22p (2)



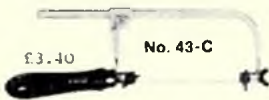
No. 48-c balsa stripper



No. 46-c clamp set
4 clamps



No. 50-c hammer set



No. 43-C

£3.40

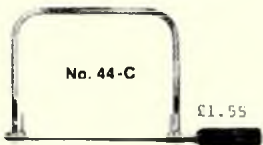
No. 43-C ADJUSTABLE JEWELER'S SAW

Made of fine quality steel. Adjustable frame enables continued use of saw blades that snap. Accommodates blade lengths from 2" to 7 1/2" Throat, 2 1/2" deep. Saws in any direction. Clamping device holds blade firmly. Comes complete with blade.

Refill blades: No. 43R, 10 of a size to pkg

Sizes #2, #3/0, #5

79p (10)

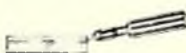


No. 44-C

£1.55

No. 44-C SAW

Steel frame, plastic handle. Adjustable blade grips hold blade taut. Length overall 11" Complete with 2 standard and 2 spiral safety coping saw easy to change blades. (Wt. 1 Doz. — 5 1/2 lbs.)
Refill blades: No. 44S Spiral Saw Blade — pkg of 3 26p
No. 44R Coping Saw Blade — (pkg of 5) 47p



Razor Saws for fine and accurate cross-cutting, trimming and notching of metal, wood and plastic. When mounted in handle, blade with angled shank provides longer tool reach and prevents barking of knuckles (overall length of 9 1/2").

No. 53-C RAZOR SAW SET

No. 5 Handle and one each of No. 34 and No. 35 saw blades.

HEAT SINK



39p (3)

No. 349-c all aluminum heat sink — Especially designed and made of aluminum to quickly dissipate heat when soldering small wires etc. Also ideal for use as a small parts tweezers and clamp 3 1/2" long. 3 to card —



No. 380-c PartPicker — for hard to handle pieces. Chrome-plated 4 1/8" long.



92p

£1.55

No. 339-C — Boley-Style Tweezer, Nickel Plated Steel, Bevelled Hardened Points, 5"

No. 343-C — Angular Tweezer, Fine Ser-rated Points, Stainless Steel 6"

No. 335-C — Soldering Tweezer, Slide lock, Blunt Smooth Points, Nickel Plated Steel, 6 1/2"

Conclusion of a two-part article on up-to-date methods of

MODEL FINISHING

by VERNON SMITH

YOUR MODEL should at this stage be perfectly smooth and ready for your final coats of colour. You should not find that much weight has been added to the model by the primer, most of it should have been removed by flattening with your 280-grade paper. It is important to remember that the better your surface at this stage the less top coat will be required for the final finish and thereby keep down your overall weight. 280-grade paper is ideal for this stage of preparation as it cuts the primer easily to alleviate elbow grease, yet the marks it leaves will not show through the top coat. Flattening with finer grades merely creates more work. I do not recommend using the paper wet in case you rub right through the primer when the water will lift the wood grain and ruin the

model over and painting the others. Fuselages can be hung on twine or strong thread by cabane struts, u/c's, glider tow hooks, tail wheels, skids and dowels, etc. Alternatively, modelling pins at each end of the fuselage will suffice - *Figure 1*. The pin holes can be touched in carefully after top-coating is completed. Wings and tail planes should be laid flat and one surface should be painted at a time. If all fuselage surfaces are not brush painted simultaneously a distinct line may appear between the second and subsequent surfaces to be painted and the first surface to have been painted which by that time will, of necessity, have been allowed to dry to facilitate turning. Similarly if the final coats on each surface are not sprayed simultaneously a poor 'orange peel' finish

necessary to use any other paint materials, and leave you to draw your own conclusions regarding that which you should employ for your particular purpose. After application of your chosen final coat, small imperfections and dust particles should be removed by lightly compounding. I recommend *Belco 2B* or *Valentine* fine compound paste. If you wish to save expense, *Bluehell* or *Duraglit* metal polish will do, but more elbow grease is required. After compounding, polish with any available wax polish for a glass-like finish. Drab or matt finishes are obviously not compounded or polished, minor imperfections should be invisible on this type of surface.

DECORATION AND LINING

As most of you will already know this is extremely tedious to carry out with paint and not too successful free-hand, especially straight thin lines. For this purpose the *Valentine* and *Belco* stockists and most car accessory shops stock 'lining tapes' to enable easy application of lines and other linear motifs of various thicknesses from $\frac{1}{8}$ in. wide to $\frac{1}{2}$ in. wide. Most of you will, no doubt, have seen cars with various lines along the body and other places. Full instructions accompany each roll of these tapes so I need not explain any further here. For application of other types of decoration, purchase some ordinary masking tape from the aforementioned stockists. Outline your design with the tape and apply your paint. Remove your masking or lining tape when your decorative line/motif is tacky NOT DRY! to avoid pulling the whole thing off with the tape. See *Figure 2A*. A good hint when decorating by this tape method is first to apply a coat of

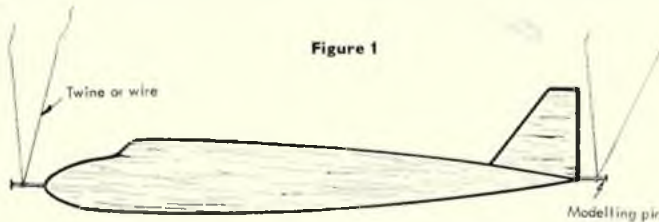


Figure 1
Suspend fuselage while painting - enables complete unit to be coated in one operation. Pin holes may be filled and 'touched-in' later.

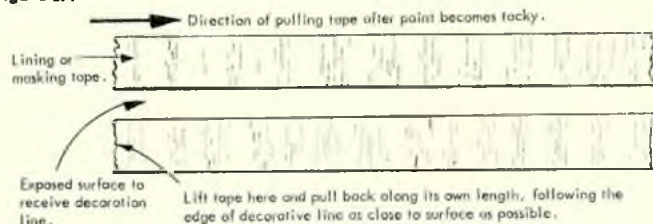
surface being prepared. If you do break through to the wood when flattening dry, simply brush a coat or two of primer over the local area of bare wood.

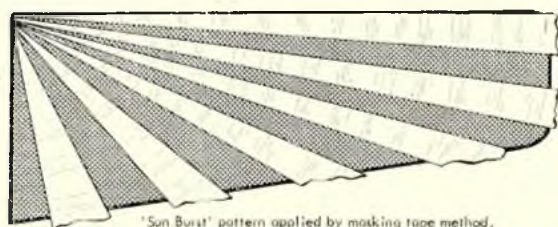
Dust the model thoroughly and wipe with a *Tak Cloth* (available from previously named stockists of *Valentine* and *Belco* products) and, if possible, hang the model up in a horizontal attitude. *Tak-Cloths* are slightly sticky pieces of fabric specially made to pick up every last speck of dust from the 'flattened' surface, and I strongly recommend their use at this stage. Hanging the model dispenses with handling problems during top-coating and generally makes for easier application of paint, especially when spraying. All surfaces can be finished at the same time without having to wait for one to dry before turning the

will probably result. For the top coat I have always used *Valentine* or *Belco* car finish paints, two-part polyurethane by *International* or *Little Ship* or, lately, my own *Vernontite* fuelproof dope. The table published in the December issue will indicate the advantages and drawbacks, etc., of each.

Due to the satisfaction I have obtained from the three materials I have charted I have never found it

Figure 2A





'Sun Burst' pattern applied by masking tape method, used in same manner as lining tape.

Figure 2B

clear dope or varnish to seal the edge of the tape and prevent the chosen decorative colour creeping under the edges of the tape, which in many places you may not have pressed down sufficiently. I have found that brushing lines is perfectly satisfactory and saves time because spraying necessitates the complete masking up of the rest of the model. I do not recommend the use of Sellotape-type adhesive tapes for this purpose as they might dissolve in dopes and may ruin several hours work. Masking and lining tapes are resistant to cellulose and polyurethane solvents.

Larger motifs are best painted by the use of self-adhesive metal foil. Stick down the adhesive foil onto a sheet of glass or mirror and draw out the design. Carefully cut out with modelling knife or razor blade and transfer to model. Proceed to paint motif in the same manner as I recommend for lines, using adhesive metal foil as stencil - *Figure 3*.

SPRAYING - SPECIAL HINTS

Most of us, with a little care, are able to obtain a satisfactory result with a brush, but many modellers make an awful mess with spraying equipment mainly due to lack of experience. I therefore recommend observance of the following guide lines for those in this category.

(a) When buying equipment select a make which has an adjustable air control valve *and* an adjustable jet which produces a fan-shaped spray, not a fixed cone spray. When spraying, the wider the fan of paint produced from the gun the better; this enables complete coverage of larger areas in as few passes of the gun as possible. Ideally, each coat of paint should be applied by one slow pass of the gun with the fan adjusted to a width adequate for the purpose - *Figure 4*.

Quick movements of the gun will not apply the paint any faster, merely result in uneven coverage by the paint and cause 'orange-peel'.

(b) Once a pass of the gun has started do not stop, dryness and 'orange peel' or in some cases runs,

may result.

(c) Holding the gun too close will cause runs, or too far away will cause 'orange-peel'. The appropriate distance from nozzle to the surface is variable according to the width at which fan is set and amount by which paint has been thinned. Experiment on a test surface first if you are not fully conversant with your equipment. A good starting point is to thin cellulose paints or dopes with 50 per cent thinners and hold nozzle 12in. from surface, adjust the speed of each pass to provide adequate cover. Polyurethanes and enamels generally require much less thinners (approx. 5-10 per cent) for normal use, or better still warm the paint by standing gun in very hot water for a few minutes and spray unthinned.

(d) Lightly dust on the first one or two coats of cellulose material. Do not attempt to obtain a full depth of colour. Allow to dry for approximately five minutes. Next add required number of full-bodied



Figure 3

coats to give depth of colour and adequate film thickness allowing approximately five minutes drying time between each. Finally, one or two very 'wet' coats are applied, i.e., lights coats comprising up to 80 per cent thinners and 20 per cent paint. The first 'dust' coat helps avoid runs when the full-bodied coats are applied, and the final 'wet' coats will cause any dryness or 'orange peel' to flow out. Polyurethanes and enamels 'flow out' much more easily than cellulose paints or dope due to prolonged drying time; fewer

coats should be required in order that a good finish will result and the final 'wet' coats are omitted. Adequate time as laid down by the manufacturer must be allowed between coats.

I have found that spraying is only advantageous when painting large areas, in all other cases I use a 2in. artist's wash brush which is available from most stockists of artists' materials at a cost of approximately £1.50. When brushing cellulose materials do not attempt to stretch your paint too far or brush marks will not flow out, and allow a minimum of ½-hour between successive coats, especially if paint is retarded.

Generally speaking I have found aerosol spray cans of paint leave much to be desired as they are expensive, the paint is too thin to give good film thickness and the spray is of cone-type and uncontrollable.

However, Morelli & Co. Ltd., will make up aerosols of your chosen *Valentine* colour which is superior to the usual types on the market, and although I do not recommend that you paint your model with these cans, I thoroughly recommend one for touching in small areas after repairs. This stockist also keeps a good range of spraying equipment and I recommend that you ask to see the *Spray Bee*. It is not all that expensive, and in my opinion the best value for money on the market at present.

I have so far dealt mainly with finishing models built of conventional materials and many of you may be wondering why I have not yet touched on fibre-glass and plastics, etc. Well! my methods thus far expounded are equally suitable for these materials with only a few minor variations, so I shall attempt to deal with each of these materials in turn.

GLASS FIBRE

Most mouldings are of a sufficiently good quality to enable your chosen

top coat to be applied without primer or filling. Thoroughly flat the surface with 280-grade wet and dry, in this case it is permissible to use water. I cannot over-emphasise the necessity of thorough flattening to provide a good key for your paints.

If you are unlucky enough to purchase a moulding which has imperfections DO NOT USE POLYFILLA – instead I recommend the use of *Plastic Padding Finspacke*. I do not normally supply this product but I shall gladly provide you with some if you are unable to get it in a local motor accessory shop. You may contact me via the Editor or *Vernons Model Supplies*. Finspacke has the advantage of being flexible so it should not crack and fall out under the impact of even a severe prang or under the influences of engine vibration. It is also easily rubbed down.

A.B.S. PLASTICS

Treat the same as glass fibre but take great care when applying cellulose-based paints or they may dissolve the plastic. You are best advised to spray cellulose in light coats and to allow at least 15 minutes drying between each. Polyurethanes may be brushed onto this material without any risk.

METALS – VARIOUS

1. *Ferrous metals, e.g., piano wire*
Firstly rub down surface with

150-grade emery cloth and then proceed to finish in the same manner as wooden structures which have not been tissue covered, i.e., primer-surfacer through to top coat.

2. *Tin, Copper and Zinc and their alloys*

Finish in the same way as ferrous metals, but rub down bare surface with 280-grade emery instead of 150.

3. *Aluminium, Duralumin and associated alloys*

Finish in the same manner as tin, copper and zinc alloys but after initial rubbing down with 280-grade emery apply a coat of 'etching primer'. This is important as conventional primers will not successfully adhere to these types of metal. 'Etching primer' and appropriate thinners for spraying purposes is available from Brown Bros. Ltd., or any *Belco* stockist.

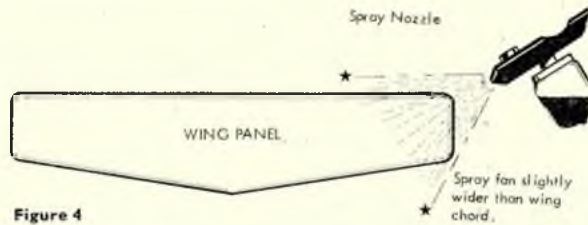
4. *Engine castings, manifolds and silencers*

Many scale and vintage enthusiasts may require coloured engines to

blend with their colour scheme or matt black for better cooling. The only lasting finish I have found to be 'hot paint' available in several colours from Halfords and most other good motor accessory shops. Full instructions are given with every tin and it is fuelproof once baked in the manner recommended by the manufacturer.

COVERITE

As a final note for vintage scale bods. In case you do not already know, *Coverite* now produce a World War I 2in. or 1½in. scale lozenge German camouflage as well as five other colours. This material is becoming better known and may be available from some good model shops so I suggest that you try some. I agree that it is expensive but after having covered several models with it, I am of the opinion that the superiority of finish, strength and simplicity of application of this material far outweighs the cost factor.



READERS' LETTERS . . .

Dear Sir,

Writing on the eve of 'fireworks' night, I thought I would provide some pyrotechnics in answer to John O'Donnell's caustic comments regarding the recent Indoor Nationals contained in the November issue.

A large and comprehensive programme was prepared, details and dates being sent to all the 'usual' publication sources, including the SMAE's own newsletter. Unfortunately, most journals confused the dates, and just prior to the event most omitted to mention the fact that the meeting was on at all.

About a week before, many modellers telephoned myself to enquire about the exact situation; most were confused as to which event was to be held on which day. In order to be 'fair', the Committee decided that the only recourse was to fly any event on either day; for unlike 'outdoor' free-flight, conditions in high summer do not greatly vary from day to day. This was borne out by the fact that durations were similar on both days, and thus gave not the slightest handicap to anyone.

John complained about the lack of 'competition'. The fact is that you cannot tactically fly indoors in the usual (outdoor)

sense. It is all down to the man with the best model – which is what all model flying really ought to be about.

Most of the competitors I spoke to at the time, and subsequently, said that they enjoyed this first (for a long time) Indoor Nationals, and hoped we would do the same next year. More and more fliers are turning to indoor, as they are getting increasingly tired of the usual high winds and generally poor conditions experienced outdoors. The recent 'Trials' (what an appropriate word!) for the 1975 World Free Flight Champs were a typical example of the farce that masquerades as *model flying*, where rules allow you to 'pinch' someone else's lift. Modellers who succeed only because of this fact often have models with a very poor performance, yet are allowed by the rules to win time after time. After a while, fliers seem to get conditioned to this, and tend to forget that boosting performance by artificial means is similar to athletes taking drugs to improve their performance.

Perhaps the 'arch' tactical fliers will only be really satisfied when the World Champs for Wakefields is reduced to bags on a wet and windy day at 40 paces!

The fact that this country persistently fails to produce World Class rubber fliers is due to the system, and the support given by most competitions, – to the idea of concentrating on 'boosting and cheating' instead of trying to find the man who, on the day, genuinely has the model with the best actual performance. Indoor is an event which puts reality at a premium, and requires only a really honest performance to succeed.

Laurie Barr,
Chairman, *Indoor Technical Committee*

And a reply . . .

A brief but sufficient reply to Laurie Barr's vociferations is contained in the S.M.A.E. newsletter *Model Flying*, No. 78, May 1974, page 7 – where the programme for the Indoor Nationals is spelt out in some detail. Scale was run to this schedule – why should duration not comply?

Apart from attempts to confuse the issue with mud-slinging and irrelevances, Laurie's remarks do in fact reveal that there was *no* organisation before or during the Indoor Nationals. I am glad he agrees with me!

J. O'Donnell

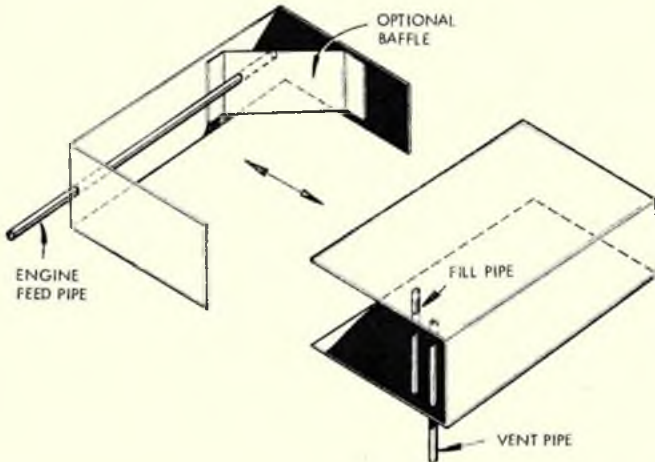


THE REASONS for making my own fuel tanks are threefold – they are tailor-made for my aircraft, it is quicker than going to the nearest model shop and, of course, they are cheaper! As a boy, I was put off by the instructions 'obtain .010in. tinned mild steel sheet'. It was some time before I realised that it really meant 'cut up an old oil tin or similar'. Young boys do tend to be overawed by instructions as if they are law – there are a few 'laws' about making good tanks, but they are no problem to the average handyman.

The most important rules of tank making are:

1. Mark out accurately.
2. Cut out accurately.
3. Bend the metal accurately.
4. Solder only clean material.

Figure 1. Exploded view of typical control-line stunt tank.



Final part of John Stroud's money - saving series

DON'T BUY IT - MAKE IT!

For marking out accurately, a square is essential. After you have cut open the tin and straightened it out, there will not be a straight line anywhere on the sheet. Firstly, then, you must scribe and cut along a good straight base line on the longest edge, and from this base line draw a line at right angles from the base near the edge of the sheet. Assuming you have decided the size and shape of your tank, you can now mark out one of the components – all my latest tanks are made of two pieces of material plus, if necessary, a baffle. An exploded drawing of this type of tank is shown in Figure 1. I find the corner piece baffle most effective.

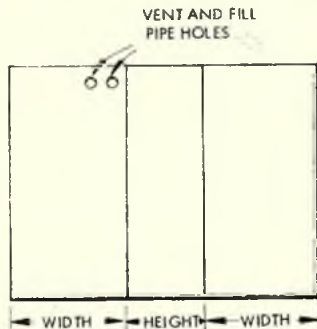
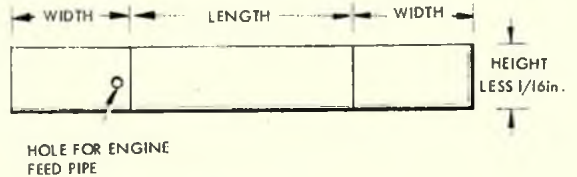


Figure 2 Method of marking out for a fuel tank.

Essential tools for making your own fuel tanks (apart from a soldering iron of course) are tin-snips and a square – in this case an adjustable type is shown. Two-piece tanks are shown in the foreground – note how the painted surfaces of oil-cans are cleaned away along the edges to be soldered. Removing the paint is hard work, so just clean up where necessary, but do it thoroughly.





Stages in making a fuel tank. Good source of supply for the tin-plate is an old gallon oil-can - above is shown the method of using tin-snips to remove the top - but do watch your hands as tinplate is sharp! Above right is seen the use of a piece of timber to hold the metal flat as you scribe a straight edge. Cut this edge carefully as it acts as your 'reference line' when marking out the rest of the tank pieces. Testing a fuel tank for leaks is shown at right, immerse the unit in water, sealing off the vent-pipes with your fingers as you blow down a length of fuel tubing connected to the feed pipe. Any leaks will be revealed as a series of bubbles. Re-solder and test again if this occurs.

Having scribed out your base lines, mark out a strip as wide as the tank is going to be high. Now mark out on this strip the width and length of the tank, as in Figure 2. These measurements are often governed by the width of the fuselage and motor run required respectively. If you are not sure how long your motor runs on a certain volume of fuel, do a few trials on a tank you already have; but make sure you run the tank dry in these tests.

Next, cut a new strip about $\frac{1}{8}$ in. wider than the length necessary for your calculated capacity. Mark the width and height as shown in Figure 2. One side of your tin-plate is undoubtedly painted, so this must be removed most thoroughly from the area you intend to solder. I usually scrape the paint off with a screwdriver to achieve a good bright edge about $\frac{1}{16}$ in. wide.

At this point it is a good idea to cut a strip and scribe lines on it to have some bending practice - with a little practice, you soon learn to hold the piece correctly in order to get the bend on the scribed line. When you know how to get the bend on the line, very carefully bend both pieces at right angles on their scribed lines. Offer the two pieces together, as in Figure 1. It will probably be necessary to round off the corners of the narrow strip to achieve a good fit; but if the fit is very bad, scrap the offending piece and make it again - it pays in the long run. When you have got a good fit, add the pipes and baffles as required - I find the best way to make holes for pipes is to pierce the hole in the tin. This turns in a 'lip' and increases the strength of the soldered joint. Do not forget to clean off the paint around the hole and also to make the pipe clean for a good soldered joint. Put the tank together and hold it in the vice, insulating it from the jaws with scrap balsa wood. Run solder into the joints with a good hot medium-sized soldering iron. The small electronic ones are no good for this job; a 60-watt iron is about the minimum. There is no advantage in running-in more solder than is necessary to achieve a neat, smooth fillet.

The tank is now finished - but before you install it, it is very wise to do a leak test. Interconnect two of the pipes with a piece of fuel tubing and connect another piece to the third pipe, then immerse the tank in water and blow down the open pipe - re-solder if bubbles indicate a leak.

The sheet metal left over from making tanks has dozens of uses. Bending push-pull rods to the correct length is always a problem, and even more so when trying to line up a flapped stunter. In Figure 3, I have illustrated the method I use; the brass tube bush is only necessary for models over 1.5cc. Remember to put the bush on the wire *before* you bend the horn. If you have achieved the art of bending push-pull rods, try the lower sketch for a simple horn. When bolting in engines it always pays to permanently fix the nuts or bolts: simple plates are all that are necessary, but remember to clean up the nuts and bolts as some nuts and bolts are plated with a material which makes soldering impossible.

Once you have started to use tin-plate, you will find it surprisingly easy to use and most useful. If you think up new uses, why not send them to *Gadget Review* and let us all know?

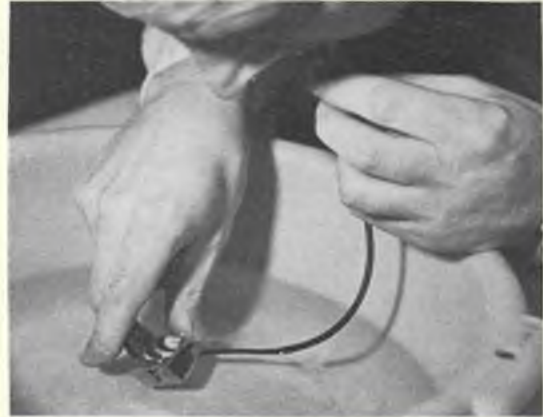
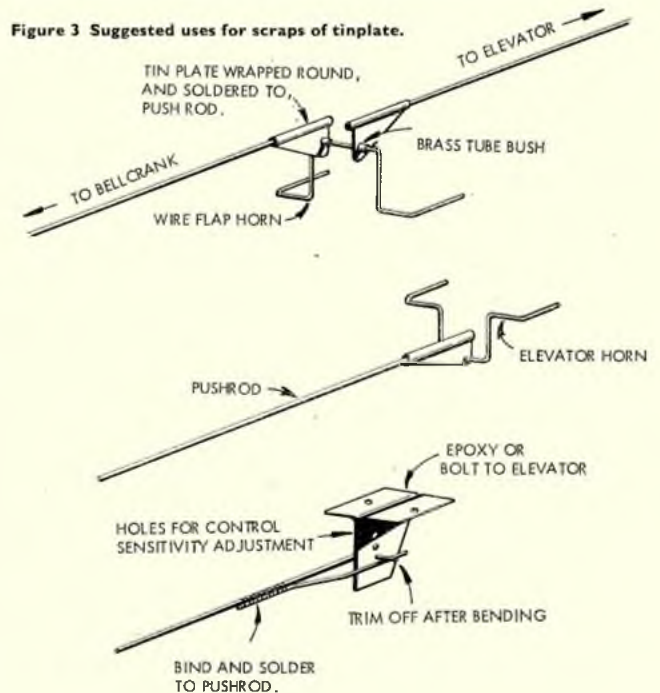


Figure 3 Suggested uses for scraps of tinplate.





AS AN ACTIVE control line stunt competitor, I was very interested on hearing of this new model from Aviomodelli, particularly as there are only two other competitive models in kit form generally available (*Mercury Crusader* and *Top Flite Nobler*). Further interest was added by the 'instant' moulded ABS plastic fuselage and that the model was designed by Walter Bagalini, an acknowledged expert in C/L aerobatics and many times member of the Italian stunt team.

Having bought the kit, an examination of the contents revealed the most superb balsa I have ever seen in a kit; one just could not select wood as excellent as this in the average model shop. The next most impressive feature was the white injection-moulded ABS plastic fuselage halves split horizontally to be joined by two special 'trim strips'. The mouldings are well made, about $\frac{1}{8}$ in. thick, with only the engine air inlet and outlet to be cut out to suit one's motor, and an opening for the pushrod. Two practical questions are raised here, first how will the plastic withstand the effects of engine vibration and fuel and secondly, how does the weight compare with that of a conventional fuselage? Well, the weight of the two halves, trim strips and cockpit was 12oz. To this must be added engine, silencer, bearers and tank, say 16oz. plus the tailplane and fin bringing the total to approximately 30oz. which is acceptable.

There are two plastic bags included, one contains the nylon fuel tank fitted with plastic grommets into which the brass feed and vent

Uncovered view reveals strong basic construction of the D-section wing. Note also how the moulded plastic strip neatly joins the top and bottom fuselage halves.

pipes are simply pushed. Tank capacity is 140cc. which is rather large if one intends to fly the current F.A.I. schedule as a six minute engine run is required, which gives you thirty seconds to start and the same to spare at the end for safety to avoid an over-run. The other bag contains all the 'goodies' including spinner, bushed nylon bellcrank, plastic hinges, preformed undercarriage legs, tailwheel, elevator and flap horns fitted with bearings.

Finally, one comes to the plan and photographic instruction sheet which is of excellent quality but unfortunately printed in Italian; I had to go to some trouble to get a translation in case there was anything really important contained within them but anyone familiar with stunt models should be able to cope well without. Examining the plan I was impressed by some of the good practical features, like the strong wing-mounted undercarriage fixing where the wire runs in a grooved hardwood block between two ply-faced ribs, and robust bellcrank mounting. Unusual and interesting items to the

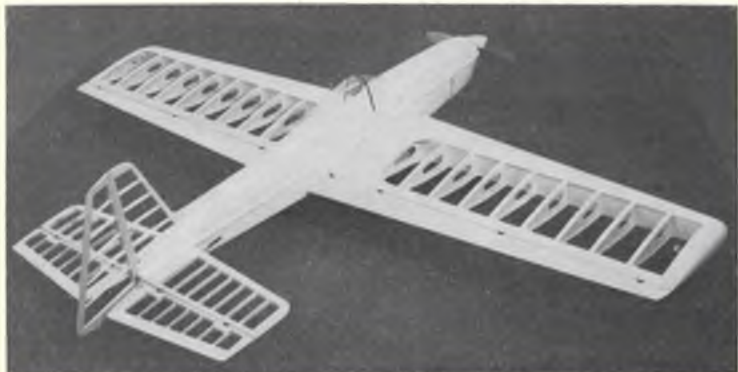
stunt theorist I noted were that the wing is symmetrical with slight dihedral and no mention is made of any wing tip weight. There is a lot of engine and rudder offset but no line rake and the bellcrank is mounted unusually far back with the front lead out wire behind the main spar.

How it went together

Construction was started with the tailplane and elevators which assembled well, the slotted leading and trailing edges being very accurately slotted for the ribs. The hinges are free moving and glued into recesses in the elevators which are joined with wire. Unusually the elevator horn is mounted externally with the pushrod emerging from the fuselage side. The wing halves are built vertically from the leading edge after slipping the ribs onto the sheet main spar, ensuring squareness with the cardboard square provided. The halves are joined with plywood doublers either side of the spar taking care with the dihedral which is such that the top surface of the wing is straight and the thickness taper is all underneath. Next the undercarriage mounting blocks are epoxied to the ply-faced ribs followed by a V-type sheet trailing edge into which blocks are inserted to take the flap hinges.

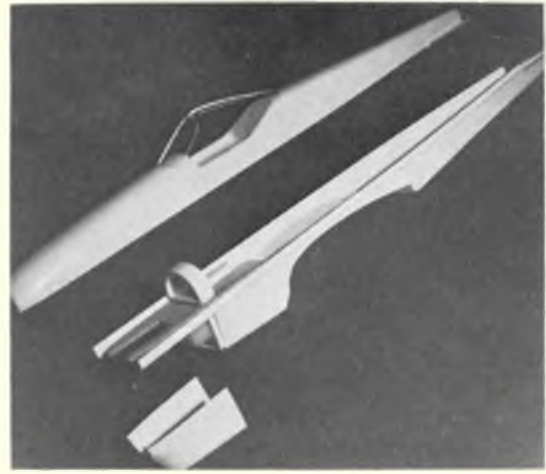
A criticism here of the leading edge sheeting supplied, each section is made of two pieces pre-butted together which when curved over the leading edge produces a ridge at the glue line, a miserly economy of wood, I think, instead of using 4in. wide sheet for the job. Another feature not liked is that as drawn on the plan the bellcrank is mounted at an angle in order to keep the pushrod to the flap horn straight; alright, but this results in unequal angular movement of the flaps, and I modified the horn to equal things up.

With the wing finished came the job of marrying up the wing/fuselage joint, a small amount of surgery was





Undercarriage mounting is of the torsion bar principle, and as used on the majority of R/C models. An added advantage is that the leg may be easily replaced if necessary.



Fuselage consists of ABS mouldings joined together along the centre line by moulded plastic strip - a neat solution to an otherwise 'messy' arrangement.

required with a hot knife to provide clearance for the flap-horn hinges. Apart from this the assembly of wing and tailplane to fuselage went well and dead square.

At this stage weighing the model complete with engine (Super Tigre 40 F.I.) and accessories came to 46 oz. Heavier than one would prefer but tolerable, leaving some 6oz. for

initial flights I set the motor fast on a 10x6 prop. and flew on 64ft. lines. First impressions were favourable with very good line tension and smooth manoeuvres. Turning ability was also good in the squares even though the model was flying too fast. The next stage was to fit an 11x5 prop. and tweak the flaps slightly to obtain level wings in both normal

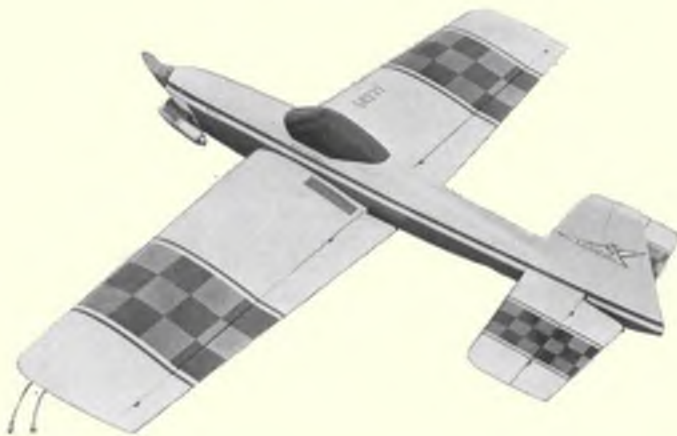
landings provided one does them into the wind.

Conclusion

All in all, an excellent kit with flying qualities which are good enough to be competitive. The time saved by the plastic fuselage is minimal when compared with the overall time to finish the model. It is expensive at £17.52 (or are all the others cheap?), and I feel that I would have preferred a balsa fuselage with a saving in weight and I hope cost.

Its distinctive appearance has drawn favourable comment and it is a pleasure to fly.

(The Aviomodelli Baga 32 is imported into this country by World Engines Ltd., 97 Tudor Avenue, Watford, Herts.)



covering and finishing giving a wing loading of approx. 9oz./100 sq.in.

I covered the model with the heavyweight white tissue supplied, followed by three coats of clear dope, followed by two coats of Humbrol enamel sprayed on and finally fuel-proofed with Tufkote. The ready-to-fly weight came out at 51oz.

So to the flying field

Bagalini is noted for his slow flying techniques but for safety on the

and inverted flight. Things were much better now the model was flying slower, line tension was still alright although I feel that a little wing tip weight would help in abrupt manoeuvres. The undercarriage is ideally positioned, just forward of the centre of gravity and it is very easy to do perfect take-offs and

Wing certainly is sturdy - ribs are capped, mainspar full depth and leading edge fully sheeted. Moulded nylon bellcrank (with brass bushes) is provided in kit.



FLYING SCALE COLUMN

By Eric Coates

In the foreground is N. Radford's R/C Bearcat – a most impressive model in flight with its high airspeed quite in keeping with its full-size counterpart, which holds the world record for piston engined aircraft. Behind is a complete contrast – M. Green's huge Tiger Moth – too lightly loaded for the Southern Gala's blustery conditions.



THE S.M.A.E. Scale Contest season closed in bitterly cold, blustery, weather with the **Southern Gala** held on 20th October, at Odiham. Contests were scheduled for F/F, C/L and Class 2 R/C, but the wind was so strong (around 15-25 knots), and the temperature so low, that no fliers were forthcoming in the two former classes! Twelve hardy souls, however, were willing to pit their radio-controlled machines against the elements, and it is pleasing to report that no crashes occurred. Bravest man was N. A. Evans of Chichester, a newcomer to the contest scene, who flew a very nicely-built D.H.1 pusher biplane into second place. I have seen many models of the D.H.2, of all sizes, but this is the first time I have seen the rarer D.H.1 modelled. It was interesting to note that this model was covered in silk, without the usual lightweight tissue 'undercoat'. The silk had been heavily doped, but one cannot help but think that Mr. Evans will have considerable trouble with the silk splitting as the model ages without the layer of tissue underneath. The only other biplane to fly was the relatively heavily-loaded *Pitts Special* of P. Ramsey which had no trouble in coping with the conditions and gained sixth place. Another newcomer to the contest scene, who attempted to fly a biplane, was M. Green of the Eastcote club. His huge 'Practical Scale' *Tiger Moth* was too lightly loaded to sit on the runway in the wind, and he wisely decided to abandon his flight. Those regular attenders, Jack Sheldon (*Tipsy Nipper*) and Terry Melleney (*Miles Hawk*) took fourth and third places respectively, scoring high marks in static, although the wind prevented both models from giving of their best in the flying schedule.

Undisputed winner of the competition, topping the marks in both static and flying, was the *Fairey Fulmar*

of Brian Taylor. Conditions were very similar to those in which *Fulmars* had to operate from carriers in Northern waters thirty or more years ago, and appropriately when Brian made his second flight, sleet began to fall! Notwithstanding this, the Fulmar put in a full schedule to record the highest flight score of the day at 452. The speed range of this machine is remarkable – there is no doubt that flat-out Brian's machine can easily exceed the scale 280 mph maximum of the prototype, but what is more impressive, however, is the slow speed runs with the flaps down.

The only other model to top the 400 mark for flying was the N. Radford's *Bearcat*. This looked very impressive, streaking about the sky in the all-white scheme of the world's record holder for piston engined machines. It really looked as if it was doing the best part of 500 mph!

Results:

		Static	Best Flight	Total	
1.	B. Taylor	<i>Fulmar</i>	585	452	1,036
2.	N. Evans	<i>D.H.1</i>	558	390	948
3.	T. Melleney	<i>Hawk</i>	530	395	925
4.	J. Sheldon	<i>Nipper</i>	562	341	903
5.	N. Radford	<i>Bearcat</i>	490	406	896

* * *

With the January issue of each new year it has now become traditional that I look back over the developments and happenings in the British Scale world over the past twelve months.

The past season for me has been one dominated by organisational matters – as Chairman of the S.M.A.E. Scale Technical Committee and, for the early part of the year Manager of the British World Championship team.



Anthony Nelson of the North Norfolk club produced this huge, 1/9th scale Lightning Mk. 6 control liner at Old Warden last year, although a failed elevator horn prevented it from flying. An O.S. 80 powers this 12lb. monster which took some 1,100 hours to build. Most impressive, although a pity that a ducted fan arrangement could not be utilised – a prop up front does somewhat spoil the image! Undercarriage is sprung but does not retract.



Brian Taylor receives our scale columnist congratulations for producing the outstanding R/C scale model for the second year in succession! Above is his 1973 'winner' – the superb Spitfire, for which plans are now available via The Digi Hangar. At left, the man himself with the 1974 winner (words only, no prizes!) – his Fairey Fulmar. Model possesses outstanding speed range ability.

The amount of time I thus had for building and flying scale models was very limited indeed. My last winter's project – a 65in.-span R/C *Martinsyde Elephant* is still less than half built, my sole completed output in fact being four small rubber models built for kit reviews for this column! The same can be said on the flying field. Ground organisation of the many S.M.A.E. contests restricted my flying to just three outdoor events. The load in fact became too much for me around the Nationals' time, and I was forced to relinquish the W.C. team manager's job – luckily the Managing Editor was in a position to take over these duties at Lakehurst.

I do not wish to dwell too long on the happenings at the World Championships, which have already been well covered in this journal and R.C.M. & E., but there are one or two points I think worth making. Firstly, congratulations are due to our hastily reconstituted R/C Team, particularly Brian Taylor who achieved fourth place with his *Fulmar*. With the withdrawal of Messrs. Sheldon and Melleney we never really had a chance for the team prize and all credit, therefore, to Messrs. Reeves, Lunt and Taylor who managed second team place. Looking at the pictures of the event, I was disappointed at the lack of *originality* of the prototypes flown in R/C. Three-quarters of the entry flew rather uninteresting, low-winged light planes, which I think, must be a product of the rules, rather than anything else. It is easier to gain high marks by building (to a large scale) a simple subject to which ready access of documentation is available; i.e., your typical characterless, mass-produced, tin 'horror' which can be seen in droves at any flying club! Being very little removed from the average R/C sport model there is far less to go wrong than on a more complex subject, and therefore, its winning potential is considerably higher. Most scale modellers, I feel, would rather build something more interesting – after all, part of the charm of scale modelling is the re-creating of some of the nostalgia created by aeroplanes long-since only a memory. At present there is no tangible reward in contest for their efforts, but I would not be surprised to see the rules modified in future to redress the balance.

From a British standpoint, the C/L state of affairs is distinctly unhealthy. We may not have fielded our strongest team, but even if we had, our standards have now fallen a long way below World Championship potential – and in this comparison I exclude the Russian winning model of the Antonov An 14M, as this is beyond the achievement of any Western *amateur* aeromodeller. Who can find enough spare time in five years even to produce such a model, and its specialised engines, as

well as earn his living and maintain a house and garden?

Returning to the domestic contest scene, it has not been a vintage year weatherwise – if one excludes the marvelous three days of the Nationals it has been variable; from mediocre to downright horrible! *Old Warden*, the *July All Scale Meeting* and the *Northern Area Rally* were enjoyable but the remainder of the outdoor contests were all spoilt by the weather; I cannot remember such a cold, wet and windy late summer and autumn – usually the best flying weather of the season.

Radio control continued to dominate the outdoor scene, the popularity of the Class 2 model now challenging all other forms of R/C flying. This was demonstrated by an entry in excess of forty at the Nationals, necessitating for the first time two flight lines. The day is not far off before a restriction in scale R/C entries will have to be made because the number of officials required to organise such large numbers is not forthcoming; not to mention the length of time required to fly such competitions. It is no joke judging at a flight line from 10 a.m. to 6 p.m. for two solid days, particularly if it is wet, cold and windy.

The standards in R/C Class 1 scale is so high now that it takes at least two years of average spare time for a top modeller to produce a new machine. Not surprising, therefore, that new models do not appear in such large numbers as they once did. Offsetting this, however, is the fact that modern R/C gear and accessories are now so reliable that a crash is a rarity and the models last a fair length of time – the usual fate these days for a top Class 1 R/C model is to be sold to someone with more money than modelling ability! Of the new models I have seen this year, a few remain in the memory as outstanding: the *Jodel 117A* of D. Vaughan, the huge *Bristol F2B* of A. Searl, Roy Scott's *F.W. 190*. However, I think my accolade as the outstanding R/C model for 1974 must go again to Brian Taylor with the *Fulmar*. The combination of realism both on the ground and in the air, with Brian at the controls, surpasses anything else I have seen this year.

By coincidence at the time of writing this column, Brian has published the drawings of his *Spitfire 1a*; which got my accolade as the outstanding R/C model of 1973. This machine is still in fine form, by the way, winning the Class 2 event at the Nationals this year. For anyone considering a R/C Spitfire, I can thoroughly recommend this design as a sound and well-proven proposition. It is probably the most accurate working drawing of a 'Spit' published to date – there have been some horrors in the past and some even worse kits which

Doug Shepperd flew this D.H.71 Tiger Moth monoplane in the R/C scale event at the Southern Gala. An unusual subject, but eminently suitable as the engine may be mounted upright yet is easily hidden by a dummy Gypsy or ABC Cirrus motor. This aircraft was in fact detailed in the May 1974 issue's Aircraft Described series - reprints of the feature plus three-view drawings to 1/24th and 1/48th scale are available as plan pack 2959, price 50p including postage, etc.



build up in mere travesties of the most beautiful fighter ever designed. The elliptical wing construction, so often the downfall of Spitfire models, portrays years of experience in building W.W.2 fighter prototypes. Even if you do not intend building a Spitfire, the purchase of a set of these plans is well worth while just to study the methods used to reproduce typical W.W.2 monocoque airframes! One point, which may disappoint some people, is that Brian has shown a fixed undercarriage on the plan, whereas his model had retracting gear - essential in my view, if a Spitfire in flight is to be truly re-created. Brian considers that the installation of a retracting U/C depends greatly upon the type selected and, therefore, he has left this to the individual. A fibreglass cowl and moulded canopy will be available shortly for this highly-recommended design. Details from 'The Digi Hangar', 79 Princes Street, Yeovil, Somerset.

It has not been a good year for outdoor free-flight. Very few new models have been seen and none of these can be described as outstanding. Terry Manley pranged his *H.P.O/400* (the outstanding model of last season) just before the Nationals, and used his three-year-old *D.H.4* again exclusively this season. I used my similar-vintage *D.H.9A* likewise for the contests I managed to fly in, and in fact, these two models evenly shared the honours for the four competitions which the weather allowed to be run! Nothing new appeared on the scene apparently capable of beating these venerable machines. There has been a revival of interest in large outdoor rubber-powered machines - several have been seen at meetings. One recalls the *Bristol M.1* of D. Banks at Old Warden and the *Reerwin Speedster* of Andrew Moorhouse at the same meeting, while J. Anderson of Newcastle flew a very nice *Kania* at the Nationals and in the 'Selby' at Elvington. These larger rubber models, charming as they are however, are at a great disadvantage compared with powered models in competitions as, being lightly loaded, they are blown about quite a lot in anything but flat calm conditions. They leap off the floor rather than take-off, and invariably lose further marks due to their usual lightweight, semi-transparent covering.

In the indoor world, however, the rubber model is undoubtedly king. The CO₂ power unit has made very little penetration yet in this field in the U.K. although one or two of the new Brown single- and twin-cylinder engines have found their way into British modellers' hands. The new U.K.-manufactured unit has still to get off the ground, so there just have not been enough models built to even consider a competition class. After a year of operation, with one of the original Brown units in my *Ryan*. I must admit I am not quite as enthusiastic as I initially was - the CO₂ motor has serious limitations compared to diesel and even rubber power; the overwhelming one being that it does not like cold weather.

The gas expands so slowly, and lumps of ice tend to clog up the works so much, that it is virtually unusable in the British winter months.

Possibly because of the strong winds, which have prevailed so much in 1974, the indoor scale model has grown tremendously in popularity. This year has seen the introduction of 'Peanut' to the S.M.A.E. contest calendar. The rules, as I commented last month, are still a contentious issue but the 13in. midget model is certainly here with a bang. Naturally, American influence on this class is strong as virtually all the published drawings, kits and accessories have, to date, emanated from this source. The quality of this material has varied enormously but I have tried to guide enthusiasts who are just taking up indoor flying along the right road to success by some rather frank and down-to-earth reviews this year. I hope that with the class now fully established in the U.K. and various clubs starting to hold meetings in large halls to augment the S.M.A.E. Cardington meets, that some British manufacturers will be coming forth with some suitable equipment. After all, the capital investment is minimal and even if the unit selling costs are small, the sales potential to young modellers is vast. Thirty years ago quite a number of firms offered ranges of 12in.-span flying scale models. I think the time is ripe for the re-introduction of one of these ranges in the U.K. market, so if any manufacturer is contemplating such a move my only plea would be to use decent balsa and a reasonable paddle-bladed plastic prop. . . .

Away from the commercial world, we have seen some delightful new models designed and produced for competition at Cardington this year. The best flyer probably was the large-gear *Hornet Moth* of Mike Reeves, but other models of note that one can recall are the *Waterman Racer* by John Blagg and the clipped-wing *Monocoupe* of Andrew Moorehouse - both Peanut designs. The outstanding indoor man of 1974 to me though, was Alan Callaghan who produced a number of new models, amongst them a *Bucker Jungmeister*, which he flew in both the Open and Peanut events at the Nationals, the twin-engined *Avro 642* and a delightful *Miles Satyr*. It is to this latter model that I give my accolade as the 'best new indoor model of 1974'. Coincidentally again, Alan has just made the plans of this 1/48th scale version of the delightful *Pohjoo* powered miniature single-seater available to the general public. One cannot imagine more diverse forms of scale model construction than Brian Taylor's *Spitfire* and Alan's *Satyr* but both drawings are, in my opinion, classics in their particular fields in that both can be studied for hours and a tremendous amount learnt about construction. Aspirants to the design of their own indoor scale models are, thus, recommended to obtain a copy of the *Satyr* plans, just for the study thereof, even if they do not actually build the machine!

RUBBER TECHNIQUES

by Ron Coleman

Part VI – protecting the fuselage from rubber lubricant

IN PART II of this series, I mentioned that it is better to over-lubricate the rubber motor rather than to have it dry and 'starved', leading to breakage. Over-lubrication does, however, lead to early saturation of the fuselage interior – longerons and cross struts of slabside fuselages (along with the tissue covering) are soon covered with lubricant and become soft and spongy. Then, under full torque of the wound-up motor, the fuselage can easily twist, destroying the wing/tail alignment and, therefore, the flying trim. The inside surfaces of sheet balsa box fuselages and rolled balsa fuselages rapidly soak up the excess lubricant, becoming soft and 'soggy', along with a marked increase in weight.

Various methods of internal motor tube treatment have been tried on Wakefield models – possibly the best being a combination of rolled balsa sheet fuselage with a light glass-fibre lining. A lining of Solarfilm or similar mylar covering is yet another way of lubricant proofing.

I have tried using several coats of clear dope and one or two coats of banana oil, but apart from the fact that banana oil is no longer available and whilst this protection is quite good, it is not perfect, having the disadvantage of requiring several brush coat applications. In the search for a more effective method, I discovered that polyurethane takes a lot of beating and have now perfected a technique that dispenses with the use of a brush – and only one application is necessary.

The method (which is only applicable to balsa tube fuselages,

as described in the December '74 issue, or all-sheet box section fuselages) is as follows: the motor tube is fitted with a 'piston' consisting of a round piece of plastic sponge one-quarter of a diameter larger than the tube interior, together with a 'connecting-rod' of $\frac{3}{16}$ in. diameter dowel or square-section wood strip. Blank off the motor access hole and the motor-retaining peg holes with strips of self-adhesive tape. Now, with the fuselage held vertically and the 'piston' positioned just behind the motor anchorage holes, about half a small tin of polyurethane varnish is poured in at the nose end.

The 'connecting rod' should now be slowly drawn up, pulling the 'piston' (and the varnish) along the inside of the fuselage motor tube. On arrival at the nose end the excess varnish is tipped back into the tin, the 'piston' is pulled out, wiped, and washed clean in paraffin, turpentine or white spirit, and put away for future use. The fuselage should be left standing vertically, nose down, to allow all surplus varnish to drain out.

After forty-eight hours, if desired, the operation may be repeated, although I have found that one

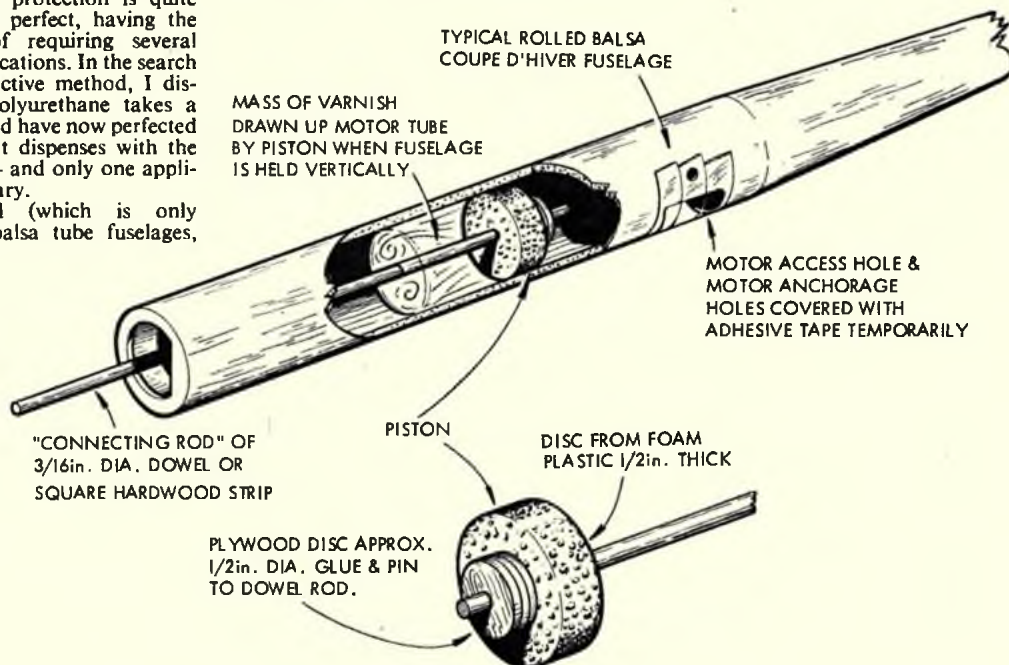
application is generally adequate if the varnish has not been thinned down too much.

The method ensures that the whole of the inside surface of the motor tube is completely saturated with a coating of varnish that cannot be penetrated by rubber lubricant – since adopting this method over a year ago my Coupe d'Hiver fuselages have remained sound and lubricant-free, and have remained constant in weight.

Alternatively, the balsa sheet can, of course, be prepared with one or two coats of dope or sanding sealer, with a light glasspapering before rolling the motor tube, which reduces the amount of varnish absorbed by the otherwise 'raw' balsa wood.

Should your fuselage not feature a smooth all-wood interior, then it is suggested that the frames of tissue-covered fuselages could be sprayed or painted with a thinned down polyurethane varnish before the tissue covering. No doubt, to varnish the insides of the covering would add far too much weight, but the experiment might be worth making.

A great anti-saturation protection racket!



GADGET

REVIEW

THE VAST MAJORITY of free-flight models have their wings retained in position by rubber bands – and a very good method this is, too, as in the event of a crash or even a hard landing the wings are able to move and absorb the shock, usually without damage. One little problem, though, often remains – as the wings slew round, the rubber bands slide off their retaining dowels and, ping! there appears a tear in the tissue covering as a band shoots through it. Yorkshire reader R. A. Holroyd found that cutting notches in the dowels was impracticable when $\frac{3}{16}$ in. diameter dowels are employed as they were weakened too much, so his solution is to slip spent .22 rifle cartridges over the ends, secured in place with a dab of impact adhesive (see *Sketch 1*). The cartridges have a neat raised lip which retains the wing bands, and he reports that the system works well. Where to obtain the spent shells? Local rifle clubs, A.T.C. units, and schools with rifle-ranges throw them away by the bucket load, so a few words in the right direction should set you up for a lifetime!

Two-piece wings are a great convenience for free-flight models – it makes their transportation so much easier, as well as making storage easier. Most popular method of joining the two halves is to use tubes and dowels (frequently heavy gauge piano wire), but all too often inaccurate alignment of the tubes in each wing half causes the dowels to bind. Trevor Faulkner has a neat, simple solution to this problem – a jig, as drawn in *Sketch 2*. The dowels are set in a block of wood, taking care that they are axially parallel, while their diameters must match those of the intended joining dowels – space apart as required. To use, the tubes are slotted into the wing (for example), the jig fitted into the tubes and the assembly glued up. When dry, the jig is withdrawn and the tubes thus fitted are guaranteed parallel – acting in turn as jigs for the matching dowel/tube combination in the mating wing half. This avoids all chances of locking caused by malalignment of tubes. Incidentally, those who design their own models can easily use this idea to try the effects of higher aspect ratios with the minimum of time or financial outlay.

Hatches on models are very useful for gaining access to fuel tanks, ballast compartments or radio-control equipment, but the problem then arises of how to make them quickly detachable yet secure when in the closed position. Simon Turner from Telford, Shropshire, solves the problem with material from his scrap box. Firstly, the front edge of the hatch is retained by dowels glued to the underside of the hatch, sliding under the fuselage top decking, or locating in holes in a former. The rear end then snaps shut, using spring clips salvaged from old spray bars, locating over 6BA bolts protruding through a former – *Sketch 3* reveals all.

Ever found that you have just broken your last small-diameter drill, or the one you have is too short for the job? Worse still, you have built a model only to discover that a plywood former needs to be drilled for a control

pushrod – and that there is no direct access to the position, even if you did have a drill 12 in. long? Yes, it can happen – and Hayden Sykes from Wakefield has a cheap, easy solution. Firstly, take a length of piano wire, preferably the same diameter as the finished hole will be, and just as long as necessary for the job in hand. The idea is now to form a tapered end on the wire, somewhat resembling a screwdriver. With wire thinner than 16 swg, this can be done by cutting the wire to length with a pair of side-cutters; but on thicker wire, flatten the end with a hammer – see 'B' in *Sketch 4*. Using an oilstone or a file, a slight point should be formed at the end and the splayed edge filed down to the correct width – see diagram 4C.

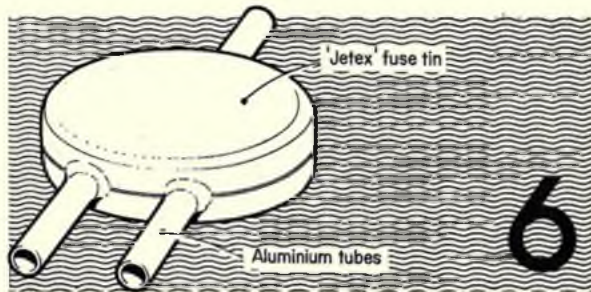
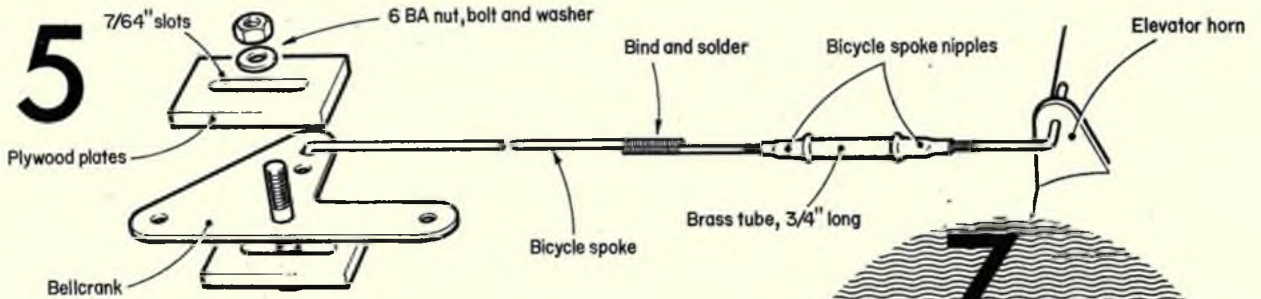
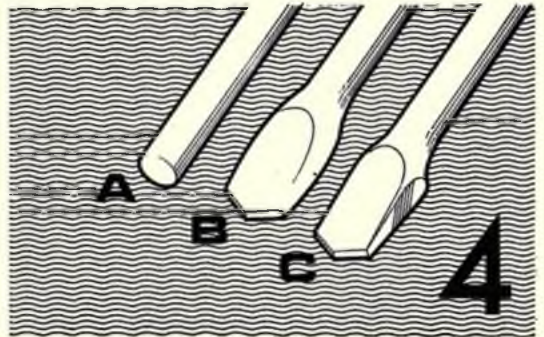
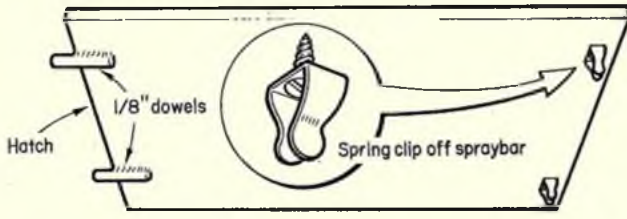
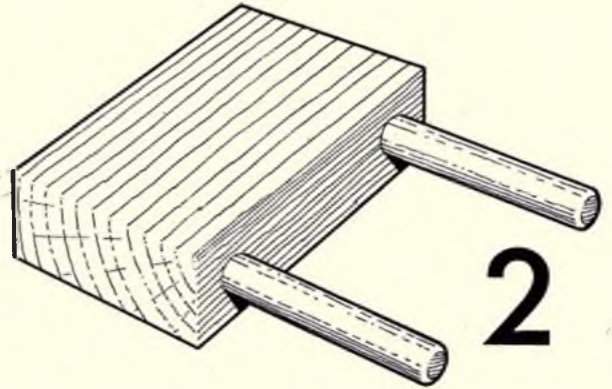
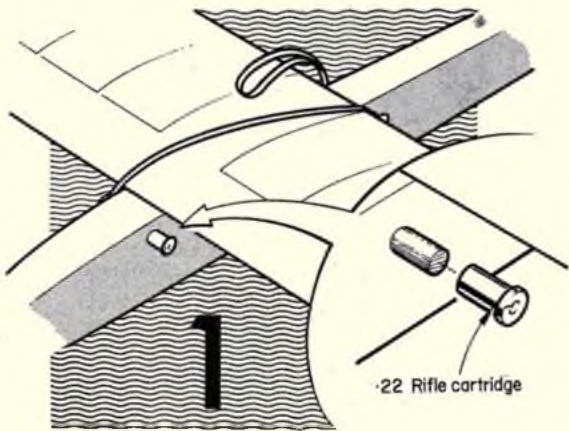
These 'drills' will cut soft metals such as aluminium, some alloys, and, of course, wood. Hayden finds it especially useful for drilling fine holes in plywood under-carriage mounts when stitching on an undercarriage. An extra long drill has enough 'whip' to allow drilling holes when direct access is balked.

Designing a highly tapered combat wing presented Steve Ellison with a problem – where should the bellcrank pivot be? Eventually, he decided to make it adjustable, which resulted in the added bonus that his design is now suitable for use as a primary trainer, as well as a 'hot' combat wing! *Sketch 5* shows the details of his system. To adjust, loosen the 6BA nut and slide bellcrank into desired position along the slots cut in the wide plywood plates; then tighten the nut securely – a nylock nut is preferable, or else use a locking nut as well. Next, disconnect the elevator and readjust the pushrod length by using the bicycle spoke nipples/brass tube device – total range of adjustment is approximately $\frac{1}{2}$ in.

Free-flight sports models only need a small fuel tank – and the device shown in *Sketch 6* can be easily built in a few minutes at no cost. Just take an old Jetex fuse tin or similar, and epoxy the two halves together. Now take an old aluminium spout from a fuel can, cut into suitable lengths, and once more epoxy into holes drilled into the tin in the appropriate places. And that's it! Thanks to reader Archie Liggart of Morayshire for passing on the idea.

When bringing the tail-end of a fuselage together for joining, it always seems difficult to obtain a nice accurate fit between the two sides. J. Anderson of Belmont, County Durham, surmounts this problem by placing a folded piece of glasspaper between the two sides ('rough' side outwards of course!). Grip the ends together lightly, then draw the glasspaper back and forth to provide a perfect joint (*Sketch 7*). Easy when you know how!

Readers are invited to send in their own solutions to problems, gadgets, hints or tips for inclusion in this column. Do not worry that your idea is too obvious; it is often the 'obvious' solution that is overlooked. Simple sketches and a few words of explanation are all that are required – and we pay for all that are published!





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

FROM THE MANY questions sent in by Golden Wings Club members it is clear that there is an interest in contests – but it is equally clear that most Juniors never actually pluck up enough courage to enter one! So this month we will devote part of this column to some of the points raised about contests.

'Why bother with contests? – I'm happy flying for fun on my local field'.

This is a common enough question (and one which is by no means confined to Juniors) and the answer depends on whether you look at today's aeromodelling or tomorrow's aeromodelling. Without contests, it is certain that aeromodelling would stagnate. The element of competition pushes people to find more efficient means of model flying within a given class, and generally encourages specialisation and hence more classes. Take control-line for instance: it started as a 'new thing' to fly for fun – stunt contests were a very rapid and obvious development and now we also have speed, team racing (various classes), combat, carrier-deck, etc.

The modern, highly-developed diesel and glow-plug engines would not be with us without these contests. Once a contest gains a hold in one country it spreads like wildfire across the world and, hey presto! you have a world market for the equipment concerned.

For most Juniors, today's radio-control scene could almost be seen developing day by day, and without the world-wide contest demands for high performance and high reliability, the everyday sport flyer would be very ill-served.

'I wouldn't stand a chance if I entered a contest, so it would be a waste of time'.

The first part of that sentence is probably very true (*for the first few times*) but the second part certainly does not follow. All those names of winners you see listed in our columns when a contest is reported on, all had to enter a contest for the first time at some point in their past! They might well have made fools of themselves (several times!) but they persevered and suddenly they found the real truth – your own progress improves a lot faster when you regularly meet a group of people flying contests

together, irrespective of whether you win or not. Numerous hints, gadgets, tricks-of-the-trade, are seen for yourself and no magazine description or photograph can replace the actual first-hand sight.

'What contest should I enter as a first try?'

Well that depends. If you are an experienced and competent sports-flyer in any category of aeromodelling, then there is no reason why you should not enter a contest in that category – however 'expert' the others seem to be. But if you are an average Junior with a couple of years' building and flying (and crashing and repairing!) experience behind you, then it is necessary to choose your first contest wisely. If you are a control-line flyer then two types of contest immediately spring to mind. Firstly, the **Junior Stunt Contest** held each year at the S.M.A.E. National Championships (and some other large rallies – see calendar for events) would be ideal, or secondly a **Combat** contest at a local rally.

If you are a free-flyer, then clearly the **Junior Kit Contest** at the S.M.A.E. Nationals and the South Midland Gala are ideal starters for you. Failing that (unless a local equivalent is available) you will have to make the effort to enter a local rally against adults. A similar situation exists with radio-control – there does not appear to be any contests specifically for Juniors so you will have to jump in at the deep end (and remember, a 15-year-old won the U.S. Nationals Open R/C Aerobatics class last year!). Jumping into the deep and requires a bit more preparation than other ways – and we thoroughly recommend a visit to at least a couple of contests, just to watch closely first.

'How do I know what to do in a contest?'

The first thing to do is to get a copy of the rules if you can (and read them!) and the second thing to do is watch what the others do. The special Junior Contests have been designed to be easy to enter and full instructions and help are always available. *At all contests* the best thing to do is ask the Contest Director what to do – he will not mind (that's one of the things he is there for) and he will probably find someone to help also.

If you are an S.M.A.E. member you get a free rule book with all S.M.A.E. contest rules in it – but there are variations on these at non-S.M.A.E. contests and organisers nearly always provide a printed sheet of rules or at least a list of variations from the standard S.M.A.E. ones.

If you cannot get written rules then *ask questions and watch others for a while*. It all becomes clear very quickly.

'How do I enter a contest?'

Dead easy – go to the control point and ask to enter! You will have to pay a small fee usually and you should be asked to show proof that you have third-party insurance.

Some contests, particularly radio-control, and contests requiring a fair amount of organising, 'pre-entry' is necessary. That means you have to enter before the date of the contest by writing to the organisers. By the way, radio-control contest organisers will also want to see your R/C licence from the Home Office Radio Regulatory Department of Waterloo Bridge House, Waterloo Road, London S.E.1. (*It is illegal to operate R/C without a licence* – they are very cheap at £1.50 for a five-year period.)

Well that's a starter – interested? Then read below for advance details of a competition run especially for you!

Junior Kit Contests '75

When planning your winter building programme or choosing Christmas presents, why not bear in mind the specifications for next year's **JUNIOR KIT CONTESTS**. The first of these will be held at the 1975 Nationals at Whitsun, and there will be others at various area galas. Any kitted rubber duration model of 45in. wingspan or less will be eligible for the rubber-powered section of the contest; e.g., KeilKraft *Ajax*, or *Senator* and Mercury *Mentor*, to name but a few. The glider section of the contest will be for **one model only** – the St. Leonard's Model Supplies *Satellite*, which is available from most model shops or from the Junior contest organiser, Mrs. S. Miller of 1 Whitwell Way, Coton, Cambridge. The *Satellite* has been chosen because it is very simple to build, yet has a really worthwhile performance.

When building your model, by all means listen to any advice you can get from more experienced modellers, but do remember that the actual construction must be done by yourself. You will learn far more by tackling the job yourself and you will get far more satisfaction from the results if it is 'all your own work'. Rubber models should be built exactly as shown on the kit plan, using the propeller supplied, but you may fit a dethermaliser if you wish. (Several entries in last year's Junior event at the Nationals were last seen going steadily out of sight upwards in tremendous lift, with no dethermaliser.) No modifications should be made to the *Satellite*.

For any further information please write to Sue Miller or 'phone Madingley 316. Good building!

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.

1/75 15p in the £1 Rebate plan purchase coupon for Golden Wing Members G. W. No.



IN A SEASON notable mostly for its bad weather, a competition held in virtual flat calm and temperatures in the eighties was something of an occasion, but such was the weather for the third European F/F Championships held near Hamburg in the Saarland of Germany.

The title of the event is somewhat confusing as the *Europa Coupe* competition for all three F.A.I. F/F Classes has been held for many years, this in fact being the eleventh in the series. The event, however, now qualifies as the official 'European Championships', but only for the rubber and glider classes, the power event being additional (the official European Power Championships were held in Yugoslavia).

At first sight, the field seemed somewhat unbelievable, bounded by villages at either end and a motorway on the third, with power lines across the middle for good measure! Despite this, and due mainly to the weather, it proved quite flyable – its main feature appeared to be vast numbers of field mice, there must have been literally thousands. At one point during the rubber contest, the tameness of these mice proved quite a diversion amongst various teams, causing timekeepers to search for their competitors!

Glider

The glider event started at 3 p.m. on Friday afternoon, the 13th, which must have given a few competitors a bad case of contest nerves. This first round was perhaps the only one to produce typical British summer conditions – 8–10 mph drift and 'bouncy' thermals. Not surprisingly, thirteen failed to max in these conditions, some being particularly unlucky in having their flights terminated by the mid-field power lines. Bob Wells, however, had an equally British problem created by his max in a 'boomer', having a retrieving marathon across a river to complete before the next round.

By the time round two commenced an hour later, the weather had changed dramatically – virtual flat calm with lift that fizzled out at 200ft. or so – and was to remain like this for most of the contest.

Heading picture shows power winner, Baumann of West Germany, who recorded a string of nine successive maxs – final victory was assured when Friedrich suffered an over-run on his third fly-off flight. At right is the Wakefield winner – East Germany's Löffler. Timer is carried upon a low pylon, into which the wing-halves plug. Rolled balsa motor tube and tail cone are employed.

EUROPA COUPE

13 - 15th September 1974

★ ★ ★

Trevor Grey reports from the European Championships in Germany

One piece of tactical flying not seen before was that employed by the East Germans. This consisted of not using a winch but a plastic reel for the line. Having towed and released, the line was then left to drop across the others still waiting to fly. Whether or not this was intentional is difficult to say, but the result was the same either way – chaos! – and not a few heated words.

By the end of round three, only two full houses still remained – Chmelik of Austria and 1965 World Champion, Bucher of Switzerland. Next morning dawned cool and misty with the promise of good things to come. Round four started promptly at nine and quickly saw Chmelik drop twelve seconds to leave Bucher with the only full house. By now, it looked like a game of no mistakes for Bucher; however, things soon sadly came unstuck. In round five he dropped eighty-four seconds, to put Chmelik and the other eventual place winners back in contention.

By eleven o'clock and round six, things had begun to hot up with the result that maxes became easier and the competition harder. Bucher tried hard to 'get back', but with everyone maxing his hopes had gone. Chmelik also dropped in round five, but only by two seconds, and now had a twenty-second lead over Lustig of East Germany.

Round seven saw all but two with 180 seconds, and just served to set the seal on the round five positions. The tie for third place was resolved by a fly-off – Leskosek of Yugoslavia and Hertzberg





of Israel. At launch the latter appeared to have the better air, but dropped out early to leave the Yugoslav with third place.

Mention must be made of the large number using circular towing techniques (about fifty per cent of the entry); these and height gained from the accompanying catapult launches must have contributed to the generally high scores in the difficult conditions.

Rubber

This again started at 3 p.m., the first round retaining the easy conditions of the last glider round. Despite this, only three teams maxed out, G.B. being one, and this elevated our hopes somewhat – alas too soon, as round two was to show. Strangely, the number of dropped flights seemed to remain fairly constant from round to round; they were just distributed in a different place each time.

At the end of round three, twelve still had perfect scores and



At left, time-keepers record the duration of Loffler's winning Wakefield flight – lack of drift evident! At right, Pym Ruyter holds for team-mate, Van Bragt of Holland. This glider features an aluminium nose cone, glass fibre rod fuselage.

Ruyter of Holland placed second in the 3-man – Wakefield fly-off using typical Continental style model with aluminium motor tube and rolled balsa tail cone. Timer is carried on pylon ahead of wing. Neat use of coloured tissue trim.

looked like keeping them. Certainly, some of the reasons for this could be attributed to the standard of models – the 'three minute' Wakefield is very definitely alive and flying in Europe. What performance such models would have put up at our Nationals would have been interesting. Round four was virtually a repeat of the fourth glider round weatherwise, but still five were there unscathed – Loffler of East Germany (current World Champion); Ruyter, Holland; Reiterer and Martin, Austria; and West Germany's Hofsass.

Martin lost touch in round five and Hofsass in round seven – alas by only six seconds, which did not please him too much. His model was virtually as flown in the 1971 World Championships, albeit with a low to non-existent pylon. Certainly, it looked battered, but this seemed to have little effect on its performance.

This left three to fly-off. With thirty seconds of the four-minute period gone, Loffler launched first, to be followed within seconds by the other two. Loffler appeared to have the better air and the fractionally better glide – enough, in fact, to clear the four-minute max. Ruyter missed out by four seconds, and the Austrian only managed 172 seconds.

The post-mortem which followed seemed undecided as to whether it was model or air which had clinched the contest. Undoubtedly, the team of flappers and wavers under the models helped. However, it is interesting to note that glider winner Chmelik used a similar variable-pitch prop. to Loffler's to win Wakefield at the *Piere Trebod* earlier this year.

Power

Run concurrently with the rubber event, this was somewhat uneventful, especially as six out of the fourteen entries were from the host country. Five of these maxed out, together with one Dutchman, Huyben, notable for his totally elliptical-dihedraled models, both wings and tail.

When the fly-off started, so the sparks began to fly. Here, I must make some criticism of the organisation in saying that the scrupulous fairness which we have come to expect in events of this calibre was somewhat suspect; *per se* the timing of the engine runs.

At the eight-second stage, I could only listen with amazement to a number of runs – one in particular cut about as sharply as a blunt knife and second nearer to ten seconds than eight. However, at the six-second stage life began to get really interesting. This time, I stood beside a timekeeper and listened as the model went up. To my utter amazement, at about five seconds as the engine began to cut, two watches went sharply off while the engine continued to run on in a strained burble. Anyone trying to call this a six-second run was guilty of needing his ears servicing! At this stage a parachute drop by the local U.S.A.F. Base into the fly-off area further livened up the proceedings.

The final four-second round saw Friedrich of BRD overrun, again the trimming being somewhat marginal, this time to his disadvantage. This left previous power champion Ballmann (West Germany) to play safe by cutting his run to three seconds, from which he stalled down for a forty-six second score.

All in all, a most enjoyable contest, both weather and accommoda-





Left, Lars-Olof Danielson waits with Broberg Haken's (Sweden) glass fibre fuselage A/2 glider. At right, Ray Pavely releases for Bob Wells who proved to be best of the British contingent, holding 14th place.



tion as well as flyingwise. Though somewhat lacking in success for the British team, I am sure that lessons learned, if applied in future events, will reap eventual success.

Results

A/2 Glider (37 entries) – 1. Chmelik (Austria) 1,246 seconds; 2. Lustig (East Germany) 1,226; 3. Leskosek (Jugoslavia) 1,215; 4. Hertzberg (Israel) 1,215; 5. Reynders (Belgium) 1,210; 6. Mueller (West Germany) 1,196. **18. Wells (G.B.) 1,120; 24. Baguley (G.B.) 1,088; 30. Warren (G.B.) 992.**

Wakefield (32 entries) – 1. Loffler (East Germany) M×240 seconds; 2. Ruyter (Holland) M×236; 3. Reiterer (Austria) M×172; 4. Hofsass (West Germany) 1,254; 5. Martin (Austria) 1,248; 6. Mirkov (Bulgaria) 1,245. **14. Wells (G.B.) 1,147; 19. Pavely (G.B.) 1,123; 29. Grey (G.B.) 946.**

Power (14 entries) – 1. Baumann (West Germany) M×180×180 +46 seconds; 2. Friedrich (West Germany) M+180+180; 3. Schwend (West Germany) M+180+131; 4. Stegz (West Germany) M+180; 5. Schallenberg (West Germany) M+133; 6. Huyben (Holland) M+100.

FREE FLIGHT COMMENT *continued from page 24*

Rubber (8 entries) – 1. G. Ferer (Leicester) M+9:55; 2. P. Uden (C.M.) M+3:30; 3. P. Harris (Evesham) M+2:53. **Open Power (10 entries)** – 1. R. Peers (Falcons) M+4:43; 2. P. Harris (Evesham) M+3:40; 3. P. Ward (Torbay) M+zero. **Vintage Precision (7 entries)** – 1. J. Barton (S. Bristol) 1.84% error; 2. P. Hollis (Bristol & West) 3.04%; 3. R. Greenslade (S. Bristol) 3.95%. **H.L.G. (9 entries)** – 1. R. Cummins (Bristol & West) 4:48; 2. P. J. Bayram (C.M.) 4:29; 3. J. Mayes (S. Bristol) 3:59.

Seventh S.M.A.E. Area Centralised Meeting – October 13th, 1974

S.M.A.E. Cup – A/2 glider (7×3 min.), 86 entries, 5 in fly-off – 1. A. Jack (Southampton) M+5:07; 2. B. Baines (RAFMAA) M+2:53; 3. A. Evans (Liverpool) M+2:38; 4. P. Owens (Liverpool) M+2:19. **Farrow Shield – Team Rubber**, 31 teams, 4 members (3×3 min.) – 1. Liverpool 36:00+17:07; 2. Southampton 36:00+14:14; 3. Grantham 35:51; 4. Bristol & West A 34:22.

Farrow Shield – Individual Places (81 entries, 31 in fly-off) – 1. J. Barnes (Liverpool) M+8:00; 2. D. Morley (Liverpool) M+6:08; 3. J. Anderson (Tynemouth) M+6:02; 4. M. Fantham (Richmond) M+5:12. **JA Power (3×3 min.)** 33 entries, 5 in fly-off – 1. D. Pymm (Walsall) M+4:11; 2. R. Monks (Birmingham) M+3:40; 3. E. Lewin (Grantham) M+3:38; 4. P. Bayram (Richmond) M+3:19. **Pluggie Cup Final Positions (total points over six contests)** – 1. Southampton 1,512 points; 2. Norwich 1,355 points; 3. Crookham 1,034 points; 4. St. Albans 988 points.

Wolves Free Flight Gala – Chetwynd, October 20th, 1974

Open Rubber (3×3 min.) 10 entries – 1. J. O'Donnell (Whitefield) 7:37; 2. T. Dilks (Falcons) 6:19; 3. D. Davis (Wolves) 6:18. **Open Rubber (3×3 min.)** 4 entries – 1. R. Peers (Falcons) 9:00; 2. J. Burke (Falcons) 6:00; 3. P. Ball (Grantham) 3:00. **Open Power (3×3 min.)** 6 entries – 1. R. Peers (Falcons) 5:12; 2. P. Harris (Evesham) 3:00; 3. B. Worthington (Whitefield) 1:42. **A/1 Glider (5×2 min.)** 6 entries – 1. A. Slater (Leatherhead) 6:44; 2. P. Oliver (Whitefield) 5:32; 3. J. Hanson (Liverpool) 4:56. **JA Power (5×2 min.)** 7 entries – 1. D. Scott (Morley) 6:53; 2. P. Harris (Evesham) 5:38; 3. M. Duce (Liverpool) 5:06. **Coupe d'Hiver (5×2 min.)** 3 entries – 1. J. O'Donnell (Whitefield) 5:01; 2. D. Kirby (Wolves) 1:10.

S.M.A.E. Southern Gala – Odiham, October 20th, 1974

Pilcher Cup – Open Glider (3×3 min.) 75 entries, 18 scores – 1. M. Fantham (Richmond) 7:38; 2. P. Stewart (Crookham) 6:50; 3. A. Cameron (J) Crawley 6:05. **Flight Cup – Open Rubber (3×3 min.)** 48 entries, 9 scores – 1. J. Cooper (Southampton) M+0:39; 2. A. Jack (Southampton) M+ No f/o; 3. A. Wells (Anglia) 8:45. **Short Cup – Open Power (3×3 min.)** 34 entries, 6 scores – 1. A. Child (Brighton) 8:45; 2. J. Hopper (Stanstead) 8:04; 3. T. Payne (Northampton) 4:02. **Coupe d'Hiver (5×2 min.)** 12 entries, 3 scores – 1. D. Taylor (Richmond) 6:12; 2. I. Dowsett (Northwood) 4:47; 3. M. Lambert (Richmond) 3:11. **Quickstart Trophy – JA Power (5×2 min.)** 20 entries, 5 scores – 1. R. Cummins (Bristol & West) 7:30; 2. J. Hook (Southampton) 5:49; 3. Thompson 4:54. **Chuck Glider (5 from 9×1 min.)** 21 entries, 14 scores – 1. G. Smith (Crookham) 4:14; 2. M. Martin (Maidenhead) 4:07; 3. H. James (Maidenhead) 3:33.

British Senior F/F Championship – 1. M. Fantham (Richmond) 591 points; 2. A. Wells (Anglia) 566 points; 3. J. Cooper (Southampton) 560 points. **British Junior F/F Championship** – 1. A. Cameron (Crawley) 193 points; 2. C. Waddilove (Richmond) 140 points; 3. A. LeVey (York) 123 points.

Whitefield Gala – Chetwynd, October 27th, 1974

Open Rubber (3×3 min.) 3 entries, 3 scores – 1. R. Peers (Falcons) 4:29; 2. J. O'Donnell (Whitefield) 2:08; 3. P. Kirby (Wolves) 2:01. **Open Glider (3×3 min.)** 7 entries, 4 scores – 1. T. Dilks (Falcons) 4:35; 2. J. O'Donnell (Whitefield) 2:54; 3. D. Williams (Whitefield) 0:50. **Open Power (3×3 min.)** 4 entries, 3 scores – 1. R. Peers (Falcons) 8:25; 2. P. Harris (Evesham) 6:52; 3. J. Flynn (Widnes) 1:26. **Chuck Glider (5 from 9×1 min.)** 7 entries, 7 scores – 1. J. Hopper (Stanstead) 4:30; 2. R. Roberts (Wigan) 3:40; 3. A. Slater (Leatherhead) 3:26.

Northern Area F.A.I. Meeting – Elvington, October 27th, 1974

E. Muxlow Trophy – Wakefield (5×3 min.) 6 entries, 5 scores – 1. I. Kaynes (Croydon) 8:29; 2. T. Hargreaves (Leeds) 7:44; 3. B. Kershaw (Liverpool) 5:06. **Neasham Trophy – A/2 (5×3 min.)** 4 entries, 3 scores – 1. B. Baines, RAFMAA 6:40; 2. A. Wharrie (York) 3:50; 3. B. Picken (Wigan) 3:00. **Stockton Challenge Trophy – FAI Power (5×3 min.)** 2 entries, 1 score – 1. D. Scott (Morley) 3:00.

topical twists

by 'Pylonius'

illustrated by Sherry

* * *



Hills and Pills

When I was young, the profession that seemed to predominate in the model flying world was that of the clergy. They ran the clubs, wrote in the model books, and some of the best flights of the day were made by the wide-brimmed hats they wore in those less mechanised times, proving that the weather was not one long, golden summer, as we often imagine. Now, it seems, the reverend gentlemen are too busy propping up their decaying churches to find time to go model flying, which is a pity because there are such good jokes to be made out of variations of the term 'revs'. From all reports the doctors have taken over instead, and we are stuck with jokes about patients and patience. I have often wondered why I have to wait so long in the surgery for the doctor to turn up. Now I know; he is having a quick workout on the flying field.

'A! Glider?'

'No, still a bit sickly.'

All the foregoing is inspired by a letter from a doctor, which appeared recently in a model mag. What, he seems to think, contributes to the health of humanity more than anything else is a spot of slope soaring. Chucking it off the top, providing you have clearance from your doctor to make the heart-pounding ascent, can be quite a serious operation, particularly when the only flat bit of land to come down on is about six foot square, and usually occupied by a summit picnic party. You have the choice of a pancake landing on the jam sponge or a tangential tangle with the wing-shearing slope. Whatever you do, you may be sure that you'll be in the surgery for a bottle of pills on the Monday morning.

'It's me nerves, doctor. They're in shreds.'

'You should take up a healthy hobby, like model flying.'

Boom-Boom

In many ways, life was much easier for the pre-W.W.I model flyer, if only because he was never perplexed by all the expensive options we have nowadays. He had only one type of model to build, and the bits and pieces did not come in high-priced polythene bubbles, but from the odds-and-ends box. Perhaps the most difficult thing was to become a model flyer at all, for curiously enough, all the early model flyers, like most of the earlier aviators, had double-barrelled names, such as Hay-Frame and Bloggs-Chuckem. This peculiar qualification seemed to give you access to the secretly guarded plan of the twin motor pusher made of spruce, piano wire and oiled silk, and, more important still, the secret of how to wind it up.

Looking at the old A-Frame model, though, it does seem the very essence of simplicity, being more than severely functional and just plainly geometric in outline. It could be built in a couple of pre-television evenings, even with oil lamps – and the cost must have been negligible. The drudgery and expense was to come later, in building models that looked like their big – increasingly complicated – brothers, something the old double-barrelled modellers evidently disdained.

The Guy's the Limit

The law's a funny thing. Any kid can go into a shop and buy a fireworks rocket – and a quite powerful one at that – but rocket devices, large or small, are illegal for model propulsion purposes. This has not always been the case, however, for I remember, many years ago, buying a number of rocket units from a local model shop and attaching them to chuck gliders. The operation went like a damp squib, but the same sort of sport seems to be all the rage in countries more pyrotechnically flexible than ours. Let me say, though, that the projection of chuck gliders into cloud base seems to smack of an excessive use of violence. I prefer the good old strong-arm stuff.

The Quick and the Dad

At a time of life when most people are winding down, our top flyers are still actively winding up – or, rather, trying to, for one ageing free flier has confessed to a petrifying touch of the *anno Domini's* at the three-quarter stage of a 1,000 turn wind-up.

Concerned about the plight of our greying model flyers, we put the problem to *Age Care*. They replied that they were vigorously campaigning for the issue of electric-powered winders to elderly rubber flyers – these winders weigh only a few ounces and can be safely run off the user's hearing-aid battery. But they do stress that there is a serious danger of hyperthermia developing as a result of waiting around for timekeepers, and refer to disturbing reports of the organisers of major rallies not providing an adequate 'meals-on-wheels' service. Furthermore, they stress the need for emergency resuscitation units and stretcher recovery parties at all meetings.

Nap or Lap

A diagram, which I first thought to be a reconstruction of the Battle of Waterloo, turned out to be the line-up for a Pylon Race. Not that there is much difference between the two – the latter perhaps being a little more dangerous.



CLUB NEWS

Free flight contingent of the South Bristol club reveals a strong competition element and judging by the 'hardware' on display, they have had more than a little success, too!

WHATEVER PROBLEMS face the model movement today – and they are many and serious – club life bubbles on just as vital and full of zest as ever. Old clubs may fade out, but new ones are ever springing up; something to be expected in a hobby undergoing rapid and continual change. It is surprising how the most critical problem of all, that of flying space, is being overcome in the face of all the gloomy forecasts that are constantly being made, by the determination of modellers who want to fly and to find the space to do it. More and more it is the well-organised club that is opening up the opportunities, and to which local authorities and others with available space look for the control and discipline so necessary with the fast, heavy models flown today.

To give point to all this, we have our first report sent in by Geoff Spencer from the West Midlands. He has been reading *Club News* since 1947, and this is the first occasion he has had to write to us. He tells us that he and a group of modeller friends have just formed a new club in the West Bromwich area, known as **Sandwell Model Aircraft and Boat Club**. The local church hall provides an excellent meeting place, with modern catering facilities and a large hall ideal for indoor flying and electric r.t.p. Permission has been obtained from the Department of the Environment for radio aircraft and boat operation in the locality. The model flying takes place on Sunday mornings and boating in the afternoon. A nice arrangement for the amphibious types. A happy balance has also been achieved in the ratio of old and young. In their generation game there are 50 per cent seniors and 50 per cent juniors, with no less than eight father and son teams. New members welcome, old or young, experienced or other, at St. James Church Hall, Hill Top, West Bromwich, on Mondays at 7.30 p.m.

Yet another new club to add to the list, the **Coalville Model Club**, in Leicestershire. A short letter from the Secretary, Mr. G. A. Bolton, informs us that the club operates from the North Leicestershire Miners Welfare Centre, Owen Street, Coalville. Membership is around the thirty mark, and all types of aeromodelling is catered for with the particular aim of helping the young and inexperienced modeller. New members welcome. Mr. Bolton's address is 60 Anson Road, Shepshed, Loughborough LE12 9PU.

From pit men to pit men. For our next report comes from a control line club; one, we are told by Secretary Brian T. Knott, that has risen Phoenix-like from the ashes of a club that went out some twenty years ago. The new club is the **Fenland M.A.C.**, and is based at Ely, where, no doubt, they can expect clement weather. Membership is at present around twenty, and the club is settling into its meeting place provided by the local

Education Committee, who are also giving the club the use of a flying field for Saturdays and Sundays. Thus, it would seem the club is obtaining much benefit from its association with the *Further Education Programme*, which could well be a pointer to other clubs looking for facilities. But the club is active on its own part, too, for it has put on a display, two club sales, a film show, a quiz, a junior section building contest and a combat event, and arrangements have been made with the local model shops for discount allowances to members. Mr. Knott seems to think some of our reports to be very despondent, and feels that his own club will maintain its present ebullient mood. If, as he thinks, the reports are despondent, it is only that the established clubs tend to draw attention to their problems rather than to the measure of success that keeps them in being. Anyway, Mr. Knott promises to send us along many more reports in the future.

Flying space being at a premium, particularly in the south-east of England, it is little wonder that the membership list for radio in the **Sittingbourne & District M.A.C.** is fully subscribed. But, writes John Weeks, the club P.R.O., C/L and F/F flyers are still being welcomed in, although there does not appear to be any potential contest winners, yet. Mr. Weeks has sent us along the latest issues of *The Bourne Flyer*. They are much enlivened by the wit of their most prolific contributor, Tony Andrews, and by funny items culled from various publications. I liked the story of the modeller about to take his wife out for the evening (very unbelievable). She complains she has only the one dress to wear, as he spends all his money on models, etc., and if anyone saw her they would think she was the cook. To which he laconically replies, 'Not if they stayed to dinner'. In more serious vein, the main club event was the All-In-Scale competition held in October. Results still awaited, but the very comprehensive judging schedule gives promise of a fair evaluation of relative quality and performance in what must obviously be a widely disparate field. All this Scale interest brings to mind the magic name, Old Warden. Mr. Weeks went along to see a most impressive turnout of models for the *R.C.M.E./Aeromodeller All Scale Rally* and was amazed at some of the ambitious projects attempted by some of the radio flyers.

Wal Cordwell opens the **Three Kings' Court Circular** with the not-too-astonishing news (1974 being what it was) that the club Open Day was washed out, along with Mr. Heath's yacht, Mr. Thorpe's hovercraft and Mr. Wilson's pushbike, but they tried again in November! Let us hope kinder climes prevailed. More weather

involvement when members took a little jaunt up to the Woodford at Manchester. The home of Piltown Man wasn't going to be up-staged by a tiddly drop of London rain, and the lads got there to see *H.M.S. Flycatcher*, the S.M.A.E. carrier, at its most picturesque, with real waves lapping its deck. Anyway, Wal kept his head above water, at least, by taking second place in the Carrier event. From one sort of carrier to the modulated kind, the 3 K's have invested in a full blown P.A. system. Quite apart from going 'public' next season, they have plenty of 'turns' in the club for winter musical sessions.

The Chairman of the all-junior **Woodthorpe & District M.A.C.**, A. R. Davies, aged only sixteen himself, takes up an issue which has been raised a number of times in this journal: the poor state of junior recruitment to the hobby. He argues that the biggest deterrent to the would-be young model flyer is the lack of the sort of cash you need these days to keep a model flying. He instances diesel fuel at 92p per pint and glow at 99p per pint as frightening to the 40p a week junior. Even so, there is no lack of enthusiasm in his mainly C/L club, and in the face of fierce opposition from local residents and a clutter of goalposts and football games, they plug away earnestly at Stunt and Combat. May I point out to Mr. Davies that, if engine-power models are so expensive, why not free flight rubber and glider? This comes within the scope of almost everyone's pocket - provided, of course, that you have a suitable flying field close at hand. I might add that my biggest model flying expenditure is on petrol for the car.

Usually, hang gliding and model flying go together like oil and water, but a nice emulsifying effect is achieved in an exhibit of the **Guildford Model Flying Group** at the Guildford Town Show: a model hang glider, complete with 'Action Man' pilot! And, wait for it, this is merely a prototype for an R/C version. Among a whole range of models on display, F/F, C/L and radio, there was the C/L *Arado 234C* that gained a merit prize at the 1974 Old Warden Scale Rally, now complete with V1 Flying Bomb on its back. Another outstanding model was John Coker's magnificent F/F *Sopwith Triplane*. It is unfinished, but excusably so, since he has been very much involved with the construction of a full-size replica of the same aircraft. The model that caused the real stir, though, was Mike Ennis's C/L *S.R.71*, since the real thing had just flown into Farnborough, breaking the transatlantic speed record. After the show, Mike's model, which is 1/10 to 1ft. scale and powered by two P.A.W. 2 1/2cc diesels, was taken over to Farnborough and shown to the record-breaking crew. All in all, the exhibition was quite a success from the club's point of view. As well as Mike Ennis winning a fourth prize in the Handicrafts section, the club stand was awarded a special diploma of merit.

Whatever exotic delights were once used to beguile the prospective customer, like banquets and dancing girls, these are all old hat, according to a letter we have received from Mr. J. Turvey, P.R.O. of the **Lee Bees M.A.C.** What puts the foreign buyer in a nice mellow mood is a radio model display, and it was a call by a Southampton hovercraft firm for the club to provide such a service that got such specialists as Den Hammant in aerobatics and Ray Brown in helicopting putting on a sparkling show for a group of potential buyers from Hong Kong, one of whom was a keen aeromodeller. The visitors were greatly impressed, particularly with the helicopter, the first model of this kind they had seen. After the demo, all concerned retired to a local pub for a general chat and exchange of ideas. Can anyone think of a more pleasant way of boosting British exports?

Plenty of salty humour and interesting comment in the Autumn 1974 issue of *Marsh Gas*, the club mag of the **South Essex M.A.Soc.** But what do we find this mainly radio club doing for recreation? Why, running an *Ajax* competition? But what happened to these flimsy little models in a force hurricane wind blasting across Two Tree Island is described in one word: carnage. Five-minute epoxy was being mixed by the gallon between four-second flights. Best flight recorded was a doughty fifty-five seconds; good under any conditions.

The newsletter of the **Wolves M.A.C.** lists the results of the many F/F and C/L contests' run-off at the club's various flying sites, and it makes quite an impressive tally. Also impressive was the performance of H. G. Venables in getting an eighth place in the World C/L Scale Competition at Lakehurst, U.S.A. And really spectacular was the C/L demonstration given at the Lucas Sports Day, with a dive bombing of Lucas Castle with bangers and smoke flashes.

Keep those flying fields flying.

Clubman

CONTEST CALENDAR

19th January, 1975. **NORTHERN AREA WINTER RALLY.** Open R/G, Mini Comp, and Vintage, R/C pylon racing, C/L combat, Goodyear and F.A.I. team-race (Provisional). Venue: R.A.F. Elvington (Yorks) PROVISIONAL. Details from L. Davy, 14 Lansdowne Close, Baildon, Shipley, Yorks. S.M.A.E. members only.

CLUB SECRETARIES

Please forward details of your forthcoming contests or rallies as soon as possible to avoid duplication of dates and/or interests in next season's Calendar. Items for insertion in the Calendar must be received at this office by 10th of the month, for publication in the next immediate issue. Details should be brief but explicit, and include exact location of venue.



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F.S.M.A.E.

Our hobby lost one of its founder members on November 28th when C. A. Rippon died peacefully at his home in Mudeford, Hants. Few could claim over seventy years of continuous aeromodelling activity, or such an eventful and creative lifespan. From the days of the original Kite

Association, through the K. & M.A.A. to the formation of the S.M.A.E., 'Rip' was always around. His reminiscences of the early days at 100-Acre Field, Sudbury, Parliament Hill Fields, the first-ever National Rally at Faireys in

June '33, and the Northern Heights Gala days at the same aerodrome, Langley and Halton, could hold one spell-bound that any man could have seen and helped organise so much. Of all his achievements he was most proud of being a founder of Northern Heights M.F.C. in 1931, and it is especially poignant that a private reunion party of three-dozen early members should have celebrated Rip's 82nd birthday as recently as on October 18th. One was not to know that as he blew out those candles that he would be with us for little more than another month.

Rip's charm, and ability to convey his enthusiasm for all matters connected with the air made him a father figure with a vast family of appreciative 'sons'. They will remember him not only for his *Cruiser Pup*, *Duraplane* or *Air Cadet* but also as one, who by example, set standards for living and integrity. He gave his all to aeromodelling and our Club movement is his finest memorial.

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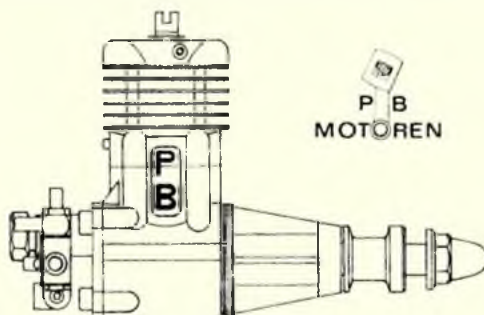
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Review of International F.A.I. Team Racing in 1974

Date	Venue	Result	Engine	Best Heats
May 25-27th	British Nats. Rissington	1, 2	Bugl 15	4:20, 4:22
June 13-16th	Kraiwiesen Austria	1, 2, 3, 4, 5	Bugl 15	4:12, 4:14, 4:19
July 6-7th	Pecs Hungary	1, 2, 3	Bugl 15	4:15, 4:16, 4:20
Sept. 8th	Lugo di Romagna Italy	1, 2, 3, 4, 5, 6	Bugl 15	3:51, 3:52, 3:59
Sept. 14-15th	Bochum Germany	1, 2, 3, 4	Bugl 15	3:56, 4:01, 4:05
Oct. 4-6th	Nyregi-Haza Hungary	1, 2, 3	Bugl 15	4:05, 4:08, 4:21

World Championships

July 24-29th	Hradec Kralove Czechoslovakia	2, 3, 4, 7, 9	Bugl 15	4:04, 4:05, 4:07
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Winner of P.B. Trophy 1974

Sept. 30th	Rome Italian Champs.	Fontana/Amodio		3:56 & 7:57 (finals)
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Merry Christmas and a Happy New Year to all my friends.

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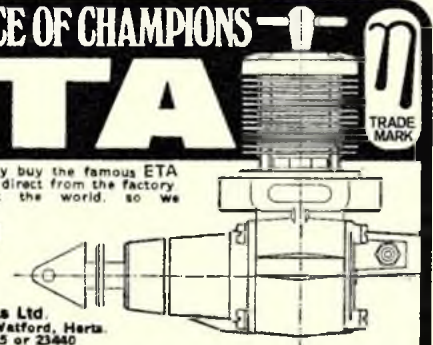
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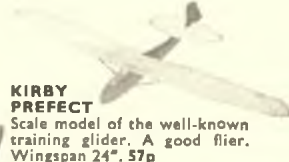


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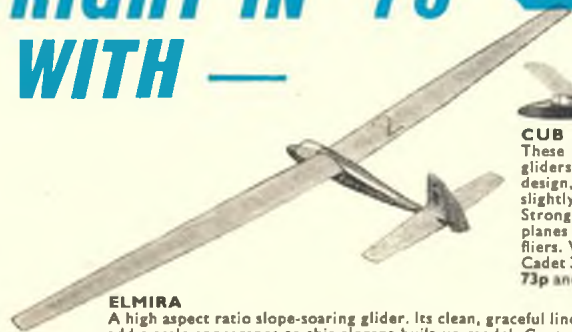
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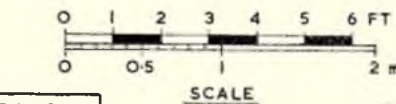
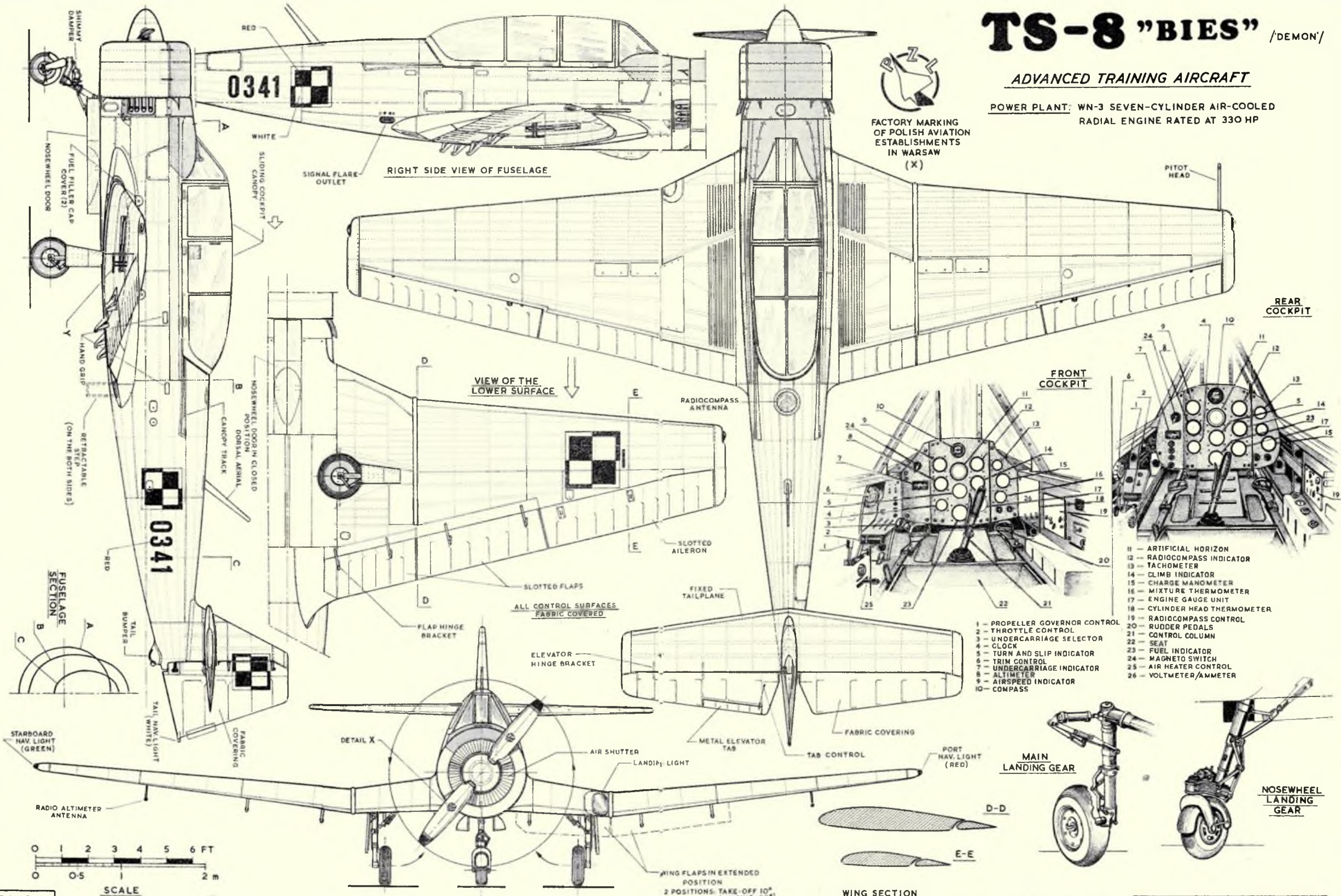
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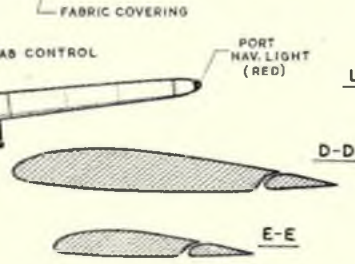
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