

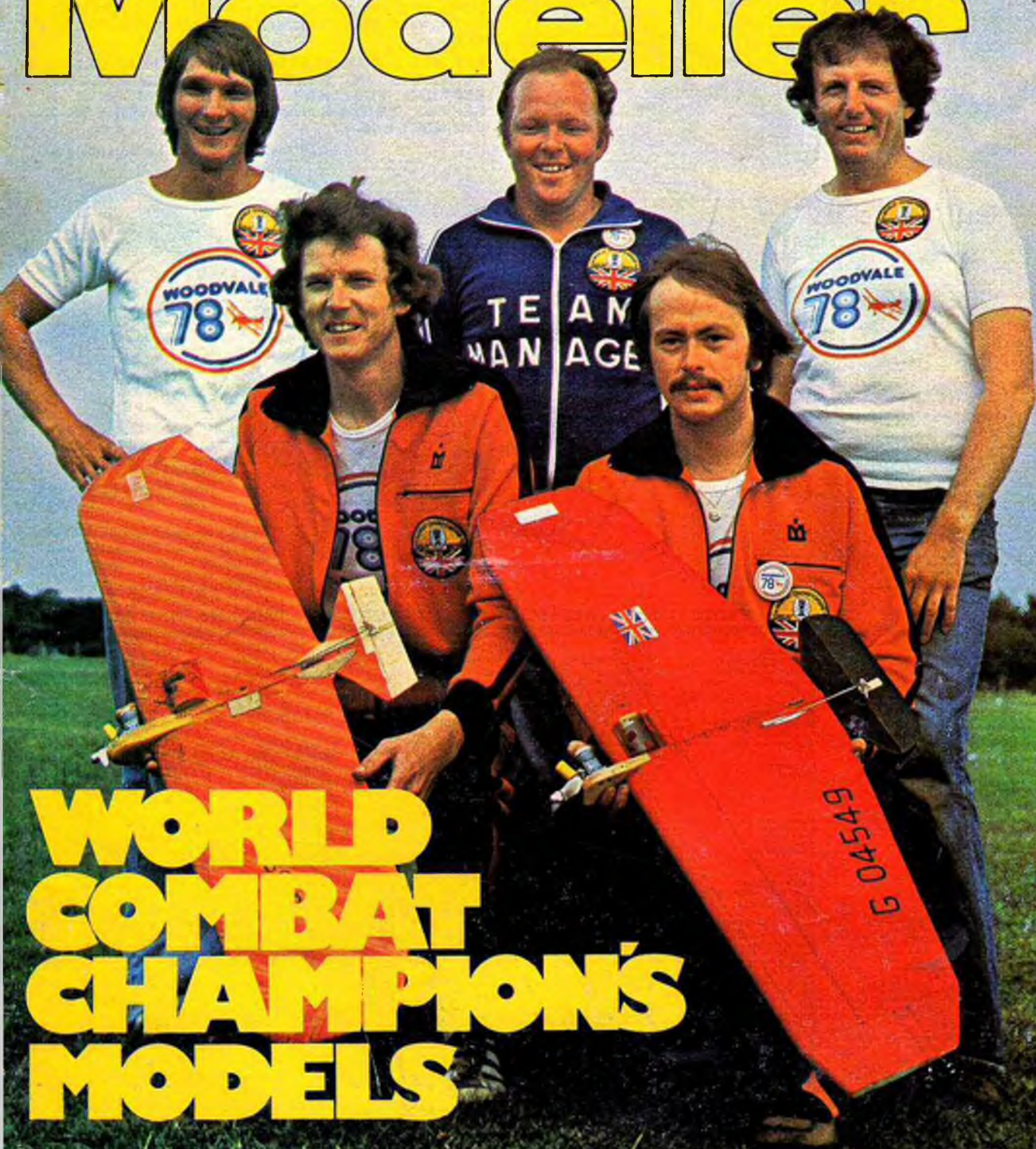
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DECEMBER 1978 40p

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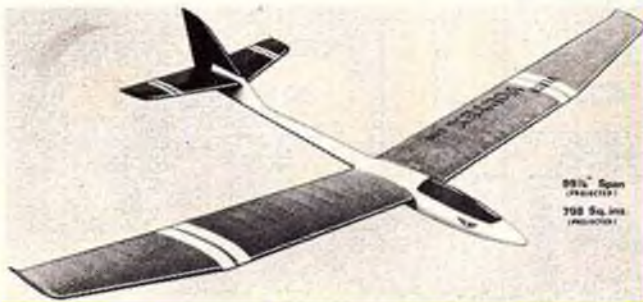
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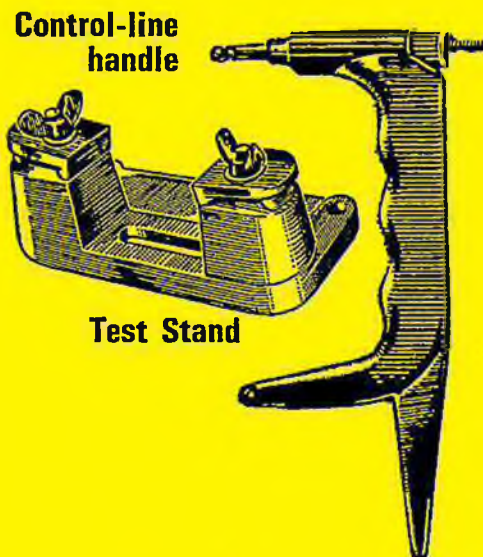
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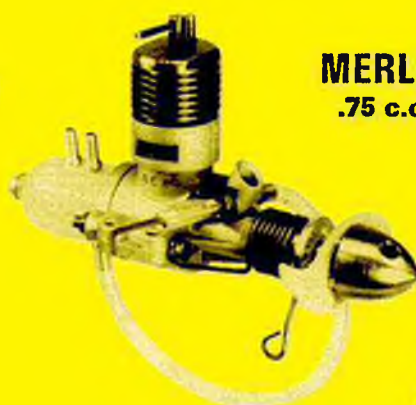
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Aero Modeller

INCORPORATING
MODEL AIRCRAFT

December 1978

Volume XLIII No. 515

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Comment

THIS IS THE LAST ISSUE of Aero-modeller printed to the traditional layout which has been with us since 1942. Next month sees an exciting relaunch with more and larger pages to include regular full size plans, more practical and constructional articles and increased coverage for the newcomer and general sports flyer.

Looking back over 1978 some high points include the achievements of individual British flyers becoming World Champions in both Combat and R/C Scale with team victories also in Combat, Team Race, R/C Scale and Indoor flying. Remember that gloriously sunny Nationals, what a classic meeting!

Away from contests those fabulous meetings at Old Warden where the All-Scale and All-Vintage days attracted many thousands of flyers to simply turn up and fly, just like the good old days. Similar successes abroad with America's Flying Aces meeting, attracting some 800 scale models, must herald a new era of fun flying meetings.

Results of our Model Photo Contest show a surprising 50% of entries of Sport R/C modelling activity; does this also reflect the interest of our readership?

It's been a great year with lots to look forward to in 1979.

ON THE COVER

They're the Champs! Mick Tiernan left, with Runner-up Dave Wood, after an all British final in the first ever World Combat Champs which attracted 44 entries from 16 countries. Ace pitman, back row left Steve Bingham, Richard King (team manager) and Mick Lewis kept models airborne and together with third team member Vernon Hunt they also picked up 1st Team Prize, story inside. The tracksuits worn by all the British Team members were generously presented by Ken Barrington Sportswear.

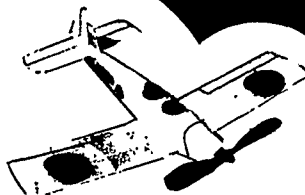
next month

AEROMODELLER HAS GROWN NEW WINGS! Yes, from January 1979 issue there will be a whole new look and a new direction. Bigger page area, more space for editorial features and a re-introduction of free full size plans every month, starting with a 52 inch span sport scale model for the famous Piper Cub, with an Aircraft Described feature. Aero Aces a continuing new feature specifically for the younger modeller covering all aspects of model aircraft and providing the vital basic information to successfully introduce the young modeller to the hobby. Following months will re-introduce regular how-to feature columns for the grass roots sports R/C flier. We think you'll like the new style AEROMODELLER magazine and we're confident it will give your modelling new wings too! On sale 16th December - an issue not to miss.

The Modellers Den



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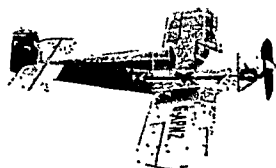


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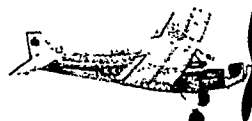


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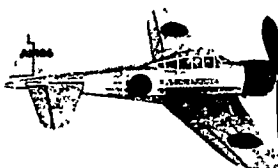
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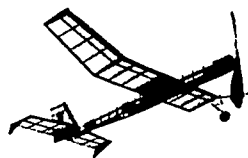
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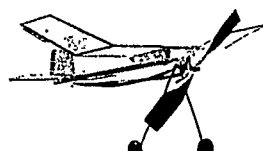
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Wing Span: 13"
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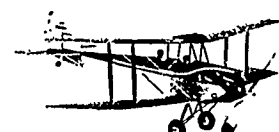
ONE NITE 28
Wing Span: 28"
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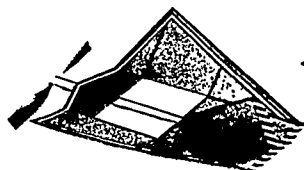
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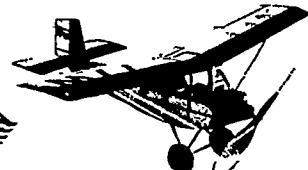
NESMITH COUGAR
Wing Span: 13"
World Peanut Scale Record
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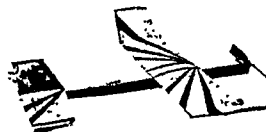
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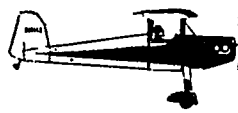


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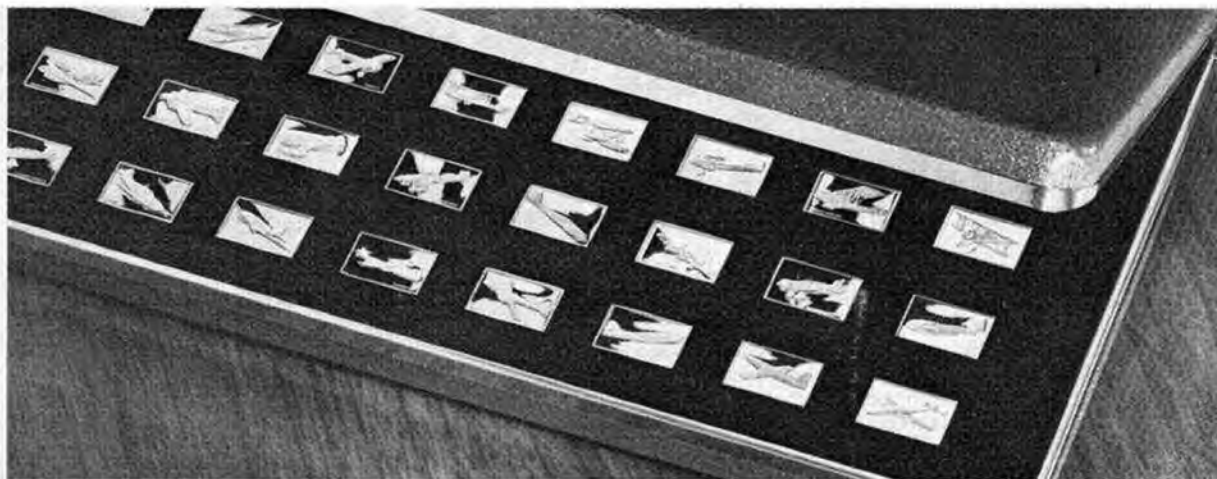
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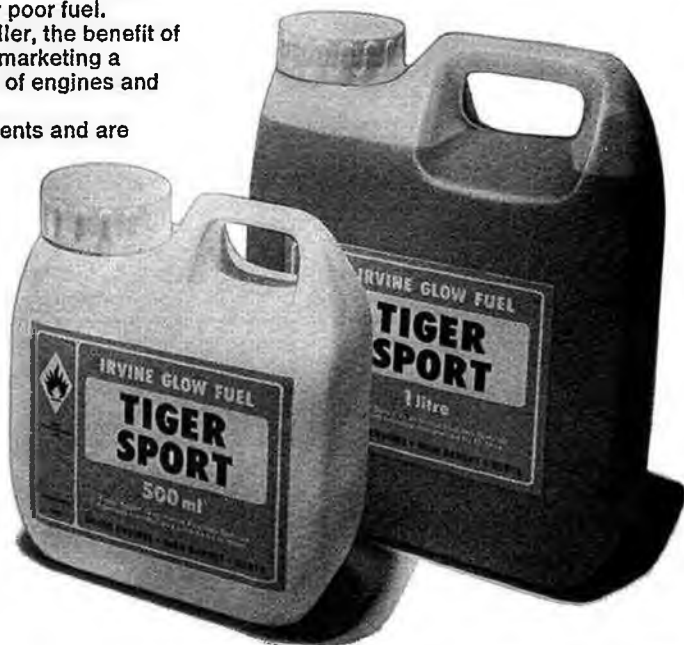
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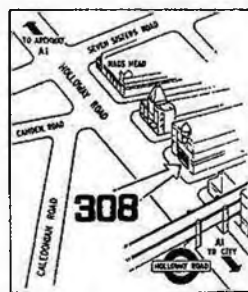
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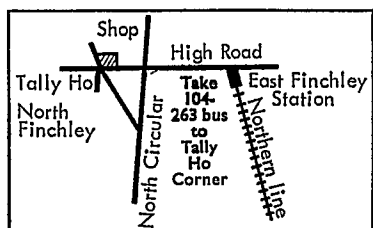
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At your model shop

KINDLY MENTION 'AEROMODELLER' WHEN REPLYING TO ADVERTISEMENTS

Heard at the HANGAR DOORS

FAI NEWS Some of the items on the agenda for the December CIAM meeting include an official withdrawal by Yugoslavia of their offer to stage the 1979 World Free Flight Championships. No positive offers are known as yet.

On the question of proposed rule changes; the Americans have proposed a minimum attempt time of 50 seconds for FID indoor models; the Canadians have proposed a modification to the FIA glider, linecross rule; F2B Aerobatic proposals call for dropping the requirement to signal the start of each manoeuvre; F2C Team Race proposals are that two medals be awarded to winning teams, one each for pilot and pitman; for F2D combat models include a wing area restriction be introduced 33-35dm², deletion of the 1 point per second airborne scoring and that each team be scored by two independent sets of judges.

1979 MODEL ENGINEER Plans are well under way to make the 49th Model Engineer Exhibition to be held at the Wembley Conference Centre from 4th-13th January, the best ever meeting for modellers. Competition classes include; Section AA flying models of all types, F/F, C/L and R/C Section AB scale flying models of all types, F/F, Rubber, Glider, Power, C/L and R/C; Section AC non-flying scale models; Sections for any model made by a junior. In addition to cups and awards special prizes are being donated by Morris and Ingram Ltd for the best airbrush painted models.



At the Jubilee Wakefield Contest J. M. Brookes launches his Fillan 1937 design. Brian Spooner, standing far left, topped the FIB event, while John O'Donnell won the pro '53 class scoring three 4 minute maxes. Report next month.

The Bristol Aircraft Company Challenge Cup for the best model of a 'Bristol' aircraft in section AB or AC.

The Aeromodeller Cup for the best F/F or C/L model in Section AA.

The RCM&E Cup for the best R/C model in Class AB; and

The Scale Models Cup for the best model in Class AC. All these awards will be hotly contested.

Further details are available from Peter Freebrey, Exhibition Manager, Model & Allied Publications, PO Box 35, Hemel Hempstead, Herts.

COUPE d'HIVER Enthusiasts will be glad to know the Aeromodeller International will once again be held at RAF Halton, near Wendover, Aylesbury, on Sunday 3rd December.

Two classes will be held, the 100 gram class to French rules, three flights for the MRA Challenge Trophy, and the 80 gram class to FAI rules and five flights for the Aeromodeller Trophy.

For those who have not yet received full details, send an SAE for registration form to *AeroModeller* offices.

SAFETY is one of the prime responsibilities of model flying's national governing body, the SMAE. Prompted by the bad publicity that some recent accidents involving radio-controlled aircraft have brought to the sport as a whole, the Society's new General Safety Guide aims to increase awareness of the steps that model flyers – and equipment manufacturers – can take to

Jürgen Bartels recently celebrated a 10th birthday or rather that's how long he's been producing fibre glass propellers. Seen here in his workshop Jürgen puts the finishing touches to one of the larger R/C propellers now included in his range.

improve the situation in Britain.

Spinner and propeller nut specifications will be mandatory for all aircraft flown by SMAE members. A minimum spinner nose radius of 3mm for up to 1.5cc and 4.5 for over 1.5cc motors will, in effect, result in blunter points for powered aircraft, and a potential safety improvement.

Other forward-facing projections such as wheel spats and tip fairings must have minimum radii of 1/16 in. for aircraft of less than 10 oz/sq.ft. wing loading, and 1/8 in. for heavier loadings; the aim here is to reduce the injury potential of carelessly-flown models.

The guide also recommends that all R/C clubs should use a frequency monitor at all flying sessions. Swivels are recommended for control-line aircraft which will be extensively manoeuvred, e.g. combat types, and stranded lines are advised when flying over grass or for aerobatic flying.

Some of the Guide's operational advice ensures that model builders also have some idea of the rudiments of safety. The Society of Model Aeronautical Engineers thus hope to reduce the loss of flying sites that results from the public reaction to dangerous flying. As well as the General Safety Guide, which covers the flying of control-line, radio-controlled and free-flight aircraft, to be supplied free to all members, the Society has also prepared a Display Safety Guide at the request of the Civil Aviation Authority. Any manufacturer or trader planning to undertake display flying during 1979 can obtain a copy from: General Secretary, SMAE, Kimberley House, Vaughan Way, Leicester. Please enclose a large stamped addressed envelope.

COMBAT!



World Champs Details

An interesting moment during the 3rd round match between Tourné Belgium, and Tomelleri Italy. Did they get out of it? Well actually no.

MICK TIERNAN'S ANDURIL

The winning Combat model of Britain's New World Champion was a very simple but sophisticated structure underneath that deceptively ordinary covering of giftwrap. Mick first expounded the virtues of his highly original structural philosophy in his article on Combat Design published in *Control Line Aeromodeller Special* (price 95p from MAP). Mick analysed the potential weak points of typical foam Combat models and went on to outline his solution, utilising a $\frac{1}{4}$ ply veneered LE plus Nylon strips to take the tensile loads of a prang. It is this design construction that he developed to the present world beating model, *Anduril*.

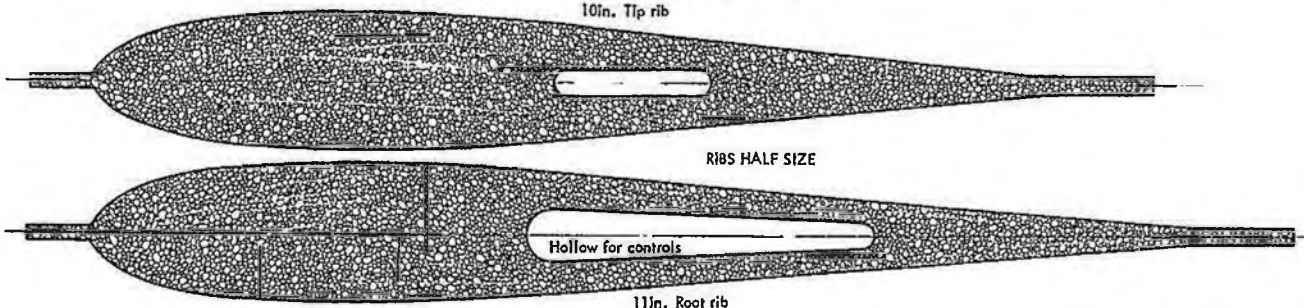
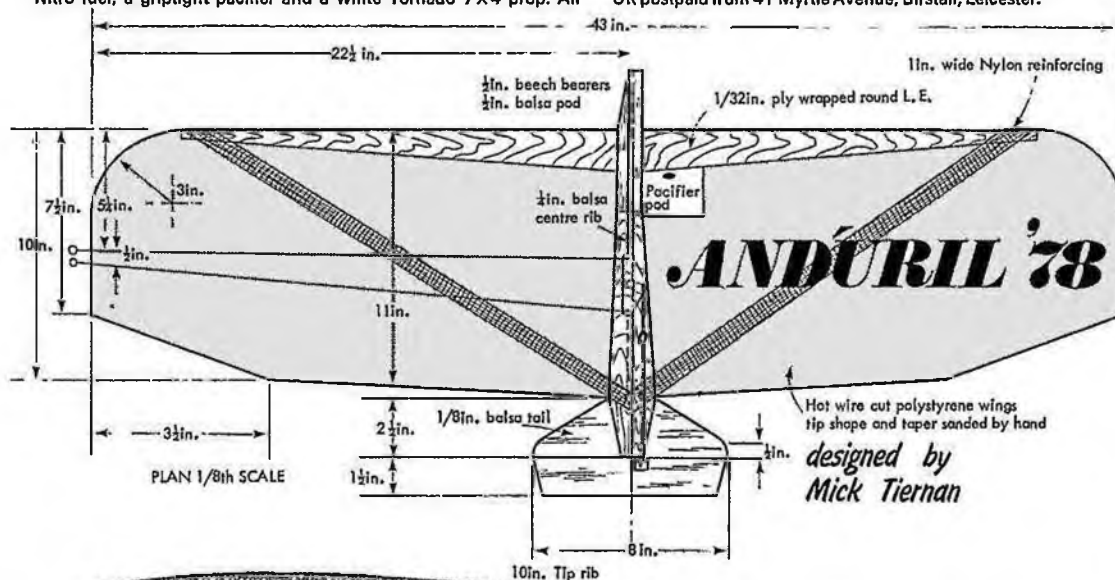
Earlier in the year, at the World Champ Trials, Mick had been unhappy with the turning ability of his models, however he still topped the results to gain his team place. He felt that the model, a 44 x 12 in wing with a 12 in tail, was too stable and consequently lacked turning performance. Reasoning that the opposition at the Champs would fly fast and wide, he reduced wing area and used a smaller tail to introduce some *instability* for tighter turns. A thinner section reduced from 1 $\frac{1}{4}$ to 1 $\frac{1}{8}$ in completed the transformation.

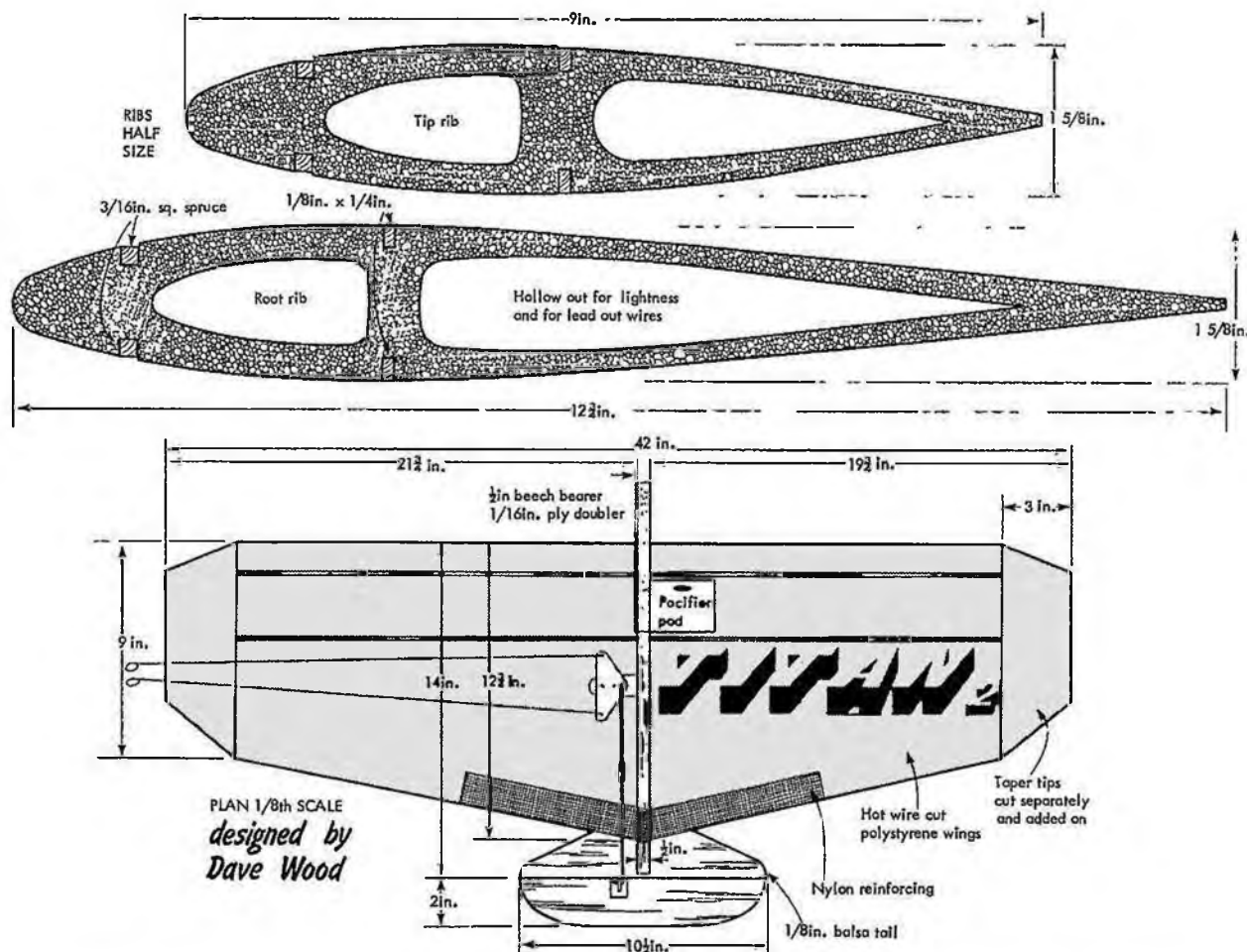
The design and motor combination was conceived for utmost reliability. The Super Tigre uses a standard peripheral jet with the carb drilled out to 6mm, running on Model Technics G400E 10% Nitro fuel, a griptight pacifier and a white Tornado 7 x 4 prop. All

out performance was rejected to avoid the inevitable hang ups they would include. Consistency wins the day was his motto.

Constructionally the model is straightforward, tapered foam wings are hot wire cut and hollowed, with tips rounded and bevelled quickly by hand sandpapering. A $\frac{1}{4}$ in balsa centre rib is slotted for the ball-crank and wide cap strips of $\frac{1}{2}$ ply, which support the pivot, run chord wise back over the tail to wing joint. The original style LE is formed from $\frac{1}{2}$ in plywood well soaked, then dried left wrapped round a broom handle, to obtain a curved shape before glueing in place with Copydex. The ply is simply given a slight feather edge where it meets the foam airfoil though this is not important. 1 in wide strips of nylon stuck on with PVA are used to reinforce the wing diagonally. Nylon is also used to reinforce the balsa and beach engine pod and to keep the pacifier pod in place. Gift wrap is wall-paper pasted on, in traditional manner. Balance point works out about right with the rear silencer lug removed from a standard Super Tigre, mounting it back against the LE. Dead easy really, isn't it? All you've got to do then is learn to fly like a World Champion. Well done Mick, Britain's first World Combat Champ.

Incidentally for those who don't like flying five inch span FAI models, Mick will sell you a full size plan with instructions for £1.50 UK postpaid from 41 Myrtle Avenue, Birstall, Leicester.





DAVE WOOD'S TITAN

The model Dave used to win his way through to the final of the Combat Champs was the latest successful development of his Titan designs. The new taper wing shape, as it was back in 1974, first appeared as a Solar film covered balsa frame model powered by, can you still remember that far back, an Oliver Tiger diesel. Right from the start the design was noted for its tight turning ability. The basic shape has been retained and construction is currently from hot wire cut expanded polystyrene, hollowed out between two twin spruce spars. Full size plans for the Super Titan Mk I are still available price £1. (UK postage) from Dave at 47 Avonlea Road, Woodleys, Sale, Cheshire. If you can wait that long, the Super Titan Mk II should be drawn up by February 79 price £1.25 – a good job he flies quicker than he draws.

VERNON HUNT'S ZINGER

Three weeks prior to the World Champs a fire completely destroyed my workshop and all within. It makes life interesting to have only a junior hacksaw and vice left in total with which to rebuild a fleet of model so close to the big day. You find who your friends really are. I was offered several complete sets of equipment but elected to start from square one and in particular to fly my own aeroplanes.

It is fair to say without the help of two guys, Alan Marshall and Adrian Beal, who took time off work to help and John Whittle's motors and model building jig it would all have been impossible. However in two weeks we built sixteen aeroplanes and put the equipment together only to suffer badly from lack of practice and familiarity with the motors we had borrowed. Alex Herring lent me his two G/20 15s used at the Nationals, of which the best one we blew up in practice the day before the World Champs.

In retrospect I should have realised it was not going to be my day although I will have nightmares for a long time over the total fiasco. The one consolation was Mick and Dave's performance placing 1st and 2nd. Unable to retire as the champion I will now fly combat for another two years or as long as it takes to win. Does anybody do a good line in revolving wheelchairs?

I can think of no other word but *frustration* when I consider the

problems of FAI combat. The world champs report used the phrase "pressure the FAI to change" but what will they do? Communication is poor between pilots and their organising body. Written communication and the present lack of urgency frightens me. Utopia would be representation from interested countries with experienced pilots locked away until the rules were re-written. Even that would not solve all the problems or make everybody happy. However at least we would still have a popular "event", otherwise at the present rate, Combat as we know it today could be dead inside two years. It has been suggested that another "class" be created but why ignore the FAI problems, surely it is preferable to sort out the existing event.

The most amazing thing is that 80% of fliers are dissatisfied with the rules and this included myself, yet we do absolutely nothing about it!

At the World Champs there seemed six 'common' suggestions:-

1. Restriction of model size - maximum wing area
2. Diesel motors only
3. 1.5cc restriction
4. Two models per contest
5. One model per heat
6. Line length increased 60'

The common objectives behind these changes are slowing down the aeroplane, making accurate combat feasible more often instead of one in ten bouts as at present. Reducing the carnage which in effect is a safety angle. Models fall apart too easily with the risk of pieces hitting competitor or spectator. Ground penalties (i.e. sections 4.4, 12) were included to improve safety and not meant to be used in the way they are to needlessly penalise good pilots. The last point, which is most important, is to re-establish combat as an individual piloting event and not a team dependant event.

The basic ingredients for a combat model design have been around for something like twenty years. Individuals looking for that extra performance have created new trends by using a combination of different motors, various sizes of model and different constructional materials. The all foam Superstar II and the use of glow motors being the last major change. The development of "Zinger" has come



Vernon Hunt still manages to raise a smile after his unlucky run up to the World Champs. A great pity he was unable to display his exceptional aggressive style of combat with this new design which he says out-performs any model he's ever flown. Coming from Vernon that's some endorsement. Left, if you think Vernon's Fox 15 looks in poor shape, you should see the Whitney Straight Trophy!



from the plastic era, an attempt to get one step ahead, with performance being the total objective and cost to some degree being irrelevant. This may sound a little extreme but the World champs was the motivation to produce the ultimate combat model.

The Superstar II was a successful model for me in the 1977 season but presented me with two major problems both attributed to the parallel wing, one precise controllability especially in windy conditions and secondly lack of crash resistance. It was possible to keep the model together with reinforcements but performance was impaired.

Like a lot of other people I was impressed with 'Boomerang' design, the model flown by Jean Michel Fraisse but I got the impression again that controllability was a problem. This observation was borne out by closer observation which revealed the root chord was small by today's standards at around 13" and the turnability was obtained with a rearward CG by having the motor inside the leading edge. However this was a step further than I had been in 1975/76 when trying various flying wing models which had proved to be nothing to write home about.

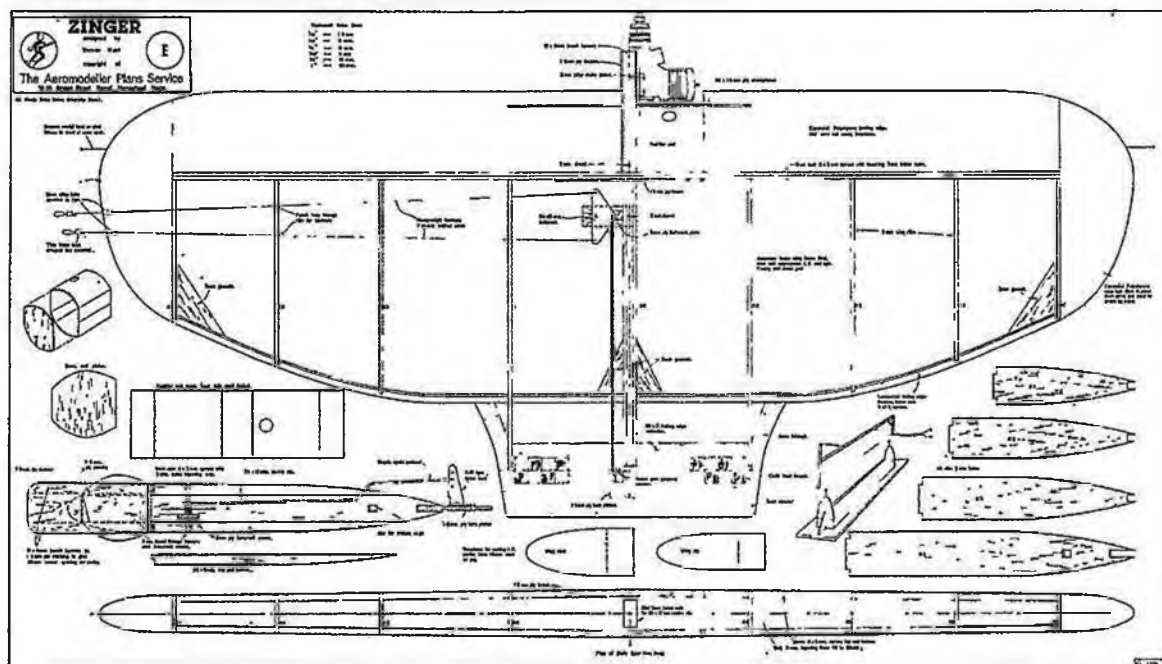
The first couple of attempts were entirely foam construction but to get a stable aeroplane the motor was too far forward to give anything more than average manoeuvrability. At the same time the model weight left something to be desired. Even in the Superstar days 16ozs was average, anything lighter which meant hollowing the foam which could result in models that sometimes would 'explode' in the first couple of flights.

The only answer to the problem was to re-distribute the weight in the model, that way I could get the motor back towards the pivot point but retain a model that was very stable. It was realised cost might go up if there was an inclusion of balsa wood even on a part construction basis; however the model had to be stronger. Foam offered the advantage of quick construction for curved sections.

My solution therefore was to use foam to the peak of the section, a full depth spar and what I call a half rib construction, which succeeded in removing at least an ounce from the rear of the model. I had tried to use a full depth spar of 3/16" sheet balsa but when the outboard wing fell off four times (successfully glued back on every time) the balsa was reduced to 1/8" sheet with 1/2" x 1/4" spruce spars top and bottom. Elliptical wings have always produced a more controllable model in manoeuvres. The only drawback with an open frame is in the use of mylar film which besides its cost, adds no strength; the use of 'fascial' may help cure this.

Building a "one-off" model can be time consuming but after deciding on a quantity, John Whittle contributed a simple jig. The trailing edge will go together without any water soaking but it is necessary to create the finished curve by using two strips balsa glued to the building board to form a slot where the trailing edge can dry to shape, or by pinning down to shape. The best way of construction we have found is to make up the 'balsa wing' on the building board including trailing edge extension and then add the foam

Full size copies of this 1/7th scale reproduction are available as Plan CL/1356 price £1.35 plus 20p postage. Export orders may be obtained through appointed agents price £3.00 plus 40p postage (\$5.25US) or directly by post (add 50% to order value for Air Mail) from Plans Service, PO Box 35, Bridge Street, Hemel Hempstead, Herts HPI 1EE.





Practising their pitstops! Paul Smith (MACA) during intensive refuelling session. Centre: The Maestro Dick Miles, a whole tank full in 17 secs plus far right Outlaw Bill Gripton, who had spent all day training eating dry biscuits.

leading edge after along with tips and pacifier pod.

The last operation must be to add the motor mount and position the motor. The CG is fairly critical but the model will fly successfully with either Super Tigre G20 or Rossi 15, although with a good Rossi bionic reactions would be useful. The main advantage of this type of construction is that repairs are quite easy on part damaged models. So far only two have been written off this year although I can assure you they burn rather well!

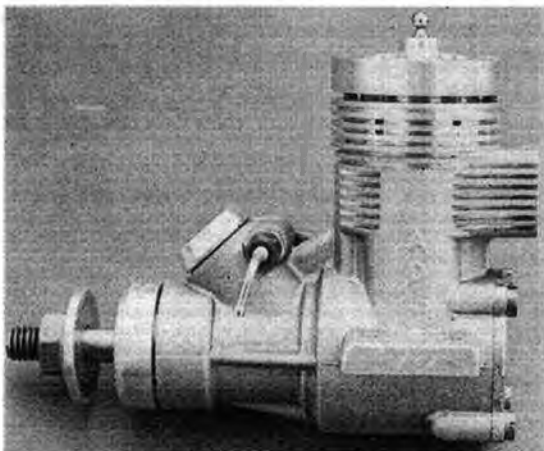
The only common factor on choice of power plants was that almost without exception they were all glows. One or two diesels were in evidence notably with the Germans using MVVS and Rossi motors, and they were unquestionably a little slower. Any advantage for quick restarts is outweighed by the current rules allowing one minute warm up launching with the motor running, by which time even the most tricky glow motors should be bearing to go. Should being the operative word as many inexperienced teams were left at the start with red faces. No excuse for that chaps. Some teams chose to start their motors on a prime with the needle valve fully closed, re-opening the needle as it fired. No wonder they wasted precious time adjusting for the correct running setting. Teams using bulldog clips, clothes pegs or even surgical forceps to withhold fuel pressure while the motor was started, with the needle valve waiting at running setting, were naturally airborne first. The other rule, which allows the motor in the second model to also remain running for the duration of the bout, dealt the final death blow to the dirty diesel. The argument, no doubt, being that this gives the pilot more chance to display his flying skills rather than hanging around waiting for his pitmen to do their stuff. At world level, for the present at least, it appears that diesels are a NoNo.

So to the big news story of the meeting, the appearance of the AD15 used by only one competitor, top Italian flyer Tomelleri. This motor is the work of ex-World F/F Power Champion (1965) Alberto Dall'Oglio and owes much of its outward styling to the Rossi except for its rear facing finned exhaust outlet. (The Combat version has a shortened exhaust stub compared with the F/F version.) Internally the motor has less liner taper than a Rossi but has a much beefier 12mm shaft and is generally more robust weighing in at 165g. Standard Rossi heads are used and its impressive speed was achieved on straight 80/20 no nitro fuel! These motors are very limited in number as they are but a part time venture for Alberto; however several British lads are now in possession so watch for results.

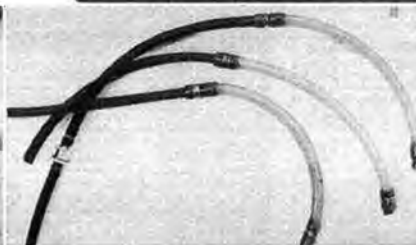
Of the glow motors, the Rossi 15 has to be top choice, on paper, for brake horsepower. Obviously the flyers haven't been reading

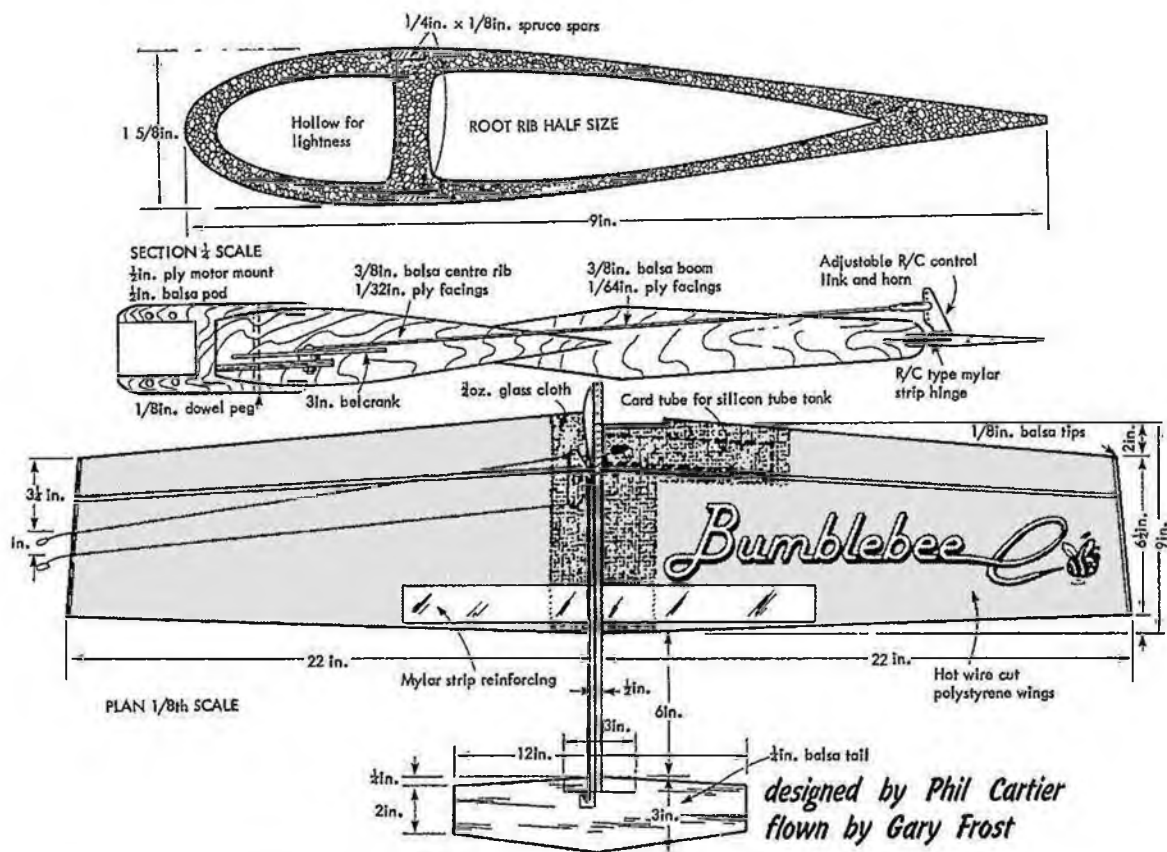
their test reports, as Rossi's were far from dominant. To be objective there was little to choose in airspeed between half a dozen different types of motors all running on approximately the same types of commercial plastic propellers (see chart p. 563 October Aeromodeller for exact details). Super Tigre G20/15 or the F1 version were the most popular numerically and it was this motor that was used by both finalists Tiernan and Wood. As for tuning no-one knows exactly what goes on inside another's motor. Most claimed to use standard motors, Mick Tiernan's only secret, being a southpaw, is that he opens the box with his left hand! His only modification being an inch length of soft rubber pipe slipped over the carb, which folds back in a prang, closing the intake and preventing blockage with mud. (Standard British technology!)

Frenchman Jean Michel Fraisse is a known tuner, and his Rossi powered Boomerangs were very impressive. The Fox 15s present were also well above what we have come to expect as being standard for this unit. The entire American and Mexican teams were equipped with Fox 15s which differed from the early schneury Foxes seen here in UK in that they were fitted with integral glow buttons, similar to Rossis, instead of the traditional glow plug. The improved accurate



A.D. 15 the new FAI motor shown top right the F/F version with longer exhaust. Right: Industrial balloons used by Mexicans. Far right: Clive Gibson. Canada used surgical forceps to restrain his pacifiers. Below Paul Smith shows us how to make fuel filled frankfurters, from the left twisting the soft copper wire whipping tight with pliers; centre: that's what they look like, top one fitted with filter; far right: 'training' to start expanding from the closed end first; once stretched they will always fill this way





shape of the area around the filament has long been recognised for its improvement in power, although it reduces the chances of a quick plug change mid-bout as it required the top of the motor to be removed. These new Fox 15s referred to as "Combat Specials" could prove useful although running them on expensive 50% nitro as the Yanks did, will require deep pockets.

The Irish team had an unusual choice of motor with the 2.5cc Taipan distinguished by its gold anodised cylinder head fins. They certainly flew fast enough for Stoo Holland in his classic bout with Mick Tiernan. Clive Gibson was as fast as anyone using the rear exhaust Cox 15 fitted with the new green glass fibre Kelly props, apparently a good combination.

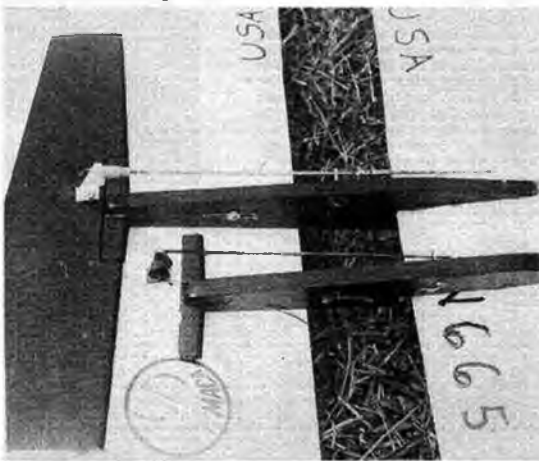
Fuel systems showed many variations world wide, most preferring the expanding balloon type. Tomelleri was one who used a conventional tinplate tank run on crankcase pressure which makes it definitely easier to start and set the engine. Disadvantages are the empty weight of the metal tank of at least one ounce, plus the chance of fuel frothing and air bubbles entering the feed pipe, but separate miniature fuel hoppers can help overcome this problem. Some balloons were literally party balloons as used by the Brazilians, restrained externally in recesses in the wing by patches of netting. The Mexicans used very nice 1 1/2 litre industrial balloons, little larger than the British dummy type. Once again the Americans were unique with their surgical tube tanks which they blew up inside cardboard rocket tubes running spanwise inside the leading edge. Being almost one inch in diameter these fuel filled frankfurters have the advantage of fitting completely inside a normal wing aerofoil section thus avoiding the unsightly, and drag producing, British pacifier pod. These *sausages* have to be trained to start expanding from the far end first, so that they creep inside the tube towards the outlet while being filled. Working the other way about they can get stuck, fail to expand properly or even shrink during a run pulling the pipe off the motor. Special thick wall large bore silicon tubes is marketed by midwest in the US called "Bladder Fuel Tank" although similar products are available in UK The dead end is whipped with soft copper wire, round a .22 cartridge case to block the tube and the feed end round a short length of brass tube or a hollow rivet with the normal fuel pipe already fitted. The system certainly did not work for Gary Frost who was let down with innumerable wings full of fuel. He had failed to line the wing with a rocket tube (similar to the centre rolls off turkey foil or shrink wrap) and so the sausage burst on the rough interior left after hot wire cutting. Thanks Gary, now we all know how not to do it!

COMBAT RULES NOT OK. One thing that soon became apparent at Woodvale was the global dissatisfaction with the current FAI rules. Most of the countries present voiced the opinion that some changes should be made.

There is currently a conflict between the ideal principles and practical enforcement of combat rules. Safety considerations such as flying level and not letting go the handle are obviously necessary but when they are misused to penalise flyers for not following the letter of the law, then such rules are being abused. Merely not flying level cannot be construed as dangerous flying anymore than letting go the handle as the model glides slowly to land. Flying level inches over the opponents pit crew for example can be even more dangerous yet legal. The centre circle is there to prevent pilots blatantly running away from their opposition not to penalise them for incorrect foot work. Most countries agreed more emphasis should be given to scoring flying ability and less to penalties from abstract regulations.

At the December FAI meeting there are bound to be many new proposals. Holland for example have been discussing a reduction in engine capacity to 1.5cc. How would you want your British FAI delegate to vote in a case like that or indeed, what proposals would you like him to make on behalf of British Combat flyers? Write and let us know and we will pass on your views.

Tailbooms on Gary Frost's Bumble Bee's soft balsa sandwiched between thin ply is light and strong. R/C type mylar hinges used, broken one in foreground shows horn still bolted through mylar.



SPEED

by Joe Halman

Fashion touches everything with its capricious finger and model flying is no exception. At the 1978 Control Line World Championships there was every combination in model design that could be thought of and the asymmetric wings were as varied in length as the hemlines of the last ten years.

There was nothing dynamically new, but some old ideas were evident especially the single blade propellers. These were introduced some twenty years ago by the Americans but first made an appearance in modern FAI flying at the 1974 World Championships—again by the Americans. Carbon fibre *single blade* props were used by the Americans and West Germans and wood *single blade* props by the Italians. A variety of shapes were used but they were all about 3½ inches long with variable pitch to suit each particular engine. Any wood propeller absorbs moisture and, therefore, changes its characteristics and this may be why only one country out of the three used them. Of course carbon fibre props, as indeed glass props, can be made stiffer and therefore thinner which helps them to carve through the air and give a little more speed. Not least, they are easier to reproduce. Single blade props, which give higher efficiency, do have a bad reputation which may explain their tardiness in catching on. In fairness, one or two models flying with single blade props have broken up in mid-air recently but with the new way of fixing the counterweight this cannot be thought of as a common feature. The counterweight is now generally produced in brass (the French *did* use a lead one and one of these *did* come off at the Championships) and is fixed to the crankshaft and not in the spinner. The propeller is made with the carbon or glass fibre strands brought down from the tip, round the hub and back up to the tip in an unbroken line. This, in effect, makes the prop so much stronger and less likely to break. The prop then fits into the solidly attached counterweight and not vice versa as previously. As can be seen from the chart, there were four single blade props in the top ten and if Schuette's engine had behaved itself, the single blade props would have had 50% of the top ten placing. The rest of the props used were two blade, made of carbon fibre, glass fibre, a mixture of both carbon and glass fibre, or wood, well, what more is there? The majority were carbon fibre. There were many Bartels, McCann and Topflight 'worked down' props but no-one that I spoke to except Peter Halman, was using home-made ones. Is this because of the myth that they are hard to make or because their wives will not allow the oven to be used for cooking the props?

- | | |
|----------------|-----|
| 1. J. Lenzen | D |
| 2. L. Bilat | CH |
| 3. R. Spahr | USA |
| 4. D. Enfroy | F |
| 5. L. Lieber | USA |
| 6. J. Bellelle | F |
| 7. G. Ricci | I |
| 8. G. Isles | GB |
| 9. P. Halman | GB |
| 10. W. Lehmann | CH |

Model Design
Upright Short Asymmetric
Upright Long Asymmetric
Sidewinder Short Asymmetric
Upright Long Asymmetric
Sidewinder Short Asymmetric
Upright Medium Asymmetric
Sidewinder Medium Asymmetric
Upright long Asymmetric
Sidewinder Short Asymmetric
Upright Long Asymmetric

Prop	Fuel
CF1	CFS
CF2	CFS
CF1	Pressure
Wood 2	CFS
CF1	Suction
Wood 2	CFS
Wood 1	Suction
CF2	CFS
Goass 2	CFS
CF2	CFS

The current fashion for asymmetry well illustrated with the immaculate model of top Italian speed flyer Ricci; wing is considered medium length. Note the single blade propeller which is more efficient due to working in air undisturbed by other blade.



Pete Halman caught mid flight at Woodvale. Below, super model by American Leiber, featured glass fibre wing.



Model design? Well, I think the phrase is "anything goes"! Divided into the upright and sidewinder asymmetric categories, there were, out of the forty entries, 23 uprights and 17 sidewinders. Of the 17 sidewinders, 14 had to be that way because of the suction feed fuel systems so it appears that when not limited by the kind of fuel system used, most people opt for upright designs. I wonder

THE HANDLE + FROM THE HANDLE + FROM THE

		Middle Twenty	Bottom Ten
PROPS:	CF1	2	0
	CF2	12	5
	Wood 1	2	0
	Wood 2	2	4
	Glass 1	0	1
FUEL:	Glass 2	2	0
	CFS	11	1
	Suction	6	5
	Pressure	0	1
	Pipe	3	3
DESIGN:	Upright	13	5
	Sidewinder	7	5

CF=Carbon Fibre 1=Single Blade 2=Two Blade

CFS=Centrifugal Fuel Switch

Right. Upright asymmetric model flown by Kerr of Australia achieved 230.7 km/hr on suction. Below, third place model from USA's Bob Spahr featured "a sort of pressure system". Unusual in-board sidewinder motor, model seen here on takeoff dolly.



why? Is it because Rumpel, with his Kingfisher upright, won the 1976 World Championships? But Ricci won the 1974 World Championships with a sidewinder! Is it because the sidewinder looks less like an aeroplane than even an asymmetric upright? Even Rumpel that bastion of the upright Kingfisher design, flew a non-suction sidewinder this year as did, Spahr, Schuette, Halman and Smith (SA).

Luis Bilal flew fast with a CFS (Centrifugal Fuel Switch) upright immaculately made model with an inboard tail and wing - which dropped like a stone when the engine stopped! To quote Bilal "Is not a good plane!"

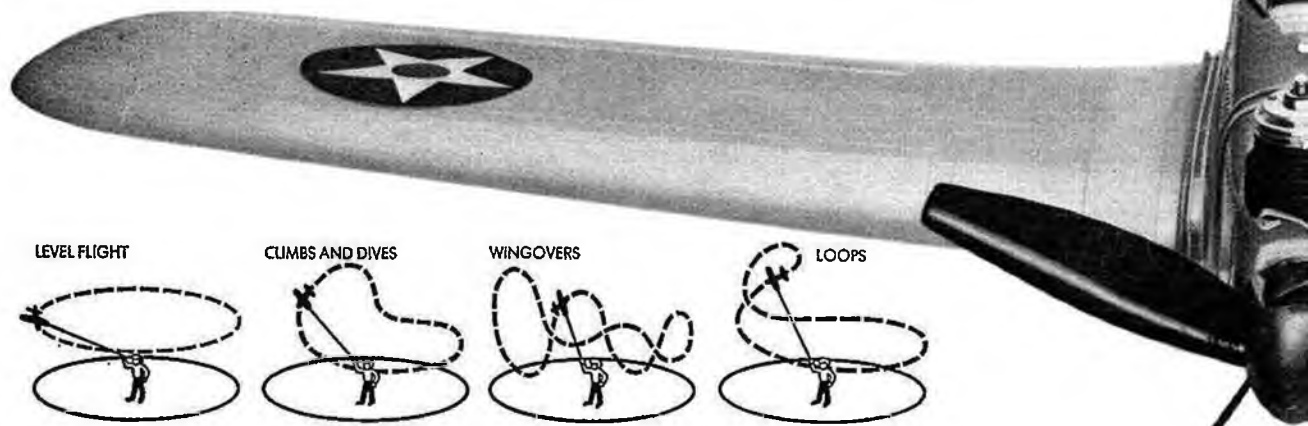
But the most exciting design must surely be Lieber's - the young American who flew a beautiful suction sidewinder asymmetric. The fuselage was totally faired in covering the pipe entirely. There were no ridges, bumps or jutting places bar the very slight dip where the tail was attached. The model appeared to fly like a dream and looked exactly what it was: a built-for-speed flying machine. I was told that an indication of a good flight was the paint bubbling on the fuselage underneath the pipe! He also had the only glass fibre wing with spruce surround. Comparatively short and stubby, the shape gave a good indication of the shorter wings most people were using for the notoriously windy British weather.

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LEVEL FLIGHT

CLIMBS AND DIVES

WINGOVERS

LOOPS

HANDLE + FROM THE HANDLE + FROM THE HANDLE

Conventionally designed models were flown by Gafner (Switzerland) and Kjellburg (Sweden). Burke of Canada flew a semi-scale Goe Bee Racer with a CFS fuel system. It looked good, but would it fly fast? Well, it did not do so badly to place Burke 17th out of 40.

Kerr, of Australia, deserves a mention not because of his placing at these Championships; not because his model was unusual; not even because he's a very nice chap but because he flew an UP-RIGHT SUCTION model! He was not letting on how he did it either!

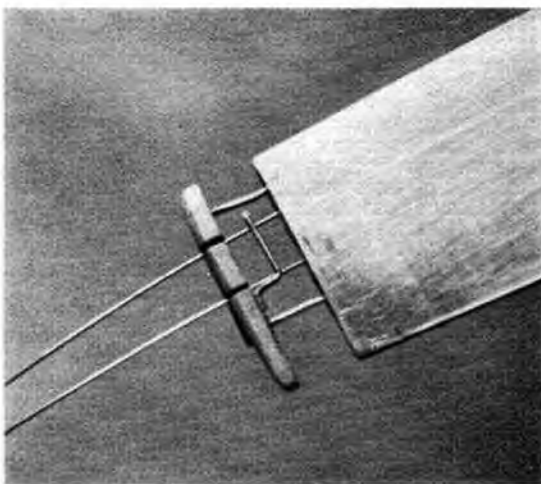
The Rossi front induction engine was the one nearly all competitors used. It is a great pity that this is no longer in production and, therefore, new ones are difficult if not well nigh impossible to get hold of. Something will have to come along to take its place and, notwithstanding the rumours flying about, most of us are waiting with bated breath. The majority of the top ten fliers were using ABC piston/liners but this is not to say that the steel piston/liner is dead yet. It is well known that ABCs do not like cold wet weather so, for the British fliers at least, it's as well to keep a steel one in the cupboard.

The con rods of the Rossis seem to be giving problems. Rumour has it that the Americans have been breaking them and the Italians at the Championships broke one in practice. The reason seems to be that in generating more power, therefore more rpm, the con rod just cannot cope.

Kjellburg of Sweden used his own homebuilt engine similar in many respects to that of Carle Dodge at the 1976 World Championships. Kjellburg was one of the very few using the pipe pressure system.

There were four fuel systems used this year: CFS, suction, pipe pressure and 'a sort of pressure system' and, as can be seen from the table, pipe pressure seems to be dying. Suction systems can still go fast as Ricci proves time and time again. No system is easy but perhaps with a CFS it is easier to achieve the rpm that modern 2½cc engines require to run at. Again it is a wait and see situation: wait and see what the 1980 World Championships pulls out of the hat.

"A sort of pressure system" — that's what Schuette said and this is not the time to conjecture the "hows" and "whys". Many of us have our own ideas but suffice to say that the tank must be pressurised. This is based on the observation of Spahr dumping fuel, by using full up elevator. Whether this was to de-pressurize the tank so that it could be re-filled or for some other reason isn't known but with a little luck and hard work, the next championships may uncover a system that will take over from the CFS.



Pete Halman's adjustable wing tip line guide which fits inside hollow metal skinned wing for streamlining during flight.

A tip that Peter Halman (UK) finds useful is a wing tip guide. As from next year the lines at the wing tip have to be 5 mm apart and with this wing tip guide one can have the lines set at any distance. Not a bad idea with the way rules seem to yo-yo about these days. Designed by Paul Elsner, I understand the wing tip guide design will be appearing shortly in "Aero Modeller".

So, what does one do to have a fast FAI speed model? Upright versus sidwinder; conventional design versus asymmetric; CFS versus suction; single blade props versus two blade props; carbon fibre versus wood; wood/aluminium skin wings versus hollow dural wings. It is really personal preference but the thing that really counts is a good engine — and we all know that don't we!

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HALES

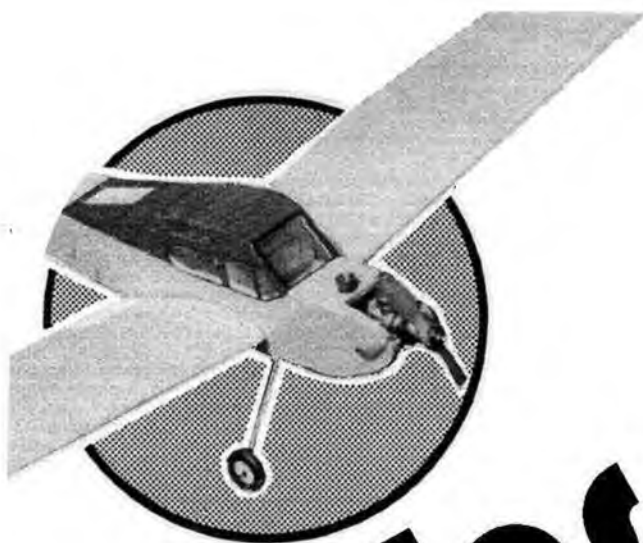
A. A. Hales Ltd., P.O. Box 33,
Hinckley, Leicestershire

Having designed my own models for many years and thoroughly enjoyed myself I am always searching for new ideas and like to vary design layouts. This plane falls into my experimental category having been developed from two previous models, learning by trial and error, to produce Midas. Simply by relocating the wings in its alternative box fixings which takes a few seconds, it can be flown either high wing or low wing, making a pleasant change. As the fuselage is rather unusual, let us start there.

FUSELAGE

Mark the side views onto $\frac{1}{8}$ balsa sheet I use standard 3in. wide stock, allowing the spare cut off under the tail to be cemented back on top for the cabin. Cut to shape and slot for wing boxes ensuring both sides are identical. Cut out $\frac{1}{4}$ in. balsa nose doubler and glue $\frac{1}{8}$ square beech bearers one to each, noting 3° downthrust built in. Remember one is left and one right and glue to sides. Cut out all formers, wing box parts and 2in. wide tongue from $\frac{1}{4}$ in. ply. Assemble wing boxes from $\frac{1}{8}$ in. ply and $\frac{1}{4}$ in. square spruce, check inside is free from excess glue to allow tongue to fit. Glue $\frac{1}{4}$ in. sheet dihedral supports to F3 and F4: accuracy here is important. Bend 14 swg undercarriage leg to shape and sew to F2 with thread and glue. Next, cut the wing boxes in half to allow them to fit into angled slots in F3 and F4 and glue this sub assembly together; stand assembly over plan and check squareness. Now add side assemblies. Wing boxes will project into slots in fuselage sides, add F1 between bearers. Pin or weigh to keep fuselage base flat on plan. When dry, pull together at rear. sight along to check fuselage is not bent, gluing to balsa wedge. Add F5, tail support and $\frac{1}{4}$ in. square cross pieces to give fuselage shape. Glue F2 with wire legs in place and sheet top and bottom with $\frac{1}{8}$ in. balsa cross grain; slight overhang can be trimmed off and sanded flush when dry.

Full size copies of this 1/7th scale reproduction are available as Plan PET/1354 price £1.10 plus 20p postage. Export orders may be obtained through appointed agents price £2.20 plus 25p postage (\$3.70 U.S.) or direct by post (add 50% to order value for Airmail) from Plans Service PO Box 35 Bridge Street Hemel Hempstead, Herts HPI 1EE

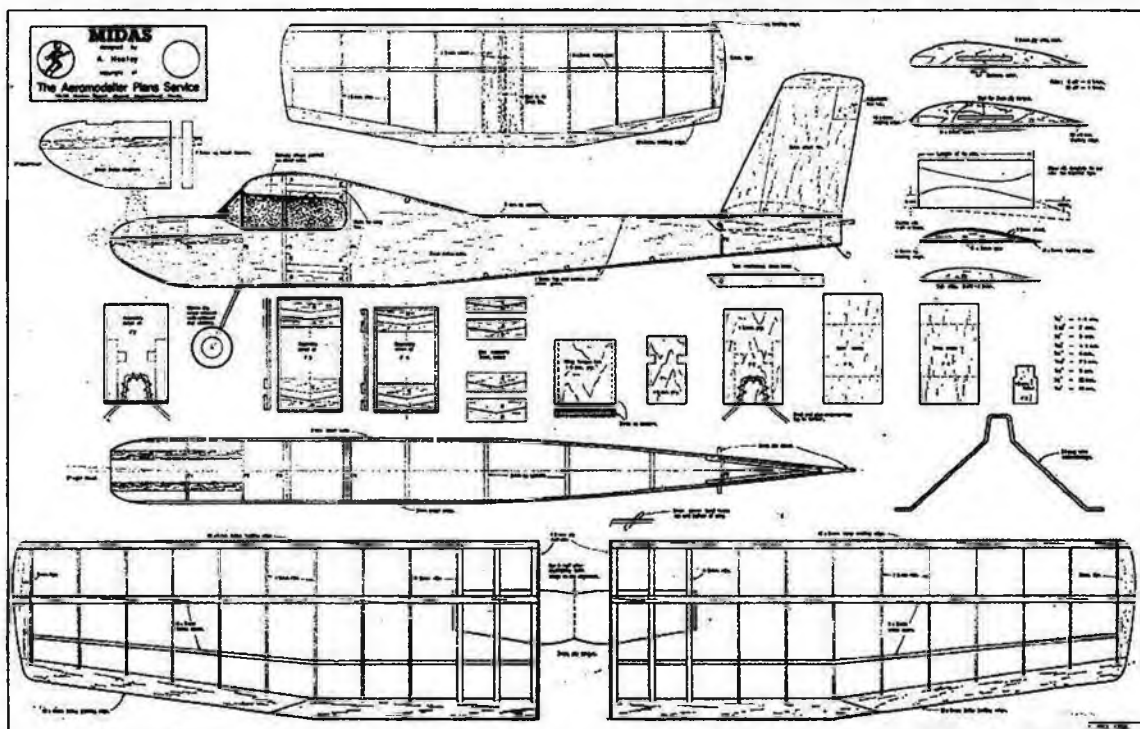


Midas

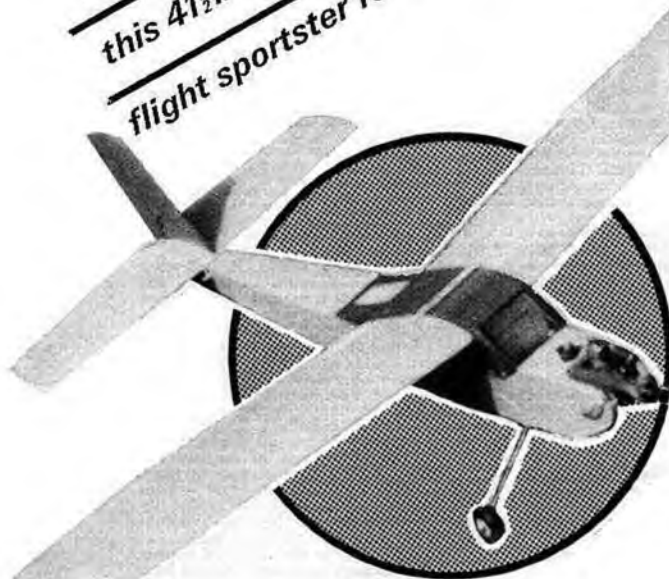
by
A. Healey

WINGS

These are fairly straightforward; start by cutting out all ribs, skewing template to obtain shorter ribs. Cut 2in. wide strip of $\frac{1}{4}$ in. ply to shape for wing tongue. Build both wings simultaneously joined by the $\frac{1}{4}$ in. ply wing tongue. which being still in one piece accurately aligns both wings. Pin LE and TE to plan, slide slotted balsa ribs onto tongue, space out and glue assembly in place in one operation. Add other ribs, tips and finally spars to



A touch of the convertibles with
this 41½ in. span high/low wing free
flight sportster for 0.5-0.8cc motors



complete. Finally cut tongue in half, once dry, and add ply facing rib ¼ in. sheet webs between spars for first few bays and ½ in. balsa sheet let in between ribs then carve and sand parts to shape. *Tailplane* construction follows that for wings. Pin LE, TE and spar to plan plus ¼ in. centre sheet, add ribs and top centre sheeting leaving slot for ¼ in. sheet fin.

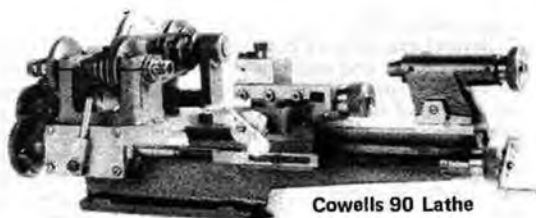
FINISHING

Dope and sand structures smooth. Cover wings with heavyweight tissue and tail, fin and fuselage with lightweight, followed by two or three coats of thinned dope. Mark cockpit shape with felt pens or dark tissue. Flying surfaces should remain flat, straighten if necessary over steaming kettle; slight washout on left wing panel is only warp acceptable. Fit wheels, retaining with cup washers soldered to wire. Fit pegs for rubber bands to top and bottom of wings. Drill bearers for engine noting 3° right thrust. Glue ¼ in. square spruce blocks to underside of tail to always key in same position with fin straight.

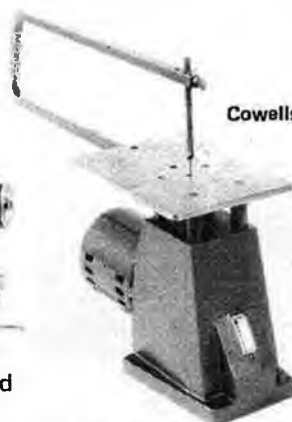
FLYING

Add weight front or rear until model balances and use rudder and tail packing to achieve wide right turn from hand glide. Don't throw the model too hard, let it float out of the hand from a gentle level push. Initial power flight should be made with short runs at reduced power with engine running very rich to achieve 'prolonged' glide until flight path has been assessed and adjusted. Start with high wing configuration until familiar with flight characteristics. You will find the low wing version will need extra packing under rear of tail with rudder adjustments as needed. Now you can change from high to low wing as the mood takes you. Remember, the wing retaining band should be thin to allow wings to knock off undamaged. Enjoy your flying, I certainly do.

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MODELLERS' MAILBAG

Dear Sir,

I was surprised to read your comment about scale models and modellers in the August issue. Surely you must be aware there are thousands of us who never go to a contest but fly for fun all their lives? Family outings revolve around whether there is a good model shop to browse around in the town!

Most of us are very disappointed in your magazine as you only seem interested in publishing articles on strange asymmetric contraptions with two wires and a handle or other shapes that are not quite like a real aeroplane. Back to the attic we go to browse through the old 'Aeromodellers' and dare I say it 'Model Aircraft' and look at a magazine that we wish we could buy now!!

If the most popular class in your plans service is scale, surely you have the answer; much more of it from glider, rubber, CO₂ and C.I. power. Or just publish the adverts and scale column and we will buy it. Gillingham, Kent. R. T. Herrod

Our provocative 'Comment' proved our point that F/F Scale contests are not popular. As for our content - just wait for '79'—Ed.

Dear Sir,

I read recently in Aeromodeller that an American reader was interested to know the whereabouts of certain model flying friends he had made in this country during the era of Northern Heights and Eaton Bray - I too have often wondered what has happened to some friends I met during my time with the Southern Cross Aero Club whilst attending Model Meets at Northern Heights, Epsom, Duxford etc. etc. With the advent of Vintage Model Comps a mention in the Aeromodeller of some of the 'vintage' modellers wouldn't come amiss. No doubt some of the die-hards of modelling of the 40s, 50s and 60s will have gone on to a larger flying field for good but I am sure there are many still enjoying reading the Aeromodeller if not taking a further active part in the No. 1 hobby. Some names occur to me such as:-

Yeasley Bros. (of the 'Sunspot' gliders) and Ian Lucas, Norman Butcher, Mike Farthing (of the 'Lightweights'), Louis A. Heath (Ajax designer) Bill Dean (designer profile prolific) and so many others. Former members of my own Club are now airline pilots, aircraft draughtsman in the USA, so I am sure some of the other members of Aero-modelling would make interesting reading including what has happened to the 'kitchen table' modeller who in spite of space and time flew to victory many, many times. Now it seems you have to be a mechanic, watchmaker, computer analyst, machine turner etc. to compete; give me the good old days when model flying was a happy sport. The few as always spoil it for the many. When a serious young modelling enthusiast looks around these days at the sophisticated models and the distance to travel to a flying ground untouched by local and stringent bye-laws, there is very little to encourage him to continue in the hobby. The recent plan the P.30 is no doubt a step in the right direction but there is still a long, long way to go to build up a nucleus of young contest winners if we are to survive in the future. As for myself, I have just returned to modelling after a long absence but for the sake of a grandson who shows a very keen interest, I am pleased to say.

Portlisle, Sussex.

L. A. R. Collins

Dear Sir,

I suppose it has been the ambition of most aeromodellers albeit mainly competitors, to have permanent and regular use of a site

or sites, somewhere in Britain. I feel with the present strength of the SMAE and the ever decreasing availability of airfields that maybe it is time for people to air their views on the subject, with the hope of gaining something positive.

Most airfields are now either being used as permanent bases for the army etc. and becoming rarely available or are being left to fall into very poor states of repair.

Being from the North East I can only suggest possible types of sites within this area; how useful Elvington could be for general use if its huge length of runway wasn't across wind. Then again I would appreciate comments from anyone who flies, on or has flown on RAF Fulbeck (Lincolnshire), a site totally deserted and apparently unused by anyone other than motor cyclists (illegally).

The North West Club should by now have about completed their C/L site but why shouldn't there be other sites covering wider possibilities at least centrally and preferably spread about the country. Wouldn't most of us appreciate the potential of contests covering our own branch of the hobby every three weeks if required.

I am convinced that some effort, concentrated on the right site(s), and backed up by finance from for example site membership fees, (who would begrudge a 'fiver' or 'tenner' a year for a good site?) could bear very useful fruit.

Wakefield, W. Yorks.

Hayden Sykes

If only life were so simple. What appears to be a deserted free-for-all ex-RAF airfield is normally such because it is the subject of considerable litigation over ownership, on offer at high value, or held by the Govt land office etc. It is never cheap. Hence the trend for clubs to lease farmer's fields.

Dear Sir,

Many thanks for a most enjoyable Rally at Old Warden. Although I have been an aeromodeller for some thirty-odd years, this was the first big rally I have attended. I can assure you that it won't be the last.

One thing that struck me watching all those lovely old designs flying under R/C was that this was the real reason for radio. Too often these days, the aeroplane is merely a vehicle for performing aerobatics, speed etc. with no regard to the attractive lines and graceful flight of the old timers. Please don't think I am decrying the skill and expertise of the aerobatic and racing pilots, but I do deplore the veritable plethora of plank-like foam wings and ready-made plastic fuselages of the familiar high wing/low wing overpowered bombs hurtling around the sky these days.

What we have gained with the development of today's proportional radio we seem to have lost in other directions. I have probably stirred up a hornet's nest with those remarks but although foam, glass fibre and plastics have their place, I do use them myself - I feel that I had to 'say my piece' before all the traditional aeromodelling skills are lost. Thanks once again.

Stonehouse, Glos.

Mike Whittard

Dear Sir,

As a free-flight man, albeit without recent competitive activity, I took advantage of the proximity of the World Radio Championships, and feel my comments are relevant. Less than one hour's drive from my home, I intended to take a few photographs and perhaps meet old friends, although I still intend to fly only free-flight.

I arrived at Woodvale approximately twelve o'clock on Sunday, expecting to pay

£1.50 entrance. I, and presumably the many cars fore and aft were simply waved in free of charge. This will not help the SMAE funds... I then intended to take advantage of the SMAE 'pass' supposedly allowing members with current affiliation cards to 'gain access to the flight circles' etc. I hoped to photograph the 'biggest' the 'most expensive' and the 'fastest'. But no, I was told by the various stewards that the pass was invalid. I can understand this action, but why give the passes out in the first place? How many hundreds, or perhaps thousands of pounds were lost by the free access?

Lytham, Lancs.

Brian Hooley

Dear Sir,

I was delighted to read the PYLONIUS article in last month's Aeromodeller. I started aeromodelling during the war when we had to make do with oboe and any glue we could nick from dad! Long before I could actually afford to buy a copy of the Aeromodeller regularly, I used to start out an hour earlier on my paper round and hide up to read a copy which I used to deliver to a customer each month. The thing about making model aeroplanes which attracted me was the fact that the scope for defeating manufacturers by making a 'gismo' which did a better job at no cost was limitless!

I eventually graduated to the old ED diesel, you had to have money in those days to adjust the compression! I even started to buy tubes of balsa cement instead of dissolving all the family toothbrushes in acetone or cellulose thinners.

My son has just caught the A/M disease and started taking the old mag again. I have only had a couple of issues so far and am amazed at the changes. I have never been one for instant kits but some of the things sold these days really are 'Aero' modelling. A kit seems to contain half a dozen shaped lumps of aeroplane which, internally, really do look like white 'Aero' as in chocolate! In a few years time the kids won't know what a rib or stringer is.

He has just completed a Phantom C/L which brings back memories. I am surprised that the kit is still available and very similar to the original which as far as I remember was one of the first C/L's produced. Engines seem to be reasonably priced these days considering cost rises. The ED Comp Special took a long time to save up for with pocket money at 1s per week! My son doesn't even reckon that the Aeromodeller comes out of his cash allowance! Considering that my wife pays 30p for a badly produced weekly, misprinted on paper which one would expect to buy in rolls and perforated, I think the Aeromodeller is still very good value. Keep it up!

G. F. Yallop

Dear Sir,

I think I speak for the whole South African team when I say that we were sorry to be such a source of embarrassment to the organisers (of the World Champs). It wasn't easy to have eight countries withdraw because of our presence - our skin isn't that thick!

We were very well received by the British modellers and officials and by all the other modellers.

We came away with even more friends than before. This was ample justification for the great expense involved - we have no sponsorship whatsoever!

I admire you very much for your editorial and for telling your readers that we do not practice apartheid in aeromodelling. This is the truth, and I'm grateful to you for telling it!

S. Africa

Bob Masters



EUROPEAN FREE FLIGHT CHAMPIONSHIPS

**98 competitors from 13 nations
compete for 3 days to decide
Europe's top FA1 model flyers
22-24th Sept.—Ansbach, Germany**

Flags fly over the superb clubhouse of host club at Herrieden. Predominantly an R/C club complete with tarmac strip and mini control tower, they provided non stop bar and refreshments throughout the contest. Nice to see such co-operation amongst different interest groups.

Clear blue sunny skies and almost no wind. Such were the conditions as we left Herrieden the site of the 1978 European F/F Championships in Germany after three days of competition held in wind and rain. But weather aside, this year's champs were a milestone for competitive free flight, bringing together for the first time Glider, Rubber and Power at the same venue for true championship status. The site was the flying field of the organising Ansbach Club comprising a huge flat area of recently cropped farmland with the facility of their excellent clubhouse. Teams from 13 European countries (including Israel) were housed in "good local inns" the standard of which must be complimented.

Processing of models took place in the Town Hall on the Thursday but few modellers took advantage of this practice flying day due to the prevailing conditions. So it was that by the first competition, little had been seen of the opposition.

FIB Wakefield day dawned overcast and fresh. A good opening round for the British with 3 maxes was followed by a gradual deterioration of scores as conditions worsened with some drizzle falling. Ron Pollard was first to drop in Round 2 joined by Mike Woodhouse and John Bailey in Round 3. By the end of Round 4 spirits and scores were low, yet the British team still held second team place, there being only two full houses Ruyter and Merkestijn both Dutch!

Despite having few competitive flyers in Holland from which to pick, the Dutch proved to be a very competent team. Peter de Boer one of their top glider flyers, played a leading role in their highly successful thermal detection technique using thermistors. Their approach must be compared with the North Koreans with detailed analysis of conditions leading to the command "launch".

Highly organised Dutch team prepared for final round. Pym Ruyter eventual winner. *left, ready for launch signal while Kroon waits his turn. Team helpers provide shelter from rain, signal retrievers with flag at launch and provide all important thermal detecting. Right, ex Wakefield World Champion Thomas Koster lends a hand to new Danish protege Jens Kristensen, flying just over a year he proved to be top flyer in Danish team.*





Above: Giora Herzberg prepared to launch watched by Amos Madas, Israel's team manager. Props are triggered at launch and are held ready partially opened. **Right:** Anton Weber launches his elegant model typical of German design styling. The King, reigning World and new European Power Champion Thomas Koster, disc on pylon, is speaker for electronic retrieval bleeper.

Flying resumed after the lunch break which consisted of a hot meal for some 200 competitors served at the field in the aero clubhouse. After this break, flyers returned to find very difficult conditions. The thermistors showed no temperature change at all for the opening 30 minutes. John Bailey eventually launched for a disappointing 71 seconds and yet models had been maxing without any indications of lift. Following John's flight Mike Woodhouse made a brave tactical decision, simply to launch immediately with a fresh motor. The model climbed high into a buoyant layer of air which Mike had suspected, and away to a max followed by Ron who likewise maxed. It seemed so easy yet it would have been a hard decision had they not already dropped time. Round 6 was similar yet less buoyant and with remarkably consistent scores of 140, 141 and 141 seconds from the British team using this technique. The final round was delayed by a wind shift requiring a move of launching positions. Attention was naturally focussed on the contest leader Pym Ruyter who had dropped a mere four seconds in the sixth round. In conditions that were by now very still, Pym found a delightful patch of air to max his way to the European title plus the team prize for Holland. The British had to be content watching themselves perform on German television broadcast later that night.

By contrast to the bad weather on Wake day, **Power day** dawned worse. Strong winds, drizzle and decidedly murky conditions lead to all sorts of problems for the timekeepers. Despite the weather, many were out early trimming. Without doubt the finest power pattern was that of Urs Schaller with a superfast vertical axial roll. Only minutes before the start of the contest Urs planted one model and his reserve, though just as impressive, proved to be inconsistent. Screen and Cowley maxed, but with only ten minutes flying remaining, the organisers declared the first round "neutralised". A diplomatic phrase for cancelled. As this decision was outside their jurisdiction according to the rules, protests were lodged by all but four countries. An hour and a half later the remaining ten minutes was

Left: Mecznar second at the World Champs, suffered a systems failure. **Right:** a name synonymous with FAI flying and clockwork timers, Hans Seelig, once again flew for German team.



flown and Roger Baggot flying third, fell victim to the visibility with 121 seconds.

There is no doubt the organisers assessment of the visibility was correct but the decision should have been to postpone the start until conditions improved and not to attempt to cancel the flights made. As it was flying continued and for the first three rounds, any score over 120-150 seconds was decidedly suspect placing the timekeepers in an impossible position. Clearly the models were maxing but if a model goes out of sight, however high, the rules state it should be clocked off. So it was that competitors underwent a pointless ritual of launching 180 second potential flights into the gloom and then being dependent upon the timekeepers' skills or imagination to decide what score might be recorded.

The British team recorded a mixture of scores before lunch with Roger dropping all four, Stafford Screen three and Martyn Cowley two including one which ironically was seen to hit downwind power cables at 125 seconds. Perhaps on reflection we were luckier than most as we found ourselves well up in the team scores only a few seconds from the top.

The weather provoked a complete withdrawal by the Yugoslavian team after the second round, having suffered flights times 00S. The Hungarians were the only other competitors from Eastern Europe, a great pity as western modellers always look forward to meeting the high standard of flying associated with these countries. The Hungarian models generally with higher aspect ratio than is normal, had fantastic fast climbs trimmed in a wide rolling pattern. Andreas Mecznar, reigning World Silver medallist, came unstuck in the second round when his model spiralled off the top to stick in the ground at 25 seconds. The Italians also favoured high aspect ratio designs which definitely looked most impressive. Ex-World Champion Lars Olloffson was present in the capacity of *Ober-Unter-Fuhrer* (deputy team manager) to Lindholm, Enstram and Carlsson who were flying distinctly Swedish models, compact rectangular designs with triple fins. They too had potential but failed to hit form.

The German Team produced some outstanding models developing a new wave of design styling. Hans Seelig, world famous for his clockwork timers, used by virtually every competitor, flew his latest Grambrinius incorporating fully cowled motor shoulder wing and very small single rear fin. He was delighted to be in the German team again after a lapse of some ten years. Two models featured curved or elliptical dihedral - the familiar model of France's Dennis Ferrero and Bert Huyben, Holland's only power entrant. Bert started well enough but even the Dutch capacity for finding thermals could not help some off pattern flights.

So once more fortified by lunch, the British team, although now out of the running for individual honours were really in contention for the team prize. Only a disastrous 95 second hole found by Roger Baggot in the sixth round spoilt a string of maxes. The last round, the French were leading, with Britain six seconds behind and Germany in between. Things were really close! Surely this time Britain would win some medals! First to fly, Stafford maxed comfortably, or as it turned out, uncomfortably, as it was then discovered there were no timekeepers present. One timekeeper had decided to leave mid-flight



Above left, top men in glider, Herbert Schimdt (Germany) 2nd, Gottfried Zach (Austria) and Gary Madelin (GB) 3rd. Right, what a hero! Ulrich Schmelter span in for 27 secs, changed models and fought back into 5th place with six maxes!

to look for the other one who had disappeared! A protest was lodged, even the contest organiser himself had seen Stafford's flight and watched it DT down but there were no official watches recording the flight. The organisers acknowledged their mistake and allowed the British team their own special round time some twenty minutes late. Cowley maxed, then Stafford flew and DTed down for 70 seconds. The British contingent were heard to remark "Oh bother, how vexing" before Roger Baggot rounded things off with a final max. We had done it again - fifth team place. The one consolation if there be such a thing, is the ultimate discovery of why Stafford DTed early. No he hadn't set the timer wrongly; it was discovered that the DT timer arm can be disturbed into another slot in the scroll when removing the hold pin. A point worth remembering chaps, for next year's World Champs!

All other efforts were of course, overshadowed by the presence of King Koster whose regular cliff hanging activities are legendary. The European Champs was no exception for after his launch in the second round, his engine had died a second after launch only to pick up again some half second later into a perfect pattern. Having perfected this, the ultimate drama for spectator appeal, it was then repeated on all subsequent flights. Even Thomas could not believe his luck but



true to form it stayed with him until on the final flight when, hardly daring to throw the model, a shallow climb resulting in dropping six seconds to become World and now European Champion.

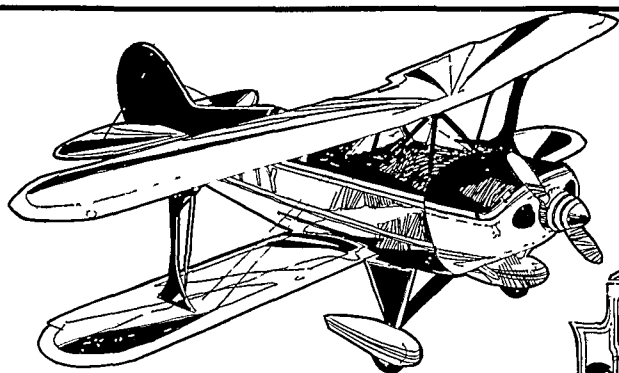
So to the final day, the FIA Glider competition, for once the wind had abated and the sun shone. Even before the contest started definite patches of lift were apparent and so promptly at nine o'clock Gary Madelin was away towing for his own lift on a truly historic flight. Gary the doyen of the "bent wire brigade" had finally succumbed to a Hatchek Hook and was circle towing for lift! His max, one of the first of the day, was soon followed by Phil Moate. By the time John Williams came to fly, quite a wind had sprung up and all he could manage with his faithful Lively Lady was 63 seconds. The second round wiped out the British team with everyone dropping scores, with worse yet to come in the following round. Phil Moate sensibly towed in his first attempt rather than risk a poor flight only to have his towline get snagged on his auto rudder/timer switch on his second attempt to flip the model over for a zero. Morale was rock bottom things could get no worse. In fact, in the windy turbulent conditions that developed during the day, the British lads proved they were more at home than most other countries.

Werner Kraus, top flyer present having placed fourth at the World Champs, made three flights below a minute and two more barely over. The Dutch team of De Boer, Brinks and Fiks, rated on their form this summer in Europe as definite contenders for a team prize, scored nine one minute odd scores with two no flights. Ulrich Schmelter runner-up at Zulpich, started with a 27 second first round, while Danes Rasmussen and Grunnet were both struggling on several flights, their third team mate being Koster. Don't panic, glider flyers everywhere, actually it was his younger brother Kim, who also knows a thing or two about model flying. Generally the scene was one of older models being used in the rough conditions with plenty of wings folding or frantic repairing sessions following stunts on the tow line. The Israeli team were again flying well with some of their gliders also featuring slotted sheet tails, which look well worth experimenting with. Several Jedelsky wing models were in evidence brought out for the rough and tumble. Wuch construction finds little favour here in Britain, due no doubt to wood section problems. However once



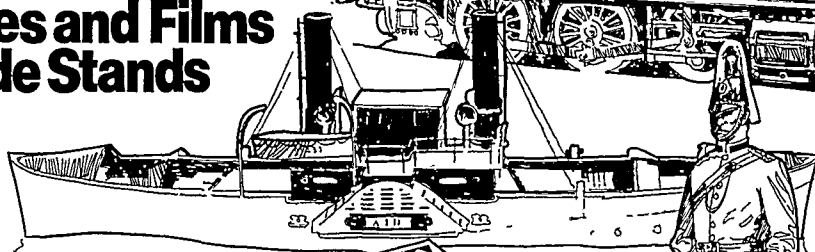
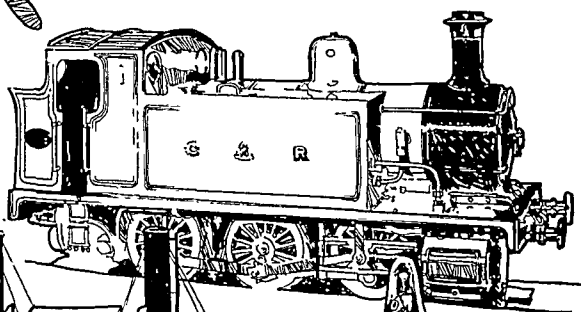
Left, Klaus Salzer shows bleeper in glider nose. Standard electrical fitting weighs 8 grams batteries 8 grams extra, range dependent upon landing position from 5-50 metres last for 10 hours. Below left, close up of Jedelski wing covered with 0.6oz per yard glass cloth prior to adding former ribs, full depth spruce spar lines up with wing rod. Below victorious Israeli team 3rd in Glider; far right, John Rasmussen chats to Peter de Boer. Earphones are linked to upwind thermister on radio link to allow feedback during tow. Model held by Brinks.



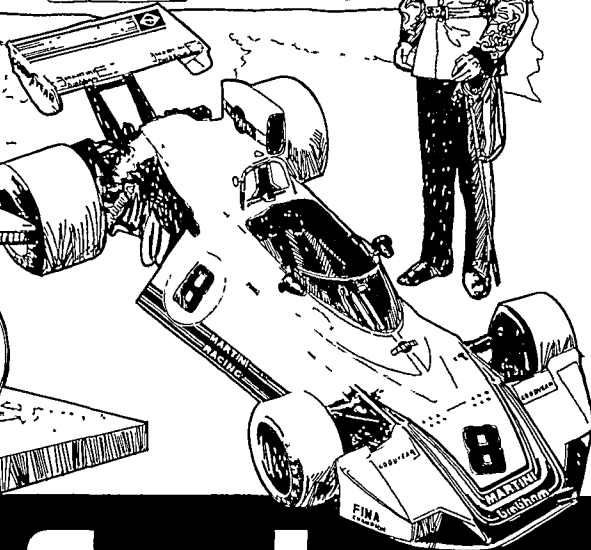
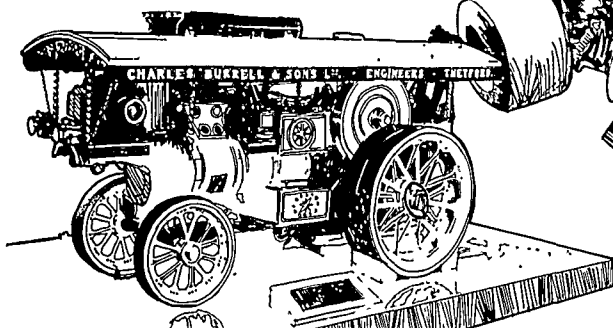


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**Model Engineer
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Wembley Conference Centre
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Advance tickets and advance party tickets at more favourable prices are available on all days direct from the Exhibition Manager, Model Engineer Exhibition, at the following rates:

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Please also note the special cheaper British Rail fare rates already advertised in this magazine for those booking to come by rail in advance and that trains to and from Marylebone on the Princes Risborough line stop regularly at the re-opened, re-named Wembley Complex Station, three minutes walk from the Conference Centre.

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Gottfried Zach retained his European Glider title won at Homburg in 1976

light strong wood has been found, construction is quick and robust as exemplified by Klaus Saltzer's models, which incidentally also included electronic audio retrieval bleeper. Fellow Austrian Gottfried Zach the reigning European Champ was the only flyer to have four maxes up, in fact only one other flyer Itzhak Yosipovitch from Israel had even got two up!

Sitting in second team place, with Gary Madelin second individual, the British lads came back with confidence and banged in six maxes after lunch. John Williams was flying his first team place having previously only ever built one F1A glider, and chose to swap models to one recently completed to hit form with a string of maxes.

Round Seven and it was still anyone's contest as we were about to learn. Zach was soon away into sink, that whipped him down to 80 feet as Gary Madelin towed for a group of rising models. Quick off the mark the Austrians were under Zach's models flapping furiously. As Zach's model rose for its final winning max so Gary's model sank for a disappointing 77 seconds. Even with this score the lowest Gary could place was third, a tribute to how commanding a lead he had built up. Minutes later Herbert Schmidt the only challenger, released to max and take second place. During these flights a lone figure had been towing up wind, it was Ulrich Schmelter who catapulted off for his sixth max after that first round disaster, a fantastic effort. He had climbed back into fifth place to help take the team prize for Germany. For the British, an elusive team victory had once more slipped off the hook.

Obviously a disappointing performance for all the team members and yet it is fair to say that none was really outclassed by models or ability. In fact we could so easily have placed in all three events.

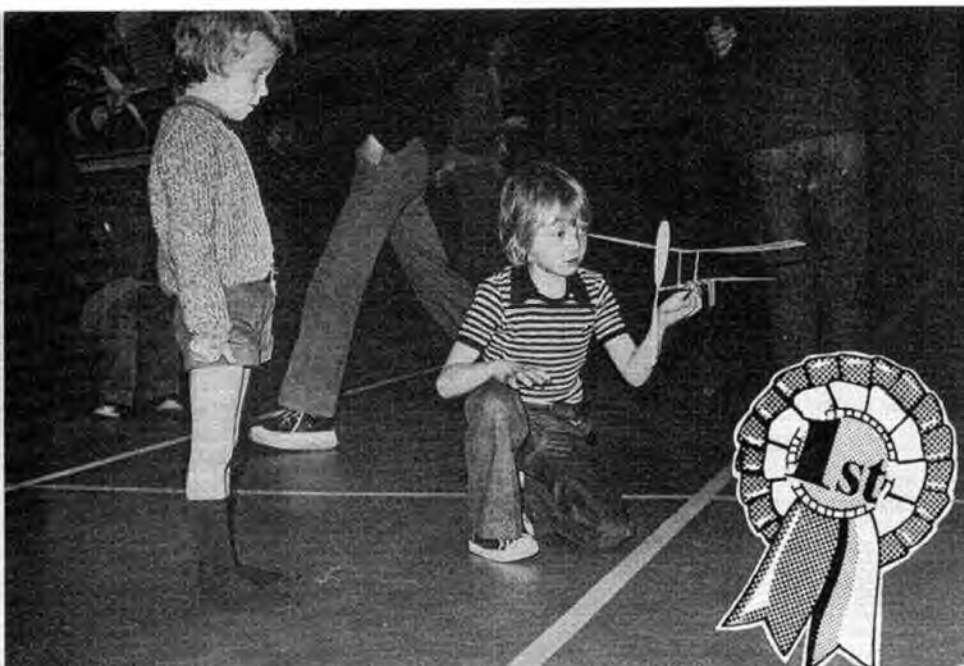
A final prizegiving marked the end of the championships which on a positive note, are bound to increase even more in status now that the German Aero Club has led the way by staging a proper European Free Flight Championships.

RESULTS

F1A Glider — 1. Zach (A) 1260; 2. Schmidt (D) 1204; 3. Madelin (GB) 1137; 4. Radojevic (YU) 1114; 5. Schmelter (D) 1107; 6. Yosipovitch (IL) 1073; 7. Rasmussen (DK) 1063; 8. Schoder (CH) 1046; 9. Ben-David (IL) 1005; 10. Koster (DK) 996; 11. Moate (GB) 886; 12. Williams (GB) 848; 1. Germany 3064; 2. Denmark 3018; 3. Israel 2958; 4. Yugoslavia 2949; 5. Switzerland 2892; 6. England 2866.

F1B Rubber — 1. Ruyter (NL) 1256; 2. Gaensli (CH) 1226; 3. Schlesinger (BRD) 1215; 4. Nimptsch (BRD) 1213; 5. Herzberg (IL) 1212; 6. Artoli (I) 1208; 7. Matherat (F) 1196; 8. Kristensen (DK) 1186; 9. Gialanella (I) 1186; 10. Hansson (S) 1183; 11. Woodhouse (GB) 1136; 12. Pollard (GB) 1133; 22. Bailey (GB) 1060; 1. Holland 3438; 2. Germany 3435; 3. Denmark 3426; 4. Italy 3423; 5. England 3329.

F1C Power — 1. Koster (DK) 1254; 2. Truppe (A) 1194; 3. Maczko (H) 1183; 4. Baumann (D) 1176; 5. Cowley (GB) 1175; 6. Szecsenyi (H) 1142; 7. Fiegl (I) 1139; 8. Braire (F) 1138; 9. Vanuti (I) 1132; 10. Lindholm (S) 1128; 18. Baggott (GB) 1048; 20. Screen (GB) 1035; 1. Germany 3372; 2. Hungary 3363; 3. Italy 3341; 4. France 3286; 5. England 3258.



MODEL PHOTO CONTEST

Nearly 200 entries in our Black and White Print and Colour Transparency Photo Contest gave judges a hard time choosing the winners. The theme to portray the spirit of aeromodelling was a difficult task but the winners shown here depict some of the many facets of our fascinating hobby; concentration, drama, ambitions, endeavour, even insanity! So on to the winners.

Black and White Section

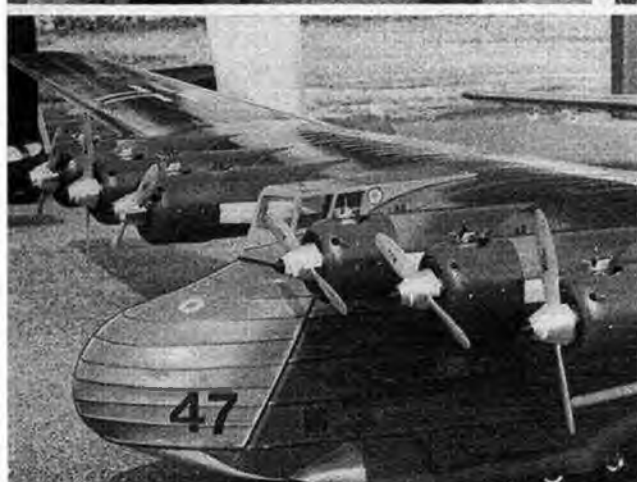
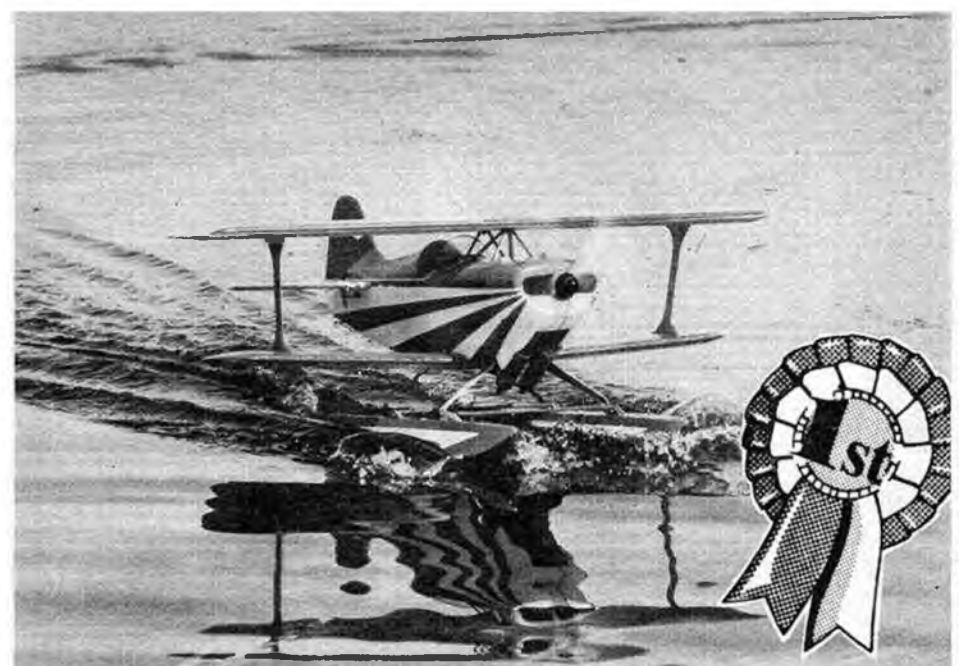
1st (Instaplus EF1 Camera and Flash) E. Leim, *Holland*: 'Totally Absorbed', young Erwin Goossen and friend about to launch his EZB indoor model. **Middle Row: 2nd** (Patterson Thermo Drum print developer and accessories) Klaus Maikis, *Germany*: 'Blitzkrieg', Combat action between Kaul and Tomelleri. **3rd** (Kodak Film and Photography Yearbook) R. Blenkinsop, *Leamington Spa*: 'Thumbs Up' 1927 A Frame pusher gets the OK from Alwyn Greenhalgh. **4th** (Aeromodeller Annual) Bob Meuser, *USA*: 'Night Flight', Jon Janes raises the dust as he releases his class C Gas model into the unknown darkness at the US F/F Championships, Taft. **Bottom Row: 5th** (Aeromodeller Annual) Carlo Cassle, *Italy*: 'Gigant', colossal Messerschmitt Me323 powered by six super Tigre G20/23s. **6th** (Aeromodeller Annual) H. Hutchings, *East Grinstead*: 'Ashdown Hydro', Danny Jarman and Ken Winstanley competing in Brighton Hydro Event. **7th** (Aeromodeller Annual) Peter Miller, *Sudbury*: 'The beauty of FF scale', Dennis Binneys Bleriot soon after launch.

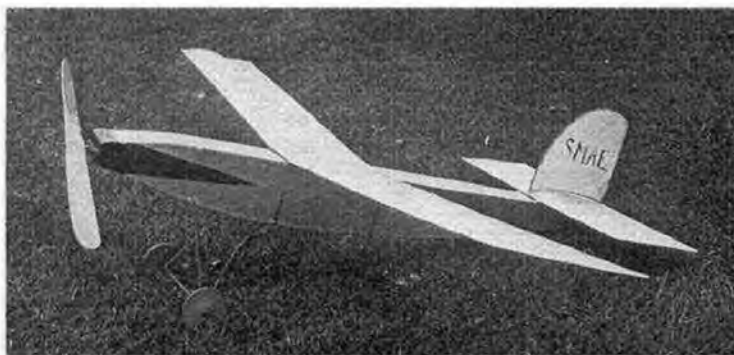
Colour Slide Section

1st (Kodak EK 100 Instant Camera and film) R. Blenkinsop, *Leamington Spa*: 'Taxying for Take Off', Float Plane Pitts Special owned and piloted by Sqdn Leader J. Crampton, DFC, AFC, pictured off Seaview, Isle of Wight. **2nd** (Cosina Compact Camera) David Kew, *Kingston on Thames*: 'Start 'em Young', seven year old Alex Kew busy building a Keil Kraft Playboy kit in his attic workshop. **3rd** (Kodak film and Photography Yearbook) R. Palmer, *Eaton Bray*: 'Heads', Westland Widgeon flown at SVAS Club Day.

To the many who entered and were not among the top prize winners our consolations, but don't despair, so many interesting model photos were sent in, that we would like to make a regular event of featuring readers' models, it all depends on a regular supply of black and white prints. To those who might feel they missed out on the contest, it's not too late, send us pictures of your modelling activity and we'll even pay a fee for each one published.

How's that for an incentive?





T. H. Newell in action, with a close up above of his Falcon, winner of the 1928 Wakefield Cup.

The 1st Wakefield Cup

described by Alwyn Greenhalgh, Honorary Historian of S.M.A.E.

Arrangements had been made to hold the first contest for the Wakefield International Cup at RAF Hendon on 22nd September 1928 but in the event, it was postponed until 29th September.

During the latter half of 1927, the Committee of the SMAE had formulated the rules for "The Wakefield Cup for International Competition" and these were in two parts. The first part contained the General Rules for all Competitions and the second, the Rules for the Competition to be held in Great Britain during 1928. The rules were as follows:

General Rules for all Competitions

1. The Cup shall be known as "The Wakefield Cup for International Competition" hereafter referred to as "the Cup".
2. The Cup shall be perpetual and shall remain the property of the Society of Model Aeronautical Engineers (Great Britain), hereafter referred to as "the SMAE".
3. The Cup shall be competed for annually unless the SMAE gives its consent to suspension owing to exceptional conditions.
4. The Cup shall be awarded to the Society represented by the entrant of the winning model.
5. Any money prizes shall be awarded to the entrant of the winning model.
6. Suitable bond for the proper care and return of the Cup shall be required by the SMAE from

- any Society into whose possession the Cup may at any time be delivered.
7. All entries shall be made through the Society in each country affiliated to the International Aeronautical Federation, or through such a Society's model section, or through the Model Building Society recognised by such an affiliated Society. Though entries must be made through a Society qualified as stated in this rule, entrants need not of necessity be members of the Society through which they make their application.
8. There shall be a fee of five shillings or its equivalent in foreign currency per entrant to be paid through each competing Society and sent with the notice of entry. His fee shall be returnable after the event for each model received by the latest date fixed for the receipt of models.
9. The entrant must be the owner of the model he enters.
10. No entrant may enter more than one model.
11. At least three models must compete otherwise no competition can be held and the Cup shall be returned by the holder to the SMAE until the following year's competition.
12. Each country shall be responsible for the selection of its entrants who shall not number more than six.
13. The competition shall always be held in the open air and on an aerodrome approved by the International Aeronautical Federation.
14. The competition shall always be for model air-

- craft being neither supported wholly or in part by any form of aerostat or aerostats.
15. The first competition shall be held in Great Britain and successive competitions in the country which last won the Cup.
16. The rules for each competition shall be made by the SMAE in conjunction with the Society holding the Cup until such time as the formation of an International Committee.
17. Models may be flown by a proxy appointed by the entrant.
18. In the event of the entrant not being able to attend in person or able to appoint a proxy, every effort must be made by the Society last winning the Cup and in whose country the competition is being held, to appoint an experienced model flyer to fly such a model, but no responsibility for damage to or by such a model shall be accepted by that Society.

Rules for Competition to be held in Great Britain during 1928

1. The Competition shall be held in Great Britain subject to rule number 13 of the General Rules.
2. Each model must rise from the ground from a standstill entirely under its own power.
3. The competition shall be for duration of flight, such duration being taken from the time the model is released until it first touches some solid obstacle after flight or until passing out of sight of the judges.
4. Each entrant shall be allowed three attempts during the competition. The best of the three attempts to be counted.
5. When called by the judges, each model must be ready for flight within three minutes or the entrant will be liable for disqualification from that round, except in circumstances which are considered satisfactory by the Judges.
6. Minor adjustments may be made between competition flights but trial flights may only be made with the permission of the Judges.
7. The design of the model is not restricted except that rubber motors, air containers and fuel tanks must be concealed and that the fuselage or fuselages be fully covered and conform to the following formula: the minimum value of the Maximum cross-sectional area of each fuselage = (length of model from nose to tail).
8. Any form of power plant may be used.
9. No model must weigh more than eleven pound avoirdupois (5 kilogrammes).
10. The decisions of the Judges shall be final.

S. C. Hersom with an early A frame twin pusher.





R. N. Bullock runner up in 1928 who went out to win the 1929 competition

Letters announcing the International Model Flying Contest had been sent to all countries who were interested. Although acknowledgements had been received, no entries were forthcoming and expert opinion in Britain considered that few overseas enthusiasts would participate. Although a party of American aeromodellists had visited Britain in July 1928, they were unable to stay for the contest and in any case, no entry had been received from the USA due to the fact that "the lines along which American aeromodellists were working were so very different from the rules laid down for the Wakefield Cup as to be too severe a handicap for them". They hoped however, to be able to compete on more even terms in the following year.

Up to mid-September 1928 no overseas entry for the International Model Flying Contest had been received. At the Model Engineer Exhibition, held from 15th September 1928, Mr Juste van Hattum the eminent Dutch model builder, heard on visiting the SMAE stand that no competition had been received from other lands and he

D. A. Pavey displaying a most unusual compressed air driven model, standing behind is an early form of fetchermite.



very sportingly offered to enter for his native country. Hence the competition could be held after all and in order to await the model from Holland, the competition was postponed until Saturday 29th September.

To select the British Team the preliminary trials were held at RAF Hendon on Saturday 1st September. The weather was not very good, the wind being gusty and blowing from the "Auxiliary Squadron" side of the airfield. Attempts to fly were made on the "Colindale" side of the airfield but with disastrous results, R. N. Bullock's model colliding with hangars on three occasions. After moving over to the other side of the airfield conditions improved a little and better performances from the models were forthcoming.

Trials

The results of the preliminary trials were as follows: the times are in seconds:

H. T. Jackson 30½; 16
J. E. Pelly-Fry 30; 41; 47½; 41; 26½; 53.
T. H. Newell 27; 23; 35; 40½; 42½; 42½; 48½.
S. R. Bradley (model flown by W. E. Evans) 11; 14½; 16; 17.
R. N. Bullock 26; 32.
S. C. Herson 29½; 37½; 13½; 31; 25; 21½.
Saturday 29th September was not a particularly good day for flying models. The wind was fairly high but not as gusty as it had been on 1st September.

The Dutch entry was flown proxy by Mr B. K. Johnson and the model required a fair amount of trimming and some additional power in order to entice it to rise from the ground. H. T. Jackson was unable to attend, so D. A. Pavey replaced him as a member of the British team.

The results of the contest were as follows:

	Entered by	DURATIONS (In seconds)		
		1st flt	2nd	3rd
Holland				
Low Wing Monoplane	J. van Hattum	x	9½	x
Great Britain				
Monoplane	T. H. Newell	5½	30½	52½
Monoplane (Firefly type)	S. R. Bradley	24	14	x
Monoplane	G. C. Herson	23½	28	Retired
Monoplane	R. N. Bullock	5	5½	38½
Mono light plane	J. Pelly-Fry	25	16½	33
Monoplane -				
Single surface wing	D. A. Pavey	13	40	Retired

x indicates model failed to take off.



James Pelly-Fry who flew proxy for USA's Gordon Light in 1933 and nearly beat the opposition. Two years later Gordon Light himself won the Trophy

During the morning, the President of the SMAE, Sir Sefton Brancker, arrived in his DH Moth G-EDCA, and was received with great enthusiasm. His presence vastly encouraged the competitors. The competition was flown off on the "Auxiliary Squadron" side of the airfield, never considered to be the best side due to turbulence on all but the calmest of days, but that side of the field had to be used because of the wind direction prevailing.

The actual contest was uneventful. The Dutch model did not perform very well but nevertheless, without this model the competition could not have taken place and the SMAE were very grateful to Mr J. van Hattum for his sporting gesture, and said so at the time.

Tommy Newell, with his model "Falcon" was a worthy winner of the contest. He was a quiet and diligent model builder who had developed a strain of models of which the "Falcon" was the ultimate.

The Newell "Falcon" was 41 inches wing-span, 27 inches in length and the propeller diameter 12½ inches. The construction was of spruce and the covering Japanese silk. The model was powered with a three-skein rubber motor, geared together at the nose, each skein consisted of four strands of ¼ in by ½ in rubber 36 inches long. The weight of the model was eight ounces.

The first International Model Flying Contest was made possible by the generosity of Sir Charles Wakefield in providing the Cup, but in order to achieve the event a great deal of work and foresight was needed by the Council and Committee of the SMAE of those days. The time and encouragement so freely and ably given by their President Sir Sefton Brancker, himself an extremely busy man, contributed very much indeed to the success of a venture which continues to exist; we must be grateful to them all

BOOK REVIEW



JANES WORLD SAILPLANES & MOTOR GLIDERS by Andrew Coates, published by Macdonald and Janes, London. 192 pages fully illustrated with photos and 3 view drawings. 10½ x 8in (265 x 205mm) hardbound price £6.95.

This superbly illustrated reference source for glider fans covers more than 170 types of gliders from 19 nations. The contents include historic pre-war gliders, experimental ones and home built designs plus details of motor gliders. Each aircraft is presented with 3 view scale plan and full specification.



FLYING SAFELY by Richard L. Collins. Published by Adam & Charles Black, London. 276 pages 8½ x 5½in (215 x 135mm) hardbound, price £4.75. Richard Collins started flying in 1951 and has spent more than 15 years analysing flying accident reports to discover that most of them cite the pilot in command as the probable cause. Pilots do not fail on purpose, most often they expect too much of their airplane or operating their own levels of skill. Flying Safely helps build up an understanding of safety problems, covering such points as understanding the weather, mechanical malfunctions, mid-air collisions, in fact everything the pilot needs to know to make his flying safe as it can be.



AIRSHIPWRECK by Len Deighton and Arnold Schwartzman published by Jonathan Cape, London. 73 pages fully illustrated with historic photographs 8½ x 10½in (215 x 265mm) hardbound price £4.95.

A comprehensive survey giving account of the demise of airships wrecked by accident or war. The use of contemporary photographs of these disasters makes this a fascinating historical document and clearly illustrates the impressive scale of these momentous projects. The history of the airship is not exclusively one of disaster but nevertheless, Airshipwreck makes sensational reading.

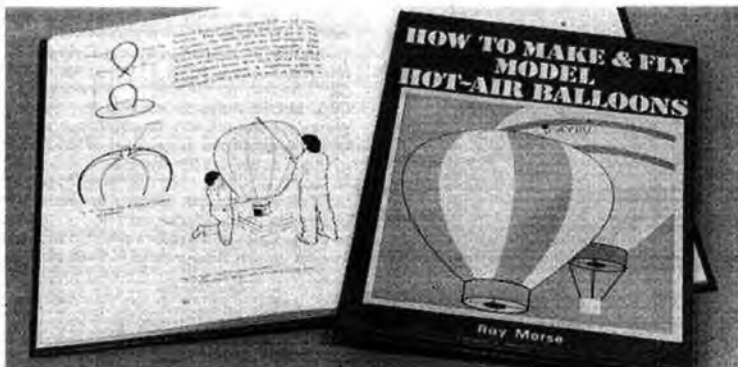
WORLD AIRCRAFT, WORLD WAR II Part I & II (Books 3 & 4) published by Sampson & Low, Maidenhead. 320 and 316 pages fully illustrated with 3 views, profiles and colour sketches, 7½ x 5½in (200 x 135mm) hardbound price £4.25.

Following on from two previous volumes of World War I aircraft, the third and fourth volumes cover aircraft of various nationalities which participated in WW2. A most comprehensive guide, the colour illustrations give details of aircraft markings, camouflage and insignia plus specific details and 3 view drawings of literally hundreds of different aircraft.



HOW TO MAKE AND FLY HOT AIR BALLOONS by Ray Morse published by John Murray, London. 65 pages fully illustrated with plans and diagrams 9½ x 7in (235 x 175mm) hardbound price £3.50.

Model hot air balloons can be simply made from coloured tissue paper using simple household tools. Ray Morse who has demonstrated his models on television, provides all the ideas and know-how to construct model balloons that will really fly. A fascinating hobby for young and old, this book tells you all you need to know.



Undoubtedly the largest Rally held annually, in the North this "Mini-Nationals" boasts no less than 11 F/F events, three R/C and eight Control Line, and serves as an aeromodelling showcase to the public.

Unfortunately this ambitious project was quenched this year by high winds and torrential rainfalls which reduced public attendance to a very low level and severely handicapped all classes of competition.

Despite the conditions of the preceding few days and the dismal forecast the previous evening, modellers attended in good numbers from a widespread area, though the R/C site did not appear to have the usual level of attendance and flying appeared to be sporadic.

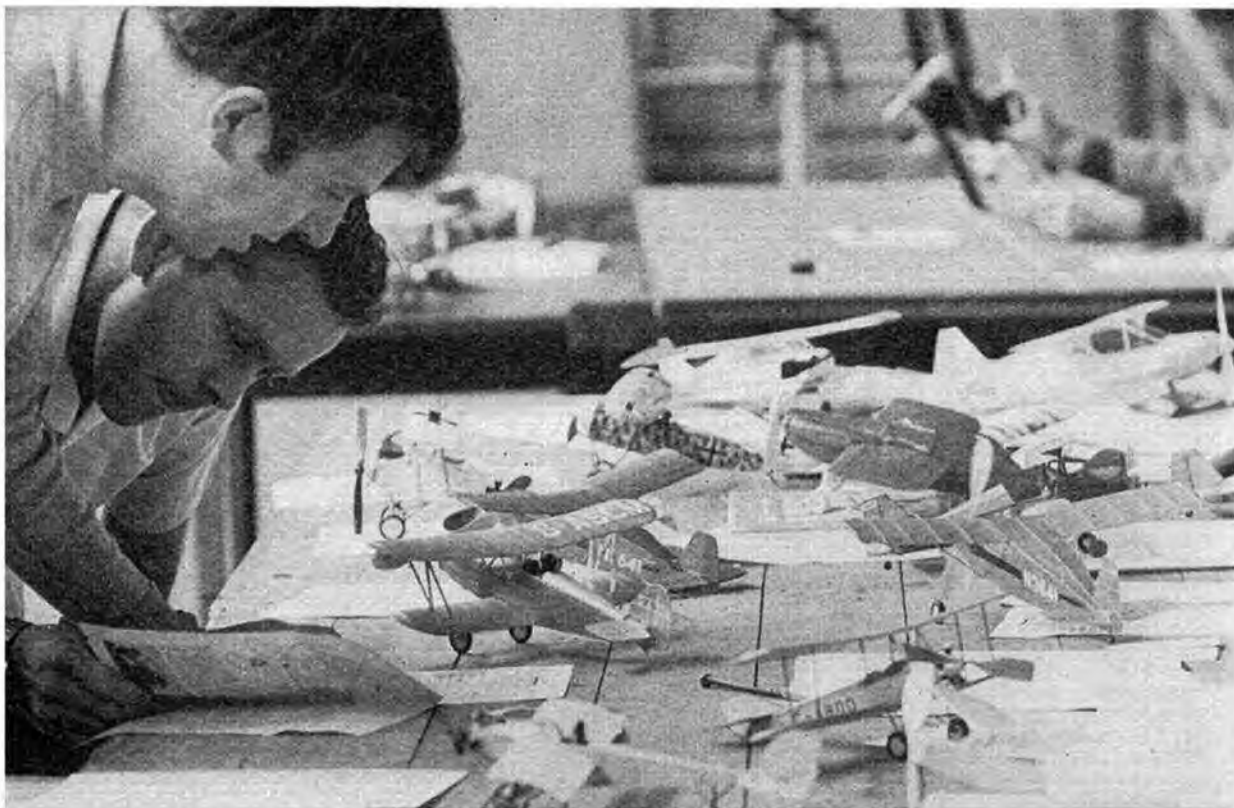
In general the control line events were least affected by the windy conditions and the large concrete dispersal area at Elvington was quickly covered with various team-race and Goodyear circles together with a section roped off in which Speed took place. On the nearby grass Combat went ahead alongside the Mini-Goodyear event, in which enthusiastic youngsters (many from the Allerton Grange School Club) and Dads flew nonstop all day and were still going strong after 6 p.m. when most others had left the field.

Free Flight was badly handicapped by the wind and rain but eventually a substantial number of people braved the weather to record scores; due to wind and poor visibility at times, the max for all but the Mini event was set at 2:15. Increasing numbers of people flew during the afternoon when it became obvious that conditions were not going to improve, or when they had finally got so wet themselves that further exposure really didn't matter. It is indicative of the conditions that only three trebles were recorded - luckily in separate events so the added misery of a flyoff was obviated.

The organisers can only express thanks to those who came and competed regardless, with the assurance that the weather next year *has* to be better - it certainly cannot be worse.

Some of those to brave the rain were: 1. Andrew Gibson (Wharfedale) with Merco 35 o/d. Peter Lormer (Wharfedale) with Merco 29 o/d Barry Robinson (Newton Aycliffe) Merco 49 o/d 'North Wind'; 2. Nick Walton (NA Secretary) (York) waits to fly assisted by Gilmore Tom Chambers and Gerry LeVey; 3. Alan James (Leeds) flew Frog 80 powered APS Walrus, appropriate model for the conditions; 4. Brian Harding (Darlington) won Vintage with APS Fugitive - 3 maxes (2:15); 5. Dick McGladdery (Feltham) with unusual piped/muffled OPS29 speed model, Fast and quiet; 6. Leicester junior John Abbey used wing/stab covers until immediately prior to launch. Severe wing flutter in wind; 7. Maurice Thompson (York) wipes down 110in Piper J3C. Built from Bud Nosen plans with Quadra 32cc it weighs 17lbs. Has CAA permission etc. 8. Combat finalists John Highton, Peter Wyke, both Huddersfield. Wyke won final, both used S/T G20/15; 9. Ross Baker and Peter Kay (Sutton in Ashfield) with Rossi 15RV FAI Racer.





RAFMAA Cardington Indoor Scale Meeting. Judges Richard Bould and Nick Zotov working through the large Peanut Scale entry.

Scale Matters

Alan Callaghan relates all the news and views on scale modelling topics

RAFMAA Indoor Scale Meeting, Cardington, 23rd July

The report of this meeting is somewhat overdue due to various World Champs coverage articles, but the event was significant not only because of the scarcity of such meetings at this venue in 1978, but also because RAFMAA made the event open to SMAE members outside the service. We were surprised that so few took advantage of the offer at this our largest indoor site, but perhaps the original advert was not quite clear enough about the open entry. A similar meeting in September was also accessible but I was unable to attend this. Watch the contest calendars carefully for future events similarly arranged. Despite the lack of response at the July meeting, a total of twenty in peanut scale, and five in CO₂ scale, made a generously sized contest with plenty of time and space for people to enjoy themselves. The well-subscribed peanut event was won by Rex Oldridge with the heavier of his two Isaacs Furies; I placed second with my ancient Westland Widgeon, now probably

living on borrowed time, and in third place came Harry French with his unusual 'Bearcat'. Due to the placing system being used, Rex and I actually tied for first place, but this was broken by awarding top honours to the higher static score of Rex's model.

Rick Lorente won CO₂ scale with his large 'Supermarine Sparrow', second place went to Noel Stevenson with a 'Sopwith Tabloid', and third went to my own 'Udet Flamingo'. I could not get the 'Flamingo' to fly at all, and was most surprised at this placing. I feel that there is no need to use the placing system in either Open

or CO₂ events, since the marking method is entirely different to Peanut scale where it is more commonly used, and usually there is a clear order of position. This is assuming, of course, that the maximum amount of points available in both static and flying are roughly the same. This was a very enjoyable meeting with only the slightly cold and damp air - it rained all day outside - having an adverse effect on the models. This did not prevent Bernard Hunt returning a time of 3min 28sec with his very ghostly ultra-light Peanut 'Piper Cub', though!

CARDINGTON RESULTS CO₂ Scale (5 entries)

		Static	Place	Flying	Place	Final
1.	R. Lorente Supermarine Sparrow	61	2	174	3	5
2.	N. Stevenson Sopwith Tabloid	38.5	4	784	1	5
3.	A. Callaghan Udet Flamingo	66	1	—	5	6
4.	G. Ellis SPAD	35	5	637	2	7
5.	R. Vian Vickers Vulcan	57	3	5	4	7

Peanut (20 entries)

		Static	Placing	Best 2 Flights	Placing	Final
1.	Rex Oldridge Isaacs Fury	50	4	112	3	7
2.	Alan Callaghan W. Widgeon	48	5	116	2	7
3.	Harry French Bearcat	55	1	60	9	10

Making wheels for any kind of scale model is always quite a problem unless one is lucky enough to own or have access to a small lathe. A number of methods have been dealt with in the Scale Column over the years; some have required lathe work, and other have not. On large outdoor models the problem is not so great because it is occasionally possible simply to buy the required type in the right scale marketed by manufacturers such as Williams Bros., or, alternatively, modify some other easily-obtainable type. With the rising popularity of small scale models the problem is made worse because there is not such a wide range of commercial items that may be adapted to any particular need. Indoor scale models are poorly served because with the exception of Fulton Hungerford's superb ultra-light spoked wheels most of those generally available are a little on the heavy side. It is not too difficult to make 'hard' wheels, i.e. turned from balsa and suitably painted, but these tend to show wear very quickly if the model is flown much. I am, therefore, very grateful to John Bray of Peterlee, who has sent in the following method of making soft tyres. "The tyre is produced by inserting a dowel of the correct size (about 14-15mm) into the neck of a straight-sided toy balloon. The balloon is then rolled back on itself until a tyre of the correct size is formed. The tyre is then cut off and the join is secured with 'Evostik' or similar adhesive. This produces a tyre with no visible joint."

Naturally one must use either a black or grey balloon to begin with, and it is possible that a cyanoacrylate glue may work better since it works very well on rubber; and because it has no bulk, some of the slight little bumps as seen on the tyre John sent for examination may be avoided. One can see that tyres made this way could be fitted to any type of hub, but John's method is to use a ring

Below: Small scale wheel with soft tyre devised by John Bray of Peterlee. Method described in text. Right: Scribing Plastic discs with a pair of good dividers ensures perfectly circular wheel discs.



John Blagg takes a very close look at Steve Sauer's (USA) Fairchild Ranger. Magnificent yellow/white model placed 9th in R/C Scale at Woodvale. Tiny copy of 'Playboy' wedged into windscreen!

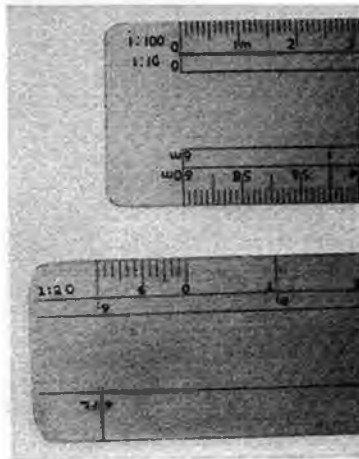
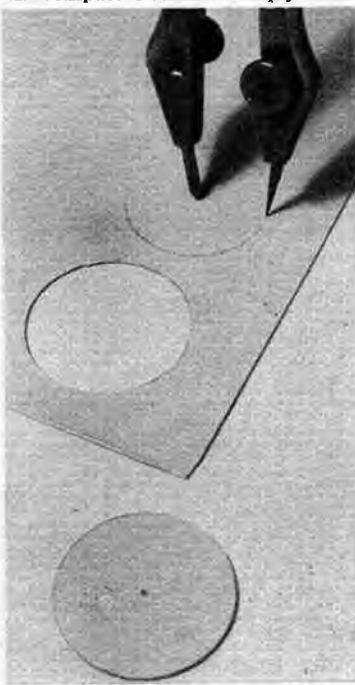
sliced from a bamboo cane with a balsa disc insert put in the centre. Slightly dished wheel discs are moulded from plastic card over the head of a suitable drawing pin. This altogether makes a very presentable little wheel fairly quickly and cheaply and is one of the cleverest ideas I've yet seen for use on a small scale model.

Wheel discs themselves can sometimes be difficult to get right, since any irregularities in the line of the rim tend to be quite noticeable. One method I have used to cut all sizes of disc in either acetate or plastic card is to use a good pair of springbow compasses as the cutting tool. No special modifications are required but it is preferable that the points are very sharp. The cutting point is best left round and not flattened if you are sharpening it specially. A flattened chisel point will tend to wander as the compass is rotated. Simply scribe

the disc to the right size quite gently as if you were drawing a circle, and after two or three turns, turn the work over and continue from the reverse side. Repeat this until the disc comes free. The technique can also be used on either dished or moulded conical covers with the same success. Note that the divider point in the centre has been reversed so that the short stub point prevents too large a hole being made in the centre. The long tapered end of the other removable point is used for cutting.

Two months ago in the report on the Woodvale FF International I mentioned that a number of models were let down in their documentation due to having poor dimensional scale rules. I am including a photo of two scale rules this month showing how the markings are best set out in either metric or imperial measure. The rules shown are of a type normally used by architects and surveyors, and they show the standard method of marking. They can, of course, be made by a modeller to any length required, remembering that of the two rules needed one rule should be to the same scale as the drawing presented, and the other to the scale of

Correct markings for Scale rules: top: metric bottom: Imperial. Note that on Imperial scale the subdivisions (inches) are to the left of zero.



the model and be capable of measuring the longest dimension of the aircraft. The rules in the photo have been aligned vertically on a pencil line to indicate zero. Note that the metric scale (top) begins exactly at nought, and a simple measurement such as 3.2m is a straightforward reading from the 1: 100 scale. On the lower (imperial) rule notice that the subdivisions into inches are set out to the left of zero. This makes it very simple to measure, for example, 2ft 4in or 3ft 2in without any further calculation. Had the subdivisions be set out between zero and 1, every dimension taken would need to have 1ft subtracted from it to arrive at the correct figure! Life is so much easier when the correct markings are used. A good basis for making a scale rule for your model is a length of normal trailing edge moulded stock (choose a *hard* piece for once) with a strip of thin card or stiff paper glued to it to take the markings which should, if possible, be transcribed from a proper scale rule. For a small model a good alternative is a strip of plastic edge binding strip frequently used to hold brochures, etc., together, and which seems to be obtainable from any good stationers in lengths of up to two feet or so. Markings are best put on these with a sharp compass point or modelling knife.

"LYING ACES"? That can't be true. Commemorative T-shirt worn here by Pat Daily of Washington D.C. with Fiat G50bis Winner of WWII event. Right: Hanover CI.3A based on Cleveland plans by Ralph Kuenz, Below: Mammoth Curtiss F11C2 Diesel powered FF. by Ken Bagdon.



Add a little character to your models! Carved balsa pilots for indoor scale models by author. It is possible to achieve much realism by this method. Fellow at right has seen a few near misses!

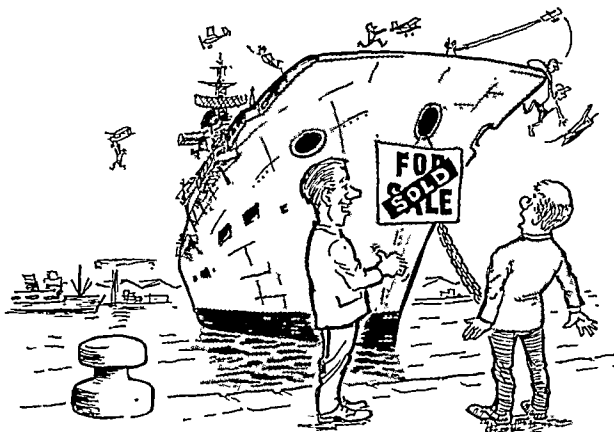
Another item arising from the Woodvale meeting is the subject of pilots. Scale pilots have never been eligible for any marks in contest flying (apart from peanut scale) because whilst they can definitely be argued as being part of a model, they are not in any real sense part of the full-size craft. This leads to the situation where some people put a great deal of effort into their 'drivers' for the sake of appearances, yet others, even if they bother at all, only make a token figure since no marks are gained or lost from it. Mick Reeves' easily recognisable scale model of himself in the cockpit of his RC World Champion Fournier RF-4, and Bill Hannan's pilot in his Farman Moustique are excellent examples of the first mentioned approach seen at

Woodvale. There is no doubt that a good scale model benefits from having a good pilot in place, and perhaps there are grounds for having it marked as a separate item in contests, say out of ten, if there are those interested enough to make a decent feature of it. I include a photo of two pilots of my own previously used in indoor scale models to show what is possible simply by carving from balsa and painting with matt enamels. No doubt these could easily be improved upon by someone with a talent for, and much practice at, painting model soldiers. These two did not take a great deal of time to produce and seemed to me to be a sure way of adding a little extra character (pun intended!) to any model.



TOPICAL TWISTS

from "Pylonius"



Future Tense

Reading about a model glider for the year 2000 as an entry in a school award scheme made me wonder how such a model might be flown at that time hence, future trends continuing as they are: November 1999.

"As part of the coming bi-millennium celebrations the organisers hope to put on a most unusual demonstration: a flight by a miniature flying machine, if, that is, the necessary clearances can be obtained in the limited time available. The small machine, termed a model glider, was designed and built on a manual processing system long since obsolete by a number of young persons under educational tutelage, then known as 'schoolboys', way back in 1978. Being from the pre-synthetic age, the model was constructed in a now obsolete wood called balsa and covered in a lightweight material, a non-plastic form of paper now unobtainable. Senior citizens may remember that such model machines of the period were often controlled by a primitive radio system which continued in use until the Radio Communications Act of 1984. They may also recall that the last recorded flight of a model machine was made just two years later in a Hebridean public utility area, then known as a park.

"Permission to re-construct the machine has already been obtained from the Public Resources and Energy Conservation Office and the Amalgamated Engineers Union, and subject to clearance from the Air Ministry and Chiefs of Staff it is expected that a licence for a flight demonstration may be granted by a special act of parliament.

"In the event of no suitable launching area to be found on the mainland there is a possibility of using an abandoned oil platform in the North Sea, if international agreement can be reached."

Windy Corner

After a single unnerving flight in a veritable model mangler of a wind, and reluctantly abandoning flying for the day, I got home only to read an article about wind, in which it was claimed that it has no effect whatsoever on the reactions of an aircraft in flight. It did not say anything about the reactions of the people who fly the aircraft, such as mine of hastily clamping the lid on the model box.

It would seem the theory expounded is very much on the lines of taking a bowl of goldfish on a jet aircraft. The fishy little blighters will continue to swim around just as diligently as ever in spite of the rapid speed at which they are travelling – never mind if they are airsick as a result. Much the same could be said for walking on the surface of the earth. You are being hurled around at something like a thousand miles an hour and speeding off into space at an even more breathtaking speed, yet you don't feel a thing – unless, of course, you happen to get mugged. It is all very baffling. In spite of the sternly reproof theories of moving volumes of air being constant, in the face of a furious wind my lightweight Coupe D'Hiver just flops over on its back and all but cries for mercy.

Still, its nice to know that armchair model flying gives such comfort to the theorist.

"Carrier event be blown—that's our new flying field!"

Chips with Everything

Odd, the things you read in the model press. It seems that a certain reverend gentleman takes an interest in celestial creatures other than seraphims, cherubims and sundry angelic hosts, for he has built a radio controlled robot based upon a "Star Wars" character. We are told that he makes such models purely as a hobby, as a fill in between writing the weekly sermon, and not, as some people might think, as a means of augmenting his perhaps meagre congregation, though this must have its appeal as the well programmed robot is not likely to nod off during a long sermon.

But the idea of a robot to do your bidding is something we can all look forward to, happily or otherwise, thanks to new electronic advances. Already in the factories the silicon chips are down, with the mechanical arms taking over the production lines. That new model you so much admire is not the proud creation of a master craftsman, but just another example of micro processing – untouched by hand, human, that is.

The robot should have a particular appeal to the model man who thought he had everything. For instance, when ready to buy his next ready built, radio installed model, he would not have the bother of finding a parking place in town; he could just send along "Bleepy" suitably equipped with electronic bank card display. To fit the popular image it could be dressed on such occasions in school cap and blazer – a bib and rompers might be going just that bit too far.

On the airfield, too, the robot would come in quite useful. One of the most tiresome jobs on arriving at the airfield is assembling the model and setting up the gear, particularly if there is a cold wind blowing and you are snugly settled in your car seat. You could just sit back and let "Bleepy" get on with it, which it will probably do better than you anyway, although you could have a moan circuit built in to give a touch of atmosphere. Taking the whole thing a step further it might not be necessary to leave the car even to fly the model. After all, its no fun hanging around the take off area with all those hairy models whizzing past your trembling ears, not to mention the noise. "Bleepy" is well equipped for such proceedings with its sound filter receptors and armour plating over its vital parts. Suitably programmed it could put the model through all the desired routines while the modeller enjoys from a safe, grandstand seat.

Just imagine, too, what effect a small army of tough looking robots might have on the flying field problem. The noise complainants and other kill joys could well have second thoughts before upsetting such a formidable looking bunch; and service people would be calling them "sir" in no time at all.

Perhaps most important of all you could enjoy all the fun of model flying without incurring the risk of being thought childish. If the issue did arise you might grudgingly admit that "Bleepy" is not all that adult, yet, but you have some top scientists working on the problem.



Happy group of competitors with their prizes after the last contest in the 1978 Sweepette IHLG Series held in the airship hangar at RAF Cardington. Back row left to right: Chris Edge, Julian Masterman, Steve Philpott, Phil Ball, Pete Bayram, Dave Hipperson, Bill Simms, Dave Edmondson and Mick Page. Front row from left: Ian Dowsett, Gary Dowsett, John Buskell, Kevin Brown and Bryce Malton.

Free Flight Scene

SWEEPETTE TROPHY by Mike Fantham

Third and Final Heat - Cardington 17th September 1978

The final meeting proved to be a great climax to the season long Sweepette Trophy Series, with a very wide open contest after two earlier heats. At least five flyers were in with a chance to take the award - if only they could sustain their performance. The form book was torn to shreds however by a young man from the Crookham Club, John Buskell, who made his first appearance at the second heat in July. After placing second in that event, he went on to set a new British Record of 71.5 seconds.

Difficult to improve on that? Not for John. He took away the lessons of that meeting, built a new model, and returned to dominate the final event with two scores that were above his own previous record! - six of his ten flights were over one minute (61,69,74,31, 55,61,32,52,68,73). These contest flights prompted him to try even harder after the event and in the cooling conditions he then produced a magnificent 78 second flight which is the subject of a new record claim.

Gary Dowsett, top Junior overall receives an armful of goodies plus the Junior Cardington Cup from Sue Hipperson. Prizes include full skateboard rig; careful you don't break that arm Gary.



The model John used is fairly large at almost 24 inch span (604mm) but the most noticeable feature is the high aspect ratio wing with only $3\frac{1}{2}$ inch root chord (90mm). It is fairly heavy at 29 grams, just over one ounce.

John's average time on the four flights which counted (best two of the three heats) was 66 seconds. Overall second placed Phil Ball's average was 59.25 seconds. A glance at the overall scores will show how evenly matched the three were who followed John home. The overall best Junior Gary Dowsett was not seriously challenged but he improved enough to score a highly creditable 66 seconds flight at the last meeting.

The final 12 inch span event was won by, (guess who?) John Buskell with his first two throws!

To bring a very pleasant close to the proceedings, Sue Hipperson agreed to hand out the large number of prizes and the two trophies - thanks Sue.

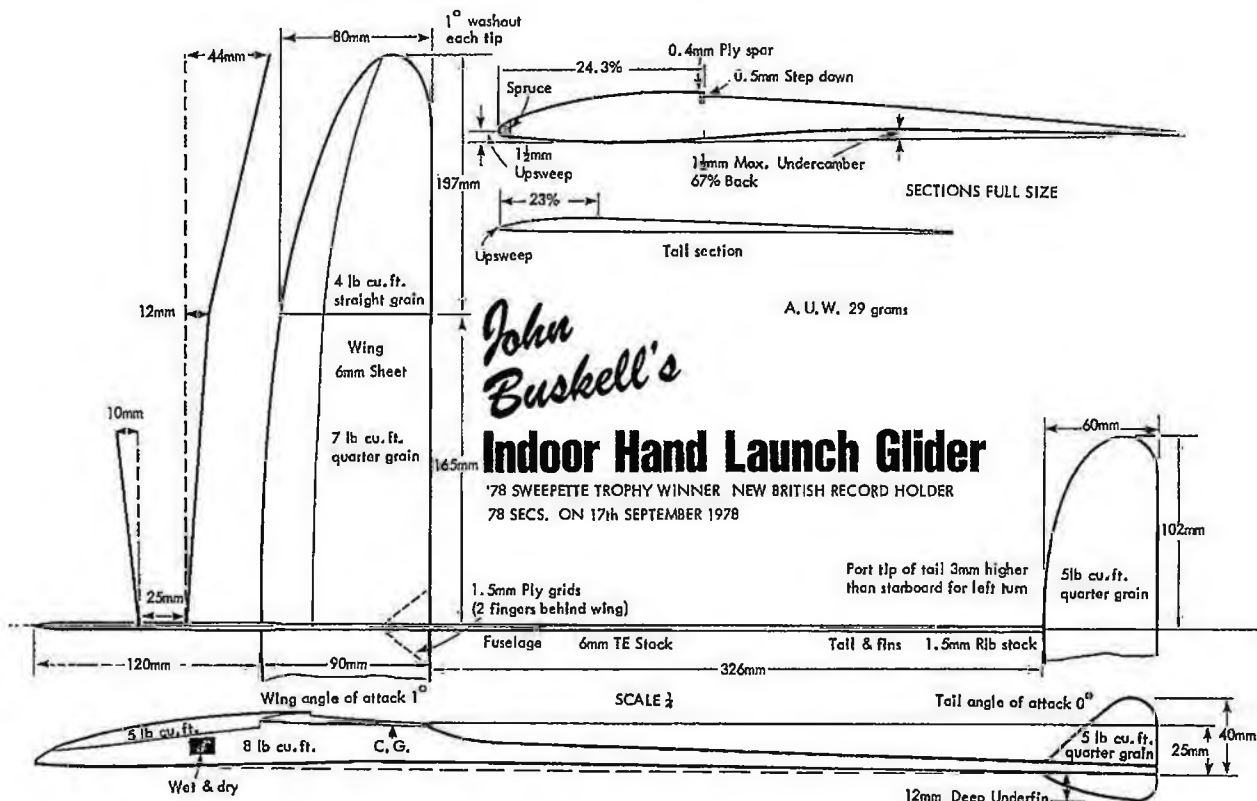
In closing I would like to thank all the people who helped make the series a success. The Cardington authorities who provided the site, the invaluable riggers who retrieved wayward models from the girders, and the Indoor Committee of the SMAE.

Thanks go to the sponsors who generously donated a huge array of prizes: Solarbo Ltd - wood (89 sheets); Jones Bros, Turnham Green, Kits; Radio Models, Mattock Lane, West Ealing, Kits and book; Ealing Sports, The Mall, Ealing, Junior Cardington Cup; Lee Hines, Costa Mesa, California, 'Sweepette Trophy'; Geoff's Stores, Penn, Bucks, Skateboard plus complete outfit.

The series has I feel achieved its aim of encouraging some major improvements in indoor hand launch glider development and has certainly discovered a new talent and produced a very respectable new British Record, so here's to the next series.

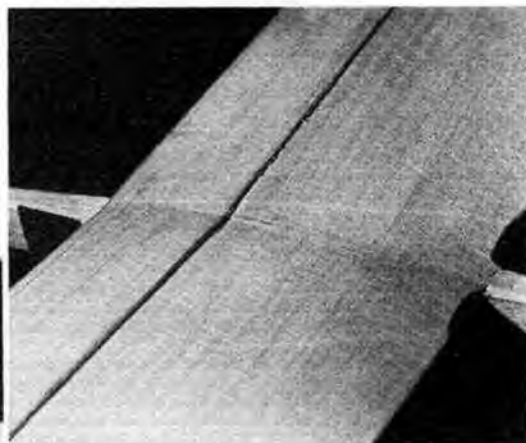
Sweepette Trophy Results. 3rd Heat, Cardington Sept 17th.
Open (12 entries). 1. John Buskell (Crookham) 74+73 = 147, 2. Steve Philpott (Whitefield) 57+61 = 118, 3. Mick Page (Peterborough) 63+54 = 117. Best Junior Gary Dowsett (Northwood) 46.5+66 = 112.5. 12 inch Span Limit (5 entries). 1. John Buskell (Crookham) 49+50 = 99, 2. Mike Fantham (Richmond) 47+49 = 96, 3. Mick Page (Peterborough) 44.5+44.5 = 89. Best Junior Bryce Malton (Peterborough) 38+42 = 80.

Overall Sweepette Trophy 1. John Buskell (Crookham) 117+147 = 264, 2. Phil Ball (Grantham) 122+115 = 237, 3. Pete Bayram (Richmond) 120+115 = 235, 4. Mick Page (Peterborough) 117+117 = 234, 5. Steve Philpott (Whitefield) 107.5+118 = 225.5. Best Overall Junior 1. Gary Dowsett (Northwood) 106+112.5 = 218.5.



John tells us how it's done: "When flying indoors a consistent throw is essential, a duff launch can put you in the rafters or sweeping up the places. Trim the model to suit the type of throw which is most comfortable for you. As regards technique, I personally try to get a javelin throwers launch, but using a short run-up. At launch the body weight is pulled back and is transferred onto the back (right) foot (I am right-handed) by sort of rocking back at the same time the arm is held straight back as far as it will go. As the momentum of the run carries one forward, the front (left) foot is placed hard down almost as far forward as it will go, then by using the body as well as the arm, the model is released. Follow through is essential or injury will ensue. Warm up of at least half-a-dozen flights on 50-80% full power is also essential if elbow ache (tennis elbow?) is to be avoided."

John Buskell, overall winner of series, with the Sweepette Trophy and his 78 sec model, holder of a new British record. Trophy made by Ian Dowsett consists of a halfscale model Sweepette actually made by Lee Hines, the designer in California, mounted in a perspex box on a wooden base. Close up detail of revolutionary stepped aerofoil wing used by John (Right).





OPEN RUBBER – Brian Stout

At last years York Rally Brian and I made 5-6min flyoffs flights to take us both many fields out of Elvington. By some extraordinary coincidence when we located our models they were both up the same tree! This was in the days of Brians small models I don't think there would be room for both our models up the same tree if he is going to make a habit of flying aeroplanes as big as this one.

It's a big model – over 350sq.ins. and is built to last, the airframe alone tipping the scales at nearly 6oz! Perhaps rather generously constructed it has a fully geodetic wing structure and close inspection of this component makes one think that it would be quite at home on a 0-9 power model.

However the best models have quite regularly not been the lightest and this one has already won the Gamage this year and come within a whisker of topping the Nationals as well. I for one will be most concerned when I have to fly against it on the same aerodrome.

Wing

Tail

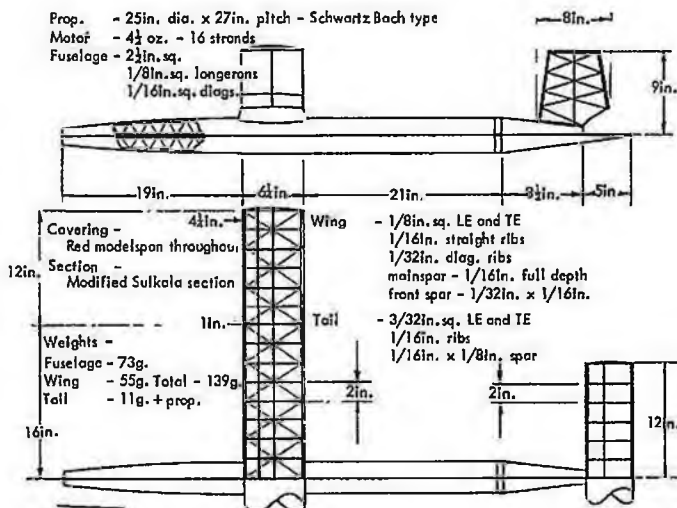
THURSTON TROPHY – RAF Champs – Halton – 5th August 1978
The Thurston Wakefield Trophy has traditionally been the only event open to civilians at the RAF Champs. So it was this year, although a number of the considerable pre-entry had obviously been put off by the change of venue from Abingdon to the much smaller Halton and the coincident breezy conditions.

Some credit for the event being possible at all must go to Flt Sgt Toohey, the Contest Director, who sensibly set a 2½ minute max. Incidentally throughout the day competitors were allowed to drive around the aerodrome to wherever they wished to fly from, something that in my recollection – and it dates back to '63 – has never been allowed before. I wonder if any of those past contest organisers ever even asked if we could?

The westerly allowed flying down the longest side of the drome and then over some reasonable fields even if they were rather over populated with cows and bordered on their upwind edge by a most awkward brook. At the start of the day this line was fine but occasionally the wind would swing a few degrees and enough to take models that were not quite maxing into or just over a very nasty wood. A move of take-off point and the woods were once again avoided. With the breeze a 10.30 start and proceedings ending at 4.30 – seven flights was no easy matter. There were no rounds but in retrospect they were hardly needed as to complete the schedule involved flying and returning swiftly and flying again continually throughout the day. Lost models could be an embarrassment and so it was that the eventual winner was actually down to his third model at one point with an early flight in the woods (before the control move) and another mislaid only 2/3 the way across the drome!

There had been some mention that the wind would lessen during the day and although it did, not enough for anyone to take large advantage of it. To have flown boldly early on meant less of a need to rush the critical last flights. This made a decisive difference in a number of cases. Foster had started excellently with four maxes and Howick also was flying well on the advice of a Thermistor, which seemed to tell him to fly in the warm and calm patches that you could feel on your face! Nevertheless the system worked well

Prop. – 25in. dia. x 27in. pitch – Schwartz Bach type
Motor – 4½ oz. – 16 strands
Fuselage – 2½in. sq.
1/8in. sq. longerons
1/16in. sq. diag.



B.M. Stout's open RUBBER
1st place Gamage Cup '78
2nd place Model Aircraft Trophy '78

for him and he only started going to pieces at the end. Also in contention all day was Croydon's George Sharp, who dropped nearly 30 seconds on one good flight by d'ing himself early! He slipped to third by misjudging the moment on his last flight for another two minute flight. After only one big mistake of 1:52, Hipperson maxed through the last three flights to finish the day with 45 minutes spare and the lead as long as Pete Williams dropped 10 seconds in his last two flights. Pete's penultimate flight saw the tiny tailed model high and away for a fine max. However he had left it a little late and after a blown motor had no option but to come out to fly for his last one during the final 20 minutes when the heavens opened. The flight was made just as the downpour started in earnest and the model was literally battered out of the sky for little over a minute. He dropped to 5th – beneath Foster.

As your reporter had an interest in the prize he returned for it the next day. It started within seconds of the advertised time and all the interested parties were present! The winners were awarded Trophies and valuable keepsakes – all for an entry of 10p.

1 D. Hipperson	Croydon	16:47
2 M. Howick	East Grinstead	16:33
3 G. Sharp	Croydon	15:44
4 G. Foster	RAFMAA	:
5 P. Williams	Richmond	15:31

1978 ST ALBANS MINI GALA – BASSINGBOURNE – August 20th

It might have been reasonable to expect that with so many rival attractions on the same day (SMAE FAI at Barkston, Microfilm at Cardington and International FAI in France) that the St Albans Mini Gala held in the middle of August would have suffered from a shortage of competitors. It was not so. The Bassingbourne weather miracle prevailed and many turned up – some from the North – to sample the warm and calm.

Peculiarly the St Albans Comp Sec – who had insisted on running the event on this particular day despite having been warned of the date clashes – was absent! He left the job in the able hands of

Dave Tipper who confided that he had been off the scene so long that he hardly recognised any of the competitors! None the less he hadn't forgotten the ropes and got a nice day out in the sunshine for his trouble.

Although hot and calm the conditions were deceptive and it was too easy to pick poor air. Many started early and some with over-confidence to have their models land yards away after flights of only a minute. A1 was particularly difficult during these early hours. The wind stayed variable for most of the day with practically no drift until 2pm. At around this time control was moved to a more convenient site as the land yachters with whom we shared the facility were twitching at the thought of the wind appearing.

Julian Hopper produced a new 1/2A model in a style very much along the lines of his Superjacks. He explained that he had already been out trimming it since dawn at his local drome before returning home to wake his family and bring them all out to watch him win 1/2A! He had some slightly 'bunty' looking climbs but always got high quickly, despite being limited to an old motor on slow heads! One poor flight let him down below full score. His luck was to overrun the time he *did* launch in bad air. T. Rugby came a close 2nd only 2 seconds behind and Fletcher only one second behind him.

Many of the indoor HLG specialists were seen throwing keenly during the day. However it was furthest travelled Phil Ball that topped the results in this class finally with 4.25 from a possible 5 minutes in nine chucks. Paul Davies was seconds behind and Mike Page brought up third. Mike's miscalculation had been to risk a model without DT earlier. His best indoor model was therefore lost upwards after an 18 minute flight. Others shared a similar fate and no HLGs were safe without DT until much later in the afternoon when the lift had quietened down.

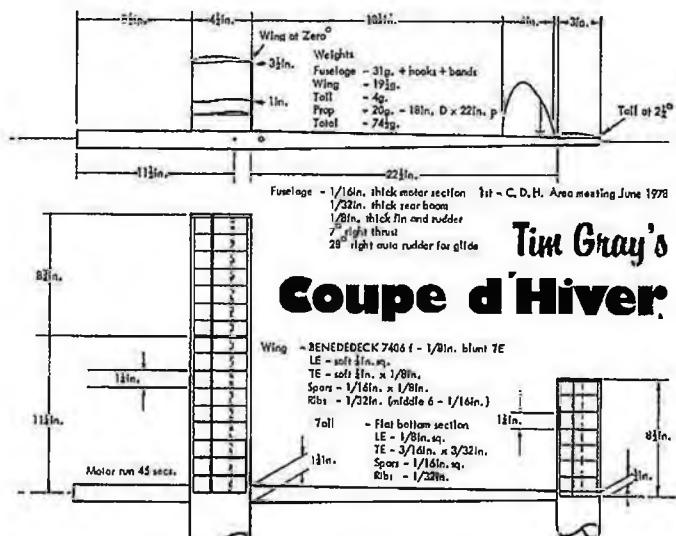
Back on the scene after some years away, George Sharp produced his first ever Coupe model – a bit of an old open rubber wing but new fuselage, tail and prop. It looked promising on test and continued to do well in the comp until one mistake in the early afternoon spoilt what might have been a perfect score. Bruce Rowe gave his big Coupe an airing but was unlucky on at least two flights. One just on the edge of lift stalled down suddenly to land in little over 90 secs. Dave Hipperson spent the morning testing open rubber models and didn't start in Coupe until after 3pm. The intention was to let the hot conditions fade a little so that thermal detection would be less critical. It paid off although the third flight was shaky. Made after a long wait wound up and in a cool breeze the resulting 1.45 was good enough to continue. The next flight was in good air but D.T'd down early to keep the model out of the corn and George Sharp who had the top total, on the edge of his seat. Minutes before the close of the contest Hipperson put on a motor blowing demonstration. It took eight attempts to get a motor to hold and even then he opted for safety and only wound to 75 per cent for the eventual flight which needed to be 1.49 or better. His Antoo maxed and drifted slowly enough for him to catch it at 2.05. Sharp who had been observing the pantomime with a keen interest was 2nd. With three out of four of this year's National Mini Champions in attendance it was not surprising that the standard of flying was high but in Coupe it was particularly so – no less than five of the entry of 17 scored over 9 minutes. Compare that to the sort of performance reported in this class some ten years ago.

In A1 Kenny Amos cleared 9 minutes to take a comfortable lead over May 1½ minutes behind. Amos also won the top junior award and therefore collected that too at the prizegiving held literally seconds after the close of the contest. Entry fees were redistributed as prizes and judging by their healthy size the club may well have subsidised these slightly.

RESULTS:

1/2A Power J. Hopper 9.31; T. Rugby 9.29; J. Fletcher 9.28.
Coupe d'Hiver D. Hipperson 9.44; G. Sharp 9.32; P. Taylor 9.14;
B. Rowe 9.13; P. Carter 9.03.

A1 Glider K. Amos (Jn) 9.07; G. May 7.22; J. Ashmole 7.10.
Hand Launch Glider P. Ball 4.25; P. Davies 4.23; M. Page 4.19.



Tim Gray's Coupe d'Hiver

COUPE d'HIVER - Tim Gray.

This 80 gram Coupe d'hiver from St Albans club member Tim Gray has been developed over the past few years from ideas taken from club mate Bruce Rowe and myself. The section-Benedek 7408f around which success of the design revolves, was discovered to give a very good glide on an earlier version. This model is a rebuilt and lighter version of that with a considerably improved prop.

The propeller takes its dimensions from John O'Donnells model, being 18in. dia. by 22in. pitch with twin elliptical blades mounted on an entirely home built montreal hub assembly and the beauty of this is that it enables an auto-rudder to be activated at the end of the run. This greatly simplifies trimming in the same way as an auto rudder helps on a power model. As it allows adjustment of the glide without affecting the power any problems with glide turn—that have a habit of appearing during a contest when trimming time is not available – can be corrected simply. The system is activated simply by a hinged wire being tripped by the locating pin just before it locks into the hole on the faceplate – very reliable.

Tim also found that he obtained a marked improvement when he rigged this model with zero on the wing and neg on the tail – predecessors had had positive on both wing and tail.

The model follows the popular trend in this event for longish runs and after 45 seconds of power it has little difficulty in gliding for 1-15. Despite the long run the first burst is quite nippy and for this reason the inherent speed allows him to launch the model quite fast and hence gain a little more. It should also be noted that Tim winds his Coupe motors very high indeed. He uses quite new rubber which seems to make up somewhat shorter than mine and still exceeds the turns I get on!

His winning flyoff in the recent Coupe d'Hiver SMAE Area event was made in an appalling hole – a calm patch in an otherwise breeze evening into which I led him with my best model. He did 1.23 and I could only manage 1.06 – I think that speaks for itself.

Tim Gray caught here in the wilds of Basingbourne back in June after he topped the SMAE Area decentralised event.



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Model flying, once considered as a summery pastime is
now very much an all the year round activity, with the
autumn days in particular offering the ideal flying condi-
tions of calm air and low thermal strength. What has
helped towards our all season flying has been the very
mild winters we have been enjoying over the past few
years, something which cannot be guaranteed to continue.
But even if flying is restricted we should not overlook the
other aspects of aeromodelling that the long, dark even-
ings give emphasis to: designing and constructing. They
may be sometimes overlooked in these days of "instant"
model flying, but they still form the solid basis on which
the strength and prestige of our hobby rests.

Our first report comes from the Chairman and Sec-
retary of the Mitchell MAC, Mr Arthur Edwards. The club,
which is based at Stoke-on-Trent, seems to specialise in
displays both indoor and outdoor. Members have given
no fewer than 48 RTP demonstrations in and around the
county of Staffordshire, one of which was notable in that
it was before a group of severely disabled people, who
nevertheless, were given the opportunity of operating
some of the models. By way of expansion the club is about
to open a branch in the town of Leek. This is to be in a
large chapel where a course in modelling is being run.
More news to come of this venture from Mr Edwards.

The latest issue of *Scimitar*, the newsletter of the
Bucknere Model Club contains little or no hard club
news, given over instead to articles on various aspects of
the model flying experience. David Giles, the Secretary,
does admit to the club being, perhaps, too R/C orientated,
attributing this to the way young people (and old) are
inducted into the hobby, and it certainly isn't by way of a
beginners' free flight kit. We must wholeheartedly agree
with him that we should encourage youngsters to take a
broader view of the sport, so that they might examine
other, less off-putting possibilities, than high priced R/C.
What is sometimes overlooked where young people are
concerned is that the local open space is either unsuit-
able for, or not available for any form of model flying,
and without a car to transport himself and his gear the
young enthusiast can hardly become an active model
flyer. An article on the inextinguishable noise problem
gives practical advice as well as testing data. A secondary
muffler as well as a primary would seem to be required to
subdue exhaust output, whilst a resilient engine mount
cuts down on the vibratory sounding board effects.
Discretion, too, can play its due part, by flying well away
from sensitive residential areas.

Aspirations towards the golden goal of silence are also
given voice in the September issue of the Leicester MAC
Bulletin, as Roger Quilter examines comparative noise
sources at Wymeswold. Someone, no doubt an R/C en-
thusiast, has blamed the C/L models for the higher degree
of decibel wafting, but as Roger is about the only C/L
flyer who uses Wymeswold he quite rightly thinks the
case is overstated. Anyway, C/L noise is all low level
stuff and not nearly so penetrating as emissions from
high flying radio models. All I know is that when
searching for my wayward f/f models on the fringes of
large airfields the model plane noise is so negligible that
any normal person would ignore it altogether. Roger
Quilter again, on a more interesting aspect of C/L than
noise output: the trimming of same, or rather, the trim-
ming of flapped C/L models. He points out that a stream-
lined aerofoil section is ideal for fast, and inverted, flying
but shows up badly at high angles of attack. Which, of
course, is where the flap comes in, to introduce, in effect,
undercamber, to give scope for low speed flight. Coming
to free flight, for which there is still a considerable
following in the club, the winter weekends should be
enlivened by the Open Glider Winter League events, and

NEWS

also there should be a number of comps for the new P.30 class rubber model.

A noticeable free flight following, too, in the South Bristol MAC, for in the September newsletter we are given the results of no less than five F/F events. These were run concurrently with the Western Champs at Woodbury Common in July. Now Woodbury is more of an assault course than a model flying venue, full of every type of hazard for the unwary foot, and fiendishly designed to wear down the stamina of even the most robust model chaser (memories of Chobham Common). Fortunately the wind was light, so only the models and not the modellers were fully extended. South Bristol finished second to Bristol and West in the champs. Also involved in the day's proceedings was the Western Area Gala in which South Bristol did well in Chuck Glider, taking first and second places. Member John Hinton went along to see how John Bull's island fared in the C/L World Champs at Woodvale. Weather was diabolical, and it may have the "at home" feeling it gave which accounted for some sparkling performances from the GB entrants. And with lots of other things going on such as a Custom Car Rally and a Vintage one, too, plus continuous R/C display flying.

Our next report comes from Mr R. C. Smith, the Hon Sec of the Waltham Chase Aeromodelling Club, close to Southampton. The club covers a wide range of interests, typical of which was an indoor camp held during the early part of the year. Although entries were down on the previous year the standard of construction and flying of the featherweight rubber models, mostly EZB, was very much improved. The cup, presented for this event, was won by the Vice-Chairman, Bob Keele. Indoor flying is a very demanding medium, needing much practice, but it is fun learning. Another indoor activity (well worth having in our climate) is RTP. An unusual event for the small, circulating models was Spot Landing. This is where the slow flying model comes into its own, particularly those equipped with flaps! A notable extension of club activity this year was its debut in national competition when Graham Smith flew in Slope Soaring and Thermal Soaring event, appearing for the Royal Navy Model Association against the RAFMAA, in South Wales. He earned a creditable sixth place. Club expansion has been so vigorous that the membership list is temporarily closed, with several people on the waiting list. Problems, though. The club has been "turfed" off one of its playing fields, in that the field was sold for its turf, but it may be reclaimed next season. Even so, negotiations are proceeding for a replacement site. Generally the weather throughout the year has been favourable allowing for a number of displays, both C/L and R/C at various fetes. There was also a memorable club outing to Sandown. A coach trip to the Model Engineering Exhibition would have been more interesting, it seems, if there were more aeromodelling stands. I, personally, would have liked to have seen the retail trade displaying something of the wide range of "goodies" now available.

Woodvale turned out to be something of an excursion for the Three Kings Aeromodellers, according to the September issue of *Court Circular*. (I only hope that other clubs might emulate the punctilious way the Three Kings sends its newsletter each month.) Fourteen members went to participate, officiate and generally enjoy the big C/L show. They were amazed at the switching motor runs and precise manoeuvre placings of the top American stunts, and all but awestruck by the incredible heat race times put up by the Metkemeyer brothers - 3:44 for 100 laps! On the R/C side of things there was Mick Reeves displaying his Fournier to good advantage to win the Scale event - a unique double for him since he won the C/L World Scale Championship way back in 1970. Alarm on

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the Croydon patch just prior to the club open day: evangelists were in occupation, halleluiaing in a large tent. Seems though they were just praying for a fine day, for the weather was all that could be desired. One cloud in the sky was the Bournemouth boys getting the day wrong; arriving on the Sunday instead of the Bank Holiday Monday. Jim Mannall won the main event, Stunt, but Scale and Carrier did not produce a very high entry. A good day's flying nevertheless. Later in the newsletter there is a suggestion that people are put off Carrier by the Scale demand – risking a lot of delicate structure on those sudden descent landings. So, it is asked, do they need to be Scale models and what happened to the profile model class? A word more on the Scale event. This was given a detailed write up by Tony Jarvis, giving some insight into how the judging operates on such occasions. For instance, one likely entrant lost marks on having a Tiger Moth plastic covered instead of more realistic paper simulating the fabric. Wal Cordwell's winning Avro Tutor was judged to have seen better days, but still good enough for this one. One thing about having your models on lines, you can hardly be blamed for damage to premises, for which clubs flying in Roundshaw Park are allegedly responsible. Generally, though, models that tackle buildings usually come off worse.

Bertie Wright, the editor of Belfast MFC's *Nitro* has really let himself go with the main substance of the August issue: a most humorous and highly entertaining account of a visit to Woodvale '78, partly written by him and David and Mark Thomason. It was the Banquet at the Adelphi Hotel that came in for much wicked satire, referred to as "SMAE's ultimate weapon", though I am sure it couldn't have been quite as bad as that. It would seem that the Belfast club is now very much given over to control line, or at least the newsletter would give that impression. A Goodyear event in midsummer attracted a field of eleven, and the club was well represented at the Irish Nationals at Nutts Corner, where Maurice Doyle won Combat with Mark Thomason second and the Kane/Doyle team placed first in Goodyear.

From Cheshire comes news of a club reviewing its progress after just one year of existence. This is the Northwich Eagles Model Club. Mr. John Goldsmith, the P.R.O., who sends in the report, says that although the Eagles have not set the world on fire (yet) the club patch has been veritably humming with activity – which, after all, is what model flying is all about. Interest is predominantly Radio Power, with the ubiquitous thermal soars making their contribution, but no mention of whether they have problems in operating the two interests on the same field. There is also a keen C/L following, but, alas, the patch has not the necessary dimensions for free flight. Negotiations are under way for the leasing of a permanent club site, and it is hopefully anticipated that a

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Sports Council grant will help to establish facilities. Apropos to the latter, the club finds Sports Council membership extremely worthwhile. In line with modern trends the club operates a successful pilot training scheme which has already turned out a number of competent flyers. Mr. Goldsmith assures us that the Eagles are a friendly bunch, and prospective members are welcome. Phone Paul Jones, the club secretary at Crewe 67872 or John Goldsmith at Kelsall 51086 (STD 0829), or call in at the Hobby Box, Barons Quay, Northwich.

The good news in the Watford Wayfarers' newsletter is the resolving of a problem on the use of the Queen's School field, and this will continue to be used until the Moor becomes available again. But it costs, and this may mean an increase in club subs, and visitors to the field will be asked for a fee of £1 per session. One more snag comes from full size aircraft using Elstree flying low in bad weather. Strong evidence of the Radio nature of this club comes from a newsletter comment. A damaged rubber model had been found on the Moor, referred to as "probably belonging to some local child".

More reports and newsletters would be appreciated.

Clubman

Contest Calendar

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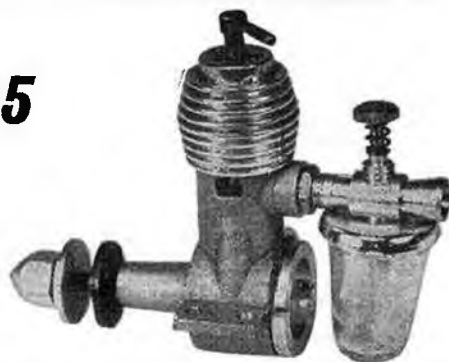
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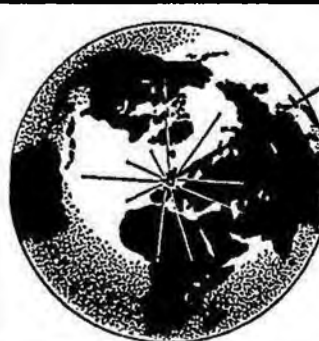
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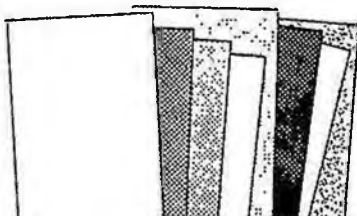
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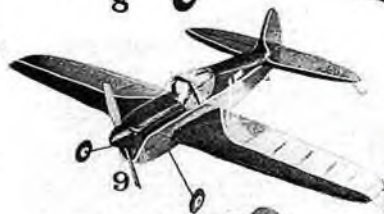
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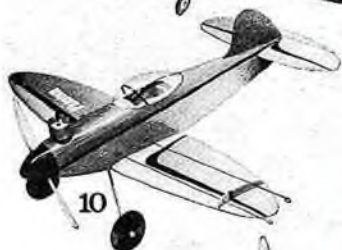
4 CHAMP

An attractive trainer for engines from .75-1 c.c. Only a few hours required to build as all parts are pre-formed. Wingspan 20". £3.98



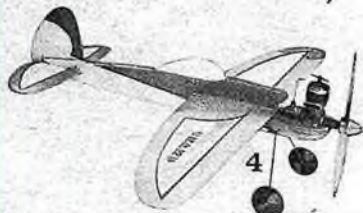
5 SKYSTREAK

Neat looking stunter with knock-off wings. Distinctive swept back flying surfaces. Engines .75-1 c.c. Wingspan 26". £3.84



6 SPECTRE

An outstanding model for even the most demanding stunt flyer. For 2.5-3.5 c.c. engines. The coupled flaps and elevators provide maximum performance, whilst the asymmetric wing and outboard tip weight maintain line tension and a good flying position at all times. Wingspan 40 1/2". £11.40



7 RADIAN

For 5 c.c. diesels or .049 glow motors. Has all the features of the big stunt models: asymmetric wing, coupled flaps and full manoeuvrability. Wingspan 22". £5.11



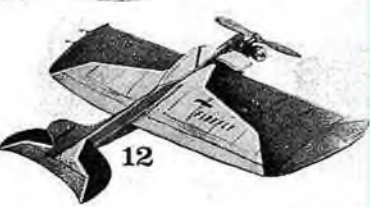
8 RANGER

A robust, graceful model for the popular 1-1.5 c.c. engines. Solid wings are ready channelled to receive the lead-out wires. A very complete kit. Wingspan 26". £5.11



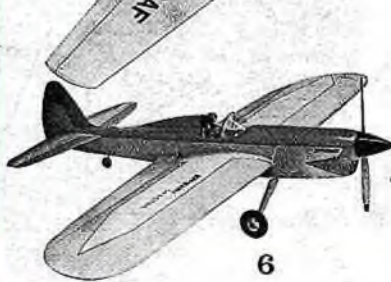
9 DEMON

A strong fast model for 2.5 c.c. engines. Racy lines and attractive appearance. Wingspan 30". £8.58



10 PHANTOM

The most famous control-line trainer of them all. Strong and dependable, easy to build and fly. 1-1.5 c.c. engines. Wingspan 21". £7.35



11 PHANTOM MITE

A tough, all sheet trainer for engines below 1 c.c. Will stand up to a lot of hard flying. Wingspan 16". £3.96

12 FIREFLY

Simple stunter with 'profile' fuselage specially for engines under 1 c.c. All parts are pre-cut. Wingspan 20". £4.80



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