MODEL MAGAZINE

MAY 1987 £1.85

AERO MODELLER

DOUBLE VISION

We look at Scale Free-Flight Twins

WHAT'S THE ATTRACTION ?

A start in Magnet Soaring

SSSSHH !!

Full size plans - Build a Stealth Fighter for Jet-X

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AERO MODELLER

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Cover Story:
One of the stars at the 1987 Model Engineer Exhibition was Charlie Newman's latest scale twin, this elegant Breguet 693. What better time to examine this craft in more detail - and to consider other scale twin projects. Our feature begins on p.248. Photo: Manny Cefai and Ron Cunnington.

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HANGAR DOORS

Free-Flight Nationals

Right: Thoughts of the Free-Flight Nationals ahead as Ed Flynn looks for lift at Barkston Heath last year. On her third flight in the Women's Cup the model rolled right on climb in the stiff breeze but recovered well to make a respectable score. Go for the Nats at Whitsun!

Yes - it's here again! The main event of the year for competition F/F modellers - and a major get-together for fun-flying enthusiasts too - is once more scheduled for RAF Barkston Heath at Whitsun. F/F Tech Committee Chairman Pete Harrris has sent details; a brief summary of events appears below. The FAI programme is yet to be confirmed, but it is hoped to fly seven rounds in each class, starting overall at 5:30 if the licence for the use of the site allows this. Times would then be set so that at least two rounds of F1A and F1B could be flown before F1C to avoid noise problems.

Besides the mainstream competitions it is hoped that there will be the usual 'non-official' events for Juniors, including the DPR Workshops and contests but these are unconfirmed at the time of going to press.

Camping charges are: competitors £5.00; non-competitors £6.00.

Registration fees are: Seniors £6.00, Juniors £3.00; and to complete the round-up, entry fees are £2.00 per event for Seniors; Juniors free.

Entry forms will be distributed in due course; they should be returned to the SMAE at Kimberley House before 1st May.

Don't forget the usual fun-fly evening sessions - and fingers crossed for a quieter time this year; 1986 was windy!

Team Support!

International competition success is a fine achievement. To represent one's country is but a dream for many; those who manage it should enjoy the pride they have earned, a measure of which is passed on to every 'fun', 'sports' or 'armchair' flier. Each year Britain sends teams to ten World and European championships; and it should be noted that team and individual medals have been captured by recent participants. But success has a price; literal in this case, for every team member has to fund his own expenses at present, meaning an average outlay of some £400.

You can help. If everyone who scanned the results to check on British competition success was to send the price of a pint to the Team Support Fund this heavy load would be considerably reduced. Your reward - apart from the knowledge that you have done your bit - is a 1987 Team Supporter sticker, smart in orange and black this year. You can help us beat the World - send a large SAE plus £1.00 per sticker required to the SMAE at Kimberley House, Vaughan Way, Leicester, LE1 4SE. There are a few '86 and '85 stickers left too, so if you want a full set, send a cheque for £3.00 made out to SMAE Team Support Fund. Go on - do it now!

And don't forget the appeal for timekeepers at the World F/F Champs in August . . .

It's confirmed . . .

Latest news is that the FAI has certified and recorded as official FAI World Records the following, previously regarded as provisional:

R/C Helicopter Straight Line Speed: David Whitney; 138.515 km/h, set at Donisthorpe, Leics on 26th October 1986.

R/C Helicopter Closed Circuit Speed: David Whitney; 112.720 km/h set at RAF Elvington, Yorks on 2nd November 1986.

R/C Electric Power (combined cells) Straight Line Speed: Roger Winsor; 100.912km/h, set at Donisthorpe, Leics on 26th October 1986.

R/C Electric Power (combined cells) Closed Circuit Speed: Paul Channon; 69.523km/h, set at RAF Elvington, Yorks on 2nd November 1986.

This confirmation comes hard on the heels of Peter Halman's splendid 5cc class C/L Speed Record which received similar recognition three weeks previously (see feature in last month's *Aeromodeller*).

The UK is now a holder of World Records for the first time in over thirty years. More to come, we hope! Want to get involved? Contact the prime mover behind these attempts, Neil Lunam, the SMAE Records Officer, via the Society on 0533 518500.

Left: Just £1.00 is all it takes to acquire the '87 Team Supporter sticker, resplendent in orange, black and white. Stick it . . . on your box! Below: The F/F Nats programme - times of the FAI events are to be confirmed.

1987 Free Flight Nationals

Saturday 23rd May 10am - 6pm	Coupe d' Hiver A/1 Glider 1/2A power CO_2 Duration H.L. Glider	HJN Trophy British Airways Trophy Hales Trophy Sparklets Trophy HLG Trophy
Sunday 24th May 10am - 6pm	Open Rubber Open Glider Open Power Tailless Vintage Frog Junior Women's Cup Slow Open Power	Model Aircraft Trophy Thurston Cup Sir John Shelley Cup Lady Shelley Cup Jubilee Cup Frog Junior Trophy Women's Cup Falcons Trophy
Monday 25th May (Times to be confirmed)	F1A Glider F1B Rubber F1C Power	Ronytube Trophy Fred Boxall Memorial Trophy Eddie Cosh Memorial Trophy

Cardington update

Bob Bailey has sent us details of Indoor events at Cardington this year. Dates of meetings appear in What's On; but the following overall details are worth more than a look - especially if you're thinking of going along.

It is hoped to have the use of both airship sheds on this historical site this season. Note that to fly at Cardington you must be a SMAE member. A master list of names exists to help with security arrangements. This is held by Bob himself; so newcomers, before attending Cardington for the first time do contact him at 162 York Road, Stevenage, Herts SG1 4HQ with your name, address and car number. Please check with Bob to confirm that any given Cardington meeting is on.

Other snippets: for the purpose of these events a Novice is defined as someone who has not placed in any Cardington or Northern Low-ceiling duration event; and in order to qualify for the Sparklets Longest Flight Trophy for CO_2 this year, flights made on 5th July only are eligible. It is hoped that new trophies will be available for the Index Events at the Indoor Nationals.

As for the 1988 World Champs Team Selection Trials, we learn that the Tech. Committee is employing a different system this time, choosing for qualification fliers with the best three flights from nine achieved over three separate days. The purpose behind this is - hopefully - to place more emphasis on good, consisitent flying than did the previous 'two from six' procedure.

If you've never flown Indoor at Cardington, do try it - there's something there for everyone this year, even fun flying; you'll never regret it, and who knows, the Indoor bug may bite . . .

Indoor Overseas

Bob Bailey (yes, him again) is the man to call for additional info on the Indoor International event which takes place at Flemalle, Belgium on 21-23rd August. Competitions are for F1D, F1D 'beginners', EZB, 35cm ' paper', Peanut, Pistachio and 'Sainte Formule'. Send Bob an SAE! Event contact is F. van Hanwaert, Secretariat, 1 Grand Place, B52 4110 Flemalle, Belgium. Sounds like a good 'un to us . . .

3 Sisters news . . .

John Noble has sent us the low-down on latest activities from this go-ahead C/L group. Let's hand straight over:

'The Three Sisters Gala must be the biggest C/L gathering apart from the Nats. The site, for those who do not know it, comprises three tarmac circles, two caged, and a large grass area. Toilet facilities and refreshments are available on the flying site, and the complex includes camping facilities. Our Vintage T/R event will be the third such competition which we have actually run, as distinct from the more usual 'Fly-ins'. The rules may differ slightly this year. None of last year's planes will be ineligible, but it is hoped to make a few changes to encourage flyers with apparently less-competitive machines to come along and have a go.

'For Goodyear we have opted for the older, non-weight-restricted, rules in the hope that we may tempt back some of those teams who dropped out last year. Entries were badly down as many people felt it not worth while to redesign their models to comply. As well as the Gala, the Club - whose membership continues to grow - organises several smaller events on the site and meets regularly on a monthly basis in a local hostelry for talks, video shows (model aircraft) and so on. If you are interested, contact John Noble, the Comp. Sec. on 061 790 4056.'

In the area? Like the idea? Join 'em! And what's the news from *your* club, PROs and Secretaries?

Above: Two new 'uns from Argus Books. Radio Controlled Gliding by Dave Jones (RCM&E) columnist on the subject) takes you through every stage of building and flying these super soarers. Cost: £8.95. Peter Holland's Model Aeroplane Building Sketch by Sketch (£7.95) is packed with sound practical advice via unmistakably-styled diragrams. Full reviews next month. Below left: Bench, models, glue and bits - yes, the Indoor Nationals approaches too. Don't forget 26th April at the Alumwell Centre, Walsall - see What's On. Late news is that there will be a series of talks on subjects ranging from scale sources to indoor airships! Below right: How to get to Cardington for more indoor fun...

Sandown Show

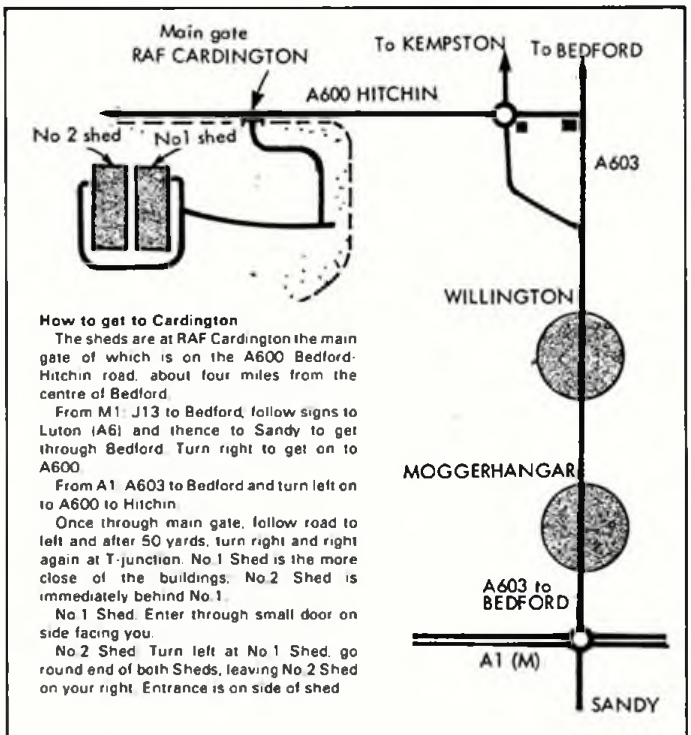
There's just room to mention this super annual trade and club show which takes place this year on 9th and 10th May at Sandown Park Racecourse, Esher, Surrey. There will be non-stop R/C flying displays on both days including performances by Ripmax, who have Ken Binks, UK Aerobatic Champion as one of their attractions and the MacGregor Display Team. Also present will be Hanno Prettner, four-times World Aerobatic Champion, and other international guests are expected. Cars, boats and trains are there too - and so are we! Come and look at magazines, place orders and discuss models and meetings at the ASP stand. Look for stand C6 in your programme!

More Driffield dates

Here's news of late-season Northern Area meetings to supplement information given in last month's Hangar Doors. Driffield is the location of the following. Diaries out!

6th September:	5th Area Meeting
13th September:	Northern Gala
27th September:	6th Area Meeting*
18th October:	FAI Rally
15th November:	Falcons Gala

*The 6th Area Meeting may clash with a car rally and confirmation is awaited.



How to get to Cardington

The sheds are at RAF Cardington the main gate of which is on the A600 Bedford-Hitchin road, about four miles from the centre of Bedford.

From M1 J13 to Bedford, follow signs to Luton (A6) and thence to Sandy to get through Bedford. Turn right to get on to A600.

From A1 A603 to Bedford and turn left on to A600 to Hitchin.

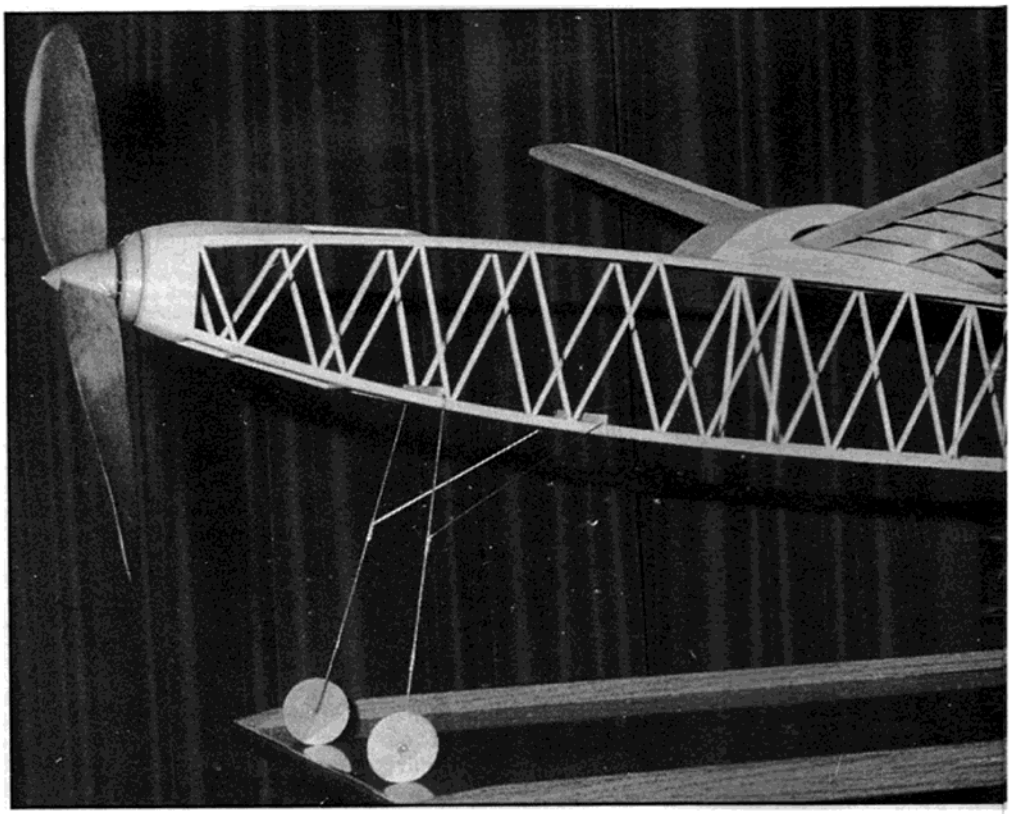
Once through main gate, follow road to left and after 50 yards, turn right and right again at T-junction. No.1 Shed is the more close of the buildings. No.2 Shed is immediately behind No.1.

No.1 Shed. Enter through small door on side facing you.

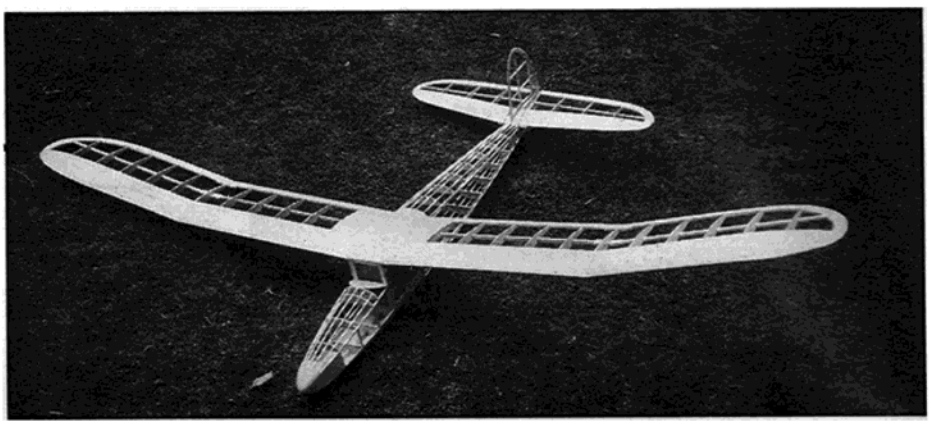
No.2 Shed. Turn left at No.1 Shed, go round end of both Sheds, leaving No.2 Shed on your right. Entrance is on side of shed

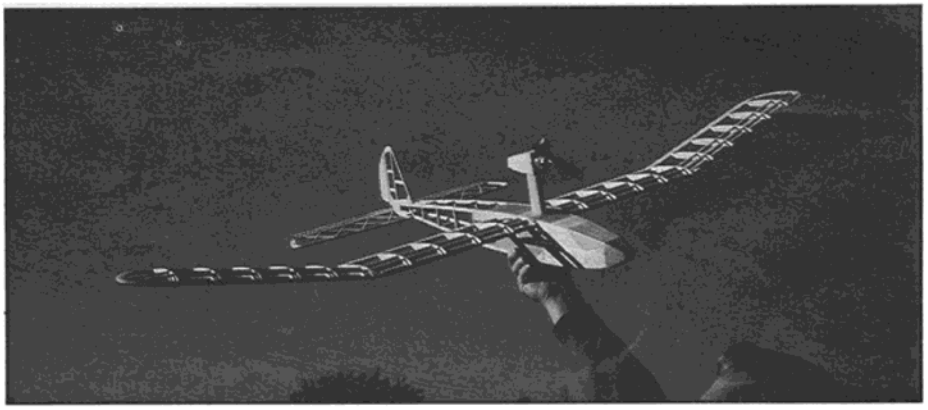
MODEL NEWS

We're pleased to bring you the return of this favourite feature. Now it's up to you – so send in those photos!

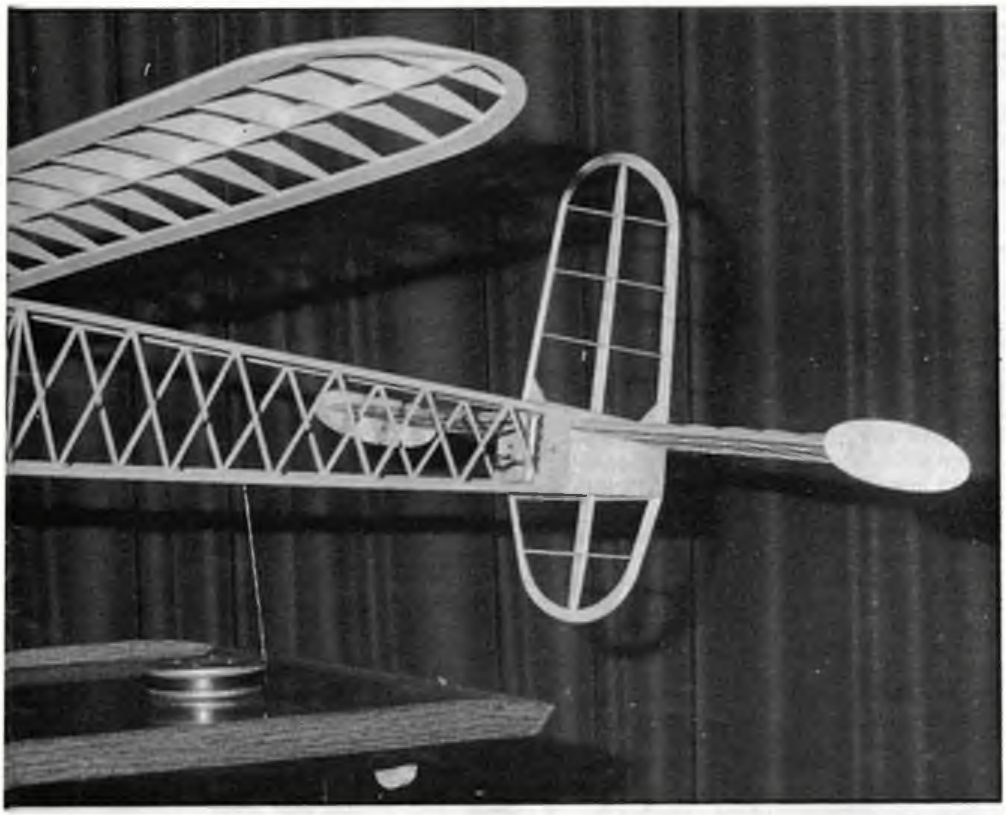


Most impressive of this month's pics, we think, is the super structure at right – Laurie Barr's replica of Aarne Ellila's 1951 return-gear Wakefield. From finely-carved prop to crisp and warp-free cruciform tail this is model building at its best. The finished job looks good too, as the above shot of builder and model proves. Laurie wins a year's subscription to Aeromodeller for his efforts.
Photo below right, which comes all the way from Surabaya, Indonesia, shows Jon Clements' Keil Kraft Chief glider before covering. Jon reports 'a lot of building' in this Vintage A/2 . . . we remember that Chiefs in our locality gained something of a reputation for folding their wings. Unjustified? What's your experience? Bottom right is another framework shot. Free-flight enthusiast Charlie Staples, who hails from Kirk Michael on the Isle of Man, has decided to try radio control in the hope of less model-chasing in future. The 54in. Buzzard – a Peter Fisher design – is his choice of primary trainer, which looks a safe bet; and an .049 glow in that power pod will provide the urge. We are promised further news if the project is successful – so watch out for it. Directly below is something of a rarity – a Swedish Vintage design published not long ago in a British magazine (this one!) and built by an American enthusiast. More details? Spar-Es, which dates from 1945, languished in past pages of Hobbyboken until re-discovery by Vic Smeed and presentation as a full-size plan in the March '85 Aeromodeller. The little craft caught the eye of Dave 'VTO' Linstrum who brought the model shown here all the way from Florida to the last Vintage Weekend at Old Warden!





Above left: When the Tiny Cox .010 flow was introduced in 1960 it was immediately responsible for a flourish of tiny power models including this two-foot delight by Colin Read of Coventry. Model has long since gone, leaving only memories and this photograph . . . This column: three quickies. Above: Freelance rubber twins are unusual, but Brian Harvey reports that his Pipistrelle, a Charlie Newman design, is vice-free. Below: Gabriel Kiernan built this Akro-Kat control-line trainer from an Aeromodeller full-size plan and hopes to 'convert' some of the R/C men in County Roscommon with it - including, maybe, Harry Thompson whose Delta X-15 is seen just after launch in the bottom photo. Three-function craft looks fast!



D.N. Rogers of Newport, Gwent has made a tidy job of this twenty-seven-inch rubber-powered Spitfire from a Guillow kit. Let's have more photographs of scale models like this - Rarer ones welcome too!

Try something unusual this season - go for a scale twin! Here's a selection of projects old and new to inspire you

FANCY A TWIN for free-flight? If so, you have to accept that rubber power is, at present, the only way to go in order to achieve a moderately-sized replica that stands a reasonable chance in typical British weather. CO_2 works fine, despite a certain finickiness in operation but durations are fairly low and models have to be relatively small. Diesel twins - or glow, if you like - are for the brave; and most who have tried would admit that it is an adrenalin-pumping business. Nevertheless, they do work. Favourite arrangement seems to be a lightly-loaded, usually biplane subject with close-set nacelles. We remember the Handley Page 0/400s of Terry Manley and, recently, Bill Dennis; and Terry's early effort, a Vickers Vimy Atlantic built in 1970 aroused hope that someone of enterprise might attempt a Commercial version of the same design - ideally in Instone Air Lines colours. As Eric Coates reported in his splendid series Flying Scale Models, published in this magazine over fifteen years ago (really that long past?) there has been an occasional scattering of twin 'power' craft, usually when two or more enthusiasts have decided together to try to conquer this branch of scale aeromodelling; but the magnitude of the task, and the unpredictability of the results has deterred the majority. Electric power looks - on paper, at least - particularly attractive as motor synchronisation problems should be at a minimum, but airborne weights are high and commercially-produced units of a type to appeal to the F/F Scale buff are scarce.

So it is that the 'twin' enthusiast has to turn (no pun intended!) to rubber power, a form of propulsion with numerous advantages. Motor output may be increased in infinitely-gradual stages; there is no abrupt cut-off at the end of a power run; and contra-rotation of handed props is easily arranged. Against this is the fact that available power run is usually of low duration, most 'twins' possesing relatively short nacelles preventing the installation of much rubber; and as a result model weight has to be kept down, which usually means the adoption of open frameworks. This latter point has been known to cause offence to the absolute purist who prefers a monocoque or stressed-skin to be smoothly represented, but here - as in aeromodelling generally - there is room for compromise.

For more details of the 'nuts and bolts' of rubber 'twin' modelling you can do no better than to refer to Charlie Newman's *tour de force* on the subject which appeared in the October 1984 issue of this magazine - an account all the more valuable because of its backbone of practical experience. Here we are happy to present a selection of recent creations from home and overseas with the pure and simple aim of providing inspiration. One or two earlier attempts have also made an appearance to add spice to the mixture . . .

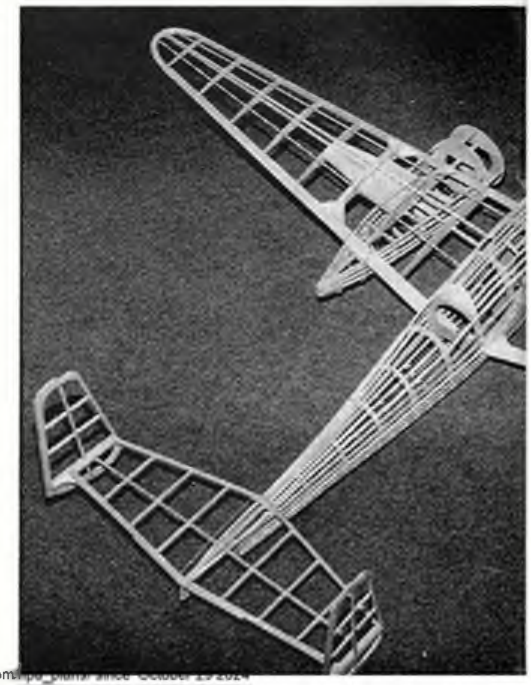
Who's built what?

The aforementioned C. Newman Esq. hasn't been idle since writing his article for *Aeromodeller*! His latest twin - and our cover subject this month - is a stunningly attractive Breguet 693 upon which Charlie's Nationals hopes are pinned. This curvaceous French light bomber was on show at the last Model Engineer Exhibition where it deservedly gained a Commended award; and it must be said that the multi-stringered model has captured the sylish lines of the full-size machine most successfully. Wingspan is 41in. and weight (without undercarriage) is approximately six-and-a-half ounces. A plug-in U/C will be fitted when rise-off-ground is required - at SMAE contests, for example. Photographs of the skeleton show clearly the construction of the jig-built fuselage. Vertical keels form the basis and that multitude of 3/32in stringers was carefully steamed to shape before being fixed into position. Nacelle length is sufficient for four-strand motors of 1/4in rubber, twenty inches long. Note the substantial wing leading and trailing edges and the three upper-surface spars which, it is hoped, will give a beneficial turbulating effect. The sprayed camouflage finish is brightened considerably by the French national insignia. How refreshing it is to see the familiar red, white and blue reversed! At present the fitted props are for display only (being cut-and-joined Peck two-bladers they are 'non-handed') but trials are imminent and eagerly anticipated . . .

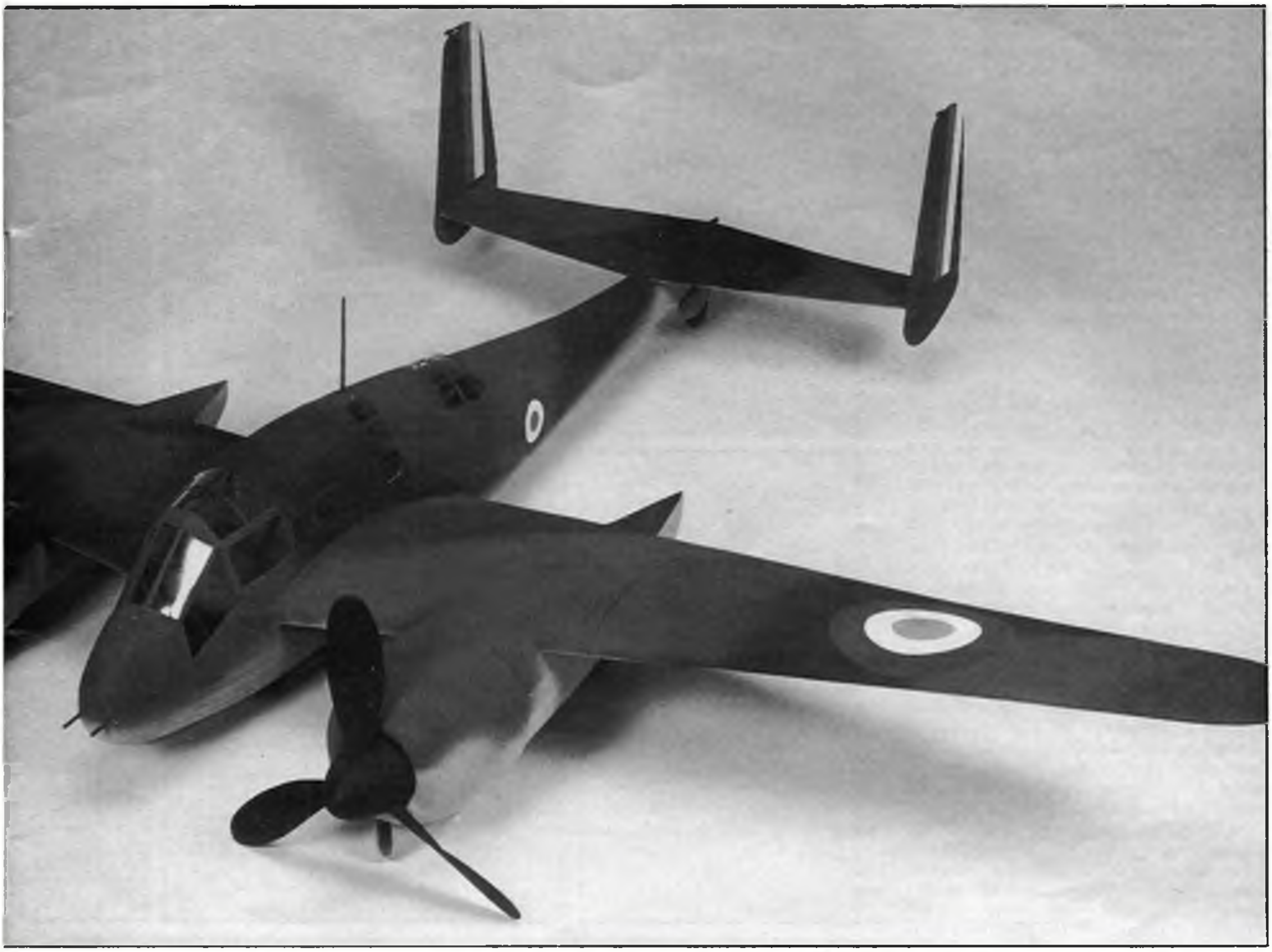
Quite a surprise, too, to discover that this powerful-looking machine was not much larger than a Hurricane. And (scale question coming up) can you think of another subject with glazed bomb doors?

Preparing the Breguet for Wembley involved a certain amount of midnight-oil burning. Indeed, to say that it was a hectic business to meet the deadline is not far from the truth. Since then Charlie has researched further details that will have to be added to the model, so to recharge for this task he has been working on a Twin Mustang, seen in unpainted form here. Scale is 'half-inch to the foot', giving a wingspan of twenty-six inches. The F-82, to give it the correct series number, is rather more than just two Mustangs joined together; and Charlie has deduced that the guys at North American were pretty clever for although eighty per cent of the components are indeed those of the P-51, they have been substantially rearranged

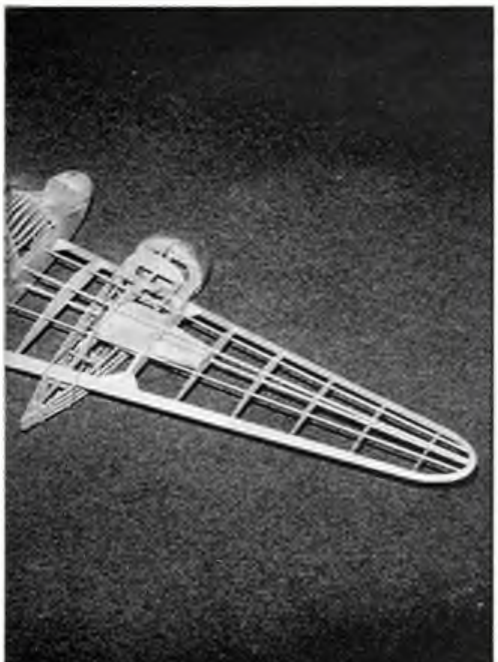
MINE

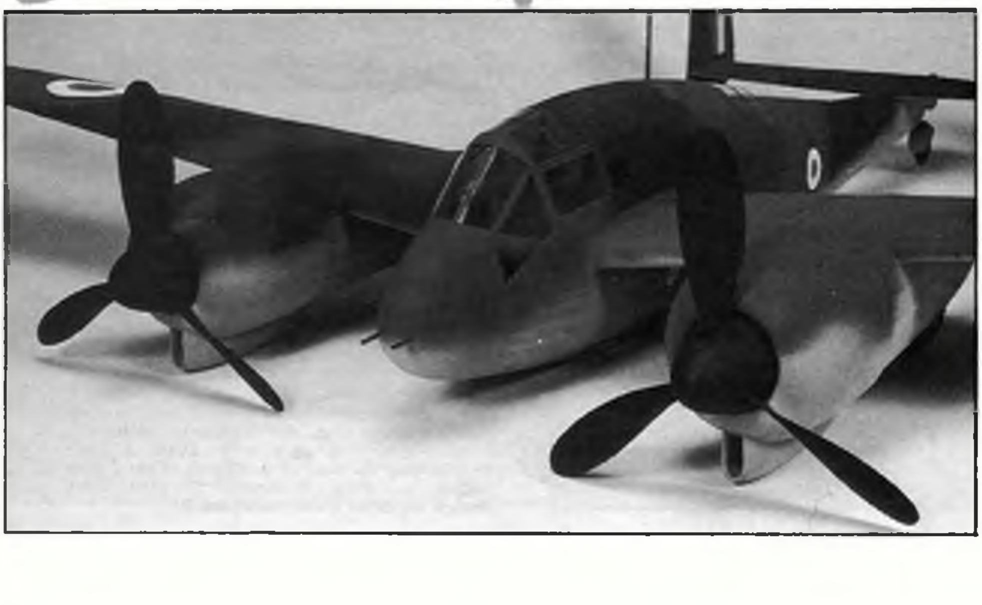


All photos on this page are of Charlie Newman's Breguet 693, a design that combines style with a certain pugnacity. Application of fuselage stringers was a time-consuming business as each had first to be steamed to shape. Fuselage was jig-built to ensure accuracy. Sensible wing tongue-and-box can't really be beaten for detachability on impact; fixed tail demands care in transport. Balsa contra-props will be used for flight tests.



'S A DOUBLE!





to accommodate the desired layout. Not only is the fuselage stretched but the relative positions of canopy and fuselage are completely different. First trials of this model at the last Watford indoor meeting have shown it to be free from vices, and reasonable durations have already been achieved. Four strands of '0.085 FAI' rubber, eighteen inches long, drive those six-inch Peck props which are soon to be replaced by four-blade contra-rotating airscrews. Empty weight, including a spot of nose ballast is fifty-five grams. Charlie intends to finish the F-82 as per the second prototype; that is, in natural metal overall with yellow spinners. Look out for it!

Stateside news

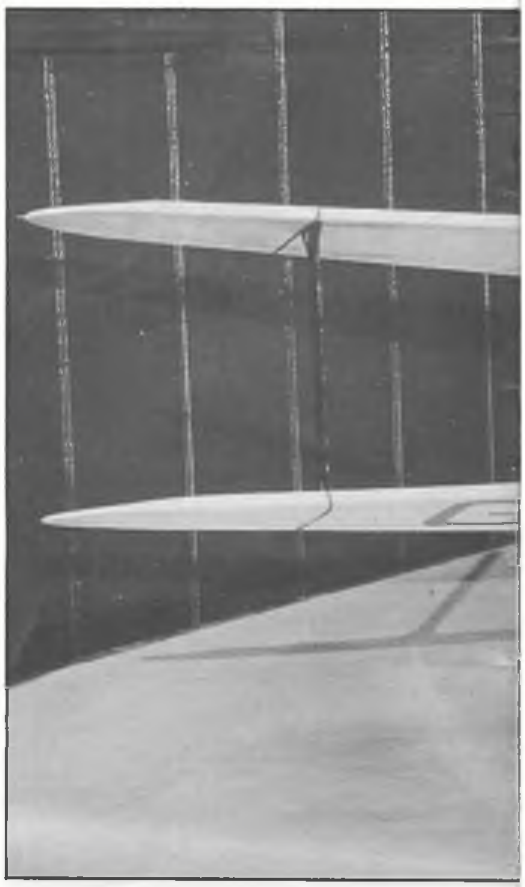
Across the Atlantic we find that noted twin expert Dick Howard has been busy at the balsa. His McDonnell XP-67, first seen in uncovered state in this magazine last September, has now been aired. Best flight to date is forty-five seconds - this with 'ex-Tigercat' motors and 750 turns. Dick thinks that these 'tired' motors should be good for 1,100 turns; when he plucks up the courage to try, a duration of a minute is expected. Latest off the production line is another rare choice, a Miles Monitor II, as yet untried . . .

The same enthusiast's by now well-known F7F-1 Tigercat (also seen here) has been joined in battle recently with Tom Arnold's Hughes XF-11, emerging victorious - just! - after a recent Californian competition. This sixty-gram model has clocked a best time of 103 seconds, but not during the above event . . . That high aspect ratio wing is responsible, thinks Tom, for the XF-11's respectable flight times of 45-60 seconds, achieved despite an all-up weight of - 'are you ready?' asks Tom - five ounces. In the interests of robustness the elegant nose is sheeted back to the leading edge of the wing with 1/16in. balsa (nacelles being similarly treated with 1/32in. sheet). Of interest are the 'cottage cheese' props, simply cut from plastic containers with their axis at an angle to the vertical. A popular and quick way of obtaining robust props - try it, experimenters.

To spur you on . . .

And maybe - just maybe - there's less to this twin trimming business than you might fear. One of the entrants at a Pipistrelle competition not so long ago - you'll remember this attractive freelance twin; we featured it in last July's issue, and Dick Howard's Embryo class job shown here is very similar - had a motor burst just before launch. Keen not to lose time (and, we suspect, with a certain spirit of derring-do) he slammed in a wedge of sidethrust on the remaining, good motor, cranked on a goodly measure of corrective rudder and sent the model skyward - result, a perfect flight! Asymmetry, where were you?

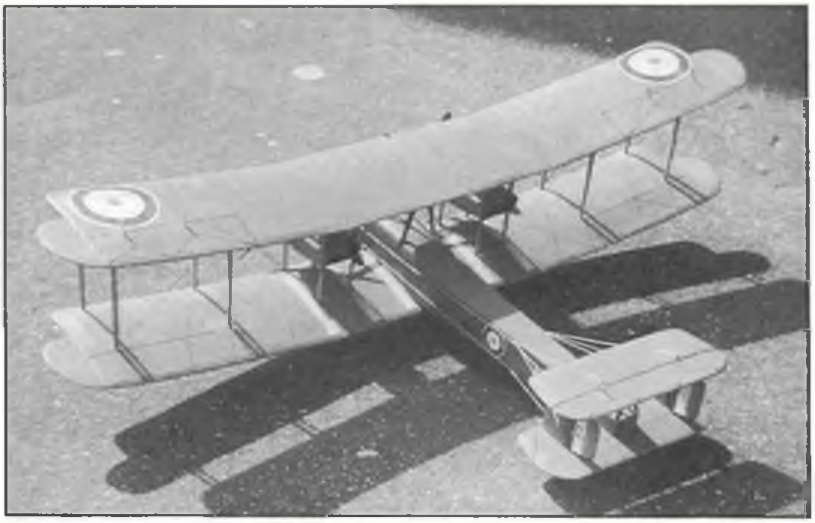
More twin pics overleaf! And don't forget to bring *yours* along to our Scale Weekend at Old Warden on 20-21st June . . .

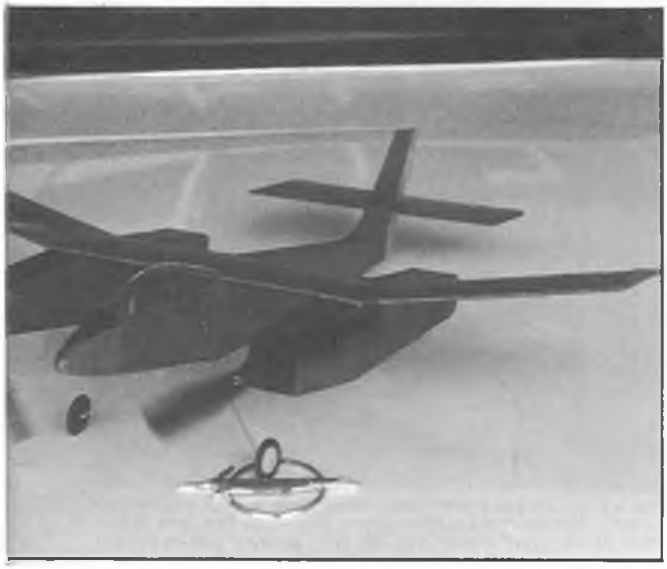


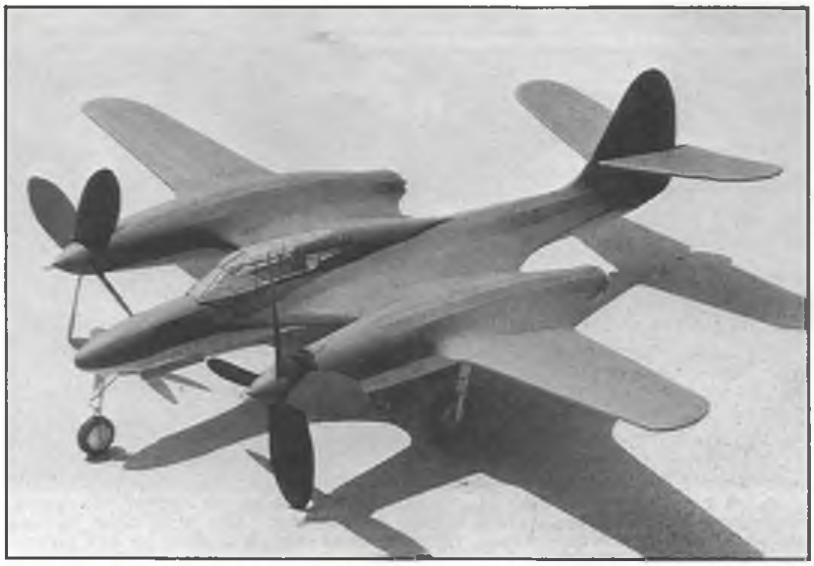
Top row, left to right: North American AJ-1 by Dick Howard is 25.1/2in. wingspan, weighs 65 grams and has a best time of sixty-five seconds to its credit. Long nacelles make this navy-blue craft an ideal candidate for rubber power. Centre photo shows Tom Arnold's Hughes XF-11. Stick-and-tissue model was finished with one coat of '50/50' dope/thinners followed by an airbrush spray of Pactra acrylic paint. Insignia is tissue, painted - again - with Pactra, then cut out and attached with white glue; a method which saves all that freehand work directly onto complicated shapes. At right: Inspired by some Hounslow Heath Vimy shots during the series Diamonds in the Sky', Stan Cole decided upon a twin-Telco powered replica which he tested - where else - on the Heath itself. Relatively large model is lightly loaded; 270sq. in. of area supports less than six ounces of fully-rigged biplane. Initial trimming was described as 'interesting' but model became a reliable performer. 'Very rewarding in flight', says Stan.

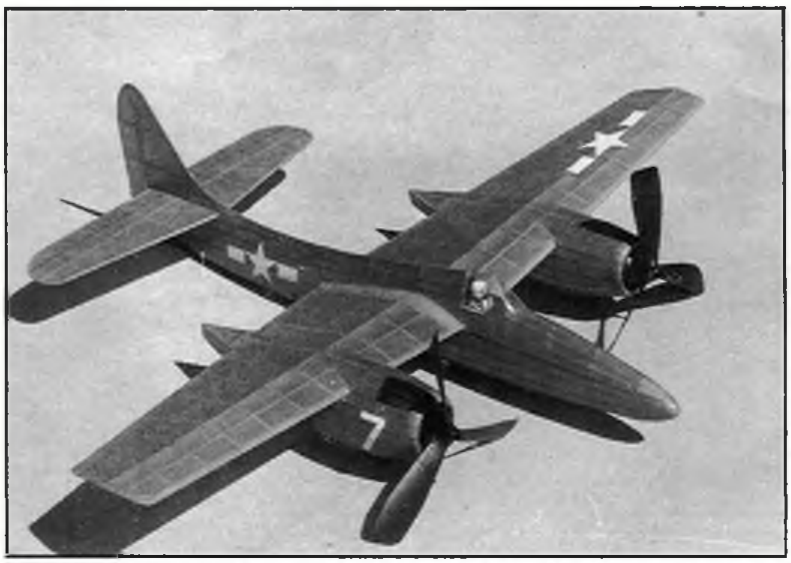
Centre row, left to right: A trio of designs from Dick Howard. Twenty-seven-inch OV-10A Bronco is extremely well-made and finished. Moulding that canopy might have been an interesting process . . . Twin-boom layout allows plenty of rubber to be packed in, although that wing is small in proportion to the fuselage. Best flight time to date is seventy seconds, and model weight is just one gram more than Dick's AJ-1. At centre is a non-scale interloper, the Embryo, which is of ideal layout on which to cut your 'twin' teeth before getting on with the pukka stuff. Impressive XP-67 at right is smaller than photo might indicate; 22in. of multi-curved elegance has nevertheless achieved forty-five-second flights. Final details still to be added . . .

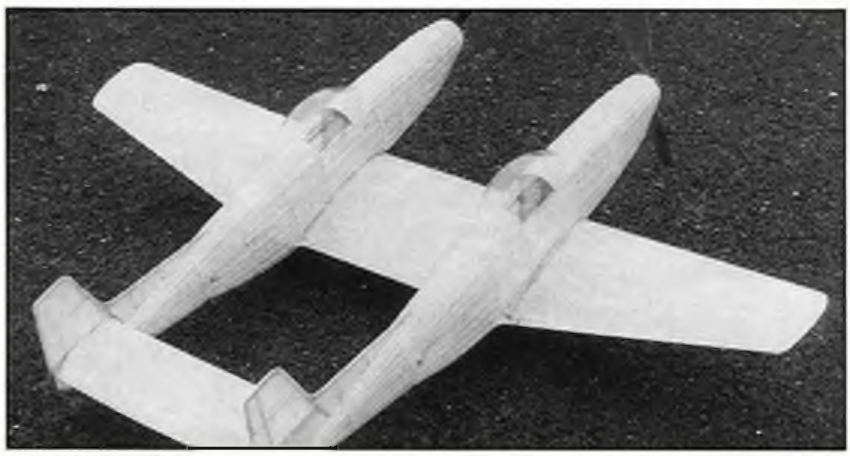
Larger picture at immediate right came to light during a search of the files. This early 50s project, a remarkable one-eight scale DH89 Dragon Rapide, was the work of D. Morrey of the Crewe DMFC. Twin Mills 1.3s supplied the urge. 'Many prangs' reported - who remembers it?



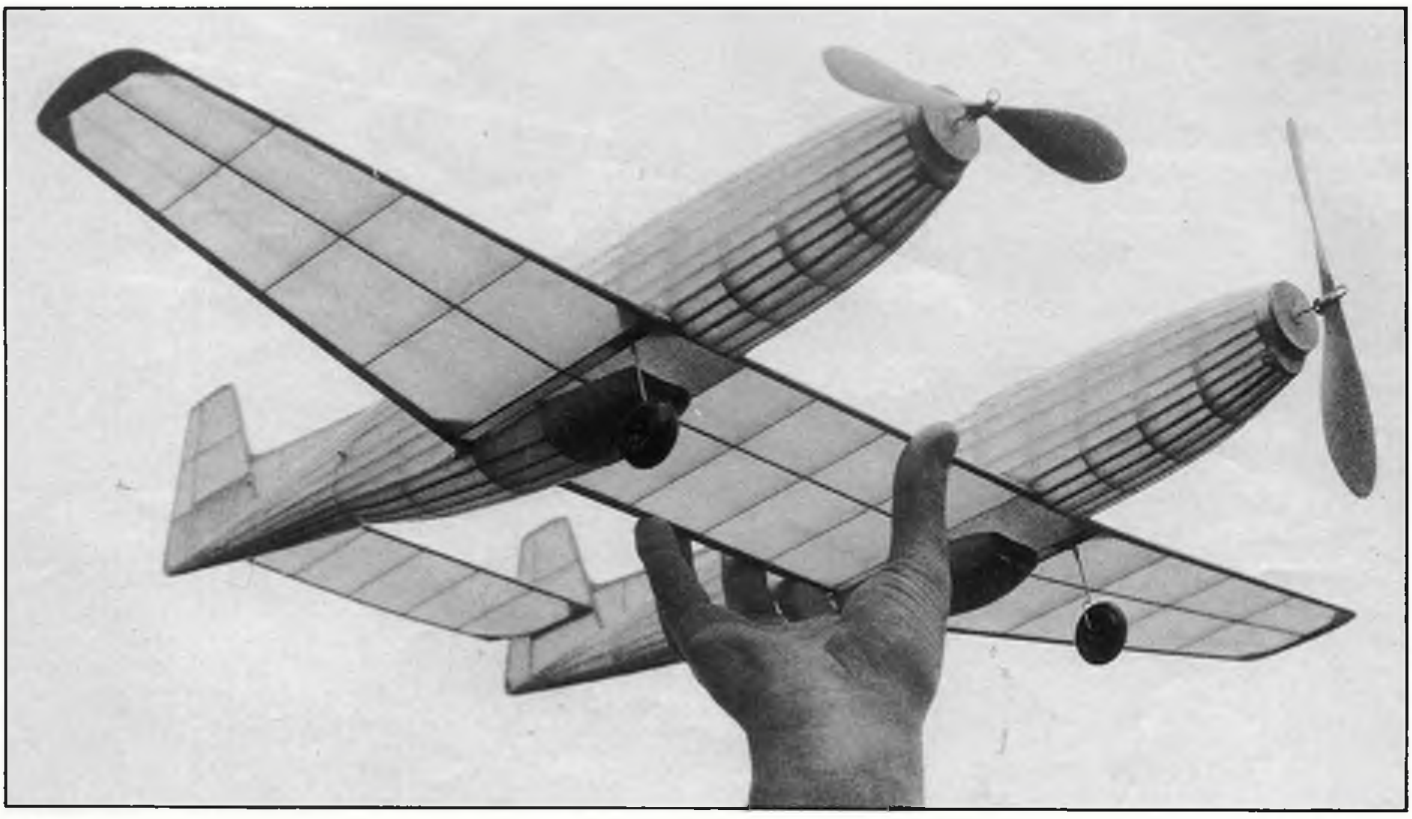








At top left is a Stateside high-flyer: Dick Howard's F7F-1 Tigercat has clocked 1:43 despite being just 25½in. span. Sixty-gram streamliner is another one-piece model: build 'em light but strong to make this philosophy work (a full-depth mainspar is clearly visible on the original print)! Top right: Favourite design from the Plans Service is the Lockhead Lightning, three versions of which are now available. Here we see Steve Belney with the 42in. 'vintage' version from plan FSP 159 which he successfully 'treed' at Old Warden. Let's have more twin pics please!
Above left: Charlie Newman's latest is this Twin Mustang, described in text and also seen below. More details have been added since photo was taken but spinners will have to wait until four-blade contra-props are fitted. Unusual Co_2 twin at bottom right is a Curtiss-Wright Kingbird if you please! Arthur Evans chose this dainty rarity because all the proportions seem right but the model flew unpredictably and Arthur admits to feelings of anger towards it!



VIEWPOINT

What next for aeromodelling? Tony Brookes ponders the future . . .

Above: Tony, armed with camera, in pensive mood at the M.E. Exhibition. Below: just a fraction of the Vintage activity at Old Warden last year. Where else to channel this energy? And what's your reply to the views expressed here?

AT A RECENT CIAM plenary meeting a proposal to drop the Builder of the Model Rule was lost only on a procedural technicality.

At least one leading F1C flyer is using models which would lend themselves to mass-production techniques, should the designer want to go into that business.

SAM35 has grown to a size large enough to be difficult for its volunteer organisers to cope with.

Recent issues of *Aeromodeller* have carried correspondence drawing attention to a dearth of young beginners. Some controversy about the likely reasons has ensued.

Colour dope and banana oil are getting very difficult indeed to obtain.

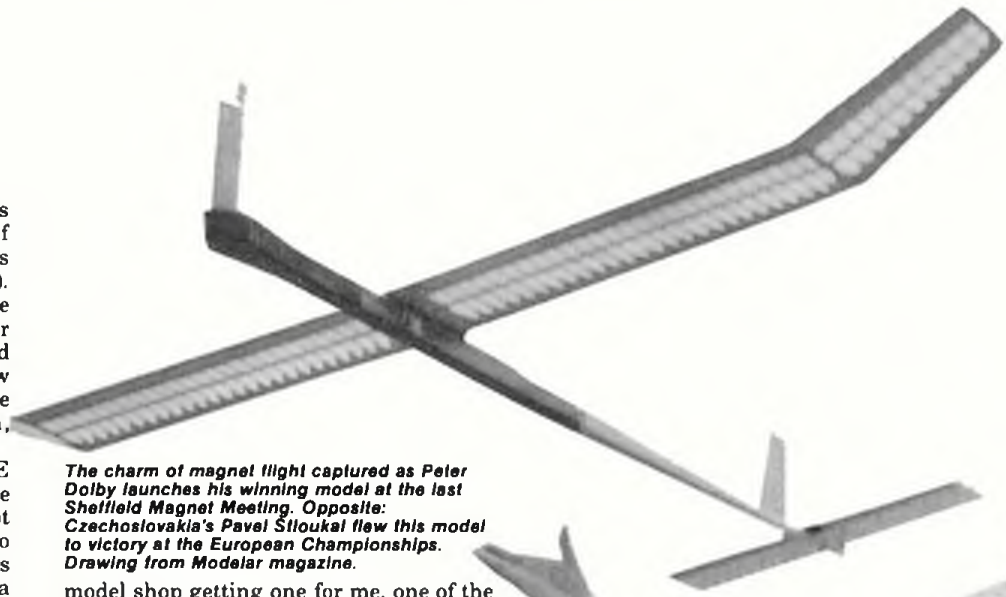
These matters are not unrelated. There is a disturbing connection between them all. They all represent reactions to, or effects of, the enormous technological changes which our hobby has undergone in the last thirty or so years. There is no need to describe or ennumerate these changes - they are well enough known. There is a need to discuss the crisis to which they have led us. The nature of that crisis is subtle, springing from the fundamental nature of the model flying experience itself.

For this writer, at least, the pleasure in model flying lies in creating, with his own two hands, something which will fly on its own, without the need for any connection with the ground. Others of course, have different priorities. Nevertheless, whatever one's modelling preferences may be, the conquest of the air is, at this level, something very personal. The unachieved ambition to fly haunted mankind for thousands of years. The fact that it is now managed, and taken for granted, makes no difference at all to the overwhelming sense of personal achievement which comes the way of the model flyer while one of his creations is airborne. Technological advances have put all this at risk. New materials and methods are putting less emphasis on individual craftsmanship and more on capital-intensive manufacturing and marketing. Our hobby ought to be offering a means of counteracting the conformist pressures of a consumer-oriented society. Instead it has begun to contribute to those pressures, as it moves steadily from the kitchen table to the factory floor. For our part, we just tamely accept what is happening, as witness the imminent demise of the Builder of the Model Rule. Small wonder that it becomes difficult to attract beginners, be they young or mature.

The growth of the Vintage movement can be seen, in part, as a reaction against these tendencies - a return to methods which make challenging demands on the modeller's creative skills. Fortunately, there is a great deal more to it than that, otherwise this writer would be a severe critic of the Vintage movement rather than an enthusiastic participant. All the same, one can forsee that Vintage will eventually reach a crisis of its own. When all the history has been recorded, and all the old designs republished, built and flown, here does one go? What will the next step be? Many modellers will feel the need for something new. By definition, there is nothing new in Vintage. It is a wonderful road to travel, but there must come an end to the journey.

We are, it seems, in a cleft stick. On the one hand, we face a choice between development and stagnation. We need change and innovation to keep the interest alive. On the other hand, experience to date is not encouraging. The trend of change threatens to destroy the whole basis of what we do.

We have to progress, that is clear. What is open to debate is the question of how that progress is to be achieved. We need to find ways of developing our hobby which will preserve its essential nature. We have time - the Vintage bandwagon will keep rolling long enough to sustain interest for a good few years yet - but we must not waste it. It will take a good few years to think our way out of the present dilemma.



The charm of magnet flight captured as Peter Dolby launches his winning model at the last Sheffield Magnet Meeting. Opposite: Czechoslovakia's Pavel Stloukal flew this model to victory at the European Championships. Drawing from Modelar magazine.

MAGNET SOA

Aeromodelling all-rounder Peter Michel couldn't resist the allure of magnet soaring. This is what he had to say after his first day out . . .

OVER THE YEARS, many features have been published on the subject of magnet-steered slope-soarers (models internationally qualified as Class F1E). Inevitably there are newcomers to the hobby, who together with those wishing for a new interest or change of direction, would welcome a simple resume describing how best to begin without having to involve themselves in exhaustive research, protracted letter-writing or questioning.

It has never been easier to get an F1E model completed and flying. The airframe is no problem because proportions are not critical, for the simple reason that no balance between wing and stabilizer areas has to be struck in order to conform to a maximum permitted surface area. Neither is there a practical weight limitation, minimum or maximum. This means that it is entirely feasible to use existing warp-free (very important!) flying surfaces linked together by a suitable fuselage. Mechanical complexity is far less than that of a current Wakefield or power model and the stresses on the airframe are far lower than those sustained by the typical zoom-launched A/2. See Fig. 1.

In the early days of magnet models only Graupner sold a simple magnet and fitting set. This consisted of a bar magnet, a brass ring with a pivot something like a steel gramophone needle, and a countersunk bolt and matching nut. I recall my local model shop getting one for me, one of the assistants having played around with the magnet 'testing its strength' by picking up pins, and yet this much abused and crude device won the Luton Club's Ivinghoe Rally on its first competition outing fitted into an own design model using the flying surfaces of a then top-notch rough-weather A/2. Twenty years later (yes, twenty years!) this same model placed fourth in the Eurochamps at the Wasserkuppe, the only difference being a slightly modified nose assembly incorporating a home-made sprung bearing. The situation is now much better in that *(a)* the most popular magnets sold are produced in the UK by the Sheffield Magnet Company,

Just a note, as you say, to let you know that at last I have made my first magnet-steering flight, and I have to report that it was a most enjoyable, not to say thrilling, experience.

I used the smaller of the two units you sent me a while back, and incorporated it in a revamped F1B. All I needed to make was a new fuselage to the dimensions that you provided. But to be frank I simply didn't believe that the set-up would work. (Never having seen a magnet-steerer fly, I could not bring myself to think that such a weak control movement could possibly have any effect . . .)

Last Sunday there was a nice southerly drift, so I went Wakefield flying at Chobham Common but took the magnet steerer along just to see what I could make of it on the small mound that passes for a hill on the north side of the bowl. For the first flight I didn't even bother to see the D/T, so certain was I that it would just turn back into the hillside like every freeflight slope-soarer I've ever known. Well, I very nearly lost it! It got way up in a nice drop of slope-plus-thermal lift and would have been a goner, I'm sure, had it not been slightly under-elevated. Subsequent flights, with slight trim here and there produced rock-steady soaring that was a joy to see. My lack of experience was very evident because I was unable to prevent the model from penetrating right through the lift band - but then, the wind was very light, and Chobham is not exactly slope-soaring territory. However, I am delighted to be able to tell you that for the first time I retrieved a F/F job *upwind* after a flight in excess of two minutes!

(b) excellent fittings of great precision are available complete with sprung 'sapphire' bearings, *(c)* fuselage front-ends and other components may be obtained by post, either from the German suppliers or from a UK source. All these items are supplemented by a virtually complete steering unit suitable for A/1 size models; this needs only to have the balsa parts doped. The popularity of the *Aeromodeller* plan for Peter Dolby's Mini Magnet has seen a surge in the use of this small but very efficient unit (figs. 2 and 3).

Having established the fact that the specialist hardware is now easily available (and it is still very reasonably priced by comparison with the majority of other modelling goods), and considering that the airframe is far from complex, let us turn to the task of flying this type of model.

Fundamentally, F1E models are flown — as is any slope-soarer — from a suitable hillside facing the wind. The course of the model is controlled by a magnet-operated rudder and the flying speed (ideally a fraction above wind-speed) is regulated by the addition of ballast. If the wind is very slight, that is, below the model's flying speed, the normal technique is to fly out from the slope for a given time and then circle back towards the slope with the wind. This procedure is described more fully later; see also fig. 4.

Setting the magnet/rudder couple

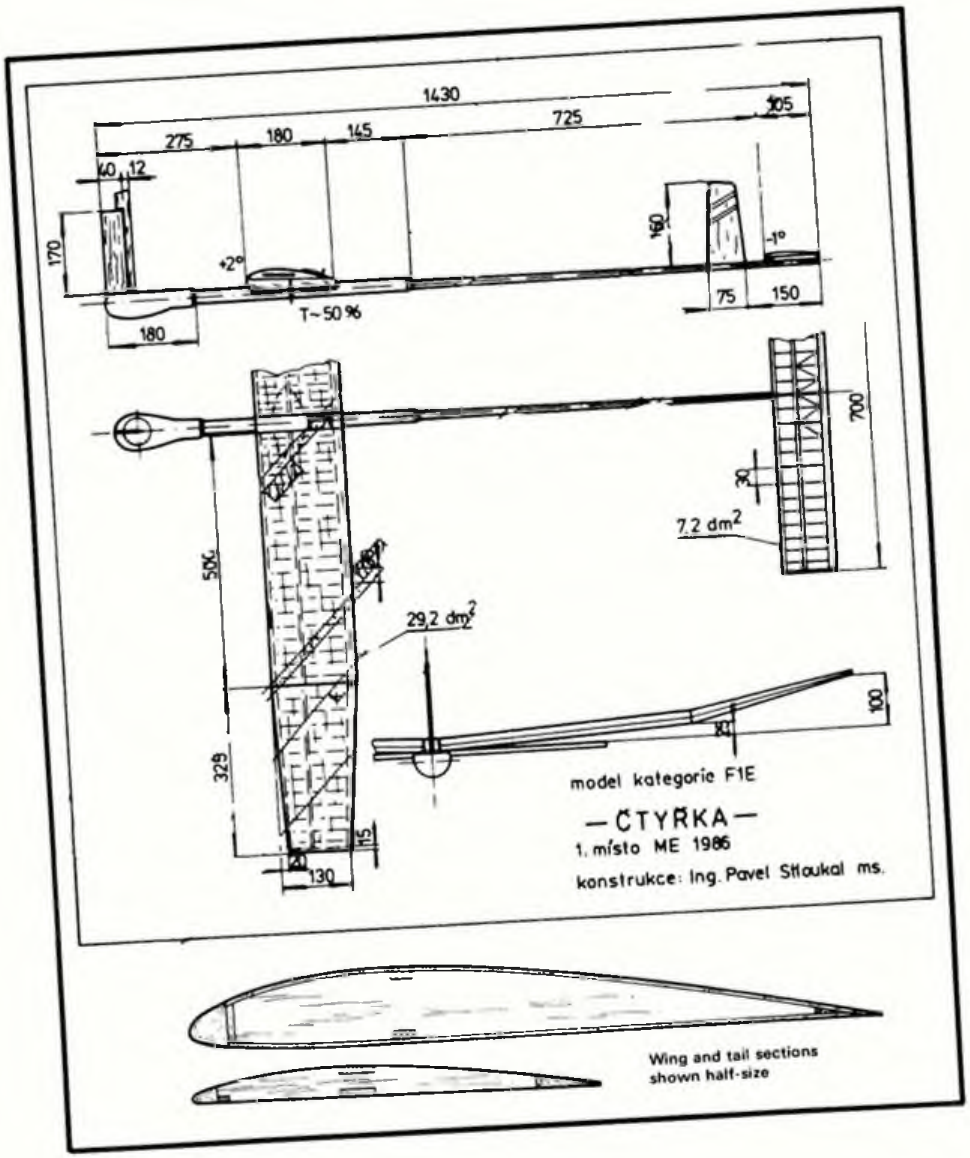
It is essential to know in which direction Magnetic North lies with relation to the launch point. It is also vital to know which is the north-seeking pole of the magnet. This is usually marked with a spot of paint. The model is lined up so that its fuselage faces directly onto the wind. A correctly-set magnet will be pointing North-South with the rudder blade aligned along the fuselage centre line when the fuselage is pointing directly into wind (see fig. 5). Adjustment is usually a simple matter of holding the rudder post and 'tweaking' the rudder; alternatively, the rudder may be fitted via a locating spur into a toothed wheel or calibrated disc which allows repositioning.

Deciding on ballast

Although experience is a useful asset, this is the one thing that the newcomer can't go out and buy. But the principal is simple. If the wind strength is such as to make the model feel as though it could leave the hand when held in the launch position, ballast is required. Normally, F1E fliers have as part of their flying equipment a series of lead strips graded by weight which can be attached by bands to the fuselage. In order not to disturb the model's trim (decided upon before visiting the slope by the normal F/F process of hand launching and tail adjustment) the strips should have their individual CG positions marked clearly, allowing the model's own CG — also marked — to coincide (see fig.6). When enough ballast has been added, the model will feel ready to leave the hand only when the launcher walks forward into wind.

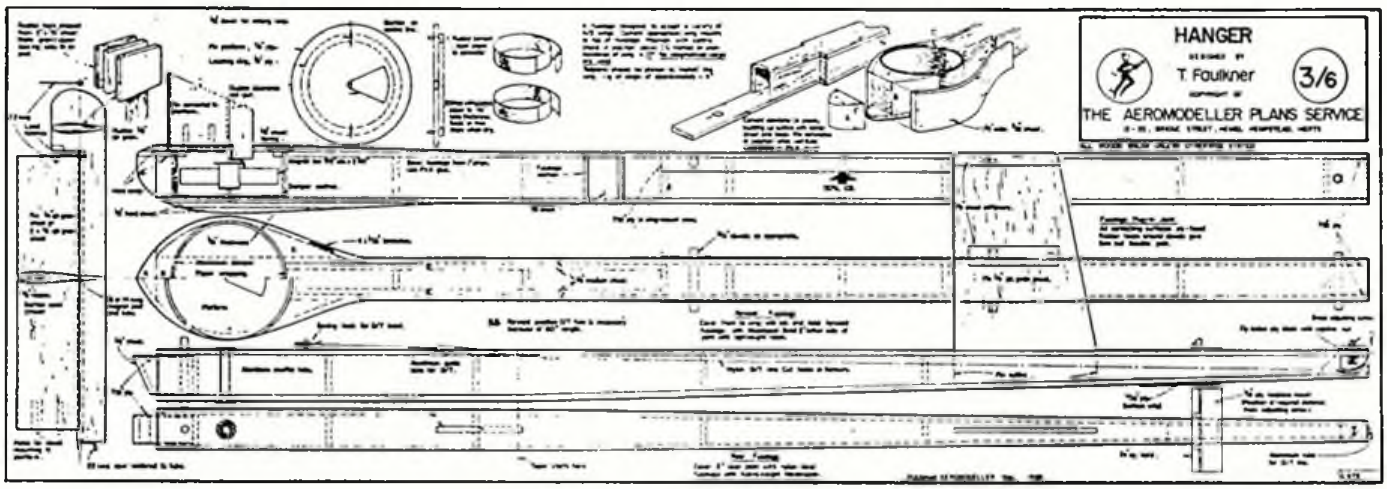
For the very first outings, it is always best not to have to resort to ballast if at all possible. Choose a day with light wind and the model will progress outwards, when, because of less turbulence, it will indicate more clearly how the directional trim is behaving. As most trimming flights need not be of more than thirty seconds' duration, and as the model is flying upwind, retrieving distance ought to be short.

Most slope-soaring enthusiasts soon realise that the wind direction at ground level often varies considerably from that at some distance above the slope. To compensate, adjustments to the rudder setting are called for. If, for example, the model has been holding a steady course to the right it will be necessary to apply left rudder, as one would expect. The amount of alteration is probably less than ten degrees in most cases. One slightly confusing factor can arise when a forward fin and rudder are employed. With such an arrangement, to increase left rudder means moving the TE of the rudder to the right (see Fig.5). This, as will be seen, produces a camber to the right of the fin and rudder when viewed from above, and



How to make a flying start in F1E - natural guidance by Trevor Faulkner

THE CARDINAL POINTS



the resultant sideways steering force is directed to the left.

With the more conventional-looking rear rudder arrangement, steering is orthodox. Forward fins are more usual on these models because of their simplicity and the availability of ready-made or ARTF parts, and these are firmly recommended for the beginner.

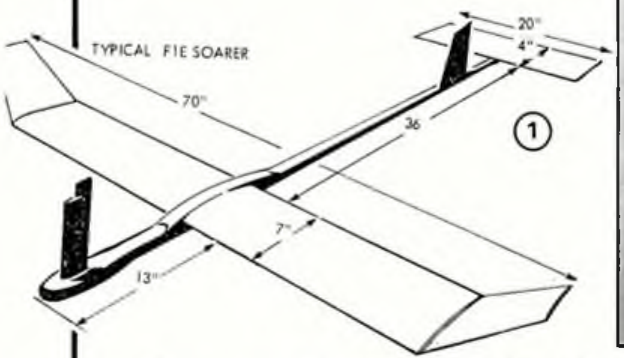
Circling flight

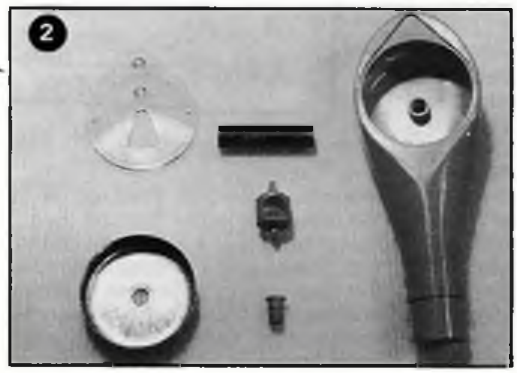
This is without doubt, one of the most exciting and fascinating types of flying, usually occurring when conditions are ideal; that is, when the wind speed is low and drift is predictable, yet there is enough slope-lift to allow the model to gain height as it progresses outwards.

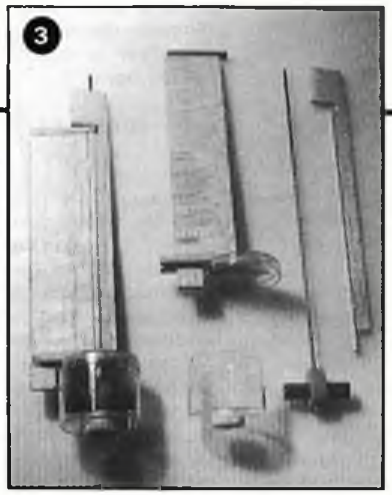
By the use of timer or fuse-actuated mechanism the rudder is swung over to full deflection and held there, so negating the magnet's corrective force. The model responds by circling, and it returns the launch point and D/Ts almost at the flyer's feet... that is, if all works well. So what can go wrong? First, spiral diving. If the rudder deflection is too great, or the CG is too far to the rear, or the model is not equipped with a variable-incidence tail, this is almost bound to happen. The cure is simple; one cuts down the amount of rudder deflection by adding a little packing to the side of the blade to lessen the angle. A nice flat open circle is all that is required, and in calm conditions, the smaller rudder deflection won't matter when the model is flying straight.

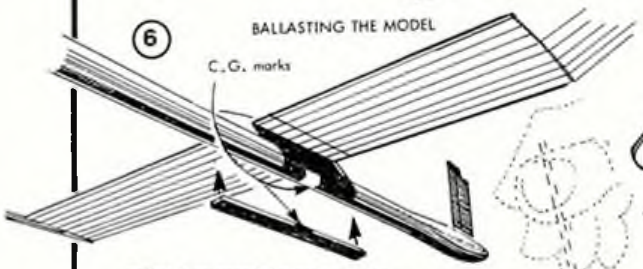
A second possibility is that the model

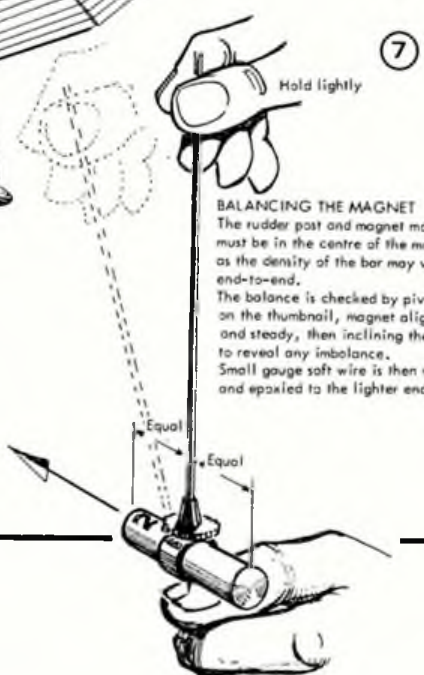
Top of page: Trevor's special fuselage design will suit A/2 glider surfaces. Plan available as G972X: price £2.23 including postage from ASP Plans Service, 9 Hall Road, Maylands Wood Estate, Hemel Hempstead, Herts HP2 7BH.

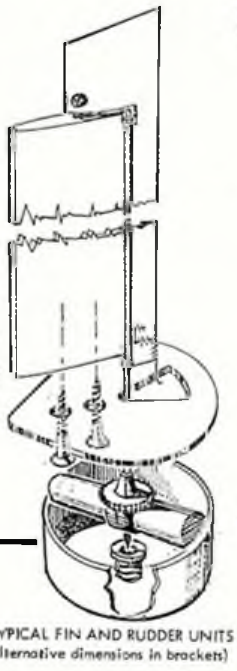


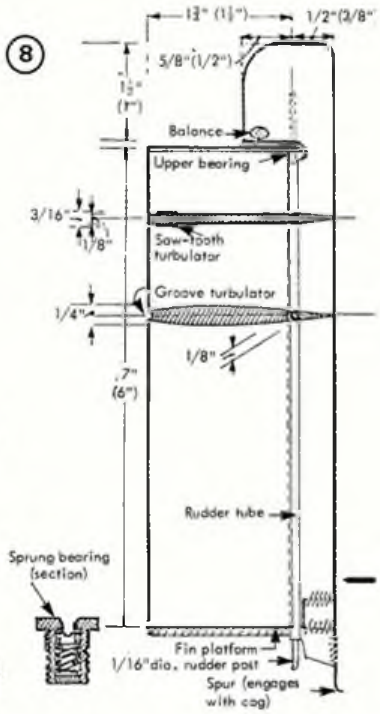












Diagrams are self-explanaotry and relate to text: Photo 2 shows the Frieser unit. A matching spurwheel is also available. Cost: approx £14. At 3: Lightweight unit for A/1 size models by Ing. Spies. Cost: approx £9.50. A typical nose this unit is at photo 9. At 10: Two versions of fuselages to take Frieser components.

flies too far away from the slope, runs out of lift and circles back far too low to take advantage of the slope lift on return. The solution is to cut down on the time of the straight flight, and bring in the circle much sooner. Third, if the model starts to circle too soon, it will probably clear the crest of the hill and continue downwind before D/Ting. Obviously, the forward flight component needs to be increased. With this form of flying, the best fliers will know exactly how long to fly each of the two 'legs'. To do this requires a thorough knowledge of the model, an understanding of the wind speed and direction at various altitudes, and a continued alertness for alterations in the last two factors.

Other points to watch

Given normal careful and accurate building, the average modeller should have no difficulty in checking and correcting slight inaccuracies in the airframe. The following list will allow the particular demands of a consistently-flying F1E model to be met.

1 *(a)* Forward and rear fins should be vertical and aligned with fuselage centre-line.
(b) Forward fin: symmetrical section. Joint between fin and fin platform should be accurate and secure.

2 Wings and tail should be set squarely and should be positively located. Both panels should be of the same weight. There should be no tilt — and no warps!

3 The rudder must swing with no binding anywhere. Section should be symmetrical. If these criteria are fulfilled the chances of success are high.

Anything else?

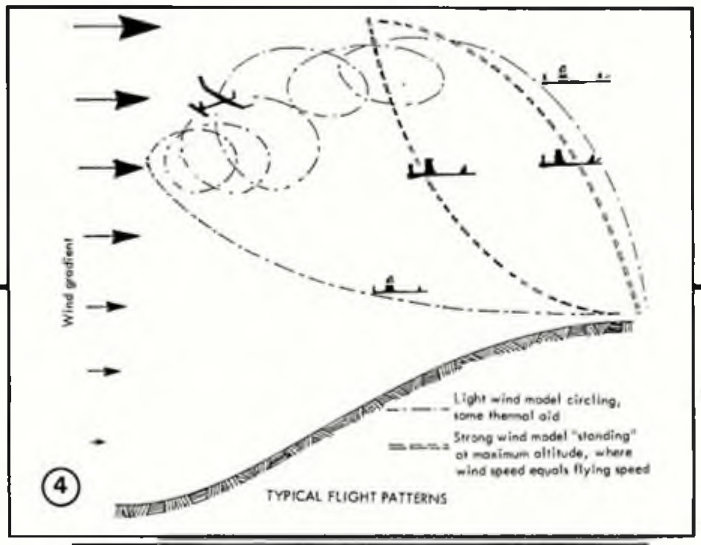
Well, magnets do lose their power with time, but are easily and cheaply re-energised. Try a motor electrician. Power-loss is reduced by the use of a 'keeper', which can be either another magnet sitting with the first 'nose to tail' or a soft iron or annealed mild-steel strip arranged to complete the magnetic field. Magnets should never be dropped or banged around, not because of risk of breakage, but to avoid loss of power. Separation of magnets from each other or from keepers must always be by a direct 'break'; that is, they should be pulled apart. A sliding action must not be used.

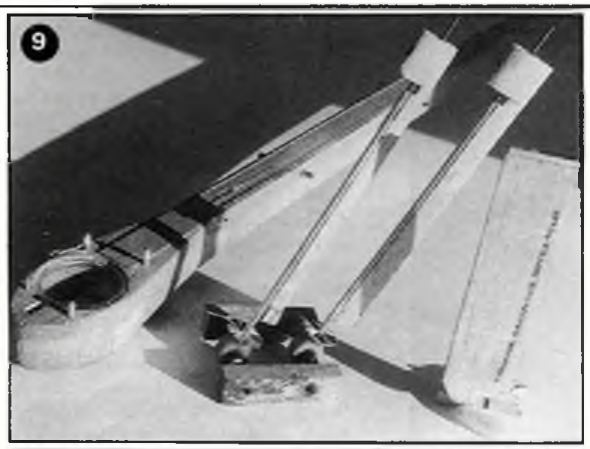
D/T angles are a bit more critical with long nose-moment models but problems can be solved by employing one or more of the following: careful adjustment of angle; stronger (or more) 'pop-up' bands to avoid tail flapping; turbulators on either wing or tail; CG movement fore or aft according to model configuration. As a final resort... build a bigger tailplane!

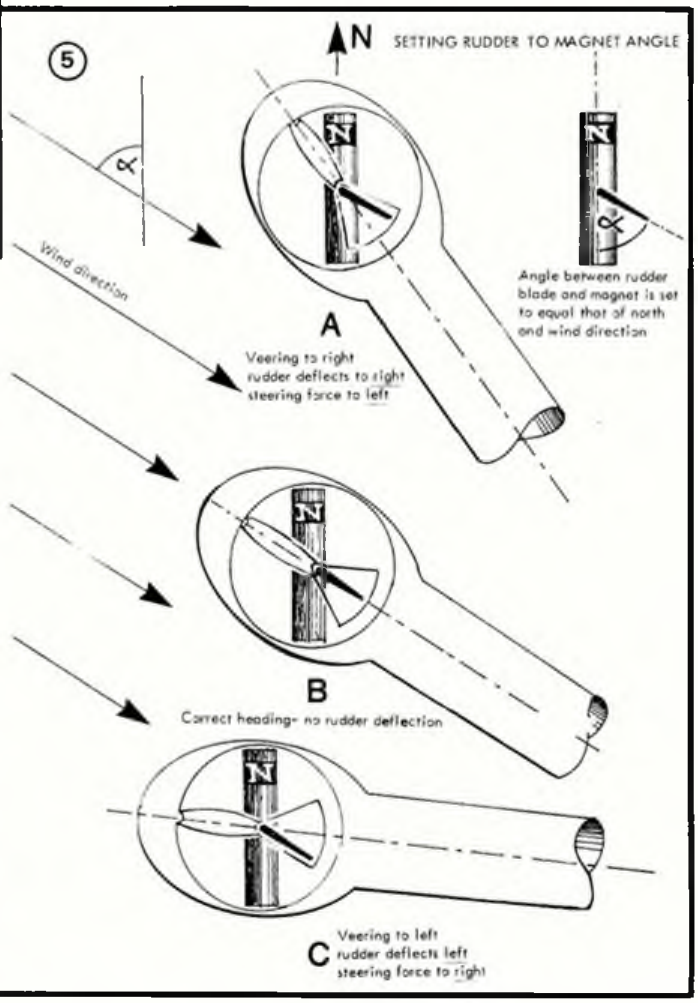
Now to model recovery. Unless you're pretty fit, don't go dashing up and down slopes at first. Use short D/Ts. The ground cover on hills is often denser than on airfields, so observe your model's touch-down accurately. Later on, fit a buzzer for easy location. Use fluorescent paint for better visibility, and use the launch-point for surveying the landing. Lastly, don't forget a windsock. A simple stick and streamer device is simple and effective: mylar strip is ideal.

Suppliers

Anton Frieser, Am Klingengraben 13, 8832 Oberhochstatt, Bayern, W. Germany: Precision nose mouldings, magnets, fittings, buzzers, plastic fuselages, all for A/2 size models.
Dipl. Ing. Spies, Rathmacher Weg 38, 5657 Haan Rhld. 1, West Germany: Complete mini steering units; some larger units, including a rear steering set. Buzzers, plans, kits and part-kits. Speciality: items for beginners.
Trevor Faulkner, 4 Birchitt Close, Bradway, Sheffield S17 4QJ: Stockist of the most popular of the Frieser and Spies items; operates a rapid supply service, subject to availability.







MIND THE LINES

Ron Prentice looks at the vintage control-line scene

IN MY LAST COLUMN I asked whether Go-Devil, Veco Chief, Warrior, Thunderbird, Mats, Pow-Wow, Hi Boy and Skyscraper were names familiar to you.

I am quite sure that all those readers who are long time stunt control line enthusiasts will recall those models with nostalgia and lachrymose sighs for the 'good old days'. In fact, of course, they are all designs of that most well known American veteran stunt control line exponent, Bob Palmer.

Bob, now recently retired, is still an active modeller, living in California. He concentrates mainly on R/C these days and his most recent model is a 70in. span Laser 200 which weighs 8 3/4 lbs and is powered by an Enya 1.2R. He tells me that he still has the original Skyscraper, complete with Veco 45, and occasionally gives it an airing - although he now finds giddiness a problem.

Bob began his aeromodelling career thus:

'I started when I was 12. I saw a relative I visited in Seattle building one, came home and earned enough money to buy one. My first kit was a rubber powered biplane, which flew very well (after a struggle with the covering). I made several other kits which I sold to adults, and made enough money to buy better and bigger kits. At 17 I bought an Ohlsson 23 and a Miss Tiny kit, which flew very well. I then started making display models. A Lockheed Electra won my first trophy. I had read about the Electra and other Lockheed planes in the newspapers and thought how wonderful it would be to work in a real plane factory. When I was about 20 and still building free flight models, I started to learn to be a machinist. I went to a school where we worked four hours a day and took four hours of training. I received room and board and $10 a month. In 1941 Lockheed came to my school and gave the pupils a test and if you passed, they hired you. I was one of the four to pass the test and came to downtown Burbank to fulfil my dreams of making real planes. They put me into jig building and I became a class A Jig Builder.

'At this time in 1941 I bought a Jim Walker Fireball and put my Ohlsson 23 in it. I flew it for six months before I saw anyone else fly U-Control. Also during this same period I converted a Miss Tiny to U-Control, making it a low winger - its 48in. span with a .23 gave it a very light wing loading. Performance was very good and I could really fly it. I heard they had a flying field at Giffth Park, so I went there to see it and they were all flying very small planes. So the next weekend I took my model over and they all kinda snickered until I took off — then they told me about a contest in two weeks. In the meantime I was building a low wing, twin rudder, tri-gear model for an Ohlsson 60. I test flew it in time for the contest and took both models. I asked if I could enter both in the same contest; they said I could, so I won 1st and 2nd places at my first U-Control contest. This really got me started in contests; it was so much fun competing and talking to other modellers.

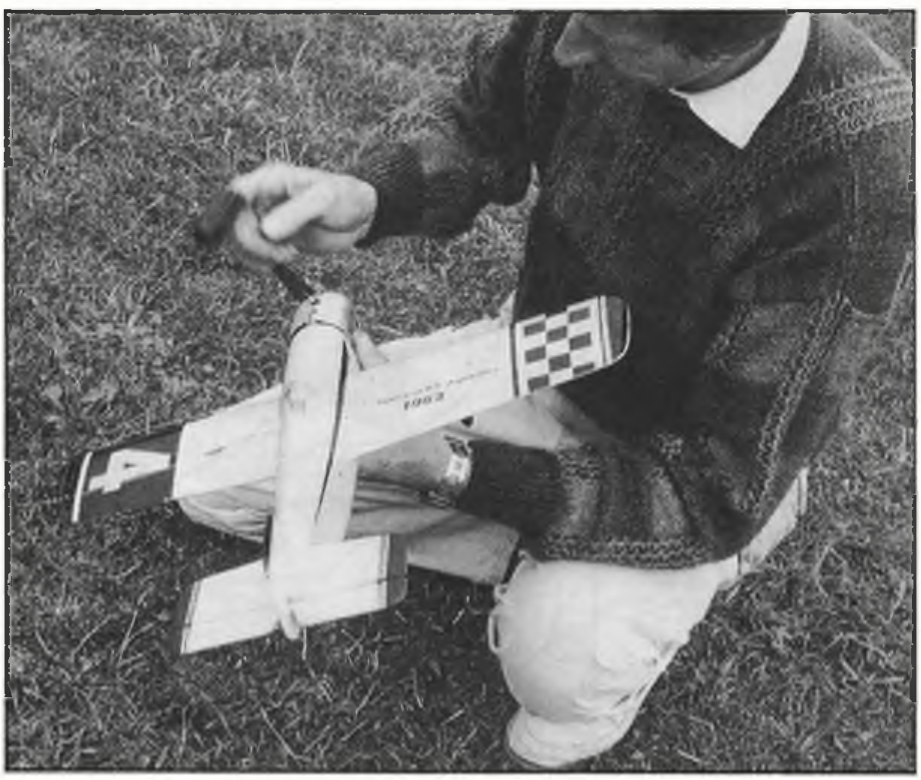
'I finally bought a Super Cyclone which really made my plane go, but the points kept me busy getting them just right, until one day I put on two condensers. This solved the problem and I got good engine runs.

'About this time I met Dave Slagle who was about 10-11 years old at the time. His parents bought one of my free flight models converted to U-Control and we became good friends, going to contests together, he winning Junior and me winning Open. I also met J.C.Yates and we teamed up together to fly acrobatics. We were a perfect team.

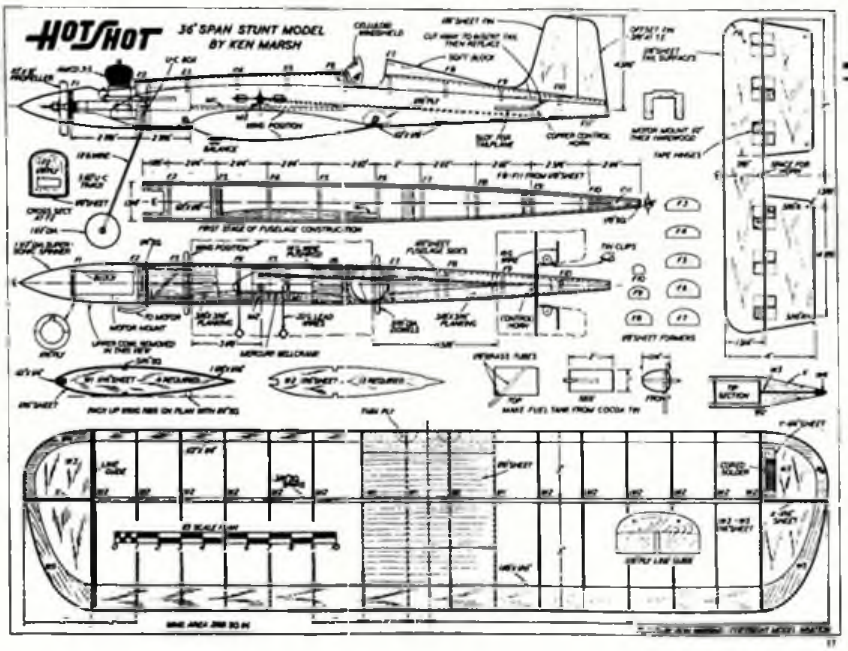
'In 1945 we saw Roy Mayes fly upside down, using a biplane with a Clark Y airfoil and a wedge tank.His plane was light and he carefully climbed for altitude and did a half inside loop to level flight. It was just uncanny to see it flying upside down.Yates had seen it and just had to have a try! His plane was powered by an Orwick 64 and doing about 80mph he went upside down high up, but gradually kept losing altitude and just couldn't pull out!

'We all wondered about a symmetrical airfoil, but as the books said they gave no lift, we didn't think they would work. Yates went on to a semi symmetrical section and didn't experiment.

'Dave Slagle was flying the same plane as I was, a tri-gear, twin rudder plane with a Clark Y section. He and his parents decided to try an airfoil made of two Clark Y's bottom to bottom and set at 0°;in other words it was a symmetrical section. It flew good and he maintained inverted and came out right-side-up. Yates and I saw this and Yates started building a plane with the same section. By now Dave Slagle was entering inverted by diving from the top and pulling out upside down - real spectacular! Yates soon followed suit and quickly became real good at it and was after me to learn upside-down flight, so that we could do it in team flying.



Above: Man and model - Terry MacDonald holds his Footprint team racer before a typical 'flying site' background! Left: Another vintage T/R job, the Sorcerer's Apprentice - a 1953 design - is given a hearty flick at Old Warden last year.



'Winter was coming and the contest season over, so I made a plane with a symmetrical airfoil. I tried to learn upside-down flight, but couldn't get the hang of it. The Orwick 64 up front was really running and I nearly crashed several times.'

I well remember the difficulties I had myself when practising inverted flight, crashing many times. However, Bob overcame his problems in a novel way; and you can read about this in my next column...

Someone's looking for you..

One of the nice things about the vintage movement, is that you sometimes meet up with old friends from the distant past, whom you may not have seen since the early 50s. Such a meeting took place recently when I visited the Model Engineer Exhibition on the final day so that I could take home the models I had on the SAM 35 stand. I was told that someone was looking for me and that 'someone' proved to be Ken Marsh.

I had not seen Ken since our days at the West Essex Club some 35 years ago, but I recognised his smiling face immediately. Back in the last 40s, Ken Marsh, together with Sid Sunderland, Dennis Allen, Ken Muscutt, Len Steward, Ron Moulton, Bill and Charlie Taylor, and others, were among the foundling fathers of control line flying in this country. He placed in many of the aerobatic competitions held at that time and was one of the British Team that attended the third European Stunt Championships helt at Knokke, Belgium, in July 1951 where he placed third.

I remember Ken arriving at Fairlop one Sunday with a new streamlined model designed for the Amco 3.5 diesel. This plane was the 36in. Hotshot which was subsequently published in the 1950 Ian Allan magazine Model Aviation.

I built a replica of this plane about four years ago and found it to be a good flyer. Ken's comment when I told him of my model was 'The plane wasn't bad, but the Amco was terrible, always breaking crankshafts.'

Ken is still a member of the West Essex Club, but is totally involved in R/C at present. I did ask if he had flown control line model lately, and he confessed that he did try one a couple of years back, and that within a very short time he was going through the book as though he he'd never put it down!

He told me that he still sees former clubmate Ken Muscutt from time to time, but so far had been unable to get him back to aeromodelling. It would be nice if I could persuade them both to try some vintage stunt at Old Warden next Vintage Weekend. I have made an exact replica of Den Allen's Boxcar, complete with Madewell 49 sparkie, and if that doesn't tempt them into 'having a go', I don't know what will!

Speed, too

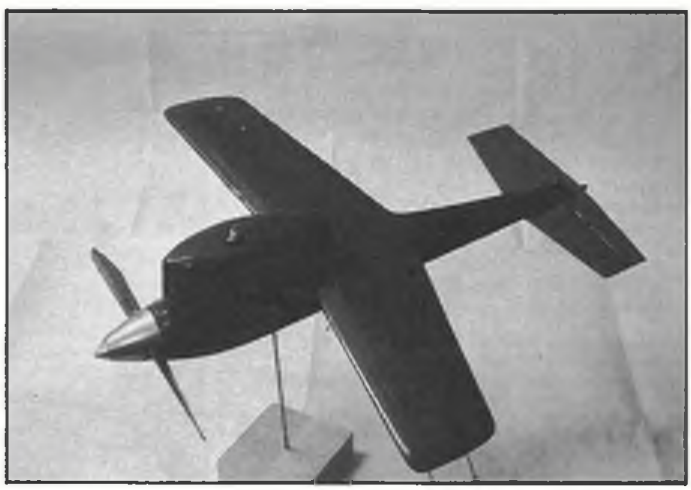
I seem to be always writing about stunt models to the exclusion of all else. However, thanks to the efforts of fellow columnist Andy Brough, speed models, in particular the Mercury Midge, have established a considerable following. These small models powered by 1.5cc engines have managed to reach quite remarkable speeds.

I made one three years ago and installed one of the new reproduction AM 15s. The motor was not fully run in at the time and kept overheating with the high revs it was required to run at. The maximum speed I was able to obtain from my Midge was 64mph, which in comparison with the 98.90 clocked by Tony Eifflaender at the Three Sisters Gala last year, is very slow indeed.

Another former West Essex Club member, Fred Deudney, held several speed records back in the early 50s and, in fact, I have one of his original record breaking planes complete with Dooling 29 in front of me as I write. It is 14in. span with swept forward wings, the lower part of the fuselage is magnesium and the tailplane aluminium. Apart from some damage to the starboard wing, which has been repaired, it is in remarkable condition. I must say that I am tempted to try and fly it sometime, as it only needs a take-off dolly; although when I think how giddy I became flying the Midge, perhaps it's not a good idea.

Those of you who are interested in speed flying and with access to old copies of Model Aircraft magazine would do well to turn to the September and October 1950 issues. there is a two part article by F.E.Deudney, B.Sc (Eng) Hons, called 'Science and the Speed Model', which is well worth reading (if you can understand it!).

See you in two months...



Below left: A keen pair of enthusiasts, a steady hand on the needle – and the Mercury Marlin is ready for another sortie. Delightful shot of concentration-plus captured at the last Vintage Weekend at Old Warden. Below right: Fred Deudney's 1950 Dooling .29 powered speed record holder is now in our columnist's possession (see text).

FREE FLIGHT SCENE

with Dave Hipperson

First on the agenda this month is an exclusive preview of Stafford Screen's latest F1C

IN THE JUNE 1986 issue we brought you details of Stafford's experiments in hard aluminium foil covering of F1C models. The whole point of the exercise was that by producing such a stiff wing it would be possible to increase span and aspect ratio and hence increase climb and improve glide performance. Stafford's first foil models were promising but of conservative proportions as he sensibly kept the prototype layouts similar to that of his familiar designs.

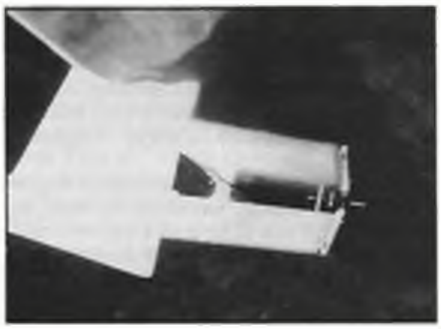
Between then and now — almost a year has passed — he has been able to iron out the bugs (I dare not say wrinkles) and we are pleased to be able to bring you the very first look at his stretched Russian-influenced models for '87.

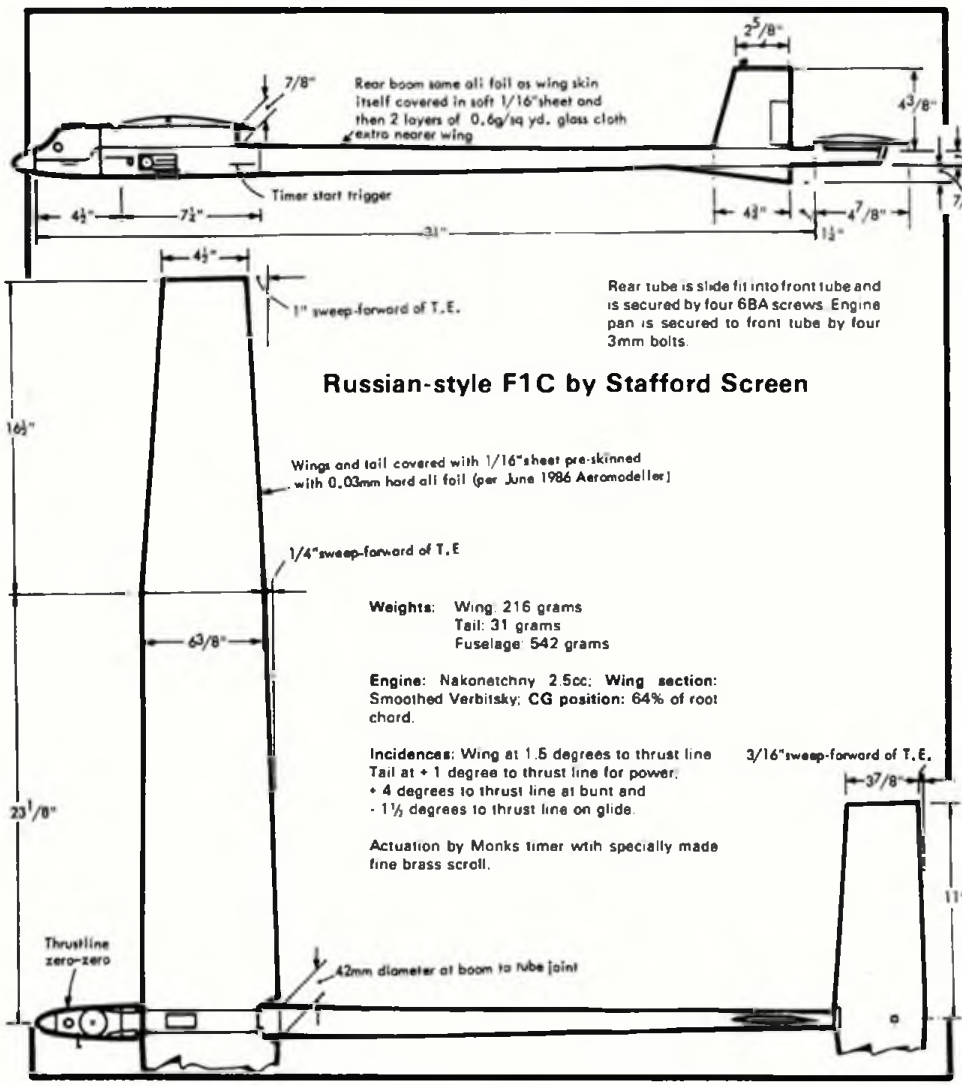
Behind the pan-mounted Nakonechny engine an aluminium-tube fuselage housing contains a specially-constructed Monks timer rigged to operate the tail as per Verbitsky via a monofilament nylon hold-down line. Those rear-mounted triggers which proved so reliable in the past have been scrapped to save weight at the back although there is still some concern over the possible effects of a line under high tension running down the fuselage during the power phase. (I went over to triggers on my Wakefields on Stafford's advice—can I go back to a hold-down line now?).

The pan is bolted to the fuselage tube, as is the rear boom which is constructed in the reverse way to wings and tailwith the ali foil on the inside. 1/16in. light balsa followed by glass cloth covers it on the outside. The trailing edges of the wing halves have been relieved where they meet the fuselage in order to offer a more substantial fixing point for the bands holding the wing halves together. That large square hole just in front of the aluminium joiner is the exhaust outlet which keeps oil clear of the timer.

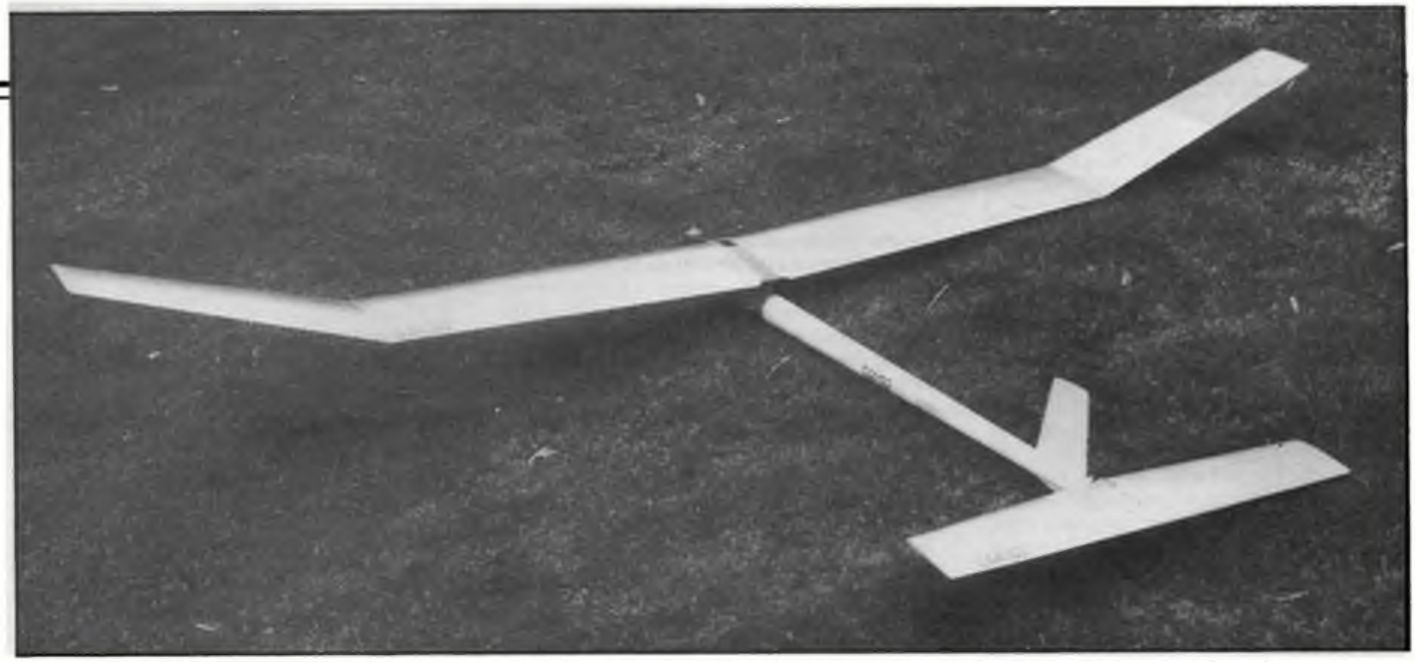
The wings are built as per the June '86 article but with the addition of specially made fully-tapered carbon fibre spars and with even greater attention to detail when it comes to the finish. Just look at the relection of the bunt mechanism in the photo of the forward fin and pedestal-mounted tail! The wing section is Verbitsky's but rather than adopt a straight line for part of the rear undersurface contour — done for convenience by the Russian — Stafford has smoothed it into a curve. Weights are low despite the long span; down to the minimum in fact. The rear end is lighter than before and the tail is no heavyweight despite this also being foil covered. One wonders if mylar might be better; it would certainly be a lighter option to use on such an unstressed component but presumably Stafford can't find any exactly to match the tone of the foil on the wing!

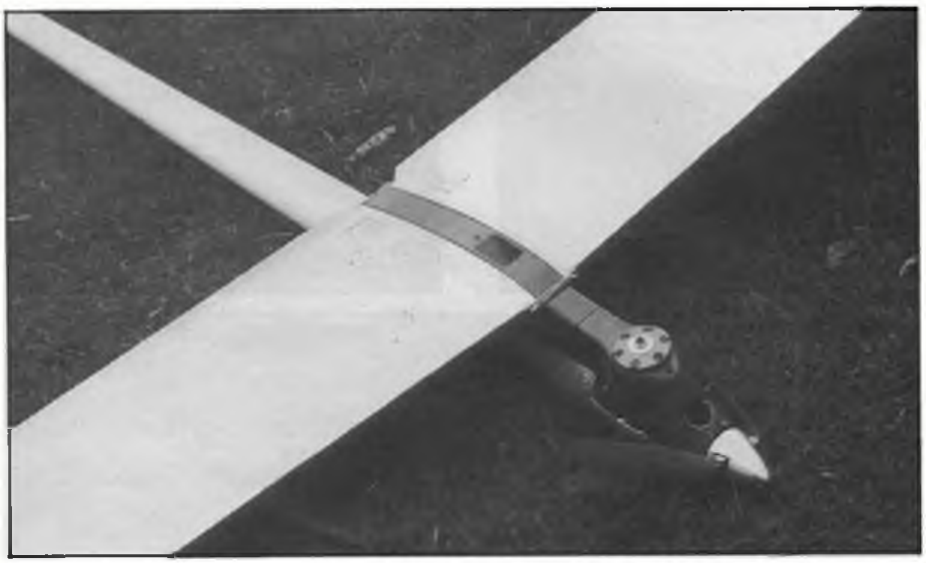
So, quite apart from the adoption of foil covering Stafford has — in the space of only a couple of years — discarded one-piece wings and the trigger VIT system, has brought the fin in front of the tailplane, has decided to hold the stab down with high-tension nylon and has of course replaced that trusty square fuselage — so easy to hold — with a metal circular one (incidentally, the model in the photos is so new that it doesn't yet have the necessary finger grips). All this marks many changes for our leading F1C flyer—let us hope nothing lets him down.





All photos show Stafford Screen's 1987 F1C model. Above left: Bunt mechanism and tail pedestal mounting are reflected in that metal-covered tail. Above right: Russian-built Nakonetchny motor exhausts from square over-wing exit. Note substantial wing dowel. Opposite page, top: Functional but elegant lines are evident - model and designer!





SMAE Winter Meeting, Bottesford: 22nd February

I cannot remember a single occasion since the last time this event was run in February — two years ago — when to extend the max would have been more practical. Yet despite clear fields, minimal lift and a mere breeze we were forced to fly to a preposterous 2:30 limit, rendering nearly the whole day — particularly for Open Power where every entrant maxed out — a mere formality and condensing the important action into an hour of rapidly-dwindling daylight at the end. Nearly a third of the original entry were involved in these final 'unlimited' flights; they then had the task of locating their models in the dark! Nevertheless, the day was certainly a success as far as entries were concerned, illustrating how much more popular Open events are in the Winter in comparison with the all-too-weather-dependant Mini classes that pulled so badly last year.

Perhaps it could be said that Glider was well served by the 2:30 max. No-one returned a full score for the air was so dead. John Cuthbert, fresh from the cover of the March *Aeromodeller* came closest, dropping only ten seconds. All the other events were decided by flyoffs run from 4.15pm. Vintage proved as decisive for the Challengers as it had at the same contest run in spring last year. This time the top two positions were reversed with O'Donnell's flight contacting better air than Dilks' launch a few minutes later. Personally my money was on Chris Strachan's Lanzo Stick but to fly early proved a wrong decision as the lift just wasn't there. After a game climb the model sank fast for a time of less than three minutes.

As usual Slow Open Power had more entries than Open Power itself but a number of duplicated contestants. One such was Pete Watson whose early flight in this class looked like the winner. Pete's OS-powered monster needed to be launched with its motor almost four-stroking as it came 'on song' so much better in the air. A problem of suction feed? Anyway, despite this good flight and fine climbs by both Fielding and King's models, which sank too quickly at the end, it was the pretty yellow and red Dixielander of Dick Staines that topped

them all with a flight of nearly six minutes. Phil Ball was in there too with his Swinging 60 but he contacted unhelpful air for his worst flight of the day, a little over three minutes.

Open Power had made a complete mockery of the max — the entire entry was in the flyoff! Pete Watson (busy man) was off again with a similar-size model of just about twice the velocity. It went way up! Pete Harris followed with perhaps an even faster pattern but an apparently less-slow glide. Russell Peers waited for some time before he launched. He had deliberately ceased his contest flying once he had qualified for this event, preferring to perfect the trim of his fastest .40 model during the afternoon rather than to diversify into Open Rubber. Despite a slightly left-of-wind launch his 'missile' continued vertically to an incredible altitude. What could have been an awkward transition was saved by the sheer momentum of thirty-six ounces of model travelling at 60mph! The pull-out lost no height and it was quickly obvious that Russell was in very good air, the model descending very slowly to land over 2.1/2 miles away after a flight time of over eight minutes, some ninety seconds more than needed for victory.

It was 5pm before the hooter sounded for the start of the final Open Rubber flyoff although many contestants had been winding in advance in order to be ready quickly — or to gain a little extra time if a motor blew. There was still a 15mph breeze at altitude and for those first away, including Anthony Ball, Derl Morley and Chris Strachan the air was not helpful. A few minutes later Ian Davitt released and from the sound of his excited chatter the air had improved — there was slight lift so the rest of the pack were quick to follow but not before Mark Croome's monster V-dihedralled model had ploughed in when excessive motor torque lifted the fuselage off the wing. Hipperson and Dobson, flying 300sq. in. models, followed by Carter with something rather larger all got very high but alas, Carter's model developed a bad stall at the top of its climb and was soon back down. Phil Ball launched last but his model hit turbulence on its power turn and performed a tail slide. Instead of recovering, as would have been usual, slightly slack tissue allowed the wing tips to tuck under 'indoor model style' as the airspeed built up again. The model was down again in thirty seconds but was not seriously damaged.

Dobson's and Hipperson's models were seen nearly down to the ground, the latter scoring close to eight minutes and travelling a similar distance to Peers' earlier power flight. Retrievers then discovered that what had appeared miles of rolling hillside from a distance was, in reality, the edge of Bottesford itself; and hazards like a railway line, main road and river had to be negotiated. Those that sampled these delights will long remember just how wearying it is to make a round trip of five or more miles through largely unfamiliar — and soft — fields in the pitch dark with half a hundredweight of mud stuck to each wellington! Such was the darkness that one flyer actually walked into a sheep! However, even though there were a number of models still missing that night the majority had been located, if not picked up, by the morning.

Bottesford is a good aerodrome although the disused runways (or what is left of them) need careful negotiation if a bicycle is to be used at any speed. The early season's covering of a two-inch green crop over soft soil proved a very forgiving surface over which to fly. Even the outlying fields had none of those vicious boulders so prevalent around Barkston Heath...

It was at the introduction in 1985 of the blanket 2:30 max for Area events that I gloomily predicted that this could easily become the norm for all events. This contest would suggest that my forecast has been borne out. When will CDs realise that the success of a contest is not to be judged by the numbers in flyoffs? On the contrary, any more than two or three suggests that their rules are actually wrong. Let's have the contest during the *day* please.

SMAE Winter Meeting, Bottesford:
22nd February
All events to 2:30 max

Open Glider (16 flew)

1 J. Cuthbert	7:20
2 M. Gregorie	7:04
3 M. Brown	7:00

Open Rubber (14 flew, 9 in flyoff)

1 D. Hipperson	7:30 + 7:58
2 T. Dobson	7:30 + 7:03
3 I. Davitt	7:30 + 6:44
4 D. Morley	7:30 + 5:59

Open Power (7 flew, 7 in flyoff)

1 R. Peers	7:30 + 7:53
2 P. Watson	7:30 + 6:24
3 P. Harris	7:30 + 6:04

Vintage (13 flew, 4 in flyoff)

1 J. O'Donnell	7:30 + 5:02 Challenger
2 T. Dilks__	7:30 + 4:45 Challenger
3 C. Strachan	7:30 + 2:58 Lanzo Stick

Slow Open Power (10 flew, 6 in flyoff)

1 R. Staines	7:30 + 5:48
2 P. Watson	7:30 + 4:56
3 C. Plant	7:30 + 3:29

Some changes for '87

The Free Flight Technical Committee has resolved a number of important issues which had been causing embarrassment. Since the start of last season it has been at the discretion of the Committee whether to accept or reject applications for individuals to fly Area events at non-official sites. It is now decided that until further notice *all* applications to do this will be refused without exception. That is to say, Area results will be accepted only from official area venues and through official SMAE Comp. Secs. It was thought that last year those who were refused permission had felt they were being victimised. Now the situation is the same for everyone.

A rather more controversial decision surrounds the fate of the Team Travel Fund this year. There will be no payment from this to *any* of the World Championship Team attending France later in the year! The thinking behind this is that to hold over the cash for a year means that a buffer will be created, allowing a definite figure to be promised immediately to future qualifiers. This in turn (it is hoped) will allow them to speed up their decision as to whether or not they wish to attend; past late decisions on grounds of financial uncertainty have always been an organisational headache because names need to be confirmed promptly with the host country. The men going to France had already been asked if this was in order before the Committee finalised the issues. Of course, the Team members will still receive their entry fees and their share of whatever Team Support Fund is available.

The flying site situation looks less dismal than had been at first thought. We have permission to use North Luffenham, we are back on Barkston as before but with reservations surrounding the over-flying of the missile compound, and by way of some very delicate negotiation on the Chairman's part we have the use of Chetwynd for the Spring meeting at the end of April. Reluctantly the Summer date for the Trials (a move which proved so successful last year) has had to be cancelled as no suitable venue could be found for that time of year. The dates in October and the reserve date a fortnight later will now have to be used in full.

The CIAM are considering formalising an 1/2A Power class to go with the existing A/1 and Coupe d'Hiver events. Although the USA have suggested some heavily loaded specifications, what seems more likely is that a simple minimum weight restriction of 160 grams will be imposed (5.1/2oz; its a long time since I heard of one that light). This had the FFTC's blessing and we wait to see the outcome of the next CIAM meeting when the matter will be further discussed.

Cyano bottle safely housed in small balsa plank which doubles as 'pin cushion' for the applicator sticks.

Simple cyano applicator

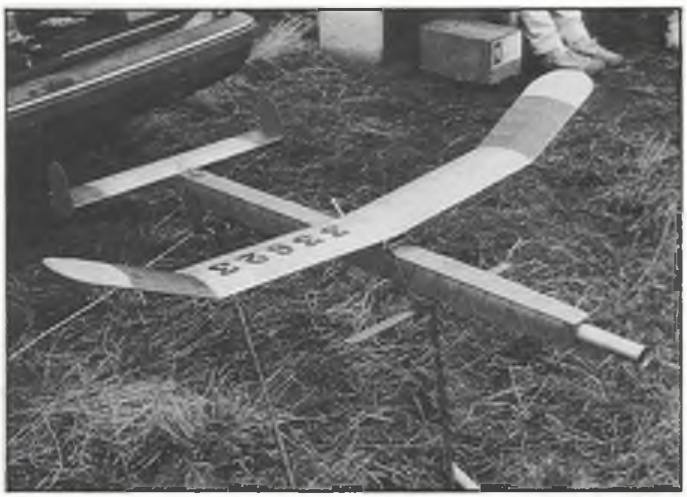
Have you had enough of blocked tubes in the spouts of your cyano bottles? — that's if you can get any tubing that is fine enough to be useful. If so try this method of application — a dip stick.

Simply remove the top and dip in a length of wire. Each dip — one drop. The thicker gauge the wire (and, to some extent, the deeper you dip) the bigger the drop. Keep a few different pieces of wire handy for different applications and jobs. Remember that the wires will need cleaning from time to time as they collect a residue of hardened glue on them after a little use, thus becoming effectively larger in diameter.

No more annoying blocked capillary tubes and sudden gushes of glue all over your fingers when you try to clear them! What is more, it is now easier to control amounts applied to the joint, so there will be savings in weight and cyano, not to mention less of that overspill which always finishes up glueing something you didn't want glued (in my case this usually means my fingers get stuck to the airframe or — even worse — a prop shaft becomes permanently fixed to the bush...).

Before you start make sure the open bottle is housed in a piece of 1/2in. balsa wood or similar — just a tight push fit will do. I was busy congratulating myself on how much cyano I was saving when I knocked over a newly-opened bottle!

Opposite page, top left: Walt Hodkinson launches in Open Rubber at the Bottesford Winter Meeting. He didn't make the fly-off but his timekeeper, Terry Dobson, came second! Top right: Russell Peers trimming his .40 powered Open model for the flyoff which he won convincingly. Main picture: Terry Dilks adjusts his Challenger before the Vintage flyoff; his 4:45 wasn't quite enough to beat John O'Donnell's similar model. This page, left: Tom Chambers discovered this huge-fuselaged Wake in a Zaic Yearbook. Right: Chris Stracham's Lanzo Stick, third in Vintage.



NEW SEASON QUIZ THE ANSWERS

John O'Donnell was the outright winner of this quiz, which was published in February's Free Flight Scene. Now check and see how you got on . . .

1 a) 1967
b) Wakefield
c) Hullavington
d) Norwich Club
e) Mike Dixon.

Also accepted was another answer which was unearthed by someone prepared to dig back to 1947:

1 a) 1947 – the very first British Nats, incidentally.
b) FAI Glider
c) Gravesend!
d) Dr Thurston
e) F. Dean.

This meeting was reported in the July '47 *Aeromodeller*. No extra points will be awarded to those who check it out.

2 Ian Lucas – now the Society's Solicitor, at the time a keen free flighter.

3 J. Cooper, M. Fantham, T. Faulkner, A. Jack, D. Hipperson, J. Mabey, D. Tipper, P. Ball, P. Harris, D. Goodwin, P. Farrimond, P. Masterman, R. Bailey.

4 The picture was of me with my Dad's Mercury Matador single-channel Radio model on Epsom Downs circa 1960. Good guesses included Julian Hopper and Mike Fantham.

5 The lot in order: Rushbrooke, Hundleby, Moulton, Richardson, Cowley, Rattray, Dowdeswell, Freebrey, Clarke.

6 a) John O'Donnell and John Cooper
b) JO'D – 18 times. JC – 2 times.

7 The Quickstart Trophy and the Hales Trophy.

8 No rule exists.

9 a) F1A – Elton Drew, 1969.
b) Wakefield – Hugh O'Donnell, 1953
c) F1C – Ron Draper, 1956.

There is a certain amount of controversy over the answer to question 'b' in this section. Roy Chesterton won the Wakefield Trophy in 1948 but at that time it was not an official World Champs. Hugh O'Donnell actually tied for first place with Joe Foster in '53 but he lost the flyoff for the Trophy, a procedure which was current until one massive fly-off for the Power trophy in 1960. We would have accepted either answer, or indeed that there had never been an outright winner in this class. No trick intended!

10 A long thin one.

11 This photo is of Stafford Screen with a Control Line stunter back in the 50s.

12 1961.

13 To the highest placed British F1B flyer at the European Champs.

There were a possible 91 points. For those of you that did the quiz at home but didn't send in your answers; if you got 70 or more you pass with honours and you can consider yourself up to John O'Donnell standard. Between 50 and 70 means you have very reasonable recall – or that you put in a lot of hard work looking through back copies. Between 40 and 50: you haven't been paying attention, have you? Less than 40: you should be ashamed of yourself, particularly if you got question 8 wrong and you fly Glider!

New Season Quiz

Here are some teasers to give your brain and memory some exercise before the new season. Although many of the answers can be found by rummaging through back copies of *Aeromodeller*, that may take you longer than you think after you have been side-tracked by pieces you had forgotten. A year's subscription to this magazine will be given to the first five names drawn out with all-correct answers. What is more likely is that we will have to choose the five with the highest score as some of these questions are not easy.

Points to be awarded appear in brackets.

1 a) On which year was an FAI Free Flight event first incorporated in the British Nationals? (2)
b) What class was it for? (2)
c) On which aerodrome was it run? (2)
d) Who gave the award? (It wasn't an official SMAE event). (2)
e) Who won it? (2)

2 Who was the first Free Flight Technical Committee Chairman? (5)

3 Name five other chairmen since (2 each)

4 Who is this? See photo 1 (5)

5 Name six previous *Aeromodeller* Editors in *order*. (2 each)

6 Only three people have ever won the SMAE Senior Championship Trophy more than once. Phil Ball this year and in '83.
a) Who are the other two? (2 each)
b) How many times do their names appear on the Trophy? (10)

7 What are the two trophies awarded annually by the SMAE for 1/2A Power? (2 each)

8 What is the SMAE rule governing glider towline crosses? (5)

9 a) Who were the last British fliers to win their respective World Championship classes: Glider, Rubber, Power? (2 each)
b) In what years did they win? (2 each)

10 Which rubber motor would give the flattest unwinding torque curve – a short fat one or a long thin one? (5)

11 Who is this? See photo 2. (5)

12 When was the first World Champs for Indoor Microfilm models held? (5)

13 To whom does the SMAE award the Bill Rockall Memorial Trophy? (5)

All answers to be received at the editorial office by first post on February 9th 1987. Editorial decisions regarding scoring will be final – and no ASP staff will be allowed to enter!

Your quiz photos: above is Photo 1, with photo 2 at right (see questions 4 and 11 respectively). An Aeromodeller subscription awaits the winner – best of luck!

Just to get you thinking about the flying field, here's a contrast in aeromodelling preparation. At left is a candid shot of a young competitor at last autumn's Port Meadow meeting; apparently his Veronite flew well all day... To the right: Ian Davitt gets ready for the Open Rubber flyoff at the '86 Nationals while his father Dennis hides behind the wing. Note the well-travelled model box . . .

Ssshh... build a Stealth F-19!

Get ready to light the fuse – we bring you John Emmett's super-secret fighter

IT IS PERHAPS a bit speculative to call this a scale subject, as the only basis at present for thinking there is such a craft is a plastic kit and some well-substantiated rumours. Nevertheless there are some facts which you can ponder for yourself. First, there is a gap in the USAF 'F' series between F-18 and F-20. Second, the Lockheed 'Skunk' works are known to have produced prototypes of aircraft that are nearly radar-invisible. These prototypes are almost certainly moved from place to place inside Galaxy transport jets so that governs a maximum size of fuselage. Then it is reasonable to suppose there would be similarities to the known Lockheed SR71 Blackbird...

A lightly loaded model such as this performs quite delightfully. Any stall is flat, gentle and accompanied by wing waggling, just like a well behaved paper dart. So far, my F-19 has proved quite crashproof too. What better reasons are there for building one? And remember, Scale Day at Old Warden is getting close...

Building your fighter

Construction is conventional, for a Jet-X scale model that is. We have provided labour-saving by showing you how to fit the parts onto a 1/16in. medium soft sheet. Make a relatively dark xerox copy of the layout, and check that the copy is correctly sized, for some copiers are terrible in this respect.

Brush the surface of the copy with white spirit and lay it face down over the balsa. Iron over it at medium heat, making sure it doesn't slip and you will have a ready-to-cut parts sheet.

Pin down the wing surrounds W1 to W5 protecting the plan from adhesive with a layer of cling film. Cut L1 from 1/4 x 1/8in. medium strip. Mark the angles of F3 and F4 onto it and pin down on the centre line of the fuselage, gluing to W5 at the rear. Next add F2 to F8, raising the wing surround off the building board with 1/16in. scrap packing to allow F3, F4 and F5 to fit correctly. Fix the doublers L1A and add the seven 1/16in. sq. top stringers, chamfering them where they fit onto the wing surround. Make up the fins from 1/4 × 1/6in. and 3/16 × 1/16in. strip with 1/16in. sq. cross pieces. Turn the now dry 'body' over and fit F1 into place followed by the lower parts of F2 to F7; then add L2, F5A, the two 3/32in. stringers beside the motor trough and the four 1/16in.sq. stringers beyond that. Sand smooth and cover ahead of F5 with 1/32in. sheet, applied with the grain running longitudinally. Turn assembly over and sheet the top in front of F5, adding a triangular piece to form a cockpit fairing between F4 and F5. Don't forget the dummy air intakes.

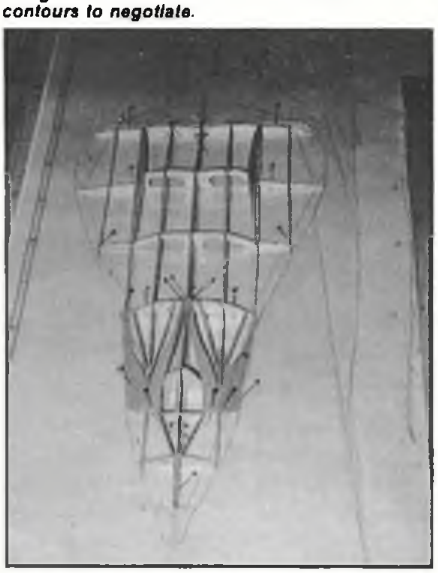
The nose block and fin supports (L3) are added last. Finish the body. It is then ready for sanding and covering in lightweight tissue. Water shrink and dope with two coats of '50/50' dope/thinners. The motor trough can be formed from a strip of note paper pressed into the gap between the stringers, gluing down to L1 between the formers F5A to F8. Add the false keel L4 so you have something to grip for hand launching, followed by W6 and both T1s. The fins T2 must be pinned down to the building board after covering and doping so thay are not fixed to the body until the latter is finished.

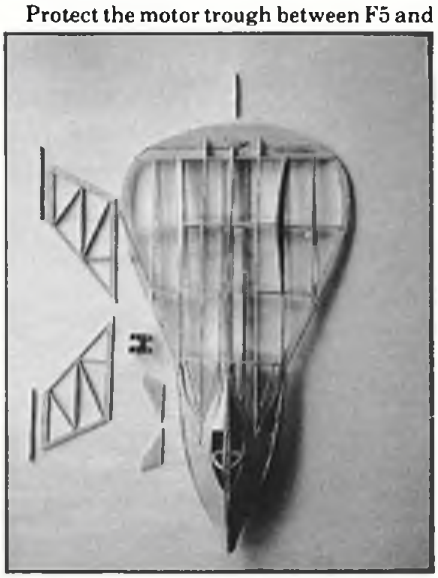
Finishing

Here you can certainly use your imagination; after all, any reader knowing better than your designer — or you — is hardly likely to send in photographs of the full sized F-19 (please don't!). So go to town on the decoration using a light aerosol or airbrush finish to keep the all-up weight to below an ounce.

Protect the motor trough between F5 and

Three stages in building reveals that 'formers and stringers' construction is happily straightforward as there are no difficult contours to negotiate.





F6 with a piece of aluminium from a food container stuck on with a contact adhesive such as Evo-stik. The same material is ideal for the trim tabs. Screw the motor clip onto L1 through the aluminium using 1/4in. countersunk woodscrews or small self tappers. The cockpit can be covered with two pieces of celluloid fore and aft of F3. Overhead projection transparencies are a great source of this material, although a slight gold or silver metallised window film would probably be more authentic. A metal film on the 'real' canopy would prevent electrical signals from escaping from the cockpit instruments.

First flight tests

Stick any bits you have left over on where they look best, and check the centre of gravity with an empty motor in place. Don't let the CG move aft of the point shown unless you want some really wild missile runs; and aim for a straight, fast flat glide. You *can* get a lovely slow floating glide on these deltas, just like a landing Concorde but to start with you need to strike a balance between the glide and the power-on climb.

Lighting the motor

This is the most risky part of the whole affair, so hold the model vertically nose-up with the underside towards you while you face downwind. I use a cigarette lighter set at a very low flame setting to light the wick. Load with one pellet, wait for thrust to build and launch straight ahead into wind. Correct any looping tendency with a gentle turn induced by bending one trim tab or one side of WE upwards on the side towards which you wish to turn. A tight, spiralling turn may be reduced by the opposite process. When you are happy with the power climb, you can slow the glide right down.

Under and over - the F-19 awaits its menacing all-black finish. Another possibility is low-visibility blue. Who knows! The Jet-X unit operates in a shallow trough in best flying scale tradition; but have you seen a more up-to-date subject?

Flying with Jet-X

All you need to carry with you when flying Jet-X goes into one pocket. I take a couple of motors, some fuel and pre-cut lengths of wick in a plastic bag, a small screwdriver with which to lever the wire clip and clean out the main case, and a small pair of pliers to hold a hot motor and to re-tension the wire clip. Don't forget the cigarette lighter for starting, plasticene for adjusting balance, a tube of glue for repairs if the worst happens—and that's it. Ssshh... keep it a secret!

Aeromodeller readers...

Stand by for news of our Vintage Weekend Jet-X competition!

Easy and fun to enter and fly - with the simplest set of rules you could wish...

Any model is eligible - the best three of five flights to count. Highest total wins!

Super prizes for Junior and Senior contestants.

And look ahead - a series of suitable designs will be featured in forthcoming issues of **Aeromodeller**.

Date: 15th August 1987. Venue: Old Warden Airfield, Biggleswade, Beds.

Whoosh!!!

TRY A RED RACER BUILD OUR BRISTOL M.1D

Especially for Scale enthusiasts—this 'Twenties racer is hot from Bill Dennis' drawing board

I CAME AWAY FROM last year's Indoor Nationals fired with enthusiasm to build an exotic successor to my Avian - so much so that I gave the Avian away to force myself to produce a new model! However, as we all know, there is never enough time to build all the models we would wish, and eventually the main criterion for my choice of subject was simplicity.

The Bristol Monoplane has been tackled many times, of course, but usually in its M1C version, the one with the enormous spinner which makes alterations to the thrustline a real problem. The M1D presented here was fitted with a Bristol Lucifer engine, and was raced successfully in the early 20s. Finished in scarlet and black with extensive white lettering, it is also an extremely attractive subject. However, nobody would claim that it was an ideal configuration for a rubber model. Bearing in mind its very short nose care must obviously be taken with the weight of the rear end - and remember that there is a weight limit of 85 grams for models entered for Indoor competitions (this year, at least).

The main lesson I learned from the Avian (published in the February 1986 *Aeromodeller*) was the benefit of designing the model as large as possible, using the weight rule to its maximum if necessary, in order to get a realistic appearance.

The Bristol is a deceptively simple model which goes together quickly. It would certainly make a super CO_2 model, probably with a saving in weight too, and I shall probably convert it after this year's Nationals. Perhaps someone will beat me to it?

Build your Bristol!

There is a lot of wood in this model, so choose it carefully to do the job needed and no more. After laminating the outlines to wings and tail, be sure to let them dry thoroughly for a couple of days or they will spring out of shape, eventually to cause warps when forced back. The wing tip ribs are cut down in length and are carefully shaped to correct section, sanding them with a long block. Fit the wing tubes with the aid of lengths of wire between each panel to ensure correct alignment.

The fuselage is built in the same way as the full size machine; that is, as a basic box with supplementary formers and stringers. A common error is to assume that the fuselage cross section is circular throughout but this is not the case, as it is almost rectangular at the position of the tailplane leading edge. The best way to make sure you get this right is carefully to sand the stringers while referring to photographs of the real G-EAVP!

The aluminium tubes for wing dowels and undercarriage are now fitted, and sheeting follows. The round nose cowling is shaped from balsa and hollowed, although a plastic moulding would look better. A reasonable facsimile of the Lucifer engine can be based on the large Williams dummy cylinders available from SAMS. The prop shaft is carried on two tinplate bearings, the rear of which can be adjusted to alter the thrustline. This is so much better than using bits of packing behind the noseblock.

Before covering, go around the model with a sharp scalpel and remove any wood that no longer seems necessary. It is

Below: Red with black tail and cowling, and with white lettering throughout, the Bristol M1D is a colourful addition to anyone's scale hangar. Note: G-EAVP may also be individually referred to as a Type 77 but never as a Bullet or a Racer; both oft-seen mistakes.

surprising how much material is needed only to make construction easy! I also like to shave down stringers to a knife edge for realism. Cover the model with Jap tissue and steam shrink carefully. If there are any wrinkles, cut them out and repair at this stage, because with this tissue, unlike Modelspan, they won't disappear when doped.

I decorated my M1C by my usual 'car aerosol' process and applied the trim with decal. The only tricky bit is the word 'Bristol' on the fin. After an hilarious attempt at masking and spraying I tried this technique: the lettering was traced and strategic parts cut out with a knife. The tracing paper was laid over the fin and stippled through with white enamel on a dryish brush. Using these marks as a guideline, it was a fairly simple matter to finish the job freehand to a reasonable standard.

Trimming

Provided the model is reasonably warp-free and well-balanced, there will be no trimming problems because the layout is eminently suited to stable free flight. All-up weight of the original was 75 grams, and I used the remaining weight allowance of 10 grams for ballast, bringing the CG forward to 35% of wing chord. Initial trimming was done on four strands of 1/8in. (18in. long) which seems a good starting point.

Future indoor tests may show a need for more power to achieve take-off. Matching the motor and propeller to the model is a fairly time-consuming process, but is essential in order to get the best out of the model.

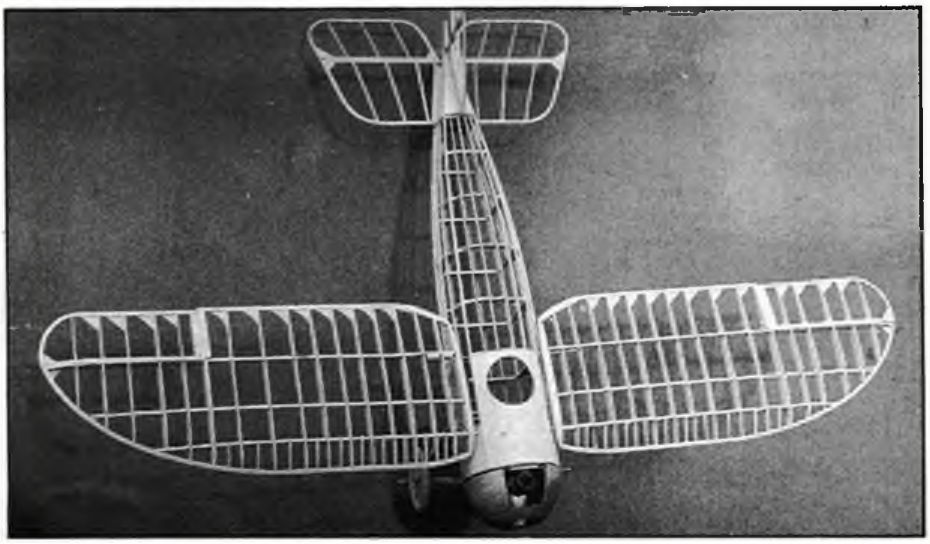
Proof - and painting . . .

Documentation for this model is fairly easy to obtain. The *Aeromodeller* three-view is quite accurate, and Profile No.193 includes a photo and full colour details. Other photos crop up in various Putnam books, and Flight magazine should be able to supply copies of photographs. A good shot of the Lucifer engine can be found in the Encyclopaedia of Aero Engines by Bill Gunston.

Finally, since unpainted scale models are a particular hobby-horse of mine, I have included some component weights which I think put things in perspective. The opaque, painted finish cost me only seven grams on this 75-gram model - I could have saved this by reducing the weight of the tail surfaces by one gram, thus needing less nose ballast . . .

Bristol M1C: component weight analysis

Component	Uncovered	Covered, Doped	Painted
Wings	9.2	12.6	16.6
Tail	2.2	3.6	4.8
Fuselage and U/C	17.0	19.1	21.0
Nose block and Propeller	21.0	21.0	21.0
Model plus motor, details and ballast			84 grams total



Top: Bill's model has all the requirements for stable free-flight. Why not convert to CO_2 power? Installation would be simple. Centre: Construction is straightforward but take care with laminated outlines. Right: The full-size G-EAVP in action at the Aerial Derby Handicap at Croydon in 1922. Photo via Aeroplane Monthly.

BALSA CUTTINGS

Cyano de Bergerac takes a sharp look at how others viewed aeromdelling's presence at the M.E. Exhibition

STILL WITH US, and better than winter sunshine - the afterglow of the Model Engineer Exhibition, where the Art and Mystery of the model aeroplane creator was so adequately and interestingly represented. And what a pleasant atmoshpere! No steam-train devotees made disparaging remarks about the relatively transient nature of model aircraft. No aeromodellers rudely suggested that if there is one point on which traction engines are open to criticism, it is that their flight performance envelope leaves something to be desired. One big happy family of jolly interesting nut cases. At least, that is how we seem to have appeared in the eyes of that august institution, the Daily Telegraph, whose contributor Maurice Weaver did the modelling fraternity the singular honour of going along to what he called playtime for the big boys 'to access what makes them tick.' Not merely with a notebook and photographer, mark you, which The Times was content to do, but with a psychologist as well! Not any old psychologist, either. A clinical psychologist, no less, practising not in Peckham or Plymouth but in the heady atmosphere of North London, under the almost unique name of Gareth Jones. The article said so. By now it should be clear to you tickers that the Telegraph meant business. The boobies were in for a zonking. Under the spell of the aforesaid Weaver, the student of human behaviour had agreed to spend part of his New Year's Day 'sizing them up.' What he did with the rest of his New Year's Day was never revealed to us.

Now, this is enough to get anyone bristling, and no doubt those of you who missed the article are already grimly on the defensive. But, do you know, the psychologist let the side down completely! What obviously set out to be der gross Feudian funpoken exercise started to come apart under the sheer wonder of it all. Originally seen as an escape from reality, the modeller's craft began to be viewed as something exquisite, akin to the musician's or painter's art (big deal). When a lady he recognised as being Totally Obsessed reported that she and her husband had even reached a point where they had given away their TV set, 'the psychologist beamed.' Yes, folks, amongst modellers, 1987 will remembered as the Year of the Beaming Psychologist. You might think, as the poet Wordsworth put it, that Earth has not anything to show more fair, but wait for it! The smells of the locos, the staggering prices paid by Arabs for gold-plated models (huh?), the incredibly detailed workmanship, the feather-light fliers, sense of cameraderie and suddenly-understood-dedication - these combined to bowl him over completely. Drunk with exciting aromas which evidently do not pervade psychologists' clinics in North London, he was soon truculently demanding if anybody could argue that this way of passing time was any sillier than watching Benny Hill on the box. Gosh - a convert! Those of you who invariably cease modelling to watch Benny Hill on the box will now be fidgetting guiltily, but since you obviously know how to open doors impassable even to clinical psychologists, there is no doubt that you should feel free to watch Benny Hill whenever you like.

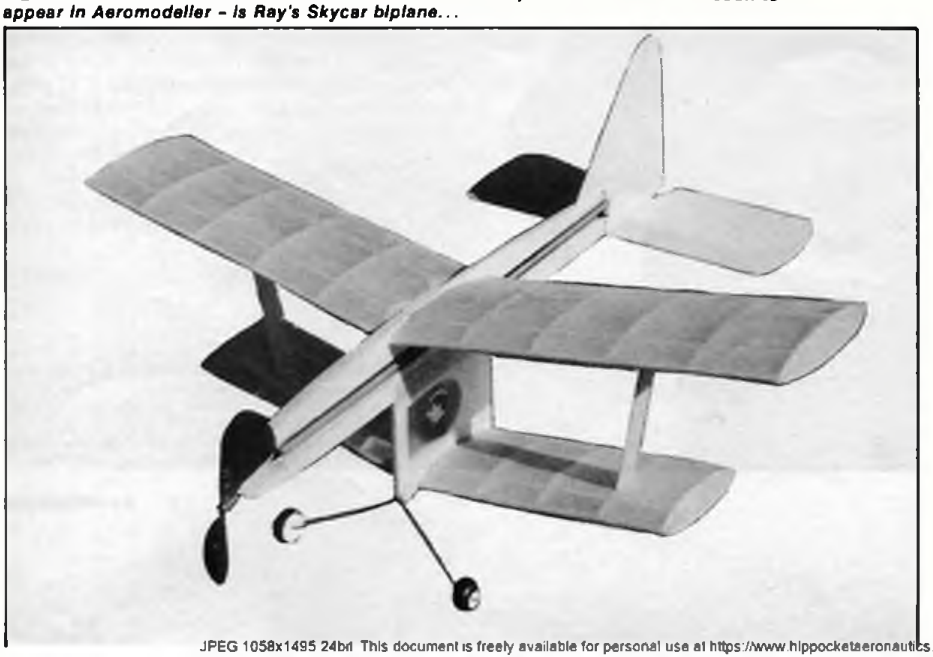
Of course, what we didn't get around to was the official view on those people who spend weeks building a model, minutes pranging it, and no time at all in serenely setting out to build another as though nothing had happened. Just as well, perhaps - the average psychologist is no match for the average aeromodeller. For example, what kind of fibre does it take to complete a long journey to Wembley, spend two and three-quarter January hours queuing to get in, and then stand up to hardships like hearing David Baker on the SAM 35 stand declare an expected visitor from Norway would not be coming after all as he could not 'afjord' the fare? Be that as it may, it is hoped that a future issue will carry an informative report on what Daily Telegraph contributors do in *their* spare time.

It seems hardly worth while being the Wright Brothers these days. Yet another figure has been thrust forward with the claim that he was really the first man to achieve flight. This time it is a German gentleman from Leutershausen, Herr Gustav Weisskopf, who upon his arrival in America very considerately translated himself into English. As Mr. Gustav Whitehead he then proceeded to develop an aeroplane which his supporters insist flew, for half a mile, more than two years before the Wrights' flight in December, 1903. Although somewhat confusingly referred to as having been acetylene-powered into the bargain, we are assured that this monoplane had two large propellors driven by *three* steam engines. Now you didn't see many of those at Wembley, did you? But drawings do exist...

To return to the SAM 35 stand - which many did - let us pay tribute to those unthanked disciples who gave so much of their time to arrange the exhibits in a display the like of which cannot have been seen since Dorland Hall.

Everything was labelled, everything was seeable and every angle figured out. Praise be, not everything selected was perfect, reflecting the comforting fact that some of the greatest figures in aeromodelling have been indifferent builders. Let it be said, with a brief burst of the unashamed lyricals, that he who looked thus upon the very backbone of our hobby and failed to realise that far from being past or lost, the golden age of aeromodelling is with us always, is missing more than something. And right at the front of that rich harvest of the years, a dinky, cheeky, intelligent little rubber-powered twin sitting there on the floor with its own designed-in sense of humour - the Athene, conceived by Ray Malmstrom, who in his time has probably confounded more psychologists than you could shake a stick at. Next time you find you have irremediably epoxied a big no-no deep in your latest creation, do what the angels do to cheer themselves up. Break off, and build one of Fliar Phil's jobs.

'Build a Malmstrom!' advices our columnist. Latest off the production line - and soon to appear in Aeromodeller - is Ray's Skycar biplane...



A Wet WINTER'S TALE

Despite poor weather, the second Maurice Bayet Commemorative Coupe d'Hiver event was high on enthusiasm. Peter Michel reports

QUICKLY NOW. How much can it cost to run a Coupe d'Hiver rubber model for one hour? A quid or two? Wrong! In the case of Brian Martin, an enthusiastic newcomer to the class, the figure works out at about £6,000, give or take the odd fiver. Brian was among a small party of Brits attending the second Maurice Bayet Commemorative coupe meeting near Paris on the weekend of 28th February - 1st March, a date traditionally associated with the early days of Coupe d'Hiver flying in France, where it all started. His figure of £6,000 was arrived at by setting the total cost of his round trip from Whitstable, including all expenses, against his total flight time in the contest, which was 70 seconds. To save you getting out your calculator, that works out at £1.68 per second, which is a bit on the steep side even if you fly giant scale radio.

As last year, the meeting was held at the magnificent SNECMA airfield at Reau-Villaroche, which is about three times the size of Barkston; the agony factor being that it can be used only once or twice a year for model flying. The AAAA, France's Vintage association managed to get it for the Bayet meeting because the authorities seemingly could not conceive of any other purpose for it at that most undesirable time of the year. And, as last year, the weather was appalling. This time it was rain, not snow and temperatures of minus ten, that afflicted the flyers. The word was that the French were getting their own back for the weather served up by *Aeromodeller* at Henlow in December . . . Be that as it may, the wind at least was kind on the day, and seldom exceeded a brisk walking pace. However, it came from the south - most unusual for the area - and brought with it a non-stop downpour that soaked models and modellers alike, causing reputations to tumble, and yet enabling the few who could master the conditions to give object lessons in how to fly these machines - seemingly simple, but so demanding. Good air was there for the taking, if you could spot it. Twenty maxes were recorded in the period from 9am to 2pm, during which competitors were obliged to make two of their three official flights in each of the two classes - vintage (pre-1956) and modern. This, incidentally, is a highly effective and popular ruling. It eliminates wait-for-it tactical flying and, in true Gallic style, allows for a leisurely lunch and a round of socialising before the afternoon flights. Most enjoyable, this, despite the rain!

So what happened?

During the whole contest only one vintage model, flown by the redoubtable Bernard Levasseur, managed to max, which shows just how tricky to fly these attractive little beasts can be. In fact Ian Dowsett, the only member of the British 'team' to achieve anything of note, came away convinced that they are decidedly harder to fly than their modern descendants, of which he is a noted exponent. Surprisingly, he finished seven places higher in the general list with his brand new vintage Jump, a Jacques Morisset design of which there were several on the field, than he did with his own modern design.

Strange things were happening in the rain. Dowsett and Georges Matherat shared the dubious distinction of flying well-trimmed non-VIT models straight into the ground after prop fold. Of these two disasters, Matherat's was the more spectacular. After a great 42-second climb on his third flight in 'modern' (Georges having maxed the first two) the model simply hit the deck ten seconds later. Amazing. As the day progressed, models became soggier, fuses more and more difficult to light, and times, predictably, lower. There were only seven maxes after lunch. Motor breakages were even more of a problem than usual, although it is difficult to attribute this to the weather. The trouble was that in the prevailing conditions many competitors were losing patience, and were tending to fly on sub-maximum turns rather than risk bursting yet another motor in the presence of a damp and long-suffering official timekeeper; none of whom complained about their task, be it said.

Patience was very much the name of the game. In the last twenty minutes of the contest the weather did, in fact, perk up a bit. Faint suggestions of blue appeared fleetingly in the lighter sections of the sky. It was at this time that Alain Landau (Paris) made one of the best flights of the day, his model climbing to a towering height to twittering accompaniment of an ascending lark. Bedraggled and less successful flyers convinced themselves that it was a mocking bird . . .

Other third round maxes came from B. Brand, B. Boutillier, J.P. Beissac, the ever-popular Roger Garrigou, and the eventual winner, M. Quintard. Ian Dowsett, flying proxy once again for his old Canadian chum Stuart Savage, took seventh place, which was the best the Brits could manage in a disappointing group effort.

Rewards and conclusions

Once again, the contest organisation, under the direction of 4A's president Michel Pierrard, was first class. There was a computer print-out of placings for everyone within minutes of the final flight - this time embellished with Polaroid snaps of leading competitors. The prize-list was magnificent, including R/C gear, repro vintage engines, and a most effective framed 'bleach-out' picture of the late Maurice Bayet. The only criticism of the meeting (and this could hardly be blamed on the organizers) was that the catering van failed to supply coffee. In France, of all places!

The general reader, not particularly

Wet Brits! Smiling, if not singing in the rain are Ian Dowsett, David Beales and Brian Martin. This was Brian's first Coupe contest and he vows that it won't be his last - indeed, he's already thinking ahead to the next Aeromodeller do . . . Photo: Peter Michel.

grabbed, perhaps, by any form of competition flying, may be forgiven for concluding that contest types need their heads examined if they willingly travel considerable distances at not inconsiderable expense to fly models in whatever horrors winter weather can provide. What the general reader may not appreciate is that to travel abroad and to participate in events such as this is a great reward in itself. There is no doubt at all that all those who checked in at the hotel Aux Essais en Vol on the edge of the airfield (surely among the best for value you could hope to find anywhere) will always remember the jollity, the camaraderie, of the occasion. This was the very spirit of aeromodelling . . . a prize worth so much more than the effort needed for its capture. And in any case, the weather's bound to be better next year!

Maurice Bayet Commemorative Coupe d'Hiver contest

Modern (post-1956). 70 flew: First ten positions and GB placings.

1 M. Quintard	355 (115 + 120 + 120)
2 R. Garrigou	347 (107 + 120 + 120)
3 A. Meritte	345 (120 + 120 + 105)
4 A. Galichet	344 (120 + 120 + 104)
5 J.P. Beissac	329 (108 + 101 + 120)
6 B. Boutiller	325 (87 + 118 + 120)
7 S. Savage (Canada) *	318 (109 + 120 + 89)
= B. Boutiller	318 (101 + 120 + 97)
- A. Landau	318 (120 + 78 + 120)
10 B. Brand	316 (120 + 76 + 120)
18 P. Michel (GB)	272 (120 + 94 + 58)
34 D. Beales (GB)	196 (98 + 67 + 33)
37 I. Dowsett (GB)	142 (27 + 68 + 47)

*Proxy I. Dowsett

Vintage (Pre-1956). 20 flew: First ten positions and GB placings

1 P. Dupin	268 (113 + 91 + 64)
2 B. Levasseur	223 (81 + 80 + 62)
3 J.P. Beissac	214 (67 + 62 + 85)
4 A. Meritte	211 (82 + 79 + 50)
5 B. Boutiller	211 (80 + 84 + 47)
6 B. Levasseur	208 (37 + 120 + 51)
7 A. Goetz	206 (59 + 79 + 68)
8 I. Dowsett (GB)	195 (47 + 79 + 69)
9 M. Cheurlot	191 (54 + 77 + 60)
10 B. Monnier	173 (65 + 84 + 24)
12 D. Beales (GB)	155 (51 + 53 + 51)
14 P. Michel (GB)	123 (32 + 57 + 34)
21 B. Martin (GB)	70 (22 + 26 + 22)

Women's Cup

1 E. Riberolle (257); 2 M. Landeau (244); 3 L. Mollat (214)

Club Awards (total of three highest times):

1 P.A.M. (345 + 344 + 318 = 1,007)
2 AMA-G (355 + 290 + 250 = 895)
3 4A's (329 + 268 + 231 = 828)
4 Romans (298 + 292 + 214 = 804)
5 SAM 35 (272 + 196 + 155 = 623)
6 CLAPP-77 (125 + 112 + 85 = 322)
7 UALRT (257 + 47 + - = 304)

Right: Louise Molla from Grenoble was one of three women competitors. Here she prepares under the watchful eye of Georges Matherat. Below: Welcome shelter (but no coffee) was afforded by this 'vintage' pizza van. Keeping his wings dry is Bernard Levasseur. Below that: Shortly to celebrate the fiftieth anniversary of his '37 Wakefield win is Emmanuel Fillon but he was out of luck at Reau-Villaroche with this smart red and white Coupe. Note '4A' identification on wing. Bottom left: David Beales, jacket soaked through, prepares to let go; duration was low, however. Bottom right: It was wet - look at the reflection in the runway! Ian Dowsett was highest-placed British competitor in Vintage with his Jump but his 'seventh-equal' in Modern, flying proxy for Stuart Savage, was even more commendable. Photos by David Beales, Brian Martin and Peter Michel.

FROM THE HANDLE

Stunt with Claus Maikis

Quiet Laser

Recently I mentioned Hartmut Ruff and his interesting Laser design. Hartmut chose to stay near to the original shapes. In particular, the fuselage would have to be much more 'roomy' when kept to scale proportions in comparison to a typical, slender aerobatic model fuselage. Somewhere, though, there had to be a limit, so Hartmut decided on a compromise.

Starting with a three-view of the original aircraft, he used the grid system to scale his model. After he had decided on the enlargement factor, the fuselage cross sections were used to plot the shape of the formers. A jig was built to hold all formers in place. Thin hardwood stringers at top, bottom, and both sides connect the formers, and 1mm balsa sheet is rolled around the formers. At the nose, 1mm ply is used as far back as the mainspar. This plywood is then covered with 3mm soft balsa, which is sanded to give the final contours. This kind of construction is not only unique, it's also light. Hartmut's airplane came out at about 1700 grams (60 ounces), which is not so much when you consider that his other airplanes are near to 1900 grams!

The most interesting part of the model is the enclosed muffler. With this kind of fuselage construction it was easy to provide the necessary room. As the engine was mounted horizontally the tank location was high enough to allow the muffler to fit underneath. It just had to have an appropriate shape and size. Being a curious person, Hartmut in any case wanted to find out how far he could reduce engine noise with a home-made silencer. He used brass sheet to build the tank, the muffler and the adaptor. After some experimental work, construction was no problem. Of course, all parts are silver soldered to withstand the heat of the exhaust gases. The adaptor has a thick sheet with threaded holes as the flange. A short piece of brass tubing - about 10mm diameter - is the rear outlet. The front opening of the silencer has the same diameter. Both ends are connected with a teflon tube. This enables the muffler to be mounted separately from the engine, which in turn keeps it free from vibration. The end pipe is slightly smaller in diameter. The muffler consists of two chambers; that is, it has a dividing wall inside.

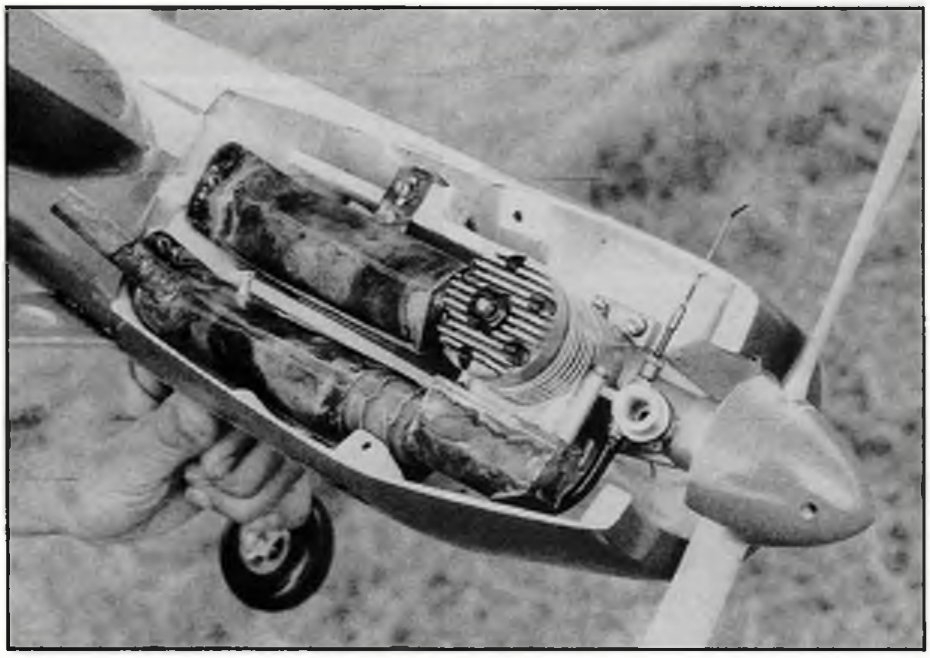
The picture shows tank and muffler in 'raw' condition. It was left like this for the first flights, since modifications were expected to be necessary! This opinion proved quite right. Actually, the model was extremely quiet - but power was reduced too much. Hartmut made another adaptor and changed the tailpipe. All is finished now and the model flies in a way much more acceptable to stunt fliers' eyes.

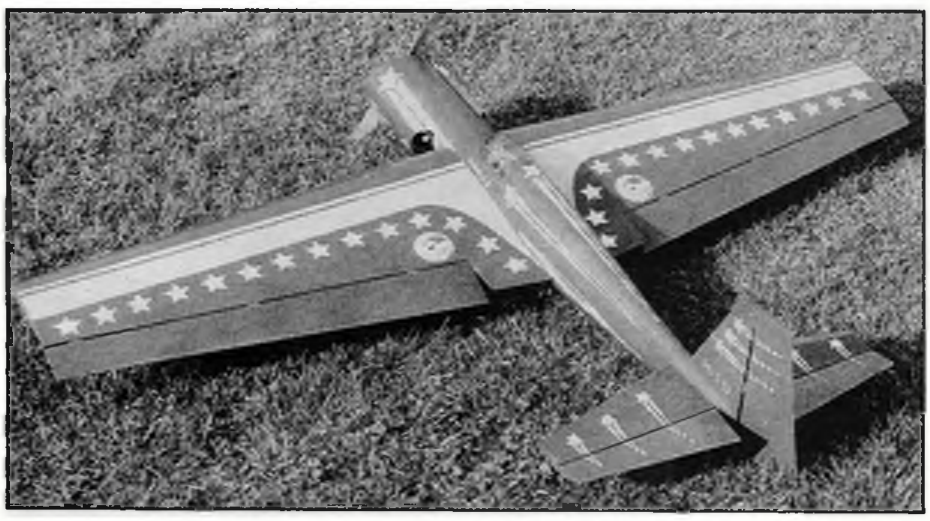
Note that the tank mounting lugs have slots so that the tank can be moved vertically according to requirements. A tank compartment floor which keeps muffler heat off this component. Also, the front opening and rear opening of the engine cowl should provide enough cooling to prevent any problems.

This is certainly a very clever design, offering a solution that kills two birds with one stone.

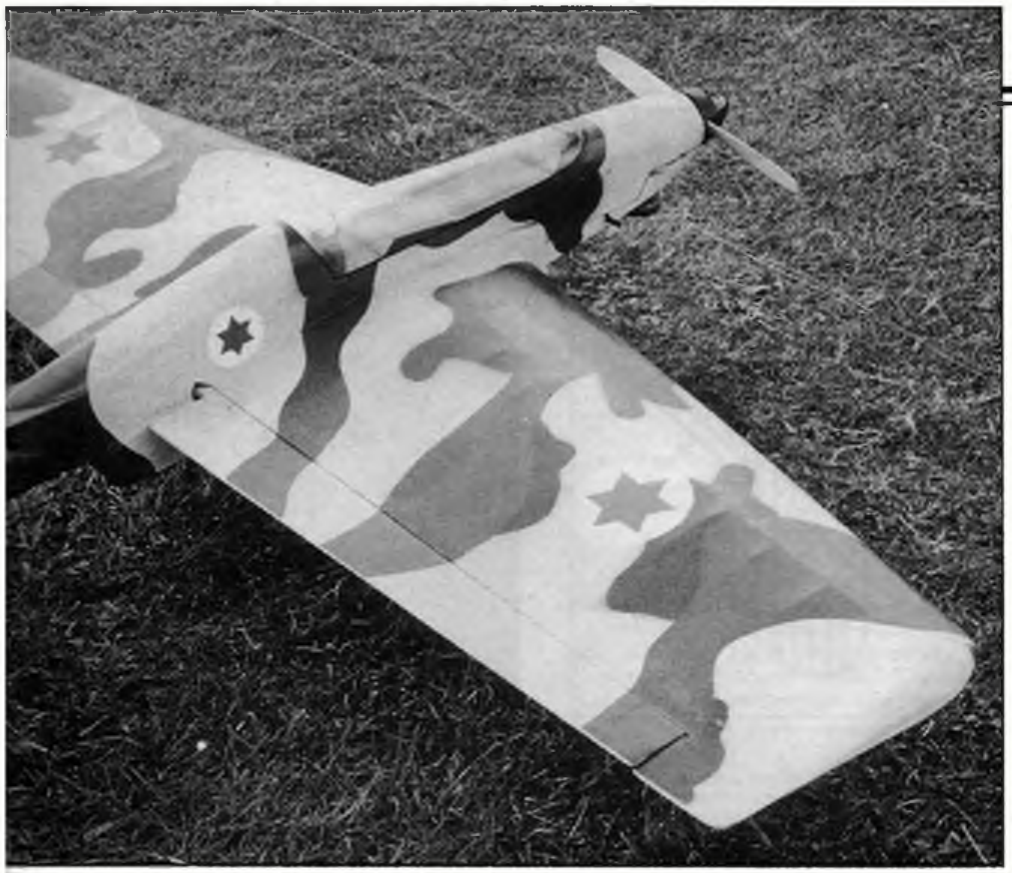
Pilot Wanted

Have you ever seen your model fly - from outside the circle, that is? It must be an





Heading: No doubt our columnist was delighted to see this Novice Stunt entry at last year's Nats - it's one of his designs! John Davis built this Merco 35-powered Commodore, finished it most attractively in Israeli Air Force colours and gained second place at Barkston. Plan available as No. CL 1359. At right: Hartmut Ruff's Quiet Laser, described in text, with remotely-located silencer shown in engine-bay close-up.



exciting experience. I've had a letter recently from the American enthusiast Paul Walker, who took third place at the World Championships in Pecs. After that contest he wondered whether or not his airplane was of championship calibre, so he asked a clubmate to fly his model so that he (Paul) could watch his model with the eyes of an onlooker - or a judge! After that session, Paul decided that he wouldn't have to change anything; neither the design nor the way it flies.

Those who have seen Paul's airplane know it's a classic shape, finished mainly in white and red with lots of stars (I mustn't mention the extreme high gloss finish!). I'm convinced that Paul doesn't need another pilot to see whether his model flies well. He just wanted to see how it 'looks'. These days it is generally acepted that at the top level a pilot cannot afford to fly an airplane that doesn't look good. When you're flying, you're usually concentrating so much on flying that you don't have eyes left for seeing the overall impression. It's a clever idea to have somebody else doing the flying.

I'm sure you have already had this same experience when watching other pilots fly, but you didn't pay attention, so you were not conscious of what you saw. Imagine the difference in impression between - for example - those functional, finless Genesis-type lines in sparkling white, compared to a nostalgic scale-type model with round shape and funny colours. It's quite obvious that different airplanes create a different image, and people react in a different way to this impression. There are also things which are difficult to detect when you fly your own airplane. The side view of your airplane (including fuselage shape and colour scheme, canopy, fin shape, wheels and so on) helps or hinders the image of rock steady level flight, a clean corner, a round loop. This can only be seen with a 'relaxed' eye, which doesn't have to concentrate on manoeuvre execution. For example, airplanes with a high tail (like the ME109) always appear flying nose-down (nose-high when inverted). Such types are a bad choice for aerobatic flying. Some years back a fellow flyer pointed out that the white stripes on my fuselage side made the fuselage look crooked. I had never noticed that before but when looking at my model from a distance, I realised it was true. Probably for the same reason, Gilbert Beringer has put a long wide, white stripe on the side of his fuselage. Immediately this catches one's eye. He didn't do it for aesthetic reasons - the stripe is on the left fuselage side only!

If we knew what the judges would like to see the top flyers would all fly the same airplane. So as it is now, the world is much more colourful. Nevertheless, one should consider the action of flying someone else's airplane. Some interesting things might be found. Now if only I knew an experienced pilot who knows the difference between 'up' and 'down'. . .

Pants without Panic

Can you imagine a Laser without wheel pants? I can't. That's like ROCK without ROLL or CONTROL without LINE! There are a few airplanes which just cannot get away without those streamlined forms under the wing. They are not difficult to construct but even so I'm asked now and then how to do it simply. Before we let the balsa chips fly it's well worth while spending a few thoughts on the order of work. For the Laser undercdarriage a very straightforward method was used, making it a good example for a detailed description of the construction.

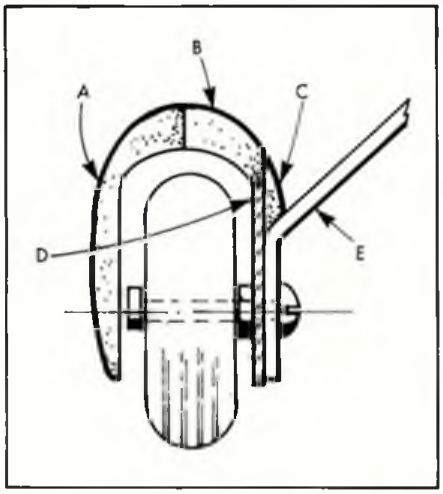
Another semi-scale stunter - John Kergon's Super Chipmunk was also at the '86 Nats. Crisp but relatively simple paint scheme is well suited to this design. Despite looking cheerful in the sunshine (yes, there was some) John failed to figure in the results. But come on, Stunt fliers - what are you building for this season? Don't keep it a secret; tell us now!

After deciding which wheel type and size to use, it's helpful to draw a little sketch. This is actually vital if we want to make the spats as narrow as possible. The drawing will help us to find the required (and practical) balsa sheet thickness for the different laminations. To use several layers may seem more complicated; and it will produce glue seams which may need additional care when working on the surface finish - but, personally, I find it easier than working from one thick block. Also, we can hollow the wheel pants as far as possible, and weight in a spot so far from the model's centre line, is a factor which should thoroughly be considered. Heavy wheel pants will considerably influence the airplane's ability to make turns equally.

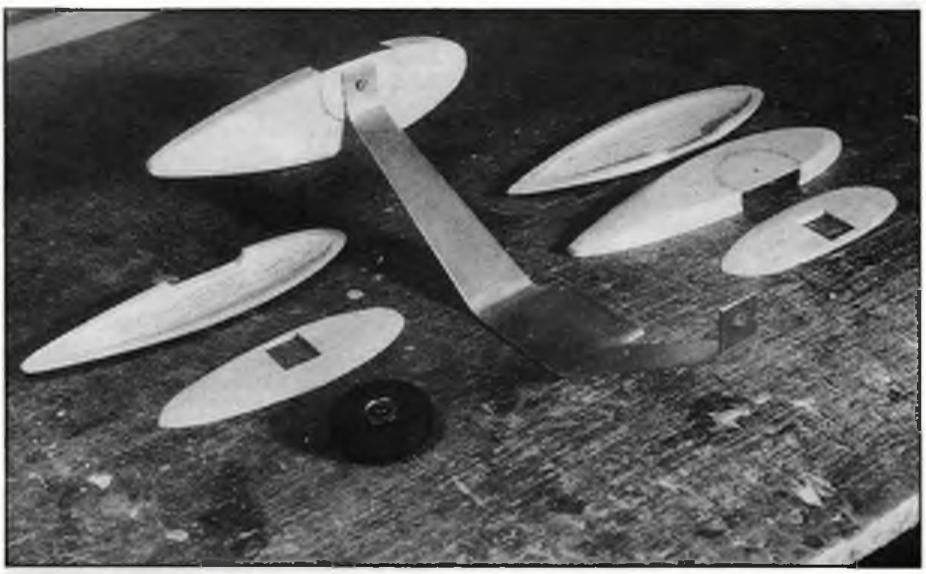
With my method we need three laminations and one plywood insert. After cutting the outline roughly and tack gluing all three layers together the outward shape is formed. Then they are broken apart again, and are hollowed as much as strength permits. Now the wheel location is marked on the flat side of component B. The plywood insert D has the same outline as the wheel. D is now glued into B and the bottom wheel cutout is made. The inside of A and B is sanded smooth and fuel proofed with black lacquer. B, C and the undercarriage sheet are held together and the correct wheel pant location and angle of installation is found. Now the outline of the undercarriage sheet is drawn precisely on lamination C. This should be made from a piece of hard balsa, since the cutout aligns the whole pant and holds it in correct position. Any stresses on grass landings appear at the edges of the cutout! These should be cut undersize and carefully tailored to fit the undercarriage sheet end. Needless to say the edges must be square. Now B and C can be glued together; holes for the wheel axle are drilled and the bottom wheel cutouts are checked and reshaped, if necessary (in my case it's always necessary!). The cutout edges are hardened with a few drops of cyano.

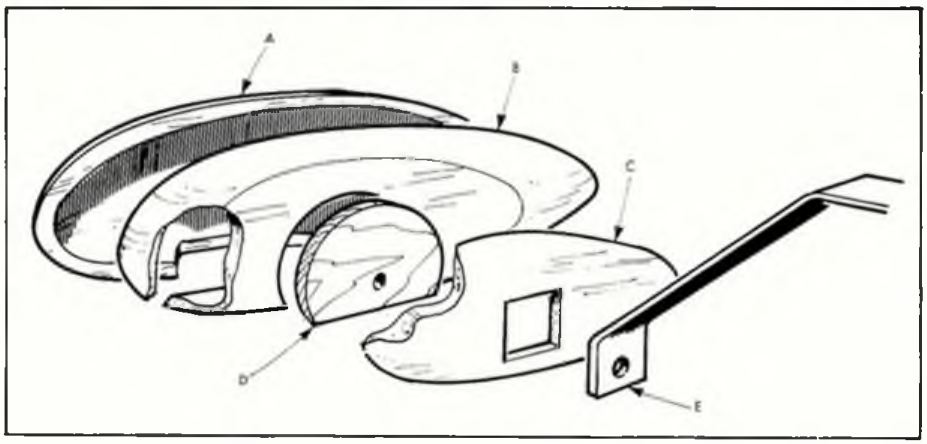
I use steel bolts for the wheel axles. If possible I drill out the wheel centre (which is normally plastic) and insert a piece of brass tube as bushing. Now we fill the rectangular cutout with epoxy, add the undercarriage sheet, install bolt and fix with a nut. The nut is tightened as much as possible. A thin washer will probably help to prevent the plywood insert from squeezing or splitting. If you use a slotted screw head, make sure the slot is horizontal (!!!). Now the wheel is installed, secured with a soldered washer and given a few drops of lubrication. Lamination A is fixed - in the first place - with cyano.

If done carefully - and if components C are made to the same shape - it is easy to install both wheel pants at the same angle. Incorrect fitted pants are easily spotted in flight and look terrible. Before the pants are finished, the metal U/C sheet should be polished and wrapped and covered with tape - it cannot be done later! Also, it's wise to give the pants some extra coats of lacquer with the spray gun - it's here where the onlooker's eyes are caught.



Above left and below: Wheel spat - or pant! - construction is fully described in text. Strength imparted by component 'D' is vital. At right: Hot stuff in more ways than one - Paul Walker of the USA was third at the World Championships at Pecs with his (non-spatted!) Bad News. Super-smart red, orange, yellow and white sixty-four-ounce model is 61in. span, has 700sq ins of area and is pulled around by a ST 60. The shady cool must have been appreciated - on the tarmac it reached 95 degrees Fahrenheit! Paul was motivated to let another flyer try his model in order to check on its flight appearance (see 'Pilot Wanted').





SPECIAL

FROM THE HANDLE

The Metkemeijer Flying Wings is one of the most successful team racers ever.

Jim Woodside has been taking a closer look at it...

NO NAME ATTACHES to this most successful design; one which I am pretty certain holds the fastest times in heat and final by any non-Soviet model- about 3:24 and 6:58 respectively.

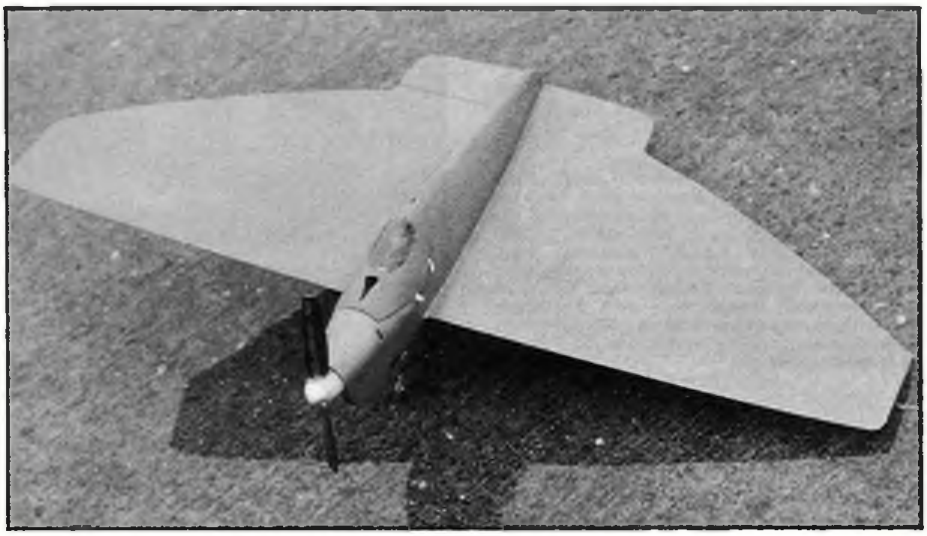
Although the home-produced FMV engine has always been at the forefront of current technology the Metkemeijer brothers have always kept to a traditional path when it comes to model construction; and the Wing is constructed mostly from light balsa. Nonetheless, when using the FMV Mk.I, all-up flying weight has been around the 320 grams mark, which shows what can be done with careful wood selection and neat building techniques.

Fuselage details

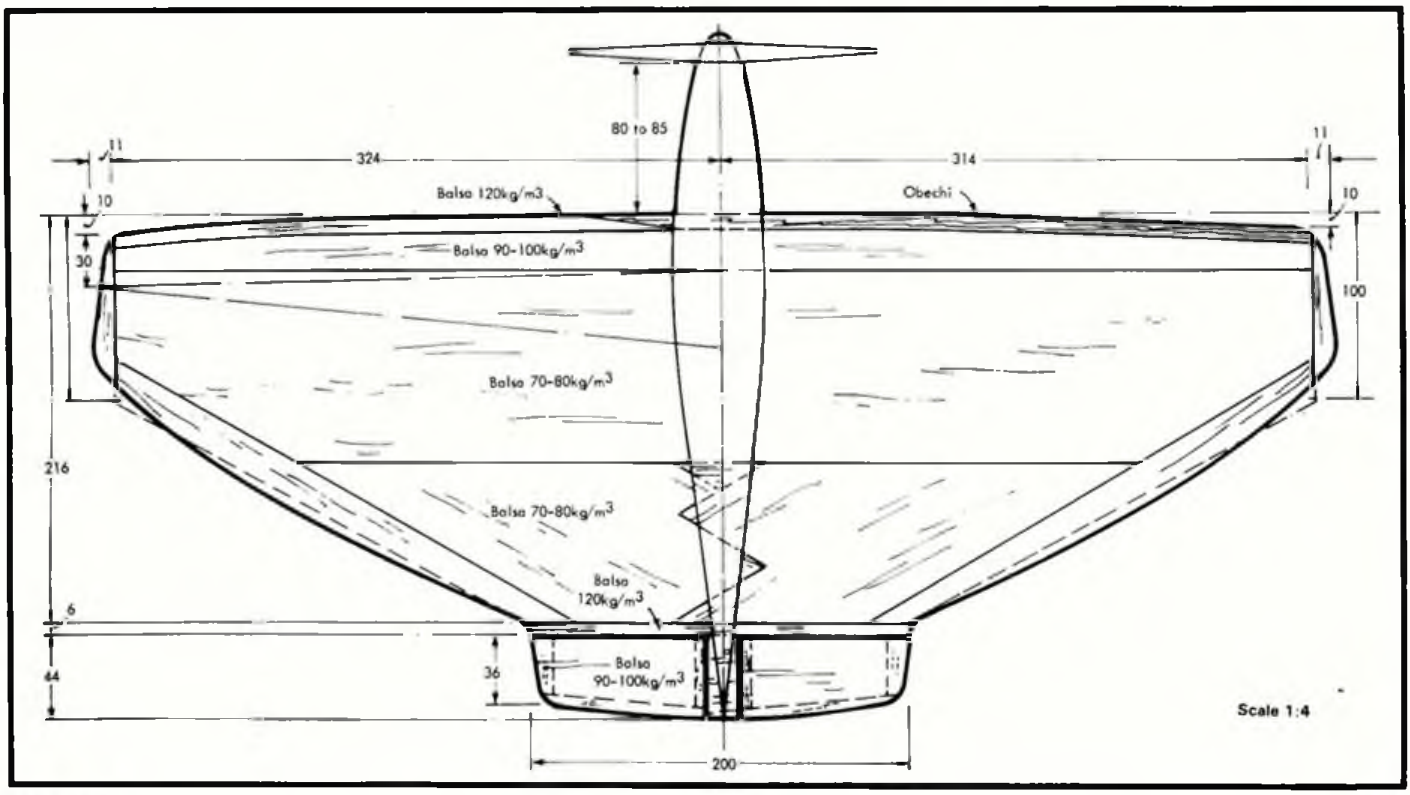
This is very much a 'total concept' approach which is built around an engine/filler system. propeller. I have several times in the past mentioned the large-hubbed Metkemeijer 1980 prop, which in essence is so designed to blend the spinner nut and model snout into a smooth aerodynamic unit. This requires the use of an engine mounting pan witha front end much wider than those available commercially. The pans in this case are turned from solid magnesium and further shaped and lightened with hand tools. You will notice from the drawing that the hold-down positions are close together. This makes it possible to build the front part of the fuselage crutch from fibreglass p.c. board so glued together as to form an I-beam. If you decide to turn-up a replica pan do check the dimensions beforehand to make sure that your own engine will fit.

The short p.c. crutch is extended at front and rear with balsa rails to which are glued formers in the traditional F/F mode - rather like a Slicker in fact. The very light 1/16in. sheeting and planking completes the job. When the fuselage is split in order to fit the wing the formers are cut away further to lessen the weight. The complete outer shell is covered in lightweight glass-cloth and resin.

The sprung undercarriage carries a shrouded wheel. You will have noticed that local formers lend strength at this stressed area. Another neat touch is the tiny cockpit/acess hatch, giving less chance of ugly gaps, distortion and unwanted vibration.



Sleek shape at right is strictly not a product of the Metkemeijer Brothers' stable, being the '86 Nationals-winning craft of Metkemeijer/Meijer, but the family principle is the same. Note revised wing tips. Below: One-quarter scale plan view will be invaluable to prospective builders. Fuselage details overleaf.

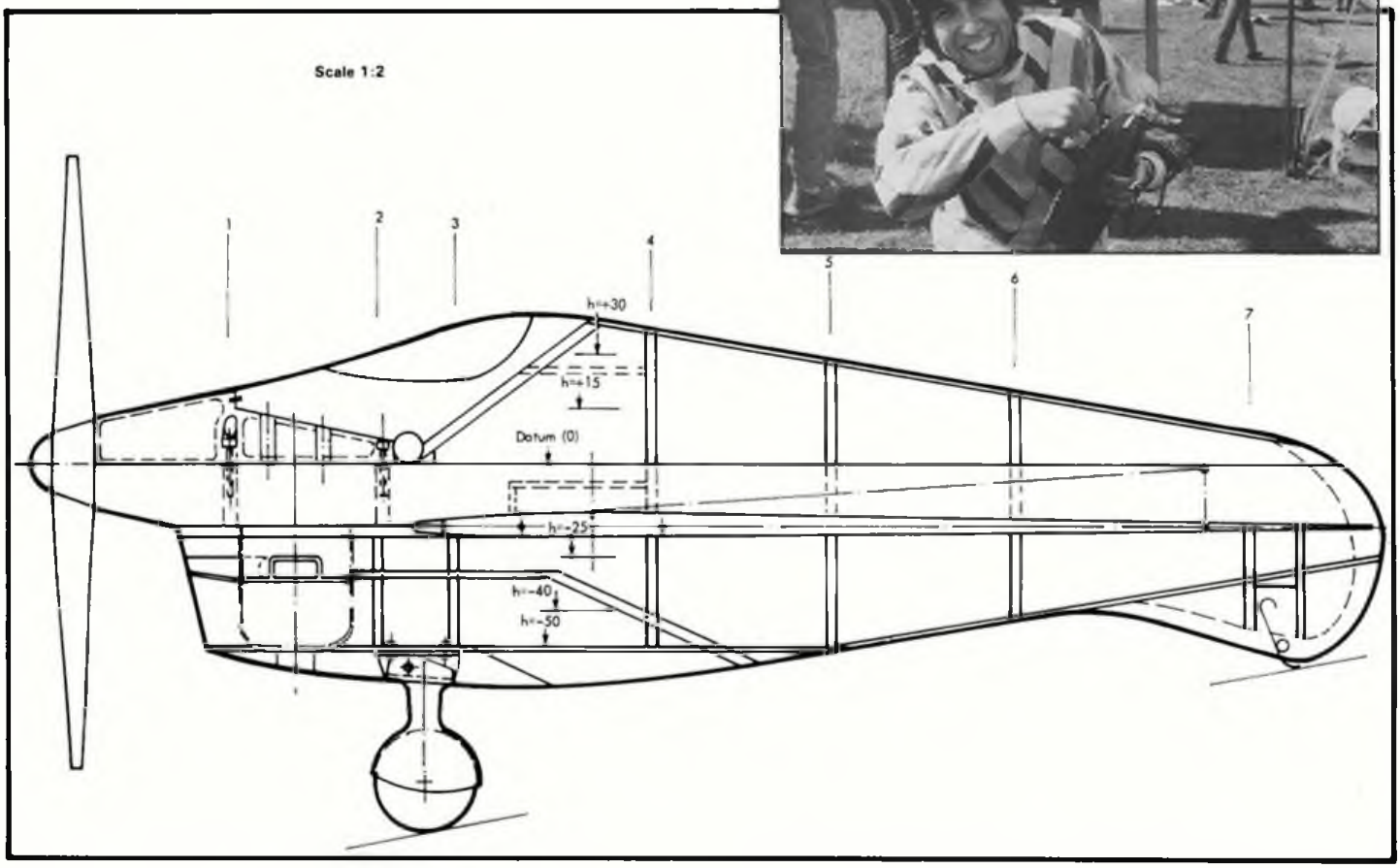


And the wing . . .

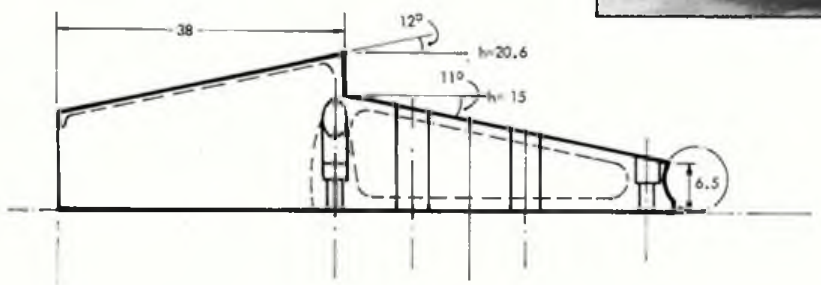
This is a patchwork quilt of balsa of varying hardness. The core material is light quarter-grain 8mm sheet. The outboard leading edge is obechi while the other outlines are from heavier grade balsa. The wing blank is well sanded, being quite thin at the tips with a decidedly sharp leading edge. Covering is again in light glass cloth and epoxy resin, the meagre amount of which is coloured so that an even spread can be detected from the colour density. Instead of mechanical pressing, the cloth is kept in intimate contact with the wing by putting it in a polythene bag and evacuating the air with a vacuum pump. When finally assembled the model is sprayed all over with two-part acrylic paint to give a durable fuelproof finish.

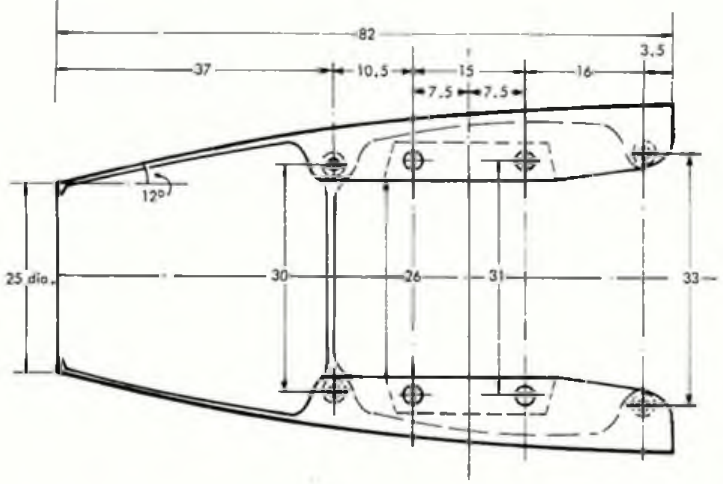
My own opinion is that the Metkemeijer model is one of the prettiest currently on the scene; its contest record speaks for itself.

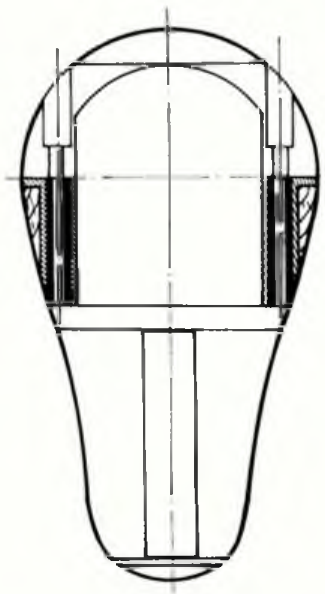
Fuselage drawings are at half-size to afford the builder greater detail. Measurements 'plus or minus h' relate to contours above or below the datum 'h=0'. Photo, right: Nats action as Rob Metkemeijer tunes the FMV-powered Wing. Undercarriage differences between plan and model are visible. Below right: Rob in characteristically happy pose with an earlier model - this one was converted to 1.5cc power and entered (unsuccessfully, as it turned out) in 1/2 A team race at the Nats.

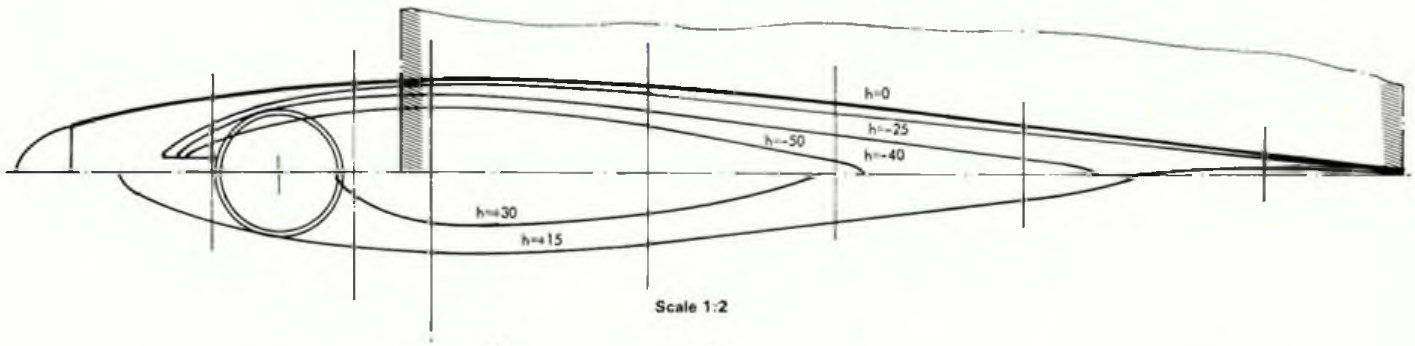


And a last look... super-concentration as it's away with the refuelling valve and ready to flick! That green helmet has been a not unfamiliar sight at control-line circles worldwide...

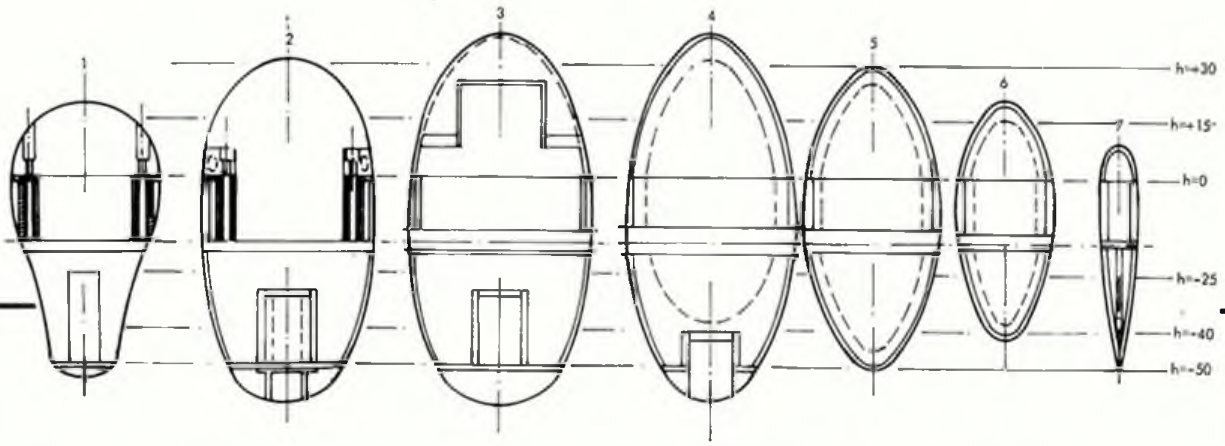








Scale 1:2



VINTAGE CORNER

Alex Imrie sifts through readers' news this month and reports a case of flying boat fever

DEREK SCALES OF Dartford, Kent, sends the following account, full of interest, of his early aeromodelling, reminding us of some experiences similar to our own. Whom amongst us (of a certain age, that is), does not remember that Mecca of used engines run by Roland Scott of St Helens, or the fright of first starting a powerful 10cc engine when one's previous power units were gentle, quiet, low capacity diesels? Over to Derek:

'At the age of 10 in 1946 my big sister took me to Rochester for the day. I remember it clearly because as we consumed our picnic lunch on the Castle Battlements, a Sunderland flying boat taxied up the River Medway, turned around and came roaring back towards us, finally unsticking and climbing away with water dripping from its hull. This made a lasting impression — and I took up aeromodelling. In 1949 I bought a 2cc Super Hurricane diesel from Roland Scott for £1 14s. 6d. (about £1.73 in today's money). It looked like an Elfin 1.8 but was probably related to the Czech Super Atom diesel. Probably only one batch was made and Roland Scott was the sole agent offering them at this special price. Mine went well enough at first and powered my two first power models, a Norman Marcus Firecracker 50 inch span pylon model and the excellent 60 inch span Frog Centurion. I designed a 52 inch span flying boat for this engine, which flew all right but would not take off the water. The engine wore out and was replaced with a very good second-hand ED Competition Special (also from Roland Scott); both the Centurion and the flying boat flew well on this engine but the flying boat still refused to do any ROW take-offs. A profile stunter based on Pete Cock's KanDoo was built, and I learned to loop; then it was fitted with floats and I was able to fly off water for the first time.

Articles by Colonel C E Bowden and Dr J F P Forster were read and re-read, and a photograph of a flying boat would be gloated over more than any sexy pin-up. Two more attempts were made at own-designed seaplanes in 1950; however, these were not successful and were converted to landplanes.

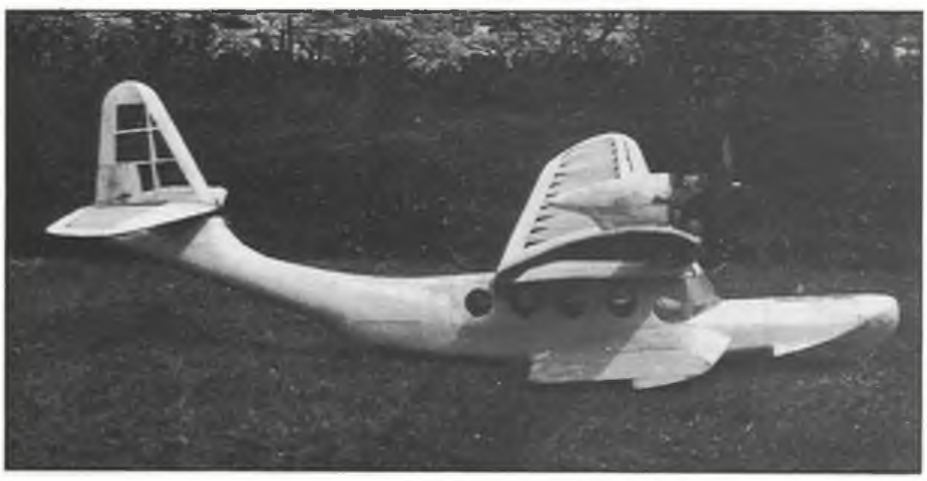
'The Mermaid flying boat by Dr Forster was said to be ideal for open water flying, for experienced builders only! It was 72 inches span and designed around the Baby Cyclone 6cc petrol engine. In 1951 at the age of 15, and a very inexperienced modeller, I sent to APS for the plans (*these are still available as WP 162X at £3.80 including postage; some background to the Mermaid was given in this column in September 1983.AI*). I now set to work on my biggest building project so far. What I lacked in skill I made up for in enthusiasm.

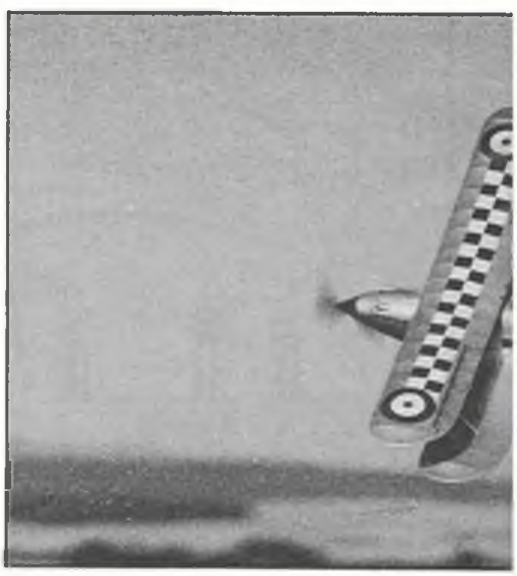
Looking back I can see that the ideal engine available to me at that period would have been the Frog 500, but I think that I discounted this because I had only seen one chap with a glow-engined model and it seemed a vicious beast to start, although I had to admit that once going it took the TK4 into which it was fitted around faster than any control-liner that I had seen until then.

'Meanwhile "big sister", who had inadvertently fired my imagination with the wonder of flying boats, had married an American Army sergeant and was living in the USA. I wrote asking my brother-in-law to send me a Baby Cyclone or Ohlsson 60; I would send the money. He had never heard of these, but said that he would look around. I had specified spark ignition thinking (probably mistakenly) that I would find this easier to operate. What arrived in the mail as I neared completion of the model was the most beautiful, but at the same time the most fearsome looking engine that I had ever seen. It was an Ohlsson 60 glow motor.

'This was duly fitted to the nacelle of the Mermaid and the model was assembled and taken outside for the first time to undergo engine tests in our back garden. The model was painted white, as I felt a flying boat should be, and to me it looked

Heading photo: This flying boat was the forerunner of Dr. J.F.P. Forster's Mermaid. Completed in the summer of 1940 it is seen undergoing a pre-covering flotation test. This was Dr Forster's sixth petrol model. Immediate right: The first in the series of Forster flying boats leaves teh water sometime during 1939. Below: The prototype Mermaid itself, photographed in the summer of 1941, showing completely new lines with upswept stern to keep the tail unit clear of the water. This very successful craft was powered by a 6cc Baby Cyclone. Derek Scales used a variety of motors in his! Below centre: Doug McHard's magnificent 22 1/2in. rubber-driven Keelbild Hawker Fury in flight. Model was seen in skeleton form in the December issue. Below right: Trevor Watkins' Trike, a 28 1/2in. design by D Collier, plans of which appeared in the February 1942 Aeromodeller and in the booklet Aeromodeller Planfare (see Trike and Son of Trike).





perfect. The tank was filled, engine primed, battery connected; and I swung the Keil Kraft Truflex 14x6 propeller. This was immediately followed by the most frightening roar I had heard in my life. It was fortunate that I had pegged the hull down, because all that I could do was stagger back in terror! The neighbours and my family came out to see what was happening; after about two minutes the fuel ran out and all was quiet again. Operating a 2cc diesel engine had in no way prepared me for what a 10cc glow motor had in store! That same evening I wrote again to Roland Scott asking if he would like the engine, with only two minutes running time on it, in exchange for two second-hand diesels, a 5cc Wildcat and an Amco .87. This was agreed and I received two excellent engines that gave me years of good service. I still have the Wildcat, which interchanges with my Dunham Valkyrie 6cc diesel (not the 5.3cc version) to power my seven-foot span Flying Quaker fitted with two-channel radio control. The Wildcat was installed in the Mermaid, and I was happy and confident with this combination right from the start. The engine looked and handled like a big ED Competition Special. Test glides were followed by hand launched power flights and the model flew remarkably well. I had no transport other than my bicycle to take it to open water, and also no recovery boat, so I decided that the small lake or pond near our house would have to do for water flying. The Mermaid used to roar across the lake in fine style for about 150 feet before running into rushes at the other end. I was never short of spectators; and my young sisters lying on the bank said that sometimes they saw daylight under the hull before the rushes terminated the run. The ROW trials gave a lot of fun and left an indelible imprint on my memory. On one occasion our old Vicar came by and asked why I had not fitted a radio controlled rudder, which I thought was a knowledgeable remark from a non- modeller in 1951! Somewhat rashly I decided that the answer was to fit the ED Comp Special on a small pylon at the nose of the flying boat in front of the Wildcat. I thought that if the extra engine just had a short motor run to give a boost for take-off, the model would get off the water and I knew that it would fly around OK on the power of the Wildcat alone. The fact that six ounces of lead ballast could then be removed from the Mermaid's nose meant that no balance problems were encountered on mounting the second engine.

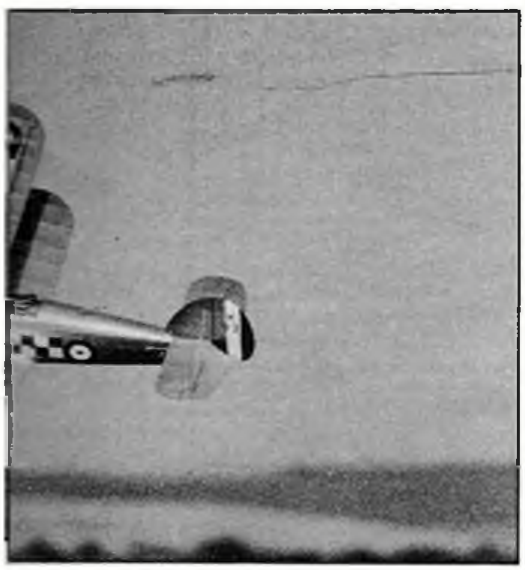
'More ROW attempts were made, and the Mermaid skimmed across the lake at great speed, hardly touching the surface; however, it still would not clear the rushes at the other end. A hand launch was then resorted to with both engines running, and this proved to be the end of Mermaid. It got away in a climbing left turn, but this soon tightened up and the model came in, striking the ground and bursting into more pieces than I had thought possible.

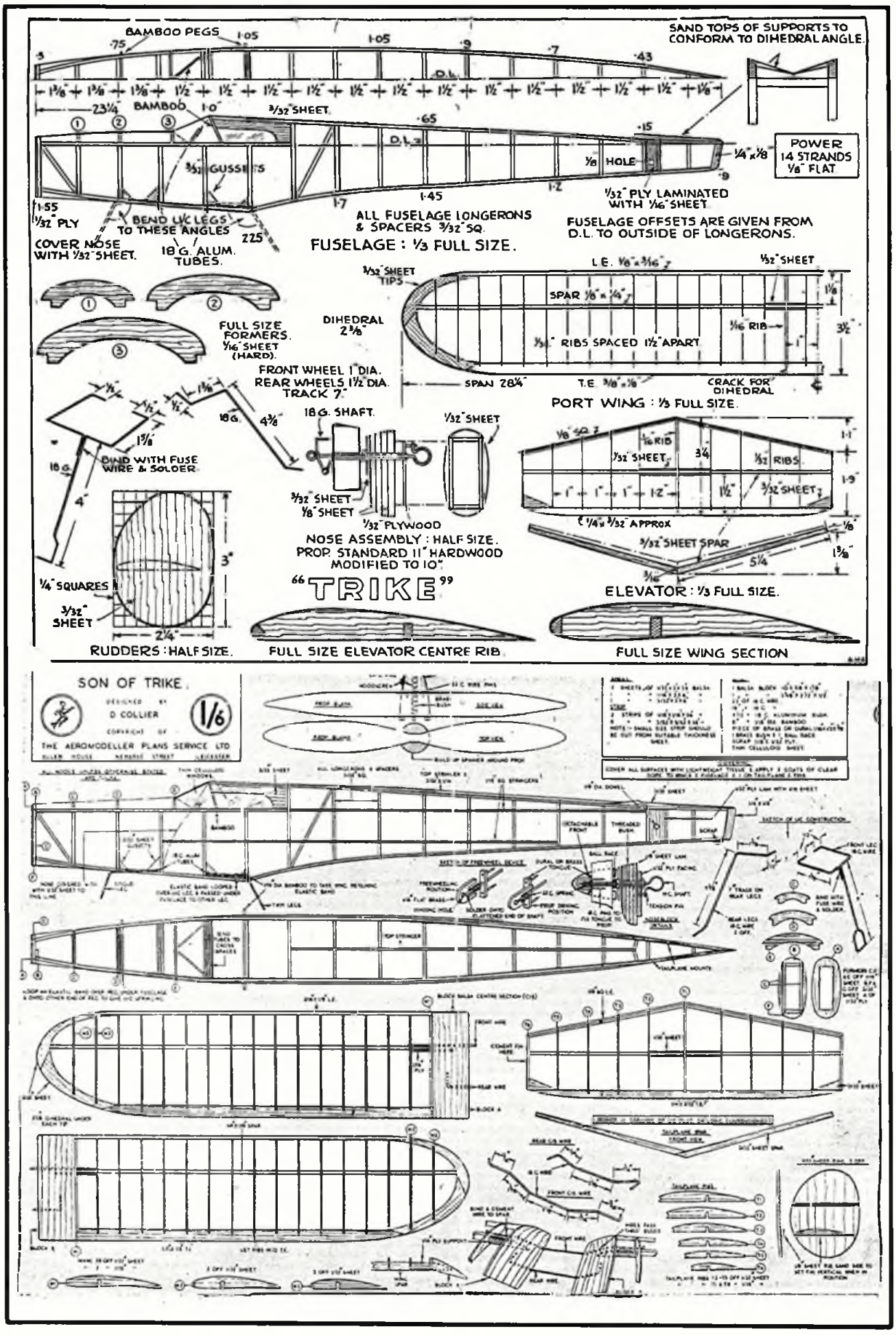
'Now, 36 years later, I am building another Mermaid. My other hobby is canoe touring, so recovery should not be a problem. Also, I am taking the old Vicar's advice and will be fitting a "radio controlled rudder" as well as throttle and elevator controls. I hope to use the elevator for trim only, flying mainly on rudder and throttle. A water rudder will also be fitted...'

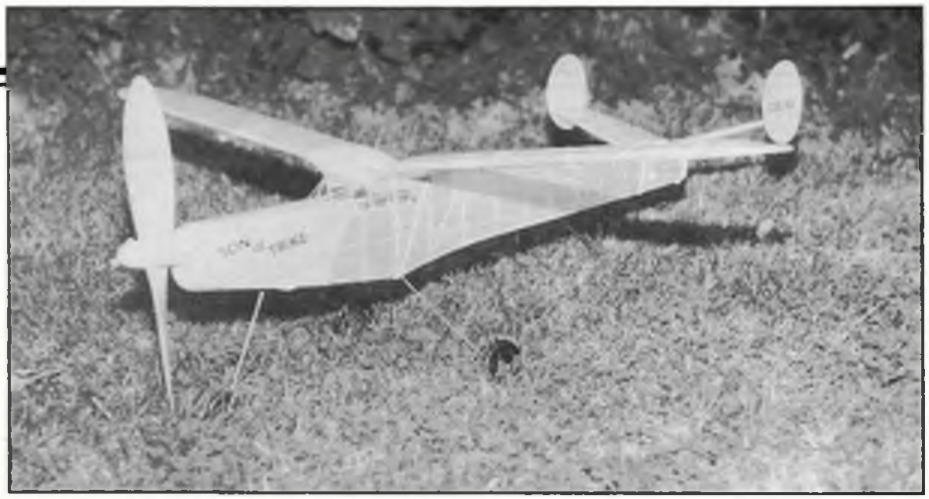
We wish Derek success with his second Mermaid and look forward to hearing of his adventures with it. There is no doubt that water flying has an appeal all of its own, and we would very much like to hear from other modellers who have sampled this delight with vintage models.

Trike and Son of Trike

Following my appeal in the February issue for readers to tell about their models, successful or unsuccessful, Trevor Watkins of Hereford sends this account which he labels as 'one of my more bizarre failures'. As I said in my request 'sometimes, failures are more interesting anyway', but I consider this interesting story to be far from a *faux pas*. We have all had lapses similar to the one he recounts here, and I am reminded of the story of the great R N Bullock who once inadvertently wound his twin pusher 'the wrong way round' and was most surprised when the model attacked him instead of flying off! Trevor tells us: 'Like many other lapsed aeromodellers my interest was rekindled by the vintage revival. Browsing through my *Aeromodellers* of yesteryear, I came across a booklet of plans entitled "Aeromodeller Planfare" which I believe was issued early in 1946. This contained, among other vintage plans, a design by D







Collins named Trike, a model which I had always wanted to build many years ago but had just not got around to so doing. Like many of the older plans it was lacking in some detail — why, I wonder did so many of these plans omit such items as propeller block sizes while giving full size drawings of wheels and other less important details? Nevertheless I scaled up the plan and built my model. It says much for the design in that even in my inexpert hands, it flew beautifully. In fact I still have it after some seven years of intensive flying, and I am at present in the process of recovering the fuselage in anticipation of summer (?) days ahead.

'Suitably encouraged by my success with Trike, I recalled that it had been succeeded by an improved design, Son of Trike, which was published in the September 1946 issue of *Aeromodeller*. I do own a rather tattered copy of this issue but decided to write to *Aeromodeller* to see if they could help with a full size plan. What could we do without this magazine and its ever helpful staff? (*Thanks, Trev.GC*) Sure enough, back came a reply confirming that they could supply a plan, and in due course another delightful model of the past was completed. (*The plan, reference no.D/244 is available at £1.45 including postage. GC*).

The early trimming flights of Son of Trike proved equally as good as Trike, giving what to me was becoming a typically reliable Trike, flight pattern. Where then is the failure, you may ask? Well, perhaps I should mention for the benefit of those unfamiliar with the two designs, that, whereas Trike is a fairly simple high wing cabin model, Son of Trike is more sophisticated. Part of its attraction for me is the elegant gull type wing, joined by two connecting wire dowels which fit across the cabin of the model. One fine evening I hastily assembled both models and hurried to a nearby recreation ground which serves as my flying field. Trike again performed impeccably, and after several flights I decided that Son of Trike should demonstrate its capabilities to the usual miscellaneous group of onlookers.

'I checked the model over, wound up and let go. Horror! A vicious circling head-high flight was followed by a resounding crash. What had happened? Nose block inverted maybe? Possible but unlikely. I recovered the remains and upon examination the answer was now too obvious. I had assembled the model with the wings on back to front! My excuse, poor as it may be is that the wing plan form is practically symmetrical, and those connecting wires will fit either way round.

'Other models built from "Planfare" but not yet flown include Phoebus and Mistral, *Aeromodeller* have re-issued a much improved plan of Trike with greater detail; and as for Son of Trike I shall build another one day. After all, both models have given me much enjoyment both in building and flying, and that is what this game is really all about. As I mentioned earlier, some of the older plans can be a little vague. Perhaps it is my lack of understanding, but for example, on the Mistral plan just what is the correct

Opposite page: Reduced plans of the two designs commented upon so favourably by Trevor Watkins. This page, top: Here's Trevor's Son of Trike, a sophisticated gull-wing version of its predecessor. Right: And this is the cover of Aeromodeller Planfare, which contained thirty-six plans and was published at the beginning of 1946. Below: More Planfare subjects recently built by Trevor: Phoebus is a 35 3/4in. design by H.R. Ashley which first appeared in the February 1945 Aeromodeller; and Mistral (at bottom) which is thirty-eight inches of elegance by J.W. Ede made its original appearance in October 1944.

method of fitting the wing to the fuselage? (*From examination of your photograph you appear to have used the best method - dowels through the runners of the wing fixing cradle still allow adjustment without spoiling that fine streamlined fuselage by wrapping rubber bands around it. I have checked the Aeromodeller issue concerned, October 1944, and no building instructions accompany the plan. AI*).

'No, I am not really complaining, we really are fortunate that so many of the vintage designs are still available. Many thanks for the Vintage Corner column. It gives me and I am sure many others much pleasure; long may it continue.'

Thanks for your kind comments Trevor; and please tell us how Mistral and Phoebus perform.

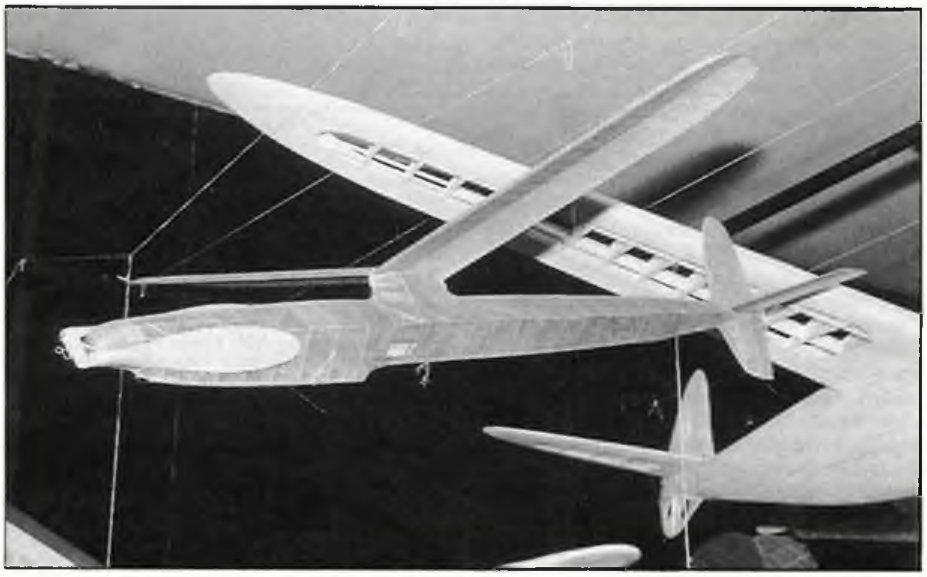
ITMA (Its That Moth Again)

More information relevant to John Watters' Vintage Revival of the Flying Aces Moth in the February *Aeromodeller*. Jim Alaback draws my attention to the fact that this design was published for a third time in the April 1976 issue of Flying Models, a publication which grew out of the old Flying Aces magazine. He also noted a difference in size, John's Moth being 26 1/2 inches span, whereas the original had a winspan of twenty-four inches. Jim goes on to say:

'... Bob Peck told me recently that he is within about three weeks of having his long-planned kit of the FA Moth ready for sale. It will be of original 24 inch span and will only have one minor change: the top longeron will be raised across the last fuselage bay to support the tailplane in the position shown without the packing under the spar as shown in the original plan by Herb Spatz. The first flying model contest I ever won was in the Spring of 1938, and a Flying Aces Moth was my model. I built two of them before the war and they were the best flyers I had in that size range. I also built a 30 inch span Pacific Ace about then, and it was an even better flyer, but with the extra size it had an advantage. The Flying Aces Moth is popular here in the "two-bit" rubber events at Old-timer flying sessions and contests. I think that it may still be the best flying 24-inch model around. The "two-bit" rubber event is for models of 25 inch wingspan or less; such models sold as kits for 25 cents before the war, "two-bits" being slang for 25 cents).'

Vintage models old and new - bring 'em to the ASP Vintage Weekend on 15th and 16th August 1987.

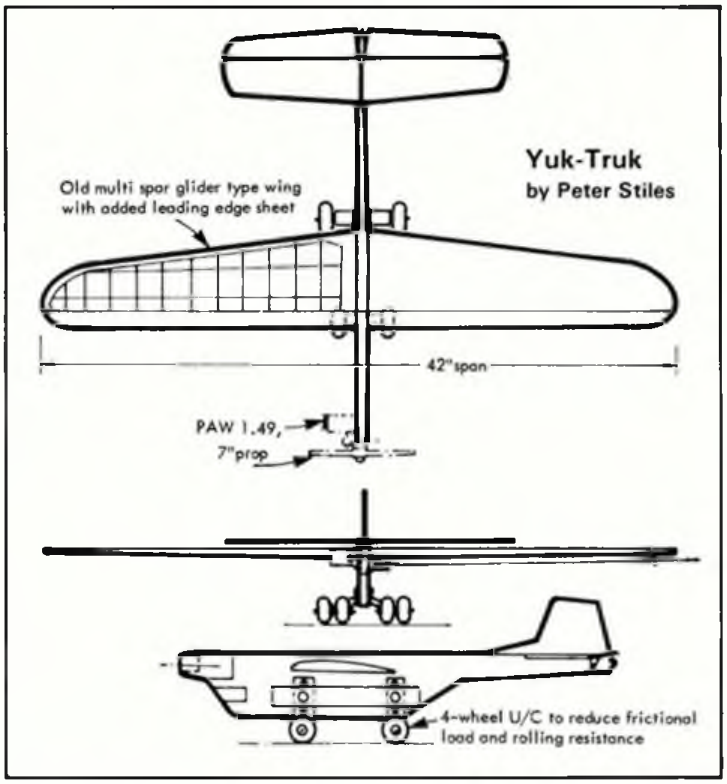
Don't miss this old-time treat...come and sample the latest in nostalgic aeromodelling!

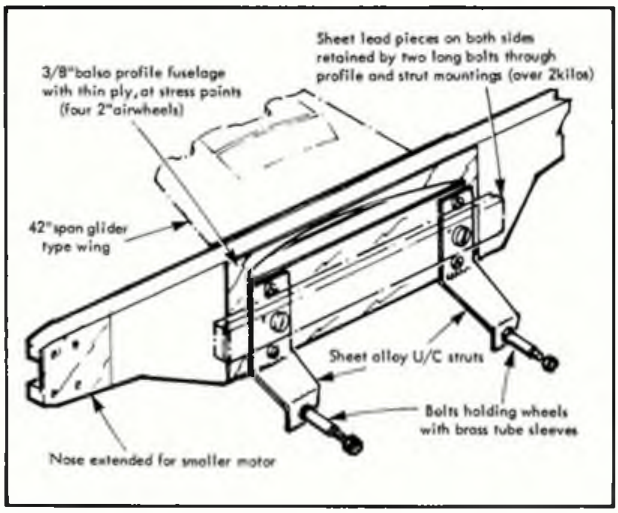


Top: Now equipped with a Magnum 91 and radio controlled, Noel Barker's splendid Vulcan, one of the country's most famous - and long-lived - vintage models is enjoying a new lease of life. Middle: Pictured, like Vulcan, at the last Model Engineer Exhibition, this elegant Wake is a Ted Evans original. Designed for the 1952 season, it incorporated a 'freewheel/fold' prop and an ingenious forward-retracting undercarriage which was arranged to compensate for potential CG shift caused by the folding prop blades. Model is superbly finished in delightfully gentle pastel colours which must have done absolutely nothing to help its visibility at a distance . . . Bottom: John Kemp holds his Keil K6 powered Club Conquest and seems to be bearing up well to the 'criticism' being delivered by your columnist at the SAM 35 Swapmeet at Henlow on 25th January. Photo by Bob Palmer.

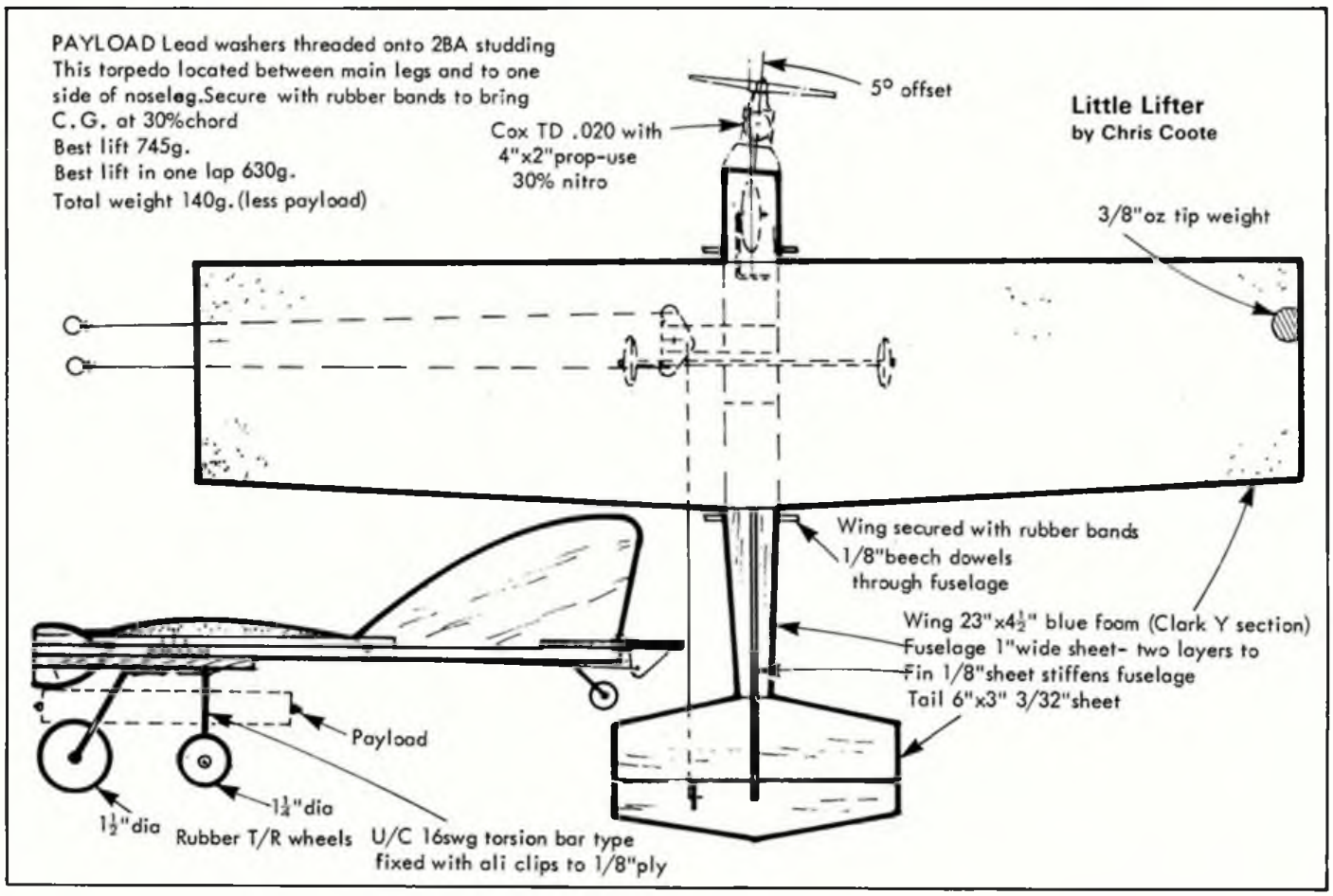
More on control-line weight carriers from Chris Coote

PAYLOAD POSTSCRIPT





Three-view at left, and detail above, shows the most consistent of the South Bristol payloaders (see also the feature in the February issue) Peter Stiles' Yuk-Truk uses the efficiency of its ex-A/2 glider wing to beat other contenders on the power of its PAW 80. One-metre-high take-off obstacle means u/c design matters – hence four-wheel layout seen here. Below: South Bristol rules include a bonus related to engine capacity. Chris Coote's own payload challenger is Cox .020 powered. Remarkable motor offset – but this model has lifted 745 grams – that is, over a pound-and-a-half!



READERS' LETTERS

Motor matters

Dear Sir,

May I make a suggestion? Could you run a series on vintage engines from the following viewpoint: how to identify an engine in relation to marks produced thereof. For example: how many types of Frog 50 were there? I've seen at least five, three of which were substantially different from each other.

Another such engine would be the Amco PB (I understand that this could be dated and identified by unscrewing the back cover and examining the con-rod). Other engines suitable for investigation would be the Amco BB, the ED Pep/Griffon/ZA92, and the ED 3.46 (which appeared to be made to a variety of lengths). Such a series would help to date these motors, and perhaps a bit of general background information would do no harm.

If it is not asking too much maybe you could run articles on odd kits too; for example, the Keil Kraft Orion and the whole host of post-war kits that were manufactured in small numbers. Surely you might get permission to print outline plans of these?

Wishing you and Aeromodeller (the most important publication in my life) the very best for the future.

Brinsengracht, Amsterdam **Peter Shenter**

Tune in to Vintage

Dear Sir,

Perhaps you will be interested in my route to learn to fly radio control. I joined Southend Radio Flying Club about seven years ago, bought and built a so-called trainer, and tried with good instruction but no way could I fly it. I tried two other models without any luck, so after two years I was getting a bit fed up with repairing trainers every two or three flights.

One Saturday morning I went to Michaels Models to look at the models of my youth and ended up buying the SHG Scram kit. I built it in two months and one bright Saturday morning took it to the field.

One other flyer was there, and he flew and trimmed the Scram, took it to a safe height and handed me the transmitter. He stood behind me and guided my thumbs on the controls and within ten minutes I found I could fly the model. I tried two or three approaches but I could not yet summon the confidence to land it.

Next morning I again went to the field, but the chap who had taught me so much on Saturday was not there. I started the engine intending to try some taxiing but as I opened the throttle the model was flying before I knew where I was! After twenty minutes and several approaches I landed it. Success! I now fly only vintage; last year I flew the Scram at Old Warden. I now have a Junior 60 and a Radio Queen; and I am building a Privateer.

For the record, my Scram has an early OS.40 four-stroke and is equipped with Sanwa EX.60 Radio. By the way - I am now almost sixty-one years old...

Rayleigh, Essex **G. Staggs**

Sparks of interest . . .

Dear Sir,

May I take this opportunity of thanking you and your staff for your handling and presentation of my 'electric free-flight' material.

Having spent the last few months improving my gearboxes, I have now some very reliable units that I hope to use in scale models (I intend to concentrate on these during 1987). The new gearboxes seem to call for a slightly different type of propeller - a kind of cross between power and rubber but with a fair amount of blade area. They seem to perform quite well on the bench, maintaining the revs of the power props but at the same time giving quite a lot of thrust.

I hope the articles have stirred up some interest.

Rochester, Kent **Roy Ashby**

International What's On . . . to end Sept '87

World Championships

10-16th August
FREE FLIGHT WORLD CHAMPIONSHIPS
Venue: Thouars, France. F1A, F1B, F1C.

7-13th September
SPACE MODELS WORLD CHAMPIONSHIPS
Venue: Belgrade, Yugoslavia.

European Championships

21-26th July
CONTROL-LINE EUROCHAMPS
Venue: Nykoping-Oxelosund, Sweden. F2A, F2B, F2C, F2D and Scale F4B, F4C. Contact: SMFF, Sandbergsgatan 4, Box 100 22, 600 10 Norrkoping, Sweden.

25-30th August
FIRST INDOOR EUROCHAMPS
Venue: Wroclaw, Poland. Contact: Aero Club of Poland, Krawskie Przedmiescie 55, 00-071 Warszawa, Poland. F1D

7-13th September
MAGNET SOARER EUROCHAMPS
Venue: Spitzbergen, Austria. Contact: Aero Club of Austria, Prinz Eugen-Strasse 12, A-1040 Wien, Austria. F1E

Open International events

2-3rd May
TROFEO ITALCANTIERI
Venue: Maniago, Italy. F1A, F1B, F1C.

22-23rd May
MEMORIAL SANDOR FULOP
Venue: Domsod, Hungary. F1A, F1B, F1C. Contact: Hungarian Association of Aeromodellers, Roseberg, Hazaspar utca 1, Budapest V.

26-30th May
CHAMPIONSHIPS FOR 'ALBENA' CUP
F3B, F4B. Venue: Albena, Bulgaria. Contact: Bulgarian Aeromodelling Federation, 48 Bd Christo Botev, 1000 Sofia, Bulgaria.

27-31st May
INT. MILITKY CUP
F3E (All categories). Venue: Pfaffikon, Switzerland. Contact: Modellfluggruppe Pfaffikon, H.J. Schaufelberger, Ausserdorfstrasse, CH-8321 Wildberg, Switzerland.

28-31st May
JURA COP 1987
F2A, F2B, F2C. Venue: Breitenbach, Switzerland. Contact: Modellfluggruppe Breitenbach, Borer Heiner, Unt. Lebernweg 14, CH-4208 Nunningen, Switzerland.

6-7 June
BUTTERFLY MEETING
F1D. Venue: Nijmegen, Netherlands. Contact: E.K.T. Liem, Egelstraat 17, 6531 PH Nijmegen, The Netherlands.

6-8 June
INTERNATIONAL COMPETITION
F2A, F2B, F2C, F2D. Venue: Saint Etienne, France. Contact: Gilbert Beringer, Chatelneuf, 42940 St Bonnet Coureau, France.

13th June
COPPA d'ORO F.A.,
F2A, F2C. Venue: Lugo, Italy.

13-14th June
3° TROFEO G.M.B., F3C
Venue: Desio, Italy.

13-14th June
5TH INTERNATIONAL COMPETITION OF OREALNS
F1D (Microfilm). Venue: Orleans, France. Contact: Jacques Delcroix, 7 rue de Foncemagne, 45000 Orleans, France.

14 June
CRITERIUM MIDDEN NEDERLAND
F2A, F2C. Venue: Utrecht, Netherlands. Contact: Dhr B.J. Wijnand, E. Verkadelaan 123, 3584 GT Utrecht, The Netherlands.

20-21st June
MIDSUMMERNIGHT TROPHESE
F1A, F1B, F1G, F1H. Venue: Terlet (Arnhem), Netherlands. Contact: T. van Eede, Vermeerlaan 15, 3764 WB Soest, The Netherlands.

3-5th July
SCANDINAVIA OPEN 1987
F1A, F1B, F1C. Venue: Revingehed, Revinge, Denmark. Contact: Thomas Koster, Harloseve| 184, DK-3400 Hillerod, Denmark.

10-11th July
17 KOLIBRI POKAL
F1A, F1E. Venue: Tamswag/Karneralm, Austria. Contact: UMSC Kolibri/Obergrafendorf, c.o. Felix Schobel, Mariazellerstrasse 3, A-3200 Obergrafendorf, NO, Austria.

22-26th July
2nd INTERNATIONALER WATTKAMPF
F1A, F1B, F1C. Venue: Riesa, Germany. Contact: Aeroklub Der D.D.R., Langenbeckstrasse 36-39, 1272 Neuenhagen, Berlin, G.D.R.

1st August
11th MEMORIAL 'IZET KURTALIC'
F1A, F1B, F1C. Venue: Livno, Yugoslavia. Contact: Aeroklub 'Izet Kurtalic', Dure Pucara 3, 71300 Visoko, Yugoslavia.

15-16th August
INTERNATIONAL OPEN CONTROL LINE CONTEST
F2A, F2B, F2C. Venue: Genk, Belgium. Contact: Limburgse Vleugels, Vleigveldplein 1, 3600 Genk, Belgium.

21-23rd August
VAR CUP
F2A, F2C. Venue: Gyula, Hungary. Contact: Hungarian Association of Modellers, Rosenberg Hazaspar utca 1, Budapest V.

21-23rd August
11TH INTERNATIONAL INDOOR
F1D, F1D beginner. Venue: Flemalle, Belgium. Contact: Fernand Van Hauweart, Grand Place 1, bte 52, 4110 Flémalle, Belgium.

21-23rd August
POITOU 1987
F1A, F1B, F1C, F1H, F1G. Contact: Michel Poussard, 78 rue La Fontaine, 79100 Thouars, France.

22nd August
28 SOKO KUP
Venue: Mostar, Yugoslavia. Contact: Aeroklub 'N.H. Ljubo bresan, Krpica 8, 7900 Mostar, Yugoslavia). F1A, F1B, F1C.

5-6th September
MBZB CUP 1987
Venue: Breitenbach, Switzerland. Contact: MBZ Basel, Toni Satathe, Hardstr. 13, 4132 Muttenz, Switzerland. F2B, F2D.

5-6th September
1ST CARL NEUBRONNER CUP
S1A, S3A, S4A, S6A, S8A. Venue: F.R. Germany. Contact: Deutscher Aero Club E.V. Postfach 710243, D-6000 Frankfurt/Main 71 F.R. Germany.

6th September
TROFEO CANSIGLIO
F1E. Venue: Pian Cansiglio, Italy.

9-13th September
EUROPA CUP AUSTRIA
F1E. Venue: Spitzerburg/NO Austria. Contact: Aero Club of Austria, Prinz Eugen-Strasse 12, A1040 Wien, Austria.

19-20 September
RUHRPARK CUP
F2A, F2B, F2C. Venue: Bochum, F.R. Germany. Contact: Josef Frolich, Unterstrasse 62, D-4630 Bochum, F.R. Germany.

26-27th September
NOGRAD CUP F2B
Venue: Salgotarjan, Hungary. Contact: Hungarian Association of Modellers, Rosenberg Hazaspar utca 1, Budapest V.

Non-R/C events generally shown here; contact the SMAE on 0533 518500 for more information. Individual event organisers given where known.

Model categories:
Free-flight: F1A: Glider. F1B: Rubber. F1C: Power. F1D: Indoor. F1E: Slope soarer.
Control line: F2A: Speed. F2B: Stunt. F2C: Team Race. F2D: Combat. F4B: Scale.
Space models: S1: Altitude. S2: Pay load. S3/S6: Parachute /2 Streamer duration. S4: Boost/glide. S5: Scale Altitude. S7: Scale.

Events after end September, and updated information will appear next month.

What's on . . . plan your weekends, go, watch and fly!

26th April
SMAE INDOOR SCALE NATIONALS
Venue: Alumwell Centre, Walsall. CO_2/Electric, Rubber and Peanut Scale, plus Veron/KK Rubber Scale mass launch. Pre-entry for main events by 31st March to Doug Sheppard, 13 Luckington Road, Monks Park, Horfield, Bristol BS7 0UT. Tel: 0272 697595.

26th April
WITHAM CUP C/L STUNT COMPETITION
Venue: Slip End, Luton. Contact: Glen Alison Tel: 0923 772675.

26th April
SMAE SPRING F/F MEETING FOR MINI CLASSES
Venue confirmed as Chetwynd. Contact: Pete Harris Tel: 0562 741443.

26th April
WHARFEDALE & DISTRICT A.C. 1/2A COMBAT
Venue: Dewsbury, W. Yorks. Contact: Jeff Smith. Tel: 0532 663432.

28th April
SOUTH BIRMINGHAM MFC SPRING FLY FOR FUN RALLY
General flying for all SMAE members. Fun Comps, including Midge Speed. Venue: Rubery Hill Hospital, Rubery, Nr Birmingham. Contact: Peter Martin. Tel: 021 459 5520.

2-4th May
BRISTOL AND WEST WOODBURY WEEKEND
Champagne Fly-Offs O/R, O/G, O/P, Vintage Rubber (sat 5-8 pm), also O/R, O/P, O/G, Vintage to SMAE rules (Sun 10 am start). Combined FAI and Vintage to South Bristol Rules (Mon 8 am start).
Caravans welcome; Sunday evening barbeque. Contact: Elton Drew, 2 Downfield Close, Alveston, Bristol BS12 2NJ. SAE please.

9-10th May
1987 SANDOWN PARK MODEL SYMPOSIUM
Over 80 trade stands plus club and society displays: aircraft, helicopters, cars, boats, railways. Flying by trade teams and four-times World Champion Hanno Prettner. Gates open 8.30am; 6.30pm finish. Venue: Sandown Exhibition Centre, Esher, Surrey. Entry: Adults £3.00, children and OAPs £1.00. Under-5s free. Family tickets available. Free bus service from Esher BR station. Contact: A.J.P. Briggs. Tel: 0209 212943.

10th May
THREE KINGS C/L SCALE FLY-IN
Venue: Old Crydon Aerodrome, Purley Way, Croydon, Surrey. Stand-off and Profile Scale Classes. Silencers and insurance essential. Contact: Derek Bird Tel: 01 874 6394.

10th May
KEITH HARRIS VINTAGE COMMEMORATIVE EVENT
F/F Radio (power glide), C/L Team Race, Stunt and Midge Speed. All vintage!
Venue: RAF Barkston Heath. Contact: Keith Harris (F/F), Dave Campbell (C/L) Tel: 0623 842167.

17th May
SMAE N.W. AREA R/C FLY-IN
Hosted by Blackpool and Flyde RCMS. Bring the family. All flyers welcome. Venue: Blackpool Zoo Flying Site. Contact: Chris Bromley. Tel: 0253 25080.

17th May
CARDINGTON INDOOR MEETING
Fun flying. Fly Rod EZB: best two from six flights, novice only. All-in Indoor: best single flight. Contact: Bob Bailey. Tel: 0438 723642.

23-25th May
SMAE F/F NATIONALS
Events as 1986. Venue: RAF Barkston Heath. Contact: SMAE. Tel: 0533 518500.

31st May
TYNEMOUTH MAC RALLY
F1A, O/R, O/P, Combined Mini, Vintage, HLG. 10 am start (11 am power). Venue: Albemarle Barracks. Pre-entry (no fees) - essential before 25th May. Contact: Tony Brown. Tel: 091 2362155.

31st May
PETERBOROUGH MFC C/L SPORT AND VINTAGE FUN FLY DAY
Includes formal Stunt and Midge Speed to SAM35 rules. Venue: The Embankment, Peterborough. Contact: Mick Taylor Tel: 0733 204484. Note: This is a date change from 14th June.

14th June
4TH HUDDERSFIELD VINTAGE R/C ASSIST EVENT
Simple Precision, Precision, Duration, Texaco, Flying Fifteen, Vintage R/C Gliders with comp if enough support. Venue: Birds Edge flying site. Contact: Colin Thompson Tel: 0484 850422 or 851433 - essential for frequency details.

14th June
TEESSIDE MFC FUN FLY EVENT
Visitors and clubs welcome. Insurance needed! Contact: Stuart Smith. Tel: 0642 764842 (essential as no further details given).

14th June
CARDINGTON INDOOR MEETING
Fun Flying, All-In Indoor: best single flight. Contact: Bob Bailey. Tel: 0438 723642.

14th June
FIRST N.W. VINTAGE SWAPMEET
Venue: Lostock Alkali Socail Club, Northwich, Cheshire. 10.30 am start. Tables available at £2.00 each. Contact: David Lloyd-Jones. Tel: 056589 3170.

14th June
THREE KINGS C/L SPORT AND VINTAGE DAY
Venue: Old Croydon Airport, Purley Way, Surrey. Vintage Stunt, Midge Speed and Fly-for-fun. Silencers and insurance essential. Contact: Derek Bird Tel: 01 874 6394.

14th June
WHARFEDALE AEROBATIC COMPETITION
FAI and Novice Stunt. Venue: Ilkley, W. York. Contact: Jeff Smith. Tel: 0532 663432. This is a new Wharfedale annual event.

20-20st June
ASP 21st SCALE RALLY
Venue: Old Warden Airfield, Biggleswade, Beds. The annual pilgrimage for all scale enthusiasts! Informal R/C, F/F and C/L scale flying all weekend long plus the delights of the Shuttleworth Collection and - new for '87 - Band, Barbeque and Beer on Saturday. Camping too. Don't you dare miss it! Contact: Aeromodeller. Tel: 0442 41221.

21st June
LUCAS-BILSTON C/L FLY-IN
Venue: Lucas Aerospace Sports Field, Fordhouses, Wolverhampton (close to Junction 2, M54). Aerobatics, Vintage Aerobatics, Slow Rate and Class I Vintage speed to Andy Brough rules. Silencers essential for all classes except Speed. Gates open 10 am. Contact: Keith Garbett Tel: 021 556 0115.

21 June
BLACKBURN AND DMAC SUMMER FLY-IN
Venue: Pleasington Playing Fields, Blackburn. Scale, semi-scale or unusual model rally. A fun day for all. Excellent prizes. Entry fee £1.00 payable on the day. 10am start. Contact: Michael Winder, 27 Belgrave Road, Darwen, Nr. Blackburn, Lancs BB3 2RP.

21st June
WHARFEDALE OPEN MINI GOODYEAR
SMAE rules but with Open Models. Venue: Dewsbury, W. Yorks. Contact: Jeff Smith. Tel: 0532 663432.

21st June
OXFORD MFC FREE FLIGHT RALLY
A/1, CDH, CO_2 flown in rounds from 10am. HLG and Vintage (34in. max span limit for rubber models) not flown in rounds. Special Junior awards. No power models! Note: Champagne fly-off at 7pm, Saturday 20th June for A/1, CDH and HLG. Contact: Andy Crisp. Tel: 0865 53800.

27-28th June
THREE SISTERS C/L GALA
Stunt, Novice Stunt, Open Speed, Midge Speed, FA1 T/R, Goodyear Class 2, Open Goodyear (1985 rules), Diesel Combat, FA1 Combat, Vintage T/R Classes A and B. Contact: J.A. Noble. Tel: 061 790 4056.

28th June
CHILTERN CUP C/L STUNT COMPETITION
Venue: Slip End, Luton. Contact: Glen Alison Tel: 0923 772675.

4-5th July
NORTH YORKSHIRE FREE FLIGHT GROUP TWO DAY MINI-EVENT
A/1, CDH, CO_2, HLG, Mini-Vintage, maybe other small classes. Venue: York Racecourse. Camping and caravans permitted. Prizes and cash. Contact: John Pool. Tel: 0757 703060.

4-5 July
INDOOR NATIONAL CHAMPIONSHIPS
Saturday: Index event for EZB (novice only), Peanut Duration, Novice Pennyplane, CO_2 Duration, Manhattaon Cabin, Pennyplane, HLG, Houlberg Trophy for EZB (best two flight from six), Sparklets Trophy for CO_2 Duration (best two from six), Sparklets Longest Flight Trophy for CO_2 Duration (flights on this day only qualify).

Sunday: Index event for F1D, Open Microfilm, 35cm Microfilm (best single flight), Aeromodeller Trophy for F1D (best two from six), 1988 Indoor W/C Team Selection Trials (first three flights in rounds - best three from nine). Fun flying if no interference with comp flights. Contact: Bob Bailey. Tel: 0438 723642.

5th July
SMAE C/L AND F/F SCALE COMPETITION
Venue: RAF Abingdon, near Oxford, 10 am start. Contact: Charlie Newman. Tel: 08677 3020.

5th July
PETERBOROUGH MFC DIESEL 'A' COMBAT
Venue: The Embankment, Peterborough. Contact: Mick Taylor. Tel: 0733 204484.

11-12th July
HARROGATE MODEL CAR CLUB MODELLING EXTRAVAGANZA
Venue: Newby Hall, Ripon, North Yorkshire. C/L competition, Helicopter and fixed-wing fly-for-fun Helicopter Workshop and tuition on the Saturday. Also R/C cars, slot cars, model boats and much more. Contact: Robert Thorn. Tel: Harrogate 501970.

12th July
MORLEY & DMAC SILENT AND VINTAGE DAY
Combined A/1 and CDH, Vintage Rubber (up to Wake size) and Vintage Glider (up to Nordic), P.30, Mini SOP (0.5cc diesel). Event sponsored by Finlux TV. Prizes!
Venue: Heath Common, Nr Wakefield. Contact: Barry Judge. Tel: 0274 875976.

12th July
WHARFEDALE CLASS A COMBAT
Venue: Dewsbury, W. Yorks. Contact: Jeff Smith. Tel: 0532 663432.

12th July
ASP GOLDEN ERA DAY
Venue: Old Warden Airfield, Biggleswade, Beds. All the fun of the fair with a flavour of the 'twenties and 'thirties'. Period aeromodelling on display - turn up and fly scale or vintage: dress up too and really look the part. This event follows the Shuttleworth Flying Evening on 11th July - an unforgettable chance to view all the rarities of the collection amidst classic Big Band Melodies. Other attractions too! Overnight camping arrangements. Do come! Contact: Aeromodeller. Tel: 0442 41221.

19th July
SHUTTLEWORTH MODEL GROUP OPEN DAY
Old Warden Airfield, Biggleswade, Beds. 9am-6pm. Everyone welcome! C/L scale competition and general fun flying. Contact: Mick Staples. Tel: 0223 241978.

19th July
BLACKPOOL AND FYLDE RCMS SCALE FLY-IN
R/C Semi-scale to super-scale; all welcome. Grass runway! Venue: Blackpool Zoo flying site. Contact: Chris Bromley. Tel: 0253 25080.

19th July
COLCHESTER MAC VINTAGE DAY
Texaco, Flying Fifteen, Precision and fly-for-fun. R/C only. SAE for details to Peter Grant, 2 Duncan Rise, Gt Yeldham, Halstead, Essex. Tel: 0787 237967.

26th July
FACCT THERMAL SOARING RALLY
Venue: RAF Weston-on-the-Green. BARCS League and R/C Chuck Glider. Pre-entry £2.00 • SAE. SMAE members only. Contact: N.G. Webb, The Bungalow, 13 East Street, Fritwell, Oxon OX6 9PX.

26th July
INDOOR EVENTS AT CARDINGTON
1988 Indoor W/C Team Selection Trials (second three flights in rounds).
Fun flying if no interference with comp flights. Compact: Bob Bailey. Tel: 0438 723642.

26th July
1987 DREAMING SPIRES GALA
Comps: Vintage: lightweight rubber (36 in. span max), Vintage glider (up to A/2), vintage HLG, CO_2 Precision, Rubber kit contest (36 in. span max., plastic props and D/T allowed). Scale events for F/F power (up to 1.5 cc), CO_2/electric, Rubber (15in. span min) and KK/Veron Rubber scale Mass Launch.
SMAE membership required for flying. Venue: Port Meadow. Contact: Charlie Newman. Tel: 086 77 3020.

1-2nd August
WOODVALE RALLY
Model flying, competitions and displays; full-size aerobatics, vintage and classic cars; R/C cars and much, much more. 9 am - 6 pm each day. Entry £6.00 per car. £8.00 two-day ticket; children and OAPs £1.00.

15-16th August
ASP VINTAGE WEEKEND
Venue: Old Warden Airfield, Biggleswade, Beds. Don't miss this one. Vintage enthusiasts! Two days packed with everything you could wish for - R/C, F/F and C/L Vintage models of every type. Informal and semi-formal competitions, many courtesy of SAM 35 - but lots and lots of fun-flying and the chance to browse amongst nostalgia! Contact: Aeromodeller Tel: 0442 41221.

16th August
FACCT MINI-GLIDER COMPETITION
Venue: Weston-on-the-Green area. 60in span, 20 oz max. Bungee launch. Pre-entry £1.50 • SAE. Contact: N.G. Webb, The Bungalow, 13 East Street, Fritwell, Oxon OX6 9PX.

23rd August
INDOOR AT CARDINGTON
Fun Flying and All-In index (best single flight). Contact: Bob Bailey. Tel: 0438 723642.

6th September
SHUTTLEWORTH MODEL GROUP SILENT DAY
Old Warden Airfield, Biggleswade, Beds. 9am-6pm. No i.c. engines to be run. Contact: Mike Staples. Tel: 0223 241978.

6th September
TEESSIDE MFC SCALE & VINTAGE MEET
Visitors welcome but Comps restricted to TMFC members. Contact: Stuart Smith Tel: 0642 764842.
(essential as no further details given).

13th September
INDOOR AT CARDINGTON
1988 W/C Team Selection Trials (third three flights in rounds).
Fun flying if no interference with comp flights. Contact: Bob Bailey. Tel: 0438 723642.

20th September
INDOOR AT CARDINGTON
Fun flying; reserve date for 1988 W/C Team selection Trials if required. Contact: Bob Bailey. Tel: 0438 723642.

27th September
DOUG BLAKE TROPHY C/L STUNT COMPETITION
Venue: Slip End, Luton. Contact: Glen Alison. Tel: 0923 772675.

27th September
SOUTH MIDLAND AREA THERMAL SOARING RALLY
Venue: RAF Weston-on-the-Green. BARCS League and R/C Chuck Glider. Pre-entry £2.00 • SAE. Contact: J.H. Shaw, Alvere, Witney Road, Freeland, Oxford. Tel: Freeland 881350.

28th September
HUDDERSFIELD ANNUAL THERMAL CROSS-COUNTRY EVENT
To be held over a 10-mile course. Teams of four eligible. Start from Birdsedge flying site. All frequencies. Entry £2.00. Contact: Ian Roebuck, Kelpa, Dunford Road, Holmfirth, West Yorks.

27th September
ROLLS-ROYCE VINTAGE FLY-IN
Optional R/C-assist, Texaco and flying Fifteen events, optional C/L Old Time Stunt and Midge Speed. Venue: Rolls-Royce airfield, Hucknall, Notts. R/C Contact: P. Thompson, 8 West Terrace, Hucknall, Notts NG15 7GD. C/L contact: T.P. McDonald, 351 Uttoxeter Road, Mickleover, Derby DE3 5AH. Tel: Derby 511273. SAE with enquiries please.

27th September
WHARFEDALE 1000
Class B T/R, including Vintage. Venue: RAF Dishforth. Contact: Jeff Smith. Tel: 0532 663432.

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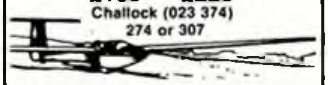

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Appendix - Links to the plans

The issue comes with two free plans (F-19 Stealth, Bristol M1D) printed front/back on a pull out banner of four sheets. The banner is not included in the document.

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