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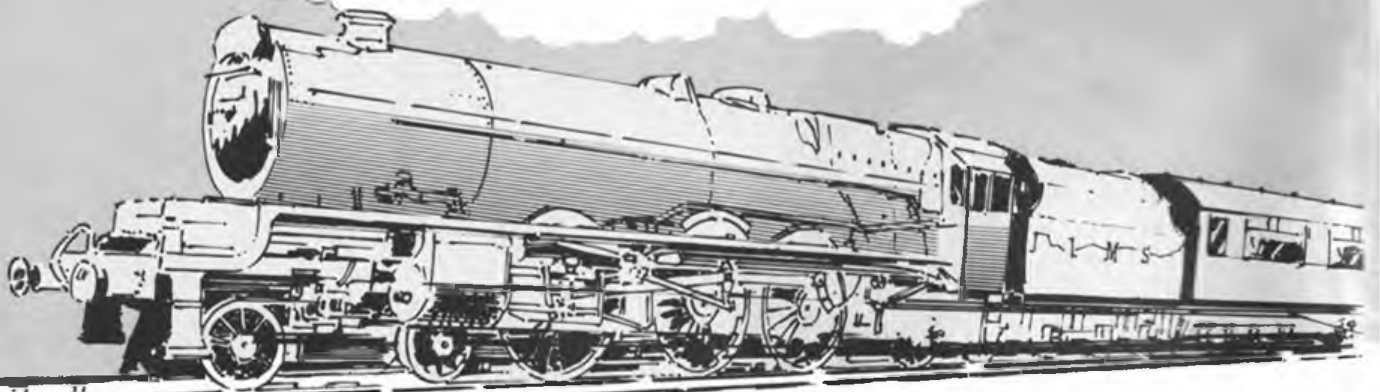
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AERO MODELLER



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Editor	<i>Geoff Clarke</i>
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Cover:
Len Shannon likes 'em big! His double-size Buccaneer, powered by a glow-converted 50cc Quadra, has been a major attraction at this year's vintage events. Builder and model were caught by Ron Moulton's camera at the Large Model Association Rally, Woburn, in June. Just think - a single wing rib from one sheet of balsa...

Other ASP Model Titles:

Clocks - Military Modelling - Model Boats - Model Cars - Model Engineer - Radio Control Models & Electronics - Radio Control Boat Modeller - Radio Modeller - Scale Models International - Your Model Railway - R/C Scale Aircraft Quarterly - Sea Classic International



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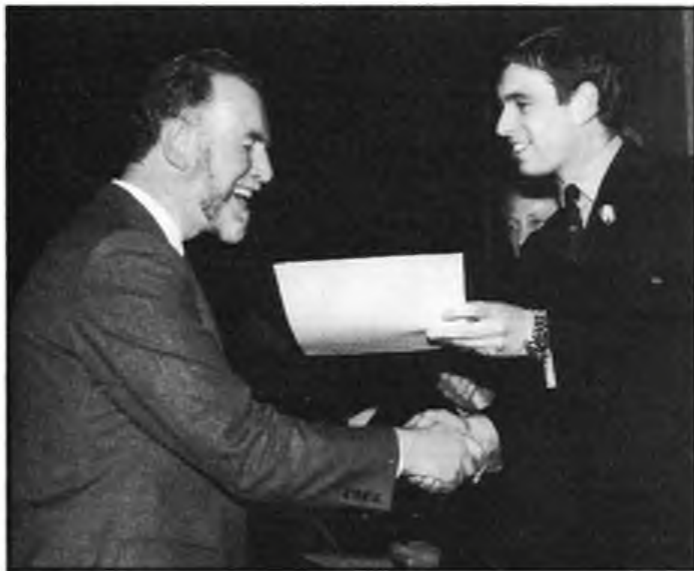
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HANGAR DOORS

Two moments to treasure from the Royal Aero Club's awards ceremony earlier this year: at left, Pete Freebrey receives the Paul Tissandier Diploma from HRH Prince Andrew, and right: Stafford Screen is the recipient of the RAcC bronze medal. See account below.



A Royal accolade

Back in May - on the first of the month, actually - the Royal Aero Club's annual awards ceremony took place at the RAF Museum, Hendon. President of the RAcC is HRH Prince Andrew, and it was he who presented medals and awards to those deemed to have shown outstanding merit in the field of sporting aviation during the past year.

At the static display before the presentation Prince Andrew showed much interest in the model aircraft on show to represent the SMAE's interests. Models there consisted of an R/C aerobatic craft, an R/C helicopter, a quarter-scale Tiger Moth, an F1A glider and an F1D microfilm aircraft (protected from the elements by a perspex case!). Also present was the Smith/Brown World Championship winning team racer and Dave Worrall's silver medal winning F3B, back from the World Champs in Australia. Power competition flying was represented by Stafford Screen's Euro-Champs second-place F1C model.

In recognition of his achievements in R/C glider flying Dave Worrall was awarded the RAcC's silver medal; and Stafford Screen received the bronze medal for his consistent high placings in F1C and for gaining a place on every British F1C team for the past twelve years. The FAI's Paul Tissandier Diploma was presented to former *Aero modeller* editor and SMAE Fellow Pete Freebrey for his work in the field of model flying at national and international levels, which spans some twenty years.

Congratulations to all. Such recognition of worthy achievement reflects well on British aeromodelling as a whole, and can only act as a spur to those involved in aiming for the best out of our hobby. Doesn't that mean us all?

1987 SMAE F/F Experts' Forum

Elsewhere in this issue you will read a review of the collected papers presented at the last Model Engineer Exhibition by experts from the world of F/F aeromodelling. There can be no doubting the success of the past SMAE Experts' Forums - and as a result, the 1987 Forum will be held at a university lecture theatre in Kensington on January 3rd. Such an arrangement will mean greater time for presentation and discussion. As in previous years, the papers will be published for the benefit of a wider audience.

There is much specialised knowledge ready to be shared. Further, there is no 'closed shop' or privileged few who are invited to contribute at the expense of others - what is needed is your offering; so if you have something to discuss, whether it be on matters structural, aerodynamic, contest technique or any of the other million-and-one things that keep F/F modelling alive and bubbling, please send a brief outline of your topic to this year's Forum organiser, Ian Kaynes, at 7 Ashley Road, Farnborough, Hants GU14 7EZ before October 15th.

The diary date is 3rd January, 1987. More details will be published later.

Brumfly '86

Stafford Screen tells us that in the unlikely event of the British Team Trial Reserve dates not being needed, the Birmingham MAC will, as last year, run a one-day event at RAF Barkston Heath on Sunday, 26th October. Events will be for Open Rubber/Glider/Power, Slow Open Power and F1A, F1B and F1C. All events will be flown in four rounds, to commence at 10am. A three-minute max will be in operation, with one round - to a maximum time of four minutes. A single flight fly-off will take place if required.

An attendance of seventy-five entries last year was most encouraging and if the encouraging this time is as good, the

Birmingham club hope to make this an annual event with a 'proper' place in the contest calendar - so it's up to you fliers. For all the gen. contact CD Stafford Screen at 66 Stevens Road, Stourbridge, West Midlands; or give him a call on 0384 396535. And the best of luck with the weather...

Anniversaries...

Fifty years ago the Wakefield Trophy was won for Great Britain by A.A. (Bert) Judge. In this issue Bert looks back with enjoyment to that momentous occasion - one which, he savers, changed his whole life. The full social round described, together with nostalgia for the period (this latter factor augmented by

Turn the clock back fifty years and here we have the 1936 British Wakefield Team outside the Wright Aeronautical Corp. building in Newark during their Stateside tour. From left to right: Justin B. Allman, Denis Fairlie, B.K. Johnson, Bob Copland, J.C. Smith, Harry Jones and Albert Judge (outright winner of the event). Alwyn Greenhalgh stands at the front.



the knowledge that a lengthy sea voyage was part of the team's itinerary) implies that a leisurely time was had by all. But is this impression justified? Take a close look at the account. All the tensions of present-day contest flying are there - the difficulties over ROG interpretation, controversy over timekeeping methods, as well as the timeless stresses caused by burst motors and torn tissue. Take heed, Vintage enthusiasts - looking back can be a misleading process!

Another fifty-year anniversary is to be the cause of celebration in New Zealand. The 1936 Moffett International event was won by NZ flier Vernon Grey - his model being flown in Detroit by one Bert Pond, a gentleman not unremembered today - and in November this year a Moffett 'Gold' competition for replicas of the victorious craft will be run by the Auckland Model Aero Club. Dateline is the weekend of 22/23rd November; venue, the AMAC field. Proxy flying is allowed, so quick-builders who fancy their chances are invited to contact the *Aeromodeller* offices for more details. Anyone who fancies a visit to the land of the Kiwi may care to do the same. Direct enquiries, if preferred, to Trevor Martin at 65 Shoreham Street, Avondale, Auckland 7, New Zealand, from whom plans are available. There

will also be a Vintage fun-fly event...

The Plans Department is moving...

The ASP Plans Department, home of the largest variety of aeromodelling - and other - plans in the world, is moving to new premises in Hemel Hempstead. Indeed, all will be safely installed by the time you read this. Such an operation obviously involves the expenditure of much time and effort; and although stocks are held of the favourite drawings - and despite the pride that is taken in the speed of turn-round of orders - it may be that requests for those plans that have to be specially printed will be subject to a short delay. In any case, all intending purchasers will receive a letter advising them of the situation in more detail than space will allow here; but if your plan fails to arrive by return, rest assured that it's only temporary - and that the motive is to provide even better service in the years to come.

Plans orders should still be sent to our Wolsey House address where they will be speedily collated and dispatched to the Department's new abode.

Jet Record!

Hot news for all Speed enthusiasts is that Ray Cox has



Rob Millinship is known not only for his R/C expertise but for his nifty paintwork. This ability also extends to full-size craft - his aptly-registered yellow Pitts G-FLIK carried off the Air Squadron Trophy for best homebuilt at the Cranfield PFA Rally.

managed to net a new British and Commonwealth jet speed record with a magnificent 159.67mph. This epic effort, since ratified by the SMAE, took place at the Three Sisters speed meet during the weekend of 28/29th June, and was ample reward for much painstaking work and a good deal of practice. Ray's All-Star Jet group consisted of Ray himself at the handle, Johnny Hall (to whom much thanks for phoning

in this news) on sparks, Ron King on air control (i.e. the pump) and John Gibbs, who was in charge of model release. The model was a Ray Cox/Mike Hoyt design, and full blast came from a sidewinder-mounted Dynajet. We bet they heard that one miles away! Hopefully we can persuade Ray to give us an account of his activities; look for more news - plus picture - next month!

What's on...

14th September
"TOWNER TROPHY" R/C Thermal Soaring, Golden Cross, East Sussex. Details S.A.E. to N. Couling, 7 The Green Walk, Willingdon, Eastbourne, East Sussex.

14th September
C/L AEROBATICS, OPEN AND NOVICE
Includes the Doug Blake Trophy. Venue: Slip End, Luton. Contact: Glen Alison. Tel: 0923 772875.

14th September
ASP FOUR STROKE FLY-IN
Venue: Old Warden Airfield, Biggleswade, Beds. Contact: 0442 41221.

14th September
SMAE NORTHERN GALA
Venue: Drifford (NB venue change from Lindholme) for F/F events C/L events at RAF Dishforth. Contact: R. Hoff. Tel: 0742 683649.

14th September
ST ALBANS MAC VINTAGE FLY-FOR-FUN DAY
R/C or small free-flight. Venue: new club site at Bulls Mill on the A602 out of Hertford, 10am-6pm. Contact: Steve Payne. Tel: St Albans 34267.

21st September
WHARFEDALE 1000 CLASS B T/R
Venue: RAF Dishforth. Contact: Jeff Smith. Tel. 0532 663432.

21st September
SMAE "SOUTHERN GALA" (SMAE Members only) at RAF Odiham, Hants. F/F, R/C Scale, Vintage F/F, Helicopter and R/C aerobatic. Details S.A.E. to N. Couling, 7 The Green Walk, Willingdon, Eastbourne, East Sussex.

21 September
SHEFFIELD JUNIOR 60 AND FLYING FIFTEEN COMP
Flying Fifteen to SAM 35 rules. Any radio and engine may be used in Junior 60 comp. Venue: One mile from entrance to Rother Valley Country Park on A618. 10am start. SAM or SMAE insurance required. Contact: Dave Hanson. Tel: 0742 740316.

21st September
SMAE SOUTHERN AREA GALA
Venue: RAF Odiham, Near Basingstoke, Hants. Events: Open R/G/P, 1/2A Power, HLG, A1 Glider, Cd'H, R/C Scale, R/C Aerobatic, R/C Helicopter. All the above pre-entry. Also Vintage F/F (pre-51 Wake and combined Lightweight Rubber) which is field entry only. Entry to the field and all model flying is restricted to SMAE members only. Carry your SMAE card! Full details from Norman Couling, 7 The Green Walk, Willingdon, Eastbourne, East Sussex BN22 0RB.

21st September
THREE KINGS SCALE DAY
C/L scale and Profile. Silencers essential. Venue: Old Croydon Aerodrome. Contact: Derek Bird. Tel: 01 874 6394.

28th September
SOUTH MIDLANDS AREA BARCS LEAGUE
Comp: R/C Thermal Soaring. Venue: RAF Weston-on-the-Green. Contact: J.H. Shaw, 'Alvers', Witney Road, Freeland, Oxon OX7 2HQ. Tel: 0993 881350. SMAE members only. Pre-entry £2.00 plus s.a.e. plus frequency details.

28th September
1986 LYMPNE TRIALS
Scale Rubber and CO₂ models of Lympne Trials craft as described in *Aeroplane Monthly*. Miami rules plus precision. Venue: Watford Leisure Centre. 10am start. Contact: Butch Hadland. Tel: Windsor 855359 (W), 0628 72402(H). Event sponsored by SAMS.

28th September
ST ALBANS MAC ELECTRIC FLIGHT FLY-IN
Venue: new club site at Bulls Mill on the A602 out of Hertford. Contact: Albert Botterill. Tel: St Albans 59789.

5th October
S.E. AREA SMAE "LONG MAN" SLOPE SOARING. Details s.a.e. to A. Lawson-Wood, 4 Cumberland Walk, Tunbridge Wells, Kent.

5th October
EASTBOURNE CLUB VINTAGE DAY (R/C only). Golden Cross, East Sussex. Details from S. Coombe, 7 Petworth Place, Hampden Park, Eastbourne, East Sussex.

5th October
SOUTH BIRMINGHAM VINTAGE C/L RALLY
General flying for all SAM 35 and SMAE members. Fun comps to SAM 35 rules. Presented by South Birmingham MFC, SAM 35 and University of Birmingham Model Engineering Society. Venue: Rubery Hill Hospital, near Birmingham. Contact: Peter Martin. Tel: 021 444 7964.

5th October
EASTBOURNE MFC VINTAGE R/C FLY-IN
Venue: Deanland Airfield, Ripe Lane, Golden Cross, East Sussex. Odd 35 mHz or 27 mHz. No F/F. Contact: D. Marchant, 19 Gloucester Close, Willingdon, Eastbourne, Sussex.

12th October
SMAE MIDLAND AREA FLY FOR FUN RALLY
Venue: RAF Barkston Heath. Fly-for-fun R/C, F/F, C/L. Low-key comps for R/C Thermal, F/F, A1 glider, Cd'H, SOP and Vintage. Come along and fly your club comp! It all begins at 10am. Contact: Brian Perks. Tel: 0858 63829.

19th October
PETERBOROUGH MFC
Class: Diesel A' Combat. Venue: The Embankment, Peterborough. Contact: Mick Taylor. Tel: 0733 204484.

19th October
FAI RALLY
Venue: Drifford for F/F, RAF Dishforth for C/L. Contact: D. Davitt. Tel: 0532 675433.

19th October
SOUTH MIDLAND AREA VINTAGE RALLY
Venue: RAF Henlow, Beds. Event: Fly for fun vintage R/C, control line and free flight. Trophies will be awarded during the day; entry on the field. Start 10.00am. SMAE members only. Contact: Ron Truelove. Tel: 08697 687.

16th November
SOUTH BIRMINGHAM MFC, SAM 35 AND MECA 9TH VINTAGE MODEL AIRCRAFT SWOPMEET
Venue: St. Brigid's R.C. School, Franley Beaches Road, Northfield, Birmingham. 12.00 start. Contact: Peter Martin. Tel: 021 444 7964.

18th November
FALCONS GALA
Venue: Drifford. Contact: R. Peers. Tel: 0270 60893.

1st-8th January 1986
1986 MODEL ENGINEER EXHIBITION
Venue: Wembley Conference Centre. It's not too soon to start thinking about entering a model for one of the competition classes at the M.E. Exhibition. Let's see plenty of flying model aircraft - scale and non-scale - to augment all the other representatives of the modellers' craft. Watch for announcements in *Aeromodeller*...

Doug McHard looks back at an old favourite...

A Love Affair with

FIRST MET ARIEL in the hands of its designer - Tim Hervey - at Eaton Bray in 1946. I was seventeen years old, and working at the Bray for D.A. Russell's Dagra model company prior to joining the RAF. Tim Hervey was Aerodrome Manager, an Australian and an erstwhile M.C. and bar Squadron Leader who had served in the Royal Flying Corps.

Ariel was one of his pre-war designs that embodied the very essence of the then very fashionable semi-scale sportster. Its black fuselage and bright red Jap tissue covered flying surfaces outlined thinly in black were exactly right for the model. Its graceful elegance as it silently flew in big slow circles on a calm evening made everyone who saw it want to build a replica. The model was in many ways a reflection of its designer's own personality for he was a gentle, thoughtful man, more often than not to be seen with a stubby pipe in his mouth, and always with an encouraging word for the newcomer to the hobby.

A couple of years after my Ariel encounter I found myself in Singapore with 28 squadron. In the meantime - in September 1948 in fact - *Aeromodeller* had published plans of the model. The Rupert Moore cover painting of this issue captured the spirit of Ariel to perfection and, of course, I lost no time in building one. Singapore has spectacular sunsets; the incredibly bright oranges, yellows and reds all blending behind scattered puffs and streaks of cloud and throwing their razor sharp shadows upwards into the darkening blue sky overhead. Against this windless backcloth, my 'Far East Ariel' gave hours of gentle pleasure, its black and red decoration

seeming very much at home in the tropical surroundings; it was, after all, nearer to its Australian origins than at Eaton Bray.

Imagine my delight when after nearly forty years, I learned that Tim Hervey still lived in his cottage near the old Eaton Bray Sportsdrome; a nonagenarian now, but still hale and hearty. So it was that I was inspired to build another Ariel, just for old times' sake.

You, too?

For those now itching to cut balsa, I must point out one or two pitfalls which in the light of experience with the design are worth bearing in mind if a long life Ariel is the aim.

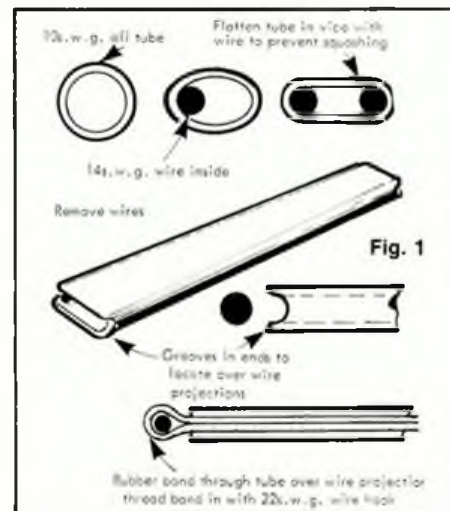
Flight wise, Ariel is not quite as forgiving as its docile appearance might suggest. Its major point of sensitivity is its wing section. The construction is based on the LE and TE flat on the board, with the mainspar on top of fairly deep, widely spaced ribs. Despite the use of riblets, this results in a very sharp leading edge and in effect, an almost triangular section over much of its area.

Anyone who knows anything about airflow will immediately appreciate the potential hazard - a fairly vicious stall. It is vital to prevent the wing from operating at high angles of attack and the CG must never be allowed to creep rearwards!

On my first Ariel, I capped the ribs and covered the upper surface back to the mainspar with 1/32in. sheet. This undoubtedly improves the mainspar's strength and efficiency, at the same time taming the behaviour of the section, but, of course, it does detract from authenticity and is not an essential modification, providing you are prepared to trim and fly with care.

Ariel has a big 11 1/4 in. propeller and a long deep nose, a combination which results in the specified rear side area being only marginally adequate. A definite lack of directional stability is evident if the model's trim is upset or that critical stall is approached, and a very marked improvement in temperament results if the fin and rudder are increased in area by about 1/4 in. all round. Flight consistency is also improved if the hinged rudder is cemented rigid or built as a single unit with the fin.

Upon studying the plan, one is immediately struck by the amount of 'celluloid tubing' of various gauges, specified by the designer. This useful material, once common, is now unobtainable and in





Ariel

similar; at any rate use one which allows a little adjustment before the glue goes off! PVA or balsa cement will distort paper or card covering as it dries and will thus ruin the appearance.

The accurate positioning of the wing attachment wires is most important. Reinforce the wing wire holes in the fuselage sides with 1mm ply doublers, well glued in place and drilled for the wire with the two sides held flat together before assembling the fuselage.

Balance the model on the wing main-spar. The CG must not fall behind this point. I hollowed out the back of the noseblock to take some plasticene when a balsa prop was used; this became unnecessary when a hardwood one was later substituted.

No side or downthrust was needed on my original models, the only models I have ever built of which this can be said!

Power used in my current Ariel is 12 strands of 1/4in. rubber, 24in. long, and pre-tensioned. Build up turns very gradually as

you trim the model, and correct any stalling tendency at once, before proceeding to greater power. Be sure the prop freewheel is operating properly with no binding at all. Stiffness here will surely produce a spectacular spiral dive!

What's in a name?

I hope that none of the foregoing remarks will be taken as anything other than constructive comment. Ariel will reward the careful builder with much pleasure; and please Mr Editor may we have our name back? In the Plans Service X-list you will not find Ariel - but it is there as plan RS 301, masquerading under a most inappropriate and unimaginative name, Swift, for reasons explained in Ron Moulton's Adverse Yaw column in the March 1986 issue of this magazine...

Heading shot: Doug's latest Ariel evocatively silhouetted against a magnificent sky earlier this summer. Right: The 'Far East Ariel' before covering. Note the recommended - but non-original - sheeled leading edge and capped ribs. Below: Doug's new Ariel is true to plan. Looks smart in red and black. Plan itself is reproduced overleaf. Bottom: Away she goes! Ariel sets off for another delightful sortie.



any case, aluminium tube is much more serviceable and yet adequately light. At points of attachment to balsa, it is sensible to reinforce the joint with a strip of silk or nylon wrapped over and fixed with epoxy or cyano.

I would urge only one fundamental departure from the original basic structure; this concerns the wing struts. As designed, the struts carry tubes across each end which slide over wire projections on wing and fuselage. This prevents the wing from knocking-off in the even of a cartwheel, when damage usually results. My struts are of 10g. aluminium tube, flattened to an oval section through which rubber bands are stretched which are popped over the original wire projection. The struts are prevented from turning by slots in the ends which locate over the wires. (See Fig. 1.)

I often fly 'single-handed' and I must say that I find an aluminium cross tube a better rear rubber anchorage than the specified hook, as it allows a winding jig to be used.

Constructional hints

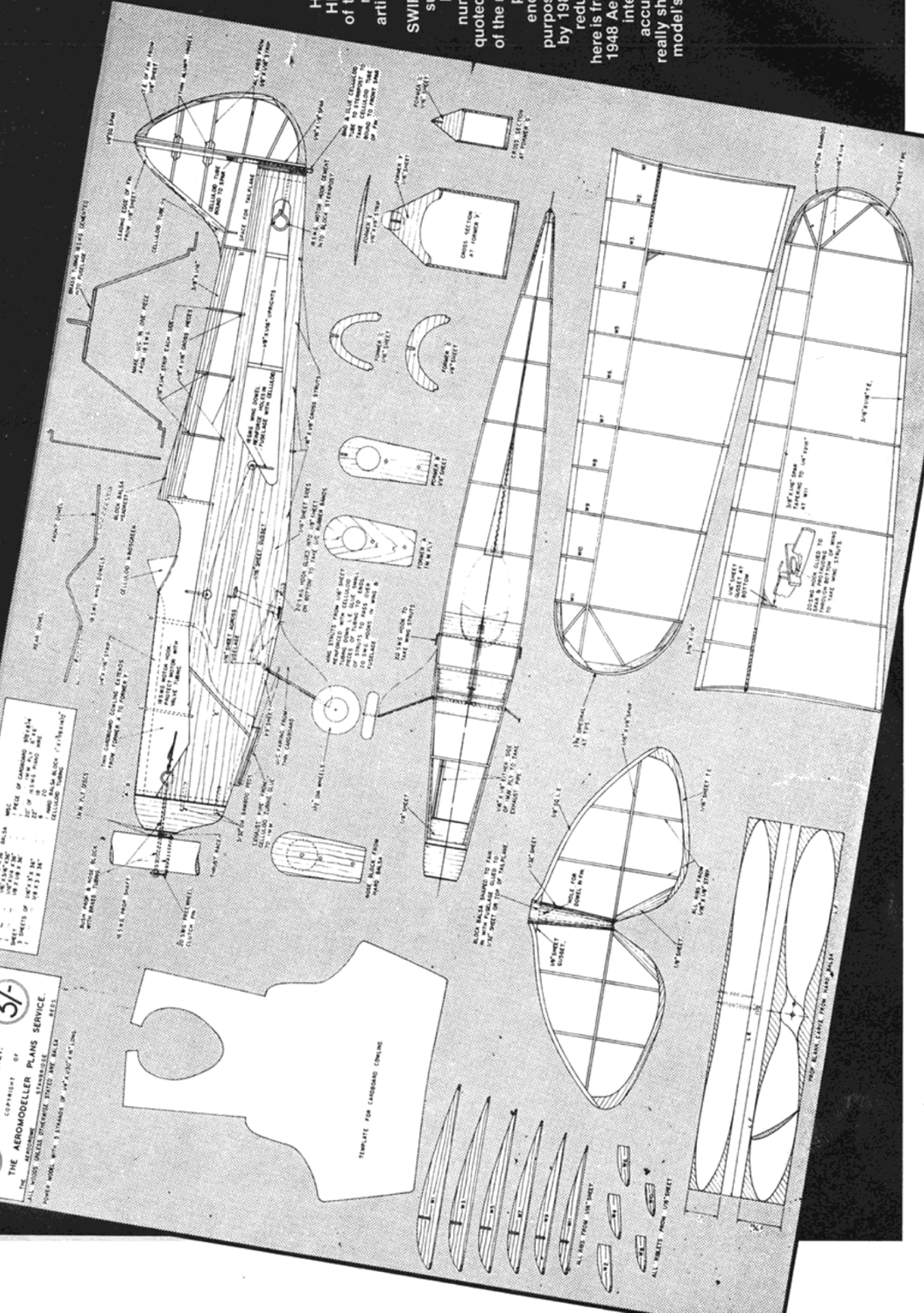
Use rock hard balsa for wing outlines and spars, or increase the sections slightly - particularly the trailing edge. Some 1/4in. uprights are highly recommended behind the 1/16in. sheet fuselage sides, especially where the wing attachments are located. The absence of these leaves the side liable to split in a 'wingtip' landing. This is particularly important if the original rigid strut fixings are retained.

For the nose covering, use a very good quality Bristol board of about 12 microns. Attach the card (pre-bent) to the balsa frame with a contact adhesive such as Thixofix or



... and here's the plan!

Prices have risen a bit since 1948! The full-size plan of this craft will cost today's builder £2.50 plus 55p postage from Aeromodeller Plans Service, Wolsey House, Wolsey Road, Hemel Hempstead, Herts HP2 4SS. Because of the name change mentioned in our article, it will be necessary to ask for SWIFT — and do make sure that whatever happens the plan number, RSS 301, is quoted correctly. Quality print is quite good enough for building purposes, although faint by 1986 standards. The reduced-size drawing here is from the September 1948 Aeromodeller. In the interests of historical accuracy, perhaps we really should revert to the model's original name...




ARIEL
 DESIGNED BY
H. E. HERVEY
 COPYRIGHT © OF
THE AEROMODELLER PLANS SERVICE
 111, CHERRY LANE, STONE, STAFFS, ENGLAND
 ALL RIGHTS RESERVED. QUANTITY DISCOUNTS AVAILABLE.
 PHOTO MODEL WITH 3 STRINGS OF 1/8" x 1/8" x 1/8" LINES

ITEM NO.	DESCRIPTION	QUANTITY	REMARKS
1	1/8" x 1/8" x 1/8" Balsa	100	FOR CONSTRUCTION OF MODEL
2	1/8" x 1/8" x 1/8" Balsa	100	FOR CONSTRUCTION OF MODEL
3	1/8" x 1/8" x 1/8" Balsa	100	FOR CONSTRUCTION OF MODEL
4	1/8" x 1/8" x 1/8" Balsa	100	FOR CONSTRUCTION OF MODEL
5	1/8" x 1/8" x 1/8" Balsa	100	FOR CONSTRUCTION OF MODEL
6	1/8" x 1/8" x 1/8" Balsa	100	FOR CONSTRUCTION OF MODEL
7	1/8" x 1/8" x 1/8" Balsa	100	FOR CONSTRUCTION OF MODEL
8	1/8" x 1/8" x 1/8" Balsa	100	FOR CONSTRUCTION OF MODEL
9	1/8" x 1/8" x 1/8" Balsa	100	FOR CONSTRUCTION OF MODEL
10	1/8" x 1/8" x 1/8" Balsa	100	FOR CONSTRUCTION OF MODEL

An occasional look at books of interest to the aeromodelling and aviation enthusiast



Free-flight Experts' Forum

by various contributors (produced by the SMAE and available from Martin Dilly, 2D Links Road, Wickham, Kent. Price £4.00 inclusive of postage; £5.00 to Europe; £5.50 elsewhere. Cheques payable to 'SMAE F.F. Team Travel Fund'.

A recent and very welcome development at the Model Engineer Exhibition has been the presentation of papers on various aspects of aeromodelling in a series of discussions known as Experts' Forum. These have been well-attended and much enjoyed. If you were unable to attend the 1986 M.E. and wonder what you missed, here's your chance to find out, for the papers have been assembled in this loose-leaf A4 volume for all to enjoy.

Subjects range from the theoretical (for example, Reg Boor's treatise on the possible application of Larrabee minimum induced-loss propellers) to the absolutely practical (John O'Donnell's explanation of Mylar and Melinex covering techniques). Other topics include CO₂ Duration techniques, Ether-less fuels, the use of composite materials, model structures, developments in FIC, and Indoor Duration model design and flight simulation using a home microcomputer. This last paper was particularly interesting to your reviewer; not only because it indicates how modern technology may be used as a tool in model design but also because the results obtained have translated well in practice. Martyn Pressnell's analysis of gliding performance in the critical range of Reynolds' Number - the Benedek 6356b is the chosen aerofoil - points to certain significant conclusions, particularly with regard to invigorators and aspect ratio. But let's not tell you about everything within - get the volume and find out for yourself. Recommended.

50 Years of Aero Modeller

compiled by Vic Smeed (Argus Books, £4.95).

Aeromodeller has just celebrated its 50th Anniversary. What better way to commemorate the occasion than by the publication of this enchanting compendium of delights from over the years.

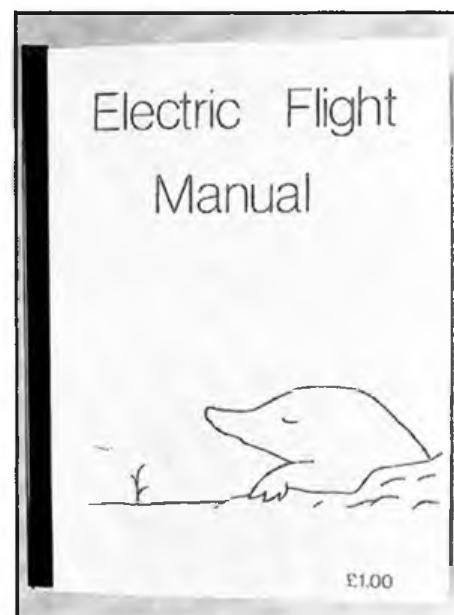
Vic Smeed has been associated with the magazine since the late 1940s - and has been a reader of *Aeromodeller* since the very first issue. His was the enviable task to sift through nearly forty thousand pages of source material in order to separate out the memories presented here in scrapbook form. By any reckoning this is a special publication. Although it makes no claim to be an exhaustive survey, this sequential browse through *Aeromodeller's* past shows powerfully the growth of the hobby as seen from the viewpoint of the everyday enthusiast. There are dozens of sketches, photograph reproductions and plans to enjoy. Some of the latter are actual size, perhaps to enable a fancy to be built; and there is a healthy scattering of advertisements to give period charm, quite apart from an insight into the varying demands asked of the commercial world - and a stark illustration of the changing cost of living...



There should be something to satisfy everyone. Readers who have journeyed with *Aeromodeller* through the years may find their recall sharpened, poignantly, for this distillation is quite potent despite its light presentation; and those searching for information will find much to inspire. Captions provide a linking thread of continuity; this reviewer's only criticism is that the passage of years might have been more clearly defined, though it is accepted

that some of the charm of this montage might then have been lost.

As to the contents, it's probably best left to the individual to discover. Aeromodelling's milestones are well illustrated, and it will be a surprise to many to see just how long ago some of them appeared - motor tubes in 1936, for example, and air-to-ground photography just a year or two later. Mysteries? There are one or two; the Atom Flash petrol engine and Bergum airwheels, for example... This is a deceptive volume; even more filling than the recipe might suggest. Try it - as an ideal present to yourself!



Electric Flight Manual

by Mole Technology (available direct from Mole Technology, 300 Queens Road, Beeston, Nottingham NG9 1JA, price £1.00.)

The World of electric powered flight is a closed book to many aeromodellers who may well be unaware of the advances made in recent years in the world of 1/12 car racing, for example. Now Mole Technology have produced this slim volume which aims to present the facts in a straightforward manner, in which regard it is perfectly successful. However, it must not be forgotten that the Electric Flight Manual is, in part, a catalogue of this company's products and, for example, the statement that one make of cell is superior to others might well be contested by a rival manufacturer...

Nevertheless, such points as methods of charging (including solid advice about what *not* to do), gearboxes, speed controllers and switches, and model types are discussed briefly and clearly. A good introduction and catalogue, even if the content is mostly text. But what more can you expect for just a quid?

BRITISH TEAMS
THIRD IN BOTH
CLASSES!

9th FAI SCALE CHAMPIONS



Heading photo: The Sopwith Tabloid of Kolberg (Norway) flies by. Model placed 27th in R/C; the host team finished ninth overall. Above: Four R/C tri-motors appeared this year. Here's Steve Sauger's (USA) impressive Stinson A-1, the tenth-place craft.

ONCE AGAIN THE HIGH cost of entry and travel to this year's Scale World Championships was a major factor governing the selection of team members to represent the U.K. in Control Line Scale, although the general lack of interest in the class (resulting in an entry of only two for the proposed team trials) also had a bearing on the outcome. In fact the organisers, the Model Section of the Norwegian Aero Club, under the guidance of Narve Jensen, had a very difficult job to attract the minimum of five nations necessary for the event to qualify for World Championships status. Finally, with only four nations entered (UK, USSR, USA and Poland), Norway made a token entry with one model - a profile P51 Mustang stunt model.

In contrast to this, F4C Radio Control Scale attracted a record nineteen countries of which seventeen actually competed; the top three at the U.K. Trials all attended. This had the effect of 'splitting' the judging for the first time. One team of judges looked after 'static C/L' and 'R/C flying', while the other attended to 'radio static' (47 models!) and 'control line flying'.

For the first time Vic Willson had been invited to judge at a World Championships. He joined the second team under the direction of chief judge George Buso (USA), together with Karl Plotsinch (USSR), Radoslav Cizek (Czechoslovakia) and Kaare Sletta (Norway).

T's better to journey... Vic Willson reports

After a tiresome journey to Harwich round the M25 we set sail on the Fred Olsen ferry Bolero. Sailing time to Oslo, via

Hirtshals in Denmark took thirty-six hours. At first the sea was quite calm, but on waking the next morning - Sunday - conditions were definitely rough with a strong wind blowing at almost 90° to our direction of travel. After struggling to the restaurant for breakfast I began to feel very queasy, but after a period in the open air on deck I was much better. However a number of others in our party (seventeen in all) were also 'under the weather' and did not appear until later in the day when the wind and waves had subsided. We docked at Hirtshals after 24 hours at sea and eagerly took the opportunity of a walk on dry land before setting off for Oslo, another day away, or so we thought; but the sea was now quite calm and we docked early next morning with everyone by now looking forward to the coming week's competition. After taking a wrong turning at first we were soon on our way to the Hotel Olavsgaard, near Lilestrom, which not only served as our haven but also as the HQ for the event.

Our convoy of cars arrived after a short journey to find a very attractive and comfortable hotel with mainly English speaking staff. After some sorting out of bookings by the ever hard-working and conscientious UK team manager Doug Sheppard, everyone checked in and unloaded.

Most competitors then made their way out to the airfield (about five kilometres away) where there was a small military establishment with a separate private aviation club at one end of the site, both sharing the single tarmac runway. No permanent buildings were available for our use, but three large tents had been erected. The largest of these had trestle tables for the models, the two

smaller ones being equipped for refreshments and contest control.

My immediate concern was: where were we going to static judge the models?

It transpired that the organisers intended that we should use the control tent, but this proved to be too small and being covered in green plastic, cast a green light on everything, making colour comparisons almost impossible. Fortunately the weather was warm and dry with mainly very light winds - so we judged outside.

Because of the large number of R/C craft to be judged our team started early the next morning (Tuesday) and did not finish until 7.30pm on Wednesday; a marathon of cramming that in my opinion did not do full justice to the entry, but that's another story.

Meanwhile the other judging team, under the experienced orders of Eric Coates, had finished the thirteen C/L entries. The only surprise was perhaps that the Polish Zlin 50 gained second highest score, beating two of the Russian models. Comparing this event's scores with those of 1984 it seems that the judges focussed on some fresh aspects of these (and other) models.

The U.K. entries were led by Mick Reeves whose 16-year-old Zlin 526A was in 5th place. Next, in 6th place, was Ron Truelove's Heinkel He 219. Chris Bradford brought up the rear in 12th place with his Mk3 Dakota. He was perhaps unlucky to follow the Russian entered LI-2, which is a licence (or more probably unlicensed!) copy of the Dakota. This was in every way a World Championship class model and highlighted errors in Chris's model.

After two days of intensive static judging I was looking forward to the control line flying and in fact was privileged to see

WORLD HIIPS

Venue: Kjeller Airfield, Norway
14th-19th July 1986. Report and
photographs by David
Boddington and Vic Willson



some of the finest control line scale flying ever likely to be witnessed. But over to David Boddington for the R/C news...

Radio Control

Given that the site conditions were less than ideal - one runway was of only 100ft width - the Championships for R/C models proceeded without too many hitches and with only one official protest (Bergamaschi forgetting to refit the dummy engines to his Savoia Marchetti S79). The calling of 'tactical attempts' slowed proceedings to the extent that a third round was in doubt at one time, with the attendant risk of mass objections. That this eventually did not arise was thanks to a natural speeding-up of events and a dire warning from the judges of unnecessary calling of attempts.

Building standards were so high in general that one does not envy the judges' task, particularly as there was a record entry of 47 models. Static judging was performed by the Control Line judges in order to include an extra day of flying for the R/C contestants - very necessary with the number involved. Most countries fielded a full three man team but Australia and Canada could only muster two members (costs are prohibitive for many would be contestants) and Austria had the misfortune of losing one model in a car crash on the way to the Championships.

Variety of models was excellent, from pre-war biplanes to a highly impressive ducted fan model F-15. 1984 winner, Dave Masterton, with his D.H. Drover, had obviously influenced the choice of some competitors as this time there were four tri-motor

Top: The R/C Championship model - Markenschlager's Bristol Scout awaits the call to fly. Above: The Brits! Peter McDermott (12th), Chris Foss (4th), Team Manager Doug Sheppard and Brian Taylor (15th) took the British team to third place in R/C Scale. A fine achievement. Right, H. Zeller's impressive De Havilland Comet came 2nd in R/C. Below, detail shots and a general view of Russian Bulatnikov's AIR-1 biplane which came 2nd in Control Line; animated pilot figure waved at the judges(!) and dropped a parachute parcel in flight!





This page and next: control-line pics. Top row, left: Julie Abel's clipped wing Piper J3 Cub. Eyecatching in blue and white. Centre: Third-place LI-2 - the Russian copy of the Dakota - by Pavlenko of that country. Right: Marian Kazirod's red, white and blue Zlin 250 placed fourth. Bottom row, left: The British Team; Ron Truelove, Mick Reeves (here with damaged Zlin!) and Chris Bradford made this event another third overall for GB. Centre: The winner! Fedosov's AN-28, an immaculate (and well-known) model. Right: Here they are again, on the rostrum this time! Extra man, second from left, is Team Manager Doug Sheppard.



replicas. Bonus percentages given to models (for multi-engines, 'tail draggers', biplanes, etc.) were obviously important as they are applied to the flight scores. Indeed, none of the top fifteen places were taken by models with less than 10% bonuses.

Flying standards were equally impressive and the varying wind conditions, if not equally fair to all, did help to show the judges which competitors were in total command of their models. Unfortunately the take-off and landing became a bit of a lottery when the wind was blowing across the narrow strip. Merkenschlager was 'Mr. Consistent' with his flying of the Bristol Scout and Zeller flew the D.H. Comet as if on rails, showing off its beautiful profile to the best advantage. Oetiker made a late run with his top static - pointed Bucker Jungmeister to creep into third place, just ahead of our own Chris Foss who was taking part in his first World Scale Champs. The Brits did not have the best of luck. Peter McDermott suffered an engine failure on one flight and Brian Taylor had two baulky engine runs *plus* an undercarriage leg hang-up. Nevertheless, our team took a creditable third place in the team event, thanks to the perseverance of the team members and manager Doug Sheppard.

Abiding memories? Two really; the F-15 streaking down the runway before pulling up to a near vertical climb (signs of things to come?) and Skip Mast's Hercules performing immaculate manoeuvres at pylon racing speed. Roll on next time!

(Full details of the R/C happenings, including a full set of results, may be found in our companion magazines RCM&E and Radio Modeller).

Control Line Scale Vic Willson again:

An early start (8am) was scheduled for the start of the first round of flying but already rumours had spread that the area of the runway to be used was unsuitable. This was approximately 100ft. wide, and was without intersections; but despite a service road crossing at one end, which effectively increased the maximum circle diameter, there was still a lot to be desired. Overnight some extra tarmac was laid to bridge across four corners, but this was still unsatisfactory for the models on maximum length lines (21.5 metres), so eventually a compromise was agreed with the team managers and the FAI jury; i.e. that only half a lap of taxi would be judged and the model could be repositioned after landing and coming to rest in order that the half lap could be completed over the smoothest part of the flying area.

Round One:

Drawn to fly first was Poland's Lech Podgorski with his Mosquito, leading the way in ideal conditions with only a very light breeze blowing. The flight started well but after several laps one engine went off song and the model landed on one engine. The second one then cut before the taxi could be completed. Subsequently it was discovered that the outboard engine had vibrated loose. Second away was Mick Reeves, whose Zlin was still looking competitive after all these years, but Mick was not really sure how he and the model would perform (the model having not flown since 1974 at Lakehurst; and Mick having not

flown a control line model since 1976!). For this first round flight Mick decided on safe options; throttle, touch and go, flaps and undercarriage. The model flew well at a good slow, steady speed and Mick appeared to have lost none of his old skills, but after the touch and go the engine went sick and Mick had to carefully juggle the throttle to keep it going, thus causing the model to jerk about and losing a few 'realism in flight' points in the process.

After the flight it was discovered that the tubing from the tank clunk weight to the outlet pipe had rotted away due to old age! You can't rely on anything these days... The sole Norwegian entry flew next and this of course was an aerobatic flight (the model having no throttle) so the scores were very low.

After this came the Russian LI-2 flown by Alexander Pavlenko. One of the few new models competing, it scored fourth highest static points, only 140 less than the highest scoring model, Fedosov's Antonov AN-28. It flew as well as it looked and the only real criticism that could be levelled against it was its speed, which was quite high. This obviously being related to wing loading which appeared to be quite high. Options were mechanical, i.e. flaps, undercarriage, parachute drop, multi-engines, throttle control and navigation landing lights switched on and off during the flight for added refinement.

Contrasting with the LI-2 was the Boeing PT17 Stearman of Ron Sears. This model had appeared at Le Bourget for the 1984 Championships and performed in much the same manner during this event. Seemingly underpowered and/or overweight it really



does not fly in the manner of a full-size Stearman. Handicapped by a lack of choice for flight options Ron attempted 3 laps at 45° and a wing over, but neither were successful and resulted in the model gaining the lowest first round flight score. Having split the Russian models with a static score of 3085 Marian Kazirod's Zlin 50 was awaited on the first flight line with particular interest. Once again this was a model that had first appeared in Paris at the previous World Championships and its flight performance, although competent, was nothing exceptional; the loop and wing over were rather poor and the whole flight was performed at high speed.

Next to go, Chris Bradford with the Dakota suffered engine problems (one cutting before take-off) so he called an attempt and went to the end of the flight order. Eventual winner Vladimir Fedosov followed with the second highest scoring flight of the first round, but even so there was room for improvement. For instance, the cargo doors didn't close correctly and the parachute was released while the model was at full speed. Nevertheless, the flaps, undercarriage and engines all operated superbly.

Another contrast came with the next model to fly. This was the Piper J3 'clipped wing' Cub flown by Julie Abel. This was only the second occasion on which a lady entrant had flown in a Scale World Championships (Cathy Burnstine having represented the USA in 1976) and the flight was marred only by the wing over which unfortunately was not within the capabilities of the model. The 45° laps were also a bit shaky. The first option was a banner tow, with documentary evidence that the banner

should be laid out ahead and alongside the aircraft (to avoid the drag of pulling the banner over the ground). Climb out was steep for the same reason.

The visually impressive OV10A Bronco entered by Hebryk Stecyk of Poland had scored unexpectedly low static marks, but promised to be a good flight performer. Regrettably the model suffered various problems. The undercarriage nose wheel doors did not close at all and the main wheel doors flapped about in the slipstream, but the main problem seemed to be excessive wing loading. The subject aircraft has a very small wing area in relation to the size of its fuselage and tail booms, and the model was much too heavy. Additionally it pulled so hard that the pilot was continually in danger of being pulled over. During its second rough flight one engine cut, but the model seemed quite happy on the remaining engine, flying more slowly and pulling less hard, resulting in a much smoother flight pattern.

Ron Truelove should have flown the Heinkel 219 next, but he could not get his electronic control system to function and therefore had to call an attempt. The fault was subsequently discovered to be due to a broken lead-out wire, possibly caused during the pull test - always rather a fraught business with scale models. Vladimir Bulatnikov (described in the programme as 'Occupation: Worker' as opposed to other members of the Russian team who were 'Technicians') flew the AIR 1

biplane next. This most impressive model had scored rather less than expected in the static judging, mainly because of an error in the fuselage width. Although correct to the 3-view drawing, photographs showed that the fuselage of the model was noticeably too wide. Nevertheless, the flight itself was a joy to watch, starting with the model taxiing round to the judges where it stopped; the pilot's head then turned towards us and his arm waved several times before the model took-off. During the flight the pilot raised his arm and dropped a small parcel on a parachute; but the landing was rather heavy and although the flight was the highest scoring of the round there was still a little room for improvement.

The final flight of the first round (apart from second attempts) was that of the B17 Flying Fortress. Once again this was a model last seen at the 1984 Championships although here it seemed to fly more realistically. Despite being comparatively small it flew well; the undercarriage performed without problems, and the model sounded particularly good, all four engines starting and running faultlessly.

Chris Bradford put in a good flight (which he was unable to better during the later rounds) at a good scale speed and using his options of flaps, throttle, multi-engines and navigation and landing lights. However, the lack of a retractable undercarriage inevitably reduced the potential flight score.

Finally, Ron Truelove took his second attempt but was unfortunately unable to start both engines, eventually running out of time.

At the end of the first round the three Russian entries were way ahead of the field,

but Mick Reeves was the highest place UK team member in 4th place overall, despite his old model and lack of flying practice. After lunch it was decided to take advantage of the superb weather conditions and fly the second round in the same order as the first round.

Round Two

Lech Podgorski should have been first to fly, but as he was unable to tune both engines together an attempt was called. The problem proved to be more difficult to solve than at first thought and in the end Lech (or Mr. Mosquito as he became known) had to call a second attempt.

Mick Reeves, having scored well on his first flight using mechanical options, now decided to substitute a loop and inverted flight for two of his five options. The flight started well and the loop, although not perfect, scored 7s and 8s but as Mick completed his half loop to go inverted the model just sank to the tarmac hitting hard, but fairly flat. Unfortunately the Zlin was extensively damaged and that was the end of Mick's participation (and probably the end of this historic model). After this excitement the remaining flights went very much as during the first round with most people relaxing a little and improving their scores.

Particularly unlucky was Chris Bradford who was caught in a passing rain storm shortly after take-off; despite this he managed a very creditable flight.

Ron Truelove had sorted out his engines (two Irvine 40 RCs) and despite an aileron hinge breaking loose managed a flight, but he lost a lot of marks due to the model 'porpoising' during take-off, touch and go, and landing. This seemed to be caused by a combination of poor tracking and an undamped, sprung noseleg. After the freak storm previously mentioned the weather return to normal - temperatures of 80° and very light winds - and the last two flights were judged. The only noteworthy happening was that the Bronco jettisoned part of its cockpit canopy during flight and therefore forfeited the remainder of its flight score.

At this stage the Russian team had consolidated their 1-2-3 positions and the team placings were: 1st, USSR; followed by USA, Poland, U.K. and Norway.

Third Round:

Friday dawned another fine, calm day and so the final round of flying started



Sole Norwegian entry, a profile stunt P-51 by Petter Harssem, was there just to make up the numbers. A worthy effort - but surely this can't be the future of international C/L Scale? Let's hope for even more effort next time!

promptly with the Mosquito, now fully operational, scoring its highest marks to finish eighth place overall and help the Polish team to a well deserved second place.

The outstanding performance of the whole competition was Bulatnikov's third round flight with the AIR 1. At 3140 pts this was the highest flight score recorded. It was the finest C/L Scale flight I have ever witnessed (or am ever likely to).

The leading models improved on their scores, leaving Fedosov's AN-28 the world champion model once more, with the two other Russian craft close behind. Although at first glance not particularly impressive to look at, is full of innovations, such as the variable pitch propellers which were demonstrated before and after flight. The sight of the exhaust smoke being blown forward as the propellers went into reverse pitch was one of the unforgettable experiences of these championships.

The final scores, produced almost instantly due to an efficient micro computer on site, revealed that the UK team had climbed to 3rd place behind USSR and Poland, vindicating the effort and expense the team members had invested in the trip.

And after...

With the inevitable rumours that this would be the last World Championship for C/L scale, we all said our goodbyes, exchanged names and addresses and after an uncharacteristically subdued banquet, all went our separate ways. My previous experiences of World Championships have been that immediately the competition is over there is a mad scramble to catch the

boat or plane home. This time, because of the unusual ferry sailing schedules we elected to return from Kristiansand on the following Wednesday. Consequently, we spent a very enjoyable time exploring and sightseeing. This included a three-hundred-mile drive through the mountains between Oslo and Kristiansand.

Despite the limitations of the site, the organisers managed a very competent job in a most friendly manner, with none of the unnecessary bureaucracy that has sometimes reared its ugly head at previous events. In particular, thanks must go to Narve Jensen for masterminding the whole operation.

One remaining memory is this: if you think we have a high cost of living in the U.K, try paying £3 for a pint of lager or £1 for a bottle of Coke!

NEXT MONTH: THE BRITISH C/L AND SCALE NATIONALS. ALL THE RESULTS, ALL THE MODELS, ALL THE EXCITEMENT OF THE 1986 NATS. DON'T MISS IT!

9th FAI WORLD SCALE CHAMPIONSHIPS

Radio Control individual results (first six places and GB results: 47 entered)

			Bonus	Static	Round 1	Round 2	Round 3	Total
1	M Merckenschlager	Germany	15	2938.5	3024.5	2720.9	2933.6	5983.0
2	H Zeller	Switzerland	20	2738.0	2331.6	2860.8	2733.6	5598.8
3	K Oetiker	Switzerland	20	3013.7	1410.2	1993.2	2560.8	5574.5
4	C Foss	GB	10	2901.5	2209.9	2334.2	2657.6	5559.1
5	D Masterton	Australia	20	2816.5	2539.2	2709.6	2582.0	5526.1
6	P Avonds	Belgium	19	2865.5	2590.8	2500.8	1236.0	5456.3
12	P McDermott	GB	15	2971.0	2169.7	1606.6	1966.2	5130.7
15	B Taylor	GB	10	2717.0	2070.2	2052.6	2263.8	4980.8

Control Line individual results (13 entered)

			Bonus	Static	Round 1	Round 2	Round 3	Total
1	V Fedosov	USSR	0	3190.8	2588.0	3058.0	3062.0	6252.8
2	V Bulatnikov	USSR	0	3075.0	2866.0	3101.0	3140.0	6215.0
3	A Pavlenko	USSR	0	3050.3	2778.0	2441.0	2892.0	5942.3
4	M Kazirod	Poland	0	3085.1	1906.0	2094.0	1919.0	5179.1
5	M Reeves	GB	0	2497.0	2504.0	1266.0	2476.0	4866.0
6	R Truelove	USA	0	2390.0	0.0	0.0	0.0	5001.0
7	J Perez	USA	0	1952.5	2837.0	0.0	2411.0	4571.0
8	L Podgorski	Poland	0	2160.0	1348.0	1412.0	2005.0	4262.5
9	R Sears	USA	0	2257.5	875.0	0.0	2610.0	4245.0
10	J.M. Abel	USA	0	1635.0	2457.0	1453.0	2355.0	4095.0
11	H Stecyk	Poland	0	1740.0	1440.0	0.0	3624.5	1999.0
12	C.M. Bradford	GB	0	2524.0	2496.0	0.0	0.0	5020.0
13	P Harssem	Norway	0	260.0	1450.0	1720.0	1739.0	3469.0

Radio Control team results

	(first six places: 17 teams entered)	
1	Switzerland	16252.9 points
2	Germany	16224.9 points
3	Great Britain	15670.6 points
4	Italy	15338.7 points
5	USA	15025.8 points
6	Sweden	14220.1 points

Control Line team results

	(five teams entered)	
1	USSR	18410.1 points
2	Poland	13845.1 points
3	Great Britain	13490.5 points
4	USA	13297.0 points
5	Norway	1997.0 points

MIND THE LINES

with
Ron Prentice

ONE OF THE PLEASANT things about sharing this column with Andy Brough is that I can comment on anything I read in 'his' month. For instance, Andy refers to my Bullet speed model for the Mills 1.3. I would dearly love to redraw the plan as he suggests. There is only one problem, however, which is that I cannot remember any details of this model whatever. I have long been under the impression that as one grew older, it was easier to recall things that happened in one's youth. Perhaps for some people this is true, but it does not seem to work with me...

When I first read about my Bullet in Ron Warring's book a few years ago, I was astonished to think that I could have made a model, which must have been really competitive (if the details are correct) but which has been totally erased from my mind. I have very vague memories of carving a hollow log fuselage for a speed model, but that is all. Another instance of this same lack of recall happened a year or two back, when well known F/F modeller and erstwhile columnist Martin Dilly mentioned that he remembered flying against me in a team race back in the early 50s. Until Martin spoke about it, I would have been quite certain that I had never taken part in such an event, which must prove something! Anyway, Andy, when I'm

in my old age and have total recall of these early happenings, you will be the first to have a copy of the plan!

Summer meetings

The trouble with the summer months is that there are so many events that one would like to attend, but bearing in mind the family's wants and the high cost of travel it is sometimes necessary to be very selective. Recently I decided that I would attend the Walsall clubs scale days, which clashed with the Three Kings Sport and Vintage Day at Old Croydon Airport. I had visited the Three Kings Day last year and had thoroughly enjoyed myself, but as I had completed my Bolton & Paul Defiant scale C/L model, I decided to go to Walsall instead this time.

However, as things turned out I should have gone to Croydon. Although a scale C/L comp had been advertised, there wasn't one at Walsall. What I found upsetting (having driven nearly 200 miles) was that although several circles had been mown for R/C take-off areas, nothing had been prepared for control line flyers. I wasn't prepared to risk damaging the model by trying to take off from the un-mown surface. I think that this is one event I will avoid next year.

As for the Three Kings Day, Mike Rolls has sent details and it would seem that they had a great time. They were blessed with the best flying conditions for weeks; Saturday and Monday had gale force winds and heavy rain, but Sunday - although never a

day to get a sun tan - was reasonably mild, overcast (so no trouble with glare and dazzle) and, above all, the wind never rose above 7mph or so. Rain threatened for much of the time but didn't come until they had all packed up at about 6.30pm. This year the events were: Vintage Stunt, Midge Speed, and Concours d'Elegance (a real touch of the 40s). The turnout was good, with over sixty models present, split about 60/40 in favour of vintage, although it must be said that a fair number of the vintage designs didn't take the air.

Stunt was won by Mick Taylor by a single point from John Perry, who had certain victory snatched from his grasp when, on his second flight, the Fox 60 in his Taurus cut prematurely, causing him to lose square loop and pattern points - a minimum of 35 points lost. Such is life! As also seems normal a couple of would-be entrants suffered damage in practice restricting entry to just six. Midge Speed was poorly supported with only three entries, but at least they all made an official flight. Winner was Mick Taylor (again), with a creditable 80.36mph. Concours was open to all models, not just vintage, provided they made a qualifying flight. The judges made their decisions on the Old Warden 'walkabout'

Here's a merry group! Sitting at the table are Eddie Cosh, Henry J Nicholls and Harry Hundleby, judges at a U.S. Air Force comp at Wiesbaden sometime during the 1950s. There's not much sunshine, is there...



system, evolved by Mick Beach and myself for the Fireball Trophy last year. Terry Bradley's Bullet stunter - an own-design craft - was judged the winner. All who placed in the events received commemorative plaques; additionally, the first-place winners received £15 Balsa Cabin vouchers; and John Perry took the club shield as the top Three Kings member in Concours (as well as a kit for second place in stunt).

Amongst the other vintage models there were examples of Skystreak 26, Candy II, Veron Focke Wulf 190, Philibuster, Phantom, Stunt Queen, Meteor, Icarus, Super Duper Zilch, Calamity Jane, Stooplate, Defender, Stung King and Happy Harold which goes to show that people are not getting into a rut yet!

What a pity I missed this super day, I shall certainly attend next year.

Yet another meeting was held on June 29th, this time at the Three Sisters site. It was organised by John Noble of the Three Sisters Club and included Vintage Team Race events for both Class A and Class B designs. John's report appears later.

Judging by the recent Vintage T/R happenings it seems that at last this form of C/I flying is making a comeback. Over the last two-and-a-half years I have tried to stimulate enthusiasm for T/R in my column in *SAM 35 SPEAKS* on a number of occasions but somehow it never quite made it. I have seen the odd team racer, such as Ron Moulton's Battler and Phil Smith's Philibuster designs being flown as sports models at Old Warden. Perhaps if interest in T/R continues to escalate, I can organise races at next year's Vintage Weekend at Old Warden, or perhaps convince the SMAE to run a Vintage T/R event at next year's C/L Nationals... The Skipper Rowe design Red Lightning published as Model of the Month last time is, as Andy said, a really nice looking design and as I have an ex-Fred Deudney ETA.29 sitting in a drawer doing nothing I am very tempted to make one for next season.

And no, I haven't forgotten: at the end of my last column, I promised to write a piece about Harold de Bolt. Unfortunately there is insufficient space this month, but I will include it in the near future. Until then - tight lines...

Three Sisters Gala 27-28/8/86 Report by John Noble

History was made at this year's Gala. First, yours truly, along with several others, got sunburnt instead of frost bitten, and, more importantly, Vintage Team Race finally got off the ground.

First of all, though, Speed Midge was run to the rules to be used at the Nats. No-one used a vintage motor in 'vintage' Midge so no-one claimed the 15% bonus. Nine people flew, Tony Eifflaender winning at 98.90mph, followed by Ken Morrissey at 97.83 (both with PAWs). Malcolm Ross was third with his Frog 150 powered version which clocked 96.77. 'Mighty Midge' produced less entries but Tony again won

Three Kings Sport and Vintage Day: Old Croydon Aerodrome, 1st June

Results

Vintage Stunt

1	Mick Taylor	Peterborough	1950 Reinhardt	602pts.
2	John Perry	Three Kings	Taurus	601
3	Mike Rolls	Three Kings	Magician	490
4	Ken Day	SAM 35	Hot Rock	485
5	Chris Bradford	Mariborough	Small Fry	310
6	Peter Michel	Three Kings	Devil Bat	194

Midge Speed

1	Mick Taylor	Peterborough	80.35mph
2	Derek Bird	Three Kings	85.2
3	Terry Murton	Three Kings	62.5

(All PAW 149 powered)

Concours d'Elegance

1	Terry Bradley	Crawley	Bullet (O/D Stunter)
2	John Perry	Three Kings	Senior Monitor
3	Dave Leddy	Three Kings	Veron Goshawk

from Ken at a resounding 104.21mph. Third was junior member M. Roberts.

Tony also flew in Novice Midge in the Speed Cage, clocking 86.21 to establish the record for the class. After the main event the long standing Jet speed record fell to Ray Cox, who claimed this at 159mph. I hadn't seen a jet go the full distance for a long time (like about thirty-five years!).

Vintage T/R proved a great success. Ten turned up for Class A, eight flying in the event. Models seen were: Time Traveller (the most popular), Ranger, Texan, Mac, Footprint, Gengangaren, original Voodoo and Half Pint. Most motors were Oliver's, but I also saw examples of Taifun, MVVS, AM and ED. Pilots were initially a bit wary of 'three up', so the first round was flown as 'two up'. (The first race I ever flew in, at

school in 1949, produced such mutual mistrust between pilots that we finished up by flying one at a time, as a Time Trial!)

Heat one ended in chaos. Come the first 'catch' of the new era and the pit-man, who shall remain nameless, but is a splendid 'Fellow', missed completely and then forgot that the normal way of holding a two-wheeler leaves the lines clear of the ground. John Schofield's landing would have scored maximum points in any Carrier event. After that, apart from a few alarms, the event passed off very smoothly. Eventual winners were Schofield and Millar in 8:23.1, with Bower and Bower second and the Heatons, father and son, in third place. First and third models were Oliver powered Time Travellers; second was an MVVS Mac, which flies just like my own; port wing low



Just like that! Jim Woodside about to put the 'fluence on Dave Campbell's Texan team racer. Model is powered by a clack-valve E.D. Racer.

with a touch of instability.

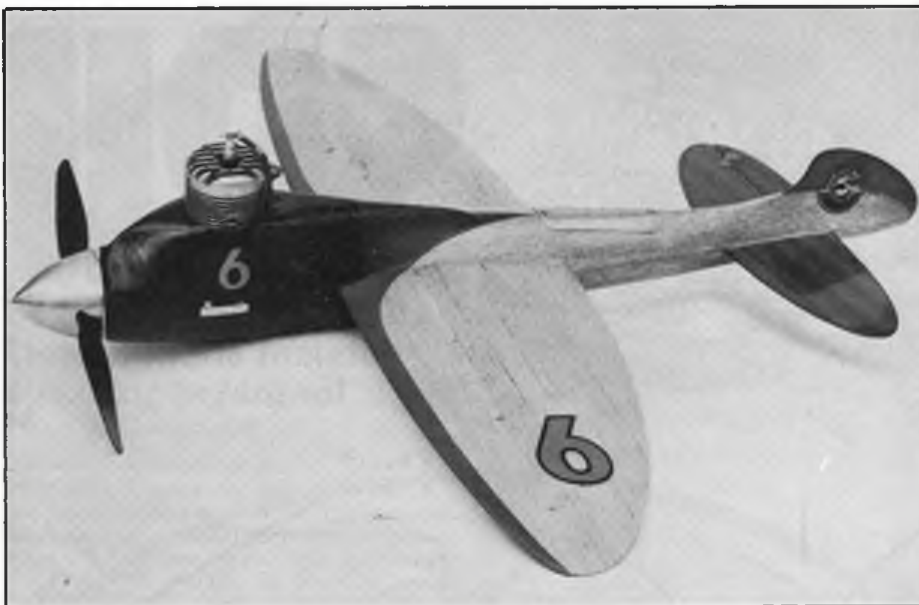
Class B produced only three entries, and, initially, a bit of a problem. Details of this are not for publication, but may be obtained from me on receipt of a request written on the back of a ten pound note. I think my abiding memory of the weekend will be the sound of three ETA 29s on full song simultaneously. The impression of sheer power is somehow much greater than that given by more modern motors with their much higher revs. Fitzgerald and Pickles of Wharfedale came in first; Clarkson and Needham, aided and abetted by Bernie Langworth were second and Schofield and Innes of Whitefield were third. The winners used a Super Saint.

Apart from the racing, Tom Millar had donated a trophy for Vintage T/R Concours. I managed to judge this during the day without having to line up the models, and a most difficult task it was too. In the end I settled for Dave Campbell's Texan, which was finished in authentic vintage Keilkraft colour dopes. I think that the spirit in which the event was flown is perhaps best demonstrated by the sole comment heard from the jury all day, in the 'A' final:

'I think it might be a little better gentlemen, if you were to fly just a little bit lower'.

The future for Vintage T/R seems quite bright. There should be some evening events at the Nats; Dave Campbell is planning one at Barkston on October 12th, and we are rounding the season off at Three Sisters on Sunday October 26th with a Vintage Day consisting of Midge Speed (as ever), Vintage T/R (Classes A and B) and also Vintage Stunt. (For details, ring John Noble on 061 790 4056).

Just one thing, please treat Vintage C/L as *fun*. There are enough events in other classes for the devoted competition winner. Let's not make it that you feel that you have to turn up with the very best. I am going to fly in Class B with an ED 3.46 powered Lil'



Another Henry J. photo from the archives. This superb de Bolt Speedwagon is Hornet .60 powered - sparks and all. Imagine that sound... Vintage speed - at least at Midge level - has really got under way now, and it could be said to have injected extra life into the Handicap scene too. What a pity that the noise-sensitive 1980s makes it difficult for rorty beasts like this to make a re-appearance; but mind you, they are most certainly not for the faint-hearted, and safety standards must be rigorously maintained. Definitely not Sunday afternoon recreation-ground machinery!

Lulu and you can't get more non-competitive than that in these days when mechanics can actually restart hot Eta 29s in less than five minutes...

Andy Brough interrupts...

We've been flying!

Some reasonable weather of late has persuaded me to go circulating instead of playing with model railways in the air or tree climbing (R/C and F/F!). It was also a

chance to give some airtime to the Small Fry and Marlin.

First, let's take the Small Fry (see January '86 *Aeromodeller*). The best prop I've found to date for its Mills 1.3 is an 8x6 which will pull the model through the 'Old Tyme' schedule, but line tension is rather marginal in anything but calm conditions. I think perhaps 35ft. lines are required for a Mills powered version but with a modern 1.5 lines of 40ft. should present no problems. All round, the model is a grand flyer.

Now for the Marlin (September '86). With the Elfin now nearly run in I'd run out of excuses so with 50ft. lines and a 10x4 prop (still thinking of the engine) away we went. The first flight was fairly slow with only just enough line tension so no manoeuvres were attempted. The most suitable prop appeared to be a 9x6 so this was duly fitted. The next few minutes were the most exciting of my life; fast... very; loops about 3ft. radius; level flight... no! I should perhaps mention at this point that the CG was $\frac{1}{8}$ in. behind the front line. So it was with much relief that I put an undamaged Marlin back in the car boot. I would guess that the CG should be no further back than the front line. You have been warned! Adding extra weight to the nose is very simply done by making a plate of solid steel or brass and sandwiching this between the motor (or motor mount) and bulkhead. I used $\frac{1}{8}$ in. mild steel but still had to add more weight by filling the deeply recessed backplate of the Elfin 2.49 with lead. Moving the CG further forward will also improve the line tension. At least I should be in control of the next flight!

Is this a vintage C/L columnist speaking? Love the confidence! GC)

John Innes of the Whitefield Club looks quizzical at the prospect of readying his Kestrel, one of three ETA 29 powered team racers at the Three Sisters meeting.



SPINNER

Weary of Wakefields? Tired of Team Race? Petulant about Power? Build Ray Millard's saucer for that spare 0.8cc glow and enjoy some fun!



TO BUILD THE Spinneroo eight disc sectors are needed, cut from stiff, fluted card about 1/16in thick. Four sectors placed end to end make a circle (of sorts!) so staple and cyano two sets... Next you need a similar piece of card, 25 inches long and 2 3/4 inches wide. Score it vertically every three inches and bend it into an octagon. There will be a 'spare' inch; this is the overlap. Slits are cut as shown, alternately top and bottom.

The 'horns' of the top circle (that's the one with the arrows going clockwise) are glued into the top slits, and as you might expect, those of the bottom circle are fixed into the lower ones. The two circles are then brought together and stapled round the edges.

The engine mounting is from two 1 1/2 in. diameter discs of one-eighth ply, both of which are pre-grooved on one side across the diameter. The engine bearer is a 14swg wire

cross, about an inch all round bigger than the card octagon. The two ply discs sandwich the cross and the wire is mounted in the octagon about 3/8in. from the bottom. Bend over the ends of the wire where they pierce the card and epoxy a small card reinforcement in place.

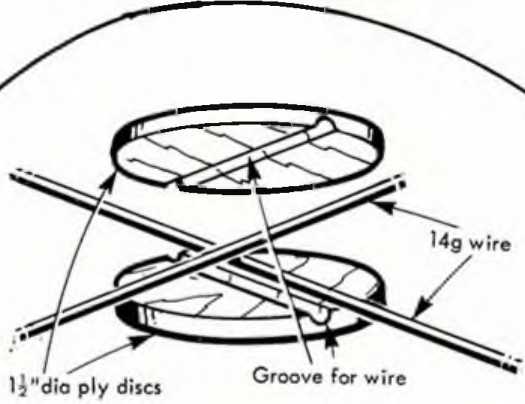
A 3/16in. hole is drilled through the engine plate and a dowel is epoxied in place. An eye-dropper tank may then be rubber banded to the dowel.

Finish and fuelproof to taste.

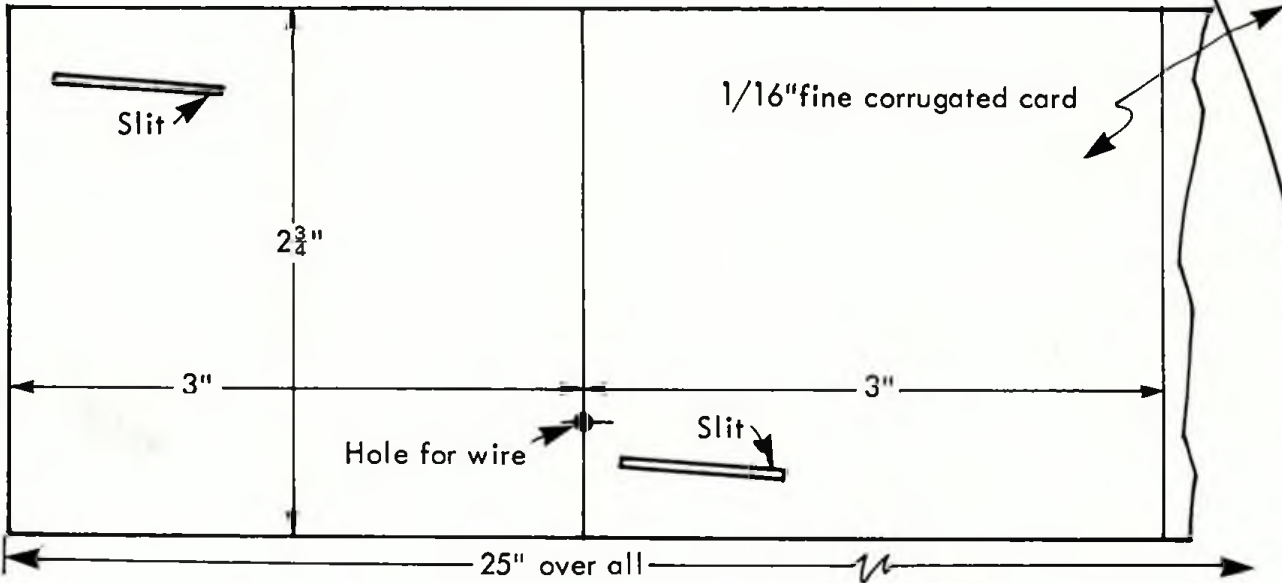
To launch your saucer, hold it from underneath by the engine plate. Walk - or run - downwind to match the airspeed, spin the saucer with the torque and release... Note: 'discus' or 'flick' launches will not work.

Now indulge in some saucery and terrify the earthlings!

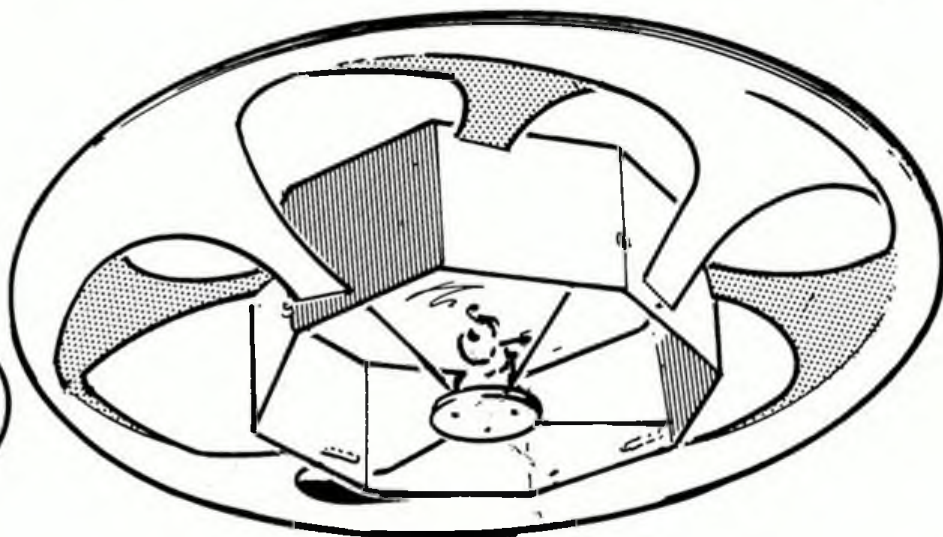
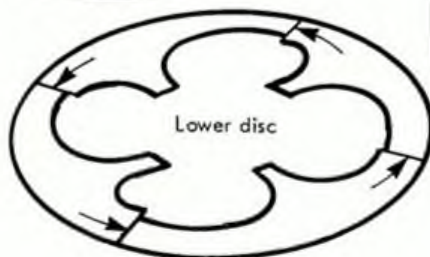
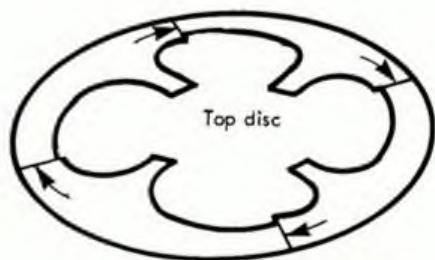
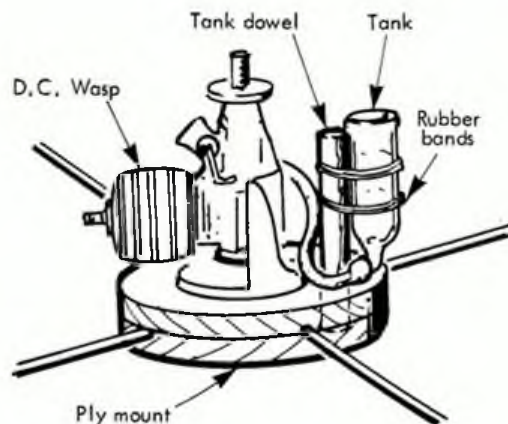
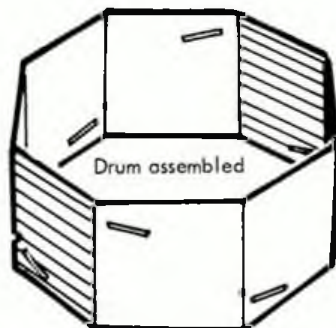
Editor's note: Selection of a name for this creation proved something of a problem for us at Aeromodeller. Our Group Editor's choice was judged marginally the best. Other suggestions were: Nostromo, S.S. Kellogg's, Cardox and Interplanetary Stellar Astro cruiser. Can you do better? A small prize will be offered for the most appropriate name submitted by the date of the last quarter of the moon in October (the 25th).



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SCALE MATTERS

Bill Dennis enjoys a day out at Oxford

IT IS VERY PLEASANT to be able to report on a new meeting. The Oxford MFC, and Charlie Newman in particular, organised the Dreaming Spires Gala at Port Meadow, with an interesting mix of scale and vintage events which created a splendid atmosphere. The weather forecast had been grim, promising high winds and general misery, but as things turned out it was not too bad at all. I had expected to see a few more people, but no doubt some were put off by the weather outlook. It was their loss.

I hadn't been to Port Meadow before. This is a very attractive site for models of limited performance, being bordered on one side (upwind) by the Thames and having reasonable length grass to absorb impacts! On the scale side, there were five events: Power, CO₂, rubber, rubber twins and mass launch. The latter two fizzled out through lack of entries.

Due to noise restrictions, power flying was limited to afternoon contest flights only so after lunch the diesel contingent trooped off downwind to make their flights in relative privacy! I was first away with my DH34 which I had hastily glued back together, and which was untrimmed because of the lack of good weather up to the day of contest. My plan was to reduce down elevator progressively, on the theory that a dive is safer than a stall, but this came unstuck, along with the entire nose section on a downwind arrival...

The first successful flight was by Mick Hall's Roland CII, the late version with purple/green camouflage and an enlarged fin and rudder. Power is supplied by a PAW 80 and although I have no experience of

these motors, they appear to be quite powerful for their size and easy to handle. The model flew a very safe right pattern which transformed inexplicably into a tight left spiral glide. It is worth pointing out to any beginners that for safe flight, power models should turn to the left and rubber models to the right. There are always exceptions, but take no notice!

Winner of the power class was Hugh Stevenson with his version of Eric Coates' BE12b, which remains an ideal model for the scale beginner. After a fuel feed problem had been sorted out the BE made a very attractive sortie towards the river before turning downwind.

The CO₂ event was topped by Lindsay Smith's well matured Fairchild Ranger, while Barry Hetherington's Bellanca amused all by jettisoning a float in mid-flight. In rubber, brother Mike produced a vintage scale Leopard Moth (S.R. Crow's pre-war record-holder) which flew for a spectacular two minutes! With a coloured tissue fuselage and a light dusting of silver on the wings and tail this was a real lightweight. Mike and several others at Port Meadow had just returned from the States, having had what sounded like a wonderful time at Taft, meeting all the scale 'names' over there. They had been very impressed by the duration capabilities of the U.S. models - some approaching 7 minutes - although apparently paint is difficult to find over there. Mike told me (tongue in cheek?) that this is the way we should be going in the U.K.; that is, forget about scale appearance, realistic finishes etc. My own view is that if I want a duration contest, I get my Open



Rubber models out. While an element of duration is fine for gala events like this, there is no way it should feature in the SMAE rules as used at the Nationals, other than as a qualifying time of course. Perhaps the most bizarre model at Oxford was Rex Oldridge's Cessna CR-3 racer, which is from a Model Builder plan by Mark Fineman. With its massive fuselage and radial engine it looks a real loser, but on just a few turns it went up like a rocket and floated around on glide for ages.

As I mentioned, the scale mass launch foundered because of lack of entries (risk of damage being named as the cause - this isn't the spirit!) so the champagne prize was



Above: Hugh Stevenson with his BE12b, an Eric Coates design from APS (plan FSP 1183). This PAW 149 equipped model, seen at launch above right, won the power scale event at Port Meadow. Below right: To the winner his spoils. Charlie Newman reads out the honours, as Dennis Stratford, chairman of the Oxford MFC, makes the presentation to Hugh Stevenson. Note the spectators caught in the act of applauding!





Heading: Polikarpov PO-2 by Doug Sheppard climbs away. Top right: Mike Hetherington winds his Leopard Moth; Chris Chapman holds while Richard Falconer looks on. Right: Positively the last appearance of a certain DH 34.

transferred to a vintage mass launch instead, wherein Lindsay Smith's vintage Curtiss floatplane held its own against the Ajaxes and Achilles.

Prizes of wine, with plaques down to third place were well received, and we were glad to hear from Charlie that the event will be repeated next year. Let's hope it becomes a regular feature, with the attendance it deserves.



Below left: Doug Sheppard's PO-2 being refuelled for flight. Below: A rather trendy-looking Rex Oldridge with his red and yellow Cessna CR-3 from Model Builder plans (also seen at Scale Weekend). Love those trousers!



GOLDEN ANN

A.A. (Bert) Judge, winner of the Wakefield Trophy for Great Britain in 1936, looks back to that glorious event. Archive material from Denis Fairlie and Alwyn Greenhalgh.

TO BE ASKED to write about something which took place 50 years ago would normally be quite difficult, if not impossible; but as winning the Wakefield Trophy in 1936 was one of the major events in my life and made such an impression on me, it has remained firmly fixed in my memory.

The journey to America was not without a degree of trauma as, on boarding the train at Waterloo, I suddenly remembered I had left the airscrew of my model on the mantelpiece. Although I had prepared everything in advance I had decided to give the airscrew another coat of Banana Oil the night before leaving, and in the excitement of the morning had forgotten to pack it. Luckily, however, my mother returned home, collected the airscrew, and caught up with the team just before we boarded the S.S. Aquitania.

The five-day trip on the boat was most enjoyable, apart from one day when we ran into rough weather and the ship performed a slow rise and fall at the bow combined with a slow roll from side to side; most of the

party including myself were a light shade of green by the end of that day.

During the crossing some time was spent preparing spare motors and breaking them in so that, as far as possible, nothing was left to chance for the actual contest. The rest of the time was spent inspecting the ship, doing our physical jerks, and enjoying the various facilities and deck games.

First impressions

On our arrival in America we were met by Lt. Alden of the N.A.A. and several leading American modellers. After getting through Customs we were introduced to three young lady members of the English Speaking Union who provided all our transport and acted as our guides for the various functions which had been arranged.

The hospitality extended to us by the Americans was absolutely incredible; if we had been members of an important political party we could not have been treated better. From the moment of landing it was one mad rush from one function to another; first to New York City Hall to be welcomed by the Deputy Mayor of New York, then to the Midstone House Hotel where we had ten minutes for a wash and brush up before being rushed off to a luncheon attended by many leaders in the world of model and full sized aircraft. From there it was to Newark to inspect the Wright Engineering Works, then on to Casey Jones School of Engineering where we were met by Casey Jones himself. Next came a dinner given in

our honour by the Newark Chapter. Finally there was another rush back to New York to Radio City to be taken behind the scenes of a stage show, then to our seats for a premier presentation of a Shirley Temple film.

Our first day in America had lasted from 8am., when we landed, to 12pm. when we eventually arrived back at our hotel completely exhausted.

The next day we were collected by our chauffeurs soon after 8am, taken out to Newark Airport and given a conducted tour of the hangers and control tower, and treated to a flight over New York in a Boeing 247. I still remember feeling slightly apprehensive on looking out of the window and seeing the wing flexing gently up and down. Then it was back to New York for a lunch in a Drug Store, and on to Radio City for a broadcast, each of us being interviewed in turn as to our aspirations and our impressions of America. Next was a visit to the Empire State Building where we had tea on the 102nd Floor, then on to the very top where we could feel the tower swaying gently in the breeze.

Finally, we were taken as guests of Major Reed Chambers to the Huntingdon Yacht Club where we enjoyed swimming from his motor yacht. This was followed by a picnic on the beach, which included barbecued steak and corn on the cob. An unforgettable sight was the hundreds of fireflies twinkling in the bushes as we tucked into our meal. It was after 1am. when we returned to the hotel after another very full and exciting day.

At readiness

We left New York early on the Sunday morning, catching the train to Buffalo on Lake Erie, then on the night steamer which runs the length of the lake, arriving at Detroit at about 9am on Monday; another twenty-four hours of non-stop travelling.

Arriving at the Book-Cadillac Hotel we were immediately besieged by reporters and photographers who insisted on conducting interviews in our bedrooms. After concluding the interviews we attended to the business of registering our entries in the various competitions which we wished to enter. Monday evening was spent wandering around the hotel inspecting our



Aeromodeller

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opponents' models, including some which were still being built for the competitions in the next few days.

On Tuesday we were taken by coach to Wayne County Airport where the contest was to be held, and the day was spent test flying our various models. We also entered the Stout Trophy Contest flying our second-string models. Bob Copland came second and may well have won, had a car been provided for his timekeepers as were the winner's. Bob's model was lost to sight after 20mins. 7secs. whereas, due to the timekeepers following by car, the winning model was kept in sight for thirty-six minutes. My position in the contest was twelfth and Denis Fairlie placed twenty-seventh.

The competition!

Next day was the big day for England; the Wakefield competition itself. Teams had been entered by America, Canada, France, New Zealand and England and it had been the original intention of SMAE officials B. K. Johnson and J. C. Smith to have each pair of official timekeepers (U.S. Army personnel) supervised by a non-competing Englishman to be chosen from B.K. Johnson, J.C. Smith, G.W. Greenhalgh, J. Trevethick and H. York but unfortunately this idea had to be abandoned in view of the various infringements of contest rules observed in the American contest the day before.

B.K. Johnson gathered the ten timekeepers together and gave them very firm instructions as to checking the method of holding and releasing the model; i.e. to make sure that there was no pushing on take off and that the tail skid was on the ground at the moment of release. There was to be no following the model by car.

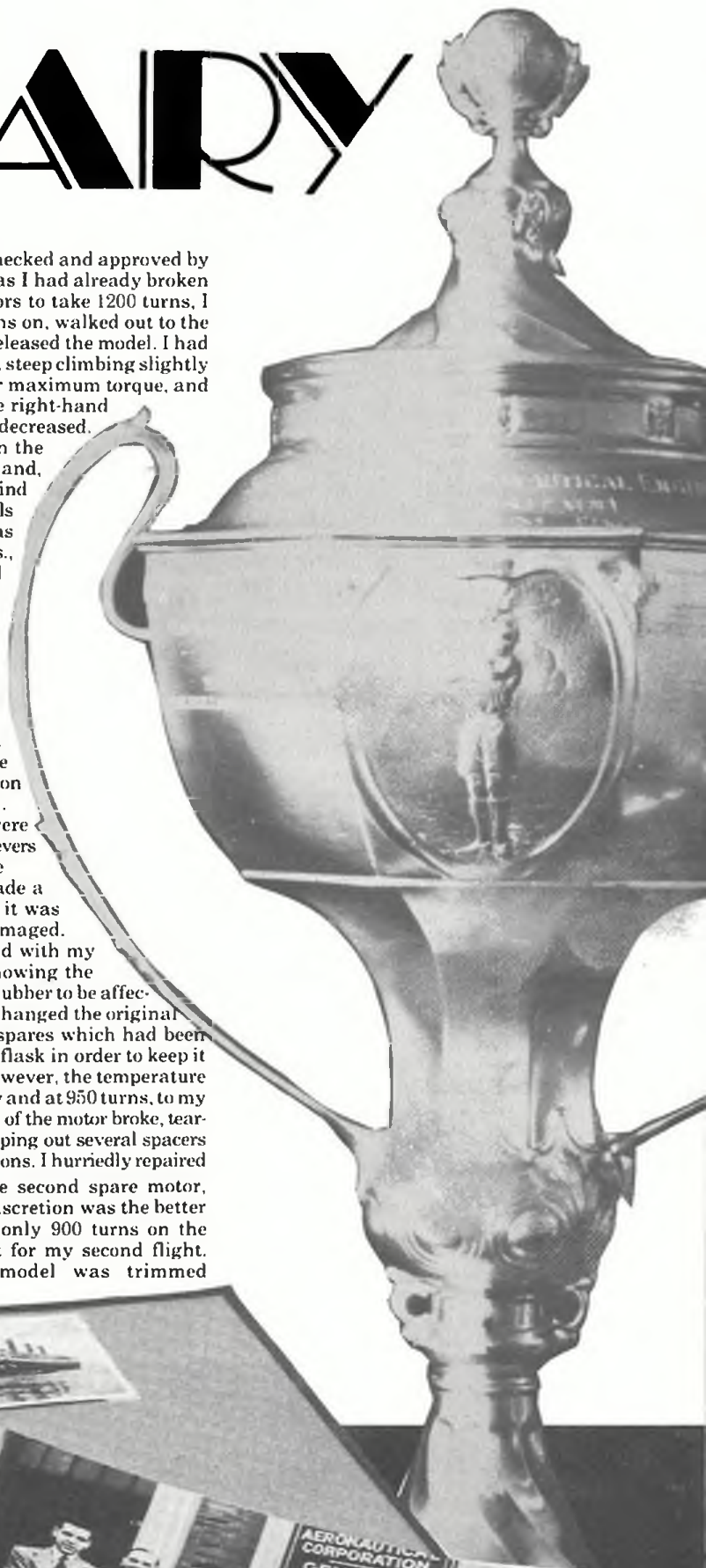
It was also found necessary to check all entries to make sure that they complied with the competition rules, as one model was found to exceed the max. wing area by ten square inches and another was under-weight by just over half an ounce.

I had my model checked and approved by my first flight and, as I had already broken in all my three motors to take 1200 turns, I put the full 1200 turns on, walked out to the take off board and released the model. I had trimmed it to make a steep climbing slightly left hand turn under maximum torque, and then to make a wide right-hand circle as the torque decreased.

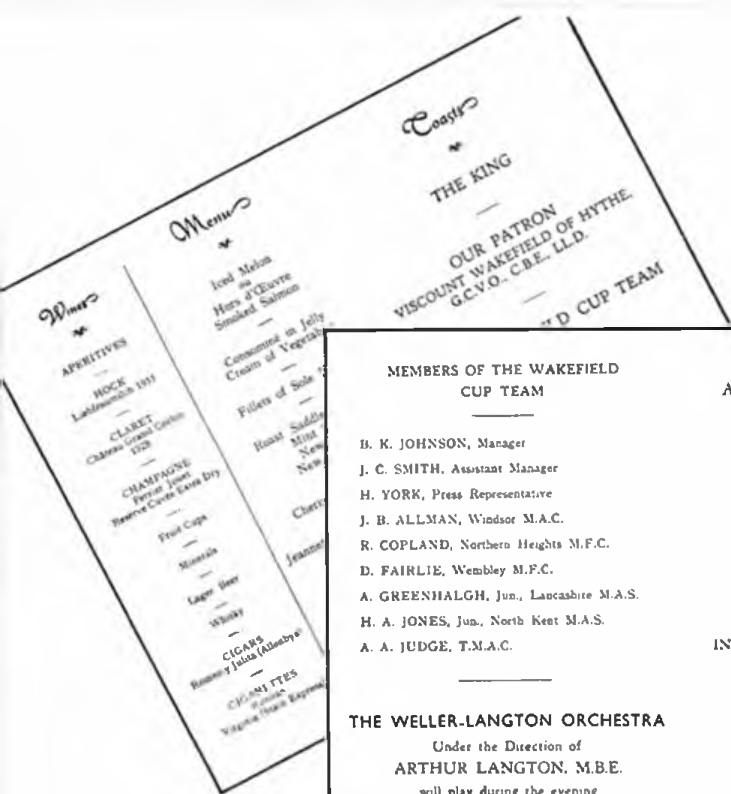
To my satisfaction the model flew perfectly and, luckily, managed to find one of the few thermals about that day. It was timed at 8min. 17secs., although it was still flying when it went out of sight.

The contest organisers had arranged for cars to follow each flight to collect the models, and we were all a bit on edge waiting to see what was the condition of mine on its return. However our fears were groundless as the retrievers had kept up with the model which had made a perfect landing, and it was returned to me undamaged.

I decided to proceed with my second flight and knowing the propensity of Pirelli rubber to be affected by hot sunlight, changed the original motor to one of my spares which had been stored in a Thermos flask in order to keep it cool. By this time, however, the temperature had risen alarmingly and at 950 turns, to my horror, all six strands of the motor broke, tearing the tissue and ripping out several spacers but, luckily, no longerons. I hurriedly repaired the model, fitted the second spare motor, and, deciding that discretion was the better part of valour, put only 900 turns on the motor and went out for my second flight. Once again the model was trimmed



Wakfield Trophy dominates a selection of memorabilia. Photo at left shows the British Team at the Wayne County Airport. Detroit: at back are Bob Copland, Denis Fairlie, Henry Jones and Justin B. Allman; Albert Hays Middleton (with winning model) and Alwyn Greenhalgh are in the foreground. Above and right: More period memories (see also 'War Doors').



Details of the welcoming banquet held on the team's return. Note the Bomb Ad-Astra for dessert! Who remembers the Weller-Laughton Orchestra (or even Charles True)?

Detroit Masonic Temple where 400 competitors had assembled for a banquet and prizegiving. We returned to England on the S.S. Europa to a banquet given by Lord Wakefield at the Monico Restaurant, Piccadilly.

I ought to say that winning the '36 Wakefield changed my whole life, as it enabled me to change my occupation and spend many happy years in the Model Industry; but that's another story...

MEMBERS OF THE WAKEFIELD CUP TEAM

THE SOCIETY OF MODEL AERONAUTICAL ENGINEERS

BANQUET
TO WELCOME THE SUCCESSFUL
BRITISH TEAM

WINNERS OF THE WAKEFIELD
INTERNATIONAL TROPHY, JUNE 1936
FLOWN AT DETROIT, MICH, U.S.A.

THE MONICO.
Piccadilly Circus, W.1

THE WELLER-LANGTON ORCHESTRA
Under the Direction of
ARTHUR LANGTON, M.B.E.
will play during the evening

CHARLES TRUE - Baritone

Monday, 13th July, 1936



correctly but this time it did not get any thermal assistance and so turned in the average flight of which it was capable, namely 2min. 16.5secs. in this case.

For the third flight I decided to use the same motor and again try to put on 900 turns, but on reaching 850 turns the motor broke, fortunately tearing the tissue and with no structural damage. By this time most of the other members of the team, realising that I was in with a chance, had come around to give moral support and encouragement as, once again, it was out with the tissue, brush and dope, and on with the repair.

I fitted my last unused motor and now had to decide how many turns to put on, for although all motors had been kept in the Thermos flask, it was obvious that the outside temperature was materially affecting the rubber; and in view of the fact that the last motor had broken at 850 turns I decided to play safe and put on only eight hundred. This I did, and I can't begin to describe the relief I felt on seeing the model climb away on its normal flight path. I needed 1min. 35sec. to win and I can't adequately put into words my feelings when this figure was exceeded, the model recording a flight time of 1min. 52secs.; and I knew I had won the Wakefield Cup.

The rest of the team had already completed their flights. Their final placings were: Bob Copland, third; Justin Allman, fifth; Denis Fairlie, seventh; Alwyn Greenhalgh, fourteenth and Harry Jones, seventeenth. The two junior members' models were affected by the extreme heat which warped their tailplanes and resulted in two low flights of six and seven seconds.

To sum up, the 1936 Wakefield event was a mixture of good and bad luck. I was very lucky in catching on to one of the few thermals that day, but unlucky inasmuch that the temperature adversely affected my Pirelli motors. I often wonder what the result would have been had I been able to get the full 1200 turns on for the second and third flights.

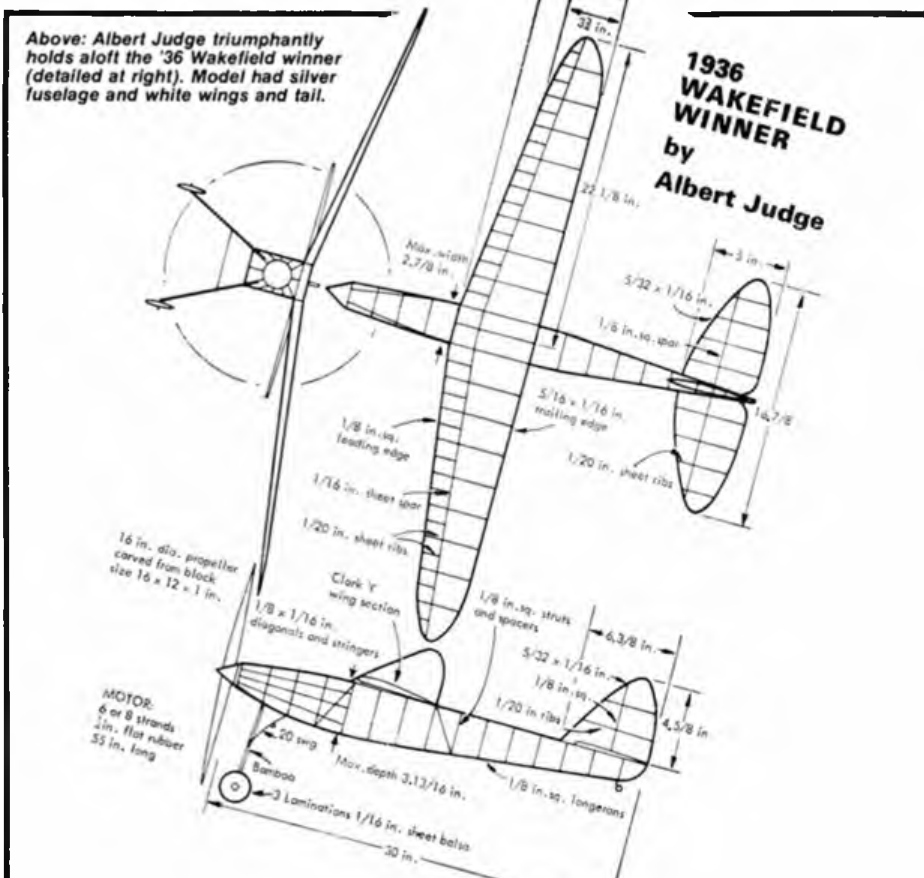
We returned to the hotel, a very tired but happy team despite the tensions of the day,

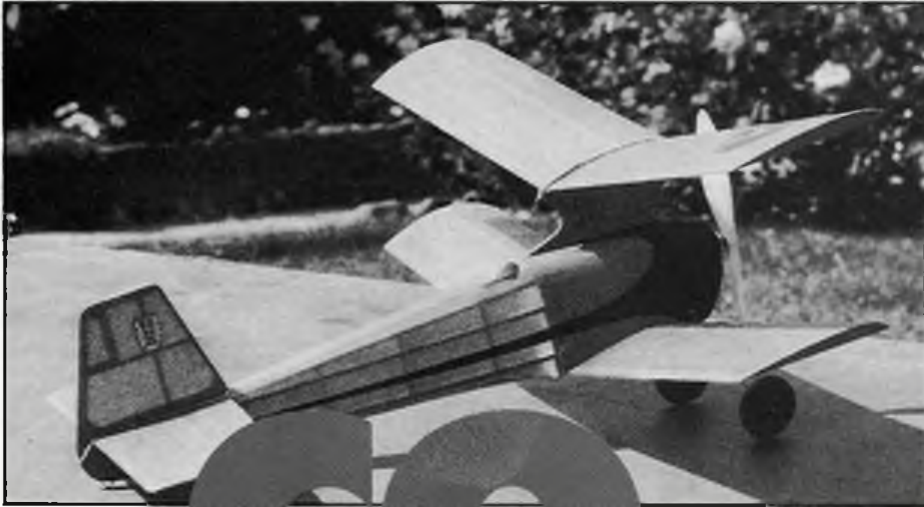
and with me still not quite believing my good luck.

Afterwards...

The next day we were all flying proxy in the Moffett Trophy Contest, and again put up a most creditable performance with A. Worley third, W. Worden fifth, A. Gibson sixth, H. Simmonds ninth and H. Francis eighteenth, the models being flown by Copland, Judge, Jones, Allman and Fairlie respectively. The winner was Vernon Gray of New Zealand with a total time of 44mins. 14secs., the model being lost at the end of the flight.

After the contest we were taken to the Indoor Championships and finally to the





CO₂ Sporty

THE CO₂ SPORTY makes a very attractive 'fun' model. Mine flew very well, both indoors and out, for about two years until it came to grief in the top of the tallest oak tree in West Somerset. This was on one of the few fine days in the early summer of 1985. The week before Christmas, a customer came into my shop bearing a battered fuselage which had been taken out of a hedge by a gamekeeper. The model must have blown out of the tree when the wing bands gave way. Luckily, the Telco motor seems as good as ever in spite of the heavy rain we had last summer.

The pylon on this model may look a little flimsy, being only 3/32 sheet, but it has never given any trouble. The front did split on one occasion when the model hit a wall rather hard, but it was held together by the wing retaining wire, and only required a spot of cyano to effect a permanent repair.

Let's build...the fuselage!

Build two sides over the plan in the usual manner. The front assembly of 1/32in. sheet and 1/4 x 1/16in. diagonals are best put together before being incorporated into the sides proper. The cut-out for the lower wing is most easily done with the aid of a rib template after removal of the sides from the plan.

Make the front former by glueing the 1/16in. sheet F1 pieces to the back of the 1/32in. ply. Join the two sides with this and F3. Make up the pylon, fit between the two formers, then add the F2 pieces and 1/16in. sq. decking supports. Pull the sides in and glue together at rear, then fit top and bottom formers, and 1/16in. sq. stringers on top, bottom, and sides. The forward top decking is then cut to shape and glued on. I find a contact adhesive such as Evo-Stik best for this as no pins are necessary, but you do have to get the sheet in the right place first time! In this case it's easy, as the top of the sheet can be lined up with the pylon, pressed

onto the 1/16in. sq. support, then pressed round the formers.

Add the motor mount, which is a lamination of 1/4in. balsa and 1/32in. ply, to the front of F1, then build the cowl round this using 3/32in. balsa sides and soft 1/2in. top. The undercarriage is then epoxied between the cowl sides.

Finish the fuselage by adding wing platform, dowels, top wing retaining hooks, and tail skid. The wing hooks, being epoxied into the top of the pylon, help stiffen this structure (see introduction!).

Note that the forward wing dowel goes over the copper pipe to the charging nozzle, so it should be fitted after mounting the motor, and must be cut away if the motor is to be removed. The dowel may be left as a push fit through the sides if preferred.

Next - wings, tail and covering

These are perfectly normal, and very little comment is necessary. Build the dihedral into the wings side by side on the same

board, to ensure identical angles, as variation between the top and bottom wings looks very odd, although it would have to be extreme to affect the flying characteristics.

On my model it was necessary to cut a recess in the trailing edge of the lower wing due to some building inaccuracy. This is accounted for, and shown dotted on the plan.

The fin is glued on to the tailplane after covering.

My model was covered with Jap tissue, with coloured tissue trim. The only tricky part is the lower fuselage just aft of the wing where there is a fairly abrupt change of section. Use dampened tissue if necessary.

And now - flying!

Some lead was needed in the cowl to bring CG to the position shown. Originally, wing incidence as on the original *Aeromodeller*

Build John Russell's three-fifths scale miniature of an APS favourite for CO₂ fun-flying.

plan was used, but although the 'full size' Sporty flew well with this set-up, the small version needed reduced incidence as shown on the plan. Once this was established, little further trimming was needed, other than the addition of slight positive incidence on the tailplane. Slight left rudder produced a nice left circle on both climb and glide.

Unfortunately, I didn't keep a record of the weight of my CO₂ Sporty, but as competition performance is not the aim of a plane of this type, I did not make strenuous attempts to keep the weight down, other than to use reasonably light wood throughout. Most of mine came from the leftovers from a German R/C glider kit. However, widespread application of colour dope is best avoided, although the cowling may be so finished if desired.

Have fun with the sporty Sporty - and remember, biplanes are twice the fun!

Can you resist the get-up-and-go charm of this pert biplane? Eagle-eyed readers will have noticed that the standard Telco prop has been substituted by a more efficient alternative.



GLOUCESTERSHIRE GANNET

TROPHY WINNER
AEROPLANE
MONTHLY
1986 INDOOR
SCALE NATIONALS



Build Ray Johnson's Peanut
winner from our full-size plan!

THE FULL-SIZE Gloucestershire Gannet was, by any standards, a delightful, pretty and diminutive craft. Unhappily it was not attended by good fortune.

One of several intriguing craft designed for the 1923 Daily Mail Lympne light aeroplane trials, the little Gannet (the work of H.P. Folland) possessed no airframe faults but was beset by problems from its unusual and untried engine, a 750cc twin two-stroke which had been specially designed for it by John Carden. Admirable in concept the motor may have been, but overheating troubles and difficulties with its oil and petrol systems ruled it out as a reliable proposition. The Gannet itself was a charming machine, particularly attractive, no doubt, in its house colours of ultramarine fuselage and white surfaces. Construction was unremarkable apart from the degree of compactness achieved, which caused much favourable comment when the craft arrived at the Trials. Wingspan was just eighteen feet, and empty weight was 283lbs. In order

The Gannet was tiny! These Lympne photos appeared in the October 18th, 1923 issue of Flight (thanks, Aeroplane Monthly, for permission to reproduce).

to comply with the competition regulations, the Gannet's wings were arranged to fold, pivoting about the rear spars. Pilot access was made easier by virtue of an upwardly-hinging centre-section panel.

Missing from the first day of the competition, the Gannet made only one flight at Lympne, and even this was curtailed by the onset of mist and resultant poor visibility. The engine troubles previously mentioned prevented any further activity at the meeting.

In the following year the Gannet was re-engined with a 650cc Blackburne Tomtit inverted V-twin, which gave improved performance and, presumably, better reliability. Larger wheels were also fitted. Nevertheless, the little craft was seldom flown (and never again at Lympne); and its last public appearance was at the 1929 Olympia show, where it formed part of the Gloster Aircraft Company's office decoration.

Its subsequent fate is unknown - at least to this writer - but the thought occurs: sixty years on, what a marvellous microlight it would make...

And now for the model!

Ray Johnson's Peanut Gloucestershire Gannet, one of our full-size plans this month, was the winner of the Aeroplane Monthly Trophy at the last Indoor Nationals. Construction is quite straightforward, so detailed building instructions are not given; instead, the following observations by Ray himself may be of interest.

I decided to build the Gannet as it has a long nose, which makes it a good choice for a rubber model; it has parallel-chord wings and tail, which makes it easy to build; the fuselage is a simple box with top and bottom fairings, which makes it easy to build, and light; and the cabane and interplane strut arrangement is straightforward.

If the model is built for outdoor flying I would suggest that the basic box should be from 1/6in sq with firmer wood for the wing ribs (and possibly every other rib omitted). Conversely, for indoor use the tail assembly could be from 1/20in balsa. A five-inch Peck plastic prop will be best for outdoor performance, and a shorter motor may be used. It will then be necessary to hand-launch only, or to fit a longer (and non-scale) undercarriage. As designed, average indoor flight time should be in the region of 36 seconds.

Colour finish is a 50/50 mixture of Humbrol enamel and acetate thinners sprayed on. The wing registration letters are cut from black tissue, pre-shrunk with dope on a small frame. Fuselage letters are from white tissue lightly oversprayed, cut out and fixed with diluted white glue.

The Gannet is docile, but it would be interesting to try it with a slightly rearward CG and one degree of tail incidence. This could mean a saving of weight in the nose. Happy ultra-lighting!



Build From Our
Full-Size Plans!

Mini-Wakes are fun! Try G.F. Elsegood's version of this 1942 design and find out for yourself...

GO WITH THE

MINI HIGH 20

THE SEARCH FOR ANOTHER scaled-down Wakefield was inspired by the half-size Zombie plan featured in the February 1984 *Aeromodeller*. A friend and I each built one, and we were delighted by their flying characteristics. Inspired, I wanted another vintage Wake and eventually found the right model in G.W.W. Harris' GH20, which dates from 1942. The construction follows the full size exactly; material sizes have been reduced to the nearest practical sizes available.

Fuselage construction

Build two sides over the plan using hard 1/16sq. for the longerons and softer wood for the uprights. Cut out formers 1 and 4; fit and check for squareness and allow to set. Fit the nose former, glue rear fuselage ends together and then fit in the remaining 1/16sq. cross pieces. If you decide to fit the undercarriage bend it up from 20 swg wire, glue in place and strengthen by wrapping two layers of tissue around it and former 1.

Wings

Use a ply template to cut out the ribs from the softest wood possible. There are plenty of them so the wing will be adequately strong, but it is important to keep the weight down. Make the tips from bamboo; I used strips from an old table mat cut down to about 1/32sq. Make a thick card template of the tip; heat the bamboo near a candle flame, and when it softens wrap it round the template. Repeat the process if necessary until there is no tendency for the bamboo to spring away from the template, otherwise the tip may distort the wing when fitted. Do not add the 1/16 sheet centre rib yet. Prop up the wing tip to give 2in. dihedral under each tip and glue in the dihedral keeper between the 1/16sq. spars. Complete the wing by fitting the 1/16 centre rib, which is in two pieces.

Tailplane and Fin

The tail is identical in construction to the wing, but it has only one 1/16sq. spar. The fin outline is assembled from 1/32in. sheet, and the 1/16sq. spar and 1/32 x 1/8in. ribs are added in straightforward fashion.

Noseblock and prop assembly

Laminate 1/8in. sheet for the nose block, facing the locating plug with the piece of 1/64in. ply cut out of the inside of the nose former. Drill out carefully and fit the 20swg

balance and solder together. Assemble, not forgetting the cup washers/thrust race and the spring; bend the end of the shaft as shown on the plan and cover with thin plastic tubing. Balance the propeller by wrapping a short length of thin resin cored solder round the end of the balance shaft. Arrange for the prop to fold along the top of the fuselage and fit the stop.

Finishing

Lightly sand the airframe and cover with lightweight modelspan or jap tissue. Cover the bottom of the wings first to ensure that the tissue sticks to the undercamber on each rib. I use clear dope as an adhesive. Water spray and give two coats of clear dope thinned 50/50. Check for warps, removing by steaming if necessary.

Flying

Test glide and adjust by first moving the wing back or forward by altering the position of the 1/16in. dia. bamboo wing retainers. The tailplane incidence may also need adjustment. Mine needed 1/32in. packing under the trailing edge. When satisfied with the glide, wind on some turns and adjust for optimum flight pattern by adding side and/or downthrust to the nose block. The little GH20 is the most forgiving rubber model I have ever built; it's very stable and is equally happy turning left or right.

It is a good idea to add your name and address because this miniature Wakefield is quite efficient and will disappear very rapidly if there is even a hint of a thermal around.

Why not make this your introduction to mini Wakefields? Incidentally - and ironically - it is a fact that after ten years of flying thermal soarers, the longest flight I have ever had, with any kind of model, was forty-five minutes achieved last year with a 24 inch version of the 1943 Flight Cup Winner, so the potential is there...



The prop assembly is a simple affair. There's only one blade to carve - what more could you ask!

all tube bearing. Originally I flew the model with a seven-inch plastic propeller, in which form the performance is identical to that of the Zombie. By fitting the folding prop the glide improves dramatically. It is well worth the extra effort involved. Carve the blade from very soft block, and smooth and rub in two coats of balsa cement which should give a very smooth, hard surface for a minimum of effort. Glue the 1/64in. ply faces, drill and bush with 20swg. ali. tube. Bend up the wire for the prop shaft and

BACK WITH A



Can you believe this? The days of burned fingers and scorched balsa are back! Peter Freebrey reviews the Powermax Jet-X

MOST OF US HAD ALMOST given up hope that Jetex would ever re-emerge in the model shops. Every now and again old stock would surface, followed by a stampede to see if there was any wick amongst this new found treasure. Invariably it would have all been purchased by the first modeller on hand anyway!

Only a year or so ago I paid £10 for two new, if slightly rusty 50c outfits. The fuel that came with it was fine but sadly the wick was useless. Perhaps those days are over, for Jetex may have disappeared but Jet-X has been born and is fresh, healthy and fizzing.

Jet-X is the brainchild of Roy Lever of Harden Associates and Powermax fame. He has been trying for some years to re-introduce a workable equivalent to our old and trusted finger-burning friend. It looks as though he has succeeded. Initially the motors will be old stocks of twin spring Jetex 50R and the more common single spring 50c. The latter is now known as the Standard 50, the twin-spring version being termed the HT50.

New motors are in the final stages of development and will probably be of the single spring variety. They are also likely to appear in two forms, capable of accepting either one or two of the new Hi-Thrust pellets. For the moment there are several thousand of the old motors available, so no one is likely to miss out at this stage. The only snag that I can see is the price - over £9.00 for the outfit of engine, fuel and wick.

The main problem to be overcome was, as expected, the manufacture of the ignitor wick. The new wick seems to be very reliable and in fact I have not had a single misfire when using the new fuel and wick as directed.

I have to admit that I was somewhat dubious at the start, as not only are the fuel and wick completely new products, but the old method of trapping the wick under a gauze disc has also been dispensed with. The new system has fuel with a small hole in the centre into which the wick (bent over three times) fits reasonably snugly (fig 1). A shorter length of wick is needed and with no bends, the wick is unlikely to crack and cause a misfire.

The old system with a wire gauze disc served several purposes; not only did it ensure a good contact between the wick and the fuel but amongst other things it held back all that fine black residue left over from the spent fuel.

Without this gauze, would the new set up suffer from a clogged jet? Not a bit of it: the new fuel burns so much more cleanly than the old that there is hardly anything left to clean out after the flight. The only ignition failures I have led were in my attempts to use the new fuel/wick combination with one of the old gauzes!

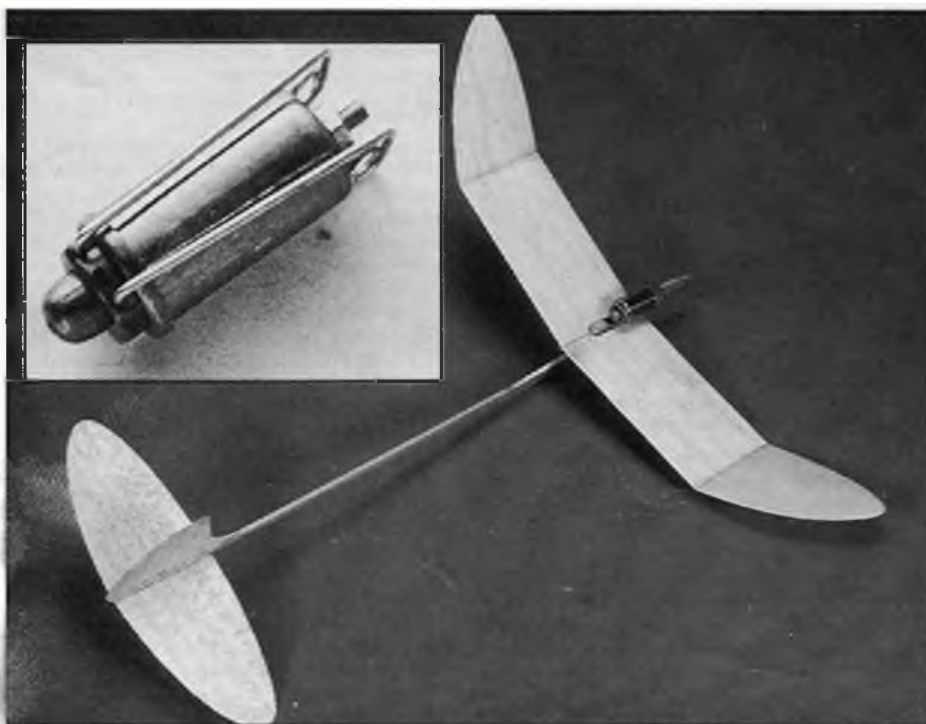
Eventually I remembered that the Japanese Tiger Rocketry, a generally superior variant of Jetex, used gauzes with a hole in the centre, so I used one of those! Why? Well, I just wondered if the clean burn was because all the burnt by-products were being blown out of the nozzle. This time there was a little more residue but nothing to shout about. Quite clearly, the new fuel burns more efficiently.

An efficient burn with Jet-X means two things: first, the burn times with two pellets seem to average around 19.5 seconds - about five seconds more than of old. Second, not only is the burn time longer but there is greater thrust developed than with the old Jetex fuel.

To get some practical comparisons I used the same model and made a number of flights with all the combinations of fuel and motors I could think of! I used a Keil Kraft Space Jet as the flying test bed. This all-sheet model from the early 70s is one of the most reliable performers for Jetex I have come across. It is perhaps a little larger than a model I would choose for out and out performance, but for this reason it turns in a good steady, controlled flight time after time.

Initial flights were made using some of my stocks of old wick and fuel. Flights were as expected, with a stable climb, roll off the top and a nice walk across the moor to retrieve - I was enjoying myself! Now the moment of truth: swap the old push-in mount for the simple but very reliable bracket I had made up for the 50R, or HT50 (fig 2).

This method of holding the motor was another of my worries, for there is a 6BA bolt protruding through the rear of the motor but



Top left: The JX-1 pack contains a twin-spring HT 50 unit, sixteen fuel pellets and a supply of wick. Left: The craft used for the major part of our tests, the KK Space Jet from the early 1970s. Inset left: The HT 50 itself. Note the mounting bolt. Opposite page, top: Close-up of the HT 50 in place on the model.

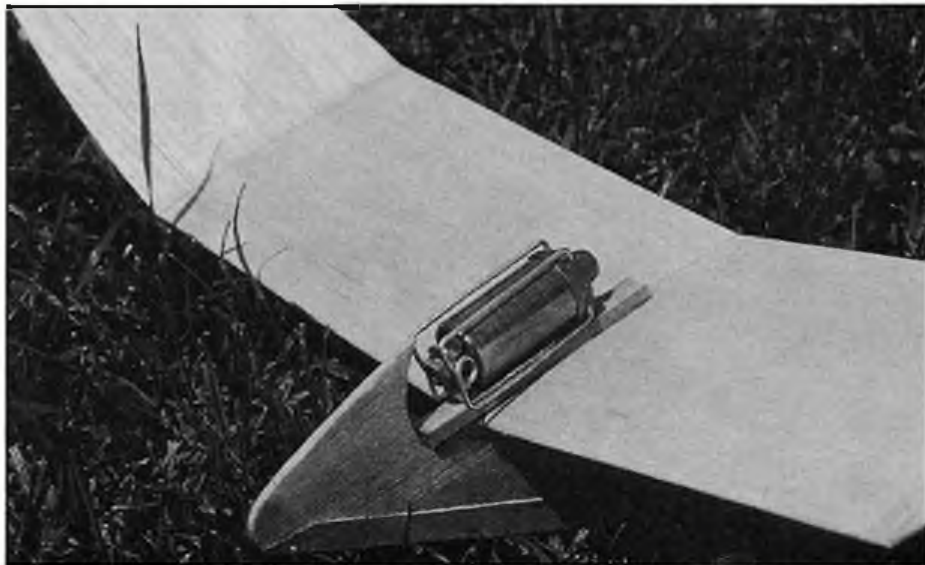
FIZZ!

no gasket. Would the hot gases force their way out of the wrong end? We'll see... Fitting the motor in place is a trifle fiddly and obviously takes longer than the old method. There is always the risk of losing that 6BA nut in the grass (I took plenty of spares). It also means that some designs will have to be modified slightly to allow for the new mounting... or big fingers!

The change was made and the motor fuelled up with two pellets. Just before lighting the fuse is pushed back towards the motor, which ensures that the pellets are at the rear of the motor and not just behind the nozzle. Light the wick...and wait: sssssSSSSSSS, we're away.

That first flight was quite a revelation. I wasn't prepared for the additional power, and the Space Jet took on a much steeper climbing angle and went much higher under power than ever before - I nearly lost it OOS!

Inspecting the motor afterwards showed no gas leaks at either front or rear but after several flights, the 6BA nut and bolt worked loose. This is not surprising as I was continually doing up and undoing the retaining nut. It may be wise to use an additional lock nut on the motor but this must remain a point to watch, due to the cycling through high temperatures and the



consequent expansion and contraction of the metal. In future I shall indeed use a lock nut, but at that moment I did not want to alter the trim of the model by moving the motor back by even this small amount.

More power

How much greater power? Well, talking to Powermax afterwards, it seems that they reckon on about 20%, but it seemed more than that at the time! Plus of course the longer engine run of 19.5 seconds.

There is one snag - isn't there always - the old fuel burns very steadily - let's put it phonetically as 'sssSSSSSSSS'; the new,

burns with a noticeable pulsing effect, i.e. 'sssSSSSsSSsSSSSs'. Along with this audible pulse goes a variation in thrust. I wondered if the pulse was due to the lack of a gauze but further tests proved that this is not the case. A more critically trimmed model may suffer from this effect. Perhaps it was a good thing I choose to use the old reliable 'Space Jet'!

Again, talking to Powermax I learnt that this phenomenon is probably because of the way in which some of the fuel constituents are milled (that is, ground into small particles) prior to mixing. Developments in this area are continuing so hopefully we can

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Motor Set JX-150 size. 16 pellets. 2 yards fusewick. £9.95



Fusewicks - 2 yards £2.50.

NOTICE!

Now, before all you old-timers start to scream, consider this: In 1952, ten pellets of fuel cost just over 10 pence - with inflation that's the equivalent of £2.50 today for 10 pellets or £10 for 40! That makes our current price of £5 for 40 pellets look cheap!

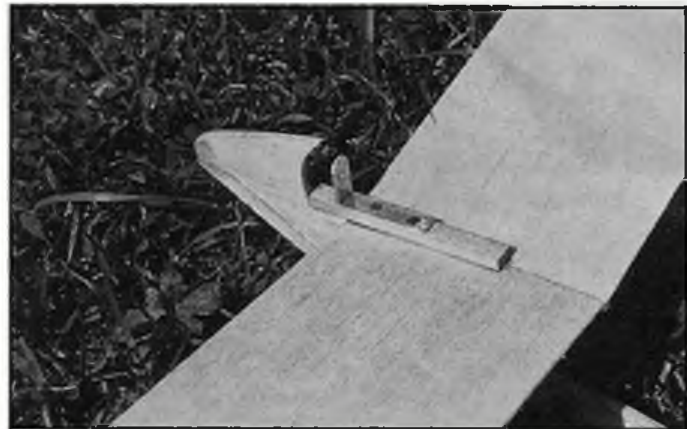
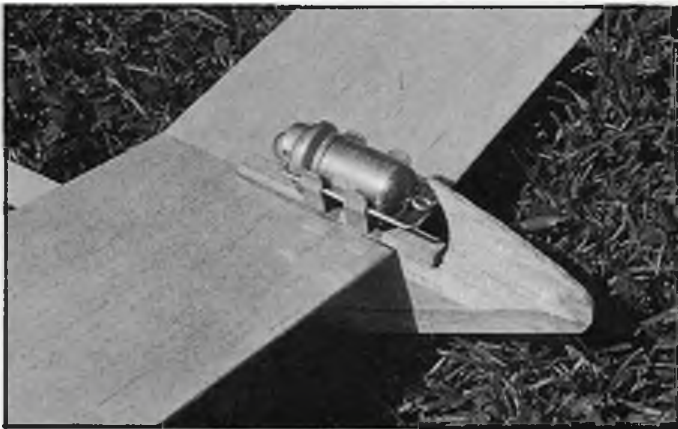
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look forward to a smoother output in the future.

Nevertheless, even with this pulsing the new Jet-X is great. The effect is something that cannot be ignored but 90% of the time it is only of aesthetic concern and will not spoil the thrill of once again being able to fly these classes of model. There are already rumours of Jet-X contests, with lots of entries, taking place in the USA, where the product is already on sale.

Doubtless many of the 'old guard' Jetex fliers are now itching to get some of the new fuse to use with their existing stock of old motors and fuel. Sadly this will require a major decision on their part, because the new ignitor wick is about 15% greater in diameter than that of yesteryear! The law of cussedness being what it is, this means that to use the new wick, the nozzle diameter will have to be opened out ever so slightly.

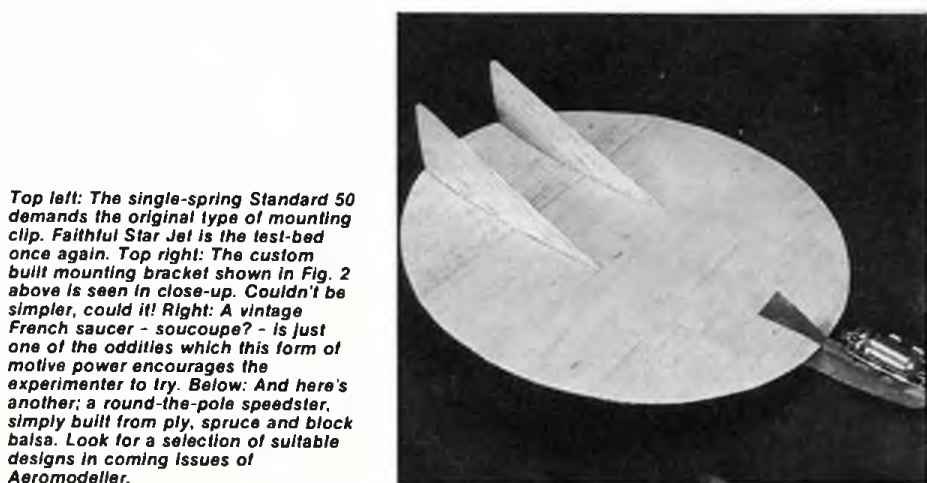
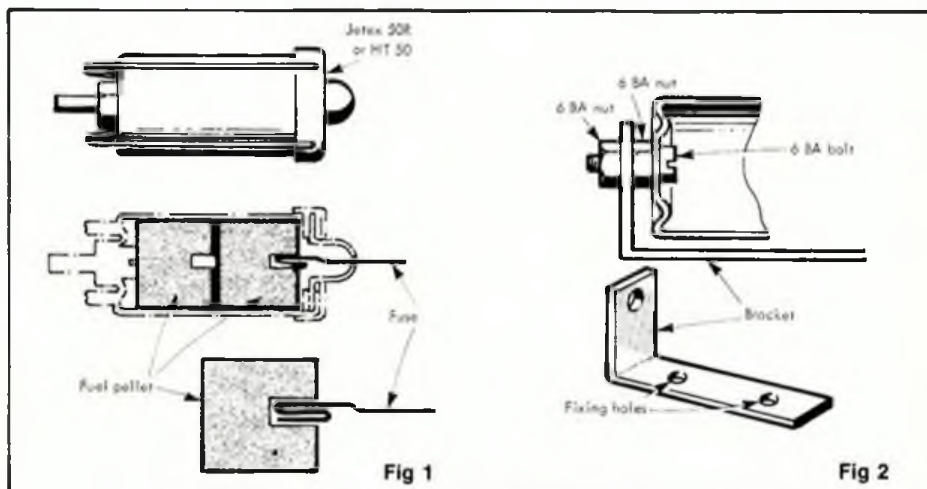
I found the best method of achieving this was to use a very fine, pointed round file! The enlarged nozzle works well when the new fuel is used but there must be some adverse effects when used with the old. The new wick is also formed on a slightly thicker gauge of wire, so whereas one could 'snap' the old wick between one's fingernails, try this with the new and you are more likely to damage the wick - scissors are best!

No asbestos washers (gaskets) are supplied with packets of the new Hi-Thrust fuel, though they *are* available separately. Strangely enough, although I got the impression that the new fuel burned as hot as the old, I found that I have not had to replace the gaskets at anything like the rate I had to in the past. Once the motor has cooled down, the cap seems more difficult to get off (I have always used a rotating action, so as not to destroy the gasket), but once off, the gaskets seem to remain in better condition for longer.

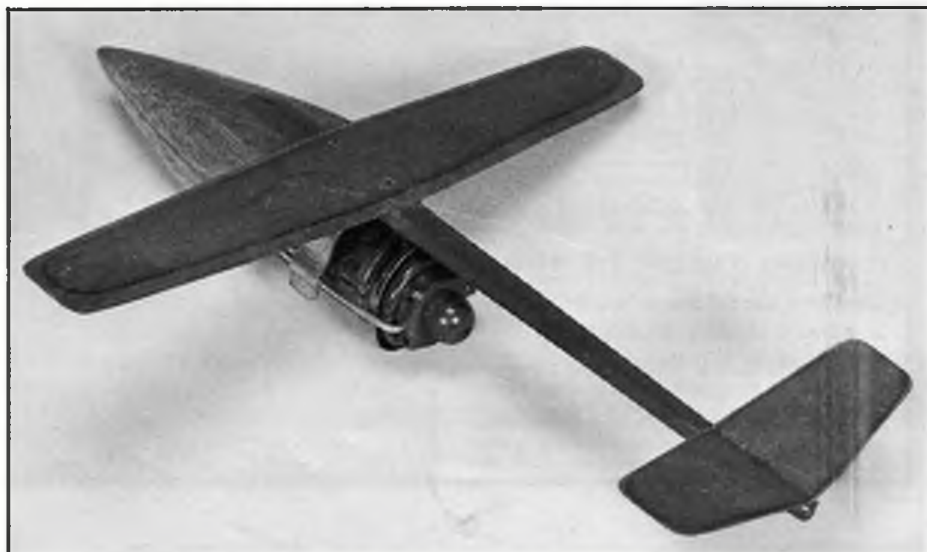
Having started out with doubts about the new product, I can only say that they proved unfounded. I came back from those initial test flights grinning from ear to ear... although I was provided with plenty of test fuel and wick, I just wish I had more. Jetex is dead; long live Jet-X...

How much does it cost?

Standard 50 pack (single spring motor, eight pellets, two yards of wick): £9.25
 HT 50 pack (as above, but motor is a dual spring unit): £9.95
 Fuel (forty pellets): £5.60; twenty pellets: £3.45
 Wick (two yards): £2.10
 Gaskets and motor parts will also be available separately.



Top left: The single-spring Standard 50 demands the original type of mounting clip. Faithful Star Jet is the best-bed once again. Top right: The custom built mounting bracket shown in Fig. 2 above is seen in close-up. Couldn't be simpler, could it! Right: A vintage French saucer - soucoupe? - is just one of the oddities which this form of motive power encourages the experimenter to try. Below: And here's another; a round-the-pole speedster, simply built from ply, spruce and block balsa. Look for a selection of suitable designs in coming issues of Aeromodeller.



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VINTAGE CORNER

Notebook and camera to the fore, Alex Imrie visits the Shuttleworth Model Group Open Day at Old Warden and reaches the conclusion that it's a Sunday best meeting

SINCE IT HAD RAINED during the expression 'Rain before seven, sun before eleven' was a fragment of weather lore that came to mind on the way to Old Warden on Sunday, 20th July. The sky was overcast but spots of rain on the windscreen were of no consequence since there was little wind; and knowing that real model flyers actually don't mind getting damp as long as there is no horizontal movement in the atmosphere, I reckoned that there would be a good turnout...and there was! Old Warden was not packed, like a day of the Scale or Vintage Weekends, but there was present a goodly gathering of enthusiasts all imbued with the same motive...the desire to fly. If you missed this meeting you cannot have read my previous accounts of SVAS Model Days. I have said before and will repeat myself now by saying that this is the best Old Warden meeting of the year. No hassle with crowds of people; no competitions; merely a leisurely fly-for-fun gathering that leaves one with the nagging question... 'Why can we not have more days like this?'

This year we had to share the parking area with Ford Cortina owners who were holding a rally. I wonder how many of them will give up polishing their cars and take up aeromodelling instead after over eight hours exposure to a thickly populated Old Warden sky?

All model aeroplane meetings depend on the weather, and after a few drops of rain from a leaden sky around mid-day which (regardless of the weather lore just quoted) foreboded an evil end to our aspirations, the sun came through and the breeze dropped to a mere zephyr, sometimes variable and occasionally up to breeze proportions, which made things tricky for free-flight because such models were often outside the

aerodrome boundaries, first one way then the other. In between fitful puffs of wind, it warmed up and the thermals created were hooked by more than one unsuspecting modeller: they were not strong so few models were lost, although the Old Warden 'jungle' added a few more to its 'victory log'.

Wings and wireless

One of the main differences between this and previous SVAS Model Days was the increase in the number of radio models. While I did not count them there must have been thirty such machines, and the host organisation had even laid on a transmitter pound for frequency control, something that had been unnecessary in years gone by because of the relatively low numbers.

There were some nice scale models present, one being Brian Downham's Sopwith Baby floatplane with its fascinating dolly take-offs. It was a superb sight in the air but, alas, a flying wire is thought to have been parted causing the model to go out of control, and the subsequent collapse of the wing structure meant a vertical dive to earth in manner all too similar to Richard Crapp's DH 89a Rapide at the Golden Era meeting. Despite the suddenness with which the plunging fuselage stopped, it remained intact, as did the individual floats so the model is repairable and Brian may do just that since there is too much good stuff left to throw away!

A Spitfire with invasion stripes was well flown and with the speed kept low it produced one of the best scale performances yet seen of this type; which is more than can be said for the beautiful red Waco Cabin biplane that rolled its way around the sky like a corkscrew... pity the poor passengers

in its cabin! A well handled and a constant performer was a Fokker DrI triplane, it being unfortunate that the nose cowling was not representative of the open bottomed cowl for the rotary engine. Like most Fokker triplane models, it was all red, which seems a shame when there are so very many more colourful authentic schemes for this machine.

An unusual model was the Short Scion G-ADDT finished in red and silver built by Norman Young of Biggleswade by enlarging a 1/72nd scale drawing. This model can be powered either by two Cobalt electric motors or a pair of OS 10s. I am surprised that this design is not chosen as a scale subject more often, since it is well suited to R/C with its wide-track undercarriage and roomy cabin for the gear.

Not all the R/C models were scale, and a number of 'pattern ships' and semi-scale models were present, as well as some trainer-like models fitted with flaps which were on the circuit all day long. One freelance model that caught my eye was an angular design of decided 'Vintage Flavour' by Michael Barton of Friern Barnet. This machine had a certain pre-historic look about it despite its all-balsa single-surfaced wing. It was fitted with standard three-function R/C, and could be described as a simple, functional old-looker for radio men who like to create a breath from the past. Furthermore, its long take-offs were delightful to watch!

Vintage Radio assist

Apart from what we now refer to as usual types like the Junior 60, Scorpion and Buccaneer there were some rare birds seen for the first time. Mike Conrad of Willesden fielded a number of models including his Brooks Bipe and a beautiful red and blue Ladybird Special. The latter was a 1.6 times enlarged version of the H J Pridmore 42in. span design for the ED Bee which was described in the 1950 Aeromodeller Annual. Mike's version was powered by a Saito 45. His landings were excellent; it was fascinating to watch the model approach at a realistic speed and flare correctly to sit down in a perfect three-pointer. Mike reckons that ground effect of the bottom wing gives the controllability he so ably

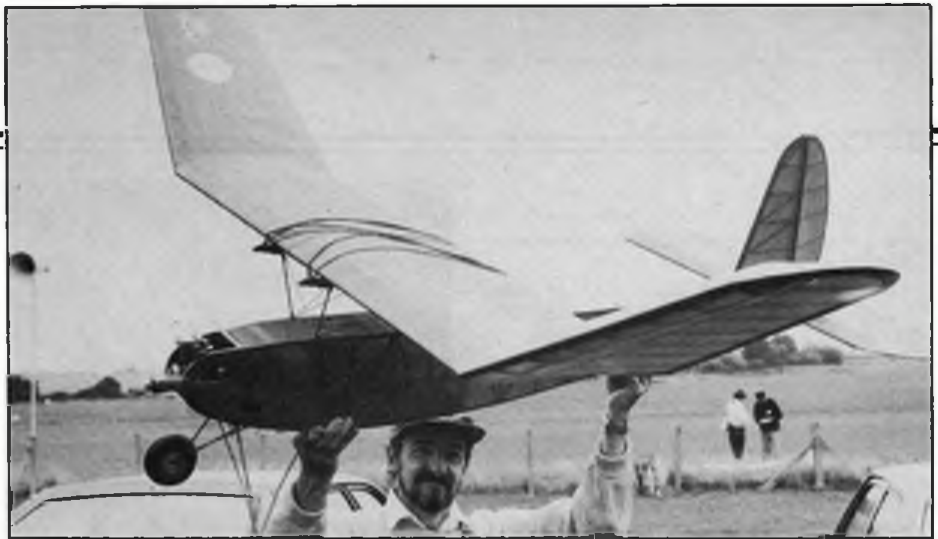


demonstrated - in which case it would have been nice to have seen the scale biplanes landed like that. Too often they were over-fast on the approach, and either ballooned or just flew into the ground to go prancing all about the landing area. As some wag said, 'like a first solo', a comment which is not quite true since pupils generally make perfect landings on their first solos, although they sometimes make a mess of the landings that come after!

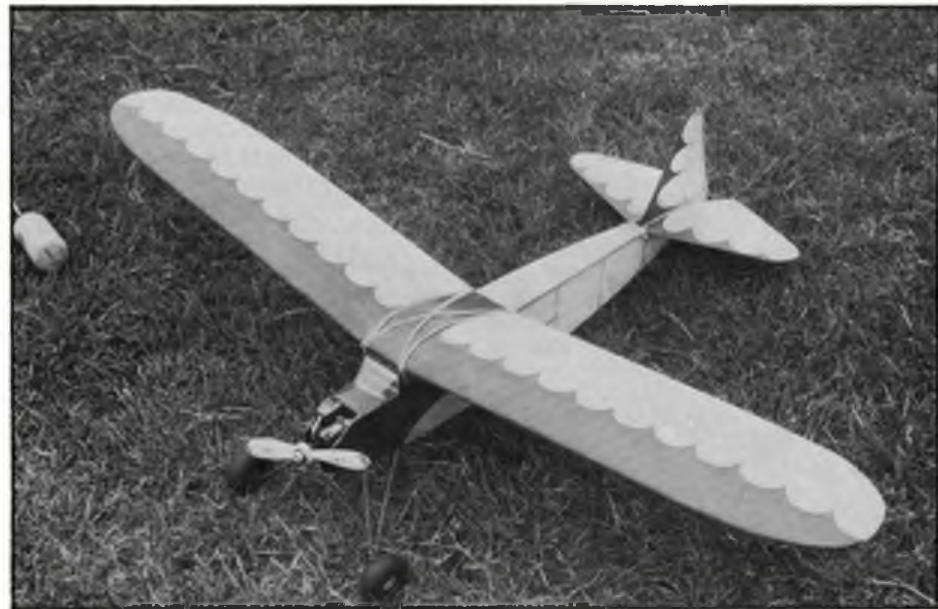
Ken Tansley of New Southgate had a nice Junior 60 which proudly displayed the badge of his old club, the Northern Heights MFC, on the fin. Fitted with Fleet radio and powered by a PAW 19, this model was well finished in Ken's Caribbean Grey, a 'favourite' colour since he still has some left over from the two litres specially mixed some years ago for his replica T9, a machine which in its original form brought him much competition success in 1946 (see Vintage Corner, October 1982). Ken also brought along a Frog 45, one of several seen during the day. The all-red Lanzo Record Breaker built by Charlie Essex of Coventry, and powered by an OS40 four-stroke, looked good and seemed to be performing well, oozing that special large - model appeal. Another big beauty was the City Slicker built by Tim Ruck of Rye. This model, 84 inches of Bill Dean elegance, was powered by an ETA 5cc diesel and used only rudder as a flying control surface, thus being one of the few real R/C Assist vintage models seen.

There was a Merco 61-equipped Privateer made by Bill Rimmell (Ray's old man) of Pinner which had an extra five-inch flat centre-section (with removeable wing panels) that increased the wing area to provide fine floating flights. Peter Valentine of Ickenham was flying a Hep Cat with a difference, his being electric powered with a Le Mans 480T motor. Then there was the Super Buccaneer (PR version) which is a Ben Buckle modified machine for aerial photography. The builder, Chris Followell, relates that he uses black and white film, usually Kodak Tech Pan of 50 ASA and gets particularly good results from around 300/400 feet; any lower and the picture is liable to be blurred because of the model's speed.

There were a number of tailless models or flying wings including the Manx Monarch and an electric job with a tractor propeller that I did not identify. This latter had an excellent rate of climb and fairly went for the height, I presume because of the limited motor run. It certainly seemed to spend a lot of time very high in the sky. Quite the nicest built model of this configuration was the unnamed 'successful flying wing' built by John Wilkins of Chesham. I did not note its pusher power plant, but John makes his own engines, so maybe it was fitted with one of his own construction. However, it was the airframe that interested me most. This model was designed by Bernard Gross who described it in the January 1948 edition of Air Trails. It is eight feet of sheer beauty, a soundly engineered and strong flying machine whose flat glide (because of its aerodynamic cleanness) was 'really something to rave about!' John's engine was fitted at the rear of the nacelle and thus did not need the extension shaft necessary on the mid-chord situated Brown Junior which was fitted to the original free-flight machine. Of course, with the R/C gear in the



Main picture, opposite page, is a flight line scene. Brian Ferrett with his red and white Premier Lion pauses to talk with Tony Penhall who is busily preparing his white Bowden Contest. Tony's Bowden Swallow can be seen in the background. This page, top: An impressive all-red Lanzo Record Breaker powered by an O.S. 40 four-stroke, held aloft by its builder, Charlie Essex of Coventry. Right: John Kemp (at right) discusses his red Bowden Humming Bird and its .3cc Giles diesel with Jack Law. John is an avid small diesel enthusiast; no doubt many will remember his miniature Scram (CO₂ size) which was powered by a Saxby 'Mini Mills' of just 0.13cc. Below: This Little Vagabond, a design by G.W.W. Harris, is nicely decorated in blue and white and powered by a Frog 1.75cc petrol engine. Model is the handiwork of Chris Goodley, who appears in person in the bottom picture holding his red Miss Farnboro which is powered by a Stentor 6cc petrol engine. This machine was built in Oman in 1980 and first flown earlier this year (see text).



nose John would not, I suspect, have any aft-CG problem that might otherwise have been present on the original. An absolutely splendid piece of work.

Unusual was an R/C version of the small 40 inch span Simplex made from the free plan given away in this magazine in January 1984. This craft used a 27 Mc/s pulse set-up like the old 'Galloping Ghost' system. Built by Mike Parker from Oxford it was powered by a DC Merlin and was controlled by a Mattel transmitter, receiver and actuator. Mike bought this gear at Old Warden some two years ago for £20 and made changes to ensure that it could be powered by three pencil type re-chargeable batteries. The complete airborne equipment weighs, Mike guessed, under four ounces. The gear was distributed by Hobby Lobby in USA after proving unpopular with the Mattel ready-to-fly plastic model for which it was designed. Some came to the UK and I understand that all were snapped up quickly since the old Ace system was becoming harder and harder to get at the time. To modern eyes it looks most peculiar in operation, usually causing onlookers to shout to Mike that he has interference since at launch the furiously wagging rudder causes much consternation! This rudder-only model was time and time again a mere speck in the sky; what a comfort to know that it could be safely brought back to alight at its master's feet! How many of us remember that our own Howard Boys was the real inventor of this system?

Free-flight activities

Against the background of the ever popular Junior 60 and Simplex in all sizes, models seen for the first time included some 'Vintage-style' machines, one of which was an Ironsides by Alan Clarkson of Kettering registered G-AGIN and powered by a DC Merlin. Another was the attractive little low-wing Peril. How gratifying to see these and many other models (not all vintage, of course) made from the free *Aeromodeller* plans. These models are built (and look) like vintage machines, but as the term 'vintage style' implies, were designed only



'yesterday'.

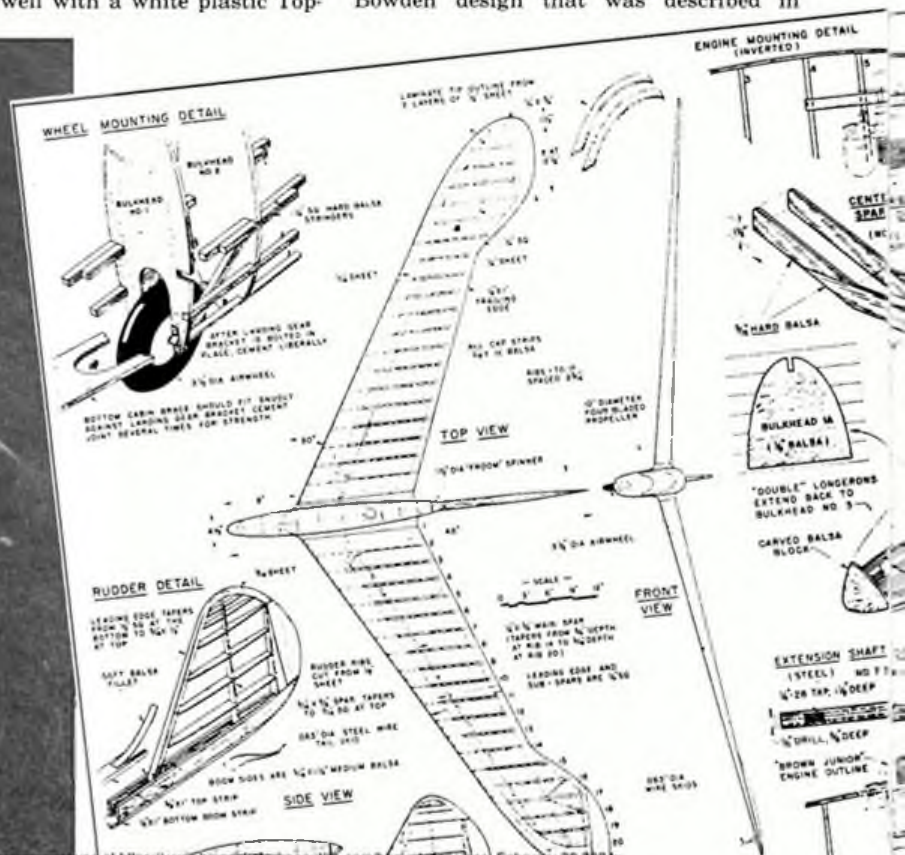
Jim Daniels of Newmarket was flying a yellow and orange Indian Mills .75 powered 40 inch span Simplex (another free *Aeromodeller* plan!) which on one of its flights alighted amongst the aforementioned Ford Cortinas. Jim retrieved the model only to find that he had broken the crankshaft. Dismayed, he returned to his car and found to his pleasant surprise that the owner of the neighbouring vehicle had a spare crankshaft for the engine in (of all places) his ash-tray! Talk about on the spot spares!

It was nice to see Jack Frost out again with his trusty old yellow Miss Farnboro', that stable, strong GWW Harris design first described in this magazine in July 1947. Another Miss Farnboro' was present, a red Stentor 6cc petrol-powered version flown by Chris Goodley who also hails from Wisbech. This model was built when Chris was employed in Oman in 1980 but was only flown for the first time earlier this year. The large disc wheels of narrow section which are just the job for take-offs in meadow grass because of their low drag are cut from 3/8th thick multi-plywood suitably lightened - and in Chris's case rubber-tyred. He uses drive belts from old Hoover washing spinners for this purpose, these being a good fit at just under 3 1/2 in. diameter. Chris was also flying his GWW Harris designed Little Vagabond powered by a Frog 1.75cc petrol engine. This was flying well with a white plastic Top-

Flite 10 x 3 1/2 propeller. I use the same prop on two small models similarly powered and find that this combination gives the thrust that makes them successful flyers; so if your Frog 1.75 powered model seems sluggish try this prop and note the difference!

Tony Penhall was busy flying his white Bowden Contest and Bowden Swallow, powered with an Ohlsson 23 and Mills 1.3 respectively. The Contest (what a fine introductory free-flight power model CEB gave us here) has a dummy radiator and wheel spats, while the semi-monocoque Swallow has wheel spats only. Both flew well and look great in the air with their distinctive elliptical shaped wings. At one point the Swallow almost fell victim to the thermals and the fuel economy of the trusty Mills. A model that I had not previously seen was the Orbit Gas Buggy, a Martin Powell design that was described in the June 1939 issue of *Flying Aces*, a 60 inch span parasol wing model attractively finished in blue and white and powered by an ED 1.49 diesel, it was the work of Stuart Ludar-Smith from Bishops Stortford who also fielded an orange and yellow 72in. span Jenny powered by a 1.5cc Kingcat diesel.

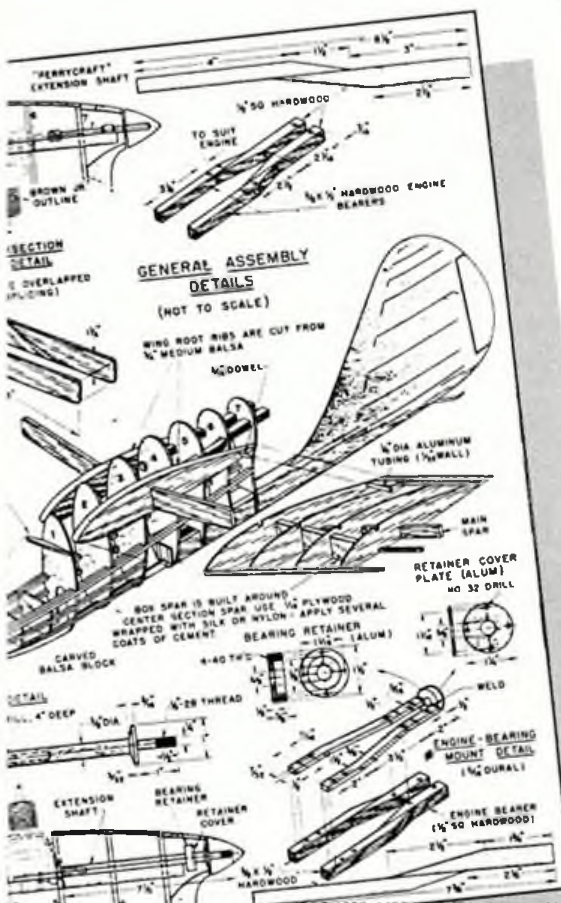
Out on the aerodrome Bill Langley from Sidcup laboured away on his red and chocolate Super Buccaneer powered by a Brown Junior Model D. His engine trouble was caused basically by having the drive washer on the wrong 'flat' thus restricting the movement of the Hurleman timer arm; also thrust was down because a 12in. diameter propeller was employed, whereas the Brown loves a fourteen or even a sixteen-inch prop. Nevertheless, he did get some prolonged glides, and when the timer is installed so that its arm is vertical and allows for movement to advance the ignition as necessary I am sure that some fine flights will be achieved. Mind you, a model of this size (90in. span) needs watching at Old Warden! Bill also had with him a Mills 1.3-powered Porlock Puffin, so he was able to enjoy some flying with that, leaving the Super Buc for shop adjustment. Don Knight turned up with an obscure C E Bowden design that was described in



Practical Mechanics in 1959 and must have been one of the last designs by this pioneer ever published. I had seen the model before at the last Model Engineer Exhibition, but not the article in question. It is a basic high wing cabin model with typical CEB shaped fin and rudder but with parallel-chord wing and tail, presumably for simplicity (although all who have built CEB's elliptical wings with that wide sheet trailing edge have found no difficulty - even beginners). I understand that Don's son Chris had built this Vintage Style model; and when I chanced upon them they were furiously cranking the ME Heron diesel. 'Ran OK on the bench' uttered Don, between hefty swipes at the propeller. I stayed a respectable time then drifted off, doubting that the unwieldy Heron would ever run again since some very black oil was beginning to emerge from the crankshaft; but only minutes later, there was the model, airborne at last and flying well too, as could be expected with such an expert trimming it! It seems that this machine does not have a name; though Don will no doubt quickly think of a suitable moniker. After all, he chose Draken for his enlarged version of Ken Willard's Drake, and that I have always thought was most appropriate.

Silent flight: rubber, glider and CO₂

Varying their location on the aerodrome as the wind changed were knots of free-flyers with a great variety of models, most enthusiasts having several machines in their camp. There was a myriad of CO₂ powered miniatures, all the usual half-scale versions of popular vintage gas models like Scram, Simplex, Rambler and so on, and Mike Fish of Nottingham was flying a Hilliard Dwarf similarly powered. Peter Valentine of Ickenham who flew a red and yellow Achilles fitted with a Telco motor used a SodaStream/250 gram CO₂ bottle with a special adaptor and claimed that this



Small picture, opposite page: Simplex at rest. Made from the Aeromodeller free plan and powered by a DC Merlin, this model, fitted with Galloping Ghost type pulsed rudder operated by the Mattel transmitter shown here, was built and flown most ably by Mike Parker of Oxford. Far left: This flying wing, designed by Bernie Gross in 1947, was the result of much experiment in this field dating back to pre-war days. The eight-foot span beauty shown here was built for R/C - assist by John Wilkins of Chesham. The craft was featured in the January 1948 issue of Air Trails, detail from which appears at left. Model was described as 'a successful flying wing'. This page, top: Tony Harper of Newmarket with his yellow and white Northern Star, a pre-war Bob Copland design of 38 inches wingspan. Centre left: Ken Tansley displays his Caribbean Grey Junior 60. The initials on the tail surmount one of his few remaining original Northern Heights club transfers. Model is PAW-powered; note the natty exhaust pipe leading from the transverse silencer. Tubes emanating from the top of the rear fuselage house the 'snakes' which impart movement to the control surfaces. Centre right: Don Knight with his Earl Stahl Wayfarer, a model that made its first 'public' appearance at last year's SVAS Model Day. A stall near the ground at this year's function telescoped the forward fuselage with the result seen here. Model is or was, before damage, a great flyer; one of the best performing Earl Stahl designs. Above: Chris Knight with his un-named CEB Practical Mechanics Vintage Style model. Its ME Heron was a reluctant starter but problems were overcome and the model later flew well.



greatly reduced the cost of his flying. However, Mike Craig of Ipswich went one better and had a monster bottle of the stuff (I did not manage to note its capacity) for re-charging his Telco-powered fleet, which consisted of the delightful Flying Flea G-ADXS from Aeromodeller plans, which we have seen before, and his own-designed Avro 504 and Luton Minor which were new to me, both being of around 18in. span. The Flea, which did a lot of flying is surprisingly slow in flight; fascinating indeed to see it buzzing around, the top end of the CO₂ tank looking for all the world like a 1935 amateur pilot crouching behind a spluttering motor bike engine!

Gliders were not forgotten either and Brian Hunt of Bilston had a nicely made red Floating Kidney first described in the January 1947 issue of *Aeromodeller*. The model is quite stable despite its guitar shaped appearance, gliding fast and flat. Brian Welch found an unfinished Keil Kraft Chief in a loft some ten years ago and completed it to take 2nd place in the glider class at the 1983 Shefford exhibition, this was *hors de combat* when I saw it at Old Warden because of a split in the wing tongue boxes. This is said to be a common fault on this attractive functional-looking design. Also seen was Darren Rennett of Billericay with his Keil Kraft Soarer, one of numerous small gliders present. There were even some of the 'chuck' variety.

'Rubberears' were plentiful and examples of the following were all seen doing their stuff: Senator, Cruiser Pup, Achilles, Veron Eagle, Flight Cup Model, Thermalider, Pacific Ace, Wren, Excelsior, Northern Arrow, Northern Star, Cloud Zenith, Kamlet and more besides, as well as a few Vintage Style Early Knights made from the *Aeromodeller* plan given away in the May 1985 issue. Indeed, Vintagents of all disciplines had a marvellous day's flying in this timeless setting in such splendid conditions. Nevertheless, one noted Old Warden risk is the famous copse; and here we have some adventures to recall...

Retrievals

As already mentioned the variable wind made it difficult to judge where a model might land; and one of the machines to end up in the trees was John Kemp's CE Bowden designed Humming Bird powered by a Giles .3cc diesel (a half-size Mills .75 replica), but luckily it was retrieved at the end of the day. Mind you, John had already had a narrow escape when his green ED Baby powered Bowden Midget got away on a full tank of fuel and played tag with the tree tops. On one part of its circular glide pattern the model actually passed through the shadow of a leafy bough only to emerge into the sunlight again. You can't get much closer than that without 'collecting' a branch to arrest your progress!

John Partridge also put his Keil Kraft Snipe, powered by a Frog Cobra, into the same trees, but regrettably at the end of play had not been able to retrieve it. Luckier was Ray Alban who 'treed' two of his rubber models yet got both of them back with negligible damage. The first was his Northern Arrow, a pre-war Premier kit design, based, it is said, on a Bob Copland model: but by nimble footwork and brute strength Ray just climbed the tree and tweaked the model loose with a handy twelve-foot sapling. His Keil Kraft Senator proved more of a problem. It ended up not in the true jungle but in the tall clump of trees at the southern end of the field. It made Ray plain dizzy just to look at it, but help was close at hand. Gerry Ketchell from Enfield had brought with him a special set of poles made from the bamboos used for carpet stiffening. While Gerry climbed, Ray passed up the bamboos (reminiscent, he says of some activity in the South American jungle). Gerry did his stuff and Ray soon had the Senator back. Details of yet another retrieval might interest readers. Peter Scorey of Harpenden put his Air Trails Sportster into a particularly inaccessible branch but Chris Followell, who is Secretary of the SVAS Model Group, soon

arrived with his gear, consisting of a fishing rod and hefty line and a catapult! On his second attempt he put the weighted end of the line over the offending branch and Hey Presto! After a few skilful tugs the model was recovered absolutely without damage... Phew! No wonder people go in for R/C!

Early finish

I did not make it to the control-line area, but from afar it was obvious that the circles were in use all day long to the accompaniment of a variety of interesting engine noises. This, then was a true enthusiast's day, with several models of all types continually in the sky and although there may have been some near misses I did not hear of any mid-air collisions, which is a wonder with the amount of activity taking place. During the afternoon the Duxford-based Vought F4U Corsair flew past and then turned, presumably to make a low pass which always delights the modellers; but the pilot, obviously conscious of the degree of balsa pollution over the aerodrome, deemed it wiser to stay outside the boundary and did not encroach on our airspace.

Flying ceased at six o'clock so that the aerodrome could open to full-size traffic. One machine arrived, the locally based DH 89a Rapide masquerading as a Dominie in service markings and camouflage. It made a low pass to please us all, then sat down like the old lady she is, in a splendid tail-down wheel landing in approved DH 89a manner.

But once again modellers were prevented from using the aerodrome during the evening hours, which as all free-flyers know are the most golden. Surely there must be a way that our tenure could have been extended? Many modellers wanted to eke out this splendid day for as long as possible, and would, if allowed, have flown until the onset of darkness. Maybe the SVAS will yet make this possible; meanwhile we all thank them for giving us another memorable enthusiast's day.

Top left: Mike Wilson, that noted Frog enthusiast from Enfield built this blue and white 42 inch span Frog Janus powered by a Frog 100 MkII diesel; model is here held by Steven Gleed from Colchester. Some builders of this design have experienced difficulties with the wing fixing; troubles may arise when building a vintage kit design without recourse to the original contents! Top right: This Cloud Zenith, a 36 inch pre-war rubber model, is finished in red and white and is being held by its builder Arthur Rodaway of Hemel Hempstead. Right: Elliptical elegance - an enlarged APS Ladybird Special with its builder and pilot Mike Conrad of Willesden. Craft is powered by a Saito 45. We would be interested to hear of other enlarged - or reduced-Aeromodeller designs. 'Scale effect' is always interesting: some models look magnificent when scaled up, but others lose their daintiness. There may also be constructional problems. Tell us about your own efforts!



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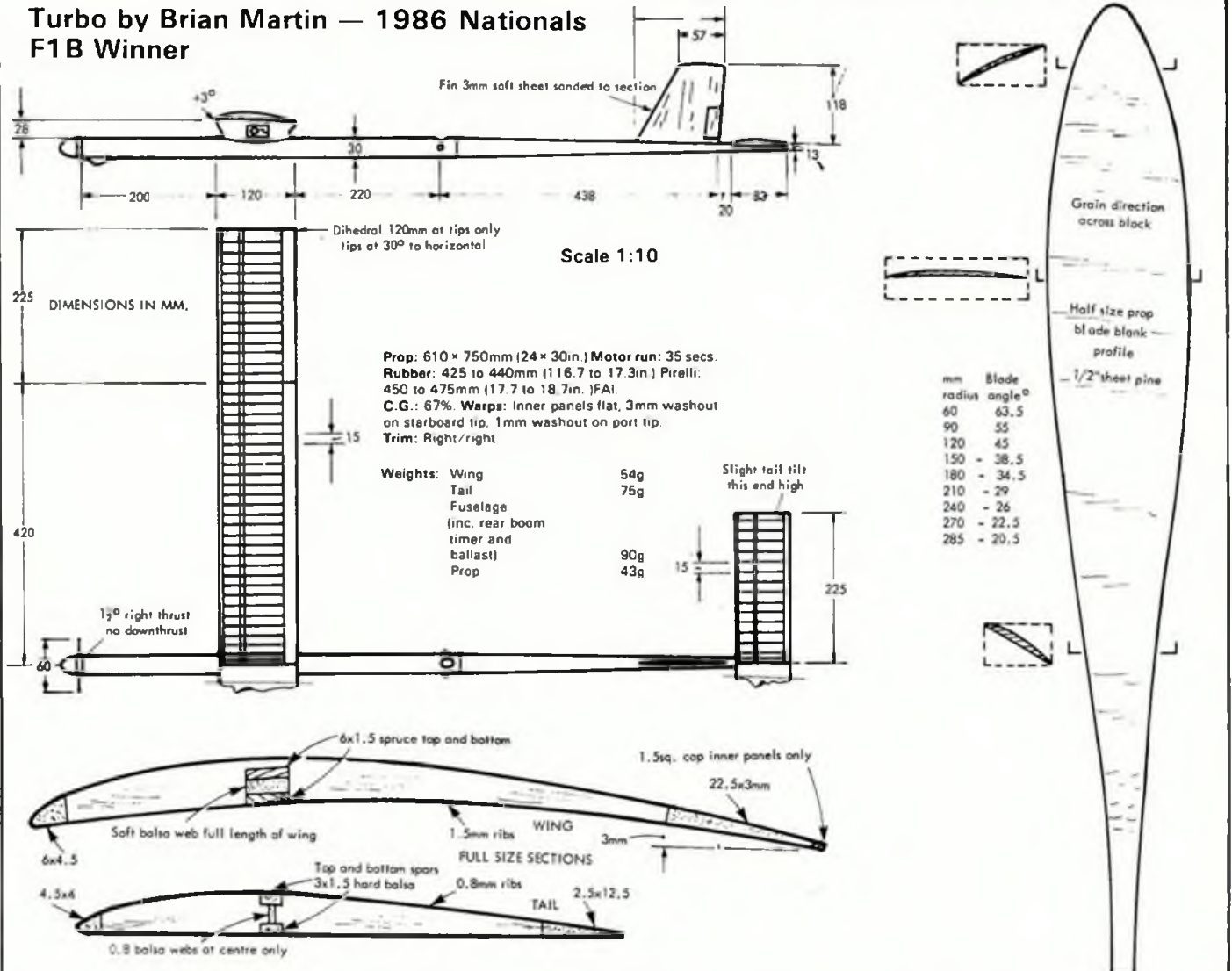
Competition Free Flight models of any type need to be designed for the conditions in which they are most likely to be flown. This might sound only too obvious but it is true to say that many of us (including me) forget this from time to time, particularly when designing FAI models. Since more of us than before now regularly visit continental events it is reasonable that we are being confronted (and too often confused) by foreign techniques and models which are often derived from years of flying in very much more stable conditions than ours. When Brian Martin started flying F1B in '78 he made sure he didn't fall into this trap. Like Russell Peers, whose model appeared a few months ago, he based his original Wakefield design on the conservatively proportioned Korean layouts that had proved

so successful around that time, even in some rough weather World Champs. Initially no auto surfaces were used and the main spars which were on the surface of the wing, turbulated an otherwise smooth airflow. Rather contrary to what might have been expected further experiments with spar position showed that inseting them - like the originals - greatly improved the glide, and as a result this type of construction has been used ever since. An auto rudder was introduced to separate the power and glide phases but no turbulator has ever been found necessary.

The wing is very flexible, and is capable of withstanding launch and landing loads well. The close rib spacing is used to minimise unsupported areas of tissue - and hence increase torsional stiffness - as much as to maintain an accurate section; and another effect is to reduce and localise any



Turbo by Brian Martin — 1986 Nationals F1B Winner





The happy scene after the 1986 Nats Wakefield fly-off: winner Brian Martin (right) with his Turbo - this month's featured F1C - managed to hold off the transatlantic challenge of Walt Ghio who flew his reserve model after an apparent VIT failure caused the destruction of his first choice Wake. (Photo: Steve Philpott).

damage. At the dihedral breaks strips of soft 1/16in. aluminium, bent to the correct angle, are sandwiched between the spars. This has proved very useful, not so much in stopping the tips breaking but holding them together if they do so that damage is limited to cracks that can be quickly cyanoed together again. Brian is also a firm believer in the good old fashioned method of wing mounting via rubber bands. He has seen the more fancy plug-in variety suffer too often in heavy landings. Remember, this model survived all those Nats flights in the wind and turbulence virtually without damage - so he may have a point.

Bear in mind that there is no VIT and only a minimum of warp is used. The glide is quite tight - the model circles in thirty seconds - although Brian is rather dismissive about the climb he reckons the good glide makes up for it. As we all saw at the Nationals the model is happiest in thermally, turbulent weather.

The motor section of the fuselage is a Ronytube, and the rear boom is fabricated from two layers of 0.8mm balsa formed around a mandrel and seamed, and then glued one inside another with thinned PVA; the whole assembly being tissue covered.

That prop must have been designed in Imperial measure originally, for the dimensions come out too close to popular inch sizes! It's certainly large for a Wakefield at 24 x 30in. The blades are carved from 1/2in. pine blanks with the grain arranged so that it runs across rather than along the blade. The outline appears to be very similar to what I remember of those original Korean models. Mounted on a Woodhouse hub they

run off in 35secs. on short motors, that is, an average of 17ins. of Pirelli, and just over 18ins. when FAI Supplies rubber is used. Brian admits that the model has been designed for Pirelli and doesn't fly so well on FAI - his more recent calm weather models can better utilise that. However, it should be said that in the Nats flyoff his first and second choice Pirelli motors shed strands, so to be on the safe side his third choice (the motor on which he eventually flew) was FAI! Such a switch might be disastrous for most people but Brian uses a slightly unconventional winding technique, aiming at a torque figure rather than counting the turns. He stretches and winds to 30oz./in., at which point he starts coming in and finishes with a max torque of between 70 and 80 oz./in. This would suggest that he is not caning the rubber. Motors of this configuration that I have used can deliver over 90 oz./in. if pushed; that's if they stay together! Brian's attention to torque is very useful in just such a situation as developed at the Nats flyoff when he was able to switch types of rubber and still maintain a good climb pattern. It all underlines how it is just as important to have a reliable model and a well tried system as to be able to pick the air. All these things are more important than ultimate still air duration, at least in this country. Brian's winning flight was eventually taken under considerable pressure in the dying minutes of the round after the motor had been held for three or four minutes; he spotted a patch of lift into which his model centred and climbed. His opponent stalled out under power in the same air.

The Oxford Rally; Port Meadow, 22nd June

Andy Crisp can't claim credit for the weather - which was near perfect for this small site with virtually flat calm all day under a heavy and damp overcast - but he certainly can claim credit for everything else about this year's Oxford Rally. He hosted this increasingly popular event on his home trimming field, pretty Port Meadow. Competitors were made to feel positively welcome and hence very quickly a pleasant atmosphere developed which I was assured was not unlike that of the Galas run thirty or more years ago. The short walk from the car parking area may also have had something to do with this. Large numbers of flyers grouped together around model boxes and under fishing umbrellas made a pleasant change from the all too familiar line of parked cars on a peri-track. Happily there was never anything more than occasional light drizzle to be warded off, and never any wind at all.

Vintage this year was sensibly restricted to a maximum span limit of 36inches. That is to say, rubber models were restricted - gliders could be of any size. It was therefore quite surprising to find over a dozen in this class alone. There were very few gliders so those enthusiasts with some contest experience of the SAM Lightweight rules were at a distinct advantage.



At the Oxford Rally, Chris Strachan's neat Scram is held by his daughter Laura who acts as a very efficient team manager! Chris was unlucky this time with a glide stall after a very high climb.

The event drew contestants from much further afield than ever before and entries in the more traditional classes were well above average levels. Names like O'Donnell, Carter and Ball don't drive hundreds of miles to dull events - this is a major attraction now. Three of the top four in Coupe were from the Birmingham club and none were flying their main events. John Bailey managed to squeeze in amongst them and just edge out Ray Monks out into fourth place. Along with some good flying in A/I this was enough to earn him the title of Gala Champ; another pleasantly old

fashioned idea revived by the enthusiastic CD.

Phil Ball, after topping the slightly blown out Champagne flyoff in HLG the night before, chose to call it a day on Sunday after posting five more very competitive flights despite complaining of never being happy with his throws. However, it could have been the air as there were times when it was decidedly soggy even though conditions looked to be quite dead. Quite large and persistent patches of sink would occur from time to time but without the alternating lift normally associated with it. Just where was all the air going? Very rarely was a model seen to be gaining height on the glide that was until we had all given up expecting to see the sun. It broke through faintly just after 3pm after which there were identifiable thermals to lift both spirits and models, at least for the last flights of the day.

Full scores won Coupe and A/1 but flyoffs were necessary to decide 3rd in A/1 and the Vintage results. Mike Brown - another from Birmingham - proved superior to Brian Lavis in A/1 and Mike Kemp (Jnr) with his trusty and somewhat battle-scarred RAFF V pipped Chris Strachan's higher-climbing Scram when the latter developed a nasty stall straight after the prop fold. These little lightweights have an annoying habit of never doing the same thing twice, as I had found out earlier in the day. Chris immediately made another test hop to see if he could locate the cause of the stall. Of course there was no trace of it this time. The model glided straight instead - most frustrating!

The control tent had been sited at about dead centre of the action all day and it was also the scene of a very fine prizegiving. Bottles of wine and Andy's own hand-made earthenware were presented to placers in all events after a day when I didn't hear so much as a murmur of complaint about anything. A delightful contest.



Above: Amongst the buttercups at Port Meadow, the Kemps (Mike and Martin) in action during the Vintage fly off. Slack wing tissue may have improved performance by turbulence! Right: Pete Lumaden flew this attractive model which features triangular fuselage and line glide.



After topping HLG at Oxford, Phil Ball spent the day testing F1B's for the forthcoming Trials.

Oxford Rally: Port Meadow 22nd Results

A/1 Glider (22 flew)

1 J. Cooper	10:00
2 D. Wain	9:41
3 M. Brown	9:18 + 1:52
4 B. Lavis	9:18

Coupe d'Hiver (28 flew)

1 P. Harris	10:00
2 B. Colledge	9:48
3 J. Bailey	9:29

Vintage (13 flew 36" span limit, 2 min max)

1 M. Kemp (Jnr)	6:00 + 2:07
2 C. Strachan	6:00 + 1:56
3 D. Hipperson	5:37

HLG (14 flew: five flights, all to count)

1 P. Ball	4:37
2 S. Turner	3:38
3 M. Page	3:35

Top Junior Mike Kemp

Overall Gala Champs

1 J. Bailey	20:11
2 J. Carter	17:09
3 C. Strachan	16:43



Morley Mini Meeting (sponsored by Finlux UK Ltd): Heath Common, Wakefield, 13th June

Morley Mini (Finlux UK Ltd) Meeting: Heath Common, 13th July Results

Cd'H/A1 Combined: 1:30 x 4 flights (13 flew)	
1 G. Ferer	6:00 + 2:06 (Cd'H)
2 J. O'Donnell	6:00 + 1:30 (A1)
3 A. Bird	6:00 + 0:44 (A1)

P30 1:30 x 4 flights (12 flew)

1 J. O'Donnell	6:00
2 D. Davitt	5:58
3 J. Anderson	5:07

Vintage 2:00 x 3 flights (10 flew)

1 S. Fielding	6:00 + 2:46
2 C. Strachan	6:00 + 2:20
3 D. Davitt	6:00 + 2:14

Dart Duration 1:30 x 4 flights (9 flew)

1 C. Strachan	5:53
2 R. Hall	4:38 + 1:07
3 C. Plant	4:38 + 0:46

Overall Champion - Finlux Trophy

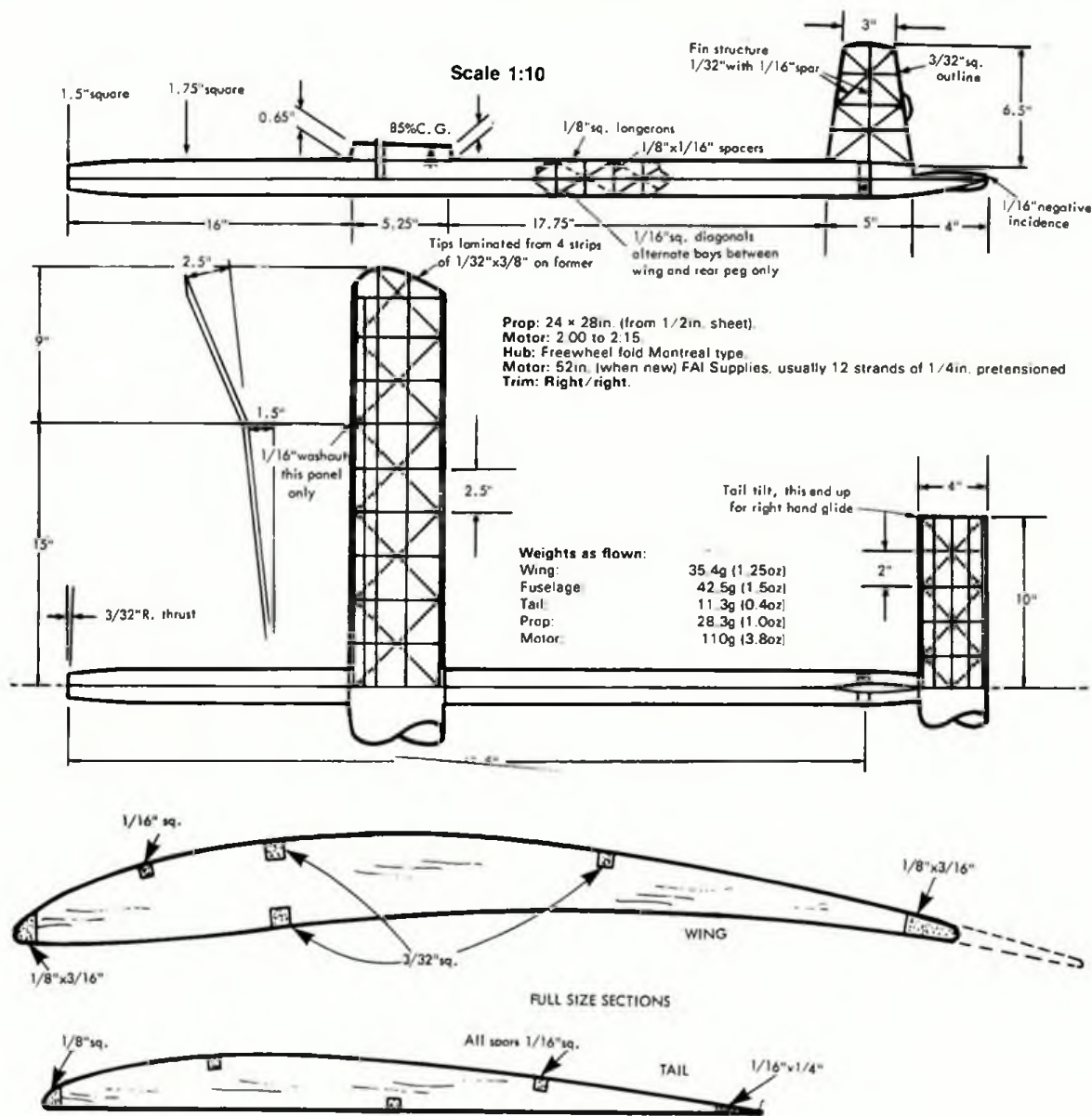
1 D. Davitt	17:37
2 C. Strachan	17:36
3 S. Fielding	14:05

Thanks to the efforts of Barry Judge this meeting received trade sponsorship for the first time in the form of the UK branch of Finlux, the Scandinavian electrical manufacturing company, awarding trophies and plaques. Not only that but Martin Pendlebury, area manager of the firm, attended to present the prizes. Morley, the organising club, having attracted large entries on previous years were thus able to spend all their budget on additional prizes so winners were richly rewarded and awards went down to 5th place in most classes. The event was capably CD'd by Stan Horne.

The tiny site hardly lends itself to large maxes even when the weather is as kind as it was on this occasion, so despite a wind that never exceeded 10mph, and was often much less, the max was set at 1:30 for combined Cd'H and A1; the same for P30, and two minutes for Vintage - with no size restriction on that class as there had been at Oxford. Maxes were plentiful but were hardly a formality as our reporter Ian Davitt found out with his Cd'H when a 1:12 took him straight down to fifth place.

An addition this year was Dart Duration, a new power class, being run for the first time anywhere. Rules, which were drawn up in some detail by the Northern Area at the beginning of the year appear elsewhere in this column. Minute-and-a-half maxes here also proved more difficult than expected. Chris Strachan, or should it be 'Team Strachan' - who are not only very much on form at the moment but also seem to be appearing at all contests, no matter where they are - were triumphant in Dart with a 1/2A model hastily converted. Ian reports that it was pleasant to hear the friendly purr of small diesels rather than the aggressive stream of 1/2A glow motors. Nice smell too!

John O'Donnell's Teachers Pet design topped P30 with the only full score. The design has been published in Aeromodeller so it's no secret weapon! Of the events



Inferno II: Derek Wain's Open Rubber model

Derek's Open Rubber model development dates back to the early 70s. At this time he built several prototypes, including various published designs of the period and even an own design with a 40 gm. motor during the period when there were limited experiments with such a contest class. His first success came at the '72 Southern Gala when the conditions were so windy and thermally that three maxes were enough to lift the Flight Cup. A little later the original in the current series was built. Recent contest successes include the London Area Gala last year (with a very impressive flyoff win in dead calm conditions) and top individual in the Farrow Shield. A few months ago he

took what I consider to be the most difficult Open trophy of all - the Gamage Cup.

First marks of Inferno were powered with 4oz. of 1/4" Pirelli in 16 strands but now that has given way to 12 strands FA1. These have lengthened the run a little from 1:45 to over 2 minutes, and as the propellor assembly incorporates the popular 'free-wheel fold' Montreal stop system this skein has to be pre-tensioned despite its modest length.

Wing section and layout were actually lifted from a design published in Northern Area News by John Pool. It will be noticed on the drawing that the section is actually a very Davis-like 6" chord profile with 3/4" trimmed off the back. This makes for a very thick cross section and with substantial 3/32" sq. spars and union jack ribs the wing is certainly robust.

Incidentally, Derek *has* built one without the leading edge spar: he had great difficulty trimming it. In fact he could never cure a slightly underelevated yet undulating glide, no matter how much he played about with the CG and incidences. (These are the classic signs of the need for turbulation but are rarely encountered so vividly). A thread turbulator where the front spar should have been cured it and all further wings had that spar in!

The name comes from that original NAN design which was lost in a D/T fuse accident before the advent of snuffer tubes, but one of the current series has lived up to its family connections, for at the '84 Woodbury Weekend it DT'd down right in front of the advancing heathland fire and wasn't retrieved in time! Anyone finding a wire prop assembly...

requiring flyoffs, Coupe/A1 was first and the gliders of O'Donnell and Bird flew early in unhelpful air to be topped by Gerry Ferer's Cd'H which was flown later in a more buoyant patch.

Vintage went the way one would have expected with the largest model, Steve Fielding's Korda, outgliding the opposition when all three launched close together and climbed to similar altitudes. Chris Strachan cured the stall that had robbed him of the Oxford meeting, and Dennis Davitt dropped to a Senator after flying all day with his

Yankee IV. Actually Dennis had had at least one narrow squeak in Cd'H earlier in the day when his model managed to glide into a coal bucket in the back of a farm vehicle, so he didn't think he would risk losing the Yankee IV. Presumably Chris Strachan thought similarly, or perhaps one of his Lanzo Sticks might have been considered over-kill!

With numerous entries, and prizes down to fifth place (in the form of modelling goods and plaques from Finlux) this part of the day was well attended. The prestigious

Finlux trophy, to be awarded to the over-all Champ, was decided on the best three scores, excluding fly-offs. Dennis Davitt carried this off by a mere second.

Of course, these mid-season mini-meetings have been blessed with very good weather but if entry numbers are any guide at all it is quite obvious that Oxford and Morley have the formula and attitude that people want in a contest. Despite insisting that they are only small-scale low key affairs, they are attracting more and more entries each year!

Dart Duration

Now we have seen the first event in this class run successfully it is time we looked at the rules. The aim has been to create a class of power duration model which could be flown on small noise-sensitive sites and with plenty of flexibility. Here are the rules which were first published in the January issues of Northern Area News.

- a) Power to be 0.6cc (max) plain bearing diesels only.
- b) No auto surfaces or functions apart from timer operated fuel shut off and D/T.
- c) Number of flights, engine run and max to be decided on the day.
- d) Longer engine runs may be allowed for less competitive model/flyer combinations.
- e) The model is entered, not the flyer. A competitor may therefore enter as many times as he likes with different models (as in the 100gm coupe event at the Aero-modeller meeting). Also he need *not* be the builder of the model.

At the time of introduction John Godden reckoned model design would follow the pattern of the small 1/2As; that is, with 150 to 200 sq. in. wings and a total weight of about five ounces. The DC Dart is the obvious choice of motor but there have been some faster 0.5cc. diesels in the past. I had an AS 55 in a model of these proportions back in '61. I wish I had kept it, for it would have been easily capable of 2 minutes from ten seconds of engine run. Dart Duration sounds an excellent class - a sort of mini Slow Open (and we all know how SOP caught on).

SMAE World Team Trials: Beaulieu Heath, 28 and 29 June

The gamble of using a mid-summer date for the opening weekend of this year's Trials paid off. The hot muggy conditions over the notoriously difficult gorse-covered heath provided a test very reminiscent of - and perhaps even more difficult than - a hot French contest. Although the terrain caused its share of model damage, losses were at a minimum as the breeze co-operated in strength and direction, but the numerous (and necessary) control moves were very wearing, particularly with so little space available for vehicles.

Contrary to forecasts the locals didn't have it all their own way. Certainly the top two fliers in glider use the site regularly but many of the other leaders had never been there before. Stafford Screen, who I heard referred to as 'Machine Man' by a fellow F1C competitor, appropriately produced the only unblemished score. Ron Pollard's dropped time in F1B came as a result of missing a patch of air by flying slightly too late. This was the fate of many who were more used to aerodrome tactics, where the thermals are very different in shape. Pete Gaunt mis-set a VIT timer on the first round of the second day nearly to stack his rough-weather model which he used just for that one windy round. The model got away but too low for a max - it was his only mistake.

It remains to be seen what the effects of the last five rounds will be. Sadly they will have to be flown in October rather than in



All the fun of the Trials. Top: So often a Team member back in the 60s, Bruce Rowe is still competitive with a design very similar to the one he used then. Here he chats to Dick Johnson before winding. Above left: Ray Monks back in the thick of it again - well up in F1C so far. Above: This Russian-influenced F1B by Dave Greaves flew well but was unlucky with tricky lift. Left: Andy Crisp was well on form in F1B despite difficult conditions. Below left: Norman Marcus trying his hand at F1B again.

the Summer but at least part of this year's experiment has been a success and may encourage further thought along the same lines for future Trials. Much of the credit for Beaulieu meeting must go to John Hook whose first-hand knowledge of the site and its awkward wind swings was of great benefit. So also were his running leader board, score board, clear signals and free drinks!! He had some interesting ideas as to what he would do to anyone ignoring his rule about not flying up wind of the line but undoubtedly his strong positive direction was what this (and any other Trials event) required.

SMAE World Team Trials: Beaulieu Heath, 28 and 29th June. Results (3:00 x 9 flights)

F1A		
1 C Edge		25.12
2 G. Madelin		24.57
3 W Colledge		24.29
4 M Cook		24.31
5 B. Baines		24.28
F1B		
1 R. Pollard		26.18
2 G. Foster		25.56
3 P. Gaunt		25.51
4 I. Taylor		25.29
5 B. Aslett		25.05
F1C		
1 S. Screen		27.00
2 R. Baggott		26.48
3 R. Monks		26.47
4 K. Faux		26.16
5 P. Watson		26.06

BALSA CUTTINGS

Offcuts from the world of aeromodelling swept up every now and again by Cyano de Bergerac

LET ME TELL YOU A STORY about flying fields. The members of a club were sitting pensively in a circle on the ground, knees drawn up under their chins, models neglected. Along came a good fairy.

'Why are you so doleful?' she asked kindly.

'We are glum,' they replied, 'because we have always been pushed from pillar to post, and whilst currently we enjoy two good flying fields, they may both vanish before our very eyes at any time. Oh, how we wish we had security of tenure.'

'Is that all?' laughed the fairy. 'Why, I can soon fix that. How would you like to buy your very own flying field? You could have a car parking space, a little shed for brew-ups and a wind-sock - it would be lovely.'

'About the size of a cricket pitch and across the prevailing wind, isn't it?' they said.

'No, it jolly well isn't,' responded she of the gossamer wings. 'It's fourteen acres, and it's square.'

'But it's miles away,' they hazarded. 'Hemmed in by trees and eventide homes for neurotic old ladies.'

'Not even as far as you quite happily go at present,' smiled the fairy. 'And it's in beautiful open country with the nearest house a long way off - noise problems just wouldn't exist.'

Jointly and severally the club sucked in its breath. 'How much is this aeromodellers' paradise?' they enquired, well knowing that the going rate was around £1,500 - £2,000 per acre.

The fairy beamed. 'A thousand pounds an acre.' Quick calculations followed.

'But we haven't got £14,000,' they mumbled.

'Really?' said the fairy. 'But you're not exactly school-kids, are you? You all seem to be about eighty-six, the club's been around for twenty years and you must be a hundred strong.'

They nodded uncomfortably. 'Perhaps our bank manager...' they began. But the fairy just flew away.

The sad thing is that it isn't a fairy story at all. Precisely such a deal has just slipped through the hands of a distinguished club.

Sometimes, things that really ought to be said are left unsaid because they are difficult, or unpopular or boring. The Flying Field Problem manages to be all three. But most certainly something ought to be said about it, and that here and now, for it is high time we gathered our wits and tackled it sensibly. And as this column combines fearlessness with its wisdom, here it comes, hot and strong.

We can all accept that the overall situation is one of deterioration towards a

point of real difficulty, but how many of us recognise that it is nobody's fault but our own? Oh Aeromodellers! Look inwards, for there is much to ponder. All our days we have been scroungers, always relying on someone else's good will to meet the biggest requirement of our hobby - the space to fly in. As one by one the great ex-RAF airfields and other amenities have become lost to us, we have simply bewailed their passing and gone off to make a wanton row elsewhere. Whence, in due course, we have also been chucked out. Very few have made sensible provision - my remarks are not directed towards those who have, or who have unlimited access to open country. Most of us still nourish the secret hope that some day an enlightened government will be persuaded to view aeromodelling in a different light, and Do Something For Us. Well, forget it. There is no Aeromodelling Vote, and if eighty thousand people can amuse themselves by getting packed into a single football stadium, no-one is going to indulge umpteen tiny MFC's each wanting the kind of space taken up by a squadron of Lancasters. Why should they? Nobody gives golf courses to golf clubs. They have to buy them. There is a temptation to think that people who knock little white balls about are piffers, but where would all the golfers be if they had no more get-up-and-go than aeromodellers? You know quite well - competing with us for the formars' favours.

The idea of buying your own flying field is not new or clever; just logical and neglected. And it works. Certainly there are difficulties and dangers, and there is a place for a central guidance agency to dispense advice on purchasing, planning permission and form of ownership. And land management. Well, you want to let the grazing, don't you? However, there is no place for a plea that it is too expensive. It isn't. Just look at your own club. Say that you each give up one pint of beer a week. That leaves you 49 pints each still to be drunk. Reckon that at compound interest, not in twenty years, but five! And as for the club the good fairy visited, the members could easily have put the cash together themselves inside a week.

There are good reasons for considering purchase right now. Firstly, you know how your lot dither, and it will take ages to get anything going anyway. Secondly, by any standards it is time we came to our senses, ceased our mendicant whine and started helping ourselves. Thirdly, farms are getting bigger, and buying small parcels of land will become harder. Fourthly, look at the average age in your club these days. High, isn't it? Lots of blokes well on in their jobs, some with paid-up mortgages and grown-up families. This is the time.

There were no flying-field problems in the immediate post-war years - for habitués of the Model Sportsdrome, Eaton Bray, at least. Transport was often more of a difficulty. This Freddie cartoon from December 1946 is not so far from the truth as it might appear....



"I TOLD YOU THAT THIS WAS NO PLACE FOR PRE-WINDING"

FROM THE HANDLE

CONTROL LINE NEWS

Stunt with Claus Maikis

Bacillus Laseritis

Bacillus Laseritis is, according to Webster's dictionary, a newly discovered bacillus which first appeared in Southern Germany.

Diagnosis: the bacillus affects different individuals and causes them to build the same airplane.

Characteristic symptoms: horizontally widened cowl, turtle deck, square wing and tailplane tips, aluminium sheet undercarriage.

This disease is infectious. In severe cases - consult the doctor.

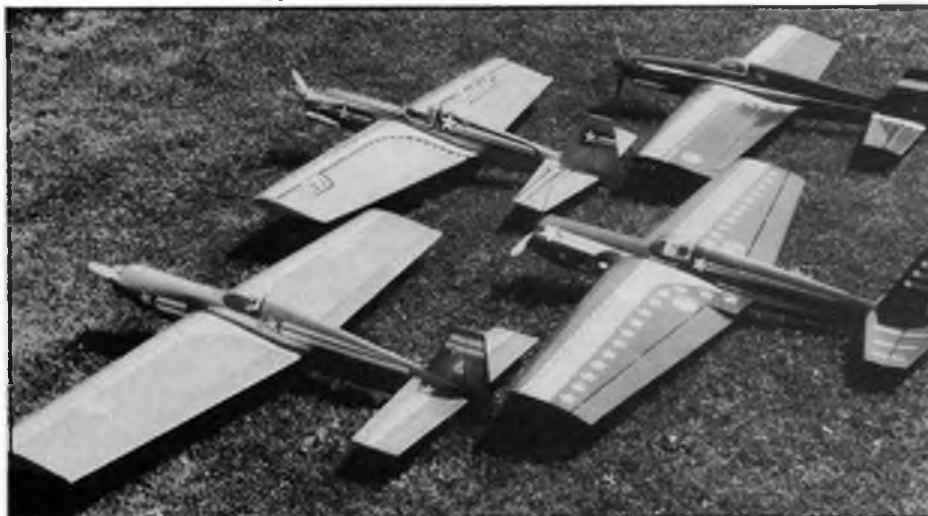
The bacillus hit after a nice contest when I was sitting around with some friends, relaxing and discussing the results. This led us to the true meaning of competition flying in general, and of stunt flying in particular. While it's the goal of a contest to compare skills and to determine a winner, I feel it's surely not the one and only sense of our activity. One of the main motivations is to be creative in the best sense of the word. Right from the beginning (the idea for a design) to the end result (the contest placing) what we do is being creative to a degree not easily found elsewhere in life today. So, just trying to build a better airplane every time and to fight for a trophy has never satisfied me completely. I want to get a little bit more out of this sport. For a creative person there are more and better ways to gain satisfaction, and a trophy doesn't prove that last weekend was much fun. Trying to convince other people of this viewpoint is one thing. However, to get them to start to do something is another. I tried it some years ago without success. This time I found a few individuals who were willing to join.

The idea was that several modellers should build the same type of airplane. It

should be of the semi scale type, so that it could easily be recognised. Every flyer should design his own airplane, choose his favourite engine, use his preferred size, shape, dimensions, and construction. Everybody was free to build a near scale ship with concessions to aerobatic performance; a capable stunter with only slight resemblance to the given object or something in between. The Laser was chosen because its shape is so distinctive. Even with minor modifications to a more functional design it's easy to produce a 'Laser look'. The cowl, fuselage shape, surface planforms and undercarriage can be simply adopted and clearly identify that airplane. Besides, the features of the Laser are extremely suitable for an aerobatic model, make for easy construction, and may even enhance flight performance, as I pointed out in my Laser construction article last month. Add to this that a Laser really stands out among the usual modern stunt shapes. This way, aesthetic considerations were satisfied, too. It was a challenge not only for technical but for aesthetic creativity, too. We agreed that the paint work should be similar to the original layout, but not necessarily exact to the point of pedantry. A three view drawing of the full size craft was given to everybody. There were no limiting rules of any kind. The whole thing was *not* thought as a contest; no kind of competition as to the 'best looking' or 'best flying' airplane was intended. We just wanted to know what different designers would do to the original 'shape' and who would choose which way to manage it. After all, an aerobatic model is very much an expression of a flyer's personality and mentality. . .

It took about two years before the four pilots met with their airplanes at a contest. Everybody was curious to see what the others were taking out of their cars. When we put our four airplanes on the ground together, they immediately drew a ring of

Beauty times four - individual interpretations of the Laser, as discussed in the text, make an eye-catching sight. Note the three-bladed prop of the rearmost craft.



The Laser pilots and their airplanes. Left to right: Claus Maikis, Wolfgang Gromann, Lutz Hetges, Hartmut Ruff. Now, where is your Laser? Remember, it was last month's Plans Service offering!

onlookers, and photographers turned wild. A few flyers even regretted that they had not followed my idea.

One of the most interesting aspects of the whole project was to see how different modellers approached the same thing. For instance, Wolfgang Gromann chose to use exactly the same dimensions, proportions and general layout as on his previous model with which he was satisfied. He just made another fuselage. As it turned out, his airplane is one of the best looking and best flying ones. Lutz Hetges tried to solve his transportation problems and incorporated some novel features, such as separately removable wing halves, removable centre main spar and an adjustable bellcrank system. Alas, these features - plus the best finish he'd ever done - cost him quite some weight and a few mechanical problems. Hartmut Ruff tried to stay as near as possible to the original fuselage proportions. With a clever construction method he duplicated the relatively bulky fuselage (for a stunt model) which also incorporates the silencer. Myself, I tried to stay with more traditional aerobatic proportions and to rely on typical details and characteristic paintwork for recognition (perhaps my typical detail?).

When time permits we'll try to fly each other's airplane to see how different layouts will perform. This should be a splendid occupation in the pause between the last contest flight and the result presentation. Since plans (or sketches, at least) are available, a lot can be learned from this. Of course, that's one of the nice side benefits of the project. However, the biggest gain for us was the sheer fun of doing something extraordinary - and at some time produce some good looking, interesting, and capable stunt airplanes.

Want to join us?



For simplicity's sake

Recently I had a conversation with Reiner Hofsass. Those whose horizon exceeds the line length of 21 metres will know that he's the current World Champion in the Wakefield class. Reiner told me that while designing his model he'd got invaluable assistance by having access to a big computer, one which is usually used for designing exclusive automobiles - the car with the star! (This must have had some positive influence on Reiner's design). Without this help development of his design would have required months, if not years of intensive work. Some time before I had read an article of the American Matt Gewain who extensively used a computer for designing his Nordic glider model.

I realise that for the 'scientists' among us this kind of work is really fascinating. It opens new worlds, offers new possibilities, and helps to overcome many limits we've

had to accept in the past. Progress is a challenge I fully understand and appreciate. Sometimes though, I begin to doubt whether what we get is what we want. Of course, the first one who has improved his performance has an edge over the competition. When - after some time has passed - everyone has reached the same level, the situation is restored, but now everybody has to pay a higher price for keeping at this level. Don't get me wrong. I'm not against progress, and I'm not too lazy to work hard. But I deny the statement that progress can only be made via more complication. Of course, there are always those who can afford it; those who can afford everything. But an increasing number of people can't keep pace, and so drop out. Compare the level of participation (not only in aerobatics, and not only in our sport) now and some years ago.

Though it might seem almost impossible (!) control line flying in Germany is still

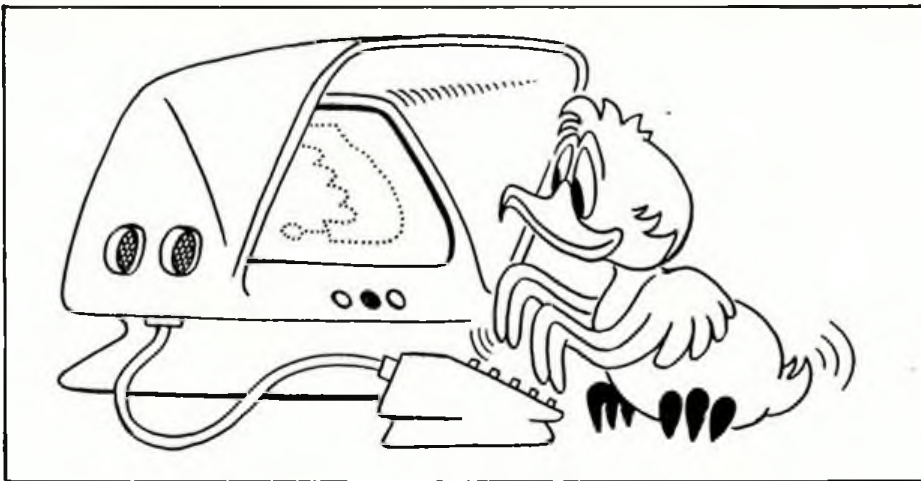


decreasing. While team race and speed activity is at the absolute minimum, and even combat has shrunk unbelievably, stunt is the only event for which a contest can be organised. Some new blood has come from combat, team race and - would you believe - R/C! The reason is obvious. The effort needed for competing in our event doesn't exceed the average man's 'skill, time and money' factors. What is required to become a World Champion is a completely different story, but here we are talking about contest participation and general activity.

It seems that some change of opinion has taken place in recent years. When reading *Aeromodeller* you can't fail to notice that the Vintage scene is steadily widening. Is this a reaction to all that high technology stuff we're confronted with in modern life and in all these more 'modern' magazines? I've intentionally put 'modern' in quotation marks since I feel this word isn't necessarily a positive term. Often the label 'modern' seems to be used by a lobby which wants to catch consumers and make money. If someone says control line flying is too simple and obsolete - then I feel just right. Nothing can be too simple. One of my favourite authors is Antoine de Saint Exupery, a poet and pilot. He says: 'Perfection doesn't exist where you cannot add anything more, but instead where you cannot remove anything more'. In this respect free flight is the most perfect kind of aviation, even more so than full size aviation - after all we can remove the pilot, can't we! Free fighters, did you hear? But as long as you want to execute any kind of control on your airplane, control line flying is the simplest form.

There are always those who want to change our event. They want to add appearance points, they want more difficult manoeuvres, they want to add taxiing, throttle, engine stop, and who knows what else. (Recently, in America there was a formal rule proposal to change level flight into 45 degree banked flight for 'improved realism'. Have we control line flyers ever sought realism?). Be careful! Think twice before agreeing with these ideas. After all, our rules have been in existence for quite some time now, and this proves that they are basically sound. Some have tried engine throttle, and some have tried retract gear. Neither has ever caught on. It has been argued that neither improves performance and therefore was not adopted. I'm convinced that this is not the point. We have a simple event, and the mentality of stunt flyers seems to prefer simplicity. While 'throttle on and gear up' might impress some judges, something like a 'gentleman's agreement' seems to have prevented a development into complexity. Remember what happened to Combat in England when the more 'modern', more 'efficient' glow engines were adopted? It has been proven very often in the past that things can't be kept simple by rules. A good idea can only succeed if people are convinced. And then - you don't even need rules.

Imagine the effort flyers in other classes have to go to be simply active, let alone to be competitive. We stunt flyers can buy a Nobler kit and a Fox engine, and don't need



much more. And while there may be better material, Bob Gieseke has won the World Champion's crown with this combination. I doubt whether the junior problem is the biggest problem of control line. Perhaps high technology has cost us more flyers than R/C was ever able to take away from us. Maybe R/C is the excuse for not being able and willing to pay too high a price. The price for control line aerobatics is within everybody's scope. Maybe we should make this better known.

Control line flying - as well as model flying in general - isn't a popular sport, and it will never be. Flying airplanes on strings is just too abstract a concept for the average mind. What most people don't realise is that two lines are by no means a handicap or a limit. The simplicity they offer is a possibility and a challenge. Saint Exupery says, 'Machines are undergoing three phases in their development. First they are simple. Then they get more and more complicated. In the final stage, they get very simple again'. A simple chuck glider has a sheet wing. The better gliders have a complicated rib and spar construction. Reiner Hofsass' world championship's winner has a solid wing again. Of course it takes much more knowledge to keep things simple. But - doesn't this argument prove the justness of our event? At least, it's grist to my mill.

F2B Open Aerobatics

Opening contest flight, after a warm up by Bill Draper, was from Ted Lloyd, using an almost vintage stunter in his first competition event for over 25 years. However, Ted's motor let him down when it spluttered half-heartedly for several laps in inverted flight without enough power to recover, eventually to die and force an inverted landing on the tarmac. The damage was not serious but was sufficient to cause Ted to withdraw from the rest of the contest. Nev Dickinson continued with his now well-tried Norstar and raised a healthy target for following flyers to aim at the OS40 (Dickinson tuned!) sounding as sweet as any OS I have heard. Peter Miller's model is a handsome example of a Tindal Chipmonk, powered with an Enya 45; and the repair to wing stress damage sustained at the last Three Sisters event was indistinguishable from original. Bill Draper was using a new version of his Superhawk but this was still undergoing trim adjustments. Despite a weight of 60oz. it set the top score of the round.

Ken Reeves also used a trusted Superhawk with Enya 45 but was a little ruffled by some turbulence. Tony Eifflaender tried his latest lightweight Freebird which is finished in white Solartex, the motor spluttered in the clover pattern forcing him to abort the manoeuvre. A new

Barry Robinson's new Northwind, now several contests old, had been refitted with a Merco 61 in place of the original ST 60 but performance seemed unaffected although Barry was still fine trimming with weights and handle adjustments. Peter Arkley's ST46 sounded as sweet as ever in his Superhawk which hammered its way through the schedule. Welshman Dave Copeland used last years Manta, with an OS40 swinging his homemade three-blade prop (the only three-blader in the contest) whilst last man in the round, Ian Ward flew his Merco 61 powered Northwind.

The first day finished with Bill Draper ahead of Barry Robinson, with Nev Dickinson, Tony Eifflaender and Peter Arkley close behind.

Sunday was somewhat fresher and would clearly test the trim adjustments of the new models. The wind made landings more critical and most flyers had at least one bouncy landing during the day. The first round was flown in the same order as day one without mishaps, although Ken Reeves suffered due to a slow run and Peter Arkley and Dave Copeland both suffered some particularly gusty turbulence. Bill Draper slowed the run to achieve better control but suffered the 'bumpy landing syndrome' and had to adjust the undercarriage throughout the day to improve ground handling. Peter Miller set his Chipmonk down very cleanly every time but Barry Robinson joined the bumpy landing club on his first flight. Tony discarded his new lightweight in favour of his last year's heavier model and picked up a large increase in points as a result.

The last round was flown in reverse order and showed generally improved scores as flyers adjusted to the wind. Bill Draper adjustments resulted in a cleaner landing at the end, which raised his score but he was overtaken for second place by Tony who made a big effort. Peter Arkley's third round score inched him ahead of Nev Dickinson but Nev's final flight of the contest was a big score to pull clear of Peter for fourth place.

Seen at Three Sisters, Bill Brown's new Spitfire is Merco 61 powered and 62in. span. The proud owner holds his craft in photo at immediate right. Note 'WB' initials.

More stunt with Bill Draper

Stunt at the Three Sisters Gala, 28/29th June

Weather was hot and sunny, with light winds on the Saturday. It was still hot and sunny on Sunday but with a stronger, blustery wind which helped to keep spectators cool but made the flying much harder work. Three rounds were flown in both F2B and Novice, with the best two to count for each flyer.





Top: Bill Draper's latest Superhawk is a stretched version of the original. Wingspan is now 58in; the model, Enya 45 powered, weighs 60oz.

Novice Stunt

The opening round saw only two competitors in this event but with the prospect of further entries on Day 2. Jim Major broke the ice in his first event after completing his first full novice schedule only two days previously. He put in a competent looking schedule with his ST46 powered Superhawk. Chris Whittaker met disaster; the Enya 45 setting off far too rich and the aircraft thus losing all line tension on the first manoeuvre after take off, rolling in over the pilot's head into the tarmac...

Three more entries arrived on Sunday but so did the rougher conditions. Jim Major tried a practice flight and decided he would rather take his model home again. Chris Whittaker had a 2.5cc diesel powered profile model, which obviously gave him more limitation on smooth control, but his luck ran out again as the compression screw eased back shortly after take off forcing him to abort much of the schedule. Bill Brown from Scotland had brought a brand new and handsome Spitfire equipped with a Merco 61 but wisely opted for his well tried Chipmonk with Enya 45 to move into the lead. Jeff Smith followed with full score from his sidewinder Fox 35 powered model, and the last flyer in the round, Barry Pickles raised the standard again to take the lead with his Europa.

The last round, flown in reverse order, saw Barry Pickles in some trouble with a short motor run, the motor dying in the vertical eights. As allowed in the novice rules he hurriedly tanked up and restarted to carry on but ran out of time before completion, losing his last overhead and landing. The wind proved troublesome to Jeff Smith, blowing him into a low pull-out low completion of the vertical eights, the plane just kissing the ground. Damage was limited to prop, silencer and undercarriage. Bill Brown also found himself blown around and finally aborted the last overhead for the sake of preservation. Chris Whittaker achieved his first full schedule of the contest but the obvious limitations of the model restricted his score. The event finished with a win for Barry Pickles whose persistence in the last round earned enough points to see him through.

Results:

F2B Open Aerobatics Judges: Doris Dickinson, Alan Tedds
CD: Tony Eifflaender

1 C W Draper	1949	1962	2016	3978
3 A C Eifflaender	1797	1938	1954	3892
3 B P Robinson	1915	1910	1946	3861
4 N Dickinson	1821	1805	1926	3747
5 P N Arkley	1810	1763	1853	3663
6 D Copeland	1707	1676	1778	3485
7 I Ward	1566	1725	3450	
8 K N Reeves	2580	1520	1612	3192
9 P Miller	1481	1541	1506	3047
10 E Lloyd	205	--	--	205

Novice Stunt Judges: P. Arkley, A. Eifflaender.

1 B Pickles	--	827	696	1523
2 W Brown	--	773	665	1438
3 J Smith	--	751	573	1324
4 C Whittaker	40	208	558	776
5 J Major	688	--	--	688



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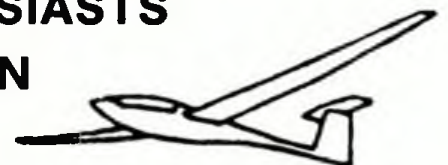
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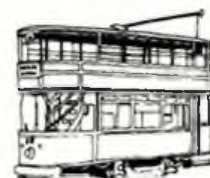


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Appendix - Links to the plans

The original issue comes with two free plans (Gloucester Gannett, MINI GH20) printed front/back on a pull out banner of four sheets. The banner is not included in this document.

Ariel by Doug McHard

FF Rubber semi scale from September 1948

<https://outerzone.co.uk/search/results.asp?keyword ...>

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Spinneroo by Ray Millard

FF Power Saucer

See in the document

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CO2 Sporty by John Russell

FF CO2 Scale

https://outerzone.co.uk/plan_details.asp?ID=3121 ...

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Gloucester Gannet by Ray Johnson

FF Rubber Peanut

https://outerzone.co.uk/plan_details.asp?ID=3581 ...

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MINI GH20 by G.F. Elsegood

FF Rubber from 1942

https://outerzone.co.uk/plan_details.asp?ID=3582 ...

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