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Aero modeller



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WORLD CHAMPS REPORT



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Aero modeller

NOVEMBER 1981

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MAP MODEL DIVISION MAGAZINE

Advertisement Director **M. GRAY**
Managing Director **RON MOULTON**

Comment

FOR COUNTLESS years our monthly 'Topical Twists' has entertained with humorous, often pithy, comment from the ever-anonymous 'Pylonius'. His gifted asides have long defended the dedicated true-blue modeller against the inroads of ready-to-fly plastics. By pun and double-entendre, the column became world famous. Many's the time we've had to defend Pylonius's true identity!

Now, alas, time and changing fashion oblige retirement. As in that quotation from

Shakespeare's Hamlet — "*Alas poor Yorick. I knew him Horatio; a fellow of infinite jest, of most excellent fancy...*"

Farewell Pylonius — habits may have overtaken your world but those three decades of balsa bashers will long revere your style.

Change is also due for 'Club News.' In future we want to make this feature into the newsy, illustrated exchange of information it should be. Quotes on who shooed the cows off the path, or won the three month old chuck glider event aren't exactly inspirational. We need pics, sketches, designs, ideas, notices of events, gadgets, suggestions to make CN a genuine cross-

fertilisation of typical clubroom and field discussion. It's up to **You!**

How about news of the new approaches in some clubs to CO2, Carrier Deck, Limbo challenges, spot landing and mini-duration events. Share your experiences by letting Clubman know about them.

Significantly, this issue has neither Topical Twists or Club news which have had to give way to our extensive report by Martyn Cowley on the eventful Free Flight Championships.

Such important events demand attention and a truthful account which we hope you will enjoy. **the editor**

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ON THE COVER

New World free flight power champion Andras Meczner of Hungary Meczner beat his old Russian rival Eugene Verbitski in the fly-off, a fitting reward to this veteran flier after so many close placings in previous World Championships. See report, page 564.

NEXT MONTH

Full reports on the British control line and Indoor Nationals, plus! a free plan insert, with two models to build. The Nipper, a catapult glider, and MG 049 motor glider for 049 engines. Also, an APS plan to build 'FRED,' Eric Clutton's flying runabout, as an Arden powered scale rubber model. Trade and engine news complement a full 'Christmas' issue.



New World Free Flight F1A Champion Tony Vidensek. See full report on page 564.

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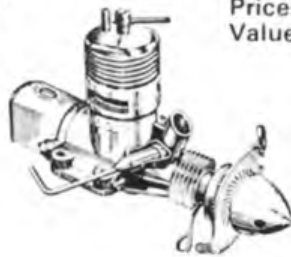
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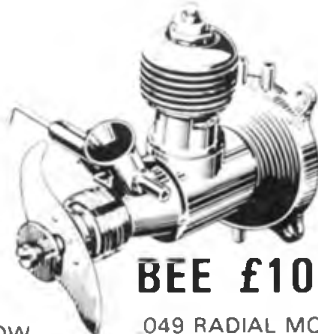


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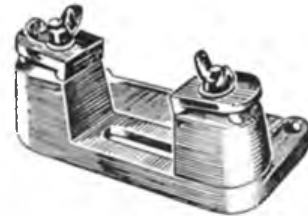
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Model on the left is quite different. An all-sheet swing-wing glider. Its performance will be directly related to its total weight, so you should choose light or light-medium density Balsa throughout. Solarbo 'Rib Stock' again for the tail parts and wing centre section panels, with grain running spanwise. Softer, light sheet for the fuselage and pivoted wing panels. Smooth, true warp-free sheet. Solarbo Balsa again throughout! It's also amazing how much more *satisfying* it is to work with top Grade A Balsa.



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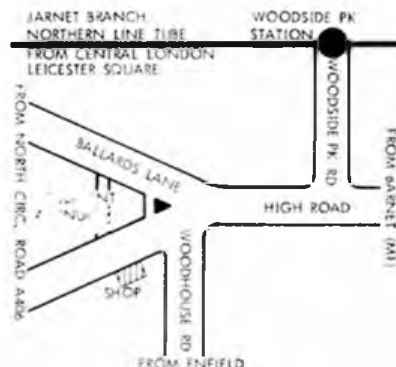
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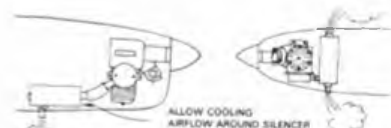
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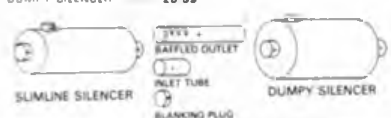
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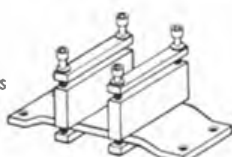


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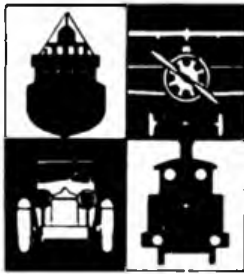
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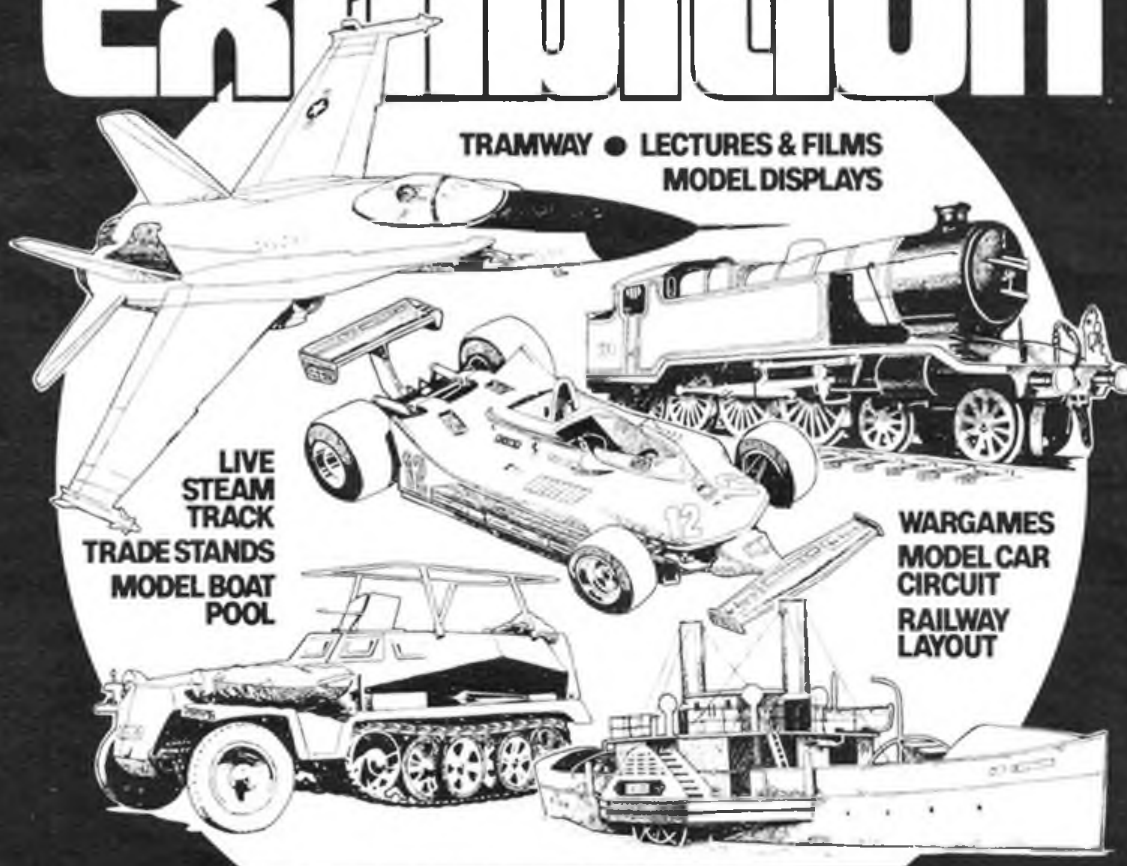


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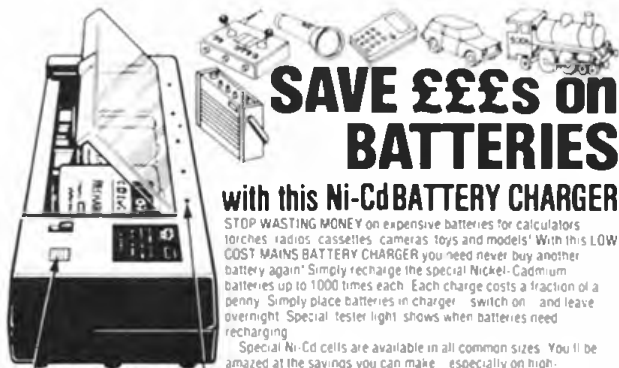


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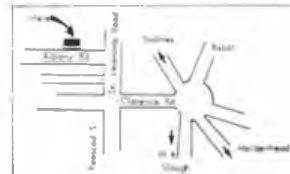
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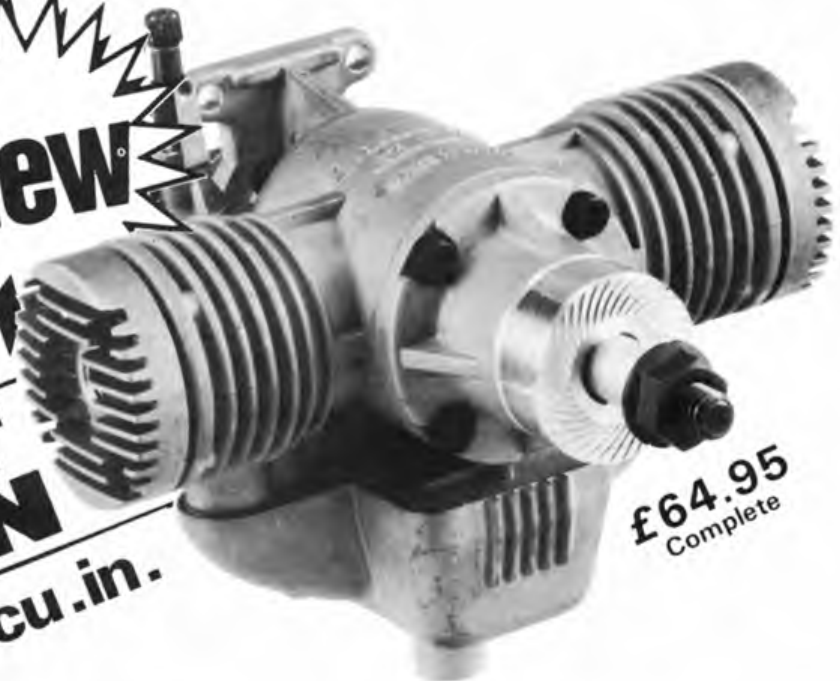
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Don't forget 5 crosses max!

WINNERS OF THE SEPTEMBER COMPETITION ARE:

- 1st R. Weeks, Dunfermline, Fife 35MHz FM Futaba
2nd David Face, Birstall, Leicester 35MHz Sanwa AM
3rd T. Eric Lutton, Banbridge, Co. Down 27MHz Futaba
4th G. Stanley, Birkenhead, Merseyside 27MHz Sanwa
5th D. R. Finch, Brentwood, Essex 27MHz Futaba
6th C. M. Fairweather, Lindfield, Sussex 27MHz Sanwa

RULES

1. The competition is FREE and open to all Aeromodeller readers.
2. The model has been erased from this picture. Use your skill and judgement to determine not just the position of the model in the picture, but its exact balance point.
3. The first twenty entries with the centre of a cross nearest the correct balance point will be judged the winners of this month's prizes. If you prefer not to cut the picture from this page a same-size facsimile (photostat) is acceptable.
4. Any number of entries may be made, but each entry must be

accompanied by a separate entry coupon, clipped from the page. The coupon must be the original — photocopies are not accepted.

5. Only five crosses per entry.
6. Entries in this November edition competition close after first post on November 18, 1981. Results will appear in Aeromodeller January 1982 edition.
7. The Editor's decision is in all cases absolutely final and no correspondence will be entered into nor responsibility accepted for late, mislaid or lost entries.
8. Employees of MAP Ltd. and their families are not eligible.



This month

- 1 Enya 35-4C four stroke
1 G Mark Flat Twin Glow
2 Irvine 20 Glow Motors
3 Enya 06 Glow Motors
3 PAW 80 .049 Diesels

Total of 10 motors
must be won!

To Aeromodeller Magazine. Please accept my entry for your November 1981 "Find the Balance Point" competition. I understand the rules of the contest and accept the editor's decision as final.

Signed

MODEL COMPETITION, PO BOX 35, BRIDGE STREET,
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NAME

ADDRESS

.....

NB: Coupon must be original — not facsimile copy
Entry Coupon
Aeromodeller
'Find the Balance
Point Contest'
Nov.
'81



1981 CONTROL LINE NATS

The weather couldn't have been better for this three day event which included free flight scale, R/C gliding and R/C scale. Barkston Heath is an ideal location offering plenty of space for each event, in fact stunt was out of sight being in a far corner of the airfield over the brow of a hill. This situation pleased a lot of the competitors as they were left alone, but didn't help the spectators much.

The standard of modelling and flying was very high as you will see next month, when we have a full illustrated report on all the control line and free flight scale competitions.

INDOOR NATIONALS

It is always an experience to drive up to the very large Cardington hangars. Saturday August 29 the first day was no exception, the hangars loomed out of a low lying mist making the 100 odd foot high building quite an awesome sight.

Inside there was a nice relaxed atmosphere as modellers prepared their models and discussed the latest mods and innovations. Soon the air was alive with hand launch gliders and CO₂ models gracefully finding their way to the upmost parts of the ceiling, while others flew for minutes at only two feet off the ground. Fascinating stuff so don't miss Bob Bailey's full report in next month's issue.

ROUND THE POLE

At the Model Engineer Exhibition to be held on January 7-16, 1982, we will be running a competition for the best scale round-the-pole flying model, and this will take place on January 11th and Saturday 16th.

On Monday 11, Derek Farman and a group of his students from Stalham High School, will be putting on a flying display of their models which include: a Martin Handasyde No. 4, Sopwith Tabloid, Morane Saulnier Type G and a Caudron, plus many others.

All are welcome to come and fly their models on both days. The flying area will be available all day on the 11th and 16th, so bring your models and let's make it one of the best RTP displays ever seen at the show.

COUPE D'HIVER 1981

The 1981 Aeromodeller Coupe d'Hiver (Winter Cup) contest and Anglo-French Challenge event takes place at RAF Henlow, Beds., on December 6 by kind permission of the Royal Air Force.

Those familiar with Henlow will already know that this is a large, all-grass airfield ideal for free flight and we are indeed lucky to obtain this excellent venue.

As in previous years, events will include the 80gm class Aeromodeller Cup and 100gm Bernard Bouillier Trophy.

All attending will need to sign in at the main guardroom and to collect their airfield passes before registration. No pass — no registration, folks, so please remember and get out your prayer mats for the kind weather we had last year

FOUND AT OLD WARDEN

Found in the woods a 30in. span low wing powered scale model. Send full description of the model to Mr. John Partridge, 44 Swyncombe Avenue, Ealing, W5 4DS, for return

KYOSHO HANG GLIDER

The kit review of this model published in October 1981 issue mentioned a modification to the wingspan. *Please note:* this only applied to the pre-production samples. The price stated has also been changed to £55.00.

MINI-LIFT BALLOON MEET

On Saturday, November 7th, at Marsh Benham, Newbury, there will be a meeting for model balloons and airships. For further details send a letter to the Editor.

PHIL SMITH

After a lifelong career in professional model making, publishing, and as a designer for VERON, Phil Smith retired from the model trade at the end of September. His countless creations which embrace every kind of aircraft and boat model have given so much pleasure to hundreds of thousands of constructors around the world. We are sure everyone will echo our best wishes to Phil. We understand he is now going to use his time for more active participation in actual operation of models. Knowing a little of his fertile imagination and creativity, we can expect to see some sparking new ideas in the seasons to come.

Phil started with D. A. Russell in the early days of AEROMODELLER and Dagra Models, but for the last 34 years has dedicated himself to a continuous stream of new VERON kits. Now it's his turn to sit back and be the consumer! He is by no means severing himself from Bournemouth and will be acting as a consultant, and contributor to the company's future efforts.

CHARITY FUND RAISER AT WITCHFORD

More details are now available concerning the Witchford Meeting 1981, first reported in the *June* Free-Flight Scene. The date is still October 25th, and in addition to the three FAI classes, Coupe d'Hiver, A/1 Glider and 1/2A Power, there will also be a CO₂ event. Starting time will be 9.30 a.m., but, due to British Summer Time ending the night before your metabolism will still think it is an hour later, so this will be a painless way to make the most of the shortish daylight.

Two FAI flights will be made before midday, and the other two will be flown in rounds (four in all), with the glider class separate from the combined Wakefield and F1C rounds. These rounds will be short, but well spaced apart, to allow reasonable recovery periods and to let you time your colleagues, although a small pool of time-keepers will be available; if you would like to help with this, please contact the organisers as soon as possible. Bicycle retrieving is feasible, as the perimeter track is still in existence. Contest director will be Free-Flight News co-editor Ian Kaynes.

Since one aim of the Witchford Meeting is to raise money for the disabled, entry fees are slightly higher than usual, £1.20 per class. However, pre-entry will save you both money and time on the morning of the contest, and will cost you £1.00 per class, or 50p for juniors. Current third party insurance will be required and checked before you fly, so don't forget to bring yours. Prizes will consist of commemorative trophies and free-flight goods; distinctive Witchford Meeting stickers will be available on the day, too, so come along and enjoy a good day's flying and help a good cause, too. The flying site is two miles south-west of Ely, and the cathedral is nearby, so wives and girlfriends may be interested in leaving you to it at Witchford while they explore one of Britain's most ancient and spectacular pieces of architecture.



October 18
SCALE AUTUMN MEETING R/C STAND OFF C/L SUPER SCALE SMAE MEMBERS ONLY Venue RAF Upwood Contact John Long

October 18
ELLIOTT AUTUMN RALLY — 8 TEAMRACE, GOODYEAR FAI TEAMRACE, A COMBAT, SPEED, AEROBATICS Venue Marconi Avionics, Rochester, Kent Contact Peter O'Neill Tel (732) 57899

October 18
PETERBOROUGH MFC COMBAT Venue The Embankment, Peterborough Contact Neil Gill, 4 Beech Road Glington, Peterborough PE6 7LA Tel P'Boro (0733) 252645

December 6
1981 AEROMODELLER COUPE D'HIVER 80gm AERO MODELLER CUP and 100gm BERNARD BOUTILLIER TROPHY Venue RAF Henlow, Beds

Book Reviews



Building and Flying Indoor Model Airplanes. Published by John Murray, London W1. Size 212 × 276mm, 272 pages. Price £6.95.

Ron Williams has that unique gift of being a "complete" author, and this stunning book is the culmination of 3 years work in writing, photographing and sketching the stages of making all types of indoor models. To convinced outdoor fliers this may not ring a single bell to command attention; but if they chose to dismiss the book by its title then they're foresaking one of the best volumes ever published on aeromodelling. It takes one from tissue covered fun models through to those ultralight microfilmies that make ¼ hour flights in airship sheds. Midstream in the progress, the small hall clubman has a feast of chuck gliders, peanut scale, Manhattan cabin, Pennypianes and the EZB with plans as well as Ron's beautiful sketches.

There's no substitute for a fine line sketch by someone who actually practices what is being shown — and here the reader is given exceptionally clear illustration of building sequences, techniques and vital accessories such as a beam balance. In fact Ron Williams blows aside all the mystique of indoor model making and flying — and

extends the range to cover even those parts which are frequently regarded as elementary.

As 5p under £7 it's worth every single penny. We'll get ours re-bound into hard covers for almost as much again to preserve it against the frequent use it is sure to have. In other words — it's worth double, but today's stringencies have little respect for the value of an author's work — more's the pity.

World Free Flight Review No. 1, published by W. R. Hartill (1979), Canoga Park, USA. 416 pages, 215 × 278mm, hardbound.

This has been around for some time but we don't think it has had enough exposure! Bill Hartill, US team member and life-long free-fighter, made a dream come true and provided this treat for all who treasure free flight competition. In no less than 674 photographs and ten separate sections, Bill and his 10 collaborators capture in an intimate but wide ranging view, International contests held from 1975 to 1977. Inevitably, there is a concentration on the World Championships coloured with personal accounts. This adds character to the selection of 109 designs. Typical frontspiece is a two page spread of the entrance to Taft, that Californian Mecca and the site of the World Champs in 1979, and the background to the title page is just sky and English fields — the downwind view of Bassingbourn. If you missed it, hunt it out and buy one for your heritage, it is an historical record, a worthy investment which can be enjoyed over and over again.



Aces and Aircraft of World War 1 by Christopher Cambell. Published by Blandform Press at £9.95, 144 pages, size 235mm × 300mm.

The introduction describes the first military use of aircraft, and their eventual formation into a fighting force. The main bulk of the book consists of profiles of individual pilots and specific aircraft they were most noted for flying.

A full length colour illustration is shown of each pilot described plus a full colour side elevation of his aircraft.

The book gives considerable detail of the

uniforms worn by individuals from both sides as well as a detailed description of the aircrafts' technical specifications. There are many black and white photographs throughout which would be of interest to scale modellers of this period. A most interesting book, well worth reading.



U.S. Civil Aircraft, Volume 8 by Joseph P. Juptner 356 pages, 339 photographs. Price £8.50 by Aero Publishers Inc. Imported by Arms and Armour Press.

This 8th volume in a continuing series is both a fascinating and a frustrating book. Fascinating because of its scope, but frustrating because of its lack of depth.

It sets out to give a record of U.S. Civil Aircraft with A.T.C. (approved type certificate) Numbers from 710 to 800, the earlier volumes one to seven having recorded Numbers 1 — 700. A brief history of each type is given, complete with two or three good quality photos, and in many cases a list of registration numbers. Frequently, what was basically the same aircraft had two or more type numbers, due to fitting different motors etc. and thus has more than one entry devoted to it.

From the point of view of the aeroplane (sorry! — airplane) enthusiast, therefore, the book is excellent and a worthwhile buy.

If you are a modeller however, be prepared for a couple of disappointments. There are no drawings of the aircraft nor are any colour details given. Also, do not be misled into thinking that it is a *complete* record of all U.S. Civil Aircraft. Remember that one-off machines or specially modified types were usually licensed in the 'experimental' category and were not subject to type approval and are therefore, not included.

Nonetheless, all aerophiles will find something of interest in all of these books and particularly volume 8, covering as it does the immediate pre and post war periods which were particularly rich in attractive aircraft designs such as the Cessna 'Airmaster', the various Piper 'Cubs', 'Super Cubs' etc., the North American 'Navion', the Erco 'Ercoupe', and Stinsons ranging from the Gullwing 'Reliants' to the 'Voyagers' etc. etc.

1911 Deperdussin

by Bill Dennis

**AIRCRAFT
DESCRIBED**
No. 251

THE SOCIÉTÉ POUR les Appareils Deperdussin was founded in 1910, and their first product, a single seater monoplane fitted with a 50hp water cooled 4-cylinder Clerget engine driving a 6-bladed propeller was exhibited at the Paris Flight Salon in October of that year. The firm showed considerable enterprise, establishing flying schools in France, and England, engaging such well known pilots as Prevost and Vedrines as instructors and demonstrators, and entering with some success competitions such as the 1911 Circuit of Europe Race and the Circuit of Britain Race. In Scotland a Mr W. H. Ewen did some spectacular flying in a Deperdussin "Popular" type similar to the Shuttleworth Collection's machine, completing a double crossing of the Firth of Forth on 30th August 1911, and in October of that year completing a notable cross country flight over difficult hilly country from Lanark to Edinburgh with an engine of some 35hp. Towards the end of 1911 a British branch of the parent company was formed, the first British factory to manufacture aircraft of foreign origin, with works at Newington Green, North London, reflecting the increased demand for Deperdussin machines following further successes at the French Military Competition at Rheims. At the 1911 Paris Aero Salon no less than four types of machines were exhibited, the School Type, as represented by the Collection's example, this had a price quoted of £460, a single seater Military Type, generally similar to the School Type but fitted with a 50hp Gnome, priced at £920, a two seat Military Type with a 70hp Gnome at \$1080, top speed 65mph and a 3-seater Military Type, with a 100hp Gnome at £1,820.

In 1912 Deperdussins did well in the British Military Trials resulting in some small orders for the RFC and a very advanced racing machine with a monocoque fuselage of moulded plywood achieved notable success, winning the Gordon Bennett Trophy Race in Chicago on 9th September 1912 at a record speed of 108.8mph. A seaplane version won the

first Schneider Trophy Race at Monaco on 15th April 1913.

A 100hp British built Deperdussin seaplane with a monocoque fuselage was exhibited at the Olympia Aero Show in February 1913, but the British company did not prosper and no doubt suffered from the War Office ban on monoplanes and went into liquidation later that year. During the Gordon Bennett Trophy race at Rheims in September 1913, the existing world speed record was broken several times by a 160bhp Gnome-engined Deperdussin, a final figure of 126.7mph being achieved.

Unfortunately the success of the company's products were not matched by orders for production aircraft, M. Armand Deperdussin was arrested for large scale embezzlement and in 1914 the company was taken over by Louis Bleriot and eventually became the SPAD concern, of First War fighter fame.

The Shuttleworth aircraft had been used at the London Aerodrome, Hendon, where after sustaining considerable damage it

Very few instruments to worry about, apart from the fuel gauge tube on the left of the panel. The magneto switch can just be seen between the right hand control wheel spokes.



was put up for sale in 1914 and purchased by Mr. Grimer of Amphill, already the owner of a Bleriot, also now in the Collection. He rebuilt it and flew it from the Polo Ground near Bradford, and, like the Bleriot, it was put into storage early in the First War at its owner's garage premises at Amphill where it remained until handed over to R. O. Shuttleworth in 1935. Rebuilding was completed by 1937 and it has flown in many displays since then.

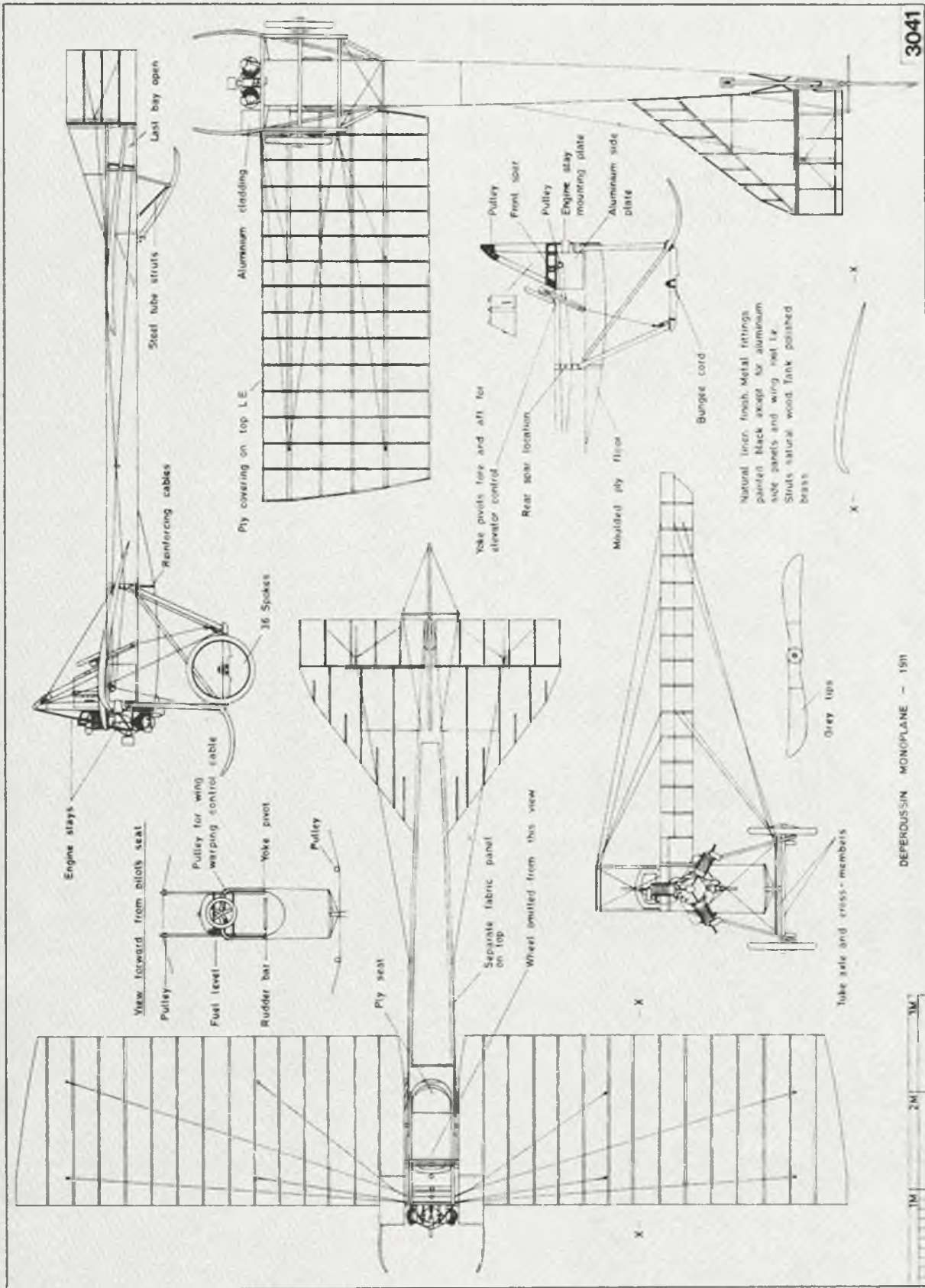
Leading technical details

Role: Training, demonstration.
Type: Single seater monoplane.
Span: 28ft. 9in.
Length: 24ft. 10in.
Engine: 35hp Anzani three cylinder Y type air cooled.
Weight: 500lb
Wooden Construction fabric covered
Top speed: 55mph.

I would like to thank the staff of the Shuttleworth Collection and in particular Mr. R. W. Elliott, for their co-operation in the preparation of this feature.

At work on the Anzani three cylinder engine. A good example of this engine can be seen at the London Science Museum and the Shuttleworth Collection.





DEPERDUSSIN MONOPLANE - 1911

Dyeline prints to the scale of 1/20th of these 1/60th scale drawings are available as Plan No. 3041, price 75p inclusive of VAT plus 30p P&P from the Aeromodeller Plans Service, PO Box 35, Bridge Street, Hemel Hempstead, Herts HP1 1EE.

Introduction

FEW OF THE participating competitors will ever forget the 1981 Free Flight Championships held in Burgos. The tourist guide refers to the place as being noted for strong winds. For this meteorological feature to be predominant in such literature was a significant fact, and a serious omission from any advance publicity to the competitors.

At times the organisation bordered on being a farce. Almost everything that could have gone wrong, throughout the three days of competition — *did go wrong!*

Now the FAI are faced with a dilemma when they allow World Championships to be held in new countries.

To be fair the organisation of a World Championships is a major undertaking and there was evidence that the organisers had tried hard. The fact remains however that to a large extent such endeavours were lost through inexperience or misunderstanding of the very purpose of a World Championships. *The pomp and ceremony was certainly present, but some of the major blunders gave competitors the impression that the organisers were only vaguely aware of the rules, or the fact that the Championships should be run for the benefit of the competitors.*

The week prior to any Championships are usually notable for the arrival of teams from around the globe — with special interest being paid to practice flying. But first news upon arrival centred upon the airfield at Villafria. The field, although of reasonable size was bordered on at least two sides by densely built up areas, predominantly industrial estates, which gave little hope of successful retrieving in the event of models outflying the field. The prevailing direction was down the largest dimension but conditions were very windy throughout the preceding days, with wind speed freshening in the afternoon and continuing all night. *There was no sign of the light winds claimed to be the seasonal norm by the organisers in their presentation of information to the FAI.*

Many competitors had their spirits dampened and apart from a few brave souls who were prepared to risk a couple of flights, there was no opportunity to see the world's top modellers in action or to compare the actual performance of models under calm conditions, prior to the event.



This left many competitors anxious — with new or partially trimmed models and no chance of training, or for those wishing to check their models had travelled well.

At least it was encouraging to see so many nations attend the event with almost a full turn out from the eastern European countries swelling total entries to 31 nations. Disappointments included non-appearance of North Korea after their successes in Wakefield in recent years, and also East Germany — another top modelling nation. However, China was once again present this time, with a full complement of nine very competent flyers, and many other nations were better prepared than at previous events.

Suspensions about the organisation were first raised at the team managers' meeting two days before the contest started. This ran through into the early hours, after a nightmare of misunderstandings. The organisers lit the blue touch paper

by announcing there would be no 'flapping' of models within 500m of the line (a technique used by many teams to break hot air away from ground level, creating a man-made thermal to rescue failing flights). Laudable though this intention might have been, they clearly had no idea of the implications of their proposals, which are not part of the current rule book. The managers were clearly incensed, what were the penalties for 'flapping' — would the competitor be disqualified? — if one nation flapped another model, would competitor or flappers be penalised? Would there be a line clearly marking the boundary for flapping and no flapping? — and so on went on. Obviously the organisers, although well-meaning had clearly not thought their proposal through and it was clearly unworkable as proposed. *This set the tone for the evening and cast grave doubts on their knowledge of the FAI sporting code.*

Processing

Processing performed the day before the competition seemed to once again raise hopes with countries being dealt with swiftly and reasonably orderly. Admittedly the actual checking of models was to the minimum standard possible, with only FAI documents and model weight being checked before each component was rubber stamped. Certainly all the models present should have been thoroughly checked by their own national club before leaving for the championships but so many previous championships have shown all too often that mistakes do happen. As far as F1C models are concerned minimum weight bears little

Free Flight World Championships

7-13 AUGUST
BURGOS, SPAIN
REPORT AND
PHOTOS BY
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Above, British team march past at opening ceremony resplendent in dark blue track suits. Team Manager Dave Goodwin with Union Jack and Mike Fantham, (coachs) followed by F1A team Tony Cordes, Pete Williams and Andy Crisp. F1B team Roy Miller, Ron Pollard and Brian Spooner. F1C team Stafford Screen (hiding) Ray Monks and Ken Faux. Left, the New Champions of Model Flying left F1B Lothar Doring, Germany centre F1C Andras Mecznar, Hungary right F1A Tony Vidensek Yugoslavia. Right, Cuban team have their gliders checked on processing day. processing was carried out swiftly but not up to the standards of recent championships.





relation to their legality as the rules formula relates to engine capacity and surface area. No equipment was present for teams wishing to legitimately check the statistics of their own models prior to the official measurements and indeed the crude equipment being used was hardly conducive to a high standard of accuracy in any case. No facilities were available for checking engine displacement, which in view of the misfortune at the previous championships and in the knowledge that many standard engines are oversize, was to say the least, short sighted. A bottleneck soon developed at the Wakefield table with competitors rightly each insisting on as many as 50 rubber motors being processed, in addition to their three models. But to the credit of the organisers they soon learnt from this, and set up a separate motor processing table which helped get things back to normal and the occasion passed off — if not too thoroughly then at least with commendable brevity and the splash of colour added by the traditional costumes worn by each of the young children assigned to each nation added colour and humour to the occasion.

A last chance for practice flying on the Saturday was met with a continuation of the strong winds. However, many teams tried at least to give their old windy weather models an airing although few power models were in evidence. In fact the British contingent on this day was amongst the most active — the conditions perhaps being not unlike those back here!

One thing had puzzled the assembled competitors — for the past week the wind had steadfastly blown in an easterly direction and throughout this period the organisers had steadfastly erected a tented encampment and contest control with giant scoreboard at the west edge of the field downwind of the airfield! — *did they know something about the wind direction for the contest that we did not?*



Left: regarding World Champion 1979 Denmark Per Ove Lund, who was Russia's and new world champion above, World Champ in 1979, the Chap on grass is not the same as the watchful eye of the Russian team manager.

FIA GLIDER

Sunday August 9

As feared, glider day dawned with a strong wind blowing from the east, and contestants were forced to make those last minute practice flights in what was far from ideal conditions.

The British were amongst several teams requiring last minute processing of models as allowed by the rules, in order that each contestant can start the event with the full complement of three models each, if they had suffered any problems practising with their original three. This was supposed to be completed 30 minutes prior to the start of the contest, *but it soon became clear that the organisers were nowhere to be found!*

8.30am The beginning of the first round in FIA was conspicuous by the absence of the organisers — a great start to the proceedings! Total confusion reigned and competitors took the opportunity of making further practice flights. Eventually some of the organisers appeared and proceeded with the task of setting up the contest pole positions and dealing with protests demanding models be processed for the start of the event. The first attempt at siting the line along the very top edge of the field upwind did nothing to inspire confidence and the need to stretch out 50m tow-

Left: Austrian Hans Zechhalmel watches with interest as the rubber motors are processed on fishing scale spring balances — hardly suitable for the degree of accuracy needed! Below: Max Boccardo's remarkable vintage looking Vee dihedral model coped well with the conditions turning in a string of maxes. Right: Eugene Verbitski assists Anres Lepp before crucial left round flight using high aspect ratio T-tail AL-33.



3rd place Paul Lagan of New Zealand with his AL-29 which he lost on the 4th round max — only to have the model returned water logged for the final deciding flight.

lines upwind of the pole for the glider event was tactfully pointed out to them. To make the siting perfect the field was just downwind of the town's rubbish tip which proceeded to smoulder away, providing aromatic delicacy to the occasion that few people present will forget easily.

Round 1 Only one hour late, a whizz-bang rocket signalled the eventual start to the FIA glider day. Despite the pantomime, the serious business of the World Championships was underway and models were soon in the air. Five minutes into the round American Jim Wilson, (third in 1979) started circle towing despite the wind, with one of his distinctive Vee dihedral models. Wilson manoeuvred downwind to park alongside the *maestro*, Russia's Andres Lepp, who was already comfortably kiting his AL-29 as he sampled the air.

However Wilson was less happy in these conditions and a particularly gusty patch forced him to make a bad downwind circuit at speed, low to the ground and he chose to release the line with the model still attached. He lost an attempt and a little pride, but with just one attempt left appeared otherwise calm and confident as Andres went away for his first max.

Fifteen minutes into the round and models were beginning to pick up good flights in lift, flying in ones and twos. Generally speaking the wind was pinning most contestants down and only a handful of models could be seen towing at any one time. Already it was apparent that this was not to be a circle tow dominated event. However Paul Lagan (NZ) was an exception, he didn't consider conditions to be too bad and had circle towed into a good position downwind, also flying an AL-29, and he soon catapulted away for a good max. Twenty-five minutes into the round and Susumu Kuroawa from Japan was flying one of his distinctive carbon fibre reinforced semi-geodetic models, taking two or three others with him as he picked good air. Ten minutes later, America's Jose Dona had a tricky flight with his model bouncing around low to the ground just





Above, Ivan Weiss from Israel placed 4th equal, after dropping just one flight. Above right, third man in the Russian team Victor Stamov helped secure 1st team prize. Below, Swiss flyer Heinz Bleuer again on top form narrowly missed placings after string of maxes in first five rounds



Conditions proved difficult for others too, World Champion 1971, Pavel Dvorak dropped with 114 secs. Holland's Arno Hacken managed only 141 sec. and Australian Peter Nash scored just 30 secs. Finland's Hanno Tahkapa (in the fly offs in Taft) scored 80 secs, while Dane Stephen Jensen was down in only 54 secs.

For the USSR, Victor Tchop (World Champion in 1975), made a great flight, after waiting on the ground for a lull he accelerated his model to an impressive speed simply towing straight and releasing immediately for a fantastic zooming climb into a huge thermal. Andres Lepp had problems, not with his flight but with the timekeepers, who appeared to have timed the wrong model. Protests from the manager and others who saw the flight ended with Andres being credited with the max he deserved. Third Russian, Victor Stamov managed only 168 sec. and with the Poles also dropping scores — Golubowsky with 101 sec. and Filonczuk 80 sec., the team prize was again wide open.

New Zealand's Martin 'Kiwi' Gregory had lost his first round max model with a timer failure and having lost another of his distinctive short moment arm designs with timer failure in practice was now down to his last model, which let him down badly scoring just seven secs! Paul Lagan had two maxes, but Martin Dilly proxy flying for Peter Wheeler was frantically repairing a broken model helped by the Hungarians, who, without a glider team, had joined forces for the day.

Unlike previous World Championships the organisers gave no countdown to the end of the round which was a sudden death affair for late flyers. With repairs complete Martin hastily towed up only to hear the whizz of the final rocket — a quick release before the bang gave him a legal flight which worked itself into helpful air for a rewarding max!

Round 3 By mid morning the British teams were coming to terms with the conditions. Williams reverted to his original model and towed into a monster thermal for an easy max. Tony Cordes was still having problems, towing his first attempt in, fortunately with little damage. His second attempt veered off badly to the right on tow, and Tony quickly released at half line height and also into good air for a max, while Andy Crisp broke his run of bad luck to score his first max and give the Brits a full house for the round.

Jim Wilson (USA) has his second round flight returned by one of the army jeeps from ten kilometres away and proceeded to get his third max. Giora Herzberg scored a zero after losing a wing tip and was unable to re-fly, spoiling his perfect score.

Ivan Horejsi again had timekeeper problems which robbed him of more valuable time, and Russians Stamov and Tchop both dropped with 68 and 76 secs each! Reigning World Champion Per Grunnet from Denmark, flying individually to defend his title was down in 122 secs, and Anton Bucher (Switzerland) came unstuck and could only manage to crash his two attempts for 11 secs to end his chances.

Round 4 The strong wind and gusty conditions caused by thermal activity was beginning to take its toll of models. Lengthy retrieving over a bad downwind area was stretching retrieving crews to the limit and now contestants were faced with using reserve models, to replace those lost, or

risk getting into further trouble on tow but this proved insufficient scoring 134 sec. Meanwhile the British had made a good start with both Tony Cordes and Pete Williams maxing but third man Andy Crisp was now under pressure towing away downwind with his trusty *Flashback* design. Several models came over in good air right overhead, but despite two or three tries Andy couldn't release the model until after the lift had gone through, to score a disappointing 103 secs.

So the first round ended with a surprisingly high 34 maxes for the 84 competitors. Poland had full team scores. Bulgarian Nikolov had dropped, so too had Paulo Soave of Italy, Juan Livotto of USA and Austria's Werner Kraus. While Canadians Allnut and Thompson had both run out of time and scored zero.

Round 2 By now the wind was really freshening, and the pattern for the day was set as models were beginning to contact real booming thermals that would keep them aloft on DT up to five minutes after they had maxed, taking them miles downwind. The round opened with the surprising news that the Canadian team had withdrawn. They disapproved of the event being held under such conditions and in view of their first round performance, considered it pointless to continue.

For the British team this was to be a disastrous round. Tony Cordes, who had prepared his models for the calmer weather which had been expected, now found himself struggling in conditions that would otherwise be familiar back home with his windy weather models. A very strong gust just after launch blew up Tony's model during mid tow costing him an attempt and with another model damaged in practice, he was now down to just one left in the box.

Pete Williams' first flight model had still not been returned and so he chose another model. After waiting on the ground for some time, he started to tow, unaware that his first model was now back at the pole, and soon after launch his flight was tightening up, to spin-in for a disappointing 61 sec. Andy Crisp failed to connect with a thermal for 105 secs, and Tony Cordes' reflight managed just 83 secs, to leave the British team and supporters thoroughly disheartened.



scraping through for his first max. Pete Allnut (Canada) was less lucky when his model was launched by fellow Canadians with the towline and pennant wrapped over the nose, giving him no chance and wasting an attempt. Just ten minutes to go and ace Czechoslovakian flyer Ivan Horejsi was away for a flight which appeared to max and DT down from 100m, yet which the Spanish timekeepers insisted was 160 secs? Now with only five minutes remaining in the opening round, time was running out for some teams. The Canadians were in real trouble. Gordie MacKenzie had earlier scored 70 sec and now Tim Thompson performed a high speed wingover with his *Lively Lady* derivative leaving himself and Pete Allnut both needing second attempts in the closing minutes.

Frantic activity too in the German camp as Ulrich Schmelter hastily made his flight, opting to release halfway up the line in good air rather than

Right, new flyer to Japanese team, Susumu Kurokawa flew well but wrecked three of these beautiful carbon fibre reinforced semi-goadatic models during the event. Father and son team Charles and Michael Ledocq the only entrants from Belgium braved the conditions for the first round.





Left, China's top Wakefield flyer Jifa Lu placed 14th equal while China took 2nd Team Prize. Right, Roy Miller top placed Briton flew steadily all day to reach 14th equal place at his first World Champs. Below, the Russian wakes had unbelievable climb patterns, easily the best models at the Championships - here Gorban's model rockets skyward missing the fly off by 3 seconds for 4th place



patching up damage in order to continue. Many were having difficulty on tow, with wings folding or models being towed in.

Victor Tchop was early to fly in this round and although making a convincing start his model gradually tightened up in strong lift to spin in for 139 secs. Wilson was one of the few confident enough to continue circle towing but again had problems with strong gusts causing him to release the line for another attempt. On his re-flight he appeared to change tactics, deciding to tow up and-off in a calm spell, but ended up in a massive downdraught for only 50 secs! Team-mate Jose Dona upheld the US team honour by getting away to a fine max, despite a messy line cross at the start. Paul Lagan looked quite masterful in the conditions, circle towing his AL 29 and parking downwind before making another fantastic catapult launch into lift. Israel's Ivan Weiss spoiled his score with a 125 sec. flight and China's Zhou Yaodong broke his string of maxes with 87 sec. Australian Max Boccardo had been flying very convincingly with a vintage looking Vee dihedral model which handled the wind comfortably. With this model lost downwind Max was forced to fly his reserve which now let him down with 160 sec.

As for the British contingent, they were really getting into their stride. Peter Williams had a nail-biting flight at 30m altitude for the first 10 minutes before it contacted strong lift for an easy max and Andy Crisp and Tony Cordes both added maxes to the teamscore.

There was drama towards the close of the round for Lepp when his third round flight was retrieving from a tree with two bays missing from a broken tailplane. With his first model lost after the second round and only a still air model in reserve the Russians set to, repairing the model and replacing the missing parts. With little time left, Andres circle towed the model, without having made any test flight, and was soon away for another world class max.

It has to be said that the scoreboard and results service at this championships were atrocious. In their wisdom the organisers had left the scoreboard where they had erected it, on the downward edge of the field, where it was of no use to anyone. Furthermore, despite the opportunity of a lunch break to catch up, only incomplete scores from the first three rounds had been posted. No colour distinction was made between maxes and



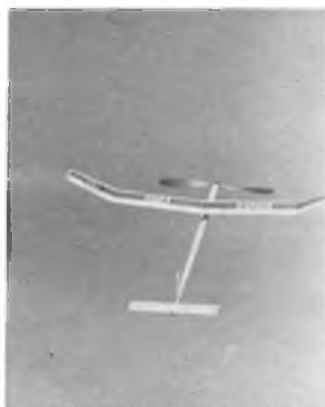
other scores and no running totals were being kept, making it almost impossible to follow the progress of the event. To add to this, no provision was made for posting team scores and so even team managers had no idea how their flyers were placed!

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A child of ten could have made a better job of the scoreboard than the organisers — one person with a calculator could have performed miracles — and it's no exaggeration to say the average club rally in England is run ten times more efficiently than was this World Championship!

Round 5 Although no-one knew the results by this stage, only five contestants had survived the morning rounds with full scores. With so many countries putting up bad flights the team champions in 1979 (USA) felt they were still in with a chance and so too was Great Britain. This first round after the lunch break started with many of the official timekeepers missing from their poles.

Below, Alex Andrukov about to put all his energy into launching his delay prop release model - note blades in feathered pitch awaiting timer start 1 second after launch. Centre, Joe Fosters wake during climbs out, returning to World Champs competition after many years. Joe only missed a sixth round max to keep him out of the Fly Offs. Right, top three fly-off participants Lothar Doring right Alain Landeau middle and Gerard Pierre-Bes left.



Michael Borrel of Sweden had to wait ten minutes for his timekeeper to show up and being over anxious to fly he just missed a thermal marked by Heinz Bleuer to put himself out with 69 secs. This put Bleuer in a strong position for Switzerland with five maxes. America's last hope Jose Dona was now in trouble — having lost one model on a long DT flight, the line tangled his first attempt. The refly saw him launch into promising air but surprisingly the model was down for 111 secs. Austria's Klaus Salzer had his model launched with the auto rudder in the glide position which was a costly mistake with the model gliding down for just 26 secs. Ivan Horajsi was having a day of mixed fortunes as he DT'ed short by 14 secs — the first time he has made such a mistake in a Championships.

In the British camp Williams and Cordes both maxed making a run of ten full scores for the team but Andy Crisp was again unlucky with a flight of 132 sec.

By this round, attention was being focussed on two flyers who were really mastering the conditions — both circle towing! Andres Lepp was performing brilliantly and never appeared under any pressure in spite of the rough conditions. Flying his repaired AL 29 he again maxed easily but another long fly away after DT clearly gave him concern with only one still air model remaining in reserve. Meanwhile Paul Lagan having lost his best AL 29 after the fourth round, flew a Mike Fantham Robin look-a-like complete down to identical tissue trim. He not only maxed but managed about eight minutes with the model also taken away in strong lift.

Round 6 News spread that two of the leaders Lagan and Lepp were down to their last models giving fresh hope to many flyers who had four maxes and a high time fifth flight. Certainly the Americans flew with inspiration and all returned max scores. Williams maxed, so too did Crisp, but this time Cordes dropped with 107 sec. Swiss flyer Heinz Bleuer waited on the ground for signs of lift and perhaps tried too hard when at last he chose his moment. The model zoomed too tight at release, which lead to a tight spiral glide and a flight of 84 secs spoiling his otherwise perfect score. Lagan used his last model, another AL 29 for his sixth round max, and now with all three of his models downwind, set off to search. But the real drama centred on Russian flyer Andres Lepp. Now down to his last model, he was faced with using his latest AL 33 design, a high aspect ratio circle tow model with a T mount tail, in these far from suitable conditions. He waited in vain until towards the end of the round in case one of his



Left, compact layout design typical of Eastern European models which normally perform well in these windy conditions Jordanor Bulgaria. Centre: Russian flyer Gorban, launching himself and model. Unusual Vee dihedral model of Sarpila from Finland put in a good performance with five maxes to place 34th.



other models should turn up before electing to fly. Eugene Verbitski released the model and Andres very carefully eased the model to the top of the line and to the amazement of onlookers, proceeded to circle tow the model into a downwind position!

The model hung off to one side on tow away from the glide turn — safe, but not ideal. After a very prolonged tow he finally released and all eyes were on the flight. It was good, but not so brilliant and for a long time the flight looked as though it could go either way — before the model eventually began to descend quite quickly for 151 sec.

Round 7 Even with Lepp dropping 29 secs no-one appeared within reach of his score except Lagan who would first need to find one of his models to complete his last flight. *All the results were in total confusion, no-one really had any idea how they were placed, and the team scores were even more unknown!* The general spirit was to continue regardless and hope that somehow there was still a chance of success — if not individually then at least in the team results. Italian Paolo Soave was having a busy time repairing a broken tail for his last flight. Although he scored only 69 secs the Italians felt they were in contention for a team prize. The Americans fell to pieces this round. Dona got 100 sec, Wilson 49 and Livotto 62 which gave them no hope after some consistent flying. Once again Pete Williams kept the Union Jack flying with another fine max to make six in all, together with his 61 sec. flight which he now realised could put him well up in the results. Tony Cordes dropped again with 132 sec and Andy Crisp had a disastrous 60 sec final flight, both reducing our chances of a final place near the top. *Ivan Horejsi had the distinction of scoring two maxes in this closing round — the first with 20m of line attached after a tow line break, and the second official flight after he had decided to retrieve himself and refly using the same model because it was flying so well!*

Andres Lepp's 6th round flight was returned, as he had feared — with damage to the wing after being blown over by the wind on landing. This he patched up quickly, using acetone on the inboard wing panel to soften the dope in an attempt to straighten out a warp. With growing confidence he towed the model and made a vigorous launch into good air for a fine max to still leave him in a strong position for individual honours.

With just half an hour left in the event Paul Lagan had spent a fruitless search downwind looking for his sixth round flight. Upon return he found the model was still missing, but his other AL-29, lost earlier in the day during the fourth round, had turned up! *This model had been sitting in a pond and the wing and tail were full of water, there was some structural damage to the wing centre bay and the timer too was waterlogged. Fortunately for Paul the very well organised Kiwi team plus the Hungarian flyers had been busy patching up the model and drying it out.* Expecting some trim changes Paul made a couple of guessed alterations before proceeding to the line with now just ten minutes remaining. He immediately started circle towing and worked his way 100m downwind of the line from where he could watch the remaining flights come over. Of par-

ticular interest to him was Per Grunnet's model but Paul was also concerned with how his own model was handling after the hasty repairs. He chose the time to release but found the model wouldn't unlatch as expected and so pulled the model round for another circuit. This time the hook did unlatch, but with insufficient speed for zoom launch he instead floated the model off into a long downwind leg. Many anxious faces watched the model slowly work its way into lift, gaining height on its way to a final max. After two minutes the model was some 200m high — but then quite inexplicably it came out of the lift and lost height quickly. A surprised and disappointed Paul Lagan scored just 147 secs on this final flight — *just four seconds short of Lepp's score!*

But just then, news filtered through of another flyer in with a chance of victory. Thanks to the non-existent scoreboard **Tony Vidensek** the Yugoslav had steadily been putting a string of maxes together with only a few associates aware of his position. He too realised that for him this was the chance of a lifetime — a last make or break flight to decide the FIA World Championships. *Throughout the contest he had used only one model, an old one which flew well in such bad conditions.* After a three or four minute tow he released into moderate air, a gust of wind fooling him into thinking it was a thermal, but the flight was good although it continued to descend steadily to land just seven seconds short of a perfect score, thereby taking first place in the 1981 FIA World Championships.

When the team results were eventually published Russia and Czechoslovakia placed top followed by Italy and Great Britain fourth — Denmark in fifth did surprisingly well *thanks to the inclusion of individual defending champion Per Grunnet's score added to the team — well done the organisers!*

F1B Wakefield Monday August 10

Conditions on the second day were by comparison a little more favourable. The wind was certainly lighter and the organisers taking some notice of the protests, got the event underway only half an hour late. The FAI jury had insisted the scoreboard be moved to the upwind end of the field adjacent to the contest and so Wakefield started with at least more promise. *The fact that the preceding day the scoreboard had been marked using indelible ink is another story in itself.*

Round 1 Soon after the rocket marked the start, rubber motors were already being wound, and a few minutes later the first max of this Championships went to Archangel Armesto from Argentina. Some 15 minutes into the round the first bunch of models was launched, prompted by high flying Russian Victor Roshnof. *One of the surprises of the championships were the in-credibly fast, high climbing Russian Wakefields, performing more like 1/2A power models than rubber powered machines.* Some had the added sophistication of delay prop release mechanisms. This first bunch was tricked into suspecting this model's height had something to do with the air and *all* in fact failed to max.

Activity was far more relaxed with one or two models being launched periodically and none of the frantic mass launches usually to be found at such events. Of the British flyers, Bryan Spooner, who stepped into take Dave Hipperson's place, maxed on his first flight; but Ron Pollard, in the team for the fifth consecutive time, had a disastrous start. He chose to use one of his non-VIT models which stalled badly on the glide for just 118 seconds.

With time running out towards the end of the round reigning champion Itzhak Ben Itzhak and Giora Herzberg of Israel on adjacent poles were looking for signs for lift from their twin thermister which had served them so well in Taft. With five minutes to go they launched simultaneously both in good air. Soon after, Roy Miller (GB) made his first flight also recording a comfortable max.

The round closed however with only two teams having achieved a perfect score — **United States and Argentina**, with some surprises for other well favoured teams. Two of the Russians



Denmark's Petar Rasmussen waits for first signs of lift in opening round with twin fin wake.

had dropped, Andrukov with 151 secs and Roshont with 143. The Danes were already well out of the running with Jens Kristensen scoring 144 sec and Peter Rasmussen just 67 secs, and Canada too had 'blown it' with McGillivray out with 136 secs and Doug Ransell managing only 105. One of the Chinese, Xing Wenping made 158 secs and France's Luis Dupuis was down at 124 secs. After the dramas of Glider day, Paul Lagan was flying Wakefield hoping to improve on his fourth place in '79 at Taft. His first comp flight picked up a slight stall on glide and he just missed maxing by eight seconds. The round ended with 36 hopefuls maxing out of a field of 81 participants who represented 27 countries.

Round 2 The wind speed again started to increase during the second round and some high level clouds were keeping temperatures a little

less than previous days. Alex Andrukov wound early in the round with his delay prop release model. Winding with the prop on, using a metal guard, he then added extra hard turns once the prop assembly was fitted to the model to keep the power up while he waited. A tremendous full power throw sent the model in a near vertical trajectory with the prop blades starting just under one second after release. The model continued in a near vertical pattern for between 30-35 seconds. *The Russian Wakefields had to be seen to be believed, and were clearly the most potent models on the field.*

Twenty five minutes into the round Ron Pollard flew, using the same model he had flown earlier but this time scoring two seconds less than before. Brian Spooner did little better with a flight of 121 secs and only Roy Miller managed to keep things together to collect his second max.

The Dutch team were having a bad start as Pim Ruijter failed to max, fellow team members Merkestijn and Manche having already spoiled their scores in the opening round.

New Zealander John Malkin, famous for his aerofoil book (an updated version of which has just been published) came to grief with a 107 and Lagan fell short of his max by a scant one second!

The Canadians too were all out, with McGlashan making 116 secs and the Argentinians spoiled their team score with Marquez failing to max and Viggiano scoring a zero, bringing the total number with two maxes each down to 21.

Round 3 The Chinese team were performing consistently at this stage with much emphasis being given to careful selection of air. Upwind 50-100m, half a dozen red silk pendant streamers were indicating localised windshifts helping to pinpoint centres of thermal activity while nearer the pole they used two chart recording thermistors and a bubble machine. Lu Jifa and Yu Zhuozhi each managed their third consecutive maxes while Xing Wenping, having dropped his earlier two flights, at least did his part towards the team score by providing a third max.

Japan's top Wakefield flyer Mitsuo Kobori who had placed third at Wener Neustadt in 1973 was again representing his country, but this round was proving one of the most difficult of the day even for the top flyers. Kobori misjudged the air and fell 20 secs short of his third max. The US team lost their perfect score with Allen down for 129 secs and America's hope for a top place, Wall Ghio, dropping by 18 secs. The last remaining Russian Gorbun was closer still, just three seconds short and Denmark's hopes faded as Paul Kristensen scored only 121 secs.

The third round also proved difficult for the British team with Brian Spooner unlucky to score 162 and Ron Pollard, unable to do anything right at the event, had little consolation with 109 secs. Only Roy Miller provided any hope for the UK by matching up his third max, joining ten other flyers with trebles at this stage.

Round 4 By mid-day, although the wind had freshened it was considerably less than on glider day at the same time. Although quite a few rubber motors were being broken, this was probably more a result of over-winding than being caused by excessive heat.

For a while the Israeli team appeared to be mastering the conditions with their twin thermistors set up before finally coming unstuck when the forecast let them down, eliminating the reigning champion, Ben Itzhak and fellow countryman Hertzberg. China was also flying well then came unstick with Yu Zhuozhi breaking his series of maxiums with 134 secs.

For the British there was some improvement with both Spooner and Miller maxing — Roy still with a full house now one of only eight, while Ron was still making scores that he would prefer to forget.

Round 5 The Japanese team had used the lunch break most profitably by launching a train of 400 miniature kites. Each was made of tissue approximately 1dm sq with thin cross piece supports. The whole string was about 150m long and when staked out upwind, provided their team (and those on adjacent poles) with a novel and visible thermal indicator. This proved very effective at indicating side wind movements and dis-

tinguishing between calm rising air and cold windy spells. The technique certainly paid off for Sibachi, who was soon away in a huge thermal!

American Joe Foster was sitting on a full score and waiting patiently for good air. After ten minutes he ran his motor down, installed fresh rubber and rewound, before launching for his fifth max. But for Roy Miller — Britain's last hope, luck was running out with a poor flight of 137 secs. The fact that both Spooner and Pollard maxed, (Ron's first of the contest) was hardly compensation. Two other perfect scores were ruined as Chinese flyer Lu Jifa made 134 secs and Yugoslav Jusufbasic did only 71, leaving five flyers in the lead with perfect scores of five maxes. *Once again the organisers excelled themselves by running out of rockets to signal the end of the fifth round — nor was there any indication that the sixth round had started until by word of mouth along the line some 15 minutes later!*

Round 6 Following no official start to the round, the French and British managers protested that they had lost 15 minutes of flying time and were granted their own special round times — the extra delay arising from their position at the extreme end of the line, farthest from the organisers control point. This situation was especially unnerving for French manager Bernard Boutilier with two of his team up until then having full scores. Gerard Pierre Bes launched first and the model was immediately thrown onto its back during its climb. Performing almost a perfect loop, the model dived towards the ground and looked for an instant as if it would crash, before it recovered and slowly climbed away with what power was remaining. The model finally worked its way into a nice patch of lift — encouraged by the shouts of the French supporters!

Flying almost the same time, Joe Foster was less fortunate recording a disappointing 142 secs. Argentinian Archangel Armosto fared even worse with a miserable 49 sec flight ruining his otherwise perfect day and so it seemed that with the leaders progressively falling by the wayside there was still hope for those who had made near-miss flights in earlier rounds.

Lothar Doring had earlier scored his sixth max, once again putting his model very high in lift and so the only remaining competitor with an unbroken record, Alain Landeau prepared to make his flight. *With just eight minutes remaining* (23 for the French and English teams) *Landeau got his sixth max to join his team mate Pierre Bes and Doring with perfect scores for the last round.*

Roy Miller again missed his max, this round losing another 12 seconds but by now Brian Spooner was building up his total.

Round 7 In his last round, Germany's Lothar Doring was again making meticulous preparations for his flight. Concentrating intently on his twin print-out recorders which each measured wind speed and temperature he timed his winding to coincide with a nice calm patch as swallows darting overhead picking up insects lifted upwards in the thermal. Lothar however chose to wait. *His performance really was a one-man achievement with no team-mates to discuss conditions as with most other flyers.* After about ten minutes of waiting he ran down the tired motor and wound a fresh one. This time he was soon away to a beautiful long fast climb. There was some hesitation after the prop folded, before the model really got into its stride and continued climbing on glide in the thermal, carrying on for several more minutes under DT before finally landing out beyond the village and so giving Lothar some concern about the model's return.

Gerard Pierre-Bes was soon to join Lothar in the fly-off, also with a massive thermal flight that continued airborne until finally being lost out-of-sight to binoculars after eight minutes still on DT. Landeau, last to fly of the leaders waited a long time before also making a similar long flight that was to prove a problem for retrievers.

Brian Spooner flew almost simultaneously with Landeau and he too was rewarded with a max to end his day with a good series of flights. Roy Miller also maxed but poor Ron Pollard could only manage 79 seconds — this was Ron's worst world champs and possibly his worst score ever!



Wang Zhixi flew very well to place 3rd individual in fly-offs while China places 2nd in team prize.

With two perfect scores, naturally France took the team prize. Germany being proclaimed second and China third — *at this stage of the proceedings no-one suspected that the results sheets printed here little related to the actual scores made by the competitors!*

Four minute fly-off

The three competitors, two French, and one German, lined up for the deciding fly-offs which started at three minutes past seven o'clock. Immediately Lothar started winding frantically and was soon joined by both Frenchmen. Lothar was lucky in having all his three models present, but both Landeau and Pierre Bes had lost their best during their long flights in the seventh round and were now forced to fly others. With one model wound, Lothar immediately turned to one of his spares and set that up in case he should need to take a second attempt.

Five minutes passed with everyone silently watching conditions, then Lothar started looking at his print-outs more intently, and then quickly launched. The very straight, fast initial climb was accompanied by slight wing flutter at the tips until

Reigning world champ from 1979 Italy's Mario Rocca performed well with new models using AD 15 motors placing 7th in fly-offs.





Only Polish flyer to reach the fly-offs Czerwinski tied for 9th equal place. Centre, Thomas Koster F1C World Champ in 1977 launches his latest electronic timer equipped Seven-Up design. Right, consistent performer over the years Reine Truppe from Austria again featured in fly-offs placing 6th individual.



the VIT cut in after four secs and the model pulled away to the right in a steep climbing turn. Already Lothar's model looked very impressive as it climbed away strongly in lift.

Gerard Pierre-Bes launched next, then so too did Landeau and all three models were airborne together, with very little to choose between them. Two minutes passed and Pierre-Bes' model started to pick up a slight stall but with plenty of height in reserve, his flight looked OK. Soon after, Lothar's max was confirmed, and then the two Frenchmen also maxed to require another round of fly-offs. All the models glided down directly on to the factory estate, but none of them had gone too far and the chances of recovery seemed good.

Five minute fly-off

In their wisdom the organisers decided to take this opportunity to indulge in a little spot processing of models between fly-offs, as they were returned from their flights. There was an immediate problem with Doring's motor which according to the organisers was overweight. Then they discovered with meticulous precision that the standard 40g weight was also overweight according to their scales - would the weight be disqualified also? Or perhaps the weighing equipment was not as accurate as it should have been for the purpose! With this little pantomime over, the contestants lined up again for the five minute fly-off.

At 7.45pm the round started and Pierre-Bes and Doring wound first. Then with his motor stretched fully during winding, Lothar's jig failed and the model lurched forward breaking open the two piece fuselage. Fortunately a careful inspection revealed no damage. Meanwhile both French had wound and Landeau, clearly tense after his hectic preparation, tripped momentarily over the guy ropes of his winding jig but unscathed, smiled broadly to the crowd. Finally Lothar had wound his model and prepared his reserve, and still no-one had flown.

Pierre-Bes launched first but did not look too good with the air now obviously cooling fast. Landeau watched with more than ordinary interest and Lothar busied himself with his equipment. Pierre-Bes glided on steadily though not high for about one and a half minutes before

Lothar suddenly launched with another characteristic wing flutter, climbing away to a great height to the enthusiastic applause of the crowd.

Pierre-Bes landed at 126 sec and with just three minutes remaining of the round, Landeau launched for what looked to be another good flight. The separation between the launches of Doring and Landeau was about 3½ minutes and both models clearly featured in the evening sky. Doring's model by now way up in lift a long way downwind - minus its DT fuse, which fell out just before launch! But now Landeau's model started to descend - no longer in helpful air he landed at just 190 sec. So Germany's **Lothar Doring** - minus his model somewhere downwind, still flying over the town, became the 1981 F1B Wakefield World Champion!

F1C Power

Tuesday August 11

The final day of the championships dawned clear and bright with certainly less wind than the preceding two days, indicating a general improvement over the period. More than on any previous day, contestants were taking the opportunity of test flying their models prior to the event with, for some, the last minute disasters which are always associated with such an event. Even veteran flyer Eugene Verbitski of Russia, destroyed one model this early in the day, admitting that the preceding windy days had simply not given him the opportunity to trim his models. Britain's Ken Faux also had problems, planting his best model, fitted with a new Rossi power plant into the rubbish dump 100m upwind of launch after a fast diving trajectory. *Completely calm, he reached for another model to be processed for the event!* Further problems for young Canadian flyer Tony Matthews attending his first champs. His model spun down on DT, caused by insufficient tail angle, to give him problems still trimming a

Left, new World Champion Andras Meczner with model using wing wiggler that he had developed over many years of top contest flying. Victorious US power team learning of their win despite each suffering the disappointment of missing the fly-offs. Charlie Martin, Reid Simpson team manager, Doug Galbreath and twin brother Roger Simpson.

reserve as the contest finally started late - which by now was no surprise to anyone.

Round 1 The start of the first power round was heralded by a flight from triple world champ, Tom Korster of Denmark. This year Thomas' models were quite fantastic in technical advancement. Following the lead by the Russians, Thomas' new models featured aluminium foil wings, carbon fibre folding props and 'bunting' transition trim, fitted with the latest downward moving tail surface, which normally achieves an outside loop transition into glide. *But the real sensation of the meeting were Thomas' new electronic timers.* He has been working on these now for several years and here at last showed they were working to perfection. Each model is programmed separately using a box of tricks on which engine run and other functions can be set to within 0.1 sec. Once set, this information is stored in the black box and the model which merely gets its memory programmed for the flight, collects the information. Koster fired up the motor and hurled his model into the air. A superb climb was followed by a heart stopping long bunt, before the model picked up into the glide and away for the first max of the championships - quite incredible!

Soon after, America's Doug Galbreath made his first flight with a comfortable max. Australia's Peter Nash had an over-run max at his first attempt, and his second flight went to the other extreme scoring 168 secs from a 4.6 sec run. Another early casualty was France's Michel Ireharne, who had placed third in 1979 at Taft, but at this champs he missed his opening max by 15 seconds.

When the Chinese team returned to World Championship Free Flight in 1979 they had only one power flyer, who incidentally had placed sixth. This year they sported a full team of three contestants and showed they were well equipped with current technology models, powered mostly by AD 15's. However the first round started on a bad note for them with Li Auxin making only 123 secs, while the other two Chen Zhijian and Wang Zhixi maxed comfortably.

Britain finished the first round with a full house score, one of seven countries to max out, from probably the strongest team we have fielded in this event for many years with Stafford Screen





Left, previously World FIA Champion in 1977 Abadjev of Bulgaria returned to power flying with this tissue covered design Denmark's Niels Hammer reached the fly-off with this aluminium foil covered design which featured interesting graphics.



Ken Faux and Ray Monks, all experienced and top class flyers.

Round 2 Canadian Mike Burns had a much closer call with his second flight as the engine misfired badly during the climb leading to a poor transition and loss of height. However, helpful air slowed him to just scrape through a max with about one second to spare.

Galbreath got away early in this next round only to record an over-run on a flight which looked none too promising in bad air, and for which he must have been glad of taking a second chance, where he made no mistake.

Top Japanese power flyer Keichi Kibiki, runner-up at Taft was unable to attend the Championships in person, so his models were proxy flown — the last time this will be allowed at a World Championships. Unfortunately luck was not with him and his model landed at 113 secs. A bad start too for Dave Sugden down just 14 secs short.

Others to miss their maxes included Goranov (Bulgaria) with 159 sec, Patek and Malina of Czechoslovakia with 159 and 178 sec, and Alain Roux (France) with 174 secs. Now five countries remained with full scores, including Great Britain.

Round 3 Koster was again an early flyer using the same model which had been damaged on landing downwind. A quick test flight showed that repairs looked OK, but when it came to the comp flight the model never recovered from the fast bunting transition and continued earth-bound in a long spiral glide for just 46 seconds ending his chances. The trouble was later identified as a bent tail mount which gave extra glide turn to the tailplane tip fins — a problem that would not have shown up on the powered test flight!

The British had been flying particularly well in the contest so far, acting well as a team, discussing tactics and weather conditions and this was being rewarded with a good run of maxes. Or so was the case up until Ray Monk's third flight, when they misjudged the air and after a good climb Ray found himself struggling on the glide. The model worked its way into some promising air low down as some of the retrieving jeeps raced by stirring up the air. But the outcome was inevitable with a score of 162 seconds.

The Americans also lost their team score this round with Charlie Martin just one second short of his max! Chinese flyer Chen Zhijian scored 146 and Holland's only power entrant Bert Huyben got an identical score. The Germans who have done so well in power in the past saw Hubler score 169 secs leaving only Anton Weber with a full house. The Cubans were obviously benefitting now from the two years' training they had received from top Russian flyer Eugene Verbitski. A fleet of look-alike models, beautifully engineered with aluminium foil wings, two piece fuselages, folding props and all the latest mechanical gadgets was serving them well, and now only they and the Russians themselves finished the round with nine maxes.

Round 4 Australian Bill East was not having a good day, still searching for his first max of the contest he added insult to injury by DT'ing his model off the top of the climb for 38 seconds. But worse things lay in store for American Doug

Galbreath, on a fairly close flight with the model not in lift, gliding down close to the ground the DT suddenly popped early, causing the model to land four secs short! A real tragedy for poor Doug and to compound the disappointment, Charlie Martin also dropped more time, losing another nine secs off their team score.

But now the Cubans were in trouble with a dreadful 91 sec flight by Blanco re-opening the team contest. Russia was still way on top with full maxes, but now the United States had the consolation of slipping into second place with Great Britain just four secs behind in third.

Round 5 This first round after the lunch break saw the only wind shift of the whole contest as the direction veered 90° to blow across the shortest part of the field. With the line now facing directly into wind the tactics for the event changed.

Those teams lucky enough to be at the downwind end were content to let models float overhead marking the air and so leading to the familiar mass launches. Despite this advantage, scores were still being dropped with 111 sec for Velunsek, Yugoslavia, 101 secs for Anton Weber, Germany and only 90 secs for Tom Oxager of Denmark.

Round 6 The penultimate round in power was to provide quite a shake up in the results and lead to an exciting finish. Up until this round the Russian flyers had completely dominated the event and if the climbs and pull outs were not always perfect then at least the scores were. But now a 100 second flight for Stukov threw the contest wide open again. The Americans were still in a strong position having lost only a few seconds in total over three bad flights, but here again fate stepped in with a 138 sec flight for Roger Simpson, twin brother of team manager Reid. For the strong US team now with all their flyers out of any fly-off, this was a bitter blow. A bad round also for '77 FIA glider Champion Abadjev who with five maxes scored put in a disastrous 18 seconds. But another string of maxes from the British lads and they found themselves sitting in number one team position having lost just 18 seconds total and with just one round to go!

Round 7 So to the final round of the championships and the landscape started to take on a surrealistic urgency with a blackening sky upwind from a quickly spreading fire in a cornfield, and more smoke rising from a small woodland fire downwind.

Ken Faux sitting on six maxes was away first for the British to record his first overrun of the day in the murky sky overhead. Stafford Screen immediately prepared to fly next and scored a solid max to put him in the fly-off for the second time at three championships. Then trouble for the Cuban team as one of their models raced across the sky to finish sticking in the ground, followed soon after by the Russian, Stukov's model which performed a similar manoeuvre.

Clearly the final round pressure was on. The air seemed calmer with a huge cloud of fluffies overhead marking a nice patch of air, tempting Charlie Martin to make his flight. Other models joined him overhead in a beautiful thermal as Ray Monks watched and prepared for his flight. Ray

started up his Rossi eager to get up there with the others and then made a terrible launch. The model went away left climbing up on to its back to complete a near perfect loop, it dived down almost to the ground before finally the engine cut, leaving it stranded — with neither enough height to thermal away, nor insufficient to expect a sub-20 second attempt. *The British contingent could only stare in disbelief at Ray's misfortune.*

Up to this last round the Cubans had two full scores with their third flyer Blanco having dropped only one flight yet none was to reach the fly-off with Valdez scoring 172 sec and Martinez only 95 sec. On his reflight Stukov lost more time for his team with a 136 flight and Czechoslovak flyer Patek also failed to reach the fly-off this round by 21 secs. Good news though for Ken as that his 6th minute overrun flight was returned just in time for him to make his last max, this time with an eight minute thermal! And good news too for the US team that their three flyers now held top place ahead of the Chinese and Russian power flyers.

Four minute fly-off

Thirteen competitors lined up for the start of the four minute fly-off including two Russians and two British. At 6.45pm the start signal was given, even though several flyers didn't even have any timekeepers at their pole — an oversight by the organisers which took several minutes to sort out! Canadian Mike Burns was first to break the silence, with fluffies climbing way overhead marking good air, he launched for a nice straight climb followed by a moderate pullout. Marita of Japan started up and launched just before reigning champion Mario Rocca, whose model rolled a little left to bunt out vertically for a pretty good pullout, gliding away to the right. With models overhead looking OK the rush to get airborne started. Andres Meczner climbed to join them, so too did Wang Zhixi and then Eugene Verbitski who out-accelerated the slower models with a fabulous rocket-like pattern, absolutely perfect, bunting out on top of the bunch. Then Niels Hammer launched, but his climb went terribly left, continuing upside down before the bunt mechanism pulled the model round into the glide losing much height. Polish flyer Czerwinski was next away followed by Stafford Screen whose latest bunter was blown backwards during the climb, good by most standards but not according to Staff, and finally Jan Akesson joined the mass launch. Those first to fly certainly had the best of the air and now the last of the bunch were already on their way down having flown too late. *One flyer remained on the line - Ken Faux still waited as the first scores were being reported.* Stafford Screen was down for 101 secs in the worst air of the round. Seven minutes into the fly-off Ken launched for a beautiful straight climb although the pull-out turned a little too much to the right, he was in a massive thermal. A big dust devil rushed across the field obviously associated with Ken's air, in fact one of few to be seen at the whole contest as Ken's model gained height for a certain max.

Five minute fly-off

Now only seven flyers remained with a full score: Zhixi, China, Morita, Japan, Truppe,



Russian power models have reached an advanced state of development with folding props and bunting transitions. Only the rough weather prevented them demonstrating their full potential seen here Verbitski and Nakonechny. Right: Nakonechny and Verbitski as they watch one of Eugene's high climbing flights thermalling away for another man.

Austria, Rocca, Italy, Verbitski, Russia, Faux, Great Britain and Meczner of Hungary. All day the New Zealand glider fliers had been helping the Hungarian power team, and now their assistance in retrieving was doubly welcome. With the wind lined up directly on the downwind factories, models were once again at risk. Eight or nine minutes of silence passed by and no one chose to fly. Then Mario Rocca launched for a very speedy climb bunting into the glide for a few small stalls before gliding away downwind. Andras Meczner flew next with his engine missing a few beats on the way up as he was joined by Wang Zhixi flying a good steady pattern and the incredible Verbitski. This time he performed a long downwind bunt before getting into its glide.

Reine Truppe's flight was way off pattern with the model over on its back, looping badly, but also having the good fortune to overrun. Finally Morita launched leaving only Ken Faux once again waiting alone. With just two minutes remaining Truppe flew another model for his second attempt, this time with a far superior flight pattern no doubt glad of his earlier misfortune. With only one minute remaining, Ken was finally forced to fly again, not a perfect pattern with the model tending to go over on its back, pulling out nose down into the glide. Although the model held altitude well, the flight ultimately depended on the quality of air, which did not appear good enough.

Six minute fly-off

Only two competitors had managed a five minute flight — both veterans of FIC flying — both previous silver medalists Eugene Verbitski and Andras Meczner. Now they had something else in common as both their models were lost in the downwind factories and so each had to fly a reserve model. Chinese flyer Wang Zhixi missed this last fly off by just 14 secs while Morita fourth, and Faux fifth were a minute down. Andras gave the crowd some amusement as he confidently flick started the folding prop on his Rossi!

Five minutes into the round and Verbitski started up his BE-40 while Meczner watched Eugene launch, the model was fast, but the launch was too flat and to the right, the bunt mechanism sent the model plunging towards the

ground and the crowd gasped as it stuck into the ground at high speed. Eugene had no other reserve, his only flyable model being downwind amongst the factories.

Immediately Meczner started his engine and in very gusty conditions launched for a safe climb which made a characteristic three-quarter cork-screw turn to the right, to glide on for a 202 sec flight and win the FIC World Championship. It was a fitting return of the trophy to Hungary after so many close placings for Andras Meczner and this final battle of the two long experienced protagonists.

Closing ceremony

This World Championship report has naturally concentrated on the models and competitor's achievements but to fail to give a wider perspective of the event would be a disservice to future Championships. It is not the role of a modelling magazine to comment on the security arrangements of a foreign country, except to say that much of the actual on-field organisation and control was performed by the Spanish military police. Throughout the event more emphasis seemed to be devoted to checking competitor's personal identity papers than was devoted to processing the models administering the Championships. This resulted in several incidents of competitor's obviously present for the championships but without such identity papers with them, being threatened with removal from the contest site. Matters finally reached a crisis on the last evening after the championships when fellow competitor's were physically prevented from visiting their model flying friends who were housed at another location. The organisers, for whatever reasons appeared to have lost sight of the purpose for staging such Championships - that fellow aeromodellers from around the world can meet freely in the interest of their sport.

Without elaborating on the incidents or attempting to sit in judgement, the world of model flying was incensed. They decided unanimously not to support the closing ceremony. The speeches and parades were cancelled and competitor's of the 31 nations present chose not to line up behind their national flags but instead to appear as one united body to honour the presen-



tation of awards to the new Champions, with a simple ceremony in officially closing the 1981 Free Flight Championships, the president of CIAM, Sandy Pimonoff (Finland) mentioned the unfortunate incidents and closed by praising the spirit of aeromodelling acting as a unifying influence between the nations of the world. But even this late in the day more surprises were still in store. After issuing several different sets of results it appeared that these were still incorrect. The outcome was that Great Britain discovered their FIA team was third — Tony Cordes having already departed for home! In FIB China was elevated to second with Holland now third! This really was the most remarkable Championships anyone could remember.

Now the FAI are faced with a dilemma. They must allow the World Championships to rotate and be held by different member countries, but at the same time they must ensure that the host nation is willing to organise championships in accordance with its aims. The greatest obstacle they face in this respect is the opportunity of choice. For the 1981 event they appear to have had little option. Already two proposals have been received for staging the 1983 championships from Argentina and Australia. In the light of the 1981 event in Spain it is up to the aeromodelling organisations around the world to make sure that in future the FAI is presented with viable alternatives in order that a repeat of this year's misfortunes does not reoccur.



Mike Burns presented his engine for processing in a novel way - through the roof of the contest controllers caravan! Left: just one mistake for Canada's Dave Sugden in the second round ended his chances this year, finishing in 17th place. They are the champions! Two veterans of FIC power flying and both previously runners-up. New World Champion Andras Meczner Hungary congratulated by Eugene Verbitski Russia.



F1A GLIDER INDIVIDUAL SCORES

Contestant	Team	RD1-4	RD5	RD6	RD7	Total
1 A Vidensek	Yugoslavia	720	180	180	173	1253
2 A Lepp	U S S R	720	180	151	180	1231
3 P Lagan	N Z	720	180	180	147	1227
4 I Weis	Israel	665	180	180	180	1205
4 R Cal	Italy	689	180	156	180	1205
6 A Filongzuk	Poland	620	180	180	180	1160
7 H Bleuer	Switzerland	720	180	84	172	1156
8. P. Williams	G.B.	601	180	180	180	1141
9 I. Horejsi	Czechoslovakia	638	166	155	180	1139
10. I. Chra	Czechoslovakia	683	180	180	95	1138
11 W. Kamp (Aust)	1136, 12 V. Stomov (USSR)	1126, 13 G. Nocque (F)				
1120, 14 J. Dona (USA)	1111, 15 J. Kappelhof (Hol)	1088, 16 H. Tahkappa (Fin)	1078, 17 Y. Zhou (Ch)	1068, 18 M. Borell (Swe)	1062, 19 V. Chop (USSR)	1049, 20 M. Nikolov (Bul)
1045, 20. A. Cordes (GB)	1045, 22 P. Dvorak (Czech)	1036, 23 K. Salzer (Aust)	1031, 24 K. Kilmakko (Fin)	1030, 25 H. Guo (Ch)	1020, 26 F. Hernandez (Arg)	993, 27 W. Gerlach (WG)
		989,				

27 A Galichet (F) 989, 29 C Minoli (Arg) 977, 30 M Boceardo (Aus) 971, 31 P Nash (Aus) 965, 32 P Soave (It) 961, 33 A Hacken (Hol) 957, 34 V Brussolo (It) 948, 35 K Magnusson (Swe) 946, 36 V Milko (Bul) 944, **37. A. Crips (GB) 940**; 38 J Challine (F) 939, 39 G Herzberg (Is) 938, 40 J Wilson (USA) 932, 41 G Totev (Bul) 924, 42 S Jensen (Den) 919, 43 C Golan (Is) 918, 44 V Hernandez (Cub) 907, 45 A Klungrehaug (Nor) 901, 46 J Matsuno (Jap) 898, 47 M Rios (Mex) 896, 47 J Zhu (Ch) 896, 49 T Otte (Den) 888, 50 M Gregorie (NZ) 882.

F1A TEAM SCORES

1 U S S R 3406, 2 Czechoslovakia 3313, **3. Great Britain 3126**; 4 Italy 3114; 5 Israel 3061, 6 France 3038, 7 New Zealand 2971, 8 China 2984; 9 Bulgaria 2913; 10 U S A, 2865, 11 Poland 2835, 12 Argentina 2825, 13 Yugoslavia 2798; 14 Holland 2794, 15 Sweden 2743, 16 Austria 2702, 17 West Germany 2642, 18 Australia 2621, 19 Finland 2598, 20 Switzerland 2393; 21 Cuba 2366, 22 Denmark 2220, 23 Japan 2059, Spain 1955, 25 Mexico 1659, 26 Brazil 1612, 27 Norway 1588, 28 Portugal 684, 29 Belgium 165, 30 Canada 70

F1B WAKEFIELD INDIVIDUAL SCORES

Contestant	Team	RD1-4	RD5	RD6	RD7	Total
1. L. Doring	West Germany	720	180	180	180	3060
2. A. Landeau	France	720	180	180	180	2950
3. G. Pierre-Bes	France	720	180	180	180	2886
4 E. Gorban	USSR	717	180	180	180	1257
5 W. Ghio	USA	702	180	180	180	1242
6 M. Kobori	Japan	700	180	180	180	1240
7 Ben Ithak	Israel	685	180	180	180	1226
8 J. Foster	USA	670	180	142	180	1222
9 E. Balzarini	Italy	681	180	180	180	1221
10 L. Dupuis	France	664	180	180	180	1204
11 Z. Alipiev (Bul)	1200, 12 J. B. Kristensen (Den)	1197, 13 P. Lagan (N.Z.)				
1194, 14 Jifa Lu (Chn)	1192, 14. R. Miller (GB)	1192, 16 W. Wenping				
Xing (Chn)	1191, 17. B. Spooner (GB)	1183, 18 L. Manche (Hol)				
1182, 19 P. Kristensen (Den)	1181, 19 P. Rijter (Hol)	1181, 21 B. Eimar (Swe)				
		1172,				

22 G Herzberg (Isr) 1163; 23 R Schlesinger (F) 1161, 24 M Kapetanovic (Yug) 1154, 25 Zhuozhi Yu (Chn) 1149, 25 P Merkestijn (Hol) 1149, 27 A Hakansson (Swe) 1144, 28 K Jusugbasic (Yug) 1139, 29 A Armesto (Arg) 1129, 30 P Sikin (Bra) 1118; 31 M. Murai (Jap) 1114, 32 V Roshonof (USSR) 1106, 33 R Marquez (Arg) 1104, 34 J. McGlashaw (Can) 1103, 34 T Sarpila (Fin) 1103, 36 E. Mauri (It) 1099, 37 B Rowsell (Can) 1095, 37 K Karhila (Fin) 1095, 39 M Sibachi (Jap) 1090, 40 T Stojanovic (Bul) 1088, 41 B Silz (F) 1081, 41 G Martinez (S) 1081, 43 Viggiano (Arg) 1080, 44 K Lapinski (Pol) 1071, 45 H Chmelik (Aust) 1061, 46 L Serrano (Bra) 1059, 47 M Santoyo (Mex) 1057; 48 S. Reshel (Is) 1052, 49 A Fernandez (S) 1050, **69. R. Pollard (G.B.) 895.**

F1B TEAM SCORES

1 France 3724, 2 China 3532, 3. Holland 3512, 4 West Germany 3502, 5 Japan 3444, 6 USA 3442; 7 Denmark 3413, 8 USSR 3358; 9 Argentina 3313, 10 Sweden 3309, **11. Great Britain 3270**; 12 Yugoslavia 3248; 13 Canada 3239, 14 Bulgaria 3230, 15 Italy 3240; 16 Finland 3198, 17 Israel 3177, 18 New Zealand 3163, 19 Spain 3139, 20 Austria 3002, 21 Poland 2944, 22 Brazil 2914, 23 Portugal 2914, 24 Cuba 2738, 25 Australia 2449; 26 Mexico 2400, 27 Switzerland 1783

F1C POWER INDIVIDUAL SCORES

Contestant	Team	RD1-4	RD5	RD6	RD7	Total
1 A. Meczner	Hungary	720	180	180	180	3262
2 E. Verbitsky	USSR	720	180	180	180	3069
3 Z. Wuang	China	720	180	180	180	3046
4 H. Morita	Japan	720	180	180	180	2935
5. K. Faux	G.B.	720	180	180	180	2933
6 R. Truppe	Australia	720	180	180	180	2932
7 M. Rocca	Italy	720	180	180	180	2911
8 M. Burns	Canada	720	180	180	180	2739
9 R. Czerwinski	Poland	720	180	180	180	2699
9 N. Nakonechny	USSR	720	280	280	280	2699

11 J. Akesson (Swe) 2657; 12 N. Hammer (Den) 2650, **13. S. Screen (G.B.) 2621**; 14 D Galberatz (USA) 1256, 15 A Valdes (Cub) 1252, 16 C. Martin (USA) 1250, 17 D Sugden (Can) 1246, 18 G Barbabella (It) 1245, 19 A Roux (F) 1243, 20 I Goranov (Bul) 1239, 20 C. Patek (Czech) 1239; 22 Z. Chen (Ch) 1226, 23 R Simpson (USA) 1218, 24 Z. Malina (Czech) 1210, 25 O Maczko (Hun) 1209, 26 A Li (Chn) 1203; 27 D Varda (Yug) 1197, 28 D Velinsek (Yug) 1191, 29 A Weber (F) 1181, 30 J Martinez (Cub) 1175, 31 V Patek (Czech) 1172, 32 M Lanco (Cub) 1171, 33 G Boman (Swe) 1140, 34 O Cohen (Is) 1138, 35 A Denkin (Bul) 1137, 36 V Stukov (USSR) 1136, 37 M Pavlov (Yug) 1135, 38 K Saur (F) 1130; 39 J. Ochman (Pol) 1124, 40 M Iribarne (F) 1122; 41 G. Argren (Swe) 1118, 42 R. Saukonen (Fin) 110, **43. R. Monks (GB) 1105**; 44 T Platex (Pol) 1102, 45 K Abadiev (Bul) 1098, 46 H Hubler (F) 1093, 47 P Nash (Aus) 1091, 48 B Huyben (Hol) 1085, 49 T. Coster (Den) 1079, 50 Y. Waltonen (Fin) 1077

F1C TEAM SCORES

1 U S A 3724, 2 China 2689, 3 U S S R 3656, **4. Great Britain 3656**; 5 Czechoslovakia 2621, 6 Cuba 3598, 7 Sweden 3587, 8 Hungary 3539, 9 Yugoslavia 3523, 10 Poland 3486, 11 Bulgaria 3474, 12 West Germany 3404, 13 Denmark 3382; 14 Japan 3294, 15 France 3276, 16 Finland 3249, 17 Canada 3188, 18 Argentina 3015, 19 Italy 2475, 20 Australia 2060, 21 Brazil 1843, 22 Switzerland 1674, 23 Spain 1516, 24 Austria 1260, 25 Israel 1138, 26 Holland 1085, 27 Mexico 353

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Engine News

by Peter Chinn

Gerald Smith's splendid Skylark 10cc spark-ignition engine. Note Magneto at rear of engine and way in which front mounted ignition advance/retard is coupled to rear mounted throttle

History

We missed the Old Warden vintage meeting this year, regretfully... doubly regretfully, in fact, because Ron Moulton's photos reproduced here, showing Gerald Smith, Lucien Wigdor, Jim Shelley, Denis Fairlie and Jim's *Westerner*, have stirred up some really early memories. For instance

Gerald Smith will always be remembered, by me mere youngsters of the immediate pre-war and early post-war period, as the constructor of those very exclusive spark-ignition engines that bore his name, although he was building engines ages before then. Lately he has begun making them again. His engine constructing activities, in fact, span something like sixty years, which must be a record. More of this in a moment.

Ask someone to name a leading British 'petrol-modeller' of the pre-war era and, of course, 'C. E. B.' must immediately spring to mind, but the name just as likely to pop into this columnist's head would be that of L. S. Wigdor. This is probably because L.S.W. was 'in the news' at the time when, as a schoolboy, one was first bitten by the model bug. L.S.W. had written articles (still a schoolboy himself, we suspect) for *Aero Modeller's* earliest rival, *Model Aeroplane Constructor* and had achieved the distinction of having both an article and a power model plan published in the 1938 edition of Frank Zaic's Yearbook and, as everyone agreed, Zaic's Yearbook was the modeller's bible.

In 1938, Lucien Wigdor had already been flying power models for about three years, which means that he must have been among the first (and certainly one of the youngest) modellers in the UK to fly with the new lightweight commercially made petrol engines, as distinct from the earlier, pioneer work by Claude Bowden and others with larger, less readily obtainable (often 'one-off') engines. Being in at the beginning — or at least at an early stage — of a new development was something that he was to repeat elsewhere in later years. He became, for example, one of the very



first helicopter pilots on this side of the Atlantic, qualifying (if we recall the facts correctly from a conversation with him some years ago) in a Sikorsky in 1945. His subsequent career included a spell, more recently, as Deputy Director General of the Confederation of British Industry.

Dennis Fairlie used to be an illustrator for both *Model Aeroplane Constructor* and *Aero Modeller* and was a member of the successful British team that competed in the Wakefield Trophy event held in the United States in 1936. Commercial transatlantic flights (heavier-than-air ones, that is) were not yet in operation in 1936, the team travelled to the USA in style — in the Cunard-White Star liner *Aquitania*. As we write, we have in front of us the July/August 1936 issue of *Model Aeroplane Constructor* in which are shown our heroes off to America, a good-looking Denis standing between Bob Copland and the eventual winner, Albert Judge who, as a result of his success, subsequently joined the Lines Brothers' organisation and was closely involved with the 'Frog' model aircraft side of their production for very many years. 1936 was also the year that the SMAE's historian, Lt. Cdr. Alwyn Greenhalgh was also on the team. He is in the photo too... just a slip of a lad.

A purposeful-looking engine, the Wizard had a bore and stroke of 0.950 × 0.860 in., giving a swept volume of 0.6096cu. in. or 9.989cc.

An obvious family resemblance to the Wizard is to be seen in the Skylark. However, the new engine is a more refined unit, incorporating a throttle type carburettor and a magneto, instead of the customary coil and battery, supplies the sparks. The carb has its throttle arm linked to the contact breaker advance and retard lever, so ignition timing is always correct relative to engine rpm. Designed to operate on the larger diameter props that were commonplace with pre-war petrol engines, the Skylark turns a 15 × 8 prop at 5,000rpm and, aided by the coupling of its throttle and

contact-breaker, will idle down to about 700rpm. Even allowing for the fact that its normal operational speed is less than half typical modern glowplug engine rpm, such a tick-over represents a speed of only 14 per cent of full-throttle rpm, compared with 20 per cent for a good glow engine.

Like the Wizard, the Skylark is a cross-flow-scavenged two-stroke with rear rotary shaft valve induction. The rear shaft, which is hard-chrome plated, is extended to drive the magneto, but the contact breaker assembly is mounted at the front of the engine, driven by a cam between the two ball bearings supporting the crankshaft. The aluminium piston is fitted with two rings and runs in a Meehanite cast-iron cylinder-liner which, like the Wizard, has circular ports. It is a light press fit in the main casting.

Ready to go, the Skylark weighs 28oz, which is a lot more than the typical pre-war engine of similar displacement but, of course, this figure does include the magneto (cutting out the weight of a coil and battery) and there is absolutely no

A Gerald Smith engine from 30 years ago. Two views of 10cc G. S. Wizard. This example is in author's collection.



comparison as regards engineering quality or durability, let alone performance.

Planned production of the Skylark is fourteen engines only. Jim Shelley's engine was one of the first two to be assembled and most of the remainder are already spoken for. Whether Gerald Smith can be persuaded to make any more remains to be seen.

Jim Shelley, of course, is one of the leading lights of the vintage movement in this country and comes up with a new replica every year. This year it was a *Westerner*, the original of which first appeared some forty-four years ago. Designed by Elbert J. Weathers of San Diego, in 1937, the 8ft. Span *Westerner* was the subject of a construction feature in the May and June 1938 issues of *Model Airplane News* (another bit of history the world's oldest model aircraft magazine and now in its 52nd year of publication) and was also featured in the 1938 Zaic Yearbook (a vintage year, that). . . . The *Westerner* was one of the first, if not *the* first, models to carry a camera, to wit, a Univex miniature box camera. Needless to say, the pictures, one shot per flight, fired by an Autoklips timer, did not look a bit like the aerial photographs of Peter Miller.

Elbert Weathers' original *Westerner* was powered by the ubiquitous Brown Junior petrol engine, but Jim Shelley's model is fitted with something rather special, a 'Skylark', a new 10cc petrol engine designed and built by Gerald Smith expressly for modern radio-controlled replicas of large pre-war type free-flight models like the *Westerner*.

To put Gerald Smith's engines into perspective, *vis-à-vis* commercial productions, it needs to be understood that Gerald Smith is a highly skilled engineer and that his miniature engines are an extension of his past work on full size i.c. engines. This was most dramatically demonstrated more than half a century ago by the splendid piece of work, still in his possession, with which he won the top

award at the 1930 Model Engineer Exhibition. This (wait for it!) is an 18-cylinder twin-row radial aircraft engine of approximately 650cc. which took six years to build, having been started in 1924. At that time, Gerald Smith was working on aero engines at Armstrong-Siddeley, who were manufacturing 14-cylinder twin-row engines by the late nineteen-twenties, slightly ahead of Pratt & Whitney's 14-cylinder Twin Wasp. Gerald Smith's 18-cylinder design undoubtedly anticipated the full-size industry's 18-cylinder radials by quite a few years.

After he had been designing and building miniature i.c. engines for upwards of twenty years, Gerald Smith was finally persuaded to produce some motors for model use and, between 1946 and 1949, he made about 320 spark-ignition two-strokes, most of them 10cc 'Lapwing' models. Others included the 7.5cc 'Redwing', 15cc 'Maggie' and the last one to be produced, the 10cc 'Wizard', illustrated here.

The Wizard was a crossflow-scavenged, rear rotary valve, spark ignition unit with twin ball-bearings and a ringed aluminium piston. It had a barrel-type crankcase made in unit with the cylinder jacket in which there was a shrunk-in, or pressed-in, liner. The crankshaft ran in two $\frac{3}{8} \times \frac{1}{8}$ in ball bearings and had a separate $\frac{3}{16}$ in dia. crankpin. The rear shaft type rotary valve assembly featured an extended dwell rotary-valve, driven by the crankpin via a substantial Tufnol disc riveted to a flange on the shaft. The shaft port, long and narrow, uncovered a very large rectangular aperture fed from a large chamber below the carburettor and fed mixture through a 9mm bore gas passage. At the rear, the rotor shaft was fitted with a cam for operating the movable point of a Delco-Remy contact breaker assembly. Front and rear housings were flanged, in the normal way, but secured to the crankcase with four long bolts which passed through tubular links on the crankcase.

The piston, machined from a gravity casting, was of the high deflector type with two compression rings and a fully-floating $\frac{1}{2}$ in. dia. tubular gudgeon-pin coupling it to a machined conrod. Mixture passed through the piston interior, via a wide skirt window, on its way to the combustion chamber. The cylinder head was contoured to match the piston crown and had a long-reach $\frac{1}{2}$ in. sparking plug offset to the transfer side. It made a metal-to-metal joint with the cylinder and was secured with eight screws.

Collectors' Corner

When, so sadly, our good friend Eddie Cosh, former hon. sec. of the SMAE, former editor of *Model Aircraft* magazine and latterly a director of KeilKraft, died last year, he left a small collection of engines that his widow, Mrs. Eve Cosh, would now like to see go to a good home. The engines are mostly of the early post-war period and, knowing what a fastidious person Eddie was, our guess is that they are in mint condition. They include an Ohlsson & Rice 23, a Kalper 32cc, an early Allbon Dart, a McCoy 049 diesel, an Elfin 1 8cc, a Micron 2 8cc, an early E.D. Mk. I Bee, an early E.D. Fury, an E.D. Competition-Special, an early E.D. Hunter, a Frog 100 MK II (it could be a 180 but, in the small photo of all these engines sent to us for identification, looks like the 100), a Frog 160 Red-Glow and a Frog 250.

Mrs. Cosh has already been pestered by one or two of the less scrupulous dealers anxious to make a quick buck, and so son Peter is handling enquiries. Anyone genuinely interested can contact him, after business hours, on Canewdon (Essex) 527.

Cox TD 09 Test Review

It happens sometimes! Someone, it seems, decided to save space by condensing the width of the mounting dimensions on our full-size drawing of the Cox TD 09, page 458 of the September issue. Lateral spacing of mounting holes is 1.062 in., not 0.800 in. as shown.



SCALE MATTERS

by Alan Callaghan

RUBBER SCALE AT OLD WARDEN

IT WAS REWARDING to be able to run yet another informal contest for outdoor rubber scale models at this venue during July. With some experienced judging assistance from Geoff Burkett of the Three Kings C/L club, the event ran alongside another rubber scale event for the SMAE Rubber Scale Trophy. It seemed a good idea not to allow entry in both contests with the same model, but as most fliers had several models with them a good variety of subjects featured in the placings and ten entries were made in each.

In my own event four entries did not return scores, one due to damage caused in test flying, one due to a desire to preserve the life of the model, and two due to the fliers being involved in judging the other event!

Conditions were very tricky, with a hot sun having its effect on flying surfaces and rubber lubricant, and a very inconsistent gusty breeze varying from flat calm to a force 4 in no time at all. Under this, Doug Hunt decided simply not to risk his new *Westland Lysander* beautifully built from the standard Keil Kraft kit and was one of the first to withdraw. Normally an excellent flyer, Chris Chapman's *Heinkel 100D* suffered from a particularly bad patch of air and broke a wing.



Rubber Scale Models and fliers at Old Warden during July shows a good variety of designs but let down by very unsettled wind conditions

It was good to see our top indoor man Butch Hadland in the open air for a change flying his large CO₂ Rubber convertible *Lacey M10*. Set up for indoor flying, this model is built with little wing incidence or longitudinal dihedral, and so when flown outdoors has only a very small margin of stability. Consequently towards the end of the power run the model was stalling very badly indeed, but such are its flying capabilities that it was the only model to comfortably exceed (by 21 seconds) the 50 second flight duration maximum. Its nearest rival was a 38 second flight by a Flyline *Rearwin Speedster* built by newcomer Phil Brooks which would have finished much higher than 5th place had some scale documentation been presented.

Mike Hetherington's *Strosser* with a

geared motor coped well with the conditions but was badly let down on flight duration. In fact the model tied for first place with Butch's *Lacey* and rather than risk the models again a coin was tossed to see who took first choice of the prizes. Harry Perrens's new *Westland Widgeon III* took a well deserved third place with a scale realism flight second only to the *Strosser*. Some models were able to do take-offs from some large sheets of cardboard brought for this purpose by Mike. Geoff Spencer's *Curtiss F2-C Hawk* looked extremely attractive in its vivid colour scheme in the bright sunlight and rated good static and scale realism in flight scores but duration was below par for the day.

Hopefully the weather will be a little more kind at next year's event.



Harry Perren's placed 3rd with his very attractive *Westland Widgeon III* which made second highest static score. Red and Silver colour scheme



Barrie Hotman with his new *Messerschmitt M23*, finished in a blue and white colour scheme, decided not to fly in the poor conditions.

Well done the lads – again!!

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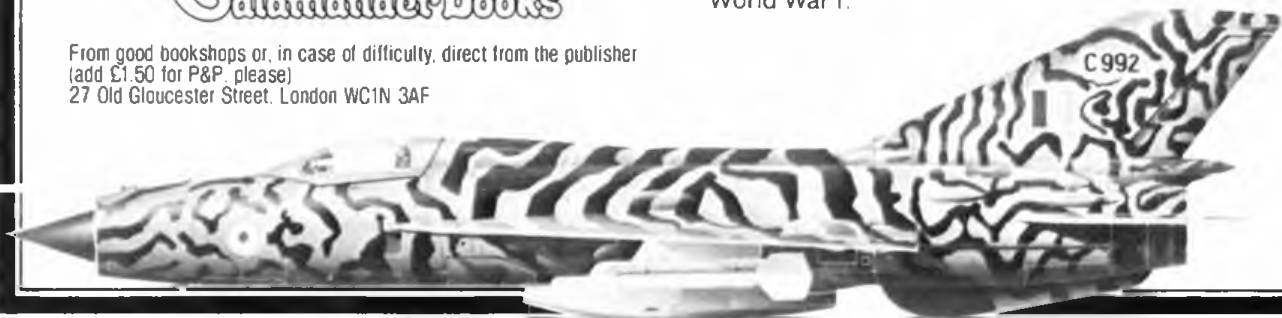
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Vintage Corner

By Alex Imrie

OS 40 4 stroke powered Keilcraft Falcon built by Arnold Horwich taking-off at Old Warden. This design was one of the few radio models at Old Warden that qualified as a genuine vintage R/C model, many radio versions of the Falcon flying before the end of 1950

Vintage Day Old Warden 1981

There was so much activity at this very well attended meeting, that it became difficult for any one person to see everything, far less to give a report of the proceedings that could reflect an 'average' view. These jottings are as a result, fragmentary, and are based on my own personal impressions.

How fine it was to rub shoulders with the many true vintage modellers present like Phil Smith, (designer of the Stentorian, who brought along the tattered original in biplane configuration) Henry J. Nicholls of '308', James Pelly-Fry, L. S. Wigdor, C. Rupert Moore, Alwyn Greenhalgh, A. A. Judge and Dennis Fairlie (last three all being members of the 1936 Wakefield team!) and countless others. What a great idea it was to encourage these prominent pioneer modellers along to the meeting.

Changing scene

Gradually over the past few years this main vintage event of the year has been growing to the extent that it is as busy as the famous Scale Days and inevitably the radio controlled section now provides the main spectator attraction. It is easy to understand why this should be so with the continual close proximity of models that can be watched throughout their whole flight, taking off and landing on the nicely mown grass area, while the public address commentary provided confirmation to many that this was where 'it' was all happening. As a result the spectators tended to concentrate on this part of the



aerodrome which was convenient to the car park and had an interesting display of the models in the static park.

The radio models were well flown and coped well with the wind, but in my estimation (and I am far from being alone in this view) they were not all true vintage machines. Many used reduced dihedral, modified landing gear, and other refinements to make them more suitable for radio control. These alterations, including in some cases major structural changes, and ultra modern finishes, all combined to make many of these models from yesterday recognisable only with some difficulty. There were of course, exceptions and among these was Dennis Bryant's Stentorian with completely concealed radio operating internal linkages to all moving tail surfaces, a noble effort which was damaged when a loop with too much 'G' folded the wings. Another fine model was the Taibi Hornet built by one time West Essex control-line expert Sid Sutherland. This beauty flew well and the crackle of the exhaust note from its Super Cyclone spark ignition engine (which used to belong to the late Eddie Keil) really fitted the part.

Pure thoughts

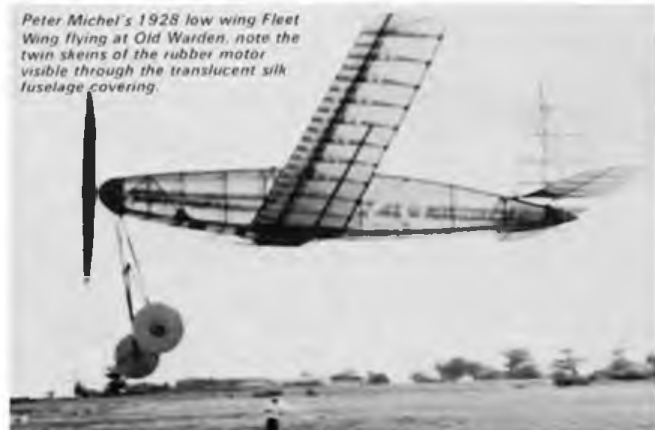
It is well to think back about 12 years and remember that when it was first envisaged to fit radio control to vintage models, the term 'R/C assist' was introduced. Briefly the idea was to fly the model as a vintage free flight machine and use the radio for thermal hunting and as a sort of recovery aid to ensure that the model returned to

within reasonable proximity of its take-off point.

These original aims tend to have been overlooked so the pursuit has now been recycled into sport radio control flying of vintage shapes. The whole business has really reached the stage where in some cases it no longer has anything to do with vintage! I can hear the howls of opposition, but I suggest that a true vintage meeting should be held *without* radio control! Let's call it *Vintage Free Flight and Control Line Day*, which is quite a mouthful! The radio enthusiasts who fly old designs can have their own flying day, they get plenty of spectator support and will manage quite well without the vintage free flight section. I really do think that the time has come to separate the two schools. Vintage enthusiasts will have to decide on what side of the fence they want to be. Genuine vintage radio controlled model aircraft do of course qualify, these being model aircraft designed, kitted or plans published prior to December 31st 1950 that were fitted with radio control devices. Apart from the few pre-war designs, there is a whole multitude of post war models like *Cats Whisker*, *Electron*, *Manx Monarch*, *Rudder Bug*, *Queen Bee*, etc. So a vintage R/C class of model already exists, but I would like to see it more closely supervised and models entered in any competitions carefully processed for authenticity.

Retrieval par excellence

Noel Barker flew the late John Haggart's *Kanga Kub* and this became lodged in the



Peter Michel's 1928 low wing Fleet Wing flying at Old Warden, note the twin skins of the rubber motor visible through the translucent silk fuselage covering.



Left to right, Dennis Fairlie, A. A. Judge and Alwyn Greenhalgh, all members of the 1936 Wakefield team later at Old Warden



Left, close up of the F. J. Camm designed 3 cylinder compressed air engine made by Tony Turner. A pressure of 60 psi in the container causes the 18 inch diameter laminated Pavely tape propeller to dissolve into a disc of spinning light. Tony Turner's compressed air powered model about to ROG at Old Warden. This machine with kingpost bracing, spoked wheels and "toothpick" skid is a free lance design based on the practice of D. A. Pavely, who was the leading exponent on compressed air in this country before the war.

topmost branches of a tree which was at least 100ft. high, and there it would have stayed except for the sterling efforts of Jack Frost. This man knows about the risks of free flight and always brings his grappling hook, ropes, bamboo poles and climbing irons when he goes flying as we lesser mortals take booster batteries, spare plugs and sandwiches! Although not a young man, Jack climbed that branchless trunk like a telephone linesman and eventually Noel was able to take his model home albeit badly damaged but repairable, and Jack chalked up another retrieval mission to his long list of successes. Good show Jack.

As the meeting progressed many free flight models were lost and the majority of them would have remained lost had it not been for the unselfish nature of the Hardwick family, who were possibly inspired by Jack Frost's fine example. Being on holiday they entered into the spirit of things and forsook the traditional seaside for daily systematic searches downwind from the free flight launch point. By the end of the week following the meeting Dick and his 14 year old son David had recovered seven models, only one of which did not bear its owner's name and address. This was a blue and yellow replica Mills powered *Tomboy*, which awaits owner notification. A gesture like this by the Hardwicks, is alas not encountered very often these days. I am sure that all vintage free fliers will join with me in thanking these stalwarts for this fine effort.

Free Flight

Just how the weather man managed to sandwich a windy day for the meeting between two almost calm hot ones is a mystery. What a disappointment for the true free flight enthusiasts, it being just too windy during the day for the majority of the lighter models. I take my hat off to the modellers who flew and risked not only downwind cartwheels but also losing some of their models completely.

From the spectators point of view, those who walked across the aerodrome into the long grass would have seen real vintage flying models true in structure and outline, carefully built with only one aim in mind, to re-create old time models as they used to be. Not for these builders the modern materials and synthetic finishes, here they were turning the clock back, this was the

real thing from the thirties born again!

Had the onlooker dallied he might have seen the mass launch of 'A' frames and Mark Hinton fly into first place to win the Danny Sheelds Trophy, and watched Mario Gandolfi extract winning time from his 1938 *Cloud Airmaster* to become the second recipient of the John Haggart Memorial Trophy. These awards were presented without due ceremony by A. A. Judge, who has just joined SAM 35 to become its 250th member. Bert Judge it was of course, who won the coveted Wakefield Trophy for Britain in 1936, he enjoyed himself at Old Warden and must have been pleased to see the replica of his Wakefield winner amongst the vintage free flight models.

Rubber revival was most noticeable, and apart from the Judge Wakefield, there was a G. W. W. Harris designed Wakefield, also Brian Yearly's *Flying Minutes* (a victim of the trees) and the *Isis* designed by A. F. Houlberg, plus a whole bevy of models by Peter Michel which included a 1928 low wing monoplane named *Fleet Wing*, a *Larsen Liberty* from 1940 and *Wild Goose*. Peter was the worthy recipient of an original Freddie cartoon given by MAP's Ron Moulton in recognition of his endeavour.



A replica of Alwyn Greenhalgh's 1929 lightweight model.

Conclusion

In this absolute feast of nostalgia there was too much happening for comfort. One met so many people and talked on so many subjects that I felt quite drained. Although the colourful arcs in the sky and the roar of engines indicated that the control line activity was in a healthy state, I never made it across to that area! Like the spectators, I lingered at the radio area too long! I did make across free flight and what I saw, convinced me beyond doubt that vintage is gathering momentum at a steady pace but some sort of dilution is necessary on Vintage Day and one needs more time to see everything. Anything missed on this occasion is a personal loss, never to be recaptured.



Group of 'A' frame fliers just before the mass launch at Old Warden Vintage Day. The longest flight was made by Mark Hinton.

FROM THE HANDLE

RACING Jim Woodside

The Flying Wing Model for F2C

Few models in recent years have so caught the imagination of a fraternity as has the flying wing model for F2C. In 1978 or so, the general use of the Neilson 15D enabled many fliers to reach personal highs (or should it be lows?) in racing. The widespread use of the wing model seems to have continued this process, indicating that the configuration has inherent advantages.

In no way am I qualified to speak on the relative aerodynamics of conventional versus all wing models. However, one or two commonsense points can be made, and it may be in these areas that the good performance of the flying wing is to be found.

- 1 The wing is of low aspect ratio and is stiff — resisting flexing in flight
- 2 The builder is relieved of having to align wing and tail at zero zero
- 3 Less glue and materials are needed, hence a lighter model

In short, the building of a light, strong and accurate model is more easily achieved. This must be a contributory factor in better heat time. All three finalists at the 1980 World Champs used a variation of the flying wing.

- The disadvantage in the design seem to be that
- 1 the models are reluctant to fly high i.e. when overtaking
 - 2 the ability to glide is less than the conventional model
 - 3 the short wing is harder to catch by the pitman

Plans

At the time of writing two good plans are available. While these two models appear to be superficially the same, they are in fact quite different in their construction. The plans are 1 The Smith Flying Wing and 2 The Shadow Wing.

The Smith Wing first appeared in 1979. Steve had previously experimented with his all moving tail and looked to the combat wing to solve some of the problems of stability.

Essentially the model follows conventional construction techniques. The wing is made of $\frac{1}{2}$ in sheet with spruce leading edges and covered in 0.6oz glass cloth by using the press method.

The engine plate is screwed to a composite $\frac{1}{2}$ in ply and balsa crutch. Rather unusually for these days, the fuselage is made of block balsa which is externally shaped and is then hollowed to a thin section.

The plan was drawn and traced by Ian Russell.

and is of a good standard similar to standards in the APS series. (Certainly enough detail is provided to enable any one who has built a couple of conventional racers to successfully build a Wing Thing.)

The Shadow Wing, first seen generally at the 1980 World Championships like Shadow Wing, was developed as an original concept by Walt Perkins and J. E. Albritton.

While externally very similar to the Smith machine, the construction is quite complex and uses some sophisticated materials and techniques. The wing is a composite of solid leading edge sections and built up rear trailing edges. The original model also featured two carbon fibre spars. The wing section also changes from a semi-symmetrical root to a symmetrical tip.

The fuselage on the original was made from CF mouldings although conventional balsa techniques could be substituted.

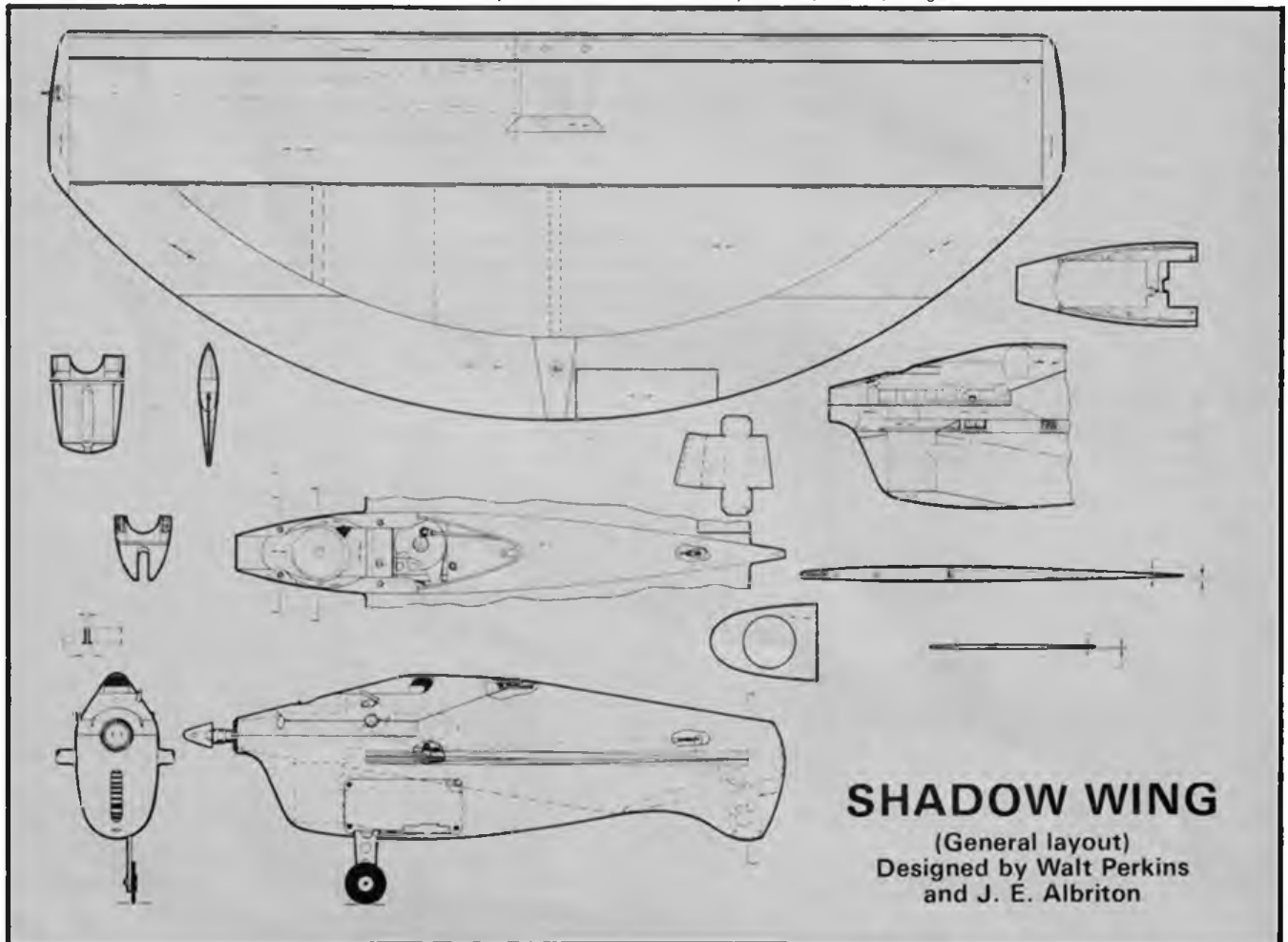
A more complex design in total but this compensated by a most thorough plan. Additional drawings are available for (a) retracting landing gear, (b) constructing carbon spar moulds. G.F. fuselage mouldings are also available.

Certainly the wing configuration must be considered by all serious team race enthusiasts and the studying of the plans is a good guide to the 'state of the art' model.

Availability

1 Smith Wing Ian Russell, 98 Elders Road, London W13 Plan £3.30 (postage inclusive) home, £3.60 overseas

2 Shadow Wing Shadow Racing, 1100 S E 28th Street, Ocala, Florida 32670, USA Plan \$2.00, Retract drawing \$2.00, Spar mould drawing \$2.00, G.F. Fuselages \$30.00, plus postage



3rd SMAE Centralised Meeting 14th June Three Sisters

Only FAI TR was flown at this meeting although several teams brought Goodyear models. Even that GY was advertised and that FAI had only a modest entry, some sympathy must be felt for the disappointed Goodyear enthusiasts. I wonder if competitors are failing to pre-enter (as they are required) and so the C.D. is having to start from scratch on the race day.

Of particular interest was a mini-computer which had been lent for appraisal. Bob Horwood had written a programme which would carry out random draws, compute results, etc.

FAI Team Race 10 entries

As the numbers were so close to a semi-final it was decided to run three rounds and take the fastest three for the final.

	Rd 1	Rd 2	Rd 3	Final
1. Smith Brown	3 34 6	3 39 9	3 41	7 36 5
2. Fry Thorpe	4 03 4	3 46 4	3 48 5	7 38 1
3. Hill Metcalf	4 06 7	4 08	3 48 7	7 58 2

Thanks to John Horton and Don Haworth for running the event.

Jensen A.T.R. Prop.

In the last column I mentioned a 1/2 A prop made by Fleming Jensen which showed good potential at the 2nd Centralised meeting. I am glad to be able to report that this prop is now being made commercially available. This is a most welcome product as 1/2 A props are not usually available and many competitors rely on carvings made from damaged FAI size props.

The nominal size is 6 x 7 1/2. At the moment I am using the prop at 5 1/2 in diameter with the pitch being distributed as follows:

Station	1	2	3	4	5	6
Pitch	5 1/2	6	6 1/2	7	7 1/2	8

Fliers interested in this prop should quote reference 1VO7 1/2 A.T.R.; glass-carbon D Kr 40; All carbon D Kr 45. Address: Flemming Jensen, Centerparken 26, 2500 Valby, Denmark.

Breitenbach FAI International Switzerland, 29th/31st May

Team Race

A large entry of 33 teams from Italy, Great Britain, Denmark, France, Yugoslavia, Hungary, Spain, Austria, Germany and Holland. The weather was good and times were fast, although some thought that the jury was a bit lenient. The semi-final cut time was 3 47 7 and 3 38 8 was needed to reach the final.

Notable snippets of information were: Cipolla engines are now using AAC liners and have achieved much better consistency over a full race distance. I also heard that there is a Cipolla with a three bearing bottom end but I have no information regarding the placing of the bearings in the case.

The Danes are now using finned AAC liners in the BG but were not yet fully sorted, having slowish stops and airspeeds over 20 10.

Previous winners Smith Brown had their tank fall out in their first heat and ran in their second attempt.

The Meikemeijer Flores FMV continued (as at Three Sisters) to be difficult to set (3 47 7 heat). Only in the semis did it really motor, making a non-counting 3 32 7 owing to a DQ at lap 98 for whipping!

The Final

As is so often the case these days, the final was a disappointment after the close racing in heats.

Team Race

		Round 1	Round 2	Semi 1	Semi 2	Final	Engine
1. Voghera-Menzozi	I	disq	3 39 0	3 43 6	3 37 3	128 Rd	Cipolla
2. Wakkerman-vd Weerd	NL	3 48 3	3 43 7	3 47 2	3 38 8	125 Rd	Nelson 100
3. Cipolla-Cipolla	I	3 36 9	3 52 1	3 37 2	86 Rd	121 Rd	Cipolla

and semis. As Wakkerman was overtaking Cipolla, a mid-air collision took place which destroyed the Italian. After clearing the line tangle, the remaining two continued but the jury stopped the race and declared the result on the positions at the time of the incident (What happened to the attempt rule I wonder?).

Speed was a speedy event closely contested between the victorious Parramon (Spain) and the very strong Hungarian team who finished 2. 3. 4. Ruling World Champion Patrick Constant could manage only 253kph for 10th place.

Speed		Round 1	Round 2	Round 3
1. Parramon E		268	266	268
2. Mult H		263	252	261
3. Szegedi H.		259	—	261

Aerobatics was won by old maestro Compostella with a clear margin of 117 points over 2nd place man, Salathe of Switzerland.

Aerobatics		
1. Compostella	I	5779
2. Salathe	CH	5662
3. Eggervary	D	5457

COMBAT

Brian Waterland



Report on the Third Round of British Diesel Combat Championships

In the first round of the Championships held in May, Paul Vallins fought his way through 26 entries to win over Mark Jarrett (2nd), Tim Bartram (3rd) and Richard Sutson (4th), whilst in the second round held in July Rob Roy emerged victor over Mark Harrison with D Sizer and Chas Campon 3rd and 4th. Thus, since points are awarded throughout the 4 rounds of the championship (5 for 1st down to 1 point for entering), the competition was totally open. Neil Gill, 1980 British Nationals FAI Combat champion and recent winner of the Dytchley FAI Combat International had gone out in the 2nd

round and losers found in the earlier competitions. He therefore had to win the third round decisively to get back into the running.

The competition was held on Sunday 19th on the Embarkment Peterborough in overcast conditions with a light wind. It was decided to run the event on a two life basis i.e. the entrant continues through the rounds until he has lost two bouts.

In the first round Ian Thompson (Lincoln) was beaten 2 cuts to 0 Dave Benfield (Pboro) in a good bout finishing in line tangle that took five minutes to unravel (well Laystrate is over £1 a reel!) Charlie Windows flying better than ever before, lost to Brian Waterland by writing off his model when losing by 1 cut and Tim Bartram (Cosmo) flying a Vertigo won his bout easily when his opponent M Morris (Lincoln) retired with a broken line (no spares?) Rob Roy's run of bad luck (eased by his win in the 2nd competition of the series) continued when he retired when his foam Boomerang model was broken into 2 wings and a pod by Mark Jarrett after a very close bout. Dave Coe fought back persistently but to no avail in his bout against Neil Gill. Neil with incredible foolhardiness, kept going back for another piece of streamer, finally winning 5 cuts to 0.

In the 2nd Round Neil Gill went on to beat Tim Bartram 2 cuts to 0. Tim had to retire when his pod came out of the model on impact with the ground. In a day which seemed to have more mid-airs than usual, Mark Jarrett beat Ian Thompson 2 cuts to 0, having had two mid-air touches. Brian Waterland flew against Dave Coe. Brian got two cuts with his Solarfilm covered 5th Revolt, and then proceeded to remove the tail plane from his opponent's nylon covered model, thus effectively finishing the bout. Rob Roy, flying a nylon covered Revolution, had a closely fought bout with Dave Benfield and his Solarfilm covered wing. Rob eventually emerged winner by 1 cut to 0. Charlie Windows showed that it is not essential to get cuts to win when he defeated M Morris on ground time only. Neil Gill easily beat Brian Waterland 3 cuts to 0 when his opponent's motor cut every time he went inverted (the cause - split fuel tubing). Charlie Windows lost to Dave Benfield on ground time despite having the only cut of the bout while Mark Jarrett continued his day of mid-air knocks in his bout with Rob Roy. With 2 mid-air collisions and one cut to Mark, he emerged winner in a close (135 to 280 points) bout. Unfortunately Tim Bartram (Cosmo) had to withdraw through lack of models having lost another model in a practice flight.

In the Semi Finals Neil Gill beat Dave Benfield 3 - 0 and Mark Jarrett when beating Brian Waterland by 1 cut to 0 atomised Brian's plane. Therefore in the fly off for 3rd place Waterland met Benfield, with one cut each, Dave Benfield won on ground time.

In an all Peterborough final, Mark Jarrett met Neil Gill. It proved to be a good bout (if a little confusing since both were flying virtually identical Pboro blue Revolutions) with Neil emerging victor 2 cuts to 0. Mark Jarrett therefore now leads the Championship and Neil will have to get 1st place in the final round (to be held on September 6th) to win.

It was interesting to note the trends in models. There seemed to be a swing away from foames to built up models covered in Solarfilm. This seems a good compromise between weight and crash resistance although in the later rounds a lot of clingfilm was in evidence!

1981 British Diesel Combat Championships

The 4th and final round of the 1981 British Diesel Combat Championships was held on September the 6th on the Embarkment, Peterborough, with thirty-three fliers taking part.

4th Round final results

1. Brian Waterland
2. Neil Gill
3. Mark Jarrett
4. Dave Benfield

Final overall placing

- | | |
|--------------------|---------------|
| 1. Mark Jarrett | P'Borough MFC |
| 2. Neil Gill | P'Borough MFC |
| 3. Brian Waterland | P'Borough MFC |
| 4. Rob Roy | P'Borough MFC |
| 5. Dave Benfield | P'Borough MFC |
| 6. Paul Vallins | Cosmo |
| 6. Marc Harrison | Cats |

Free Flight Scene



Malcolm Walker gets his CO Fairry Junior away, but had trim problems

This contest is held as part of the annual Woodvale R/C extravaganza — and consequently appears rather out of place! The F/F Scale side seemed to suffer this year from a lack of publicity. Treated as a contest, rather than a fly-in, it attracts only competitors and none of the hangers-on and sport fliers that swell the numbers elsewhere.

Judging was carried out in the Trade stand hangar — with flying afterwards in very pleasant late afternoon and early evening conditions with little more than a gentle breeze.

Power was a repeat of previous years — with Eric Coates having his turn as winner — just edging out Terry Manley. There is no doubt that these two regulars have this event 'sewn-up' with their ancient (in every sense) biplanes — and that there is little effective opposition. In fact, Eric made no secret of regarding participation as merely an interlude whilst flying R/C — and said he would only build a new F/F model in the unlikely event of real competition arising.

Rubber was better, although three out of the top four scorers failed to manage the 30 seconds required to qualify. Two flights (even with two attempts for each if need be) seems insufficient to produce evidence of a model's true potential. Dave Yates repeated his last year's proxy win with American Bill Warner's *McDonald S21* — mainly by virtue of excellent flying added to a relatively modest static score. Mind you, he had test flown it twice during the preceding week — a procedure akin to cheating with scale models! Runner-up was Mick Duce with a *Heinkel 100* that did well on static despite lightweight kit construction, giving a somewhat unrealistic appearance. Flight suffered from a badly warped tailplane, and a consequent series of power stalls and assorted lurches — but it cleared half a minute each time. The only others to fly as long were the *kit* entries from the Walker family — Malcolm's *Flyline Howard* having the edge over his young son's (borrowed) Keil-Kraft *Stinson Reliant*.

The separate CO₂ event saw even less flying with no one able to qualify. Barry Walker got the nearest — with the least likely model — a diminutive *Pou du Ciel* (presumably from the January *Aeromodeller*) that ground hopped for 15 or 20 seconds. Consequently Pete Sutherland took first and second on the basis of his static scores with a *Heath Baby Bullet* (that crashed) and a *Spitfire* (grounded by filler problems). Whilst there have been many models scaled up from plastic kits, this *Spitfire* was identical in size with the Airfix 1/24th scale offering and, naturally enough, used all the numerous kit transfers.

Prizes were awarded on the field, and were generous by most (F/F) standards. Certainly they made me wonder why competition doesn't appeal to those who fly scale.



Above: Colin Walker placed fourth with his *Stinson Reliant*. Keil-Kraft kit. Flew well. Top left: Pete Sutherland looks pleased despite a trying day. *Heath Baby Bullet* (L) and *Spitfire 1A* are both CO₂. His jacket has even more decor than the models! Left: Mick Duce holds his *Heinkel 100*, lightweight structure shows through the spray paint. Below: Barry Walker struggled with his CO₂, powered *Pou du Ciel*. Flies but not for long enough.



Winning smile from Dave Yates (R) as he readies Bill Warner's *McDonald S21*. Pete Farrimond assists.

Results		Power (4 entries)	Static	+ Better Flight	Total
1.	E Coates	DH9A	1136	+ 987	2123
2.	T Manley	DH4	1065	+ 983	2048
3.	A Creedy	BE2C	1025	+ 733	1758
Rubber (7 entries)					
1.	W Warner (USA)	McDonald S21	905	+ 985	1890
2.	M Duce	Heinkel 100	1015	+ 514	1529
3.	M Walker	Howard DGA	670	+ 753	1423
CO₂ (4 entries)					
1.	P Sutherland	Heath Baby Bullet	1220	+ 0	1220
2.	P Sutherland	Spitfire 1A	1165	+ 0	1165
3.	B Walker	Pou du Ciel	925	+ 0	925

What's Happening?

October 18

The Open Rubber Trophy Hemswell O R only in rounds start 10am plus Champagne Fly off later Details from D Hipperson 35 Anthony Road, Boreham Wood, Herts. Enclose and SAE

October 18

Northern Area FAI Meeting Church Fenton F1A, F1B and F1C Two flights before 1pm Contact 0653 2580

October 25

Witchford FAI and Mini Meeting F1A, F1B and F1C plus A1, 1 2A and Coupe D Hiver Details from M Dilly, 20 Links Road, West Wickham, Kent Enclose SAE

November 8

Anglia MFC Wakefield Contest (a) Models to 1953 Wakefield rules including freelance designs, (b) Published 'Vintage' Wakefields to pre-1951 rules, (c) models to current F1B rules Venue RAF Watton Contact Bob Wells Tel Hornchurch 40859

November 8

Indoor Meeting EZB, HLG, scale 11a m - 6 00 p.m. Venue Colne Valley Leisure Centre, Slaithwaite, near Huddersfield Contact Bernard Hunt Tel Huddersfield 862353

November 22

Mini Class Contest Cd'H, A 1, A Power CO, Duration SMAE rules to apply Good prizes will be presented at the close of the event Venue RAF Watton Contact Chris Blanch Tel 0493 740431

December 6

1981 Aeromodeller Coupe D'Hiver 80gm Aeromodeller Cup and 100gm Bernard Bouillier Trophy Venue RAF Hentow Beds

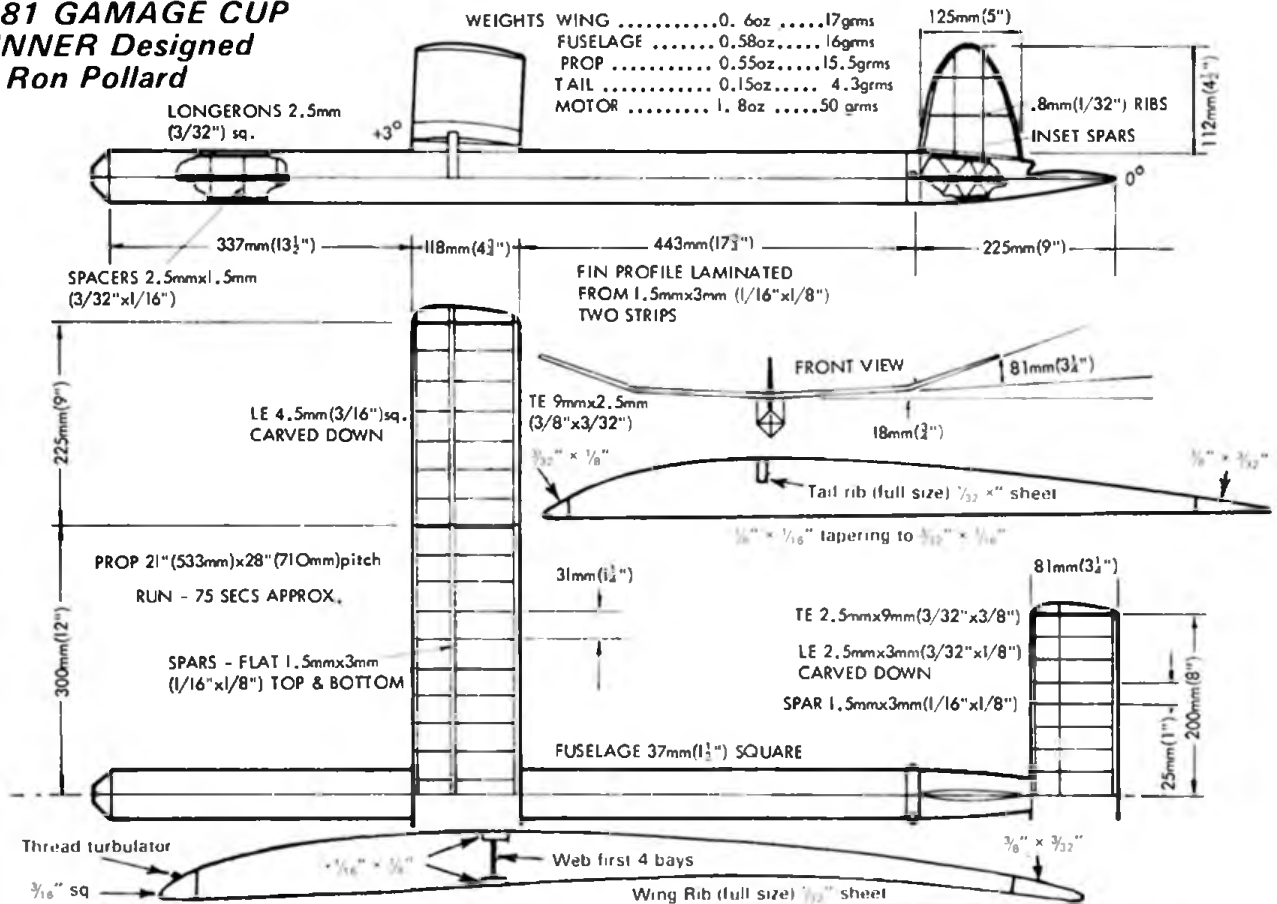
December 13

Indoor Meeting EZB, HLG, SCALE 11 00 a.m. - 6 00 p.m. Venue Colne Valley Leisure Centre, Slaithwaite, Near Huddersfield Contact Dennis Davitt, Tel Leeds 675433

January 10

Indoor Meeting EZB, HLG, scale, 11 a.m. - 6 00 p.m. Venue Colne Valley Leisure Centre, Slaithwaite, Near Huddersfield Contact Bernard Hunt, Tel Huddersfield 862353

1981 GAMAGE CUP WINNER Designed by Ron Pollard



Described by Dave Hipperson

SINCE TIME BEGAN the Gamage Cup day has been coincident with high winds usually all over the country. Last year being a particularly beastly example if you care to recall the day. However for a change this Spring it was relatively flyable and particularly so at the North Eastern Area site of Ouston where flyoff qualifiers were blessed with an almost dead calm at 6 p.m. but even Ron Pollard would admit there was lift about!

His model shown here flew a colossal 17

minute plus flight to win but it was hardly an easy victory as 2nd place man Alan Jack had his larger model in the same thermal and did only two minutes less so that it could have gone either way. Ron attributes the performance of this relatively tiny design to its light wing loading although it is not particularly highly powered. The motor 50gms (1.8oz.) being arranged in 10 strands and running off through the 21 x 28 in. prop (533mm x 711mm) would, it is estimated, run for 75 secs. (On my small model with a similar prop I find with 60gms of rubber and only 8 strands, the model is rather easier to handle on the first burst,

but Ron has obviously tamed this problem.) Some care has been taken over the wing section and turbulator position, rather than just opting for the more conventional flat bottom or Davies arrangement. One presumes this is born of Ron's considerable experience in Wakefield as the section is highly cambered for an open model.

The structural purists may be amused by Ron's use of geodetic spacers behind the motor where there is no twisting load and straight spacers down the main motor tube where there is — I promised not to give all his secrets away so you will just have to ponder over that one!

Vintage Day Old Warden



Report by
Peter Russell

The gliders were there too!
Arthur Fox with a radio
controlled example of
Fillon's Champion sailplane.

With an unbroken record of good weather, it is now almost taken for granted, by those of us who know about such things, that any Aeromodeller meeting at Old Warden will be so favoured. So, in spite of a none too promising forecast which included 'Northerly winds, fresh or strong', we all turned up in our hundreds (thousands?) and were rewarded by yet another splendid day of 'Fly-for-Fun'. Maybe the breeze — it was no more — did cause problems for the free-flight enthusiasts and many fine models were lost or damaged in the trees and other impedimenta to the South of the aerodrome — but most flew O.K. and the 'R/C Assist' and control line fans were not troubled by it at all. Perhaps there is a moral for those who want to see it!

Regardless of the perils, the free-flight section continues to provide the most models, though many of them are quite small. It was particularly pleasant for an Old Timer like the writer to see replicas of the models of his youth — *Copland Wakefields*, the *Korda* (both early and late versions) the *Houlberg 'Isis'*, *'Club Duration'*, *'Flying Minutes'* (or 'flying minute' as the late editor christened it after its unsuccessful participation in the 1948 Wakefield) *'Pacific Ace'* and many others that were all the go when 'O! war a laad'!

Ray Harrison of Bromsgrove, assisted by daughter Elaine, fielded a unique collection consisting entirely of designs marketed by the old Birmingham firm 'Model Aerodrome' under the 'Club' trademark. I didn't actually count them but I saw a *Club 'Super Duration' 40* rubber powered model, a *Club 'Scientific'*, a *Club 'Challenge'*, a *Club 'Conquest'* and, much rarer, the big *90 'Club Chief'*, a model that looks remarkably like the *Megow 'Flying Quaker'*. It was

being prepared for production when the war started and few if any were actually sold. Ray's replica flew in a truly majestic fashion. He was kind enough to let me have a go with the all-elliptical, streamlined 'slippery ship' *'Scientific'*, and I destroyed my credibility for ever by publicly aerobating it — something I always deplore when other people do it! As a sport R/C model, it flew quite nicely but it is difficult to imagine anyone ever taming it as a free-flight. Maybe this is the only example that ever flew more than once! (Here is a challenge for free flight fans, Ed).

Other interesting models in the R/C section included an immaculately built *Weathers 'Westerner'*, this is the eight foot (or so) elegant looking cabin model that first appeared in a 1938 Model Airplane News under the heading 'How to build a gas powered camera plane'. Just to be different, Jim was using, in place of the specified *Brown 'B'*, the latest creation of Gerald Smith — famous for his *Lapwing* and *Redwing* engines in the late forties, and still quite spritely — which featured a variable ignition advance/retard system coupled to the throttle, a very desirable state of affairs but rarely seen.

Newcomer to the Vintage event, Ron Butler, took a fancy to the *Jasco 'Flamingo'* featured in a recent 'Model Builder' magazine, and had built one to a high standard of workmanship, spoiled only by the 'vintage' wheels which were the wrong sort of 'vintage'! The 'Wildcat' 5cc diesel looked positively inadequate by comparison with the massive airframe, but to the surprise of some, flew the model very convincingly.

Another newcomer to 'Vintage Day' though not to vintage, was John DeMott, who had re-furbished his twentyfive-year-

old *K.K. Falcon* — originally flown 'bang-bang' and now fitted with new radio plus an impressive vertical twin, overhead camshaft engine of his own design and construction that was very powerful indeed and whisked the eleven pound model (yes, that's what he said) into the air like no *Falcon* ever before. The $2\frac{1}{4}$ lb. engine was turning a 16×6 prop at 8300rpm, which produces quite a lot of pulling power!

Unusual for the R/C section was the inclusion of three vintage gliders by Arthur Fox. Quite unique was the 'Old Nog', a P.E. Norman design that appeared in *Aeromodeller* in the mid- or late-forties, the *Fillon 'Champion'* — the one with the elliptical dihedral (if the pendants will overlook such contradictory terminology) and a 'biggy' in the Yeabsley tradition, I think Arthur said it was the *Gilbert 'Thunderking'*.

Moving up to the control-line section, there was a better turnout than last year, with many new models, as well as some that come to Old Warden every year (such as mine!) but I was a bit disappointed to find that the C/L section is still no-where near challenging the popularity of the other sections. This surprises me, since it is the ideal way of exercising those old, irreplaceable engines in (more or less) complete safety — no radio interference from the sparks either. Nevertheless, a great deal of C/L flying went on throughout the day, with such types as *Coasby 'Taurus'*, *'Flicka'*, *'Foxhunter'* and *'Yoiks'*, several of the early *'Mercury'* classics, including the one I had two very satisfying contest seasons with, the *Nunn/Nichols 'Monitor'*, the *deBolt 'Bipe'* and many others that would have been instantly recognised by one who had been connected with the contest circuit in the late forties.

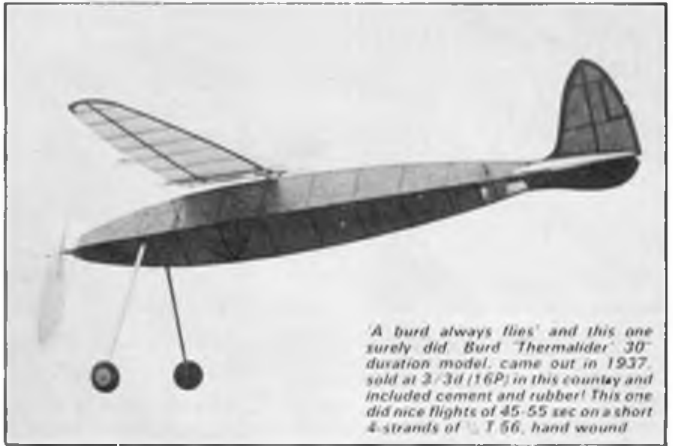
Pete Wright, who normally judges the C/L side, this year took time off to fly his one-time 2.5cc record holding speed model, powered by an E.D. 246 converted to glow. In spite of the roughish grass, the tiny speedster performed an immaculate dolly take-off and proceeded to whizz round in the approved manner. The landing was something else, however. After a long flat *Lionel Mayes* won the 'Fireball' with this *Coasby 'Flicka'* powered by a *Frog 500*. *Coasby* designs were set up very sensitive so *Lionel* moved the c.g. well forward to tame this example.



One of the most impressive flyers at Old Warden was this big, light Jasco 'Flamingo' (recent feature in 'Model Builder'), 53" span, adequately powered by 'Wildcat' diesel and with 'radio assist' to insure that it comes down in the right place and in one piece.



'A bird always flies' and this one surely did. 'Burd Thermalider' 30' duration model, came out in 1937, sold at 3/3d (16P) in this country and included cement and rubber! This one did nice flights of 45-55 sec on a short 4-strands of T 56, hand wound.



glide and a smooth touch down, the deceleration caused by the grass pulled the wings off. Very impressive though. My own McCoy 60 powered *Arkansas Traveller* finally did a really good run and recorded 96 and a bit for what was easily the noisiest performance of the day. Perhaps the example set by me and Pete Wright might inspire others to take up this fascinating but neglected branch of the vintage movement.

The presenter of the 'Fireball Trophy' Mike Beach, without whose efforts we might not have vintage control line at all, brought along examples of 'The first on each side of the Atlantic', that is the first control liner as we know it, *Jim Walker's 'Fireball'*, the one that started off the whole mad round-and-round caper, also the first to be publicly demonstrated in England, Ron Moulton's *Voetsak*. Both flew well and Mike later invited me to fly them — oddly enough, the first time I had ever flown a 'Fireball'. Mike is a purist and insists on dry cells for sparks and petrol for fuel. This is great but the somewhat baulky starting and running was in marked contrast to my 'Super Profile' which uses Ni-Cad pencils for ignition and Glo fuel which gives instant starting without the need for booster batteries and smooth, cool power to the last drop of fuel. The Ni-Cads are out-of-period,

perhaps, (although the Bowden/Forster combo was using lead acid rechargeable batteries as long ago as 1940) but the use of Glow fuel is entirely acceptable since many manufacturers, towards the end of the spark ignition era, were advocating the use of alcohol/castor (i.e. glow) fuels, notably Forster and Arden. You aren't going to get the right gas 'n' oil smell whatever you do because both the gas and the oil is different to the stuff we used in the thirties and forties. On the other hand, glow fuel is so much kinder to our precious, irreplaceable engines that it seems logical to use it for that reason alone.

As 6 p.m. approached, the prizes were awarded as the spectators were going home, but there seemed to be as much model flying going on as earlier in the day, and the vast majority of visitors agreed that it had been a splendid day of concentrated flying fun. Of course, there are a few extremists to spoil the overall harmony.

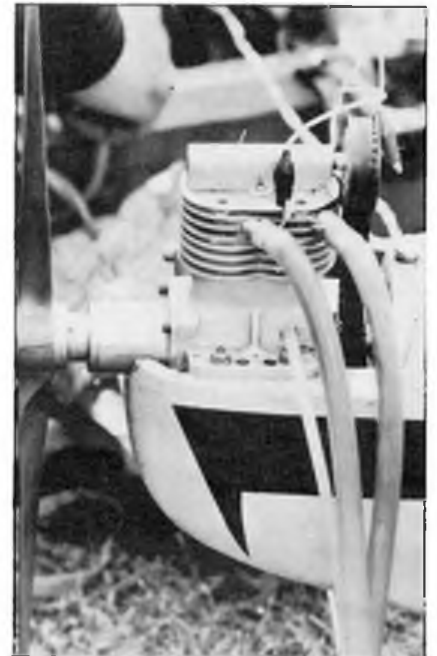
Being a middle-of-the-road enthusiast, I tend to get a bit of Flak from both ends. The ones who fly R/C vintage as though they were R/C sport models think that I am too much a purist with my advocacy of 'minimum necessary control', that is using only the original recommended trim tab for steering (nothing else) completely

concealed R/C with no 'inappropriate' external fittings and correct wheels, engines and so on. Since it has been demonstrated repeatedly that this system enables you to fly vintage without the risk of damaging engine and airframe — or third parties — and even get spot landings in a fair breeze, this attitude seems to me to be vindicated.

The other extreme, the dyed-in-the-wool free-flyers, on the other hand, seem to resent my suggestion that the 'cast your model in the air it falls to earth I know not where (or on whom!)' is not very logical when by the simple expedient of fitting a single channel of R/C, you could avoid all that tree climbing (sorry about that, Noel!) hunting and repairing. Still, the main thing is to remember that we are doing it for enjoyment and we must at all costs avoid getting narrow minded about it.

So why not let us all go along to Old Warden each year and have some good, wholesome fun and not worry too much about the pernicky details?

John De Mott, designed and built this beautiful in-line twin 4 stroke over head cam engine. It is fitted to his 25 years old Keil Kraft Falcon. The engine weighs 2 lb and turns a 16 x 6 prop at 8300 rpm.



Old Fireball himself, Mike Beach built these two models as examples of the first control liner of all, the *Jim Walker 'Fireball'* of 1940/41, and the first control liner publicly demonstrated in England, Ron Moulton's *Voetsak*. Vintage control line movement developing slowly but surely.





Peck Polymer

LACEY M10

Kit review by Dave Day

ONE OF THE most successful, if not *the* most successful, of all Peanut Scale subjects is the Lacey M-10. Best known exponent of the type is Butch Hadland whose plan of the Lacey was published in *Aeromodeller* December 1976. Butch's models feature scale structure, moving control surfaces, sliced ribs, etc. to produce an accurate, lightweight, high performance model. This entails a lot of hard, painstaking work which is not everyone's cup of tea. Therefore, Peck-Polymers prevailed upon Butch to produce a simpler version of the design for them to market, and this kit is the result.

Fuselage

This is constructed mainly of $\frac{1}{20}$ in. square balsa and the structure is a simplified version of the scale structure. Here began my downfall. One of the changes is to insert an additional vertical and horizontal member between the trailing edge of the wing and the leading edge of the tailplane so that there are two members where the scale structure only has one. This seemed to me to be an obvious detraction from scale so I decided to remove one and revert to scale construction (mistake number one — see later). One problem which I found in dealing with balsa of this small cross-section was that of making sufficiently accurate joints. If we could still obtain genuine razor blades, things would be fine, but the average balsa knife blade simply is not good enough for this type of work.

Tail surfaces

These are also of $\frac{1}{20}$ in. square and present no problems other than that already noted.

Wing

This has two $\frac{1}{16}$ in. square spars, a $\frac{1}{16}$ in. square L.E. and an $\frac{1}{8}$ in. \times $\frac{1}{16}$ in. T.E. Ribs are of $\frac{1}{20}$ in. sheet and there are 20 of them. These ribs have to be cut out of printed sheet and it was very noticeable that no two ribs were quite the same! No real problem if you notice it in time, but not quite what you expect from a kit of this quality. There are two $\frac{1}{20}$ in. sheet end plates to be added to the wing after covering and these give adequate stiffness to prevent the end ribs from being distorted by the covering.

Noseblock and propeller

The front end of the model just could not be simpler. Four pieces of $\frac{1}{8}$ in. sheet make up the cowling, while three more pieces of the same material laminated together produce a noseblock. After shaping the whole unit, the plastic nose bearing can be added. A plastic propeller is supplied and this gives quite a good performance when

cut down as per instructions. Finally, the undercarriage is bent from a single piece of piano wire (0.025in. dia.) which is bound and glued to a piece of sheet which is, in turn, glued inside the rear of the cowling. To retain the wheels, I used a very short piece of sleeving cut from ordinary flexible hook-up wire as used in R.C. equipment. Unfortunately, the shape of the cowl, together with the engine details shown on the plan is far from accurate, see later.

Covering

There is some very nice tissue included in the kit but this does seem to be of rather a heavy grade for a model of this type. As I wished to use a painted finish, I did not want to go all the way and cover the model with condenser paper which, while not impossible to paint, is extremely tricky. After consulting various sources, I decided on Japanese tissue as the covering material. The entire model was covered (after glazing the cabin windows with the thin celluloid supplied), using thin clear dope as the adhesive, and then water-shrunk by spraying very gently with an airbrush. This was followed by two coats of well thinned clear dope applied by the same method. At this stage the model looked superb! Colour dope was then applied, well thinned, again by means of an airbrush. Here the problems started. For some reason the dope soaked through the covering and formed tiny globules on the inside, giving a most unsightly 'orange peel' effect. The model was then thrown to one side in disgust and left for some considerable time while I licked my wounds. Later (*much* later) examination of the model revealed that recovering would be difficult due to the frail structure and would probably increase the weight considerably. As the worst effected parts were the fuselage sides it was decided to recover these and try to salvage the rest. Two further coats of thin clear dope were sprayed on over the colour and two fresh colour coats were applied using thinned *enamel* paint. This improved the spoiled areas considerably and on the recovered areas gave near perfect results! After masking off and painting the red trim areas, the panel lines, etc. were added using a Rotring pen. Unfortunately, all this extra paint led to drastic warping of the longerons in the area where I had modified the structure!

Details

On a model of this size, most of these have to be painted on, but the exhaust pipes and carburettor intake were made from paper tubes and the engine cylinder heads from small pieces of plastic card. In fact, small pieces of wood are supplied for the cylinder heads, but substituting plastic card

eliminates the problem of filling the grain.

Authenticity

This is an important point to raise in this case since, after some research into the Lacey, it would appear that all models of this type seen to date are wrong! (sorry Butch) The colour information given on the plan for this kit shows the aircraft in the form it is usually modelled and this information stems from colour notes obtained from the Lacey's designer. However, photographic evidence clearly shows that there are no pinstripes on the red trim on wing and tail and that the trim on the wing is only one rib panel wide. There is no red trim on top of the cowling. In addition to this the cylinder heads should be staggered with those on the right hand side of the cowl being further back than those on the left, the engine cowling is *not* wider than the fuselage and the shape is rather different to that shown. None of this, of course, can be taken as criticism of the kit which is generally excellent.

Flying

Apart from a marked reluctance to turn, trimming was delightfully simple. I wish I could say that it flew straight off the board but, in fact, it required a small piece of modelling clay in the nose. This brought the CG to the point shown on the plan which was near perfect. Although the various trials and tribulations encountered in covering had increased the weight considerably from what might have been possible, a $1\frac{1}{2}$ in. loop of 0.085in. Pirelli was adequate for outdoor flights in still air, and gave an all up weight of 16gm. On 1250 turns the model recorded a time of 57 seconds on only its fifth flight. The turn problem was partly caused by the very low aspect ratio which meant that the normal method of washing in the wingtip on the inside of the turn to help it round, via adverse yaw, was ineffective due to the aileron effect taking over and banking the model against the turn. The cure was to apply a very large amount of rudder offset. When set up right on the edge of the stall the flight is very slow with a gentle rocking motion from side to side — presumably dutch roll. It is a curiously satisfying model to fly, after all — flat wings are supposed to be unstable.

Conclusions

An excellent kit with good quality wood which makes up into a model with very high performance capabilities, the only low point being the variation in the shape of the printed ribs. If you finish the model exactly as per instructions, only a nitpicker like me could fault the scale appearance!



THIS 1.52m (60in.) span slope soarer has been designed for two channel radio and quick assembly. The two piece wing and detachable tailplane makes the model very compact for transportation.

Fuselage

The complete fuselage is made from A.B.S. plastic, consisting of two vacuum formed sections (top and bottom) already glued together. The only slightly skilled work to do is cutting out the cockpit area and the rectangle at the wing mounting and drilling five holes, four for the wing and tail dowels and one for the rudder push rod outlet. Care must be taken when cutting A.B.S. not to score or over cut, as it will tend to crack under stress.

Wing

This is very well made from foam with a hardwood veneer and only requires the balsa tips, leading and trailing edges to be glued in place, carved and sanded to shape. When carving the leading edge, it is worth while drawing two or three parallel lines along the front face, this helps to keep a uniform shape when carving and sanding to the airfoil form.

Two pre-bent wire dowels are used to join the wing, the holes for the dowels are already drilled in each wing half. I used a smear of contact glue to retain the dowels in one half of the wing, as they could easily drop out while carrying the model.

Tail and Fin

Both are made from balsa sheet and only require sanding to an airfoil shape. The tailplane has wire reinforcing epoxied to the leading and trailing edge centre to stop the rubber holding bands from cutting into the wood. I did modify the tailplane slightly by adding a strip of $\frac{1}{4} \times \frac{1}{8}$ in. balsa to each tip to avoid warps occurring.

Radio installation

All hardware is supplied and the whole job is very straightforward. In fact with the excellent instruction book supplied a complete novice should have no difficulty with any of the construction of the model.

Finishing

I left the fuselage as it comes white with a black stripe covering the join line, although it could be spray painted with enamel if desired.

The wing, tail and fin were covered with white iron on film and decorated with the decals supplied. The instructions suggest covering the moving surfaces separately, but I prefer to let the film cover the hinge line. This can be a bit tricky, if you don't leave enough slack film to iron into the hinge joint, control movement will be restricted.

Flying

The centre of balance worked out fine with no need for ballast. All control



Neat exit for the elevator push pull rod. Note the film covering the elevator hinge line, bolt on elevator horn and rubber bands holding tailplane. Below, servos and radio installation. I held the receiver on-off switch to receiver rubber packing with a band. Alternatively a strip of A.B.S. plastic is supplied in the kit to make a bracket for the switch.



surfaces were set to neutral with the transmitter trim knobs also set at neutral. My first opportunity to fly the model was on a visit to Birchington-on-Sea. With a little searching I found a reasonable slope going down to the sea. Unfortunately the wind was blowing slightly off the slope and was not very strong but there appeared to be enough lift.

The first flight was fine, requiring only a slight amount of down trim to settle the model into a good altitude. On the second flight I added two 10p coins to the nose, which allowed the trim to come back to neutral. The model was easy to fly and had no bad side effects and stayed up very well in the minimal lift I was flying in. Altogether a very nice model, ideally suited to the beginner to R/C slope soaring.

Manufactured and distributed by Micro-Mold. Price £24.50.

The best way to make the outlet hole in the fuselage is to hold a 1/8" drill between finger and thumb and rotate without too much pressure.



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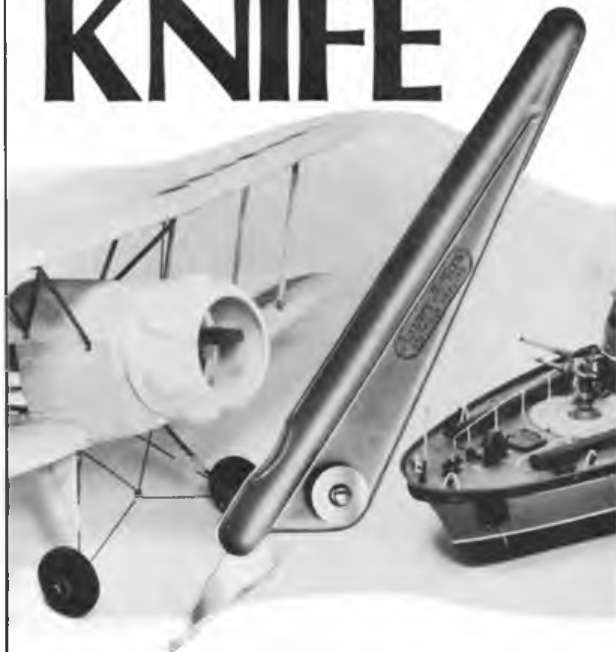
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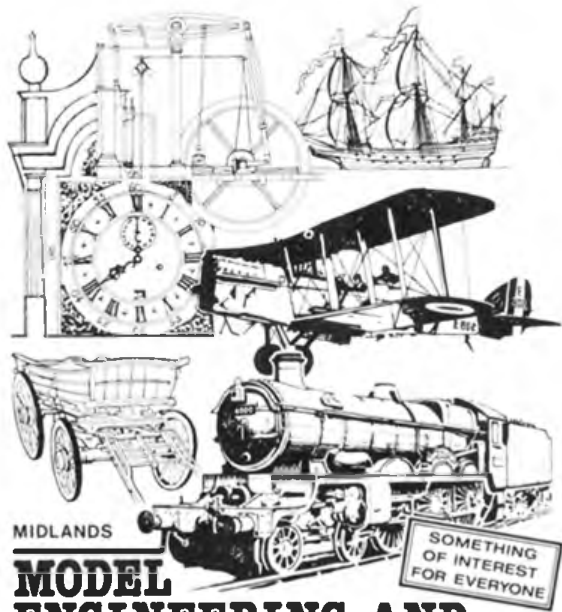
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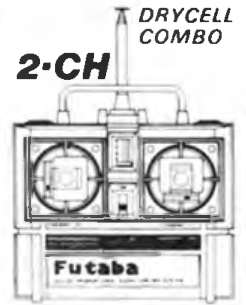


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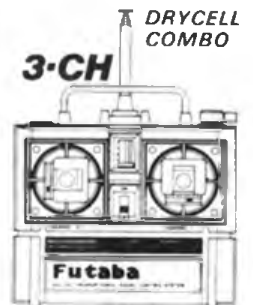
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