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AERO

MODELLER



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Cover
Deserved winner of the Aeromodeller Cup at this year's Model Engineer Exhibition was Nick Peppiatt's fine Gloucestershire Gannet for CO₂ power, seen here in company with its award. Our first look at the Exhibition starts on p.126.

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HANGAR DOORS



Stick to it!

The handy 1988 Team Supporter sticker, above, enables you to help the SMAE to muster our strongest possible challenge in International model flying. How so? Simple. Competitive participation generally attracts enthusiasts keen to succeed, so our teams abroad acquit themselves well. Nevertheless, team members have to meet most of the costs incurred in representing the country, quite apart from the effort needed to ensure they give their best on the field. And remember that many other countries receive substantial State help.

This is where the sticker comes in. Send a minimum donation of £1.00 and this emblem - in patriotic red, white and blue - is yours. Your donation is the help needed; and unlike most model flying classes there is no maximum to be applied! Club secretaries or PROs may buy a pack of 25 or 50 to sell at rallies or meetings; and there are still a few '85, '86 and '87 stickers at the same price so you can collect the whole set. Send your cheque to: '88 Team

The Apex Club, or the Peter Fisher Benevolent Society, with their Apexes (Apices?) and Ions. Keith Harris, who sent the pic, says the Apex is popular at Grantham and thereabouts, in a variety of sizes including a 1.1/2 times version for AM 25 power.



Stickers, SMAE, Kimberley House, Vaughan Way, Leicester LE1 4SE - and don't forget an SAE large enough for this 4.1/4in. diameter proof that you care.

Model flying is now the world's most popular air sport, and you can be part of Britain's success this year.

Empire of the Sun

Steven Spielberg's new film - subject of the Royal Film Performance on 21st March - contains much of interest to the aeromodeller. Besides the impressive R/C Mustangs, Zero and B29 (the latter weighs 100lbs and spans eighteen feet), a selection of rubber-powered vintage scale designs appears in an early sequence depicting the air-minded hero's boyhood. Connoisseurs will recognise a variety of Earl Stahl craft thanks to sterling - and hasty - work by David Baker, George Hollingdale, Don Knight and others. In true studio tradition the film's agent rang to ask for a selection of models - "by tomorrow will do..."

See if you can spot them in the film - and admire the R/C flying by Ken Binks, David Smith, Steven Burgess, Brian Brothers, John Palmer and Paul Jefferies!

Insurance matters

Safety in flight is a topic well to the fore right now. It is regrettable that a continually higher level of insurance claims has led to a number of repercussions, including the need to raise the premium of the ASP Modellers Accident



Protection Insurance to £5.00 for standard cover - an increase of £1.00, but still good value, giving third party cover for less than the cost of a handful of props or a couple of cans of fuel.

For full details send an SAE to: Insurance Office, ASP Ltd., 9 Hall Road, Maylands Wood Estate, Hemel Hempstead, Herts HP2 7BH.

Scale - and Jetex

Charlie Newman tells us that a SMAE F/F Scale Meeting has been provisionally arranged for 8th May at Barkston Heath. Power, rubber and CO₂ scale will (hopefully) take place, and if all goes well there will be a contest for Jetex Scale to the SMAE Scale Rules which demand presentation of three photos (one to be of the actual aircraft modelled), a three-view and colour details. Any Jetex motor

size eligible; and there is a 20sec. minimum qualifying flight time. Contact Charlie on 086 77 3020. Moving on to our Old Warden Scale weekend on 18th and 19th June, Charlie will be running a one-flight mass launch for KK Jetex Flying Scale subjects. Only '50' size units may be fitted! Time: 3.00 on Scale Sunday!

Tailless Fund

Fancy a tailless? Afficionado John Pool sends latest news that this Tailless Power Prize Fund now stand at £100. Who knows - it may even be greater now! To recap for those who may not have read John's letter in last October's issue, the story is that prizes - actually commemorative mugs - are being arranged for the highest-placed power model entered in the Lady Shelley Cup at future Nationals - starting this May! If such a model wins outright it collects the balance of the fund too. Don't forget: that 30sec. engine run is a great advantage! Go to it!

...and a letter

An Oxfordshire scale enthusiast signing himself 'Natsneez' (we are not implying any link with the gentleman mentioned in the previous paragraph, but we cannot deny it either) writes thus:

"After reading Bill Dennis' Scale Matters column in the January *Aeromodeller* I was intrigued by his comments on the robustness of the P.E. Norman-designed Fokker Triplane he has under construction. Close examination of the photo accompanying the article reveals, in the background, a hammer, a Surform and an axel



Right: 'Le Bar' at the Ibis Hotel, near Schipol Airport, Amsterdam, boasts this aviation-based cocktail menu.

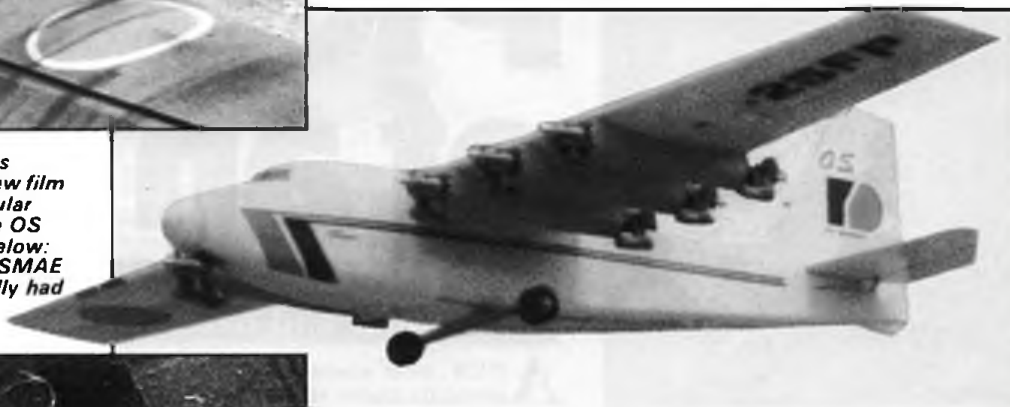
Clearly, Bill is entering into the spirit of P.E.'s models. May we assume that the scale prop will be hewn from a railway sleeper with an adze? Hmmm...

Old Warden dates

Briefly, here are confirmed dates for our annual pilgrimages to the home of the Shuttleworth Collection. Diaries out, now!
1st May: Spring Kite Festival
18-19th June: Scale Weekend

| OUR SPECIALS | |
|---|------|
| THE MACH-3 (Margarta) Tequila, triple sec and lemon juice. | 7.50 |
| THE BOEING 747 (Gin Fizz) Gin, soda water, lemon juice and sugar. | 8.50 |
| THE AERO COMMANDER (Whisky Sour) Whisky, lemon juice and sugar. | 8.50 |
| THE BRISTOL BULLDOG (Dry Martin) Dry vermouth and gin. | 8.50 |
| THE DAKOTA SPECIAL (Alcohol free cocktail) Orange, pineapple and lemon juice mixed with grenadine. | 6.50 |

Heading: One-third scale R/C Zeros assembled for Steven Spielberg's new film *Empire of the Sun*. Right: Spectacular twelve-engine R/C giant from the OS company creates a stir in Japan! Below: CMA Cup went F/F at the SMAE prizegiving so John Cuthbert literally had to pick it up...



10th July: Golden Era Day
20-21st August: Vintage Weekend
18th September: Four-stroke Day
2nd October: Autumn Kite Festival.
More details to follow!

home loaded with loot! See What's On for more details. A bar and light refreshments are promised - just the thing to help when anguishing over that pre-war kit or old motor!

Vintage swapmeet

13th March at Mansfield Leisure Centre is the place to be for the 5th Vintage Grand National Swapmeet (or 'Collecto', in Stateside terminology). Keith Harris of the UK Region of MECA - the Model Engine Collectors' Association - invites all to attend and to 'Go

Beaulieu reminder

Don't forget Beaulieu users - your last chance approaches to protest at the possible closure of this fine F/F site. Add your weight now - contact Gary Madelin on 0252 727129 for latest details. Refer to last month's free Flight Scene for the back-ground...

What's On...

6th March
SAMS INDOOR FUN-FLY
Venue: Watford Leisure Centre, 11am-6pm.
Contact: George Wallbridge, Tel: 076 388 384

13th March
GRAND NATIONAL VINTAGE SWAP-MEET
Venue: Mansfield Leisure Centre, Chesterfield Road South, Mansfield, Notts. Take Exit 29 from M1. Small entrance fee.
Contact: Keith Harris, Tel: 0623 842167.

27th March
PETERBOROUGH MFC DIESEL A MEETING
Venue: Peterborough Embankment.
Contact: Mick Taylor, Tel: 0733 24484.

10th April
PETERBOROUGH MFC SPORT & VINTAGE C/L MEETING
Venue: Peterborough Embankment. Includes Midge Speed and Old Time Stunt, KK/Veron and Jetex Mass Launch.
Contact: Mick Taylor, Tel: 0733 204484.

24th April
SMAE INDOOR SCALE NATIONALS
Venue: Alumwell Centre, Walsall Junction 10, M61, Peanul and Open Rubber Scale plus CO₂/Electric. Informal competitions for Team Racing and kit scale models; entry for these on the day. Static exhibition of free-flight scale models; talks and demonstrations by leading scale modellers; really enjoyable day out for the family. Full details and entry forms (SAE please) from: Doug Sheppard, 13 Luckington Road, Monks Park, Bristol, Avon BS7 0UT. Tel: 0272 697595.

24th April
MODELVILLE '88
Our 2nd model exhibition, Crookhorn School, Stakes Hill Road, Waterlooville,

Portsmouth, Hants 10am-5pm. Adults £1.50 - Children/Senior Citizens 60p. Trade stands, model aircraft and boat displays, engineering, railways, trams, soldiers, wargaming, etc. Free parking. Organised by the Rotary Club of Waterlooville in aid of Rotary charities.
Contact: Peter Tipping, 4 Westbrooke Close, Horndean, Portsmouth, PO8 9RE. Tel: (0705) 595145

30th April
BRISTOL AND WEST WOODBURY WEEKEND
Venue: Woodbury Common, Nr Exmouth, Devon Saturday, 5-7pm. Champagne fly offs, O/R, O/G, O/P, Vintage Rubber. Sunday, 10am start: O/R, O/P, O/G. SMAE rules Vintage Monday, 8am start. Combined FAI (5 rounds). Caravan accommodation at special rates. Sunday evening supper.
Contact: Elton Drew SAE to 2 Downfield Close, Alveston, Bristol BS12 2NJ.

1st May
SPRING KITE FESTIVAL
Venue: Old Warden Airfield.
Contact: Aeromodeller Tel: 0442 41221.

1-2nd May
HOLKER HALL RALLY
Venue: Holker Hall and Gardens, Cartmel, Nr. Grange over Sands. Classes flown: A Best All Round and Entertaining Model, Holker Trophy & cast prize. B Best Biplane 2 cast prize. C. Best Sports Model - cash prize.
Contact: Mrs C. Johnson, Tel: 044 853 328

15th May
ASP LARGE MODEL DAY
Venue: Old Warden Airfield, Beds.
Contact: Aeromodeller Tel: 0442 41221.

15th May
TYNEMOUTH MAC RALLY
Venue: Albarmarie Barracks, O/G, O/R, O/P. Combined Mini, Vintage, HLG. 10am start (11am for power). Pre-entry essential before 8th May.
Contact: Tony Brown, Tel: 091 2362155.



Left: Nicholas Risiel collects his prize (3rd in Junior Chuckie) from the DPR family.



Above: Sleek front end belongs to Mick Smith's own Mercury III - slimmer and more elegant than his better-known MkIV. Finish was outstanding; maroon masterpiece gained a Silver Medal. Above that: So realistic - Brian Peckham's R/C Robinson Redwing was another Silver Medal winner. Right: C/L APS Viscount in Manx Airways green was an unusual choice for quadruple-PAW power by D.W. Newby of Blackpool. More next month!

Pictures of an Exhibit

The 57th Model Engineer Exhibition at Wembley was bigger and better than ever...

A NEW, more spacious layout and a generally higher standard of entries meant a splendid time for Exhibition-goers, of whom there were about 5,000 more than in '87. What was there for the aeromodelling enthusiast?

Amongst the scale flying models, Nick Pepiatt's CO, Gloucestershire Gannet (our cover subject this month) was the worthy winner of the Aeromodeller Cup - although had it not been destined for R/C, Mick Smith's fine Mercury III would have run it close. Battle for the RCM&E Cup was joined between Peter McDermott's Sopwith Snipe and Brian Peckham's just-finished Robinson Redwing - the WWI fighter taking the honours. Other

medal and award-winners indicate the breadth of approach at Wembley. Notable was Paul Clark's X-15, returned from its airing in the Space Champs, and the Rubber Duration Helicopter by C.J. Coolen, based on a Warring design, was attractive in Unorthodox, a class which, we venture to suggest, has yet to properly find its feet. But for now we'll let our pictures speak. A closer analysis of the exhibits comes next month. However, we must ask; why - the second year in succession - was there no candidate for the Bristol Challenge Cup?

The opening day was enlivened by the DPR Model Flying Championships which concentrated this year on Chuckie compe-





Right: The SAM 35 presence was as popular as ever. Merry Mike Barton displays the detachable U/C on his large-span APS Tomboy. Left: Characterful R/C entry was M.E. Halliday's SE 5a.



Above: Mike Fantham was just one of the SMAE band happy to dispense good advice from their stand. Below: More from the DPR Championships - note the concentration as these young competitors watch an opposition flight!

tion

time in which to present them; but everything was enthusiastically received. Maybe next year we should extend the appeal to include matters of wider interest!

tion. Again, more next time, but congrats to Senior winner Mark Hinton for a splendid ceiling-nudging 26sec. in the auditorium. Junior winner was eleven-year-old Ralph Grey; Paul Richards beat the opposition to gain the Superfighter Championship - and the Hit the Kit target competition was as energetically contested as ever. Dave Rawlins was obviously pleased with the level of support and no doubt is, even now, thinking about next time. A more delicate type of Indoor flying was demonstrated by Reg Parham with his enthralling 'circus'. Of the variety of performers it is always the ornithopters which win the gasps from the audience. Perhaps that's a message?

Once again the M.E. hosted the SMAE F/F Experts' Forum. Nearly all topics raised could have benefitted from more

**57th Model Engineer Exhibition
Competition Results: Flying model aircraft**

| | | |
|-----------------------------------|--------------|-----------------------------|
| Aeromodeller Cup and Bronze Medal | N. Peppiatt | Gloucestershire Gannet |
| RCM&E Cup and Gold Medal | P. McDermott | Sopwith Snipe |
| Silver Medal | B. Peckham | Robinson Redwing |
| Silver Medal | M. Smith | Mercury III |
| Bronze Medal | P. Lee | Phi-Phi Sailplane |
| Bronze Medal | P. Lee | Flying Minutes |
| Bronze Medal | P. Clark | North American X-15 |
| Very Highly Commended | N. Peppiatt | General Aircraft Aristocrat |
| Highly Commended | R. Ashby | Nicadus |
| Highly Commended | B. Hughes | Bell 222 |
| Commended | M. Taylor | Trixter Barnstormer |
| Commended | G. Willis | Debutante |
| Commended | C. Crawley | Veron Martinet |
| Commended | W. Cordwell | DH 90 Dragonfly |
| Commended | D. Smalley | Jaguar GR Mk1 |
| Commended | A. Robins | Avro Lancaster |
| Commended | C.J. Coolen | Duration Helicopter |



THE COUPE OF GOOD HOPE

6th December and it must
be the Aeromodeller Coupe
d'Hiver! Despite grey
weather all was good cheer
and optimism...

OLD WARDEN to the rescue! Last-minute changes meant that RAF Henlow could not host our traditional Winter Cup event but thanks to the generosity of Peter Symes, the Shuttleworth Collection's General Manager, the 'Coupe' went ahead on schedule with the minimum of fuss. And we got away with it, for drift was in the most favourable direction even though a 'precision' element came into the competition in order to avoid trees downwind. Stafford Screen likened it to an 'aerial golf' event - the aim being to send the model straight down the fairway, and over, rather than through, obstructions.

The site's biggest deficiency is its notorious turbulence; an unpredictability that caught out many. Nevertheless, conditions were flyable all day, although those who flew late found more difficulty as it got colder and breezier towards the close of proceedings.

Eighty-gram antics

John Bailey was first to record a time - a mere 48 seconds. The model ended in the trees. Was this to set the tone of the meeting? Fingers were tightly crossed... then Dennis Davitt's fine 112 seconds was presented. Much more encouraging! Dennis flew his Nationals winner with good judgement, moving away from the upwind boundary hedge in the search for good air and relying on a nippy climb to reach calmer air before low-level turbulence could drag down flight times. Actually his favourite model was damaged by a wire fence at the end of his fourth flight but his identical reserve rewarded his efforts with a last-flight max to clinch second place. The father-and-son Davitt duo had started well.

After a trio of maxes Ian looked well set but the technique that had served him so well early on let him down on his last couple of flights. His model, of slightly greater area than his Dad's, needed to get





Heading: Happy in victory, Jonathan Walker displays FIGairo, his French-inspired 80gm winner. Four maxes and 117sec. spells consistency! Note turbulator. Left: Tension as John Oulds waits to launch... Top left: Mike Stagg prepares in the shelter of the Old Warden boundary hedge. After a poor start he gradually improved, with a best flight of 100sec. to his credit. Top right: John O'Donnell looks perturbed in the middle of motor breakages. The famous Chicken Coupe, built by Statesider Frank Monts, has been a regular performer for twenty years in John's hands. Above left: John Dyer gets set. Above right: The Nats winner prepares! Dennis Davitt's familiar model was able to climb through turbulence, but his fourth flight was arrested early to hold him down to second place here

away quickly but was hampered by unhelpful air.

Last year's winner, Pete Harris, used his tried and trusted model which is known for good behaviour in turbulence. Unfortunately he simply failed to reach good air on two of his flights, thus finishing in fifth spot. Stafford Screen began well but after two maxes his typically 'Brum' model ended in the trees. After this Stafford decided that the pukka Pirelli could be sidelined for another day and his remaining flights were made with old motors. Stafford's philosophy that 'one dropped flight means you're out' is generally true for this competition, even on such an unpredictable day...

Eventual third-placer Peter King was well satisfied with his efforts. He had entered '100 gram' first and found that even with much help from Newham Beaumont and Peter Carter he had to scramble to get all his Aeromodeller Cup flights in. Nevertheless his brand-new model - based on Hipperson's Artoo but with 'thinned Benedek 7406F' wing and Doring distribution prop - performed most

reliably considering that at the end he was launching into whatever air presented itself when the motor had been wound! This was one of the few models equipped with a variable-incidence-tail.

Frank Monts' famous Chicken Coupe was fielded for the twentieth time in this event. Custodian John O'Donnell found all manner of problems with his Pirelli rubber, suffering an infuriating sequence of breakages at around 85% turns. Only a third-flight 111sec. gave an indication of this model's true form; but when ballasted for the 100gm class, this remarkable model was to feature proportionally higher in the results.

But, emphatically, there were no problems for the worthy winner, Jonathan Walker. His FIGairo design, showing a certain French influence, came through unscathed after a superb series of flights, finishing just seven seconds short of a full house. A tremendous achievement in the circumstances. Jonathan (who had visited Old Warden for a Vintage Weekend and was thus reasonably familiar with the site) watched other contestants and was

Careful to select the most promising launch point for each flight. 380-400 turns on the six strands of Pirelli gave a healthy 45-50sec. climb to outfly the opposition. He claims that his successful chuck-glider season has helped sharpen his reactions as to when to fly; with a full nine flights to count in that class quick decisions are needed!

On to 100 gram...

Winner Peter Gaunt and second-place man Gerry Ferer made their first flights within moments of each other. Gerry maxed; he was reasonably satisfied with his second flight but launched crosswind on his third, the model making a tight, low-level circuit without gaining height. This left Peter to improve with his remaining flights to clinch victory and the Bernard Boutillier Cup by a comfortable margin. We'll say no more about the model here as it is featured in Free Flight Scene

this month.

Dave Hipperson, winner last year, was right out of luck on his first flight but atoned well with the next two 'just-under-the-max', finishing a mere two seconds behind Gerry. Dave has made no secret of the fact that his ambition is to win both Coupe trophies on the same day. Perhaps next year? We'll see...

and afterwards...

It was a most welcome adjournment to the Old Warden lecture room for prizegiving. The availability of hot tea at the restaurant was also attractive! As well as the Aeromodeller Cup and Bernard Boutillier trophies we awarded the '4A' Cup (donated last year by this energetic French Vintage group) to David Beales as top Vintage Coupe flier with his Currie, a French design from the 1951 Zaic Year Book.

Best junior was Anthony Ball who had finished sixteenth overall with a consistent series of flights; for his trouble he took home a DC Dart so we confidently expect a power breakthrough in the coming season! Recognition too for Jessica Nash as top (actually, the only) woman flier; her prize was a Telco CO₂ motor. And as last year we were honoured to be asked to present the Falcons Trophy for the best season's performance as shown by the Falcons League. There could be no better recipient than Russell Peers who had a truly memorable 1987; and it's a fair compliment to the other Falcons members whose flying-field example is one to follow.

And so it was off into the night with memories of a testing day but one fought in good spirit by the participants. Thank you, all who attended. Next year? Even more contestants, we hope. Several of this year's successful designs will be featured in *Aeromodeller* as encouragement. Get ready to build and trim accurately though - we'll be processing 'em this December!



Above: More of these next year, please! Peter Michel casts an eye over his Eros, a 1953 Rene Jossien design. Left: Russell Peers may not have featured amongst the winners this time (22nd and 10th in 80gm and 100gm) but his magnificent season was rewarded by the presentation of the Falcons Cup at the close of ceremonies.

80 gram class for Aeromodeller Trophy

| | | | | | Total | | |
|----|----------------|-----|-----|-----|-------|-----|-----|
| 1 | J. Walker | 120 | 120 | 120 | 113 | 593 | |
| 2 | D. Davitt | 112 | 120 | 120 | 98 | 120 | 568 |
| 3 | P. King | 120 | 113 | 120 | 120 | 82 | 555 |
| 4 | M. Chilton | 120 | 105 | 120 | 80 | 120 | 545 |
| 5 | R. Chilton | 107 | 74 | 120 | 120 | 120 | 541 |
| 6 | P. Harris | 73 | 120 | 104 | 96 | 120 | 513 |
| 7 | R. Pavely | 120 | 96 | 120 | 100 | 73 | 509 |
| 8 | I. Davitt | 120 | 120 | 120 | 52 | 87 | 499 |
| 9 | D. Hipperson | 120 | 120 | 95 | 83 | 82 | 480 |
| 10 | J. Brookes | 76 | 83 | 90 | 78 | 120 | 455 |
| 10 | S. Screen | 120 | 120 | 71 | 74 | 70 | 455 |
| 12 | P. Carter | 120 | 58 | 81 | 88 | 109 | 454 |
| 13 | D. Neil | 41 | 112 | 112 | 105 | 83 | 453 |
| 13 | G. Beal* | 118 | 51 | 89 | 98 | 99 | 453 |
| 13 | P. McMahon | 120 | 71 | 75 | 105 | 82 | 453 |
| 16 | A. Ball* | 98 | 73 | 90 | 80 | 102 | 443 |
| 17 | R. Hoff | 85 | 78 | 113 | 120 | 41 | 415 |
| 18 | M. Dixon | 68 | 97 | 87 | 120 | 69 | 411 |
| 20 | M. Evatt | 84 | 90 | 83 | 120 | 53 | 410 |
| 21 | J. Cooper | 51 | 70 | 120 | 74 | 93 | 408 |
| 22 | R. Peers | 105 | 64 | 69 | 86 | 92 | 396 |
| 23 | D. Beales(V)** | 117 | 53 | 61 | 71 | 96 | 398 |
| 24 | R. Wells | 84 | 88 | 90 | 64 | 52 | 378 |
| 25 | J. Ward | 87 | 100 | 71 | 56 | 59 | 373 |
| 25 | C. Blanch | 48 | 120 | 91 | 114 | 373 | 373 |
| 27 | J. Nash*** | 73 | 56 | 53 | 78 | 110 | 370 |
| 28 | P. Ball | 92 | 90 | 77 | 55 | 52 | 366 |
| 29 | G. Hart | 61 | 80 | 40 | 73 | 60 | 364 |
| 30 | G. Sharp | 88 | 82 | 92 | 50 | 45 | 357 |

31 R. Uden, 356 32 F. Chilton, 344 33 A. Gibbs, 336 34 D. Roche, 334 35 P. Dancer, 330 36 D. Carter, 321 37 J. Oulds, 319 38 K. Fordham, 310 39 M. Stegg, 308 40 E. Hawthorne, 307 41 S. Rose, 306 42 P. Michel (V), 300 43 S. Dixon, 297 44 R. Johnson, 295 45 J. White, 293 46 G. Turnbull, 276 47 J. Dyer, 267 48 P. Gibbons, 257 49 F. Monts, US, (proxy J. O'Donnell) 243 50 J. Carter, 242 51 J. Shepherd, 205 52 R. Alban, 192 53 A. Cliff, 186 54 B. Lavis, 185 55 P. Roughton, 83.

* A. Ball was top junior
** D. Beales was top Vintage flier
*** J. Nash (Miss) was top Lady flier

100gm class for Bernard Boutillier Trophy

| | | | | Total | |
|----|-----------------------------------|-----|-----|-------|-----|
| 1 | P. Gaunt | 75 | 120 | 105 | 300 |
| 2 | G. Farer | 120 | 97 | 65 | 282 |
| 3 | D. Hipperson | 54 | 119 | 117 | 280 |
| 4 | G. Farer (2) | 79 | 88 | 102 | 269 |
| 5 | J. Billam | 100 | 85 | 52 | 237 |
| 6 | F. Monts, US (proxy J. O'Donnell) | 45 | 100 | 85 | 230 |
| 7 | P. King | 56 | 90 | 69 | 215 |
| 8 | J. Brookes | 54 | 88 | 65 | 207 |
| 9 | D. Carter | 78 | 72 | 65 | 206 |
| 10 | R. Peers | 83 | 66 | 55 | 204 |
| 11 | G. Sharp | 62 | 96 | 91 | 187 |
| 12 | G. Turnbull | 60 | 63 | 60 | 183 |
| 12 | J. Billam | 39 | 80 | 84 | 183 |
| 14 | R. Roche | 46 | 78 | 60 | 173 |
| 15 | K. Fordham | 68 | 52 | 39 | 159 |
| 16 | J. Carter | 35 | 49 | 25 | 109 |
| 17 | D. Beales | 10 | 40 | 62 | 102 |
| 18 | G. Hart | 28 | 65 | 8 | 101 |
| 19 | J. White | 23 | - | - | 23 |

N.B: Competitors who did not return flight cards at the conclusion of their efforts do not feature in the results.



Left: Glitter, glitter as the silverware awaits distribution. Neil Lunam, SMAE Records Officer, prepares for the off. Below: Smile please! Tricia Dennis takes the Women's Cup for the first time. Below left: Jennifer Armstrong hands the Elliott Goodyear Trophy to Len Morrall of the Novice team Morrall/Banks.

APPLAUSE, APPLAUSE...

The Crest Hotel, Coventry on 21st November was the setting for the SMAE AGM - and Prizegiving...



Above left: Anthony Ball took home the Frog Junior and Heather Cup. Above: A handful for Dave Hipperson included the Flight Cup for Open Rubber. Left: Outgoing Chairman Ron McCairn was made a SMAE Fellow. Right: Ian Kaynes and the Mick Duce Trophy; he and Paul Masterman were awarded the Ray Malmstrom Trophy for their work on Free Flight News.

Round and round at almost 200mph - Paul Eisner tells the story of his C/L Speed exploits



GENESIS OF A RECORD

THIS IS the story of my ten-year effort to become absolute FAI World Control Line Speed Record holder for engines sized 1.01-2.50cc (FAI record No. 27A; Class 1B). I cannot claim a lot of originality in my model or equipment design, as a lot of the ideas are borrowed, but I can testify to having spent many hours over the years preparing and developing the equipment to its current level of tuning. I would like to share some of this development, the successes and failures, with the readers of this magazine. The culmination of the work led to my achieving a mph/kph of 194.779 (313.452) at the Three Sisters flying site on 27th June 1987. This speed broke the former world record, held by the Russian flier Vitalae Maslankine since 1978, by 9mph (14kph).

Beginnings...

The story of my record effort really began thirteen years ago. I learned to fly monoline in 1973 and first flew the Rossi 15 in the UK Open 2.5cc class during 1974. In those days power from the tuned pipe was developed around the relatively low figure of 26,000rpm. I ran the engine on approximately 30% nitro with tiny wooden two-blade propellers of about eight inches pitch. In 1974 I achieved a best recorded speed of 157mph at the UK Nationals. At that time this was a new UK record. Half an hour later I was deposed by Ken Morrissey who pipped me with 162mph. Ken's record stood for three years. During that time I spent a year in South Africa working part of my degree course in Chemical Engineering. I took my Rossi monoline 2.5cc model and entered a number of competitions. At first I was winning unopposed since no one else in the country flew monoline! Unfortunately (for me) a certain Basil Menges heard about line groupers, which had made their mark at the World Championships in Czecho-

slovakia in 1974. He produced a piped Rossi model with two lines and groupers which first time out beat me by 5mph. I was also not helped by the fact that engine spares were scarce and Rossi rear bearings insisted on spinning in the crankcase! Nevertheless, the point had been made. Two lines and groupers were faster than the thinnest allowable monoline.

Upon my return to the UK I built and flew my first asymmetric two-line model. I found a reasonable motor which was capable of approximately 140mph on two FAI size wires (0.4mm diameter), but I failed to make the UK speed team at the 1976 team trials and became disillusioned with FAI speed. However, I remembered my South African experience and made up some 0.3mm diameter wires with line groupers.

Progress

The speeds jumped to about 160mph when the engine was fed with modest amounts of nitro (30%). At an early contest in 1977 I broke the Morrissey record by 3mph. However, this 'record' of 165mph was disallowed as the engine was measured oversize at 2.504cc capacity. It suffered the common Mk2 Rossi problem of an overstroked crankshaft. I managed to find a slightly smaller-stroke crankshaft, added some 50% nitro fuel and surprised everyone, including myself, by recording 183.36mph in June 1977. This time the engine measured 2.4966cc; right on the limit! The speed was no fluke as I managed to get within 5mph of the new record on a number of occasions during 1977 and 1978. I believe the record was unique in that the margin of increase (21mph) over the previous record has never been exceeded in UK competitions.

My 1977 record holder weighed 18oz (530gms) without fuel. The model conformed to the FAI wing loading rules but my 183mph was not eligible for a

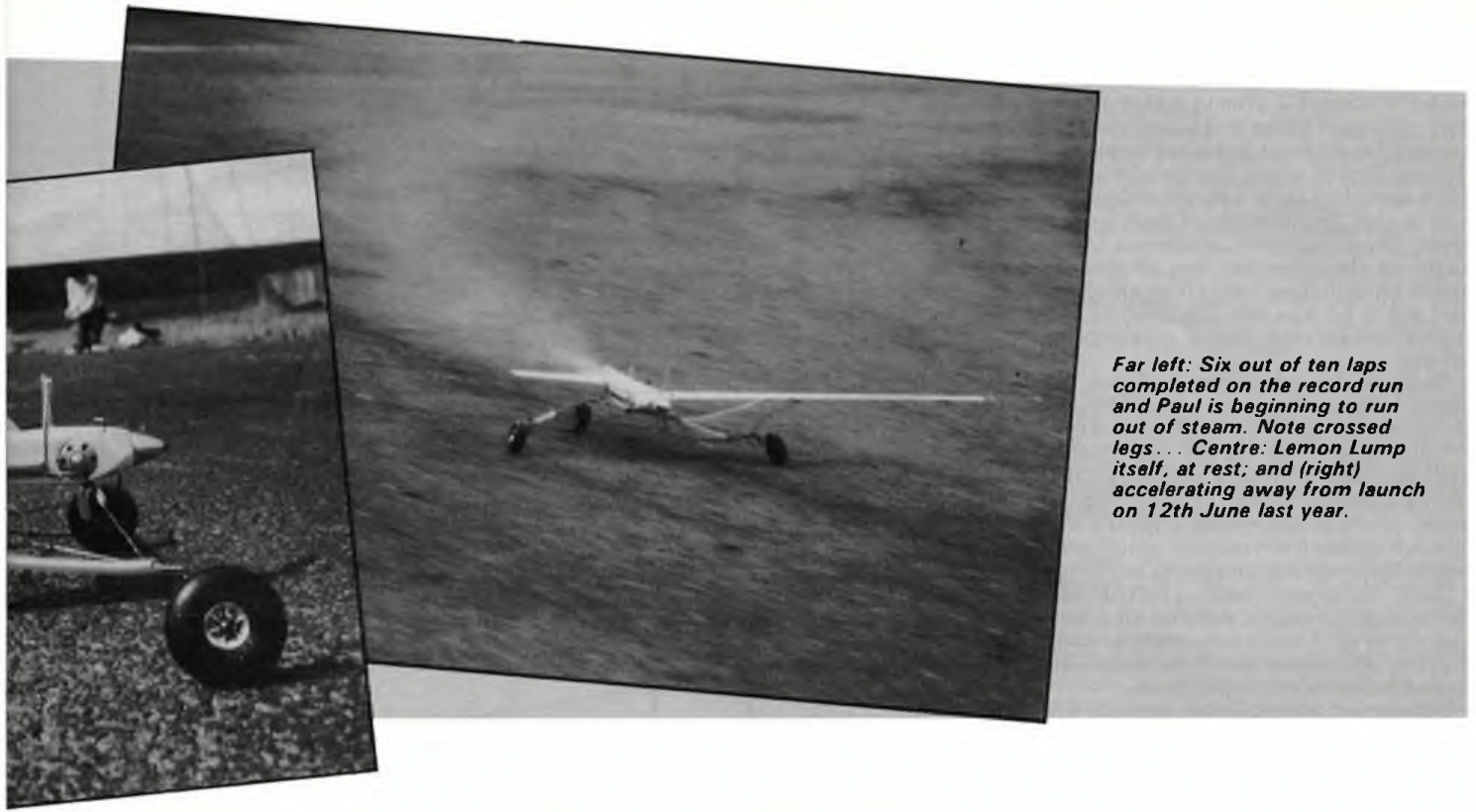
World Record claim as the flying handle did not utilise the mandatory FAI cross bars. At the Nationals in 1978 I made a World Record attempt with the same model and motor. Unfortunately the motor was past its best. The best speed of 178.9mph was not sufficient for a record claim. Meanwhile news of my 183mph UK record reached the Eastern Bloc. It was recorded in the Czech national model magazine and probably reached Russia. By the end of 1978 the Russians had successfully claimed a record speed of 185.5mph...

All good engines eventually wear out. Mine was no exception, and the piston developed a hairline crack in the crown. The result was that it appeared satisfactory when cold but when hot, working fits were not correct.

For the next few years I struggled to find a new motor which was up to the standard of the 1977 record breaker. My efforts were unsuccessful and my speeds got progressively worse. At the 1980 Nationals I managed only 164.4mph! I also lost a model when experimenting with single-blade props. The wooden blade came off in flight leaving the counterweight attached to the engine. The model vibrated itself to pieces within one lap. I have not used wooden propellers since that experience.

Back to FAI

At the end of the 1980 season, I decided to concentrate on FAI speed again. I built two new models and changed to ABC piston/cylinder sets in the Rossis. Rossi also produced a new style pipe with more power. The result was that my FAI speeds immediately jumped from 140mph to around 150mph. I went to Genk in 1981 as a member of the UK speed team for the European Champs, and managed 140mph. The engine ran at 34,000rpm driving a six-inch single blade carbon fibre prop. The same engine in my Open Speed model, with two lines and groupers,



Far left: Six out of ten laps completed on the record run and Paul is beginning to run out of steam. Note crossed legs... Centre: Lemon Lump itself, at rest; and (right) accelerating away from launch on 12th June last year.

managed 177.8mph at the Nationals; good enough for 2nd place. The piston of the motor was destroyed on the 3rd Nats flight when I crashed. The model did not fly particularly well and it hit the tarmac while I was entering the pylon. The motor shaft ran on the ground minus the single blade but with the counter weight still attached. The result was a piston with double-size wrist pin holes!

I was still running the Open Class engines on 50% nitromethane fuel and after the 1982 World Championships, where I managed 155mph for 25th place, I believed that the same engine and pipe combination would be capable of breaking the UK Open Record of 183mph. I did some test flying prior to the 1982 Nationals which changed my approach to the fuel required. I was now running the engines above 36,000rpm. I flew with the FAI 80/20 fuel on two wires and groupers and managed 178mph. I then added 25% and then 50% nitro fuel, changed the props but could still only manage the same speed. At

the 1982 Nationals I reached 175.2mph using 50% nitro fuel. On the second flight a hole appeared in the piston. The lesson had been learned. Above 30,000rpm plus there is insufficient time to burn high-nitro fuel. The resulting pre-ignition and detonation ended by cratering the piston crown.

Since then I have abandoned nitromethane fuel in my Open 2.5 class engines. Instead I use nothing more than 80% methanol and 20% castor oil. My speeds remained around the 178mph mark for another two years. At the Nationals in 1985, I managed 180mph and at the last Bicester competition that year 182.76mph, a long whisker away from the 1977 record.

Records!

Last year started badly. A leak in the fuel tank sent the engine lean every run. This leak was fortunately located prior to the Nationals but I wasn't going to be quick enough! My 86 Nats speed was 183.21mph, 0.01 seconds below the

existing record. I scored 99.9% on handicap but this was sufficient only for 4th place! A record speed was required to make the top three places.) At the next competition I flew another engine fitted with a slightly higher-pitch prop. The official speed was 187.9mph. I had finally broken my own record after nine years of trying. The engine run had not been particularly good and at the last competition in 1986 I increased the record to 191.8mph (11.66 seconds for 10 laps).

Two weeks later I turned up at the Esher circuit along with Peter Halman to attempt some World Records. As readers will know from an earlier *Aeromodeller* article, Peter successfully raised the 5.00cc FAI World Speed Record to 194mph. The writer was not so successful. I had to break 189mph to claim a new 2.5cc FAI World Record. I had rushed to build a larger wing so that the model conformed to the FAI wing loading requirements. During the first attempt I realised all was not right! As soon as the engine came 'on pipe' the

The earlier record attempt on 12th October 1986 ended in disaster at a speed of approximately 190mph. Here we see the gruesome remains. Record-breaking can be heartbreaking too...



model attempted a ground attack which required a lot of up elevator to correct. I just managed to enter the pylon and struggled through for 186.5mph. The speed was not quick enough to claim a record, although I had beaten the Russian 185mph record speed. Being stupid (in retrospect) I flew again on the same day, but crashed at nearly 190mph. You can see from the photo that not a lot was left. The front of the engine disappeared past a timekeeper's left ear!

Naturally I was heartbroken. I took the pieces home and gazed at them on odd occasions during the next three months. Finally I decided all was not lost. When it had been fitted with a new crankshaft, the engine appeared to run the same rpm as before. During last winter I rebuilt the fuselage utilising the original crutch and part of the cowl. Bits and pieces including a new tailplane were grafted on. Fortunately the engine, pan and wing spar had survived. I made absolutely certain that the CG position and incidences were spot-on before test flying this time.

The aircraft flew perfectly. I rebuilt the fuel tank, using an improved mounting system. The scene was set for another record attempt. I increased the exhaust timing on one engine and got a significant power increase on the test bench. I test flew at Esher during early June with the model set up to FAI regulations. The aircraft flew successfully; three flights just under the required 189mph and one flight of 190mph after an increase of pitch. I was therefore reasonably confident that the official record attempts had a good chance of success.

The official World Record attempts at 3 Sisters on June 27th 1987 were made in ideal conditions. Zero wind, 23°C temperature, humidity 56%. On the first flight the engine was too rich and cut with insufficient laps. The needle was altered and the resulting time was 11.52 seconds for 10 laps (194.2mph) and a new World Record. I felt the engine could still be leaner and flew again an hour later. This resulted in a time of 11.485 seconds and a speed of 194.779mph (313.452kph). This speed has gone forward to the FAI for ratification. As soon as this flight was over the heavens opened and ruined the line groupers. This prevented any further record attempts.

Thanks - and looking ahead

In reaching a goal I first set out to achieve ten years ago I have to thank many people, a few of whom I shall mention here. Thanks to Peter Halman for supplying parts of the engine, to Dick McGladdery for assembling the tuned exhaust and to Malcolm Wood for modifying other parts of the record engine. Lastly, I would like to thank my wife, Pat, who puts up with all my moans and groans and endless hours of hibernation in the work room.

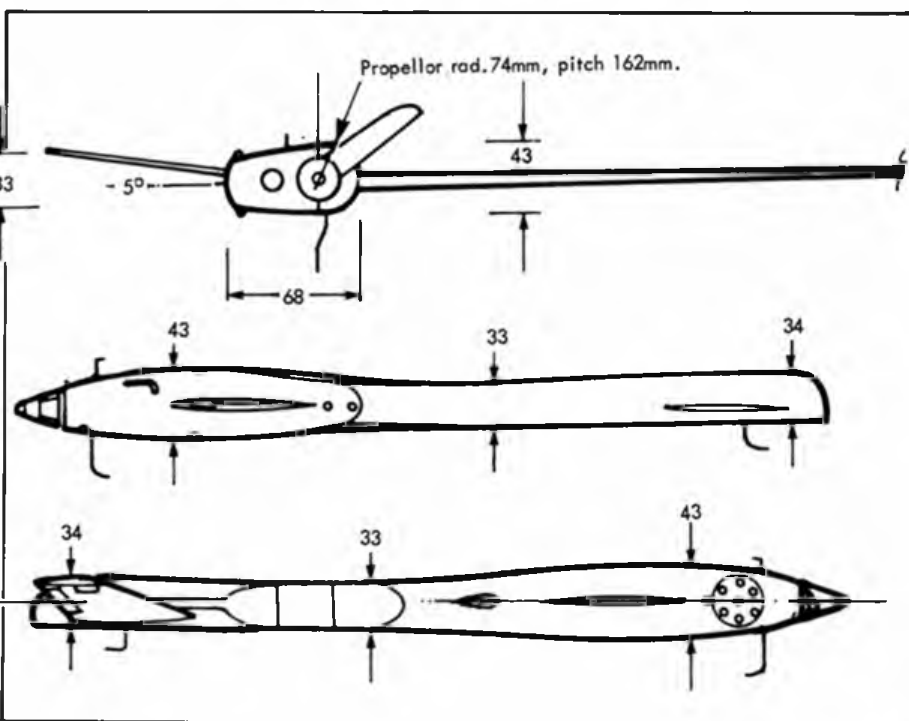
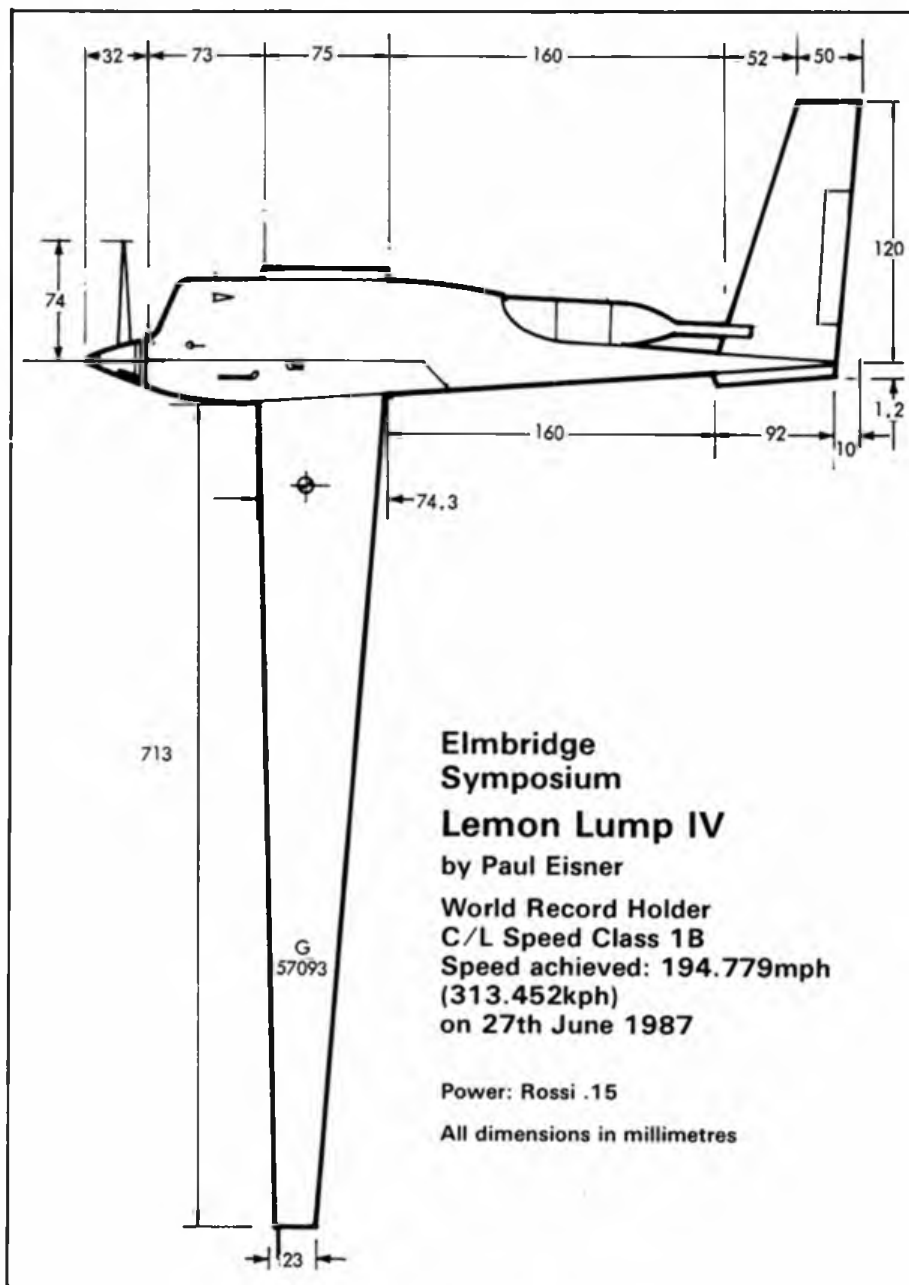
Model details

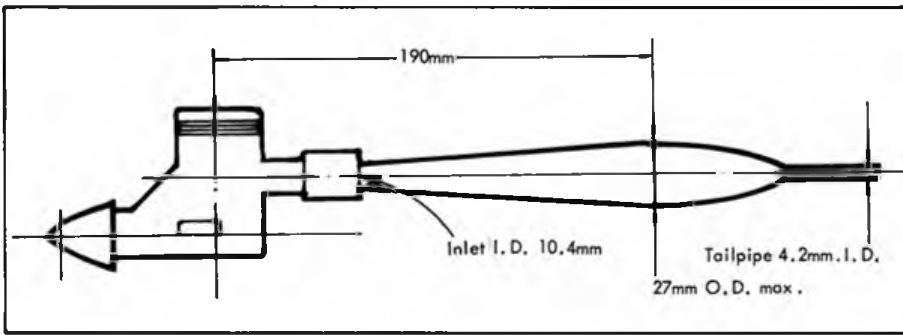
Wing

The wing is constructed from 0.012in L72 duralumin, folded at the leading edge after annealing, and glued at the trailing edge with 24-hour Araldite.

Fuselage

The fuselage crutch is made from Jelutong; the cowl is balsa. The tailplane





Tuned exhaust

For details see drawing. The pipe was assembled from a Rossi No.1. The front header was remachined with smaller inlet diameter. This was soldered to the back portion of the divergent Rossi cone. The centre section was sleeved to prevent splitting. The sleeve was glued to the cones using high temperature epoxy. The convergent rear cone was beaten down to give a 4.2mm ID tailpipe.

consists of two laminations of 2.5mm with glass cloth/epoxy in between. The fuselage (only) is sprayed in K&B epoxy paint.

Engine

The engine uses a Rossi 15 Mk2 crankcase. The crankcase has been bored out to accept a 12mm diameter crankshaft caged rear bearing. The piston and cylinder are Rossi items. The piston was taken from a 'free flight' cylinder which I

then hand-fitted to another pipe-timed liner. Exhaust timing was 195°; transfer timing 136°. The venturi used a wick feed and was 7.3mm ID. The backplate was machined down to increase crankcase volume. Cylinder head was a Halman bowl and squish with integral Taylor element set at 0.023 inches from the piston crown. The engine and pipe combination ran at 38,000rpm.

Propeller

The propeller was carbon fibre/epoxy composition, and of single-blade layout from my own mould. Radius was 74mm. Pitch distribution as in chart (read from my own gauge).

| Station | 2cms | 3cms | 4cms | 5cms | 6cms | 7cms |
|----------|------|------|------|------|------|------|
| Pitch mm | 115 | 150 | 162 | 160 | 155 | 152 |

Fuel system

The fuel system was gravity-feed using a uniflow tank. The feed pipe effective position was 3mm inboard of the inlet to

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TABLE II

REQUEST FORM FOR CERTIFICATION OF A MODEL AEROPLANE RECORD

- Numerical identification of record category: (From Table I, Part Seven of F.A.I. Sporting Code) **313-452 ka/h**
- Record figure claimed: **27th June 1987**
- Date of record attempt: **PAUL F. ESCOFF**
- Aeromodeller's name: **G 675**
- F.A.I. Sporting Licence No.: **BRITISH**
- Name of N.A.C.: **ROYAL AERO CLUB OF THE UNITED KINGDOM OR SOCIETY OF MODEL AERONAUTICAL ENGINEERS (SMAE)**
- Characteristics of Model (Metric Units):
 Principal Dimensions: **5.564 dm**
 Total surface area: **505**
 Weight without fuel: **533.8g**
 Weight with fuel: **50.325/dm²**
 Maximum loading: **90.11g/dm²**

MOTOR:
 Bore: **15.04mm** Makshypov **N/A**
 Stroke: **13.93mm** Nominal capacity **N/A VA**
 Swept volume: **3.4%** Power source(s) **P, S, SOL**
 Make: **ROSSI** COMB **N/A**
 Type of cells **N/A**
 No. of cells **2**
 Total working voltage: **2.1V**
 * Encircle which is applicable

9. We, the undersigned, certify that all requirements of the Sporting Code for this category have been met to the best degree we can determine.
 Director's Signature: **R. McQuibben**
 (R. McQuibben)
 Certification by N.A.C. Official: **P. E. ESCOFF**
 Signature of the aeromodeller: **(N. LUNJAN)**

10. Enclosures: a) three view drawing
 b) photograph of the model
 c) statement of all necessary supporting data

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TABLE III
C.I.A.M.

F.A.I. CHECKLIST RECORD DOSSIER - AEROMODELS

WHEN PREPARING A WORLD RECORD DOSSIER PLEASE CHECK AGAINST THIS LIST THAT ALL REQUIREMENTS HAVE BEEN MET

In Check Mark column if OK, mark X if not applicable mark-

| NO. | DESCRIPTION | MARK |
|-------|--|------|
| 1 | GENERAL | |
| 1.1 | Form Type of certificate shall not and always signed names also in handwriting | |
| 1.2 | DO NOT EXCEED CATEGORY OF N.A.C. OFFICIAL | |
| 1.3 | Three view drawing of model, verified by N.A.C. OFFICIAL | |
| 1.4 | Photograph of model, verified by N.A.C. OFFICIAL | |
| 1.5 | List of all aeromodellers, signed by the Director of I.O. | |
| 1.6 | Statement of all aeromodellers, signed with the Director of I.O. | |
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NATURAL ENVIRONMENT RESEARCH COUNCIL

PROUDMAN OCEANOGRAPHIC LABORATORY

Telephone: 051 - 653 8633

Bidston Observatory
Birkenhead
Merseyside L43 7RA

CERTIFICATION OF ACCURACY

I hereby certify that on **11th June 1987**
 chronometer **1005 / SMAE 39**
 was checked at a constant temperature of **19.0c**
 over a period of **4 hours**
 against a calibration source of accuracy one part in
 10⁶, and was found to be accurate to within **+0.0003%**

Calibrated by: **(Signature)**
 Checked by: **(Signature)**

I HEREBY CERTIFY THAT DURING THE TIMED PORTION OF THE RECORD FLIGHT THE AIRCRAFT DID NOT EXCEED 3m IN HEIGHT OF FALL BELOW 1m IN HEIGHT WHEN CHECKED AGAINST THE OFFICIAL HEIGHT MARKER

SIGNED **(Signature)** HEIGHT MARSHAL

SIGNED **(Signature)** HEIGHT MARSHAL

I HEREBY CERTIFY THAT THE WATCH WAS CHECKED BY ME OVER A PERIOD OF 3 HOURS AGAINST AN OFFICIAL TIME SIGNAL, AS PER RULE : 6.5.3. IN THE GENERAL SECTION OF THE FAI SPORTING CODE.

ACCURACY

SIGNED **(Signature)**

SIGNED **(Signature)** ORIGINAL

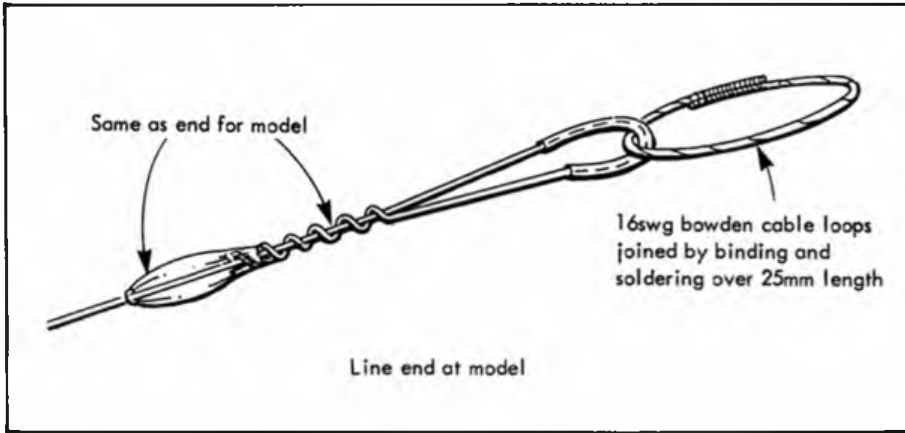
* BEFORE / AFTER, DELETE AS APPROPRIATE

Part of the record documentation - there's much, much more! Note the accuracy of stopwatch 'SMAE 39' - 0.0003%!

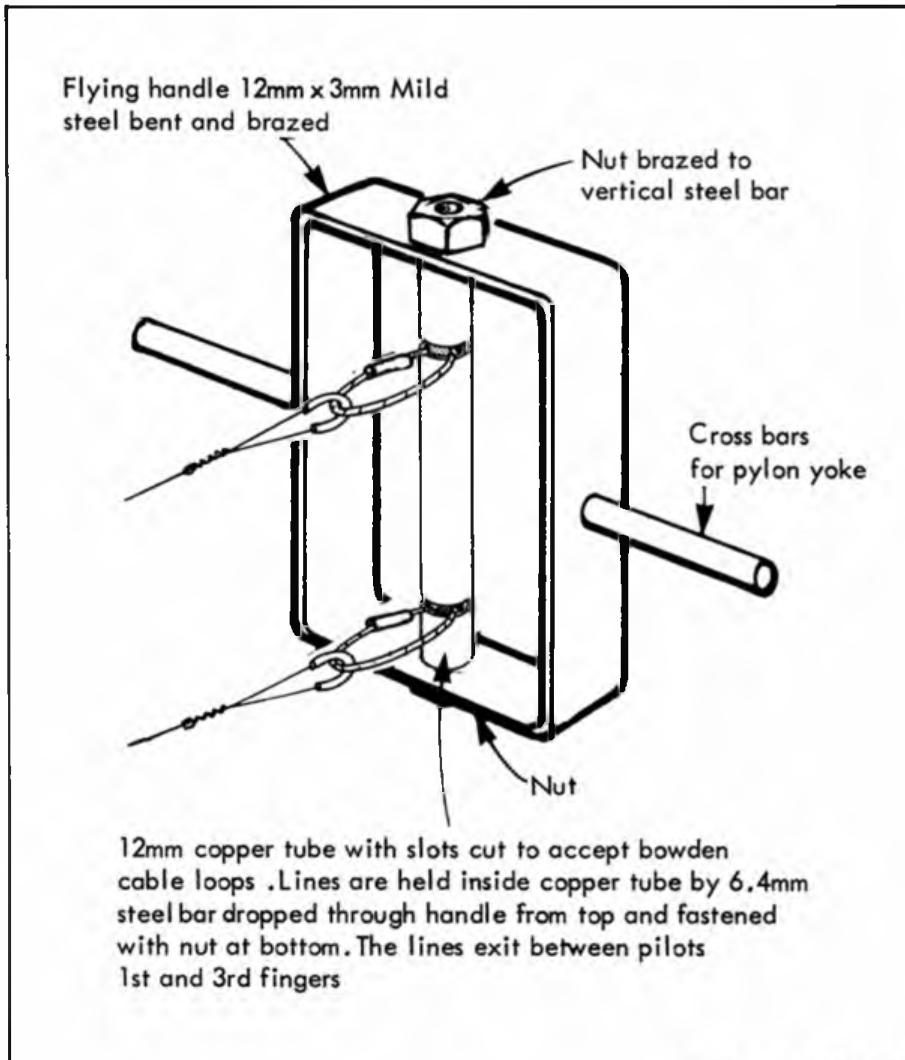
March 1988

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PNG 1058x1495 8bit Grey This document is freely available for personal use at https://www.hippocketaeronautics.com/hpa_plans/ since March 19 2024



Left and below: Control system details - line attachment loops, handle and bellcrank. See text. Above: Dick McGladdery lets go; and Lemon Lump is measured for accurate line length. Tape ends at centre circle.



kilometre. A fuel shut off is fitted, activated by the down line. This is not used at record speeds!

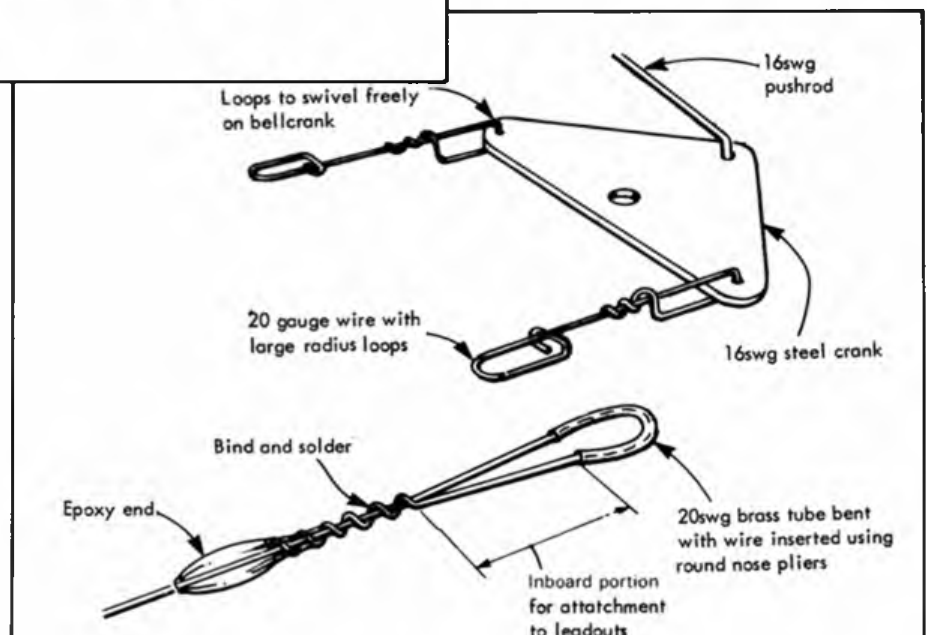
Fancy a try?

The SMAE will be instrumental in encouraging further challenges upon FAI World Records and it is hoped that such record trials will eventually become an annual event. If you are interested in mounting a challenge on any one of the eighty-two F/F, R/C, C/L or Indoor Model Flying World Records please contact the SMAE's Records Officer, Neil Lunam, via the SMAE's Leicester Office, Kimberley House, Vaughan Way, Leicester LE1 4SE (Tel: 0533 518500) or direct to 58 Heywood Boulevard, Thingwall, Heswall, Wirral, Merseyside L61 3XF. (Tel: 051 648 2947).

the venturi during flight. Capacity of the brass tank was 30cc. The tank is flexibly mounted and completely isolated from the model. Fuel used was 80% methanol, 20% castor oil.

Control system

Two lines of 0.3mm diameter were used fitted with tape-and-tube groupers. 90 groupers were used extending some 12 metres from the model. Spacing is closest at the model (75mm) increasing to 200mm towards the handle. The method of line attachment to handle and model was as per diagrams. This is *very* important to avoid line breaks during pull tests or flight. The tapes on the groupers are replaced after every competition. Length of the lines is 15.92mm giving 10 laps to the



AIRCRAFT ARCHIVE QUIZ

Over £85 in prizes!



First prize: £50 voucher for Argus Books Publications and Volumes 1 and 2 of the Aircraft Archive series

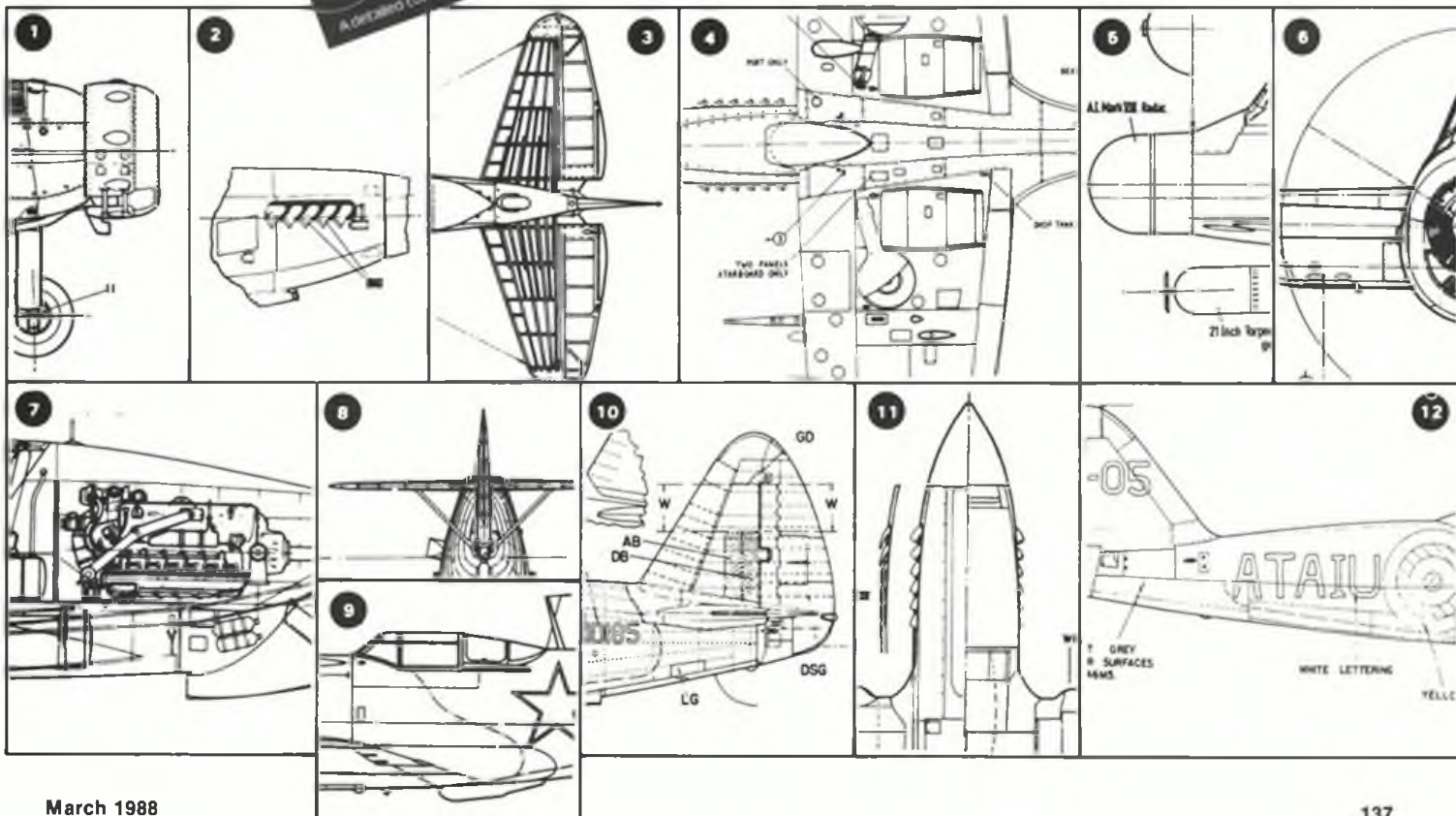


Second prize: £25 voucher for Argus Books publications and Volumes 1 and 2 of the Aircraft Archive series



Third prize: £10 voucher for Argus Books publications and -yes, again- Volumes 1 and 2 of the Aircraft Archive series

To celebrate the launch of this invaluable collection of scale aircraft drawings we present this test of your powers of recognition. Each snippet, below, is from a World War Two fighter drawing from our Plans Service range - and each appears in Aircraft Archive, Volume 2. Identify them and send your answers, numbered 1 to 12 on a postcard to: Quiz Aeromodeller, Wolsley House, Wolsley Road, Hemel Hempstead, Herts HP2 4SS. The first three all correct entries opened after March 1st will win!



SCALE MATTERS

The flying season approaches and Bill Dennis is ready with advice for the prospective competitor

THERE HAVE been signs over the last couple of years of a growing interest and participation in competition F/F Scale aeromodelling. What is most encouraging is that this represents an influx of new modellers rather than just old hands coming back for a final fling!

This column will be devoted to a good look at the various classes, the aim being to give the potential scale contestant some idea of what is involved in taking part.

When I began in F/F Scale there was only one competition class - namely Outdoor Power. Now there are six, not counting the peripheral, unofficial events such as mass launches and air racing. These main classes are: Outdoor Power, Rubber, and CO₂/Electric; and Indoor Rubber, CO₂/Electric and Peanut.

Before discussing the models themselves I must say one or two things about the nature of the contests themselves...

Rules and rationales

Models are judged to a fixed set of rules and criteria, but they are judged subjectively, and of course the score returned is ultimately a reflection of the judges' opinion. For this reason results are not always consistent, but this is something you will have to accept.

As in any other discipline, those who enter Scale contests range from the dabbler (who simply likes to take part) to the one-hundred-per-cent gung-ho. My own philosophy lies somewhere in between. If I am going to spend several dozen hours at the building board the model has to be potentially competitive. That is, it must be of the right shape and colour and should possess a scale structure. I don't care if it wins or not as long as I am happy that the model does the full-size machine justice on the ground and in the air.

Different approaches are to build either a simplified, undetailed model or to spend a year creating a work of art. Neither will succeed - the former because it is simply not good enough; the latter because the model will be too precious to risk in



Here he is! Bill readies his Mills-powered DH Hawk Moth (ASP plan AM 1531) in the evening light at the '87 Nationals.

anything but perfect conditions, and thus will never get trimmed. A F/F Scale model leads a tough life and it isn't worth spending an unnecessarily extravagant amount of time on one. Everybody is familiar with the magnificent scale model that has onlookers gasping with admiration until someone with no manners asks the question 'does it fly?'

Once you have decided to have a bash at competition modelling you can steal a march on most of the opposition by reading the rulebook. You will see that there is no advantage in building a

complex model - in fact, quite the reverse is true. If you can take on more than you can handle you will lose out. There are no marks for brave attempts.

Now let's have a look at each of the classes - beginning with Indoor, since it is that time of year.

Beneath-roof Scale

Indoors is the most popular location for F/F Scale, for obvious reasons. I have been flying Indoor only for a couple of years. One thing that put me off was the false belief that you need above-average



Heading: Very much a favourite at the Nats was Paul Briggs' large rubber Hurricane, seen here banking in front of appreciative spectators. Above: Big stuff! Terry Manley refuels his R/C HP 0/400 - subject goes well F/F too... Below: Four-stroke power for C/L scale has yet to catch on widely but Bernard Seale's fine Thulin pointed the way at the Nationals.



Floatplanes from Czechoslovakia. Top: Peter Mikulasek holds his fine Macchi MC67, a Peanut for which flights of a minute are claimed. Below: Another Schneider, this Sopwith by Dusan Sedlar also flies well. Always a popular choice!



Lightweight Farman Moustique by Mark Hinton is a good choice for rubber. To appear in Aeromodeller soon!

skills and have to use special (and very expensive) materials. Not so. If you build large models, taking full advantage of the weight allowance, then normal techniques and materials are quite adequate.

Open Rubber is the best class with which to start. Key factors to consider when choosing a subject are the balance point and wing area. If the nose is short you will need a lot of ballast up front, although much depends on what lies behind the wing. My Bristol M1D struggled a bit as a rubber model because there was a lot of wood aft of the centre of

gravity (as revised for CO₂, in which role it was published in the May 1987 *Aeromodeller*, it performs beautifully) but something with a square box fuselage, like the Fokker EIII, is a better bet, although this aircraft has no dihedral! The other result of a short nose is that the rear motor peg will be a long way back so the majority of the rubber will be behind the CG, thus amplifying the problem.

The CO₂ Electric class is at an interesting stage at present with many enthusiasts vowing to abandon their CO₂ motors in favour of the Knight & Pridham

electric unit. The amount of trouble experienced by many with their CO₂ units leads one to the conclusion that motors are not what they used to be. My own two examples are among the earliest and they are very reliable. (But don't forget that hints on tuning for performance and dependability were covered most recently in the July '86 and February '88 issues of *Aeromodeller*. Tricks of the trade adopted by CO₂ Duration enthusiasts are no less relevant to Scale. GC)

However, electric power is not without its drawbacks for Indoor flying because at

32 grams the KP01 unit is twice the weight of a CO₂ equivalent. This doesn't leave much room to play with inside the weight limit. Thus you are restricted to subjects with simple structures and short noses; you cannot afford tail ballast. Of course, the advantages of electric power are reliability and consistency.

Peanut is the odd class out in that one can work out the static score a model will achieve even before you draw the plan. My only advice here is to treat this event in the way it was originally intended to be taken - purely as a fun exercise...

The great outdoors

From being the only F/F Scale class, Power declined in recent years to be the least popular of all (though this is not to belittle the efforts of many faithful followers throughout the country. Remember, I am discussing *competition* flying). Perhaps the effect of Eric Coates' superlative, enthusiastic series Flying Scale Models in *Aeromodeller* during the early '70s gradually wore off. The criticism of small diesels as being messy and fiddly is much more accurately ascribed to the rubber model! However, the Power model is showing a definite resurgence of interest which I believe is due to modellers re-learning the lesson of the late '40s when the arrival of the diesel revealed the severe limitations of rubber power for scale models.

This class gives you by far the widest range of subjects to build, although if you are going for maximum contest performance a biplane with a short undercarriage - for better take-off characteristics - will give you an edge. You can forget about nose lengths, ground clearance and other such tiresome considerations and build more or less

what takes your fancy.

The problem most likely to appear is that of engine installation. If you are lucky enough to have a selection of engines at your disposal you should be able to find one to fit a given cowling - with an extension shaft if necessary - but if the engine must protrude it should, if at all possible, be mounted inverted where it will least be noticed.

Another great advantage of the diesel is that if the power is insufficient you can often fit a larger motor, but try to allow for this at the design stage. If your model is meant for a 1.3 or 1.5 make sure that you don't, over-optimistically, make it too large because the next size up is 2.5 - quite a big step in power and bulk.

The outdoor rubber and CO₂/Electric classes have no practical weight limits (unlike their Indoor equivalents) so you are free to build as large as you like. Certainly, in the former category some very big models with excellent flying characteristics are starting to appear. January's cover subject, Barry Hetherington's Dewoitine D338, at once springs to mind. Aim for a wing loading of no more than 7oz/sq. ft. for a fast monoplane and around 4.5oz/sq. ft. for a biplane. There is no point in going below these figures because strength and scale marks will be sacrificed, and the model may even fly at less than scale speed.

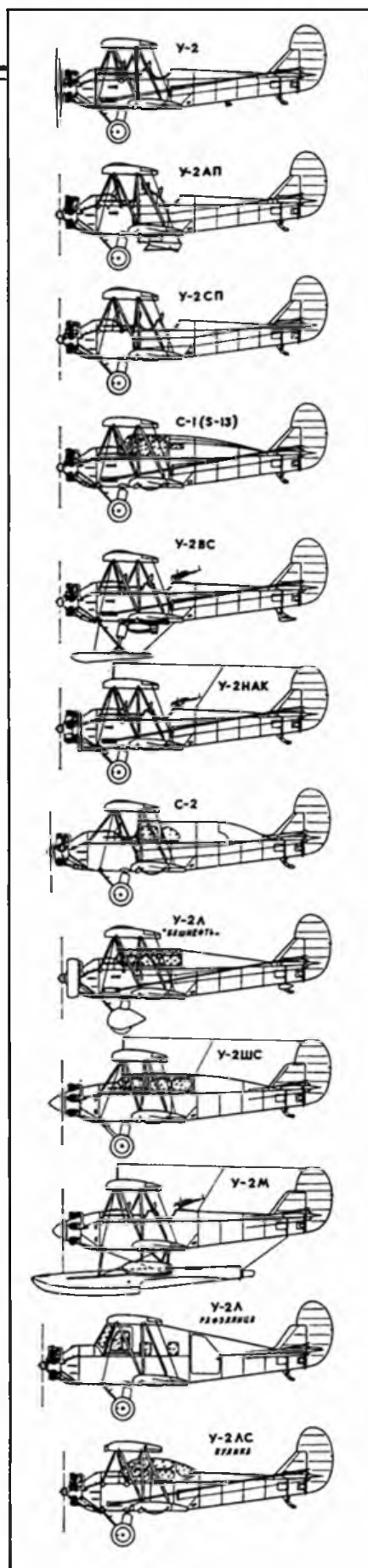
CO₂/Electric models should be smaller and faster than their Indoor counterparts, the better to resist wind and turbulence. Runway friction at takeoff is considerably greater than that of a sports hall floor. This is the class best suited to multi-engined types, but remember that there is very little scope for increasing available power if the model is too large or overweight.



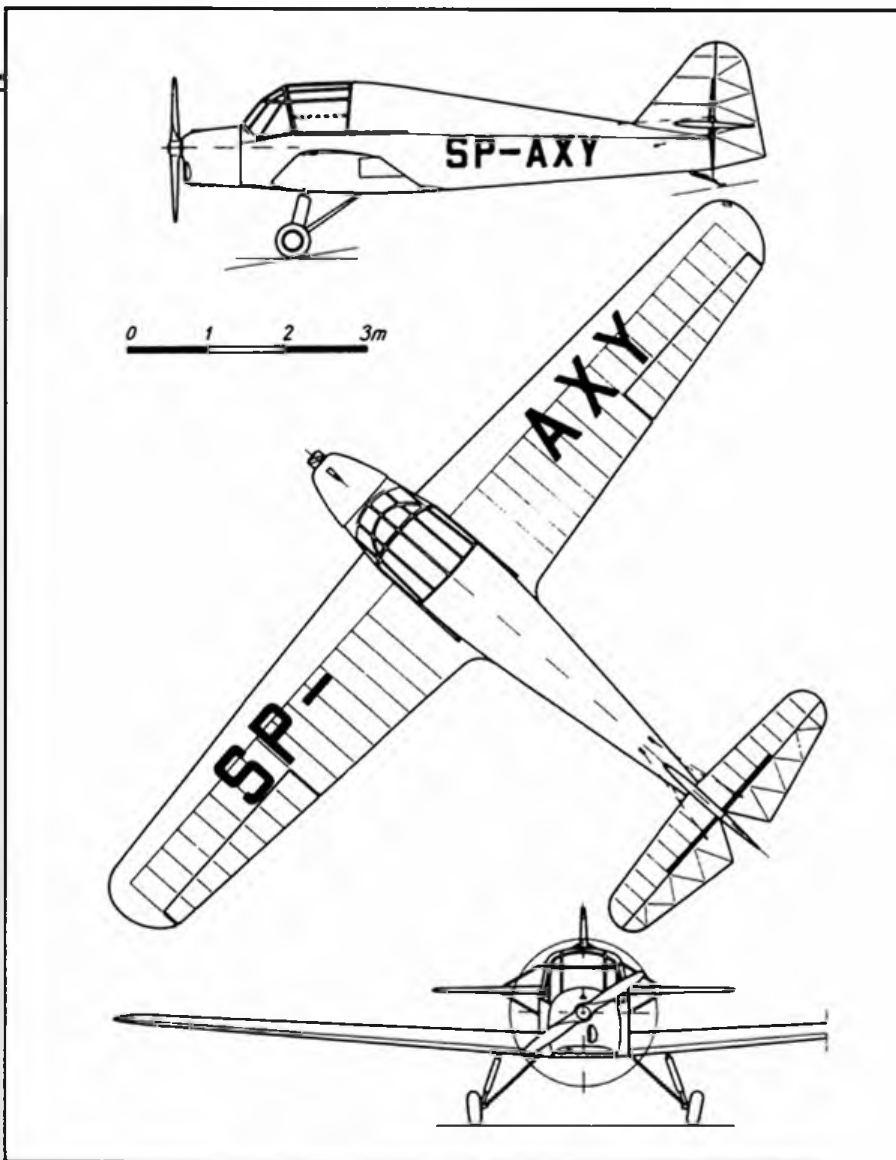
Noted Scale enthusiast Butch Hadland has tried electric power with this Curtiss Seagull, a conversion from the Earl Stahl rubber design.



Derek Knight (Mr KP) used two of his own units in this attractive Cessna Bobcat, here sheltering in Simon Rogers' box. Gentle tests at Old Warden showed promise despite sideslipping.



Above: Lots of fun in research! Here's an amazing selection of Polikarpov Po-2 variants (more details to follow). Left: A popular one-model contest last year was for the Stahl Skua. Bob Walden's shows its bare bones.



Low-wingers are not widely favoured but here are two which should go well. Polish RWD-16 is a delicate pre-war lightweight, whilst the Fokker DXIV was a fast fighter from the early 20s. Research reveals that each of these single prototypes actually appeared in three distinct versions! Sources are *Polskie Konstrukcje Lotnicze 1893-1939* by Andrzej Glass and Fokker - the *Creative Years*, A.R. Weyl's controversial Putnam book. Treasure-houses both! Why not enjoy your own delving and choose something a bit different for '88?

Plans for you

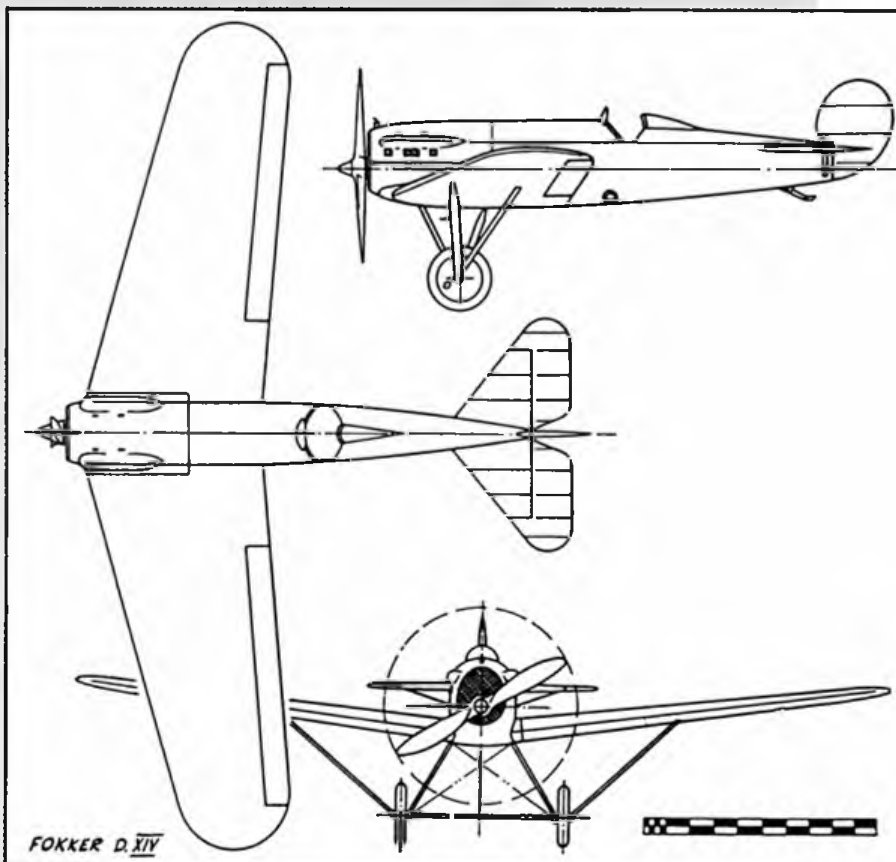
When it comes to getting hold of plans from which to build, I am afraid the simple truth is that you will probably have to draw your own (we are talking of contest standard models, remember). As a beginner you should accept that your first attempt may fall short of the ideal in terms of finish and detailing but at least you should be able to get the outline shape and scale structure right. There are many plans available but most were designed with no intention of the model being used in competition.

The best choice is in the Power class where a number of designs are quite accurate enough (or may be reworked fairly easily). Combining this with the need for flyability yields the following short-list of ASP designs:

DH 9A (49.1/2in, plan ref. FSP 1243); Bristol F2b (48in approx; FSP 1021X); BE 2e (40.3/4in, FSP 721); BE 12b (45in, FSP 1183); DH 80 (52in, FSP 891); DH 75 (46in, AM 1531); Sopwith Snipe (46.1/2in, MA 339); Bucker Jungmann (36in, FSP 1217); Gloster Gladiator (32in, FSP 719) and SE 5a (27in, FSP 682). While several of these have been 'done to death' there is great scope for conversion of some of the military subjects into civilian variants with interesting colour schemes and engine installations (yes - *who'll be first with a red and gold DH 9J, Jupiter powered, or an all-black Bristol Tourer? GC*) - and why not simplify the Snipe into a Salamander?

For outdoor rubber it is possible to convert some of the smaller power designs: with Indoor models you will probably have to start from scratch. In 1984 I wrote a short article on Scale model designs; your editor assures me that photocopies are available for £1.20 including postage. All I would add is that I have now more or less abandoned the use of scale rulers since gaining possession of a calculator with a constant facility. Now I just have to decide upon the model's exact size and multiply the scale drawing dimensions by the relevant factor. The only difficulty is when judges ask the scale of your latest creation; to reply '1/36 x 4.75' results in some funny looks...

Right - get set for the Nats in August; and don't forget our super Scale Weekend at Old Warden on 18-19th June. Go to it!



BUILD
FROM OUR
FULL SIZE
PLANS!



Combat challenge!

Diesel 'A' Nats winner
Paul Stanley takes a
sharp look at the
future of Combat and
introduces Vae Victis

AFTER A lay-off of about eight years, I returned to the British Combat scene in 1983 and I must confess to being extremely surprised to discover the extent to which the sport had developed during my 'retirement'. Memories of Warlords, Ironmongers and Copeman-tuned Oliver Tigers seemed distant indeed with everyone using high performance glow motors on pressurised fuel systems (what happened to mustard-tin tanks?) and the aircraft howling round the sky at seemingly phenomenal speeds.

After attending (but not participating in) several competitions, it seemed that luck played a large part in the eventual outcome of the majority of bouts, mid-air collisions being the order of the day. Just to stay in the air for the full four minutes seemed a fairly good way of getting through to the next round. Piloting ability and skill appeared to be of secondary importance, only a few competent pilots being in complete control of their aircraft because of the high speeds and very fast reaction times required.

It was for the above reasons that I decided to direct my efforts towards Diesel 'A' combat, being of the opinion that this class epitomises the true nature of combat, the models flying somewhat slower than their F2D counterparts, making for more skilful bouts with the pilots, in the main, fully in control. Another very obvious factor was that the number of contestants taking part had reduced dramatically over the last few years. There was very little 'new blood' in evidence. In fact the trophy

for the Best Junior was not awarded at the 1987 Nationals, simply because no Juniors took part.

New rules for F2D

At the CIAM Plenary meeting in Paris in April 1986 some rule changes were proposed by the British representatives; I firmly believe these would improve the quality of F2D events. Basically the rule changes were:

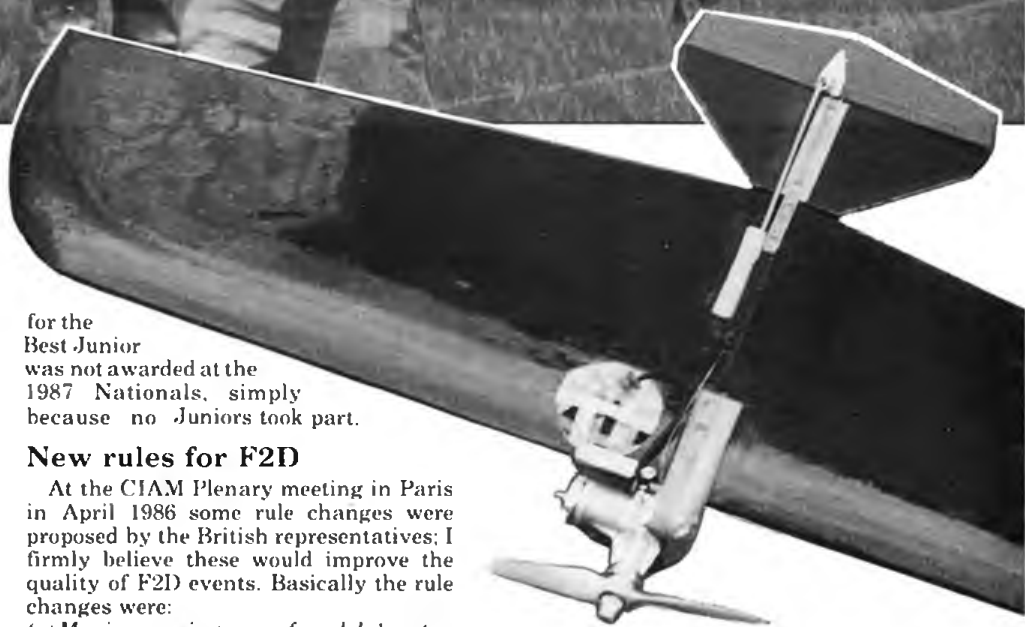
- (a) Maximum wingspan of model: 1 metre.
- (b) Maximum root chord of model: 400mm.
- (c) Minimum weight of model including engine: 425 grams.
- (d) Minimum propeller diameter: 200mm.
- (e) Suction fuel systems only.

These proposals, which were accepted at the meeting, are meant to limit the performance of the engines, to increase the model weight (and therefore the strength) thus allowing the models to manageable speeds.

The rules, though accepted and scheduled for implementation from January 1988 caused an outcry worldwide from the F2D contingent. In fact one of the Dutch flyers, Loet Wakkerman, sent out a questionnaire to those other countries that participate in International events, and

from the response it was clear that the new rules had not been well received. One of the main objections was that the engines currently in use would no longer be suitable and replacement would be expensive. Nevertheless, it was clear that virtually everyone who answered the questionnaire recognised that there are problems with F2D in its present form, and most made suggestions to improve the event.

The outcome was that further rule changes were proposed and accepted at the 1987 CIAM meeting, the previously accepted changes being withdrawn. The latest rules will be effective worldwide from January 1988; indeed, in Britain they



have been in operation since the 1987 National Championships held at RAF Barkston Heath during the August Bank Holiday weekend. The rule changes, as reported by Martin Dilly in the July 1987 issue of *Aeromodeller*, are to limit the engine venturi diameter and to limit the nitro content of the fuel (for those using glow motors). Both rules are again aimed at slowing down the aircraft.

From the foregoing it is fairly obvious that most people who participate in F2D events recognise that it is not without its problems, token gestures being made in an attempt to modify the rules and rationalise the event.

Why not Diesel A?

In Britain the majority of interest lies with Diesel 'A', this being the best supported class at competitions. Yet this year the SMAE have organised only one competition for Diesel 'A' apart from the Nationals. Surely if we wish to encourage the growth of aeromodelling and Combat in particular, then the National Governing Body should cater for the majority and not the few 'elitists' who wish to compete at International level? I understand that most European countries have their equivalent of Diesel 'A' and these events are also well supported. Maybe the Diesel 'A' rules should have been tabled at the last CIAM meeting and this event promoted to International status in place of the current F2D event! Perhaps this is for the future?

Another criticism of F2D is the number of aircraft which are required per competition. I am told that at the 1987 European championships in Nykoping, Sweden, the average fatality rate was 1.6 models per bout (and these are the best flyers in Europe!). To qualify for the British team it is necessary to participate in the SMAE centralised meetings throughout the year, with points being awarded for the top placings. The team then consists of the three pilots who have the highest points score at the end of the year. Obviously, with five or six competitions during the year a vast number of models (which are very time consuming to build) are required. I suggest therefore that the SMAE should encourage Combat in Britain by



organising more Diesel 'A' competitions, holding (say) a maximum of four F2D contests (one of which could be the Nationals) as qualifying events for a team Trials. The points system should be amended to encourage contestants to take part in all the qualifying events instead of the present system where a couple of placings virtually guarantee a team place. Perhaps a system of awarding one point per win in each round of a competition with, perhaps, a three-point bonus for 1st place, two points for 2nd and one point for

3rd place would help overcome this problem. Unlike the present system it would also mean that points scored at each event would be representative of the number of entries at that event. The six pilots with the highest scores should then be invited to take part in a team trials to finally decide the team with each of the six flying the other five qualifying pilots on a 'best of three bouts' basis. Again the scoring should be on a 'one point per win' basis. The team would then consist of the three pilots who have scored the highest number of points throughout the qualifying events and the team trials so that a lucky win on one day or a poor result on another doesn't have such a marked effect. The Diesel 'A' events and the F2D events should be arranged such that dates don't clash. This would encourage Diesel flyers and F2D flyers to take part in the other event and again should help to promote interest in general.

Anyway that's enough of what I think; let's hear what the silent majority have to say. Any suggestions, comments or criticisms will be welcomed, so please write to me, Paul Stanley, at 14 Monyash Way, Belper, Derby DE5 1FW, and I will pass your comments on to the SMAE Technical Committee.

Since the CIAM meeting in April '87, other local modellers and I have been experimenting with various diesel and glow engines, modified to comply with the latest rules, to determine the best engine to use in F2D. Eventually the rear valve Nelson glow proved best, with a front-induction Nelson diesel (prepared by Ian Horne) running on a pressurised fuel system and with a home-made propeller coming a very close second. Incidentally, this was the engine that I used successfully in Diesel 'A' at the '87 Nationals.

What to do - and how to do it

And so: 'To fly F2D or not to fly F2D? That was the question.' (My apologies to Mr. Shakespeare.) The ultimate decision was 'yes'. Engines were ordered (the easy bit) and the next task was to design a competitive aeroplane (the hard bit). The first prototype was built and fitted with a borrowed engine (mine hadn't arrived yet) and off I went to the flying field. The first flight with a new aeroplane always gives rise to apprehension. Will it fly? There's only one way to find out! Engine on song; nervous pilot holding the handle; the launch - it flies! Like a BRICK!

So, what was wrong? The model wasn't that different from other successful designs. The most significant difference was the position of the engine. RV Nelsons need lots of space behind them to accommodate the fuel feed system. A new system was required and a conversation with Ian Horne resulted in a much neater, more compact assembly (see photo) allowing the engine to be positioned much closer to the wing. Another trip to the flying field proved the point with the model's performance much improved. This time loops were possible!

Anyone interested in obtaining a modified fuel feed assembly as shown should write to Ian Horne at 32 Ashop Road, Belper, Derby DE5 0DJ.

A second prototype was built. Wing planform and section were identical to the

first model, but a removeable wing extension was incorporated to enable various moment arms and tail shapes to be evaluated. Several variations followed which eventually resulted in Vae Victis (Latin for 'Woe to the Conqueror') being presented here as this month's full-size plan (apart from the bit that's half-size).



Heading and photo above: Action from the Nats! All the gen for Vae Victis on our full-size plan this month...

Chop away at Vae Victis...

Start by cutting two identical pieces of polystyrene for the inboard and outboard wings. The asymmetry is achieved later. Cut the root and tip templates from 1/16in. plywood or from aluminium and fix to the polystyrene using long pins. Cut out the wing sections, hollow out one wing only for the leadouts and finally cut the spar slots using the hot-wire technique.

Construct the centre rib as shown on the plan from 1/2in. sheet balsa and 1/16in. plywood with the engine bearers from 1/2 x 3/8in. beech. Cut the bellcrank from aluminium (paxolin bellcranks have a tendency to break in the line-pull test at competitions) and mount it into the centre rib using brass tube with scrap spruce spacers. Epoxy brass tube into centre rib.

Offer the outboard wing to the centre rib and hollow the polystyrene locally around the bellcrank; then cut the slot for the pushrod using a sharp knife. Solder heavyweight Laystrate leadouts to the bellcrank. Dry fit the spars to the centre rib and offer up the wings to ensure that all is well. It's easier to rectify mistakes before glueing! If OK the spars and wings can now be glued into place. Fix the spruce leading edge and balsa trailing edges. I find draughting tape is useful to hold all the parts in place while the glue dries. Accurate alignment of the wing halves is a prerequisite and time should be taken at this stage to ensure this is correct. When the glue is set, drill through the leading

edge between the engine bearers and fit a piece of dowel as shown. It is surprising how much extra strength this small piece imparts, for it prevents the centre rib from coming loose.

Obtain two pieces of brass tube for the leadout guides and bind them with thread to a piece of scrap 1/8in. sheet. Feed the leadouts through, ensuring that they are not twisted in the wing, and epoxy the whole assembly into place in the wingtip.

Epoxy a piece of lead approximately 1/2oz. into a small slot in the outboard wingtip. Mark the tip shape onto both wings, noting that the outboard wing is one inch shorter, and cut to shape using a hacksaw blade. The wing can now be finally shaped using a medium grade glasspaper.

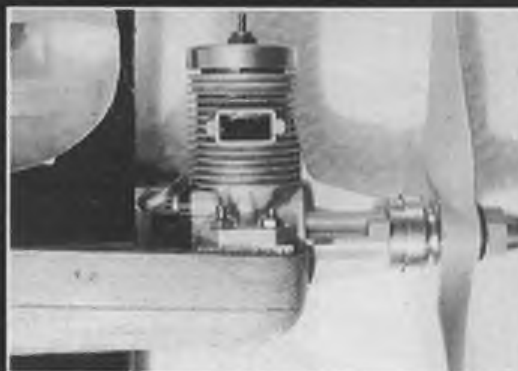
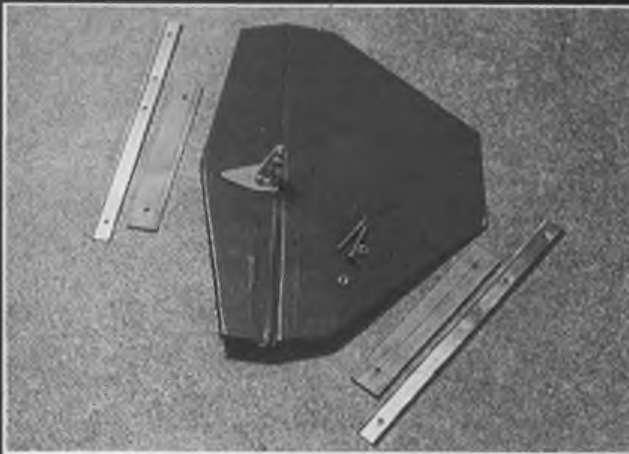
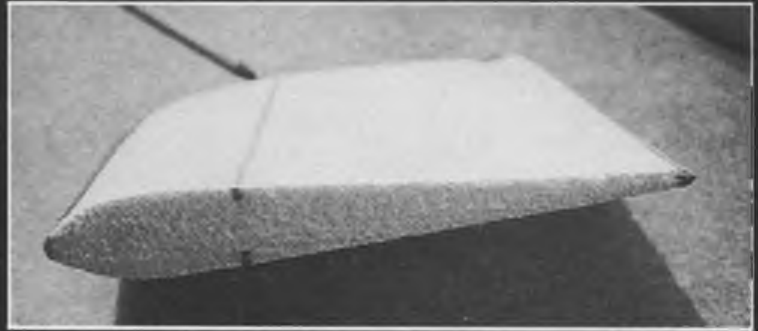
The tailplane is from 1/8in. sheet balsa; it is mounted to the wing using channels formed from aluminium (spruce can be

used as an alternative) which are screwed through the tailplane and the wing.

Finally cover the entire model in Solarfilm and fit the control linkages. Although the model was specifically designed around the RV Nelson it should be suitable for most engines provided the CG is as shown on the plan.

So come on, build a few and I'll look forward to seeing you at competitions in 1988.

*Chop away at
Vae Victis...*



Top: Section through foam wing panel reveals position of spars, leading and trailing edges. Above left: Tailplane components, with complete sub-assembly above right. Far left: A great motor by any standards - Henry Nelson's .15RV, seen in place at left.

Right: More engine details. Note compact backplate assembly. Far right: The pacifier compartment. Fuelproof well!



Don't Knock the NOCTULE...



Model flying in the garden? Peter Fisher tells us how he managed it...

NOCTULE, which is named after a species of bat, has been specifically designed as a small free-flight rubber model of semi-scale aspect (to bats at least) for the specific purpose of flights in small gardens. Under such conditions, it will be appreciated that there is very high turbulence; thus an ultra-stable layout is required, together with the ability to maintain a tight-turning flight pattern. Another parameter is to ensure that these relatively tight turns can be achieved without a high rate of climb which would inevitably lead to the model being impaled in trees or shrubs, or landing on rooftops. Noctule fills the design criteria of a tight turning but very flat stable flight pattern. The prototype flew 'off the board' and no modifications or trim adjustments were required. First flights were made in Woodland Towers' garden on 22nd October 1987. For flight testing, a small area of front lawn about 50ft. square bounded by trees with a camellia growing in its centre (the latter surrounded by a low stone wall) was used for initial flights!

Design and development

Noctule is the 322nd model built by the designer. It has been developed from the Ionosphere series of F/F wings (see Tailless Tales, June 1987 *Aeromodeller*), and is in fact the 22nd model built in this series. The 'flat plate' type of wing section is suitable for a very lightweight model. Construction is very simple and quick, and the design of the wing is such as to reduce to a minimum the risk of warps. Ideas for the precise layout of Noctule have been developed over eight years, and it is pleasing to note that, provided the model is built exactly as designed, no trim adjustments are required.

Build your bat

Before commencing construction, cover the plan with a piece of wax paper; the inside wrappings of cereal packets are suitable. This stops the structure from adhering to it. (*What about the crumbs? GC.*)

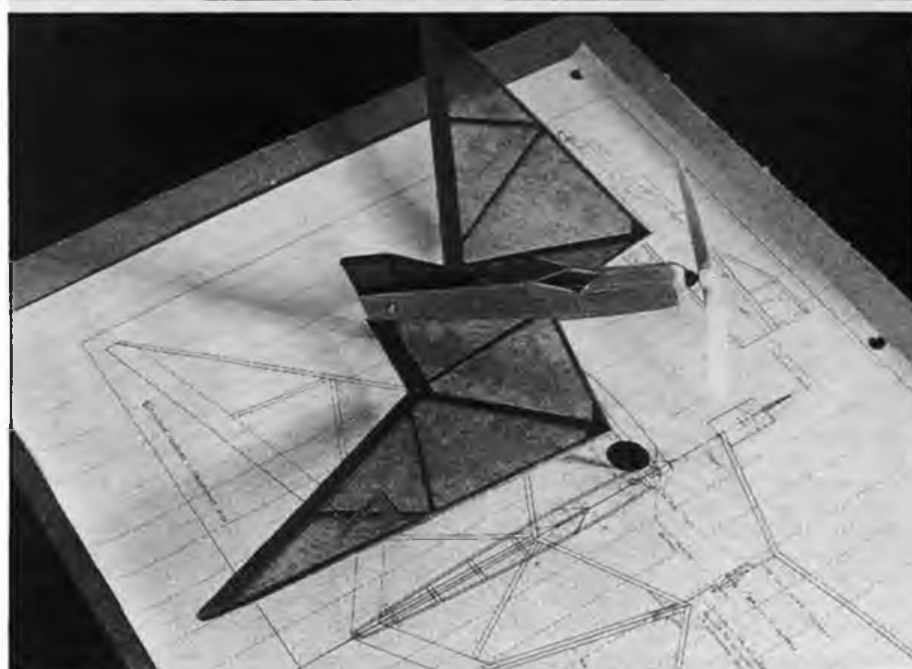
The main wing is built up from two inner inverted gull-hedral sections and two outer sections. All are built flat over the plan. Pin the 1/2 x 1/8in. trailing-edge sections in place, followed by the 1/8in.sq. leading edges and diagonal cross-

members. Chamfer the joint surfaces at the cross-section to allow for lin. anhedral at the joint line. The outer panels, after chamfering of the joint lines, are arranged to give 1.6in. dihedral at the wing tips.

Now cover the top surface of the wing with lightweight tissue and give one coat

of clear dope, very lightly applied. Do not cover the lower wing surfaces. After the fuselage is completed and cemented in place the lower nose section and upper rear sections can be covered and given one coat of clear dope. Lastly the fin, covered on both sides, is cemented in position.

Cut the fuselage sides from 1/16in. lightweight balsa. Join with the three 1/8in.sq. spacers marked 'A' on the plan. Take great care to ensure accurate alignment using set squares over the plan. Add the other 1/8in.sq. spacers and tail upright. All balsa used should be of light



Simple to build, the 20in. Noctule is an entertaining flier for rubber power. Try a balsa prop for even better performance, or enlarge for CO₂. How about a big one for diesel power?

grade. Add the triangular cabin top former B, 1/16in.sq. windscreen support and cabin. The triangular section nose is built up from soft 1/16in. sheet, and the finished fuselage is carefully sanded with 0 and 00 grade glasspaper.

The nose block is made from scrap block balsa. The prototype used an old, rather heavy Jasco 6.1/4in. plastic prop, mounted on a 20swg piano wire shaft through a Performance Kit nylon thrust button with a single steel cup-washer bearing. This arrangement can of course easily be improved but it proved adequate for the 'garden flying' requirement. Go up a size to an 18swg shaft if you intend to use a four-strand motor.

The motor is 1/8in. flat rubber. Best results were achieved with four strands. Tie a 40in. length into a loop. Lubricate with a mixture of pure soft soap, castor oil and glycerine. Make into a double loop. Locate with 3/32in. birch dowel. Wind on 30 turns to each skein of two strands, attach to prop hook, and allow to unwind to form a single pre-tensioned skein.

The elevons are from light quarter grain 1/16in. balsa, sanded to section. Cement in place, taking great care to set the incidence at minus 21 degrees on each tip.

Gliding in the garden...

Having carefully checked the minus 21 deg. incidence on the elevons, ensure that the CG position and the dihedral angles are as indicated on the plan and launch gently into wind from shoulder height. Take care that the wings are parallel to the ground. A flat glide should result. If the model dives, increase negative incid-



Wind 'er up and let go! Peter launches the prototype for another flit round the camellia at Woodland Towers.

ence of both elevons by half a degree. If the model stalls, decrease the negative incidence of both elevons by the same amount. In the event of a turn to the right, increase the negative incidence on the left elevon and vice versa. (*The recommendation 'half a degree' probably equates to 'the merest tweak' in the harum-scarum situation of garden flight trials. GC*)

Powered flight

If using a single loop of 8.6 x 1/8in. rubber simply apply a few turns by hand and launch as above. Build up the turns if

trim seems satisfactory. Adjust trim, if necessary, as already advised. With the four-strand motor, always use the stretch-winding technique to ensure even power and to prevent the motor from bunching.

Finally, let me wish you many happy hours' enjoyable sports flying with your Noctule. I am sure you will be pleased with its flight characteristics and will admire the pleasing way in which it settles when landing. Because of the relatively high angle of attack on the glide, she can be relied on almost always to alight perfectly. Who'll scale it up for power?

Reader's Letter Special - The reasoning behind F1J

Dear Sir,

I am replying to the letter from Jim Fullarton in your October issue on the topic of the CIAM's new F1J power class. As Chairman of the CIAM Free Flight Subcommittee which proposed the rules in question I will try to explain the intention for the new class and its status.

Some form of small power class is flown in many countries and most of these take a form similar to 1/2 A as flown in Britain. In order to allow international competitions for these models it was desirable to introduce a common specification of model and flying rules. This would facilitate Open International events for small power models in the same way as the FIG and F1H rules define international rubber and glider classes. These two classes have been generally adopted as classes for national events and the commonality allows foreign flyers to compete in these events with models meeting the international rules. It is hoped that F1J will achieve the same acceptance as the prevailing small power class. There is to be an increase from the small number of international competitions for these classes and it is certainly not the intention to use any of them to replace F1A, F1B or F1C as the categories for World and European Championships.

In order to retain the small-field features of FIG and F1H a two-minute maximum and a seven-second engine run were chosen. This is the same as the SMAE

1/2A rules, which do not lead to mass fly-offs in every competition; so it may be deduced that performance does not make the maximum too easy, even though the SMAE rules do not impose any minimum weight. In the case of the F1J rules it was considered that a nominal minimum weight should be imposed, to prevent the possibility of freak lightweight models for use in calm conditions such as are common in central Europe. The 160gm. minimum weight was set so as to allow almost all of the current 1/2A - type models to be flown without needing ballast.

If the Subcommittee had set out to groom a new class to replace F1C in the future then more stringent limits on performance would have been appropriate. This was not the aim. A realistic view is that the effort modellers will devote to F1J, like the other FAI provisional classes at present, will not approach the great investment of time and money needed to produce world class F1C models and so super-performance models will not appear immediately. There has been nothing preventing keen flyers taking the current national small power models further but it has not happened. The USA had proposed an F1J specification which was exactly what your correspondent wanted: weight and area being fixed at levels which would give special mini-F1C models. The relatively unlimited rule was chosen in preference to

the USA idea largely because many people considered that it would never get off the ground: the Catch-22 situation where people have to build completely new models but will not do so because there are no competitions and organisers will not run the competitions because nobody has the models. It is hoped that the chosen path for F1J will lead instead to healthy activity in the class.

Ian Kaynes
Chairman, CIAM F/F Subcommittee
Farnborough, Hants

Let's have news of competition classes, formal or informal, flown in your area. Rubber, power, glider; control-line too - who knows, your favourite club event may appeal to others too. News, photos and designs please!

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VINTAGE CORNER

A look back to the 1930s and 40s as Alex Imrie investigates the paper planes of Wallace Rigby



WALLACE RIGBY was an artist, inventor and a keen aeromodeller. He was a member of TMAC from 1929 and the leader of the 7th Group in that organisation. Until 1936 he was TMAC Technical Secretary. He contributed modelling articles to a number of magazines and ran a regular column in *The Modern Boy*, a two-penny weekly paper, in which he was known as Modern Boy's Model Plane Expert. In 1935 much of his writing for *The Modern Boy* appeared as a small book entitled *Model Aircraft for Boys*, a volume which is keenly sought by present day vintage enthusiasts. He is best known for his paper models, for he spent a lifetime engaging commercially in the design and production of every possible object in this medium. In the early 1930s he frequently gave demonstrations of his flying paper models at various large schools in the London area.

Pre-war activities

The majority of youngsters around 1930 wanting a model aeroplane had to make their own. Construction sets and finished ready-to-fly models were available but the cost of these ruled them out for most boys. Christmas presents at the time often included a boys' annual (one of the most popular in that do-it-yourself age being *Every Boy's Hobby Annual*) and amongst the varied models described each year there was usually a model aeroplane design. However, these early projects often called for wood in special sizes that could only be obtained from one of the then few model aircraft suppliers. Wallace Rigby realised that the lack of immediate materials acted as a curb for many would-be modellers, so apart from describing models that could be made from odds and ends found around any household like corks, split garden canes, paper fasteners, match boxes and old tin cans, he began to develop model aeroplanes that could be made from thin card or stout paper obtainable from any art supplies shop, using the tube adhesives available at the time like Seccotine, Certofix and Croid No.3. These were initially gliders but soon rubber powered models were introduced

and these could be attractively coloured by easily-obtainable poster paints. Models were basically similar in layout but the shapes could be changed to resemble various full-size designs. Some of these models were available commercially, either ready-to-fly or as construction sets. Others were given away with various weeklies. Usually these consisted of parts printed on a sheet of stiff paper, to be

followed the next week by a packet containing a metal propeller, nose piece and rubber motor. His most famous model of this type was the Swallow, presented with *The Modern Boy* in February 1932. This was followed by a biplane in *Chums* in July, while in May 1933 the Rigby Super could be obtained for three tokens cut from the *Modern Boy* and 4 1/2d (2p) in stamps. The *Modern Boy* Hornet was a free gift in

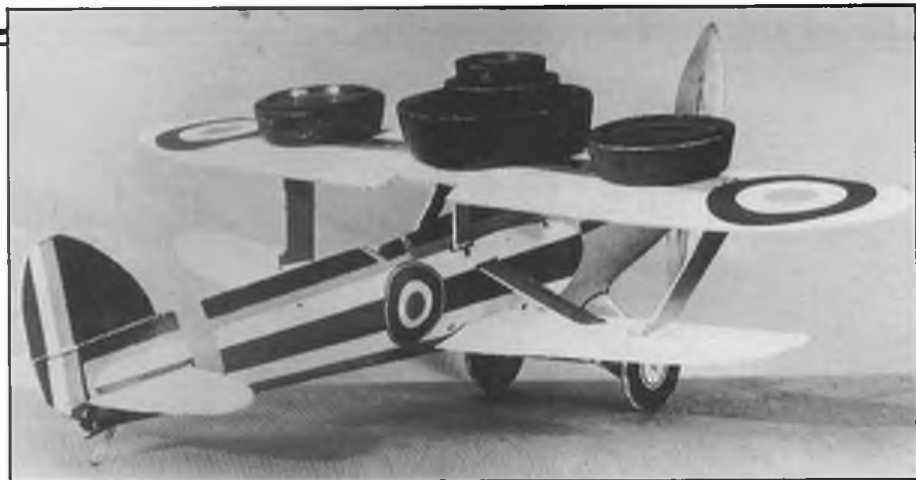
Heading: Wallace Rigby in his New York studio with the rubber-powered card 1-18 Russian fighter which he described in the March 1944 issue of Air Trails. The balsa propeller was 4.1/2ins. diameter. Below: Swallow in its original form as presented with The Modern Boy in February 1932. Fuselage detail was merely printed on the card. Resemblance to the Supermarine S6b Schneider Trophy seaplane is apparent.



January 1934 in the usual two-part style, but the initial information was contained in an earlier issue; thus the proprietors of the paper (Amalgamated Press Ltd) were assured of selling at least three issues during the validity of the offer to readers who wanted the Hornet. This was, of course, the purpose of the exercise; to advertise and increase sales.

Many similar models appeared during the 1930s and Rigby working models of every description were either given away free or sold with tokens from other papers in addition to The Modern Boy like The Scout, Triumph, Ranger and Chums; and many of these were model aeroplanes. Some models were specifically designed for different agencies as an advertising medium, an example being the Co-op Condor for the Co-operative Wholesale Society store which carried the slogan 'Buy CWS Goods the Highest Quality' on wings and fuselage. By March 1938 when the 19in. MW3 Hurricane was made available to Modern Wonder readers, 16 tokens were required, one cut from each issue. The state of the art had progressed by then; this machine came with a mechanical winder, it had a three-bladed plastic propeller and the fuselage was made from one-piece thin hardened aluminium sheet. Rigby Model Books were available from both the Daily Mail and Daily Express newspapers and these contained a variety of models beautifully colour printed including locomotives, cars and ships as well as aircraft. I remember receiving a Daily Express example, whereby my mother had laboriously cut out all the newspaper serial numbers and stuck them on a special card for a protracted period (probably six months!) before sending off with a small amount in stamps to get this book which I duly received as a Christmas present. Many of the models in the book were of the working variety, and the ones that I particularly recall were a rail coach that whizzed along on a thread 'mono-rail', a racing car and a high wing monoplane rather like the Lysander, all propelled by the same tin airscrew working on a circular tin dummy radial engine nose piece with the rubber band, which all came in the packet with the book. I have no clear recollection of the model aeroplane doing any real flying, but all these Rigby model aeroplanes were capable of flight if properly made and adjusted. Many boys were introduced to the hobby via these card models and if their initial attempts were not rewarded with good flying performance, at least they were inspired to greater efforts and as a result this simple media was responsible for recruiting many thousands of aeromodellers, some of them still at the hobby today.

One of the secrets of Rigby's successful flying paper models was the use of a single-surfaced wing, carefully bent down at both leading and trailing edges to provide strength and to give the type of aerofoil that is efficient in the small sizes in which he worked. Rigby maintained that paper models could be built in almost any reasonable size, for he had found models as small as 2.1/2 inches span and



*Above: The Chums biplane weighed only 1.1/4oz. but was able to support 1lb.3oz. on its top wing. Folded and glued paper is strong in compression!
Left: Three tokens and 4.1/2d (2p) in stamps were necessary to obtain the Super, shown here on the cover of The Modern Boy, 20th May 1933. Below: The Modern Boy Hornet was 9.3/4ins. long with a span of 12ins. Claimed performance was 75 yards in about nine seconds. Weight was 3/4oz, finish was blue and orange.*



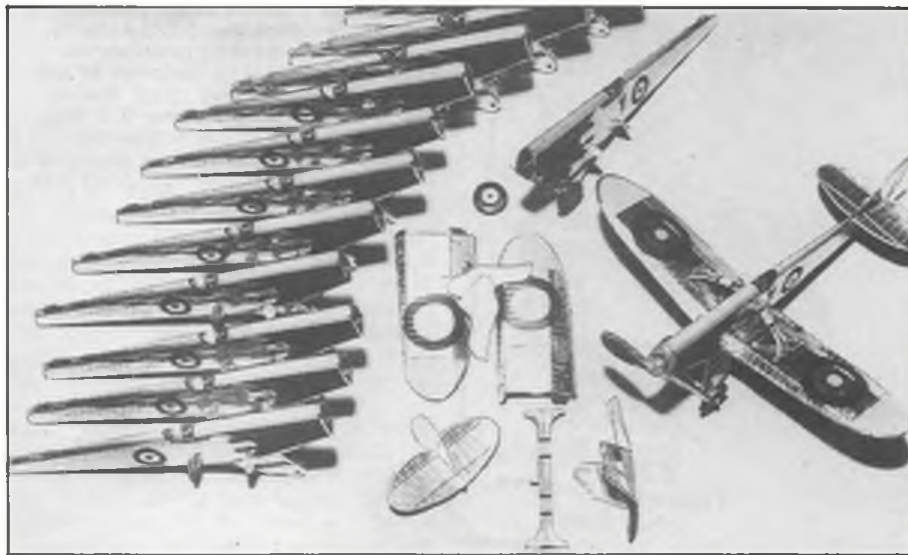
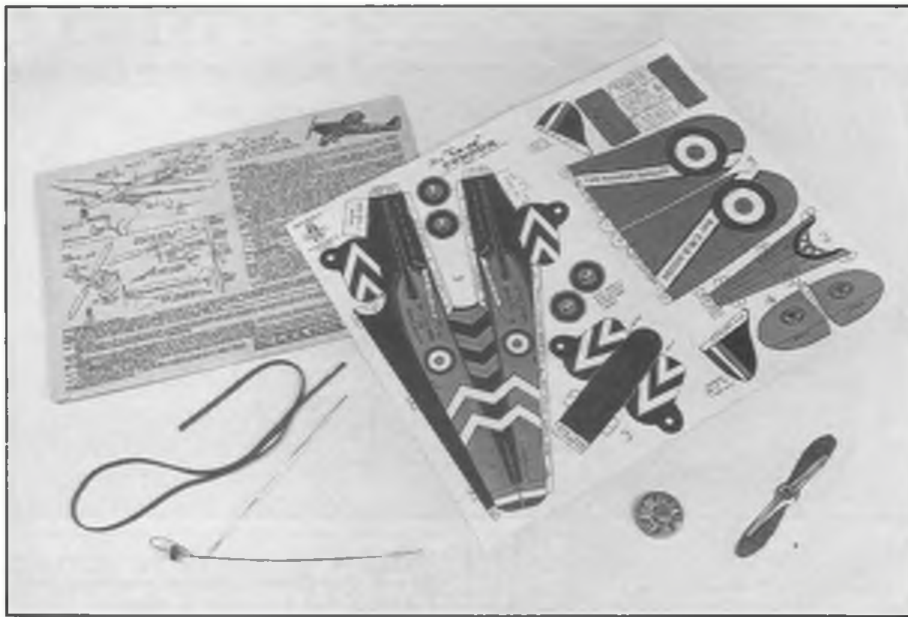
used the same system for the relative giants of about 30 inches span, above which he found that fuselage strengthening with two spruce longerons running from nose to tail was necessary. He always wanted to make a power driven paper model and was sure that the stoutest artists' heavyweight watercolouring paper would suffice if care was used to keep the grain running along the longer lengths; that is, fore and aft on the fuselage and spanwise on the wings. A frame of steel wire would also be necessary for the undercarriage in this large size.

Rigby models were not confined to the

UK, but were sold worldwide, and even in the mid-1930s Rigby was frequently abroad attending to business matters. He recounted in his book that when Jim Mollison attended a banquet in Buenos Aires following his record breaking flight two Rigby Swallows were used as table decorations, these being from a consignment of 20,000 that had been recently shipped to Argentina.

After the war

Rigby lived for a period from 1939 in the USA where he produced a number of cut-out books mostly of American subjects. He



Top: Mike Wilson's example of the Co-Op Condor shows the extreme simplicity of the Rigby system. Note the embossing of the tin nose-piece and propeller which provided strength as well as improved looks. Centre: Several thousand all-metal Swallows were made in 1934 when component parts were stamped from thin aluminium sheet. A batch of fuselages is seen here with a finished example at right. Above: The 'ribbing' of the aluminium components gave strength and scale appearance to the all-metal Swallow. (Thanks to Aeroplane Monthly for help with this and other photographs).

returned to live in London after the war and was soon producing card models for various agencies in this country again. He designed some models for the Eagle boy's paper, and Bert Nash, who had known Rigby in the old TMAC days, recognised his handiwork when his son brought him one of the Eagle models to assemble. Bert was able to contact Rigby via the publisher, and invited him to his home. Rigby arrived with a number of models that he was at that time working on, including a four-engined airliner similar to the DC4 that he was then marketing in the USA, a three-foot glider and a beautiful varnished

paper rubber-driven speedboat. Rigby also gave Bert a memento from the old days, the little two-inch diameter wooden propeller and nose piece from one of his very small models that used to ROG from his hand at the pre-war London indoor meetings.

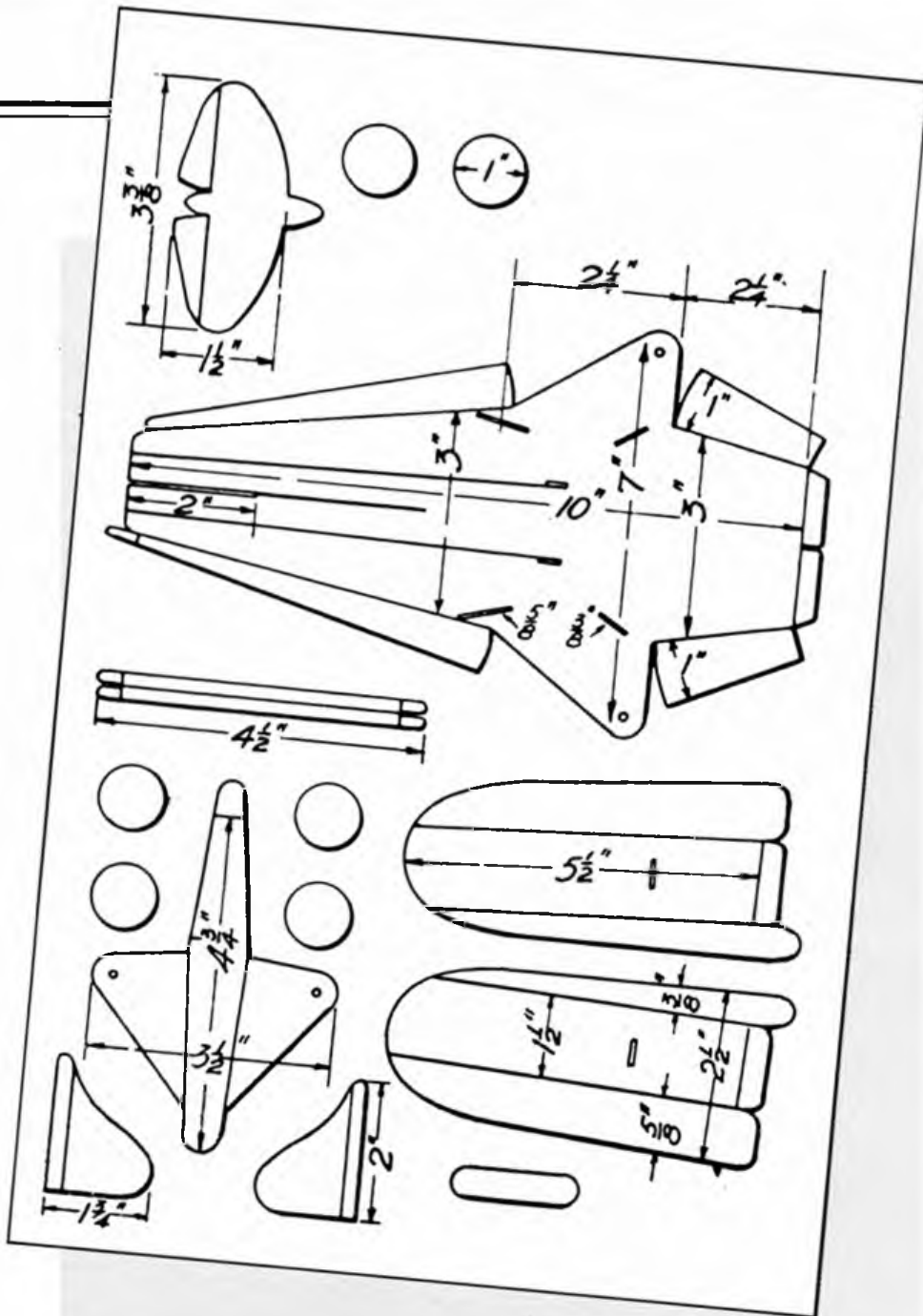
In the mid-1960s Ron Raddon's attention was arrested by a local newspaper item headed 'Concorde built in Barnet'. This was an account of how a manufacturer of plasticised paper was working with Rigby creating cut-out models, one of which was the supersonic airliner. Ron soon established contact



The cover of Rigby's book Model Aircraft for Boys. Published in 1935, this volume contained many of the hints and tips which had previously appeared in The Modern Boy.

with Wallace and visited him several times. He remembers the veritable Aladdin's cave of card models that abounded in Rigby's London flat. He was given both the Ranger and the small sailplane illustrated in this article as well as cut-out books for a Kon-Tiki raft and a Concorde (how's that for extreme examples of transport). Despite being over 70 years of age Wallace Rigby was at this time still working, designing and producing card cut-out models with the same zest as he had done for the previous 40 years. Some of his last models were for the airlines, amongst them a Boeing 747 for Pan American Airways.

Rigby died in April 1969. Unfortunately, it appears that no one made detailed notes of his modelling life, and although some attempt has been made here to relate what is known of this interesting talented modeller, we would like to know more.

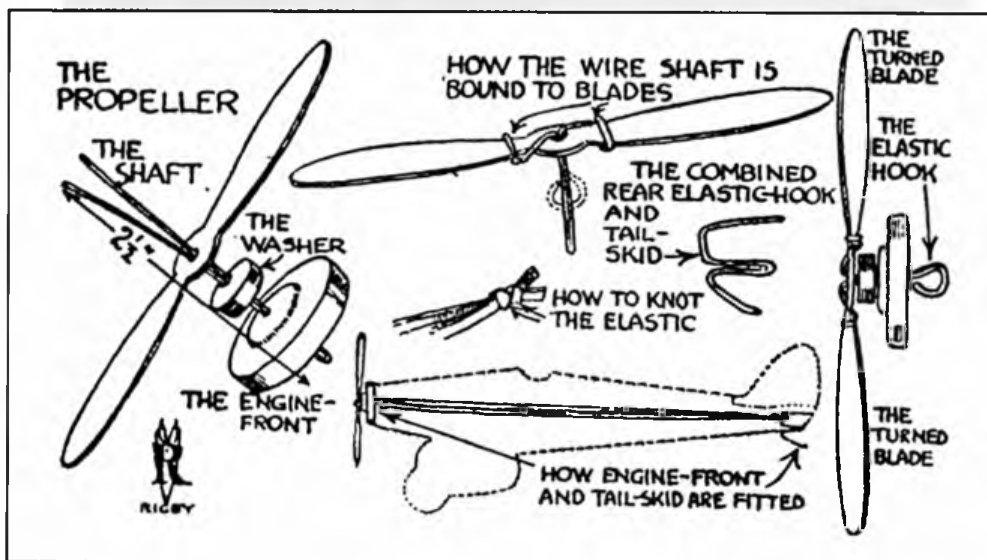


Perhaps readers can provide further information, or give more data on the many model aeroplanes that bore the Rigby trademark.

Rigby Swallow

This 11in. model resembled a landplane version of the Supermarine S6b Schneider Trophy seaplane, and has been called the poor man's copy of the Frog Interceptor, but since it was in existence twelve months before the Frog ready-to-fly model it would appear that it was no mere copy. In fact at about the same time as C M Wilmot and J N Mansour were forming their company International Model Aircraft with the intention of producing their Interceptor, the Swallow was already fully-fledged and was being given away free in *The Modern Boy*. Printed parts on a sheet of stiff card measuring 12 by 10 inches were followed by the packet containing the pressed tin propeller, the nose piece shaped like a radiator and the rubber band motor in February 1932. The colour of this initial issue was pretty basic, the wings being plain without any roundel decoration, but from mid-1932 - when the model became available from Vase Press Ltd of Kettering - the Swallow was all-silver with roundels in the usual locations. Its price, built up and ready-to-fly was 2/6 (12½p) but for 1/- (5p) the basic construction set was also available. An unpainted version was available at 2/- (10p) and 9d (4p) respectively. As a special Christmas offer, a built-up model and a component set for the silver model sold at 3/- (15p). By this time the Frog Interceptor was on the market so adverts for the Swallow took care to mention that the Swallow was the 'first flying scale model of this type', and claimed it to be the more realistic. Frog also used the term 'flying scale model' which was incorrect, and should really have been 'semi-scale model', a designation that was common from the mid 1930s, but which now seems to have fallen out of use.

The Swallow was patented in Great Britain, USA and in France, and early in 1934 a second version appeared that was said to possess several improvements. It was more highly-coloured than previously, being now available in red, white, blue and silver; the basic uncoloured example seems to have been dropped. Another change took place later in the year when the model was manufactured in thin aluminium when it was known, of course, as the all-metal version. Its weight was only slightly more than the card model and it was reported to fly almost as well. The design featured in Rigby's book where dimensioned drawings of all the parts were shown giving the span now as 12 inches. Doubtless original examples of these models still exist, but some vintage modellers attracted to the design have reproduced their own in recent years.



The famous Swallow. Top: Dimensions and layout of the card parts taken from Rigby's book. Enlarge them - and built your own! Above: A typical Rigby drawing showing the 'mechanism' used on all his commercial card models. Prop diameter and shape of nose-piece did vary from model to model but the essentials were the same.

Swallow Replicas

Norman Peacock of Wirral, Merseyside has built a number of Rigby Swallows over the last three years and a photograph of

Right: Ron Raddon owns this 11.1/2in. Ranger. Matchstick undercarriage axle and highlights on wheels are typical Rigby features. Below: Wallace Rigby himself flying one of his favourite models in Green Park, London. This fast-flying 34in. model could travel 250 yards, was flown regularly for over a year and eventually ended its days hanging from the ceiling of the London Sketch Club. One wonders if it is still there...



Left: This speed model has the tips of its propeller reinforced with wire binding - a Rigby technique for 'protection' often used on his racing machines.

two of these appeared in this magazine in Photo Quiz, July 1985. One was a 36in. version of 216 sq.ins. wing area weighing 13.3 ounces. This had some internal wooden structure to cater for the power of the DC Dart with which it was fitted, thereby proving the thought Rigby himself had expressed (although at the time he had a petrol engine in mind) many years earlier about a paper power-driven

model. Norman's other Swallow was a 12in. all-paper model of 23.5 sq.ins. area weighing only 0.6oz. Norman has also made a 24in. Swallow which has a wing area of 98sq.ins. and weighs 4.25 ounces. We were thrilled to see this machine in flight at last year's Vintage Weekend meeting at Old Warden. Although it did not climb very high, it sped away in a most realistic and stable manner. Norman

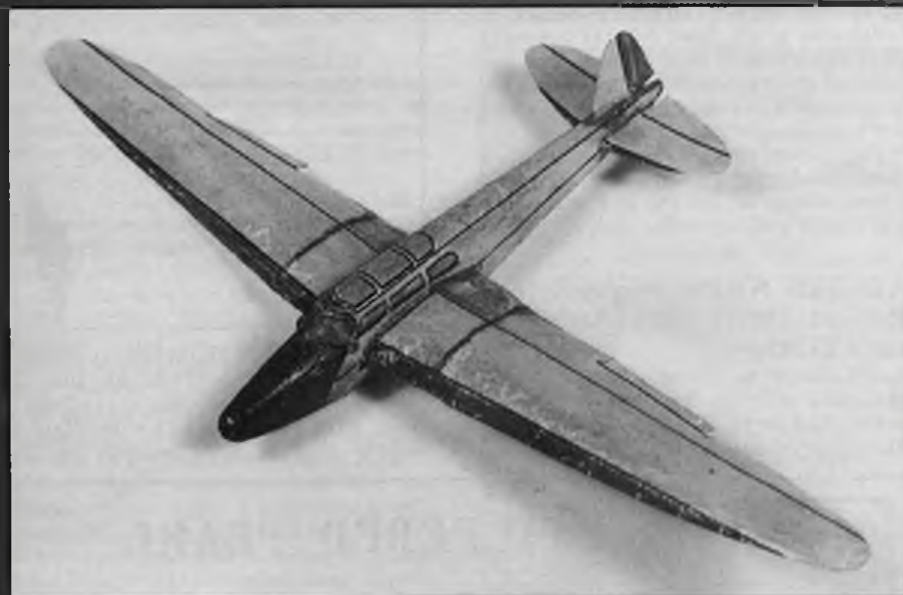
relates that the best paper that he has found for Rigby type construction is Watman Watercolour paper which is available in different weights (or thicknesses) and finishes. Hot-pressed finish is very smooth but not as rigid as that which possesses the so-called NOT surface, which is rougher than hot-pressed and is the material used on Norman's 24in. Swallow. Norman warns would-be Rigby



Rigby with some models that he produced during his stay in the USA. He considered that a model of the general size and form that he is holding would have been suitable for a small petrol engine.

modellers that the assembly can be tricky and the shapes require careful laying out to allow for the thickness of the paper used, otherwise distortion is apt to present itself. Models are laid out flat and decorated with poster colours, cutting being best done with a modelling knife and a steel straight edge. All folds should be scored to aid folding and slits to receive paper tabs must be accurately cut. Everything must fit well before glueing since any alignment pulls or pressures made afterwards will result in warping the flying surfaces. When assembled a coat of cellulose lacquer (non-shrinking, of course!) is advisable to increase strength and to make the card surfaces waterproof. Norman's models use wooden propellers; the pressed-tinplate originals, while being authentic, are obviously less efficient than present day plastic or wooden propellers. Rigby himself advocated the use of a properly carved wooden propeller of larger diameter than his standard tin ones (which varied between 3.3/4 and 4.1/8 inch diameter) and of medium pitch to obtain increased durations.

To present day eyes the Rigby method of mounting the pressed tin propeller by using a double wire shaft, through the pressed tin front bearing, and wrapping one prong around each blade root is seen as a major failing of these card models. Its obvious shortcoming is the impossibility of making thrustline adjustments. However, it must be remembered that a system had to be found that was cheap to produce and simple enough for any boy to assemble, and readers should also appreciate that the thrustline adjustment method of trimming had not yet been discovered when models like the Swallow first appeared. Modellers stuck with a fixed thrustline had to use other aerodynamic means to control the power flight. To obtain an understanding of how difficult (or different) it all was 'way back then' try and fly your model sometime without altering the thrustline from its zero setting - or is this taking authenticity too far? If you try it you will certainly get a rude awakening, that's for sure. So when looking at an early simple design like the Rigby Swallow, spare a thought for the youngsters who persisted and were not discouraged - when turning the clock back, always remember the state of the art at the time...



Top: Rigby took his 27in. five-ounce model to a French International meeting in 1935. It aroused much interest by virtue of its 22sec ROG flight. The usual card wing bracing strut has been replaced by 'N' wire bracing. Centre: This 6.3/4in. sailplane is made from very light, airmail-thickness paper. The nose is balsa. Artistically decorated in red and cream it was built by Rigby in the 1930s; he gave it to Ron Raddon in 1968. Above: Norman Peacock at last year's Old Warden Vintage Weekend with his 24in. Swallow.



FLY LEAVES

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



Painting and Finishing Models

by Ian Peacock (Argus Books, £7.95 ISBN 0 85242 912 6)

Ian Peacock has long been an advocate of superior paintwork on models. This companion volume to his 'Airbrushing and Spray Painting Manual' concentrates on the achievement of good results by aerosol can, art pen and, particularly, brushwork. All forms are considered, and a wide range of techniques is discussed in fair detail in Ian's distinctive style.

Finishing materials rather more modern than the aeromodeller's traditional 'dope over tissue' are clearly dealt with; the book is especially valuable not only for this but for the splendid appendices which include a trouble-shooting chart and - indispensable for the scale modeller - a series of colour tables to ensure precise duplication of those often elusive full-size shades. And how interesting to read that transparent car bodyshells are, collectively, a 'horse of a different colour'! Recommended. GC

SMAE Free Flight Experts' Forum 1987

compiled by Martin Dilly and Michael Warren (available from Martin Dilly at 20 Links Road, West Wickham, Kent for £4.50 including UK postage. Europe: £5.10; airmail worldwide: £5.80. Cheques to be payable to SMAE F/F Team Travel Fund)

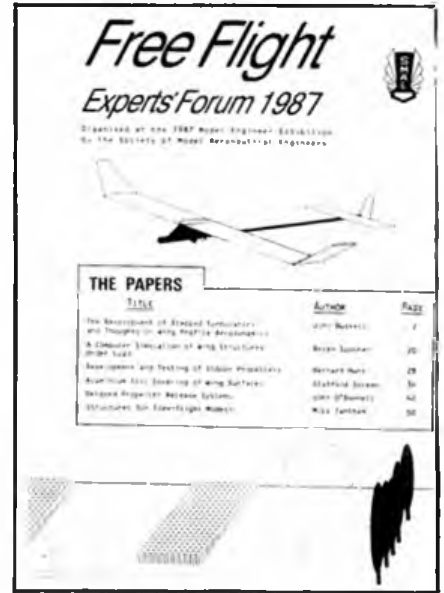
Here is a collection of all the papers presented at the third annual SMAE Forum at the 1987 Model Engineer Exhibition. Half-a-dozen topics are discussed, each by a noted specialist. The

subjects are: stepped aerofoils for F1C, aluminium wing covering, design and testing of Indoor propellers, computer simulation of wing structures under load, delayed-prop-release systems and structures for F/F models. Something for everyone, surely! Your reviewer was particularly interested in the structure analyses; airframe integrity is fundamental to success at all forms of model flying and guidance in efficient load paths via correct structure design is invaluable to all. Also, John O'Donnell's clear exposition of DPR systems removes much of the mystery from this proven aid to duration and raises the question - why don't we see it in use more often?

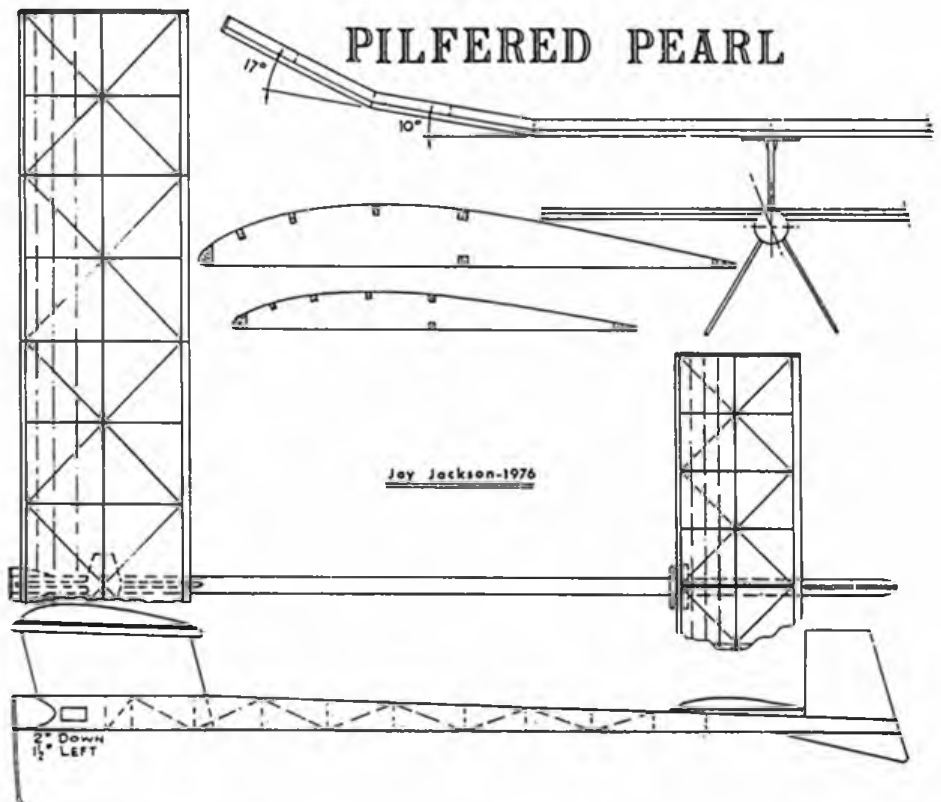
This volume contains many other points worth pondering; a pity it has taken nearly a year to appear; but the F/F enthusiast will find it well worth the wait. GC

Annual NFFS Symposium Report 1987: 20th Anniversary Edition

(available from Fred Terzian, 4858 Moorpark Avenue, San Jose, California 95129, USA for \$7.00 including Air Mail to Europe; \$2.00 surface mail worldwide)



The National Free Flight Society presents an annual symposium at the US Nationals, and the subjects are collated in book form shortly afterwards. Hard to believe that it has reached its 20th



From the NFFS Symposium Report - Pilfered Pearl was 1987's Large Gas Model of the Year. Craft has been built in all sizes from 1/2A up to 'D' Class; ie. 244 to 1188 sq.in. wing area!



anniversary... but this milestone provides motivation to note the achievements of the editors and their co-helpers over the years before the traditional menu of F/F topics appears.

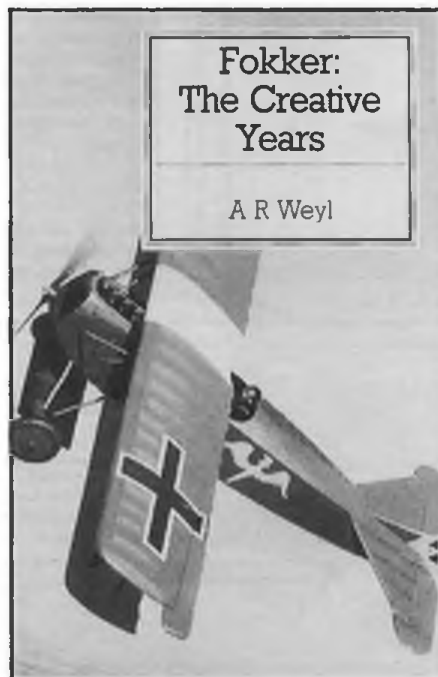
What is covered this time? Design matters such as factors affecting glide and sink rate, weight versus performance (unsurprisingly, the conclusion is reached that 'lighter is better': there is no mention of the evidence that heavier models can perform better in certain conditions); laminar separation bubbles, ornithopter wing design, aeroelasticity and much more besides. Frank Zaic looks back to the 'Golden Era' of model flying (in his view, the year 1930); latest additions to the F/F Hall of Fame are recognised, and ten 'Models of the Year' are described with drawings ranging from competent three-views to reductions of commercial plans. Notable here is the story of Doug Joyce's personal campaign with his Lightning series of F1C canards; maybe an approach worth further examination now that metal-skinning makes possible wings of especially high aspect ratio. This book is well illustrated with photographs, sketches and cartoons. Splendid! GC

Fokker: The Creative Years

by A R Weyl (first published in 1965; reprinted 1987 by Conway Maritime Press Ltd. £18.00)

When this book was first published it was hailed as an important contribution to the literature of aviation history. Its appearance was awaited with bated breath. The Fokker story had long been a favourite with enthusiasts since it encompassed such enticing topics as the invention of the first practical machine-gun synchronised to fire through a rotating propeller, the development of fighter aeroplanes from the wire braced E monoplanes to the aerodynamically clean triplanes, biplanes and monoplanes that used the wooden cantilever wing later adopted for the big transport machines of the 1920s. Now, at last, all would be revealed; the blurb on the inside of the book's jacket said so. However, serious

students soon expressed doubt about much of the narrative, especially that relating to the war years. With the passage of over 20 years, research has shown that there are major distortions of fact in this compilation and has exposed what one of our foremost WWI researchers calls 'Weyl's novelist technique'. Situations are invented especially to discredit Anthony Fokker, whom the author obviously despised, and the hero of the story is Reinhold Platz, who joined Fokker at Johannisthal in 1912 as a welder and from whom, apparently, all the brilliant ideas stemmed. Archive material now available shows that the opposite was true and the genius behind the wartime Fokker designs was undoubtedly that of Fokker himself. However, Platz was obviously a talented man. Fokker recognised his worth and placed him in charge of the Schwerin experimental department at the end of 1916. Platz eventually rose to be works manager in 1917 and his contribution to



the success of Fokker designs should not be under-rated. He was a master craftsman and was head of the Fokker design office when he left the company in 1931.

This, then, is not an accurate history of the formative years of the Fokker Company for it certainly does not set many records straight, nor does it 'correct many erroneous beliefs' as it claims; rather it perpetuates untruths that existed for the most part in the author's imagination. For example, the myth of the Swedish Thulin Type G rotary engine (since expounded by many writers) originated in this book. Generally the technical details of Fokker aircraft which are shown in three-view drawings and in many photographs appear genuine enough.

A curious mixture of fact and fiction, the book reads well, rather like an adventure story, and interesting aeroplanes flit across its pages; and despite my comments above, it contains a great deal of factual information that enthusiasts will delight

in. Modellers in particular will derive much from its pages. I particularly liked the new dust jacket by Keith Woodcock showing Hauptmann Berthold's Fokker D VII painted in red and blue and displaying his white winged sword insignia, a colour scheme used when he was Kommandeur of Jagdgeschwader II; and one that has been modelled many times. AI

And now - videos!



Aerobatics and Wind in the Wires

by Cord Aviation Videos (available from 2b Cleveland Street, Kempston, Beds MK42 8DN for £24.95 and £19.95 respectively, including postage)

These pleasant videotapes enable the armchair pilot to enjoy a variety of flying experiences. *Aerobatics* is a three-part compilation consisting of *Man in the Sky*, a most interesting account of the late David Perrin's thoughts on aerobatic flight (his candid monologue is the commentary to a spectacular series of stunt sequences by his Pitts); the short, centre feature *Rothmans Formation Team* follows a single display by this famous aerobatics equipage; and the final part of the video, entitled *Wings in the Sun*, follows the exploits of a four-man aerobatic team as they journey from North Africa to Greece and thence to England. Scenery-lovers will find much to admire here! All in all, a compact account of three highly individual approaches to modern aerobatic flight; well worth seeing. Running time: 52 minutes.

The Wind in the Wires is also in three parts. The first (which lends its title to the whole) is an award-winning film which examines the pioneer days of aviation. Archive material (mostly well-known) is mixed with colour footage of Shuttleworth Collection aircraft. The film is at its strongest when dealing with the immediate pre-WWI period. To make up for a lack of earlier material there is a certain amount of waving grass to give atmosphere...

Most interesting to your reviewer was the second film of this video trilogy. *She Flies* is an account of *Concorde's* maiden flight in 1969. All the information has been taken from TV and radio commentaries - from both sides of the Channel - which gives the film considerable immediacy. Lastly, *The Display* describes a day in the life of the late Manx Kelly at a Biggin Hill Air Display. Deliberately uncluttered by commentary, the impressionist nature of this film is well-matched to the subject. Other craft at this display mean that there is also brief archive interest too. Running time: 56 minutes.

Your reviewer enjoyed both videos. Watch 'em while the dope is drying! GC

FREE FLIGHT SCENE

Dave Hipperson's overview for the thermal-seeker begins with a winner

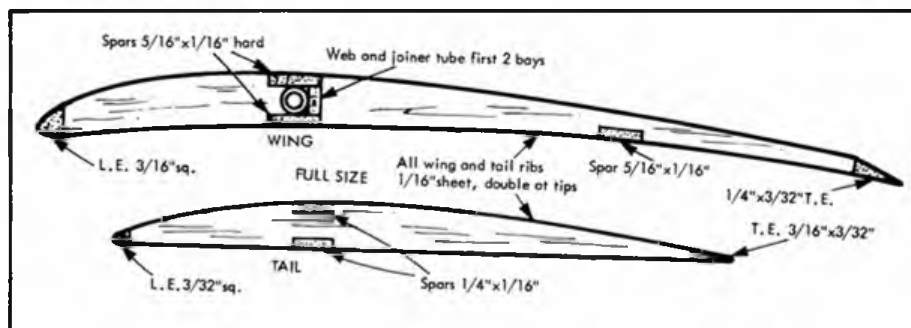
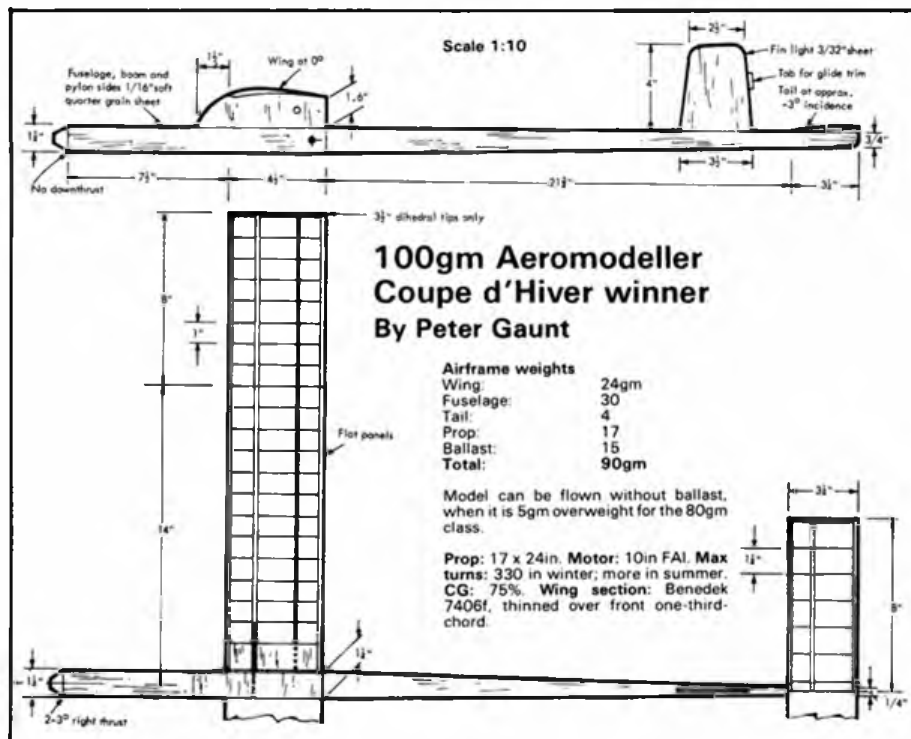
The 1987 Boutillier Trophy winner - Peter Gaunt's 100 gram Coupe

This model is based loosely on some overall dimensions I gave Peter over the phone more than a year ago. He was then planning to attend the '86 Aeromodeller Coupe d'Hiver event at Henlow with it, but ill-health kept him away at the last moment. He had the model trimmed in its '80g' form for last year's SMAE meeting at Chetwynd but it was lost vertically upwards after the fourth max so he had no model for the last flight.

After his well-documented activities in F1B of late he set about replacing the lost model and finished two duplicates only a few days before the '87 Aeromodeller event. Final trimming checks were made on the day and after slightly damaging one he continued with the other ballasted up to 100gm, and averaging 100 secs per flight to win the Bernard Boutillier Trophy at his first try!

Points of particular interest are the thin wing section and the wing fixing system. Although I had sent him an exact duplicate of my version of the Benedek 7406f section as it appears on the Artoo plan, Peter admits he has thinned it slightly. It now bears little resemblance to the original section as I too had thinned it! However, it's probably still very close to some others in the Benedek family. Despite this thinning and a smooth surface treatment with large-section leading edge and glider-like spars no turbulators have been found necessary. Indeed, even in the erratic air at Old Warden the model appeared to glide very stably, although this is of course more usual on the larger 100 gram designs. Peter may find turbulators beneficial when the model is flown without ballast.

The wing features a very simple and neat plug-in arrangement. The pylon, which is full-width and is inadvertently a little higher than it needs to be to satisfy the cross-section rule, has a 1/8in. I.D. aluminium tube running through it. More of this tube is let into the first two bays of the wing. The joiner is then simply another piece of ali tube of 1/8in. O.D. - a quite straight length as there is no centre dihedral. For this reason it is totally removable for compact transportation. The very trailing edges of the wing halves each have another short aluminium spigot that locate into the rear edge of the pylon to hold the incidence setting. This fixing system, as well as being very light, will bend on hard impacts or in very strong



gusts and hence save wing damage whilst still being strong enough to withstand usual flight loads. The model has no auto-surfaces, not even a Tomy timer yet. A fuse D/T is located under the pylon. Although the prop dimensions are about favourite for short, 10in. FAI motors the blades are decidedly narrow in chord. From a glance I would also suspect that the pitches were actually a little more than is quoted here but the distribution is certainly the currently fashionable non-helical arrangement.

1987 Aeromodeller Championship

In a perfect world our scoring system would be identical to that of the SMAE. That they are not is due to the SMAE introducing rules a couple of years ago which extended the awarding of points to 6th place and at the same time awarding none for events that receive fewer than six scoring entries. This, we believe, does not encourage flying - nor even attendance - at a contest in bad weather; so for our analysis we will continue the original system. Points are: three for 1st, two for

2nd and one for 3rd with ties sharing the points available. The list here is arranged in Aeromodeller points order but it will quickly become obvious that the SMAE points and placings given in the final two columns (points are awarded 9,6,4,3,2 and 1 down the top six) would alter the order considerably. This year we have avoided ties by giving priority to those in such positions who have flown in the fewest events. Hopefully we will not be accused of discouraging entries! No regard is taken of SMAE points on which the SMAE Senior Champs is decided although we are indebted to Phil Ball who furnished us with the complete computer list - all 147 of them, and ten more than last year.

Flying weather was actually kind in '87 even if it wasn't so good for gardens and holidays. This probably more than anything saved any SMAE event from the ignominy of fewer than six entries. However, when compiling this list - much of which was from the original score sheets - we noticed a number of clear instances where minority classes had been 'saved' by token entries and minimal flight scores by contestants probably



persuaded to take part so as to assist a clubmate already in contention for SMAE points. There were actually four such events during the year - all at fair-weather centralised meetings, incidentally. Additionally there was the incredible situation in the Astral Trophy for F1C at the 4th Area event where only seven took part nationwide. Entries decimated by a mere breeze! Nevertheless the main events of the year - there were almost 70 - attracted (on the whole) more contestants than in '86. There was hardly a blow-out. FAI day at Easter was a bit fresh but the venue was large and soft enough to cope. The Nats was breezy until the very end but apart from that only the 5th Area event was really rough; and the north-east escaped that. The remainder of the season was very flyable - and not just for the SMAE comps either.

Our list extends to 26th this year. Below that there were so many scoring three points with a single win - often at quite

Above: Pastoral scene at Hemingford Abbots last autumn as Adam Beales prepares his Mick Farthing Mk II, the 'Lightweight folder' winner as his father, David, watches.

Right: At the Nats - Julian McCormick with his Lepp-designed AL33. Below: Chris Chapman holds for son Matthew - 2nd in Frog Junior.



important events - but little else that it would have been tedious to include them. We hope that our congratulations in contest reports throughout the year have been sufficient.

Let's start!

Colin Hickmott flies power and confines his activities mostly to the north of the country. His 'seconds' in Slow Open Power at the Nats and the White Cup - the latter unlucky considering he did a flyoff of nearly thirteen minutes - were enough to



bring him in at 26th on our list. Above him is the first appearance by a junior. Coincidentally, Anthony Ball was unlucky at the same event as Colin although in a different class. His 15min. Open Glider flyoff with a Caprice was insufficient and he had to settle for second place. He was also second in CDH at the Spring Meeting and third in Open Rubber at the Northern Gala. Anthony's appearance on this list is most welcome as he has been improving in performance and increasing in enthusiasm for some years. This year an interesting question is raised as Anthony also won the Frog Junior event at the Nats. Now this may be limited to juniors; but the Women's Cup is limited to ladies and that counts - so why shouldn't the Frog Junior? After all, it is an official SMAE event. Perhaps he should be way further up this chart than he is. The extra three points would have placed him at 13th in our table - and no less than 8th in the SMAE Senior Championship. There is nothing in the rules that says a junior can't win the Senior Champs...

Chris Edge's success came in the first and last Area events. He won the KMAA Trophy for F1A at the 1st Area event and then made second at the last with a four-minute flyoff in the SMAE Cup - once again in F1A. Len Auckland makes this table for the first time. Remember his big Open Rubber model? He used it to win the Northern Gala's Caton Trophy for the second consecutive year and took 2nd at the end of season Club Champs. He also started well with a third in the 1st Area event, also flying Open Rubber.

Most of Derl Morley's successes were in Open Rubber but he rounded off the season superbly with first place in F1B at the Trials for the European Champs. Mike Chilton was right behind him at 2nd in that event and therefore on the Team for the first time. He also had first and second places in CDH - his former main class. He won the Spring meeting and placed third in the flyoff at the Southern Gala. This was a little less success than in previous years because of his concentration on improving in F1B in time for the Trials but it worked! John Williams won the windy F1A event at the Easter meeting with a full score despite the weather, backing this up with second at the Nats in Open Glider and third in the same event at the 3rd Area event. John Walker did a 'Mick Page' this year winning both the Spring and Southern Gala HLG events. He also scored SMAE points in Open Rubber and HLG at the Nats. Hence his high SMAE points score. Pete Harris won nothing but placed four times in Open Power; second at Easter and the Nats and third at the Winter Meeting and Southern Gala. He was also third in 1/2 A power at the 6th Area Event. When one is Chairman of the organising committee, a post that Peter has filled for the second consecutive year, it is very difficult to concentrate on serious contest flying. Although his SMAE score was very high, he will do even better this year.

Ian Davitt still holds the record for the highest score in an overall Nationals

1987 Results Analysis

| | Events Flown | 1sts | 2nds | 3rds | Aero Points | SMAE Points | SMAE Position |
|-----------------|--------------|------|------|------|-------------|-------------|---------------|
| 1 R. Peers | 22 | 7 | 4 | 4 | 29 | 103 | 1 |
| 2 P. Watson | 20 | 5 | 4 | 4 | 27 | 90 | 2 |
| 3 J. Cuthbert | 18 | 6 | 1 | - | 20 | 80 | 4 |
| 4 P. Ball | 23 | 4 | 4 | - | 17 | 68 | 3 |
| 5 D. Hiperson | 13 | 1 | 3 | 3 | 14 | 51.5 | 5 |
| 6 T. Dilks | 12 | 1 | 2 | 2 | 11 | 38 | 7 |
| 7 D. Screen | 5 | 2 | 1 | - | 11 | 42 | 6 |
| 8 J. Hopper | 8 | 2 | 1 | 1 | 11 | 30 | 11= |
| 9 S. Philpott | 8 | 2 | 1 | 1 | 10 | 30 | 11= |
| 10 R. Pollard | 12 | 1 | 2 | 2 | 10 | 28 | 14 |
| 11 W. Colledge | 22 | 1 | 1 | 1 | 9 | 30 | 11= |
| 12 J. Carter | 19 | 1 | 2 | 1 | 8 | 34 | 8 |
| 13 J. O'Donnell | 17 | 1 | 1 | 2 | 8 | 33 | 9= |
| 14 J. Bailey | 12 | 1 | 1 | 1 | 7 | 25 | 16 |
| 15 A. Jack | 15 | 1 | 1 | 1 | 7 | 27.5 | 17 |
| 16 J. Cooper | 18 | 2 | 1 | 1 | 7 | 24 | 21 |
| 17 I. Davitt | 15 | 1 | 1 | 1 | 7 | 26 | 9= |
| 18 P. Harris | 6 | 1 | 1 | 1 | 7 | 33 | 17 |
| 19 J. Walker | 6 | 1 | 1 | 1 | 6 | 19 | 23= |
| 20 J. Williams | 8 | 1 | 1 | 1 | 6 | 19 | 23= |
| 21 M. Chilton | 11 | 1 | 1 | 1 | 6 | 22 | 22 |
| 22 D. Morley | 13 | 1 | 1 | 1 | 6 | 22 | 18 |
| 23 L. Auckland | 8 | - | - | 2 | 6 | 28.5 | 25 |
| 24 C. Edge | 15 | - | - | 1 | 5 | 15 | 19= |
| 25 A. Ball | 8 | - | - | 1 | 5 | 25 | 26 |
| 26 C. Hickmott | 9 | - | - | 1 | 4 | 13 | |

classification. In 1987 he was out of luck at this but he won CDH, his favourite class, at the 4th Area event and again placed second in Coupe at the Southern Gala. His 'thirds' were in Open Rubber at the Winter Meeting and F1B at the 5th Area event. Ian also scored SMAE points flying Power last year and he has made a good start in Glider too.

John Cooper didn't have such a good year in 1987. His successes were spread wide over the Glider classes but focused at Easter when he won the Open Glider flyoff and took second place in A2; quite a weekend! His other best performances were in A1 at the Nats and the 5th Area event.

Alan Jack couldn't complain about the weather at some of the Area events at Newcastle. Taking advantage of it he topped the individual scores in Team Power and not only led his team to victory but placed 2nd in F1C at the 2nd Area meeting. His 'thirds' were in 1/2A at the Nats and a place on the F1C team for the European Champs.

John Bailey flew a little less frequently than usual. For one thing he was unable to get time off from work to attend the Southern Gala. However, he took a couple of deserving second places in F1C at

Easter and the 4th Area event (both quite windy meetings) and he won the British Airways Trophy for A/1 at the Nats.

As will be seen next month, John O'Donnell put a great deal of effective effort into the club gala circuit this year at expense of the SMAE events. Nonetheless he won Vintage at the Winter Meeting and A/2 at the Spring Meeting plus a 3rd in the same class at the Southern Gala to finish 13th this year.

Ten more...

As always, one of the busiest flyers was John Carter. His successes show up in Open Rubber and Glider, with a win and a third place in each. Rubber gave him victory at the first Area event and a place at the Southern Gala. His greatest achievement of the year was topping the huge Nats flyoff in Open Glider. He was also third with another big flyoff in the same class at Easter. His SMAE points tally is bolstered by numerous other

Also at the Nats, Trevor Faulkner is absorbed in one of Chat Lanzo's lesser-known designs...



placings in similar classes throughout the year. John was 12th in our analysis.

Bill Colledge maintained his form in 1987 to finish 11th again. All his placings were in Glider: third in F1A at the last Area meeting, second in Open at the Northern Gala and a win in Open Glider at both the 2nd Area event and the Southern Gala for the Pilcher Cup. He was also our highest-placed Glider flier at the World Champs but there is no team placing for him this year - he will have to wait for Argentina.

Anchor man of the top ten is Ron Pollard. Now this is the highest he has been for many years and like Philpott, one place higher, he made a very good return on a mere eight events flown. Of course the nucleus of his score came from excellent performances in F1B, his main class. He won the Boxall Trophy at the Nats after a protracted flyoff and then the Gutteridge at the 5th Area when the weather played into his hands. Ron reached the European F1B Team and thus scores points for third place. He also sneaked a second place in the Open Glider flyoff at the 2nd Area meeting. I think that is his first high place in an SMAE Open event since he won the Gamage a few years ago.

Steve Philpott has a knack with CO₂. He won the Spring event with a flyoff and placed a narrow second in the same class at the Nats. He made amends later in the same contest by taking the Ronytube Trophy for F1A after numerous flyoffs. In fact all his successes listed here centred on the Nats or Spring meeting as he was 2nd in A/1 at Chetwynd too.

Julian Hopper flew in the major SMAE Open Power trophy events, all five of them, and placed in four - quite an achievement. It was the Nats he blew with an engine run short enough to avoid the low cloud but insufficient to score on the glide. He had to be content with second spot in the Southern Gala and 1st Area meeting but he won his beloved Hamley Trophy at the Northern Gala and the White Cup at the 3rd Area. To place so high once again from such a small elite selection of events is remarkable; even his SMAE tally places him well up the lists in the Senior Champs.

This was not a good year by Stafford Screen's standards. His all-round power performance let him down a bit at the Nats with only a 3rd in Open; nevertheless he won on FAI day to take the Eddie Cosh trophy. He was second elsewhere in each of the disciplines; 1/2A at the Spring Meeting, Open Power at the Club Champs and also in his F1C Team place for Europe. He was also 3rd in Open Power at the 1st Area meeting. His other lower placings put him a place higher in the SMAE list.

Sixth represents the best performance yet for Terry Dilks. He achieved four very commendable second places - Vintage at the Winter Meeting, Open Rubber at the 1st Area, F1B at Easter and Vintage again in the Spring. He went on to win this class and the Jubilee Trophy at the Nats in a very difficult flyoff. Eleven points is an excellent return from only 12 events flown.

Dave Hipperson had a much better season than last year despite missing



almost half the contests. He scored a slightly lucky 3rd place at the 4th Area event in CDH and reached his high place here and in the SMAE list by taking four 'firsts' - the Winter Meeting in Open Rubber; in the same class the Flight Cup at the Southern Gala. He also won the Weston with a long flyoff in F1B at the 3rd Area meeting, and after numerous tries took the Sparklets Trophy for CO₂ at the Nats, also in a flyoff. There were four other lesser places to amass his SMAE points total.

Last year's champion is back down to 4th but with only slightly fewer points than last year. He places a notch higher on the SMAE league because of numerous 4th and 5th positions. Phil didn't really get into his stride until the Spring meeting when he had a field day. On that single day he amassed no less than eight points, taking third in Vintage, second in CO₂ and HLG and winning Slow Open Power. His SOP model was then lost on its last max at the Nats so he was robbed of a chance in the flyoff there but he did pick up a third place in the CO₂ flyoff. Even so, it was a below average weekend for him. Not only that but between himself and his son Anthony they managed to lose four models for good! He was just pipped into second in Open Rubber at both Northern and Southern Galas but collected a useful third in his old favourite, HLG, at this latter event. He rounded off the season with his fourth consecutive win in Open Rubber at the Club Champs. His fourth place wasn't through lack of trying, for he had flown in nearly two-dozen events. Phil's fleet of models covers an enormous range of classes now that he has taken up power. He could benefit from an even calmer season next year.

It was very good to see John Cuthbert placing so high at third, specialising as he does in Glider. Last year John Cooper, the highest placed glider flier, managed only 8th. John Cuthbert's season started well with a win at the Winter Meeting in Open, but apart from his second place at Easter, the middle part of the year was unspectacular with only a couple of 5th places and a 6th to help towards SMAE points.

It was at the Northern Gala that he broke the jinx, winning the first of a series of glider events the momentum from which was to catapult him into his first

Gil Hart (RAFMAA) was 3rd in Nats Open Glider fly off. Lively-Lady-style model was built in 1977. (JOD pics).

Team place. A comparatively easy victory at the Northern in Open Glider - he achieved the only full score - was followed by a difficult flyoff the following weekend at the Southern which he nevertheless won by a considerable margin. Another week later saw him top the 20-man flyoff for the SMAE Cup at the 6th Area event. He was now rocketing up the leader board. A week later at the beginning of October he did it again, winning the Club Champs again in Open Glider. His form then continued right through the Trials so that he was in a position to take advantage of a gap at the top on the very last SMAE glider flight of the '87 season to sweep into the A/2 Team for Yugoslavia later this year. He managed to score SMAE points in no fewer than ten of the 18 events in which he flew. Superb!

The top two!

The top two men this year are power fliers first and foremost. Between them they dominated the Aeromodeller and SMAE leagues from Day One. Pete Watson actually took the lead straightaway at the Winter meeting with second places in both Open and Slow Open Power. He slipped a bit, then placed third in F1C at the 2nd Area event and topped the same class at Easter after making 'third' the previous day in Open Power. At the summery Spring Meeting he won 1/2A power and again collected a lesser placing in Slow Open, chasing the White Cup, when a good flyoff was not enough to beat two very thermal-assisted efforts of nearly a quarter-of-an-hour each! He had an excellent Nats - indeed, his best yet; and was third in F1C, second in 1/2A Power and first in Slow Open, thus winning the Falcons Cup. He also managed a 5th in Open Power when cloudbase troubles hampered so many. If Pete made any tactical errors at all it was at the 4th Area event when he declined to continue in F1C after some poor flights and model damage. Even token flights could have won him the Astral and would have tipped the scales in

his favour on the Senior Champs too. He didn't fly in the extremely wet 5th Area event and as a result let Peers in to score points. Pete was unlucky with a dropped flight at the Northern Gala but was back on form in 1/2A at the Southern with a close second, although he dropped another flight in Open. The gremlins were still lurking at the 6th Area meeting when an early D/T cost him the chance of a flyoff in 1/2A with a very potent model but he took top place again in Power at the Club Champs, holding Screen down to second. Like John Cuthbert it seemed only proper that someone on such form should qualify for a Team place. Perhaps it was just icing on the cake that he actually won the F1C Trials with a beautiful flyoff after 14 straight maxes and hardly a hiccup! In describing his season's efforts we have actually mentioned all his SMAE performances apart from his one foray into Glider when he assisted his Birmingham Club in Team Glider at the 4th Area event. Thus he scored in 16 out of 20 events flown. A performance easily enough to win - last year...

This collation can be a daunting task but it is greatly lightened when the leading contestants engage in such a battle of record breaking performances as this. Russell Peers can be justly proud of having emerged victorious against tough opposition, particularly when the opposition was having a good year. Pete Watson must be wondering just what he needs to do to win this title! Russell played the season with precision tactics - and often with great restraint. He hadn't gone out at the start with the intention of trying for the Championships but he quickly realised the possibility after his first few outings. He stuck a string of wins together right from the start, taking the first two Open Power contests, the Winter meeting and the Frog Senior at the 1st Area (the latter two with impressive flyoffs). Time to take stock. He was already ahead of Watson; and he had a stack of models (about fifty). He went for it! Straight out at the 2nd Area event and he won the Gamage Cup for Open Rubber, again with a flyoff miles clear of anyone else. Although he was constantly tempted to fly in more than one class he resisted most of the time so as to keep to his plan of giving himself the most time in one event and making very sure of it. This was particularly true whenever he reached an Open Power flyoff. The rest of the day was then usually spent checking and fine-tuning the best model for that crucial flyoff. Many times this paid off. At the Winter meeting he could have gone on to fly Rubber but he concentrated on Power trimming to make sure. At the 2nd Area event he did the same. Once more, at the Easter Meeting he limited himself to Power only despite reasonable conditions on Open day. As a result he won the flyoff - again by a clear minute. Four comps entered - four wins! Next day, for FAI, he dug deep into his resources for windy-weather flying and battled his way to third place in F1B. He allowed himself a little diversion at the Spring Meeting, taking third in the 1/2A flyoff before

completely eclipsing the opposition in Vintage - this time by a margin of some four minutes in the flyoff! Everything he touched was turning to thermals. It couldn't go on. At the 4th Area event he dropped his one and only power flight of the entire season and was out of the White Cup. Undaunted, he turned immediately to Wakefield, putting together a string of maxes to place third in the flyoff at the end of the day. It's that sort of versatility that made him very hard to beat. After a setback he simply kept coming.

In Russell's commanding position the Nationals could just have offered him too much of a feast. Once again he resisted the temptation to overstretch. The first day he made a good job on 1/2A power, dropping just a single second - enough for 4th and SMAE points. He did even better the next day with a second place in Tailless and then a full score in Open Power to give him a crack at the Sir John Shelley flyoff - his favourite. Quick thinking got him away early and in good air before the cloud descended; and victory was in the bag, with a flight of nearly eight minutes that no-one else could touch. The final day (FAI) saw him drop a flight in F1B but soldier on to a sixth-place tie for an SMAE rating, albeit only half-a-point. It wasn't until the next Area meeting, the 4th, that Russell came to a contest and failed to place in the top six; this time in CDH, his worst event. One freakishly poor flight spoiled a score that could have placed him second. It was to be the only day in the entire season during which he failed to score. Like Pete Watson he too flew for his club in Team Glider and placed nowhere.

The dreadful 5th Area meeting wasn't too successful for Russell, but he was just in the SMAE points again with a flyoff in Open Power through pouring rain and hopeless visibility. The stage was set for a powerful finish to the season. At the Northern Gala he was second to his great adversary Julian Hopper who is one of the few real threats in Open Power. He had his revenge the following weekend when the positions were reversed at the Southern flying for the Short Cup. Once again he achieved another good flyoff of over seven minutes. Russell had not flown in Rubber because of the tension involved in attempting two major flyoffs in a short space of time. However he did dabble in 1/2A during the day, thus picking up a few more SMAE points for 5th place.

Team Rubber day: and once again Russell was in the thick of it with a nine-minute-plus flyoff for fourth place. However, he let his closest challenger in above him at the Club Champs when his Power flyoff went a bit sick and he only picked up a 'third', but it was enough. He had an unassailable lead before he and Watson went to the Trials. He didn't quite make the Wakefield team but tied with Hipperson at 4th. Because of possible team selection complications if this tie was left unresolved there had to be a flyoff. Coincidentally this flight of Russell's - delayed by blowing two motors whilst winding - became the very last official



Russell Peers launches F1B at the windy Easter Meeting in '87. He was eventually third. Note windbreak, thermistor/anemometer pole and every one else lying down!

flight of the season. It was also the longest officially-logged flight of the entire Trials. How perfectly appropriate.

Thus, despite not having flown excessively - in only some 22 events - Russell scored SMAE points in no less than nineteen. He picked up five trophies at the SMAE Dinner, including the Thurston for the SMAE Senior Championship, and he jolly nearly made the Wakefield team. This was the greatest individual performance since John O'Donnell's magnificent 1954 season and I would not expect to see the points tally ever surpassed. Of course, there is more here than just a lucky year. True - he had the right breaks at the right times but he has been around the top for years now; and during this time one characteristic, *enthusiasm*, has predominated. Allied with a will to win it becomes a difficult force to beat. This enthusiasm is



Russell's favourite class is Open Power. This is one of his more compact models, .29 powered, used for very windy days.

something his competitors find daunting at times but we can all be thankful for it. Contest organisers can rely on Russell to turn up. Russell will fly if the wind is so strong ordinary mortals can hardly walk. Russell and his Falcons clubmates keep contest organisers busy on the rough days so there's still a contest next year when it's fine and everyone wants to join in. Then Russell comes out and beats them all in the flat calm too! This is what great aeromodellers are made of...

Correction!

In the results of the controversial Southern Gala published in the November issue I omitted Elton Drew's flyoff score of 3:09 which placed him 3rd. Apologies!

Get the Max!

Those attending the Trials events at Barkston at the end of last year couldn't have helped noticing a poster with the above slogan. It was most encouraging of the General Food Company to plaster the Grantham area with it. When I phoned them up to thank them for their graphic enthusiasm for our event they explained



their real reason! Since then, of course, we have been bombarded by the campaign advertising their brand of coffee on the television and radio and now have a song running through our heads. Those 'Get the Max' mugs on the television were specially made for that occasion, more's the pity; but the company were kind enough to send me a poster. We wish their product well but I still can't help wondering why there is so much more emphasis on 'Max' than on taste!

The World Cup

It was exactly a year ago that we announced that the FAI were to run a provisional World Cup league throughout '87. This has been done, and although highlighting some weaknesses inherent in some host countries' organisation and adherence to FAI rules, it is reported in the main to have increased interest throughout the international FAI circuit.

To remind those who have forgotten the precise scoring pattern: competitors were allowed to fly in as many events as they wished but only their best three positions could score. Next-best performances were to be taken into account only in the event of a tie. Incidentally, one World Cup is awarded to each of the three disciplines - glider, rubber and power - something that I don't remember actually being stated in any of the advance publicity! Scoring itself is 25 pts for 1st, 20 for 2nd, 15 for 3rd,

12 for 4th, 10 for 5th, 9 for 6th then 8 for 7th and down one point per position to a final 1 for 14th.

The '87 World Cup winners are:
F1A: Stefan Rumpp of West Germany who scored 60 points by placing 2nd in the Midsummernight Trophy (Holland), 3rd in the Scandinavian Open and 1st in the Eifal Pokal (Germany). He was eight points ahead of second-place man P. De Boer.

F1B: Dieter Paff of West Germany. He scored 55 points by placing 2nd in the Trofeo Italcantieri (Italy), 3rd in the DDR International (East Germany) and 2nd in the Eifal Pokal. J. Hacken was 2nd with an equal score of 55 points but no other scoring places. Paff's next best was therefore taken to break the tie; that was his 7th-place in the International FF wettbewerb (Switzerland).

F1C: Randy Archer of the USA scored 65 points by winning both the Eifal Pokal and the Sierra Cup (USA); also placing 3rd in the Max Men International. He was five points clear of T. Koster in second spot.

Careful study of the extensive data covering this event furnished me by Ian Kaynes, one of its instigators and the overall coordinator, reveals much. I very much approve of the scoring system with points down to 14 no matter how many or how few fly, but the spread of entries was far more even than I would have expected. Even F1C, always the poorest-supported class, rarely attracted as few as 14. The American competitions came close; and the Scandinavian Open dropped to eight and in Switzerland they were dead on at 14 but all the others were well up - with one exception. At the Australian Nationals none of the classes reached 14, and there were only two in F1C itself. One wonders if some enterprising and well-heeled flier will see that soft spot later this year and make a killing? A good American flier would be at an enormous advantage with comparatively few people to beat at his local contests and not much travelling to do if he lives in L.A! On the same subject it would appear that the USA certainly has an advantage with two World Cup events so close together. The poor old British still have to fork out a small fortune to get across the Channel to each one!

It is also interesting to note that very few contestants thought it worth throwing themselves into the World Cup with complete abandon. Presumably distance (and thus time and cost) is the hurdle. Over all the events which attracted some 250 contestants only 43 flew in two or more, only 20 in three and a mere seven flew in four events. That is disappointing considering that anyone who wanted to stand a chance would have to fly in three anyway.

On the subject of entry figures... at the FAI day of the '87 British Nationals they were: F1A, 55; F1B, 34; and F1C, 15. That is actual *fliers*. You may be surprised to learn that six out of the 12 events counting towards the World Cup received substantially less support than that; and another three only fractionally more. Of course, Poitou had the most (to be expected with the aftermath of the World Champs)

but even so, their numbers were only 115, 74 and 34 respectively, and a great deal of that was thanks to UK participation. It certainly underlines what a healthy situation we have going for us over here when at a domestic event we can produce as many, if not more entrants than most Open Internationals held throughout the world. It would be interesting to see a comparison of Trials entries. I am beginning to wonder whether we might actually have more FAI flyers in the UK than any other country in the free world despite these Open events that are constantly blamed for 'getting in the way'.

Bearing all this in mind the FFTC in this country are attempting to gain FAI International Status for this year's FAI day at the Nationals. The fate of this exercise should be known by the time you read this. If it proves impossible I am sure it will be only for the lack of time available to confirm details. However, I trust we will have benefitted from the 'dummy run' and will manage to set it up for sure for the '89 Nats, thus allowing UK competitions a crack at World Cup points before they have to go abroad.

What's Happening

- 20th March:** 3rd Area Centralised event. Open Power for White Cup; Open Glider - no trophy; F1B for Weston Cup and Plugge points. Area Venues. Contact either Area Comp. Secs or SMAE Comp sec/SMAE head office.
- 2-3rd April:** SMAE Easter Two-Day Meeting. Saturday: FAI - four rounds in each class (F1B for Duce Trophy). Sunday: FAI for three final rounds plus Open Glider, Rubber and Power. Venue - Salisbury Plain Area 9. Contact: Phil Ball. Tel: 0332 665361.
- 24th April:** Spring Meeting. 1/2A, A/1, CDH, HLG, Vintage and Slow Open Power. Venue - Barkston. Contact Phil Ball on 0332 665361.
- 8th May:** 4th Area Centralised event. F1C for Astral Trophy; Open Glider for Plugge points and Model Engineer Trophy for Teams CDH - no trophy. Venue - Area venues as 3rd Area event above.
- 15th May:** F1E (Slope Soaring) Trials. Venue - not yet known. Contact Phil Ball on 0332 665361.



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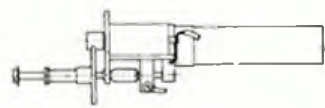
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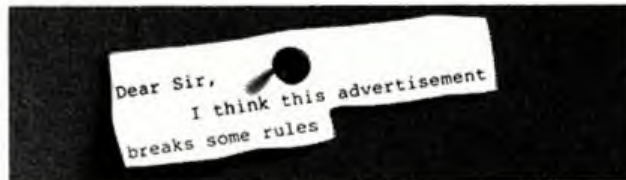
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Appendix - Links to the plans

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

VAE VICTIS by Paul Stanley

CL Combat

[https://outerzone.co.uk/plan_details.asp?ID=9337 ...](https://outerzone.co.uk/plan_details.asp?ID=9337...)

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NOCTULE by Peter Fisher

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