

AERO

MODELLER



BLUE BIRDS
FROM THE MIDWEST
The world of Jimmie Allen

THE YOUNG ONES
Junior Free Flight World Champs report

GRRRRREAT!
Build Snarler — full-size plans inside

ACTION... ACTION!
Nationals • Old Warden • Overseas



THE BIGGEST REVOLUTION IN 50 YEARS OF POWER

(THATS WHAT WE BELIEVE!)

IF YOU WANT REAL, CHEAP, EXCITING FUN FOR ALL POWER FLYING ETC....

POWERMAX - Z IS IT!



Jonathon ARTF Balsa model.
Just stick the ready made wings together, pump up the air tank and fly!!

JONATHON KIT£35.00
P&P £3.00



Runs for up to 2 minutes!

MOTOR & RESERVOIR KIT

.....£24.00
P&P £1.50

JOIN THE REVOLUTION NOW!

FOR A CATALOGUE OF ALL OUR PRODUCTS SEND £2.50 TO:

MEGA MODELS, Lancaster House, Bentinck Street, Farnworth, Bolton. BL4 7EP.

TEL: 0204-792921

FAX: 0204-792922

WE WISH ALL OUR CUSTOMERS A VERY HAPPY CHRISTMAS

ADDLESTONE MODELS LTD

63 STATION ROAD
ADDLESTONE, SURREY
KT15 2AR
TEL: 0932 845440

MAIL ORDER: POSTAGE UK ONLY
Kits £2.60
Other Items £1.60
Credit Card Holders Phone For Immediate Despatch
EXPORT SENT V.A.T. FREE
P&P AT COST - MAKE PAYMENT IN STERLING S.A.E. with all enquiries

HOURS OF BUSINESS
9am - 6pm. Fri. 6.30
Closed Wed. all day
EASY FREE PARKING

PRICES SUBJECT TO CHANGE WITHOUT NOTICE.



Look! New Low Prices on Estes!!

Estes Model Rockets - Starter Sets number denotes skill level
Screaming Eagle 1 16.95
Alpha III 1 21.95
Vagabond 1 22.95
Sizzler 1 24.95
Meteor 1 26.95
Space Shuttle 2 26.95
Rascal 1 27.95
Magnum - 'D' eng 2 31.95
Designers Special - over 75pcs. great value! only 24.95

ROCKET KITS - NEW! - JUST IN!!

Athena 1 5.95
Cajun 1 5.95
Raven 1 9.95
Silver Streak 2 6.95
National Aerospace
Plane 3 10.95
Deep Space Transport 3 13.95
SELECTED RANGE!
Mosquito (Mini-Eng) 1 1.95
Wizard 1 2.95
Javelin 1 3.95
Sentinel 2 7.95
Voyager 2 7.95
Stealth 3 6.95
Phoenix 3 13.95
Mercury Redstone 4 14.95

All Rockets and Starter Sets require paint and glue. Sets. also need 4 x AA Alkaline Batteries

ENGINES
1/2 A3 - 2T 2.95
NEW! 1/2 A3 - 4T 2.95
1/2 A6 - 2 2.75
A8 - 3 2.95
A8 - 5 2.95
B6 - 4 2.95
B8 - 5 2.95
C5 - 3 2.99
C6 - 5 3.25
C6 - 7 3.25
D12 - 0 5.25

D12 - 3 5.25
D12 - 5 5.25
D12 - 7 5.25

BOOSTER STAGE
A10 - 0T 2.99
A10 - 3T 2.99
B6 - 0 2.99
C6 - 0 2.99

ACCESSORIES
Recovery Wadding 1.75
Parachute 12in 1.75
Parachute 18in 1.95
Igniters Set of 6 1.75
Launch Pad II 10.95
Electron Beam
Launcher 12.95
Altitrak - Altitude Finder 10.95
Blast Off Flight Pack 19.95
X15 Power Kit incl 5x A10-3T
Igniters, Chute, Wad only 9.50

ENGINES - COX
NEW! Tee Dee 010 32.99
NEW! Pee Wee W/Throttle 16.99
Queen Bee 074 36.99
with Throttle/muffler
Tee Dee 049 29.99
Black Widow 049 19.99
Babe Bee 049 17.99
Pee Wee 020 15.99
Cox Power Pod 4.99
049 Glow Head 2.95
Glow Clip 1.65

P.A.W.
80 Mk 2 25.30
100 Mk 2 25.30
149 DS - 4 28.75
149 Contest 4 31.05
249 DS4 31.05
249 Contest 4 33.35
249 DS BR 39.10
19DS - 4 33.35
19DS BR 41.40
29DS (Inc Sil) 46.00
35DS (Inc Sil) 48.30

P.A.W.B.B.
249 DSBP 39.10
19 DSBP 41.40
249 R/C BR W/Sil 47.15
19 R/C BR 49.45

PAW R/C
80 R/C 31.05
100 R/C 31.05
149 R/C (inc Sil) 36.80
249 R/C (inc Sil) 39.10
249 R/C BR (inc Sil) 47.15
19 R/C (inc Sil) 41.40
19 R/C BR (inc Sil) 49.45
29 R/C (inc Sil) 49.45

NEW PAW
Vintage 80 Classic DS-BR 31.05
Vintage 80 Classic R/C Hi-Torque BR 36.80
80 mk 2 BR 29.90
100 mk 2 BR 29.90

NEW! PAW Competition Engines - Twin Ball Race
80 TBR 48.30
100 TBR 48.30
249 TBR 51.75
19 TBR 55.20
249 TBR-GY
Combat Special 54.05

AE
5cc New! up-dated MK II - with new n.v.a., integral spring starter & fuel tank! 33.35
1cc 26.45
1.5cc 27.60
NEW! AE 2cc, Superb 55.25

BOOKS Inc. P&P
Fifty Years of Aeromodelling 7.25
Model Flying - The First 50 Years 8.25
Aircraft Plans Handbook 2.75
Ben Buckle Plans Book 2.75

NEW ROCKETRY MANUALS
Estes Catalogue 1.85 Inc P/P
Handbook of Model Rocketry, 5th edition 367 pages of fascination! 14.75 Inc P/P

KITS TO BUILD - KK RUBBER POWERED

Achilles 5.49
Robin 5.49
Competitor 7.49
Ace 8.49
Gemini 5.49
Eaglet 5.49
Senator 7.49
Ajax 8.49
Pixie 8.49
Gipsy 10.99

CONTROL LINE MODEL - HOBBY

Yeyito 15.95
Mustang P51 17.95
Smousen 18.95
Baron 29.95

TOP FLITE

Baby Flite Streak 9.95
Flite Steak 19.95
Junior Nobler 19.95
PEGASUS
MiniLord 9.95
Warlord 12.95
Varon Colt Trainer 11.99

COVERINGS?

- Try Lifespan, very light but strong £1.00 per sheet 36" x 20" Yellow, Orange, Red, Blue, Black, DK. (WWI) Green, Cream, Silver, White
New Fibatium 72" x 27" £4.20
Light but added stiffness!
Balsac Adhesive 2.21
OLD VINTAGE FAVORITES RETURN Thanks to BB & KK
BB Pirate 34" 0.5 - 1cc 16.45
BB Bandit 44" 1 - 1.5cc 19.25
BB Outlaw 50" R/C 2cc 24.20

SPECIALS - JUST IN!

Rubber Powered Scale, or C/L - 049 -
MODELHOB
Spitfire IX, 24" 13.95
FW, 190 D11, 26" 13.95
Rubber Powered Scale -
Nieuport 11, 24" 12.95
S.E.5a, 24" 13.95
GULLOWS
Cessna Bird Dog, 8" 4.75
Spirit of St. Louis 23.99

Back In!

Veron Nipper, 17" up to 1cc 9.99
KK Champ, 20" - 1cc 13.99
KK Marquis, 30" - 1.5cc 15.99
Mercury/KK DH Tiger Moth 33", 46 to 75 Diesels 15.99

ENGINES

Jet-X! Engine set back in! 9.99
Mtr Only 4.25
Modela CO2/027- Great Value 19.95
Telco CO2 Mtr Set 34.95
NEW! M.V.S. 1.5cc Diesel
Fixed Choke 19.95
OR with R/C Throttle 28.94
Enya 19-6 BB incl Sil 34.95
Please ring in for details on A.M. & Merco

The Gieseke Nobler 50" 59.95
KK Ladybird 42" F/F 13.99
Veron Cardinal 35" 5-1cc 12.99
V. Special C/L from Gullows - B17G Boeing Flying Fortress 1/28 scale for twin 049 - 45" w/ span Super project at 49.99

DECEMBER 1990

Volume 55

Issue 659

ISSN 001-9232

AERO

MODELLER



p.686



p.688

Editor	<i>Geoff Clarke</i>
Editorial Assistant	<i>Andrea Silver</i>
Group Editor	<i>Alec Gee</i>
Art Editor	<i>Peter Kirby</i>
Design	<i>Iain Houston</i>
Advertisement Manager	<i>Alan Cole</i>
Advertisement Copy Control	<i>Tina Higgs</i>

Cover: Our Vintage Corner columnist, Alex Imrie, proudly displays his replica of the Jimmie Allen Bluebird – a characterful craft whose genesis is described, with more besides, in our feature beginning on p.674.

ASP

Argus Specialist Publications

Argus House, Boundary Way,
Hemel Hempstead, Herts HP2 7ST



HANGAR DOORS	News, views and What's On	672
VINTAGE CORNER	The Jimmie Allen story told by Alex Imrie	674
INTO ORBIT	Whoosh and fizz with Harry Anne	680
HIGH POTENTIAL	Chris Coote on electrics for free flight	683
SNARLER	Build John Poletti's low-wing F/F sportster for 1cc motors	686
1990 CONTROL LINE AND SCALE NATIONALS	Full coverage – colour too! Part One deals with Scale, Speed, Stunt, and Goodyear	688
JUNIOR FREE FLIGHT WORLD CHAMPIONSHIPS	Phil Ball reports from Poland	708
BALSA CUTTINGS	Cyano de Bergerac on the loose again	713
VINTAGE WEEKEND	Control line coverage this time!	714
FREE FLIGHT SCENE	News from home and abroad with Dave Hipperson	716

The publishers cannot accept responsibility for unsolicited material. The contents of Aeromodeller including all articles, designs, plans, drawings, photographs and all copyright and other intellectual property therein belong to Argus Specialist Publications. All rights conferred by the Law of Copyright and other intellectual property. Publications, and any reproduction requires the consent of the Company © 1990 Argus Specialist Publications. UK Distribution by SM Distribution Ltd, 6 Leigham Court Road, Streatham, London SW16 2PG. Telephone: 01-677 87111. Telex: 261643; Fax: 01-677 0136.

Advertisement Offices: Argus Specialist Publications, Argus House, Boundary Way, Hemel Hempstead, Herts HP2 7ST. Tel: 0442 66551.

Postmaster: Send address changes to Aeromodeller, c/o Mercury Airfreight International Ltd Inc, 2323 Randolph Avenue, Avenel, NJ 07001, USA.

Subscriptions: Direct subscription rate: Home £23.40, Europe £28.20, Middle East £28.40, Far East £30.20, Rest of the World £28.70 or US \$50.00. Airmail rates upon application from Select Subscriptions Ltd., 5 Riverpark Estate, Billet Lane, Berkhamsted Herts HP4 1HL. Tel: 0442 876661/4.

Overseas Availability: Second class postage paid at Rahway N.J. USA. Postmaster: send address corrections to Aeromodeller, c/o Mercury Airfreight International Ltd Inc, 10B Englehard Ave, Avenel, NJ 07001. Distribution to news stand sales by Eastern News Distributors Inc, 1130 Cleveland Road, Sandusky, Ohio 44870. Distribution to North American hobby and craft stores, museums and bookshops by Bill Dean Books Ltd., 166-41 Powells Cove Blvd, Post Office Box 69 Whitestone NY 11357, USA. Tel: 1(212) 767-6632. USA Subscription agent Joseph D Daileida, Wise Owl Worldwide Publications, 4314 West 238th Street, Torrance CA 90505.

HANGAR DOORS

ME Update

Nearly there – that's the ME Exhibition at Alexandra Palace. Plenty of chance to savour aeromodelling – we anticipate a host of entries in the competition classes, where healthy variety is always on show (and what are you going to enter?). Elsewhere, in the advertisement pages of this issue, you'll find details of the DPR Model Flying Championships on New Year's Day. Dave and Janine Rawlins of DPR Models will stage their usual merry mixture of competition for the youngsters and young-at-heart – advance entry guaranteeing a free entry ticket to the Exhibition too. And on Thursday 3rd January, we run our second Fun Fly and Fly-by-Nite in the West Hall. Indoor enthusiasts will have an opportunity to fly all day – until late-night closing at 8pm – with occasional demonstrations and informal competition for extra spice. George Wallbridge of SAMS will be in attendance so you can even buy a model or two on the day!

Final update in the January issue...

1990 Free Flight Forum

Following last year's successful use of the Raglan Hotel in Muswell Hill, London for the Forum 'the same but better' has been organised for this December. It will be on Saturday, 29th December – once again to coincide with the opening day of the Model Engineer Exhibition just a mile or so away at Alexandra Palace. The Forum will start at 3pm and continue until 7pm with a break half-way for refreshments. Immediately afterwards there will be a party at the Hotel for all at the Forum. This will comprise an informal but hot meal during which time the bar will be open. It should continue until at least 11pm.

Hopefully visitors will be able to

Right: Just out – our 1990/91 Model Aircraft Plans Handbook features over a thousand designs. Same price as before at £2.00 plus 60p postage and packing.

Below: Airglow aloft! Nick Weston pedals the Cambridge group's HPA at Duxford – that's Ron Moulton in pursuit...



make a day of it: the morning and lunchtime at the ME, then the afternoon and evening at the Raglan Hotel. (Of course, for those with a long drive accommodation could also be provided at the hotel.) As well as the half-dozen or so speakers, which will include leading F1B flyer Bernard Sauter from Germany, all visitors are encouraged to bring any notable models, components or constructions that they might think could be of interest after the main lectures, and during the party. This will be the ideal opportunity to

study technicalities and new ideas for which there is never enough time on the contest field. There will be a special table space made available for this.

With this idea of a party and meal after the Forum it is hoped to promote this event into the annual social occasion for contest free fliers.

For full details please contact either Newham Beaumont, Spring Cottage, Spring Street, Ewell, Surrey KT17 1UH (081-393 4398) or buttonhole Free Flight Scene

columnist Dave Hipperson on the flying field.

Airglow ascendancy

Welcome news from John McIntyre. Airglow, the Cambridge group's HPA (Human Powered Aircraft) made a successful maiden flight on 21st August at Duxford Airfield. Flights are limited by the length of the available runway, which means a maximum distance achieved – so far – of 1600 metres. The aim is to instrument the aeroplane and measure its performance in order to evaluate flight parameters. John tells us that the group believe Airglow to be the first all 'Fly-by-Wire' HPA. Control surfaces are moved by Futaba 135S servos, the aircraft being controlled by a small, R/C type control stick. Our congratulations to the design and construction team of John and Mark McIntyre, avionics wizard Brian Gostlow and pilot/engine Nick Weston. Airglow spans 25 metres; weighs 35kg empty and flies at approximately 16mph. More details, including three-view, next month.

Coupe catch-up

Organisational priorities dictate that the next Aeromodeller Coupe d'Hiver competition will be held, not on the traditional 'first Sunday in December' but early in 1991. Early



Left: Interesting purpose-built F1C motor by Leonid Fuzeev, seen at the Kiev World Cup event, features three-point radial mount and built-in brake.

Below: Jeff King's candid Nats photo shows Peter Gibbons apparently putting the last few turns on his Skoda before setting off home...



February is the target; con-firmation of date and venue will appear next month.

BMFA AGM

The Annual General Meeting of the BMFA will take place on Saturday, 24th November at the Crest Hotel, Coventry (located at the junction of the M69 and M6).

Two seminars will take place during the morning. The first will be on the subject of aeromodelling in schools, concentrating on the new BMFA Dart rubber model intended to initiate the art of our hobby in precisely this location. Following this, Reg Parham will demonstrate a variety of Indoor craft; from personal experience we'd say this is one definitely not to be missed.

The AGM itself begins at 1.30pm.

Evening entertainment encompasses the annual prize-giving and dinner/dance (with four course meal). Tickets are £18 each, available from the BMFA at Chacksfield House, 31 St Andrews Road, Leicester, LE2 8RE (tel: 0533 440028). Special room rates are available at the Crest Hotel for modellers who wish to stay overnight.

Larrabee correction

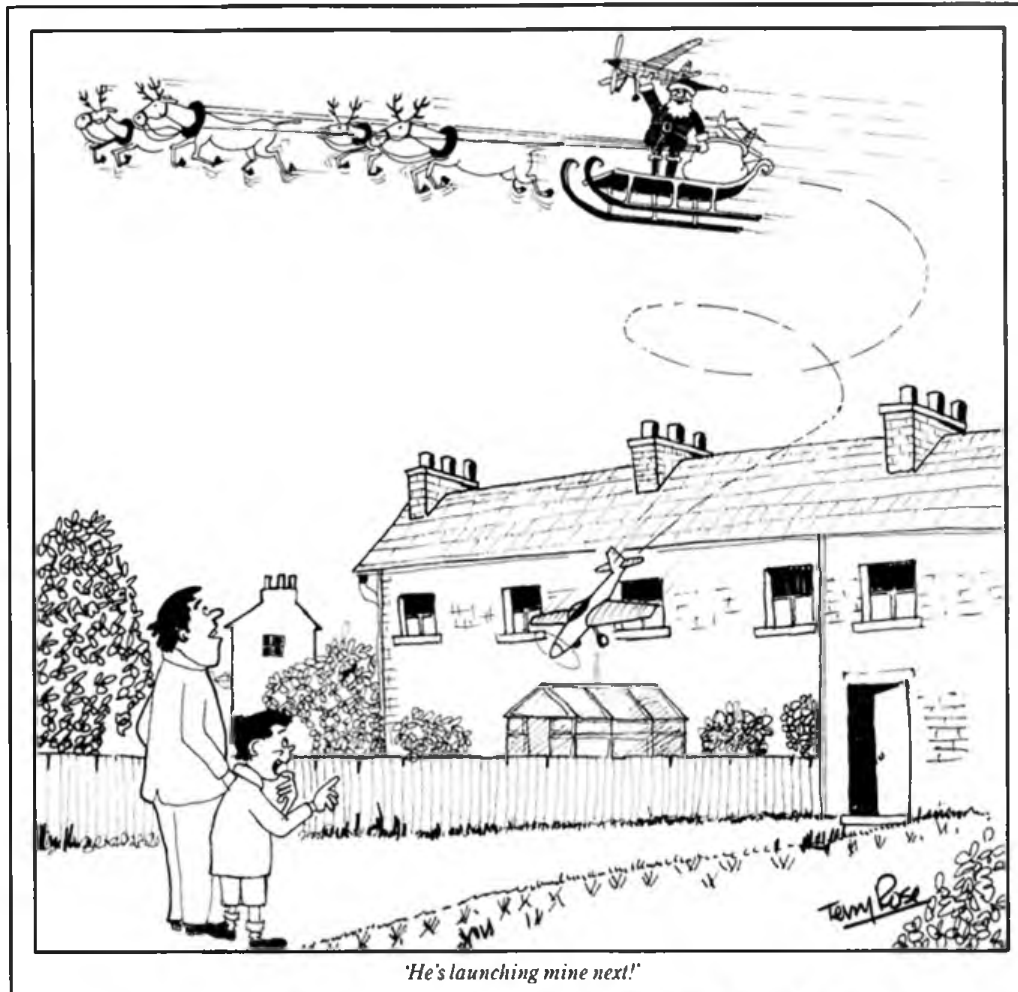
Reg Boor, author of the Larrabee propellor article in the October issue, advises us of the following corrections to the computer program.

Line 140 should read: LET ff = SQRT(G^2+1)/j

Line 170: FORr =0TO 1 STEP 5E-2

Line 190: IF (1-r),0 THEN LET eff = 0:GO TO 210

Line 230: LET cr = 4*PI*j*g/(2*(SQRT(ex^2+1)))



Soon to appear is a practical guide to carving props to the Larrabee formula. Watch for it!

Can you bear it?

Yet more rhymes to complete the introductory line 'Mary had a little Scram...'

'I say you fellows,' chortles tame cartoonist Terry Rose:

*Mary had a little Scram
It really was a cracker
It won first prize on Vintage Day
So Geoff gave her a Smacker! xx!*

*Mary had a little Scram
Built by Rabbie Burns
It flew about the highland glens
In muckle sma' wee turrrns.*

WHAT'S ON

29th December-6th January
60th MODEL ENGINEER EXHIBITION
Venue: Alexandra Palace, Wood Green, London, N22. Includes two full days of model flying. DPR Model Flying Championships on 1st January. 10.30 start. DPR Workshop in operation all day. Hit the kit competitions at 11am and 1pm; Junior and Senior National Chuckie Championship at 2.30pm. Send for entry form to DPR Models, unit 9, The Vanguards, Shoeburyness Essex, SS3 9AY with SAE. Return form before 21st December for free exhibition admission ticket!
Also - **FUN FLY MODEL DAY** on Thursday 3rd January. 10.30 till late! Displays and competitions. Contact Aeromodeller on 0442 66551.

27th January
CRAWLEY INDOOR MEETING
Venue: Crawley Leisure Centre. 11am-6pm. HLG,E2B, Peanut, Open Scale. More fun-flying this time! Contact: T. F. Knight. Tel: 0293 36065.

20th January
THREE KINGS F2B STUNT EVENT
Venue: Old Croydon Aerodrome, Purley Way, Croydon, Surrey. Contact: Derek Bird. Tel: 0342 893408

3rd March
SAMS FUN-FLY
Venue: Watford Leisure Centre. All welcome! The usual riotous affair. Contact George Wallbridge. Tel: 076 388 384.

POPULAR FLYING ASSOCIATION

The representative body for amateur construction and recreational flying in the U.K. authorised by the C.A.A. for the issue of "Permits to Fly" for amateur-built aircraft and some vintage aircraft, within defined weight and horsepower limitations.

BUILD YOUR OWN!

**To find out how! Visit the P.F.A. Exhibition
at the R.A.F. Museum, Hendon.
Nov 5 '90 - Jan '91**

- As a member of the P.F.A. you would receive:
- Free copies of 'Popular Flying' magazine (6 per year).
- Free entry to the Annual P.F.A. Rally every July.
- Free passes to Aircraft enclosure at Rally.
- Advice on all aspects of building and flying Ultralight aircraft from our Engineering Department.
- Plus access to any of 40+ local P.F.A. Branches.

If flying at affordable costs is your ambition,
get the full facts before you - write now for your free info' pack to:- **INFO PACK (Dept AM), Popular Flying Association,**
Terminal Building, Shoreham Airport, Shoreham-by-Sea, West Sussex BN43 5FF

VINTAGE CORNER

Special



The classic Jimmie Allen Bluebird; this one transformed by a coat of paint and the addition of details and insignia.

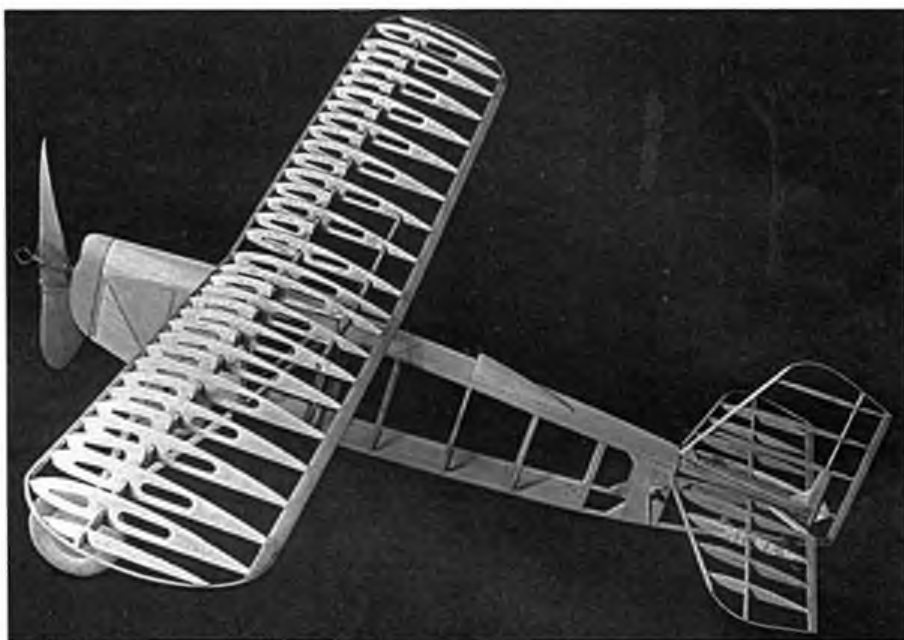
MENTION Jimmie Allen to most UK modellers and they would have to admit that it does not mean a thing to them, but to youngsters in certain parts of the USA during the 1930s that name held a special magic, which for many has not diminished over the years.

Apart from the ever-increasing rash of air-mindedness then taking place, what brought the Jimmie Allen idea to fruition was the novelty of radio (we still called it wireless in this country). People with receivers spent a lot of their time 'listening-in' and it was this captive audience that appealed to the originators of the scheme.

The World of Jimmie Allen

'The Air Adventures of Jimmie Allen' was a radio programme about a 16-year-old messenger boy learning fly, and the many unexpected events that followed which ran for 650 episodes every weekday evening at 6:15 from February 1933. Sponsored by the Skelly Oil Company, promotional items like jig-saw puzzles and badges were available from Skelly service stations. Also included was membership of the Jimmie Allen Flying Club which allowed members to receive copies of flying lessons. The second lesson issued came with plans and building instructions for a 37 3/4in open cockpit parasol monoplane called the Jimmie Allen Bluebird, and a kit of building materials was available for cost, the price being \$1.55. Duration contests for the Jimmie Allen Flying Cadets with their Bluebirds were known as The Jimmie Allen Air Races (maximum age of entrant was 18) and these were held at various locations in the Skelly marketing area in the Midwest later in the year, details being given by radio announcements. The substantial prizes offered by the sponsor of these competitions was a great incentive to enter. For example, first prize for the winners of all the first Bluebird contests in 1933 was an expenses-paid visit to the Century of Progress Exposition in Chicago. The Bluebird was said to have been designed by 'Speed' Robertson (one of the participants in the radio show), but it really was a slightly modified Country Club Sportster which had

been available commercially before Jimmie Allen took-off! Fitted with an automatic release for a parachute, the CC Sportster won the Kansas City Novelty Manoeuvring Contest in 1932 and was available as a very complete kit at \$1.75 or the plans only for 40 cents. The manufacturer, Country Club Aero Supply Company ('where your dollar has more cents' of Kansas City did) a good job in getting their



Jim Alaback's Bluebird before covering; note rib lightening holes and bamboo tips of all flying surfaces. Earliest, largest and best flying of all the J-A models.

design accepted for the Skelly programme. These activities were said to be more than just an advertising gimmick, but a plan to interest American youth in aviation, and following, the initial transmission on WDAF of Kansas City the programmes were relayed from an ever increasing number of radio stations. But it was the practical participation in the Air Races that showed the Jimmie Allen following and thousands of people flocked to these events.

The world of Jimmie Allen, examined by Alex Imrie

Other companies were not slow to appreciate the value of advertising that the scheme offered and supported the show. One of the first was the Richfield Oil Company who spread the Jimmie Allen fever in their own marketing area (which included the West Coast) and they adopted many of the Skelly Oil Company's ideas to promote their own name. The show was sold either to individual sponsors or to radio stations that found their own sponsors locally. Jimmie Allen enthusiasm spread like wildfire and the Club newspaper attained a circulation of 600,000 weekly. Each year a new Jimmie Allen type was nominated as the model to be flown in that year's Air Races. All of these designs originated with the Country Club Company and must have been the means of considerable financial reward for this model supplier in those lean depression years. The 24in Thunderbolt was the official model for 1934, this design was also sold as the Blue Flash, being followed by the 33in Silver Streak and the 26 1/2in Yellow Jacket while the official model for the 1938 Air Races, was the 26in span Sky Raider. The peak was reached

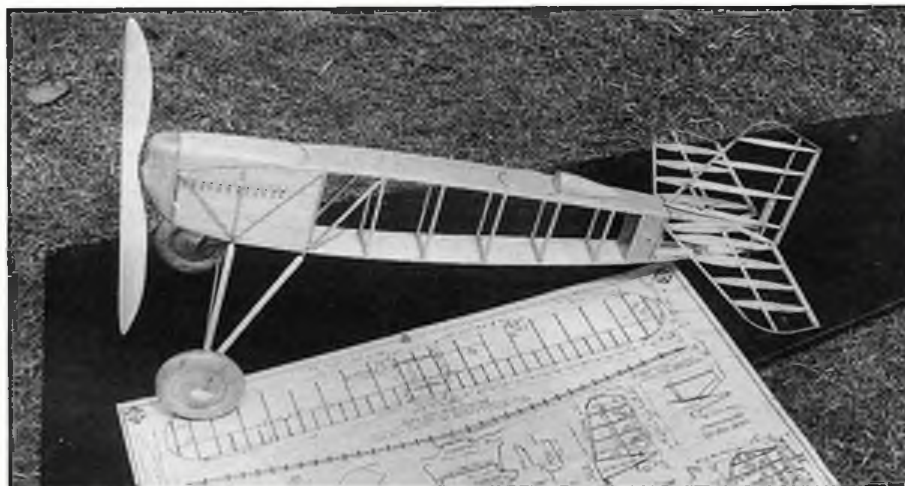
in 1936 when Paramount Studios produced the Jimmie Allen film 'The Sky Parade'. The Skelly/Jimmie Allen partnership dissolved in 1937 when Skelly developed a new radio show called "Captain Midnight" for which Country Club created a new model, the 32in Spartan Bomber. However, 'The Adventures of Jimmie Allen' continued into the mid-1940s and the impact made on several million youngsters was doubtless responsible for making many of them

air-minded and causing them to fly in WWII and in the Korean conflict and for others to take up civil aviation as a career.

Well-known modeller Claude McCullough has recounted how he came under the Jimmie Allen spell in 1937, when he was an avid follower of the broadcasts. The local radio announcer of WHO in Des Moines had barely finished relating details of the latest model before young Claude arrived breathless at his nearest Skelly service station—whose operator did not at first know what he was talking about, but eventually got him the kit for that year's model with the necessary paperwork to allow him to enter the competition to be held later in the year. In the Des Moines area the combined efforts of Skelly and WHO generated such an interest in the Jimmie Allen Air Races that on the day of the contest the crowd of spectators was sufficient to close the local municipal airport to full-size traffic (just imagine that happening today!) During the meeting there was a spirited commentary on the public address system by WHO's well-known sportscaster 'Dutch' Reagan. This character was famous for his big league baseball game reporting which was done at the time by the receipt of a few cryptic Morse Code signals. He had a colourful imagination and if the telegraph line reception was unreadable or the game dragged, was quite capable of inventing happenings to keep his audience

I have been in touch with Jim Alaback of San Diego for a number of years, his activities have always been a source of inspiration to me, and periodically I have used some of his contributions in my writings. He built a Bluebird in 1984, and perusal of the copies of the San Diego Aeroneers (SAM 41) Aero News

the Jimmie Allen competition at the 1984 SAM Champs and included a resume of the origin of the Jimmie Allen models and a photo of Jim with his Bluebird. Jim's model was featured again in Vintage Corner July 1986 fitted with a Tomy toy timer dethermaliser to prevent the model flying away, so well did it perform. I have



Writer's Bluebird under construction. Torsional stiffness of the rear fuselage is provided by the top and bottom sheeting. Early wheels are of right diameter but the too-fat tyres were replaced.



Bill Hannan's camera caught Jim Alaback releasing his Bluebird on one of the ROG flights that took the model to first place in the San Diego Jimmie Allen Air Race of July 4th 1988.

occupied. Needless to say, he was able to make the Jimmie Allen competition sound so exciting that it riveted the attention of all the spectators. Although Claude did not place in the contest, it hooked him permanently to the hobby, as those of us who have seen the many magazine descriptions of his models over the years since, can testify. Shortly after the Jimmie Allen affair, 'Dutch' Reagan was sent to California on a sports assignment, removed his glasses, dropped his nickname, took a screen test and signed with Warner Brothers. As far as is known Ronald Reagan never announced another baseball game or model contest, but eventually became President of the United States!

Motivation

As regular readers of Vintage Corner know,

newsletter, of which Jim is the editor, showed that he was often winning or placing high in his club's Old Timer rubber contests with his Bluebird. Vintage Corner for 1985 mentioned

always liked the look of the Bluebird and harboured a desire to build it someday. We all have similar thoughts about certain models but seldom get down to making them, and the Bluebird idea for me might never have become a reality, had not my son Alasdair visited USA in 1986, called on Jim and came back loaded with goodies which included a plan for the Bluebird. Since then I have often 'threatened' the Bluebird, especially due to the exposure inflicted on me by Jim... he even sent me the Skelly stickers and the outline for the flying Bluebird insignia ... then a few months ago, for no reason other than it was high time that I built one, I started to cut wood. The construction was 'different' and provided one or two pitfalls that I will comment on below. The finished model is a satisfying machine, but the motivation was all Jim's doing; I merely stuck it together!

The original Bluebird drawing was in the style of many model plans of the time in that the layouts were half-size, and details only shown full-size. Jim Noonan, the founder of Oldtimer Models, who undertook to provide plans and materials for enthusiasts, included the Bluebird in his offerings' producing a full-size drawing for it in 1976, and it was copy of this plan that Jim Alaback had sent me. In a highly informative article in 1984 SAM Speaks No 62/63, Jim Noonan wrote at length on suggested changes to make the Bluebird more



competitive, but I personally found that some of these strayed too far from the original for my own peace of mind. I obtained a copy of the Country Club drawing from Ron Raddon and was able to compare Bluebird features. Our models today are expected to have a longer life than those that the boys made in 1933, and in the interests of practicality, Jim Alaback

be aware of what this looks like since the editor already used a photograph of it as a 'Mystery Object' in Hangar Doors (August issue). Initial attempts proved that soft balsa did not provide a firm enough base for the brass tube bush which tore out. I therefore drilled the centre of the blanks out 1/4in diameter and glued in hardwood dowel drilled to the axle size; then it



Skelly Oil Company logo is coloured red, white and blue.

Construction

I built over the Oldtimer plan but used the rear cockpit location. Building the model was simple enough but some care was needed with the symmetrical section used on the tailunit, the tailplane being in two halves connected by wire. The sternpost/tailskid is a piece of aluminium tube plugged with wooden dowel, then bent to form the skid at its lower end and slotted about the half-way position to take the rear wire bridle that joins the two tailplane halves together, allowing incidence to be changed easily. The forward tailplane joining wire forms a saddle over the fuselage, while the rudder pivots on the upper part of the



Nondescript Bluebird. Blotchy 'camouflage' finish was due to tissue dye and dope interaction.

incorporated some changes into his model, like sheeting the two forward bays on the fuselage sides, replacing the rear motor hook with a peg and so on, and had marked these on the Oldtimer Models drawing that he sent, these were also points advocated by Jim Noonan and I decided to adopt them. One important difference noted was that Ron's plan showed the cockpit one bay further aft than that shown on the other plan, but I have since established that cockpit locations varied on the original plans! I thought at first that this was a Jim Noonan modification but it wasn't. However, one that apparently *was* involved showing the wheel diameter as three inches when it should have been 3 1/4 inches, so I will have to ask him about that sometime!

Wheels

Since I was faced with making wheels of the right size I tackled this problem first. Original models used celluloid wheels and although these are still available from Country Club, they appear to be made of much thinner material nowadays and break up easily. I thought to turn balsa wheels on my little 1930s Super Adept lathe but found that I could not swing the balsa block due to lack of clearance. But by reversing the headstock mandrel and working outside the lathe, unimpeded by the bed, I could use the lathe as a turning spindle (an electric drill would have done equally well) and by glueing discs of balsa to the faceplate I was able to fashion half wheels which were then glued together cross grain. The 'turning' tool that I used was a piece of 1/4in hardwood with the mirror image of a half wheel section cut into it lined with sandpaper to which was attached a piece of wire to act as an axle register. Readers will



Electric powered version of the Thunderbolt, the smallest of the Jimmie Allen designs. Built by Larry Oliver.

was easy to apply my 'turning' tool. During one of my early efforts, when I was trying to shape two blanks that had already been glued together, I did not appreciate the amount of heat that I was generating and the wheel suddenly gave off a puff of smoke then burst into flames with a splendid Catherine Wheel effect as I sanded through to the layer of cement!

aluminium tube, being retained at the required setting by a wire prong at the leading edge that engages in a perforated strip of aluminium. The tips of all flying surfaces are bent from bamboo and I found that the old fashioned way of bending alongside a candle flame to be the best, although doubtless it might be easier by fixing half a tin can on a simple stand over the candle. A wide enough strip is bent to exactly the right

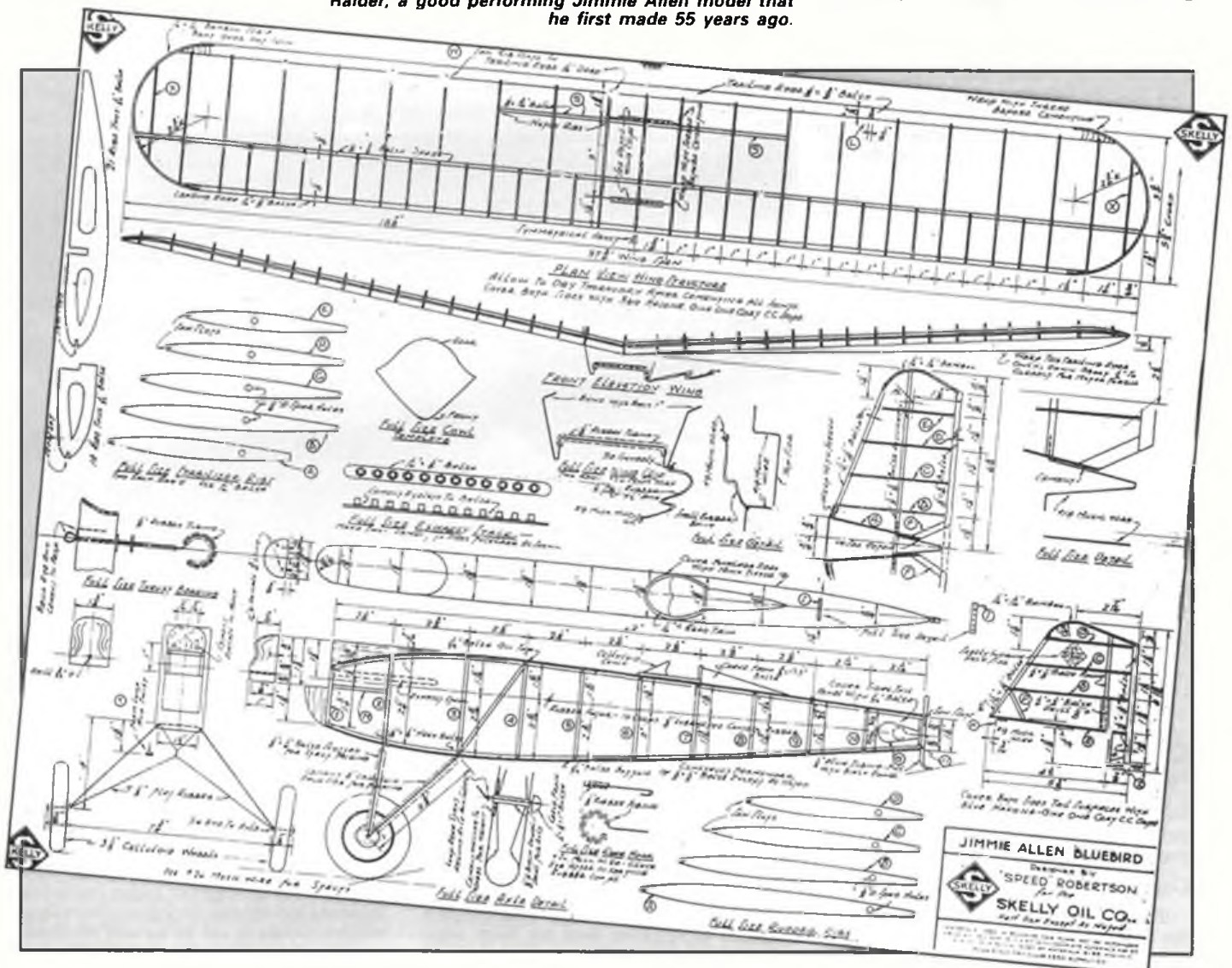


Second time around! Larry Oliver with his Sky Raider, a good performing Jimmie Allen model that he first made 55 years ago.

shape, then split to form two tips. On light structures like this the formed bamboo must fit without any pressure whatsoever, otherwise the surface will be warped by the resilience of the material. I dislike undercarriages bound to fuselage members and fitted aluminium tubes to take the prongs of the landing gear legs. In this way, bent struts can be straightened more easily and removal aids portability. The leading edges of all flying surfaces are made from 1/16 x 1/8in strip and the noses of all ribs extend to edge of the outline; thus covering is not easy due to the lack of 'meat' for attaching the tissue. Experts advocate covering with the grain of the tissue parallel to the ribs for the best finish, although this method is known to be weak, and against my better judgment, I used it. In the old saying, instead of the bad workman always blaming his tools, he could also blame his materials! Anyway, what I thought was quality Japanese tissue, wasn't, and the blue dye was not fast. As I wielded the brush on wings and tail unit the dope in the jar took on an indigo colour and the model became decidedly blotchy. This was a disappointment but more was to come...

Flying

Since I intended to fly without making any thrustline changes, the port wing was washed-in about half an inch at the tip to counter the torque, just like it said in the building





Larry Oliver again, this time with Yellow Jacket, one of the most attractive Jimmie Allen designs.

instructions. (Remember that this model dates from 1932 and thrustline settings for trimming purposes had not been discovered then). During glide tests over short grass, (I could not find that of the classic, 'long' variety) the left wing always stalled first because of the increased incidence, and gave some very firm arrivals. I had thought that the big wheels would give realistic landings, but the landing shocks merely burst the tissue along the grain. In next to no time the top surface of the wing was in tatters and the landing gear struts split and broken. I patched the rips in the tissue, the contents of the dope jar becoming ever darker. Reverting to thrustline control I took out all the wash-in, and obtained good glides and smooth landings as she rumbled onto the grass. The flight pattern was left under power and when I did put enough sidethrust in to make the model turn right it was easy to see that it was fighting some other aerodynamic force as it skidded around, so I just settled for a left-hand pattern, but because of this never got as much height as I would have liked. The model is slow and majestic in flight and obviously capable of quite high duration, although the best that I have so far obtained is only around forty seconds. I was using six strands of 1/4in FAI rubber which I fear is insufficient for the rather coarse pitch propeller fitted. The freewheel (original Bluebirds did not have this feature) is behind the propeller which is retained with a short piece of tubing over the shaft end in order to be able to change propellers at will. However, trimming was not persisted with, for the flying surfaces were too much of an eyesore (apart from having lost any aerodynamic efficiency that they might have possessed) and just had to be re-covered.

Completion.

It was some job to remove every shred of that dark blue tissue, and the best way proved

circular bamboo tips were no problem. One coat of thin dope (without discolouration this time) and the surfaces were weighted down for an hour or so. Satisfied with the appearance of wings and tail, I now went on to complete the model, something that I had never considered with the earlier 'camouflage' finish. The fuselage got two coats of Humbrol silver dope brushed on, unthinned, but stirred continuously and I had an 'aeroplane-like' finish. The exhaust manifolds were ready waiting. These were 1/64in ply strips with aluminium tube stubs, since I had searched high and low without success for the eyelets which are specified for the job. The Skelly stickers, which were xeroxy copies and could not be doped on, were attached with glue from an office pen. The windshield was added and the 1/16in diameter reed cockpit outline painted red. The propeller was painted silver and given the usual red, yellow and black tips, and the model assembled. Now it became apparent that the previous nondescript model with the blotchy finish had been transformed into an aeroplane in miniature fit for Jimmie Allen to fly. If the model had been decorated in any other colour scheme the effect would not have been the same. That aluminium fuselage adorned with the red stripe over the headrest, the big red wheels with the silver streamlined axle caps and the flying bluebird insignia on either side of the nose below the exhaust stacks all contribute to make it a real Jimmie Allen Bluebird ... it so obviously cannot be anything else.

Current interest

Various Old Timer model groups in USA



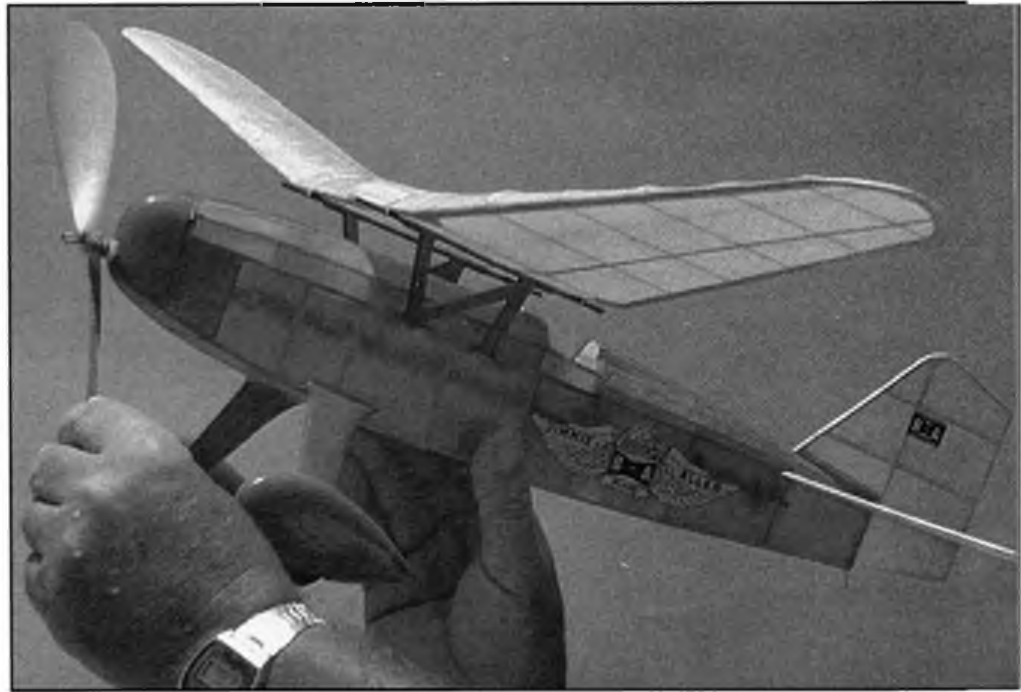
The only Jimmie Allen low-wing design was the Silver Streak; this one built by Don Munn flies well.

to be to sand the tissue through on each rib and soak the leading and trailing edges with thinner, so I picked and rubbed until I was back at the basic framework. The replacement tissue went on in my usual way with the grain spanwise. Bravely, I decided to cover 'wet', a thing that I had never done before with tissue. After cutting an appropriately sized panel I laid it in a plate of water. Some hectic moments ensued when the tissue stuck together, but it came apart OK and went on a treat, being fixed with thinner through the wet tissue, the framework outline having previously been doped. A major feat for me was the complete absence of wrinkles; even the large semi-

have revived the Jimmie Allen fever in recent years, the first being appropriately enough in Kansas City, and a current hotbed of interest is in the San Diego area where all the Jimmie Allen models are flown in competition. Two years ago a Jimmie Allen Air Race was held there as a Fourth of July event by the San Diego Orbiters and attracted eleven entries. There were two competitions, a Mass Launch and an ROG Endurance event. The rules for the latter being that six attempts were allowed, the best three flights to count, all models had to ROG and there was no weight or rubber restriction. Durations and attempts were governed by three minutes maximum and 40 seconds minimum.

Jim Alaback won the Endurance event with 410 seconds, so his average was two minutes 16 seconds, which is not bad for the Bluebird, which was designed almost as sports type machine. (If my model flies half as well I will be delighted!). Some of the photographs taken by Jim Alaback and used to illustrate this article were taken on this occasion and he has kindly provided the following additional information that could not be used in the captions due to space limitations

The Jimmie Allen B-A by Charlie Yost who promoted the event with the San Diego Orbiteers, is a Canadian design that was sponsored by the British-American Oil Company. This fine-flying, 28in model is still available as a kit from Easy Bilt Models, Box 12, Grimsby, Ontario L3M 4G1. Another B-A built by the late Walt Mooney took third place in the event with 175 seconds. The three Larry Oliver models show that Larry is obviously a keen Jimmie Allen devotee – and no wonder. As a youngster he participated in the original Jimmie Allen Air Races in Iowa in the 1930s and went on to learn to fly and became a fighter pilot in WWII flying Hellcats in the US Navy. The Thunderbolt has a relatively complex structure and is quite a challenging construction job. Sky Raider (Larry made his first one in



Charlie Yost's Jimmie Allen B-A, the only non-Country Club design to qualify for US Jimmie Allen contests. Kit is still available in Canada!

(if he receives requests in sufficient number) obtain anything that you would-be Jimmie Allen Flying Cadets require.

These models all have 'something' that makes them different to the normal run of old models and are certain to appeal to our vintage enthusiasts whose industry is such that a Jimmie Allen Air Race at Old Warden 1991 is a distinct possibility. There is ample time to get a model built for next year's flying season. If enough of you get the Jimmie Allen bug, we might even ask Mr Reagan to come across to do the PA!

Acknowledgements

The use of information from the following publications is gratefully acknowledged: Model Builder, SAM Speaks, AMA's Cloud Nine, Aero News, the newsletter of the San Diego Aeroncers (SAM 41). Special thanks must go to Jim Alaback without whom I probably would never have gone back down the years to enjoy the delights of the Jimmie Allen Bluebird.



Captain Midnight's Spartan Bomber, also built by Don Munn, is 32in span; not a true J-A design, it's accepted in comps.

1935) is the most conventional of the Jimmie Allen designs and has the reputation of being the next best flyer in the series to the Bluebird. The Yellow Jacket is one of the most attractive Jimmie Allen models, but surprisingly, less commonly-built than the others. Don Munn's Silver Streak obviously flies well and placed fourth in Endurance at the meet mentioned with a time of 166 seconds. However, opinions are divided on the flying properties of this design. The Spartan Bomber qualifies to fly in present day Jimmie Allen contests in USA, although it was a promotional model for the Captain Midnight radio show which followed the Jimmie Allen programmes. It, like the others, except the B-A, also came from the Country Club's drawing board for the Skelly Oil Company.

Jimmie Allen here?

Unfortunately plans etc for these models are not available in this country, but all except the B-A can be obtained in the USA from John Pond Old Time Plan Service, PO Box 90310, San Jose, California 95109-3310. These are also available from Oldtimer Model Supply, PO Box 7334, Van Nuys, California, 91409 who in addition have a range of wheels and propeller blanks etc. The original source of the Jimmie Allen models Country Club Aero Supply (James R. Root), 3412 South Norton, Independence, MO 64052 still offers original wheels, printed Skelly stickers and plans for the Bluebird. Our own SAMS supplier who stocks goodies of a similar nature to those mentioned above will, I am sure



Full-size Bluebird insignia used on the Jimmie Allen Bluebird. All pics of the San Diego Jimmie Allen models courtesy of Jim Alaback.

into ORBIT

For Harry Anne the trials and triumphs of rocketry are now a continual delight

GUY Fawkes may have been naughty and he may have met a nasty death, but his legacy lives on annually every 5th November. Indeed there are some amongst us – those who think him a superhero – who rather wish he'd plotted more often and allowed us the opportunity to blaze the night-sky with fireworks on a more regular basis. But now I've discovered Estes.

Quite by chance, one lucky day, I found myself the proud owner of a Ninja beginners rocket, skill level one. Ironically I've found that the failure which symbolised Fawkes' messy life and death has become the driving force behind my compulsive passion for rocketry. Like the television viewers that tune in for a NASA explosion or grand prix shunt I have discovered that it is the chance of disaster that makes each model rocket launch a unique and scintillating event.

That first Estes kit included a crude launch pad of dowelling and a length of wire, set vertically. There was a bag of blue plastic bits, which, as it transpired, formed the launch button, and some cardboard tubing. Fairly inconsequential, I thought, and disappointed, I cast the box aside.

Enthused

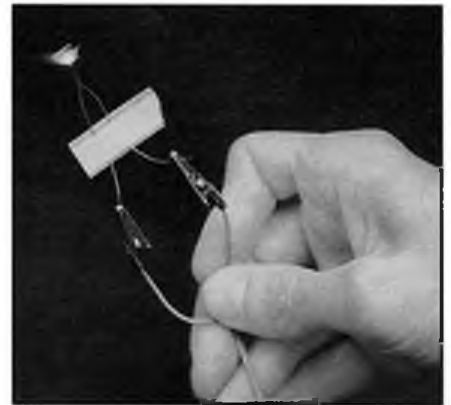
Suffering from a bout of 'flu', and confined to the kitchen 'off games' a few weeks later, I pulled out Ninja and hunted out the tools and equipment the instructions require. These are minimal and within easy reach of any hobbyist. Having made a variety of kits in my youth I was quickly enthused by this quality construction manual. Estes leave nothing to chance.

The principles of these space-bound loo rolls is simple: a few balsa or cardboard fins, a detachable nose-cone to which is attached the parachute or streamer, and a rocket motor stuffed up the back end. Some versions have engine tubes to adapt the body to the motor type while others have a metal clamp to hold the motor in place, but all use an elastic shock cord that joins the nose to the body.

Following the designer instructions I painted Ninja black and with real nostalgia for my Airfix days added the decals, rather more askew than I'd have accepted when I was last in short trousers and a cap. Fold up the streamer – Ninja needed no parachute – push in the motor, detonator and wadding to protect the streamer, and all I wanted was a crowd. This took a while to assemble, and it was deep darkness before countdown commenced. Surely this isn't how NASA do it?

The launch button is a nifty piece of electri-

Hercules, with a Delta glider attached, takes to the skies in an unconventional arc while X-15 suffered the explosive power of too large a rocket motor.



The speed of burn for Solar Detonators relates directly to battery power. There can be a delay with dud batteries.

cal equipment, which is remarkably simple to assemble, following the manual. I have found increasing confidence in Estes instructions, to a level I'd never discovered in modelling. The motors are sparked by four AA batteries, with alligator clips attached to the 'Solar Detonators' and a suitable length of wire to ensure the launch commander is a safe distance from the launch pad.

A good countdown involves the sort of safety procedures that delay the launch – so mounting the excitement and infuriating the audience – and hopefully prohibiting accidents. The rocket cannot be ignited without a safety key inserted in the control module to complete the battery circuit. With the key in place, and the light bulb bright, it's worth shouting a few choice comments about the rocket being armed,



and then extending the count as far as is sensible considering the growing impatience around the launch-pad.

Countdown

'Five...four...three...two...one...we have ignition!' I exclaimed in best NASA drawl, expecting Ninja to elevate fast. Nothing. I made some limp excuse of computer malfunction, withdrew the safety key and with some apprehension replaced a duff detonator. I learnt that it is best to tape the detonator to the rocket body to ensure it remains in contact. With the new one inserted, and excitement heightened, we repeated the launch procedure - a smidgeon more quickly - to see Ninja's glowing rear arc high overhead.

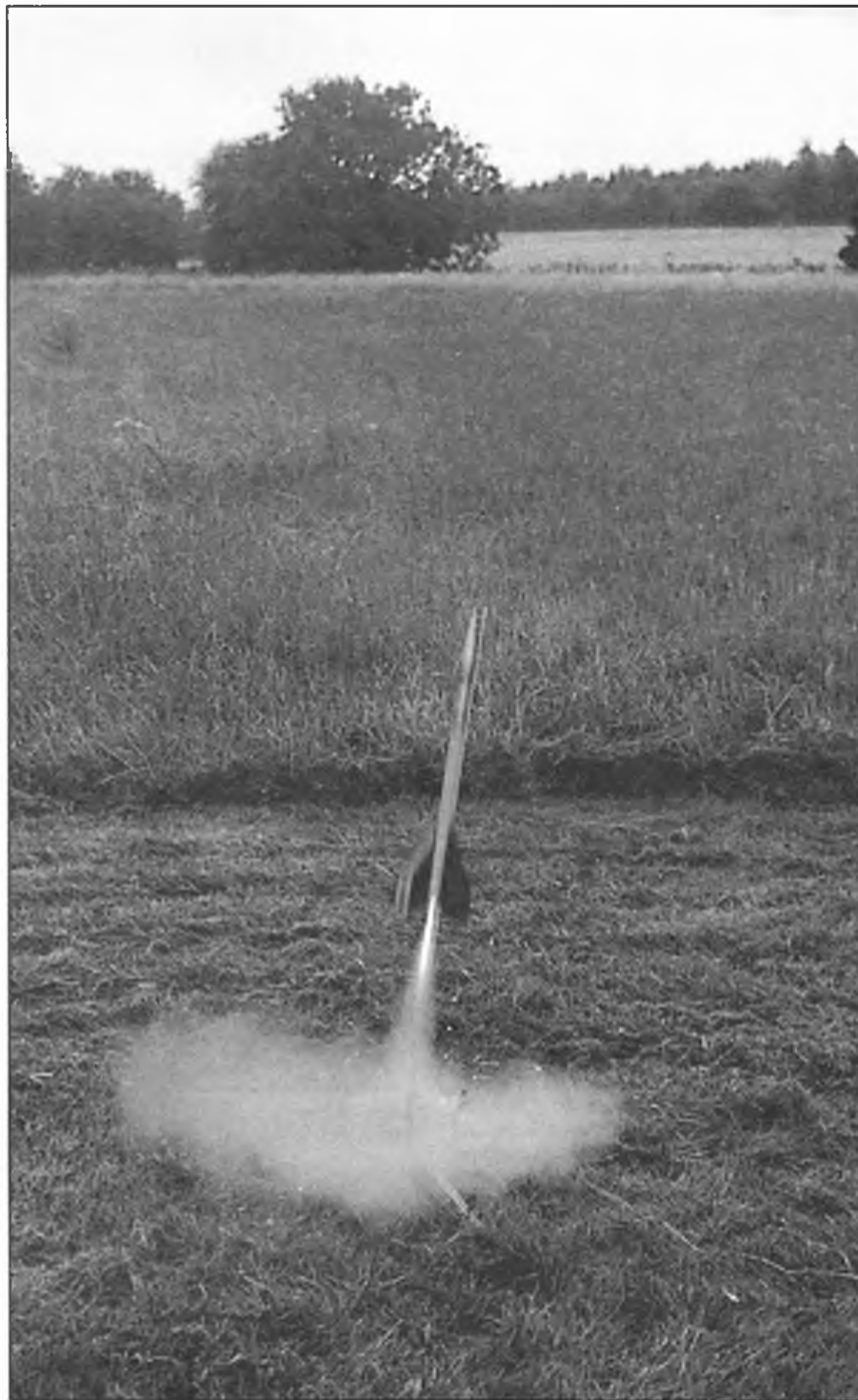


Hercules being mounted on the launchpad. It is important to lay off the angle of ascent to allow for wind.

Eventually, next morning, the rocket was recovered and a series of successful launches were made. But somehow, as confidence grew, those split seconds of 'it's looking good' - however perfect - lacked that chance of failure, and when Ninja was finally lost in a tree it seemed a fitting end.

The fun of rocketry is in the preparation - and the recovery - as it is stunningly evident that only those with superhuman sight are able to follow the path of these speeding machines. In their colour brochure Estes advertise an impressive bit of kit called an Altitrak to measure your rocket's height. Its initial puff of smoke is hard to miss, but following the flight to its nemesis is another matter.

Full of enthusiasm to progress I acquired an X-15 plastic scale rocket, which purported to



Capturing the moment of ignition on film can prove difficult due to the variable delay and speed of lift-off. Successful pictures show the sheer power of the motor and also that the igniting wires are carried surprisingly high before falling back.

be the same skill level as Ninja. Unless Estes measure skill by the dexterity of launch, comparing this piece of plastic with Ninja was a slight upon my early attempts. I have subsequently learnt that scale models rarely fly - or even blast - particularly well. Twice I used a 1/2A type motor, as recommended, and twice I watched X-15 reach 30 feet before it crumpled to the ground. Bring back Ninja I say. But at least I might have been able to use my Altitrak.

Above 1/2A motors you are in the realms of A,B,C and D rockets with the B and C fitting larger machines than the 1/2A and the D's huger still. Within these classes are varying levels of thrust to suit particular needs. The motors are coded, with a number denoting thrust and another showing the delay between the main thrust and a second charge which

deploys the parachute or ignites a second stage motor.

Ambition

Happily throwing aside X-15 I returned to the model shop with greater ambitions. The Estes range is vast and should satisfy most rocketeers. Rockets, by their nature, have a degree of built-in obsolescence, and the company must trade on the profit of failure. I was taken by a model which transports an egg skywards, which only a perfect parachute deployment would save on landing.

A good idea, but I'd already been tempted by the thought of a two-stager and with the immortal words: 'We have separation' I selected a Hercules. Suddenly I was in amongst the C motors and a whole new region of the strato-

sphere opened up. I chose, naturally enough, the most powerful motors available. The booster was a C6-0 which has no delay between thrust and ignition of the second motor, taped above it. Again I selected a C6 power pack, but this time with a six second delay.

Building Hercules was as simple as Ninja, so I began skipping instructions and made a few mistakes. It is best to follow the order. Once painted and decalised Hercules was taken out to the new, larger launch area. The first had been just within the Estes suggested 50 square feet for Ninja, but for the C-powered two-stager a wider arena is essential. I was soon to discover that this stipulation is not so much a safety imperative, but offers a vague chance of recovery. Rocketry, I'd guess, is a rural pastime.

Climatic conditions perhaps breaking Estes rules, with a strong wind that might affect the launch, but I was under certain pressure from a young and determined public. So with a new launch-pad, which can be set at an angle, I laid off the launch into the wind at about 60 and one of my nephews pushed the button. It was a perfect lift-off, and almost instantly Hercules separated with the lower section fluttering down to earth. Up went Hercules, still further, soon out of sight.

For a full half minute nothing happened. Where was Hercules? Then suddenly it came into view falling steadily under a semi-deployed parachute. These thin plastic 'chutes are prone to static and tend to clamp into a ball on take-off. Since that incident I've found that flour or talc ensures a perfect opening, but in this case Hercules was saved by its rapid descent as the wind still took it way behind the launch-pad.

By this stage rocket launches had become village events, and by the next countdown, on a glorious sunny day, I'd formed the Ampney St Peter Rocketry Society, with my friends John and Annie Lander. But the society's first launch was to be a disaster with Hercules blasting into orbit, never to be seen again. We assumed that the flour trick had been so successful that the second stage had drifted off on a thermal. How wrong we were.

As excited by this loss as we have been by previous successes, we set about launching John's single-stage Alpha, with a mighty C-type. Again it flew high above, and again we searched the bright sky. And again nothing returned. Perplexed, but enthused that rocketry is not so simple after all, we decided that launches should be kept to cooler times of day when visibility is better.

Trepidation

So that evening we pulled X-15 out of its hanger, and believing it had been under-powered previously, stuffed a C motor into the body with a high degree of bodging. Standing well back, and pointing the rocket well away, I pressed the button with a degree of trepidation. Nothing happened. The bulb on the starter was glowing only dimly, so we changed the batteries and tried again. It is interesting to note that the Solar Detonators must take a considerable boost as those batteries had been only used for launching.

In a cloud of smoke and flame, careered up the wire and nose-dived into the long-grass, moltenising as it went. A few seconds later the second charge went off and the flaming motor flew back over my head. Rocketry is a dangerous game and though there is scope for adaptation it is essential to follow the instructions and take all possible precautions.

When later we lost the nose-cone off another Hercules - because John hadn't checked the shock cord - the plastic version was replaced



Static electricity builds up fast in the plastic parachute during flight but talc or flour ensures deployment.

It is vital to pack the parachute carefully and not too tight, but protected from the blast by wadding.

by a quickly carved wooden nose. Balsa would have been OK, but none was available and this piece of old broom handle was too heavy and potentially dangerous. Not that the motors can't cope, but when on one occasion the second charge failed to throw off the nose Hercules returned to earth at great speed - beating all but one pair of eyes - burying itself in the ground. This, we realised, had been the fate of our previous losses.

By this stage we'd enjoyed two remarkable flights, watching the rocket drift back down to earth majestically, but one can never relax with rockets as failure is only one unchecked shock cord away!

Stunning

Our penultimate flight was something of an experiment. Having pored the Estes catalogue, and seen the range of rockets, I realised it might be possible to attach another flying machine to the side. So on to a custom-made hook we put a plastic and wire Delta glider, about 6in long

and again, for safety, laid off the launch far from the massing crowd. Off went Hercules, and on a perfect deployment the body floated off in one direction while Delta nose-dived into some long grass, never to be seen again.

We were stunned by this success, and with dusk falling, sent up Hercules one last time. We watched it to the height of its flight when it turned tail, and once again plummeted home. This time it did deploy but only a few feet above the ground at maximum speed. The parachute broke from its moorings and without its nose as protection Hercules broke up.

Overjoyed by this disaster we took Hercules proudly back to the workshop to salvage what we could from its crumpled body. It will never fly again, but we now have plans for a three-stager and larger rockets, based on the Estes experience and motors but using our own materials and imagination. We should be able to push rocketry further into the sky, and threaten NASA's monopoly, but doubtless there'll be the occasional failure, I hope.

High

potential

Chris Coote digresses
and discusses
duration for electric
flight enthusiasts

I HAVE been keeping my eyes open for evidence of the growth of electrics over the summer months, and it is most gratifying to observe that acceptance of this most convenient form of power is gaining ground. The Scale days at Old Warden always bring out a good crop of interesting models, and I noted with some pleasure a report that Ian Druce had brought along a nice Acorns powered version of the Albatros CIII. I have recently been re-reading Ian Peacock's excellent book 'Introduction to Electric Flight', published by ASP at the very reasonable price of £7.95. The contents are of much interest to all interested in electric flight, and not just R/C enthusiasts. The chapters on charging and care of nicads are particularly relevant. What sparked my interest was the Acorns Albatros CIII at Old Warden, and Ian's description of the 33in span



That all-electric Viscount as seen at this year's Scale Weekend; see text for news of model's earlier career!

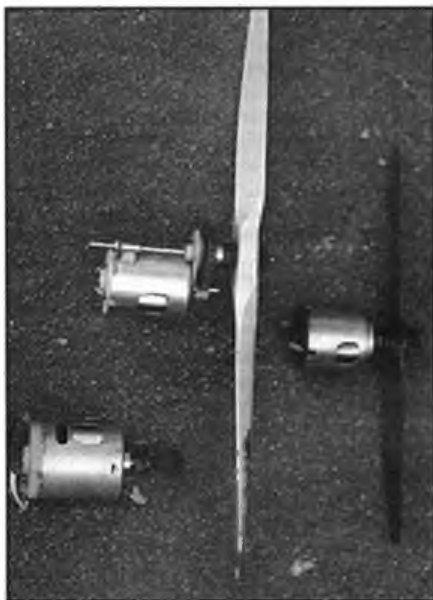
adequate at the flying weight of 18oz., stability was not its best point, and some early trimming damage was sufficient to discourage further development. However, the point had been proven that the Acorns unit was a good substitute for a Mills .75 or similar. (For those who are confused by all reference to Acorns, this is a commercial unit now supplied as a spare by Ripmax, and meant for a range of R/C ARTF foam models. It consists of a geared Mabuchi 380 motor and switch harness. Battery packs are also available. Photographs have appeared in previous High Potentials so check on your back issues.) Regular readers will know of my recommendation to use geared units such as this in slow-flying electric models. These can be commercial units such as the recently introduced MFA mini-olympus (or geared 02 unit) or home made. A particularly neat version of the latter is shown in the nose of a reduced size Miss America vintage design from old friend Phil Stanson in the USA. Motor is a 280 unit from the local Tandy shop (also in the UK, see Yellow Pages under electrical retailers for your local branch!), driving through a set of gears cannibalised from a biscuit crumbler. Strange kitchen appliances they have in the States, but I daresay you will be able to find some sort of equivalent items here in the UK in the form of kitchen mini mixers etc. Notice how the gearbox is built into the model using the original ply formers as dual purpose bearing and longeron supports.

Digression

Back to the Old Warden reports; of more direct interest was the C/L Viscount four engined airliner from the Marlborough club. It seems that Old Warden is a necessary testing ground for this particular model, which I myself test flew there in its original form some eight or nine years ago! Perhaps I had better explain a little, if I am allowed to digress a bit from strictly 'electric' matters. At the time we had a small group of keen C/L scale enthusiasts in my club (South Bristol MAC). One of these

was Ron Bye, who enjoyed creating large scale models. The Viscount was his first multi engined model, and much advice, help and deliberation was given to the choice of power units for easy starting, consistent running and performance. Following advice from myself and others, Ron made a lovely job of lightweight construction (less than 6lbs ready to go with two Cox Medallion 15s and two 09s). The model was fitted with a three-line control system incorporating full throttle control. A small team of club members went to Old Warden and 'fettled' the new model to make it finally air-worthy on the field! All this effort was however well worth it for the model flew most majestically and impressed the judges sufficiently to win a prize. The model, complete with smiling Ron, was featured on the cover of the APS plans Handbook for some time too. In the course of time the requirements for a crew of at least three to prepare and start the engines, plus Ron's attentions being diverted elsewhere to produce other multis, meant that the model was confined to hanging on his garage wall for a long time. Rather than just see it gradually deteriorate in this fashion Ron sportily offered it to the lads in the Marlborough club (well known for C/L scale exploits), so that it would be flown regularly and give pleasure to those who saw it.

The Marlborough clubsters took some of my comments about electric C/L to heart, especially the ease of operation for twins and multi-engined subjects. Four standard Mabuchi 540 buggy type motors fitted into the original cylindrical nacelles very neatly, whilst the capacious fuselage has loads of room for the battery pack. The design of this type of model relies on a very strong central sub-spar which locks the wing and fuselage together. This makes an ideal strong point for holding the very weighty battery pack right in the centre section of the wing. Flight performance is good even at the increased all-up-weight of nearly 8lb. Take offs from the rather long Old Warden grass, which puts considerable drag on a model, was easily



Phil Stanson's own-design geared 280 motor turns a 9 x 5 prop; adaptors are Dubro bulkhead boat fittings.

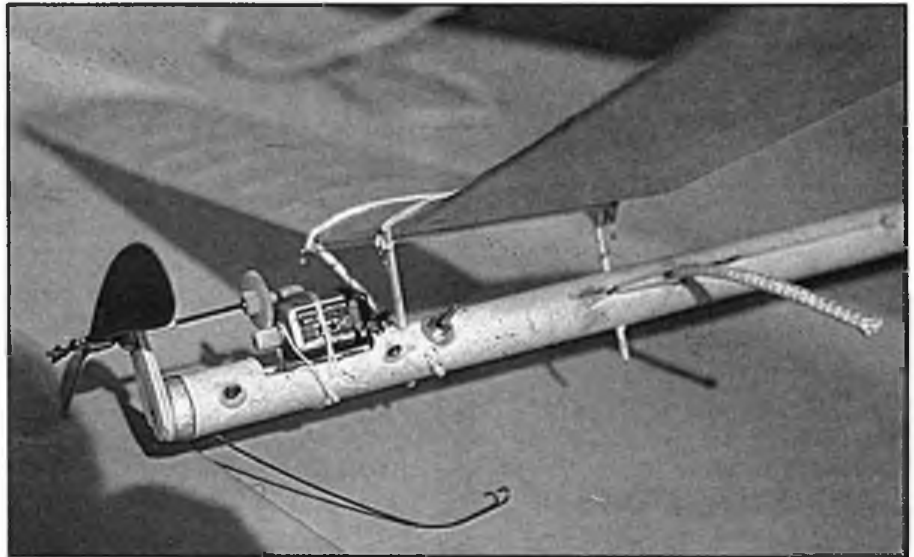
SE5A offered as a free plan some time ago in Aeromodeller. The model Ian describes was also Acorns powered and fitted with lightweight radio. Surely this would also make an ideal first electric scale model, with the easy availability of a complete electric flight system including batteries, and a stable subject to boot. Clubmate Doug Sheppard's similarly sized (and also Acorns powered) Blackburn Dart biplane fighter, was featured in one of the first High Potentials. Although power was more than

achieved with eight cell flight packs. Props used were 7 x 4s, not too different from the original 7 x 6s used on the Cox glow engines. Altogether a very worthwhile project which just goes to show how good the original construction was to take several years of flying, and then still be satisfactory for a new lease of life as an electric C/L. I wonder what the C/L scale committee would say about a Nationals entry? Certainly there's no problem in obtaining the bonus points for starting within one minute!

To digress even further I can briefly report on the successful first flight of Ron's monstrous C/L scale Hercules, as seen at the last Model Engineer exhibition, and featured in *Aeromodeller*. The same team was used as for the Viscount, Ron the builder, Derek Anstey the engine man and yours truly the pilot. Hanging on to 15lb of model with four OS 25s engines at full bore is quite an experience I can tell you! Electrics did feature, I hasten to add, since the model is fitted with a complete set of collision warning and hazard flashing lights; just as well since the maiden flight took place in near darkness after an evening of on-the-field sorting. You will have to wait for a further episode in this dramatic saga, just as soon as we can fly it in daylight and get some decent pictures.

Indoor activities

Those of you who spotted my picture in a recent *Aeromodeller* trying to learn something of scale judging from Dennis Thumpston, will have uncovered one of my pet enthusiasms, that of Indoor flying. The use of electrics for Indoor Scale is now very well established by the likes of Derek Knight, Doug Sheppard and Dave Hants, amongst others. We have seen the first successful indoor multi (although it had a single central motor driving twin props through pulley and band drive – well done Derek Hard-



Durelec model but with home-gear'd Tamiya car motor and Peck rubber prop. Model by USA's Phil Stanson.

electrics. In fact in the field of electrics there are several more variables to play with and hence optimise. I am going to suggest to you that some indoor electric duration models could provide some good input technically to other disciplines, for I have been tinkering around with a few ideas prompted by some details sent to me some time ago on the use of lightweight structures combined with single cell flight packs, by my USA correspondent Phil Stanson.

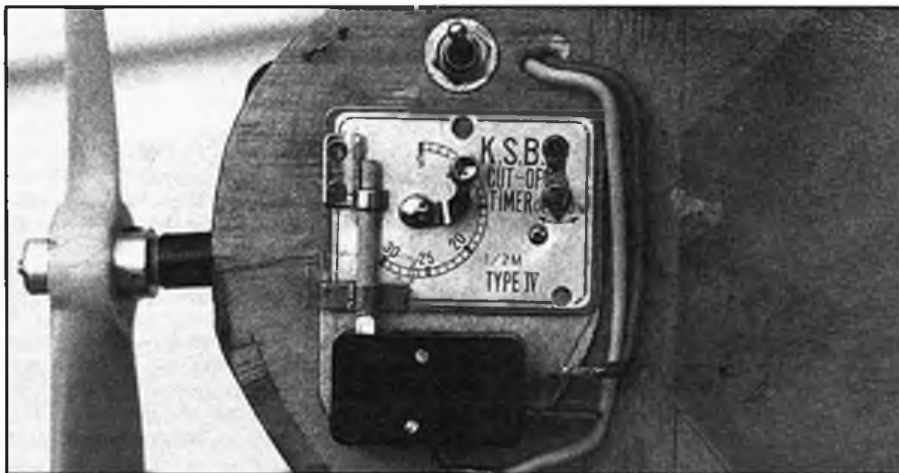
...and Duration doings

Using a single 80mAh cell in 50gm models, Phil and his pals obtained good outdoor free-flight sports performance in converted rubber

4,500rpm on the prop at takeoff. Experience with an old outdoor CO₂ duration model showed that a good climb was available for at least 35 seconds with this setup. Flight duration was dependent on the quality of the air of course, but two minute flights were common, if not guaranteed. Single cell experience in the USA demonstrated that only 1.2 volts are necessary if a lightweight model is used. So I thought what happens if I re-organise the battery pack to give three cells of 50mAh connected in parallel. This results in a flight pack equivalent to a single cell of 150mAh and 1.2 volts, with a lower internal resistance than before. Static bench tests showed that initial rpm had dropped to 2,300 and duration of motor run at good power had leapt to 2.5 minutes!

To further test the proposal, a single 150mAh cell was used to take advantage of the elimination of extraneous resistance in the intercell connections, (and hopefully, take advantage of a cell with a lower inherent internal resistance). The results showed a slight improvement in performance with the duration of run particularly improved. This is probably due to the nominal 150mAh cell having an actual capacity of nearer 160 or 170 mAh. The capacities quoted by the manufacturers are usually the minimum that you can expect from that type of cell. The smaller cells have less tolerance on capacity and therefore less potential for a set of 'good' cells, than a single larger cell. So for best duration it seems that a single large cell is going to be better than multiple small cells connected in parallel, and it makes the installation neater too. Flight tests in the old CO₂ model showed a very gentle climb for at least two minutes, in calm conditions. A lighter model would be required for real competition use, but the potential for a motor run as long as the required max is there. For an indoor model trimming the prop to allow higher motor rpm and thus less current drain (yes this is right; electrics use less the faster they go!) may well be beneficial and produce three minute-plus flights. A change of gearing to allow a bigger prop with higher actual motor rpm is obviously going to be beneficial too. I am currently trying the VL electronics HY70 motor, which is very similar to the KP01, but with a lower gear ratio to drive a rubber model type prop on two cells. First tests show an improvement in duration over the KP01, using a Telco CO₂ prop.

The conclusion is that I am going to suggest a set of provisional rules for both indoor and outdoor duration for electrics. The only

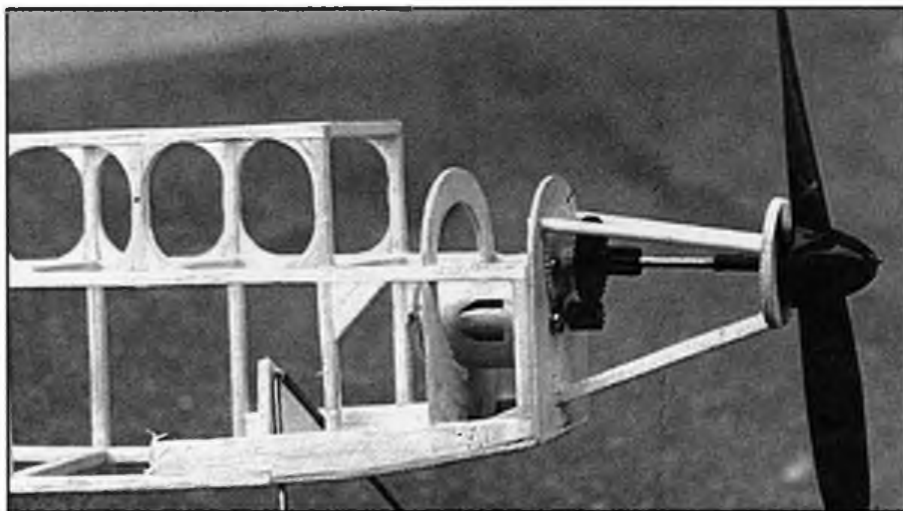


Barry Shaw's neat adaptation of KSB fuel timer. Instead of squeezing fuel tube, timer arm depresses 1/8in. dowel pushrod to actuate microswitch cut-off. All that's needed is a new lower bracket. Very interesting!

man with the Potez covered in your own product – Litespan!), and surely it will not be long before the potential shown by the four engined Lancaster at last year's Alumwell meeting is realised. Comparison with CO₂ models shows a similar form of development of interest, with firstly sport and then scale models coming along, the latter being of increasing complexity and worth. What has not happened to any great extent yet with electrics is the development of pure Duration models. Taking the comparison with CO₂ duration models provided some excellent technical development and appreciation of the characteristics of the power unit. This provided a spin-off into sport and scale by the use of better props and refuelling techniques. I think the same thing could happen to

models of the Achilles type. Indeed the old Keil-Kraft kit for the Achilles 24in span rubber sports model makes an ideal first electric when re-engined with a standard KP01 unit. My own version has long since flown away so unfortunately I cannot provide you with a picture of the installation! My thoughts turned to both indoor and outdoor duration with a limit on the flight pack size to give reasonable potential for duration, but not so much as to give very long and boring flights. Since the KP01 is going to be the smallest commercial viable unit around, thoughts centered on the use of this, or its equivalent such as the Hi-Line from America. The standard flight pack of three 50mAh cells is normally arranged in series to give 3.6 volts and approximately

limitation is the the total capacity of all the cell(s) carried in the model should not exceed a nominal 150mAh. Thus you use three 50mAh cells, two 75mAh, or one 150mAh, connected in series or parallel as you wish. There are no limits on model size other than for indoor where maximum weight should not exceed 150gm for safety purposes. For indoor the best two flights of the day to count; for outdoor the same rules as for CO₂ with two minute maximums or at the discretion of the organisers bearing in mind the wind and retrieval conditions prevailing. I look forward to hearing of you, the readers thoughts on this aspect of electric flight. As for a name for the class, perhaps I could suggest Durelec since it sounds a bit like the battery and we may get some sponsorship out of it!



Another from Phil Stanson of California; geared 280 motor built into Miss America; has 7 x 4 prop.

Conversion!

Astute readers will have noted the contribution by Barry Shaw in October's Vintage Corner. In fact Barry contacted me some time ago for a bit of advice; he seems to have profited from it rather well. A recent letter reveals that as a young lad he did not have too much success with i.c engines, finding them impossible to start. His conversion to electrics is now complete, and he says he would not dream of using any other form of power. One or two interesting points emerge from his letter which are worthy of further consideration. The first is that a recent conversion of a vintage power model intended for spark ignition power came out at almost exactly the design weight of the original, even when carrying a good-sized flight battery pack. This is exactly as I found with my Halifax Spartan. Also the power output characteristics with a geared electric motor turning a large power prop are very similar to a low revving spark motor. Thus the trim and flight characteristics are also very similar. I think there is nothing worse than an overpowered vintage design doing things that the original was never intended to do! Thus it seems that the current crop of geared electric motors, in both large and small to medium sizes, are excellent substitutes for vintage i.c power units. A good picture of the geared Union motor fitted in the nose of a mini Simplex (APS free plan!), is shown, together with a shot of Barry's very neat conversion of a KSB free-flight engine timer to give accurate ten second power bursts on electrics. Note the simple use of a piece of 1/8 in dowel as an actuation rod from the original timer fuel tube crushing lever, to push the button of the microswitch and turn off the power. The toggle switch turns on the

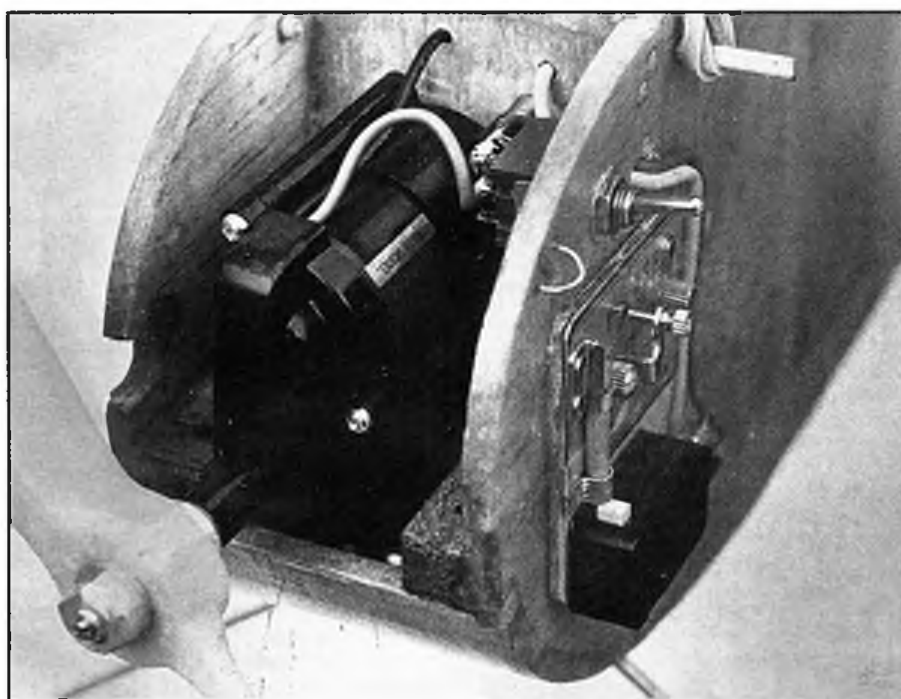
power of course at the start of the flight. Several ten second flights are available from the 270 mAh battery pack with recharging. Thus you could go out for an hour's relaxation with just the charged flight pack and model; no winder, fuel bottles, gas cartridges or anything! Couldn't be simpler, could it?

The second main point to be noted in such installations is that of trim. Like Barry, I normally trim power models of all types to turn left, particularly so with electrics. To achieve this reliably sometimes requires quite large amounts of right sidethrust to prevent an excessively tight left turn. Barry asks if I have found the same to be true on my conversions. The answer is yes and no. Yes on models which originally had modern engines installed, and no on those which had vintage engines in them

thus less torque producing prop, these built in trimming aids tend to give a right power turn, dangerous because of the spinning and diving effect caused by gyroscopic precession of the rotating mass of prop and crankshaft. Thus modern conversions of vintage designs often have surfaces in neutral positions. When engaged with a modern type, trimming can then be undertaken normally and a left turn induced by the small amount of torque produced by the small prop. If you now go and put in a geared electric motor with a giant prop (in comparison anyway!), with no changes to the trimming surfaces, a very tight left turn results due to the much larger torque effect of the big prop. Some kits and redraws of vintage designs have lost their built-in trim features, or they were never recorded, hence the seeming requirement for lots of right sidethrust. I seem to have rambled on a bit about this, but it is important. I remember seeing Robin James, with his electric powered version of his charming quadraplane Whoopee, give a very convincing demonstration of the effect by altering the power turn to the left from tight circles to wide open ones simply by cropping bits off the prop diameter. This is one of the aspects of free-flight that gives me so much pleasure, the control precisely of flight characteristics by subtle changes to minor trim items. In this way you really get to know your aircraft. This aspect of trim has got to such a stage that other club members now give me 'impossible' models to sort out, since they know my particular interest in this area. Once again the sheer predictability of electrics is a pleasure when trying to trim in an exact way. The attraction of Indoor flying is also strong here since you are dealing with as near a perfect environment as possible. Anyone who has seen the way Butch Hadland and Any Sephton trim their indoor scale types will appreciate what I am trying to get across about the pleasure of achieving a perfect scale like free-flight

and lastly...

I have just this morning received a pre-production version of a new double motor and battery unit from Derek Knight of KP, so wait for next month to read how it performs and goes...



Union 'Champion' geared 280 motor in APS Simplex by Barry Shaw.

SNARLER!



Put teeth into your F/F sport flying with
**John Poletti's scaly low winger for 1cc
 motors**

THIS model was designed to be representative of a typical WWII fighter and yet be easy to build, tough and docile to trim. I have built two Snarlers, the first now being 20 years old, so I can safely say that the design aims have been met! While perhaps not a 'first' F/F power model, it would be quite suitable as a second. Snarler lends itself to a huge variety of colour schemes, and minor changes of tip shapes, wheel covers and so on. Imagine it dressed up as a Mustang, Hurricane, Dewoitine D520, Tony, Yak 9, Heinkel 100D or whatever takes your fancy...

My second Snarler was built for a local contest known as 'Gotch'. I have had little success in tracking down the beginnings of this contest. Any one out there know? The rules are for F/F non-scale models. Static points are awarded for contestant's own design, colour scheme, detailing and workmanship, while flying points are given for climb, transition to glide, glide and landing. Bonus points are given



Snarler's pilot is from expanded polystyrene, tissue covered. Guns are ali.



Nose to nose. Mk2 has an ME Heron, Mk1 is fitted with a DC Spitfire.

for successful ROG take-off, with the highest bonus for success at the first attempt. This contest is one of the few where it is difficult for someone else to beat you with your own design!

Snarler Mk1 is powered by a DC Spitfire, while the Mk2 has an ME Heron. Any 0.8 to 1.5cc should do, although it would have to be kept light for a point-eight. Medium grade balsa was used except for the wing and tail sheeting, nose blocks and nose planking which were soft. I used PVA glue throughout, except for epoxy on the engine bearers and undercarriage.

Building the fuselage

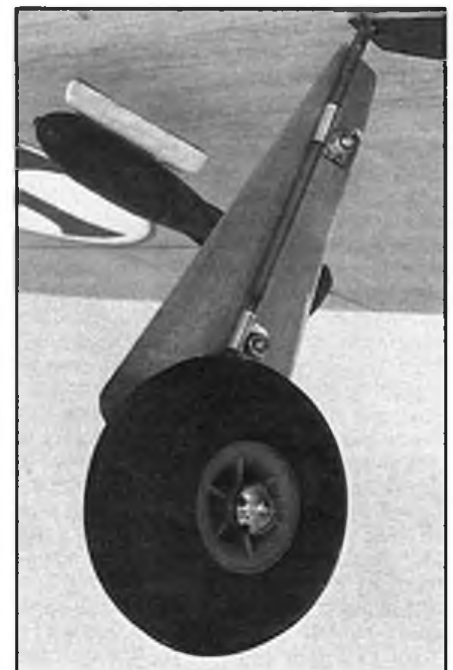
Cut out the two 3/32in sides (marking the former locations on the inside) and the wing and tailplane doublers. Check the bearer spacing for the engine you're going to use and then cut out the fuselage formers. Cut the stringer slots in F6 and F10 only at this stage.

Glue the doublers, 1/8in sq longerons and 1/4in sq nose longerons to the sides. Epoxy the engine bearers to formers F1, F2 and F3. Make sure this is accurate, noting side and down thrust. (Some temporary gusset templates may help here). When set drill bolt holes for the engine, and glue the nuts to the bearers. Now glue the sides to the bearer unit, join at the tail and then fit the other formers.

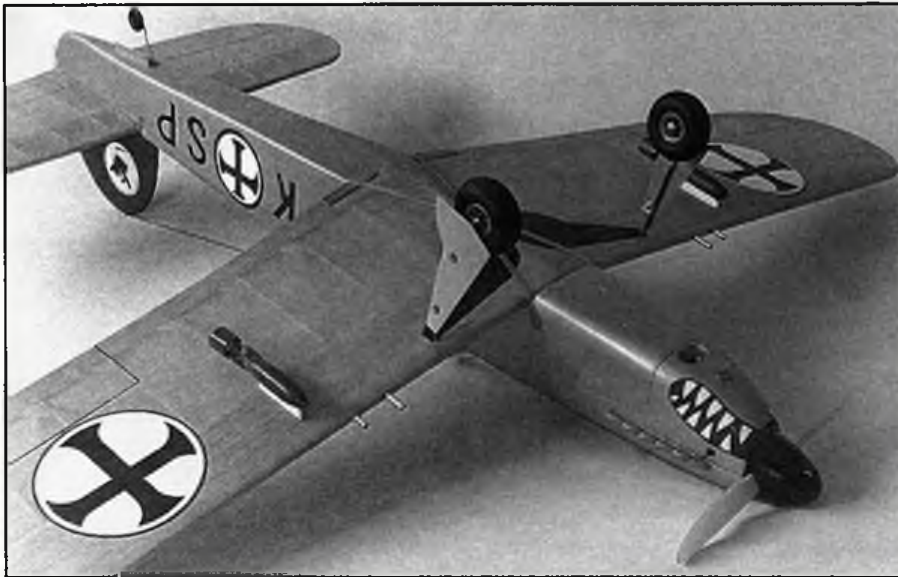
Plank the nose with 1/4in wide strips of soft 1/8in balsa. Fit the top nose block, and carve to shape. Sew the 18 SWG tailwheel wire to a piece of 1/16 in ply and epoxy to F10.

Use a straight-edge to mark the stringer locations using the slots in F6 and F10 as a guide. Cut the slots and fit the rear stringers. Relieve F7, F8 and F9 between the stringers using sandpaper wrapped around a dowel. Add the 3/32 in and 1/8in bottom sheeting, and round off the edges. Fit any cockpit details you

want at this stage. Laminate the canopy frame from 1/32 x 1/8in and glue to the back of F5. Add the dowels for wing and tail bands. Cut out the two formers C1 and C2 and a piece of soft block for the cowl. Glue cowl formers to the block, and then tack glue cowl to fuselage. Carve outside of cowl to shape, remove, and hollow inside to suit motor. Then cut out the



Undercarriage detail; soldered washer retains wheel, wheel covers have tinplate straps.

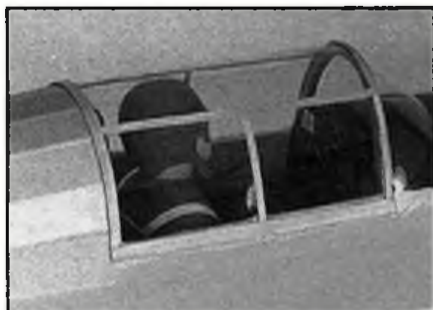


Underside view; note ply facing for wing bands and trailing edge gussets.

cooling ducts, comp screw and needle valve holes. Fit a 1/16in dowel for the cowl retaining band.

Wing

Cut out root and tip templates from 1/32in ply or thin aluminium. Cut enough rectangular 3/32in blanks for the ribs. Pin templates to each side of stack of blanks and carve the ribs (one



Cockpit has basic detailing - watch the weight though...

stack for each wing panel). Pin LE, lower spar and TE down onto plan. (Note these only reach the tip rib). Glue ribs and tips in place. (Tilt the root ribs 9 degrees for the dihedral). Fit 1/16in webs between ribs, and then fit top spar. Remove from plan. Cut out the ply dihedral sub-spars. Bend the 3/32 undercarriage wires to shape and bind to the sub-spars, but do not glue yet. Cut away ribs as necessary, and epoxy sub spar assembly in place. Now epoxy over the binding to hold U/C in place. (You can leave the U/C off if you like, but don't leave out the ply spars). Now sheet the LE top and bottom with 1/16in and also behind the spars for the first rib bay only. You can also fit 3/16 x 3/32in diagonal bracing between the ribs, from the top spar to the trailing edge.

Tailplane and fin

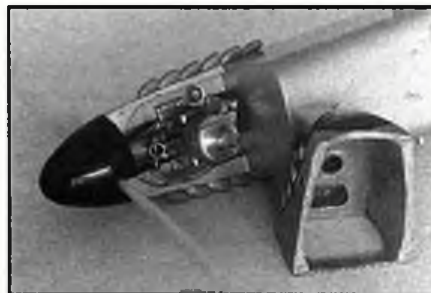
Cut out tailplane root and tip ribs, and rectangular blanks for the others. Build tailplane on plan as for wing. Then carefully sand rectangular ribs with a long sanding block to match root and tip. Remove from plan and sheet LE. Fin is simply cut from 1/8in 'C' grain balsa. Fit a thin aluminium trim tab to the fin.

Covering and finishing

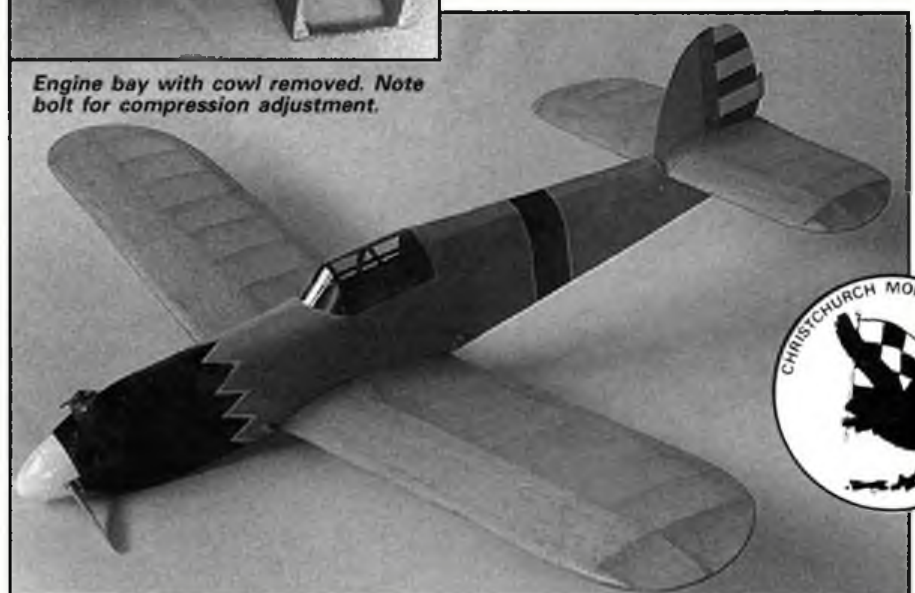
While you may prefer your own favourite covering method, what I do is as follows. Sand entire airframe smooth. Give several coats of

50/50 dope thinners, sanding between coats. Cover all open areas with white lightweight tissue and give one coat of dope. Then cover entire airframe with lightweight tissue, so that the open areas are double covered. It helps to spray the second layer with water and smooth in place first. Use dope as the adhesive, brushing through the tissue. The resultant blushing can be removed with lacquer thinners.

Check for warps in the wing and tail and steam out if necessary. (About 1/4in washout in each wing tip is OK though). I used coloured tissue for the wings and tail, while the fuselage and fin were sprayed with automotive lacquer. You could use car touch up aerosols. Spray or brush on any markings as desired, using a combination of masking tape, 'contact' film and a spring-bow pen, or you could use commercial



Engine bay with cowl removed. Note bolt for compression adjustment.



Snarler Mk1 had an upright engine and no undercarriage. Now twenty years old, model has been re-covered and repainted. Still flies well!

transfers.

Final assembly

Glue the thin acetate canopy pieces in place. Framing can be simulated with doped paper strips stuck on with contact adhesive. Make up a small tinplate tank as shown on the plan, or use a small 'team-race' tank. This is fixed to the bearers with small PK screws. Solder a wire hook to the tank to take the cowl retaining band. You may need an extended comp screw. I used a bolt with a strip of tinplate soldered around the head. Solder brackets to the U/C wires and bolt thin aluminium wheel covers in place with 8BA bolts and nuts. Fit wheels and retain with soldered washers. You can also fit any WW2 fighter paraphernalia such as a pilot, exhausts, guns, radiators, bombs, rockets, bulges and blisters and so on, but don't overdo it. My Snarler weighs 13.5 oz all-up.

Glue fin between centre tailplane ribs. Temporarily pin tailplane key to tailplane and band tail to fuselage. Check fin alignment, and then glue key to tailplane. Band wing and tail in place, and line wing up so that it has equal dihedral each side, and is square to the fuselage in planview. Now mark the wing so that it can always be fitted in the same place. Fit engine and spinner. Use an 8x4in prop. Finally check that the CG is as per plan. If not, adjust by adding weight to the nose or tail

Snarlers scrambled

Now the fun begins Set the trim tab to the left about 30 degrees. Test glide over long grass. Glide should be fast and flat, with a hint of left turn and trace of stall. Trim by adding packing to the tailplane. When satisfied glue packing in place and try a hand launch on low power. The model should turn gently to the left in an extended powered glide. Slowly increase the power each flight correcting any excessive turn with the trimtab. No thrust line adjustment was needed for my model, but an increase in downthrust might be necessary. Once full power is reached you can try a take-off. Mine runs nice and straight ahead as it gains airspeed. It then drops the left wing and dives gently beating up the launch point before climbing in safe left circuits. Glide is to the left also, and it will land on its wheels if the surface is reasonable

Hope you have as much fun with the Snarler as I have had with mine!



1000 BMFA NA

IT is a measure of the enthusiasm for Aeromodelling this year that, no sooner had the 'season' begun then it seemed that the August Nationals was upon us. A fine summer with plenty of opportunity for model flying always fuels the interest, and clearly, attendance at – and participation in – this Nationals Championships was high. As ever, it was most enjoyable to welcome visitors from overseas, although a pity to have to report that visa difficulties caused the non-arrival of the expected Russian entrants. Nevertheless, even despite much talk of the future of model flying at Barkston Heath, events were run efficiently and to time; and strong individual performances helped to make this a Nationals to remember.

For Radio Control activities we'll refer you to our sister publications RCM & E and Radio Modeller; but now – on with the show!

Free Flight Scale: Report by Bill Dennis

The conditions for F/F scale this year were almost perfect, and although entries were down somewhat, we were treated to some good flying and one or two spectacular models. The fine weather meant that the published timetable could be adhered to, and the rubber and CO₂/Electric events took place in the afternoons, with quite a large audience each time.

Rubber

The first session took place in almost flat calm with just the occasional thermal passing through. Derek Knight had a superbly made and detailed He 100 – a model which always flies well, and he went on to an early lead with a very good flight despite the hand launch and 'wheels up' approach.

Barry Hetherington premiered another huge model – a new black and gold Stinson Tri-motor



Most impressive Rubber Scale Stinson Trimotor by Barry Hetherington promises much for the future.

which looked very stately in the air, although suffering from a minor but persistent power stall. The other model to qualify at this stage was Bill Dennis's Isaacs Fury which made a very good, if thermal-assisted flight from a hand launch.

On Sunday afternoon Andrew Hewitt qualified with his remarkable Gee Bee racer. However, the most amazing flight of all was by Mike Hetherington's 60 span Mosquito. This follows the design philosophy of his equally large Spitfire, being an ultra-light 'outline' model (and somewhat difficult to handle). Twin,

geared motors in each nacelle drive opposite-handed props which are 'folders' to prevent damage on landing. A simple retracting undercarriage is operated by a Tomy timer in the nose. The model qualified easily from a hand launch and then proceeded to make ROG attempts. This involved a team of three handlers plus numerous advisers, all carefully choreographed to get the fragile beast away. The model rolled forward about twenty feet before the wheels snapped up, leaving the model with no choice but to fly! At this speed it would have taken 633 Squadron several days to cross the North Sea; nevertheless the model impressed the judges in both static and airborne performance to a remarkable degree and it placed second to the very boring Isaacs Fury which scored the only other ROG.

CO₂/Electric

The turnout here was very disappointing with only three models flying and no new aeroplanes. However, it was good to see Barrie Hotham back in action with his General Aristocrat converted to Electric from Rubber. Barrie's forays into Nationals competition unusually follow a set pattern. He will turn up with a beautifully built model which he demolishes on its first flight.

Then, if he is lucky, his team of 'minders' will get to the remains before he jumps on them, and spend the afternoon glueing them all back together, before making a winning flight. In this manner he scored a popular win this year, due in no small part to Doug Hunt, Paul Briggs and Zap adhesive!

Entries in CO₂/Electric, and levels of expertise in Rubber seem to be going backwards at an alarming rate, and at times approach the embarrassing. The ever-patient judges allowed a full six hours for about ten models to amass in their qualifying flights. ROG



Unbeaten static score helped Barrie Hotham's fine General Aristocrat to first place in CO₂/Electric Scale.

IONALS

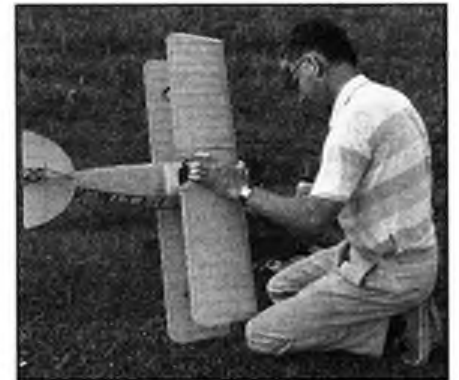
**Scale and Control Line
action from RAF
Barkston Heath, August
25-27th - Part one**

attempts are rare, and successful ones fewer. Part of the problem is that modellers pick such unlikely subjects, so they are up against it from the start. A visit to Old Warden Scale and Vintage Days shows how well Rubber scale models can fly - it really isn't that difficult. As an example, the Earl Stahl designs go superbly; indeed, they would be just as good if they were accurate in outline and given a few details and a lick of paint. Doug McHard's Demon would have won by a mile...

was unable to take advantage of the conditions, flying in tight circles close to the ground. Bill Dennis's Hawk Moth flew very well on reduced power but was unable to make up the static defeat over Terry's Strutter.

Finally, it seemed very strange flying without Eric Coates in the contest. Eric has had some serious eye trouble but is happily recovering, and will be back next year. He was, in fact, flying in R/C - as well as he did before, which must be disappointing!

Andy Sephton. Charlie Newman has finished a successful four-year stint in charge of F/F Scale at the Nats, and thanks are due to him. Volunteers to take over should form an orderly queue...



Power Scale was contested (and won) by relatively well-known craft so, as a change, here's sixth-place Mike Allen's new Sopwith Schneider from APS plans (right).



Scale Matters columnist Bill Dennis was top in Rubber Scale with this neat Isaacs Fury I.

Control Line Scale: Report by Derek Bird

An entry of eight, with several regulars missing including last year's winner John Roberts meant that Contest Director Margaret Staples was able to get the event under way promptly on Sunday morning in perfect flying conditions; warm with a light breeze.

P Burrows of Burnley & Pendle failed to show with his Cierva C30A Autogyro so we were denied the experience of a C/L version of this aircraft. Apparently tank problems had delayed him although he presented the model for static judging.

Dave Kenny of the Heswall Club entered a Mk9 Spitfire in Canadian livery with retractors and flaps worked by an electronic control system. Some problems used up two attempts for his first flight.

Power

In contrast, everyone qualified in power and flew well right down the list. The first evening was quite breezy, and only Terry Manley's 1.1/2 Strutter made its best flight here in a relative lull which allowed it a long take-off. The other models saved their best for the following session, none more so than Andrew Hewitt's Camel which, from a hand launch, produced one of the most superb flights I have seen, climbing steadily ahead over the crowd at perfect speed with its flight leader's pennants streaming in the breeze. It made one very large circuit at about 200 feet before safely gliding to earth, and the spontaneous applause from the audience showed that they appreciated the achievement of getting a difficult subject to fly in such a manner. Mike Allen is more often seen at Indoor Scale meeting, but he was here with a very neat APS Sopwith Schneider floatplane powered by a Mills 1.3. This did not have enough power to lift the model off the dolly but it eventually qualified from a hand launch. The pendulum rudder and elevator seemed by general consent to be spoiling the flight pattern.

Mike Smith's ancient Strutter rivalled Terry's in performance, but less so in static. Derek Knight's Tiger Moth is an extremely accurate and well-built little aircraft; and this was one of those rare calm-weather occasions when such a model could compete with the diesels, but it

Power: Superscale Trophy (7 entries)

1	T Manley	1 1/2 Strutter	973	1067	2040
2	W Dennis	DH75	910	1050	1960
3	A Hewitt	Camel	1005	917	1922
4	D Knight	Tiger Moth	1018	616	1632
5	M Smith	1 1/2 Strutter	587	1015	1612
6	M Allen	Sopwith Schneider	695	680	1375

Rubber: Model Flyer Trophy (10 entries)

1	W Dennis	Isaacs Fury	618	1010	1628
2	M Hetherington	Mosquito	517	1016	1533
3	D Knight	He 100	742	744	1486
4	A Hewitt	Gee Bee	807	675	1482
5	B Hetherington	Stinson Tri-Motor	510	602	1112

CO₂/Electric: Knight Trophy (5 entries)

1	B Hotham	General Aristocrat	947	772	1719
2	D Causer	Hawker Woodcock	834	801	1635
3	D Knight	Avro 560	862	749	1611

Conclusions

Quite a few 'old faces' were present and showing an interest in F/F Scale. I had last seen Dave Platt in the sixties when R/C Scale was becoming big, and his scale weathered finishes on models like his Dauntless set the standard. He now has a copy of Coates BE 12b and it would be nice to see him flying it here next!

Finally, thanks go to the people running the events, including judges Paul Briggs, Brian Downham, Martin Fardell, Barrie Hotham and

After some fettling he managed a short flight demonstrating the retractors but was unable to complete his options, scoring 982.

The first of this year's new models was next, and what a model! Entered by Bill Brown of Edinburgh MAC the Caproni CA3 Trimotor biplane (two tractor, one dummy pusher) of some seven feet wingspan was of real museum quality, its intricate construction and depth of detail all making for a most impressive aeroplane. He too used up both attempts on his first flight: on the second, although suffering an engine failure, he managed to display some of this model's potential, which hopefully will be achieved in the future. A high score, however, was not to be as his



Just in case you missed it last month, here's Chris Bradford and C/L Scale-winning Nieuport 17-cl.

documentation (alas) failed to impress the judges, lacking vital information. A situation sadly all too frequent, denying the entrant and making life very difficult for the judges – so get those docs sorted!

Bill scored 1125 - but it could have been very much higher.

Bernard Seale of Eastbourne was next with his Thulin biplane – using a four-stroke he made two capable flights with realistic engine sound, and with a good static score he eventually placed second with 1416. Regular participant Bernard will be one to watch for the future.

Geoff Burkett flew his SE5a in his usual spirited fashion but although nominating a loop, failed to accomplish this manoeuvre on both flights which probably cost him a place in the first three. He scored 1362.

Several times winner Chris Bradford of Marlborough MAC went back to basics with his Nieuport 17cl and showed that a model with no mechanical features, just flying options, but accurately



Yes, we know he was on November's cover but Bill Brown's Caproni CA3 was a deserved show-stopper in C/L Scale.

made with adequate documentation can still hold its own quite capably. Chris put on a polished flying performance: his loop was near perfection and he scored highly throughout.

Top in static and flying he achieved first place with 1597.

Anyone with ambitions on the Knokke Trophy would be well advised to start this way.

Brian Cordwell flew a semi-scale Mustang but could only manage a modest score.

The second new model was by Wal Cordwell who flew a replica of the Dragon Rapide 'Women of the Empire' normally based at Old Warden. Of some 63in span the model had only flown for the first time the previous day, so Wal was not entirely conversant with it, but he managed two good flights with the prospect of more to come, to place third.

Control Line Scale always attracts a good crowd of onlookers, who often remark 'I'm very interested in C/L scale...' So why not make the effort for next year – you'll be most welcome!

Thanks are due to Contest Director Margaret Staples and Judges Mick Staples, Derek Bird and Alan Fritz.

Speed: Dick McGladdery

This event is effectively eleven contests in one. There are ten classes of speed models under British rules, and an annual trophy is awarded for each; however, no single class attracts sufficient support to justify its existence as a separate event. Instead all ten classes compete in a single 'handicap' event, using the relevant class records as the basis. Thus, entrants can focus their ambitions on a 'class win' even if they have no chance in the main 'handicap'. In theory, every entrant can fly in all classes at each meeting, giving them ten strings to their bows, but in practice most have their hands full getting one model to work. A few manage to fly two or even three classes, but only each individual's best result is taken into account for the handicap. If nothing else, it all makes for a wide variety of shapes, sizes and solutions and is arguably more interesting for spectators than a 'pure' FAI contest.

Class 049 (0.9cc)

Record: 102.14mph. Lines: 0.25mm monoline or two 0.2mm wires, 13.26 radius, groupers allowed. Design: Open. Fuel: Nitromethane allowed. Despite favourable weather and fine entries, only one official flight was recorded. This was by Ken Morrissey at 83.52mph

with a symmetrical, upright two-line model powered by a piped Tee Dee 049 fed from a 'hard' tank on crankcase pressure. The motor has seen better days and the 81.77 per cent handicap score was discarded since Ken did rather better with his '60' model (likes a bit of variety, does our Ken). Gordon Isles brought along his semi-scale Spitfire 22 (Tee Dee 049) on bladder) but measures to cure its twitchy handling did not work. Needs electronic fly-by-wire, perhaps... Paul Eisner tried the monoline approach with a symmetrical, upright, Tee Dee on bladder, which flew fine until the elevator fell off...

Class '09' (1.5cc)

Record: 139.98mph. Lines: 0.35mm monoline or two 0.25mm wires, 14.47 radius, groupers allowed. Design: Open. Fuel: Nitromethane. This class is suffering from lack of suitable commercial engines, which would need to be pretty good to compete with Myszka/Allcock's record of some four or five years' standing. Joe Myszka developed his sleeved-down Webra Speedy and steelpipe over several years; the model is a symmetrical, upright monoliner with pipe-pressure fuel system; however, Joe deserted speed a few years ago for other pursuits. He has been threatening a comeback, but for the moment, the class trophy is a plum for the picking. It was scrumped by Martin Radcliffe flying a PAW 149 diesel in a profile, two-line trainer model - the same as he demonstrates at the Elmbridge Symposium, flying it by holding the handle in his teeth! Here, though he used his hand (his neck was bit too big for the pylon yoke); his speed being an underwhelming 63.71mph (45.51 per cent). Martin did rather better in '60' (another lad who likes extremes) so this handicap score was discarded, but he got the pot.



A blast from the past – Ray Gibbs no less! Model, grounded by equipment problems, has K&B 40, minipipe and bladder for F40 class.

Class '15' (Open 2.5cc)

Record: 203.91mph. Lines: 0.5mm monoline or two 0.4mm, 45.92 radius, groupers allowed. Design: 'Open' Fuel: Nitromethane allowed. Class record holder, Paul Eisner was the only entrant to mount a serious effort in this class. Others using it mainly as an opportunity to fly their second string FAIs and the like. Paul's model was his record-holding lightweight FAI, sidewinder asymmetric with Irvine 15R and pipe on suction, flown on two 0.4mm wires grouped with 6mm lengths of hypodermic tubing and Sellotape at about 10cm intervals. His best official was 196.39mph (96.31 per cent) of the record which earned him fourth place in the handicap, with backup flights of 194 and 195. I find the rotation rate at 180 very difficult and just how Paul manages 15-25mph more, I just do not know. Second in this class, Ian Mander was trying out a spare FAI, recording a best of 174mph, then came novice Ivan Prior getting a taste and thoroughly enjoying tuned pipe flying with an old MkII Rossi FAI. His best was only 124 overall from a very ropey run, but he was drooling like Mad Dog Malone about the way the pipe kicks in! Last in the day, Steve Kinsey recorded his first-ever official flights with a best of 90mph with his rudimentary profile MVVS model.

Control Line Scale

1	C Bradford	Nieuport 17cl
2	B Seale	Thulin
3	W Corwell	DH Rapide
4	G Burkett	SE5a
5	W Brown	Caproni CA3
6	D Kenny	Spitfire Mk9
7	B Cordwell	Mustang
8	P Burrows	Cierva Autogyro

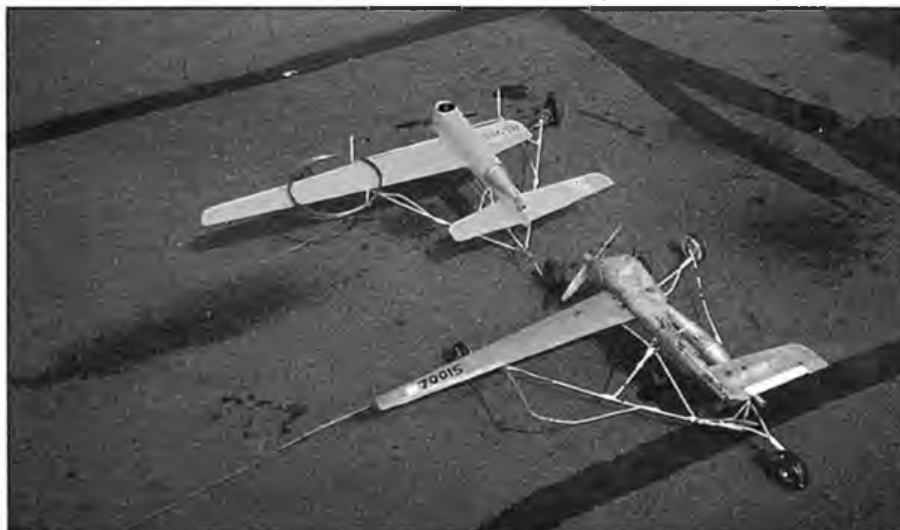
	Static	Best flight	Total
1	547	1050	1597
2	497	919	1416
3	447	963	1410
4	471	891	1362
5	470	655	1125
6	420	562	982
7	230	737	967
8	506	-	-

Superficially unexciting, but Steve is naturally left-handed, and on the advice of his guru is learning to fly speed using his right hand. This has a number of advantages and is well worth the trouble.

Class FAI (F2A)

Engine capacity: 2.5cc maximum. Record: 187.82mph (302.27kph). Lines: two 0.4mm 15.92m radius, groupers not allowed. Design: minimum flying surface are 2.0 sq-dm per cc of engine capacity and 1.0 sq-dm per 100 grammes wet weight. Fuel: straight 20:80 castor oil/methanol only. Use of FAI crossbar handle and pylon fork mandatory.

This was the best supported class with nine entries. British fliers are a force to be reckoned with in FAI these days, taking second team prize plus 5th, 6th and 8th individual placings at this years' C/L World Champs at Blendod, France in July. The cornerstone of this success is the Irvine 15R, a production engine available to anyone for a modest £105-odd complete with tuned pipe, yet capable of giving the world's best a run for their money - maybe beating them one day, but we have some more work to do before we manage that. The performance level at this years Nationals was pretty fierce, even 6th place topping 170mph.



Martin Radcliffe's upright, semi-asymmetrical Handicap Speed model with Dick Miles' Metal Mickey; OS 60RV and F1 powered.

It was no surprise that Peter Halman, Irvine's production/development engineer and designer of the 15R won the class by a comfortable margin at 183.65mph, with four others tying for second place. On recent form, Paul Eisner was probably favourite; Ian Mander looked to have the potential, Dave Brewin was working hard and my own machinery seemed capable, if only it would work properly. In the event, it did, giving me a best of 179.38mph, a scant 0.43mph better than Paul Eisner at 178.95. Ian Mander was close behind with 176.87mph with Dave Brewin, hard on his heels only 0.6mph slower. Ken Morrissey was only just getting his model something like sorted out but suffered a damaging prang which took him out - though not before he had recorded an official 170.37mph. Also suffering a terminal prang, Gordon Isles was less lucky, failing to record a time, and Ivan Prior found the FAI handle/pylon too difficult on his first acquaintance. Finally, Steve Smith took time off from swinging team racers around and flew his now elderly 'Halmanised' MkIII Rossi powered model, more for fun than seriously, recording a best of 161.51mph. An Irvine powered replacement is on the way.

Class '21N' (for Newcomers)

Engine capacity: 3.5cc maximum. Record: 140.00mph. Lines: two 0.4mm, 15.92 radius (no groupers, monoline not allowed). Design: 'Open'. Fuel: 10 per cent nitromethane only. Exhaust system: max length 240mm, max final orifice 6mm dia. Entry: restricted to 'newcomers'; that is, anyone who has not previously scored more than 80 per cent of any class record (other than 21N).

This class was conceived to seduce new addicts to speed, and it seems to be working fairly well; the models and motors are much more tractable than 15s, 09s and 049s capable of being flown in all but the windiest conditions yet big enough to be exciting to fly when working properly.

Ralph Curry had a basic semi-profile model

powered by an Irvine 21R fitted with the Irvine Super Silencer and managed 99mph on his first attempt then suffered a wing over (caused by a dolly hang up) which destroyed everything. This was most unfortunate, for Ralph had worked very hard to make his first-ever official flight, he being another natural left-hander who had heeded advice to learn to use his right hand for anti-clockwise pylon flying. Star performer in 21N (and also putting in much hard work) was Ivan Prior, with a very capable Irvine 21R/Super Silencer model, an upright asymmetric with a crankcase pressure feed fuel system. He had already won a competition with this model earlier this year, so his days as a newcomer are numbered. He had high hopes of snaffling top handicapped place with a new record, but ran into problems on the day, and his first official was his best, 137.67mph, scoring 98.34 per cent on handicap for a well-earned second overall position.

Class F21

Engine: 2.51-3.5cc. Record: 181.42mph. Lines: two 0.4mm, 15.92mm radius (monoline and groupers prohibited): Design: 'Open'. Fuel: nitromethane allowed.

Steve Kimsey made several attempts with his 21N

model, which was his profile job fitted with a side exhaust Irvine 21; this was ineligible for 21N as the required exhaust system would have been too vulnerable, so he flew it 'open exhaust' in F21. He didn't manage an official flight, but the practice he got in the course of four attempts contributed to his eventual success in recording his first ever official flight in '15' with the same model reengineered with an old MVVS. Peter Halman gave his Irvine 21R model a few swings, but it was so slow that he slung it back in the box and concentrated on FAI instead. Team Blackwell/Murton/Burgess had an unusual shouldering semi-asymmetric model, OPS 21/minipipe/bladder recipe, and their best result was 123.38mph from a rather poor engine run. Finally, hitting the jackpot, Dave Smith won both the class and the handicap with his Nova Rossi 21 model, an archetypal FAI pumped up to take the larger engine. Sidewinder asymmetric, suction feed and Irvine 21 pipe all contributed to a sparkling best of 181.13 (99 per cent) backed up with more officials, both at 177.53mph

Class 29

Engine: 3.51-5.0cc. Record: 185.02mph. Lines: 0.6mm monoline or two 0.45mm wires (groupers allowed). 1990m radius. Design: 'Open'. Fuel: 'Open'. Four hopefuls in this class, but only Ray Cox (OPS 29 on his own steel pipe, upright symmetrical monoline model on 'suction') and Ian Skinner (Super Tigre x29 and tuned pipe, semi-asymmetric upright monoliner on suck) managed official flights. Both seemed to have potential, with Ray appearing to have the edge, but erratic engine runs marred their efforts. Ray's best was 162.21mph but Ian got the shout (and the trophy) with 172.47.

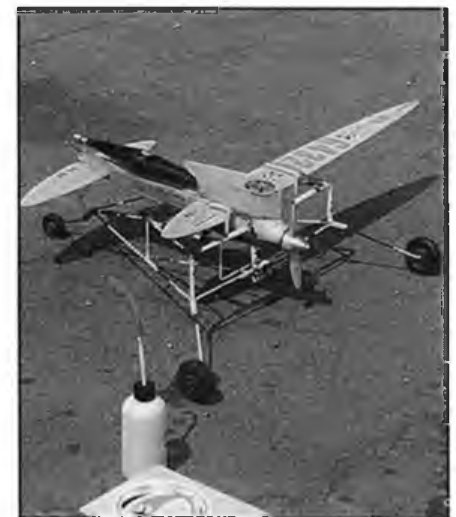
Class '40'

Engine: 5.01-7.0cc. Record: 187mph. Lines, design and fuel as '29'. '40' was up for grabs like '09', but somehow nobody got around to making any attempt

for the trophy. The 187mph record is actually arbitrary, having been set by the speed committee when the line sizes were increased some eight years ago. Previous to that, Mike Billinton had set the mark at around 194 with a tiny symmetrical upright monoline, K&B 40 RV powered on bladder, minipipe and meganitromethane fuel. The model was built as light as possible (around 20oz if I remember correctly) allowing use of very thin monoline under the rules that prevailed at the time. I keep saying we have too many classes. Perhaps this one should be a candidate for elimination (that should provoke somebody into making a bit more of an effort).

Class F40

Engine: 5.01-7.0cc. Record: 172.73mph. Lines: 2 x 0.45mm, 19.90m radius, no monoline or groupers. Design and Fuel: 'Open'. This class attracted an extremely varied if small crop of entries. Tempted out of retirement, Ray Gibbs (a legend in the '50s) came along with a K&B 40/minipipe/bladder/wecney symmetrical model, but suffered equipment problems. Dick Roberts (OPS 40, minipipe, with a ground-trip shut off) laboured hard, but his best reward was only 152mph for 88.03per cent and 11th place overall. Dick is yet another left-hander, but one who has stuck to his guns and uses his best hand to hold the control handle, but to get around the awkward stance that would be imposed if he flew anti-clockwise like everybody else, he flies clockwise instead. This system has been used before, but as Dick discovered, asymmetries with engines rotating in the usual anti-clockwise direction become decidedly reluctant to leave the ground, due to the reversal of the torque effect. An early sally in this mode resulted in his model charging around at 50-60mph, apparently firmly pressed on the ground by some invisible hand. When the tank finally ran out, the plastic-tyred balloon wheels of the dolly were completely shredded! After a bit of head-scratching, it was suggested a small outboard wing might work as a temporary expedient - and it did. Hence, Dick's models now feature a 150-200mm span outboard wing, and it's doubtful whether it constitutes any significant increase in the total drag load.



Ian Skinner's 2S Class-winner. Has ST Z29RV power.

Class winner was Dick Miles, using his venerable asymmetric sidewinder. This used to be powered by a K&B, but now sports an OS40F1, because spares for the former are no longer available. The fuel system is unusual, crankcase-pressurised but featuring a device that allows the pressure to be bled down when full 'up' elevator is applied. So fitted, the engine can be set rich enough to suit the 'full power/max rpm' condition - this would normally be hopelessly rich as a ground setting with no hope of every getting it 'on the pipe' - but with Dick's 'bleeder', the mixture can be leaned out to coax the engine on. His best speed this time was 156.42mph for 10th place on handicap with 90.56 per cent, somewhat hampered by propeller problems.

Class '60'

Engine: 7.01-10.0cc. Record: 215.92mph. Lines: 0.75mm monoline or two 0.55mm (groupers allowed).

Handicap Speed: Ralph Gould Memorial Trophy

			MPH	%
1.	D Smith	F21	181.13	99.84
2.	I Prior	21N	137.67	98.34
3.	P Halman	FAI	183.65	97.78
4.	P Eisner	15	196.39	96.31
5.	R McGladdery	FAI	179.38	95.51
6.	I Mander	FAI	176.87	94.15
7.	D Brewin	FAI	176.27	93.85
8.	I Skinner	29	172.47	93.21
9.	K Morrissey	60	196.05	90.79
10.	R Miles	F40	156.42	90.56
11.	R Roberts	F40	152.06	88.03
12.	M Radcliffe	60	189.41	87.72
13.	R Cox	29	162.21	87.67
14.	S Smith	FAI	161.51	85.99
15.	R Currie	21N	98.93	70.66
16.	BMB Team	F21	123.38	68.00
17.	S Kimsey	15	89.65	43.97

Class			MPH
049	1	K Morrissey	83.52
09	1	M Radcliffe	63.71
15	1	P Eisner	196.39
	2	I Mander	174.39
	3	I Prior	123.72
	4	S Kimsey	89.65
FAI	1	P Halman	183.65
	2	R McGladdery	179.38
	3	P Eisner	178.95
	4	I Mander	176.87
	5	D Brewin	176.27
	6.	K Morrissey	170.37
	7.	S Smith	161.51
21N	1	I Prior	137.67
	2	R Currie	98.93
F21	1	D Smith	181.13
	2	BMB Team	123.38
29	1	I Skinner	172.47
	2	R Cox	162.21
40	No entries		
F40	1	R Miles	156.42
	2	R Roberts	152.06
60	1	K Morrissey	196.05
	2	M Radcliffe	189.41
	3	R Cox	181.86
	4	R Miles	153.85

Design and Fuel: 'Open'. The most spectacular of the speed classes and always popular with spectators, '60s' are a bit brutal and have to be treated with respect. A strong pilot is advisable, although skill can compensate. Dick Miles is a devotee of 60s and had his 'Metal Mickey' - a rather basic all-metal asymmetric two-line sidewinder powered by an OS60F1; the fuselage is a basic frame to hold the various components in the required locations, the tank is an old ali tuned pipe converted, and gesture to streamlining is made with a glass fibre fairing. Other features include a fixed wheel undercarriage (as does his F40) to help preserve propellers, and a fuel feed 'pincher' working on full 'up' elevator, similar to his F40 'bleeder'. Business commitments prevented Dick from devoting the time needed to sort things out properly, and his best here was only 154mph.

Ray Cox is more of a traditionalist, so his model is a symmetrical monoliner (flown clockwise) powered by an OS60 RV on minipipe and bladder, making a best run of 182mph. Exhibiting yet another approach, Martin Radcliffe (an example of the lightweight/skilled type of pilot) recorded 189.41mph for 12th handicap place with 87.72 per cent; his model is a semi-symmetric upright, monoline powered by a piped OS60RV with a pipe-pressure fuel system. The weight, is fairly substantial, and Martin is only average weight, so he has to get into the pylon very smartly before too much speed (and therefore pull) has built up. Ken Morrissey set the 216mph record a year or so ago when the rules allowed two 0.45mm lines on his Millennium Falcon, an upright asymmetric, OS60/minipipe/bladder; but the new line size has cooled his pace a bit, only 196.05mph this time, so he was the class winner, only placed 9th in the handicap with 90.79 per cent but spectacular as ever.

It had been hoped that some USSR speed fliers might attend, but apparently they were held up at the last minute by visa problems in Moscow. A pity this, as it could have been quite interesting - I wonder what

kind of culture shock would have been caused by our comparatively free-and easy organisation. Mention of which brings me to thanks to Jo Halman for her prodigious efforts in organising the whole affair, maintaining the flying order list and timekeeping throughout three days. Also, thanks to those who helped erect and take down the safety nets and other equipment, especially the latter, as it meant an earlier finish and departure for home for everybody.



Familiar shape of Tony Eifflaender's Freebird F2B Aerobatic ship for PAW 35; out of luck this time.

F2B Aerobatics: Glen Alison

A good entry this year in line with the general upsurge in C/L interest; aerobatics in particular with Class 2 (Novice) Classic and Vintage classes also included. A return to an international flavour as well with Belgian and French entries - and there was even a Russian entry promised but they had visa difficulties and did not show up.

What of the models and engines in use this year? One of the best was Dion Beesley's Sirius (ST 60) jet style stunter in red, white and gold lining with superb detail. A very neat internal silencer made it sound impressively quiet. Rex Landon had the latest in his Indian series; this one is Apache, again ST60 powered and using a carbon fibre Bolly three-bladed propeller. Superb metallic cellulose finish in blue and silver.

George Liber from Belgium had a built up wing version of the SIG Magnum fitted with a Super Tigre .49 sport, an engine not seen here on the stunt scene before.

Gerard Billon the French Champion, flew his familiar, old Olympus but now fitted with an OS 60, which makes a change! The weather this year was superb, almost too good with the bright sun directly downwind in the fliers' (and judges') eyes at the beginning of proceedings.

It was the usual arrangement, under director Mike Feaver, with two circles operating on Days One and Two. All thirty-five entrants got two flights in each circle, each day and the best scores from each circle were added to make a total from which the top fifteen progressed into the third day fly off. The fly off is a separate, three-round competition with the best two flights added, for the final result.

Some new faces were seen in the judges line-up this year. It was good welcome Brian Horrocks, the famous Australian stunt flier. Also, Pete Tindal, ex Gold Trophy winner and absent from the competition scene recently, made a welcome appearance. Bill Tanner came from Scotland, and last (but certainly not least) was regular judge John Harley.

Weather on the second day was hazy and slightly windier. Dion Beesley qualified for the fly off, with the Sirius but then discovered a loose elevator horn which required major surgery to repair. Richard Handscombe just failed the cut off point after a bad run from his PAW 35 in the Freebird.

On the final day the breeze was rather stronger. A full International team of five judges were on duty (the highest and lowest scores are void). In the first round there was calamity for potential winner Tony Eifflaender when his 'down' line broke causing the Freebird to crash. Damage was too bad for short-term repairs and as Tony did not have a spare model he was effectively out of the competition. Good scores were achieved by all the recognised names and there were no particular surprises.

After the first two final rounds the scores were published but are withheld for the all-important final deciding flight. This made the tension greater and gave an exciting climax to the event. Everyone tried very hard on the final flight; Nev Dickinson rather too



Above left, lovely Mew Gull racer by Lorrimer/Ross – the purist's dream. Above right, Messrs Wakkerman and Herbert fought a tight contest in 1/2A Combat; Loet had to settle for being runner-up. Left, the Heaton/Haworth 1/2A Team Race winner is fired up; Jim Woodside keeps check on the warm up period. Right, cheery Dave Smith deserves repetition from last month; thanks to his enthusiasm for Speed topped handicap with F21 model. Below left, secrets! The Haworth Special reveals its all after winning 1/2A Team Race. Below right, neat approach to 049 Speed by Paul Esner; Cox power, monoline system.





Top left, pitting for Bernie Langworth; Dave Campbell concentrates hard before the F2C final – finished runners-up. Top centre, Davies/Broadhead racer was interesting – CS motor and Graupner prop are commercially available. Placed second. Top right, Iain Ward and Brian Horrocks (over from Oz) with replica and original stunters, soon to appear in Aeromodeller! Left, new for Aerobatics by Rex Landon – ‘Apache’ for ST 60 placed second. Right, attractive ‘Sirius’ by Dion Beesely suffered linkage troubles and was unable to score. Far right, this man has seen it all! Contest Director Dave Rudd ruled with customary rod of iron and native wit. Below left, the ‘B’ racer of Gough/Ward about to be shut-off during the final warm up; Alan Fritz, timer, pays close attention. Below, lady Combat ace Monique Wakkerman is always worth a picture! Below right, Charlie Taylor gives confident instruction to pilot Gordon Yeldham before winning the Vintage ‘B’ final. Below far right, just a few of Mike ‘Whacker’ Whillance’s stock of F20 models; he’s faithful to foamies.







Top left, merry Wal Cordwell with his latest -C/L Scale DH Rapide placed third - on first day out, too! Top right, neat Veco Mustang flown in Old Time Stunt by John Hamilton. Centre left, George Liber provided F2B competition from Belgium; SIG 'Magnum' is ST 49 powered. Centre right, Ireland was represented in F2B by John Hamilton who flew this Super-Tigre 60 powered 'Excitation'. Above left, Reinhardt International entered by Mick Taylor in Classic stunt; came second. Above right, Loet and sister Monique Wakkerman, welcome visitors again from the Netherlands, put everything into the Combat events. Great enthusiasms!

hard, pulling out just too low on the square bunts - and that was the end of that; but he had two good previous scores which would secure a good final position. Final flight of the day went to Gerard Billon; and it was superb. No other model in the whole event managed square corners like that Olympus, a lesson in what we should be emulating.

With the computerised scoring system operated by Gwen Feaver and Stephanie Smart the results were available commendably quick and were in (as they say) reverse order, starting with 15th. When it got to the last two for first and second place the atmosphere was electric and a big cheer went up when it was revealed that it was Bill Draper and Barry Robinson respectively. Now they have three wins each.

It really was one of the good years!

to get to grips with the F2B schedule. Dave Day, John Hamilton, and Ian Ward followed flying Noblers, Ian's being rebuilt following the bad crash during the event last year. Steve Crawford was to have been next with another Nobler, but was unable to start his motor. Finally Terry Taylor flew his Fox 25 powered Sterling YAK 9, but was unable to complete the schedule due to a small fuel tank.

Round Two was flown at 10.30 on Sunday and Round Three at 13.30 on Monday. Several competitors were unable to stay to take part in the third round and at the end of the day the winner was Dave Day flying the model with which he won last year, with a total of 1771 points. Second place was taken by Mick Taylor of Peterborough with 1734 points and third place was John Hamilton of Belfast with 1655.

Let us hope that with more publicity, the Classic Stunt Competition will attract a larger entry next year as there is a very large range of suitable models available from both British and American sources.

Classic Stunt

1	D Day	Nobler	1774
2	M Taylor	Reinhardt Int'l	1734
3	J Hamilton	Nobler	1655

Old Time Stunt: Report by Ron Prentice

The Vintage Stunt Event, this year under the direction of Dave Day, was due to be run in two rounds on Sunday 26th and Monday 27th August, both starting at 10.00am. However, when the competitors assembled with their models at the stated time on Saturday, neither Contest Director or Judges were to be found. After a while Dave Day made an appearance and explained that due to circumstances beyond his control, neither of the judges was able to get to Barkston Heath after all and therefore the competition was postponed until 1.30pm when he hoped to have better news. This statement was greeted with a good deal of grumbling from contestants who had intended to visit Grantham later in the day to buy provisions. However, at the appointed time we assembled to hear the news that he had obtained the services of Tom Hughes to act as a judge. Most of us would have preferred two judges, but beggars can't be choosers and so the contest began.

First to fly was Peter Clinton from the Isle of Man, a newcomer to the OTS scene but no newcomer to modelling. Peter flew a PAW powered Juggler, but didn't have much luck with his engine run. Following on was S Haines whose OS 15 powered Magician put in a good flight. Contest Director Dave Day then flew his Barnstormer and put in his usual polished performance. Mike Castell was due to fly at this point, but due to the alteration in flying times which clashed with F2B, he abandoned the round completely. Another newcomer, John Taylor, flew an ED Mark 1 Kan Doo which was underpowered and once again proved that it can't! Belfast's John Hamilton put in a good round with a Veco Mustang powered by a Fox 35, but the model lacked the sparkle which is required for competition flying. Brian Waterland (remember the controversy about the inertia starter last year?) once again flew his Devil Bat - this time re-engined with a Merco 35. Although a good starter, the Merco did not deliver the goods and he had a poor round. Another OTS newcomer, Dave Hooper presented himself with a Coy Lady and unfortunately had to withdraw because he didn't realise the model was not eligible for OTS. Make something a bit older next time Dave and try again! The other Haines, Lionel, also flew a Magician but could not reach the points scored by his son earlier in the contest. Ron Prentice flew his now familiar deBolt All American, having broken his new spark ignition Super Zilch during practice. However, it wasn't his day because his motor leaned out and cut just before the square loop. As the rules allow restarts, the motor was restarted and ran

Familiar shapes! Dave Day, Classic Stunt winner, leaves the 'pits' with Nobler.

F2B Aerobatics

1.	Bill Draper	Superhawk	Enya 45	6228
2.	Barry Robinson	Bonus	ST46	6133
3.	John Hamilton (Ireland)	Excitation	ST60	6098
4.	Nev Dickenson	North Wind	ST60	5981
5.	Gerard Billon (France)	Olympus	OS60	5965
6.	Maurice Doyle (Ireland)	Ariane	ST60	5870
7.	George L'Her (Belgium)	Magnum	ST49	5895
8.	Rex London	Apache	ST60	5842
9.	Glen Alison	Challenger	ST60	5531
10.	Ian Ward	Stiletto	ST46	5526
11.	Hiroimitsu Yokoe (Japan)	Tony	OS35	5504
12.	Eddie Sharp	Kestrel	ST46	5398
13.	Dave Day	Nobler	Merco 35	4927
14.	Tony Effraender	Freebird	PAW 35	3555
15.	Dion Beasley	Sinus	ST60	0



Cheer up, sir! Bill Draper, despite expression, was top in C/L Aerobatics again this year.

Classic Stunt: Report by Ron Prentice

Due to the success of the special Nobler Competition attended by George Aldrich, the BMFA decided to run a Classic Stunt Competition this year, for aerobatic models designed, published or kitted prior to December 31st 1963 and to be flown to the current F2B schedule.

The competition was due to start at 11am on Saturday, but was rescheduled to commence at 2pm due to lack of a Contest Director and Judge. Fortunately Paul Concannon was persuaded to act as Judge by the overall Contest Director and the three-round, three-day event started at the new time.

There was only a small entry, which rumour had it, was the result of lack of details given in the BMFA Nationals Handbook...

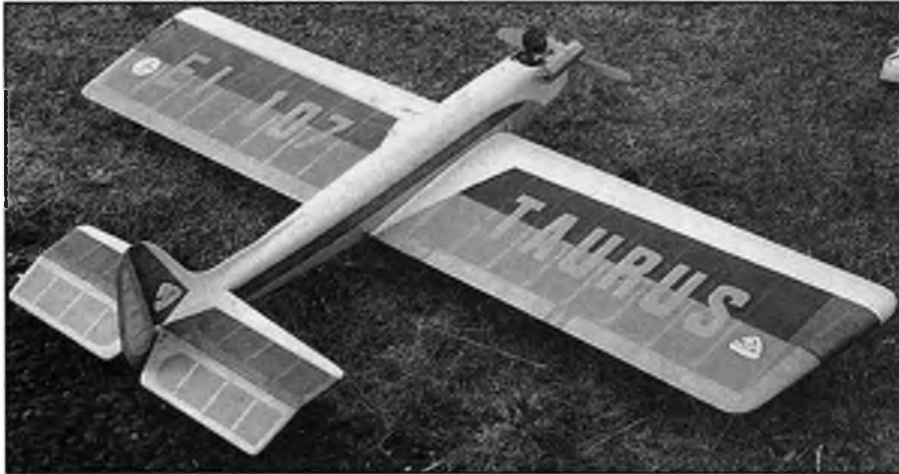
First to fly was Mick Taylor using a vintage Reinhardt International Trophy Winner of 1950 powered by a Fox 35. In spite of the venerable age of the design and a lack of flaps, it flew a very commendable schedule. Next was Ron Prentice flying a vintage de Bolt. All American, and obviously unable



just long enough to complete the schedule before finally giving up. Steve Crawford flew his Nobler, which is not the best model to fly in OTS because of its lack of bonus points. He had a poor motor run, resulting in loss of line tension and almost crashed on several occasions. Seventeen-year-old Richard Handscomb flew another Barnstormer, but could not equal the points gained by Dave Day. Last year Maurice Doyle had an unfortunate experience with his Taurus when someone walked into his flight circle and wrecked his model. This year his rebuilt Taurus flew exceptionally well and earned him the top score in round one. At this point Bill Darkow, a visitor from the U.S.A. and former editor of the American SAM

record. All this record breaking did not mean that the good - average team gap has widened, for just 24.5 seconds covered all of the semi final qualifiers, who were:

1	Clarkson/Needham	(PAW-01 Blue)	3:40.2
2	Catlow/Jephcott	(PAW-Deerfly)	3:44.9
3	Crawford/Vaughn	(PAW-01 Blue)	3:45.1
4	Bridge/Eiffelaender	(PAW-Miss Cosmic Wind)	3:45.4
5	Gough/Ward	(PAW-Deerfly)	3:52.7
6	Ross/Morrisey	(PAW-01 Blue)	3:56.7
7	Broadhead/Worgon	(PAW-Miss San Bernardind)	3:59.9
8	Taylor/Darke	(PAW-Johnson Special)	4:02.4
9	Evans/Horwood	(PAW-Deerly)	4:04.7



Maurice Doyle, over from Ireland, flew this Taurus to victory in Old Time Stunt.

SPEAKS, should have flown his Magician - brought all the way over from the States, but he unfortunately crashed during practice and wrote the model off. Brian Sylvester (Foxstunter) and Phil Darke (Juggler) were next to fly, but Phil had bad luck and crashed causing considerable damage. Phil's Bristol clubmate Terry Taylor flew his usual competent schedule with his Fox 36 powered Foxstunter and following this we were treated to a fine round by Tom Jolley and his Frog 500 engined Curtiss Swift, now some years old. Mick Taylor of Peterborough had a new model for the competition this year, a beautifully made 'Blue' Yates Green Dragon powered by an O.S. 35 instead of the Orwick 64 of the original. It flew smoothly and well, but Mick said 'it was a bit of a lump to fly'. Finally Ken Day flew his Hotrock which seemed a bit outclassed by some of the other aircraft in the competition.

The second round was flown on Monday when the wind was a little stronger than the previous day. Ron Prentice suffered again with a bad engine run and eventually aborted his flight half way through and Tom Jolley, a strong contender for first place, did not show up for his flight. Not being happy with the Dragon, Mick Taylor flew a Barnstormer in this round and John Hamilton changed his Mustang for a Barnstormer.

At the end of the competition the scores showed an excellent win for Maurice Doyle (Taurus - Fox 60 Falcon).

Old Time Stunt		
1	M Doyle (Taurus, Fox 60)	353
2	D Day (Barnstorer ST35)	329
3	M Taylor (Yates Dragon/Barnstorer)	329
4	T Jolley (Curtis Swift)	328
5	J Hamilton (Mustang/Barnstorer)	310

British Goodyear: Report by Dave Clarkson

With 28 entries, British Goodyear had the largest entry of any of the C/L racing events at these Nationals. It also saw the largest number of record making flights. The first record to fall happened in the first round of heats when Catlow/Jephcott took more than 3 sec off the old Ross/Morrisey held record to record 3:44.9. The second round of heats saw this new record fall by almost 5 seconds when Clarkson/Needham recorded 3:40.2. In fact, by the time both rounds of heats had been finished no less than four teams had recorded heat times faster than the old



Winners again - Dave Clarkson and Ed Needham took British Goodyear in record time of 7:38.5.

Five different model designs; but everyone used the same type of motor, the PAW 249 TBR GT. All used the Graupner 7 x 6 grey nylon prop, mostly trimmed to around 170mm diameter.

The first round of semi finals was headed by Clarkson/Needham with a relaxed 3:44.8 followed by the other sub 4-min teams in this round, Crawford/Vaughn with 3:53.2, Evans/Horwood (yes, Richard Evans is back!) in at 3:57.2 and Gough/Ward at 3:58.2. Deeply disappointed in this round must have been Bridge/Eiffelaender who had their 'up' line break during a shut-off manoeuvre impaling their technically fascinating carbon fibre covered Miss Cosmic Wind (the long-wing, mid-wing, long-fuselage development) into the tarmac resulting in its destruction. With it all to do still were Catlow/Jephcott for in the second semi Peter Jephcott missed a catch causing their model to run into the circle which resulted in a DQ. They recovered very well indeed with a near-record 3:40.0 in the first race of the second round of semi-finals almost matched by Clarkson/Needham in the second race who finished in 3:41.9. In both of these semis, the other two teams had waved bye-bye to the final with time of over four minutes and in the final semi-final no-one could approach Crawford/Vaughn's first round time so it was these two really nice guys from London who would complete the final.

The final was technically interesting, but lacking

in a three-cup race to the finish for early Crawford/Vaughn had to retire with a split tank. Meanwhile Catlow/Jephcott and Clarkson/Needham were circulating, sometimes in really close 'bunny-hopping' formation, with absolutely identical airspeed so the race was going to be won on the ground. Ed Needham's left-handed fill and one prod re-start technique proved the faster giving the doyens of Goodyear the win in a new record final time.

One of the reassuring features of this British Goodyear contest was that it contained some newcomers. For Mr Roberts of the Roberts/Bollen team it was his very first contest and to Burns/Molynceux, two Club 20 RC fliers, who really enjoyed themselves in this more physical form of racing, went the Elliott Novice Shield (a really fine trophy originally awarded by the now defunct Elliott club and now awarded by the SMAE at the Annual Dinner) who were the highest placing team in either Goodyear class who had not flown in a SMAE Goodyear event prior to this year.

British Goodyear		
1	Clarkson/Needham (Three Sisters)	7:38.5
2	Catlow/Jephcott (Grantham)	7:45.4
3	Crawford/Vaughn (Elmbridge)	58 laps

Open Goodyear: Report by Dave Clarkson

Sunny, warm, no wind and 23 entries - it looked like being a good contest and that is just what resulted. The two rounds of heats were unremarkable and finished with the following nine teams qualifying for the semi-finals.

1	McPeake/Robson (Nelson)	3:44.8	(Dick OHM Spb)
2	Daglish/Vaughn (Nelson)	3:49.4	(Mr D)
3	Catlow/Jephcott (Irvine)	3:57.1	(Deerfly)
4	Clarkson/Needham (STELS)	3:58.4	(Mr D)
5	Crozier/McAlpine (Rossi)	4:06.1	(Mr D)
6	Pegg/Thorpe (Nelson)	4:09.3	(Mr D)
7	Smith/Barnes (Moki)	4:10.0	(Mr D)
8	Fitzgerald/Worgon (Nelson)	4:10.3	(Mr D)
9	Swinburne (AD)	4:10.8	(Mr D)

Unremarkable heats and yet there were the most teams ever with sub-four-minute heat times, the semi final cut-off time was the lowest yet and one lady pitperson had qualified. Three different model designs and six different motor manufacturers - Open Goodyear is definitely not in a rut! The lightest model present was the diesel converted STELS powered Mr D of Clarkson/Needham which weighed 525gm full of fuel, lack of weight made possible by the very low weight of the Russian combat engine. The heaviest at right on 600 gm was the Moki S-12 powered Mr D



Daglish/Vaughan won Open Goodyear by a substantial margin with their Nelson-powered Mr D.

(which won at the 1987 Nationals of Sue Barnes and Steve Smith. This old motor was so loose that 'no start' despite three minutes of flicking resulted for Sue in their first round. So between rounds out came the old Rossi piston and in went (with the aid of two six-inch files and hand lap) a STELS piston. The people who watched this operation were horrified but it all worked for in their second heat, Sue started it and the Moki proved to have lost none of its BHP.

Round One of the semi-finals opened at 9.00am on Monday morning, Alan Pegg and Ron Thorpe from Scotland scratched but neither Clarkson/Needham,

3:57.4 after a poor start, nor Daglish/Vaughn, 4:22.6 due to loss of compression in the air, could take advantage. Things were no better in the second semi with Fitzgerald/Worgan finishing first in 4:01.0 followed by the Swinburnes from Scotland, father Bill flying and son Alan pitting, with a poor start at 4:21.8, and finally Catlow/Jephcott with a broken prop at 4:26.8.

The final semi in this first round was little better won by McPeake/Robson with 3:54.2 followed by the reluctant pitstops of Smith/Barnes at 4:12.6 and Crozier/McAlpine with 4:56.5. All not very exciting, but Round Two of the semi finals was to be different.

Semi 1 of Round Two saw Sue Barnes three, then eight, then four-flick the Moki to record her first ever sub-four-minute time of 3:57 but Roy Vaughn and Martin Daglish got it together with their 'bitsa' Nelson SE F1 to record 3:49.4. A true bitsa motor with bits from Roy's (crankcase broke in the heats) and Martin's (cylinder head failed in their first round semi) Nelsons. Shock-horror in the second semi, for Clarkson/Needham's STELS was overcompressed leading to poor airspeed and starts resulting in a 3:54.5. For the first time in seven years they were not in the final for in the same race Catlow/Jephcott got their Irvine motor really working to record the fastest heat of the competition with 3:43.8.

Surprisingly in this race McPeake/Robson had opted to use their slower No 2 model to record 4:02.7, and this proved a mistake for in the semi final Bill and Alan Swinburne had a near perfect two-up race with fellow Scots Crozier/McAlpine to qualify as the slowest team into the semis with a 3:52.2. The quickest round of semi-finals ever at a Nationals were over.

The final started well for Daglish/Vaughn and the Swinburns but badly for Catlow/Jephcott for their prop had split in the warm-up and their Irvine promptly flooded-off at launch. Slowly back to Peter Jephcott came their Mike Argander Special Deerly for needle adjust and a reluctant start - in all probability their chance had already gone! Then at lap 100 Bill Swinburne's right leg suffered a massive cramp leaving him retired, lying unable to move on the ground. So Martin and Roy cruised to the first win for either of them in Open Goodyear contest.

Open Goodyear

1	Daglish/Vaughn	7:52.4
2	Catlow/Jephcott	8:50.5
3	Swinburne/Swinburne	100 laps retired

Mini-Goodyear: Report by Gordon May

With many of our best known pilots now having passed the age limit the organiser was worried as to where the event would go in 1990. However, it was great to see several teams who had made their debut last year come back, along with a clutch of first time entries.

In 1989 the competition had dragged on a bit, with teams still having to fly their last heat on the Monday. This had resulted in a mild protest from teams anxiously waiting to know if they had made it to the final. This year the CD decreed that all teams must fly on the first day or forfeit their first round heat.

Saturday

Court/Court (3 Sisters) got the show on the road flying against previous winners Jones/Horwood. Court/Court recorded 6:00 whilst a slightly off form Jones/Horwood had to settle for a 5:25. Mark Rexworthy and Dave Hanks, a brand new team recorded a 7:42.

Pitman Dave Hanks is better known for his exploits with indoor scale models at Alumwell than for flicking PAW 1.1/2s. They flew against Robert Leeman, his Dad doing the business with the engine. The Leemans, flying their very first race ever, were well pleased with a 6:14. Stocks/Stocks, flying against fellow Warfedale team mates Whitehouse/Whitehouse were going well when young Stevie had the misfortune to hit the other model when coming in for fuel. Whitehouse/Whitehouse were able to continue but the Stocks' Ginny was a writeoff. Whitehouse/Whitehouse did a 6:14 and the Stocks were given a re-fly.

John Bending, flying for South Bristol's Phil Darke had only learned to fly two weeks before the Nats. They were drawn against fellow South Bristol clubmen Blades/Blades. Despite damaging a wing at the halfway point Bending/Darke recorded a 6:32 whilst Blades/Blades endured all sorts of problems in recording their 9:18.



Here they are again! Mini Goodyear finalists treated us to a fine race and a dead-heat for first place.

Last heat of the day saw experienced teams from the 3 Sisters Club, Ross/Ross and Crichton/Lorimer. Ross/Ross broke their prop when making their first pit stop and had to be content with a 6:43. Crichton/Lorimer, despite a fine first tank run, could not get a restart and their race fell apart coming home in 7:20.

Sunday

Ian Round and dad Derek made their first appearance in the first heat of the day and went smoothly for a 5:17. They were flung against Jones/Horwood who had the up line disconnect at the midpoint of the race causing their retirement.

Allerton Grange team of Young/Watt had starting problems which led to their time of 6:42 in their first attempt, whilst Bending/Darke made a great improvement with a 5:35. Rexworthy/Hanks had obviously been practicing seriously as they knocked over a minute off their first heat with a 6:28 but Leeman/Leeman despite every effort were slower than their first heat in 6:19.

Stocks/Stocks re-flying their first round were quite pleased with a 5:44 and heat partners Whitehouse/Whitehouse went smoothly into pole position with a splendid 5:09. Court/Court shaved a little off their first time with a 5:44 but Watt/Tear retired. Nick and Stephen blades could only improve and did so, knocking off three minutes in a 6:10, with Ross/Ross also improving greatly on 5:35.

Going into Round Three Whitehouse/Whitehouse decided to sit back and watch everyone fly first. Round/Round quickly showed that everything was there for the taking with a fine equal fastest 5:09. Jones/Horwood however, just could not hit their true form and after an erratic race (by their standard) recorded at 5:35 and had to sit back and hope that their Saturday time would be good enough.

Rexworthy/Hanks were getting better with every race and ended with a 6:02 whilst clubmates Bending/Darke were rewarded for their strenuous efforts with 5:14, to knock Jones/Horwood out of the final. Must be all of 7 or 8 years since we had a final that didn't feature Bob Horwood...

Although the other teams gave us some very enjoyable racing to round off the afternoon, none were

able to improve their positions.

Monday

The final was slotted neatly between finals taking place in 'the cage', this ensuring a good supporting crowd around the arena. None of the pilots had ever progressed this far in any racing event and the organiser was a trifle nervous....

At the off only John Bending and Phil Darke got away quickly. Stuart and David Whitehouse were three laps down when they got under way and Ian and Derek Round were five laps down on the Whitehouses. Things settled down and the pilots quickly showed that the CD's fears were groundless. Round/Round had a slight airspeed advantage and began to pull back the odd lap.

Then we had the first drama of the race as the Darke motor cut just as it passed the pit station. John Bending landed 180 degrees away and we had the sight of Phil Darke storming around the circle to the wild cheers of his South Bristol clubmates.

Meantime the other teams were picking up those precious laps when they also ran into trouble with a mix up at a pit stop, both machines landing at the same spot. The two pilots stayed much calmer than the race jury and soon we had a three-up race again. By now all the pilots had picked up warnings for whipping and the jury had little idea as to who was leading. Indeed Derek Round and Phil Darke raised their arms in unison as they completed the 200 laps.

The audience awaited the jury's decision as the watches, two on each segment, were checked. In the end it was not possible to separate the leading teams and a dead heat was declared. All teams are to be congratulated for giving us such a fine sporting final.

My thanks to all who assisted with the organisation and especially to the ladies who ran the South Bristol hospitality tent. See you all next year.

Mini-Goodyear

1=	Round/Round	11:45
1=	Bending/Darke	11:45
3	Whitehouse/Whitehouse	12:20



Whose foot is this? Scale enthusiasts may well know... Answers on a postcard, please!

Next month: all the team race and combat action!

1990 JUNIOR WORLD FREE-FLY

2nd World
Junior Championships
in Aeromodelling
Classes F1-A,B,C



MOSTAR, 20. - 26.08.90
YUGOSLAVIA

THE five strong British Team plus manager and supporters left Heathrow on Friday, 17th August for the second World Junior Free Flight Championships at Mostar in Yugoslavia. We flew out on the once-weekly direct flight to Mostar airport which is partly commercial and partly military. As we landed we noticed rows of MiG aircraft partially covered with camouflage netting parked on the far side of the airfield...

No British winners but a respectable performance nevertheless. Phil Ball reports from Yugoslavia

Use of this direct flight conferred several advantages, for the chance of model boxes and equipment going astray was minimal; it would also get us there three days early which would allow acclimatisation and it would also give the team and supporters chance to fly in the Soko Cup the following day.

We arrived at about 6pm local time to find the weather even hotter than the heatwave we had left behind. After much difficulty finding the hotel we all unpacked, enjoyed a meal and took an early night.

The flying site, visible from the air on the approach to Mostar airport, consisted of a dried up lake, approximately 3Km wide and 10Km long. The locals told us the site was usually under water from November to March. Although the temperature is very high in this part of the country the flying site and surrounding countryside was much greener than England when we left.

The site, which was approx 800 feet above sea level was very, very flat but surrounded by hills which started at the very edge of the flying site and soared to over 4500 feet to the north-east and 20000 feet to the south-west. We had been warned before arrival that the weather pattern would be flat calm from daybreak until about 2pm when the wind would steadily increase, mainly due to convection currents caused by the mountains warming up during the day. True enough when we arrived at the site on Saturday morning at about 7am for an 8am start it was absolutely flat calm and already very warm. Of the five team members only Peter Martin and Anthony Ball took the opportunity to fly in the Soko Cup, augmented by Brian Martin, Paul Chamberlin and myself from the 'senior' supporters.

Soko Cup event

The Soko Cup had a total of 137 entries flying simultaneous rounds. FIA flyers to the east of the

flight line. F1B in the middle and F1C to the west.

With the almost complete lack of wind Anthony Ball found it difficult to circle tow, his main difficulties being the inability to keep the model high on the line and not having enough line tension for good launches. Despite this he scored five maxes plus two two-minute-plus flights for 34th place out of 74 contestants.

Paul Chamberlin had the heartbreak of an eight-second flight in Round Three when the model D/T'd on launch to spoil his otherwise perfect score. In F1B both Peter and Brian Martin were performing



Britain's Keith Chamberlain with APS 'Flashback'

steadily with Brian dropping just over two minutes for 18th place out of 42 contestants, and Peter retiring after five rounds when his 'number one' model was damaged after being retrieved by a spectator.

I managed to complete seven flights for the first time in an F1C competition but an early DT in Round Two and four seconds dropped in Round Five when the model glided back over the flight line and collided with a streamer kept me out of the flyoff. At the end of the seven rounds, 12 had maxed in F1A but only two in F1B and F1C.

In the F1A flyoff the 12 contestants had been reduced to six by the end of the five-minute round; these included Ian Harzberg of Israel and Mick Keeler of USA, Juniors who would be competing later in their World Champs.

By the start of the six-minute round the air was noticeably cooler and the wind had increased to 10-15mph. The First to fly encountered poor air but eventual winner James Bodo was circling in obvious lift. Several attempts at launching were followed by a mad dash down wind to keep the model under control;



The top trio in F1C; Szender (Poland), Keeler (USA) and Moiseve (USSR).

LIGHT CHAMPIONSHIPS



Brits at the hotel, not on the field! Back row l. to r., King, Abell, Ball. In front, Martin and Chamberlain.

when he did release the model looked good from the start and although he did not max he held a substantial lead over second place. Both Juniors did well, Harzberg finishing third and Keeler fourth.

In the F1B flyoff Stephanchuk and Jusufbasic maxed in the four-minute round but in the next both launched together. Thanks to the Russian's high-tech model, equipped with delayed prop start and variable pitch propeller, victory was easy.

The F1C contest also ended in the five-minute round but in a much more dramatic manner. After maxing in the previous round, Ziva Kovaci's only remaining model had landed in a stream at the edge



Moiseve (USSR) was third in F1C.

of the field. It was waterlogged and the engine refused to start, so he sportingly removed his wing from the model and indicated to Verbitsky that he would be unable to fly, thus leaving Verbitsky needing only a token flight to win. I believe he intended to D/T immediately after the engine run but although his engine sounded good at launch it stopped suddenly after three seconds, the model then dived in, causing extensive damage, for a seven-second flight. But it was enough for first place.



Pensive Nikola Kutinov (USSR) was eighth in F1A.

That standard of Junior flying in the Soko Cup was not only highlighted by their high placing in F1A, but it became apparent at the prize giving that Israel's Junior World Champs Team had carried off the team award.

Interlude

During the next three days before the Junior Champs the team continued to practice and work on model trim to suit the hot calm conditions. Indeed, the weather pattern was identical to Soko Cup day with the wind always starting at around 2pm. During this time Laurence King damaged his most reliable F1C which, although repaired in time to practice before the F1C day which was scheduled for Thursday, would

not be flown...

In F1A Keith Chamberlain intended to fly a pair of APS Flashbacks. After a particularly good practice session, when he had exhibited an uncanny knack of picking good air from the ground and towing 'up and off' he declared himself satisfied and continued to work on his F1Bs.

Anthony Ball continued to have difficulty getting the model high on the line. Much of this was due to the complete lack of wind speed, the only drift present being caused by thermal activity. He continued to experiment with tow hook position and worked on fine model trim. By the end of the final trimming session on Tuesday both his circle tow models were in need of just a quick test flight before the event.

Of the F1B flyers Peter Martin had benefited from his Soko Cup flights and his models were going well. Both were based on the Tilka kit; one being almost standard, the other with a kit wing and tail on the tube fuselage and a prop with a 'Woodhouse' hub assembly.

Keith Chamberlain, who was flying both solid and built up versions of his own design, was steadily improving the trim through these practice sessions. Adrian Abell, the most recent newcomer to the free flight scene was flying a pair of Brian Kenny designed models and, again, was working hard to establish the best possible trim.

After processing had been completed early on Tuesday afternoon the wind started as usual so we packed up and retired to the hotel to prepare for the opening ceremony and the F1A competition on the following day.

Wednesday, 22nd August.

We had been warned that the weather in the Mostar area follows an approximate ten-day cycle; this starts with wind and rain on the first day, a gradual improvement over the next two days, then back to the hot and calm weather we had experienced since we had arrived. That night we were told that the weather could change and, sure enough, it rained

heavily during the night. The wind got up too - by how much we did not realise at the time.

As Mostar is sheltered in a valley we were not prepared for what greeted us at the flying site. The wind was blowing at approx 40mph. One tent from the camp site (which was at the side of the flying area) had been blown up a tree and the contest control, situated in the centre of the flying site, had been devastated. It was also very cold - perhaps as low as 55-60 degrees F.

Well before the 7am start time the Contest Director announced the start would be delayed. (Just like a British team trials at Sculthorpe). Even at this early stage the chance of flying seemed remote and although the weather did improve during the day the F1A

contest was abandoned until the middle of the following day.

In earnest! Thursday, 23rd August.

Although it was still cold and windy the F1A contest started on time. The windspeed was below the limit, but the biggest problem would be caused by turbulence from the upwind hills.

Round One started with 17 of the 46 competitors maxing and although Keith started with a disappointing 103 sec this was nothing compared to the disaster which befell Anthony. On his first attempt the model was high on the line looking good but the line failed to unlatch. Even after a mad dash down wind he seemed to be getting the model under control but it could not stand the strain and exploded, with wing and tail parting company. Inspection of the remains revealed that the problem had been caused by a new towline which had been made up and processed but never used.

The 6 swg joiner had bent to approximately 45 degrees which gives some idea of the stress on the model. On his second attempt with a straight tow model he looked good on the line but again failed to release, so the model sailed away with the line attached resulting in a zero score for this round.

No team had managed a full score although the USSR, Korea, Czechoslovakia and Israel all had two maxes plus one good score.

Round Two saw the weather improving. Keith Chamberlain maxed but reigning World Champion Martin Van Dijk from Holland (after maxing in Round One) was down in 70 sec despite a perfect launch which brought spontaneous applause from spectators and competitors alike. 17 maxes were scored but we now only had three fliers with a full score. The whole Russian team maxed in this round to take a commanding lead in the team event.



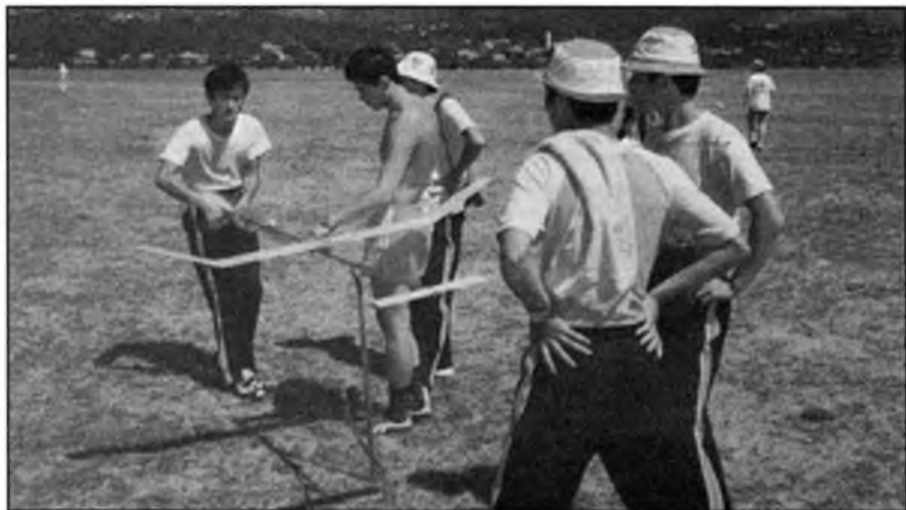
David Merrelees (New Zealand) with Team Coach Rod Lewis.

Although 20 maxed in Round Three the number of full scores had dropped to two with only Victor Besarab from the USSR and Zdenek Susanka from Czechoslovakia with a clean sheet. By the end of Round Four the chance of a flyoff had disappeared when Besarab had a disappointing flight of only 81 sec. Although conditions were improving, the main problem was still severe turbulence from the upwind hills. Thermals were hard to locate and liable to evaporate at any moment.

Keith and Anthony maxed in this round and both looked much happier. Susanka had a clear lead with a full house, followed by Horzberg (Israel) who was obviously still in good form after his third place in the Soko Cup; next were Kozyrenko of USSR and Terlep (Yugoslavia).

Susanka maxed again in Round Five along with the other leaders but dropped badly in Round Six with a score of 110. Kozyrenko dropped 30 seconds but both Horzberg and Terlep maxed, as did Stella from Italy who had strung together four maxes after an indifferent start. This quartet was about a minute clear of Besarab who was now continuing to max.

This display by Susanka had left Horzberg with a



Han Byong Sam and the Korean team; first in F1B.



Scene at Control on cancelled F1A Day – tent canvas was up a tree!

slender three-second lead over Terlep. He was flying a very simple looking straight dihedral model along the lines of an APS Accipiter but with a D-box wing. Flying very calmly throughout he had even managed to circle tow in the strong wind (with certainly the tightest circle I have ever seen) The seemingly very flexible joiners no doubt helped reduce line tension in the high wind.

Horzberg and the three other leaders maxed in Round Seven. In the team event the USSR had a clear lead of around four minutes. All three were flying very similar models with D-box construction on wings that were either fully tapered wings or (more conventionally) with tapered tips. They also featured thin hardwood ribs, and all were superbly constructed.

F1C Day Friday, 24th August.

Because of the undoubted complexity of the F1C class only 16 competitors took part, including full teams from the USSR, USA, Korea and Yugoslavia. Model design varied greatly, with the Koreans flying very elderly looking flapped models which looked like they had been donated by previous Senior teams. The Russians also had a cross-section of styles. Igor Moiseve, who must have been the smallest and youngest looking competitor in the Championship was flying a low aspect ratio model with a tissue covered D-box wing through the event (he had other models). Igor's coolness in handling his model was astonishing for someone only 14 years old.

The American team all had models powered by the latest side-exhaust Nelson. They were very fast, using glass filled nylon propellers. Jim Troutmass and Craig Lipman few new (looking) modern styled models but Mick Keeler was flying a pair of models donated by Doug Galbreath. One had been flown by Doug at Taft in 1979! These aircraft had also been re-engined with the latest Nelsons.



Lawrence King on one of the practice days.

When the F1C event started it was still breezy but it was a lot better than the F1A day (and certainly a lot warmer). In Round One (a four-minute max) eight competitors were clear, including all the Russian team, Lawrence King our sole representative in F1C had not managed to check fly his repaired model and was forced to use a second-choice model. He suffered a poor launch and power pattern resulting in a score of only 81 sec.

By Round Three the chance of a fly off had disappeared with only Moiseve clear. Marcin Szewder was second, having dropped two secs in round 2.

Marcin certainly earned the reputation as the smartest 'wheeler dealer' at the Champs, selling virtually anything from timers to complete models and just about any type of component you could mention. He seemed to be able to speak fluently and excitedly in most languages. He also went to great lengths to convince me he had built all the components of the models he was flying.

Next round the American team had trouble with overruns and Craig Lipman scored a zero when his only model could not be retrieved in time for a reflly. His model had soared away in strong lift as overruns always seem to do. A max in this round would have given him victory.

Lawrence was having a mixed day. After a max in Round Two he damaged his model getting ready to launch in Round Three and had to fly his third choice model. His first reserve was later patched up for two more flights before being retired in Round Five.

By the seventh round Moiseve led with a full score followed by Keeler, Szender, Troutman, Sik from Korea who had suffered a disastrous 68sec third flight



Anthony Ball with straight-tow-foam-and-paper-surfaced F1A model.

to spoil a run of maxes. Moiseve, needing a steady max to win, launched badly to score only 102sec. As all the other leaders maxed it dropped him down to third place.

This left Mick Keeler in first place. The Americans also took the Team award by a large margin even though Lipman scored a zero in Round Five.

F1B Day Saturday, 25th February

We arrived at the field at 6.30am to find that the conditions had reverted back to those of the Soko Cup and the practice days - flat calm and, even at this early hour, very warm.

Round One was flown to a 3.1/2 min max. Thirteen of the 37 competitors maxed, including all the Korean and Israel Teams - and 14 year old Peter Martin who D/Td at considerable height. Both Keith Chamberlain and Adrian Abell had disappointing flights of around two minutes. In Round Two 22 maxed including Peter who was one of twelve with a full score.

Round Three was a good one for the Brits with all maxing easily. Peter was now one of only eight with a full score. Israel lost the team lead when Naftali crashed to score only three seconds. By the end of the round at 10am it was still flat calm and the temperature was soaring to the high 80s.

Several well-marked thermals came through in this

round; each was flapped by spectators and helpers to give that extra bit of help. It was actually possible to fly and then sit back and have your model 'flapped' by a multi-national team whilst saving your energy for the next round! For some reason Round Four was the most difficult, the number of maxes dropping to 14 compared to 29. Peter, who was first to prepare, wound and waited for twenty minutes during which time the streamers hung limp from the poles. The few who chose to fly all had poor flights so there was little point in Peter trying. As his motor had been held for

to spoil a perfect score. There had been no trouble with rubber in previous rounds (and he was to have no more) but he took the disappointment well and was determined to do well on his remaining flights.

At this stage only five had a full score. Two Koreans, (Han Byon Sam and Peak Yong Pin), Shachar Kaufstein from Israel, Radovan Kolar from Czechoslovakia and Dimitri Akulchin from the USSR.

All the Korean team were flying what seemed to be identical models of typical Korean style with tapered, built-up tips and parallel inboard panels with



Mick Keeler with one of the Doug Galbreath F1C models.



Keith Chamberlain (GB) and family prepare for the first round of F1B.

such a long time we decided that Keith should wind up and allow Peter to change to a fresh motor. When time was starting to get short Keith flew and scored a creditable 160 sec. Adrian followed with a 78 just to highlight how difficult the conditions were. Whilst Adrian's model was in the air Peter started to wind his again but the motor broke immediately. He had been using 'Chinese' up to that point but now he changed to FAI which should have given him a better chance of a successful wind-up but this motor broke too. Another was loaded and the same thing happened!! The round ended with Peter half-way through his next wind-up. It was a heart-breaking way

a partial D-box which ended about mid-panel, presumably for extra strength and stiffness at the root to withstand the energetic launch required. All were fitted with delayed prop release which featured 'feathering' for launch and 'variable pitch' for climb. Israel models are notable for composite construction and clear mylar covering over the D-box structure.

In rounds Five and Six both Peter and Adrian maxed with Keith dropping a few seconds. Of those with a full score only Akulchin failed to max with 170 in Round Six. This was to spoil his full score.

So at the start of Round Seven, four remained with a full score. Han Byong Sam made no mistake but all the others dropped, Kaufstein falling short by scant seconds and Kolar by fifteen. This resulted in a two-way tie for second place between Kaufstein and Peter Mozes from Hungary who had dropped five seconds in the first round and then continued to max.

It also brought into perspective Peter Martin's



Australia's Roshan Samuel was out of luck in both Champs and Soko Cup...

disastrous zero in Round Four when a max would have guaranteed him second place. Instead he finished in 25th place...

The flyoff for second place started with a five minute max. Both had agreed that '4 mins' would be a waste of time in the conditions which by now must have been 90 degrees F with a steady breeze. Both maxed out in this round and the next.

In the final round both launched within a few seconds of each other but Mozes was in the better patch of air, as his flight reached the hills two kilometres away the model 'slope soared' up the side and disappeared over the top never to be seen again, even though the Hungarian team all searched until dusk.

The team scores were very close, the USSR pipping Korea by a mere four seconds with the Israel team close behind.



Peter Martin notched up six maxes in F1B but was remarkably unlucky in Round Four.

Conclusions

So although none of the British team finished with a high placing they all acquitted themselves very well and with a little more experience of flying in Continental events (plus a little luck) all could have been in the top ten. I think those that did not fly in the Soko Cup a few days before missed a golden chance to build up that extra little bit of experience that can mean the difference between failure and success.

I must say, looking back on the events of the previous six months, I was very disappointed at the response shown by UK Juniors with only a handful taking part in the Trials. If they were put off by the anticipated cost of participation it would have been nice to see the response had they known that entry fees and accommodation plus a generous allowance towards travel would be paid by the BMFA. The competitors all received a substantial amount from fund-raising activities. My ambition now is to make sure we have a full team in F1A and F1B for the next champs; obviously any contestants flying F1C would be a bonus...

To make sure we have a full team I would like anyone interested (who will be under 18 on Jan 1st 1992) to contact me now. You can rely on the BMFA - paying entry fees and accommodation - and the Free Flight Tech committee will raise enough money for your travel costs. Indeed, a certain amount of this money has been raised already to make sure we send a team capable of improving on this years results. The youngsters will need help from established flyers, so now is the time to



Shacher Kaufstein (Israel) was third in F1B.

start building and practicing. The Trials will be held in the late summer of 1991, so work hard and keep reading *Aeromodeller* for further information.

...and afterthoughts

As this was my first visit to an International event since the 'builder of the model' rule had been dropped it certainly made me spend a long time considering the pros and cons of such



USA's Craig Lipman gets set to go.

a rule change. I accept that 'builder of the model' rule was impossible to enforce but it did safeguard against the blatant use of other fliers' models.

Although it was difficult to say who was using models they had not built themselves some were flying aircraft which, because of the

models' age, could not have been built by the competitor. As I reported earlier Keeler from the USA was using a pair of models given to him by Doug Galbreath who, I believe, had owned these models for some time and had put a lot of time into making them. Now I am not against people assembling models from selected, commercially-available components as, in my opinion, building the structure of free flight models is within the ability of most. The difficulty comes with final assembly and setting up: making sure that the CG is in the correct position; that both halves of the wing are at the correct angle of attack; that the systems are as near as possible 100per cent reliable. It just seems to me that the use of a model constructed and trimmed by someone else is not acceptable and I don't think it will encourage many to take up Free Flight contest flying as a long-term hobby.

If we look at F1C, which must be one of the most difficult classes to build, adjust, trim and fly, I consider that most top competitors could train a well co-ordinated, intelligent 15-year-old to fly his models successfully. This would entail training him in the mechanics of the model - the systems, engine, model construction and design; and the most important thing - and this is where co-ordination comes in - how to launch the model. I think all this could be done during a three month training period, but only if the teacher was prepared to risk his models and also spend his valuable time. However, is this what we want? I personally would help a young flyer, but only if he was prepared to build his own models and was keen to fly and practice and above all listen to advice. He would also have to accept that very few can be a star overnight.

What do you think?



How's this for a flat site! Note mountains, though...

BALSA CUTTINGS

Cyano de Bergerac on outer – and not so outer – space

Don't get too good

The Outer Space Act, 1986, was put into orbit 31.7.89 by The Outer Space Act 1986 (Commencement) Order 1989 (S.I. 1097/89) and you should know that for well over a year now it has been an offence for any UK national to muck about in Outer Space without a licence from the Sec of State. The Act covers the launching and operation of any Space Object, which term embraces the launch vehicle, and what you want to bear in mind is that it doesn't say *unsuccessful* Space Objects don't count. Outer Spaces includes the Moon, though exactly where it begins and leaves off - perhaps this isn't the best time to push our luck. True, the old family solicitor sorted out that woman who exaggerated the part Uncle Jack had played in her life and made Constable Hall look silly over that blackout curtain business which so upset Mother, but he may not be so hot when it comes to boldly going where no man, etc. It could be better just to cut down on the pellets. And if Peter Michel gets caught repeating that Cruiser Pup flight he made at SADMAR's field the year they burned the stubble, *he'll* be scratching around for a defence.

The National Debt

The charge by the Defence Land Agent for the use of RAF Barkston Heath for the 1989 Brit Nats was £750. For 1990 it was £1,500. But for intensive efforts for which we are much in debt to Natbod General Secretary Roy Nudds and RAFMAA Liaison Officer Flt.Lt. Mike Goldby, this year's figure would have been

Below: Who hasn't felt tempted...



"Five quid says you want to go model flying!"

£5000! And five thousand it will be next year. Perhaps, in a way, the government does regard aeromodelling as a sport; or it may be that in terms of RAF financial reality, it is a fair price - there is no point in debating that here. But it is a lot of money for our movement to pay for the use of land it doesn't own.

Flogging a dead Norse

By overwhelming popular request, Keith (I may have been a little hasty) Harris is back doing his RPM column in SAM 35 Speaks on his electronic typewriter. He had previously warned David Baker it was all-singing and all-dancing, but of its post-burial life-restoring capability he gave no inkling at all. The short-term termination (missed one issue) was because of the attitude of 'certain people ... I won't call them aeromodellers ... in all honesty I can't ...' Later, as a preliminary barrage for his five-gun 'Salute to our Competitors', which *could* have been less deliberately aimed, he acknowledges that another Vintage magazine is cheaper, and observes 'They know what their stuff is worth'. Later still he emphasises that most of his digs are tongue-in-cheek designed only to stimulate thought processes and never, *never* to offend. 'Most', notice, not 'all'. Some of these comments hint that when he is digging (say, to disinter RPM) his tongue may become momentarily visible. In closing he offers the thought 'The floggings will continue until morale improves'. At Old Warden Vintage Weekend, at least one SAM 1066 member was seen buying up old mags - perhaps despairing

of any improvement in his morale he is going to slip them into the seat of his trousers. The previously welcomed religious motif continues, with Keith wondering if he should address prayers to Frigga, the wife of Odin. This introduction of a Norse goddess may be just part of his admiration for fair ladies - in the same articles, Mrs McHard receives favourable mention although there is no word of his praying to her, likewise Mrs. Jean Hemmings; and Keith suggests he might take Brian's Jean back to the Boulevard Clichy. Or is it a further attempt to wind-up the predominantly-Christian SAM 1066? We'll find out should little car trailers bearing rival shrines appear on the field. You may think R/C stands for a means of remotely controlling models, or for you it may hold more spiritual connotations - Keith finds space to touch on both. How strange it would be if the wider recognition Aeromodelling seems to seek were to come from the differences within its Vintage movement appearing on the agenda of the Ecumenical Council. What is really needed is a thoroughly reliable patron saint (female, out of deference to KH, and built strictly in accordance with the original plan, for the sake of DB) before whom we could burn D/T fuse and who would fix the weather for us in response to little offerings of chocolate-covered balsa.

For using too many words?

The BMFA natbod reports that this year the Scottish Aeromodellers have lost their grant aid support from the Scottish Sports Council. According to the Concise Oxford Dictionary, grant, aid and support all mean the same thing, but anyway, they've lost it. However, it's better than losing your independence.

Just a song at Clubnight

Out of the "collectogether" held prior to the flying business at the 1990 SAM Champs at Chicopee, Mass., arose the suggestion that vintage jobs benefit from being built to appropriate music, played by Big Bands, of course. Dave Gilbert of Houston likes *Flyin' Home* and Bill Darkow *In the Mood*. We've tried it. Not a good idea - people have such little sense of humour. One of our gentlemen who has had to pay her rather a lot of money might have gone off Negro spirituals (and us) for life if we played him *Carry Me Back to Old Virginia*, and another known area of sensitivity precluded the starting of *Second-hand Rose* by anyone with hopes of finishing it. We tried signing *Underneath the Spreading Chestnut Tree* for Tubby Morris who had fallen out of one whilst retrieving and broken his arm, but he didn't get it and just sat there drawing wing sections on his plaster. Arthur Bell has just become a *father* and we had the brilliant inspiration of offering him *I'm a Ding Dong Daddy* - he didn't get it either. This stupid game ended with your columnist being invited to render *'At the Woodchoppers' Ball*.

Wires at Oic



Lucky Ron took home a limited edition A-J Fireball replica; here's the cover of the leaflet from the kit.

The Fireball Trophy: Report by Ron Prentice

As usual the illustrious Fireball Trophy attracted a good entry, but possibly not quite as many as in 1989. This may have been due to the wet and unpleasant start to the day, but what the event lacked in numbers, it made up in quality. Mike Beach had asked Sid Sutherland and myself to act as Judges again this year, but because I had built a model for the competition, my place was taken shortly before the event by former SAM 35 Chairman Gordon Counsell.

As usual a number of models were selected to fly, in a specially marked out circle near the control tower.

Those flying were Andy Brough, whose Italian designed Jezebel, powered appropriately enough by a SuperTigre G20, had trouble with the gusts. Tom Hughes with another Italian model called Mazzinizo, sporting a K Vulture diesel had motor problems. Steve Betney entered a vintage scale Harvard powered by an



Steve Betney's fine Harvard fitted with a rorty Atwood Triumph 51.

Atwood 51 which cut after a few laps causing a very hard landing. Another Atwood, this time a Super Champion, was the motive power for Dave Nelson's beautiful deBolt Stuntwagon, but unfortunately he had problems and actually landed with the engine running after the power had dropped right off. Terry Slack produced a nicely made Weatherman, powered, believe it or not, by a McCoy 29 – a combination which should have caused the multitude of spectators to take cover wherever possible. Unfortunately another poor engine run resulted in an unsatisfactory flight. My own entry was a Jim Saftig Super Zilch stunter powered by a Madewell 49 spark ignition engine. In spite of the wind the Zilch managed to do a complete vintage schedule without too much problem. Dave Day repeated his entry of last year with his ED: Bee powered Skystreak, unfortunately he crashed, writing off the model. The youngest competitor was 10 year old Rafe Robarts, who flew a Keil Kraft Scout biplane with help from father John. Rafe put up a good show – and it's nice to see youngsters coming into the hobby.

Birmingham's Peter Martin flew an Indian Mills powered Weatherman, which I thought was much more in the spirit of things than the McCoy powered one! Another deBolt design, the Super Bipe, was entered by Tony Bowler, but again he had a poor engine run and the model touched the ground after attempting to do a loop. Last year's winner, John Robarts, entered a nicely made Midget Mustang powered by a ball-race Amco 3.5 diesel.

At the end of the competition I was adjudged the winner with the Super Zilch and as a nice gesture all the other entrants were awarded a small prize – as a token for taking part.

An unexpected extra prize was presented to me by Steve Betney on behalf of Frank Macy of A-J Manufacturing, Inc. Portland, Oregon, USA. Frank is the present owner of American Junior, the company formerly owned by the late, great, Jim Walker who introduced U-Control to the modelling public with his Fireball in the summer of 1940. In commemoration of the 50th Anniversary of the introduction of the Fireball, A-J Manufacturing have produced a special limited edition of the original kit. They have

tried to make the kit as near original as possible, including the 1940 label on the box and copies of the assembly instructions and illustrations which were in the original kit. There is also a beautiful certificate with 'Winner of the Fireball Trophy' hand lettered, dated and numbered. I feel most honoured to have this beautiful prize.



Suppose we've got to print this one! OI' Mind the Lines himself, Ron Prentice, with Fireball Trophy-winning Super Zilch; Madewell 49 on sparks, too...

which ought to be made and exhibited in next year's competition. However, at the moment I cannot decide whether to make it, or keep the kit intact as a historical object...

Warden

...being a review of Control Line activity at Vintage Weekend

Vintage Speed: Report by Andy Brough

Although advertised as being held on the Sunday the annual vintage speed competition was held, as usual, on the Saturday which was fortunate as the weather was excellent with very little drift and plenty of sunshine. We had the usual crop of enthusiastic entrants for 'vintage', this year totalling twelve but only two for the 'Classic'. This latter class was created at the express wish of several flyers but never seems to attract enough entries to make it worthwhile. At least I don't think so; but more of this later.

Mike Bennett, Burywick, Harpenden, Herfordshire AL5 2AQ. Mike has agreed to take over the running of this event and the maintenance of the rules for Vintage, Classic and Mills Speed which we didn't run this year. Mike is now the owner of the rules and all the information has been passed over to him. Mike has been with the event from the start and I'm sure he'll do his best to keep it doing successfully.

I would like to thank everyone who has entered or helped over the last seven years from that first rain-washed meeting at the 1984 F/F Nats through many C/L Nats, Vintage

Weekends and all the other meetings where 1.5cc vintage speed is established as part of the scene. Thanks go to Babs Roberts for always being on hand to record scores, to Brian Hunt and Ian Anderson who gave up their Saturday to time and special thanks to Johnny Hall for donating a cup each year and for giving inspiration when needed. Maybe I'll win next year if I don't have to run it!

Lancastria Cup

B Lister	Frog 150	90.00
M Bennett	Frog 150	87.38
B Wade	Elfin 149	86.54
A Brough	Frog 150	78.95
D Harle	Frog 150	75.63
A Jupp	Frog 150	73.77
B Lever	AM15	73.17
M Taylor	Elfin 149	69.77
T MacDonald	Frog 150	69.23
S Betney	Elfin 149	52.94
R Roberts	AM15	—
J Gibbs	Frog 150	—

Johnny Hall Cup

M Bennett	PAW 1.5	90.00
J Gibbs	PAW 1.5	69.23



The spoils! Reproduction A-J Fireball 'Fiftieth Anniversary Edition' - a handsome prize for the winner.

Even though competitors can have both of their flights 'back to back', to enable other events to be entered, all seem to wait until the opposition have flown, which is the sensible thing to do. The first round produced some very close speeds of 84.11, 85.71 and 86.54 mph with Brian Lister the leader (and last year's winner) only just in front. Barrie Wade's second round speed equalled Brian's 86.54 with only Mike Bennett and Brian left to fly. Brian tweaked his Frog just right for he was clocked at 10.4sec...90.00 mph! Mike's second flight was good for second place with a very quick 87.38.

The highlight of the meeting for me was Alan Jupp's Frog 150 powered 'Tiny Flyte', a design by Roland Scott, a well known model shop owner in the Manchester area since the 40s. Both flights were very close; the best being a very creditable 73.77mph. This is the best speed ever recorded by a model other than a Midge. With this example let's hope we'll see more variety of designs next year.

In the Classic event Mike Bennett easily beat John Gibbs' Midge whose PAW didn't seem to want to run properly at all, so Mike won the Johnny Hall Cup once again.

We need more entries in this class to keep it alive so if you have any views on the subject regarding the engine rules or any other matter, please write in - however, not to me but to



This Enterprize Sportsman from an old American kit was one of the more odd shapes on show. Whose, we wonder...



Tom Hughes' K Vulture-powered Mazzinizo just beyond Andy Brough's ST G20-powered Jezebel. Roberto Marzoli of SAM Italia gave invaluable help with research for both. R. Prentice pics.

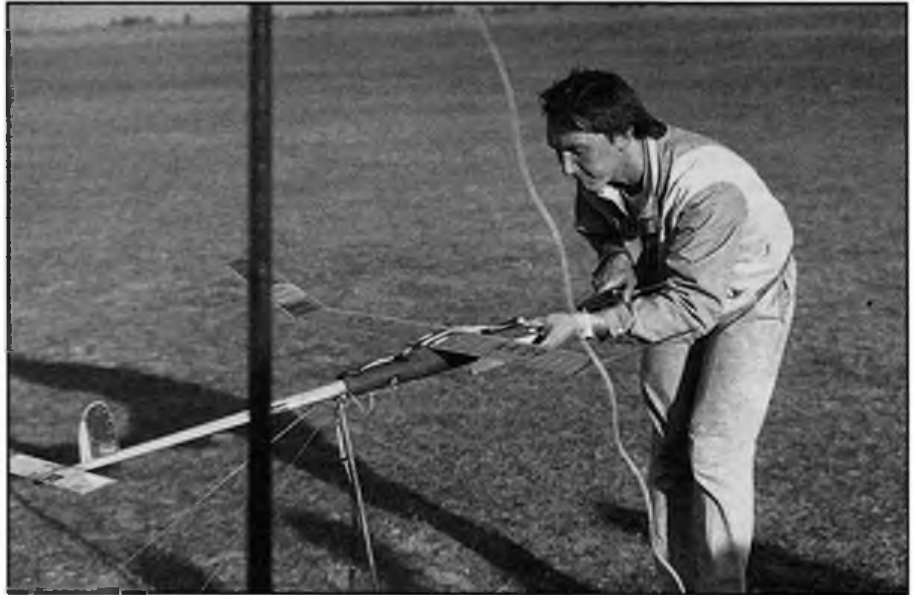
FREE FLIGHT SCENE

Dave Hipperson continues his
continental journey

Puszta Cup: Domsod, Hungary: 14-16th September

This World Cup event directly followed the European Champs. It was hoped to retain many of the Champs participants as well as attract others. To this end the experiment was a great success. Perhaps rather too much so for the organisation as they were literally swamped with contestants. Some of this numerical success was doubtless due to a sudden improvement in the weather to something more like what the continentals feel is comfortable (after the rather blowy Champs).

Although field organisation was quite adequate, particularly the constant information over the public address in all the popular languages, they did lack a proper scoreboard, relying solely on a computer printout – too small, difficult to find and not up to date enough. However, the complete lack of pre-contest paperwork was the real omission as no one knew start times, poles, with whom one was sharing or round times. Presumably some of this was due to the vastness of the numbers involved but it left contestants feeling uncomfortable especially when various rumoured start times were circulating! The official accommodation and meals also proved to be rather poor value compared with what could be obtained on the open market. Hopefully any profit made will be ploughed back



Eventual F1B winner was Andrukov; note heated jacket. Both he and Gorban wind with no tube and the prop attached.

day between the Champs and the Puszta. This coincided with the first calm weather for some time so it gave a chance to mix and compare models in action. Once again the 'market stalls' that were such a surprise part of the European Champs were in business again and much hard currency (Dollar and Marks) as well as boxes of rubber going in the direction of the Eastern Bloc countries in exchange for incredible feats of engineering. Prop assemblies, prop blades, nose rings, booms, boom joiners, motor tubes, engine pans, complete F1C fuselages, F1C motors, carbon spars and timers for all types of model. Some parts were actually boxed, or at least polythene bagged and labelled. One enterprising group even had a professional-looking catalogue! An aeromodelling supermarket; and by western standards all the hardware was very inexpensive. For those craftsmen who had made it all and brought it to Hungary to sell, the revenue often represented many years' salary. Their minds boggled at the money – ours boggled at the quality and quantity.

The flying

The start of glider day was perfect – mild and calm overcast then brightening with an increasing wind, maximum about 18mph by lunchtime when the line was adjusted. All lunches on the field were courtesy of Hungarian Airlines; a bit pre-packaged but safe enough stuff. The first round, only a three-minute flight, had eliminated all but one of the British representation. Chris Edge maxed as did John Cuthbert (now being allowed to fly under the Irish flag which they had not let him do at the Champs). By the days end no fewer than 37 had qualified; a group which still included Cuthbert but not Chris Edge after a lapse in concentration cost him 30 secs in the seventh round. He was in good company as the mighty Stamov (winner a fortnight before in Germany) also dropped the last. He had managed to seriously damage an ankle when he slipped on launch. Despite a nasty swelling, which might well have been a fracture (and quite obviously,

considerable pain) he was still out the next day helping his countrymen.

Glider flyoff

Conditions were still breezy and warm for the first four-minute round. Mobs of flyers managed this (though not John Cuthbert) but nearly two dozen had to fly again this time for five minutes. Both Horjesi, winner from Poitou and Rod Lewis from New Zealand scored exactly four minutes on this second flight. Out of the running but good flights and enough for equal eighth place. However, when the next flight was called – the six minute round – Rod was named as a qualifier! It appeared that his score had been incorrectly written down at 5:00 when it should have been four minutes. His protestations to the organisers were in vain; they insisted he flew. He was still considering his position on the flight line just before the hooter when a deputation, including the CD himself, came across to him. The general gist of it was that they wanted to vouch that they had all timed the flight personally and had all made it five minutes! This was becoming very odd indeed, with the evidence in complete contrast to that of your reporter who had made it four minutes but was now beginning to have doubts. To avoid an incident Rod flew. Up and off to a very fair token flight. Later at the prizegiving that night the organisation may have realised Rod had been levelling with them as they awarded him a special 'sportsmanship' prize! Perhaps they had decided in advance that this furthest-travelled competitor was going to win, come what may!

The final flights were taken by the remaining five men and the Russian Jablovok turned in another five-minute-plus flight to win.

Rapid-fire competition F1B and F1C:

The following day F1B and F1C lines were thoughtfully well separated by the official vehicles. Flying commenced again at 8.30am although both days had provided rumour of earlier starts. In the circumstances this would



The Pole Luniewski – unlucky with a power stall in the flyoff from which the model never recovered.

into future meetings because the site is a dram. Huge and flat, with short grass over which one could walk, run, tow or drive in any direction. Sturdy bikes would have been useful as long as one was vigilant of occasional ruts in the surface! The country itself can also be recommended. Locals and border guards are friendly and helpful, and the food and drink is usually very tasty and about the price it was in the UK thirty years ago.

There was a practice, arrival and registration

have been very useful – on this day in particular. A grey sky with moderate breeze and light showers didn't look too promising. In fact, it looked like Barkston! Thankfully there was little rain after the actual start and if anything the drift reduced – a three minute flight went no further than half a mile at this time. The increased max once again sorted out quite a few with marginal performance despite it only being 3:30 for Wakefield and 4:00 for Power. Three of the British maxed in F1C – Johnson, Faux and Screen. More than a dozen F1B flyers were eliminated from a possible flyoff with times that cleared three minutes but didn't make the max. Extended maxes in conditions such as this where the air is not bouyant are very telling. Often it's a waste of time in hot, continental conditions when the air is very helpful for some hours after dawn and long maxes are a formality. Flying on Domsod was much akin to flying England. Only Chilton and Beales of the British bunch maxed this flight, then carried on well through to round Five without dropping, although both suffered model damage – William Beales on landing and winding and Mike Chilton folding a wing which thankfully came right off and thus gave him another flight when launching his DPR model over-enthusiastically in a blustery spell. The day quickly had become sunny, warm and rather windy up to 20mph between the thermals giving some choppy local turbulence from upwind trees but nothing extended far across the field. Models disappeared off downwind very quickly however, and often at great height. Retrieval teams were essential with less than an hour per round and only five minute breaks between. Even lunch was cut to 30 minutes. It really was rapid fire.

no one was quick enough to catch it. Therefore a score that could have placed him in the top ten was ruined.

The end of the day saw William Beales in the fine company of young Vladimar Kubes tied at 10th, both of them just five seconds short of a full score. Chilton dropped another on the last flight but still scraped into the top 14-point scorers. Only Stafford Screen had maxed out in the British camps he along with eight other in F1C all Eastern bloc including three prominent Russians.

Nine had also qualified in F1B. Hofsass did not fly due to model damage and when the moment came Polla launched a little left and rather too late for the good air on the first round, going for five minutes. (Both F1B and C jumped the four-minute stage.) In the second round of Rubber, attempting the six-minute max the Pole Luniewski stalled soon after launch and dived in on what could only have been an intermediate VIT position. Bror Eimar, now down to a basic Tilka, made a very creditable three-minute-plus flight under pressure and in the blustery wind, and although Bernard Sauter's climb didn't look that hot his air was good enough for third place leaving the extraordinary Andrukov and Gorban to max impressively. Actually Andrukov had waited round with a heater jacket around the fuselage while Gorban blew a couple of motors. Gorban's eventually faster climb was therefore on a freser, although presumably not as 'hot', motor as Andrukov.

The final flights

Before the Wakefield re-flight between the Russians we were treated to Stafford Screen's finale against the Pole Czerwinski. Stafford had

win. His flight was excellent and appeared to be in steady air, easily capable of seven minutes required. The Pole launched a couple of minutes later a lesser climb but a glide that contacted positive lift after about a minute. As the second flight drifted downwind, becoming difficult to see even with binoculars, it appeared both models would max. As it happened Czerwinski's timekeepers and some of his helpers clocked off at around 6:45 when the



Stephan Rumpp prepares for glider flyoff at Zulpich.

model was seen by others on the flight line to exceed the max. Now it would appear that the official timekeepers' scores were now being taken as 'suggestions' rather than the final word; and the CD was rather too happy to take the flight as a max and incredibly call the event a draw!

With darkness coming on there was certainly no time to retrieve – but what about second models? Surely flyoffs should be set in advance, not decided upon in an ad hoc manner. Rather unsatisfactory and taking the edge off Stafford's big moment – but then he could have insisted on flying another model.

The Russians were still at in Rubber – launching close together with, once again, Gorban having the highest and smoothest climb pattern but possibly the shorter run. Both models handled the breeze with ease; Andrukov's gliding slightly better from lower altitude to gain late on in the flight with a score of 5.3/4 against Gorban's 5.1/2. At least it was a clear result.

With Eastern European presence so strong – something a dozen top line Russians in Wakefield – this contest was a taste of things to come. Here was Andrukov virtually clinching the World Cup in F1B at his first go. Presumably we will see more of him and the others despite the expense of travel even though they are now allowed to do so. It does



Zsengler, winner of F1C at Zulpich, discusses matters with Dick Johnson.

The fourth round brought an end to Ken Faux's hopes of another win here when a perfect pattern dumped him on the top of a huge hole that had the model down in little over a minute and a half. Screen maxed on. In the sixth F1B round Bernard Aslett, who had only dropped a few seconds in the first round, launched the Tilka with the prop locked and

been on rails during these flyoff flights and appeared, by the sound of it at least, to have a very good motor. Here he was at last with the Russians eliminated (and having to sit down and watch him for a change). There was very strong support for him generally. Certainly the continentals, with whom I watched these final flights, were absolutely determined he should

seem a pity however that only one team will represent Germany in future Championships. As Stephan Rumpff put it, 'It is now easier to win the World Cup itself than to qualify for the German team!' and he should know.

In all this was a very good contest, mainly thanks to the excellent venue and tremendous competition. To be recommended despite the distance - over 1000 miles each way by road...

Pusztá Cup: Domsod, Hungary

F1A (137 flew)

1	J Jablkov	SU	1260	+ 240	+ 300	+ 306
2	I Drori	LI	1260	+ 240	+ 300	+ 276
3	C Ziober	PL	1260	+ 240	+ 300	+ 190
4	E Dondero	ARG	1260	+ 240	+ 300	+ 189
5	Z Havelka	CS	1260	+ 240	+ 300	+ 183
6	R Lewis	NZ	1260	+ 240	+ 300	+ 172

F1B (71 flew)

1	A Andrukov	SU	1290	+ 300	+ 360	+ 343
2	E Gorban	SU	1290	+ 300	+ 360	+ 332
3	B Sauter	D	1290	+ 300	+ 208	
4	B Eimar	S	1290	+ 300	+ 197	
5	K Luniewski	PL	1290	+ 300	+ 11	
6	A Khrebtov	SU	1290	+ 266		

F1C (32 flew)

1	S Screen	GB	1320	+ 300	+ 360	+ 420
=	R Czerwinski	PL	1320	+ 300	+ 360	+ 420
3	Napkori	H	1320	+ 300	+ 186	
4	L Fuseev	SU	1320	+ 300	+ 169	
5	E Verbitski	SU	1320	+ 300	+ 36	

Eifel Pokal: Zulpich, West Germany: 1st & 2nd September

The long European drought broke just before this contest. Fine, constant drizzle turned to heavy, persistent rain the day before the event and most of the night. Prospects for F1B and C on the Saturday were not good and the rain that greeted contestants put quite a good many off. Sole UK power representation Dick Johnson opted to stay dry but in F1B Woodhouse and Hipperson braved it. Regular visitor from the USA, Texan Ed Turner, was also there with his usual, very fast-climbing Tilkas.

Fortunately the wind at dawn eased to a gentle drift before the start so although retrieving was heavy going over the soft fields distances were never far. In F1B at least, the event was to turn into the finest test of pure model performance that your reporter has ever witnessed. Little wind, no turbulence: just very wet, heavy conditions even after the rain stopped, in which models glided well but had difficulty climbing.

In power the standard was exceptional although the entry was not vast. F1C's could punch through the heavy air and as a result during the entire contest only 14 sub-max flights were recorded - and half of them belonged to a local guy, Buren, who seemed to be having plenty of fun flying a rather small and



Ed Turner test-flying F1B at Domsod, Hungary prior to Pusztá Cup event.

comparatively slow high thrust line model.

The extended max on the first round weeded out at least half a dozen who would have made three-minutes in F1B. Only two of the ten who did overcome this hurdle dropped much on further flights - eight of them taking the final top eight places. Along with reliability, performance was the criterion here. The reigning World Champ maxed only three times! Mike Woodhouse suffered a little in the rain on the first flight, only just clearing three minutes. His performance was fine for the rest of the day apart from a tenancy to D/T early - just a couple of seconds in round three then a whopping half minute on the last which dropped him from ninth to an unnecessary 13th.

By lunch time the rain eased and one round at least had slight up and down air - round five, and Dieter Paff and Pym Ruyter dropped from the full scores here. A drift reversal then caused some problems on the sixth round with models being treed in what a few moments before had been upwind woods. The line was shifted and the weather brightened considerably for the last flight although the air was still very heavy and moist. It was here that Ed Turner, who had dropped only a few seconds up to this point, chanced his arm with a new DPR model and came to grief spectacularly with rather too much delay and a trim set up for wind, and not ready for the flat calm.

The organisation had polished up its act quite a bit since last year with full documentation and 'hats' available on time and on the field. Covered seating accommodation was arranged to eat lunch close to the flight line; and timekeepers (in the main) were on-the-ball. Entries, of course, were slightly depressed because of the impending European Champs but nevertheless, approaching the end of the first day we could look forward to exciting

Rod Lewis had the organisation on his side in the glider flyoff in Hungary; he's assisted here by GB's Colin Sharman practicing what appears to be a complicated foot manoeuvre!



flyoffs. Since last year Europe has changed – or rather, its accessibility to the Eastern bloc flyers has altered dramatically. It follows therefore that even this very West German venue had a fair representation from what used to be the Communist Countries. In fact they represented 20 per cent of the entry!

Half a dozen of the Worlds best had made it to the F1B flyoff and five - all East Europeans - were in Power. The F1C men went straight to the five minute stage, which was sensible given the near zero drift and dead air. The two Poles dropped out leaving the popular Hungarian Zsengeller to fly-off against a Russian and East German. Final times represented the very ultimate in F1C performance with nothing in the air to help - all very close.

Wakefield had had a strong Soviet presence. Vivchar dropped a few seconds on two flights with his dark and ultra short-nosed model and was just out of the flyoff. Andrukov had made no mistakes and shared the field with you Ruppert from Switzerland flying the sensational Sibermann designs (also used by Polla who missed this contest.) Previous World Champion Hofsass (whose model had been gliding extraordinarily well), Zeri and Seja made up the rest with Broberg and Sweden having qualified with what appeared to be a virtually standard Tilka.

The first round sorted nothing. Broberg, with much bravery and a blistering climb, marked a bouyant patch for all to join. Everyone maxed. Andrukov, Seja and Hofsass were using electrically heated jackets around the motor tube part of the fuselage to warm the contents both before and after winding. In the cooling evening conditions this may well have been of benefit. However, the Russians climb, although fast, was a little 'dippy' on the VIT and had also shown a tendency to wander left and right on the way up. The sky was still lightly overcast although thankfully dry when the six readied again for the assault on the five-minute max. The air was dead, thick and very calm. Seja launched first, went rather flat and straight on the initial power burst and then glided very wide but well. Ruppert followed. His pattern had been perfect all day - it was again now when it was most needed and the model was very high. Zeri and Hofsass flew close together. Both had good patterns and then Andrukov released to climb slightly higher than Zeri after an interesting power pattern that included a complete left circle as well as the conventional right spiral! Zeri's model managed a second less than four minutes. Hofsass's and the Russian model were a few hundred feet apart, both gliding well—only the slight height gain from Andrukov's climb making a difference to the final durations. He scored 4:43. It wasn't enough. A jubilant Ruppert had made the max and won. The Swede, Broberg, who watched all this and sensibly waited for different air found nothing and was down in a little over three minutes. A most satisfactory conclusion and a wonderful day for the very on-form Ruppert to beat the as yet uncrowned king of F1B.

With the improved weather late in the evening hopes rose for a clear Glider day. What actually occurred was even more remarkable than the day before. Almost lifeless conditions under a very heavy overcast; quite mild with occasional light showers of drizzle. (Down the road it rained quite hard for a considerable part of the day - we were lucky). All day a good

launch with a well-trimmed model was nearly all that was required to max, but it would only be by seconds. The slightest error—and out. (I made some trim flights during the day and have never experienced at any time of the day or night such solid and vertically motionless conditions. As a comparison it was even more dead and calm than the Coupe d'Hiver event at Old Warden last December – if you can imagine such a thing being possible.)

There were some very high performance flyers at this meeting and therefore it was no surprise to find more than a dozen with full scores at the day's end. With the air still very dense the entire crowd of qualifiers circled off on the line to various corners of the field to make the most of it. many got close to the four

minutes - only three made it, and two of these where the zoom and bunt transitions had been decisive; namely, Rump and Stamov the Russian.

The five-minute round was then held in flat calm, thickening overcast and the beginnings of drizzle. Rump launched first off to the west of the line whilst Stamov who incidentally seemed to be having continual practice flights between the rounds - waited and watched. He eventually chose the short grass car park/camp site over which to tow. His launch was fantastic, the model being catapulted up and almost on its back past the vertical before the bunt came in to drag it level some 20 - 30ft higher than the top of the fully stretched line. Rump's model, launched similarly was gliding well but



The incredible Stamov just prior to a series of flyoffs against Rump; wing appears to be tissue covered with much carbon structure, including solid carbon trailing edge of very small dimensions.

it appeared Stamov had the edge. The third qualifier - Rusch - launched some distance away at this time but his flight did not challenge these two. Stamov's flight was a little over four-and-a-half-minutes - we presumed he had won by a whisker. But it was less than a whisker - they had tied at 4:33 and would have to fly again ! Thus the vast assembled galley made themselves comfortable to watch this encore from two men so positively on form this particular evening. It was now drizzling quite hard. Once again Rump released first after a short tow, and once again demonstrated the perfect bunt transition many feet higher than a conventional dead air zoom could have reached. The model was perfectly into its glide speed and slow decent. Thirty seconds later Stamov - once again towing very fast over the short grass - unleashed a terrifying climb and bunt pull out. His glide was incredibly slow and seemed to be hardly dropping. It made enormous circles, taking as much as 90 seconds to complete each, and flew perfectly around the spectator area. Rump was down at well over four minutes. Stamov's model was still gliding and continued to do so for only two seconds short of the max - and all this in the pouring rain! What should have been a standing ovation for both men was a stunned silence as the assembled crowd, mostly Glider flyers, tried to take in what they had just seen. Glider flying, in calm conditions at least, had just been changed forever and everyone knew they had some building and re-trimming to do for next year. A sensational climax to two days of performance contests.

Eifel Pokal

F1B (32 flew)

1	R Ruppert	1290	+	240	+	300
2	A Andrukov	1290	+	240	+	283
3	R Hofmann	1290	+	240	+	245
4	A Zeri	1290	+	240	+	239
5	F Seja	1290	+	240	+	228
6	H Broberg	1290	+	240	+	188
7	D Paff	1283				
8	I Vlvchar	1275				
9	B Sauter	1253				
10	O Kipelaianen	1239				

F1C (12 flew)

1	H Zsangler	1320	+	300	+	360
2	K Wachtler	1320	+	300	+	357
3	I Andruschenko	1320	+	300	+	324
4	J Ochmann	1320	+	41		
5	M Roman	1320				

F1A (75 flew)

1	V Stamov	1260	+	240	+	273	+	298
2	S Rump	1260	+	240	+	273	+	259
3	U Rusch	1260	+	240	+	230		
4	C Breeman	1260	+	238				
5	S Puttner	1260	+	230				

SMAE Fifth Area Centralised event 9th September

Despite warm, sunny and mostly calm conditions throughout the country this event suffered reduced entries due to numerous fliers being away at the European Championships (and the Hungarian Open Internation that followed it). All the winners came from Barkston where the lift and lack of drift at flyoff time allowed record scores. Trevor Payne's sensational near-half-hour flight becomes the longest SMAE Open Power flyoff on record and Steve Philpott, who had to make do with second

place despite a flight of over a quarter of an hour on his card, made up with a winning near nine-minute flight in A1 a few minutes later. John Carter's model was also close to Philpott's; and some say his frantic flapping assisted Steve Philpott's model more than his own! All the models, were located that evening.

In the same air as Trevor Payne, Graham Walker scored over twenty minutes with his very straightforward F1B and appeared fairly

unconcerned at its loss. Dennis Davitt, also with a basic model, sniffed the edge of this lift too and Peers, although right in it, stalled down when an overtight D/T line distorted the rear boom of his model.

Birmingham's fine showing in Team Power and a relative off day for the Merryfield based Bristol & West crowd means their lead has been closed down to a mere 39 points in the Plugge Cup with only Team Rubber remaining.

SMAE Fifth Area Event

A/1 Glider: No trophy (32 flew)

1	S Philpott	Barkston	10:00	+	8:47
2	P Tribe	Merryfield	10:00	+	7:18
3	J Carter	Barkston	10:00	+	7:13
4	E Drew	Merryfield	10:00	+	6:22
5	J Baguley	Barkston	10:00	+	4:08
6	B Lewis	Barkston	10:00	+	1:59

F1B Wakefield: Gutteridge Trophy (36 flew)

1	G W Walker	Barkston	12:30	+	21:51
2	D Davitt	Barkston	12:30	+	8:02
3	G Turnbull	Sculthorpe	12:30	+	4:03
4	R Peers	Barkston	12:30	+	3:19
5	A Walls	Sculthorpe	12:30	+	2:42
6	J Oulds	Ashdown	12:30	+	1:46

Open Power Individual: No trophy; Plugge points (32 flew).

1	T Payne	Barkston	7:30	+	27:46
2	S Philpott	Barkston	7:30	+	17:25
3	P Harris	Barkston	7:30	+	7:24
4	P Ball	Barkston	7:30	+	6:38
5	G Fuller	Merryfield	7:30	+	6:29
6	D Cox	Beaulieu	7:30	+	5:18

Team Power

Birmingham B	Philpott, Baggott, Cordes	22:30	+	19:04
Crookham A	Cox, Buskell, Chil	22:18		
Birmingham A	Harris, Watson, Monks	22:08		

Plugge Positions after five events

Bristol & West	1232
Birmingham	1193
Crookham	1059
Biggles	743
East Grinstead	612



The Russian Gorban puts everything into winding for the penultimate F1B flyoff round at Domsod; broke two motors but eventually got away well. Note wires leading from heating jacket around motor tube to battery under winding jig.

HAVE FUN WITH A D.P.R. MODEL

AT THE 1991 MODEL ENGINEER EXHIBITION ON 1st JANUARY 1991 AT ALEXANDRA PALACE

The D.P.R. 'MODEL FLYING DAY' starts at 10.30 a.m.

It's sure to be lots of fun and a great day out for all the family! Don't just be a spectator - Have a go! The D.P.R. Model Workshop will be open all day, so come and make a simple model. There is no charge for entry in the Competitions other than the purchase of a Kit - So why not enter one of these?

HIT THE KIT' COMPETITIONS AT 11.00 a.m. and 1.00 p.m.

If you are under 13 years old, you can enter these events on the day! Score a direct hit on one of the D.P.R. Kit Targets and the model is yours! ANY suitable D.P.R. Model may be used, (NO catapults to be used). Build a model and bring it with you - or make one on the day!

12.00 JUNIOR 'SUPERFIGHTERS'

Another event for the under 13's using the Slot-Together rubber powered 'SUPERFIGHTER' models. Choose a SPITFIRE, HURRICANE or MUSTANG which can be assembled in a matter of minutes on the day!

* SUPER PRIZES TO BE WON FOR THE BEST FLIGHTS *

2.30 p.m. JUNIOR & SENIOR 'NATIONAL CHUCKIE CHAMPIONSHIPS'

Anyone can enter this indoor duration event using D.P.R. Models high performance 'CHUCKIE' hand launched gliders - kits are available from your local model/toy shop or direct from D.P.R. Models and may be built in less than an hour.

FREE ADMISSION TO THE MODEL ENGINEER EXHIBITION FOR 'CHUCKIE CHAMPIONSHIP' COMPETITORS

If you send your completed entry form to D.P.R. Models before 21st December 1990.



Slippery Subtle
MODEL ENGINEER
Modelling
EXHIBITION



PRIZES

First Prize (Juniors Under 13) The D.P.R. Models 'Junior Chuckie Championship Trophy - An exciting Tamiya 'Astute' 1/10th scale high performance radio controlled Off Road Racer complete with ACOMS Radio Control and Electric Power Unit - 12 months subscription to R.C.M. & E. Magazine.

First Prize (Seniors) The D.P.R. Models 'Senior Chuckie Championship' Trophy - Superb Riko Electric Powered Cessna Skyhawk Radio Controlled Model Aeroplane Kit complete with ACOMS Radio and Electric Power Unit - 12 months subscription to R.C.M. & E. Magazine.

Trophies, D.P.R. Model Kits and Argus Specialist Publications subscriptions will be awarded to the runners up in each age group.

1991 'CHUCKIE CHAMPIONSHIP' OFFICIAL RULES

- ALL COMPETITORS** to be within the age specified at the time of the competition (i.e. Under 13 or 13 years - Adult).
- ALL MODELS** must be built from the standard D.P.R. Models 'Chuckie' kit, without any modifications to the construction, substitution of components or alterations from the original shape other than approved crash damage. Models must include doublers and stickers. No undercamber allowed on wings.
- SENIOR 'Chuckies'** may be built with undercamber, without doublers or stickers and may be extensively lightened, but must maintain the original Chuckie outline (13 - Adult only).
- PRE-ENTRY** Return your completed entry form now to receive a FREE ADMISSION TICKET to the MODEL ENGINEER EXHIBITION for each 'Chuckie' competitor as soon as available! Non-competitors are advised to order ADVANCE TICKETS from Argus Specialist Exhibitions Ltd, Argus House, Boundry Way, Hemel Hempstead, Herts. (0442) 66551. See the organisers on arrival to check in!
- CLUB OR GROUP APPLICATIONS** will be accepted and additional entry forms may be obtained from D.P.R. Models or photocopied.
- LATE ENTRIES** will be accepted on the day. Have your model ready to fly and see the organisers before 2.00 p.m.
- BUILDER OF THE MODEL** whilst it is the policy of D.P.R. Models to encourage all competitors to fly a model built by themselves, it is permitted for youngsters to have assistance with building their models and with flight trimming.
- ALL COMPETITORS** will be allowed THREE FLIGHTS EACH. Their best flight time will count as their overall score.
- THE PERSON WHO ACHIEVES THE LONGEST FLIGHT TIME IN EACH AGE GROUP WILL BE THE WINNER OF THE COMPETITION.** In the event of a tie, a fly-off will be necessary to establish first place.
- ALL PRIZES** will be awarded at the end of the competitions.

ENTRY FORM

Please complete this form and return it to D.P.R. MODELS, Unit 9, The Vanguards, Shoeburyness, Essex SS3 9QY with a S.A.E. (0702) 295110. It must be returned by 21st December 1990 to receive your FREE ADMISSION TICKET to the MODEL ENGINEER EXHIBITION at Alexandra Palace on 1st January 1991

Name:

Address:

Postcode:

Telephone No. (inc. code):

Junior Section (Under 13) your age:

Senior Section: Age 13-21 Over 21 (Please tick)

Competitors may use more than one 'CHUCKIE' model provided these are all built from D.P.R. MODELS KIT COMPONENTS. ALL COMPETITORS WILL BE ALLOWED THREE FLIGHTS OVERALL.

Please answer the following questions:

Where did you purchase your kit?

Where did you learn of the Competition?

Have you flown in a D.P.R. Competition before?

All competitors must sign the following declaration:
I agree to abide by the rules of the competition and I understand that the decision of the Competition Director will be final. No correspondence will be entered into after the event.

Signature Date



HIGH PERFORMANCE MODELS EASY TO BUILD AND FLY

TREAT YOURSELF...!

Treat a friend!

SUBSCRIBE TO AEROMODELLER AND RECEIVE THIS SCREWDRIVER SET ABSOLUTELY FREE!

That's right, take out a subscription to AEROMODELLER for either yourself or as a gift for a friend, and not only will we make sure it's delivered to you each month at no extra charge*, but you or the recipient of your gift subscription will also receive this Rodeo Precision Screwdriver Set **FREE**.

This superb six piece set of instrument screwdrivers in all the useful modelling sizes (1mm, 1.4mm, 2mm, 2.4mm, 3mm and 3.8mm) is just the thing for keeping handy in the flight or pit-box or around the modelling workshop. Each one comes complete with rotating head boss for proper instrument screwdriver 'three-finger' operation and the hollow ground shafts are hardened for durability. The set comes in a handy storage case with hinged lid and individual rack for each of the six tools. An indispensable set, ideal for use on the smallest of grubscrews right up to 4BA bolts.



SUBSCRIPTION RATES

UK	£23.40
Europe	£28.20
Middle East	£28.40
Far East	£30.20
Rest of the World	£28.70
Airmail Rates on Request	

Just fill in the coupon below and send it to the address given with a cheque, money order or credit card authorisation to cover the cost of the subscription. We'll do the rest!

TERMS AND CONDITIONS

This offer closes on Friday 21st December 1990 and is also open to current Aeromodeller subscribers who wish to renew their current subscription but must do so using the form provided.

Please allow 28 days for delivery of your gift. To guarantee receipt of gift subscriptions before Christmas, orders must be received by Friday 14th December 1990.

*Overseas subscriptions include postage.

ORDER FORM

Please tick

- I would like to subscribe to AEROMODELLER and receive a free gift.
 I would like to send an AEROMODELLER gift subscription and free gift.

My Name Recipient's Name

Address Address

..... Post Code Post Code

- New Subscriber Renewal New Subscriber Renewal

Please commence the subscription(s) with the issue. I enclose my cheque/money order for £ payable to A.S.P. or debit my Access/Visa Account.

Valid from to

Signature Date

Return this order form and remittance to: The Subscription Manager (AM/8) Argus Specialist Publications, Argus House, Boundary Way, Hemel Hempstead, Herts HP2 7ST.

**HERE
AT
LAST!**

The ALL-NEW 1990-91 edition

MODEL AIRCRAFT PLANS HANDBOOK

Over 100 pages £2.00

More than 1,000 of the world's top designs described and illustrated . . .

RADIO CONTROL • FREE FLIGHT CONTROL • CONTROL LINE • LARGE R/C MODELS • VINTAGE COLLECTION

PLUS...

the fabulous, unique ASP "X-LIST range!



- RADIO CONTROL
- FREE FLIGHT
- CONTROL LINE
- LARGE MODEL PLANS
- VINTAGE PLANS SUPPLEMENT

To ASP Plans Service, Argus House, Boundary Way, Hemel Hempstead, HP2 7ST.

I enclose £2.00 + 60p postage for my copy of the new 1990-91 MODEL AIRCRAFT PLANS HANDBOOK

Name

Address

MICHAELS MODELS

MAIL ORDER HOTLINE
081-445-6531
Licensed Credit Brokers

646-648 HIGH ROAD
NORTH FINCHLEY
LONDON N12 0NL
TEL: 081-445 6531

Open: Mon - Fri 9am - 6pm. Saturday 9am - 5.30pm

We wish all our customers a Merry Christmas & a Happy New Year

COX		61 Stunt	£69.95
Tee Dee 010	£32.99	<i>NOW IN STOCK</i>	
Pee Wee 020	£15.99	30 Diesel Stunt	£44.95
Baby Bee 049	£17.99	30 Diesel RC	£49.95
Black Widow 049	£19.99		
Tee Dee 049	£29.99	AE from D.J. ALLEN	
Pee Wee 020 R/C	£18.99	2cc Diesel	£55.25
Queen Bee 074 R/C	£36.99	5cc Diesel Mk 2 (inc Tank)	£33.25
Tee Dee 010 Glow Head	£3.25	1cc Diesel	£27.60
		1.5cc Diesel	£27.60
IRVINE ENGINES GLOW		1cc R/C Diesel	£29.50
21 RE ABC Speed	£88.75	1.5cc R/C Diesel	£36.80
(We can now offer the)		NEW!	
(IRVINE 15 R ABC FF/Combat)		POWERMAX Z	
(converted to diesel)	£119.75	Compressed Air Motor	£24.95
Irvine 15R Speed/Piped	£105.50	Compressed Air Motor including	
Irvine 15R F/F	£84.75	Jonathon Kit	£35.00
IRVINE ACCESSORIES		CO2 MOTOR	
15 Size Tuned Pipe	£21.40	Modella	£19.99
20 Size Tuned Pipe	£20.60	Telco	£34.99
20 Size Muffled Pipe	£27.50		
IRVINE SPARES - 15 R ABC		MVVS	
Glow Head	£3.22	1.5cc Plain Bearing Diesel	£19.99
ABC Piston/Liner - 15 FF	£26.75		
ABC Piston/Liner - 15 Speed	£26.75	RUSSIAN ENGINES	
(Full IRVINE spares available)		Mk 17 1.5cc Diesel	£30.15
A M GLOW		KMD 2.5cc Diesel T/R	£60.00
1cc inc Tank/Silencer	£26.95	NEW FROM IRVINE ENGINES	
1.5cc inc Tank/Silencer	£27.95	All ABC P/L	
A M DIESEL		Irvine 20 Plain Bearing Diesel for	
1cc inc Tank/Silencer	£28.95	Combat	£55.00
1.5cc inc Tank/Silencer	£29.95	Irvine 20 Ball Race Diesel for	
		Stunt	£57.60
MERCO Inc Silencer		Irvine 20 Ball Race Diesel RC	£62.65
30 Stunt	£34.95	IRVINE ENGINES	
35 Stunt	£39.95	EXPECTED IN 6/8 WEEKS	
40 Stunt	£44.95	Irvine 40 R/C Diesel	POA
50 Stunt	£54.95	Irvine 15R Diesel for Combat	POA

POST & PACKING: UK - Engines 95p, F/F kits £2.00, Vintage Kits £2.75, Accessories 75p
Overseas - Deduct 15% on orders over £25.00 Postage & Packing at cost PAYMENT: UK - Cash
(Registered Mail) Postal Orders Cheques, Visa, Access, Am Ex, Diners Overseas - Currency
(Registered Mail) Sterling Cheques/Bank Drafts, Visa, Mastercard, Am Ex, Diners Credit/Charge
Card orders - Please quote Expiry Date - All orders despatched within 1 day if stock not available for
immediate despatch customers will be notified of the delay



KNIGHT & PRIDHAM LTD.
Castle Road, Rowlands Castle,
Hampshire. 0705 412172

NEW

- 10:1 Ratio Winder for 'Peanut' sized models (4mm rubber max) £5.50 50p pp
- KP 01a + accessories £21.00 50p pp
- KP 01b + accessories £19.50 50p pp
- KP 01a + prop only £18.50 50p pp
- KP 01b + prop only £17.00 50p pp
- Speed Control trimmer £1.70 30p pp
- Motor/Gear Assy £6.00 50p pp
- Flight charger for KP01a:-
£16.00 80p pp
- Flight charger for KP 01b:-
£14.50 80p pp
- Mains charger for above:-
£9.50 80p pp
- Sodastream adaptor for CO2
£16.50 50p pp

ACCESS/MASTERCARD/VISA

ARDEN RUBBER

- SELF CONTAINED EASILY INSTALLED
- QUICK WIND FEATURE
- QUIET AND CLEAN IN OPERATION
- FREE WHEELING 7/8" PROPELLER
- NO MESS
- WORKS LIKE CLOCKWORK BUT BETTER!
- NO BATTERIES



**It really goes . . .
on and on and on . . .**

NEW Build the 'IMPALA' PLAN (See October Issue) £1.50

U.K. POST & PACKING ADD 50p
Trade Enquiries Welcome
Arden Spares etc. — see
our leaflet, S.A.E. please

G. KNIGHT ENGINEERING
Foden Cottage, Finchdean,
Waterlooville, PO8 0AU.

Model Shop Directory

THE COMPREHENSIVE MODEL MAKERS GUIDE
RING FOR MORE DETAILS
CLASSIFIED ADVERTISING TEL: 0442 66551

LONDON

KINGSBURY Tel: 081 205 6177
AERO MODEL MART 205 0817
165 CHURCH LANE (24hr)
NW9 Fax: 081 200 7438
Mon. - Thurs. 8.30-5.30 Fri. - Sat 8.30-6
Access - Visa - Instant Credit

**CALL
0442 66551
TO ADVERTISE**

AERONAUTICAL
MODELS Tel: 071 485 1818
39 PARKWAY 071 485 4867
LONDON NW1 Fax: 071 482 0429
Mon-Fri 9.15-5.30 Sat 5.00pm London's leading
model specialist. American Express

SURREY

SUTTON Tel: (081 642) 0087
E.L.S. MODEL SUPPLIES
9 EAGLE STAR HOUSE
HIGH STREET
Open: Mon. to Fri. 9am to 5.30pm.
Saturday 9am to 6pm.

EWELL Tel: 081 393-3232
MICK CHARLES MODELS
192-194 KINGSTON ROAD
Mon., Tues., Thurs., Sat., 9.30-5.30
Friday 9.30-7.00
Access Barclaycard Mail Order

BEDFORDSHIRE

LUTON Tel: (0582) 28435
MAPLE MODELS I
62 FOUNTAIN ROAD
BEDS LU3 1LY
Mon to Sat 9.00am - 5.30pm
Late evening Wed to 7.30pm

HAMPSHIRE

FAREHAM Tel: 0329 239018
FRATTONS OF FAREHAM
126 WEST STREET
FAREHAM
9.00 - 5.30pm 6 days

BUCKINGHAMSHIRE

MILTON KEYNES Tel: (0908)
MAPLE MODELS II 678153
692 SILBURY BOULEVARD
CEN. MILTON KEYNES BUCKS
Mon to Fri 9.45am - 5.30pm Sat 9 - 5.30pm
Late evening Thurs to 7.30pm

HEREFORDSHIRE

LEOMINSTER Tel: (0568) 3782
MARTINS MODELS & CRAFTS
26 WEST STREET
HR6 8EP
9am-5.30pm Mon.-Sat.

LONDON Tel: 071 703 4562
MODEL AIRCRAFT SUPPLIES LTD
207 CAMBERWELL ROAD SE5
Open: Mon. - Sat. 10 am - 6 pm.
Fri. 10 am-7.30 pm.
Closed all day Thursday

CAMBRIDGESHIRE

PETERBOROUGH Tel: 0733
ORTON MODELS 68200
36 HERWARD CENTRE
CAMBS. PE1 1TF
Open Mon - Fri 9.30 - 5.30 Thurs 9 - 6
Sat 9 - 5

HERTFORDSHIRE

STEVENAGE Tel: 0483 743530
MODELS IN MOTION
57 HIGH STREET
OLD STEVENAGE, SG1 3AQ
Out of hours 0836 208090
Kyosho, Tamiya, Parma, Daron, Schumacher

LONDON Tel: 071-607 4272
HENRY J. NICHOLLS & SON LTD.
HOLLOWAY ROAD N7
Open
Mon, Tues, Wed, Fri 9.30am-5.30pm
Saturday 9.30am-5.00pm
Thursday 9.00am-1.00pm (half day)

CORNWALL

FALMOUTH Tel: 0326 317475
HARRY BROOKS
MARKET ON THE MOOR
THE MOOR
FALMOUTH, CORNWALL
Open every day except Sunday

MODEL CITY Tel: (0727) 64654
129 HATFIELD ROAD
ST. ALBANS
HERTS
9-5.30pm Mon - Sat
VISA ACCESS

LONDON Tel: 071-228 6319
E.F. RUSS
BATTERSEA RISE SW11
Open Mon-Sat 9am-6pm
Early closing Wednesday 1 pm

CUMBRIA

CUMBRIA Tel: 0900 818123
HANGAR 32
44 WOOD ST.
MARYPORT
CA15 6JZ

BISHOPS STORTFORD Tel: 0279
STORTFORD 654292
MODELS
16 BRIDGE ST.
BISHOPS STORTFORD
Open 9-5.30 6 days a week

MIDDLESEX

HARROW Tel: 071 863 9788
THE MODEL SHOP
190-194 STATION ROAD
Mon-Sat 9.30-6.00
Wednesday 9.30-5.00

YORKSHIRE

LEEDS Tel: (0532) 646117
THE MODEL SHOP
(late Flying Models)
88 CROSSGATES RD,
CROSSGATES LS15 7NL
Mon-Sat 6am-5.30pm Closed all day Wed

BRADFORD Tel: 0274 726186
MODELDROME
217 MANNINGHAM LANE
BD8 7HH
Open 9.30am-5.45pm
Closed all day Wednesday

DEVON

PLYMOUTH Tel: 0752 263133
RUNWAY SOUTHWEST
22 FRANK FORT GATE
CITY CENTRE
Mon - Sat 9.00 - 5.30pm

**ADVERTISE YOUR
SHOP IN THE 1991
DIRECTORY
0442 66551**

WEST MIDLANDS

WOLVERHAMPTON 0902 26709
WOLVERHAMPTON MODELS &
HOBBIES 1 MEADOW ST
CHAPEL ASH
Open Mon - Sat 9 - 5.30
Mail Order Welcome

SCOTLAND

GLASGOW Tel: (041 221) 0484
DUNNS MODELS
3 WEST NILE STREET
Open: Mon. - Sat. 9.00 am-5.15 pm.

ESSEX

UPMINSTER Tel: (040 22) 50272
RADIO ACTIVE MODELS
UPMINSTER LTD
54 ST MARY'S LANE, UPMINSTER
ESSEX Open Mon, Tue, Wed, Thur, Sat.
9am - 6pm Fri 9am - 7pm

LANCASHIRE

MANCHESTER Tel: 061 499 0303
THE AVIATION SHOP
SPECTATORS TERRACES
MANCHESTER AIRPORT M22 5SZ
Stockist of Airfix, Revell, Wooster's

BIRMINGHAM Tel: 021-443 3529
KING'S HEATH MODEL
AIRCRAFT
25 ASHBURTON ROAD
KING'S HEATH B14 6JA Open
Mon - Sat 10.15am - 6pm, late night Thurs 8pm

WALES

ABERGAVENNY Tel: 0873 2566
ABERGAVENNY MODEL SHOP
32 FROGMORE ST
NP7 5AL
Open Mon - Sat 9-5.30pm
Sanyo, Nicad Distributor

HAMPSHIRE

PORTSMOUTH Tel: 0705 827117/
FRATTON BARGAIN 750774
SHOP
171-173 FRATTON ROAD, FRATTON
Open 9.6pm 6 days a week
Access, Visa, American Express, Diners Card

ASHTON MODELS Tel: 061 330
201 OLD STREET 1137
ASHTON-UNDER-LYNE
Opening hours: Mon - Fri 9.30 - 5.30
Sat 9.30 - 5pm Closed all day Tues

SHROPSHIRE

MODEL WORLD Tel: 0691
103 BEATRICE STREET 6555560
OSWESTRY
SHROPSHIRE SY11 1HL
Open Mon - Sat 9.30 - 5.30 Fri 9.30 - 7pm

REPUBLIC OF IRELAND

KILKENNY Tel: (056) 21223
PETER BULL MODEL SUPPLIES
SHOP
TENNY PARK, EIRE
Open 7 days a week
(Free flying lessons after hours)
(Mail order, no VAT on Export orders)

HONG KONG

KOWLOON
RADAR COMPANY LTD
1st FLOOR 'A'
132 AUSTIN ROAD
TSIM TSUI, KOWLOON
Open Mon - Sat 11 00-19 00hr

If you cannot find the exciting new **DREMEL® Tools** at your local shop
ask the Nationwide DREMEL Distributors for free catalogue and prices:
MICROFLAME HOBBY & CRAFT TOOLS • DISS • NORFOLK IP22 3HQ • 0379 644813

LITESPAN

an iron-on, resin-coated, synthetic tissue - to replace tissue/dope. Light, very strong, easy to use - just apply Balsaloc to model and allow to dry, then iron-on Litespan and shrink tight with extra heat. No doping or fuelproofing needed.

The only lightweight covering for the last 50 years has been tissue/dope and modellers just had to tolerate its defects. Below we compare it with Litespan.

Tissue and Dope

Weak and easily punctured (e.g. by grass stalks).

Colours are dull and fade quite quickly.

Brittle - splits with shock loads e.g. crashes or motor breaks.

Unstable - affected by dampness and moist air.

Needs protection against fuels.

High shrink - continues shrinking for weeks after doping causing warps and 'starved-horse' effect. Doped tissue is under tension and airframe under compression so their different expansion rates causes a bi-metallic spring effect i.e. the model trim changes with temperature changes.

Some die-hards are shocked when Tissue/Dope is criticised - their minds are closed to new materials or ideas. Of course the same occurred when balsa was first introduced in the 20's and 30's - many experts (experts in models built of cane, bamboo, wire and oiled silk) said 'Balsa is too weak - it is a passing fad and will never become widely used for model aircraft'. How wrong can you be!

LITESPAN - SHEET SIZE 36" x 20" (900mm x 500mm)

COLOURS - tissue-grain Yellow, Red, Orange, Blue
scale - White, Black, Dark Green, Antique, Silver.
for sample and colour swatch send S.A.E. to:



Solarfilm ACKHURST ROAD,
CHORLEY, LANCS. PR7 1NH

Litespan

Approx. 4 times the strength and puncture resistance of tissue/dope.

Uses bright, high grade, fade resistant pigments.

Tough. Resilient enough to absorb shock loads. Motor breaks rarely cause much damage.

Stable - completely impervious to dampness or water.

Proof against all normal fuels.

Low shrink. When heat shrunk is completely stable but can be re-heated to remove or add warps. Litespan does not 'tension' enough to give the bi-metallic spring effect. Models hold their trim indefinitely.

ALEXANDRA PALACE Wood Green · London N22



MODEL ENGINEER



December 29th - January 6th

ADVANCE BOOKINGS

Adults	at £4.25	No	Amount £
Senior Citizens	at £3.00	No	Amount £
Children (5-16)	at £2.00	No	Amount £

PARTY BOOKINGS (for groups of 10 or more)

Adults	at £4.00	No	Amount £
Senior Citizens	at £2.75	No	Amount £
Children (5-16)	at £1.75	No	Amount £

SCHOOL BOOKINGS (for groups of 10 or more, 1 teacher free per 10 pupils)

Teachers	at £4.00	No	Amount £
Pupils	at £1.75	No	Amount £
Teachers - free of charge	No		

Total enclosed £

ADVANCE BOOKING INFORMATION

I enclose cheque/P.O. for the total amount stated above, together with an S.A.E. for return of tickets.

Cheques made payable to Argus Specialist Exhibitions and sent to Argus House, Boundary Way, Hemel Hempstead, Herts HP2 7ST. Tel: 0442 66551.

Name

Address

Closing date - December 7th 1990. AEROMODELLER

CONTROL LINE HEADQUARTERS

SIG STAINLESS STEEL LINES INC. REEL AND CONNECTORS

SH-451 8 thou x 52ft x 2 lines	£4.95
SH-454 12 thou x 52ft x 2 lines	£4.95
SH-455 12 thou x 70ft x 2 lines	£6.20
SH-456 15 thou x 52ft x 2 lines	£4.95
SH-457 15 thou x 60ft x 2 lines	£5.45
SH-458 15 thou x 70ft x 2 lines	£5.95
SH-459 18 thou x 52ft x 2 lines	£5.45
SH-460 18 thou x 60ft x 2 lines	£6.75
SH-461 18 thou x 70ft x 2 lines	£6.95
SH-463 21 thou x 70ft x 2 lines	£7.95
SH-447 27 thou Lead-out wire in 6ft length	£1.10
SH-441 Plastic Reel	£1.90

TOPFLITE C/L KITS

GIESKE NOBLER 50" span	£69.95
JUNIOR NOBLER 40" span	£26.95
TUTOR 45" span precision aerobic trainer	£39.95

FLITE STREAK similar to
Peacemaker 42" span
 £26.95 |

BABY FLITE STREAK 24" sp
 £13.95 |

COMBAT KITTENS 22" span two
kits
 £18.95 |

GOLDBERG C/L KITS

SHOESTRING STUNTER 42"
sp
 £34.99 |

SWORDSMAN 1818" span
 £14.99 |

L'I'L WIZARD 21" span
 £14.99 |

STUNT MAN 23 23" span
 £14.99 |

L'I'L JUMPIN BEAN 21" span
 £14.99 |

L'I'L SATAN 19" span combat
wing
 £14.99 |

ACCESSORIES

SIG 3" NYLON BELLCRANK	£1.50
SIG 2" NYLON BELLCRANK	£0.75
SULLIVAN CONNECTORS Lg	£1.20
SULLIVAN CONNECTORS Sm	£1.20
C/L HANDLE all plastic	£4.75
C/L HANDLE metal frame	£4.99
SIG CATALOGUE	£3.99

SIG NEW F/F KITS

CABINAIRE 22	£7.50
THE '29er 20.5"	£7.50
MINI MAXER 23"	£6.75
Mr MULLIGAN 20"	£9.50
MONOCOUCPE 24"	£9.50
CUSTOMAIRE 20"	£9.50
SIG TIGER 21.5"	£7.50

As shown in SIG CAT.

SIG SYRINGE FUELERS

SH-722 1/2 oz Fueler	£1.75
SH-619 2 oz Fueler	£3.39
SH-679 5 oz Fueler	£6.95

C/L KITS

 AKROBAT 51" span stunter | £51.10 | SUPER CHIPMUNK 53" stunt | £53.95 | BUSTER Goodyear racer for sport and lun 24" span | £17.50 | SHOESTRING Goodyear racer profile fuselage 28" span | £17.50 | BEECHCRAFT STAGGERWING 18" 049 | £11.95 | DEWEYBIRD 22" span suits Cox 049 | £11.50 | SKYRAY for Cox 049 23" sp | £9.50 | BANSHEE Ideal introduction to Class 2 Aerobatics with flaps and elevator 48" sp | £36.95 | TWISTER similar to Banshee | £36.95 | AKROMASTER 34" span sports | £17.95 |

ENGINES

FOX 35	£64.95
OS 25FPS	£38.80
OS 35FPS	£48.90
OS 40FPS	£51.50
OS 46 SF ABC Stunt	£75.40
MERCO 30	£30.95
MERCO 35	£35.95
MERCO 40	£40.95
ST 60 Stunt - A few recently acquired through the trade	£78.80

The Model Shop

230 Wellingborough Road Northampton NN1 4EJ Telephone: (0664) 31223

All orders post/packing FREE Export deduct 13% P&P at cost
Access Visa Diners Amex

The Model Engineer & Modelling Exhibition

29th December – 6th January

ALEXANDRA PALACE, WOOD GREEN,
LONDON N22

COMPETITOR'S PACK

- ★ Certificate of Entry
- ★ Free pass for the duration of the Show
- ★ Plus one free complimentary ticket
- ★ Special Competitor's Badge
- ★ Limited edition Commemorative Coin

*Entry forms,
details of
classes and
pick-up
service
information
still
available.*

60 Model Engineer
Exhibitions spanning
83 years
Join Modellers from
all over the U.K.
to celebrate our
Diamond Jubilee

*Alexandra Palace
is easily accessible
by road, rail,
underground and bus.*

CATALOGUE
AVAILABLE
FROM
7th
DECEMBER

PRICE
£1.50

*For further
information
contact:*

Argus Specialist
Exhibitions,
Argus House,
Boundary Way,
Hemel Hempstead,
Herts HP2 7ST
Tel: 0442 66551

AN **ARGUS**
GROUP EXHIBITION



Opening Times:
10.00am-6.00pm every day except
Thursday 3rd January 10.00am-8.00pm

Admission Prices:
Adults £4.25
Senior Citizens £3.00
Children £2.00

Appendix - Links to the plans

The issue comes with a free plan (Snarler) printed front/back on a pull out banner of four sheets. The banner is not included in the document.

VINTAGE CORNER - Jimmy Allen Bluebird by Jimmy Allen, Robertson

FF Rubber (designed by "Speed" Robertson for the Skelly Oil Co.)

https://outerzone.co.uk/plan_details.asp?ID=528 ...

[Document Page: 9](#)

Snarler by John Poletti

FF Power Semi Scale Sport Model

https://outerzone.co.uk/plan_details.asp?ID=12410 ...

[Document Page: 18](#)

TRUCKS & TRUCKS
FROM THE MIDWEST
The world of Jimmie Allen

THE YOUNG ONES
Junior Free Flight World Champs report

CRUISE CRUISE
Build Snarler – full-size plans inside

ACTION... ACTION!
Nationals • Old Warden • Overseas

