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AERO MODELLER

SHAPES FROM THE PAST

Golden Era Day at Old Warden

UNDERCOVER ACTIVITY

Indoor Nationals Report

Full-size Plans for Jet Fighter & Sports Biplane

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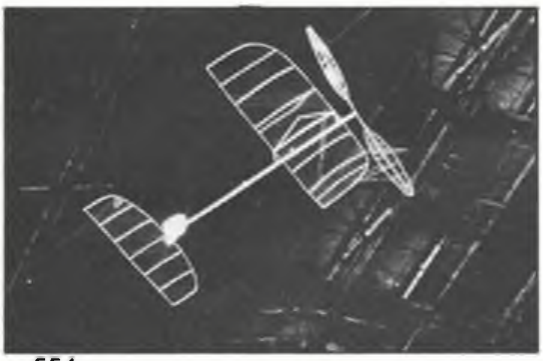
AERO MODELLER



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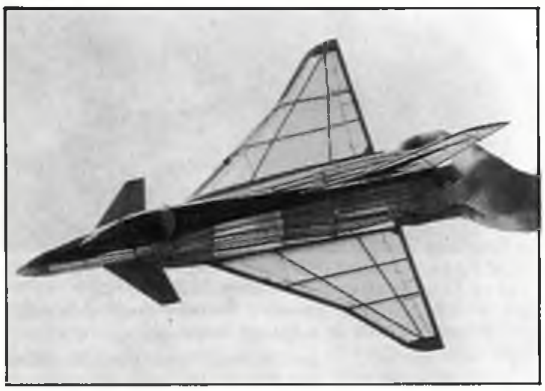

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Cover: Of the new models on the Scale Circuit this year none is fresher than John Robarts' large and lovely Laser-powered Bristol 77. The big red control-liner was aired not only at Scale Weekend but at our Old Warden Golden Era Day, scene of this photograph. Subject is popular - no fewer than five Monoplanes appeared at our Scale Weekend in June. Our report of the Golden Era meeting starts on p. 546.

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HANGAR DOORS

World Championships news

Hot from France comes confirmation of the F/F World Champs results. Top in F1A was 1975 winner Victor Tchop of Russia, with Ian Horesji (Czechoslovakia) second and Preuss of East Germany third. Team winners were Italy. As for the Brits, Bill Colledge was 21st in a 28-competitor fly-off; Chris Edge was 31st and Gary Madelin 55th. Our team was sixth overall.

F1B, or Wakefield, was a reward for perserverance for US winner Bob White. Second was Rozycki (Poland) and third was Basic (Yugoslavia). The team award went to China. Representing GB were Ivan Taylor (12th in the 16-man fly-off), Ron Pollard (25th) and George Foster (37th) who gained sixth place for our team.

There was a Russian 1-2-4 in F1C. Verbitsky held off Strukov; but Moukhine failed to keep East Germany's Thomas at bay to spoil a clean sweep. No prizes for guessing the winning team! The GB team were 12th; individual placings being as follows: Roger Baggott 8th, Stafford Screen 37th and Ray Monks 43rd. (24 contested the fly-off). Reporter Martyn Cowley was impressed by splendid organisation and the exceptional weather! A nice touch was the presentation of the F1B prize by Emmanuel Fillon, who celebrated the 30th anniversary of his Wakefield win this year.

Full news to follow!

And Eurochamps gen...

Great news! Individual honours in R/C Scale at the Eurochamps went to Britain's Pete McDermott with his well-known Sopwith Snipe. Fourth-place Mick Reeves and Terry Manley in eighth spot (Hurricane and HP 0/400 respectively) boosted our Team placing at Lynkoping, Sweden, to first overall - a splendid achievement, echoed by control-line successes. Our C/L Aerobatic team also placed top; our Speed team was second; and a third-place double was achieved in Combat and Team Race. More details and a full report soon; meanwhile, congratulations to all!

Air racing at Alumwell

The Alumwell Centre at Walsall on 1st November is the scene of another Indoor Scale meeting under Doug Sheppard's direction. New this time is a session of Air Racing which involves completing a timed, two-lap circuit with your Scale racer. Top three will qualify for a ten-lap finall The 'pylons' will be helium balloons spaced fifteen feet apart, so no battle damage should ensue. Only complete laps will count; models may be retrieved at any time and hand-launched from the start line. What models are eligible? Anything with a wingspan of 15-20in. - provided you can prove it was a racer! One photo and a three-view is all the documentation you need; marks will be awarded for accuracy in plane and side elevation, colour and markings and workmanship. Rubber CO_2 or electric power may be used.

And there's a whole array of other events too - see What's On... Get building now - and see you there!

Ben Buckle Tribute

Mike Whittard tells us that in honour of the late Ben Buckle, and with Shiela Buckle's agreement, the 1987 Cocklebarrow Farm Oktober Feste is to be known as the Ben Buckle Tribute event. It was Ben and Mike who originally set up this much-enjoyed autumn Vintage meeting. Competitions so far are for R/C Ratio, Precision, Texaco and Flying Fifteen; the Model of the Day will be awarded a prize, and there are trophies in Nostalgia and Design Your Own Classes. Plenty of room for F/F and C/L comps if enthusiasts want to organise 'em, says Mike, so call him on 0453 860793 and put 5th October in your diary. Cocklebarrow Farm is at Aldsworth, Glos., a village on the A433 between Burford and Bibury. A worthy event by which to remember a worthy enthusiast.

Capturing a World Speed Record is a happy experience! This is Paul Eisner at Three Sisters after his blazing 313.475kph - approx. 194mph which beat the existing Russian-held 2.5cc C/L Record by 9mph. Model details in a future issue...

Tony Smith about to max-out with his K&B powered Super Nog at the F/F Nationals. This pic accompanied a brief Nats feature in The Independent newspaper by visiting journalist Richard North who has since vowed to build a KK Wisp. We must find out how he's getting on!

SAMS success...

George Wallbridge of SAMS, purveyors of Indoor, Scale and Vintage kits, plans, wood and associated paraphernalia tell us that continued demand for their wares has meant expansion from their bulging-at-the-seams Wheathamstead address. The search for more room has led them to: The Chapel, Roe Green, Sandon, Royston, Herts where they will take up residence from 1st October. We're sure *Aeromodeller* readers will wish them well at their new address.

Not an 'orrible accident but a model with a difference. This concrete Mosquito war memorial on the approach road to Bradwell Nuclear Power Station is apparently a tribute to fliers who used the site in its WWII aerodrome days. Photo by Tom Betteridge; any more details, anyone?

Below: Junior fliers, get ready! More model competitions are being planned for the '88 M.R. Exhibition at Wembley where this young enthusiast was spotted getting ready for the 'off' last year. And Seniors - there should be something for you too... Stand by for details!

Watch out - airship about?

Competitors, helpers and friends who attended the hot and sticky Indoor Nationals at Cardington - report in this issue - found themselves entertained by the outdoor antics of Airship Industries' G-SKSC on pilot training. A close-up of a sister craft within Shed No. 1 gave an insight into the world of helium, wires, turnbuckles and pulleys; and very impressive it was too. Latest news from the home of British dirigibles is that the company - in partnership with the American Westinghouse Corporation - has been awarded a US Navy contract for a surveillance and AEW high-tech ship. Design of the new machine will be in the UK but assembly will be across the pond - a pity, because at over 400ft, the airship will be over twice the length of the present Skyships. No chance of seeing one at Cardington...

57th Model Engineer Exhibtion

Dates are now known for the above event so put 1st-9th January 1988 in your diary now. This time we can offer more space in which to enjoy the best in British model-making, for the New Hall adjacent to Wembley Conference Centre is now complete and it is here that the M.E. will be housed. Some existing Conference Centre space will also be used, including the Grand Hall where aeromo-modelling demonstration flights and competitions are scheduled to take place. More details next month!

SMAE AGM News

Just in time for this issue, Mike O'Neill has sent details of the SMAE Annual General Meeting which will take place on 21st November at the Crest Hotel, Coventry. Following the format of last year's successful meeting, there will be a static exhibition of some of the successful models on the current scene; and two short talks will occupy the morning before the nuts and bolts of the afternoon's AGM. After an introduction by Ron McCairn, the Society's Chairman, Martin Dilly, SMAE PRO, will take the floor at 11 o'clock to deal with 'Model Flying and Public Relations'. This will be followed at 11.45 by Mike Fantham's -seminar on "Model Flying - an Engineering Sport" where MMike will discuss his belief that our hobby can play an important role in the develop-ment of skills essential to economical success in an industry-based society.

All SMAE members are invited to attend, and a lunchtime bar and buffet will add to the proceedings - so why not go along? The Crest Hotel is just off the M6/M69 junction near Coventry; further details are available from Mike O'Neill on 02816 2727 (days) or 09328 65323 (home).

Fun-fly at Barkston

11th October is the date of the SMAE Midland Area Fly-for-fun Rally at RAF Barkston Heath. As well as the opportunity to do as the meeting title suggests, there is the chance to take part in a variety of competitions - formal and rather less so - including a Mass Launch Champagne Flyoff for P20 models. We thought we'd remind you of the rules for this simple rubber class as there's still time to build one! A maximum of five grams of rubber must drive a plastic, free-wheeling prop; this motor must be enclosed. Model length and span not to exceed twenty inches. Go on - get the balsa out now...

Aeromodelling obituary...

It is sad to report the death of Marcus Norman, killed while performing aerobatics in a Stampe SV4 at a Cambridgeshire Tiger Club Garden Party on 2nd August. Son of the famous 'P.E.', it was probably inevitable that Marcus would follow family tradition and devote aero-modelling energy to the improvement of ducted fan performance. His splendid R/C 'jets' - including a Yak-9, Avro Canada CF 100 and Gloster Javelin - showed just how efficient home produced units could be, delighting spectators at our Scale Weekends and elsewhere. Marcus was - to say the least - an enthusiastic aeromodeller and he will be much missed. Our sympathies are with his family and those of his young lady flying companion, Cathy O'Brien of Skysport Engineering whose loss will be especially felt in the world of aircraft restoration. **GC**

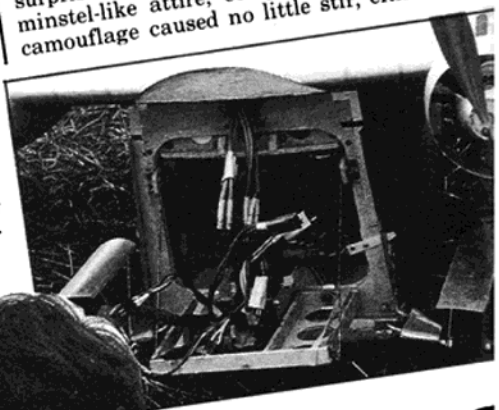
Left: Full-size Rapide G-AKIF added biplane class to the occasion. Right: metal-covered AW Whitley by Geoff Spriggs was a shiny control-liner! Below left: Mark Redwell's APS Windbag flew splendidly.

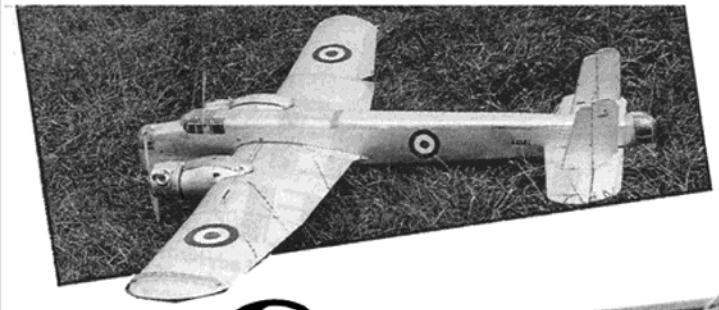
BOATERS, BLAZI

Our Golden Era Day at Old Warden was jolly decent fun!

SUNNY INTERVALS smiled on us again at Old Warden on 12th July when this evocative setting was host to our Golden Era Day. Aimed at enthusiasts of 'twenties and 'thirties aircraft – scale and vintage – this was a merry scene as model after model took to the skies in notably relaxed surroundings; and if rules were slackened to allow a later design or two, did it really matter? Credit to those who made extra effort and retrieved their models – or simply took a promenade – attired in period dress to add their own charm to the meeting. There was cause for celebration, too – David Boddington's birthday had fallen on the previous day. At two o'clock on Sunday, forewarned of a special event by Dave Bishop's tannoy announcement, Golden Era participants watched as a D.B. Centurion – a real vintage looker! – took off from the R/C flightline and unfurled a banner proclaiming 'Happy Birthday, David "Mine's a Brandy" Boddington!' At the same time a young lady presented the birthday boy with a glass of the said refreshment, much to his enjoyment and surprise. It should be said that DB's minstel-like attire, complete with facial camouflage caused no little stir, either...

Below: APS Ladybird by Gavin Welch repaid late-night preparation with consistent flights. Right: Entrails of Dave Chinery's all-electric AW Atalanta.





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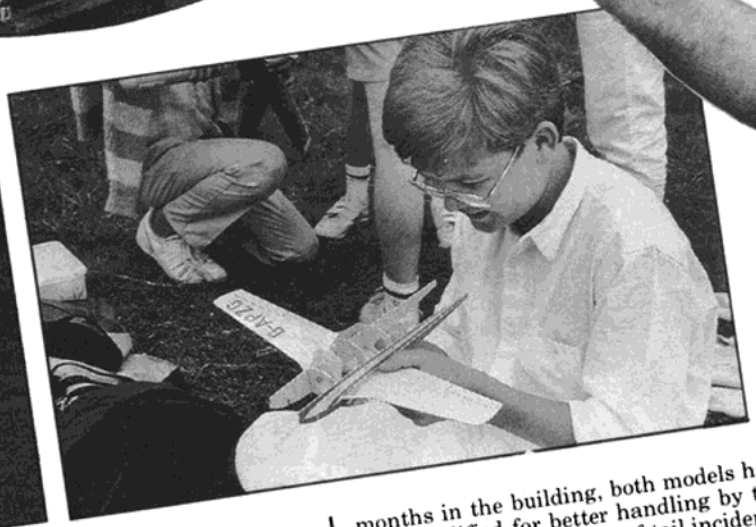
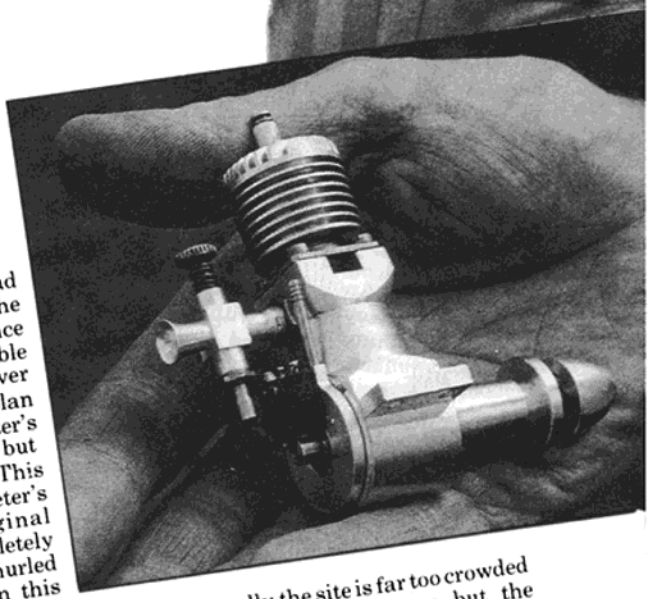




Main pic: Les Hoy with Bob Woollett's quirky canard – the little-known Gander from 1954. Centre: Minstrel for the day, David Boddington, rewards Ian and Chris Harwood for their dress sense while your editor (background) looks on. Left: Concentration as Mark Smith builds his KK Comanche! Below: Mills 1.3 spark prototype by Derek Giles...

For his banner aerotow efforts Ken Swailes was the recipient of a prize at the end of the day. 'Fix?' say you? Never!

What did we see?

What of the models? Many – as expected – were Vintage and there was a healthy number of new craft on show. Alex Imrie will be reporting on these in Vintage Corner Special so here we will concentrate on a few others that caught our attention.

John Robarts' large C/L Bristol M1D was again circulating in style. Re-trimmed since Scale Weekend to give slightly less pull on the lines and with a 14 x 8 prop allowing the Laser to rev more this was a most pleasant performer. Very much in the Golden Era spirit was Geoff Spriggs' maroon Mew Gull but – as at Scale Weekend – its flight was terminated in an undercarriage-shedding arrival.

The South Cheshire RCS due of Godfrey Woodward and Geoff Bramhall enjoyed themselves with identical twice-size KK Ladybirds from the RCM&E plan. Five months in the building, both models had been modified for better handling by the addition of eight degrees of tail incidence and a reduction in dihedral. Also notable on the flightline was Peter Hook of Dover who had scaled-up the *Aeromodeller* plan for the Avro Avian Monoplane. Peter's view is that the structure is too heavy, but the Saito.40 powered model flew well. This motor had been previously fitted to Peter's R/C Buccaneer after the original powerplant, a K. Vulture, had completely 'blown its top' in the air after the knurled ring which retains the cylinder on this motor had cried 'Enough!' With the Saito up front the Buccaneer's next trick was to fly out over the Channel, all control lost, eventually to be picked up by H.M. Coastguards some three-and-a-half miles out. Immediately he got the model home Peter washed the engine and radio gear in fresh water, then in methylated spirits... both items, none the worse for their ducking, are now in use on the Avian!

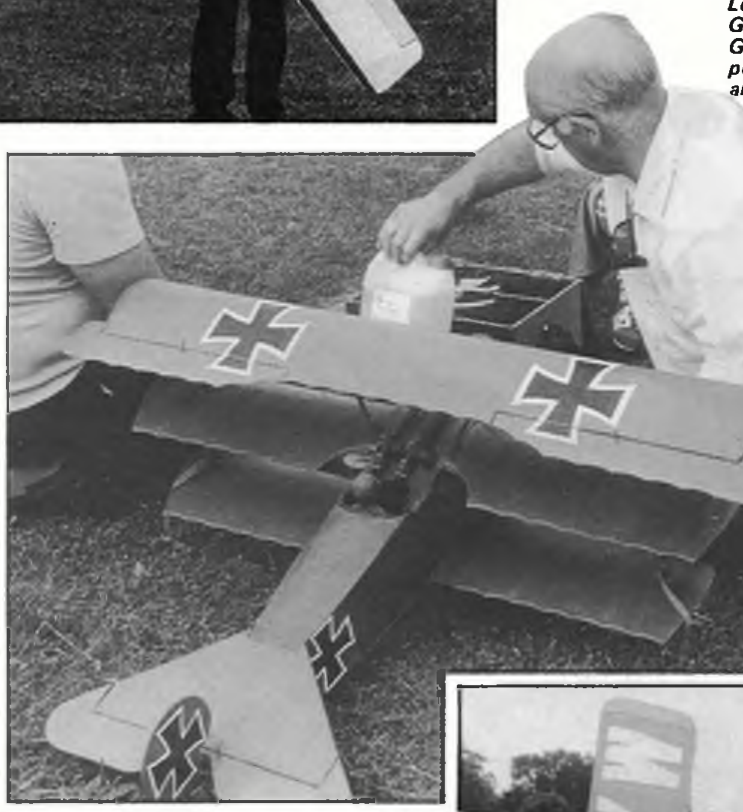
You don't often see towline gliders at Old Warden. Usually the site is far too crowded to permit such an indulgence but the greater elbow room of Golden Era Day encouraged Rupert Harris (tastefully attired in shorts) to air his 7ft. Premier Windjammer, a 1949 sailplane that didn't quite make it to the model shop shelves. Bill Lunn (ex-Premier Kits) himself was on hand to launch the model, so we know this bit of gen to be true!

...and Aeroplanes too!

Bill Lunn awaits the signal to release Rupert Harris' Premier Windjammer towline glider.

BOAT BLAZ

Le G G p a



Right: Splendid 1/6th scale Fokker DVII by J. Siddall is painted as Hauptmann Berthold's JGII machine. Below right: Peter Hook and his Avro Avian monoplane, the engine and radio of which once nearly came to a watery grave (see text).

Not all models were of such a size. Particularly charming was Butch Hadland's Waco E biplane - a model with a career, having been 'treed' at Old Warden last year. The model came down but not the motor or prop! Just as interesting was Butch's Earl Stahl Magister, fitted with a most efficient-looking Czechoslovakian Igra prop.

Modern curiosities also invaded the scene. We can't omit mention of Mark Redwell's DC Dart-powered APS Windbag, a dirigible shape which, it was reported, had flown 'straight off the board'. Another to impress was Ray Malmstrom's original Starstream, a ducted-fan fun-flier with a screaming Cox .010. This model had been repaired and was being flown by one of Ray's Impington College pupils, John McIntyre. A real head-turner!

Our picture gallery will give a wider taste of this relaxed, uncluttered meting; but we must acknowledge the efforts made by end-of-day prizewinners Ian and Chris Harwood who really dressed-up to look the part; as did father-and-son team Chris and Chris Southey with their wives Eileen and Amanda. Real Golden Era stuff! And it was impossible to miss a certain area on the aerodrome strewn with building materials, sandwiches, models in various stages of construction - and fifteen small boys... right here on the field models were actually being built; as soon as the glue was dry they were flown too! We saw many flying scale designs, some in balsa, some from the Veron and Keil Kraft ranges, others of the foam ready-to-fly variety; whether rubber, electric, CO_2 or Jetex all were made airworthy by the crew from the Chigwell School Model Aero Club. This was a breath of fresh air, and gives hope for the future because these lads are as enthusiastic a bunch of aeromodellers as you will find anywhere. Well done lads, and full marks to their enterprising master, Tony Sizer, who had them in his charge.

Above: Keith Harris about to launch his Apex. Right: Energy equals DB-squared. A panicky-looking David Boddington tries to convince Dave Bishop

VINTAGE CORNER

SPECIAL

...on the Flying Field

Alex Imrie visits Golden Era Day on Ye Twelfthe of July at Old Warden - and reflects upon Scale Weekend

THIS WAS A delightful, low-key, relaxing bout of old time model flying. Numbers were such as to give the event a touch of what it used to be like; very much in keeping with the function's name. When Golden Era was first run two years ago, the emphasis was on large scale R/C models of aircraft from the 'twenties and 'thirties, although it was considered that free flight would be allowed if the weather conditions did not cause any conflict. An added attraction was the invitation for participants to appear in period dress; but for some reason or other these model days were never overly attended. Previous years have seen this meeting held in mid-May. One remembers the cold, dismal conditions that accompanied the first meeting in 1985 and the blustery, windy conditions of 1986! This year, whether by accident or design, holding the event on 12th July blessed modellers with excellent flying weather; warm, if cloudy at times, it was at least precipitation-free, and even thermals honoured us with their appearance. Sadly it seems that not even a good weather forecast could bring the enthusiasts out in strength. I wonder if people are shy of turning up in white ducks, striped blazers and boaters? Remember that the 'attire' part of the proceedings is entirely voluntary and is only indulged in by participants sympathetic to the creation of a period atmosphere. Of course, the recent restriction put on large heavy R/C models explains why on this occasion models of this type were conspicious by their absence.

The free flight boys, especially those of the Vintage breed never let an opportunity pass to fly their models, so the Golden Era meetings are always snapped-up with alacrity by them. Clad usually in shorts (or jeans) and tee-shirts they do not allow their mode of dress restrict them when there is a field available, and the majority in any case want to use the air as a first priority. It seems that the type of modeller who does attend is of the active sort, for models of all denominations were to be seen: Jetex, electric, CO_2, rubber, diesel, spark ignition and glow all being employed to hoist creations into the Old Warden sky; and there were other methods also in use like towlines and catapults to put gliders up into the lift.

Radio Control Vintage at Golden Era

These models did not follow any particular trend, except perhaps that there were many 'new' vintage models at this meeting. Michael Barton of Friern Barnet displayed his AM Cylonic and his Willis Monoplane - both of pre-war design. We have seen his Cylonic before; it actually was first fielded at the inaugural Golden Era meeting two years ago. This model is OS40 four-stroke powered and weighs 4 1/2 pounds; but the majesty of the Willis model in flight was new and delightful in see. Finished as per the original in aluminium dope, this nine-feet span giant is powered by a Merco 61 and has three-function R/C operating elevator, rudder and throttle. The wing area is nine square

This twice-size KK Eaglet by Peter Valentine was a capable rudder-only flier at Golden Era Day. Power is supplied by a Frog 100 Mkl diesel.

Above: Thirteen-year-old Daniel Levy's R/C Schiffermüller. Right: Michael Barton readies his Willis Petrol Monoplane. Far right: Frank Smith with his DC Rapier powered 23 Sporster.

feet and the all up weight nine pounds, thus giving a wing loading that even a simpleton like your columnist can work out as giving one pound per square foot. A Saito 30 four-stroke powered version of the GWW Harris Dude, nicely finished in blue and cream was flown by Vic Thomas of Wokingham. This model was described in the September 1945 *Aeromodeller*. Maker of the fine mini-Mills replicas, Derek Giles of Milton Keynes was using one of his own .3cc motors in a 9 1/2 oz Pee Wee Pal, a Walter Musciano design, using Acoms radio with mini-servos.

Sid Sutherland of the West Essex Club has a 'thing' about seaplanes, and flies off water when ever he can. We have seen his Bunch Scorpion before and now he has a Joe Ott Kingfisher, described in February 1940 Air Trails, which he flies as a seaplane or landplane. As the changeover from wheels to floats takes some half-an-hour this eats into the time available for flying, so Sid was to fly this model at Vintage Weekend - one day on floats and the other on wheels. He has made the six-foot wing in one piece, not bothering with the detachable centre section that could vary the span from five to six feet as required for land or water operation. He has made a very neat job of control linkage installation; these are completely enclosed and operate all-moving surfaces for rudder and tailplane. An unusual approach to vintage modelling was used by Peter Valentine of Ruislip. He built a double-sized Keil Kraft Eaglet rubber duration model (originally of twenty-four inches span) and not only modified it to take an inverted Frog 100 Mk I diesel engine, but also installed radio control using rudder only on his yellow 48in. span model.

Daniel Levy of Chigwell is a junior member of the West Essex Club and was so taken with the Schiffermüller low wing model described in RCM&E in April that he started to build the model before his 14th birthday. He is a fast worker and was flying the results of his labours powered by an Enya 60. We could do with some more youngsters with the skill and drive demonstrated by Daniel. As reported in an earlier writing, Arthur Schiffermüller's original model, made before the war, was only 29in. span, but was nevertheless fitted with a 1cc petrol engine (with magneto ignition) of his own construction. The model was one of several miniatures made by this enthusiast fitted with a clever system of clockwork-driven cams that operated the control surfaces to give a pre-arranged schedule of free flight aerobatics. Schiffermüller, originally from Dresden, lived after the war in France, and the story of his fascinating models will be told in a future Vintage Corner.

Free Flight Power...

Tony Penhall's Kanga Kub, covered in red nylon and powered by a 6cc Wasp pre-war British petrol engine, shows the true shape of this model at long last since Phil Smith has made the pre-war kit plan available from CEB's effects. Being a purist I would have liked to have seen Tony's model finished in white and powered by his Baby Spitfire engine; then it would have just been like the Kanga Kub we all became attached to because of the exposure given to the prototype over the years in CE Bowden's books and articles. Maybe Tony will yet make amends!

Andy Brough brought his Hep Cat, the 46 in. Charles Guarnieri design described in October 1944 Air Trails, and powered it with a replica Mills 1.3cc Mk 1. Michael Callaghan had his Irvine Mills .75cc diesel powered Diamond Demon with him again, its wing (damaged at Scale Weekend) all repaired and now coloured red. The sight of these two models and others of similar type causes me to raise the following point for possible consideration by Vintage flyers (in passing there is a parallel with full-size replica aircraft that makes them different from the original article too). The two models mentioned were 'made' for the Ohlsson 23 petrol engine and different engines means different models. Although the reasons for using the engines cited are all well understood (lack of original engines, cost etc) putting 'tame mills' (no pun intended) into old designs can completely change their character... a pottering, underpowered, diesel version might be pretty to look at and see flying, but it is a different ship from the original powered by the hottest engine of the day trimmed in the 20 or 30 seconds engine run period to go for the height like a thing demented! One petrol model seen at the meeting was flown with the zest that I am hinting at. This was Brian Ferrett's Red Zephyr powered by a Rocket 46 engine. Under power it had a tight spiral climb followed by a flat floating glide that on more than one occasion took it out of the aerodrome downwind into a neighbouring field. There were many power models that buzzed around and obviously flew well and were a great delight to their builders, but these were mainly of the sports type and such is the manner of their operation. However, enthusiasts who select a competition model would enjoy researching what the original model was capable of, so where possible why not fit a similar

(or the same) sort of engine and trim it in the old fashioned way. Fly it at full bore and really enjoy the nature of the flying that your model represents! Long engine runs are not needed; in fact they would have to be made short at Old Warden when one remembers that the models in question sometimes had rates of climb of over 1000 feet per minute. Make that 2000 feet per minute if you are flying a Zipper!

The Humphreys family were very much in evidence even though they had left their large power models at home and only bought their current 'miniatures'. As well as a nice Model Shop Wasp biplane powered by a Cox .049 Jack had two models built from plans in the 1938 Zaic Yearbook that I had not previously seen. These were the 56 in. Ted Foti designed Bantom (powered by PAW 100 diesel) finished in red and yellow, and the 45 in. span Wildcat designed by Leighton Webb. This model was powered by a PAW 80 diesel and coloured blue and white.

Alan Thompson of Waltham Abbey was flying an attractive green and yellow Indian Mills .75cc diesel powered President. This 34 in. model was designed by Albert E Hatfull and was described in the October 1950 *Aeromodeller*. Plans are still available from ASP as PET/393 for £3.25 plus 55p postage.

Another model seen for the first time was a nice Bill Winter '23' Sportster built by Frank Smith and powered by a DC Rapier 2.5cc diesel. It was airborne many times; on its last flight it flew just too well - out of the aerodrome - and at the end of the day had not been located.

Free Flight Rubber

A number of interesting rubber-powered models were to hand. The most unusual were surely those flown by Les Hoy who always seems to go for what were called unorthodox models. We have previously mentioned his Co-Axial (Vintage Corner, March 1984) - this being the design by CF Hedges and RV Bentley that was described in the May 1942 *Aeromodeller*. Les' Velivole has also been seen before; this 31 1/4 in. canard was designed by A Watteyne and was described in the June 1946 *Aeromodeller*. I saw this model hit an unsuspecting modeller who was bending down doing something to his model; the man hardly turned away from his task to see what had attacked him, but when he did his face bore an expression that could

Top: Unorthodox enthusiast Les Hoy seen again, this time with his Stability Gremlin, a 60in. rubber-powered canard described in the December 1946 Aeromodeller. Below that: Sid Sutherland's 1939 Joe Ott Kingfisher, Enya 46 four-stroke powered, has all-moving surfaces actuated by hidden linkages. Above: Not often seen is the 64in. Dude, designed by GWW Harris for 'performance, appearance and structural strength', but here is Vic Thomas' version. Right: Steve Wheeler's Bob Long Cabin model awaits its turn to fly. Left: Tim Gray hooks up the prop of his Schoenbrun duration model.

Happiness is a Luscombe Silvaire with scale dihedral! Trevor Davies and his Mills .75 Keil Kraft model enjoyed themselves at Scale Weekend.

have been captioned, 'Drat that fly!' Watteyne was a Belgian modeller who was really sold on the canard layout and made many models of this class. His 1942 catalogue lists seventeen different variations. There was even one powered by a Baby Cyclone! Velivole is still on the X-list and the plan can be obtained as U/231X (price £1.80 plus 55p postage) from ASP. Les, who is obviously also hooked on canards had brought his Stability Gremlin along. This impressive slabsider of sixty inches span was designed by Frank Hughes and was described in the December 1946 *Aeromodeller*. Another canard fielded by Les was the Bob Woollett designed Gander from 1954, a futuristic looking shape even today.

I personally liked the Hawker Hind Trainer of Alan Banks of Saffron Walden. This was made from the Peerless plan to 1 1/2 inches to 1 foot scale giving a span of twenty-eight inches. The model is now five years old, finished 'as per' with aluminium cowling and the remainder in 'Training Yellow' just like the full-size machines before their upper surfaces were plastered with camouflage dope at the end of 1938. Despite its age the model looks great... who said that tissue did not last?

Tim Gray of Luton was getting some excellent flying from his Keil Kraft Senator, but it was his other model that caught my eye, and it was doing its stuff too! This was a Maurice Schoenbrun design of 32 in. span built from the plans on page 100 in the Zaic 1938 Yearbook (what ever would we do without Frank's publications?) for the 1986 Vintage Weekend meeting, which, in the event, Tim could not attend. The model is unnamed but the wing was marked TAMBE as per the plan. This is actually the abbreviation for the very active New York Club in Brooklyn to which Schoenbrun belonged; The Airplane Model Builders Exchange. Other well known members were Leon Shulman, Sal Taibi and Gordon Murray. An undersized vertical tail surface is used on this model and Tim pointed out its failings to me. While the model flies well under power, its gliding turns are subject to instability that causes the nose to drop and height to be lost too rapidly: there is no doubt in Tim's mind that the rudder should have been bigger. Tim, a keen competition rubber enthusiast makes his own hardware, and that not only means the beautiful geared winder that he was using but also the ball thrust race on the prop shaft of his model!

There were many more interesting models at this Golden Era meeting that cannot be mentioned at this time. Doubtless we will see some of them again at the Vintage Weekend meeting and be able to comment on them in that coverage. This was a very fine event; a real aeromodeller's day. If you missed it you missed a journey back in time, so take care that you attend next year. No high pressure stuff here, just a gathering of enthusiasts getting on with flying yesterday's models and all had time to absorb and enjoy an atmosphere that present day model flying meetings seldom provide.

And back to Scale Weekend...

Our scale weekend report appeared last month. What follows consists merely of observations and some notes on the non-scale vintage models seen there on 21st June. Scale Weekend is one of the main ASP events of the year and it always attracts a number of vintage enthusiasts. Not all are scale modellers; many bring along non-scale models in the hope that they can do some flying. This used to be frowned upon by the organisers, but in recent years less official opposition has been raised due to the increase in numbers of all participants, but it must be understood that the function belongs truly to the flying scale model. Because of the keen desire to fly, sports and vintage models of all types are taken out onto the aerodrome, and once there it takes a strong will indeed not to try that newly finished model, especially if the conditions are suitable. There are however, a number of vintage enthusiasts who steadfastly refuse to violate the old rule, and they usually make a scale model of some sort in order to fly with a clear conscience, or come along model-less merely as spectators. The above is a statement of fact and does not imply that the writer approves or disapproves of the practices stated so it is hoped that specific mention of individual modellers and their creations will not embarrass or chasten any enthusiast, for no such action is intended!

One was immediately aware of the lack of the large R/C models which have been declined permission to operate at heavily spectactor-attended model meetings such as this in the interests of flight safety. The smaller R/C model performs at well above scale speed, a fact that always made the sight of the large R/C models with their greater realism, so welcome to me personally.

Although our Vintage cutoff is 31st December 1950 some models 'just over the top' are of such similar status that being marginally younger does not decrease their appeal. There is great difficulty anyway at meetings such as this in determining whether a flying scale model is vintage or not. Sometimes vintage plans are used as a basis for model construction, but it requires a strict discipline for the present day modeller to stop there, and the attraction to improve and embellish and so incorporate later knowledge must on occasion be even harder to resist than is the case with our usual vintage designs.

Vintage reflections

Apart from the models seen it is always great to greet the modellers themselves and learn of their latest doings. It was with pleasure that I encountered Mick Smith, who after impressing us all in the late 1940s with his magnificent Mercury IV, moved to Southern Africa where he lived for thirty years before returning permanently to these shores last year. Having left all his models and radio gear behind, he is now back at the hobby with a vengeance and is currently making his third Ken Willard designed CAVU, powered, as was his second model in the 1960s, with an AM 10 diesel. His first CAVU, built in the 'forties was Super Atom powered. Mick conducts a model railway business from his home but finds time for aeromodelling and has plans to make another Mercury III - a design which he preferred to his more famous Mercury IV. One difference between these machines was the narrower chord on the earlier model; namely, thirteen inches compared to the 15in. chord of the published version. Mick has joined SAM 35 so we look forward to seeing and hearing more from him in due course. Brian Ferrett, long a staunch vintage supporter now spends most of his spare time with vintage cars, but last winter he

Mick Smith was a Scale Weekend visitor. Here he is with his original Mercury IV at the 1946 Northern Heights Rally at Langley (see text). A revised version was described in the March 1953 issue of this magazine; plans are still available...

took an attack of Pinocchioitis and built two enlarged versions of this Gabriel Martin deisgn which was described in the February 1949 issue of Le Modèle Réduit D'Avion and in the 1949 Aeromodeller Annual. One Pinocchio of 36in. span finished in orange and yellow is Mills 1.3cc diesel powered while a 'times two' version of 48 in. span in red and cream is fitted with an ED Mk III diesel. A photograph of this model appeared last month. Brian also fielded a Mayfly nicely finished in blue and orange. This attractive cabin biplane was fitted with a Frog 180 diesel.

A point about Mike Callaghan's Bay Ridge Diamond Demon, powered by a prototype Irvine Mills .75 and also illustrated last month. This model carried the year 1936 on its fuselage; when I suggested to Mike that this was incorrect and should be 1939, he stated that the original plan from which he had built the model was dated 1936 and showed an Ohlsson .23 as a power unit. This is a misprint since the .23 first emerged in September 1938 (the date of the first advert) and the Diamond Demon fitted with this engine was first contest-flown on 19th March 1939, the kit being advertised from June 1939 onwards.

Simon Rogers of Plymouth always turns up with a show-stopper, and he did it again this time with a Lippisch ornithopter. simon obtained the plan for this unusual model from our German SAM visitors Friedhelm Mink and Herbert Bayer at last year's Vintage Weekend meeting and he built the model, adhering as nearly as possible to the mixed balsa, hardwood and broom bristle construction called for, although I noticed deviations like aluminium hinges and a clear acetate fin, when on the original these components were made from drawing paper. Simon may have departed from the original German materials list; whether he actually used broom bristles when called for or split bamboo instead I cannot recall. Because of the breakage he was forced to substitute an aluminium tube tail boom. Hopefully, by the time these words appear we will have seen this model at Vintage Weekend meeting and this point about bristle/bamboo will have been clarified; also this ornithopter's fascinating performance will have again been displayed. I wonder how many enthusiasts who saw this model's numerous flights knew that it was designed by Alexander Lippisch, the Me 163 Komet rocket fighter designer? Named Schwinguin, this beginner's flapping wing model was developed from a 1936 experimental machine that regularly turned in flights of twenty seconds. When fitted with a wheeled undercarriage it made successful ROG flights (thereby winning for Lippisch six bottles of champagne as a bet at the Deutsche Forschungsanstalt für Segelflug - German Experimental Establishment for Gliding - at Darmstadt). Schwinguin was the first published German flapping wing design. It was followed by a whole series of similar Lippisch creations, one of which, powered by a Kratmo 4cc petrol engine established a record time for this class of model of over 16 minutes in 1938.

Trevor Davies of Birmingham is

Simon Rogers' Schwinguin, an ornithopter by Alexander Lippisch was seen at Scale Weekend and is commented upon in this account. Inset is the cover of the original plan.

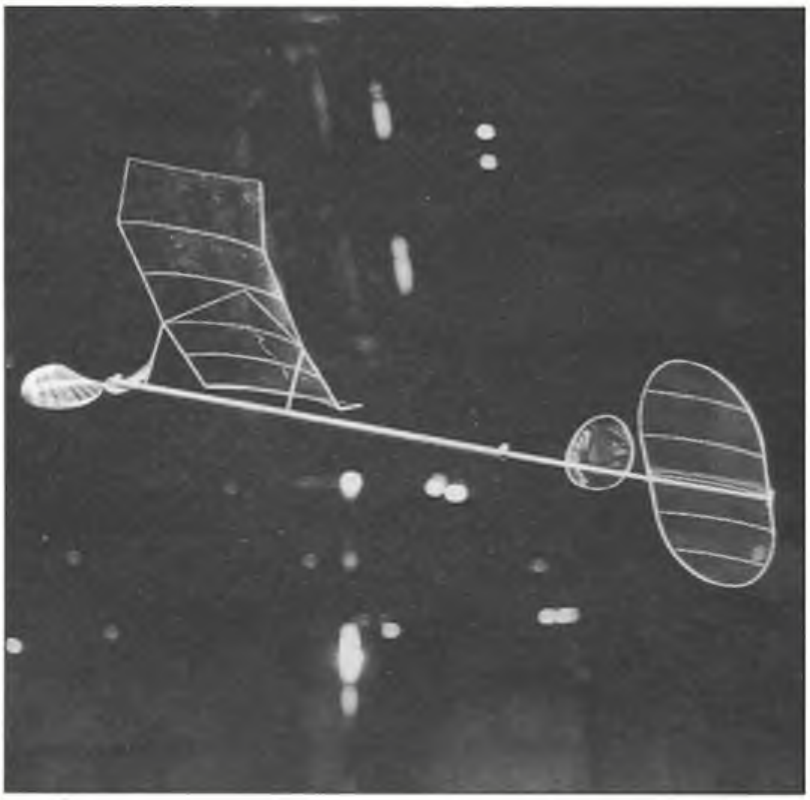
currently building a 54 in. Taylorcraft from the old Comet kit of pre-war vintage that is still available, but he is modifying this for DC Dart power, and hopes to have it ready for Vintage Weekend, as does his 'co-pilot' Graham Simkins, who is building the Comet Aeronca Chief in the same size, but retaining the original rubber power. Modifications being incorporated into both these models include two-piece wings which are also 'knock-offable' and shock absorbing landing gears. Trevor has made a study of a number of British and American flying scale kits for the popular high-wing type of aircraft and has found that the US kits generally have the spar taper at the wingtip on the bottom surface; this automatically gives some hidden dihedral so these models fly with near-scale appearance. On the other hand, British kit models invariably have the spar taper on the upper surface and thus need excessive (and visible) dihedral to provide sufficient lateral stability. His 40 in. Keil Kraft Luscombe Silvaire powered by a Mills .75cc diesel certainly bore this out, for it was modified accordingly and looked good with scale dihedral, which has proved sufficient to cope with the conditions in which such a free flight model would normally be flown.

A large familiar shape covered in yellow tissue was produced by Terry Rose, the SAM 35 cartoonist. This was the MSS Lynx (a photograph of which appeared last month). This 8oz Wakefield designed by A Tindall of the old Lancashire MAS has a wingspan of 41 3/4 inches and a wing area of 208 square inches. Kitted by Model Supply Stores of Brazenose Street, Manchester it was frequently seen in pre-war AeroModeller adverts. Despite being so well known, it is surprising that authentic plans have not surfaced before now; however, at long last these are available from Terry at Heathfield, Chelmsford Road, Hatfield Heth, Bishop's Storford, Herts CM23 7BG at £3.00 plus 50p postage. This is only one of several hard-to-find plans that he has reproduced, so when ordering, ask for his list; you are sure to find more there to whet your appetite.

Final Scale thoughts

Interest in all vintage models naturally caused us to focus attention on the flying scale models (as reported last month) and many and varied were the types seen. Most popular Earl Stahl designs appeared to be the Blackburn Skua (described in Model Airplane News, June 1942) and the Curtiss SO3C-1 (MAN, December 1941). In British service the SO3C-2 was named Seamew and had turned up wingtips rather in the style of the Blackburn Skua. There was an abundance of the smaller and simpler flying scale models from the Keil Kraft and Veron ranges and some from Megows. This was a good turn-out of fine models, the standard of which in both building and flying seems to improve from year to year. Long may it continue because there are countless Vintage flying scale designs yet to be transformed from plans to the finished articles that are a sheer delight to all of our kind. Noticeably absent (at least I did not personally see any) were models made to the designs of Howard Boys and HJ Towner. Nevertheless, the aeroplanes that all these flying scale models represent have a special place in our hearts, an affection that increases as the years go by, something that will never be replaced by modern aeroplanes, not even by the shiniest jets.

THE 1987 INDOOR NATIONALS



Prop flexing as it transmits power at under one rpm. Brian Kenny's Open Microfilm model begins its leisurely ascent. Craft at this meeting had to contend with an upper-level layer of warmer air which caused many to climb higher, more quickly than expected, to end up in the girders.

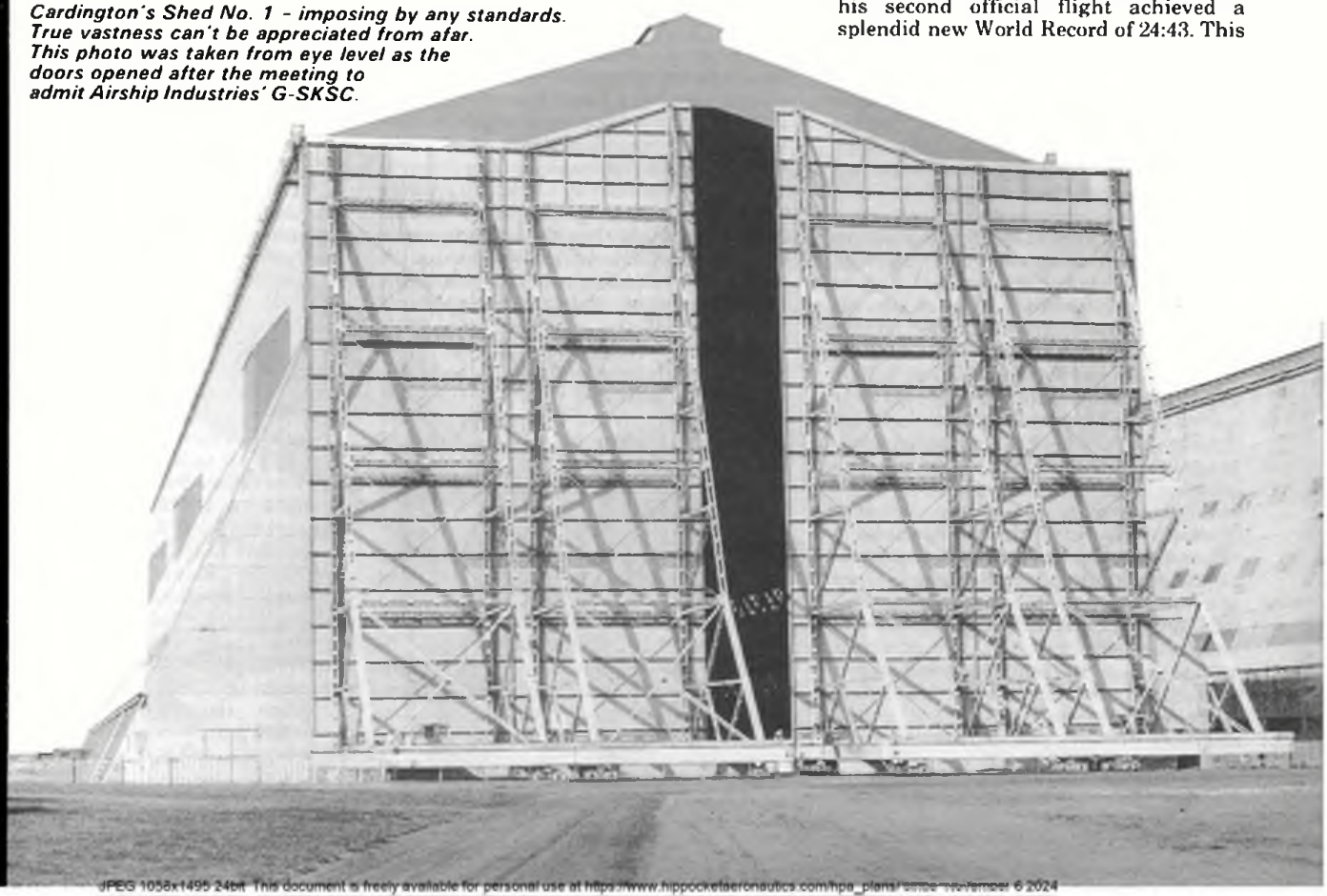
New World and National records at hot and humid Cardington on 4-5 July.... Report by Geoff Clarke and Bernard Hunt

ON THE WARMEST, sunniest weekend of the year thus far some thirty enthusiasts assembled in the cathedral-like - if humid - calm of Shed No. 1 at Cardington for the '87 Indoor Nationals. Last-minute changes had meant that No.2 shed could not be used; but the alternative proved quite workable. The towering bulk of Airship Industries' latest project within was immediately impressive; and luckily, sporadic work on the craft during the weekend was of little consequence to the Indoor participants who had the lion's share of the floor space. As ever in this shed, drift was marked on occasion but at least the far doors were shut more closely than anyone could previously remember! Of course, competition was the name of the game although sporadic fun-flying could be seen, sometimes to the concern of other modellers embroiled in battle against the stopwatch; but on the whole there was room for all. With individual events, Index (where all classes compete against one another, final placings being decided on the percentage of class record achieved in each case) and the first stage of the Team Trials on the agenda there was plenty to see at this two-day meeting...

Saturday 4th July

A healthy scattering of model types competed against their target times in the 'Heavies' (i.e. non-microfilm) Index competition. In all, seven classes were represented with, not surprisingly, more Fly-Rod and EZB than any other. Nevertheless, entries would have been higher had it not been for the Team Trials the following day; most of the top fliers devoted their Saturday efforts to F1D trimming in readiness for the morrow. Best times from the EZB and CO_2 classes were inserted into the Index reckoning. Runaway winner in EZB was Bernard Hunt with his latest 'extreme tandem' design (to be described next month). Despite many motor breakages in the heat his second official flight achieved a splendid new World Record of 24:43. This

Cardington's Shed No. 1 - imposing by any standards. True vastness can't be appreciated from afar. This photo was taken from eye level as the doors opened after the meeting to admit Airship Industries' G-SKSC.



was still not enough to win Index. Honours there went to Pete Williams - better-known for his C/L Team Race exploits - whose Fly-Rod boosted the National record for the class to 14:56 (104.6%). In fact, the record had apparently been raised by Brian Roberts' earlier flight of 14:38 but as Brian had won a past event his score was disallowed in this 'novice' class and thus had to be calculated against the 'full' EZB record. But the Fly-Rod contestants had a great time. Conditions were favourable and good-quality rubber had been supplied by the organisers, so many recorded best personal times. Geoff Kent's 14:02 was notable in this context.

Mark Hinton persevered with his Cagebird PND model but despite cramming-on a colossal 3,700 turns his best time of 4:27 was less than 80% of John's formidable record. Also flying PND, Rob Porter could manage only 3:43 but he sought solace from his Farman 400 Peanut and a somewhat erratically-flying 'High Speed' Spitfire. Third in EZB behind Bernard Hunt and Laurie Barr was Junior flier Rob Jones whose consistent 15:32 and 16:17 were praiseworthy efforts. Mick Page, on his first Cardington visit since 1978, enjoyed himself flying a '12in. HLG'. The model had been unflown for eight years but Mick's self-analytical 'I'm about as good as I was!' seems borne out by his 4th place in Index with 94.3%. Also flying HLG, but the Open variety, was John Buskell whose 1978 record-holder was seen to be responding to noseweight removal (with tail tweak to compensate), eventually achieving 1:06 (78.5%). John's wife Tanya, who was timing, did her best to 'out-psych' Mick by calling out a fictitious '81½ seconds!' which would have represented 97% of Phil Ball's long-standing record...

Mark Benns had the misfortune to smash his HLG in the girders after achieving the highest time of the day so far. He then devoted his attention to a 12in. duration rubber model which demonstrated extraordinary insensitivity after an on-the-spot modification to give greater motor length - five inches of extra fuselage stick were cynanoed on with no re-trimming apparently needed!

CO_2 was won by Ian Dowsett who flew consistently but was disappointed by relatively low engine runns of six minutes, not the hoped for eight as conditions became hotter and stickier. His best flight of 9:18 (71.9%) suffered from a stall on the glide. Without this, the model, which is powered by one of the very first Telcos, would certainly have exceeded ten minutes. Ian's latest development - not entered in the competition - was an amazing 52in. fuselage coupled with 36in. tail which could be fixed to his 'standard' wing. The whole, huge set-up was driven by a twin-blade folding prop, the subject of further experiment. This massive craft was aired late in the day but it is early days yet for this fragile combination. Fellow competitor in CO_2, Mark Croome flew his well-known, mostly foam 'venetian slat' which hadn't been out of the box for a year. Modestly, Mark told your reporter that he'd 'forgotten how to do it!' but this potent model (the current record holder in its class, which has also - unofficially - been timed at over thirteen minutes) was hung up on the rafters and then suffered from a succession of wing

Concentrating hard, Bernard Hunt releases the F1D which was to bring him victory and the Aeromodeller Trophy. Above: Such close encounters were rare but this was the result after Laurie Barr and Brian Kenny launched almost simultaneously during Sunday afternoon.

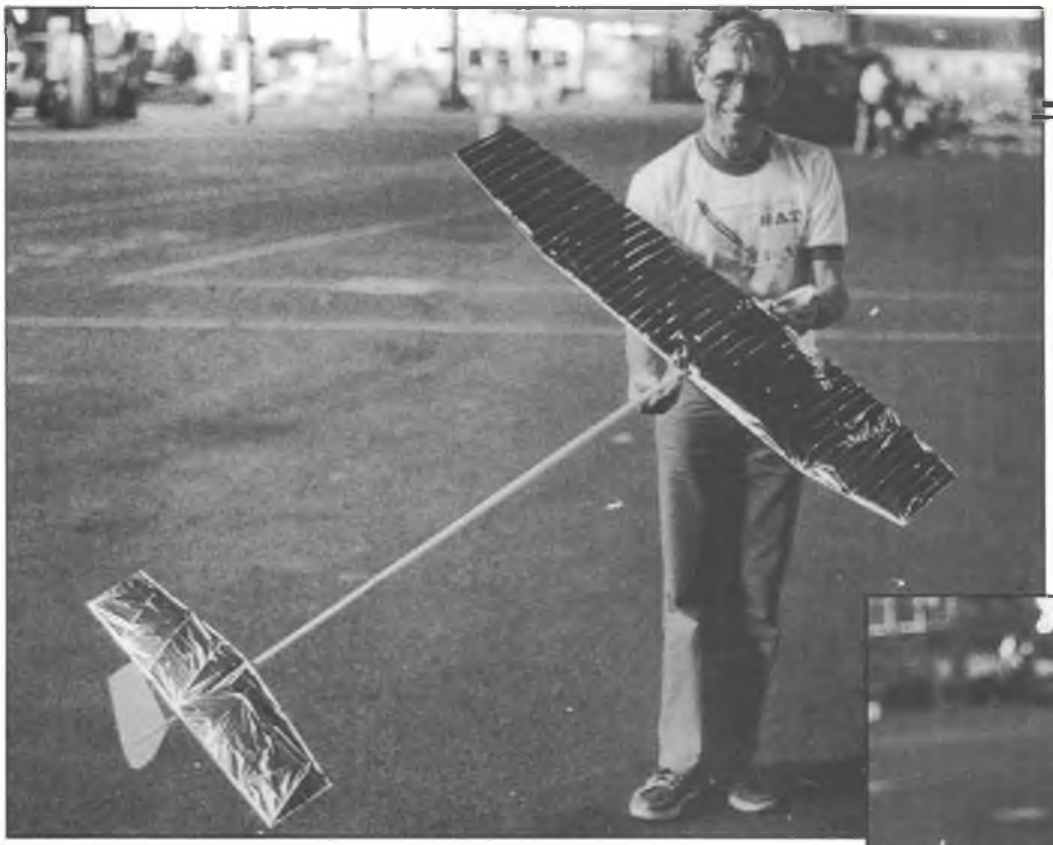
'tuck-unders' after glide stalls to record a low best time of 9:09. At one point both CO_2 craft were circling close together, their single-blade props 'ticking' over top-dead-centre. Mark Croome's model had a noticeably faster 'lap time'. Afterwards Mark experimentally tried a charge of nitrous oxide (N_2O) but little was learned. At first the craft flew faster and tucked-in; a subsequent throttled-back flight afforded no improvement in duration. Maybe the sole advantage of N_2O (presumably illegal in CO_2 competitions anyway) is that it is much less prone to ice-up on cold days. Hardly a valid factor on such an occasion! And Sunday was to be just as hot...

Sunday, 5th July

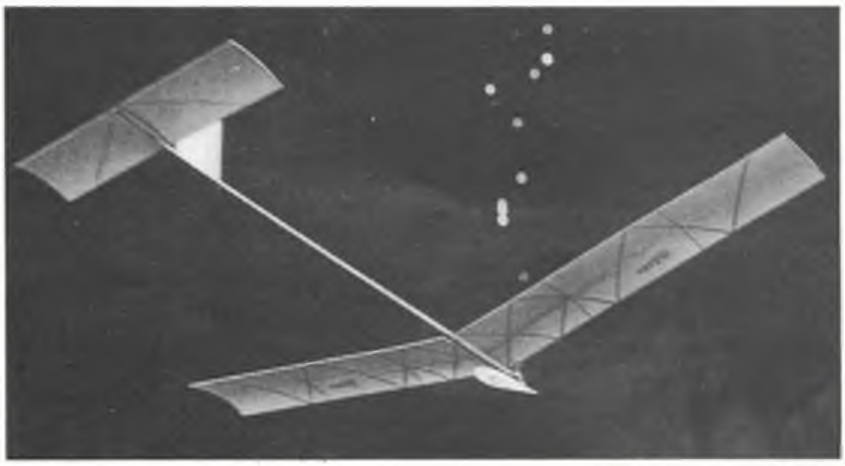
Focus of the day was the first three rounds of the Team Trials. Doubling-up was the Aeromodeller Trophy for F1D, with Film Index too for good measure. With the temperature again in the 80s and with noticeable drift at times conditions were trying. Steady flights came from Derl Morley (35:27), Bernard Aslett (38:32) and Laurie Barr (36:58) but Bernard Hunt and Dave Pymm overcooked on the climb and aborted by 'ballooning down'. It was noticeable that models were hitting even warmer air on the way up. This gave motors a new lease of life, effectively raising them a gear and causing several models to end up in the rafters. In the quest for higher times after Round 1 Laurie Barr was seen experimenting with a larger-diameter prop. A test on half-turns (double the time achieved to get a close estimation of full-turn score) was promising and thus it proved; his second round 39:14 was his best time of the day.

David Wolstenholme was caught up in the rafters on his second flight. A pity this, for his superbly-built model - actually his 'old' one fitted with the prop from his new model - had flown well on Saturday but gave him a battle against time after girder damage late in the day. By early Sunday he was trimming again and eventually getting it right - his second-round flight drifting the length of the shed - before his day ended in the rafters and disaster. Dave Pymm was another to hang up after 18:42 on his third flight. Other competitors were too cautious. Brian Kenny changed to a smaller motor before the last round but backed-off too many turns and the model stayed below the 'pep-up' warmer air. He commented that his new-style model - new two years ago, that is - based on the Bernard Hunt philosophy is tricky to trim, being less forgiving than its conventional predecessor, but hopefully with greater potential.

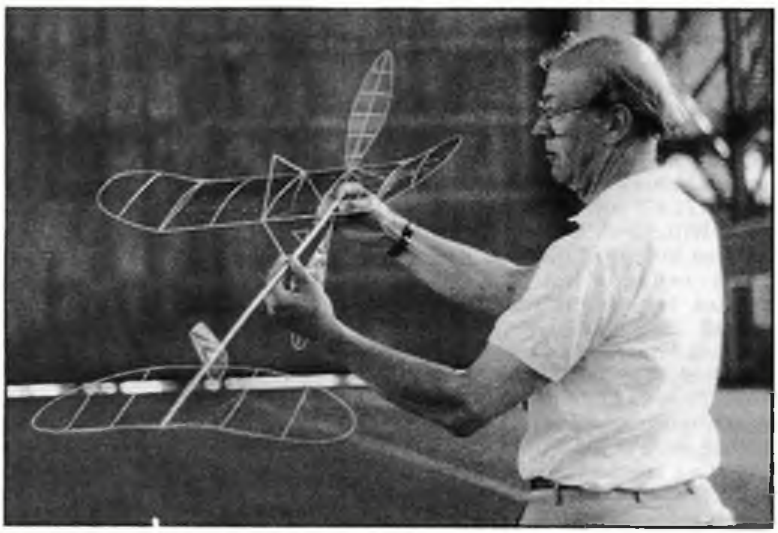
Eventual F1D winner Bernard Hunt began the day amidst confusion. He had assembled the fuselage of one model to the



Left: Can you believe this? Ian Dowsett's latest CO_2 experiment uses a 52in. fuselage and 36in. tail allied to his 'standard' wing. Twin-blade folder driven model was aired but flew low and needs more work. Below: Back at Cardington after eight years, Mick Page flew a variety of models including this Peanut Duration model into which was coaxed a remarkable length of rubber!



Left: Mrk Croome's CO_2 model caught on descent. Below left: John Buskell flew Open HLG in the Index events; his careful trimming repaying the effort. Below: Bernard Aslett prepares to launch his F1D. Such models are flimsy - note that tail deformation, caused merely by carrying the model.



wing of another and couldn't understand why the model stalled so badly. An aborted first round flight damaged wing and tail so he was reduced to mix-n-match 'bitsas' for the rest of the day. The best of these never-flown-before combinations did really well, reaching a splendid 44:26 in the second Trials' round after playing cat-and-mouse with the girders. A safe 41:41, aimed lower at 100ft or so, clinched the Aeromodeller Trophy for Bernard and left him nicely placed in the team reckoning. Bernard Aslett had been challenging for top honours and actually climbed higher than Hunt but there were not enough turns on the motor and the latter's duration could not be matched. A longer motor may well have given a different result...

Bob Bailey was particularly pleased with his day's flying. His gently-circling last flight of the day meant that he was at last able to join the '40-minute club' with a personal best of 40:25. A most satisfactory

end to a well-contested weekend, even if attendance was rather lower than hoped for. It is quite clear that Laurie Barr's Fly-Rod competitions provide substantial motivation to try Indoor; Pete Williams - the new class record holder - was on only his third visit to Cardington and admits that without this incentive he would probably have been outdoors somewhere else! Pete was experimenting with FAI rubber in the hot conditions. Is there any advantages with this rubber at really high temperatures indoors, we wonder?

Team positions after his first round were: Bernard Aslett (112:14 total) ahead of Laurie Barr (110:49) and Bob Bailey (108:49). The second round was scheduled for Sunday, 26th July...

P.S.: Team Trials, 26th July

This was a very different day from the occasion of the Indoor Nationals. For a start it was about 20° outdoors; and it was breezy, with rain forecast. As Shed No. 1 is not very weatherproof this was not encouraging...

Severe drift and turbulence in the first round meant a succession of disappointing times, but conditions improved during the second round although there was still some drift at altitude. Laurie Barr and Derl Morley survived some desperate high-level balloon steering to improve their scores and Bernard Hunt did well enough from a safe height to ensure his place on the team.

A brief rain shower during the final round of the day produced noticeable lift and the promise of good times. Laurie Barr achieved a fine 38:29 with a flight that kept just clear of the catwalk. Regrettably, Bob Bailey, Derl Morley and Dave Pymm each gained a jot more altitude and became hung-up as a result.

After six flights the trials are nicely poised. Bernard Hunt looks safe but Bernard Aslett, Laurie Barr, Derl Morley and Bob Bailey are all in contention for the next two places. Previous 'regular' team member Dave Pymm needs a miracle if he is to represent Great Britain again next year.

Existing Indoor Records – 100% target at the Indoor Nats

Open Film	52 22	B. Aslett	10/7/83
F1D	45 12	B. Hunt	6/7/86
35cm	27 06	B. Aslett	2/9/84
EZB	23 46	B. Hunt	30/8/86
Fly-Rod	14 17	T. Jolley	17/7/84
Manhattan (6gm)	7 20	L. Barr	3/8/81
CO_2	12 56	M. Croome	30/9/84
PND	5 38	J. O'Donnell	1/9/84
Open HLG	1 24	P. Ball	3/5/80
12in. HLG	0 53	M. Page	22/4/79

* Subject to ratification, will be replaced by B. Hunt's 24:43 set at this meeting

** Subject to ratification, will be replaced by P. Williams' 14:56 set at the meeting

1987 Indoor Nationals: Cardington,

4-5th July

Saturday, 4th July

EZB (5 entries)			Total
1 B. Hunt	23 19	24 43	48 02
2 L. Barr	16 34	17 50	34 24
3 R. Jones	15 32	16 17	31 49
4 J. Kilpatrick	14 51	13 38	28 29
5 R. Bailey	17 58		17 58

Index (15 entries)			Total
1 P. Williams	Fly-Road	14 56	104.6%
2 B. Hunt	EZB	24 43	104.0%
3 G. Kent	Fly-Rod	14 02	98.3%
4 M. Page	12in HLG	0 53	94.3%
5 R. Hayward	Fly-Rod	12 56	90.6%
6 M. Hinton	PND	4 27	79.0%
7 J. Buskell	Open HLG	1 06	78.5%
8 B. Kenny	Manhattan	5 33	75.7%
9 R. Bailey	EZB	17 58	76.6%
10 D. Bird	Fly-Rod	10 30	73.5%
11 L. Barr	EZB	17 10	72.2%
12 I. Dowsett	CO_2	9 18	71.9%
13 R. Porter	PND	3 43	66.0%
14 K. Bates	Fly-Rod	9 06	63.7%
15 B. Roberts	EZB	14 38	61.7%

CO_2 (2 entries)			Total
1 I. Dowsett	9 18	9 02	18 20
2 M. Croome	6 33	9 09	15 42

Sunday, 5th July

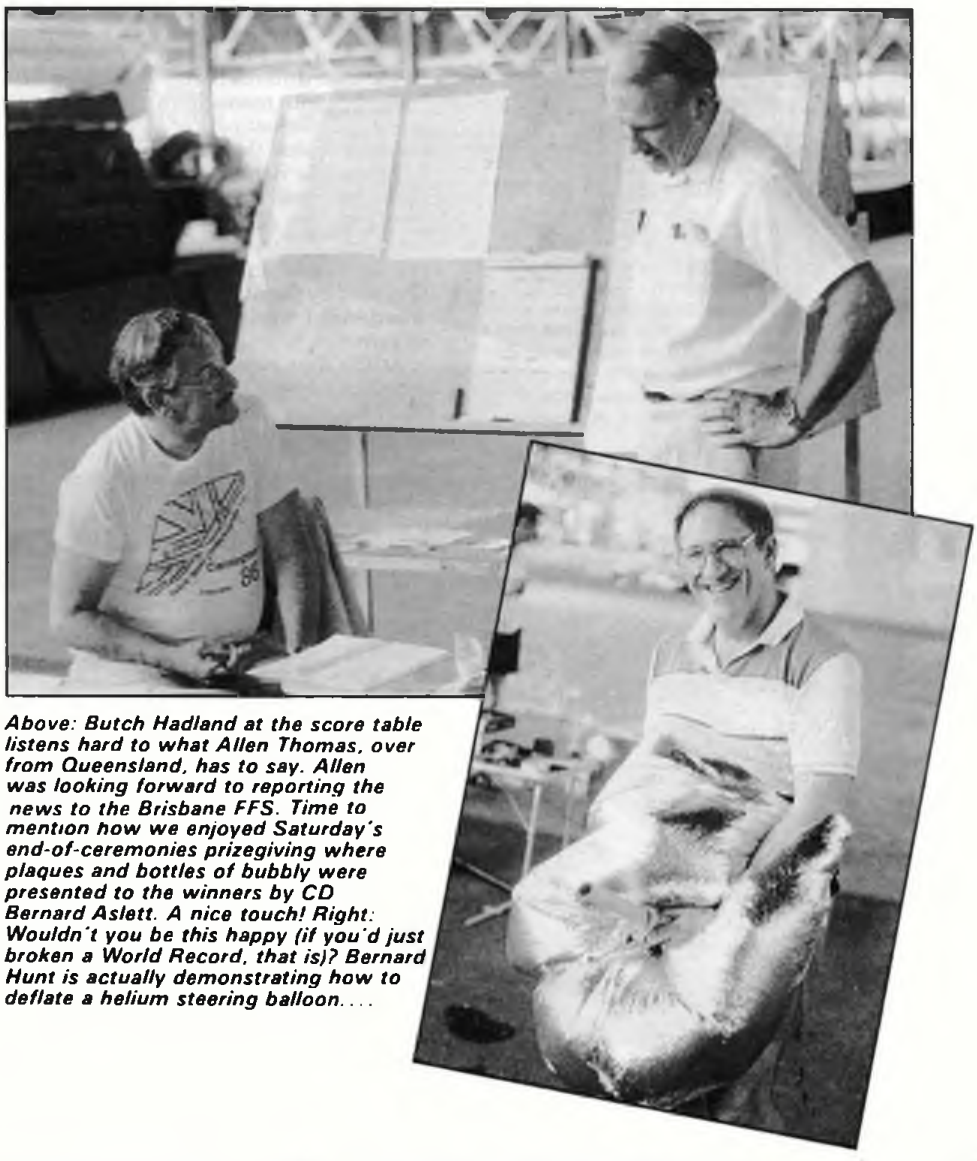
F1D (10 entries)			Total
1 B. Hunt	44 26	41 41	86 07
2 B. Aslett	38 32	38 23	76 55
3 R. Bailey	40 25	36 18	76 43
4 L. Barr	39 14	36 28	76 12
5 D. Morley	39 54	35 27	75 21
6 B. Kenny	34 44	33 43	68 27
7 N. Aikman	29 38	29 13	58 51
8 D. Pymm	33 35	18 43	52 17
9 D. Wolstenholme	35 08	13 38	48 46
10 J. Tipper	26 27	16 42	40 09

F1D Index (5 entries)			Total
1 B. Hunt	44 26		98.0%
2 R. Bailey	40 25		89.2%
3 B. Aslett	38 32		85.0%
4 D. Wolstenholme	35 08		77.7%
5 B. Kenny	34 44		76.8%

Team Trials for 1988 Indoor World Championships
Best three from nine flights: positions after two rounds

	5th July					26th July	
1 B. Hunt	6 22	44 26	41 41	27 28	32 14	-	118 21
2 L. Barr	36 58	39 14	34 37	23 05	36 48	38 29	114 41
3 D. Morley	35 27	39 54	31 02	34 36	37 38	11 07	112 59
4 B. Aslett	38 32	35 19	38 23	31 15	29 40	30 23	112 14
5 R. Bailey	32 06	36 18	40 25	28 34	33 04	6 39	109 47
6 B. Kenny	34 44	33 43	15 00	7 18	25 31	36 01	104 28
7 D. Pymm	7 05	33 35	18 42	32 28	34 10	23 01	100 13
8 A. Robertson	-	-	-	23 06	31 45	34 33	89 24
9 N. Aikman	29 13	29 38	-	18 51	20 48	29 28	88 19
10 D. Wolstenholme	13 38	35 08	-	24 50	26 42	15 04	86 40

Final three flights scheduled for 13th September



Above: Butch Hadland at the score table listens hard to what Allen Thomas, over from Queensland, has to say. Allen was looking forward to reporting the news to the Brisbane FFS. Time to mention how we enjoyed Saturday's end-of-ceremonies prizegiving where plaques and bottles of bubbly were presented to the winners by CD Bernard Aslett. A nice touch! Right: Wouldn't you be this happy (if you'd just broken a World Record, that is)? Bernard Hunt is actually demonstrating how to deflate a helium steering balloon....

THE 1987 F2B HOME INTERNATIONAL

England, Ireland and Scotland joined battle on 27-28th June at the Three Sisters circuit. Bill Draper was there...

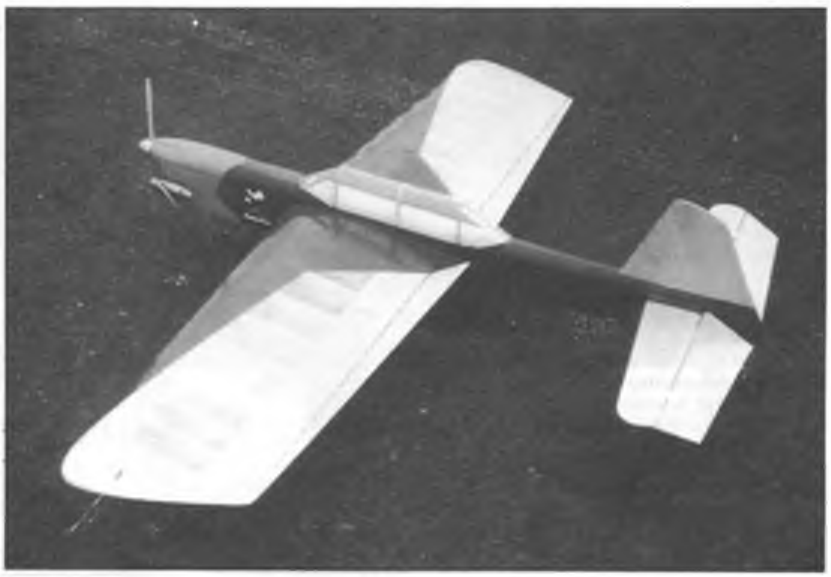
Heading: Our reporter - and individual winner - Bill Draper poses with his Superhawk. Enya SS40 drives Kavan 11x6 prop. Below: Iain Ward's Larakin is actually Brian Horrocks' 1961 Gold Trophy winner refurbished. A steady flier!

AFTER THE 1985 Gold Trophy at the British Nationals, in which contestants from England, Ireland, Scotland and Wales were in the flyoff, a proposal was put forward by the Irish flyers that a true Home International should be held each year with teams from each of the four countries competing for a trophy. John Hamilton was the prime mover behind this; and the Belfast club hosted the first event in 1986. Cool Products of Belfast presented the cup (which is retained for one year by the winning team) whilst individual competitors' medals are provided by the host country. The event, it was decided, would be held in each country in turn.

At the first event last year the visiting teams were handsomely treated by the Irish hosts. Wales could not raise a team but the event was won by the English team, with Ireland second and Scotland third in an enjoyable - if windy - event.

The 1987 event at Three Sisters was thus the first return match. Teams from England, Ireland and Scotland flew again, the event this time being run in conjunction with the Three Sisters two-day Gala, but with team fliers' scores being used to establish Home International placings. Other 'freelance' fliers in the Gala could not have their scores counted towards the Team positions but would achieve individual placings.

The SMAE provided competitors' plaques. On the English team were the first two qualifiers for the 1987 UK Team plus the team reserve; this was the same team which made the journey to Ireland in '86.



Start the schedule

Three rounds were to be flown, one on Saturday afternoon and two on Sunday. Although heavy rain in previous days had left the grass area very soggy, flying conditions were good for the opening of the event with light wind and scattered cloud. A warm-up flight by Dickinson using last year's Northwind (ST.60) gave a high standard for the judges to work to; and it befell Irish flyer Maurice Doyle to make the first official flight. Maurice used his now long-standing ST.46 Aquarius, recently modified with larger flaps. However, the increased flap area, particularly outboard, upset the trim and Maurice flew below his usual standard throughout the event. Second man up was John Hamilton, still using his 1980 Genesis with ST.60 to raise the score for Ireland. First Scot to fly was Iain Ward, using his very interesting pedigree Larakin. This is the original stunter used by Brian Horrocks to win the Gold Trophy in 1961; it was subsequently left in England in a loft, minus motor. Iain eventually obtained possession some 25 years later, refurbished and recovered the airframe and painted it in the original colours. Fitted now with a Merco 61 in place of the original Glow Chief 45, the model demonstrated that aerodynamics do not change even if fashion does. Ian Galt followed next, representing Scotland with his very handsome ST.60 powered Scotia 4 with which he set the highest score for the Scots although he was a little behind John Hamilton. First to fly for England was Tony Eifflaender using his new Freebird with PAW 35, pushing the score over 3,000 for the first time in the event. His model weighs 49oz. First 'non-team' flyer was Ken Reeves, still using his trusty Superhawk with Enya 45; he was followed by the second English team member, Bill Draper with a new-fuselage Superhawk, its Enya Super Sport 40 powering it into the lead over his team-mate to put the English in a strong position. Jeff Walker finished off Scotland's first round with his big Pace Setter, the heaviest in the contest at 74oz but a fine flier thanks to a very powerful ST.60. The model is distinctive from below with near-naked ladies decorating the lower wing panels! Nev Dickinson completed the English score line with a nice-looking flight. His model now features a small fourth wheel under the engine to prevent nose-over on landing or take off. Chris Wing, another freelance

flyer, used a PAW 2.5 powered Peacemaker; he was assisted by Tony Eifflaender acting as caller. Last in the round was Irish flyer Mitchell Shaw with his ST.46 powered SIG Chipmunk. Mitchell had been feeling very ill earlier in the day and perhaps did not do himself justice, suffering from the effects of a virus infection and medication.

On to Rounds Two and Three...

On Sunday morning conditions were not as good with light drizzle and rather more wind. Tony Eifflaender opened with a nice clean flight to raise his score to 3020. Ken Reeves was not so lucky, finding himself bumped around in the wind; then the motor went sick with a blocked jet, spoiling his overheads, completely losing the clover and forcing him to land under power. Bill Draper's 59 oz Superhawk flew just one point short of Tony in the round. Conditions improved after this and Jeff Walker was able to lift his score to raise the Scottish challenge. A very well-controlled flight from Nev Dickinson pushed his score to 3050 to put him into the lead, the English now in a very strong position. Chris Wing suffered a short flight due to engine problems, but the first Irish flyer in Round 2, Mitchell Shaw (obviously improved in both health and performance after a night's sleep) put his 50 oz Chipmunk through its paces. Maurice Doyle also raised his score for Ireland with a smoother flight which was followed by a very clean schedule with well-controlled pullouts from John Hamilton's 60oz. Genius.With the wind coming in unpredictable gusts, Iain Ward decided to fly his old Fox 35 powered Nobler in preference to the slower turning Larakin but he had lost the feel for the smaller plane and dropped his score. Ian Galt had suffered a mishap in practice the previous evening when his Scotia 4 struck a post which was sticking up a few inches just outside the tarmac. The outboard wing hit this during take off and caused enough damage to put the place out of commission for the event, so Ian used his earlier Scotia 3 for the rest of the contest. After much practice the previous evening to get used to his second model, Ian raised his score by some ten per cent with a powerful and challenging flight.

By the start of the final round the wind was freshening in gusts. Nev Dickinson opened with another nice clean flight which was spoiled by an overrun to lose points. Chris Wing filled his score sheet well enough, and Mitchell Shaw continued to improve despite the wind, to maintain the Irish challenge. Not quite so lucky were his team mates; Maurice and John both had to contend with some gusty flurries whilst John's troubles were compounded by an inverted motor cut during the clover, losing the manoeuvre and necessitating an inverted landing, although with only minor 'scrape' damage. Iain Ward again reverted to his Larakin but the wind, now settling at constant strength, held down his score. Ian Galt coped well, and Tony Eifflaender pushed his score up yet again with a snappy flight to finish just one point behind Nev. After landing Tony discovered that a hinge had broken on the elevator. A stress fracture, maybe? Ken Reeves achieved a full engine run this time

Above: Third in the International were Scots Iain Wood (Larakin, Merco 61), Ian Galt (Scotia, ST.60) and Jeff Walker (Pacesetter, ST.60). Second from right is Scottish judge Bill Tomer. Right: Representing Ireland: John Hamilton (Genesis ST.60), Maurice Doyle (Aquarius, ST.46) and - at front - Mitchell Shaw (SIG Chipmunk, ST.46).

And below we have the winners! Flying the English flag were Nev Dickinson (Northwind, ST.60), Bill Draper (Superhawk, Enya SS40) and Tony Eifflaender (Freebird, PAW 35). Bill's Superhawk is in our Plans Service as CL 1473 (£3.80 including postage). Build one and beat him!

but lost out on his shapes. Bill Draper found a patch of high wind during the flight but powered his way through eventually to achieve top score of the contest whilst Jeff Walker also piled the power on with his ST.60 for his highest-ever score in the last flight of the contest.

The maths showed a very close finish for second place between the Scots and Irish, with John Hamilton's team just holding the Scots at bay; but it was the English team, holding the first three individual places who took the team prize again. Nevertheless, the gauntlet was immediately thrown down again by the other teams who are determined to take the cup next year.

Many thanks to the Three Sisters Club for co-operating in running the International; to all the helpers and scorers; and to the visiting teams for making the competition so worthwhile.

Three Sisters Novice Aerobatics

Only three contestants appeared for the first round on Saturday but this was reinforced in the second and third rounds by a further trio. John Wing made the opening flight on the Saturday using a '1.4 times' enlarged Peacemaker pulled by a new Merco 35. The model, which weighs only 38 oz for about 50 in. span, was very responsive; it shows a lot of promise as an aerobatics trainer, 'squaring' as tight as any flapped job. Jim Major followed with a borrowed model (no one objected!) to inch into the lead; and third man to fly, Andrew Snowdowne flew a Frog 150 powered Mini Slow with some particularly good shapes - but he forgot some manoeuvres...

Top trio in the Three Sisters Novice Stunt event were Jim Major (2nd Superhawk, ST 46), winner Ted Lloyd (Crusader, OS FP40) and John Wing (3rd, enlarged Peacemaker, Merco 35).

Round Two saw John Wing repeat his earlier performance, and there was an increased score for Jim Major, now flying his more familiar ST.46 Superhawk. Andrew Snowdowne had changed to a Fox 35 powered Maxi Slow equipped with Tornado three-blade 10 x 6 prop. Bruce Kopasz flew his very nice ST.46 Crusader very fast with good shapes, but he was a little high and his 'squares' were almost round because of the high speed. Jeff Smith's ST.46 gave him trouble in the Magician, cutting several times and requiring restarts with some lost manoeuvres. Last to fly in the round was Ted Lloyd who managed a very competent schedule from his OS FP 40 Crusader. The motor ran very rich at first but eventually leaned out to give a good run. The breeze was becoming troublesome by the last round and all flyers dropped their scores a little as a result. Part way through his flight Jim Major's tailplane cracked (believed to be due to damage in transit) and he had to fly out the rest of his tank in level flights but landed without damage. Andrew Snowdowne resorted to his small model but aborted his overheads and eventually gave up. Jeff Smith had a double dose of engine problems, the motor repeatedly faltering in manoeuvres but Ted Lloyd stamped his authority on the event with a better run than before to take victory over Jim Major, with John Wing's Peacemaker just 3rd place ahead of Bruce Kopasz' Crusader.

Iain Ward's very attractive semi-scale Fairey Barracuda is 56in. span. High tailplane demanded twin bellcranks. Resulted in good 'inside squares, but lazy outside' manoeuvres. New stunter was demonstrated at this meeting. ST 46 power.

Three Sisters Gala and 1987 Home International

Control Line Aerobatics (F2B)

Individual Gala Positions:

1	C.W. Draper	3027	3019	3055	6082
2	N.C. Dickinson	3014	3060	2901	6064
3	A.C. Eifflaender	3006	3020	3043	6063
4	I. Galt	2670	2900	2850	5750
5	J. Hamilton	2801	2916	2619	5717
6	M. Doyle	2657	2789	2690	5479
7	M. Shaw	2677	2687	2727	5414
8	J. Walker	2619	2653	2727	5380
9	I. Ward	2616	2589	2531	5204
10	K.N. Reeves	2430	2204	2404	4834
11	C. Wing (Jnr)	1947	1658	1889	3836

Team Result - Home International Trophy

England	C.W. Draper N.C. Dickinson A.C. Eifflaender	18209 pts total
Ireland:	J. Hamilton M. Doyle M. Shaw	16610 pts total
Scotland	I. Galt J. Walker I. Ward	16334 pts total

Judges:	Reg Lowe	England
	Doris Dickinson	England
	Bill Tonner	Scotland
Contest Director:	Ken Reeves	
Line Marshal	John Wing	
Scorers:	June Draper	
	Gill Reeves	
	Cathy Eifflaender	
	Jane Wing	

Three Sisters Gala Novice Aerobatics

1	E. Lloyd	-	460	448	908
2	J. Major	402	435	328	837
3	J. Wing	394	383	378	777
4	B. Kopasz	-	396	379	775
5	A. Snowdowne	356	341	266	697

Terry Tailless never forgets

To tempt you – Tailless times past and present recalled by Andrew Longhurst. . .

AS YOUR EDITOR flattered me greatly by publishing my last article (Duration Duration; March '87 *Aeromodeller*) I thought he might let me bore you with a further exposure of my constructional shortcomings and flying follies (*Get on with it. GC*).

To put you in the picture, I am obsessed by smallish toy planes of the rubber-band variety. Like all obsessions it started in childhood way back in 'sixty-one. I was just twelve years old; a founder (and very junior) member of Feltham and District MAC. The club was never very free-flight orientated but at the time a rubber contest was to be held at Richmond Park and a small cup was on offer. I was desperately keen and built a Garter Knight coupe which was really a bit beyond my abilities at the time. It probably still is! I remember using obeche longerons and plenty of sheeting so it must have been pounds overweight. I could not manage the pukka folding propeller so I carved a neolithic freewheeler from balsa. I took it to Richmond unflown but with the boundless enthusiasm that comes with extreme youth. After a long and tortuous bus journey across the suburbs I was heartbroken to find only one other contestant, and he was armed with a paltry 24in. Never Forget Mk II tailless complete with despicable plastic prop.'What kind of a competition is this?' I thought, assembling my imposingly robust entry. I need not tell you that my glorious Garter Knight staggered round the sky for only twenty seconds or so whereas the little John Pool-designed tailless turned in flight after flight of more than a minute, never climbing to more than twelve feet, as I recall. At the end of the day I was disappointed but composed until our elderly club chairman pressed half-a-crown into my palm. Tears welled up as I hurriedly started my long trudge to the bus stop. . .

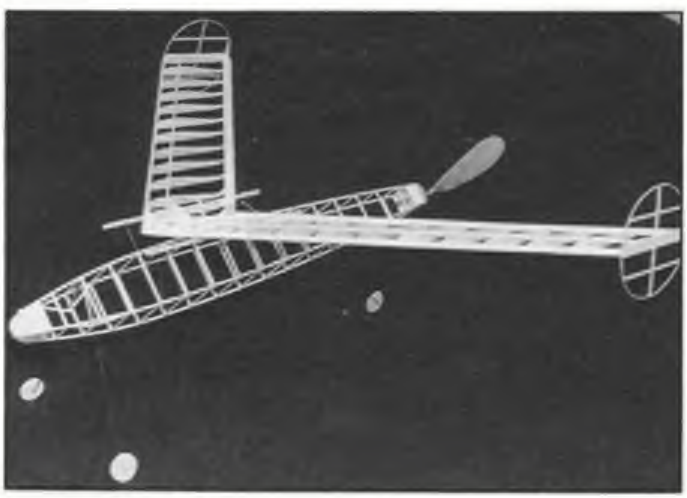
Cutlass cavortings

Twenty-five years later, while browsing through back issues, I came across the plan of Never Forget Mk II in the December 1958 issue of Model Aircraft. A lump came into my throat again and I knew that fate had ordained that I build one. It seems that the intervening years have not done much for my abilities at rubber models. Too many control line bricks I suppose. When the tissue tightened, the five degree washout specified increased to ten degrees. Perhaps because of this I could not trim the little blighter. Power flight was fine but it would not enter the glide without a stall; and stall recovery was not a strong point on my model.

A few months later I had a fancy to build a rubber-powered semi-scale Chance Vought F7U-3 Cutlass. Don't ask me why. I just get these madcap ideas. So as a start to 'prove the aerodynamics' as it were, I built a 26in. span wing with 7in. chord and 40 degrees sweepback. I had not forgotten Never Forget so I turned to a reflex section with undercamber (the Snake 'S2') and no washout. A Vintage slabsider fuselage from a Fledgling was mated up to it and the Cutlass prototype was born.

Now it so happens that when the weather is lovely and the wind is light I am tempted to leave my desk at Wembley and repair to Horseden Hill which is not only the most beautiful place in West London but also provides a flat field three hundred yards square adjoining the Grand Union Canal. Thus it was that one lunch hour (or two) I was to be found in that field, or more

Heading: Terry 1 complete and ready to go. Below left: The Cutlass wing atop a Fledgling fuselage. Below right: Framework of Terry 1.

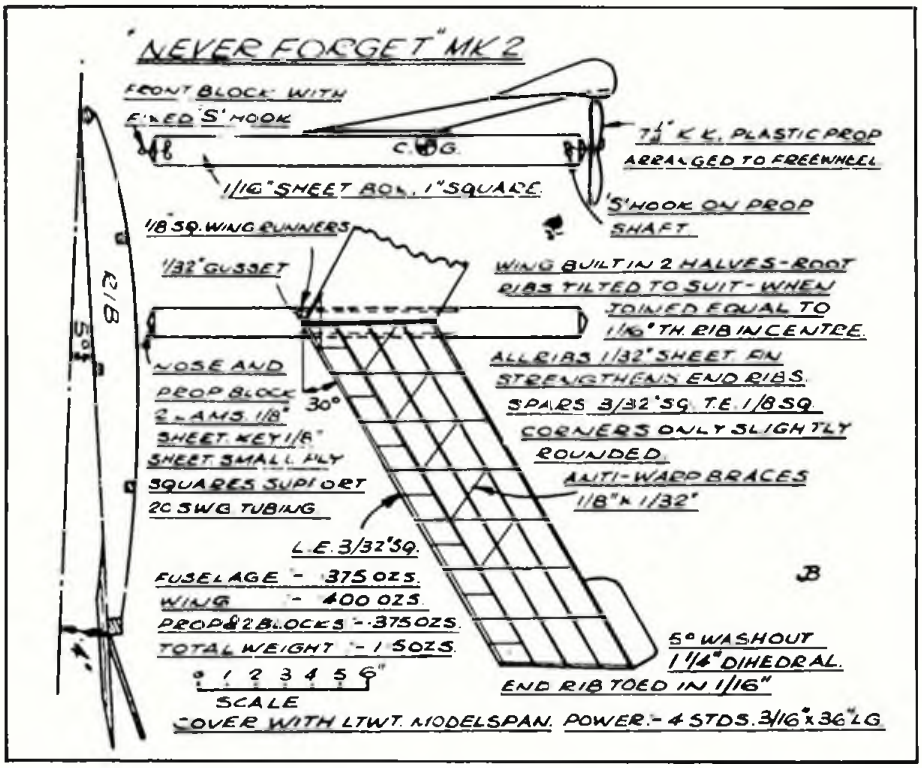


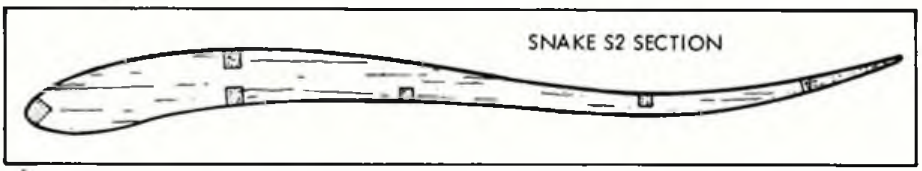
accurately a smaller one close by, with my Cutlass prototype. I was unable to frequent the larger field as it was being mown, but the smaller one appeared adequate as there was not a breath of wind.

Alas, Horseden Hill is appreciated by others and at lunchtime it is customary for all the local reps to line up their Sierras and Cavaliers in the adjacent car park to munch their sandwiches. This particular day it was uncomfortably hot for in-car munching so the sales fraternity were forced to leave their beloved tin boxes and sit on a grassy bank where they had a grandstand view of my efforts.

Test flights started with four strands of 3/16in. flat. Stability was fabulous and a reasonable trim was struck very quickly. However, the glide angle was no better than twenty-five degrees, so the Cutlass stayed up for little longer than the motor run and did not climb more than twenty feet or so. Obviously there was a lot of drag being generated by the Snake S2 section and equally obviously this required a bigger motor. I applied four strands of 1/4in. FAI and as time was running out whacked on plenty of turns. With plastic blades angrily whirring the Cutlass sheared into a vertical climb eventually slipping over onto its back at about forty feet. I expected a roll out, but no, there followed a period of stable, inverted flight gradually increasing in downward vertical velocity until a prang appeared inevitable. At the last moment came the roll out and the model skimmed the grass in a very high speed touch-and-go, missing me by inches. A zoom climb to twenty feet came next, at the apex of which the power died. The model hung stationary for an age then flipped over into terminal dive number two. Once again fate smiled; the reflex section pulled it out to make a perfect three-point landing not two yards from me.

Two of Dick Staines' Tailless gliders seen at this year's Nats. Dick holds his APS Kling at right; helper Andy Pickles grasps a lower aspect ratio design!





Top: John Pool's Never Forget Mk2 drawing, published in the December 1958 issue of Model Aircraft, recently inspired our author to try Tailless after a lapse of twenty-five years. Above: The sinuous Snake S2 section chosen for the Cutlass wing. Lots of reflex: elevons are an alternative. Opposite page: Terry 1 plan reproduced here at quarter-size.

As I stooped to pick it up I was conscious of a stange yet familiar noise. A desultory round of applause such as one hears at sparsely attended cricket matches rippled through the sales conference.

I gathered up my trappings greatly embarrassed, thinking the applause to be ironic, but later realised that the sight of a tailless model flying is unusual and impressive, calling forth many a compliment from the uninitiated.

Terry trials

The desire to build the all-singing-and-dancing semi-scale version of the Cutlass passed for various reasons, not the least of which was the discovery of the Terry 1 plan in the October 1943 *Aeromodeller*. Designed by one W. Binns, I was taken as much by its delightfully antique appearance as by its duck-tailed Clark YH section.

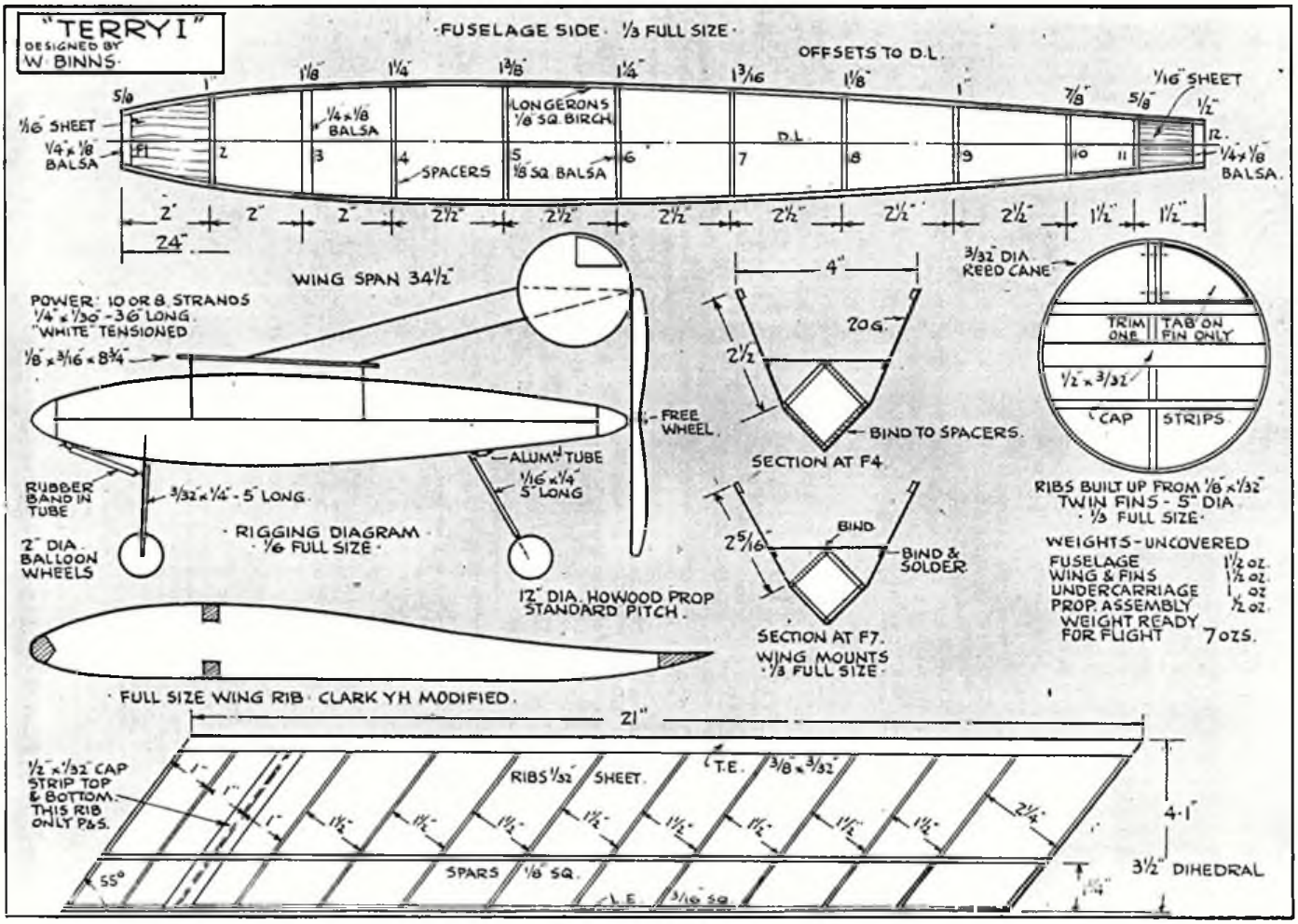
Construction was very simple but quite good fun. The fuselage calls for 1/8in. sq. hardwood longerons, no doubt in deference to wartime shortages; so I built the fuselage out of 3/32in. sq. balsa which I am sure will have many a Vintage afficionado grinding his false teeth to bits, but nevertheless it proved more than strong enough.

After covering I acquired a touch of washin on the starboard panel but this seemed as though it might be a good idea for it would counteract torque from my reverse-wound motor and modified tractor prop. (A thirteen-inch single-blade freewheeler, just to be different).

Horsenden Hill was as usual the venue for test flights and as I always like to do things by the book I started with test glides. At first it tended to dive, and after moving the wing forwards all I got was a cartwheel flop to the right. I now know that the reason for this is that reflex sections just will not stall, they must instead and this is not easily recognised from hand-launch altitudes. Anyway, I got fed up with pushing the wing back and forth so I gave it a few turns on six strands of 1/4in. FAI. A recognisable power stall presented itself so 1/16in. of down and right thrust was applied. The result was a lovely power flight, the model proving generally more stable under power than when gliding. Indeed, the glide is quite something. It's almost as good as a modern P.30... dethermalised that is! I just could not believe how steep the descent was. But moving the wing back again just resulted in a big mush and a 'sycamore seed' type of return to earth.

'This model is ideal for these sunny days and small fields', quote I from the text whilst gaily winding on five hundred turns. A climb that would have graced a .40 open power job announced that I had hooked the biggest boomer in town. This thermal was so big that even Terry 1 showed no sign of coming down. I was left, expletives deleted, to fight my way through the adjoining thicket emerging on the other side just in time to see the little love descending gently in the vicinity of the Canal.

It is peculiar how the water kills lift. I can normally guarantee a model will drop just the other side of the canal. But of



course Terry 1, being less efficient, failed to make it to the lee bank.

You must agree that there is nothing makes one feel such a twit as having to ask the nearest fisherman to hoick one's top plane from the canal. On this occasion said gentleman was an introverted giant, some twenty yards distant, who was huddled over the end of an immense rod. He made the most of my anguish by first of all offering me his long-poled net which was palpably too short. I felt obliged to make a play of reaching out over the water before I handed it back with a shrug of the shoulders.

Ingratiating coversation was obviously called for and this was made difficult by my complete ignorance of all matters angling. 'What are you fishing for? Perch? Chub?' I cried, in a cheerful tone.

'B****y model planes looks like', he grumped, stumping over with his rod at last! I can report that Terry 1 dried out in a couple of days and was none the worse for its ducking.

In spite of this experience it is hardly worth putting a D/T on Terry 1, but if you are dead keen I should imagine that any device which induces a stall would do the trick as it would mush down nicely. A touch of opposite rudder might be all that was needed; or how about a drop-out front undercart attached by thread to the rear part somewhere.

To sum up: Terry 1 is fabulous fun providing you are not looking for duration. Its appearance in the air is a real conversation stopper. Just another gem from our priceless *Aeromodeller* heritage...

Need some encouragement to start in Tailless? Over to John Pool...

Dear Sir,

I wonder if you can include some publicity for the 'Highest Original' award in the Lady Shelley Cup, which goes to the highest score made with a model of a different class from the eventual winner. Since it was instituted it has always been won by a glider; in fact, each time by Dick Staines with his APS Penumbra, a photo of which appeared on p.428 of the August '85 Aeromodeller. Even the Contest Organisers have to be reminded about it - although it is always there.

Regarding Tailless Power Models I would like to start a fund to provide a prize or prizes for such in the Lady Shelley Cup Contest at future Nationals. I have £25 myself to start the fund and would like to invite anyone who wishes to help a revival of this class to donate what they will. My initial inclination is to award a prize to the value of 10% of the Fund to the highest placed power model at the Nats but should that prove to win the Lady Shelley Trophy as well it collects the whole lot.

Suggestions of a better way to arrange an incentive will be welcomed. I will be happy to manage the fund if donations are sent to me at the address below and will publish a list. It's essential that if this is to be an incentive it must be well publicised no later than the early autumn. Both Peter Fisher's recent article and my own in March 1980 missed out in this respect.

To succeed in this event the problem of demonstrating to the timekeepers when the engine has cut will need solving, especially if the option of a 30 sec. engine run with a muffler is adopted. Bitter experience indicates that an effective D/T system will be required.

Perhaps I could take the opportunity to remind readers that Never Forget is still available in the Plans Service and although the current model has square wing tips the areas, angles and sections are the same and in fact there is nothing to choose between the two wings. Fuselage, fin and prop are identical. Not shown on the plan are the motor details. 4 1/2 oz of 1/4in. Pirelli is made into 16 strands about 56 in long. This was my favourite; but twelve strands of 4oz 1/4in. FAI, again about 56in long is the alternative. The current model uses weaker 1/4in. FAI made up into 12 strands with a loop of 1/8in. FAI added to one half of the motor. Four such motors made up in 1982 are still being used.

Both Russell Peers and Kenneth Attiwell use the design but with their own props. They seem to choose higher power and a shorter run.

In the hands of Russell Peers or myself Never Forget has won eleven successive Nationals. In that time, along with Ken Attiwell we have taken all three places on four occasions and collected twenty-five of the thirty-three places. This must be the winning-est APS design ever.

John Pool
Selby, North Yorks.

BALSA CUTTINGS

More sharp comment from our flashing blade, Cyano de Bergerac

BECAUSE OF THE Shrinking Flying Field effect, these days even real aeromodellers sometime fly radio, and there can be few amongst us who haven't heard of The Black Death; the dreaded Negative Wire Corrosion, where one of the wires emanating from your nicad pack goes green or black, becomes powdery and finally ceases to convey the necessary. In the words of that great economist, Mr. Micawber, 'Result misery'. Whilst it is all very well to draw some satisfaction from the current spectacle of experts quarrelling amongst themselves as to what causes this, are we not entitled to ask if the present situation should have been allowed to develop by those who take it upon themselves to make a profit out of supplying these goodies, or to hold forth so knowledgeably thereon? After all, examples of the phenomenon are not hard to come by; it happens all the time and it is potentially pretty dangerous. Even if you haven't had a fresh idea since Lady Godiva appeared on Page Three, you can imagine the result when engine vibration breaks off the degenerate wire and a big unstable model unsuited for free flight is left without control. A variety of explanations have been put forward, some by people whose experience and academic distinctions are matched only by their self-satisfaction and condescension. It is all due to the direction of electron flow. Or it is because of electrolytic effects, there being presumably too many irons in the fire. It is down to corrosive goo being forced out of the cell by over-charging. No, it isn't, it is caused by the black pigment in the negative wire insulation. Rubbish – it happens with wire of any colour. And so on. About the only thing which has emerged with any certainty thus far is that it is a *transmittable* disease of the radio gear, susceptibility to which seems to be directly proportionate to the burden of the owner's qualifications. And nothing whatever to do with pilot error, remember.

Apparent problems like this are of course child's play to Balsa Cuttings, which in the past has dealt with questions such as 'Is over-proof glassware from the West Country really The Pyrex of Penzance?' and 'Do all mad grocers go Insanesburys?' But it is no use hurrying these chaps. Eventually they will stumble across someone in the St. John's Ambulance who will explain that NWC is caused by a virus carried by cheapo Japanese imports. Meanwhile, let us check our own gear carefully and hope that nothing goes seriously wrong before we can arrive at a proper way of handling this thing. For we are definitely off-side over it – we have got the cart ahead of the horse and should be in possession of the answer before – not whilst – the flying is done and the risks are run. Recall that basic exercise in philosophy illustrated by the manufacturer when he was approached by the fellow who invented the very first bottle. 'I have invented the bottle. I have invented the bottle!' he cried, delirious with achievement and excited by the rosy prospect of royalties and riches. The manufacturer stared at him stonily. 'Shove off,' he said, 'and come back when you've invented the corkscrew.'

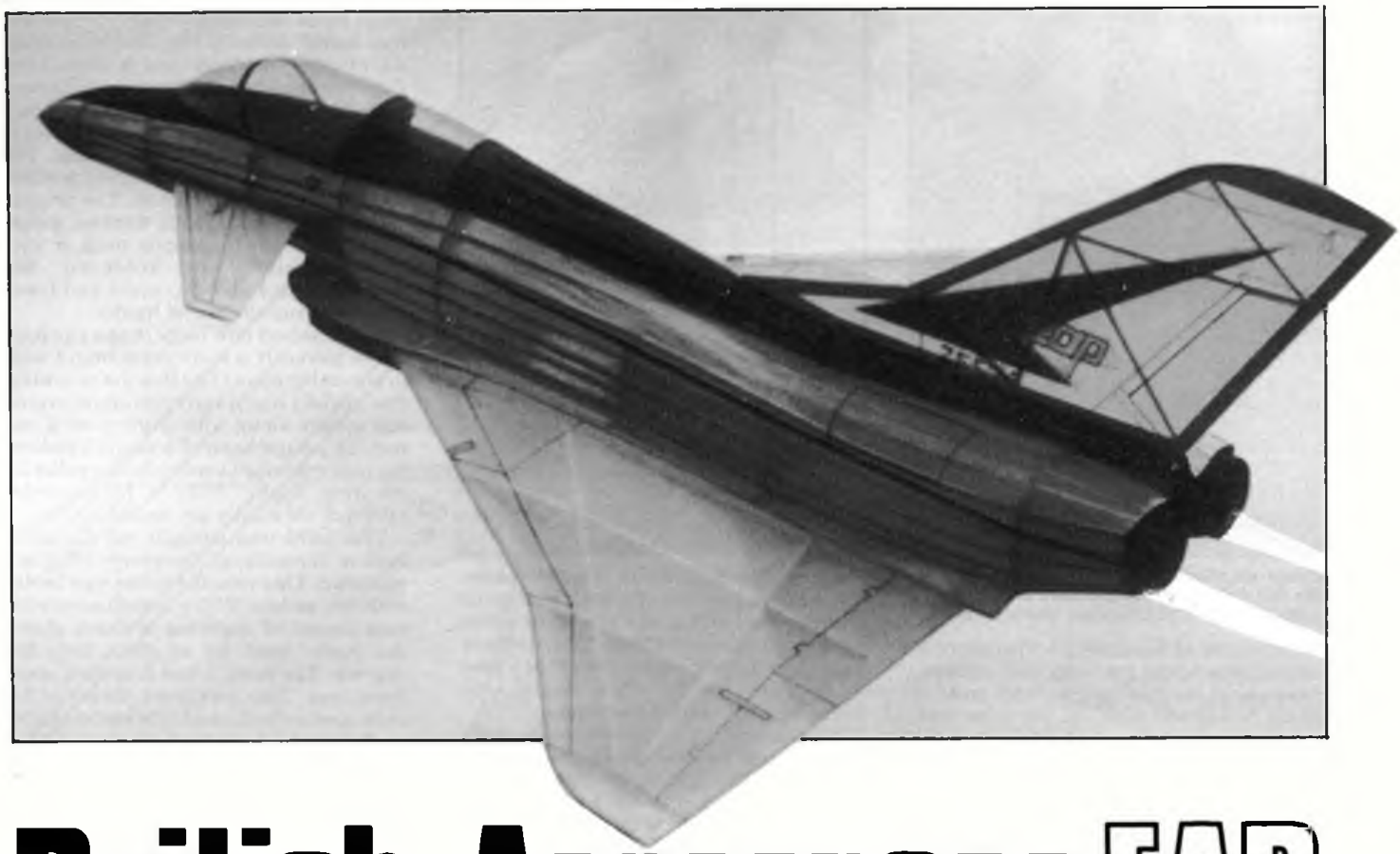
Fuel for thought?

As an institution which has long been a way of life and can look back over half a century of publication, the *Aeromodeller* is undoubtedly regarded as a source of Infonet (if you can bear the excruciating pun) wisdom, and people simply don't say 'Of course, D.A. Russell was just a tiny bit prone to designing famous models that never got built,' or things like that. It is surely right and proper that they should not do so. A bit of respect where it is due, if you please. But since it happened twenty-one years ago, let us spend a few disrespectful moments looking at page 460 of the August 1966 issue. With the specifically-stated hope that he might prevent others from suffering his own fate, the thoroughly excellent Mr. Gerald Rowley of Macclesfield took the trouble to write, warning of the dangers of nitro glow-fuel squeezy bottles with polythene stoppers in the neck under the cap. Misled by appearances, he squeezed such a bottle, thinking the stopper would be perforated. It was not, and under the pressure, it popped out, followed by the fuel, which filled his eyes. Why Mr. Rowley had it pointing at his face, whatever his beliefs respecting the nature of the stopper, was not revealed – he was after all writing after he had come out of hospital and his exact state of mind may have faded from his memory. We seem somehow to have got back to Mr. Micawber and resulting misery. Anyway, greatly alarmed, the *Aeromodeller* sought, and duly published, the comments of Dr. M.F. Hawkins, who responded with all sorts of advice. He really gave good value, going into First Aid, Second Aid, fire risks, poisonous effects, loss of consciousness and ventilation. He even touched on the dangers of doping – it was practically a performance of The Dance of The Surgical Spirits with full orchestra and chorus. The impact of all this on the *Aeromodeller* staff was clearly considerable, and when Mr. Rowley was moved to write again emphasising the risks involved, they were inspired to go to the following lengths:

> 'We visited a Model Shop and checked a batch of bottles. The first four caps unscrewed easily exposing an open neck. The next exposed a clear plastic stopper with an indented stem which Mr. Rowley (and ourselves) mistook for a tube. When the bottle was squeezed the stopper popped out with force and fuel splattered everywhere in a dangerous manner.'

Oh, *honestly..!*

'Excessive "g" is bad for you. Too much nitro is bad for you. Citizens' Band is bad for you. Now it's something else. Sometimes I wish I was a rubber job...'



British Aerospace EAP

Get right up to date with John Watters' scale private -venture fighter for Jet-X power

ONE COULD SAY that this model is like the rhyme applicable to brides-to-be. That is: something old, something new; something borrowed, something blue. 'Old' in this case is 'Jetex' and 'new' is the latest experimental aircraft in the UK. Actually, the 'borrowed' part I cannot place, but the aircraft itself is pale blue!

As the full size EAP is a very sophisticated aircraft incorporating a very complex wing section, some deviation from true scale has been made. Nevertheless, the outline and fuselage contours have been maintained as accurately as possible.

The EAP fuselage

The spine pieces S1 to S6 should be cut from medium-hard 1/16in. balsa. Formers F1 to F8 can be cut from light, soft 1/16in. sheet (but not too soft!).

The fuselage - this aircraft seems to be nearly 'all fuselage' - should not pose any problem to anyone who has ever built a flying scale rubber kit. Before adding any stringers to the formers, glue the wing root rib R1 into position onto formers F4, 5, 6 and 7. Now add just enough stringers between the formers to ensure that all the formers are located to each other by at least one stringer.

This half-fuselage can now be removed from your board, and the other side built-up on it in the same manner. Do be careful here that the fuselage does not become distorted when adding further stringers. This particular fuselage is shaped from a number of compound curves. The stringers are best added on alternate sides of the fuselage. To obtain the required curves you may find it best to glue the stringers between two or three formers at a time, allowing these to set before proceeding. Use elastic bands, sellotape or masking tape to hold the stringers in place. Placing pins through these small wood sections can lead to disaster. How many of us have done this and have put a finger through an otherwise unblemished fuselage...

'Do not rush the fuselage construction' is the motto. It is possible to build the fuselage using plain, un-notched formers, in which case it will be necessary to carefully sight along the fuselage to choose the best stringer location. After completing all the stringer work, the medium hard 1/4in. sq. motor mount can be added. Sheet-in with light 1/16in. between the stringers in the position of the foreplane pivot.

At this stage the nose block can be glued in place and the air intake details added from 1/16in. and 1/32in. sheet.

The fuselage should be lightly sanded, after which it may well be necessary to add in small strips and pieces of balsa between the formers and stringers to effect the correct curvature locally, particularly in the air inlet and rear wing root sections.

Jet wings

Nothing complicated here. Pin down the 1/16in.sq. medium hard bottom wing spar and the 1/4in. x 1/16in. TE, pinning either side of the strip and packing the TE as shown. Glue each wing rib in place, noting that root rib R2 does not have any dihedral angle, this being taken care of by fuselage root rib R1. Add the 1/16in.sq. top spar, LE strip and tip sheet. The top and bottom spars and LE strip can be shaped and left over-length to use as locators into rib R1.

Foreplanes and fin

I originally made these from 1/32in. sheet balsa. They were soon replaced by thin plastic sheet after initial flight testing proved them to be very vulnerable. The plastic ones were cut from the lid of a large margarine carton but anything similar would do. Fix the foreplanes to the pivot after the fuselage is covered.

The fin can be made up from 1/16in. strip or from solid sheet. If using an all sheet fin, make it from several pieces with the grain running in different directions, or use 'key' pieces to keep it flat. The fin is not fitted until the fuselage is covered.

Finishing

Cover the whole model in lightweight tissue. My choice was to cover the fuselage

Close-up shots show the Jet-X motor in its foil-lined duct, and intake and fore-plane detail. Construction shots below.

with 'bands' of tissue, which wrap around, filling the space between two formers. Because of the fuselage contours some of these bands will turn out not to be true, parallel strips. I found it best to mark the tissue on the fuselage with a very soft pencil before cutting. Covering the wings is straightforward but remember to place the tissue on the wing with the grain running parallel to the leading edge.

If you have used an all-sheet fin it is not really necessary to apply any tissue. A built up fin must be covered with care taken not to warp the structure in the process.

Each component can now be given a coat of thinned dope. I used a very thin mixture, just enough to apply some tension into the tissue after water shrinking. The wings and fin can now be glued into position on the fuselage. Check that the wings are at the correct dihedral angle and that the fin is straight. A thin strip of tissue can be glued over the root ribs to strengthen the joint with the fuselage.

The cockpit canopy was made from thin acetate sheet moulded over a balsa block former. I must admit that I have no knowledge of whether there are any commercially available canopies that would fit...

The full size EAP is at present painted a very pale blue all over. On some photographs this looks almost white. Colour trim consists of a dark blue spine and fin flash with a blue and white stripe along both sides of the fuselage. In order to keep weight down on my prototype I used white tissue for the whole model with tissue and felt marker-pen trim.

When assembling the foreplanes check that their incidence angle is equal on both sides. To make life easier it is probably best to glue the pivot rod onto one foreplane first, and when set position it through the body. The other blade can then be glued in position and its angle checked. These foreplanes must be free to pivot but the fit must not be sloppy. They will be glued in place as trimming develops.

I did not put a great deal of detail on my model; foreplane tip sensors and wing tip missiles looked very prone to damage, especially when flying over long grass.

Flying your fighter

Even after consultation with the aircraft manufacturers, the exact centre of gravity position remained a mystery. The full-size aircraft is flown using four onboard computers to constantly monitor and alter its configurations. It is thus virtually unstable, or, more correctly 'artificially stable'. After some test gliding and short power flights I found that positioning the motor as shown established an equilibrium. Any correction to pitch is then done by altering the foreplanes.

A very calm day was chosen for initial flight trials. The usual patch of long grass was found! Initially the foreplanes were set at zero incidence and a glide from shoulder height tried. This was carried out with a few butterflies in the stomach - will it spin-in or stall badly? - but not to worry; the glide was straight but diving. Try again; this time with slight positive incidence on the foreplanes. The process was then repeated with further, gentle changes to the incidence until a nice floating glide was achieved. My confidence had also increased and I was now throwing the model harder.

The time had now come to test the EAP under power. It is more years than I wish to remember since I last flew Jetex, and for this model I had resurrected one of my old 50b motors along with original wick and fuel. To get the hang of actually handling the motor again, I used only one pellet for the first flight. After a few abortive attempts we finally got ignition...

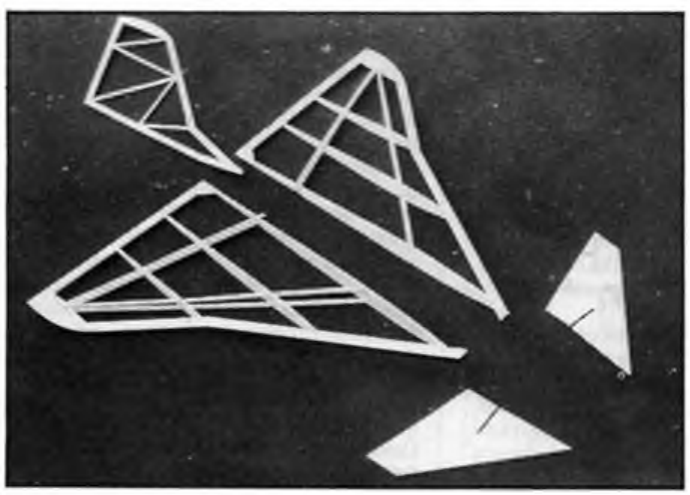
The flight was straight but diving. A further increase of foreplane incidence was tried. This time the motor was loaded with two pellets. With a launch somewhat reminiscent of throwing a chuck glider, the model went up at about forty-five degrees. The thing I had forgotten about Jetex was that maximum thrust is not developed immediately. The model started to dive, but when at about three feet of altitude it levelled out and started to climb happily. With renewed enthusiasm further flights were carried out, each with a two-pellet charge, this time allowing the motor to burn for a few seconds to gain power before launching.

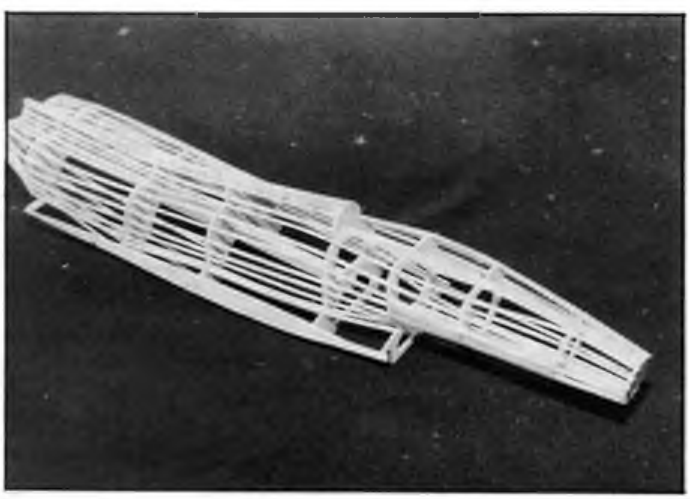
The model flew with a natural turn to the left. Power flights were smooth and the glides flat and floating. I have not yet tried the model using any of the newly-available motors, fuel or wick, but I am sure that will have to come soon, as my supplies are getting exhausted...

I am equally sure that no two EAP models will ever be exactly the same so trimming will have to be done carefully on a model-for-model basis.

Reference material for the EAP can be found in the October 1986 issue of Scale Models and in many current aeronautical journals.

One thing that building this model has brought to mind is that in the years since Jetex has been away from the forefront of aeromodelling, the change in jet aircraft design has been quite dramatic. Lots of new aircraft are really suitable for Jetex. Anybody fancy a twin?





Skycar

Calm autumn evenings ahead so build Ray Malmstrom's bright biplane for small-field fun

MOST AEROMODELLERS agree that a biplane has a lot of appeal, and it seems surprising that there are not more 'two-wingers' about. Maybe making two wings instead of one seems like work! But Skycar is a simple little job to build which flies well. A member of my club remarked that Skycar, with the bottom wing *that* low, must have a bit of the Handley Page Heyford about it. Well, he could be right; but whatever Skycar's ancestry may be, it is fun to build, and will do 'circuits and bumps' in any small field all afternoon long unless same tree embraces it, or some thoughtless cow puts its hoof (or something else!) on it. You will always be able to take your model home in one piece ready for the next session of flying fun.

You would like to join me in building Skycar? Then here goes. The plan is fairly self-explanatory, but perhaps some building and flying notes will come in handy.

Chop wood!

As with all small rubber powered models lightness is most important. Choose your balsawood carefully, and very lightly sand all the sheet before using. When tracing the basic fuselage shape onto 1/8in. sheet be careful to mark the top wing position. Cut out the fuselage. Form the propeller drive shaft from 20swg wire and insert it into a brass bush of the same gauge, cementing this into the nose slot. Fit a lightweight 6in. diameter plastic propeller. Cut out two nose doublers from 1/16in. sheet and cement either side of nose where shown. These lock the brass nose bush firmly in position. If you cannot get a brass bush a nylon thrust bearing will do equally as well, as long as it fits the 20swg drive shaft. Form the rear anchorage from 20swg wire and fit over fuselage where shown. Add a film of cement over the wire to fit it in position. There is no need to dope the fuselage. Cut the cabin piece from 1/8in. sheet, having traced in the lower wing position. If you wish (for he certainly perks up Skycar's appearance!) you can trace the pilot onto notepaper and colour him with fibre-tip pens. Cut out and fit him into the cabin aperture. Cover both sides of the cabin window area with *thin* acetate sheet, and cement the cabin piece to the fuselage. Reinforce the join with 1/2in. wide strips of tissue doped on.

Form the undercarriage from 20swg wire and insert into the slot at the front of the cabin piece. Cut two cover pieces from 1/16in. sheet and cement over the undercarriage slot, locking the undercarriage into position. The 3/4in. diameter wheels can be made from balsa, or you could use very lightweight plastic ones. The wheels are retained on the axles by close-fitting electrical tubing (from which the wire has been removed) or by a blob of cement or epoxy. Cut out and fit the skid into position.

Both the upper and lower wings are made in two halves. Be sure to set the root ribs at an angle; this is easily obtained by using the root rib jig as shown in the sketch. The wings are covered with lightweight tissue. Water shrink and then dope, using 50/50 dope/thinners. Please don't use full strength dope, otherwise that old enemy, warps, may turn up. At the water shrinking and doping stages, pin the wing panels, supported by scrap balsa blocks, to the building board (the blocks prevent the undersurfaces sticking to the board!). Assemble the wing halves to the fuselage, making sure they are correctly aligned. Use the upper and lower wing jigs as shown on the front elevation drawing. Finally cut two 1/16in. sheet struts, wrap with tissue doped on, and carefully fit in place. Take your time over this part of Skycar's assembly - it will be worth it in the long run! No doping of tailplane and fin, which are from 1/32in. sheet, is needed - just cement in place. And that's Skycar completed!

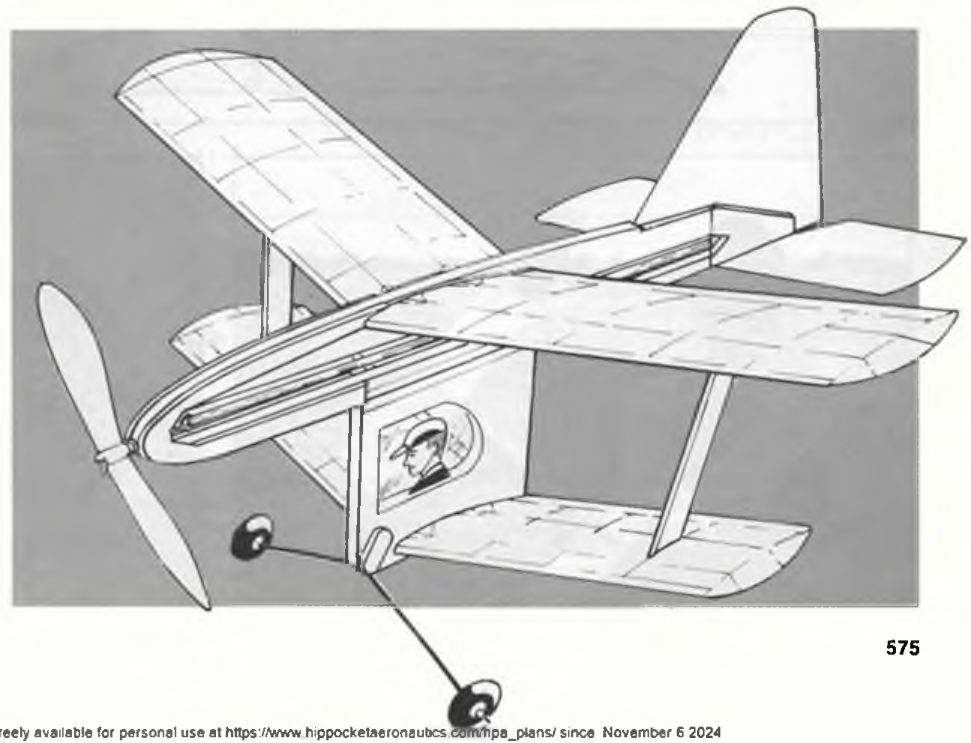
Finish and flying

Make up the rubber motor from a 42in. length of 1/8in. flat rubber strip. Bind the ends together with thread to form a loop, and get a friend to stretch the rubber to ensure a tight binding. Lubricate the rubber; no need to use anything fancy - castor oil, or even washing-up liquid will do! Hold the loop of rubber so that the join is in the middle, then pass one end behind the rear anchorage wire and loop both ends over the front hook.

Now carefully balance Skycar by tying a length of thread to a pin, pushing this into the top of the fuselage at the balance point shown on the plan. Skycar must hang level. Our own needed a very small piece of lead noseweight. This was concealed in the nose recess.

Choose a calm day and if possible long grass for glide tests. Our Skycar needed no adjustment of the tailplane to achieve a good straight glide. For power-on tests start by winding on about 150 turns. To counteract torque, the trailing edge of the fin needs to be turned about 3/32in. to the right (model viewed from rear). Gradually increase turns with each flight. Maximum turns are around 400-420. Incidentally, rubber strip varies considerably in its power output and the number of turns it will take, so it is worthwhile spending a little time experimenting with various kinds in order to get the best prop/motor combination.

All set? - then let's go fly Skycar!



16¾in. Skycar is quick and easy to build. Plastic prop shown on plan - or carve your own for extra zip!

FREE FLIGHT SCENE

Electric power for F/F competition? This and other matters discussed by Dave Hipperson

THE KNIGHT AND PRIDHAM electric motor unit was announced last month, but I was very lucky to have been presented with a pre-production unit by Derek Knight at the Nats. I have now had time to fly it. To be honest I could hardly wait.

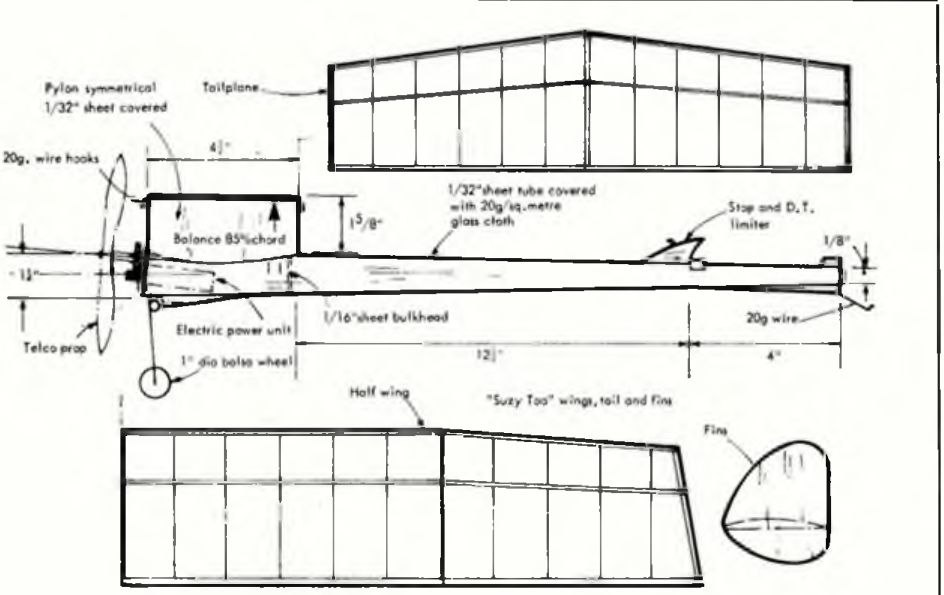
The unit comes complete with clip-on housing for three 50mAh rechargeable cells, the motor itself being geared down 4:25 to 1. With the Telco prop it weighs 32.5 grams. This makes it 50% heavier than a Turbo CO_2 unit but the power output is higher and more predictable. From a full charge the prop turns something like 4000 rpm, falling to around 3000 rpm after half a minute or so, then burbling on a bit for another fifteen seconds. That's on the ground; in the air things are somewhat different as I will come to later.

Charging up...

Included in the all-up weight is wiring and a charging socket. A suitable jack plug is supplied. Charging is best at one amp DC for three minutes. Any six-volt DC source can be made to supply this, ideally with a variable rheostat of 1-2ohms so that the level can be maintained throughout the charge. However, with a fixed resistance of around 1 1/2 ohms the charging rate is safe all the time and one simply has to wait rather longer for a full charge. Incidentally - it is recommended to stay within the charging limits in order to prolong the life of the cells. Prototype models have yet to need replacement after thousands of runs and recharges. For more performance the cells could undoubtedly be pushed further, probably to four minutes at one amp but the sacrifice would be a much shorter life.

Switch on...

The on/off switch, fitted integrally with the prop shaft, is a clever design feature. Pull the prop forward for 'on' and push back for 'off'. This helps to switch off the unit automatically should the model hit anything under power and prevents the motor being in a super-stalled condition and thus over-heating the batteries. It is recommended to leave the unit in the 'on' position when not in use to ensure that the batteries are fully discharged - the condition they most like apart from fully-charged - and also to take the strain off the switch contacts which are mounted on a simple spring plastic fork prised apart by a flange on the prop shaft behind the gear assembly.

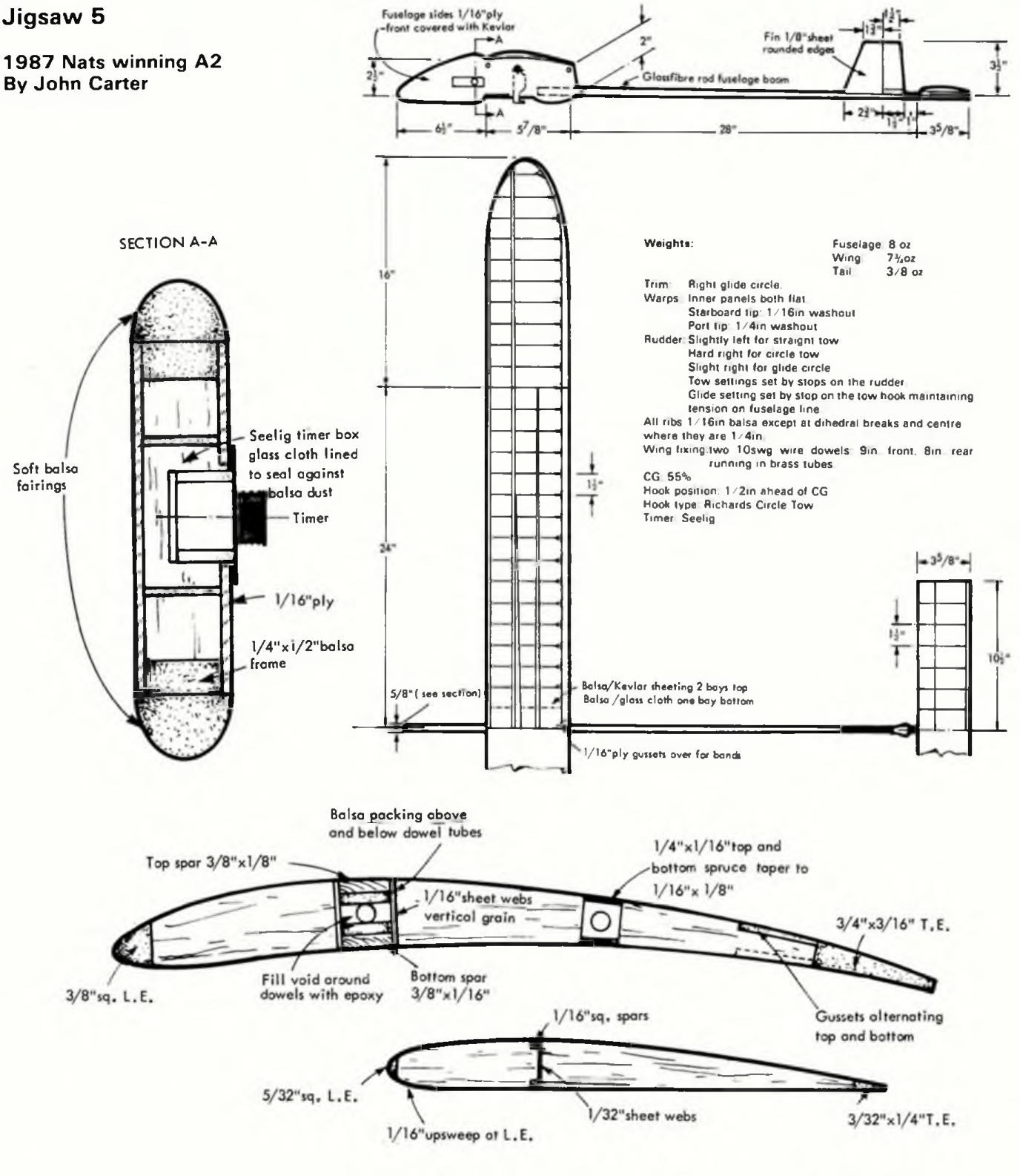


Electric Suzy

Above: The electric unit installed in the new fuselage. Note upthrust. Below left: Sue Hipperson holds Electric Suzy. Moment arm is slightly increased from original 'rubber' layout, but looks about right. Below right: The Knight & Pridham unit with socket and charging plug.

Jigsaw 5

1987 Nats winning A2
By John Carter

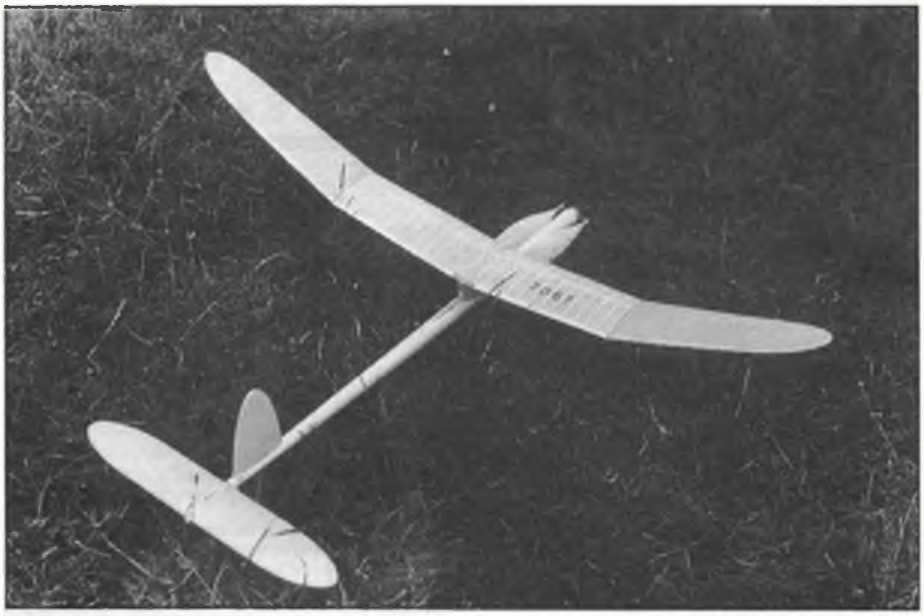


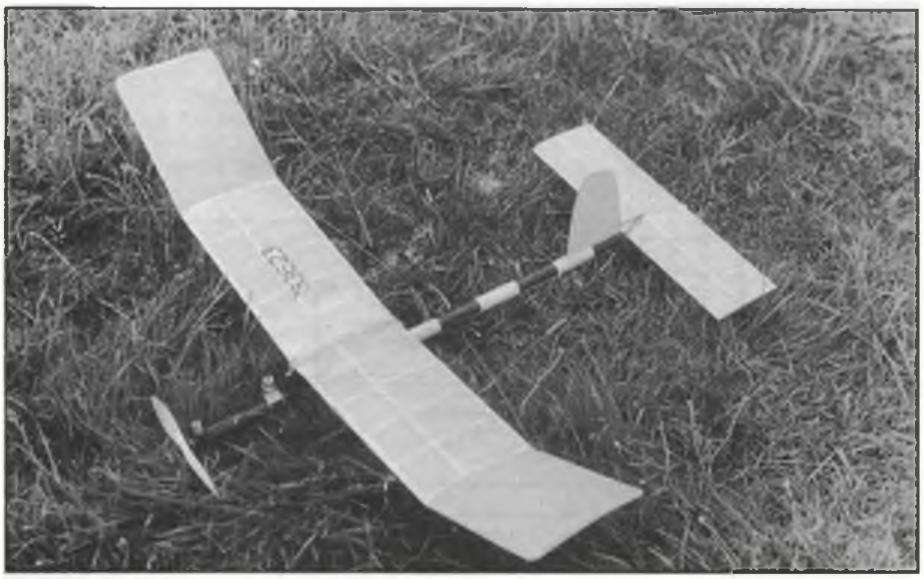
...and fly electric!

The test bed was a new fuselage coupled with existing wings and tail from the Suzy's Too rubber design published in the May '82 *Aeromodeller*; of course, this is virtually the same wing planform as my current CO_2 models. The fuselage was rolled from 1/32in. balsa over a Wakefield mandrel and then covered with twenty-gram-per-metre glass cloth doped on. The usual pylon arrangement was adopted in conjunction with a very short nose; as the tail area is so large I thought I could risk a rearward CG. Alas - I overdid it slightly. The single-wheel undercarriage complete with R/C type coil spring was added as much for appearance as protection. The AUW of the fuselage unit came out at 48 grams making the total model weight a little over 60 grams.

The motor needed a little 'up and left' thrust to obtain a safe right hand circle and glide - just like my CO_2 models. Initial trimming hops were carried out on very short charges of half-a-minute to deliver correspondingly short power runs - five to fifteen seconds, but still at full power! (Incidentally, in order to reduce power for trimming, if you are nervous that early flights might be way off, the simplest way is to remove a battery). I flew over long, soft, freshly-cut grass after glide tests had trimmed the model 'close enough' to avoid mishaps.

The power is enough to give a positive climb to an airframe of this size and weight. In the air the load on the prop is reduced so the drain on the cells is reduced and the run is correspondingly lengthened. Eventually, on a full charge, the model climbed steadily for forty-five seconds and then ran on for another half-minute or so at freewheel/cruise power.





Two models seen at the recent Oxford meeting. Top: This beautiful 'elliptical and tapered' Coupe d'Hiver by Neil Cliff took advantage of the Oxford calm for trimming; model looks promising. Above: Chris Strachan's CO_2 model was in trouble with propellant leakage from the engine.

Altogether this was a motor performance comparable to that of a CO_2 unit in the same model, although there is the penalty of greater weight. Recharging for three minutes gave just enough time to reorganise the model with new D/T fuse; it was certainly less fiddly than CO_2 and more reliable than winding rubber!

Production versions of these units come with a very useful moulded fitting template to facilitate cutting the necessarily complicated shape in the mounting bulkhead. A charge unit is in the pipeline; and if you are in a rush it is suggested that nicads with a suitable resistor could be used to recharge from one's pocket on the way back upwind. Indeed, plans are afoot to produce such a module with five two-amp-hour nicads in the near future.

Of course the idea of such packages is not new. You can read about similar production units in back copies of *Aeromodeller* as far back as the early 70s; but none has been so small and powerful as this. The claimed static trust of nearly 40 grams isn't bad from a unit of little more than 30 grams itself!

The Knight and Pridham motor comes complete with prop and full instructions for £19.50. It could make the basis of a very satisfactory introductory beginners' Duration class. The unit's advantages for Indoor Scale have been clearly illustrated by designer Derek Knight. I will be interested in hearing from others who use it with free-flight duration in mind.

Jigsaw 5 Open Glider by John Carter

John Carter himself would be the first to admit this is hardly a hi-tech aeroplane. However, it is tough and reliable and that wins contests, in this country at least. The line began in '71 with a Mick Reeves Humplehound. The first Jigsaw was similar with round tips, six-inch chord and a thick wing section. The next was built in '73 with square tips and lots of dihedral. This model still exists and is flown regularly. It retains its original straight-tow set-up and is kept for rough gusty conditions. The section was thinned a little for Mk 3; and Mk 4 with a flat-bottom tail but still with those square tips was the first with reduced chord - a whole 1/8th of an inch! This was also the first of John's models to incorporate a Richards circle hook. It was built in '84 and lost on a D/T failure at the '86 Nats. A short life; but because it had shown improvement in still-air performance the notion of increased span was extended, this time to parbolic tips, giving Mk 5, the model here, a much prettier appearance. The tail has very slight undercamber and is mounted on a somewhat longer boom increasing its moment by four inches. Jigsaw 5 flies for approximately 2:35 in still air. John reckons that to improve substantially on this would need a complete redesign, possibly incorporating a more 'modern' section. Understandably he is loath to depart from his trusted profile which was originally cribbed from one of John O'Donnell's A/2s after he was lucky enough to adopt a model for a few days after finding it in a downwind field. That was back in 1970. I believe John O'Donnell himself cribbed the section off Mike Burrows in a similar way almost ten years before that!

It's so easy with these two-piece wings - but it would be interesting to see how much the section now deviates from the original Burrows! Those O'Donnell gliders were two of the best-gliding models I have ever seen so there can't be much wrong with the section...

As a further advantage John has found that because the wing is of reasonable thickness it is easily possible to produce a stiff structure without recourse to modern wonder materials like Kevlar, glass and epoxy. Indeed, he has found that even their limited use on this model worked out as rather a heavy business so he has dispensed with them altogether on Mk 6. Of course, Mk 5 has gone now, having been lost way-up on that Nationals winning flyoff at nine minutes. It carried twenty-seven-minutes'-worth of fuse that night so John expects it may be waiting some twelve miles away! His flyoff at Easter, also clocked-off 'high up but disappearing' to win, eventually flew 30 miles to Marlborough; and when he won the Jack Kay trophy earlier in the year the model produced complete overkill for a flight of 13 minutes with no fuse at all. You can see how he loses them!

The wing turbulator is produced by liberally doping-on a dacron thread; when dry it is removed, thus leaving two closely-spaced sharp ridges. Although not affecting still air time John believes it does assist the model's thermal and turbulence-riding ability. The boxed-in timer recess is sealed with dope and glass cloth to try to reduce the chances of dust or grit entering to stop the timer - a problem which has bedevilled John in the past.

Contest flying with CO_2

CO_2 units, just like the electric system described elsewhere in this column, are excellent for sport flying. They are clean, quick to recharge, easy to start and run almost silently. It is only when we push them to their limits in contests that we discover weaknesses. Having flown this class since its adoption in '78 I think I have probably experienced just about all the possible combinations of failure. I don't intend to demoralise you further by listing them here. I now believe that it is

definitely a wise policy to trade off a little performance in return for reliability. The class becomes less tiresome that way; and the less you have to worry about the model the more you can concentrate on picking the lift. Perhaps even more important - you can enjoy flying.

I began achieving greater reliability at last year's Nats with the first contest outing for the Mayfly design. It would be worth looking up the March '86 *Aeromodeller* where I give the reasoning behind this model coupled with some useful flight preparation gen. I don't intend to go through that again. Since then I have made three major improvements which enabled me to win this year's Nats without a nervous breakdown; and positively to enjoy doing the same again at the Oxford meeting a few months later. I am quite convinced now that it isn't essential to have a special, super-hot motor. I have geared my system around stock Telcos which are used in all my outdoor models. (Admittedly I do have one freakishly good early Telco but this, up until now, has been kept for Indoor use only. When run at outdoor speeds it seems hardly any better than the off-the-shelf motors anyway). My stock motors are adjusted to run-off their charges in 60 to 90 secs, with an early burst which will climb the model positively for 30 secs or so and then a cruise which finishes up with hardly enough power to climb the model at all after about 90 secs. In lift this looks fabulous; in sink you don't max! I know Phil Ball had a remarkable Humbrol Shark which (I can verify) would deliver climbing power for over two minutes. That's gone now because he lost it in the Nats flyoff! On the other hand, Steve Philpott's Telcos seemed to be tuned to a state approximately equal to my best indoor motor which allows them greater efficiency on exceptionally long runs of three to four minutes at only slightly better than cruise power the whole time. Very impressive in calm and lift; but even he dropped a flight qualifying at the Nats. John O'Donnell would appear to have at least one Philpott-tuned unit in a similar model, also with great potential, but it landed with the prop going in the flyoff at Oxford...

I use the Turbotank set-up for contest flights, mostly for convenience and reliability. I know there is a weight penalty but there are less places from which the gas may leak, and it is essential to have confidence in a leak-free system if you are anticipating holding the model fully-charged for any length of time. On my last flight at the Nats I waited for 45 minutes with a charge before flying. You have to have confidence to do that. I have advocated Turbos for some time; this year's improvements were Tomy timers, folding props and spring starters.

Timers

I have said enough about these in past issues. It may be thought extreme to use them on models as light as these but in previous years I had trouble with inaccurate D/Ts. Just a few seconds more flight in strong lift with a CO_2 or CDH model can mean the difference between walking straight to it or never seeing it again. Precise D/Ts allowed me to catch two of my comp flights at the Nats and only leave the 'drome once, even in the breeze on that day. What is more, they don't need fiddling with at launch. Release can be instantaneous when you are sure of the air.

Folding Props

I have been playing around with these on test for some time but this was their first use in contest. Originally of course, they were the brainchild of Mark Croome and used for flying indoors. If single bladed they can never be out of track. They are arguably more efficient anyway but such an arrangement certainly enables a larger diameter to be used. For comp flights mine are 8in. dia by 8in. pitch. The blade has a small, two-gram inertia weight to keep things running smooothly. When static it is held back gently with shirring elastic. Centrifugal force then holds it out when running. Such props are even more efficient in the glide and very convenient onlanding - they don't break! All advantages - apart from learning the knack of starting the motor on a windy day. This can be a fumble but is not impossible - however, it gave birth to the third improvement...

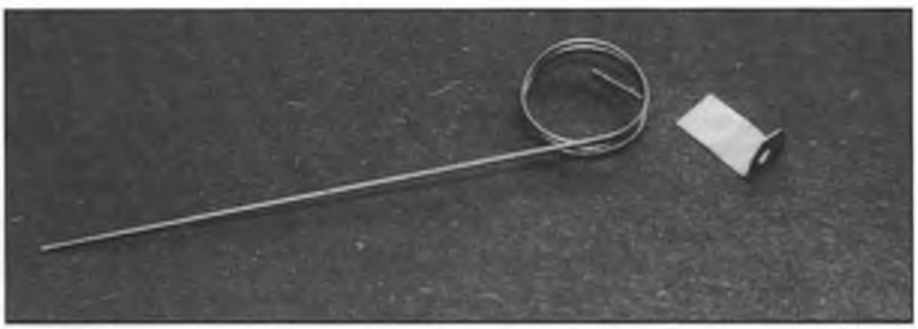
The spring starter

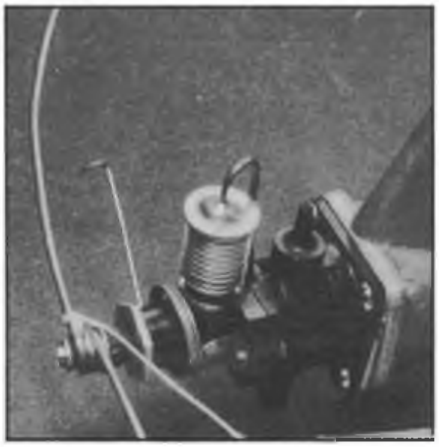
Cribbed from the idea that Cox and Davies Charlton used on some of their low-powered motors more than twenty years ago, this is a great convenience for CO_2. Even fixed two-bladed props can start backwards, fouling up all that pre-launch routine you have so carefully practised; that's if you can get them to stop again without bending the shaft or loosening the prop. Even worse, it is possible actually not to notice and launch with the motor running backwards - very embarrassing. As my trim uses a burst of initial power it is wasteful to have to flick the motor over then change hands to launch. Hurrying this operation is as like as not to have you launching cross wind or putting a hand in the prop. The starter spring allows you to launch the model as the prop starts, saving further gas. (There are no plans for timer-actuated delay-prop-start, although it has already been suggested!). The spring system is four coils of 22 swg wire soldered to a tiny piece of five-thou brass shim which in turn is held onto the engine by a mounting bolt. The loose end is bent around to catch the counter balance arm of the prop; although it works just as effectively on the edge of the blade itself the trailing edge will suffer wear after repeated use. The prop is fitted so it can be pulled around half-a-turn through bottom dead centre against the spring and held with the left hand as you would a rubber model prop. As long as you have a motor that runs off quickly and doesn't cough and splutter for too long then the prop can be released as the model is launched.

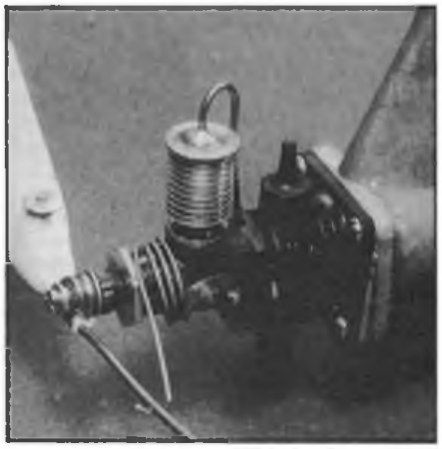
So with a tiny timer (3 grams) replacing the fuse, a Turbo unit on which you can depend and a folding prop pulled back against the release spring you can wait for lift indefinitely and can fly instantly with no power loss - the only class in which you can do this, as even HLG needs a run-up!

Having said all that, the flyoffs at the Nats and Oxford were made with a different model which was built in '79 and has been waiting all this time for suitable conditions. It is slightly larger but lighter than the Mayfly but with the same Bene 7406f section and with a standard tank for weight-saving. However, the motor is once again hardly exceptional; it delivers slow-climbing power for perhaps 45-60 secs then continues at varying rates of cruise for up to four minutes. This is most impressive in any lift but is unlikely to be better three minutes in still air. Although this model is not equipped with a timer it does use a folder of 10in. dia. and 10in. pitch, once again spring started.

CO_2 spring start gen. Below: All there is to it! Bottom left: Starter ready. Bottom right: Counterbalance arm has been engaged and prop swung half-a-turn to the release position with blade extended.







Morley Finlux Mini Meeting: Heath Common, 12th July

The Morley-Finlux meeting is a light-hearted affair held on a very small and irregularly-shaped public common used by the host club for trimming on calm evenings. The classes flown suited this. Dart Power attracted a very good response considering that this is about the only event at which the class is flown. I had forgotten the gentle power of these DC 0.5cc diesels. The climbs from most models were perhaps only a little faster than a zippy CO_2 model.

Without rounds and with only three flights in all classes apart from HLG, it was possible for many to fly in two or more events despite the breeze of 10 (occasionally 15) mph that took most decent flights into crops. Models landing in these invariably sat on top of the closely sown and very stiff green corn and were thus easy to spot from a distance and to retrieve down the tram-lines. However, a more distant field of golden oats claimed a number of models including Tom Chambers' Vintage model and, probably, Chris Strachans' Dart model (after a long first flight).

It was surprising not to see a perfect score in CDH. This left O'Donnell, A/1 full house topping this combined event easily. It may have been the Davitt pair leaving their appearance in this class rather too late that had a bearing on the matter. Both their first flights, taken from the brow of the hill late in the afternoon were soon in tremendous lift - Ian's not descending at all even after a very prompt D/T. Thus ended their scores for the day; and although Dennis did manage to locate his model Ian's wasn't found for some weeks - six miles away!

Despite good flights from his very neat P30 John O'Donnell had to settle for 2nd place this time, behind Joyce Joiner who came very close to three maxes. The only class to require a fly-off was Silent Vintage. This had been limited to models up to Wakefield size for rubber, but there was no restriction on gliders. It was still rubber models that filled the finale, although only Tennant used a Wakefield, the others opting for lightweights of less than 34in. span. Doubtless Strachan would have contined with his brand-new very well-finished Yankee 4 had it not suffered extensive handling damage after being found on the last flight by a member of the public who had obviously 'waved it about a bit'. Chris was therefore down to his Buckeridge - some would say the 'Lanzo of the lightweights'. Gordon Beal flew what appeared to be a similar design and Hipperson entered one of a pair of ten-year-old Bazookas. The latter pair hopelessly mistimed their launches after waiting right through the period and thus had to be content with bottom places - Strachan suffering further when his model didn't get away in the swirl resulting in the frail fuselage becoming substantially concertinaed. Doug Tennant's flight was taken early and looked the winner until Gordon Beal's flight which caught the lift so narrowly missed by the other two.

A high-spirited prize-giving was held in the evening sunshine. Worthwhile prizes were distributed amongst the assembled contestants who had taken the whole day's affair in the light-hearted way intended. Even Hipperson and Strachan cheered up when this discovered that not only did they have prizes too but there were also Finlux hats and ties which the pair had to wear whilst numerous amused officials of the Morley Club took photographs. What the various members of public passing through must have thought one can but wonder! *(Let's see some of those photos ... GC).*

Were it not for meetings like this, July and August would be very barren months for domestic contest flying. Sometimes I think we are over-cautious and are too easily put off by the threat of crops - after all, not every field is cropped at this time of the year; and it isn't always windy.

Morley-Finlux Mini Meeting
Heath Common, 12th July

Combined CDH and A/1 (3 x 2 mins. 10 flew)

1. J. O'Donnell	6.00 (A/1)
2. J. Dyer	5.32 (A/1)
3. N. Auckland	5.32 (CDH)

Vintage - up to Wakefield size (3 x 2 mins. 8 flew)

1. G. Beal	6.00 + 3.18
2. D. Tennant	6.00 + 2.17
3. D.Hipperson	6.00 + 1.18
4. C. Strachan	6.00 + 0.03

Dart Power (12sec run - 3 x 2 mins. 5 flew)

1. R. King	5.27
2. P. Thorpe	4.46
3. R. Hall	4.30

HLG

1. N. Auckland	271 secs
2. R. Dyer	109 secs (top junior)

P30

1. J. Joiner	5.52
2. J. O'Donnell	5.33
3. D. Davitt	5.09

Overall Rally Champ and holder of Finlux Trophy: J. O'Donnell

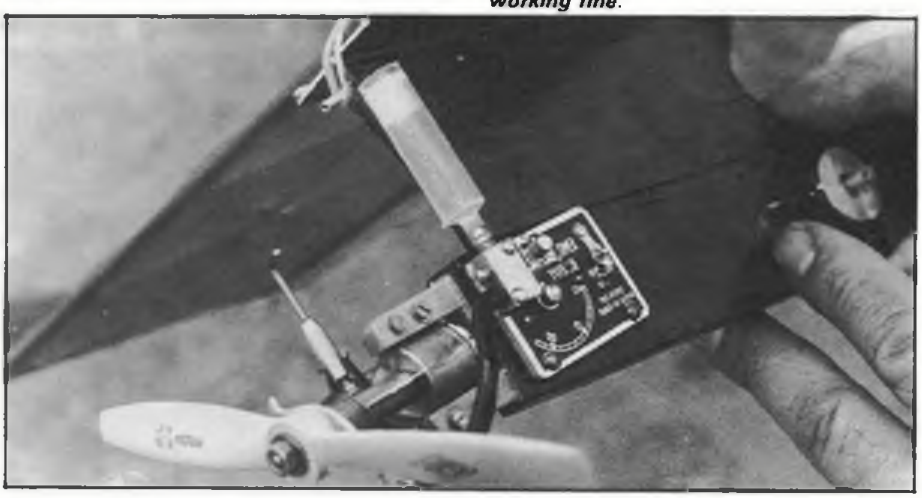
SMAE What's Happening

13th September: Northern Gala at Driffield. Open Glider for CMA Cup; Open Rubber for Caton Trophy; Open Power for Hamley Trophy. contact: D. Davitt on 0532 675433.

27th September: 6th Area Event at Area Venues. Open Rubber for Plugge Points and Farrow Shield for Teams of three; SMAE Cup for F1A.1/2A Power (no trophy). Contact Area Comp Secs or SMAE Comp Sec. K. Watson on 0533 412368.

Special note: The FFTC have negotiated a date and venue for the Southern Gala. This will now take place on FRIDAY 18TH SEPTEMBER - yes, a Friday - at Little Rissington. The following F/F-only events will be flown: Open Glider for Pilcher Cup; Open Rubber for Flight Cup; Open Power for Short cup; A/1 for Ripmax Trophy; 1/2A Power for Quickstart Trophy; HLG and CDH (no trophies). contact Paul Ball on 0332 665361. short notice we know but this confirms last month's Stop Press announcement.

Top of page: It can't be that funny, Pete! Pete Farrimond holding John Dyer's A/1 - 2nd in combined event with CDH at Oxford. Above: Pete Thorpe's Dart Duration design was second at the Morley-Finlux Mini Meeting. Below: Close up of front end of same model. Note considerable downthrust and syringe tank which is a push fit on the fuel inlet of cut-off valve. Who remembers those lovely KSB timers with the cut-off valve? This one is still working fine.



READERS' LETTERS

Farcical F1J?

Dear Sir,

In his report on the CIAM meeting in your July issue, your correspondent reported that one of the proposals did not appear to have been well thought out. I would suggest that this comment would apply with equal force to the provisional rules for the new F1J Power class, and in particular to the extremely low loading of only 160 grammes.

I realise that this was chosen to conform to the US 'Half A' class, but that just does not appear to be a good enough reason. It should be borne in mind that we are not talking about stock .049 engines, but highly developed Ice motors which will be used as the class receives international acceptance. With one of these up front a 160 gram model would be just about out of sight in seven seconds. Flying to two-minute maximums would be little short of farcical, resulting in multiple fly-offs which could go to five minutes or more; and that is definitely not 'Short Field' performance. I would have thought that 300 grams would be an absolute minimum for this event.

Jim Fullarton Melbourne, Australia

(The new F1J class will shortly be the subject of an Aeromodeller forum. We have asked a number of Power enthusiasts for their design thoughts and look forward to presenting the results. GC).

The more the merrier

Dear Sir,

I write with reference to Dave Hipperson's recent comment in 'Free Flight Scene' questioning the two-and-a-half minute max and suggesting that contest directors should lengthen this in order that the contest should be in the day, and with not many qualifiers in a mass flyoff.

I think this approach is wrong for although it may be a harder test of flying consistency, it also turns the event into one of athletic ability of the individual as well as a test of building and flying model aeroplanes.

Is not one of the problems of our hobby that we do not bring in the younger generation? Are we now looking to work on the other end of the age bracket and start to whittle them away too? Sometimes one wonders if more participants are really wanted!

I enjoy my days on the contest field and enjoy watching the top performers' models fly; and I endeavour, like everybody else, to achieve the best placing I can.

I have been modelling for forty years with a ten year break, restarting in the late 70's; and I get much pleasure from a day's flying particularly when achieving a place in the flyoff. I also notice that there are others coming back to the hobby after many years and I am sure they want to fly competitively but they are not particularly looking to be cross-country runners, entrants for the Tour de France or indeed to be spending long periods off the flying field searching for their models.

Could you, Dave, be losing sight of the pleasure that so many get out of this hobby of ours in search of competitiveness for a central core of skilled fliers of great ability and agility?

In my opinion, let's make it a pleasant day on the field with a sense of achievement for a place in the flyoff and enjoy these flyoffs in the early evening. Let people of all ages and ability have the chance to go home with that warm feeling that even if they did not place, they reached the flyoff; and let's have the sense not to drive off the older members who are perhaps not quite as fit as they used to be and as they would like.

This hobby and its contests are not, hopefully, for an elitist group. I would hope it is for all of us and that we do not have to retire from it too soon.

If we are looking to make things harder to achieve, why not eliminate from the open contests the use of thermistors which have nothing to do with the skill of the builder and flyer. It really is getting quite ridiculous. I was recently standing between two people at a contest when one requested the other to switch off his radio transmitter (which he was using to locate a model after a four-minute flight) because it was interfering with the thermistor and wind speed indicator of the other!

At this same meeting I spoke to three dejected flyers who had dropped flights with quite respectable times and another quipped to me when I asked if he was going to fly in open rubber 'You must be joking. My rubber model is not capable of four minutes'. That same model had put him in the flyoff for the Gamage Cup two weeks earlier.

Dave, you do a great deal for this hobby of ours and organise fine contests but I think you have got it wrong this time; maybe not for the few but in my opinion for the majority who enjoy a good competitive day out with a finale which on a nice evening is a spectacular flyoff.

I do not suggest that the success of the contest is measured by the number of people in the flyoff, but it most certainly gives a lot of pleasure to those who both achieve it and watch it. Do we not pursue this hobby to enjoy it; and is it not for the whole instead of a hard core of much-to-be-admired experts whose performance we all endeavour to match?

May I suggest a good look around at the flyers at the next contest to see their average age and to consider what the next ten years will produce before discouraging the present contest populace...

Ian McDonald Wellsbourne, Warwicks

Rapide remembered?

Dear Sir,

I was more than a little surprised to see the photograph of Dennis Morrissey's Dragon Rapide plus my own model (from if I recall correctly, a Model Aircraft plan) in the foreground taken at the first exhibition of models of the Crewe and District MFC in 1953. (Mine's a Double: May Aeromodeller). I have two other photographs of the model taken when attempts were made to fly it at a NW Area meeting (unsuccessfully) and I know it was exhibited again in 1954 but I have no further knowledge of its career. For two Mills 1.3s it was rather heavy; it was well gloss painted as can be seen in the photograph.

I am writing to Dennis who now lives in Leicester – one never knows, he may still have it as a memory of his youth. In 1953 he was a mere 18...

Charles Holwood Nantwich, Cheshire

Radio wreckage

Dear Sir,

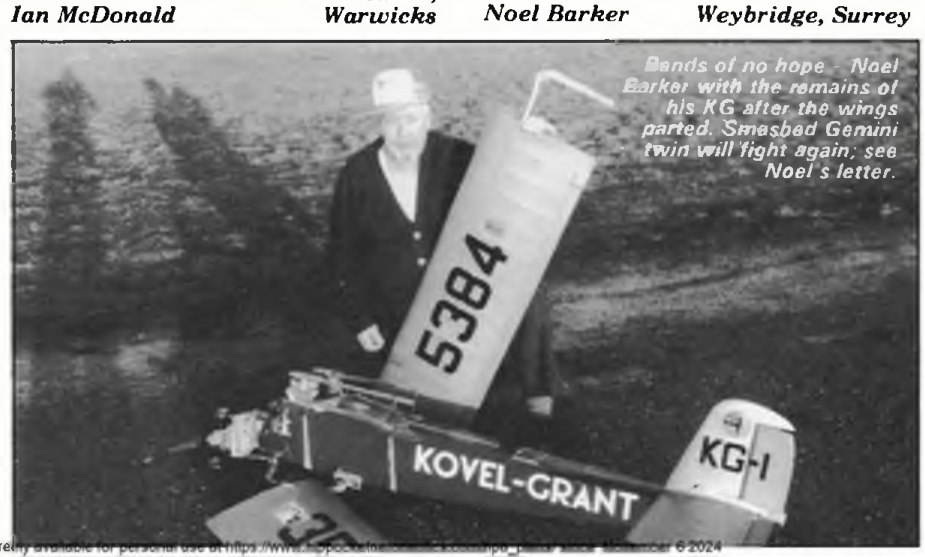
The recent article 'Those Radio Times' by Peter Shenter struck a familiar note when I read it!

Several years ago, my old 8ft. version of the Scientific Commodore (often mistaken for a Mercury IV) flew F/F into an adjoining field at Halton during an early SAM meeting. It landed amongst some very inquisitive heifers who promptly trampled on most of the parts they didn't try to eat! I have some photos of the remains but these are firmly glued in the album. As to the other business of 'rubber bands' I enclose a photo of my old KG following wing collapse due to weak bands.

The main problem here was twofold: radio fitted and a new Gemini four-stroke. First flight with the additional power plus radio – all on a windy day when F/F would have been ill-advised – I didn't think to check for more powerful bands. Result – wing halves drifted apart; one went up and other went down. Very disappointing, since the flight (the first with R/C) had been all one could wish for up to that point. The Gemini was practically written-off but thanks to Irvine Engines is now ready for when my APS Goliath is completed.

Oh well – I should have known better...

Noel Barker Weybridge, Surrey



Bands of no hope – Noel Barker with the remains of his KG after the wings parted. Smashed Gemini twin will fight again; see Noel's letter.

MIND THE LINES

News of a Brazbazon restoration and more besides. Ron Prentice reports

Most famous of the model Brabazons - Peter Holland's ten-footer is being prepared for a 1951 Wembley flight. Pete Latchford, with assistance, tops up the tanks.

WHEN DRIVING along the M5 on my way to flying meetings I always notice the end of the main runway of the old Bristol Aircraft Company at Filton, near Bristol. Of the many famous aircraft that have left that tarmac for their maiden flights, the one that sticks in the memory of most of my generation is surely the Bristol Brabazon. This beautiful eight-engined aircraft which was named after one of the founders of aviation in this country, Lord Brabazon of Tara was famous as the largest landplane built in this country. It was unfortunately underpowered and being unable to compete with newer, more compact jet-powered aircraft, was eventually scrapped. I recently listened to a radio programme about the Brab and was amused to hear that some of its main landing wheels had been discovered fitted to a farm wagon somewhere in the County of Avon.

In 1949 Frank Came, a young aeromodeller and ATC member who lived in Salcombe, visited the Farnborough Air Show and, thrilled by the sight of this majestic aeroplane. As soon as he arrived home he started to draw up plans of a scale control line model of the Brabazon, based upon three-views published in the aeronautical press. To power the proposed model he purchased four 'Super Hurricane' 2cc diesels from Roland Scott's shop in St. Helens, Lancashire. These motors, which were advertised in *Aeromodeller* between July and September 1949, were announced as 'A new and amazing 2cc engine'. They were, I believe, produced by Aerol Engineering Co., the makers of the Elfin series of engines, as part of an export order which failed. They were purchased by Roland Scott as a job lot and sold as Super Hurricanes.

In time the model was completed, but never flown. Eventually it ended up in Mr. Came's loft.

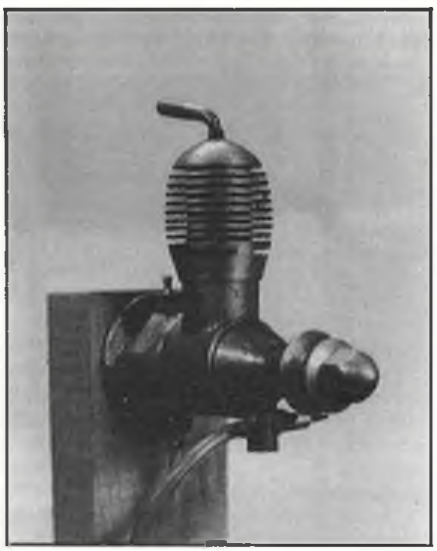
Some 38 years later, Mr. Came, who hadn't modelled since the early 50's heard that SAM 35 Membership Secretary Les Duffy was looking for aeromodelling memorabilia of the vintage period. He offered the rather tatty remains for sale and Les purchased them. In the course of time Les stripped off the old covering, repaired the rather brittle structure and recovered it with silver Solartex. Knowing that the Super Hurricane engines were rather rare, Les decided to replace them with two modern glo motors and make the other two nacelles into dummies with their propellers rotating in the slipstream. The Super Hurricanes, which have only been bench run from new are, of course, collectors' items. One has been sold to SAM 35 Chairman Gordon Counsell, another was exchanged for an Owat 5 diesel; Les has kept one for himself and I was fortunate to be offered the fourth.

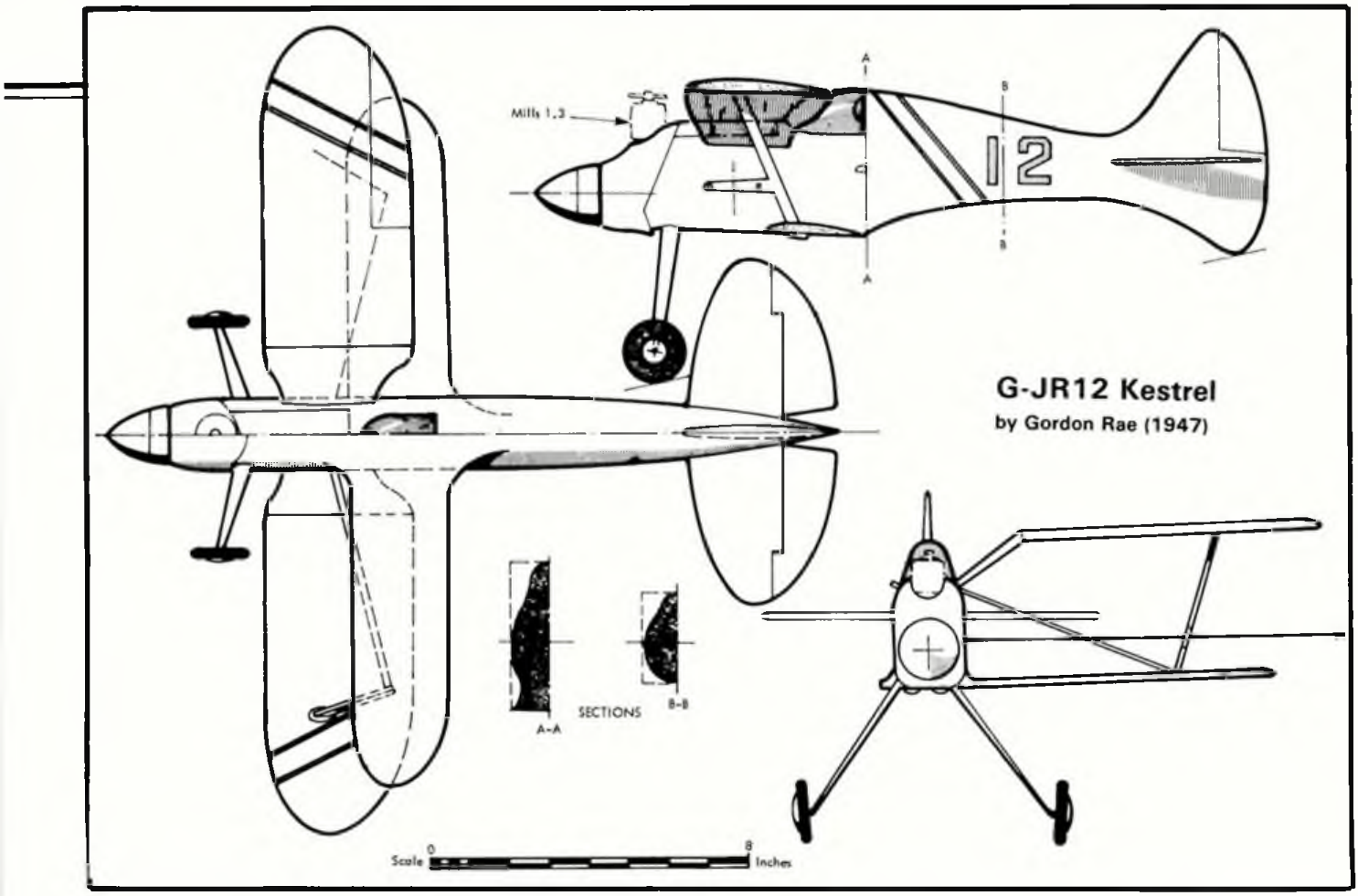
At the time of writing, the Brabazon still has not been flown. Les cannot summon up the courage to get the lines out and have a go! Of course Frank Came's model was not the only Brabazon made at the time. The most well known was that made by Peter Holland and demonstrated at Wembley Stadium and the South Bank Site during the Festival of Britain in 1951. This model was ten feet span, weighed eight pounds and was powered by four Elfin 1.8 diesels. It featured a retractable and detractable undercarriage with operating brakes. I was not fortunate enough to see it fly, but it must have been quite a sight!

Letter and projects

One of the pleasant things about writing this column is the resulting correspondence from all over the globe. A recent letter from Jeffrey Currie of Surrey Hills, Victoria, Australia, mentions that the vintage C/L scene is gradually awakening down under. He says that a local club recently ran a 'Fly for Fun Day' at which everyone had a really great time. Among the models shown and flown was a Bob Palmer Smoothie, two All Australian, three Hearns Hobbies Demons (I am not familiar with the last two designs; perhaps Jeffrey can be persuaded to send us some photos); a pulse jet powered model and a Mercury Monitor, complete with inscription on the rudder, 'Alright you bar-studs, where's the bloody beer', attributed to Henry J Nicholls, the gentleman himself being shown in a small caricature portrait. Only one fellow used a vintage spark ignition petrol engine in his model; make and details not to hand, but it was a very smooth flyer. Altogether there were at least twenty models involved and it is hoped that interest will increase to the point where flying competitions can be

Frank Came's Brabazon as restored by Les Duffy. Twin glow engines have replaced the four Super Hurricanes originally fitted, an example of which appears at right. To be accurate, that registration should be G-AGPW.





In February's Mind the Lines we featured an attractive Mills 1.3 powered bipe by Gordon Rae. Drawings of this model, the Kestrel from 1947, now appear for the first time. Original model still exists, and was shown at the M.E. Exhibition two years ago. Yellow wings and tail, and red fuselage made this a colourful sportster. Note the slightly trimmed Mills cooling fins. Are there any more Vintage C/L own-designs out there?

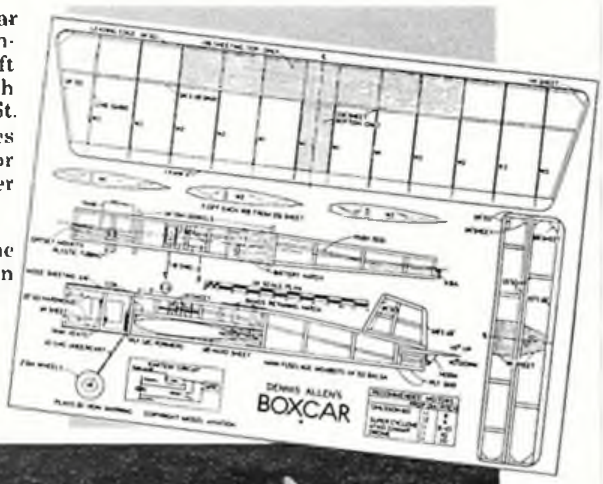
held. Keep up the good work Jeffrey; perhaps we shall have an Australian team participating at Old Warden and the Nats some time!

I was intrigued by the above statement attributed to HJN and phoned the gentleman to check on its validity. Henry confirmed that he did make the remark; indeed he knows the model concerned. The caricature was drawn by Monty Tyrrell of Melbourne.

My latest model, as yet untried, is a fully authentic reproduction of former West Essex clubmate Dennis Allen's Boxcar. Variations of these strictly utilitarian models were used by the majority of the West Essex flyers and were generally considered to be expendable. In those early days of stunt crashes were inevitable and in the event of a mishap, the model was simply scrapped and any useful remains incorporated into another machine. These lightweight stunters, weighing about 28/30 oz. and with a wing area of roughly 360 sq. ins. were mostly powered by Ohlsson 60s or Super Cyclones running on spark ignition. The power unit of my model is a Madewell 49 sparkie which I bought from American vintage enthusiast Danny Sheelds when I met him at the Nats a year or two ago. Although not as powerful as a Super Cyke, it is more than equal to an Ohlsson 60 and I'm hoping for great things from it!

Finally this month I should like to mention two events to be run by the South Birmingham MAC. On Sunday 18th October a vintage control line rally with fun flying and competitions to SAM 35 rules will take place at the Rubery Hill Hospital Sports Ground, Rubery, near Birmingham. The other event is a non-flying one, a vintage model aircraft swopmeet. This takes place on the 15th November, starting at 12 noon at St. Brigid's R.C. School, Frankley Beeches Road, Northfield, Birmingham. For details of both these events contact Peter Martin on 021 459 5520.

Watch out in my next column for the first of two articles about Mr. Stuntwagon - Hal de Bolt...



Your columnist's latest is this Boxcar, a classic West Essex deisgn by Dennis Allen. A vast amount of sidethrust was specified for this 'expendable' model.

SCALE MATTERS

Full-size G-AFSV in Roy Nerou's garden!

Chocks away for Chilton chatter – and more besides. . .

SOME INTERESTING correspondence arose after publication of the Chilton DW1A conversion feature in April's Scale Matters Special. First we heard from R. Bruce Porteous, who told us:

'The picture of Chilton 'FSV' on page 224 of the April edition of *Aeromodeller* caught my eye. Not, as you might think, because the Chilton is such a pretty aeroplane, but because my father, Ranald Porteous, is sitting in it.

'As you probably know, four Chiltons were originally built. The prototype, G-AESZ first flew in April 1937; it was followed by G-AFGH and G-AFGI, and the DW1A G-AFSV with the Train engine. While 'ESZ is now defunct, having been written off in a crash in 1953, the Carden Ford engine, radiator and propellor still survive. These will be built into a new airframe for which the registration G-BDLV has been reserved.

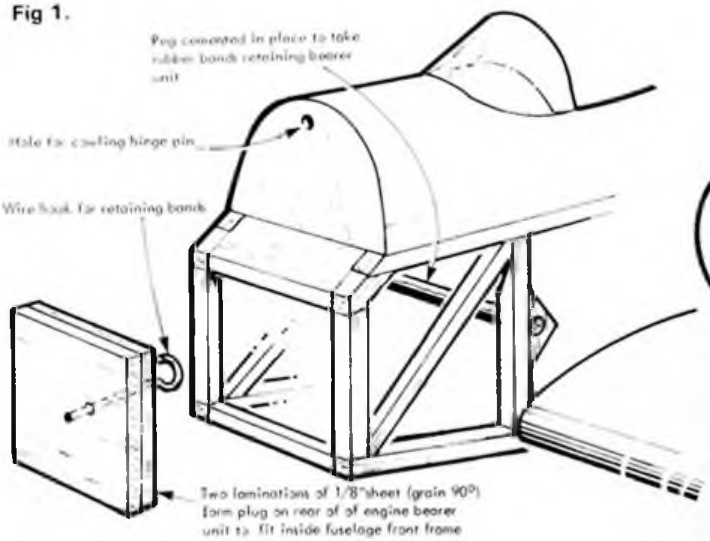
'FGH and 'FGI are, to the best of my knowledge, still flying. 'FGH used to be my father's personal mount and we still have one of its propellors hanging inside the front door. 'FSV should soon be flying again in its 1939 condition with a Train engine following a re-build. As far as I know the finish on the spats was left as natural metal, at least while it was raced. This machine also once held the International 100km closed circuit record for its class after being flown by my father in August 1947 at Lympne. Finally, another DW 1A has been built in Canada with the registration C-GIFF. Unfortunately I do not have any details of this aircraft.

'I hope this letter has been interesting, if not actually useful. As you see, there is no shortage of prototypes for the modeller wanting to build the Chilton.'

Actually, Chilton G-AFGH is currently the only airworthy example of the marque. 'FGI is being restored, as is G-AFSV, the subject of our article, which is owned by Roy Nerou. Roy himself put pen to paper to tell us of progress on this craft...

'I enjoyed reading your Chilton conversion article in the *Aeromodeller*. I own G-AFSV having swopped her for Comper Swift G-ABUS in 1978. As you say she was hardly recognisable as a sleek Chilton; however, after a lot of hard work I hope to have her flying again towards the end of this year and you will be pleased to hear that she will have been restored exactly as per the published photos. I spent years searching for an original Train engine in France, and last year I finally collected a second such engine from Orleans so that will help with the spares situation. I have restored the airframe and of course she now has her original

Fig 1.



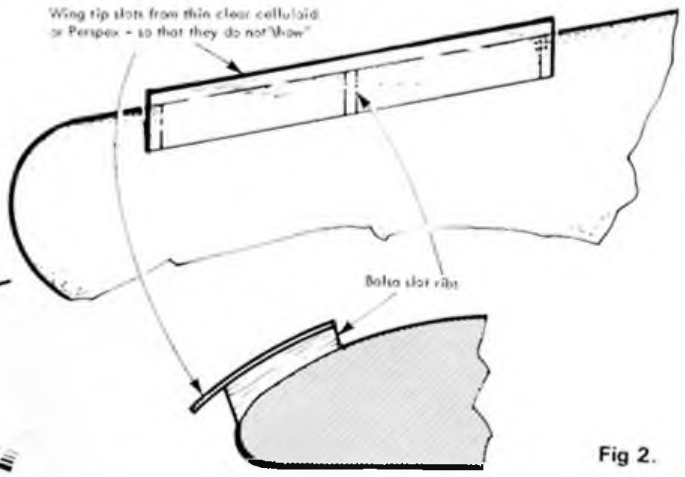
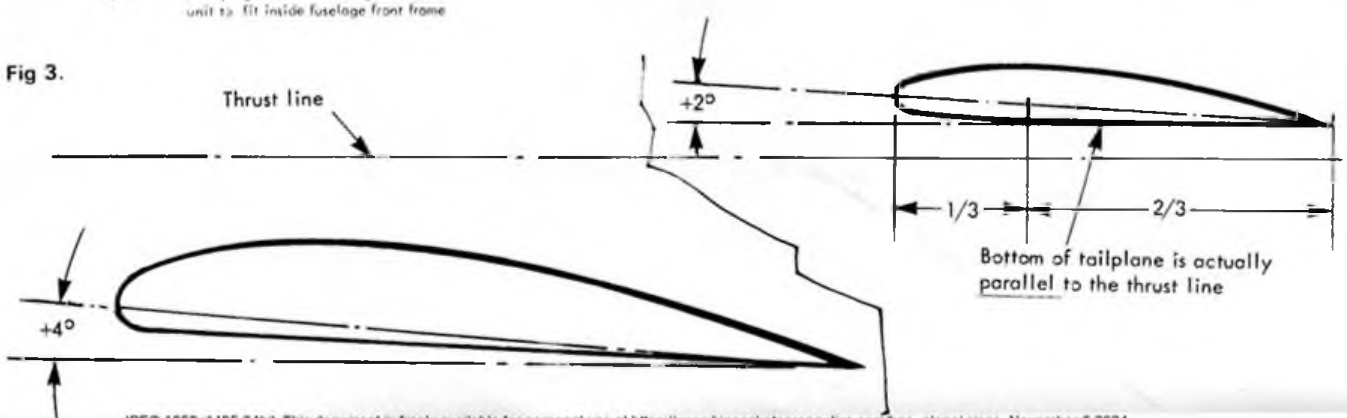


Fig 2.

Fig 3.



undercarriage fitted. The new cowlings were made by a friend (and aeromodeller) from Nuneaton, Ted Gauntry. She had her first engine conversion back in 1952 so I feel sure she will create a lot of interest when she appears again after 35 years in her original configuration.

'I am an ex-aeromodeller myself. It always seemed a natural progression to me to carry on to the full size versions. The Chilton has always been my first love after reading about it in the 1955 Aeromodeller Annual. By coincidence I have also owned other aircraft mentioned in that article, Klemm L25 G-AAHW, Aeronca 100 G-EAVS and Dark Kitten 'EXT which is now flying again. I think Mr G A Cull who wrote the article had a soft spot for the Chilton as he managed to include three photos!

'I also remembered a letter that John Greenland sent me about his prototype Chilton some years back. In it he mentions fitting slots that are not shown on the *Aeromodeller* plan. Incidentally, I think John has now retired — or is about to — as he's recently bought a place near Bath. I'm currently flying Piper L-4 G-AHIP which should make a good camera ship when 'FSV takes to the air. Best of luck with 'FSV junior!!!'

John Greenland's letter to Roy, written in 1979, contained the following information (refer to diagrams):

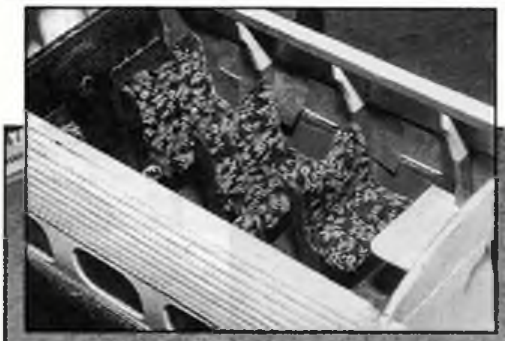
'I am delighted to hear that you are going to build the Chilton model from my plans. I hope it flies well so that you will still speak to me afterwards!

'It is thirty years since I did that one for *Aeromodeller* and I still have the model, somewhat dusty and tatty but intact. I have a copy of the drawing here and have just had a look at it to refresh my memory. I cannot vouch for its absolute scale accuracy, as I think I scaled it up from a 1/72nd drawing and some photographs.

'The tailplane is enlarged in area and has a lifting section. I remember that it originally had a scale tailplane and the performance was very erratic. The leading edge slots at the wing tips are very important; without those it shows some vicious tendencies to say the least! I would suggest that you build it as light as possible (lightening holes in the ribs etc.) without weakening the structure. A .5cc engine is just adequate to power it without giving torque problems.

'I tried a pendulum operated rubber without success. It flew very well in the final form as published but a small lightweight radio control unit on rudder and elevator would be an interesting development.'

It is fair to report that as modified for our feature, with wider-chord wing tips, the miniature 'FSV has shown no undesirable characteristics! And just to complete the full-size story so far we should add that the remains of the little-known two-seat version, the DW 2 (construction of which was halted by the war) were rediscovered three years ago. Hopefully restoration will take place...



Above: Super outdoor model on show at the Indoor Scale Nats was Doug McHard's red and yellow Stinson-Reliant Airliner. Model subsequently aired at our Scale Weekend. Below and inset: David Baxter's APS Hannibal.

Hopeful Hannibal

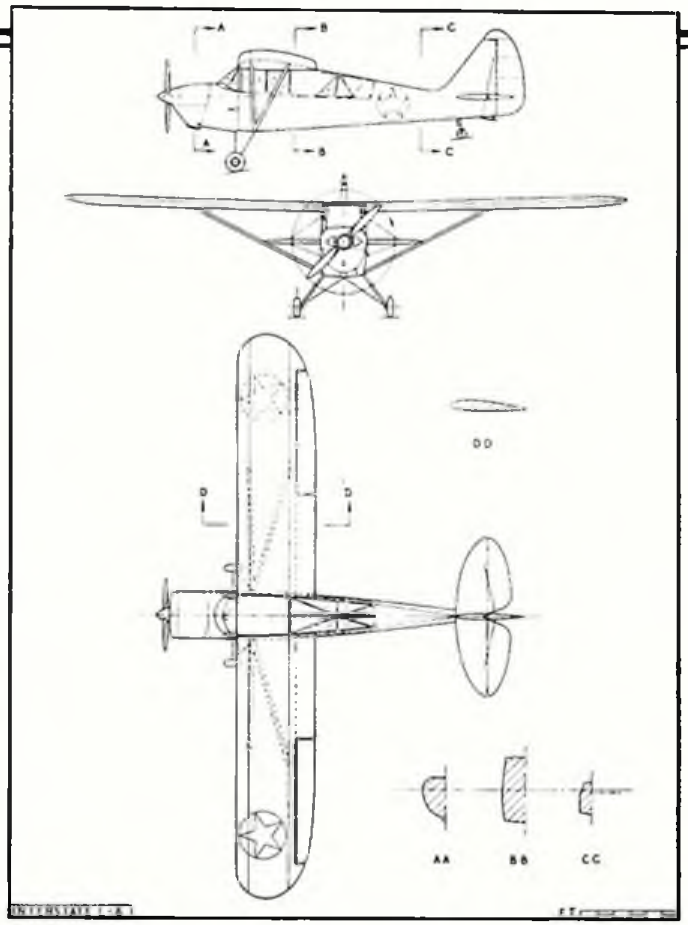
One Plans Service subject that always causes newcomers to the Handbook to stop and gulp is our APS Hannibal, sixty-six inches of struttery and corrugation originally published in 1955. Hardly a beginner's model, the HP42 demands care from modellers who know what they're doing. Down in Southampton, David Baxter decided to have a go; the results so far appear in the photographs. In particular, we note the furnished cabin complete with tissue curtains and foam rubber seats covered in a velour material. Very tasteful! Much photographic help came from Harry Frazer-Mitchell of the Handley Page Association but the cockpit layout still awaits confirmation.

'Two DC Merlins are expected to power this airliner from the '30s and pendulums — as per plan — may be fitted. Has it been a difficult project so far? Over to David...

"The Plans Handbook says "Here's a challenge!" and how right it is!' Not from the constructional point of view, as the model really is quite straightforward to build — it's just that there is so much of it! Two tailplanes and elevators, three fins and rudders and a biplane to boot really add up to a lot of building time. The construction of the model is now virtually complete with only the main struts and details — dummy engines, for example — to be added.

'Having been modelling for about 35 years now, I can say that this model has been one of the most challenging to build!'

A brave effort, David. Keep us informed!

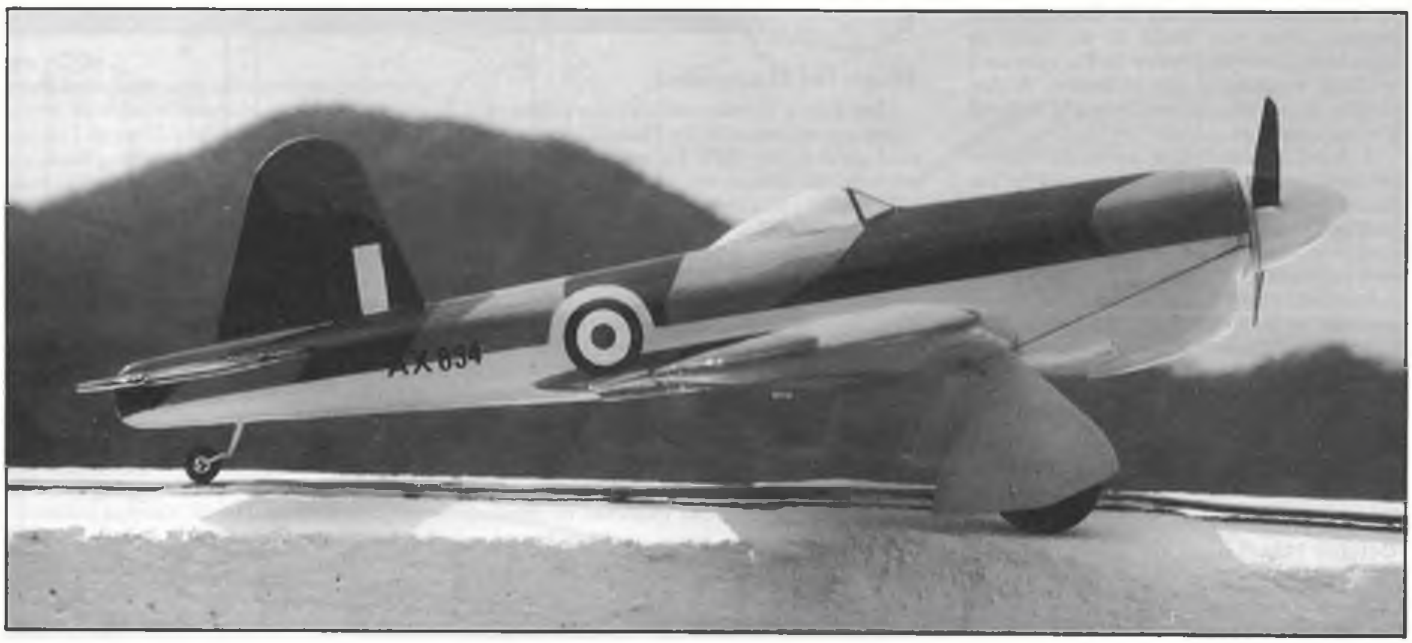


Trio of illustrations above relates to Interstate L-6 discussion in text. Aircraft of the Fighting Powers drawing, used by John Watters to produce our full-size L-6 plan in the August '86 issue, gives no clue to outwardly-sloping cockpit windows but Jim Alaback's photos of preserved yellow-and-blue N46427 at Oshkosh reveal all.
Below: Soft Hong Kong scenery forms a gentle background to Noel Stephenson's latest scale stunter, a Miles M.20 for 1.5cc motors. Soon to be an Aeromodeller full-size plan, this attractive version of the 'ten-week fighter' - that's how long it took to design the real one! - will augment Noel's Spitfire Stunters which appeared in the March issue.

Interstate stuff

Our full-size plan for the Interstate L-6, published with last August's *Aeromodeller*, has proved very popular. A rare subject, the L-6 has been the subject of little attention (unlike its civil sister the Cadet) and so we are pleased to be able to pass on further information from Jim Alaback who was lucky enough to photograph a restored and 'civilianised' example at Oshkosh in 1982. Most noticeable - and not shown on the Aircraft of the Fighting Powers drawing used as reference by John Watters to produce his model - is that the cabin greenhouse is inversely tapered, clearly to help observation activities from within, as the accompanying photos show more clearly than words can describe. Such an arrangement was incorporated from the outset, confirms Jim who was able to refer to the publication US Army Aircraft 1908-1946 by James C. Fahey, wherein lies a photo of the prototype XL-6.

Luckily, it is simple to capture the lines of the curvaceous cabin by retaining the model's fuselage structure, which corresponds to the full-size framework visible in the photos, and then building a glazed superstructure to suit. Indeed, the flat-top section aft of the L-6's rear spar position couldn't be simpler to make. Thanks for the gen, Jim!



In which new C/L Scale Columnist John Robarts introduces himself...

Some years ago I was egged on to return to aeromodelling by my sons for whom I had built a free-flight glider which was a raving success. Many happy hours were spent flying off a slope near our home. Naturally we progressed to a rubber-powered model and the rudiments of setting up and trimming were learned. Indeed, we sometimes still fly the same models on sunny summer evenings.

As an incentive to my elder son, I waved a carrot in front of his nose in the form of a new PAW 149 if he passed his eleven-plus examination to the local grammer school. He did; and it cost me an engine. It was decided that we would try control line because of lack of cost; the risk of losing a free-flighter with engine didn't appeal to either of us. A chance browse around a local model shop saw us walking out with a Keil Kraft Phantom, dope and cement under our arms. I remembered this little model with much affection from my boyhood days in the early 1950s.

Soon we were able to take a trip to the local sports field where everything was readied. I was elected test pilot. Could I remember how to fly after all those years? Of course, it came back quite easily after a few abortive take-offs, and before long we were flying steadily and not suffering from the 'giddy syndrome'. Before long my eldest son had solo'd; he showed a natural aptitude for flying.

John Jnr. had saved up some pocket money, wanting an aeroplane that was bigger and more like a real one — a scale model. While searching through Bunny Newman's emporium in Bromley we found a Pilot kit for a C/L P-51D of about 33in. wingspan; this was taken home, built and test flown successfully.

In *Aeromodeller* we read about a scale comp at Croydon run by the Three Kings Aeromodellers. That was really the start of it all: our home has degenerated to a sea of balsa dust, chippings and engines, and is pervaded by a permanent stink of Methanol, ether and dope. This bliss has been totally caused by the aforementioned group...

Just to show the children that I wasn't the doddering old fool that they thought, I built a scale C/L model and beat them, so the gloves were down; and although John Jnr is unable to fly and build because of impending exams, his brother Patrick is coming on quite well now.

What's it all about?

What is scale? A model of an aircraft to exact reduction in size.

The first priority is to join a club who specialise in this discipline. The Three Kings Aeromodellers is one such; there are several scale modellers who specialise in C/L and advice and help is always forthcoming from the members. To get some ideas of which type of model to build as a first project I would recommend browsing through the *Aeromodeller* Plans Handbook; all the subjects there are proven fliers.

Considerations

There are many reasons why modellers choose a particular type of aircraft, and this makes an interesting subject on its own. It may be that you or a relative has flown in that particular aircraft, or in some cases the choice may even be a model of one's own transport...

When choosing a scale subject, there are many considerations which must be taken into account before putting pen to paper and getting out the building board.

Whether one is building for sport or for scale competitions, it is essential that every detail is correct so that the product of your labours is a true representation of the full-sized aircraft. To this end one should research the prototype thoroughly, and this will mean the scouring of many books to find accurate souce information to ensure that the model is dead right. I believe in adhering to the true scale using scale rib spacings and not stretching tail areas or incidences to make them fly.

The most recent model that I have built was a 1/16th scale DHC1 Chipmunk, the reason being that during the 1950's I flew in WP 912 from RAF White Waltham, an experience that I shall always remember. I now learn that this aircraft is not only still in existence but is on display at RAF Cosford. The model I produced was WB 588, the Chipmunk operated by the Shuttleworth Collection, because my sons and I have had so many memorable days at full size and model days there in the last few years. More next time!

A trio of colourful C/L Scale subjects: Bernard Sexton's red and black Hall Racer is above John Robarts' own replica of Shuttleworth's silver Chipmunk; and (below) Scale stalwart Mick Staples contemplates his bright green Avro Avian Monoplane. Now – let's see a photo of your model!

DH 53 Humming

DURING THE COURSE of research for our feature on the DH53 Humming Bird - presented in July - one or two interesting trinkets of information came to light.

Firstly, Argus Books' own Vic Smeed (a name possibly not known to *Aeromodeller* readers) revealed an association with the prototype, G-EBHX, in deepest Kent.

Over to Vic:

Around 1949-50 an engineer at one of the Kent colleries used to drop in at my model shop in Canterbury. He was an ex-RAF regular who had trained as a Fitter 1, a category that ceased during the war but which meant he was qualified as a fitter on both airframes and engines. He had discovered an almost intact light aircraft hanging in a barn, had acquired it and was proposing to rebuild it. It was a DH 53 Humming Bird; as things turned out it was the last in existence.

Regrettably, I do not know anything of the later history of the machine or how it came to be hung up in the barn: my connection was that I might be able to help in finding details of the missing parts (elevators, rudder and prop); that I had a set of instruments, pitot head etc., which I had obtained with the idea of building a glider (abandoned when I went into the CAA regulations!) and that as I had flown a reasonable variety of aircraft I might be persuaded to test fly the Humming Bird. It must be remembered that ex-RAF personnel at that time had a fairly free and easy approach to such matters!

The engine was cleaned and stripped and found to be in remarkably good condition, and I was able to find what was considered enough information on the missing control surfaces. The machine's wheels were in use on a farm cart but were retrieved, the airframe thoroughly checked, an instrument panel fitted and, the last I heard, the owner was proposing to carve a prop — in more ways than one, as he was going to make it from a hickory or ash pit-prop. He knew the diameter and had sufficient experience to make a reasonable stab at the pitch and, I thought, ground runs and tail-up taxiing would show whether a solid prop would stay intact and provide the necessary urge. I was more concerned that the seat was a wicker chair, though I was assured it was original.

However, in January 1956 I struck out in a new direction, closing the Canterbury shop, and although arrangements for future contact were made, I never heard any more from the Humming Bird owner. Some years later I heard indirectly that for some reason he had sought some information from de Havillands (maybe the pitch of the prop?) and his possession of the aircraft became known to them. Someone had shot off down to Kent, so the story went, and acquired the machine, which was taken back to Hatfield and stripped and rebuilt by DH apprentices. This is obviously the Humming Bird now at Old Warden. I really must try to stick my head in the cockpit and see if they are my clocks on the instrument panel!

An interesting account, this, occupying an earlier period in the craft's life than the fairly well-documented mid-fifties rediscovery, by which time G-EBHX was engineless.

Can anyone else fill in more details of this obscure chapter in the prototype's history?

Then we have the curious matter of cropped tailplanes to consider...

Tale of a tail

Your editor - who would admit to a soft spot for this aircraft - has always been intrigued by the oft-repeated story that at the Lympne Trials a certain amount of surgery was undertaken on the two DH 53 tailplanes because, allegedly, they were too wide to pass through the 10ft gate that was part of the 'Transport' test. The problem was solved - so the story goes - by the expedient of clipping a few inches off each tip. Having built a couple of models of the DH 53, and thus possessing a rudimentary knowledge of this craft's empennage structure, all this seemed most odd to your editor, particularly as a dimensioned 1923 Flight drawing clearly indicated that there would have been at least nine inches to spare across the elevators. Even more strange was the fact that photographs showed that the *tail-planes* were truncated outboard of the last rib; but this would give a measurement of 7ft.6in, not ten feet.

When all else fails — revert to source. A check showed that, according to the account of the Trials published in The Aeroplane, 10th October, 1923:

'The de Havilland tailplanes look rather funny because when it came to doing the transport test it was discovered that one of the rules was that a machine while being transported must not occupy "more than half a fifteen-foot roadway." Why the rule was worded in that way instead of merely

Heading: Sylvia II, the second DH53 (later-G-EBHZ) being wheeled out at Lympne. Colour scheme was almost certainly black fuselage, white or silver lining and 'natural' tail and wings. Scrutiny of original print reveals cropped tailplane referred to in text. Cockpit is unoccupied - that gentleman is helping to push! Opposite page, top left: The prototype lives at Old Warden and is fitted with this ABC twin, unreliability of which means that L'Oiseau-Mouche is now on permanent, non-flying display. It has recently been refurbished (see remaining pics) in silver and royal blue - the latter a slightly darker shade then before. Now - are those Vic Smeed's instruments? Dimensioned drawing (see 'Tale of a tail') and heading photo reproduced by kind permission of Aeroplane Monthly.

Bird EXTRA

More on this charming ultralight to augment our full-size plan feature in the July issue

that the maximum width must not exceed 7ft. 6in. nobody seems to understand. At any rate the de Havilland tails exceeded the 7ft 6in. and the difficulty was overcome by the simple process of clipping a bit off each end of each tail.'

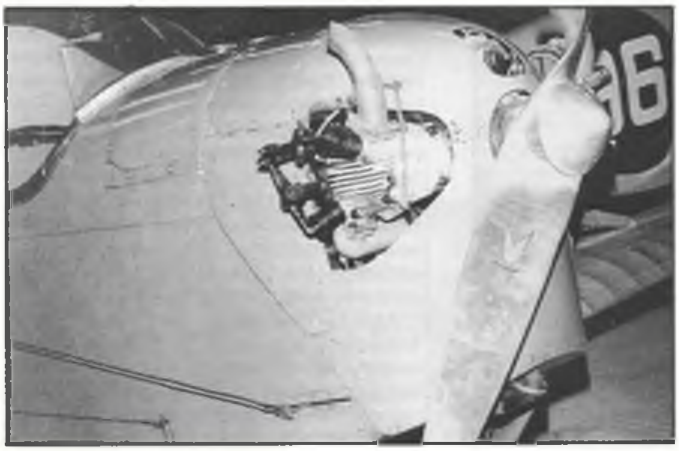
Clear? Perhaps not quite. Pre-Trials photographs of the first DH 53 show the 'clipped' tailplane already in existence; a feature also evident on the second prototype but not perpetrated on subsequent versions. And now, of couse, there would be an excess of ten-inches-worth of elevators each side...

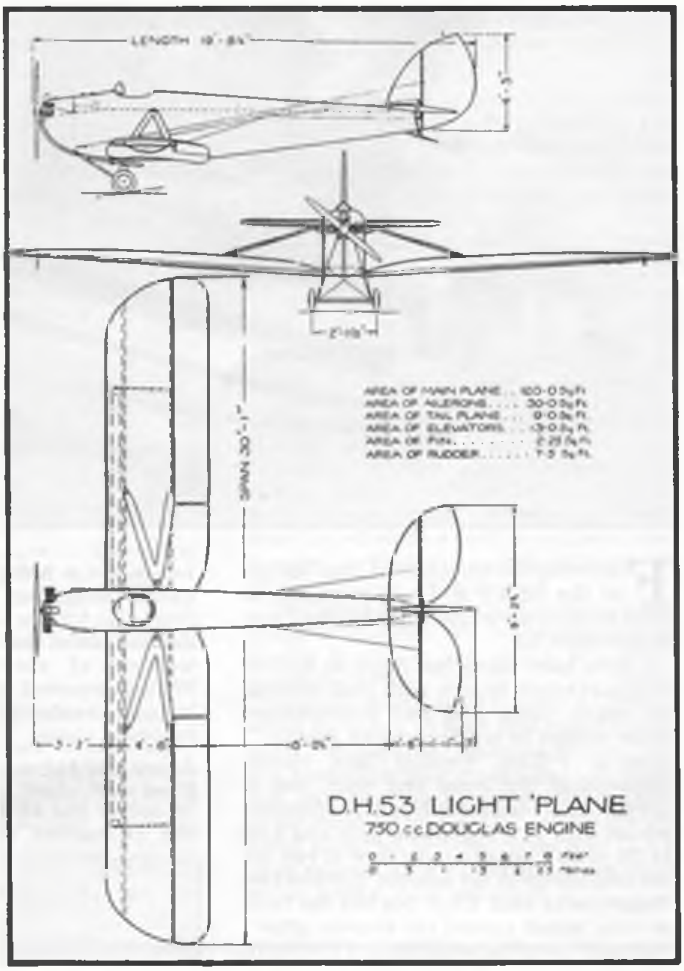
So what tail-end chopping — if any — *did* take place that October day at Lympne? Perhaps we will never know...

And just for the record, the following bit of trials gen (also from The Aeroplane) might come as a surprise to Ultra-light enthusiasts:

'Incidentally the passing of the machine through a regulation gateway during the transport test caused a considerable amount of amusement, for in default of a gateway of the desired width human gateposts were carefully placed at the measured distance. In this role the Lord Edward Grosvenor was a great success, and suggested at least the entrance to a baronial fortress.'

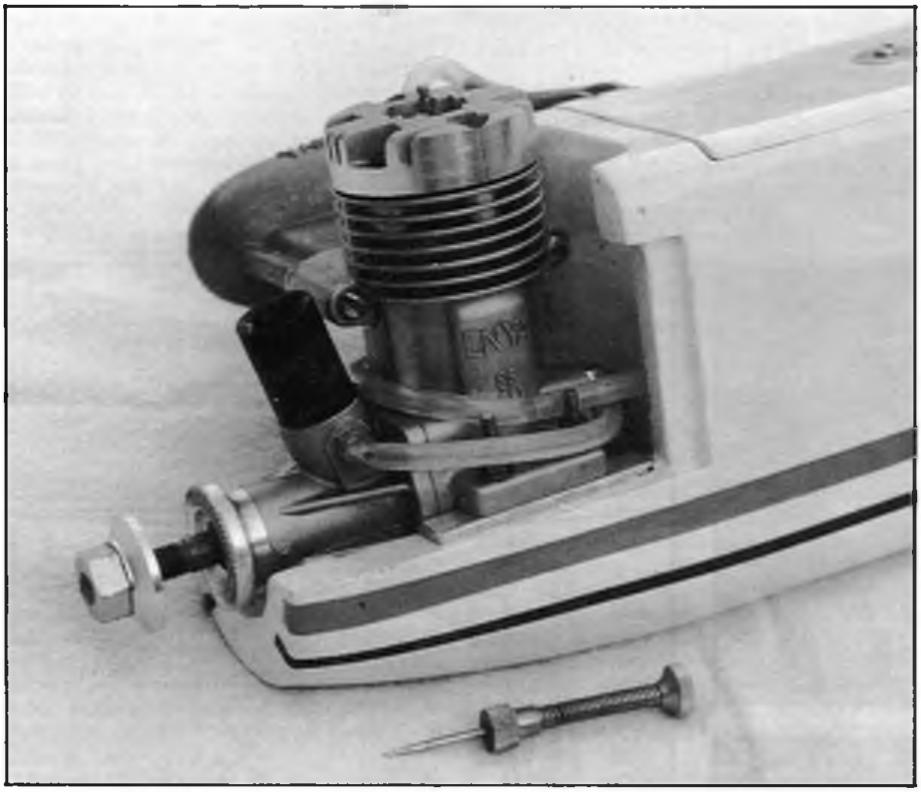
As a neat ending to the DH 53 story in the UK we have the coincidence that Mike Russell, the son of *Aeromodeller's* erstwhile 'DAR' has in his possession the Martin Monoplane G-AEYY, a craft built in 1937 from the earlier Clarke Cheetah, which in turn incorporated several DH 53 components in its construction. Soon to emerge, no doubt to join the Russavia Collection at Duxford, will be a new DH 53 and another Martin Monoplane...





FROM THE HANDLE

Bill Draper tries the Enya Super Sport 40 on the stunt circuit. . .



Following the write up by Claus Maikis on the OS FP 40 I was prompted to pass on my experiences with the new Enya Super Sport 40.

I have been using the Enya 40 and 45 loop-scavenged motors with good success for many years and had standardised these motors in my Superhawk models. I used a 9/32in. parallel bore choke, radiused at the outer end only, and a normal 4mm diameter Enya 35 spraybar which with 11 x 6in. nylon prop and 2.5% to 3% nitro gave the right type of run for the trim set-up on my models. The first two Superhawks used Enya 40s but the later models, which turned out heavier after I had used my better wood (from a bought-in stock) on the earlier models, were fitted with 45s to provide a fraction more torque. This meant that I had full interchangeability of motors, tanks and so on, plus spare motors and tanks for use in major overseas contests, whilst starting and running charcteristics were thoroughly sorted out and understood.

I experimented with various compression ratios, timing adjustments and so on, but finally decided that I was gaining no advantage over the maker's designed values. The only lasting modification was to fit a home made choke and spraybar in place of the 'radio' carb; this has been fitted to seven motors so far.

Schneurle ported 40s and 45s have been gaining general acceptance for aerobatics for a number of years. With the introduction of the Enya Super Sport 40 I decided to try one out for size. The motor is different from the loop-scavenged 40 in a number of respects; besides being Schneurle-ported it also has a plain-bearing crankshaft and a plain, lapped cast-iron piston. These last two features were considered desirable in the .35 days twenty years ago...

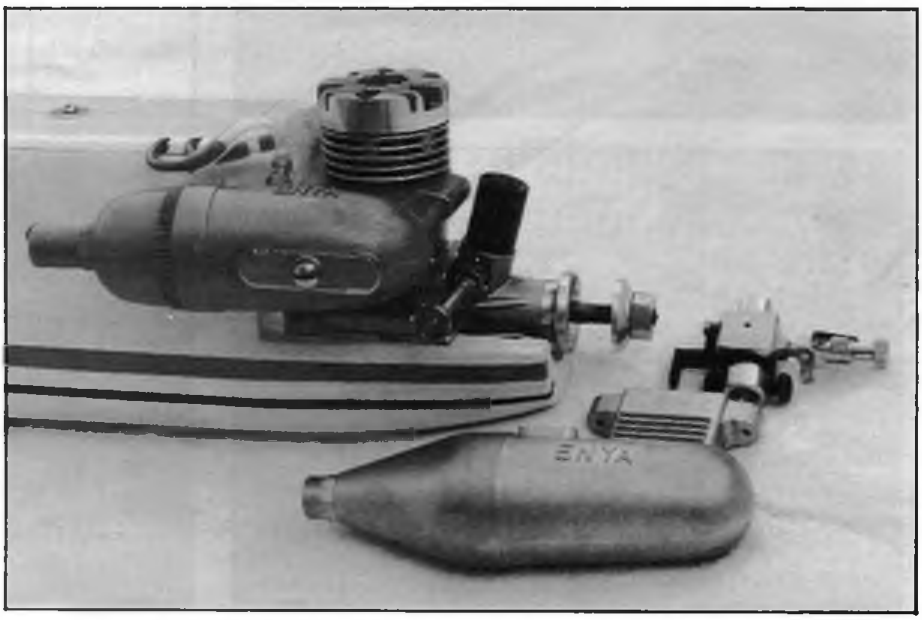
The weight of the bare motor is very similar to the earlier motor, but the mounting holes are slightly further apart 'fore and aft' and the crankshaft is marginally shorter. I built a new fuselage not only to take the motor but to try and cut down weight (one advantage of detachable wings). To maintain interchangeability I slotted the front mounting holes about 'half-a-hole' and fitted the bolts to suit the earlier motor.

The motor is supplied complete with silencer but the latter item is now some 3/4oz. heavier than the earlier, standard silencer. Again to save on weight I decided to use the earlier design. The threaded mounting holes are in the silencer in each case, with cast integral lugs in the new engine. Inexplicably the manufacturers have made the silencer mounting holes fractionally further apart on the new engine (approximately 'half-a-hole'!). Indeed, I cannot understand why such details as engine mounting holes and silencer mountings could not have been initially designed to be identical with the earlier motor to make life easier when it comes to substituting motors...

Again I slotted the holes in the mounting lugs to suit. Fortunately the height of the exhaust stack from the centre line is the same and I was able to make up the cowl to suit both motors.

I fitted the choke with the spraybar passing through the holes for the mounting screws of the original R/C carburettor. The holes for the spraybar in the choke were drilled a good fit on the spraybar, but the holes for the mounting screws in the engine casting were much larger. To take up the space and to provide a seal I slid a ring of fuel tubing, which just filled the diameter of the holes, over the spraybar at each end; it also acted as an 'O' ring seal when the spraybar was tightened up.

The Enya 35 spraybar is not long enough to give sufficient thread to allow the needle to be screwed fully home. To compensate for this, I thinned the flange

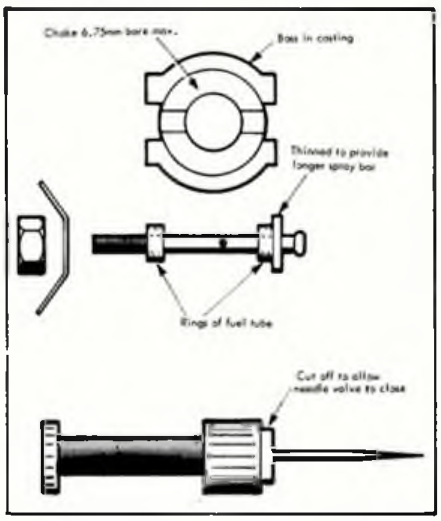


Above and below: The Super Sport 40 fitted with 'stunt' venturi, shortened 35 needle and 45 MkII silencer. R/C bits 'as supplied' seen below.

of the spraybar to about half its thickness to give more effective length and shortened the threaded boss of the needle to allow the needle to screw further down. These modifications allowed the needle to just close as the thread boss bottomed on the securing nut. The jet hole in the spraybar is not central in the bore of the choke, but this is unimportant.

Schneurle ported motors have earned a reputation for racing away in C/L manoeuvres and to control this I opted for a smaller choke size than on the loop scavenged motor, going for 17/64in. bore (6.75mm). This gives a very modest 8.8sq.mm. area choke with the 4mm spraybar.

I was anticipating hot-running and starting problems with this lapped plain bearing engine until it bedded in. The engine was not treated to any bench running, but was taken straight to the flying field for its first run. The first start

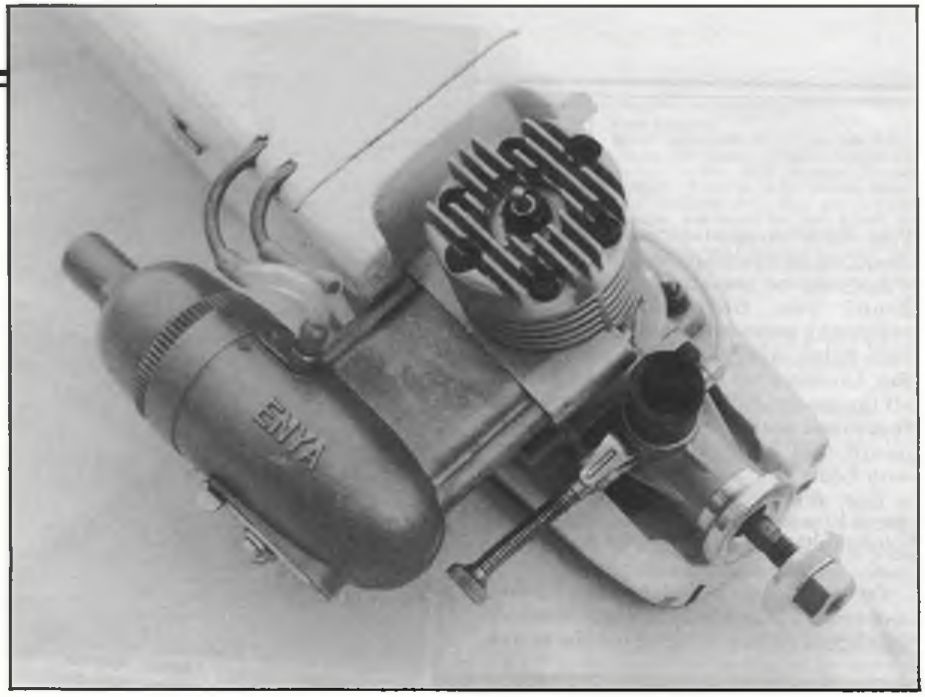


How to adapt the Enya 35 spraybar to fit the SS 40.

was a little 'finger-biting'; the lesson to be learned was not to overprime since the engine floods easily. I resorted to a finger stall! A tank-full was allowed to run out on a four-stroke run.

After cooling, the restart with a smaller prime was quite easy. The motor was leaned down to just break into a two stroke on silencer pressure and the model took the air. The run was slightly rich but it is a tribute to the motor that it flew a full schedule - with no indication that it was a brand-new motor - with plenty of power and no indication of overheating.

The Enya Super Sport 40 runs very cool, and its characteristics are largely unchanged after some three hours' running - all in the air. The best flying setting was with the engine leaned to a just-clean two-stroke on the ground, but not peaked. On silencer pressure and a conventional tank the motor richened in the air to a 50/50 four-stroke/two-stroke, leaning out to a clear two-stroke as the motor was loaded in manoeuvres. This effect does not increase particularly with



To complete a trio of views here is the Super Sport 40 from above. Silencer used is not an exact fit and thus needs modification - see text.

speed. A little high-frequency vibration has disappeared with continued running.

The sound is not so mellow as that produced by the 'loop' motor and it does not enjoy the solid four-stroke that some flyers like to hear, but the speed characteristic is right - certainly for my type of trim.

The motor was run initially on 11 x 6 Kavan nylon props which I have previously favoured. On larger props (12x5 Tornado and 12x6 Graupner) the exhaust was more mellow. It would four-stroke more solidly and the motor was comfortable enough on these props, but I was not so keen on the effects on the plane (particularly with the large, coarse, pitched heavy Graupner) and so settled back to the 11 x 6 favourite.

Typical ground speeds with the engine just clean two stroking but not peaked - that is, set for correct air speed, are as follows:

11 x 6	Kavan nylon	8600 rpm
10 x 7	Three blade Graupner	8000-8800
12 x 5	Tornado nylon	8600
12 x 6	Graupner glass filled nylon	8100
11 x 6	Tornado nylon	8600

With about one-and-a-half hours running behind the Enya I was tempted to try a larger choke so I fitted a 9/32in. (7.15mm) version of the same type as the early motor. Power was noticeably increased, but by half-way through the flight the motor was leaning out too fast, particularly in windy conditions. The engine speed increased too much in outside manoeuvres for comfort and this effect could not be contained by larger props.

With the new venturi, ground speeds when set for correct airspeed were:

11 x 6	Kavan	9250 rpm
12 x 5	Tornado	9000
12 x 6	Graupner	8500

The small choke was refitted to provide a more consistent engine speed. Fuel consumption was 100cc for six-and-a-quarter minutes and speed was consistent until the last four or five laps, by which time the schedule would be complete; and it appears that the initial estimate on choke size was right.

The speed remained under control when running on a rich two/four-stroke setting on the Kavan 11 x 6, which is slightly under-pitched at approx 5 1/2in. pitch. The small choke tends to have a limiting effect on power at high rpm but it allows plenty of power at moderate speeds, and the finer-pitch prop gives plenty of thrust but not too much speed. Some more experimenting may yet take place but the basic set-up of 17/64in. choke and 11 x 6 prop appears to be a good basis for a stunt motor with a lot of potential.

...and Rex Landon reports on a recent competition

Chiltern Cup Meeting: Slip End, 28th June

After an anxious look at the weather leading up to this second Chiltern Cup meeting it was pleasant to wake up to no rain, but a stiff breeze was to prevail all day. The grass at the Slip End site was short, but the ground was soft.

John Ash started proceedings with his own-design Enya 45 model which performed very tidily. It was interesting to see Pete. Illiffe flying a Fox 35 Nobler to good effect; this combination is still competitive. Nevertheless, it was Peter Tindal who showed the way with a fine flight from his Chipmonk (Merco 61) despite this being his first competition for a whole year.

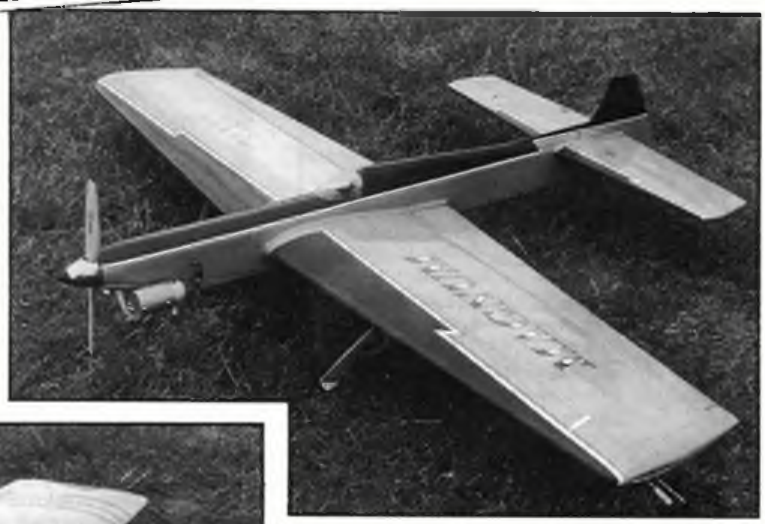
The second round netted lower overall scores, the stronger wind being responsible. Don Beesley aborted his schedule because of engine problems and Rex Landon failed to get off the ground but

Pete Iliffe completed a schedule best described as adventurous.

Arriving at the site just in time for Round Two, Glen Alison lodged a competent score with his ST60-powered Pace Spirit. After the break a re-draw saw Rex Landon open the final round, getting off the ground this time to improve on his first-round score. Pete Iliffe's solid flight meant that he finished in second place with Eddie Sharpe moving into third after a fine, fast schedule. But it was Pete Tindal who flew consistently well, notching the highest score of the round - just! - to take home the trophy.

Our thanks go to judges Alan Church and Peter Burgess, and to Roger Wenham who spent all day working out the scores.

A full Eurochamps report appears next month but here's an F2B appetiser - Anatoly Kolesnikov's second-place own-design which sparkles in red, white, yellow and blue! First in Aerobatics was Italy's Luciano Compostella whose higher back-up flight decided the issue after a fly-off dead heat.



Chiltern Cup pics by Glen Alison. Top left: The winners! Holding models and trophies are, from left to right, Pete Tindal (Merco 61 Chipmonk), Eddie Sharpe (ST 46 Kestrel own-design) and Pete Illiffe (Fox 35 Nobler). Top right: Another Eddie Sharpe craft was this two-tone blue SIG Magnum, Merco 61 powered. Left: Rex Landon's fifth-place APS Chipmonk is fitted with an ST 46 and wears RAF colours.

Chiltern Cup: Slip End, 28th June

					Best two flights
1	P. Tindal	1025.5	915	967	2092.5
2	P. Iliffe	989	880	931.5	1920.5
3	E. Sharpe	951.5	930.5	966.5	1918
4	J. Ash	943.5	934	937.5	1881
5	R. Landon	927	-	942	1869
6	G. Alison	-	902	946	1848
7	D. Beesley	935.5	257.5	746.5	1682
8	T. Ellis	844	715	779.5	1623.5

In the June issue we transposed 'tank lowered' and 'tank raised' headings in this Test Case table, which appears in correct form here. Apologies to Claus Maikis and to enthusiasts vainly trying to reproduce the characteristics as wrongly published!

Engine	Venturi intake sq.mm	tank raised by 7cm	tank at normal height	tank lowered by 7cm
ST G21/46	14.39	8.400	8.800	9.400
HP 40 Silver Star	9.06	8.400	8.800	9.600
OS 40 (Baffle piston)	9.66	8.400	8.800	9.200
OS 40 FP	13.59	8.000	8.200	8.900

What's on...there's plenty to do!

18th September
SMAE SOUTHERN GALA - F/F ONLY
Venue: Little Rissington. O/G for Pilcher Cup, O/R for Flight Cup, A/1 for Ripmax Trophy, O/P for Short Cup, 1/2A for Quickstart Trophy, CDH and HLG. Contact: Dave Greaves, Tel: 0285 2730. NOTE THIS IS A FRIDAY MEETING FOR F/F ONLY.

20th September
INTERNATIONAL R/C SCALE EVENT
Venue: Odiham. Contact: Pete McDermott. Tel: 025126 3216. Note: NO other events at this venue!

20th September
THREE KINGS C/L SCALE DAY
Old Croydon Airport, Purley Way, Nr Croydon, Surrey. FA1 Scale and Profile classes. Silencers and insurance essential. Contact: Derek Bird. Tel: 01-874 6394.

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

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

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

27th September
HUDDERSFIELD ANNUAL THERMAL CROSS-COUNTRY EVENT
To be held over a 10-mile course. Teams of four eligible. Start from Birdsedge flying site. All frequencies. Entry £2.00. Contact: Ian Roebuck, Keipa, Dunford Road, Holmfirth, West Yorks.

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

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

27th September
HEMINGFORD ABBOTS VINTAGE MEETING
Vintage Lightweight Rubber, 36in max. span; separate comps for Freewheel and Folders. Achilles comp. Senior and Junior if more than three Junior entries. Jetex/Jet-X 50 duration event. Modern designs permitted. Also F/F power sport flying, vintage R/C (possible informal comp for "most authentic model"). Vintage Stunt and Midge Speed. F/F Contact: Chris Strachan. Tel: 0480 66815. R/C contact: Robin Gowler Tel: 0480 63509. Nominal fee for use of field.

27th September
SMAE SOUTHERN GALA - F/F ONLY
Area Venues: Team Rubber for Farrow Shield, Plugge Cup. F1A, SMAE Cup. 1/2A Power. Area Contacts or contact SMAE on 0533 518500.

4th October
SHEFFIELD MAGNET TROPHY
Venue to be advised. This is also a 1988 Team Trials event. Contact: Trevor Faulkner. Tel: 0742 363397.

4th October
SMAE CLUB CHAMPIONSHIPS
Venue: Driffield. SMAE events are for O/R, O/P, O/G. Northern Area events for 1/2A, A/1, CDH, and Mini-Vintage (rubber or up to 36in. glider up to 54in.). Contact: Phill Ball. Tel: 0332 665361. This is a replacement for the postponed 19th July meeting.

4th October
CROOKHAM F/F GALA
Open Power, Open Glider, Open Rubber. All-in FA1. 10am start. Venue: Beulieu Old Airfield. Contact: David Cox. Tel: 01-397 6436.

4th October
HESWALL MAC OPEN C/L COMPETITIONS
F2B Aerobatics, Novic/Junior Aerobatics (10% advantage to Juniors). Competitions sponsored by Neston Computers. First prize in F2B is a telephone, plaques for top three in both comps plus top Junior. Silencers and insurance essential. Entry: £3.50 (Seniors and Novice Adults); £2.50 (Juniors - under 18). Contact: C. Humphreys. Tel: 051 639 1453 (Mon-Fri, 9am-5pm) or write: 249 Rake Lane, Wallasey, Wirral L45 5DJ.

10-11th October
RAFMAA INDOOR 1
Venue: RAF Upavon, Pewsey, Wilts. Informal competitions on Sunday for Portsmouth Duration, Scale, Pylon Race, Indoor Helicopter Climb. SMAE membership and prior contact essential. Details from: Andy Sephton, 3 Bury Mead, Codford, Warminster. Tel: 0985 50576.

11th October
LONG MAN TROPHY (ROUND TWO)
R/C Slope Soaring. Contact: T. Parris. Tel: 0323 643630.

11th October
EASTBOURNE MAC THIRD R/C VINTAGE MEETING
Venue: Golden Cross, Sussex. Contact: D. Marchant. Tel: 0323 504538.

11th October
SCOTTISH AEROMODELLERS' ASSOCIATION T/R COMP
Open Goodyear, Class II Goodyear, FA1 T/R. Venue: Newhouse. Contact: Neil Munro, 30 Lamberton Court, Pencaitland, East Lothian EH34 5BL.

11th October
HUDDERSFIELD OPEN VINTAG RALLY
F/F Vintage F/F Vintage C/L, R/C Assist. No formal contest. Non-vintage F/F limited to 0.8cc diesels; silencers not required on vintage models with appropriate engines. Venue: Whiteley Common. Contact essential for frequencies): Colin Thompson. Tel: 0484 850422 or 851433.

11th October
SMAE MIDLAND FLY-FOR-FUN RALLY
Venue: RAF Barkston Heath. Competitions for A/1, CDH, SOP, Vintage (Trophies: PAMAG, PAMAG, G.D. Shield, Butlin's Cup). Informal R/C, C/L and F/F with trophies and prizes for Best Model, Best Flight, Best Junior. Raffle draw too! For details including frequencies contact: Brian Perks. Tel: 0858 63829. Late news: Mass-launch Champagne Fly Off for P20 models.

18th October
SMAE NORTHERN AREA FA1 EVENT
Venue: Driffield. F1A, F1B, F1C. Contact: Dennis Davitt. Tel: 0532 675433.

24-25th October
FIRST SMAE F/F TEAM TRIALS
Venue: Barkston Heath. F1A, F1B, F1C. Contact: Phil Ball, 17 Heronswood Drive, Spondon, Derby. Tel: 0336 665361. Entry fee is £5 per class.

1st November
EACH ANGLIAN WAKEFIELD EVENT
Venue: To be confirmed. 4oz Vintage Wake, 8oz Vintage Wake and pre-51 O/D Wake, F1B. Contact: Chris Hawke.

1st November
SMAE INDOOR SCALE MEETING
Venue: Alumwell Centre, Walsall 9am-5pm. Competitions for all three classes with an experimental increased weight limit of 170 grams for CO2/Electric and Open Rubber to encourage multi-engined subjects. Lots of trimming time during day with a kit scale mass launch as a finale. Contact: Doug Sheppard, 13 Luckington Road, Monks Parr, Bristol, Avon BS7 0UT. Tel: 0272 697595.

7-8th November
2ND SMAE F/F TEAM TRIALS
To be confirmed. F1A, F1B, F1C. Provisional venue: Sculthorpe. Contact: Phill Ball. Tel: 0332 665361.

15th November
FALCONS GALA
Venue: Driffield. O/R, O/P, O/G, Vintage. Contact: John Carter. Tel: 0782 398816.

22nd November
SMAE F/F TRIALS - RESERVE DATE
Venue: Bottersford or North Luffenham; to be confirmed. Contact: Phill Ball. Tel: 0332 665361.

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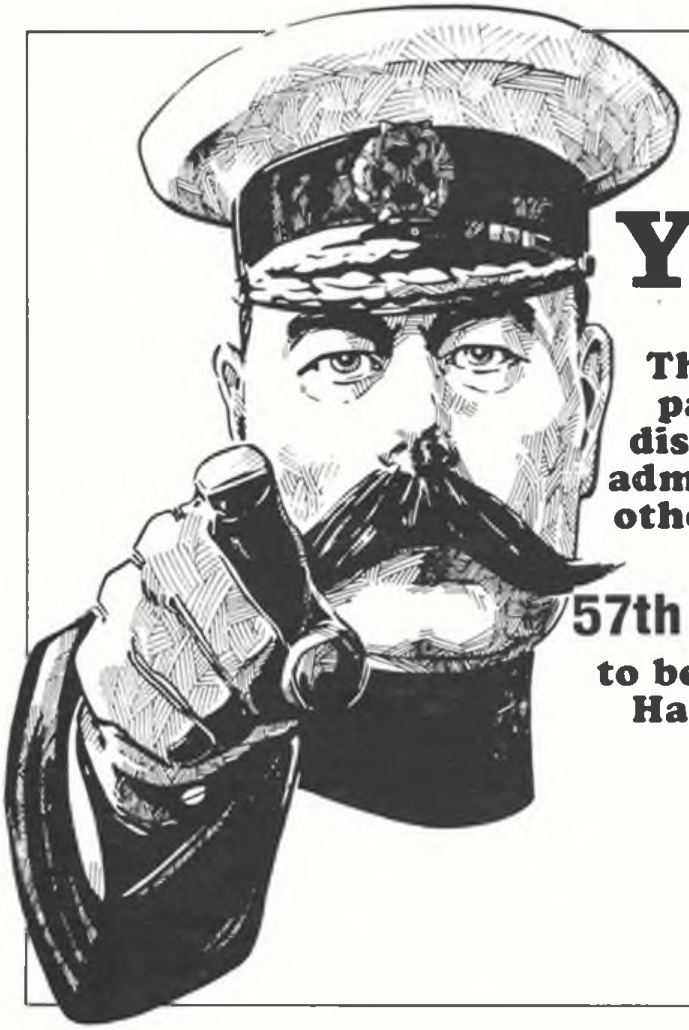

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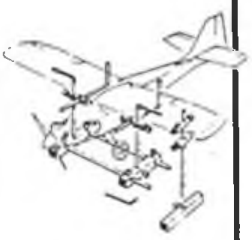

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KK0012 WISP

KK001 POLARIS

KK005 NOMAD 20½″ Wingspan (52cm)

KK001 POLARIS 20″ Wingspan (51cm)

KK0012 WISP 20″ Wingspan (51cm)

KK003 CADET 30″ Wingspan (76cm)

KK009 CONQUEST 30½″ Wingspan (77cm)

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KEIL KRAFT

Appendix - Links to the plans

The issue comes with two free plans (British Aerospace EAP, Skycar) printed front/back on a pull out banner of four sheets, The banner is not included in the document.

Never Forget MK2 by John Pool
Sketch from Model Aircraft Dec 1958
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Terry 1 by W.Binns
FF Rubber Tailless (from Aeromodeller October 1943)
https://outerzone.co.uk/plan_details.asp?ID=3282 ...
Document Page: 23

British Aerospace EAP by John Watters
FF Power Jet-X Scale fighter
https://outerzone.co.uk/plan_details.asp?ID=3283 ...
Document Page: 25

Skycar by Ray Malmstrom
FF Rubber biplane for small field fun
Document Page: 27

Electric Suzy by Dave Hipperson
FF Electric presented in FREE FLIGHT SCENE
Document Page: 28

Jigsaw 5 by John Carter
FF Glider presented in FREE FLIGHT SCENE
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Box Car by Dennis Allen
CL presented in MIND THE LINES
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G-JR12 Kestrel by Gordon Rae
CL from 1947 presented in MIND THE LINES
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Interstate L
Presented in SCALE MATTERS
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DH 53 Light Plane
Extra for the plan presented in July 1987
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