

AERO

MODELLER



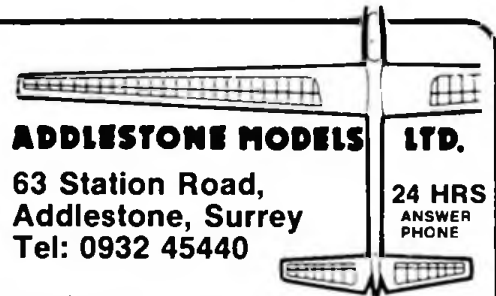
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STUFF!**
**Old Warden
Vintage Weekend
Report**

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AERO MODELLER

CONTENTS



p.628



p.642

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Cover:
A sunny Saturday evening at Old Warden - yes, ASP Vintage Weekend did its stuff again. Long-time Stunt enthusiasts John Perry and Ron Prentice take time out from carving patterns in the sky to compare Senior Monitor and Stuntwagon - and share a joke. Ron Moulton took the pic: for more Vintage Weekend news turn to p.628.

HANGAR DOORS	What's happened? What's happening? Aeromodeller's forum keeps you informed	624
SCALE AND CONTROL LINE AT THE NATIONALS	An advance photo-page report on the August SMAE Nats	626
A VINTAGE WEEKEND	Our reporting team enjoyed a splendid time at Old Warden - here's full coverage of a meeting to remember	628
FROM THE HANDLE	Team race affairs are discussed by Jim Woodside and Claus Maikis tackles Stunt wing construction	635
LIGHTWEIGHT ROBOT TIMERS	A Free Flight Scene special - Dave Hipperson on how toy surgery can produce super timers	638
F1E EUROPEAN CHAMPIONSHIPS	Steve Philpott reports on this premier Magnet Steering event	642
CO2 CADET	Build John Watters' charming Vintage miniature ...	645
BACK TO FRONT	... or Kevin Wallace's rubber canard for sport flying or P-30 competition. Our two full-size plans this month!	655
1986 INDOOR WORLD CHAMPIONSHIPS	Cardington triumphs again - a first report by Ron Moulton	657
ELECTRIFYING EXPERIENCES	Roy Ashby conducts us through some highly individual F/F experiments	658
STATESIDE SOJOURN	A most enjoyable model flying holiday described by a Brit abroad	660
MIND THE LINES	Andy Brough enters the Vintage C/L circle this month with news from overseas and thoughts on competition flying	666
DFS OLYMPIA MEISE	Christopher Wills looks at a most elegant full-size sailplane built with sporting intent	668
SCALE MATTERS	Czechoslovakian masterpieces are examined by Bill Dennis	670
FROM THE ARCHIVES	Models to amuse or inspire peep from the vaults in this occasional series	673
READERS' LETTERS	Opinions aired and advice given from enthusiasts worldwide	674

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



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HANGAR DOORS

Come to the M.E! What's the first thing you want to do once Christmas is over? Why, join in with thousands of modellers of all disciplines and visit Wembley Conference Centre for a browse around all that's new in the wide, wide field of model building. Dates of the 1987 M.E. Exhibition are 1st January to 8th January inclusive; so get the New Year off to a good start with a prime dose of enjoyment. More details next month, but we know already that the SMAE will again be present, as will the SAM 35 group who have at their disposal even more space than in previous years. Also, Dave Rawlins of DPR Models has arranged an indoor Model Flying Day for 1st January, with workshop and competitions (not just for juniors, either) but we'll come to that in a minute. His efforts deserve separate emphasis.

There will be trade stands galore to cater for all kinds of modelling goods; but the key word in the title is 'exhibition' and the motive for visiting Wembley should be to admire the achievements of fellow enthusiasts, thereby to enrich one's own level of absorption in the hobby. There's much to be learned from the techniques required in other branches of the craft and model world. Finishing that scale model, for example, might seem a bit less difficult after a look at the work of the

This badge was sported by Ray Jenyon at Vintage Weekend. Self-explanatory, really! Ray's wife wore a similar device which proclaimed her as a 'Model Wife'!



'scratchbuild in plastic card' brigade.

And have you done your bit to provide some aeromodelling input to entertain others in turn? If not, perhaps you should examine the reasons why...

DPR Model Flying Day

Here's a bit more info on the indoor model flying activities, masterminded by Dave Rawlins, which are to be held in the Wembley Conference Centre auditorium on 1st January - that's the opening day of the 1987 M.E. Exhibition.

Main event is the National Cosmo Challenge which is open to juniors (under-13) and seniors. This indoor duration event is for the Cosmo R1 and R2 rubber models. Pre-enter or just turn up with your model - the comp is at 2.30. Best of three flights decides the winner. Great prizes: first in each group receives a trophy, a Cosmo 25 SR R/C kit, four-function Acorns gear and an Irvine 25 R/C motor! There are other prizes down to third place. Pre-entry is advised, if only because you get a free admission ticket - plus, of course, a full set of rules. Remember - this is a two-part event; Dads can have a go too!

Strictly Junior-only are the 'Hit the Kit' target comps, for any suitable DPR or Cosmo model, to be run at 11am, 2 and 4:30pm, and the Junior Cosmo Champion Championship (!) for young fliers



Appleton School, Bentfleat, is just one to select Model Aircraft Construction as a subject for study within Craft, Design and Technology, although it must be said that this happy group - with sponsorship from DPR Models - have led the way. Keep this sort of news coming in, please! We'll bolt it all together in a major feature...

with the Cosmo Champion rubber model. These craft may be built on the day, for the famous DPR Workshop will be open from 10:30am.

There's no charge for entry other than the purchase of a kit, so have a go and have some fun. *Aeromodeller* will be there to help ensure fair play and to make sure that no sneaky tweaking takes place... Full details and pre-entry form from DPR Models at Unit 9, The Vanguard, Vanguard Way, Shoeburyness, Essex.

1986 SMAE AGM

The 1986 SMAE Annual General Meeting will be held at The Crest Hotel, Coventry (just off the

M6/M69 junction) on Saturday, 22nd November. More and better space is on offer there. As well as usual business, there will be two extra events this year; an 'informal' model display in the hotel lobby and a pre-AGM seminar in which - after the Chairman's Introduction at 10:55am - Ray Favre will describe the work on behalf of aeromodellers that he has carried out over the years. In particular, he will give guidelines on how to acquire - or retain - flying sites. After this, ASP's Ron Moulton will give a short talk entitled 'What is it all about' - this consisting of his personal observations on the model flying scene.

Here's another youngster - Ray Malmstrom congratulating Ralph Darnborough at the same meeting. Ralph's activities with his ED Baby powered Mimi were judged the most deserving of credit in the name of 'flying, friendship and fun'.



All enquiries to Mike O'Neill on 0782 612317 (days) or 0625 585383 (evenings). See you there!

Championship news

This is a hectic time of year! The August Nats are over (they were given a vicious kick by the remnants of Hurricane Charley) and so are the Indoor World Championships, held at Cardington during the same weekend. There are advance reports of both in this issue; full coverage to come shortly. Other reports lined up and ready to go concentrate on the World C/L Championships at Pecs and the European F/F Champs in Rumania. A word or two about the last two events. In Hungary, our T/R team came second overall to the Russians, with Stevie Smith/Colin Brown highest in sixth place, gaining in the semis a British best time for a 3-stop race. Our combat team was third (the Russians were first again, followed by the Danes) with Mervyn Jones in fifth spot. Victories in Aerobatics and Speed made it a clean sweep for the Russians, although as compensation Pete Halman set a new British record on his way to 14th place in the latter event.

Over in Rumania things were grim. Severe tummy troubles meant an unhappy time for our F/F team but Ron Pollard did a magnificent job to place third in F1B. Gary Madelin was 7th in Glider after a fly-off and Alan Jack was highest Brit in F1C at 13th. All this despite a dreadful flying site situated just 2km downwind of the country's biggest oil refinery. Stay tuned to this magazine to read all about it next month...

1986 Aeromodeller Coupe d'Hiver contest

This annual event is provisionally booked for 7th December at RAF Henlow. Confirmation and more details to follow in the next issue

of *Aeromodeller*. We hear from our good friend Jean-Marie Piednoir that a goodly gathering of French participants can be expected; splendid, for the competition has special bite as an Anglo-French challenge. There's plenty of time to build a model in readiness - several await your attention in the current Plans Handbook. Try one, for although the models are relatively simple - in comparison to a full-blooded F1B, that is - to achieve a two-minute max on just ten grams of rubber is a most rewarding experience.

What's going on?

If we don't receive news of model flying events we can't publish it. The message is clear - if you want to invite wider attendance at your meeting then let us know about it, in *writing* please. Get your club sec on the job. Required format couldn't be simpler - take a look at any What's On box - but a contact name and number is vital.

Send 'em in and we'll do the rest. Or maybe you think word of mouth is enough?

What a bind

For a while now it has been impossible for you to obtain binders for pre-April 1984 *Aeromodellers*, but it has been suggested that a supply could be made available if there is sufficient demand. Price would be £5.20. It's up to you. If your 'smaller' *Aeromodellers* would like to be wrapped up nice and warm, let us know and we'll see what we can do. But if you keep quiet nothing will happen...

Congratulations...

...to Madeleine Bodmer, seventeen-year-old winner of the Europa Cup for magnet-steered gliders (see report in this issue). Regular readers will

remember that Madeleine's views on model flying appeared in this magazine not long ago. How pleasant to see enthusiasm rewarded. Good on you, Madeleine; let's hope your achievement inspires other young fliers. Who knows - perhaps we'll find a budding World Champion in the Wembley auditorium...

Oh dear

Martin Dilly must be wondering what he has done to deserve it. Not only did we mis-spell his name in August's Hangar Doors but we got his address wrong in last month's Flyleaves column. Hopefully the postman has managed to do his stuff, but intending purchasers of the volume *Free-flight Experts' Forum* should note that their £4.00 (if in UK) should be sent to Martin at 20 Links Road, West Wickham, Kent, and not as quoted. Sorry... Apologies, too, for the occasional misplaced

caption, syntactical error and dropped commas!

Electric free-flight

In this issue we begin a two-part account of Roy Ashby's experiments with F/F (and small R/C) electric powered models. His is essentially a simple approach well within the abilities of everyday enthusiasts to copy, and it must be said that we hope other modellers will try their hand. We're very interested to hear from more proponents of electric flight, for this type of propulsion could well be the way that the F/F scene will go in the future. Details please, of light, reliable systems that have achieved results. Remember the late Alan Palfrey's efforts with electric-powered scale models? His tri-motor Airspeed Ferry was magnificent. What are the rest of you up to? Many aeromodellers consider electric flight something of a black art. Let's get it out into the open and remove some of that mystique!

What's on...

12th October SMAE MIDLAND AREA FLY FOR FUN RALLY

Venue: RAF Barkston Heath Fly-for-fun R/C, F/F, C/L Low-key comps for R/C Thermal, F/F A1 glider, CdH, SOP and Vintage. Come along and fly your club comp! It all begins at 10am Contact Brian Porks Tel: 0858 63829

19th October PETERBOROUGH MFC

Class: Diesel A' Combat Venue: The Embankment, Peterborough. Contact: Mick Taylor Tel: 0733 204484.

19th October FAI RALLY

Venue: Driffield for F/F, RAF Dishlorth for C/L Contact: D. Davitt Tel: 0532 675433.

2nd November SMAE INDOOR SCALE MEETING

Venue: Alumwell Sports Centre, Walsall Events: Rubber, CO2, Peanut plus mass-launch competition for Keil Kraft and Veron rubber scale kits (to be arranged). Contact: Doug Sheppard, 13 Luckington Road, Monks Park, Bristol BS7 0UTR. Tel: 0272 69595

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

16th November SOUTH BIRMINGHAM MFC, SAM 35 AND MECA 9TH VINTAGE MODEL AIRCRAFT SWOPMEET

Venue: St. Brigid's R.C. School, Franley Beeches Road, Northfield, Birmingham 12 00 start. Contact: Peter Martin Tel: 021 444 7964.

18th November FALCONS GALA

Venue: Driffield Contact: R Peers. Tel: 0270 60893.

1st-8th January 1987 1987 MODEL ENGINEER EXHIBITION

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

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PHOTOPAGES

advance report - full story next month!



SCALE



Left: The Gordon/Aberdeen team had a great time, winning Novice Open Goodyear on heat times after the rains came on Monday afternoon and placing second in Novice Class II, thoroughly enjoying themselves in the process. Above: It did get wet! FAI Combat CD Paul Vallins looks happy, although the event had to be postponed. Right: Continental visitors Claus Maikis (left) and Henk de Jong finished 7th and 4th in Stunt. Below: Last year's C/L Scale winner, Chris Bradford, could do no better than third this time with his well-known Dakota.





Top row, far left: Gold Trophy winner for the second year running - Tony Eiffelaender with his latest Freebird (details of modifications to follow). Centre: Rob Pressnell was 5th in Superscale with his first-ever F/F scale model, this SE5 from the Aeromodeller free plan. Left: After a marathon repair session following an almighty crash at Old Warden the previous weekend, Jim Dyson was able to demonstrate his twice-size Super Elf biplane with great verve.

AND CONTROL LINE

at the 1986 SMAE Nationals



Above: The Mini-Goodyear finalists coped marvellously with the poor conditions. Winners Tear/Walker are flanked by second-place Higgins/Horwood (right) and Stell/Adams. Right: The sun was out on Sunday! Mike Fitzgerald and Simon Groom were to place second - on heat times - in Open Goodyear (another event to be cancelled). Left: Impressive demos were given by Fred Beard's re-engined one-third-size Tiger Moth. Right: Victors in the rain - Ed Meijer and Rob Metkemeljer after a hectic FAI T/R final. All credit to the other finalists who were happy to compete despite the downpour.





Top: Giant Simplex Supreme by Arthur Fox was a superb R/C performer. Ample power was provided by a Matador 60 (shown inset) which was also constructed by Arthur. Left: One of Sunday's attractions was the Ray Malmstrom 'Fun Fly'. Modellers who impressed Ray by their 'joie de vivre' (and one of his designs!) were awarded this certificate. Note the 'seal of approval'...

A VINTAGE

Marvellous weather and record attendance made Old Warden on 16 and 17th August an occasion to remember. Report by Alex Imrie, Ron Prentice and Andy Brough

THIS EVENT AT OLD WARDEN marks the high point of our vintage year, and is looked forward to with keen anticipation by all of our kind. Once again the weather lived up to what one has come to expect at this venue. Just how ASP manage to order the right conditions so far in advance, and get it, would baffle even Ian McGaskill of the BBC Weather Service! Although there was a strongish breeze on Saturday, the following day was perfect and much vintage model aviation was indulged in as a result. There is so much support for all aspects of vintage nowadays that the Vintage Week cannot be very far off; there is obviously a requirement now for two Vintage Weekends during the summer to spread the concentration, otherwise there is absolutely no doubt that if things carry on in this epidemic way as of late, the affair will soon become too unwieldy.

Especially on Sunday, which was the more popular day as usual, it was impossible to 'take root' and watch any event or activity to its conclusion. The action was such that one was constantly reminded of the things one was missing, and (as usual on Vintage Days) your humble reporter found that the activity saturated his being! As a result, this account will merely be of a general nature with comments on the models seen; the pace of Vintage Weekend is too great for

anything else and the time has come to use a reporting team to cover the goings-on, especially the competitions. However, the activities of the many who just want to fly for fun often go unrecorded, and in my experience, it is they who usually provide the surprises and variety that makes this game so interesting.

International Flavour

As ever at Vintage Days - or indeed at any Old Warden model meeting - there was a fair mixture of nationalities present this year which brought to mind the early post-war Eaton Bray meetings, although on a lesser scale. This was highlighted for me on Saturday by the presence of Monsieur Michel Pierrard of Paris, who is President of the French vintage movement, the '4A' group (Association des Amateurs d'Aeromodels Anciens). Michel's model was a pylon design by Daniel Fronteau, and winner of the 'Grand Prix des Models du MRA in 1947' and was powered by a 2.5cc Micron Sport diesel, which, due to fuel feed difficulties proved to be a reluctant starter. There were the piano wire bracing wires that told of rates of climb in excess of 2000 feet per minute, a common feature on vintage Continental power models that first was brought to most UK modellers' attention during International Week in 1946. The tail unit, of ample area and twin-ruddered, seemed

in comparison to the braced wings to be decidedly weakly attached, for it wobbled furiously in the blast of the Micron's slipstream. Eventually, the engine was going to Michel's satisfaction and away went the model in a steep climb, straight initially, due radio control. When the machine swept into a gracious spiral, I merely thought that Michel was letting it 'do its own thing', but control had been lost. As is usual when a pylon model gets its nose down under power, its stability goes for a Burton; so it did on this occasion and the impact when the model hit the ground produced a shower of fragments...

A number of vehicles in the car park area had number plates that proclaimed them to be from beyond these shores, and some Continentals had arrived by other means too; one such being Oliver Gowing from the Emerald Isle who lives on a canal barge near Amsterdam. Oliver had his dumpy little high wing own design vintage style Janus with him and this flew well. Dave Larkins, who is serving in the Canadian Army in Belgium brought his Frog Firefly biplane, a model that he gave to a friend when he went to Canada in 1954. A visit to the friend's workshop twenty-eight years later revealed parts of the Firefly under the bench. Dave got them back, restored the little biplane and flies it now with a Doonside Mills .75. Dave 'VTO' Linstrum needs no introduction to readers.

AGE WEEKEND!



Vic Smeed's designs were as popular as ever. The *Ethereal Lady* at left was continually airborne. Choice of headgear shown here was most appropriate for the occasion! Below: Len Fisher is a Schiffermuller enthusiast. The twice-size version, PAW powered, is to be an RCM&E plan; small one was originally published in the 1948 *Aeromodeller Annual*. Both were beautifully finished in blue and white.



We have often gleaned a wrinkle or two from his columns in *Model Airplane News* in the past. Dave was everywhere with his Cox .020 powered 33in. span *Strato-Streak* under his arm. This gentleman from the USA kept commenting on my 'antique' camera (a perfectly fine Kodak Retina) saying that any self-respecting model magazine columnist's equipment should have automatic focussing and motor rewind! Dave's model, which was first described in the December 1941 issue of *Air Trails* was designed by that wizard small power model designer Louis Garami who worked for Polk's Model Craft Hobbies in New York and who reckoned it could be built for the outlay of one dollar! In its original size of 39in. span the *Strato-Streak* was powered by the Super Atom 1.47cc petrol engine, a two-ounce 12,000rpm beauty that is now being made in replica form, and it was a hot ship that went upstairs like the proverbial homesick angel. This model is very popular in the US Old Timer events, especially in the reduced size powered like Dave's model with the Cox.

Another International Week reminder was the majestic sight of a Fillon Champ sailplane circling high over the aerodrome, steady as a rock; that beautiful shape seemed to look down in pity at the shoals of modellers below with the attendant vulgar background buzz of

engines they needed to share the same sky. Then there were the Germans...

Achtung!

The man behind the vintage movement in Germany, known as the Antik Flugmodellfreunden, is Friedhelm Mink. He and his associate Herbert Bayer from Nurnberg, if not mingling with modellers on the aerodrome were to be found by their white Opel answering questions about their very typical German vintage models. They also had a number of old German plans available and some of these were snapped up by eager vintage modellers who wanted to make something different. They *are* different; and I wonder how many of the resulting models will be made in the German style of the times with plywood and hardwood? Friedhelm showed his large 1700mm span Horst Winkler glider *Der Grosse Winkler*, a machine that caused a stir when it appeared on the *Wasserkuppe* in 1930 as related in *Vintage Corner* in July 1984. There is a photo of this model in flight in a later column (February 1985) and the caption contains my comments on its widened fuselage to take R/C gear, since the original machine was of the profile variety and had a fuselage width of only sixteen millimetres. Herbert's power model with the butterfly tail was designed by Ludwig Anthofer and was described in

the magazine *Modellflug* in March 1944. This replica had a cleverly schemed R/C installation that gave differential elevator for turning, and was powered by a glow plug Frog 500 turning a four-bladed propeller. Originally powered by a Kratmo 4cc petrol engine, the 1780mm span model was a competition winner in 1943. It is worth noting that while we in this country had an official ban on flying power models for four long years from August 1940, there was no such ban in Germany during WW2 and engines like Kratmo and Eisfeld in various sizes were manufactured throughout the whole period of hostilities.

Many modellers must have been intrigued by the small gliders made from corrugated paper in various configurations, rejoicing under the name of Kiek in die Welt. Designed by Horst Winkler in 1935 for a wireless (radio to you youngsters!) programme called 'We Build a Flying Model', it achieved such a popularity with the youth of the day (35,000 plans were sold by the end of that year), that it was officially 'adopted' by the German National Socialist Flying Corps (NSFK) who ordered 200,000 kits! Made from corrugated paper, 1.8mm iron wire, and two strips of hardwood, its normal configuration was later changed into a tail-first model and even a tailless version appeared. Friedhelm had examples of all three models with him. 'Kiek in die Welt' is

a name in the Berliner dialect meaning 'Look the world in the eye'; and the optimism reflected in that simple name introduced thousands to the hobby. Low cost and extreme simplicity allied to a good flying performance especially when taken aloft on a kite string before release, gave this model a permanent place in German model history.

Fliar Phil and Free-Flight

The free-flight area was populated with more modellers on Sunday than I have ever seen there before, and doubtless what was a record turnout anyway was augmented by Fliar Phil enthusiasts. Many times when looking at the activity I was reminded of Ray's cartoons. Here was proof that the drawings that had amused us over the years were not mere figments of his imagination, because it seemed that the cartoons straight out of the Aero-modeller pages had come to life! Ray's weird and wonderful creations flitted around pursued by cartoon characters; not all of them Ray's typical aerobods, for some were closer to what could be called 'Giles' types!

At the bottom end of the aerodrome, the fierce exhaust crackle of ignition engines drew me like a magnet. Perhaps it is not surprising that there were only a few modellers flying big free-flight machines powered by genuine vintage ignition engines. Seeing and hearing the correct motor fitted to such models is very rewarding and well worth the effort spent in obtaining them, coupled with the associated tinkering that oily sparking

plugs, ignition points, timer contacts and flat batteries seems to bring. Old Warden is, however, just too small for the larger power models, and while the Haggart event went off well, one learned sage voiced the opinion that perhaps this competition should be held in future at a more suitable field; say Barkston Heath during the SMAE Nationals. He is right, of course, and maybe SAM 35 should think about that for future years. In any case the number of competitions have really outgrown Old Warden and it would give more breathing space to the other small field events held there.

Safety in flight

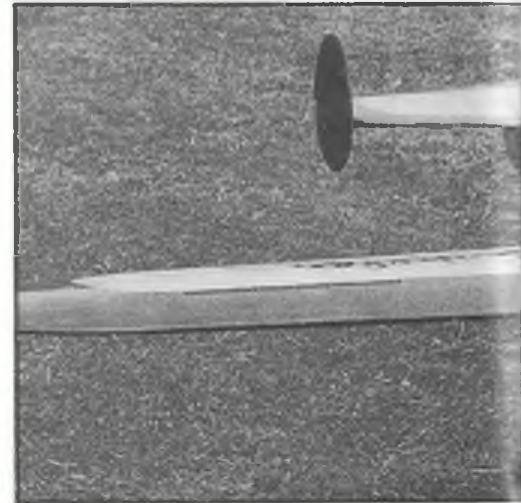
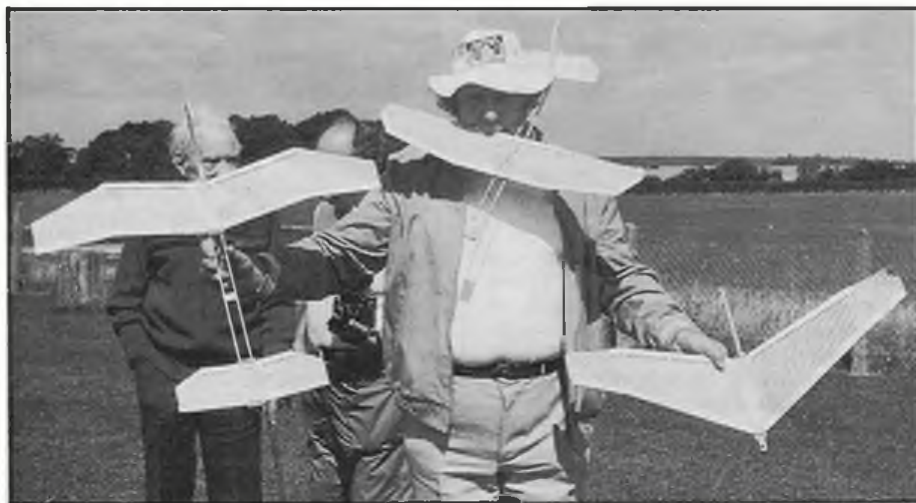
Many free-flight models flew out of the area allotted them, and they brought to mind the warning contained in the ASP Rules Sheet handed out on arrival. This was a much appreciated brief, and we look forward to its continuance with updating as necessary. An earnest request heard many times during the meeting concerned being allowed to continue flying until dusk. This aerodrome is an 'on request' field so why chase us off its lush turf at 6pm if no aircraft are expected? Bearing in mind the sort of gate money that results from model days surely the SVAS could find a way to arrange their full-size movements, to surmount this 'thorn in the flesh'. The odd full-size arrival could surely be controlled. Modellers would, I am sure co-operate to their utmost just to get the use of the field until dusk. How about it, Shuttleworth?

Some free-flight models flew into the car

park area and 'fetchermites' gaily picked up wayward models from amongst the cars without a look at the vehicle which had arrested the models' descent. Scratched windscreens or damaged paintwork caused by the exposed ends of crankshafts could go undetected until the unsuspecting owners next wash and polish their cars and find unexplained damage. I took one such lad back to a new red Volvo and examined it with him, but fortunately in that case there was no sign of damage. Remember that most cars are left unattended and it is easy to get away with it. R/C flyers have to produce evidence of their insurance, but this is not done in the case of freeflight, and we still have people who fly big power models at such meetings without the benefit of insurance. Should the organisers not process all flyers entering the aerodrome for this vital evidence? I know that it will be a real bind and involve much extra work, yet turning a blind eye might mean just that for someone...or worse!

Vintage R/C

By mid-day the grapevine had it that there were no more R/C slots available, a situation exacerbated by the early closure mentioned above. How would the organisers or SVAS management react if modellers arriving at mid-day turned back at the gates if they were told that they could not commit their own brand of vintage R/C model aviation? Lack of R/C slots or a dire shortage of them, is a decided damper so hopefully there will be an attempt made to prevent this...the answer



is simple; give us the field for the whole day!

I trust that readers will excuse me relating an 'in house' story. I really do try and keep these to the bare minimum! The Imrie son and heir left things a bit late in deciding to fly R/C vintage on Sunday, and started to build his Miss Tiny only six days before. This activity caused the garage workshop to be monopolised to the extent that yours truly had to yank him out every night in order to get him to bed! The model was finished except for the wing, which I loaned him from my free-flight Miss Tiny; and the whole thing was satisfactorily test flown on Saturday evening. He got a slot on Sunday and was on the flight line at 3 o'clock. His flight lasted seven seconds; Miss Tiny being hit by a Quaker Flash which, after spiralling down to the 'mid-air' gaily continued on its merry way. It was not the broken model (or my broken wing) that troubled Alasdair, it was the fact that the apparently uncaring Quaker Flash flyer did not even apologise...

Impressive models

Apart from the increase in the pure variety of designs with the passing of each year, the standard of modelling improves steadily, and it is true to say that the original models were seldom if ever as well built as their replicas are today. Some of the R/C machines in particular were fine examples of the art. The Bernard Gross unnamed flying wing was there again to admire, and from its appearance one would never have guessed that in the

previous few days John Wilkins of Chesham had undertaken a massive repair job caused by a wing dropping near the ground when he was turning at slow speed. This model was enthused upon in last month's column, and as an up-date it should be noted that this machine is powered not by a homebuilt engine as previously thought, but by a stock Merco 35.

Len Fisher's big Schiffermüller low-wing monoplane, beautifully finished in pale blue and white looked fine indeed as did its original-sized offspring. It might interest readers to know that this design by Arthur Schiffermüller of Dresden was originally fitted with a 1cc petrol engine employing magneto ignition. Additionally it utilised clever sequence cams moved by an Auto Knips camera timer against spring loaded cam followers that applied the necessary movement to rudder and elevator to enable a varied programme of free-flight aerobatics to be carried out. His original model, made in 1942, was of 880mm span. It weighed 360 grams of which 80 grams related to the remote control mentioned. The Frog 45 design provided another 'family' seen in the R/C enclosure, for Ray Gordon's giant 90in. span version and a CO₂ powered mini of about 21in. span stood beside a standard sized model. All were nicely built and well finished in blue and white in the manner shown in the original illustration used for advertising this attractive design by C T Buffrey from 1946. The writer made one at the time, but funnily enough there was green and orange tissue in my kit.

However, the weight of the model with the necessary number of torch batteries on board for reliable ignition of the Frog 1.75cc petrol engine (that Frog coil always did like a decent amperage!) dissuaded me from flying it. Buffery won the 1947 Bowden Contest with this design, but (probably wisely) used the 1cc Frog diesel for power, so at least he did not have to carry all that weight! Unfortunately I did not see any of the 'family' mentioned flying at the meeting... one can't be everywhere!

Arthur Fox took twelve months to make the nine foot span Custom Cavalier Twin, a Bill Effinger design from 1943. This model weighs 20lbs and to delay the stall of its taper wing, built-in slots are incorporated. The original weighed 14lbs and according to Arthur was never flown, thus it was especially interesting to see Arthur's masterpiece in the air flown by his son, Martin. It looked grand and sounded fine; a lovely model.

Mind you, models don't have to be large to be impressive, and all over the aerodrome there were splendid examples of the aeromodellers' art that would take too long to describe. However, mention must be made of two particularly fine rubber models. Bob Copland certainly has not lost any of his skill and his replica of his own 1936 model with which he placed 3rd in the Wakefield International Trophy of that year is a joy to behold. This model was drawn and described in the 1937 Zaic Yearbook. Gordon Hannah of the Impington Village College MAC built another of Bob's designs, the GB 3 and this well built



Top row, far left: While Ron Moulton talks to Tim Hervey in the background (partially obscured by model!) Friedhelm Mink displays variations of the corrugated paper 1935 glider *Kiek in die Welt*. Left: Magnificent Custom Cavalier Twin is another craft from Arthur Fox's building board. Two 'handed' OS four-strokes provide the urge (torque effects were almost overpowering when both were at standard rotation). A spectacular, if sinister-looking performer. Bottom row, far left: Ian Dowsell looks happy with his replica of Bert Judge's 1936 Wakefield winner. This was Ian's first Vintage Weekend - he'll be back! Next: Paul Compton of Harpenden with his Mills .75 powered Lajeunesse design *The Champ* made from the Radio Modeller free plan. His first R/C model, it has flown 25 minutes on one tankful. Below left: Shades of Eaton Bray! Mons. Michel Pierrard of Paris primes the reluctant *Micron*. Note lightning holes in pylon and the music wire bracing from bottom longeron to the wing spar (see text). Below: Son and Heir Alasdair Imrie with his R/C *Miss Tiny* (Imrie Senior's wing - see text!) Which is Enya .09 powered. Model has since flown well fitted with a *Fly-Baby* wing! That boy hates cutting wing ribs.



model was strikingly finished in orange and black. Bob's original model won the King Peter Wakefield Trophy in Yugoslavia in 1938 and it was the requirements of that competition that produced the name. Models had to be marked with a marking denoting nationality and also have an individual marking, GB is self-explanatory and Bob was number 3 in the team. How the team applied the black tissue markings on the trans-European train en-route to the competition was related by Bob in the first SAM 35 Year Book.

Final Thoughts

Does all the exposure to the good things in aeromodelling make us blasé? I would like to think not, yet, a very small proportion of the models seen this year would have resulted in a book-length Vintage Corner ten years ago. So vintage has come a long way and what is more important... it is still coming. Despite the excellence that abounded at every turn, the most enduring experience of the meeting for me was the high, steady circling flight of that Fillon Champ sailplane. Emmanuel really should have been there...

Control line: report by Ron Prentice

When I arrived on Saturday morning, there were already a number of control line models on display and several in the air. By lunchtime there was an impressive display; in particular, a notable collection by members of the Bilston Club.

Shortly before 3pm Henry J. Nicholls and Chris Coote arrived with their chairs

and clip boards ready to judge the SAM 35 Old Time Stunt Competitions. Entries were slightly down on last year, probably because the competition was held on the Saturday, it being thought better to devote the flying area to fun flying on Sunday. The competition consisted of two rounds, each flight before a different judge, the totals being added together.

First off was Mike Rolls flying an early version of Bob Palmer's Veco Chief complete with original Pollywog airfoil section and authentic colour scheme. Flying conditions were not easy, the fresh blustery wind making overhead manoeuvres difficult.

Next was John Perry with his large and usually impressive Taurus. Unfortunately John had been experimenting with a different intake and pressure feed which upset his usually steady motor run, causing it to run extremely rich throughout his first flight and making it impossible to carry out any manoeuvres at all.

Ron Prentice was third to fly using a de Bolt Stuntwagon. Previously powered by a Merco 61, the model was now fitted with a Merco 49 which slowed down its impressively fast speed and made it easier to handle in the windy conditions, but the vertical and overhead eights suffered from a slight lack of power.

Those of us who saw Peter Michel's performance at the first SAM OTS competition several years ago, when he became giddy and gave a most hilarious interpretation of the schedule, were wondering if we would be treated to a similar spectacle when he produced the same model - a Laurie Glover Thunderbug

equipped with a PAW 1.49. However, he must have been practicing in the interim, for he flew competently until he ran out of fuel halfway through the schedule.

A newcomer to the OTS scene flew next. David Beales, having completed his Happy Harold during the past few days, very gamely took part in spite of a very long lay-off. Unfortunately a surfeit of over confidence caused him to crash while flying inverted and the model was written off. Ken Day's Hot Rock followed with a good flight.

Mick Taylor, who not only presented the SAM 35 OTS Trophy but has won it for the last few years flew a beautiful Trixter Barnstormer powered by a Fox 35. Despite being a new model, it was obvious during practice that this combination was going to be hard to beat! In the event, with the Fox running smoothly Mick performed in his usual polished style and scored the highest number of first-round points. Dave Day, ex-Assistant Editor of RCM&E, was the last to fly with a very lightly-made Ambassador powered by an Elfin diesel. Although he made a fair attempt his lack of practice showed in some manoeuvres, thus keeping his score low.

The blustery conditions which continued during the second round were made worse by turbulence from the trees. However, most managed to cope better than in the first round and generally improved their scores. At the conclusion of the competition, Mick Taylor had again won his own trophy with 601 points, with Ron Prentice in second place with 490 and Dave Day third with 472.

Although it was down in numbers from previous years, the event was enjoyed by



all who took part and will be looked forward to again next year.

On Sunday the weather was even kinder, with plenty of sunshine and vry little wind. The Fireball Trophy event took place at 3pm, prior to which Mick Beach (donor of the Trophy) and I walked up and down the flight lines, selecting those models which we felt were most 'vintage', as the Fireball Trophy is awarded to recognise the authenticity of both the model and engine of pre-1953 C/L models, with static judging to be followed by a flight.

Having chosen the models, the owners were asked whether they would like to take part.

First off was Pete Wright's Wrangler, a very impressive model which made a very fast flight. At first it seemed that as it was the designer's own original it must be 100% authentic, but some points were lost because the motor (which was not that originally fitted) was a 'Bitza' and thus not truly of the period.

Robin Clews' Boxcar lost points because of incorrect wheels and covering material, and the motor did not run well, causing the loss of valuable flight points. Sam Skitt's Super Saint did not do terribly well on authenticity but flew well. The Veron Stunter of Charlie Crawley was the only model to gain full points for authenticity, but unfortunately the old Mills 1.3 did not run particularly well. . . Tom Hughes' Veco Chief was authentic in many ways, including engine, wheels and colour scheme, but was lacking cockpits and U.S. Star insignia on the wings. Flight points suffered because of a short motor run. Ray Gordon's Frog Vandiver was beautifully

made but lost authenticity points because he had left off the aluminium cowlings. Despite starting problems and a very short run, he gained high flight points.

On taking a close look at Gordon Counsell's very nicely made Super Zilch, Mike decided that some points should be deducted because the model was covered with Solartex and the cockpit canopy was not quite correct; but the model performed superbly. It was thought that Peter Russell's original 293C, powered by an Ohlsson 23, would surely have gained top authenticity points, but for some reason Peter did not turn up at the appointed time. . .

Lastly, Mind the Lines contributor Andy Brough presented his Small Fry. As I felt that my views on this might be biased (*Ron Prentice designed the model; GC*), I asked Mike Beach to mark the model without my help. The model was totally authentic and had an original Mills 1.3 MkII but lost one point because of a plastic prop (my choice was an 8 x 6 Tekniflo laminated wooden prop). However his flight, although long, was beautiful, taking one back to those balmy days at Fairlop and Radlett in 1948 and 1949. When all the points were added up, the winner was indeed Andy - by one point! An excellent result.

Lancastria Cup for Midge Racing: report by Andy Brough

This year we can say that Midge racing has come of age. Most vintage comps now include a Midge event (but not always to SAM rules) and even the SMAE are getting in on the act. Launch techniques

are now well established (a major problem in the earlier events) and the racing is very close. This year's event was also the first to include other Class I designs or scaled down larger class speed models. Johnny Hall of 1950s speed fame kindly donated a cup for the fastest 'non Midge'.

The event was held on the Saturday, as last year, in the breeziest conditions of the weekend, but no-one seemed to suffer. After last year's extra effort, when arm power was added to horsepower, the rule on whipping was closely enforced, that is, timing did not commence until the pilot's handle was on his chest. It must be said however that all played very fair and no flights were untimed.

As an added incentive for the increased use of vintage motors a bonus of 15% was added to the speed of models powered by genuine vintage motors. That this worked can be seen from the results! It must be said that all flights were timed by two watches, one of which was supplied by the famous Fred Carter especially for the Lancastria Cup. He had even signed it on the back as verification that he had calibrated it; a very nice gesture (it didn't go round any faster than the other watch though!).

By the start of Round 1 at 1pm thirteen entries had been received, one less than 1985. All were Midges, bar one. Poor Tim Hughes' Javelin powered Midge was in all sorts of trouble and eventually scratched. The first timed flight really set the cat amongst the pigeons as Barry Wade's Elfin version whizzed round at 78.95mph. With 15% added we had a first flight of 90.79! Mike Bennett then put the dog amongst the cats with a repeat of Wade's



Top row, far left: This splendid Fillon's Champ sailplane, finished in 'as per' red and white and with correct insignia, caused many a murmur of admiration with its fine soaring flight. Next: The Veron Goshawk is an elusive control-line subject. This view of Dave Leddy's four-stroke-powered version emphasises its 'heavyweight' lines. Left: Trio of Pinocchio biplanes by John Walden - all in identical yellow and black - are for CO₂, Mills .75 and ED Comp Special. Middle one is the size Gabriel Martin originally designed it! Bottom row, far left: The Maestro himself. Bob Copland made another example of his fine 1936 duration model which uses a simple black and white colour scheme for maximum in-flight visibility. Note the transfer on the fin, which is of Bob's old club, Northern Heights. Next: Another not-entirely-unknown enthusiast - Henry J. Nicholls holds Ron Prentice's 'prototype' Mercury Musketeer replica. Below left: Tony likes them big! Following on his large Rupert Moore Viper, Tony Turner has produced this most impressive one-and-a-half times Frog Jupiter. Below: Signing on! Ray Malmstrom makes his mark in the Visitor's Book, held here by an aeronautically-bedecked Ron Moulton.



78.95, also with an Elfin. This was going to be a vintage year. The only others in the first round to get really close were the team of Skitt/Clews on 89.1 and Mike Taylor on 81.1mph. Dick Roberts and Ken Garbett were also near with speeds around the actual speeds of the Elfin but that 15% was going to make life tough.

By 3.00pm we were ready for the second round and all eyes were on Wade and Bennett. B.A.'s Elfin was slightly off song for 88.4 (76.9mph actual) but Mike got it just right with a scorching 91.60! Who was going to beat the Elfin? No one as it turned out, although Clew/Skitt, changing duties in the hope for better things, repeated their 89.1 (there's partnership for you).

Young Paul Kennard had a go with his Speed Wing but could only manage 68.7mph; nevertheless a very creditable attempt with a very well built model.

This was quite the best Midge event I've been involved in. The absence of whipping didn't result in the speeds being greatly reduced from last years', and the good-natured competition made the whole affair well worth the effort.

A pilot's meeting was held afterwards to decide the rules for next year (all very democratic!). These will be as 1986 as the formula works very well, but over the next twelve months as much information as possible on other Class I models will be published in Mind the Lines to encourage more diversity; although all agree the Midge is a super model. We also decided to allow a reduction in size of engine cowling on these scaled-down craft to suit the engine used. This is because many larger models were not much over 12in. span, the minimum that the Lancastrian Cup rules allow, but they had very much larger engines which would make them a very draggy prospect with only a 1.5cc engine up front.

One other unkind comment was heard, namely, 'a Midge - why that's only a noise on the end of a piece of string!' But we all rolled about laughing...

What else have we! Oh yes, B.A. Wade's Midge had a 1950 1/2d (half an old penny to you youngsters) as a tip weight. Good, eh!

It's surprising how far people will go to cheat. Dick Roberts had a one-and-a-third sized Midge with an ETA 29 up front but we decided he could still enter if he flew on 35ft. lines! I won't repeat what he said!

One final thank you; to Pat Roe, for producing a computer print out of six-lap timings versus speed. Very useful. I can send copies for an SAE.

Vintage Weekend 1986 Results

Control Line

Aerobatics	Mick Taylor - Trixter Barnstormer
Lancastrian Cup	Mike Bennett - Midge
John Hall Cup	Paul Kennard - Speedwing
Fireball Trophy	Andy Brough - Small Fry

Free Flight Power

J. Haggart Trophy	1 David Goddard, 2 Colin Watts, 3 John Kay
Norman Lane Memorial	1 Clive Bunyan, 2 Peter Harvey.

Rubber

R Malmstrom Event	1 Ralph Darnborough
Eri Stahl - Low Wing	1 Ron Brownson, 2 Don Knight, 3 Ray Johnson.
Eri Stahl - High Wing	1 Vic Dubery, 2 Mike Lester, 3 Don Knight
C.A Rippon Trophy (Cruiser Pup)	1 Mike Hetherington
C. Rupert Moore Trophy	1 Ramon Wilson
Wakefield Mass Launch	Vic Dubery.
'A' Frame Mass Launch	Peter Michel
H.L. Glider	1 Tony Hall, 2 Eddie Horsey, 3 Ted Hopgood (Jr) Luke Willis
Achilles Event Jnr	1 Robert Lamb, 2 Duncan Cheadle
Snr	1 Chris Strachan, 2 Gordon Beale, 3 Adam Beales

Radio Control

Kail Trophy	Tony Froggatt - Falcon
Paris Trophy	Arthur Fox - Cavalier Twin
Husband & Wife	Roger and Margaret Watson.



Top: One of the most compelling aspects of Vintage Weekend is the chance to examine craft that were actually built in days of yore; for example, this Bowden Satellite, which has passed into the hands of Tony and Jonathan Taylor. Surely a candidate for restoration - or is it more than interesting as it stands? Judge for yourself as Jonathan holds... Above: Dave 'VTO' Linstrum with his Cox .020 powered Strato-Streak (see text). Model carried a variety of club insignias; apart from that of the Chicago Aeronauts, the Dross MFC emblem was prominently displayed.

Below left: Once again the winner of the SAM 35 Old Time Stunt competition, Mick Taylor looks surprisingly grim as he presents his Trixter Barnstormer to the camera! Below right: Old Vintage Corner himself, Alex Imrie, in perplexed mood. What can be going through his mind? A prize is offered for the best photo caption received at the Aeromodeller Desk by November 1st. Don't you just adore the way some people dress for the part!



FROM THE HANDLE

CONTROL LINE NEWS

Racing with Jim Woodside

The 1987 European Control Line Champs

The Swedish Aeromodelling Association is to celebrate its 30th year by hosting the 1987 C/L Champs. In tandem with classes F2 there will also be Championships for C/L and R/C scale (F4B and F4C).

Those who had the pleasure of attending the 1982 World Champs enthused about the quality of the organisation and accommodation. All in all this looks set to be another vintage affair. Details below:
Site: Oxelosund Airport, Nykoping.
Dates: Classes F2: July 22-27th
 Classes F4: July 20-27th
Fees: To be announced; these will depend on the type of accommodation chosen.

More information from:
 Forbunds Expedition
 Sandbergsgatan 4
 Box 100 22
 600 10 Norrkoping
 Sweden

Tales from Down Under New Zealand

No; the photo is not a shot of the 'Little House on the Prairie', nor is it of another sort of little house as some have been so unkind as to suggest. This fine new circle is the result of much hard work by modellers in the New Plymouth area. It is good to see the growth of such specialised sites. In truth we need more of these in the UK for it seems to be increasingly difficult to get the RAF to release its runways to us for competition days. However, back to the New Plymouth site: I presume the wooden corral is used to house the pilots before letting them loose in a race!

Australia

In the early part of the year I sold several of my engines as Derek Heaton and I had decided to run only the Dragon series of engines built by Don Haworth.

A very nice Haworth-tweaked Nelson made the journey to Victoria, Australia, and it was heartening recently to receive a letter from its new owner, Andrew Nugent,

to say that it had performed well enough to win their State Championships. As the Nugent brothers have now qualified for the Australian team the motor's next outing will be in the Trans-Tasman competition against New Zealand. Good luck to them both.

Carbs and performance in T/R

I am writing this not long after returning home from the World Championships in Hungary. Not enough dust has yet settled for me to draw any firm conclusions. When we arrived our new Dragon 5 motor had only one race behind it, when a 3.7mm carb was used. Our usual maximum size in the UK is 4.0mm. In the heat of Hungary (thirty degrees centigrade was reached) I have the feeling that even at 4.0mm we were far short of the size we needed. Martin Sladdin and Ian Gardner used a 5.0mm carb to achieve 18.4/10 airspeed for 31 laps on their three-stop model. This represented a 4/10th second increase in speed and a four lap gain

Victoria State Champs T/R Results

1 Nugent-Nugent	3 53	3 53	7 59	Nelson RE
2 Fitzgerald-Fitzgerald	4 01	3 45	8 03	Nelson SE
3 Wilson-Lumsden	3 52	3 54	8 06	Nelson RE



Top: Looking pleased with their achievement are Andrew and Dave Nugent, the 1986 Victoria State F2C Champions. Below: New Zealand enterprise - the splendid new segmented C/L circle for the use of the New Plymouth enthusiasts. A variety of architectural style is apparent!

range. All of this reminded me of an article by Dr Mark Elder which appeared in a recent edition of SATRN. I reproduce this in full below - any comments from you readers?

Weather and Performance

by Mark Elder (SATRN magazine)

Our two-stroke engines combust air and fuel to make heat and pressure to provide mechanical energy. It is not surprising that air temperature, humidity and pressure have a large influence on engine performance. For full-size engine development engines are usually tested on a dyno and the horsepower achieved is standardised to standard weather. This is usually 15°C, 75% humidity and 1013 mbars pressure (760mm Hg). As you will see, the weather can make huge differences in performance and it is essential to exclude the weather effects so that you can assess real performance changes.

The formula for correcting observed horsepower (BHP_o) is below:

BHP (standardised)

$$= \text{BHP}_o \times \sqrt{\frac{273 + t}{273 + 15}} \times \frac{1013 - e}{P - e}$$

where t = temperature in °C
 P = observed pressure
 e = mbar of humidity; i.e. zero humidity = 0 mbar
 50% = 31.3
 100% = 62.6

Example, t = 25°C, P = 1030, e = 43.8 (i.e. 70% humidity), BHP_o = 1.20

BHP (standardised)

$$= 1.20 \times \sqrt{\frac{273 + 25}{288}} \times \frac{966}{1020 - 43.8}$$

$$= 1.20 \times 1.017$$

$$= 1.208$$

However, there are only three dynos in NZ (mine and two in Wellington) so this isn't much use to you. But read on... by studying the variables in the equation you can see how they effect the performance of your models.

Consider temperature. Clearly a cold day is better than a warm one. Compared with 15°C the BHP gains are: 0° = +2.7%, 5° = +1.8%, 10° = +0.8%, 20° = -0.8%, 25° = -1.7%, 30° = -2.5%, 35° = -3.3%.

Barometric pressure is even more important. High pressures are faster, and compared with 1013 mbar: 980 = -3.4%, 1000 = -1.3%, 1020 = +0.7%, 1030 = +1.7%.

And lastly, humidity is a killer; the less the better. Compared with 75%, 0% is 4.9% faster, 30% is 3% faster and 100% is 1.6% slower.

These performance changes are important. The best weather is low temp, low humidity and high pressure. When you compare a day (of) 25°C, 90% humidity and 970 mbar with (one of) 5°C, 10% humidity and 1030 mbar there is a 16% horsepower difference. This is a 5% speed gain and a drop in T/R times from 20.0sec/10 to 19.05 sec/10!!!!

For those modellers who travel a lot you can now rationally compare expected performances in different towns and

countries, i.e. NZ versus Australia or performance at the World Champs. However, for all of you daydreaming of the 'right day' for the new record, remember that it affects all engines equally. And for the T/R daydreamers among us you might like to know that the current World Record of 3:19 by Kramarenko was performed at 32°C, 90% humidity and average pressure. This is about the slowest weather that could exist - God help us when the weather turns in their favour.

Jurgen Bartels Products

Busy Jurgen Bartels has several new moulded items on offer, as follows:

- (a) Pitch gauge (Rumpel style)
- (b) Dr Schmidt single blade F2A prop
- (c) 13 1/2 x 10 prop for 20cc four-strokes (not much good for T/R, but interesting nevertheless)
- (d) New Straniak F2C prop.

Prices are not yet to hand but they will no doubt be the usual Bartels value-for-money. Contact: Bartels Props, Postfach 3001, 2900 Oldenburg, W. Germany.

Stunt with Claus Maikis

Mass production

One of Holland's Hints back in the March issue reminded me that there are questions which seem to appear over and over again. It is not only beginners who are confronted with these problems. I've discussed these topics with long-time modellers who obviously haven't found satisfactory answers to some of them. In Germany I write occasionally for a control-line newspaper; from the letters I get it's clear that the same questions are asked by several people, so this must be an indication of what flyers want to know.

It might be a good idea to start a series to cover these topics, many of which centre on building techniques needed for certain components or units. I'd like to dig deeper and examine things from a specifically aerobatic-model level.

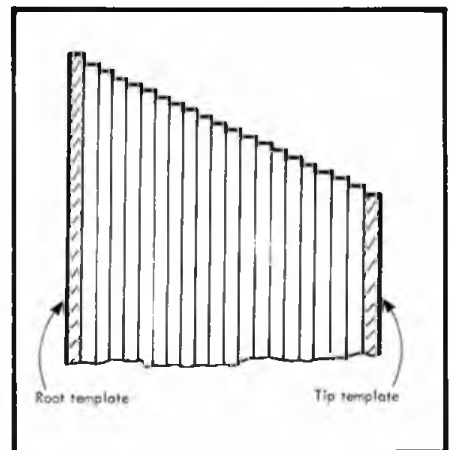
It's not necessarily the beginning of construction, but the most asked question is - how do you make ribs? I'll touch this topic first (old hands may pass over the following lines and reach for the TV switch now!). Almost everybody knows what the 'sandwich' method is, and many have used it for years. Nevertheless, flyers still seem to have problems with the front of the ribs, giving them a too-pointed edge which leaves insufficient area to glue to the leading edge. I don't claim to have the perfect answer, but at least my ribs fit (mostly!) so you might get some inspiration for your own method.

I don't use metal templates because I'm too lazy to make them. So far I've never used the same templates twice; instead, I've had to make new ones for each design. 2mm plywood is my choice. There are a few things to remember when drawing them out, but I'll come to that later. I cut my ribs



This is what usually happens when you tilt the rib stack. It can't be worked on like this, of course.

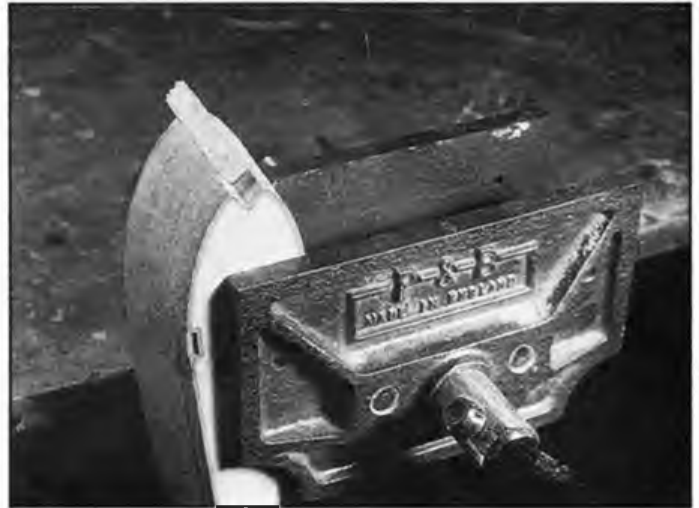
roughly with the root template - rectangular blanks would waste too much wood; those stunt models are big! You wouldn't get two of them side by side from a normally-sized sheet of balsa. In order to save some balsa a few ribs may be cut a little shorter (presuming you are building a tapered wing). The stack of ribs is clamped between the templates (which have no cut-outs yet). I use a special vice which is made in England, so you might easily find one, if you wish! Begin by shaping the rear of the ribs, top and bottom. I don't try to achieve



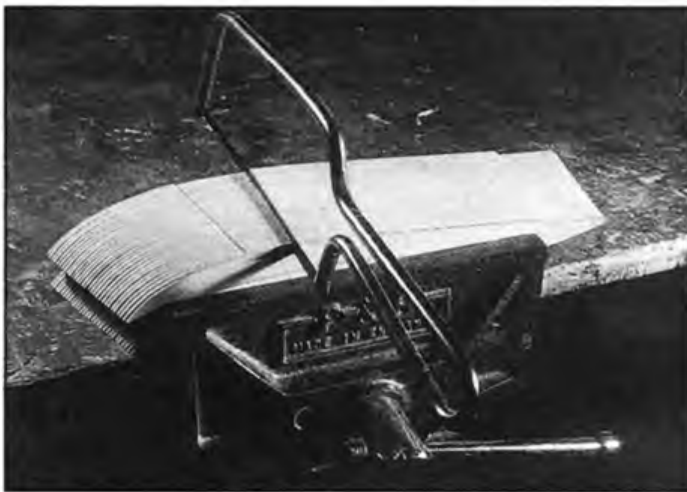
a good finish; a slightly rough surface is better for glueing. During this process, the end of the stack must be at right angles to the templates. Before shaping the front end the stack must be repositioned. This means that the front edge of the block of ribs should be at, or nearly at right angles to the root template. Now the stack is held loosely and vertically, allowing the rear edge to rest on a piece of coarse sandpaper. Tilt it gently to allow the ribs to slide against each other. Don't hold it too tightly - each rib must be allowed to touch the sandpaper. If there are one or two obstinate ribs, a little persuasion against the front of the stack will ensure that all the ends lie in a straight line. Next, the block is clamped in the vice again to allow the front edges to be shaped. This is the right moment to make the notch for the leading edge. I put a short piece of strip into the notch to allow the front edge to be



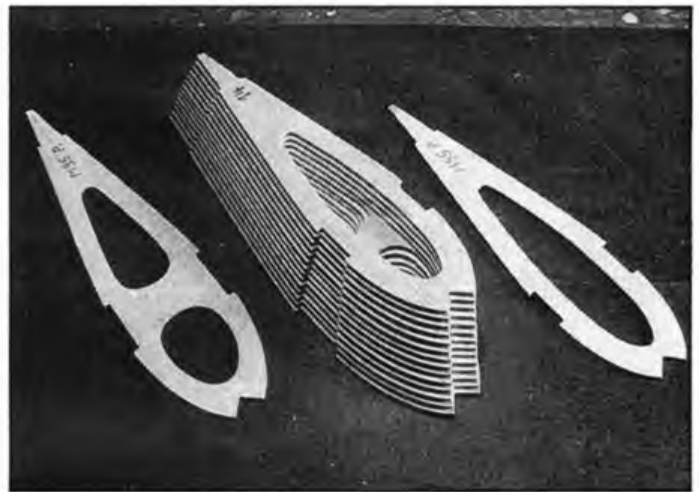
Note that the rib ends are carefully aligned here. Don't forget to align the rib sideways, and position the templates with centre lines parallel.



Shaping of the front end and cutting the leading-edge notch is done with the edge square to the templates - or better still, with the same angle of taper as the wing planform.



Spar notch is cut with a fine saw. Don't cut to full depth - break off and finish with increasingly finer grades of file. Cuts must be perpendicular to templates, so position ribs accurately.



Finished inboard ribs. Note that the ribs near the tip must have cut-outs big enough for variable leadouts; there is no room for a brace.

shaped exactly. The stack is then repositioned so that the mainspar notches lie in one plane; the shaping is finished and the spar notch cut with a fine saw and needle files, checking with a piece of spar strip.

The decision whether to make rib cut-outs is up to you, and can depend on wood selection. Of course, holes are needed for the leadouts. Since I always use variable leadout guide, I have to cut slots instead of holes. I prefer relatively stiff balsa for ribs, so this means medium weight wood; and it then makes sense to enlarge the slots as much as strength considerations will allow. Usually I don't make cut-outs in the outboard ribs, because you'll need some weight here anyway, and as your helper will probably grab the model here while holding for you, some increased rigidity will do no harm. And you'll save some work, too. Now make the required holes in the templates. Number all the ribs, beginning at the root rib. Those with uneven numbers will be the inboard ribs. Use an electric drill and various round files to make the rib cut-outs, repositioning the stack as necessary.

While doing all this, you'll notice a small problem. Because of the thickness of the template, my smallest rib is slightly bigger than the tip rib template and the root rib is shorter than the root template! This means that I'll have less sweep in the finished wing than on the plan. For this reason I draw the tip rib template about 3mm shorter than the plan length. This amount depends on the number of ribs - the more you have to make, the smaller the deviation.

The ribs are numbered for several reasons. The most important one becomes obvious when your stack of ribs falls down. Have you ever had to try and put the ribs back in correct order after this has happened? I have...

Producing ribs in this way means that my inboard wing has a slightly greater chord, as the ribs with uneven numbers are always longer than their 'even' counterparts. Since we usually make our outboard panel smaller anyway, I don't consider this a disadvantage.

The two centre ribs are strengthened by laminating them with very soft sheet 4mm or 5mm thick, using cyano as the adhesive.

When cutting the outline, the front part is left a little larger than the existing rib to allow for an increasing taper to follow the wing outline, as I always install these ribs with the thick sheet towards the centre of the wing. Finally, I usually rework those ribs where the bridge between the front and rear leadout holes is too narrow by removing the existing bridge and substituting with a small brace of balsa, with grain vertical.

There must be a better way of producing ribs, but I haven't found it yet. Of course, if you think you might need another wing the same, you could make up your rib stack with twice the number of ribs. This block will have less taper (actually half the amount) and repositioning might now be unnecessary once the templates have been arranged with equal taper front and rear. But then, working out the rear shape can be critical because the stack is very high now, but very narrow. It would be very difficult to clamp and shape, so - for this reason alone - I wouldn't use this method. Besides, I haven't found the ultimate airplane design yet. This means another new aerofoil next time - again...

In this two-part account

Dave Hipperson gives us the complete run-down on lightweight Tomy timer conversion from miniature toy motors

I DON'T KNOW WHO discovered that untreated lamp wick made a practical and reliable fuse for dethermalisers but the idea has certainly stood the test of time; nevertheless, in future we are going to be smelling that magical aroma less and less because now - and at long last - the fuse has been superseded. The Tomy timer, formerly known as 'Snoopy' can with the very minimum of work be made to function much more accurately and reliably. Right away I must admit to being a late convert, for Martin Dilly brought them to our attention back at the start of '79. Until recently I believed them to be rather gimmicky - with too much fuss attached to them - and probably a load of trouble. I was quite wrong. Apart from being a mere few grams heavier than a fuse system they are a good deal more convenient, impervious to rain and, unlike proprietary metal clockwork timers, they don't corrode and can be made to work more accurately. After discovering for the first time how beautifully a Tomy timer worked in a Coupe d'Hiver model when preparing for the last *Aeromodeller* event at Henlow I have been doing extensive work with them over the past year. Now I have over a dozen installed and working various functions in a selection of models, and my plans are eventually to equip all my airframes with them, although I may draw the line at Vintage. During this time I have talked with many others who use them and have studied numerous approaches to installation. At one time or another I have tried almost everything that has been suggested and I think the culmination is a system both reliable and quick to produce. Few of the ideas are of my origination so I hope to credit the sources as I come to them; they are all more experienced than I.

This month I shall limit myself to explaining the best method of preparing a Tomy toy motor for simple D/T operation. Next month I hope to detail other possible functions and illustrate some examples.

The motors

Mechanisms are of nylon construction apart from the steel drive spring and shaft. Run-down speed is governed by a small (but accessible) solid nylon waggler. The motors, which are manufactured by Tomy of Taiwan, appear in a variety of miniature toys. Very rarely will you find Snoopy models nowadays as they are no longer fashionable. I have limited myself to two basic designs, the larger coming from a series of quite complicated little dolls called the 'Get-Along-Gang' (photo 1). These motors are invariably of a very high standard; after dissecting more than fifty I found only two that were not running well enough to use. When stripped down they weigh under four grams. The

other, even smaller motor comes from a delightful creature known as a 'Minimal' (see photos 2 and 3). These are a rarer find but worth tracking down. The gear trains are further miniaturised and the spring is less powerful but they are just as well made. I have had just one faulty example after examining more than thirty. The Minimal will weigh less than three grams when stripped down. You will see that the old snuffer tube, two inches of fuse and aluminium foil heat sink begin to look quite heavy in this company, don't they!

Speed differences

There are slight variations in speed which are worth knowing about. The Minimal, for instance, runs at two different speeds. 'Dogs and Ducks', presumably for scale effect run off in 15-18 seconds because they are fitted with a slightly lighter waggler whereas Hippos, Giraffes and Elephants - models of bigger animals - run off more slowly, taking nearer 25 secs. The slower ones are to be preferred for D/T operation but of course both types can be slowed even further. The larger Get-Along-Gang motors are all rated at the same speed, 30-35 seconds for a complete run-down, but different toys use a variety of auxiliary drives from various stages of the gear train. There are also variations in size and position of wheels, and so on. Depending on the complexity of your application the right choice can save you a lot of work - but more on that next month.

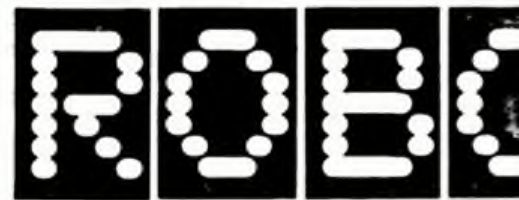
If there is a problem then it seems to be one of supply. Martin Dilly himself always has some to sell and he passes them on at no mark-up. However, for quantity purchases I have found that the best places are department stores, the bigger the better; or on the other hand the old fashioned high street toy shop (avoid toy supermarkets - they don't seem to stock them). Look around - the toys are invariably vacuum packed and hanging on a stand or wall somewhere. As I have said before they are so reliable there is no need to test run them; once you have the design you want simply buy them off the shelf. I have had to slow down a bit of late because I have noticed sales assistants nudging each other and giggling when I turn up regularly with half a dozen or so at the cash desk!

Before you start wondering I should tell

Above photos: 1: Typical Get-Along-Gang toys; 2: A Minimal Giraffe as found in the shops; 3: Typical Minimals - Hippo and Horse! 4: Standard size Tomy timers. Those on the right and beneath are from Get-Along-Gang toys and the one at top left is from a Jack-in-the-Box. Note all the extra wheels and other bits. If you need other functions - besides D/T - don't dispose of them or even cut them off until the system is designed. Such parts can be very useful when still connected... 5: Making the two holes in the waggler. A modelling pin mounted in a drill chuck is taken up to red heat, pushed gently into (but not right through) the waggler and allowed to cool before removal. See also photo 6 overleaf.

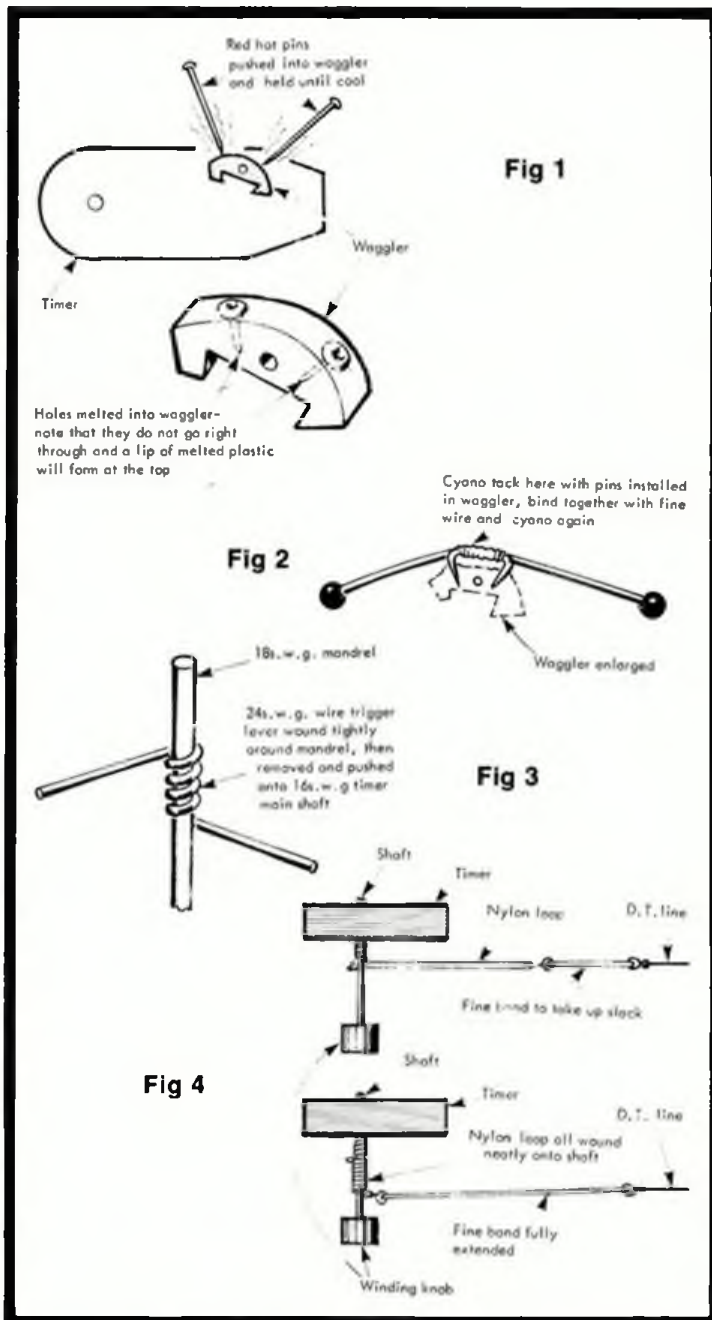
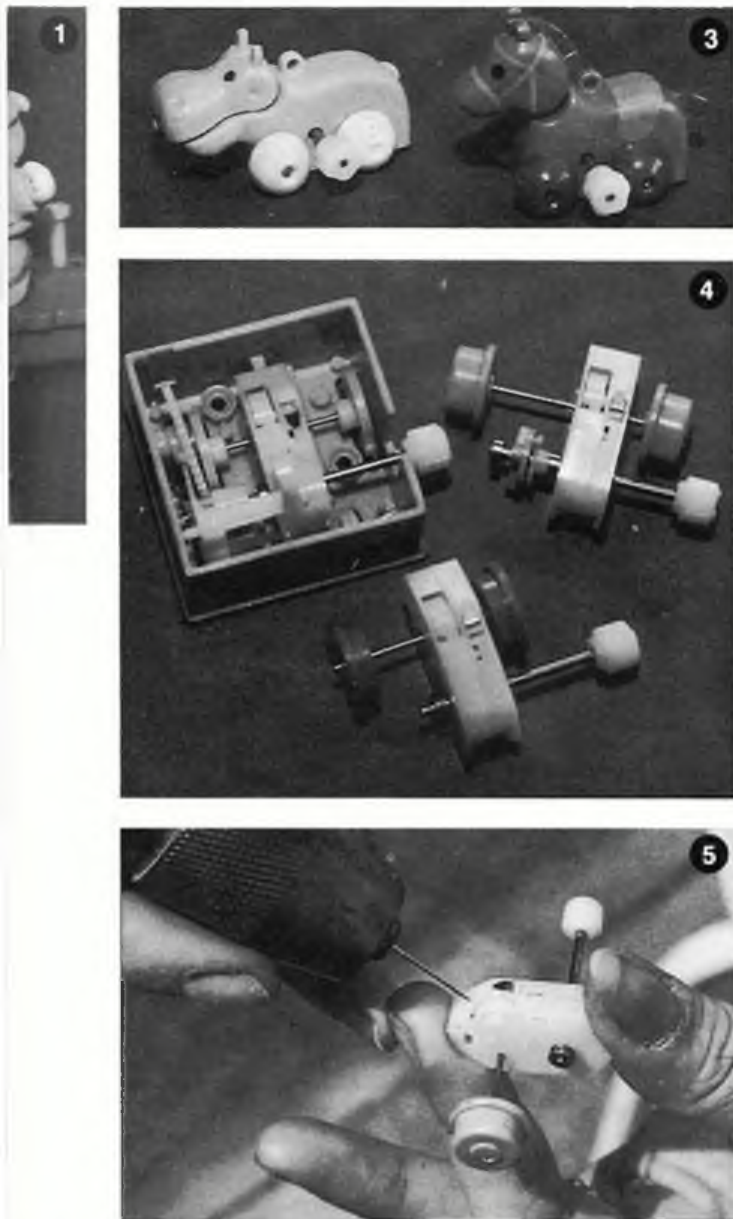


Lightweight



you that some time ago Martin did contact Tomy direct with a view to obtaining the drive units in bulk and hopefully at even less cost, but he received no reply. Judging from the numbers in shops it would appear that the manufacturers can sell quite enough through normal toy shop channels. However, it is worth bearing in mind that fashions come and sometimes go very suddenly. When you have tried one of these units and have realised its potential it may be wise to buy quite a few for future use. Consider how you kick yourself now for not buying more coloured Modelspan tissue and Pirelli rubber when you had the chance!

The Minimals are incredibly cheap at

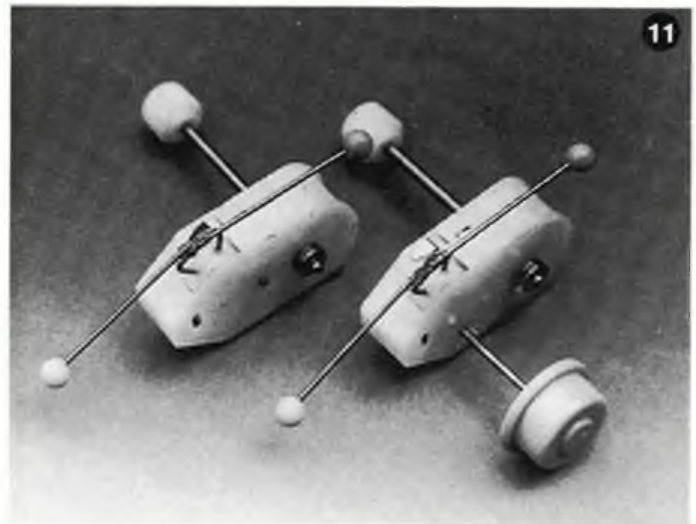
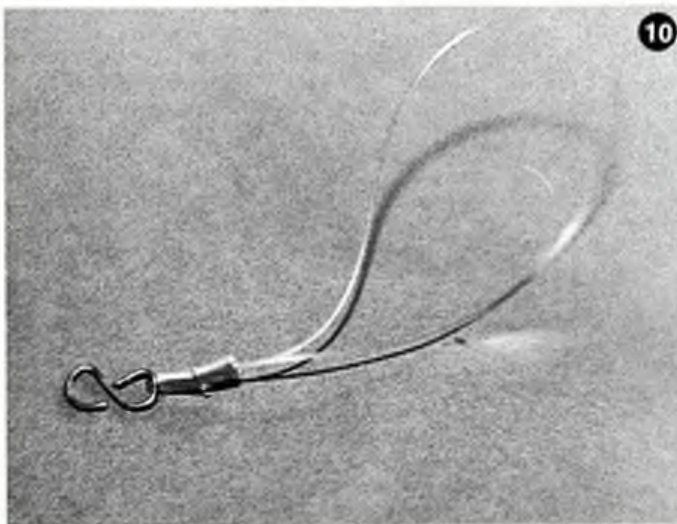
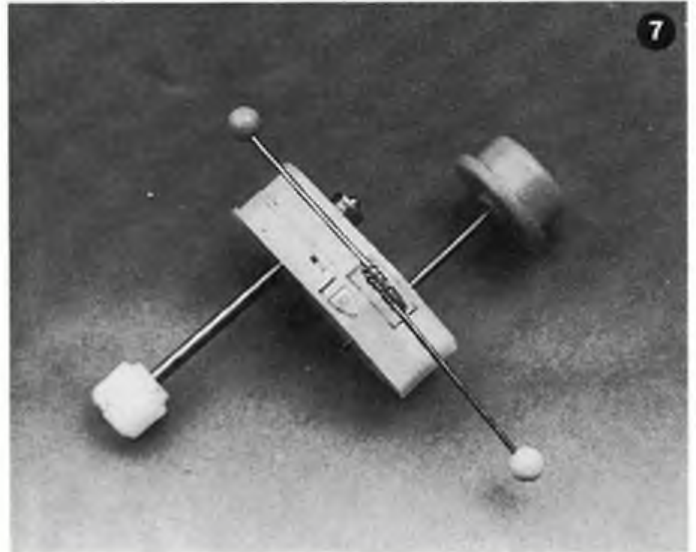


£1.50 each. The Get-Along-Gang toys range between £2.00 and £2.50 as they are rather more complicated. These are London prices; doubtless elsewhere will be cheaper. Many of the throw-away parts are actually worth keeping anyway. The Get-Along-Gang are screwed together with very tiny Phillips - headed self-tappers which are ideal for fixing a faceplate-mounted timer into a model. There are often minute coil springs and various wheels superfluous to immediate requirements that can prove useful later too (see photo 4). The Minimals come in a very handy plastic box, perfect for storing bits and pieces in the workshop or as part of your field tool kit. Very little is waste.

Modifying to simple D/T operation

If you follow my advice and use Get-Along-Gang units then another advantage will quickly become obvious. They are very easy to remove from their toys. Simply unscrew the case and the timer falls out. If you are planning to use the timer for simple D/T operation where stop and start are not super-critical (ie two or three seconds either way doesn't matter) then any of the series, and probably most other walking toys made by the same firm, will do. The choice becomes a little more limited if you have visions of accurate throw release but here we will limit

ourselves to the basic modifications. Once the unit is out of the toy cut off any extra driving wheel shafts and grind them flush with the nylon casing. I have yet to damage a motor by doing this as they are very tough, but go easy. The next job is to reduce the speed of the motor by adding weight to that nylon governor or waggler. *Don't* remove it; there's no need at all to take it out. (This is John O'Donnell's idea - I wasted hours fiddling about springing wagglers in and out of the housings, and wrecked a few motors too). Take a red hot pin and make two holes in (but not right through) the waggler in situ as shown in Fig 1 (and photos 5 and 6). Two plastic-headed pins can then be bent as per Fig 2, placed in the holes and tacked with cyano where they cross. Be careful not to drip any glue into the works. Once in place like this you will see how the claw effect guarantees that the pins cannot come out or wobble sideways (this was Ray Monks' idea). The cyano joint can then be bound with cotton, or better still, fine fuse wire and cyanoed



again. The restrictor will now be a firm fit in the waggler without actually being fixed to it. Standard modelling pins mounted in this way will slow a Tomy down from a total running time of about 35 secs for its $6\frac{1}{2}$ revolutions to something more like eight minutes (photo 7). That's a bit slow for most applications so at this stage I usually remove the pin heads, cut off about $\frac{1}{8}$ in. of pin shaft and cyano the heads back on again. The timer will now be running off in approximately five to six minutes from a full wind-up. This is most convenient as it means a rate of about 1 minute per rev, which is easy to remember when re-setting quickly for an awkward length max.

You will have noticed that the childproof winding system allows the main shaft to rotate once the spring is fully wound; also, the nylon knob is only a push fit on the shaft (the units might have been made especially for us!). Thus if the shaft protrudes too far one side for your application it can be pulled through and trimmed off to the length you require. A word or two of warning. Don't do anything drastic until you are sure you have the timer how you want it; and remember that the shaft can only be pushed through when the spring is fully wound. Avoid doing this more than absolutely necessary or you might find the shaft starts to slip before you reach all six-and-a-half turns. This hasn't happened to any of mine yet,

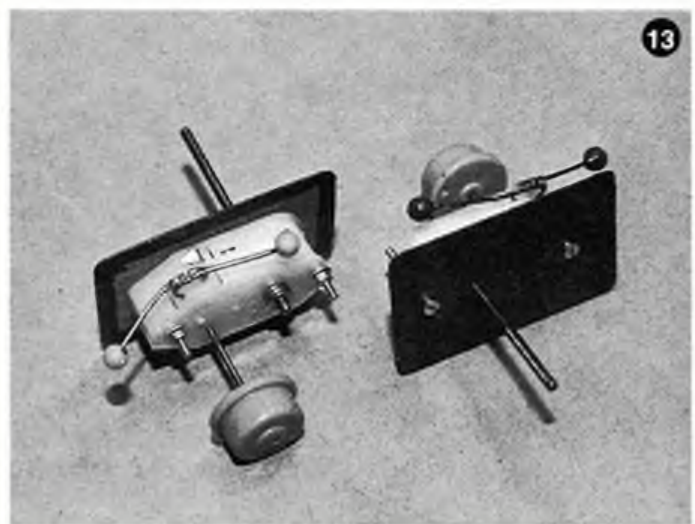
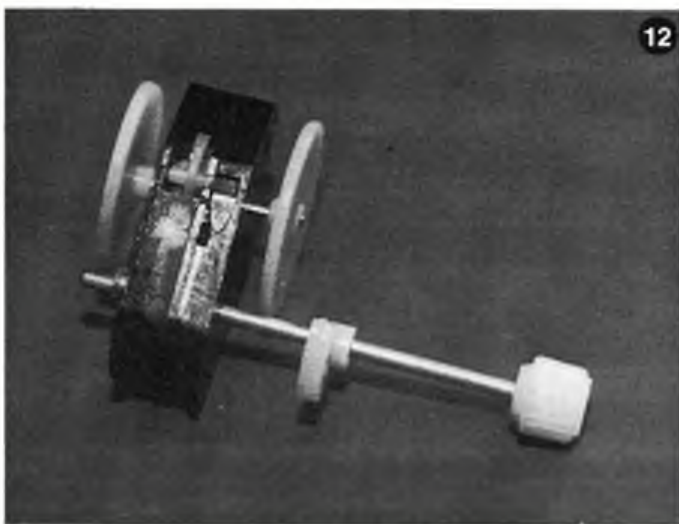
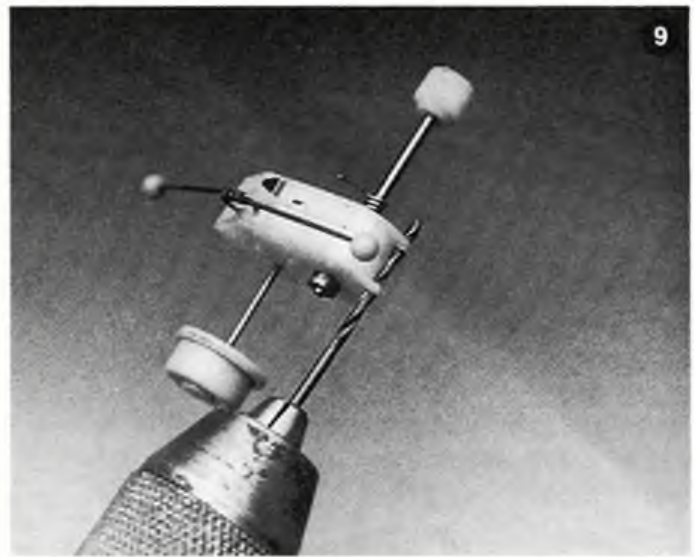
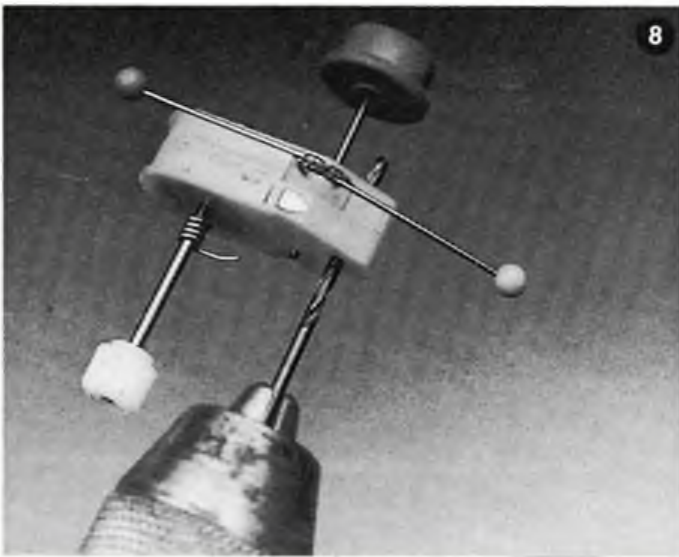
but I have heard that it can.

I always mount my timers with 12BA bolts, as I don't think glueing them on is a very 'engineering' approach. However, the holes will need enlarging. I use a drill that makes a hole of 60 thou. diameter so that the bolts are a loose fit (see photos 8 and 9). Drilled out, the timer can then either be bolted direct to the model or - more satisfactorily - bolted to a face plate of 1mm. ply or thin aluminium which in turn can be screwed into the model; even into the same hole from which your KSB or Tatone came if you are trying to save weight in timer equipped model (photo 13).

D/T Actuation

This is the unconventional bit. A scroll type attachment can be fitted to the main shaft *a la* Seelig (such scrolls are available from Dave Stapleton) or you can modify a radio thermal soaring wing retaining bolt as per Mike Chilton's system featured in the August column; but I recommend doing neither. I think my system is better simply because it encourages the timer to run, instead of introducing any friction that might tend to stop it. A release pin is fitted to the main shaft. It is quite unnecessary to drill, glue, or tamper with the shaft in any way apart from temporarily removing the winding knob.

Simply wind a piece of 24 swg piano wire around an 18 swg mandrel for between three and five turns, leaving both ends long (fig 3). This closed spring unit can then be slightly un-sprung and slipped onto the main shaft of the timer. When released you will see that it grips the shaft, which is 16 swg nominal, very tightly. Grip the main shaft in a vice or pliers and it will be noticed that the coil will rotate one way but in the other direction it will grip right down on the shaft. It is therefore important that you wind the spring in the correct direction. Photo 8 shows this - it is, indeed, the same way as the motor is wound, but a little trial and error will quickly show you which is correct. Remember that the lever is to be loaded in the same direction as the rotation of the motor so when in operation it must tighten down onto the shaft. Now the beauty of this is that a release pin of this type can be moved about or removed altogether at any time. Position on the end of the shaft but before sliding it into place trim off one end as short as possible and leave the other end protruding about $\frac{3}{16}$ in. Be sure to grind smooth this protruding end, which will take the release line, so it doesn't catch or wear the line. As for the position of the release pin, my preference is to have all of the coil against the timer so that the pin itself is nearest to the winding knob (photo 8). This 'release pin' idea is really the heart of the system and credit for it



More stages in timer construction. Photo 6: The second waggler hole is made. Compare with photo 5 and note the angles at which the hot pins are applied. 7: The finished pin installation before shortening (an auxiliary drive wheel has been left on to drive an additional function - details next month). 8: Drilling out the existing hole for 12BA clearance. Release trigger is already in place - note direction in which it is wound. 9: The other mounting hole is drilled out. 10: The fine nylon loop is closed by crimping all tube over the open end. A 24swg hook is similarly attached and is closed up after the elastic band has been connected. 11: Two complete standard size Tommys - one with auxiliary wheel. 12: Another Tomy model. Motor and wheels are fine but that thin waggler might cause problems when it comes to modifications... 13: Typical plate mounted units.

must go to Jack North who put me on to it. It is so much simpler than drilling holes or glueing bits to the shaft, and next month you will see how versatile the system is when we consider adding functions.

The release loop

With any luck you now have a timer that runs for six minutes, has mounting holes and a line release lever. To connect this to the tail for D/T actuation a loop of nylon - fine stuff of 10lbs breaking strain is quite enough - is made up at such a length as to be virtually consumed when it has been wound around the drive shaft $6\frac{1}{2}$ times. Attached to this, between it and the tail hold-downline should be a light rubber

band to compensate for the lengthening of the line as the timer unwinds, but still allowing tension on the tail line to be maintained. You will probably need to play about with the size and thickness of the band but once you have the feel of what is needed they become very quick to set up (see Fig 4 and photo 10). You can see that the tension of the D/T line via that take-up band will tend to turn the timer and thus assist its own spring rather than offer any resistance. Obviously the band should not exert too much pull and leverage to the timer; when fully wound the line will of course have come some way up the shaft (Fig 4 again).

For safest operation the timer should be allowed to unwind fully before being wound at least one full turn - two for preference - before the line is attached. As the motor will always be helped by the line tension its rotational speed is not such an asset to reliable operation as is the fact that it will actually unwind enough to release the line. Hence setting up the motors to run fairly slowly always leaves a few 'revs' in hand. The line is wound onto the shaft carefully to get the loop lying evenly along it. The loop will then release on the last turn as the pin reaches bottom dead centre and will still leave the timer running for a couple of safety revs after release. Once the length of shaft necessary to accommodate all the nylon line - for long flights - has been ascertained the

shaft can be cut down a little and the knob replaced to save even more weight.

It will now be obvious why the end of the release pin should be ground as smooth as possible - a burr may catch on the line and give delayed release or worse, wear through the nylon quickly. Doubtless the loop will eventually fatigue but I would think it should last fifty flights or so. You will also see that as we have probably slightly under one minute per rev it becomes quite practical to set the timer for very accurate D/Ts. Under normal conditions I would not expect to get better than five-second accuracy with a conventional D/T timer, let alone a fuse. With a Tomy set-up like this it is possible to get the margin down to one second, particularly if you have a pre-set, 'launch on release' system.

On the subject of maintenance. Whatever you do, never oil them. Dust blows out very easily and washing under a tap also works well - in fact the motors work very well totally immersed!

Photo 11 illustrates two modified units. It will be seen that one has a wheel still attached; next month I shall explain just how useful that can be. In Photo 12 we see a similar unit that runs fine and has many useful bits such as those nylon wheels, but it is one that would be difficult to modify for D/T operation because of the very slim waggler.

More next time!

F1E EUROPEAN CHAMPION

This premier event for magnet-steered gliders took place at the Wasserkruppe, West Germany, on 31st July and 1st August. Steve Philpott reports

FOR THE FIRST TIME in a number of years Great Britain had a full three man team for these F1E events; the participants were Trevor Faulkner, Jeff Palmer and Steve Philpott.

The first day, as usual for a championship, was a practise session. Steve Philpott in particular wanted to make the most of this so he persuaded Jeff Palmer to wake at 5am in order to start flying by 5.30. There was a 10mph westerly over the quite heavily wooded west slope, but Jeff and Steve managed some serious practise before Trevor Faulkner arrived at the relatively more social hour of 7am; though it should be said that he had already carried out extensive testing having arrived a day earlier. The breeze was dropping and veering by the time the British team departed for breakfast back at the hotel. They returned by mid morning to find that the wind had dropped to below 5mph and was now from the south. By this time a large number of people were testing their models.

Processing, which took place at 5pm on practise day was a rather informal affair compared to that experienced at 'conventional' FAI free flight competitions. Five models are allowed in F1E. The organisers just recorded the models as A,B,C,D and E; however, Steve Philpott's models had already been identified as A,C,D,F and H. This was to cause problems later in the Open International.

Processing provided a good opportunity to examine the other competitors' models. Structures varied enormously, perhaps as expected because of the variety of conditions in which models of this class are expected to perform. Most competitors were processing models clearly intended for light winds; the exception being the Czechoslovakian team. Such models generally resembled the older fashioned A/2 gliders, apart from having slightly larger tailplanes and longer moment arms. Most models were front steering (that is, with a nose-mounted fin and rudder, the magnet being mechanically coupled directly to the rudder) but there were a few rear-steerers with the rudder connected to the nose-mounted magnet by a pushrod. The Swiss used electronic steering, their system employing a small magnet, the position of which was determined by Hall Effect devices which through amplifying circuits drove a servo. This in turn operated the rudder and a variable-incidence tailplane. The device



was programmable to allow straight and circling flight with return to straight flight from the circling mode. The Swiss models, being of low aspect ratio, were also of much larger wing area than the norm.

The European Championships

It was already quite breezy by 8am on the day of the European Championships Contest. This apparently prompted a number of competitors to change models (the rules permit competitors to delay their choice until an hour before the start of the contest). However, at around 9am the wind dropped completely, to be followed by a short spell of rain, but then it picked up again, varying in strength until by the time of the start of the event at 10.15 (fifteen minutes late) it had freshened to 15mph average, peaking at 25mph.

As in other free flight championships a pair of timekeepers were allocated to each nation, but the first competitor to fly in the contest, Steve Philpott, was unable to launch when he wanted because one of his timekeepers had disappeared. By the time a replacement was found, a long patch of smooth air had gone resulting in a wait for the next lull. The flight looked good for the first minute and half but caught in gusts, the model drifted backwards over the slope to record only a two-and-a-quarter minute flight out of the possible five-minute maximum. Jeff Palmer was next to fly but, like Philpott, he had underballasted and his model drifted back behind the slope to disappear from view. As the timekeepers had not moved to the best position allowed by the rules the recorded time of under a

minute was far less than it could have been. The British had noticed that rain was approaching and Trevor Faulkner had prepared to fly whilst Jeff's flight was being timed, but the downpour arrived too quickly and Trevor had to wait. The rain stopped after ten minutes, following which the contest director announced that the round would be extended for ten minutes. This was verbally challenged by the British as being outside the rules. After discussion Trevor took his flight which looked well set until the model drifted a long way sideways and disappeared over a distant ridge for a respectable four-minute-plus flight. There was now a lot of activity and most of the nine maxes scored were gained during the close of the round. It is interesting to speculate on how many teams might have had problems putting in all the flights had not the round been extended. The contest director did announce to the British Team that he had discussed the matter with the Jury and they were happy with the alteration! (This is completely against the FAI rules).

Besides the British team now being effectively out of the contest, both Jeff and Trevor had lost models. In the second round things improved slightly; Steve made an easy max, D/T-ing down four hundred yards upwind; Trevor put in another four-minute-plus flight and Jeff was just short of three minutes.

The third round was to be the last chance for the Italians to take the lead. They had been looking good in what were to them unfamiliar conditions but the dropped flights of Mauri and Cosma combined to allow the Czechs to retain the lead even

SHIPS & EUROPA CUP 1986

though Berger managed only a two-minute flight. Also looking impressive were the relatively unusual models of Schellauf (Switzerland). The Brits did not improve their position despite Steve maxing out again.

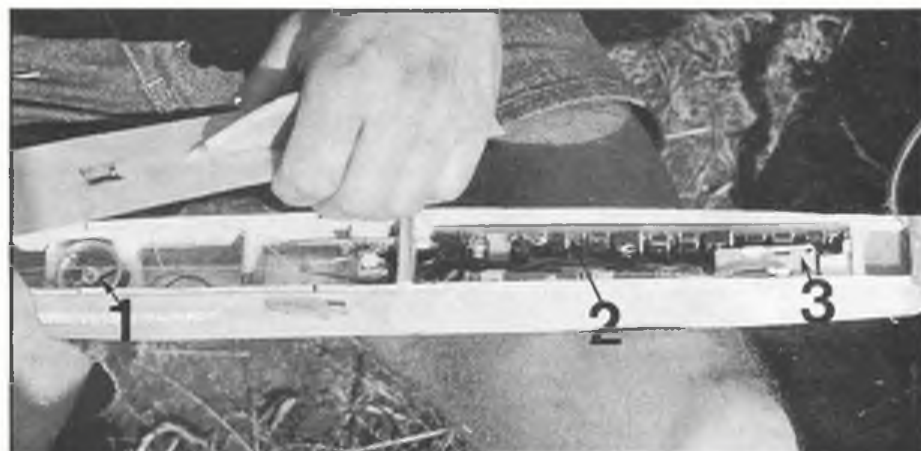
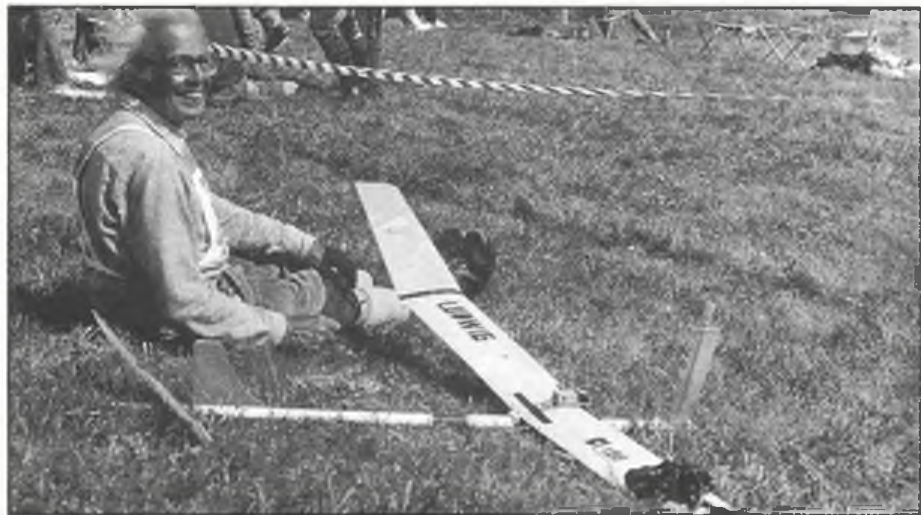
Round Four was a disaster for our team. Jeff launched into the edge of a very powerful thermal which completely rolled the model after about ten seconds, and Steve over-ballasted his model which caused it to fly out of the slope lift and land in the bottom of the valley. A similar fate befell Jaroslav Mach (Czechoslovakia) to spoil his chance of a win. At this stage there were four flyers who had a chance of maxing out; Pavel Stloukal, Heinz Schellauf, Mario Amato and Helmut Schuberth.

Round Five, flown in breezier conditions, was better for the Brits. Steve Philpott's model (unadjusted from the previous round) stayed directly above the slope aided by a large thermal before D/T-ing at great height to land only a few yards along the ridge. Trevor again made a good four-minute-plus flight but Jeff was suffering from steering problems, as was Helmut Schuberth whose model turned off downwind to put him out of the fly-off. Mario Amato crashed out with poor steering and trim. The team results had already been decided; the Czechs had dropped only 13% in the last two rounds. Two flyers had maxed out: Pavel Stloukal (Czechoslovakia) and Heinz Schellauf (Switzerland). The contest director had set a ten minute maximum for the fly-off round. This is within the rules and makes an interesting difference when compared to the other free flight classes where a one-minute increment is prescribed. In some ways the fly-off was a disappointment: Stloukal flew first but had set the model to fly too fast to land in the valley after about five minutes, and Schellauf made a very short flight with what appeared to be steering problems. Thus Pavel Stloukal was the European Champion for the second year running.

The Open International

The following day was that of the Open International, the Europa Cup with 82 entries. There were about fifteen pairs of timekeepers so competitors had to queue outside the launching area for a timekeeper to become available. The competitor was allowed five minutes between being allocated a timekeeper and either launching or going to the back of the queue. This may sound dreadful to conventional free-flyers but in FIE

Heading: Madeleine Bodmer, seventeen-year-old winner of the Europa Cup, with her ten-minute-max fly-off model. This page, top: Friedrich Ludwig obviously enjoying himself! Above: Heinz Schellauf's model - the magnet (at 1) is under the wing; amplifier/electronics board is at 2, and 3 indicates the nose-mounted servo. Right: Walter Gunther prepares to go. Far right: Anton Fieser (93) placed third in the Europa Cup.



contests there is not usually the same thermal-picking problem because the lift is generated from the wind blowing up the slope.

The first round was almost calm; the drift, which was at almost ninety degrees to the slope, was less than 3mph. Steve Philpott was again the first Brit to fly. This time he used a lightweight model equipped with fuse to trigger a circle mechanism and the D/T. The model flew out from the slope for about four minutes before circling slowly part way back to land for a max. Jeff Palmer made an excellent four-minute-plus flight but Trevor Faulkner's model began to stall badly at about the time the circle should have started. Subsequent investigation revealed that although the mechanism had failed to apply rudder the up trim had come in. There was some excellent flying in this first round but was surprising to see so few models circling; many of the competitors preferred the straight-out flight to the bottom of the hill (followed by a long retrieval) even though this technique means that the model would fly out of the lift zone.

By the second round the wind had freshened and was blowing at an angle of 45° to the slope. The choice was try and fly in the slope lift or aim for the bottom of the valley and trust to luck that the model would be found in the heavily wooded areas. Those who decided on the slope lift option soon found out this was the wrong approach. It was in the round that Steve experienced trouble because one of his allocated five models was marked 'H' and thus did not conform to the organisers records as A,B,C,D or E even though it had been processed and marked. Eventually he was allowed to fly the model, but here was further evidence that the timekeepers did not appear fully to appreciate the rules.

Before the third round the wind had swung further west and was blowing almost parallel to the slope. Many competitors were thus expecting a change of launch position or even a delay. The west slope was heavily wooded but this should not have been a major problem as



Madeline Bodmer is chaired aloft after her victory. Who said compellillon flying can't be fun?

there was a lot of open space behind the slope into which models could D/T. The alternative would have been to delay the contest and use the reserve day. However, the contest director decided to continue the contest on the south slope. The British flyers agreed to present a formal written protest accompanied with the necessary twenty five deutschmarks (about £8.00) on the basis that the FAI rules call for the contest to be held on 'a slope facing the wind'. The Jury decision overruled the protest because it 'had not been made one hour before the start of the contest'; a decision which fails completely to recognise that protests are allowed during the contest and that the FAI rules allow such a change of launch position. It is also interesting that it would not have been possible to protest one hour before the start

of the contest because the flying area had not been stated at this time...

Eventually eight contestants maxed out, but before the fly-off could take place the contest director - at last - moved the flying area to a position facing the wind. Of the eight, two were juniors; namely Miss Madeleine Bodmer (whom readers may recall recently wrote an article for *Aeromodeller*) and Anton Frieser Jnr. Anton's father manufacturers the steering units sold in this country by Trevor Faulkner.

The maximum set for the fly-off round was ten minutes. First away was Heinz Schellauf with a good looking flight. Anton Frieser and Herbert Schmidt followed shortly after but the air did not look as good; neither did the directions of flight. About three minutes later the rest followed with the exception of Madeleine Bodmer who waited until near the end of the period when there was a change in wind direction and temperature. She launched cleanly with a magnet setting which took the model towards the deepest part of the valley, but it was also obviously in slope and thermal lift and easily cleared the ten minute max eventually to land in trees some considerable distance away. The model was quickly returned by helpers.

All that remained now was the banquet which was first class. The organisation was superb and the food of unsurpassable quality - a far better set up than either of the two A/2 Championships I have attended.

Would I go again? Definitely; though I would hope that contest organisation would be better and that the contest would be run in accordance with the rules. Please do not allow my comments regarding the running of the contest to detract from the winners who coped admirably with the conditions. It is also healthy to see a free flight class with so many up-and-coming juniors or should I say 'arrived' juniors. Lastly, one should mention that for Heinz Schellauf to come second in two major contests on successive days is an achievement well worth remembering.

F1E European Championships

Individual results (first five places and GB results: 19 entered)

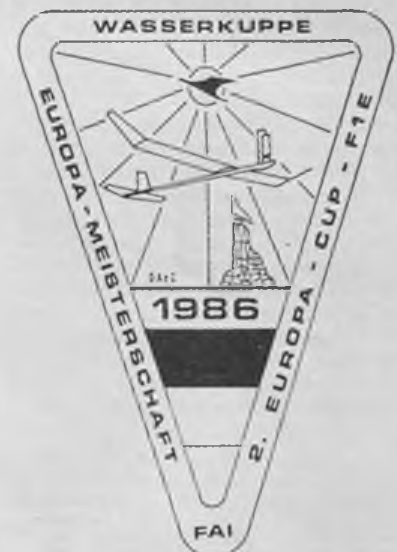
									Total and fly-off percentage
1	P. Stloukal	Czechoslovakia	300	300	300	300	300	300	1500 - 100%
2	H. Schellauf	Switzerland	300	300	300	300	300	300	1500 - 18.59%
3	J. Mach	Czechoslovakia	300	300	300	268	295	1463	
4	E. Mauri	Italy	286	300	188	300	300	1374	
5	M. Amato	Italy	300	300	300	300	120	1320	
9	S. Philpott	GB	133	300	300	220	300	1253	
16	T. Faulkner	GB	244	252	117	38	254	905	
20	J. Palmer	GB	68	178	95	16	109	456	

Team Results 1 Czechoslovakia 2 Italy 3 Germany 4 Switzerland 5 Great Britain 6 Poland

Europa Cup

Individual results (first three places and GB results: 72 entered)

									Total and fly-off percentage
1	M. Bodmer	Switzerland	300	300	300	300	300	300	1500 - 100%
2	H. Schellauf	Switzerland	300	300	300	300	300	300	1500 - 47.08%
3	A. Frieser	Germany	300	300	300	300	300	300	1500 - 46.74%
79	T. Faulkner	GB	162	175	90	0	0	0	427
80	S. Philpott	GB	300	41	54	0	0	0	395
81	J. Palmer	GB	262	29	54	0	0	0	345



THE WRITE-UP FOR the original petrol-engine version of the Cadet describes it as an intermediate-step model, a progression towards larger and more intricate 'gas jobs'. This craft was 87½in. span and was powered by a 1/5hp Brown Junior engine which, it is said, gave very creditable and stable flights averaging around ninety seconds.

This CO₂ version of the Cadet is somewhat smaller, but should give equally as good a performance. The outline and general appearance have been maintained but obviously some of the structural design has had to be changed. The original was quite a chunky model; the fuselage longerons alone were from ¾in. square.

This little version should not pose any problems for a modeller with some building experience, and it is probably a good choice for anyone wishing to get started in CO₂ or the vintage scene. The date of the original Cadet is not stated but it must be early 'vintage'. I am sure someone out there can pin it down...

Just for interest and to let you fellow modellers know (if you already didn't) how high-tech has crept into our hobby in more ways than one, I can reveal that the design, detailing and drawing of this model was carried out using a C.A.D. unit; that is, a Computer Aided Draughting unit and plotter. The CO₂ Cadet is untouched by human hand, so to speak.

Let's start with the fuselage!

Select the longerons from 3/32sq. medium hard balsa. Try to match these for grain and weight. Before pinning anything down over your plan, cover it with a thin layer of polythene sheet, which will stop any glue from getting onto it. I used PVA adhesive for all the wood joints and araldite for the wood-to-metal bonding. There are no difficult curves to this fuselage, so no steaming or soaking of the longerons is necessary.

Start by pinning down the longerons and the straight centrepiece over the plan. Pin either side of the strips rather than through them. Now add all the 3/32sq. vertical spacers. These can be from a softer

Heading: The designer's daughter, Nicola, holds the Telco-powered original. Below left: The fuselage is of relatively chunky construction. No problems with fragility here! Below right: tailplane is simple - but don't forget the 'period' wire hooks.



CO₂ CADET

Co₂ miniatures of Vintage designs are very popular - so here's John Watters' latest, a 26in. cabin model of classic style

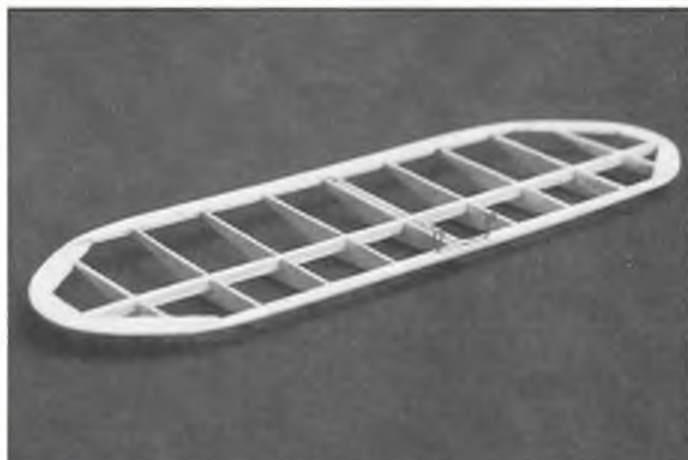
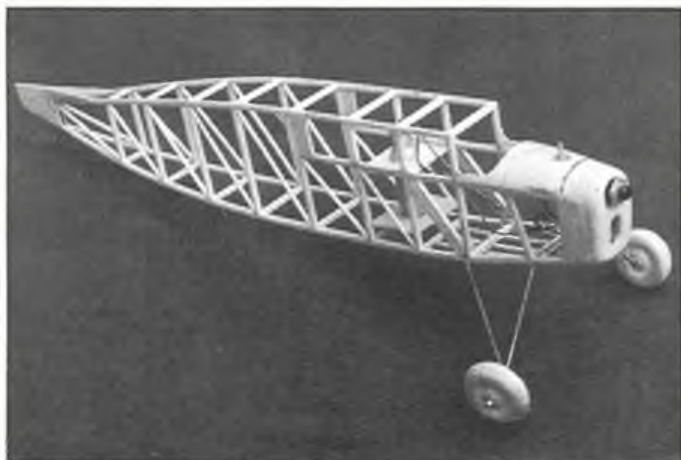
grade of balsa than the longerons, and should be cut so that they go into place with the slightest pressure. If they have to be forced in they will distort the longerons.

The diagonal spacers have been left in to maintain character, but they are not really necessary for strength. They can be from 3/32in x 1/16in or even 1/16sq. A novel feature is the undercarriage springing which consists of the rear undercarriage leg sliding between two hardwood guides in the fuselage, with rubber strip to take the landing shocks. Make sure that the two parallel diagonal spacers are from hard balsa.

The second side is built directly on top of

the first to ensure a matching pair. When dry, remove the frames from your board and carefully split them apart. Choose which faces are to be the outsides of the fuselage and lightly sand them smooth with the aid of a sanding block or fine sandpaper wrapped around a piece of wood or balsa.

I have tried to keep as close to the original design as possible which means that as there are no main formers in the fuselage, there are none in this miniature. Building up the fuselage is done using 3/32sq. cross pieces only. The best way to do this is to pin the two side frames upside down over the plan. Because the cabin



area is flat and parallel, the top and bottom cross-spacers can be easily glued in position. A constant check should be made to see that both sides are vertical during this operation. Use either a set-square or pieces of balsa pinned in place to keep them square.

After this structure has set, remove it from the board and pull the two sides together at the tail, gluing them when satisfied with their alignment. Check at all stages that the fuselage is true, i.e. that it is not pulling to one side or the other. Now add all remaining top and bottom spacers aft of the cabin. The nose section can be built up by first adding the top and bottom formers F2 and F3. The 1/16in. sheet balsa plates which support the gas tank should now be glued in place. If you wish to fix the charging nozzle in place, the 1/16in. ply nozzle plate should now be glued in place. The top nose block is made from soft block, hollowed out. Complete the cabin area by adding the 1/32in. sheet over former F3. The nose area can be made up from pieces of 3/32in. sheet on each side of the engine, or hollowed out soft block may again be used.

The undercarriage can now be assembled. The front wire U1 and rear wire U2 are bent from 20 swg piano wire; don't forget the aluminium tubing on U1 which is bound and epoxied to former F2. The rear wire U2 should be passed through the fuselage. Spreader bar U3 (which really need not be fitted on such a small model) is formed from 24swg wire. To effect the shock absorbing system lightly wrap shirring elastic around the rear undercarriage wire U2 and the cross member. The bottom nose section can now be completed by adding the 1/16in. stringers.

The original model had an air outlet between the rear undercarriage legs. On this CO₂ version I used a piece of old curtain net as a mesh. Retaining this feature also helps to keep the air circulating around the gas bottle. The bottom part of the fin has a rolled paper tube let in to form a keeper. All that remains is to add the fillets, epoxy the tailskid in place and give the structure a light sanding all over.

Top: The Cadet's framework is a pleasing sight. Miniaturisation of vintage designs brings a charm all of its own to aeromodelling. Below left: Robust surfaces help to prevent warps, but take no liberties with such a small craft as this. Below right: No problems with motor accessibility. Light patch on underside is 'net curtain' air duct.



On to the wings

The wings are in three parts, two outer panels and the flat centre section. Use the sandwich method for cutting out the ribs, as this ensures they will be identical. Remember to cut the slot for the wing brace before construction!

Begin with the centre section. Pin down all the spars, positioning the pins on either side of the balsa, not through it. Construction is perfectly straight forward.

As for the outer wing panels, these are made in a similar way but the wing tip pieces should be positioned before any ribs are glued in place. Remember to set the root ribs to the dihedral angle by means of the template. Sand the tips to shape and lightly sand all the wing panels. Build up the complete wing by glueing the dihedral brace into the slots in the wing centre section, making sure that it is in flat and even. Now pin the centre section down and glue on one of the wing panels. Hold the two mating ribs together with a clothes peg or similar clip. The tip should also be propped up to a height of two inches. The other wing panel is fitted in exactly the same manner.

After the now complete wing has set, it can be unpinned and lightly sanded.

The empennage, or tail to you

The tailplane is another straight-forward assembly, built in the same way as the wing. Remember to epoxy in place the two small retaining hooks.

The fin is simply cut from 1/16in. sheet medium balsa with a 1/16in. dia. dowel, or better still, bamboo locating peg. Sand smooth and round off the edges.

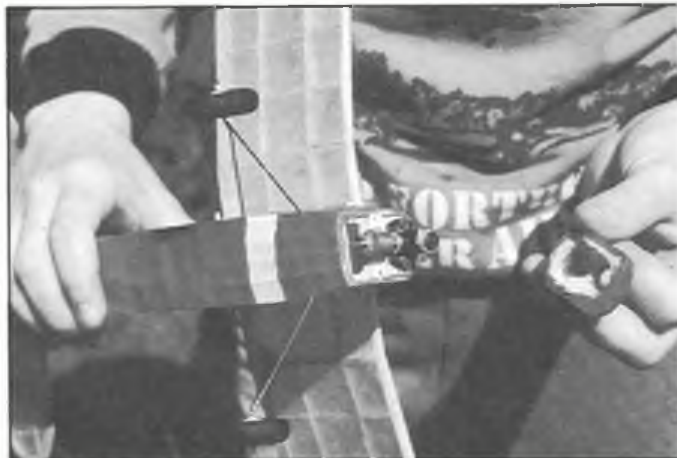
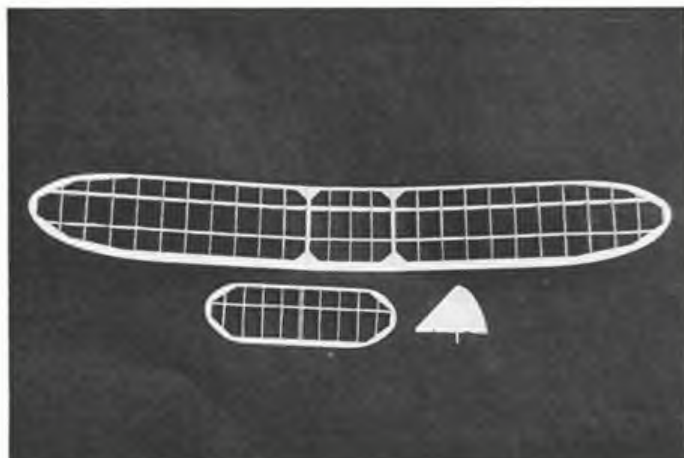
Finishing and flying

Before covering the model, give the fuselage and edges of the flying surfaces a coat of thinned clear dope. The cabin area is glazed with thin acetate sheet and the model covered with lightweight tissue which should be water sprayed and allowed to dry out before doping. Give the fuselage two coats of 50/50 clear dope and thinners mixture. The wing and tail should receive one or two coats of the same. Watch out for warps. Pinning down the surface when touch dry is a good idea.

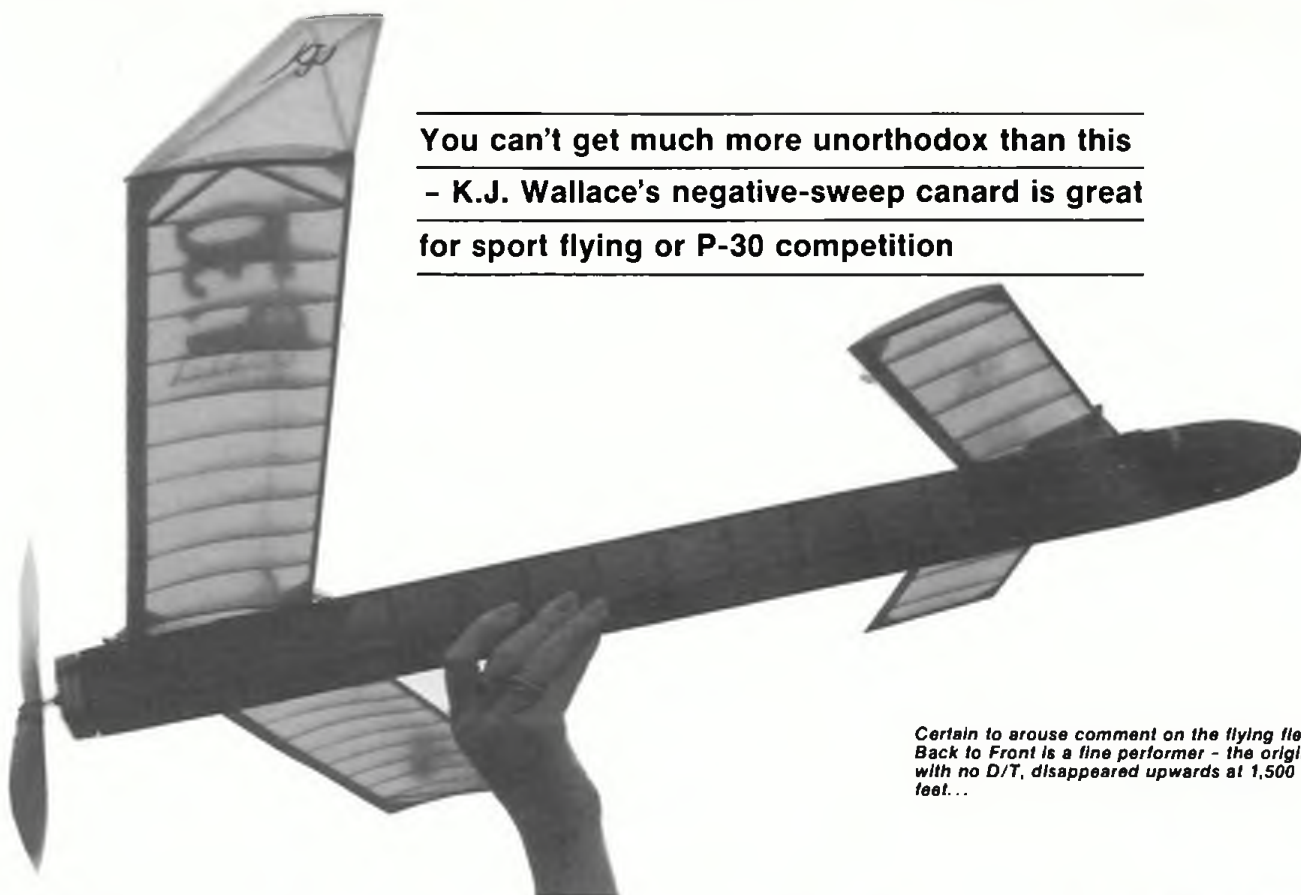
Assemble the model with elastic bands over the hooks and dowels for the wings. The tailplane is held in place by the tube and peg at the rear of the fuselage and an elastic band is passed over the small hooks and under the body. With the model assembled check the point of balance and add ballast if necessary.

Before making any powered flights test glide your model. As always, look for a patch of long grass or clump of weeds in which to try your masterpiece. Correct any diving by small amounts of packing under the trailing edge of the tailplane; packing up the leading edge will cure a stall. First powered flights should be carried out using a gas charge, building up to full liquid charges as the model is trimmed out. Remember that any stalling under power must be cured by adding downthrust to the motor. When trimmed, this little craft is most rewarding in the air.

As the tailpiece, if anyone is interested in a bigger version, give me a call on 061 798 8117. I know for certain that I will not be building the full size version - I don't think I could afford the wood!



You can't get much more unorthodox than this
- K.J. Wallace's negative-sweep canard is great
for sport flying or P-30 competition



Certain to arouse comment on the flying field, Back to Front is a fine performer - the original, with no D/T, disappeared upwards at 1,500 feet...

BACK TO FRONT!

THIS MODEL WAS CONCEIVED after reading about the merits of negative sweep wings as used on today's ultra-modern fighters. The fact that the model is also a canard and a pusher is purely accidental but probably reflects my unorthodox approach to everything! In fact, on showing the completed model to my wife she commented 'I hope you feel better now!' Thus was born Back-to-Front.

Construction is very straightforward and should present no real problems to anyone who has already built one or two models. Remember, although I only really use the model for sport flying, it does conform to P.30 class rules and hence has

performance to match, especially if careful wood selection is adhered to.

The beginnings...the wings

I normally begin all my models with the wings, simply because if I get bored halfway through, at least the wings can be used for something else! First make an accurate template, incorporating the spar slot, from plywood and cut out a set of ribs. Note that at this stage the two centre section and two root ribs have an extra 3mm square slot on top of the rib and the two ribs adjacent to the root have the extra slot on the underside. Now build the

complete centre section over the plan and don't forget to pack up the front of the TE with scrap 0.8mm sheet. Ensure everything is square and leave to dry. Now pin the wing TE over the plan, packed up at the front as before, and add all the ribs (except root and tip) followed by the 3 x 1.5mm spar. This is a fiddly procedure but take time to ensure everything is square and true, and leave to dry. Now add the 3mm sq. leading edge. Scrap block is used to hold it into the notches in the ribs. This will help to keep it straight. Once set, add the root rib tilted to produce the required dihedral, join this panel to the centre section, add the reinforcing root gussets and leave to set. Now repeat for the other wing panel. Once the whole structure is dry place the centre section flat on the board and check that the dihedral is correct. Finally, add the tip ribs ensuring that they are vertical. This is important as the fins fit directly onto them. The final gussets and tip braces can now be added. The wing is now complete and requires only light sanding.

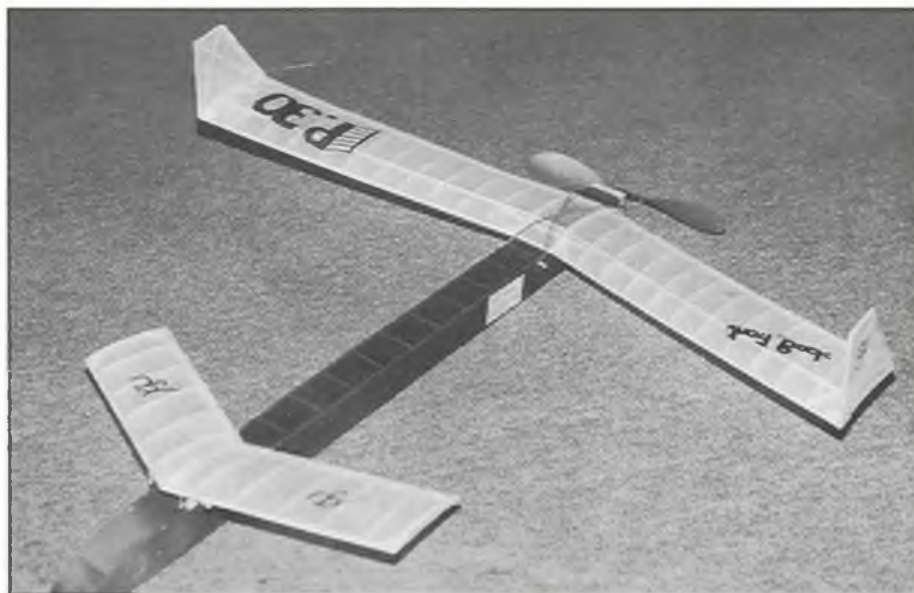
Tip fins

Both fins should be built flat over the plan. The LE of each should be of hard balsa in order to prevent damage on landing.

Foreplane

This is of entirely conventional construction, basically the same as the wing but without a spar. Note also that the

Whichever way you look at it, this is a curious model! P-30 rules demand a commercial plastic prop; sport fliers out for even more performance may care to carve their own. It shouldn't break!



end ribs are of 3mm balsa to prevent the covering pulling-in the structure. Do not omit the gussets.

Fuselage

Begin by building two sides in the time honoured method - one on top of the other - over the plan. The 2mm nose sheet can be quite heavy as weight here will be needed later. Pin either side of the longerons, not through them, then add all the spacers followed by gussets and sheet-in-fill. When both sides are completely dry remove from the board and separate carefully with a razor blade. As the fuselage is completely square the cross braces are of identical width to the spacers so a complete set can be produced at the same time. Note that the front cross braces are set-in to the 2mm sheet and hence need to be 4mm longer than all the others. Always add the cross braces in pairs and use a set square to ensure the fuselage remains true. The front cross brace should be of very hard 6mm square. Finally, the 3mm end former should be added to the rear of the fuselage. This former is cut out to correspond to the rear of the prop block ensuring a tight fit. The fuselage is now complete except for the foreplane mount. This is simply two wedges of 2mm sheet joined by a 1.5mm ply spacer. I have found that it is also advantageous to fill in, or block off the front of this mount as air tries to flow under the foreplane, finds it cannot escape and creates an unacceptable amount of turbulence. You may wish to add a weight box at the very front of the fuselage by sheeting back to the first pair of cross braces and adding a small former between them.

Prop assembly

First build up the 'nose' block from laminations of 3mm sheet faced with 1mm ply. Ensure that the laminations are cross grained and that the rear part plugs firmly into the rear fuselage former. Now drill to accept an 18g brass tube and epoxy this in place. Sand smooth so that the block matches the fuselage and finally dope to finish. As only commercial 9/16in. props are allowed under P.30 rules, the problem is that no-one markets a 9/16in. plastic 'pusher' so a standard Pack Polymer job must be modified to run in reverse. The best way to do this is to use a Garami free-wheel clutch - see sketch on plan. Just remember the clutch is fitted to the rear of the lighter blade. Now bend a semi-circular hook onto the end of a straight length of 18g wire. Assemble nose block, ball race, 10BA nut and a square of 0.8mm balsa sheet, and fit the propeller itself onto the shaft. Don't forget the prop must face the 'other way round' to normal. Now bend the 18g shaft at right angles immediately behind the prop ensuring there is enough length to engage with the clutch. Next solder the nut to the shaft using the balsa packing to ensure sufficient clearance for the propeller to free-wheel. Break away the balsa packing, clean up the solder, then wash off the flux. Finally, oil the shaft.

Finishing

Cover the entire model with lightweight tissue. Water shrink then give wings and fuselage three coats of 50/50 dope/thinners; the foreplane and fins receive two coats. Pin down each item between coats to prevent warping. Cement the fins to the tip ribs of each wing and



ensure they are vertical - in fact it may well be easier to attach the fins before doping the wings as this will help to prevent pulling-in. Assemble the model and look at it critically. Everything should be square with no warps at all, although some washout on each tip is acceptable, as is a slightly bowed foreplane - but I stress only slightly! The CG is located very precisely; it should be between 42 and 43cm from the extreme front, with the model assembled but less rubber. The motor on the original is four strands of 6mm flat rubber, which is a good place to start, but remember, experimentation is the name of the game. If everything looks OK, let's go trimming.

Trimming

With the rubber in place give the model a gentle launch from shoulder height and observe. A very flat floating glide is required. To cure a dive or stall begin by packing the foreplane. If this doesn't work try the same with the wing. Once satisfied wind on about fifty turns and try a power flight (remember to wind anti-clockwise). It may be worth noting at this point, if you haven't already found out, that your launch technique will have to be modified due to the rear prop. Angle the nose up only slightly and as you push the model forward give a slight upwards push and the model should be away without taking too many fingers!

What we are looking for at first is a slight climb to the right, followed by a right glide turn. To achieve this, gradually sand the rear former away on the right-

Back to Front in the hands of two who should know better - the designer and his wife! Canards are in many ways theoretically superior, has anyone else tried them lately?

hand side (looking from the rear), increase power and see what happens. Downthrust can also be adjusted in the same way. One word of warning; always use a winding tube on more than 250 turns as a motor breakage on this type of model will write-off the entire airframe.

One or two final words. Once the model is flying reasonably well you may find that under full power it goes up vertically, falls backwards and then corrects itself and continues as if nothing had happened - this is not because of a lack of down-thrust but is a result of a rearward CG. It can be very baffling. I tried everything else before moving the CG forward! Trim tabs on the fins do not work - they send the model straight into the ground! I do not know why. Small warps steamed into the wings are far more effective.

Finally, there is no D/T shown on the plan. In fact my model still doesn't have one, even though the prototype was last seen at 1,500 feet over St. Ives, simply because trying to decide which type to fit was difficult due to the layout of the model. If you are persuaded to build one, please do fit a D/T as it is extremely necessary. I suggest pop-up panels of some sort. Please ring me to discuss any queries you have; my number is 0480 61730. Now I must enter a few contests, especially as in still air, once fully trimmed, this model averages 'two minutes plus'.

You 'canardly' keep me away from unorthodox designs. Have fun!!



Late Summer Bank Holiday
at Cardington - date and
location of an outstanding
meeting. An advance report
by Ron Moulton



1986 WORLD INDOOR CHAMPIONSHIPS

Preview



IN A RECORD BREAKING weekend the Cardington 'Cathedral' was witness to three new world duration records and five new National records at the biggest and best ever microfilm Championships. Standards among the 51 participants were such that one had to average 40 mins over the 2 best (of 6) flights to place better than eighth! Perfect conditions on the first day made such achievements possible - in fact the SMAE organisation was very lucky not to fall foul of a dismal depression which served only to affect the 6th round but would have made flying nigh on impossible through

the following 24 hours. Seventeen countries participated but it was Jim Richmond's individual effort that once more eclipsed the field, culminating in an amazing 47:44 flight, dodging raindrops too! His skill and dedication drew deserved applause in this friendliest of world events.

The magic of Indoor competition was superabundant; walking-pace flight, shimmering microfilm and total dedication in the hushed atmosphere.

A full report follows in a later issue; meanwhile the major results appear below:

Top: The Maestro at work; Jim Richmond checking every detail prior to his supreme 47:44 new World Record. Above: Welcome long distance visitor from Argentina, Eduardo Grippo, top performer from this nation with a best flight of 30:58. Below left: Dave Pymm handles the delicate transfer of a fully wound motor to his Boron-strengthened model for a last effort to beat his superb 42:03 third flight which took him to 6th place as top UK flier. Below right: Six World Champions - a rare confluence in modelling which illustrates the dedication typical of all indoor fliers. From left to right: Czechowski (Poland), Romak (USA), Rodemski (USA), Andrews (USA), Aurel (Rumania) and Richmond (USA).

Individual Results

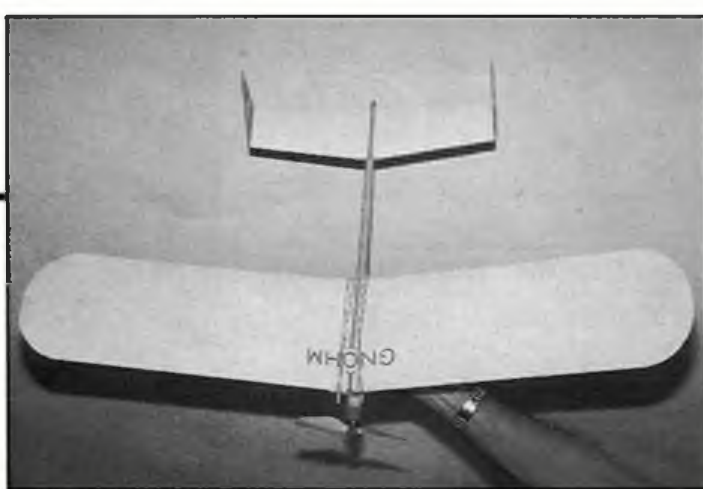
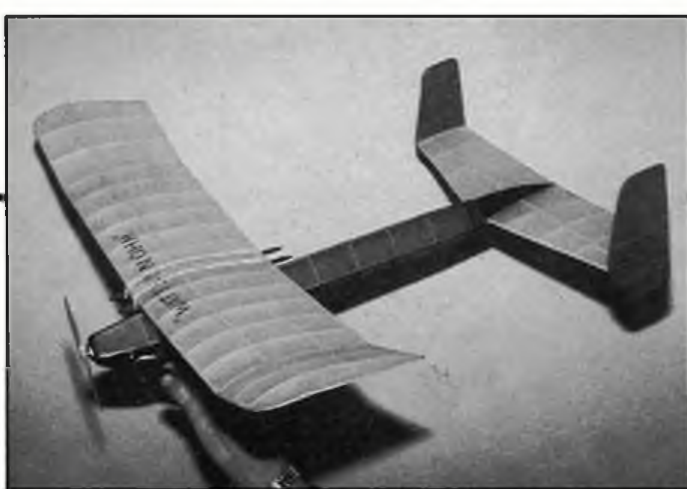
1	Jim Richmond	USA	45:54 • 47:44
2	Cesare Banks	USA	41:37 • 45:48
3	Pentti Nore	Finland	41:36 • 44:01
4	Bob Randolph	USA	41:40 • 43:17
5	Dezso Orsovai	Hungary	40:36 • 43:37
6	Dave Pymm	UK	41:57 • 42:03
7	Theo Andre	Netherlands	39:19 • 44:01
8	Dieter Siebenmann	Switzerland	38:08 • 42:33
9	Bernard Hunt	UK	41:27 • 37:00
10	Andras Ree	Hungary	35:57 • 42:06
21	Bernard Aslett	UK	34:17 • 36:35

Team Results

1	USA
2	Netherlands
3	UK
4	Hungary

More details of this superb meeting next month...





MY INTEREST IN ELECTRIC flight started early in 1983. I had been trying - not very successfully - to get my rubber driven Sopwith Schneider to take off from terra firma by means of a drop-off dolly. All kinds of suggestions were laughingly being handed out by some of my Maidstone MFC club mates, when one said, 'how about an electric powered dolly?' Although this never materialised (I finally got the Tabloid off on its own power) the thought of things electric began to intrigue me. This led to the resurrection of an old P.30 rubber model by the name of Loo Loo (that's where it was designed) and things began to hum. The wing seemed about right; 30in. span, low aspect ratio, 180sq. in. wing area, under-cambered section, and light weight. A local model shop had lots of Mabuchi 140, 260, 280 and 380 motors of the type supplied by Model Flight Accessories of Deal.

The 260 was quite powerful, light, weighed one ounce and seemed ideal for the job in hand. How about batteries? Let's try two 500 maH pencil nicads. A quick modification to the P.30, which now

The next step was a redesign of the P-30 with lighter wood, drilled ribs, shorter fuselage and cleaned-up electrics. Result: weight was down to 3½oz. These modifications gave me a flight of four minutes. Specification of this model is as follows:

Wing: Span 30in., chord 6in., area 180sq. in.; undercambered section used. Tail: lifting section with twin fins. Fuselage: diamond section, length 22in., with a low pylon wing mount. Electrics: Mabuchi 260 motor with 5 × 3 prop; three 150 maH cells mounted under the fuselage in a streamlined balsa-tube-cum-skid with a spring at the end in 'torch' fashion. Of simple and light construction, this model was christened Wattisnohm.

After this came a larger version called Watto. This had a 35in. wing of 7in. chord

Fancy electric free-flight? Roy Ashby's experiments may well inspire you...

Left: Wattisnohm, the first 'original' design of the series, was a development of a converted P-30 rubber job. Simple, robust construction gives the craft a functional charm. Right: Polystyrene wall-covering foam is used for the wing and tail surfaces of Gnohm. A lightweight balsa framework provides support. This is a successful indoor model - and it's a craft which couldn't really be much simpler... Drawings next month.

and 240sq. in. area. The diamond fuselage was 30in. long, and complete with lifting tail and twin fins the model scaled 5oz. Power was a Mabuchi 280 driving a Cox 6 × 3 prop, and four 150 maH cells were used.

The climb was quite something. Indeed, I have never yet fully charged the batteries for fear of losing the model. On half-charge the flight duration is about three minutes. The 150 maH cells give a usable power run of two to three minutes, depending on charge and prop.

And now - Indoors!

Next I concentrated on Indoor electrics, which was to prove (to me anyway) the most satisfying of all.

An entirely different concept was

Electrifying Experiments

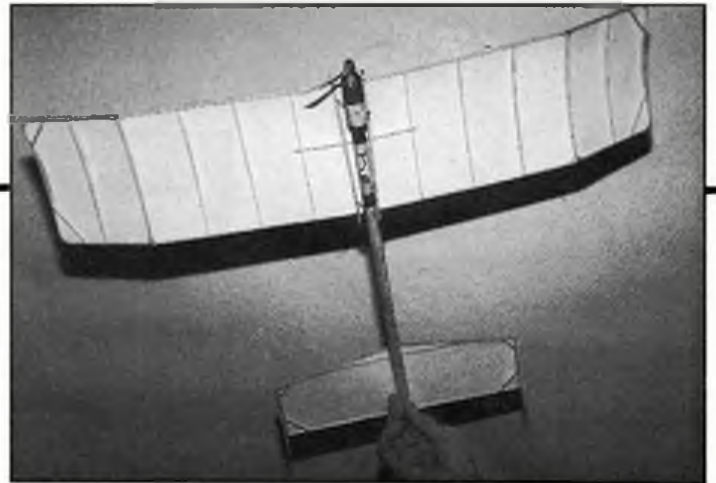
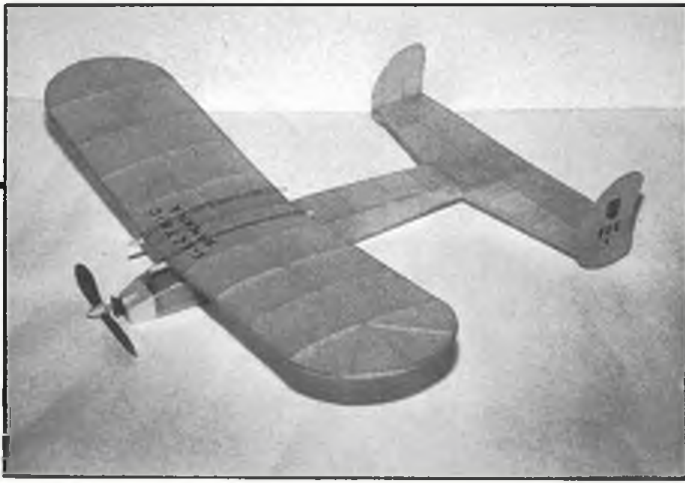
weighed about 5ozs, and on to first trials; result, a powered glide...

At this point the model - rather a lash up - was obviously too heavy and lacking in power. Three cells of a lower capacity and lighter weight were needed and the model had to be cleaned up. Light radio wire was used instead of flex (lengths being kept as short as possible) and a micro toggle switch and three 150 maH cells were adopted. A local radio shop provided the first two items.

First successes

The model now weighed 4½oz. and could manage a circular flight but rate of climb was low. A bit of propeller experimentation seemed in order; and if only I could get the weight down a bit more... Anyway, a Cox 5 × 3 prop was found, which by careful sanding was reduced to about half its original weight, and the battery container was altered. Weight was now down to just over 4oz. and we had lift off. I chased the model on a cool evening for a flight of about three minutes which turned out to be about its norm. For the next few weeks I could be seen haring across the flying field (much to the delight of the Radio Control element) and at least it kept me fit.





Left: Even lighter than Gnohm is Electric Banana (can you guess - the model is covered in yellow tissue!). Model is just 21in. span. A 25p Mabuchi motor drives a 4 3/4 in. prop via a step-down gearbox. Right: Underside view of Sparknik shows the rudimentary wing and tail structure. In practice, flexing caused some problems. Nevertheless, polystyrene foam covering is well worth further experiment. Have you tried it yet?

needed, to be designed around the Mabuchi 140 motor which weighs about threequarters of an ounce. The simplest and lightest possible fuselage was chosen - a rolled 1/32in. balsa tube with a slot underneath to take two 150maH cells. This model had a 180sq. in. wing of 30in. span and 6in. chord. A second, slightly smaller craft (150sq. in., 25in. span) was also built.

This time condenser tissue, watersprayed and doped, was used to cover wings, tail and fins. All-up-weight of the larger one was 2 1/2 oz., the smaller hitting the scales at just under two ounces. This time the props were 5 1/8 in. 'CO₂-type' which buzzed around quite speedily. I flew both models at the Watford Indoor meeting in 1985, but although they went

very well - a 2 1/2 min. flight was achieved - they were too fast and fragile, disintegrating when they hit anything. Obviously a re-think was necessary.

At about this time some very small nicads were obtained from Technicad of Bournemouth. Their capacity was 75maH and 50maH, and as they weighed just 6 and 3.7 grams respectively it was obvious that a lighter model could be built. Of course, flight time would also be cut. The condenser tissue covering was dispensed with in favour of wings made from polystyrene wall covering with a very light frame. Although heavier than the originals they could be bent and would twist without breaking. The problem now was that they flexed too much under power. A couple of 6in. lightweight plastic props were found and everything worked. I now had two slow-flying indoor models powered by the 75 maH cells. Very satisfying! The larger model had a wing of increased area (now 230sq. in.) and the smaller was equipped with the good old 180sq. in. wing. Total weights were 2oz. and 1 1/2 oz. Their names? Gnohm and Sparknik.

Having been successful with these, the sight of four tiny Mabuchi motors for £1.00 on the Proops stand at the 1985 Sandown Symposium set me thinking of a real lightweight. The result was the Electric Banana of 21in. span and 100sq. in. area. Lightweight tissue covered construction was used. A miniature gearbox of 2.7:1 reduction to drive a 4 3/4 in. Japanese plastic prop was made for the Mabuchi from gears supplied by Model Flight Accessories of Deal, and power was supplied by two 50maH cells. This model, which weighed 1 1/2 oz. ready to fly was a steady performer capable of about one minute, but it was a trifle fast for the Sittingbourne Model Aircraft Club's indoor hall, which they very kindly allowed me to use.

A further lighter model seemed a reasonable prospect. This was of the same style as Gnohm but was the same size as the Electric Banana. I called this one Anoz because that's what it weighed ready to fly.

It was equipped with the same electrics as before but this time a 3:1 reduction gearbox was adopted. Performance was not quite as good as the Banana but at least the model was slower in flight. Better results may have been obtained with the 2.7:1 gearbox.

Watto is 35in. span, weighs five ounces and is powered by a Mabuchi 280. A very successful outdoor model. Drawings next month, with views of a further-developed version for R/C. Tempted to have a go, anyone?

Future thoughts

At this point realisation dawned that the limited had been reached with the materials available, but the whole exercise had been intriguing and very enjoyable, proving that electrics are not difficult, but patience is needed and modifications must be made one step at a time. Even something as basic as prop choice can make all the difference between success and failure. The old adage 'the lighter they are the better they fly' could have been dreamed up especially for this type of model.

The key to greater improvements in all electric flying lies with the reduction gearbox which enables a larger prop to be used and more 'bite' achieved. With care, a longer motor run should result because the motor is allowed to work more efficiently.

I also have three successful 'electric' radio gliders for which I have used similar methods of approach, but that's another story. Projects for the future include an electric R/C version of the Sopwith seaplane and an R/C aerobatic model using two Mabuchi 380 motors geared to a single airscrew. This unit has already been built and driven by five 1.2 aH cells it turns a 10 x 8 prop at a very high rate of revolutions. Further ahead I intend to try an electric Indoor model at the maximum indoor weight of 120 grams and finally an Indoor scale model weighing less than four ounces.

Through this account I hope to have stimulated those of you interested in the idea of electric flight to have a go at it. I have listed various sources from whom goodies may be obtained. Get plugged in!

Sources

Model Flight Accessories, The Mill, Mill Lane, Worth, Deal, Kent: Electric motors, props switches, gearbox kits, charging monitor on which five to eight nicads of virtually any size may be charged as per instructions.

Fleet Control Systems, 47 Fleet Road, Fleet, Aldershot, Hants GU13 8PJ: 150maH nicads, switches, charging plugs, sockets.

Technicad Ltd, 20/22 Poole Hill, Bournemouth, Dorset BH2 5PS: 50, 75 and 150maH nicads.

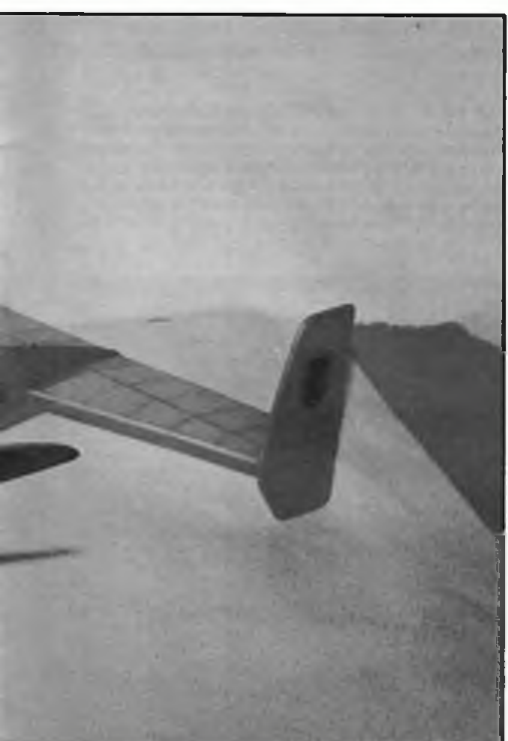
Specialist and local radio shops: Wire, micro switches, fuses, nicads; some also stock chargers.

Local model shops (especially the older ones where goods may have been tucked away for years):

Rubber props, plastic props, electric motors, gears - in fact, virtually anything!

Next month: Latest update, plus how to do it - drawings and more photos...

periences



A PARTY OF BRITISH aeromodellers assembled at London's Heathrow Airport on June 18, each with a box measuring 4ft. x 10in. x 10in. In the boxes were as many models as they could safely pack, mostly vintage Wakefields. Purpose: to fly to the United States for the jubilee of the 1936 Wakefield Cup, won at Wayne County Airport, Detroit, that year by A.A. Judge of Gt. Britain, and to compete in the twentieth U.S. National Vintage Championships, staged by the SAM organisation. This is what happened, as described by a member of that team:

Wednesday, June 18

By some minor miracle known only to TWA link-man Harry Paice and to trip organiser David Baker of the British vintage group SAM 35, we all got safely through security checks, despite the highly-suspicious contents of our boxes and bags. As Geoff Spencer was to discover, nothing looks more like the inner workings of a bomb, when viewed through an X-ray scanner, than hand-luggage containing two scale models powered by CO₂ motors - sparklet bulbs, tanks, coiled metal tubing and all. . . Such was the attention afforded to Baker's Dozen at Heathrow that even Diana Ross, a fellow traveller to Los Angeles, was temporarily upstaged. The 747 flight across the top of the world was quite an experience. You name it, we saw spectacular cloudless views of it from seven miles up. When we at last touched down at L.A. for the Californian part of our adventure - the other part was to be on the East Coast of the United States - we received the warmest of welcomes from our hosts, many of whom we last saw in the driving rain of Barkston Heath at the 1985 Wakefield Jubilee contest. There was a special welcome for Reg Parham, who had been a member of the 1939 British Wakefield team. In no time our baggage and model boxes, all undamaged, disappeared into cars, including Jack Jella's air-conditioned eight-seater, and we were whisked off to various homes in the



L.A. area. By some happy chance, the writer found himself billeted with a boyhood hero - Sal Taibi, no less, designer of many classic American old-time gas models and still a formidable competitor on the field. A slight hiccup in the arrangements resulted in five of the SAM 35 party being deposited on Sal. No problem. His charming wife Nan laid on drinks and a meal in a jiffy. The accommodation problem was sorted out and, after yet more aeromodelling talk, we were off to bed at 5.30am., London time. Were we jet lagged! The following day, Thursday, was devoted to rest; greatly appreciated by everybody. There was time to check out the models and to sample the Californian sunshine. And so to...

Friday, June 20

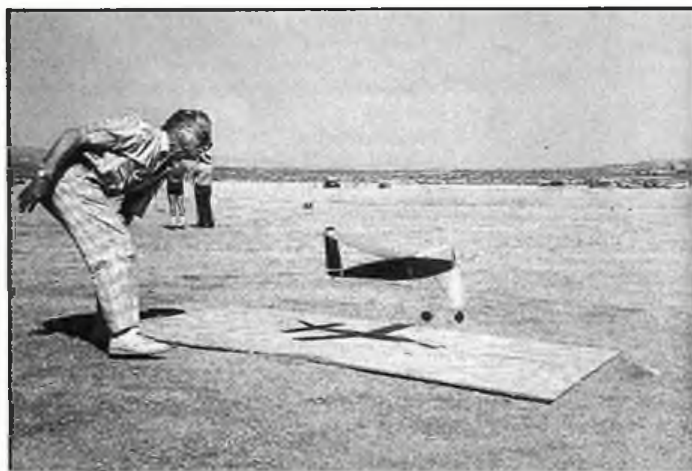
Our friends drove us the 120-odd miles to Taft in the High Desert of Southern California. This is a small oil town which is pleased to be known as the world capital of free flight. We checked in at the Caprice Motel which was decked out in red, white and blue streamers and small Union Jacks. Would you believe it, the owner's wife, Mary McPherson, turned out to be an ex-pat Brit. She and her friends laid out an 'English Tea' by the swimming pool - a much-appreciated

gesture that fitted the occasion down to the last cucumber sandwich. Could this be for real?

Saturday, June 21

For most of the English contingent, this was the first taste of Taft flying which clearly demanded a specialised knowledge of air selection and personal survival in temperatures that were to reach 100 degrees in the shade during the weekend. Repeat, in the shade. As for the flying site itself - you wouldn't believe it if you hadn't experienced it. Hills, seemingly a couple or so miles away, were in fact eight miles off. A magnificent wilderness. The main event, attracting 23 entries, was of course the 4oz. Wakefield Jubilee contest in which the Americans cleaned up. It was largely a battle between the Lanzo Duplexes and the Copland 36s, the Lanzos coming out on top led by Jim Adams, who alone returned a full house of three five-minute maxes. The Brits

Taft shots: Left: Reg Parham gets his 1936 Copland away nicely in the Jubilee event. Right: The English Tea at the Caprice Motel. Those present are: Reg Parham, Adam Beales, Geoff Spencer and Mike Hetherington. Note Union Jacks and teapot. Shade temperature: 90 degrees...



INSIDE THE JOURNAL

Three weeks in the US to fly Vintage model aircraft in competition... sounds idyllic. It was!

had quite a lot to learn about Taft, where it is by no means unusual for a model to sit in a thermal for 20 minutes and more, and to land in the hand, or at least within an easy walk of the launch point. Easy walk? The Californians were equipped with motor-bikes or fat-wheel trikes, so even that was no problem at all. To select a Taft 'trash lifter', you didn't just go for the first puff of wind to come through after a lull. You waited for signs of a thermal to build up, and up... and then, WOW! Failure to appreciate this cost the Brits many-a-max, for if a model did not centre in that lift it was generally dumped down in a minute or so, no matter how well trimmed. Highest place among the visitors went to Geoff Spencer, whose Copland '36 disappeared into the blue at 4:29 on his third flight, robbing him of a deserved second max. No, the timers were not permitted to use binoculars. Typical of the fate that overcame the Brits was the experience of Peter Michel, who maxed a mile high, or

At Westover AFB: Left: Elmer Jordan, with a Forster 29 powered Brooklyn Dodger, gets a few tips from the man who designed it, Sal Taibi. Right: David Baker piles on the turns before the A-Frame Pusher mass launch. Don Knight waits to borrow the British team's communal winder, a vamped-up egg whisk.



seemingly so, on his first flight, but who badly misjudged the air in later rounds.

Mandatory ROG (rise off ground) was causing problems, too. Fickle cross-winds generated by lift at the take-off board could have been to blame, but indifferent launching technique was the more likely cause of crash after crash, which took a grim toll of models that the Brits could ill afford to lose. And this was only Day 1!

Sunday, June 22

If anything, even hotter. A taste of what the day was to offer was provided by wily Sal Taibi, who was out early with his Corben Super Ace in scale power. The model hung about like a buzzard, landing a stone's throw from its owner after a flight of 15min. 58sec. Hero of the hour from the British viewpoint was 19-year-old William Beales, who had made the trip with brother Adam and their father David. After a disappointing first flight in two 8oz. Wakefield event, he achieved the great five-minute maxes with his Korda. On both flights the model hit a trash lifter right on the button and must have been good for at least 20 minutes had it not DT'd. Michel's Copland streamliner (*Aeromodeller* plan D/121) joined the Korda on the second of these flights and was retrieved by a motorbike 'chaser' who said he had to sit underneath it for 20 minutes *after* the DT popped. Such was the nature of the air at Taft. Incidentally, the writer was privileged actually to 'see' a thermal for the first time in his modelling career. An American companion lent him a pair of sunglasses with a heavy filter through which he could just make out a patch of discoloration in the brilliant sky. This was caused by a column of thermal-raised dust, on top of which sat a Wakefield.

In this scorching heat, with dust devils whirling occasionally through the flying area, it was all too easy to overlook the models which did not max, but which, nevertheless, were in great trim. Among them was a Jaguar flown in the few spare minutes available to him by contest director

Andy Faykun. Bearing in mind that if you didn't hit lift you were in real trouble, his flights of 2min. 54sec. and 3min. 32sec. were among the best in the event. Geoff Spencer raised a cheer when his tiny CO₂ Puss Moth, an Indoor award winner, cleared the take-off board and buzzed the crowd for thirty seconds or so. Believe it or not, Geoff lost initial power through icing, even though he was flying out there in what must have been 110 degrees.

Meanwhile, William Beales was going from strength to strength. Switching to Cabin Rubber, he scored another two five-minute maxes to make a total of four in six flights over the two events. And to think that the British only brought him along to reduce the average age of the team...

So ended the Taft experience. It was a great weekend for us all and a triumph for the C.D. who ran the event with a firm friendliness that easily overcame one or two difficult moments. Those who were there will never forget his loud and clear commands... "TIMERS!...CHASERS!"

June 23 - June 28

Days of unashamed rubber-necking, bull sessions, barbecues, and diving into the Pacific surf. Wonderful! On the Wednesday, Wakefield flier and Rockwell executive Al Richardson took us round the Space Shuttle plant in L.A. We came away convinced that any decision to discontinue this truly astounding enterprise would be akin to scrapping the development of aircraft because of the tragedies that overtook many of the pioneers of flight...

Sunday, June 29

A fly-in at Mile Square, the last large (to British eyes) flying site left to modellers in the Los Angeles area. Much to the disappointment of the Americans, a light drift developed an hour or so earlier than expected, with the result that fly-aways into neighbouring estates became too frequent for comfort. Strangely enough, three models that went AWOL were found at the same

house by Ken Sykora after they had been given up for lost. A keenly-fought Wakefield duel was won in style by Ed Cover, who showed what a formidable model the Californian Champ can be in the right hands. SAM 35 regained a little more confidence following Taft when David Beales and Reg Parham took second and third places. David had the misfortune to lose his Simon Wake, though. A one-design event for the quaint little Prefect, a 20in. British rubber job, produced lots of fun and a popular win for Carl Hatrak, president of the Southern California Ignition Fliers, the SCIFS. The booby prize for the lowest-place Brit in this event went to the writer of this article. He received an excellent book on how to make paper aeroplanes. There followed what was one of the most enjoyable events of the entire three-week visit - a picnic lunch in the shade of the Mile Square trees. Wives of the local fliers provided a splendid meal and splendid company. We would have liked it all to have continued far longer, but we were whisked off elsewhere just as we were settling down for a chat marathon. That's the way it goes on the West Coast...

Monday, June 30

We headed east for Boston, a five-hour flight with a change of aircraft at St. Louis, despite which we arrived with our equipment and remaining models all present and correct. Another feather in the cap of TWA. Again, we were farmed out with local modellers and, again, we were met with nothing but the most outgoing friendliness and hospitality. Chet Bukowski and his wife Diane bore the brunt of the chores, accommodating four Brits and, with

fellow rubber-flier Seichi Tsutsumi, providing a here-there-and-everywhere taxi service. The contrast between the concrete of California and the lush greenery of Massachusetts took some getting used to, but by now we were well accustomed to sudden changes. However, the thought did occur, as we were being driven through the spotless clapboard communities of New England to the sounds of stereo Schultz and laid-back jazz, that the M25 journey to Chobham Common was never quite like this.

Tuesday, July 1

A visit to Dick Sherman's model museum at Plymouth, New Hampshire. Dick's unique collection of aeromodelling artefacts occupies an entire two-storey house, plus cellar. No, not quite. Dick and his understanding missus live in one small section of it. Surely nowhere else in the world will you see FIVE Morton M-5s in one collection of model aircraft engines. 'Collection' is a bit of an understatement. Dick has *thousands* of them. There are so many other goodies too - magazines, original models, early radio equipment - all so rare that no one modeller, apart from Dick himself, could possibly hope to identify everything. Any enthusiast finding himself in this part of the world cannot afford to give the museum a miss. He will be assured of a warm welcome.

Wednesday, July 2

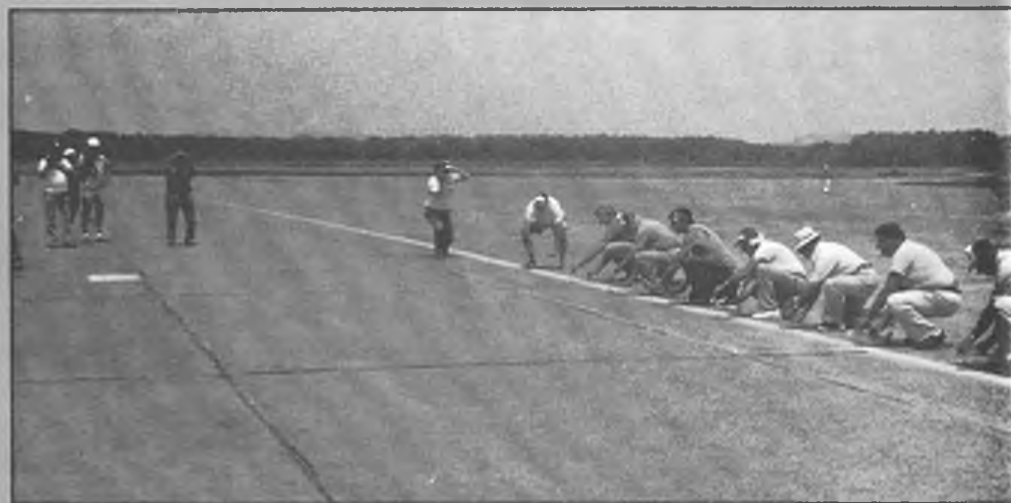
Rain! It bucketed down all morning, but it could not have happened at a more convenient time because we had set aside that period for a packing and general repair session before setting off for Chicopee - a two-hour drive - and the four-day national SAM Championships at nearby Westover Air Force Base. It was here that a fundamental but unavoidable flaw in our preparations became apparent. We just did not have enough models with us: nor could we, given the disciplines imposed by those 4ft. x 10in. x 10in. boxes of ours which seemed ludicrously small in comparison with the enormous model trailers which turned up in the car park at the Quality Inn, a large and comfortable motel which was to be the SAM headquarters for the duration of the championships. What wouldn't we have given for just one big 'gassie' to compete in the many tempting classes on offer! However, we were limited to whatever rubber models that had survived Taft, plus a clutch of A-frame pushers that Dave Baker had somehow preserved against the abrasions of world travel.

Thursday, July 3

Day 1 of the Champs. Light and fickle airs were taking models dangerously close to the trees in the non-operational section of Westover. Later the wind veered to afford



This page, above: Big Rubber Scale... Billy Bell of the Washington Maxcutters at Westover with his 54in. Taylorcraft. Files at about walking pace! Right, below: What are these ten men on the starting line up to? Right, above: ...Launching fun planes like this Baby ROG at the SAM Champs. Chap with the cap is Vance Gilbert. Opposite page, below: The world's oddest Wake... Willard Ballou displays his Pollywog, an 8oz job that relies on its spectacular climb. Top left: Reg Parham prepares at Taft. After the fine launch previously seen, we have to report the dire results at right...



less constricted flying. With it came scuds of rain, interspersed with plenty of sun and lift. A mixed bag. Interest in the British camp naturally centred on the 4oz. Wakefield, and the visitors certainly did a lot better than at Taft. Most popular choice of model was the Copland '36. The air seemed full of them at times. One was 'proxy' flown by William Beales for Dave Baker who was otherwise engaged at all points of the compass. It maxed at two minutes on its maiden contest flight and disappeared for good on its second which was timed at well over five minutes. Sadly, David had fitted no DT on the model, an omission that could well have cost him the contest. Chet Bukowski, also flying a Copland '36, had maxed twice and was a clear favourite. However, as the day wore on, the wind picked up, and Chet - to the astonishment of the British - declined to make his third flight, preferring to keep his trim yellow model in one piece. Certainly, nobody could ever accuse Chet of being a pot hunter! However, his decision left a feeling of anti-climax among the Brits, particularly in view of a Herculean effort by Reg Parham. A handling mishap in the breeze, which was now brisk even by English standards, had smashed the starboard wing of his Gordon Light Wakefield. All the spars snapped, and an extensive rebuild and re-covering job on the field was necessary. Reg did a wonderful job in conditions which would have disheartened most of us. He thereupon maxed without a trim flight, and with just a little more luck would have won the title on the third. As it was, Peter Michel took the contest by a margin of just six seconds.

Friday, July 4

The day started perfectly, and the visitors were treated to something that they had never before seen - really effective compressed air flying. A still-air test flight of 42 seconds by Ed Novak with his semi-scale Curtiss Robin was impressive enough to those of us who had never seen a compressed air job do anything other than a powered glide, but here it was not good enough by a long margin. John Stott, of New Town, Connecticut, took the event with a total of 5min. 27sec., and second-placer Karl Spielmaker emphasised the quality of U.S. flying in this class with 3min. 38sec. It will be interesting to see how British fliers react to this undoubted challenge.

All this time, of course, radio-assist events were being keenly contested at the other end of the field. Gary Davie was the only Brit to take an R/C job with him, but he did not compete. All that most of the SAM 35 contingent saw of the R/C events was the spectacular climb-outs of the larger jobs - and the occasional sortie into the free flight zone by R/C contest director Joe Beshar, whose method of launching ROG looked more like the action of a baseball pitcher... Chief interest among the visitors was in the Cabin Rubber class in which, surprisingly enough, non-cabin jobs were permitted by the rules. A disappointing fly-off in gusty air resulted in a win for Ray Factor's 1939 Korda.

Saturday, July 5

Contest manager George Armstead allowed us to slot in a mass-launch

Wakefield event. Anyone who has been to a Vintage Day at Old Warden will know what a magnificent spectacle this can be. So it proved at Westover, with fourteen competitors prepared to have a go. Shouts of joy from spectators and competitors alike greeted the launch. Clear winner, with a Korda, was Tom McCoy, who craftily beefed up his 3/16in. twelve-strand motor by another six strands to achieve the highest flight. There were cries of 'More!' and 'Do it again!' so it is a fair bet that high-fly Wakefield comps will soon become part of the U.S. scene, as they have done in Britain and remember, there were more than fifty models in air at the Old Warden mass launch last season.

Sunday, July 6

The Day of the A-frames. Once again, these old designs, surely the epitome of vintage modelling, proved that they are not just museum pieces, but competition models in their own right. The contest, run on the traditional 'last-man-down-wins' theme by Danny Sheelds, was won by John Stott. There was no doubt about the result because at five minutes-plus, John's A-frame was just a speck in the sky. But several among the encouragingly large entry, including Dave Baker, also put in excellent flights, and in the end there was some dispute over who should be second and third. Needless to say, DB was not in there haggling. The hagglers should have known that there *were* no second or third places. Perhaps the



answer for this and future contests would be to provide a timer for each competitor. But who wants yet another stop-watch session?

Today the heat was the main talking point. It was 95 degrees, with 96 per cent humidity, which made it even more difficult to move about than at Taft. Most unusual for Massachusetts, we were told. But not unusual enough to deter a bit of mad-dog activity around the British camp. For want of something to do on this, the last day of the champs, the visitors devised what they called the Gung Ho Cup competition. There were no rules, no rounds, no set maxes, and very nearly no trophy. All vintage models were eligible, highest total of three declared flights winning. All you had to do was to present your model at the end of the contest. The devilish subtlety was that you had to set your DT so that you didn't lose it, because if you did, you were out. All joking apart, this turned out to be a surprisingly effective way of running a duration contest. Think about it. Gung Ho flying is 'on' for the smallest of fields since it is up to the competitor to go for his own flight time - or to chicken out, whichever way you care to look at it. The event was won by Seichi Tsutsumi who, with a challenging cry of 'Gung Ho!' on each launch, totalled 6min. 27sec. He received a trophy from SAM 35 consisting of a smashed Korda fuselage, crossed Union Jack, and a plaque listing previous winners including the barons von Richthofen and Hindenburg.

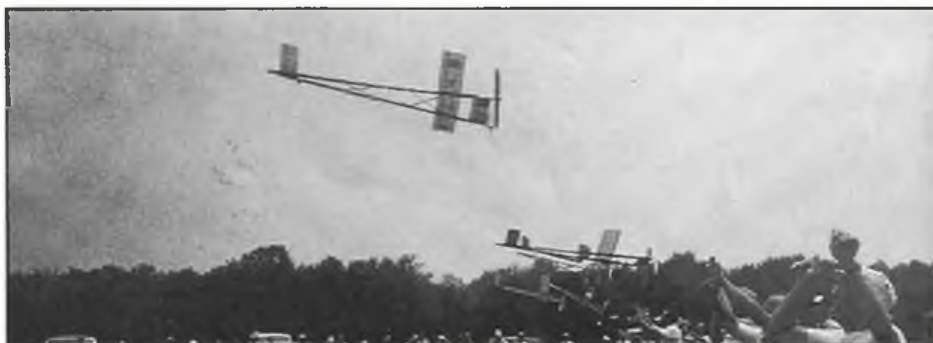
So ended the SAM 35 visit to the States. We arrived back at Heathrow at 6.30 on the morning of July 9 with sun tans, far fewer models than we set out with, and a hatful of happy memories. Like the man sang in the song: Could you ask for anything more?



Also at Taft, Sal Taibl launches his Verdler 4oz Wake. A motorcyclist prepares to retrieve (them) their hills are eight miles off...).

Sadly...

On the very last day of the U.S. SAM Championships a tragedy robbed American modelling of one of its very best vintage power fliers. Bruno Markiewicz was found dead out in the field beside his model and retrieval motorcycle. He had competed to such effect that he had won or placed in six gas events - quite enough to make him Grand Champion. Naturally, his death cast a pall over the banquet that evening, but it was right that the event went ahead as planned. For although it is perhaps a cliché in this cynical age to say such a thing, Bruno would not have wished it otherwise.



Above: Classic A-Frame launch by David Baker. For a time it looked as though he would win the event at Westover. Left: Lone Ranger. Al Richardson checks the DT on his Gordon Light Wake during the Jubilee event at Taft. Recognise the model? It was proxy flown by Dave Hipperson at Warwick - the first Anniversary event - in 1984. Below: Phil McCary ROGs his spectacular Lockton Park Wake in the 8oz Jubilee event. That wing has an 18:1 aspect ratio; model is tricky to trim but a fine flier.



1986 U.S. Wakefield Jubilee Event, Taft, California

4oz. Wakefield		
1	Jim Adams, U.S.	15.00
2	Bob Langdon, U.S.	14.34
3	Ed Wallenhorst, U.S.	13.40
4	Loren Williams, U.S.	12.50
5	Geoff Spencer, U.K.	11.13
6	George Stephenson, U.K.	11.00
7	Wade Wiley, U.S.	10.58
8	Jim Quinn, U.S.	9.59
9	Peter Michel, U.K.	8.00
10	Jim Perrison, U.S.	7.16
11	Al Richardson, U.S.	7.14
12	Charles Yost, U.S.	7.12
13	Abe Gallas, U.S.	6.50
14	David Beales, U.S.	6.48
15	Adam Beales, U.K.	6.36
16	Art Watkins, U.S.	5.14
17	Don Knight, U.K.	5.00
18	Mike Hetherington, U.K.	3.34
19	Tom Keppler, U.S.	2.18
20	John Oldenkamp, U.S.	1.58
21	Lee Freeman, U.S.	1.34
22	Reg Parham, U.K.	1.27

8oz. Wakefield		
1	Robert Wiehle, U.S.	12.36
2	William Beales, U.K.	11.03
3	Ed Wallenhorst, U.S.	10.04
4	Peter Michel, U.K.	9.44
5	Geoff Spencer, U.K.	9.20
6	George Stephenson, U.K.	9.16
7	Jim Adams, U.S.	7.15
8	Don McHugh, U.S.	7.01
9	Andy Faken, U.S.	6.36
10	Art Watkins, U.S.	6.32
11	William Crovella, U.S.	5.48
12	David Beales, U.S.	5.40
13	Richard Wegener, U.S.	5.36
14	Mike Hetherington, U.K.	4.46
15	Charles Werle, U.S.	2.02
16	Adam Beales, U.K.	0.07

Cabin Rubber Event		
1	Bob Dodds, U.S.	13.26
2	Hal Cover, U.S.	12.32
3	Phil McCarey, U.S.	12.26
4	William Beales, U.K.	11.27
5	Peter Michel, U.K.	9.28
6	Jim Quinn, U.S.	8.31
7	Bob Oslan, U.S.	7.01
8	Loren Williams, U.S.	6.34
8	Tom Hammond, U.S.	5.35
9	Mike Mulligan, U.S.	5.00
10	Al Hotard, U.S.	4.02
11	Graham Podd, U.S.	1.38
12A	McCormick, U.S.	1.00

U.S. SAM Champs, Westover, Mass.

4oz. Wakefield		
1	P. Michel, U.K.	5.49
2	R. Parham, U.K.	5.43
3	R. Thompson, U.S.	5.34
4	J. Stott	5.30
5	Bob Moulton, U.S.	5.06

Power Scale		
1	K. Hinton, U.K. Tiger Moth	120

The U.S. SAM Champs comprises a huge variety of events, including numerous classes for Pylon, Cabin, Nostalgia, Towline and Rubber Stick models. Space will not permit a full listing, the major events, plus Ken Hinton's excellent achievement in Power Scale, are detailed above.

MIND THE LINES

with
Andy Brough

Scaling models

I've recently heard rumblings from several people about Ron Prentice's rule changes for Old Time Stunt, namely the deletion of Rule 5 which means that no scaling up and down is allowed. Apart from the actual change itself comment was made that the matter was not discussed at the SAM 35 AGM. It is worth reminding readers (especially SAM 35 members) that the committee of that organisation does not and will not be involved in competition rules except for safety reasons. In this connection, please read p.249 of the April Mind the Lines. Rules are drawn up, by a group or an individual and adopted by SAM. This is a very effective method which makes changing (or should I say influencing) the rules an easy matter, as you have only to contact the person concerned.

Ron and I put a lot of work and thought into the rules and the running of comps, and advice is also sought from others. I believe this is the only way the system can work unless SAM 35 is to become top heavy with endless committee meetings and increased fees to cover expenses as a result.

As to the rule change itself, I think it was the correct decision for the following reason. To scale a model alters its characteristics and the name of the game is to build an old design and fly it - not to modify it for the purpose of winning a competition. One valid point is that unless one scales up a British design it will never win a stunt comp against an American one. I agree that may be a problem, but to

scale up a British design such as a Marlin to, say, 48in. span (this would be a 1.5 x Marlin) with a .35 up front renders it no longer a Marlin in my book... As an example, Ron's own Big Fry is a very much better flyer than his Small Fry, and that was one of the reasons for the rule change.

Of course, you can scale models up and down for your own - and our - amusement; all we ask is that they do not fly in Old Time Stunt comps. They are eligible to fly in SMAE comps; now that may be a good idea. Such a model as John Perry's large Monitor, for instance, would probably do well in Novice Stunt. (*Who spotted that the large Monitor was announced as a forthcoming model in the 1950 Mercury advertisement reproduced as part of the Merlin kit review in the September issue? GC.*)

The exceptions to the above rule are those designs that were available in different sizes before the cut-off date. Please remember the name of the game is VINTAGE, that is, the building and flying of models as they used to be, not the wholesale improvement of them.



Above: Our columnist indulges in other Vintage pursuits besides C/L - here's his Aeromodeller Wasp free-fighter complete with very interesting Innes 1.3, a homebuilt spark motor (now running on glow) from 1937. Below left: The Walkins Stingray (see text). Below right: The C/L pits at Vintage Weekend, showing the Billston Club's private air force.

Otherwise we will soon lose sight of the whole concept. I think the radio boys are well down that road already; but that's another story.

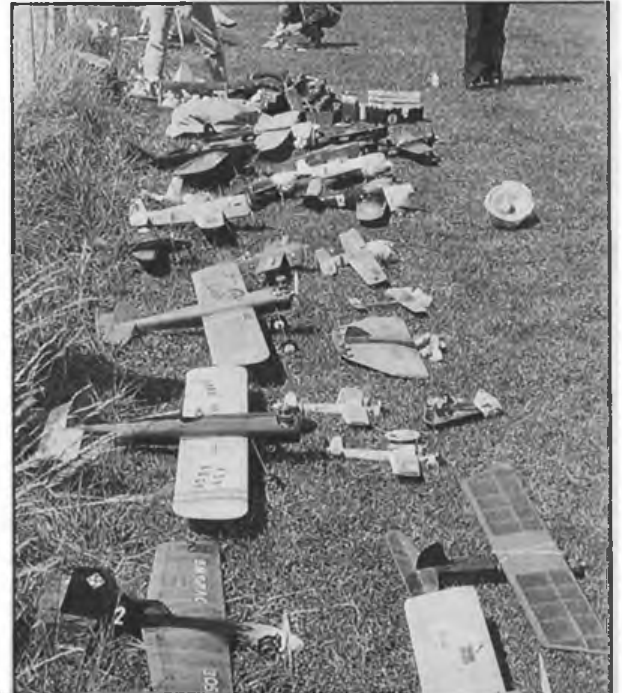
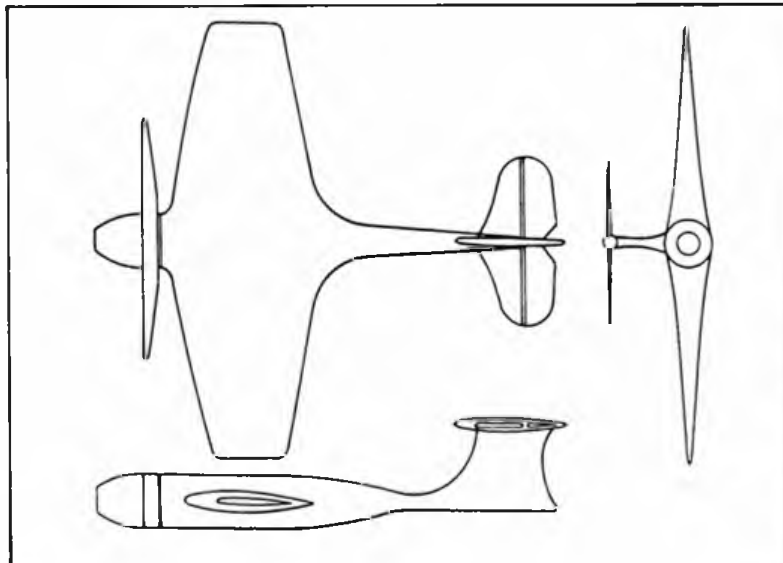
Sackcloth and ashes

Last year at Old Warden, Jym Ledy offered me a go with his Barnstormer. This would have been my first clockwise flight. It was not to be, however, as a certain Chris Bradford (of Scale C/L fame) crashed it just before I was due to fly. Well, folks, I got my turn this year and...this time I crashed it! I think I must have thought the model was inverted because as I flew into wind, instead of giving 'down' I gave 'up', lost line tensions and...thump. Sorry Jym; perhaps next time I should hold the handle upside down! Of course, after this year there may be no next time... See you next year, Jym? Please tell us of your experiences with flying clockwise; I'm sure we'd all like to know.

Let's go fast

Elsewhere in this issue is the Old Warden report in which I mention the commitment to include as many Class I speed models as possible in this column. As luck would have it, whilst I was writing that report Peter Hill rang up with details of Stingray; not a model that sprang immediately to mind, but a little research revealed an outline drawing in the 1948 Aeromodeller Annual.

The design is described as a 'futuristic speed model featuring a Mill 1.3 marketed by Watkins as a plan-pack'. Further, we were told that the 'ingenious layout locates the engine as sidewinder imbedded in wing; tank and all controls likewise imbedded with extensions for vital operations'. Peter remembers one that flew at 70mph with a Mk1 Mills 1.3 turning an 8 x 12in. prop! On this motor the compression screw was replaced by a thumb wheel, the edge of which just protruded from the wing to allow adjustment. The needle valve was extended all the way to



the wing tip by a piece of piano wire. I think I would have turned the carb through ninety degrees first!

The December 1948 *Aeromodeller* records the Stingray's presence on the market with a small sketch, notes the price of 4/3d and makes the comment that it is capable of 60+ with a Mills. But that's all. Peter thinks he may be able to locate a reduced plan of the model and will forward it as soon as possible.

Although it's not really a serious contender in Class I speed, a PAW or the like may well produce an acceptable performance even at its 15in span, if 70mph is possible with a Mills. Food for thought...

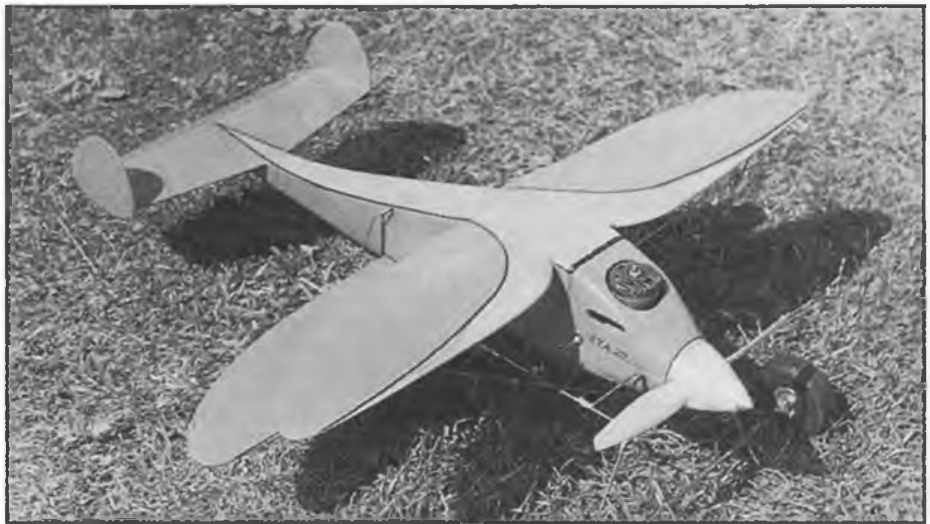
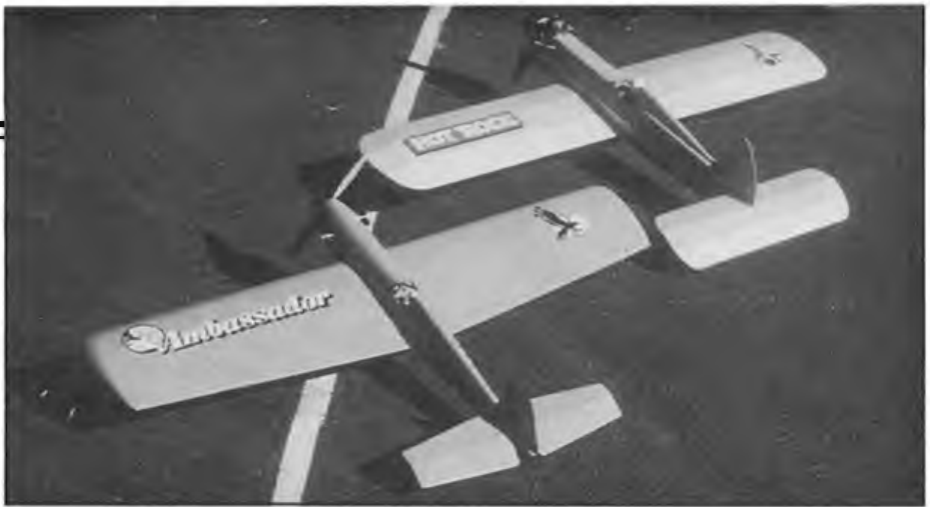
Still on the subject of Midge I can report that I'm about to start a kit version of the Midge upon which I shall report in due course. This will include all the little wrinkles we have learned over the last couple of years.

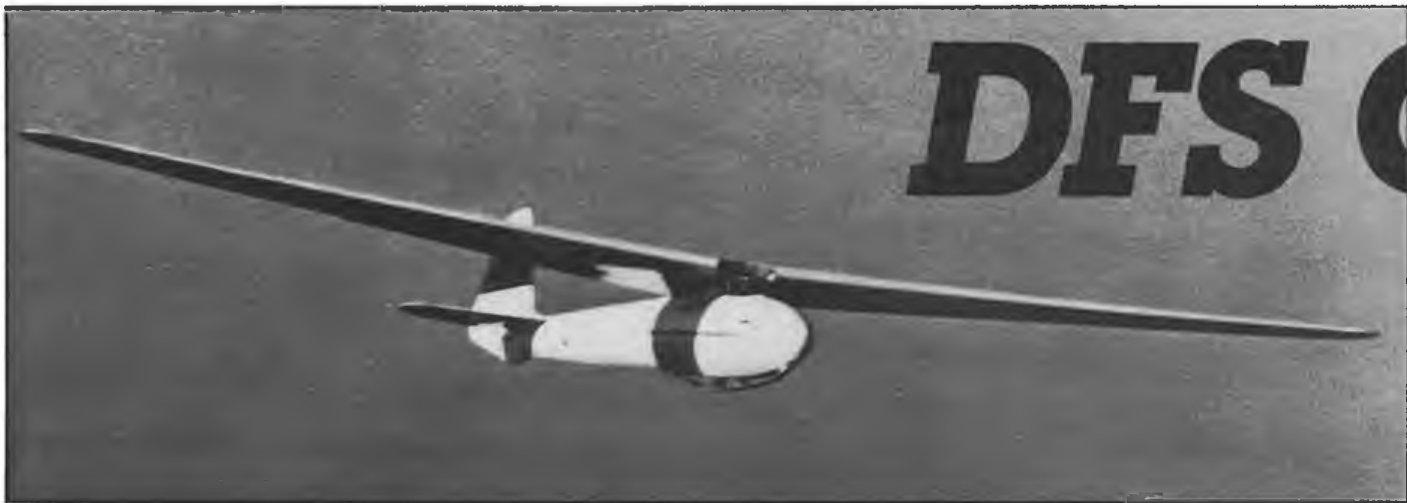
Please send in any information on pre 1951 Class I speed models so that between us we can amass enough information to enable other designs to be built. Remember, Class I speed events are cheap, fun and very competitive; in fact it is the most competitive speed class flown in the UK.

I recently received a letter from Peter Martin who reports that after we advertised his Stunt King and Queen plans in this column, he had over sixty letters! Such is the power of this pen (well, somebody reads the articles anyway). Peter enclosed a letter from New Zealand, sent by a gentleman called Graham Lovejoy who says that there is virtually no interest in Vintage Control line in NZ, all activity being contest orientated, i.e. F2C Team Racing, FAI Aerobatics and Combat. However, Graham and a friend have been flying old models for a while, just for fun and to enjoy the pleasing lines of designs such as the Hot Rock and Ambassador. Of interest is Graham's keenness on early 50s stunters, especially the Bob Palmer models such as the Powwow, Smoothie and Mars. (All are eligible for Old Time Stunt, which allows designs up to 31/12/52. ACB). It's nice to know that people still build the old designs not for competitions, but just for interest and fun. That's what it's all about.

Graham ends his letter by saying he is envious of vintage Control Line scene in the UK but is pleased to be able to keep up with the news in the Mind the Lines column in *Aeromodeller*, a magazine that in his opinion has recently taken on a new lease of life. Good on you Graham - and spread the word.

Top: Vintage C/L down under; Graham Lovejoy's attractive Ambassador and Hot Rock. Below that: More Vintage Weekend pics. This very attractive ETA 29 powered Tyro Trainer flew beautifully from its dolly. Above right: Dick Roberts' one-and-a-third-size Midge - entitled Mutant Midge - also has an ETA up front. Dick decided not to try it on 35ft. lines... Right: Purposeful looking Super Zilch by Gordon Counsell is powered by a 'spark' McCoy 49 previously installed in an R/C model!





Christopher Wills, President of the Vintage Gliding Club of Great Britain, looks at a beautiful sailplane

IT IS FELT that the near-perfect flight handling of this full-size sailplane might make this an ideal project for radio control model enthusiasts, who would have an aircraft well suited for hill and thermal soaring, and aerobatics.

History

The original Meise was designed by Hans Jacobs of DFS in 1938. As far as we know it seems to have flown perfectly from the outset, needing no modifications. In February 1939 it was entered in the contest, held near Rome, to select the sailplane to be flown by competitors from all nations in the 1940 Olympic Games. As the Meise was judged the best by an international jury, when compared against five other sailplanes, it was also named 'Olympia'.

With a view to it being built and flown internationally, drawings were sent out to all countries interested in participating. Then came the outbreak of war, which prevented the 1940 Games being held in Helsinki...

The Olympia Meise was conceived as a cheap sailplane to build, but after the war it was never an economic proposition. In spite of this, it may be considered as the true ancestor of the Standard Class sailplane. Its very effective Schempp Hirth Airbrakes, which were a new development in 1939, facilitated field landings; and pilots could approach cloud



With cockpit canopy removed, the prototype Meise awaits its pilot at the Olympic Trials, Sezze, Italy, in February 1939.

flying with less trepidation as these brakes (which opened above and below the wing) restricted speed to a safe maximum.

The Meise was cleared as semi-aerobatic (the tailplane being likely to break during rolls and negative-G manoeuvres). Nevertheless, the Eon Olympia (see below) could be flown to 110 mph. It was much loved by pilots everywhere. In 1945 Philip Wills described a captured Meise as being the nearest thing to aerodynamic poetry that he had ever flown; the craft, he said, seemed to fly on thought power alone.

The Olympia Meise was mass-produced in Germany during the war. We have the following figures: 601 aircraft built by the Flugzeugbau Schmets at Herzogenrath near Aachen, and 25 aircraft by Flugzeugbau Schleicher, who were resident near the Wasserkuppe. This makes it the fourth most mass-produced war-time glider in Germany; ahead of it are over 9,000 SG-38s, over 4,000 Grunau Babies and over 1,600 Kranich 2s.

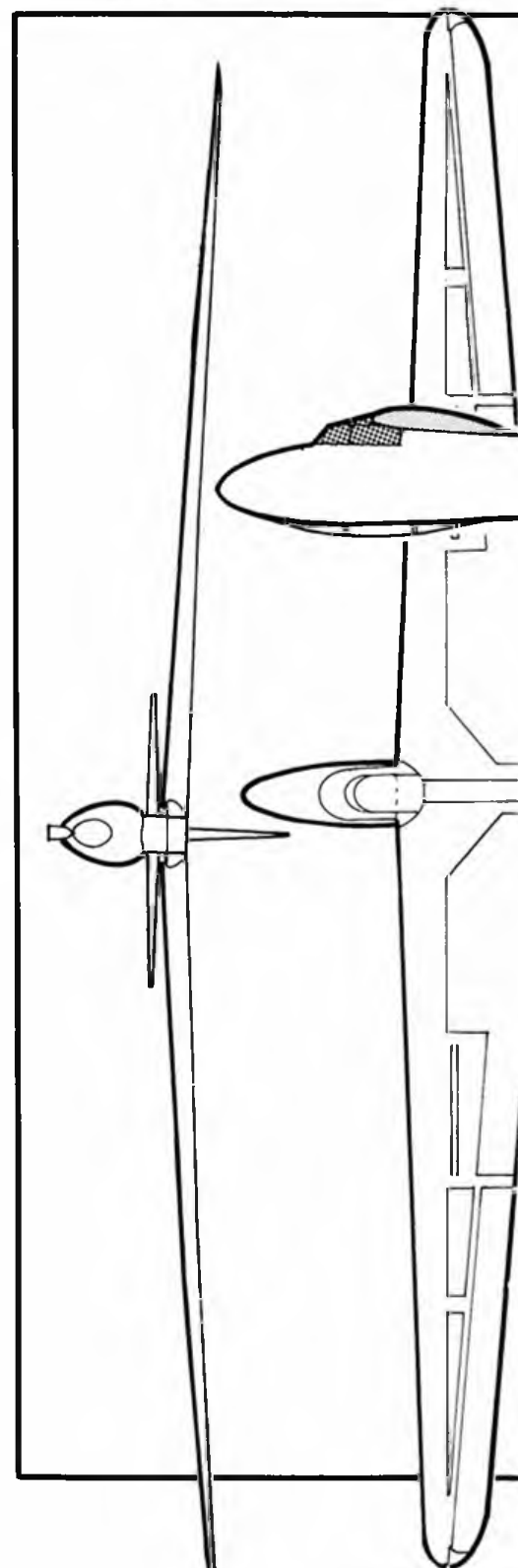
After hostilities ceased, 150 Olympias were built from 1947 - 1960 by Elliotts of Newbury (Eon); and 100 Nord 2000 Olympias were built in France during 1947. These craft were constructed from the pre-war drawings. In England, at least, these had been much modified.

Meises were also built in lesser quantities in Hungary, Sweden, Switzerland, Austria, Australia, Holland (by Fokker) and in Germany again after 1951 by Focke Wulf, as well as by private individuals and clubs. Most of the 626 built in Germany during the war may have been destroyed in 1945 but three of them were brought to England for testing at Farnborough. One of these was in too had a condition to be made airworthy. Another was flown by the Royal Navy until 1957. The third passed into civilian hands and was still airworthy in Cornwall last year.

Of the 150 Eon Olympias built, no less than about 50 are still flying in Britain, as well as two Nord 2000s and one postwar built Meise.

Flying achievements

Several notable performances have been put up by the Meise, including the 1939 World Goal Flight record of 348 kms by Seff Kunz, an enthusiast who besides organising the 1939 and 1939 Rhon Contests, did much to get gliding accepted



OLYMPIA MEISE

as an Olympic sport.

Other creditable flights were: distances of 490kms in 1949, by M Weiss across France achieved in a Nord N.2000; 450kms from Farnborough to Newcastle, flown by Bill Bedford in an Eon Olympia in 1951; a height of 30,000ft. reached by Gordon Rondel in an Eon Olympia in 1960 - in a thunderstorm; and what must be the most remarkable flight ever carried out in an Olympia, if not in any pre-1940 designed

sailplane: a 500km triangle by Keith Nolan in the Australian built Chilton Olympia 'Yellow Witch', flown on December 9th 1980 in that country.

We are sure also that countless other outstanding flights have been flown in Olympia Meises, and more will be carried out in future. On this subject, it should be noted that in 1988, a rally of Olympia Meises is to be held in Germany to celebrate the type's 50th birthday.

Construction and colours

Materials used were Baltic pine, birch plywood and cotton fabric. The semi-monocoque fuselage is covered entirely with plywood. A two-spar, plywood covered leading edge 'D-box' wing gave extreme rigidity and allowed very light and efficient ailerons, in spite of their being cable operated.

Continued on p.675

DFS Olympia Meise

Span: 49ft. 2in. (15m) Length: 23ft. 10in. (7.27m)
 Wing: 15:33 sq. m Aspect ratio of wing: 15:1
 Wing section: Gottingen 549 at root, 676 at tip
 AUV: 670lbs (303.9kg) Wing loading: 4.09lb/sq. ft. (20kg/sq. m)
 Max L/D: 25 Min. sink: 2.2ft/sec. at 39mpg (0.67m/sec at 63km/h)

EON Type 5 Olympia 1

Scale: 1/72

Same meeting, same glider and its crew. - It was apparently a good day for gliding - look at that windsock!



Hanna Reitsch, whose test-pilot exploits are almost legendary, poses - dressed for cool weather - at the Olympic Trials.



SCALE MATTERS



Bill Dennis concentrates on some Czechoslovakian masterpieces

EVERY SO OFTEN, the scale columnist of *Aeromodeller* receives a package of photographs from Ing. Lubomir Koutny of Czechoslovakia, and the latest consignment features some very impressive models. The main interest in that country is still rubber power, with most of the models being built to a common scale of 1/20. There is little power activity although some CO₂ is flown using either the Modela engine or homebuilt motors built by Stefan Gasparin.

There are several twins which will gladden Charlie Newman's eye, and pride of place must go to the McDonnell XP-67 of Paul Stranick. I do not know how much detail the reproduction of the photograph will show, but on the original it can be seen that all those intricate curves are represented by large numbers of very closely-spaced stringers, which look to be possibly less than 5mm apart. This is undoubtedly a masterpiece of construction, but one may ask if even better results would be obtained at a similar weight by sheeting the model. No details of weights or performance are given, but reading between the lines I suspect that it flies very well indeed.

The Russian twin is a Petliakov Pe-2, built by Vladimir Kunert. This model won the 1986 contest for these 1/20 scale models. Wingspan is 80cm and weight 120grams. Each motor comprises four strands of 4mm Pirelli 60cm long, and the duration achieved is in excess of eighty seconds.

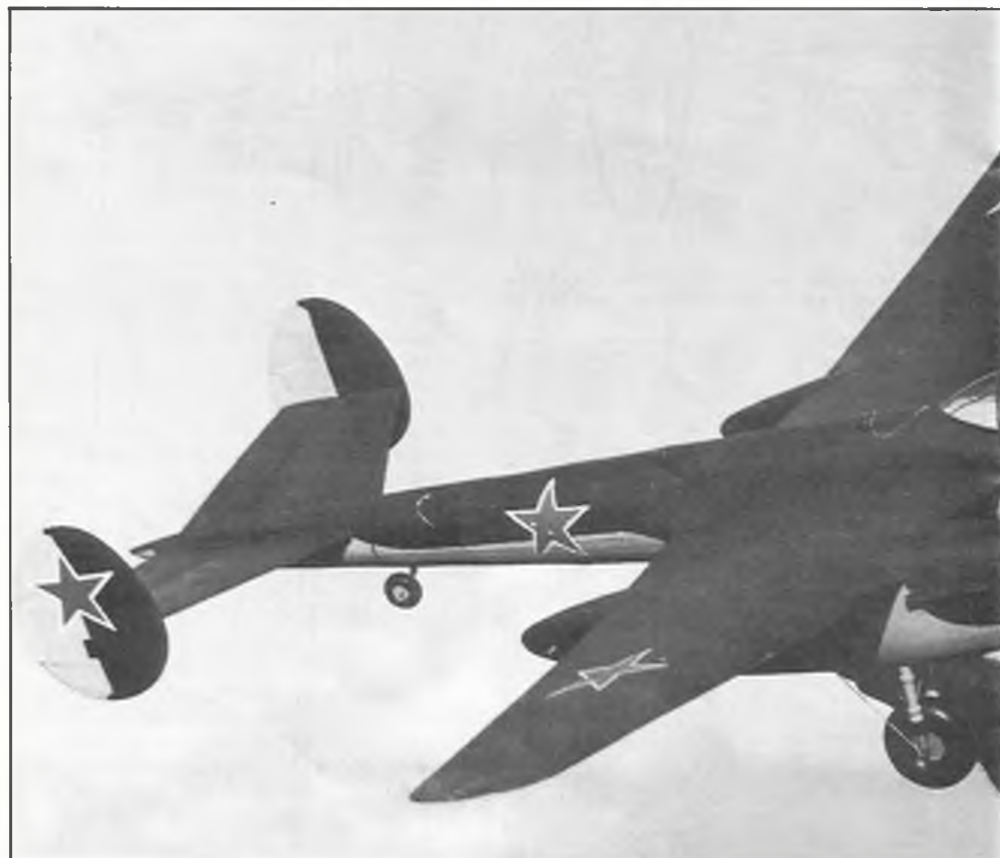
The next twin, an Arado Ar240, which in the photograph is being held by Lubomir himself, is a new model which won a recent contest at Brno. The wingspan is 70cm and the model weighs 70grams. Once again,

claimed performance is in excess of one minute on two-strand motors of 6mm Pirelli, 60cm long. The Arado is also seen in the next photograph together with Lubomir's Bf 109f, which I think is my favourite. At 50cm span it weighs a remarkable 28grams and has flown for 80 seconds. Similar figures apply to the Macchi MC202 built by Vladimir Kunert from Koutny's plans. It is not made clear how the colour scheme has been applied.

Technically the most impressive piece of workmanship is the *Peanut* Spitfire IX built by Ing. Alfery, which will particularly interest Paul Briggs whom, I

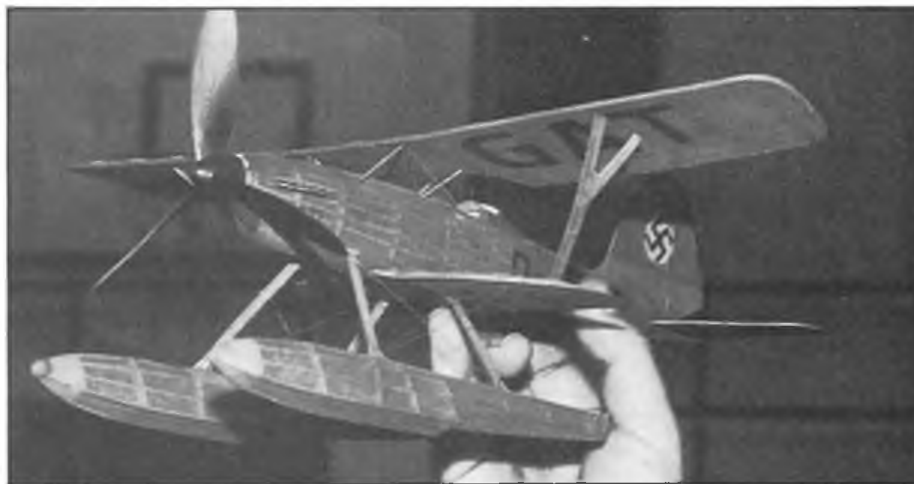
remember, has built some similarly-sized Spitfires from foam. This one, however, is built entirely from vac-formed plastic card, and flies for over a minute in an eight-metre-high hall!

The Czechs also have a special class for floatplane Peanuts and three examples are shown here. It surprises me that more craft of this type are not seen here since they attract such a high bonus. If it is for reasons of the extra drag reducing duration to an uncompetitive level, forget it, because the biplane He114 illustrated won a recent contest and has flown for well over the minute!





Above left: Lubomír Koutný, who supplied these inspirational photographs, holds his Arado Ar240. Model is built to 1/20 scale and is capable of over 70sec. Nacelles appear to be slightly longer than scale. Note fully-equipped cockpit. Above: Lubomír's son Peter with an exquisite Peanut Gloster VI, 1st place model in the Pardubice Seaplane Cup event. Above right: A nice pair - Lubomír's Ar240 and B1109F: winners both. Motive power for the Arado is seven grams of 6mm Pirelli, 600mm long (each motor).



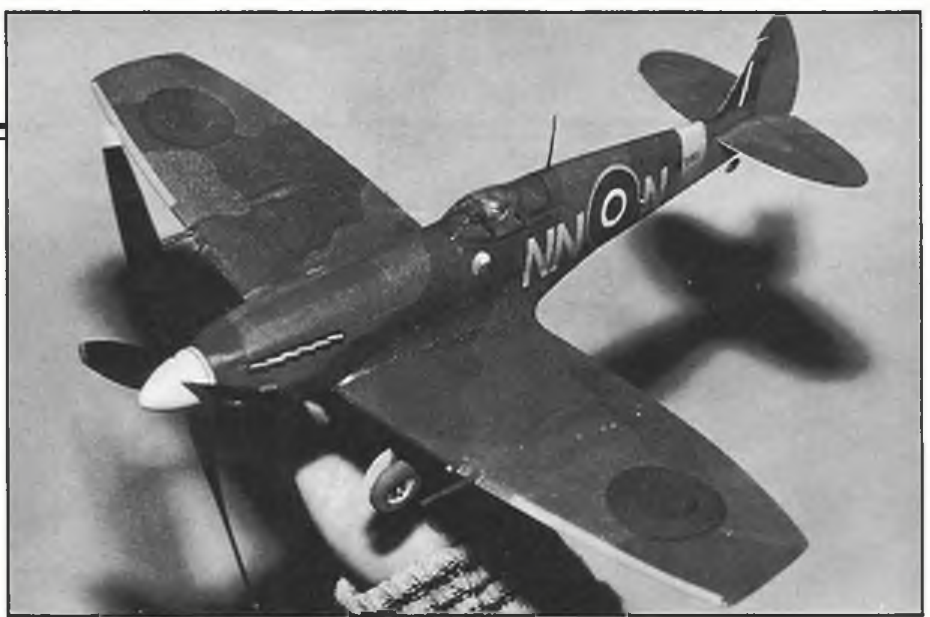
Left: How's this for elegance? Vladimír Kunert's gorgeous Pe-2 was capable of over eighty seconds on 90% turns; note use of the past tense for, alas, this competition winner has since been destroyed... Right: Another Peanut seaplane, this one an Arado Ar199. Above: More of Vladimír Kunert's handiwork, this He114 won the Pardubice event. Above that: Miloš Gabriel holds Paul Stranick's incredible XP-67. Miloš commented, 'I thought I was a designer; I thought I was a modeller - today I saw Stranick's XP-67!' Need we say more...



Nationals Video

At the end of the Indoor Nationals report a few issues back, I mentioned the availability of a video shot by professional photographer Tony Van Geffen. I have only just seen it for the first time and thought a ninety review might be useful to anyone thinking of getting a copy. The video runs for ninety minutes and forms an interesting record of the event. Some of the flying shots are very good indeed, particularly those of the CO₂ models; Gordon Hannah's Storch has been captured particularly well. It is noticeable that in general the CO₂ models fly more smoothly than the rubber models, or perhaps Tony was unlucky in his choice of which ones to film! There are several interviews with such luminaries as Geoff Spencer, Paul Briggs and Mike Hetherington; indeed, the latter's lecture and demonstration on building paper scale models is captured in full.

The only criticism that I would make is that a little more editing would have been useful, particularly of the initial briefing which goes on a bit. Also, model aircraft are notoriously difficult to film, particularly against a dark ceiling dotted with bright skylights! Nevertheless, Tony has done a good job, and the video is a valuable reminder of a memorable event. It is available on VHS or Betamax; price



£12.95 plus £1.00 postage and packing direct from Tony at 180 Verity Crescent, Canford Heath, Poole, Dorset BH17 7TZ.

Incidentally, one model I did not notice at the Indoor Nats was Derek Knight's electric conversion of his CO₂ Heinkel biplane, which has been around for a few years now. Derek has moulded a tailor-made mount for a small electric motor which I understand is fitted to a currently available, ready to fly model, a geared unit which is much more compact than the VL motor I mentioned in the September issue. (The motor referred to here is that supplied with the almost-ready-to-fly kits produced by the Union Model Co. Ltd - see *Skyhopa* review in the May issue of this

magazine. GC). This motor is comparable in weight and power to the Telco, and as installed in the Heinkel it appeared to be fitted with a variable resistor which afforded a degree of speed control. We may be hearing more about this project soon...

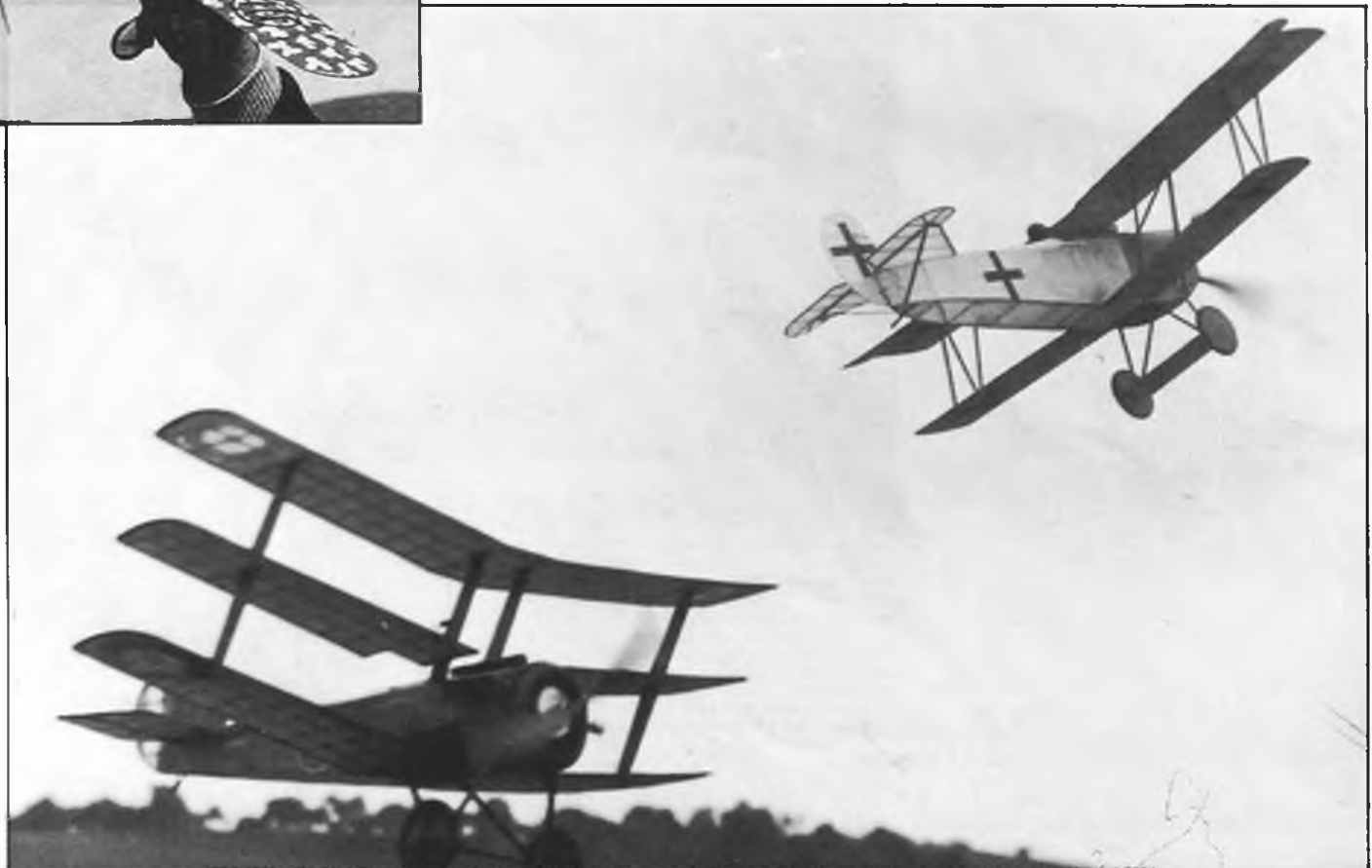
For Derby, read Walsall...

The September Scale Matters referred to the eagerly awaited SMAE Indoor Scale meeting at Alumwell, Walsall on 2nd November, which will be only a couple of weeks away by the time you read this. Unfortunately, the heading was incorrect - so don't go to Derby - Walsall is the location! On the subject of this meeting, I mentioned a while back that there will be some sort of mass-launch event for the KK/Veron rubber scale models, along the lines of that held at Old Warden. Obviously it will have to be tailored to suit this indoor venue, and the precise nature of the rules will be decided on the day itself when we know the number of entries.

As far as the models are concerned, take note that the minimum weight is now 30 grams, and any motor/prop combination is allowed. There's just enough time to knock one together - see you there?



Above: Vac-formed plastic card is used throughout as the construction medium for this impressive Peanut Spitfire IX. Realism factor is high! Left: Still awaiting final insignia is Vladimir Kunert's Macchi MC 202, built from Lubomir Koutny's plans (we're trying to get 'em). Below: Two for CO₂: Stranick's Fokker DVII and Peter Kolar's new Sopwith Triplane. A posed shot, perhaps, hmmm? Both are good for about one minute - bet it looks even more!



POVAH
101 LONGBROOK
SHEVINGTON
WIGAN
LANCASHIRE
WN6 8DA



Out of the Archives

Another dip into the files to discover an oddity that poses a few questions...

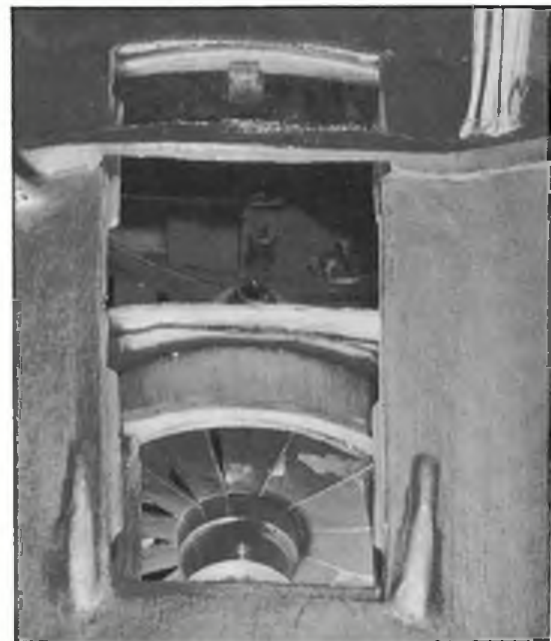
WHO REMEMBERS Supercar? TV buffs may well appreciate the 'sixties children's series as a classic of its kind, one of the first to treat special effects seriously; but the vehicle itself would seem to offer little prospect as a subject for a flying model. Nevertheless, flight was the claim made by Mr A. Isaac of the RAF Colerne MAC in 1963 on behalf of this creation which was equipped with a glow .049 driving a three-inch multiblade fan (see photo, right). The model was of extraordinary size for such a method of propulsion, being all of two feet long and eighteen inches wide. Doubts as to the ability of the tiny wings to support the model were perhaps not quelled by the statement that 'the shape of the fuselage provides lift inside and outside... apart from a rather long take-off run it presents no problem... although a bit slow on an .049...' The fully-sheeted vehicle balanced about the wing leading-edge; maybe a bit far forward, although the point was made that adjustment could be effected by means of a slotted engine mount.

Furthermore, the builder's original

scheme was to employ *two* motors, the second to point downwards for hovering to 'eliminate friction and drag... and be more realistic...' but this notion failed, there being insufficient room in practise. Nothing daunted, Mr Isaac proposed an even larger model which would be equipped with three motors; two for hovering and one for forward thrust.

In reply, the then editor of *Aeromodeller* commented, not unreasonably perhaps, that he did not have a great deal of confidence in the stability of the model. The pictures and description were retained for possible Model News use but they have not appeared in print - until now. Evidence presents this Supercar as a piece of work on which much time and effort have clearly been spent. It is certainly an 'enthusiast's' model, and it must have looked attractive enough in its quoted red, yellow and grey scheme.

Now here's a question. Who remembers it - any ex-RAF Colerne personnel, maybe? If so, do tell us - did Supercar ever fly? And was that larger version ever built?



READERS' LETTERS

Peanut appeal

Dear Sir,

I was a little upset when I read Bill Dennis' comments on Peanut Scale in the July '86 Aeromodeller, but on further study of the text, I realised that he may have a point: the SMAE Peanut rules do need changing. As an 'all-round' aeromodeller, though, I can never agree with the implication that there is no appeal to Peanut - but that's another story.

The main point in the article was that there is something wrong with the static rules when what appears to be a more complex subject gains less marks. Mr. Dennis suggested that static marks be increased to take this into account. He then added that perhaps no-one cares, as the same models keep appearing, and the entries keep falling each year.

Perhaps the answer lies at the birth of the class. A look through some back issues of Aeromodeller from the 60s to date will reveal a few interesting facts. Peanut was originally conceived in the USA as a fun contest for 'caricature' scale models. To enable everyone to have a fair chance of success, the rules were kept simple with the event having both static and duration elements. When the class crossed the Atlantic, the originator's static rules were discarded in favour of the SMAE scale schedule. This didn't work, and the rules used today were developed. The RAFMAA uses similar to those used in the USA for its Peanut contests; the SMAE rules have also been tried but the former are preferred. For those who have not seen them, the essential differences are:

- 1) The static and duration scores are calculated as a percentage of the best score.
- 2) The static score is multiplied by the workmanship score.

Thus a well built and well finished model will always bring in an appropriate score. In addition, no excessive figures are apparent and therefore, highly complex subjects are discouraged. This also makes the class more attractive for the beginner - something which is, I fear, oft forgotten when writing rules!

If the SMAE rules are changed to increase the static complexity score, then I believe that the highly detailed subject will be here to stay. The competition will then become even more specialised and open to fewer modellers. (Look at the result sheets for R/C Scale over the last few years and count the names.)

And then, how will the beginner cut his teeth in indoor scale competition? Although entries were up at this year's Indoor Scale Nationals, so was the average age!

The RAFMAA/USA rules may not be the answer. Perhaps a rule could be introduced to prevent the same model being used twice. Or even better, how about some open discussion within the pages of this magazine to find out what the 'modeller in the street' wants. So how about it scale enthusiasts, what do you think?

Flt. Lt. A.J. Sephton
(Comp. Sec, Indoor Flying, RAFMAA)
Warminster, Wilts.

Bill Dennis replies:

Andy Sephton's letter raises several interesting points about Peanut, but firstly may I say that I did not intend to imply that there was no appeal to Peanut, merely that I couldn't appreciate it. Having now entered my first such contest, I can say that I enjoyed it without taking it too seriously, which is, after all, the idea of the class.

However, it is a fact that there has been disquiet amongst those who do take the class seriously, in that the best models appear not to be receiving their due reward, and so the SMAE Technical Committee decided to try some changes. Therein lies the problem, because Andy's is the only reasoned and constructive letter on the subject I can recall in approximately ten years on the Committee. As a result we have to make decisions as best we can, with practically no input other than the passing criticisms off the top of someone's head that we all hear at flying meetings. I would also add that these criticisms are by no means in accord with one another!

The changes we made were detailed in the last issue, but to recap: they were aimed at rewarding such things as realistic finishes and detailing, rather than complex models *per se*. I suspect that the marks awarded for biplanes, floatplanes and so on are about right, since they have eliminated the Lacey and Fikes, and yet go some way to compensating the disadvantages of weight and drag. This is probably not the place to debate the merits of the SMAE and RAFMAA schedules, but if we are concerned about beginners, does not multiplying the entire static score on the latter system by a workmanship 'K' factor act as a deterrent to those hamfisted at these scales (myself included)?

It is a fact that whenever a class is aimed at beginners and/or the less serious the standard improves until you have to start all over again. It is very difficult to legislate against progress. My own view is that since the indoor events run by the SMAE (including the National Championships) tend to attract the more committed, then we should have a system which rewards excellence. There are plenty of other meetings run by clubs and areas where the organisers try out whatever rules they wish in order to attract that elusive beginner.

I have some sympathy with Andy's point about not using the same model twice, but I know what the effect on entries would be!

Finally, remember that the SMAE Peanut rules are provisional and can be changed at will by the Committee. Let's see what happens this winter and if you don't like it, let them know.

I would point out that the views expressed here are my own and do not necessarily reflect those of the Committee as a whole.

B.D.

Scale and other subjects

Dear Sir,

Views on a scale series? An excellent idea, but I suggest you look for more unusual subjects. Most famous military subjects have been done to death. How about Golden

Age American craft and pre-war Continental civil?
Winchester, Hants. M. Courtney

Dear Sir,

I daresay you have had many readers offering suggestions as to what they would like to see in Aeromodeller, but here are my comments... I would like to see unorthodox models like Ray Malmstrom's Co-axair as free plans; although I do tend to think of free plans as ephemerals and the Plans Service offerings as of greater interest. What would be really good would be to repeat features of those classic planes which are still in demand, such as the Ivory Gull. There should also be the occasional issue such as last April's, with a review of the vintage Tiger Moth plan, a report on the full-size craft and a repeat of the sketchpage, all in one month. Could I even suggest the plane - the DH Moth Minor...

Best wishes for the Aero modelling magazine. 50cc motors, super radio and high tension flying are all very well, but model flying should be fun.

Doncaster, Victoria, Peter Griffiths
Australia.

Dear Sir,

When I read the July '86 issue of Aeromodeller I noticed your piece 'Subjects for Scale' on page 404 and decided I really should comment. All four of the aeroplanes shown in miniature three-view (the Airspeed Ferry and Courier, Avro Avian and Blackburn Bluebird) made me sit up and take notice. They are all of a time and class about which I am particularly enthusiastic - between-the-wars civil aircraft. Golden Era, if you like. The projected series would certainly please me and your proposed 'lightweight' approach is quite heavy enough as far as I am concerned. Don't hesitate to republish such three-views; very, very few readers have the early magazine copies, I am sure. Probably, like me, they had them when younger and eventually disposed of them, thinking that they would never need them again. On reaching the middle 50s it's all part of the scene to long for the mags we once had. Oh yes, I'm quite sucked into the Vintage vortex...

Answering your question as to preferences, I think the answer is probably a cocktail of the lot. Though I am deeply moved by British Civil pre-war, others would also be acceptable reading provided we have a three-view. Please try to fit in the ABC Robin early in the series.

Enfield, Middlesex. Jack Hardwicke

Fairchild gen uncovered

This letter will help to provide a bit of information for John Lally who was seeking information on the Fairchild 22. The enclosed drawings might be of help (this refers to a 1/2in: 1ft plan published in the February 1934 edition of Popular Flying, and reproduced here, which has been forwarded. GC). There are some flying in the USA but data is sparse. Colours were as the owner wanted; cream and green, and cream and brown seem to be the norm. I

Aeromodeller

believe the engine was a Menasco Pirate, though I am not sure. Should I accrue more data I will forward it to you.

Regarding subjects for scale in Aero-modeller; please, anything of the sport type of the twenties and thirties - the Avro Avian, Arrow Active and the like. Upright engines so that a four-stroke motor can be used in a model; not too much building time, and slow flight - ideal for smaller fields - are other criteria. All the types shown in the July issue are super. Please do up the Avian! Calgary, Alberta, Frank Palmer Canada.

Dear Sir,

This is a late reply to John Lally's plea for details about the Fairchild 22, published in Readers' Letters in July 1986.

I'm currently building a small Fairchild 22 from a Flyline kit and before starting construction I spent quite some time looking for information. So far I have the following references:

Le Fana de l'Aviation No. 174:

A French magazine on full-size aviation, this contains a short article with photos and a small 3-view.

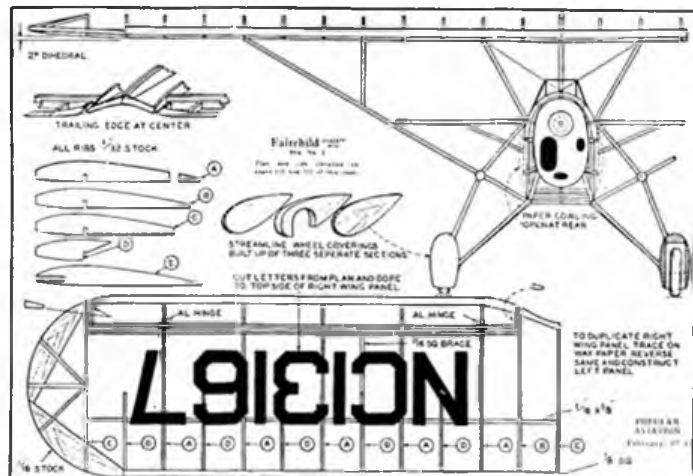
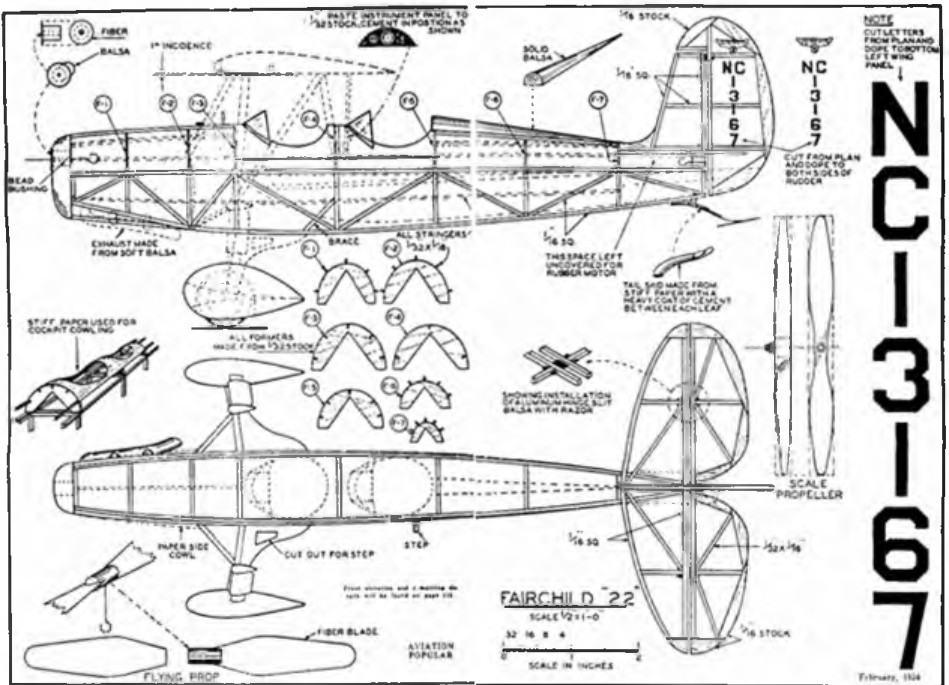
RC Sportsman: Dec. 1979: American R/C magazine, now defunct. Article on the in-line Fairchild 22, partly the same contents as above, including details about an experimental version.

Air Trials: Summer 1977 (Vol 2, No.2): American magazine on historical aviation published by Challenge Publications. This article gives a lot of information with close-ups of many details, not least cockpit and instruments, some of them in full colour, of a restored Fairchild 22. A copy can no doubt be obtained from the publisher.

Finally, there is a beautiful colour three-view of a radial engined Fairchild 22 in *American Modeller*, July 1968 but I suppose you are building an in-line Fairchild.

Hoping the information above will be of interest.

Halmstad, Sweden. Sten Persson (Nice to know the system works. Can we help you? GC).



The Editor is not bound to be in agreement with the opinions expressed by correspondents

Olympia Meise: from p.669

The original Meises were painted in an oil-based warm cream paint. Registration letters were black. Skids were often open, but if faired in, were painted. On the first Meises, there was a thin line painted on the fuselage sides and on the upper surfaces of the wings, along the main spar. These could have been red, but the author believes that he has seen a model of the time, with them painted green. The usual period insignia of red band, white circle and black swastika were on both sides of fin and rudder.

Eon Olympics were simply painted, for economy, in various colours of cellulose dope. The first ones, it is thought, may have been light blue with dark blue line and the Eon insignia on the fuselage sides.

A later Meise in front of the Hermann Goring Halle at the Wasserkuppe site.



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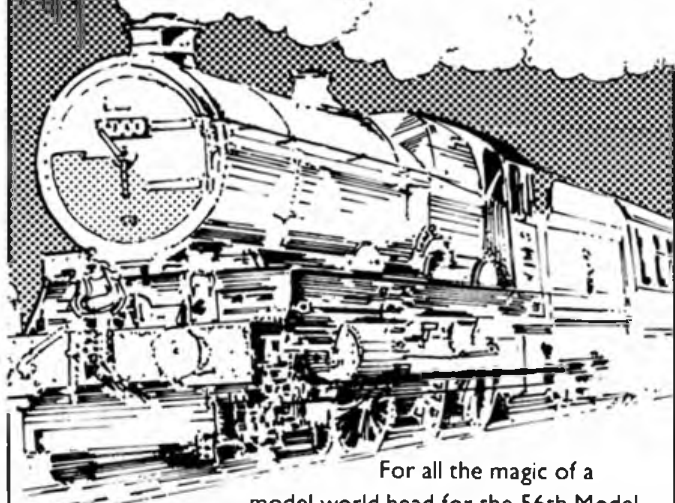
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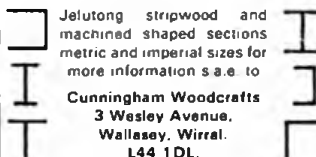
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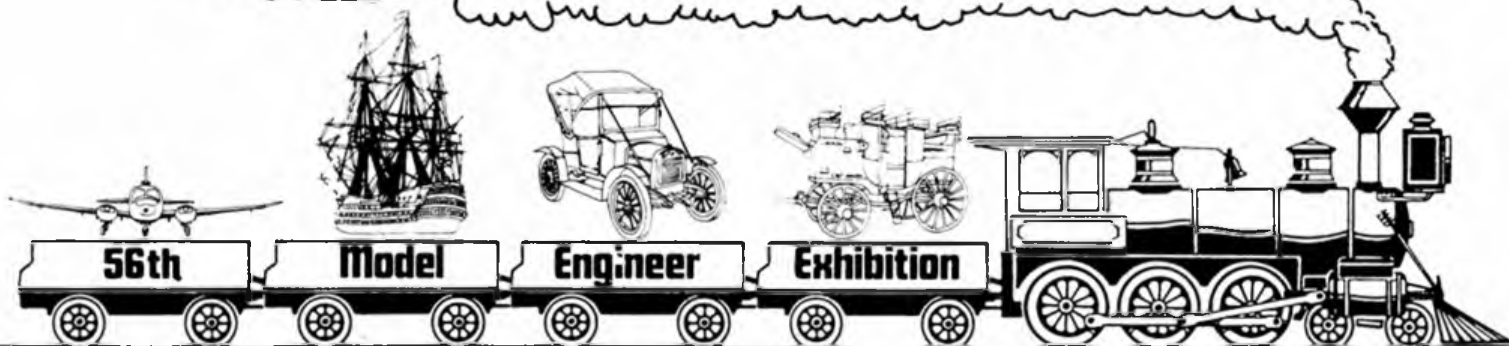
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Appendix - Links to the plans

The original issue comes with two free plans (Cadet, Back to Front Canard) printed front/back on a pull out banner of four sheets. The banner is not included in the document.

Cadet by John Watters

FF CO2 Scale

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[Document Page: 25](#)

Back to front Canard by K.J. Wallace

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