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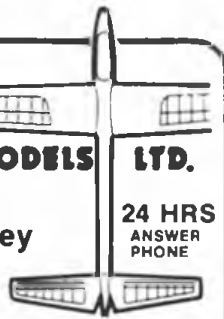
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DECEMBER 1986

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Cover:
Seasonal views of the Blackburn Monoplane and Sopwith Pup of the Shuttleworth Collection photographed by Chris Followell herald exciting news of plans for 1987 at the Old Warden model meetings, especially when we celebrate our 21st year of association with this very popular venue...

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HANGAR DOORS



World Speed Record for Great Britain!

Cracking news that on Sunday, 19th October at the Esher C/L circuit, Pete Hafman captured the 3.5cc World Speed Record at a scorching 194.06mph, beating the Russian Anatoli Kokhanivk's previous best. Motor used in Pete's asymmetric-wing machine, which flew on two lines with groupers, is a Ron Irvine-designed .21 which gives out 1.8bhp at 35,000rpm. This is the first World Record held by this country for at least twenty years.

On the same day, Paul Eisner was unsuccessful in his bid to make it a double record snatch; his .15 powered speed model failed to exceed the existing World Record in this class by the requisite 2%. Just a week later on October 26th Dave Whitney

pushed the RC Helicopter World Speed Record to 86.07 mph and Roger Winsor the RC Electric Speed Record to 62.71 mph!

Coupe Confirmation

We can now confirm the data provisionally given in last month's Hangar Doors. That winter favourite among competitions, the Aeromodeller Coupe d'Hiver, will again be held at RAF Henlow, to take place on 7th December this year. As usual there will be two events, one for the 80gram class - top prize being the Aeromodeller Cup - and the other for Coupes of 100grams, the Boutillier Trophy being the award in that class.

You can't just turn up though; airfield security won't allow that.



Notification of attendance must be received at the Aeromodeller office, and the following information is needed: (a) your name; (b) whether you are a competitor or a spectator; and if the former, state in which events you hope to participate; (c) your car registration number; (d) number of occupants and details of events they wish to enter, and (e) your address so that we can send more details, plus SAE of course.

Do let us know as soon as possible. Go build that World beater - and see you there!

Great Year Ahead For Old Warden!

Diary dates are now fixed for aeromodelling events at the Shuttleworth Collection, Old Warden through 1987, so take note now for even more exciting model days at this very popular venue.

ASP at Old Warden - 1987

19th April	DB Model Kits Fly-In	DB designs only
3rd May	BKFA Kite Festival	Strictly for kites
17th May	ASP Large Models Day	Biggies only
20/21st June	ASP 21st Scale	All comers
	Weekend	
12th July	ASP Golden Era Day	Dress up and have fun from the '30s.
19th July	SVAS Open Model Day	All comers
15/16th August	ASP Vintage Weekend	How old is old
6th September	SVAS Silent Flight Day	Sssh
20th September	ASP Four Stroke Day	Strictly not two-timers.
4th October	BKFA Autumn Kite Festival	String brigade

Two major innovations will have a special appeal. 'Golden Era' day, 12th July, has been specially arranged to follow the Shuttleworth Flying Evening on Saturday 11th July. If you've been to one of these superb flying garden parties in the calm of midsummer (they start flying at 7pm) you'll know what to expect. The Glen Miller style Big Band echoes classic melodies from an open hangar, the field is full of every Old Warden plane on parade, the visitors flightline is almost as fascinating for its variety of rare aeroplanes and the people are all 'plane happy through to dusk. It's a super opportunity to arrive early, set up camp and get a weekend with a bonus: but be warned - the Golden Era is infectious, it could have you asking for more!

Which is why, to celebrate our 21st Scale Rally at Old Warden, the 20th/21st June weekend will have similar entertainments laid on for the Saturday. Stand by

Top: Happy Christmas to all from the staff at Aeromodeller. Here's our card to you, produced at inestimable fun and expense by (guess) Ray Malmstrom. Left: This 1/48 scale model of a proposed BAe 146 development was seen at Farnborough. An aeromodelling subject? Right: The X-list is back. £1.00 buys you a gateway to nostalgia!

for future announcements and reserve the date now to stay overnight for it's going to be the greatest Bedfordshire Benefit yet, with Band, Barbecue, Bar, and the very best of company to make it a weekend to remember forever.

Sorry, but...

Lack of space this month - lots of news to report! - has meant the postponement of one or two regular features, plus the Indoor World Champs report and Part Two of Roy Ashby's account of electric flight experiments. However, in the meantime Roy has sent so much extra gen that we're sure you'll find it well worth the extra wait!

Yes, it's back!

What is? Why, the late lamented X-list of obscure or elderly designs. Such an outcry was raised when it failed to appear in

the latest Plans Handbook that we thought we'd better do something about it - and pronto! We've run a computer check on all past plans and have come up with what we think is the best X-list ever, each design being listed with plan number and date of publication (unless it's really obscure!) This will be augmented by the occasional appearance in Aeromodeller of an illustrated synopsis of various types, just to give you a clue what some of the more rare examples look like.

Oh - the price? Just £1.00 post free and the X-list can be yours again... Now's the time to get building for the summer!



We Went To Farnborough

The magic of Farnborough Air Show is still powerful, even though it is a bi-annual event nowadays. A full account appears in the December issue of Scale Models, but perhaps we can be permitted an indulgence or two. Who missed the Americans? (Though to be fair, the Blackbird was displayed on 'our' day). With rival attractions of the EAP and Rafale to seduce our aeronautical sensibilities for starters, it might seem odd that a civil airliner impressed most; but the 'fly by wire' demo of the A300 Airbus thrilled to the point of horror as it made an impossible climbing turn after a runway-long slow pass at just above stalling speed, its computer system sensing it *all* correctly and preventing the shattering plummet. Pure safety in store for the future traveller; see it on video if you can. The British Aerospace demo lacked the Gallic brio of the Dassault circus (BAe's runway procession to the strains of 'Chariots of Fire' was excruciatingly embarrassing to at least one onlooker); the blatter of rotor blades irritated as ever; and we enjoyed the variety of light craft dazzlingly put through manoeuvres that would fuse many a model Tx. Surely you didn't miss it? Go in '88!

Magnificent Models

An important part of any air show is the exposition of future projects, usually in model form, to intrigue or compel. Several companies provide such models to the full-size industry, one being Space Models, a co-director of which is that vintage enthusiast and Chobhamite, Derek Ridley. Of the many Space Models craft at Farnborough we were most intrigued by the proposed twin fan development of the BAe 146 - a reasonable model project, surely? What we didn't know, when first looking at the full-size mockup of the proposed EFA 'Eurofighter' was that Derek had been commissioned to produce a design of the colour scheme on behalf of the UK in direct competition with the other countries participating in the venture, i.e. Germany, Italy and Spain; and Derek's was the preferred choice. So if we see any metallic red and white models over at the Clump next year, we'll know they had a few pots of paint left over...

And when are we going to see a few more flying models of *modern* craft, please? Gliders, ducted fan or jetex - let's see 'em, now.

Team Trials

More stoppress... provisional GB teams for glider rubber and

What's on...

18th November
FALCONS GALA
Venue: Driffield. Contact: R Peers. Tel: 0270 60893

23rd November
WIGAN LOW CEILING INDOOR MEETING
Venue: Wigan Tech College, Wigan E2B. HLG, FND, Scale. Rules as last year 10am - 6am. Contact: Dave Yates Tel: 0942214725.

7th December
AEROMODELLER COUPE D'HIVER CONTEST
Venue: RAF Henlow, Beds. 100gm and 80gm classes. Prior notification of attendance essential. SAE to Aeromodeller, Wolsey House, Wolsey Road, Hemel Hempstead, Herts HP2 4SS. See also confirmation in this month's Hangar Doors.

14th December
SLAITHWAITE LOW CEILING INDOOR MEETING
E2B, HLG, PND, Scale. Venue Colne Valley

Leisure Centre, Slaithwaite, Nr Huddersfield. Contact: Bernard Hunt. Tel: 0484 862353.

1st - 8th January 1987
1987 MODEL ENGINEER EXHIBITION
Venue: Wembley Conference Centre. Come and see models of all descriptions - and don't miss the model aircraft exhibits or the SAM 35 and SMAE stands. On opening day DPR Models will be running a Championship day with all kinds of challenges! See November Hangar Doors. More next month.

1st February
SMAE S.E. AREA ANNUAL INDOOR FLYING MEETING
Venue: Leisure Centre, Haslett Avenue, Crawley, West Sussex. 11am - 6pm. Contact: 0293 510272.

CLUB SECS: IS YOUR EVENT HERE? IF NOT - WHY NOT? SEND IT IN!

power, selected as a result of the Trials, are as follows:

F1A: Bill Colledge (Birmingham), Chris Edge (Crookham) and Gary Madelin (also Crookham).
F1B: G. Foster (RAFMAA), Ron

Pollard and Ivan Taylor (Falcons).
F1C: Roger Baggott, Ray Monks and Stafford Screen (all Birmingham).

More details to follow!

Merry Christmas

Yes - the festive season approaches. We'll all be knee-deep in baubles by the time this issue hits the stalls. Right time, then, to wish you all the aeromodelling enjoyment you could hope for in 1987. Keep 'em flying - and remember, aeromodelling is FUN!

Lawrence H. Sparey

Visitors to International Weeks at Eaton Bray in '47 had the good fortune to explore an 'Experimental' room where the inventive genius of D.A. Russell's incumbents could be seen in the shape of Peter Payne's turbine driven propellers, the Uppingham Wind Tunnel, innumerable half built models... and the first engine test rig. If they were even luckier, their visit coincided with the presence of Lawrie Sparey, perhaps working on one of his diesels, or a design for a new 'Atlas' engine or running-in a commercial product for a subsequent 'Engine Analysis'. At that time Lawrie was editing 'The Model Mechanic' and serving as Tech. Ed. for *Aeromodeller*. His pronouncements were delivered with a commanding authority, such that one left the room convinced of having met the man who had invented the model diesel, knew how to check its brake horse power and who could design and draw all kinds of free flight model to the highest standards. Each of which was true in parts.

The Engine Analysis series ran through four dozen issues until the N. London neighbourhood

laid what must have been a pioneering noise complaint, so Lawrie's last was the modest Mills .75. But he started something as always, and like his book *'The Amateur's Lathe'*, such tests have gone on ever since. As an author, his contributions to Model Aeroplane Manual and Models for Flying (with C.A. 'Rip' Rippon) are well known to all vintage enthusiasts though not so many will realise that almost all of those neat model drawings came from his board. A man of many parts, racing cyclist, photographer, musician and engineering inventor, Lawrie was also one of the earliest TV interviewees on modelling matters, even running engines in the studio and commenting on early control line though he never quite took to that habit.

Sadly we now record his passing after eighty-six active years in which he had given pleasure to so many, saw the foundation of Northern Heights MFC, the emergence of high-performance model engines and the development of the home workshop lathe for everyman.

Our sympathies are extended to his widow Florence, daughter Cherry and sons Howard and Lawrence.



Another link with the "Golden Era" passes with Lawrence Sparey, here with one of his early ground-based R/C transmitters and a twin rudder model seen, all too briefly, in '46.



DE HAVILLAND DH 75 HAWK

THE INSPIRATION FOR THIS model came from a similarly-sized rubber model by Bill Noonan which was featured in *Model Builder* magazine a while ago. Indeed, I did start to build one of these, but ran out of steam at an early stage when I realised that structural techniques suitable for Californian weather would not do over here!

Nevertheless it was evident that here was an ideal subject for a lightweight small-diesel model — and one that has been almost totally overlooked. This is surprising since, unlike the Puss and Leopard Moths, it has dihedral. There are also one or two interesting structural problems to overcome, such as the complex undercarriage and the wing and tail mountings.

I decided from the outset that I would keep the model fairly light and limit its flying to ideal conditions only. I also intended to carry out minimal detailing, but was not able to stick to this...

As with any scale model, the first thing to do is to assemble the documentation. A three-view is featured on p.59 of the February 7, 1929 edition of *Flight* magazine. Your public library should be able to get a photocopy of this for you. Photos of this prototype machine are numerous. Useful sources are 'De Havilland, The Golden Years', published by Flight International, and 'British Commercial Aircraft' by Peter Ellis. Finally, colour documentation can be found on the *Aeromodeller* 3-view of the

DH 75A (the slightly different production machine): Plan 2144, price £1 + post.

Construction is quite simple with no really difficult bits. Pay attention to the wood grades specified and a strong but light model should be the result.

Wings

I cut all the ribs from 1/32in. quarter grain sheet, but a better alternative might be to use 1/16in sheet for every other rib, with those in between made by the sliced rib method. This would prevent the occasional distortion of thin ribs under covering which otherwise seems inevitable. The wide spacing of the top and bottom spars means that for once, elliptical dihedral warping should be no problem, but do use hard, stiff wood for the aileron spars.

Make the wing roots from soft block, or two 3/8in. thick ribs, and butt join to the end rib. The wing joining tubes are simply recessed into the bottom surface and epoxied in place, using lengths of 14swg wire between the wings — which should be flat on the board — to ensure accurate alignment.

You will notice extensive bracing around the wing tip ribs. This is very important as it prevents the doped covering from distorting the structure. The last step is to add the short tubes soldered to the wing strut brackets.

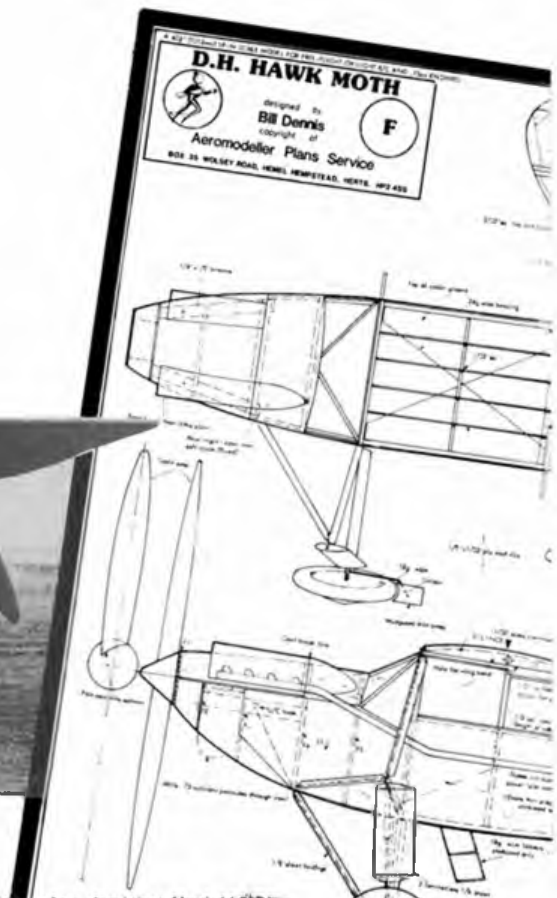
Full-size machine has all the requirements for a stable model...

Tail Surfaces

These are built on the familiar 1/32in. core principle. A lighter structure could no doubt be devised using laminated outlines, but since this model tends to be nose heavy there is no point. You will note from your documentation that the tailplane is not mounted directly onto the top of the fuselage, but held above it by brackets at the leading edge and hinge spar. These are fitted after covering, but at this stage fit the reinforcing blocks before sanding. Try to get the edges as thin as possible for realism.

Fuselage

The forward fuselage is sharply tapered, so to make construction easy and distortion-free, the forward sheet sides are preformed to the correct curvature. For each side, cut two shapes 'S1' from 1/16in. sheet



ILLAND

How's this for a Christmas surprise?
Build this 46in. beauty for 0.8 diesels, designed by Bill Dennis.

MOTH

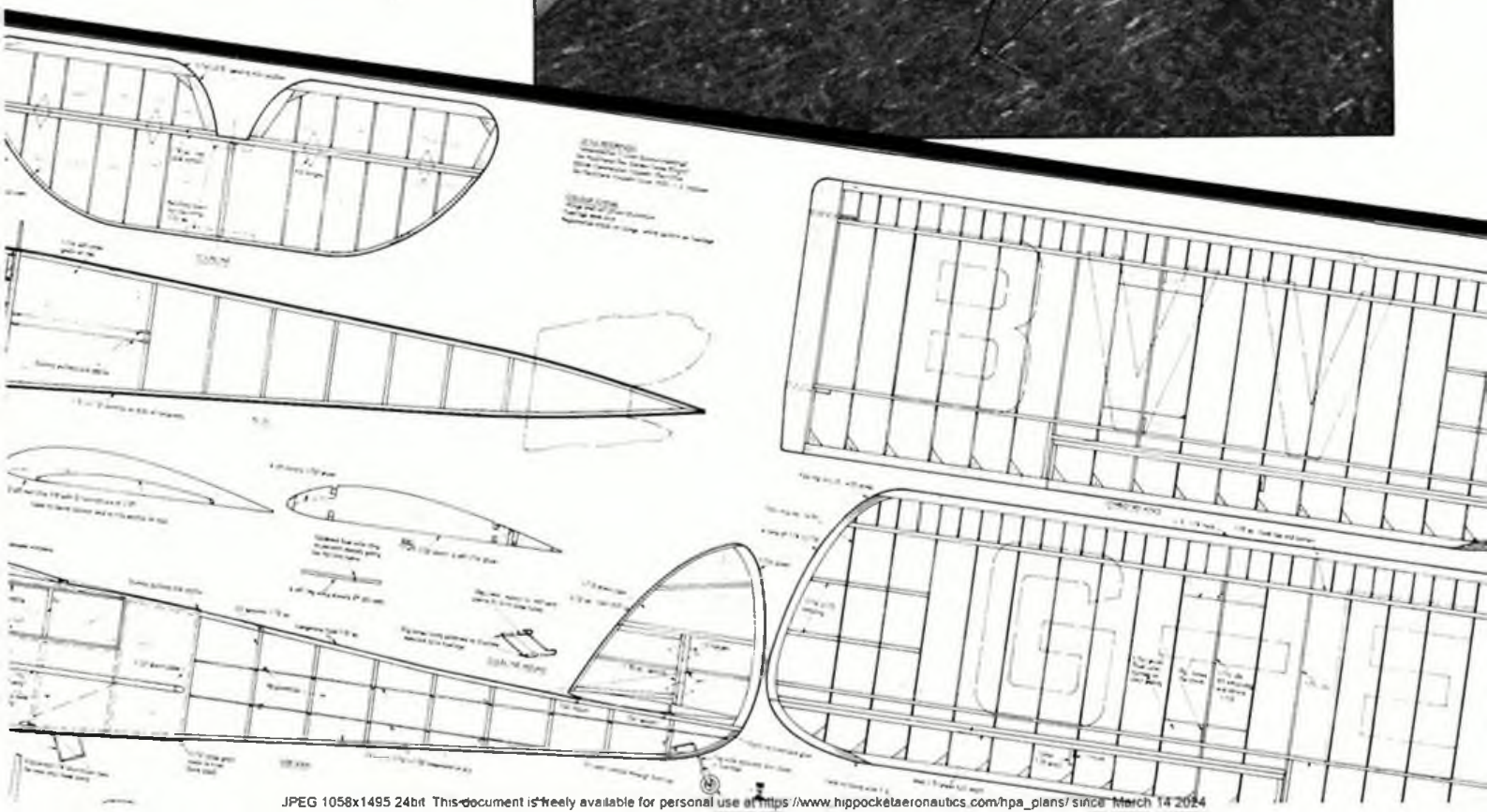
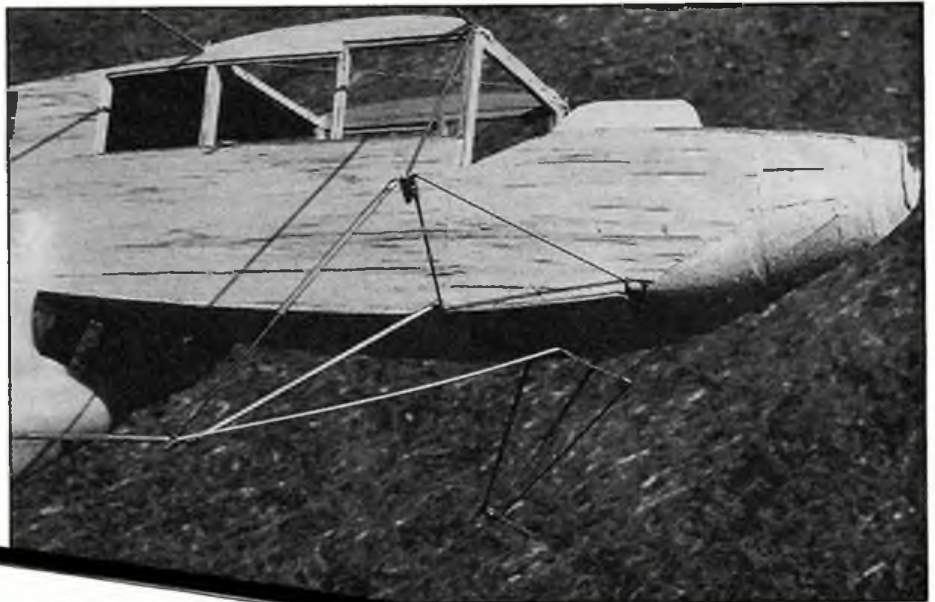
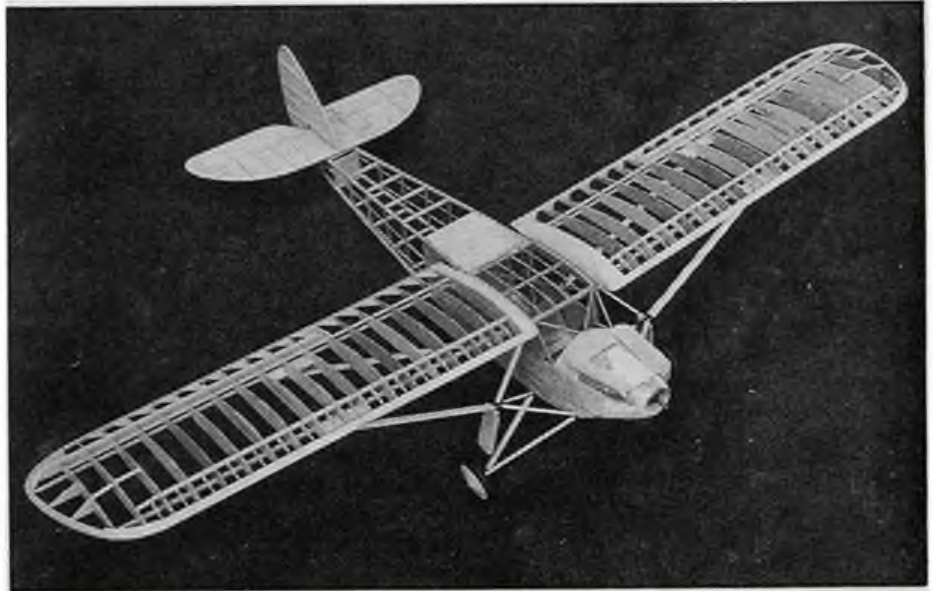
and join with epoxy while securely pinned down to the shaping formers shown on the plan - one right, one left!

Obviously, when constructing the port side, the front will have to overlap the edge of the building board. Note that while the longerons are $\frac{1}{8}$ in. square, the spacers are $\frac{1}{32}$ in. — this is important in forming the rebate for the side stringers.

Assemble the sides, using formers F2 — F5 and temporary former F6 which helps keep things square. The longerons need to be cracked behind F6 to form the straight taper. Reinforce this area well with gussets. Add the wing mount pieces S2 to the cabin top and then tack-glue to the 14swg brass tubes in place. Thoroughly check the incidence and alignment of the wings before epoxying the tubes to the fuselage.

The cabin area consists of glazed sides, front and top; and the wing mounts are an obvious weak spot. It is necessary to stiffen things up here, so cross-brace between the tubes with 24swg wire, and

Constructional shots are self-explanatory. Bottom view shows how undercarriage can swing back under load.



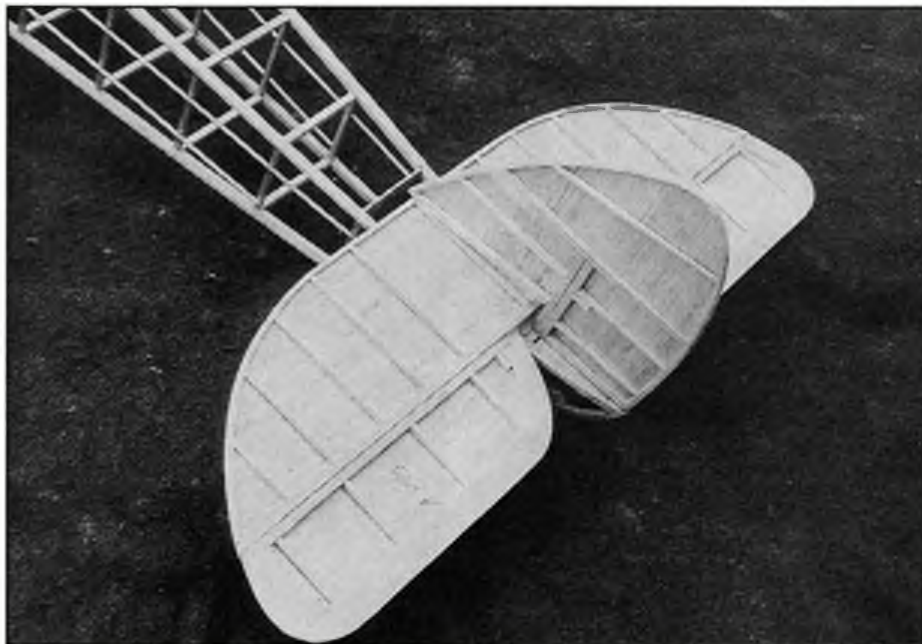
add $\frac{1}{16}$ in. sq. spruce inside the front upright to its full depth.

There is very little room for manoeuvre in the engine compartment so the layout has to be given careful thought. The drawing shows the mountings set for a Mills .75, which is an ideal choice for this model because of its rear induction, even though the cylinder head protrudes slightly through the lower cowling. Otherwise the excellent PAW80 should be suitable, although a means of ensuring air can reach the intake will have to be devised.

The engine bearers must be spaced sufficiently to allow for possible thrustline changes. Cut them to their exact length and glue in place; the forward fuselage is then built up around the bearers with soft block and sheet. There is no access to the underside of the engine, so solder the engine mounting nuts to brass sheet and epoxy this under the bearers.

Now we have to tackle the undercarriage, which has no less than six struts on each side and is thus a real cat's cradle of piano wire. It has to be sprung to absorb landing shocks, and the system I used seems to be working well in practice. Begin by epoxying the main 14swg axle legs 'A' into the lower fuselage via a brass tube, and build the upper pyramid of three struts 'B' and 'D', soldering the top strut to the front wing tube and the lower rear to the main leg tube.

Next is the 18swg oleo leg 'E' which rotates rearward in a 18swg tube soldered to the top of leg 'B'. A length of 16swg tube is then crimped and soldered over the 18swg part, and finally the lower part passed over the axle and into the tube. As the photos show, the axle can now rotate fully backwards, with the small changes in length of oleo leg being taken up by the wire in the tube, which also affords a degree of vertical springing. All that remains now is to fit the lower front strut 'C' which holds the entire edifice in the correct fore and aft position. Obviously this also has to be sprung, and here I used the same system as I employed on my DH34, which is to spring the legs forward into the engine compartment. Make the shafts of the hooks as long as possible, as they limit rearward travel. I hope all this is easier to understand from the drawing and photos than it was to write!



Tail is light but very robust. Care here pays dividends when covering goes on. Make those edges crisp!

From now on it's all plain sailing. Add the $\frac{1}{16}$ in. sheet to the fuselage sides and bottom, followed by the $\frac{1}{32} \times \frac{1}{4}$ in. longeron overlays and the $\frac{1}{32} \times \frac{1}{16}$ in. basswood or ply side stringers. Note that these are set flush with the longerons and do not stand out proud. There is also a distinct step in side profile between the cabin floor and the rear fuselage. These may seem little points to emphasise, but it is things like this that capture or mar the whole effect of the model.

You will have to do something with the cockpit as it is too large to leave bare. I painted the interior grey and added seats, control column and dashboard. If you want to go to town, turn up Charlie Newman's advice in the March 1986 *Aeromodeller*...

Next make up the wing struts. The rear ones limit the dihedral and must be cut to exact length. One end fits into the tubes on the wings while the others are held by a tightly stretched band through the fuselage. The inner ends of the front struts simply pass through a tube soldered to the apex of the U/C strutter and have no practical function.

Covering

Give the entire model a good sanding, using blocks to avoid sanding square edges 'round'. Cover with Jap tissue, steam shrink and give a couple of coats of thin dope (20% dope, 80% thinner). Double cover with silk as described in *Aeromodeller*, April 1984, remembering to wash the silk in warm water to remove its starchy finish. Give several coats of this dope to seal the silk and to avoid overshrinking. Note that the sheeted parts of the fuselage are tissue-covered only; this gives the difference in texture apparent in photographs. Apply rib tapes from $\frac{1}{8}$ in. wide strips of heavy-weight tissue doped on prior to the final overall coat.

Decorating

Check that there are no rough edges before applying the colour. I used one coat of aluminium dope brushed onto the wings and tail surfaces, and Duplicolour Chrysler Royal Blue car aerosol spray on the fuselage and struts.

Cut templates for the wing registration



from thin card and tape in place before carefully drawing round them either with a thick Rotring pen, or with thinned black enamel in a mapping pen. It then becomes quite easy to fill in the outline with brush and enamel.

The fuselage registration is more tricky as it is just a white outline, but don't be put off. It turned out easier to accomplish than I had feared. Carefully trace the shape of each letter and transfer to the front of a sheet of white Trimfilm decal sheet. Then, using a new pointed blade and a straight edge, cut through the decal (but not the carrier sheet) and dip in water to which a few drops of washing-up liquid have been added. Again using the knife, tease away the unwanted parts of the letter and then carefully transfer to the model, using water on the fuselage and your fingers to prevent premature sticking. Manoeuvre the letter into place and get rid of any distortion before dabbing with a tissue to fix. Start with the 'V's which are easiest, working along to the 'G' which is most difficult.

Final touches

Attach the glazing with thick dope. This is followed by the cabin framing which is from 1/8in. wide strips of plastic card, painted silver. The same material outlines the doors, which are themselves from plastic card. Attach the tailplane by means of a wire yoke slotting forward into tubes epoxied to the fuselage and by a balsa spacer at the spar, this being of sufficient thickness to set the incidence at zero degrees. The fin is fixed just at the extreme front and at the rudder post, so make sure it is glued securely. The exhaust pipe, which runs down the port side of the fuselage, has to be divided to enable the cowl to be removed.

Give the engine bay two coats of fuel proofer before fitting the engine. There is plenty of room for the tank but take care to mount it at carburettor level to avoid fuel feed problems.

Finished weight of my model was fifteen ounces — a little heavier than I had hoped, but still very reasonable, giving a wing loading of 8oz/sq ft. The balance point turned out to be well within limits and no ballast was necessary.

Trimming

No high-wing monoplane of normal



Top: Definitely a machine of the Golden Era! Scale prop is worth the effort for static display. Below: Rare view of cabin detail to help the ambillous. Thanks, Aeroplane Monthly, for the full-size photos.

proportions should be difficult to trim, and the Hawk Moth was no exception. On the day appointed for test flying conditions were breezier than I would have wished but as I had travelled quite a distance to find an expanse of long grass I persevered. The model was sorted within ten minutes, five of which were spent reconnecting the fuel pipe! If you are careful to check that the balance point, thrust line and incidence angles are as shown, then nothing drastic should happen. I fitted the prop on backwards, throttled well back on compression; and

off went the Moth in a tightish left turn. A tweak of opposite rudder opened out the turn while maintaining a safe glide circle — and that was it!

It is a long time since I have built such a lightweight model, and I was surprised at how little power was needed to fly it. I had chosen a 7 x 4 prop, but I intend to experiment with others up to 9 x 4 — still on backwards — in order to tame things down.

The Hawk Moth looks a picture in the air, and it has already become a favourite of mine. I tent to treat my scale models badly, flying them in all conditions, but I shall be more discerning with this one. It would be an ideal candidate for lightweight R/C too...

Old-Time Christmas Quiz

Wives, mothers and guardians should be advised that you will have Bad Luck all through the coming year if this quiz is not attempted between the conclusion of Christmas Dinner, and the completion of Washing-Up. Should you be instructed by way of response to Put Down That Nonsense And Get Hold Of A Tea-Towel, you will know that your had luck has started already.

1. Gentle sound by the designer of Vulcan.
2. Send him a Cable for some Big Stuff.
3. Scale glider that sounds like a tiny Flymo.
4. Natsneez Conqueror.
5. Battling Ron.
6. Look! A small bear and a wild hillside make a great painter.
7. Shrine for a Celestial Horseman.
8. Sal Taibi's generating station.
9. The Old Twister himself.
10. Fairy glider by Gilbert & Sullivan.
11. Ancient A.R.P. practitioner.
12. A 72in. 1936 Megow power job suggests a member of the Society of Friends in a dirty old raincoat.

Answers: 1. Russell 2. Bowden 3. Minimoa 4. Norman 5. Warring 6. C. Rupert Moore 7. Temple 8. Powerhouse 9. McGillivuddy 10. Iolanthe 11. Old Warden 12. Quaker Flash



Scale and Control Line at the 1986 SMAE NATIONALS



Free Flight Scale

Entries in all classes were up slightly this year, and it was encouraging to see a few new faces; but remember, more are always welcome. Following a briefing at mid-day on Saturday, the judges were able to complete most of the static judging that afternoon. Most of the models in the Power and CO₂/Electric classes were of a fairly similar, quite high standard, while the rubber models varied widely as usual. The standard of presentation with the latter models is often poor; scale propellers are almost universally absent and documentation is frequently scrappy.

In the power class, Charlie Newman's Avro 504N led the field, mainly due to its newness rather than because it was any more accurate than the others, some of which showed their age. Paul Briggs' Bleriot (rubber) and Derek Knight's Argus (CO₂/Electric) were in the lead after static judging and were to maintain this position throughout the contest.

The first two flying rounds in Power and Rubber were held on Saturday evening, when conditions were breezy but tolerable. However, I think the flying is best forgotten, as very few models qualified. Unfortunately two models were broken: Doug Sheppard's Po-2 has seemingly ideal proportions but it persistently flies like a manhole cover, with no stability at all, and Barry Hetherington's remarkable Stinson Tri-motor was severely damaged when it collided with a car after a promising, but short flight.

A sour note was struck by the behaviour of some of the spectators who seemed to feel they had the right to mill around freely, in spite of repeated requests to withdraw. It was a miracle that no models were trampled on; and the judges had to make several dashes to make sure they were able to see the whole of each flight.

The following evening was much better, with conditions near ideal. In power, Terry Manley's DH4 made a superb flight which put Charlie Newman's lead in jeopardy and forced him to fly again to improve on his slightly ragged qualifier of the previous evening. Mike Smith's electric Currie Jet Wot finally managed an ROG to take a creditable 4th place.

It was unfortunate that a drop in engine power prevented Hugh Stevenson's BE 12b from qualifying since it had flown extremely well, but for just not long enough, the night before. In fifth place was Rob Presnell with his first F/F scale model - an SE5a from the free *Aeromodeller* plan published in 1983. This also suffered from engine trouble and furthermore, would not take off, probably because of under-elevation, but after a quick trimming flight it went well from a hand launch on its last attempt to a large round of applause.

In Rubber, it seems that only Barry Hetherington has the right idea. He chooses adventurous, yet practical subjects, built to a

Sunny and wet - the two faces

of the Late Summer Bank

Holiday appeared with a

vengeance at RAF Barkston

Heath. Our reporters saw

everything...

reasonably large size, and employs a substantial motor driving a propeller of fine pitch. With the help of much sterling work by Paul Briggs, the front end of the Stinson had been rebuilt since its crash the night before. Naturally, Barry was working up the turns slowly to check the trim, and ran out of attempts before he could try an ROG. However the model's flight from a hand launch was majestic; it gained height and actually flew upwind. While nearly all the other models are flitting about in the breeze, the Stinson's flight pattern was entirely realistic, which resulted in a well deserved second place for Barry.

The winner was Paul Briggs with his Bleriot Parasol. This is really an indoor model so it had been suffering in the conditions but a period of flat calm suited it well and a reasonable flight,

coupled with an excellent static score was enough for a narrow victory.

The many non-qualifiers included several eminently flyable subjects, but special mention must go to Andrew Hewitt's Gee Bee Sportster. There can be few less likely aircraft for Rubber Scale (consider its enormous fuselage and tiny low wing) but it flew quite stably, although not for long enough to qualify.

The CO₂/Electric event had been scheduled for the afternoon to suit the CO₂ motors, but it was postponed to the evening, by which time the breeze had dropped although it became very cold and damp. Perhaps this was partly the reason why the first two places were taken by electric models - the first time such types have been entered. It remains to be seen whether this class is about to be taken over; this must depend on the future availability of practical, off the shelf electric units. First place went to Derek Knight's Argus, which has been converted from CO₂ since last year, with Mike Smith's Jet Wot in second place. The CO₂ models were some way behind, but maybe with better weather the picture will be different...

Thanks should go to Barrie Hotham, Paul Briggs, Chris Chapman, Doug Hunt and Charlie Newman for their judging efforts, and the competitors should be praised for making this a smooth-running and enjoyable event.

Control line Scale

After last year's low entry - five - and very windy conditions the 1986 competition showed a more healthy eight entries and took place in conditions that allowed all competitors to qualify for a flight score.

Sunday morning dawned bright and breezy with enough wind to make flying tricky but not impossible. Ron Truelove was first to fly, his '84 Nationals winning Heinkel 219 Uhu fresh from its sixth place in the recent World Championships in Norway. Both engines started on cue and Ron proceeded to put up the highest-scoring flight of the competition. The only real points of criticism were that the under-carriage noseleg refused to retract fully and that

the inboard engine cut after landing, although the taxi was completed on the remaining engine. Next to go should have been Pete Stiles with his PAW 29 powered Nakajima Ki27, but the engine steadfastly refused to start once the model was in the flying circle although it had been happy enough in the 'pits' - such is aeromodelling! Pete eventually called an attempt after a very generous time allowance by judges Geoff Burkett and Alan Fritz.

Wal Cordwell was next to get airborne, his well-tryed Bristol Blenheim leaving the assistant's hands like a greyhound out of the starting stalls! The model performed all its options, including undercarriage retract and extend, flap operation and parachute drop (the craft is also multi-engined, of course) without fault, only to drop marks at the end of the flight when the inboard u/c leg retracted on touchdown, a mishap which in turn precluded any taxiing.

Then came Bernard Sexton with his latest model, a Gee Bee Sportster in a very fine black and white racing colour scheme. The craft appeared to be giving Bernard a rough ride in the



breezy conditions and after aborting his 'three laps at 45 degrees' and performing a rather bumpy touch and go the flight terminated in a nose-over after landing, again with no taxi points being earned.

John Roberts entered the flight circle with his fine one-sixth scale de Havilland Chipmunk which is finished in the 1950s-style RAF training scheme of silver and yellow. Powered by a Merco 61RC the model is equipped with landing light and electrically operated flaps. This is the craft's first season and as it was also John's first Nationals appearance his performance was all the more creditable. The Chipmunk flew a very slow speed, the well-silenced motor being throttled back to give a pleasant air of realism. John flew all his options very competently - indeed, his second flight recorded the second-highest flight score of the competition.

Mick Staples also flew a new model this year. His Avro Avian is - as ever - an exquisite example of scale modelling, rewarding Mick with the highest static marks. The Avian is powered by an OS four-stroke and Mick thought that it might be a little under-powered for the prevailing conditions, but after some starting problems (subsequently discovered to have been caused by some tissue paper in the carburettor) he completed a rather fast flight which ended with the model nosing over on landing - more lost taxi points!

Last year's winner, Chris Bradford was - like Ron Truelove - fresh from competing in the World Championships, but he appeared to be performing below his best, the Dakota flying too fast and not in its usual smooth manner; but we all expected an improvement in the second round.

Last but not least came a new entry to the ranks of C/L Scale competition - the ubiquitous Ron Prentice. Ron had been elsewhere on the airfield flying in Aerobatics but managed to rush down just as the first round of Scale was drawing to a close. His options of loop and inverted flight were unusual, particularly as his model was a Boulton and Paul Defiant WWII turret fighter. After a rather hairy take-off and a series of loops the Defiant failed to pull out from a wing-over and plummeted into the tarmac sustaining severe damage. This was an unfortunate debut for Ron; hopefully it will not discourage further efforts in this class.

As the breeze seemed fairly steady, contest director Derek Bird decided to press on with the second round. Ron Truelove failed to improve his score, but he had already done enough to secure the championship for a second time. Pete Stiles had managed a short flight at his second



Heading: John Roberts' first appearance at a Nationals resulted in a well-deserved second place in C/L Scale. His large Chipmunk is in its first competition season. This page, top: Charlie Newman about to let go the Avro 504N in the gloom of Saturday evening. Model qualified handsomely and eventually finished first in F/F Scale. Above: Bernard Sexton's Gee Bee Sportster - sixth in C/L - waits at tlclover. Right: Oh dear - an Instant later Doug Sheppard's Po-2 bit the tarmac, hard... Below: Andrew Hawill's very accurate Gee Bee R-1 was a delight in Rubber Scale. Flew stably, but not for quite long enough to qualify.





Far left: Record-breaking is good fun! Peter Halman is happy after setting a new British best in Class IV Speed — 174.14mph, if you please. Note bandage on thumb... Left, top: Australian visitor Robin Hearn's second-place 158.54mph in Class IV was only enough to give him eighth place on handicap. Left, below Derek Heaton and Dave Campbell flew in 1/8A T/A but lack of range stopped their challenge. Pretty model is schneurle Oliver Cub powered.

attempt in the first round but the engine became over-compressed and lost power. In Round Two he completed a flight although it was not good enough to feature high in the results. Wal Cordwell had problems with his throttle line and was unable to better his first-flight score. However, John Roberts made a dramatic improvement, performing a very fine touch-and-go and a beautifully soft landing; a performance which brought him up to second place.

Bernard Sexton's engine cut halfway through the flight and Mick Staples was another competitor unable to improve in this round. The Defiant of Ron Prentice was unrepairable, so the flying ended, being followed by the static judging. After long deliberation Ron Truelove emerged a well-deserved winner; a highly delighted John Roberts was second and Chris Bradford finished in third place despite having damaged his Dakota when it stalled downwind during his '45 degree laps' - an undercarriage leg being forced up through the wing skin.

This was an encouraging Nationals for C/L Scale. Let's have even more entries next year!

Saturday but things picked up towards the end of the day, by which time Peter Halman led the handicap with a score of 98.66% from a speed of 166.44mph in Class IV (2.5cc FAI). Sunday also started quietly, but around mid-morning, Peter Halman took his second flight in Class IV, recording an excellent 174.14 mph (yet another new British record) to take what looked like a very comfortable lead at 102.63% on handicap. Shortly after, Myszka/Allcock made their first flight with their Class II (1.5cc) model, challenging Halman with a promising 137.58mph/101.48%; there seemed to be more to come but the motor went off colour and the remaining two flights clocked only 127mph or thereabouts. This left Halman looking pretty secure in first place, but around mid-afternoon, Ken Morrissey concluded his mainly-frustrated efforts with his Class V (5cc) entry and turned his attention to his brand new class VII (10cc) model, OS 60 powered. Ken's first flight produced a rousing 200.27mph (99.46%) - good enough for 3rd place overall with the motor still four-stroking! After a sojourn in the pits to effect some minor repairs and adjustments, he came

out for his second flight, and what a snorter that turned out to be... Anticipating some difficulty in starting, Ken gave the bladder an extra generous fill. However, in the hands of Martin Radcliffe (starter and setter of 60s to the gentry) the motor fired up and set very easily, and off it went for a thunderous 210.64mph; 104.61% of handicap and thus a runaway winner. Soon after the timed run was finished, Ken thought that the pylon - 600lbs of it - was starting to move, or 'penny'; decided to disengage his wrist from the pylon and discovered very suddenly why 60s on two line control are strictly for people of exceptional strength and stamina. Fortunately they don't come much huskier than Ken, but he regretted over-filling that bladder! Perhaps fortunately, the plug element dropped and somehow got itself enmeshed in the big end, which calmed the monster down a bit, and it was eventually brought safely to earth. The big-end bush was ruined but the chromed crankpin was OK so no irreparable damage was done.

After Ken's epic performance, everything else seemed a bit tame, except perhaps Paul Eisner's Class III (2.5cc open) flight with his pruned FAI model on 0.35mm wires and groupers, which yielded 183.21 mph (and the highest rate of circulation in the entire comp: 1.22 seconds per lap!). This was equivalent to 99.92% of handicap, a performance which gained him 4th place overall.

Monday was a moderately active day, but nobody looked likely to disturb the top placings. Shortly after mid-day the threatened rain began to encroach and all but a few of the most persistent gave it best. However, even if the weather had turned dismal, most entrants had had a rewarding contest and the spectators had seen a lot of good speed flying.

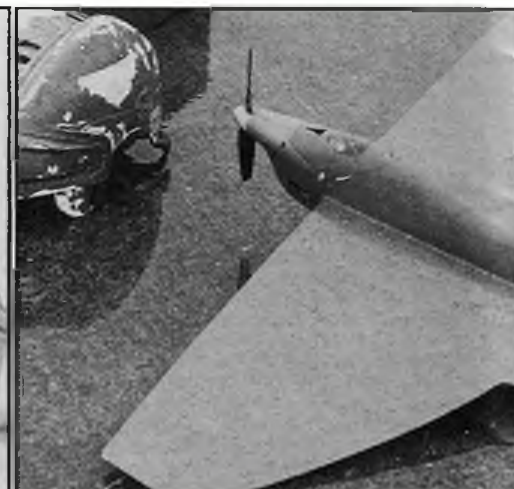
Thanks are due to those who pitched in with the chores, putting up and taking down nets and pylon, timekeeping etc, especially competitor Dick Roberts, non-combatants Jo and Natalie Halman who did most of the timekeeping on Sunday including computing speeds and handicap percentages, and scale modeller Carl Roedling who helped with pull testing and with herding those fliers waiting their turn to fly. Watch future *Aeromodellers* for technical details of the top models.

Handicap Speed

Report by Dick McGladdery

Entries this year totalled over twenty, and aided by moderate if not brilliant weather, most succeeded in recording official times; many achieved personal bests and practically everybody had reason to feel pleased with the results of their efforts. Unfortunately, the weather was just a bit too bumpy for Class I (0.8cc) models, and sadly Class IX (Novice 3.5cc) and Novice Midge failed to attract any entries at all. Support for the other eight classes varied from just one in Class II (1.5cc, almost the personal property now of team Myszka/Allcock) to seven in Class VII (10cc). The general standard of performance and flying was very high with no fewer than eleven entrants scoring better than 90% handicap; and in order to get in the top three, it was necessary to exceed 100%, or in other words, to set a new National record!

Business was a bit slow at the speed circle on



1/2A Team Race Report by Jim Woodside

These 1.5cc powered models are always the most affected by bad weather. Saturday and Sunday provided quite acceptable conditions for the small racers, but Monday afternoon caught the tail end of Hurricane Charlie resulting in the cancellation of the final.

Only ten teams entered this year and, by and large, performances were below the high standard of two or three years ago. However, those at the top showed excellent form with a wide variety of approach in evidence; the most distinctive being that of Dutch visitors Ed Meijer and Rob Metkemeijer. Take an old F2C Model and an FMV engine which has been sleeved down to 1.5cc, pop in a 6cc tank and there you are - or rather, there they were. Actually, Dutch FA rules specify F2C dimensions so the team were really using their 'domestic' equipment. Rob favours a single-blade prop in this class. These are adapted from F2A speed props in which tungsten slugs are fitted into three voids cast into the substantial hub; but in this event the prop was responsible for their ultimate exit from the competition, for when the blade was lost during a nose-over on launch those slugs stayed safely in place - and the vibration destroyed the model. This was a great shame as the Dutch represented the strongest challenge to the seeded British team of Horton/Haworth (Wharfedale).

Don Haworth was again using his high-aspect-ratio model with anhedral tailplane powered by his superb home-made AAC 1.5 diesel. Originally this motor featured reed induction but now it has a disc valve which has eliminated the backward-running problem encountered when the reed was used. Range and speed are the forte of this motor; on Sunday it recorded a 3:33 to make the best time of the contest.

Third major contenders were Clarkson/Needham (3 Sisters) using their extensively rebuilt Sesqui in Dave's Witblitz model. This motor is always capable of 50+ laps but with very unpredictable restarts. Strangely, my Sesqui with identical ABC liner has excellent restarts but never does more than 39 laps. Strange thing, this T/R...

Bernie Langworth had the most interesting of the Oliver Cubs - a side-exhaust version based on a sandcast case, and the only one to be made. This time it made 50+ laps at modest speed to give them an eventual third place. Dave Campbell can usually be relied upon to turn in a creditable performance from his Acme-tuned Cub. However, this year saw a dramatic loss of range (26 laps) which Dave attributes to a leaking plain bearing in the case. With my characteristic lack of charity I put it down to Derek Heaton not 'helping' the model on its way!

An interesting snippet of information for those looking for some extra performance is that New Zealander Alan Barnes is making a batch of ABC piston-liners for the Sesqui engine. At this time I have no firm details but when I do I will publish these in my regular 'From the handle' column.

So to Monday. As the number of recorded times was small only six semi-finalists were called up. The aforementioned accident to the Dutch model reduced this to five before a shot had been fired. Horton/Haworth and Clarkson/Needham quickly booked their place in the final. At the end of the second semi Langworth/Broadhead's modest 3:55 proved good enough for the third place in the final. Sadly, by the appointed hour the wind and rain was so severe that all those concerned agreed to settle matters on the morning's semi-final times.

Thanks are due to the RAFMAA for their excellent running of the event.

FAI Team Race Report by Dave Campbell

A pre-entry of eighteen teams required just six races per round for organisers Dave Rudd and Mark Jarvis to supervise which they did with due efficiency in Round One with the help of the ever enthusiastic RAFMAA personnel. The times recorded in this round were slower than one would have expected in Saturday's reasonable weather conditions; 4:19 was good enough for ninth place in the semi finals and only five teams managed under four minutes. The highlight of the round was Smith/Brown's 3:32.5 in the last race to show the others how it should have been done. Using their '85 Euro Champs winning Cipolla powered model (complete with sticky tape repair to the wing) Steve and Colin produced this fast time by virtue of their superb team work. Even though Colin Brown was very miserly in the use of his flicking finger (just three flicks for the whole race!) their average airspeed of 19.6 secs/10 laps (114mph) was testimony to accurate piloting and two very quick pitstops.

Other fast times came from Sladdin/Gardiner with a three-stop 3:40.1 from their high timed Nelson and Heaton/Woodside who managed 3:45.5 with their Don Howarth-designed-and-made Dragon engine. Had the pair not required a compression adjustment on the second pitstop this could have been a sub-8:40. The only other sub-four minute times were recorded by a very pleased Fitzgerald/Thomason (Nelson) with 3:49.8 and a not so pleased Hill/Metcalf who made 3:51.2 with their normally very fast Cipolla-powered conventional model. As is now the norm the majority of competitors used flying wing designs. Only four teams from the total entry had models with separate tailplanes. One incident which demonstrated the ability of most F2C pilots came in the fifth race when Aussie Rob Fitzgerald's model underflew that of John Horton during a mix up in the centre. With instant reactions Rob changed hands around John Horton and carried on flying left-handed to avert what would have been total disaster for both models.

In the second round on Sunday the nice neat schedule of six races was upset by the arrival of three additional teams! These were generously granted two attempts in this round by organisers who had their administrative headaches enhanced by no fewer than six teams requiring re-runs during the course of the round. All of

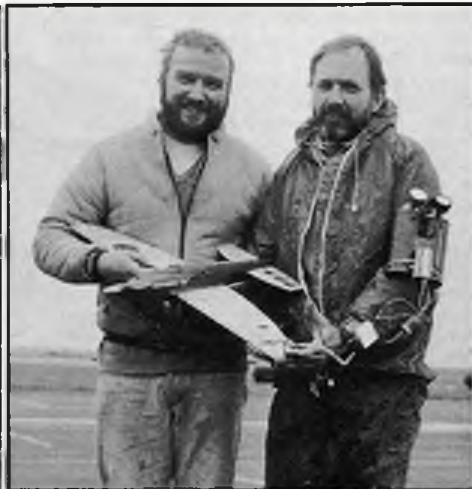
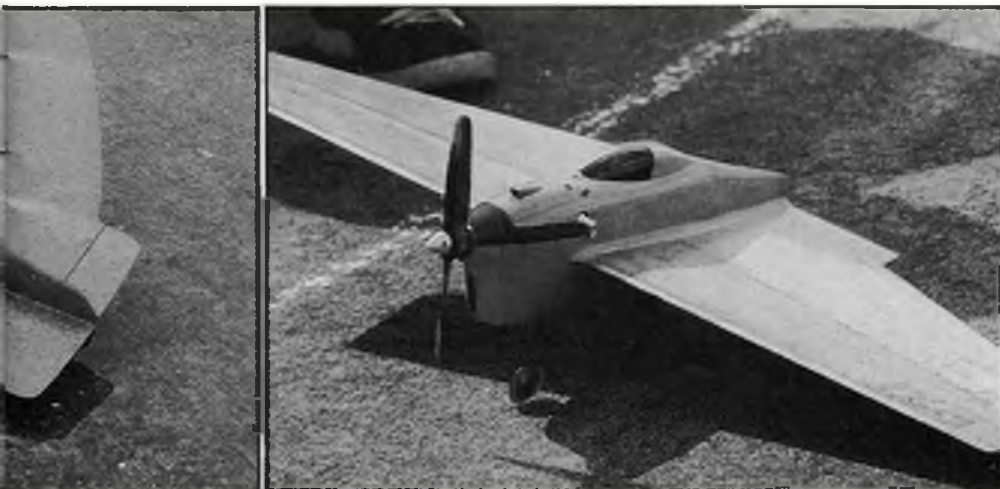
these extra races were ably accommodated by Circle Marshall Mark Jarvis without disruption to the remaining programme of events. Times in this round did not show much improvement on the previous day with only Davies/Banks on top form with a sparkling 3:36.8 using their ex-Jim Woodside Cipolla engine. Popular Dutch visitors Fred Meijer and Rob Metkemeijer, who said that they were only 'flying for fun' made 3:42.2 with an elderly FMV engine installed in Fred's immaculate version of the Dutch Korbus design. Smith/Brown used a reserve model in this round which despite good pace had a definite lack of compression in the engine department. This required lots of prodding to coax it into life at each pit stop which meant that they suffered what was probably their slowest time for many a year. The biggest disappointment in this round was suffered by Australians Walton/Wilson who had their beautifully constructed and finished model taken out of the air by a high gliding Smith/Yeldham about ten laps short of what would have been a certain 3:40. Although compensated with a re-fly they were unable to join the semi-finalists because of a cold engine run in the last race of the day.

The semi finals started on Monday morning in somewhat less than ideal conditions; overcast, cold and with a gusty wind which threatened rain. In the first race of round one, Meijer/Metkemeijer recorded a 3:43.6 which was to be sufficient to give them a place in the final. In this race Davies/Banks suffered a shut off failure to cause their retirement and Sladdin/Gardiner had setting problems to record over four minutes. The second race proved to be the best of the round.

Smith/Brown booked their place in the final with a three stop 3:39.1, closely followed by an on-form Salisbury/Wharton with 3:46.6 and Hill/Metcalf, not so on form with 3:54.0 - all the models in this race being Cipolla powered. The last race was a disappointment for Derek Heaton and Jim Woodside who had neither the speed nor the range to record over four minutes; neither did Mike Fitzgerald and Mark Thomason. However, Rob Fitzgerald and Simon Groom had a good run from their side-exhaust Nelson to hold a tenuous third final place at the end of the round with 3:45.4.

The second round of semi-finals produced close racing and better times for most teams including Ev Davies and Dave Banks who claimed a place in the final in race one. Also in this race were Heaton/Woodside 'going for broke' with a large carburettor to give them good speed at 19.2 secs/10 laps from their '85 Euro Champs Don Haworth Nelson. Three stops and tardy restarts from the *Aeromodeller* columnist kept their time

Far left: Colin Brown and Steve Smith after a brave FAI T/R final in torrential rain, where they finished second to the potent combination of Metkemeijer/Meijer, whose rain-bespattered racer is seen in the next photo. Below left: Derek Heaton and Jim Woodside flew this kevlar/carbon fibre-fuselage model into fifth place in FAI. Below: Marlin Sladdin and Dave Campbell are another damp pair after their win in Class B T/R.



down to 3:50 in what was a good race. The next race was a real cracker with just six seconds separating the three teams. Smith/Brown made 3:40.3 to reinforce their position, and managed to find the time to effect some heavy blocking on Martin/Sladdin. The Jury was extremely sluggish in responding with warnings to Steve Smith. The damage having been done by then, Sladdin/Gardiner's Nelson went very hard on the last tank to keep them out of the final. Fitzgerald Groom stayed out of trouble in this race to record a consisten 3:46.8. The last race of the semi finals saw Hill/Metcalf retire with something amiss in the fuel system and Meijer/Metkemeijer, with the FMV on song, finishing in 3:44.0.

By the time that the Final should have been flown, it was raining the proverbial cats and dogs, causing a delay to the proceedings. The T/R circle resembled a model boating pond more than an airfield runway and the organisers debated whether to abandon the meeting. The decision was taken for them by the finalists who declared that they wished to fly; so several brave souls were press-ganged into performing time-keeping duties under borrowed umbrellas. The final got under way in heavy rain with all three models away promptly at the start. Initially, Davies/Banks (Cipolla) had the best airspeed but they suffered an overcompressed run on the second tank to slow them down severely. This was followed by the usual cold third tank, as Dave Banks took too much compression off, which spoiled their chances of a win. Smith/Brown (Cipolla) were progressing steadily but had insufficient in hand to prevent Fred Meijer and Rob Metkemeijer (FMV) from winning an excellent final. All the teams were heartily applauded for putting on a super show in what can only be described as appalling conditions.

Report by Dave Campbell

If the entries in the other racing classes were low this year, then those in Class 'B' were almost non-existent! Just five teams entered, all of whom flew. It is difficult to say whether the low entry reflects a lack of interest in this class in particular or in team racing in general. Class 'B', always a specialist's class has never been for the faint of heart or thin of wallet. The sheer expense of suitable engines and their necessarily exotic fuels hardly encourages newcomers especially for just four events a year. However, Class 'B' remains the hairy-chested sport of men; and it could be said to provide the best spectacle on finals day.

Round One on Saturday opened with a good three-up race between Myzka/Bryant, Smith/Yeldham and Sladdin/Campbell. Joe Myzka and Graham Bryant booked a place in the final with a fast one-stop 3:37.6 using their by now elderly OPS 29 with home made tuned pipe. The other two teams dead-heated on 3:58.7; Smith/Yeldham having setting problems to slow them up while Sladdin/Campbell blew a plug on their second stop with their familiar - and extremely fast - OPS model. The other race featuring Fitzgerald/Thomason (OPS 29) and Hadfield/Daly (NovaRossi 21) fizzled out when both teams retired. The Round Two on Sunday saw Mike Fitzgerald and Mark Thomason into the final with a time of 3:44.3, but Steve Smith and Graham Yeldham saw their chances for a third consecutive win disappear when their shut-off failed on their K&B 29 powered model. Myzka/Bryant elected not to fly again, having already qualified for the final in round one; and this required the organisers to persuade Fitzgerald/Thomason to fly again and make up the numbers with Sladdin/Campbell, who had yet to put in a second time. All that Martin Sladdin and Dave Campbell had to do was to record a time, however slow, in order to break their deadlock with Smith/Yeldham and go through to the final. This they did with a vengeance, recording a fast two-stop 3:24.3 which included finding the time for a false start and retrieve at their second pitstop.

The final on Monday started in light rain which got steadily worse but thankfully was not

bad enough to cause problems for the pilots trying to hold onto their hard-pulling models. All got away cleanly at the start and it was obvious that the sheer airspeed of the Sladdin/Campbell model would give them the win if no mistakes were made. Joe Myzka was trying to coax a two-stop final out of his OPS but failed when it cut at lap 56 after a lean-sounding run. He conceded by opening the needle and requiring two more stops to finish. Fitzgerald/Thomason could have given him a very close race for second had their model not run in on take off at their second stop. Meanwhile Sladdin/Campbell were blasting on ahead, their only hiccup being on the third tank when the motor went slightly lean, after Dave Campbell had tweaked the needle in the hope of completing a four stop final. Thinking of his glowplug (not so much the cost as the time needed to change it!) Dave signalled Martin to cut the motor early for a re-set. The plug was still O.K. and so the model was returned to the race, back at full speed. By the end of the race the rain was getting worse and the combination of a heavy model, fast landing speed and wet, oily wings caused Dave Campbell to slip two catches. However, they had more than enough in hand to win as they pleased and finished with a fast time of 7:10.9, some thirty-three seconds in front of Bryant/Myzka.

Aerobatics

Report by Glen Alison

A total of thirty-six competitors flew in this year's Gold Trophy. This included a healthy contingent from Scotland, Ireland and Wales plus two continental fliers, Henk de Jong from Holland and the *Aeromodeller* stunt columnist Claus Maikis from West Germany.

As was the case last year two rounds were flown on each of the preliminary days using two circles. A competitor's best flights from each circle, regardless of on which day they were achieved, were added together to determine a top twelve for a fly-off on the Monday.

The fly-off was a separate three round contest, with the best two scores added to determine the results.

Saturday started bright and breezy, but it calmed down towards the end of the day and many high scores were achieved in what was to be the best weather of the competition. The leaders at this stage included Barry Robinson flying a new silver Northwind, Bill Draper with another new model, a Superhawk of course; and last year's winner Tony Eiffaender, who flew a PAW 35 diesel powered Firebird. Quite a few new models were on display. Claus Maikis flew a semi-scale Messerschmitt M35, immaculate as usual and ST60 powered. Rex Landon had a lovely blue and white Indian Princess which is really a disguised Northwind. This was also powered by an ST60. Seen before at other comps but well worthy of mention is Dion Beesley's Classic which was beautifully finished with good cockpit details, and featured an internal silencer on its ST46. There was one other diesel powered model, a semi scale Spitfire by Steve

Crawford who caused a few gasps by virtue of his close shaves with terra firma. One flier who really did get too close to the ground was Harry Leyland whose Nobler crashed in the vertical eights. It should be said that spectators at the stunt circle were lucky to escape injury when a 'free flight' combat model landed amongst them...

Sunday was just as windy, although brighter; and very few improved their scores. Other fliers in contention now included Henk de Jong with his ST60 powered Maya and Ireland's John Hamilton whose Genesis was equipped with - yes, you've guessed - another ST60. The larger Super Tigre was the most popular motor with at least twelve in use; eight ST46s plus a variety of Enya 45s, Merco 60s, PAW35s and Fox 35s made up most of the rest. The ST60 powered craft are not necessarily big but the fliers like the reliable, easy power available with this motor.

Monday was fly-off day, and the wind was even stronger. Furthermore, the forecast was bad... Several fliers had difficulty in taking off smoothly in the conditions, as models tended to tip forward, causing damage to propellers. All sorts of starting positions were tried, the most successful being directly upwind by the judges. Speaking of judges we should comment that John Harley, Bob Dulake, Reg Lower and Alan Church did sterling duty. The Contest Director was Mike Feaver and the Computer Operator/Score Keeper was his wife Gwen. All deserve our gratitude for sitting in that wind for three days!

At the end of the first fly-off round the leading scores were: Eiffaender, 3017; Draper, 2987; Robinson, 2983 and de Jong 2908. By the close of Round Two Eiffaender had dropped to 2962, whilst Draper pulled up to 3000 and John Hamilton improved with 2921. Robinson scored a disappointing 2609. All very close - and everything to fly for!

As the weather worsened the atmosphere in the third round was tense. The winner of the Gold Trophy would obviously be decided after a straight fight between Bill Draper and Tony Eiffaender. Bill flew another 3000-pointer, giving him a total of 6000, but Tony just clipped that; a fine 3006 giving him a total of 6023. This was wonderful flying for the conditions, giving Tony a deserved second win. Barry Robinson was third with 5794, his big model being not quite so suitable for the appalling conditions.

This was certainly a memorable Gold Trophy; let's hope for better weather next year!

Novice Aerobatics

Report by Ron Prentice

It was good to see an increased turnout in Novice this year. The light wind did not deter any competitors and the standard, on the whole, was good. Flying took place on Saturday and Sunday; this year's winner was Barry Pickles, who came third in '85. Barry, who is a member of the Wharfedale MFC, was flying a 54in Bagga 32 powered by an OS 45FSR. Second place was taken by John Davis of Humberside MFC. John's model was a Merco 35 powered



Commodore. Third was Geoff Smith flying a 48in Fox 35 equipped Magician 35. As this was Geoff's first competition it can be seen that he did very well; and we look forward to seeing his name in the list of Gold Trophy entrants before long. The other entrants, in order of final placing, were Bill Brown with his own-design 'Spitfire-ish' model, Merco 61 powered; Bill Dalby, Merco 35 powered Kittyhawk; Stuart Morris, 54in Europa, Irvine 40; Dave Cowburn, own-design Lynx profile model, OS25; Dave Bratton, Oliver Tiger powered 36in profile model; Ron Prentice, Merco 49 powered 1948 deBolt Stuntwagon; and Bruce Kopasz, who flew a Wonderwings Aerostar with an OS40, finished in tenth place. The last three places went to Neil Howard, who crashed his Fuji 19 powered model on its first flight; Mr Copley, whose diesel powered Spectre also bit the tarmac, and Mr Llod.

Old Time Stunt

Report by Ron Prentice

In addition to an assessment of flight pattern there is a system of bonus points for early Stunt designs, which may be augmented according to such period details as lack of flaps, biplane layout, and appropriate type of engine used.

A sense of excitement on the day of the event was dashed when it was discovered that there were only five entrants. Nevertheless a draw was made to determine flying order and off we went. First to go was John Hamilton from Belfast with his Fox 35 powered Trixter Barnstormer, the model which won the Open Stunt event at the 1950 US Nationals. A prompt start was followed by a slightly ragged schedule and a rather poor landing to give John a total of 665 points. Next was Brian Waterland, who flew a 1950 Laurie Glover Devil Bat with an Enya 35 up front. This combination gave a quite good performance which was let down by insufficient smoothness in the inside loops and bad intersections in the horizontal eights.

Fellow Belfast club member Maurice Doyle produced a typically 1949 West Essex design not often seen in OTS competitions - the Cyril Mayes designed Tycoon which was published in the June 1950 issue of Model Aircraft magazine, and which had won a number of competitions during the previous year. Not having an ED MkIII as per the original model, Maurice was using an Oliver Cub. The schedule was completed in as smooth a manner as this elderly design would permit, with just the overhead eights proving a bit tricky; the result was a creditable 641 points.

Those of us who have seen Mick Taylor fly in SAM 35 competitions have come to expect a nicely-made model and a superb performance; and this event was no exception. Flying the same Fox 35 powered Trixter Barnstormer which he had used to win the OTS comp at Old Warden the previous weekend, he treated us to a polished performance well worth the 889 points gained. Lastly in this round, it was pleasant to see the perennial Dave Day toting a beautifully-built Ambassador which was complete with Elfin 2.49 diesel. This design by Alan Hewitt is best



Above: Mike Fitzgerald and Simon Groom were second in Open Goodyear with their natural-finished Nelson-powered model. Simon looks as though he is equipped for the worst... **Right:** No prizes for guessing Pete Adams' club! The Stell/Adams duo were third in Mini-Goodyear. Model is entitled 'Hammerite Special' - Pete just loves that paint...



remembered for victories in the '51 Gold Trophy and European Stunt Championships. Unfortunately Dave's model was not to equal these achievements, for after an excellent beginning to the schedule the cylinder of the Elfin began to unscrew, causing the motor to stop after the horizontal eights.

In the second round, with a new flying order, Maurice Doyle was first away with his Tycoon. An increase in windspeed caused a less assured flight than his first, with inverted and the square loop suffering badly. It was obviously not Dave Day's day because despite cylinder-tightening efforts the Elfin again suffered the same malady, this time earlier in the flight. Nevertheless, when its motor is on song the Ambassador shows much potential and I expect to see a lot more of it when the problem is sorted out.

Another impeccable flight by Mick Taylor netted him a second-round total of 892 and left him in an almost unassailable position. John Hamilton's second flight was more consistent than the first, but a bouncy landing spoiled things, despite which his score improved slightly. Last was Brian Waterland who flew an improved schedule after engine starting problems. He was the only competitor to score maximum points for landing. At the end of the day Mick Taylor was the worthy winner. John Hamilton was second, almost 300 points behind Mick but well ahead of Maurice Doyle in third place.

Open Goodyear:

Report by Bob Horwood

The Goodyear event this year attracted fewer entries than in the past largely because of the requirement for large pressure tanks and extremely high-revving engines to achieve results. This, combined with the new safety rules has reduced the number of those interested.

The first round on the Saturday saw most of the top teams producing expected results, Clarkson/Needham leading with a 3:45.1 and a whole group of teams clustered around the four minute mark; notably Pegg/Thorpe, Thorpe/Swinburn and Myska/Allcock. Two names missing from the top group were Andrews/Horwood who had been forced to use their reserve model when their number one proved overweight, and Catlow/Jephcott who had been involved in a late heat which provided them with a re-run for which there was no time. The team of Fitzgerald/Groom had looked promising but setting problems had reduced their time to over five minutes.

Far left: Tony Eifflaender's latest Freebird, winner of the Gold Trophy, about to be released. **Middle:** Another Wharfedale clubman is Barry Pickles, winner of Novice Stunt with this Bagga 32. **Below:** Tenth in Novice, and the sole entrant in Junior Stunt, was Bruce Kopasz. Let's have lots more juniors next year!





In the second round Fitzgerald/Groom produced the performance they had been promising to return 4:00 and hold second place. Green/Malcolm, who like Catlow/Jephcott had to fly twice in the second round because of a postponed re-flight recorded 4:13.8 while Catlow/Jephcott just managed to qualify for the semis with 4:18.3. Andrews/Horwood were unable to improve with their reserve and ended in 11th place, just behind former winners Kane/Doyle.

The semi-finals were disappointing. With the weather deteriorating rapidly there was every prospect of the events being cancelled later, making the semis even more important. Gordon/Aberdeen failed to appear for the first round leaving Pegg/Thorpe and Clarkson/Needham with an easy two-up race. The latter team took advantage of this to record 3:52.3, but Pegg/Thorpe were unable to capitalise and recorded only 4:25.1. At the end of the first round of semis Clarkson/Needham were in first place with Allcock/Myszka second and Thorpe/Swinburn third.

In the second round Clarkson/Needham elected not to fly; neither did Thorpe/Swinburn nor Pegg/Thorpe, who had crashed in practice. Allcock/Myszka's hopes were dashed when a mix-up in the middle - attributed to them - caused their model to be written off, leaving the way open for Fitzgerald/Groom to claim the third final place.

Then came the rains and with atrocious conditions prevailing the organisers felt it judicious to abandon the final leaving Clarkson/Needham the winners. Fitzgerald/Groom in second place and Thorpe/Swinburn third.

The Novice final was likewise abandoned and

the resulting decision, based on heat times, was Gordon/Aberdeen first with 4:12.1, Salisbury/Gennard second with 4:56.5 and Taylor/Worgan (4:56.8) third.

Class II Goodyear Report by Bob Horwood

In contrast to Open Goodyear, Class II was better supported than previously and performances were considerably better than in past years with 4:20 being the time to aim for. In the first round Clarkson/Needham recorded a new British record time of 4:05.5; second place was taken by Catlow/Jephcott, flying their first Class II event, and Andrews/Horwood were third. There was a notable gap between the 'experts' and novices; in part this was because of pressure re-fuelling systems and high-tech props, but much of the difference was in the slickness of pit work - by the pilot-making best use of the cut-out and the mechanic acting efficiently.

The leading positions were not changed by the second round and the teams to take part in the semi-finals were those mentioned above plus Pegg/Thorpe, Taylor/Worgan and Munro/McInnes. The semis proved a very close affair with the leading three being pushed very hard. Class II has got to a stage where, with many teams separated only by a second or so, one mistake is enough to spell disaster; surely this is what racing is all about.

The final between Clarkson/Needham, Catlow/Jephcott and Andrews/Horwood promised to be close and for the former two thus it proved, with only 20 seconds separating them (i.e. seven laps at Class II speeds) while Andrews/Horwood were forced to retire with a ruptured tank caused by vibration from a

chipped prop.

The Class II Novice final was also a close race with only ten seconds separating winners Taylor/Worgan 9:29.4 and Gordon/Aberdeen 9:41.9. Third place was taken by Lilly/Dagliesh with 10:46.5; they would have been closer but for a seizing wheel which caused the model to run short on several occasions. In all, a good time was had by everyone; indeed, this was probably the racing event where most fun was enjoyed.

Mini-Goodyear Report by Gordon May

By 2 o'clock on the Saturday there were only four known entries and racing was therefore suspended whilst the organisers themselves competed in other events. By 4pm the entries had grown to 13 and the first round heats were started.

Tear/Walker of Allerton Grange quickly made their mark with a useful time of 4:56. Last year's winners, Higgins/Horwood of South Bristol replied with an even better time of 4:20 in the second heat. An all-Junior team of Smith/Joyce from Feltham went well to record 5:39 in heat 3 with another all-Junior team, Gregson/Tear of Allerton Grange putting in a 5:31 in heat 5.

Arnold/Heaton of 3 Sisters elected to fly both their heats on this the first day, recording 6:43 at their first attempt. In their second heat they were paired with Higgins/May of South Bristol, Theresa Higgins being one of two lady pilots present. Both teams went quite well with Higgins/May pipping the 3 Sisters lads by one second in a time of 6:27. The heat was not without incident; Arnold/Heaton had landed their model after finishing but Theresa was having difficulty with a stubborn shut off. When the thing finally worked the model came in right

Scale

Power: Superscale Trophy (7 flew)

		Flight	Static	Total	
1	C Newman	Avro 504N	1032	987	2019
2	T Manley	DH4	1130	799	1929
3	E Coates	DH9A	964	872	1836
4	M Smith	Jet Wot	876	811	1687
5	R Presnell	SE5A	696	725	1421

Rubber: Model Flyer Trophy (12 flew)

		Flight	Static	Total	
1	P Briggs	Bleriot	726	1046	1772
2	B Hetherington	Stinson Tri-motor	884	818	1702
3	R Granger	Microplane Veloz	674	802	1476
4	R Waddington	Cub	568	646	1214
5	G Spencer	Cub	312	484	796

Co2/Electric (9 flew)

		Flight	Static	Total	
1	D Knight	Fairchild Argus	1140	920	2060
2	M Smith	Jet Wot	1000	880	1880
3	D Sheppard	DH60	860	820	1680
4	B. Hetherington	Bellanca	760	820	1580
5	R. Granger	Bleriot	840	680	1520

Control Line: Knokke No. 2 Trophy (8 flew)

		Flight 1	Flight 2	Static	Total	
1	R Truelove	Heinkel 219	1044	995	586	1630
2	J Roberts	DH Chipmunk	674	952	529	1481
3	C Bradford	Dakota	680	874	522	1395
4	W Cordwell	Bristol Blenheim	918	895	453	1371
5	M Staples	Avro Avian	643	533	611	1255

Speed

Handicap Speed: Ralph Gould Memorial Trophy (30 entries)

			Class VII	210.64mph	104.61%	1st in class
1	K Morrisey	Sharston	V	141.20	76.33	2nd
2	P Halman	Sharston	IV	173.14	102.63	1st
3	Myska/Allcock	Bilston	Formula 21	166.81	99.33	1st
4	P Eisner	Elmbridge	II	137.58	101.48	1st
5	M Billinton		VI	169.47	90.53	1st
			III	183.21	99.92	1st
			VII	192.02	95.36	2nd

Team Racing

1/2 A Team Race: RAFMAA Trophy (12 entries)

		Heat	Semi	
1	Horton/Haworth	Wharfedale	3.33	3.36
2	Clarkson/Needham	3 Sisters	3.50	3.39
3	Langworth/Broadhead	Wharfedale	4.10	4.01
4	Meijer/Metkemeijer	Holland	3.39	
5	Heaton/Campbell	3 Sisters/Grantham	3.53	

RACE DECIDED ON SEMI-FINAL TIMES

FAI Team Race: David 'A' Trophy (21 entries)

			3.42	3.43
1	Meijer/Metkemeijer	Holland	3.42	3.43
2	Smith-Brown	Feltham	3.32	3.39
3	Davies/Banks	Grantham	3.36	3.42
4	Sladdin/Gardiner	NOVOS	3.40	3.45
5	Heaton/Woodside	3 Sisters	3.45	3.50

Class 'B' Team Race: Davis 'B' Trophy (5 entries)

		Heat	Final	
1	Sladdin/Campbell	Novos/Grantham	3.24	7.10
2	Bryant/Myszka	Wolves	3.37	7.10
3	Fitzgerald/Thomason	Wharfedale	3.44	7.43
4	Smith/Yeldham	Feltham/Elliott	3.58	Rtd
5	Hadfield/Daly	Stockport		Rtd

Goodyear

Open Goodyear: Daily Mail Trophy

- Clarkson/Needham
- Fitzgerald/Groom
- Thorpe/Swinburn

Class II

- Clarkson/Needham
- Catlow/Jephcott
- Andrews/Horwood

Far left: Two from South Bristol - Terry Taylor and Martin Morgan with their PAW-equipped Class II Goodyear racer. Left: It's three from South Bristol, actually. This is Bob Horwood, pilotman of the Andrews/Horwood partnership, indulging in some pre-race Goodyear luning. Smart blue and white finish is a trademark of this team.

on top of the 3 Sisters machine, with the motor still partially running. The results to the lads' machine were disastrous and Gavin Heaton was heard to remark something about 'women drivers'...

No other times of note were recorded; indeed, a few teams expressed the wish to fly both their heats on the following day.

At the start of play on Sunday the number of entries had risen to 17. Heat 1 saw two teams new to the Nats; Kit/Walker of Allerton Grange and Stell/Adams of Wharfedale. The latter team went smoothly and coolly to record 5:12 and John Kit, who was growing in confidence, improved on his Saturday time by recording 6:50. In Heat 2 Smith/Joyce retired with a broken model at 31 laps whilst Buccaneer's members, Kane/Kane, improved on their first heat with a 5:47. The third heat saw no improvement for Tear/Walker but Nash/De Villiers cut their time to 6:12.

Robinson/Freeman retired in Heat 4 without a time, but Walker/Walker of Grantham did their best with 7:17. The consistent Stell/Adams, flying their second round in heat 5, improved with a cool 5:10 against another new team at the Nats, Jones/Jones of South Bristol, who recorded 6:09. Hanks/Andrews achieved their best time of 6:11 in the last heat of the day.

With everyone having recorded their two flights, the draw was made for the semi-finals. Nine teams went forward in six heats of '3-up'.

Heat 1 saw the formidable Higgins/Horwood combo calmly record 4:28 against Gregson/Tear, who retired, and Hanks/Andrews who recorded 6:12, the latter team suffering from a motor that was always hard to start. The second heat saw no real fireworks with Jones/Jones breaking their model, Tear/Walker unhappy with 5:56 and Kane/Kane disappointed with their 5:40. Stell/Adams were as consistent as ever in Heat 3 with a 5:13. Smith/Joyce suffered a broken model after a mid-air tangle with Thorpe/Fitzgerald; the Loughborough team went on to achieve 7:51 after some frantic scrabbling with the lines. Heat 4 was a two-up

affair, Higgins/Horwood resting on their time. Hanks/Andrews could not improve but Kane/Kane did a little better with 5:27. The Buccaneers team then had to stand and watch, with fingers crossed...

In Heat 5, Jones/Jones succeeded in breaking yet another model and Gregson/Tear must have been disappointed with a 6:58. Stell/Adams were trying perhaps a little too hard and as is so often the case recorded a poorer time of 5:32.

The very last heat of the Semis saw Smith/Joyce using a borrowed model fitted with their engine. Cruel luck continued to dog them, for the fuel tubing split, putting them out of the competition. Tear/Walker had found more airspeed and their 4:53 put Kane/Kane out of the final. Thorpe/Fitzgerald's last effort clocked 6:39.

The weather had turned quite nasty by the time of the final on Monday afternoon, and rain was falling as all three teams got away quickly. Higgins/Horwood appeared to have the edge for airspeed, but something went wrong for the Bristol pair at about 30 laps when the engine cut unexpectedly. Bob Horwood had to scamper madly around the circuit to retrieve but the motor did not start easily and when the model did rejoin the race it seemed to have lost a few knots of airspeed. This was the break that the experienced Tear/Walker needed and they grabbed the chance with both hands. Stell/Adams motored on steadily hoping for mistakes from the others. The race ran smoothly to the finish without further incident with Higgins/Horwood desperately trying to claw back the laps they had lost. In the end the finish was very tight with Tear/Walker hanging onto their lead to win by just eight seconds.

Throughout the race the pilots had coped admirably with the conditions and the three teams thoroughly deserved the generous applause they received from the spectators.

Thanks to all timekeepers and helpers, the event was a joy to run.

1/2 A Combat

Report by Pat Frost

Saturday was cold and windy, but the sun did make an appearance. There were 26 entries including no fewer than six Irish flyers and a solitary lady, Helen Knowles. It was refreshing to see many new faces including some young flyers; it seems that 1/2A, as well as Diesel

Combat, is becoming more popular again. The engine price restriction and simplicity of the event does give everyone a fair chance. The windy conditions provided some difficulties for the less experienced flyers but despite this, the youngsters put up a good show.

The contest was run on a two-life system but it took longer to run than anticipated as only eight were lost by the end of the second round, and many of those who remained were also flying in class A which meant that many bouts had to be reshuffled. By the end of the third round the field had been reduced to 13. One of those knocked out was last year's winner, Mervyn Jones.

The most notable bout was that of N Gill against D Harrison in the fourth round. After Neil's pit crew ripped his streamer on launching, his model had to be brought in for a replacement streamer. Neil was over 40 points down but he went on to give a fine display of combat flying, taking six cuts in quick succession. The semis saw M Jarrett narrowly beating D Holmes, and N Gill victorious over R Herbert. In the 3rd/4th fly off Richard beat David into 4th place, but David's consolation was that he was the top Junior. The weather got the better of the flyers when it came to the finals on Monday. The final between Neil Gill and Mark Jarrett was to be flown at the next Centralised meeting: The winner on this occasion was Hurricane Charley...

(Latest news from John James is that the final was flown at Three Sisters on 28th September. Neil Gill was the eventual winner, second place man Mark Jarrett suffering from mysterious engine problems that meant the loss of air time. GC.)

Slow 'A' Combat

Report by Paul Vallins

This year Slow 'A' attracted 44 entries, the highest since the event was first introduced to the Nats, with flyers coming from as far afield as Ireland and Australia; all very encouraging. Because of the high entry the event was run to the old knockout system instead of the longer 'two-life' version.

Flying began at 2pm on Saturday when the weather was fair with a light westerly wind. It was obvious that model designs had not really altered much from previous years, apart from their lighter construction. There were the normal balsa and foam models, having their origin in

Mini-Goodyear

1 Tear/Walker	9 43
2 Higgins/Horwood	9 51
3 Stell/Adams	11 02

Final

Novice Open: Elliott Novice Trophy

1 Gordon/Aberdeen
2 Salsbury/Gennard
3 Taylor/Worgan

Novice Class II

1 Taylor/Worgan
2 Gordon/Aberdeen
3 Lilley/Dagleish

7 40
7 56
8 38

Aerobatics

Gold Trophy (36 entries)

1 A Efflaender	Freebird	PAW 35D	6023
2 W Draper	Superhawk	Enya 45	6000
3 B Robinson	Northwind	ST60	5794
4 J Hamilton	Genesis	ST60	5784
5 H De Jong	Maya	ST60	5779
6 N Dickinson	Norstar	Merco 61	5653
7 C Maikis	M35	ST60	5554
8 I Galt	Scotia	ST60	5501
9 M Doyle	Aquarius	ST46	5472
10 P Arkley	Kittyhawk	ST46	5085

Novice Aerobatics (12 entries)

1 B Pickles	Bagga 32	OS45 FSR
2 J Davis	Commodore	Merco 35
3 G Smith	Magician 35	Fox 35
4 B Brown	Spitfire O/D	Merco 61
5 B Dalby	Kittyhawk	Merco 35

Junior Aerobatics (one entrant)

1 B Kopsaz	Aerostar
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Old Tyme Stunt (5 entries)

1 M Taylor	Traxter Barnstormer	Fox 35	1781
2 J Hamilton	Traxter Barnstormer	Fox 35	1483
3 M Doyle	Tycoon	Oliver Cub	1246

Combat

1/2 A Combat

1 No result
2 M Jarrett and N Gill to fly at next C/L centralised meeting
3 R Herbert

Diesel 'A' Combat

1 J James
2 V Hunt
M. Jarrett

FAI Combat: Whitney Straight No. 2 Trophy

1 M Whillance
2 F Meyer
3 M Tiernan
4 J James
5 M Hembers
6 G Flood

Carrier

Open Carrier: Cancelled

Profile 40 Carrier

1 N Ashford
2 V Miller
3 D Bird

the early Boomerang, Blaster and Zinger designs. In contrast, a wide range of power plants is now being used in preference to the faithful Oliver Tiger, including PAWs, MVVSs, Super Tigres, Nelsons and Coxes: all diesel or diesel-converted glows. The standard of engine tuning has become very high and is very much a part of Slow 'A' Combat.

The opening round produced some excellent bouts, with the expected names moving through to the next round with the exception of Dave Harrison, ex-Nats Champion, who had to fly in the losers round to regain entry to Round Two.

Mark Jarrett, using Nelson powered models, flew well throughout the event but came unstuck in his semi-final against John James. The impact with the ground snapped his lightweight - or flimsy? - pushrod. The other semi, between Vernon Hunt and Richard Herbert, produced some exciting flying until Richard's model was cut from its lines and flew into the control tent... The organisers ruled against a 'refly' since the model had not flown out of the marked boundaries and thus Richard lost because of his ground time. This brought John and Vernon together for the Slow 'A' final.

The flying was well up to the standard we have come to expect from these two. Vernon took two early cuts, with John down on ground time, which left John a lot of work to do. The first cut came easily, but the second proved much more difficult, with Vernon using all his skill to run from John's model. Eventually John's second cut came in a line tangle and when Vernon lost control and hit the ground John gained a well-deserved victory.

The 3rd and 4th fly off between Richard Herbert and Mark Jarrett also turned out to be a cracker with Mark taking two cuts to make third place.

FAI Combat

Report by Paul Vallins

This year, the organisers of FAI Combat were determined to run the competition to strict FAI rules. The nineteen-metre circles and their centres were clearly marked so that any pilot or pitcrew infringements could easily be seen by the judges.

With the pilots well briefed, combat began in mid-afternoon on Sunday. Unlike the Slow 'A' event, FAI combat model designs have changed considerably over the years; thinner sections, detachable components, light construction and closed loop controls being some of the developments. The motor predominantly used in FAI is the Dutch built USE, a very light and fast engine. Other motors seen included Rossis, Super Tigres and rear induction Nelsons. Early to exit from the first two rounds included D. Harrison, E. Burles, T. Frost, Neil Gill and P. Vallins.

The event continued on Monday, and after a full morning's flying six people remained within the competition. Fred Meijer is a Dutch flyer who has been flying for many years, is very active in the Combat scene and is a current member of the Dutch team. Fred has the advantage of up-to-date motor technology, for he works closely with the Metkemeijer brothers (of team race fame) and is able to tune his Nelsons and USEs for maximum power. He remains faithful to the same big-section balsa foam Zingers, which move at around 100mph on 5/16in. glass fibre props. John James has also been on the Combat scene for many years and during this time has notched up a number of wins to his credit. His models are an all-foam tapered-wing design. Powered by Nelsons they are not impressively fast, but are certainly competitive.

Mick Tiernan - an ex-World Champion - is no longer a regular flyer but always 'digs out a model for the Nats. I was told that Mick had built his foam 'boom' model in a day, and had to finish them on the field! It's always nice to see Mick giving it a go. Mick Hember has been flying only for six years or so, but during this time has achieved respect on the Continent for his excellent record of high placings in International events. He has travelled as far as the South of France to participate in Combat action.



Diesel 'A' winner was John James, seen here flanked by enthusiastic colleagues. It was absolutely pouring when their picture was taken. Are those smiles or gritted teeth? Right: Dave Harrison is now the proud owner of this Danish wing and motor - a very potent combination acquired during his travels; but we won't tell you how much he paid for it...

and is at present making plans for Sweden since he has almost certainly made a team placing for next year's European Championship owing to his 1st and 2nd placing at the SMAE Centralised meetings.

The last two remaining fliers were Gary Flood, last year's Nats winner, who again travelled with his brother from Ireland to try and regain the coveted Whitney Straight Trophy: he was flying USE powered Super Boomerangs; and Mick Whillance, who is known as 'Whacker' for obvious reasons. Mick is a past team member who has flown very well throughout the year with his Nelson-powered Andreal models.

An eliminator round was drawn from these six in order to leave four. Mick Hember was drawn to fly John, and Gary to fly against Fred. At this point the heavens opened and torrential rain set in. The conditions became the worst I've ever seen at a model flying meeting. In view of the fact that the streamers were miraculously staying together the organisers decided to continue, come what may. Mick Hember flew well against an 'on form' John James taking two cuts, but he suffered an unfortunate incident when Mervin Jones (who placed 4th in the recent World Champs) released the spare model while Mick was still untangling his line, causing a write-off. Mick was unable to continue and unluckily lost on ground time. The next bout saw Fred take two cuts from Gary, thus putting the 'ex-Nats champ' out of the running. This left John to fly against Fred and Mick to compete against 'Whacker' Whillance. Fred flew confidently to win his bout and an unprepared Mick Tiernan lost to Mick Whillance.

The final was to have been between Mick Whillance and Fred Meijer but because of the late hour Fred had to leave to catch a ferry home, leaving Mick with a somewhat hollow, but nevertheless well-deserved victory by default. Thanks must go to all those people who helped on the day, especially P. Tribe, M. Hember, D. Harrison and Tim Bartram.

Note: This event was not postponed, as wrongly reported last month. Sorry. GC).

Profile Carrier

Report by Norman Ashford

This was the only carrier event to take place, Open being cancelled because of the poor weather. It was flown over three days, with the best single score to count. Best on Saturday was Peter O'Sullivan's well-proven Corsair which gained 359 points (including a maximum for landing). In Sunday's better weather, Vaughan Miller belted round at 88mph 'fast' but was let down by a poor slow run. Norman Ashford's winning score of 414 came during a period of almost flat calm which allowed him to stretch his slow run to just 16mph.



Freed from C/L Scale responsibilities on Monday, Derek Bird and the rest of the 3 Kings lads returned up to do battle. All fliers had difficulty in keeping out of the drink but Miller improved, despite poor conditions, to take second spot.

In the limited space available there's much we have to gloss over - all the radio events, for example, which are covered in our companion magazines (but we should note the success of Light Scale in its first Nats). The Vintage T/R demos were great fun - and so were the fun-fly evening sessions, always an essential ingredient for a characterful Nationals. Flightline organisation and trade stand segregation was first class; but for the future, how about more P.A. to help the newcomer to the scene? Roll on '87!

Guess what this merry little Bank Holiday Monday group are doing? Watching the FAI T/R final, that's what...



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

OVER THE PAST FEW years we've been submerged in the aeronautical picture-book marshlands where World War Two aircraft and more modern jets have appeared with persistent monotony and precious little data of any real use to historian or modeller. We oughtn't to complain. Those books have been cheap, the artwork good and some of the pics actually original. But what's the real value of something that becomes shelfbound after the first flip of the pages?

No one will feel like doing that with the first two titles we've just enjoyed - and of equal value, but contrasting in spirit, is the third featured volume. Christmas presents all!



Flight Fantastic

by Annette Carson (Haynes Publishing Group, £14.95). This heavy 320-page hardback, packed with excellent illustration and many colour photos tells the story of aerobatics from the Wright Bros. to the Akro and has a Lynn Williams packet-wrap painting that's so distinctive it has gone into the art world as a reprint for framing. For modellers this book is crammed with tempting references on colour schemes of Pitts, Cap 10 and 20s, Yaks, Zlins, Buckers, Stampes, Akros and yes, even the humble Tiger Moth. No drawings here, but instead, a delightful flowing text so obviously the product of much polished and long research by a diligent enthusiast. Annette delved deep into the early days, the adventures of the 20s and 30s, the great personalities and their influence on international competitions.

Credit is given where overdue, for example to how Eddie Allenbaugh's development of the Miss San Bernadin racer became the first Stephens Akro - named as a memorial to his co-engineer all of twenty years ago. How others took that basic design through the Super Star, Extra and TR260 variants of today. The Su26 is there too...and the Eagles, Chipmunks and all the oddballs which have always fascinated with their flamboyant colours and spectacular display at airshows.

If anything is amiss - it would be tough to identify. We missed that head-on view of Italian Fiat CR32's in cranked line abreast which used to typify formation aerobatics - perhaps omitted because it was so

well known? Rather, one should comment on the refreshing newness of all the pictures; the list of credits is a testament to the international enthusiasm that has gone into this survey of eighty years of aerobatics; and if you value books as a source of absorbing relaxation, then this one is a positive investment. RGM

The World's Vintage Sailplanes

by Martin Simons (Kookaburra Technical Publications Pty Ltd; book available directly from the publishers at PO Box 648, Dandenong 3175, Victoria, Australia, for an introductory price of A\$55.00 inc. postage). This is another weighty hardbound tome of 176 art paper pages, many with fine colour pictures and copiously illustrated throughout. The difference is that Martin's book includes over 80 scale drawings, many to the author's specially high standard with his own measured dimensions and cross sections; others taken from archival sources and produced with modellers as well as full size vintage gliding enthusiasts in mind.

Thus the history of gliding is traced from 1909 to 1941 and all the elegance of those long tapered wings and rotund fuselages is captured in a single volume. Rare examples intercept the classics. Sheer beauty of shape in the Fafnir contrasts with the odd, and huge Austria. The Falke (now back in the news through John Sproule's replica) looks quaint with so



much sweep and the tiny Scuds so elementary one wonders - why bother with a hang glider? And when it comes to selecting a subject of model, the choice of gull-wings reaches much further than to the 'common' Minimoa. They're all in there, from Russia, the USA, UK and of course Germany, France, Switzerland, Poland and so on. No excuses now for not making a scale sailplane that is 'different' or good looking.

Quite apart from the modelling aspect, here's a book that encapsulates years of progress among soaring aircraft with a text blending technicality and a description of progress running through from type to type in logical sequence. It's the tale of spruce, ply and fabric, of an era now past; but one which has a special affinity

with aeromodelling and for that reason alone, *Vintage Sailplanes* becomes compulsive reading. RGM

Military Aircraft Today

by Chris McAllister (Batsford Press, £8.95). The science and technology of



flight is the common province both of aeromodelling and of full-size practice, and developments in one often lead to developments in the other. In this new book Chris McAllister leaves little doubt that in the fields of military flying and weapons systems the applications of the latest technologies are at their sharpest. With a very readable text stretching to 168 pages and a wealth of photographs and well-produced line-drawings, this is no ordinary run-of-the-mill aviation book compiled by rehashing manufacturers' data, but a carefully-researched and well written guide to the technology which makes it all work. Air power in the modern world, aerodynamics, avionics, flight control and weapons systems, missiles, strategy, tactics and training are all carefully explained with examples drawn from recent conflicts in Vietnam, the Middle East and South Atlantic.

Aviation enthusiasts are a diverse bunch whose activities range from aeromodelling to digging up crash relics from Pennine bogs. Is there any life beyond plane-spotting and the mindless accumulation of notebooks full of 'reggies'? The author argues that an intelligent interest in military aircraft and their affairs is not only desirable but possible, explaining what lies behind and beneath the camouflaged wings and fuselages, including the mysterious bolt-on goodies attached to underwing pylons; fuel tanks, bombs, missiles, more bombs, 'smart' weapons, electronic countermeasures, and of course, electronic counter-countermeasures. Those of us who prefer to stick with the small-scale uncomplications of model flight may be forgiven for forgetting that spin-offs from full-scale practice tend to find applications in aeromodelling.

Military Aircraft Today is altogether a very illuminating, thoroughly readable and well-produced up-to-the-minute book which I can recommend to anyone with an interest in flight. JW

Dave Hipperson concentrates on the finer points of timer installation and reveals how to select special functions to operate by modified toy motors

LAST MONTH I COVERED the basic modifications to bring a standard size Tomy motor up to simple D/T specification. Before we continue with details of how to add other functions let's look for a moment at the Minimal motor. For super weight savings those units can be modified for D/T use on very small models - Coupes, CO2 and HLG. They are a little more fiddly to slow down as the waggler is smaller but the same principles apply; just a little more care has to be taken. In practical form with shortened pins the run is just under four minutes (see photo 1). Perfect for models flying to a two-minute max and rarely needed for unlimited flyoffs. The unit in these photos weighs two grams as modified. Just how much smaller these motors are can be seen in photo 2 where the standard Tomy at top left is compared to the Minimal.

Installation

The quickest way to mount these timers is actually to stick them on but I prefer to use bolts. When the fuselage layout doesn't allow this, such as on an open rubber model, I have found a single bolt through the pylon is not only convenient but it positions the timer perfectly for a 'start on launch' button (see photo 3). My arrangement here is for a spring loaded pin to run through a piece of fine ali tube and interfere with an extension pin fixed to the weight in the waggler. Incidentally, there should be ali tube reinforcement of the hole through which the retaining bolt

runs otherwise the wood may crush allowing the timer to come loose. Over-tightening this bolt may stop the timer so it is beneficial to support the body of the timer with small balsa blocks to stop it flapping about and rotating during winding (Fig 1).

Internal installations

Photos 4 and 5 show an installation on a Coupe d'Hiver model. The motors are fixed with 12BA bolts to 1/64in ply (1mm may be used for heavier applications). This in turn can be screwed into the model in the same way as an ordinary timer. Remember to make a big enough hole to allow the pins etc through without fouling; and of course one has to be careful that nothing can obstruct the moving pins once installed. This includes checking there are no loose bits to glue or wood shavings floating about inside. See photo 6. Of course when designing an interior installation space

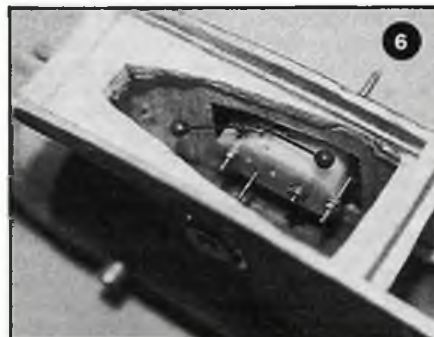
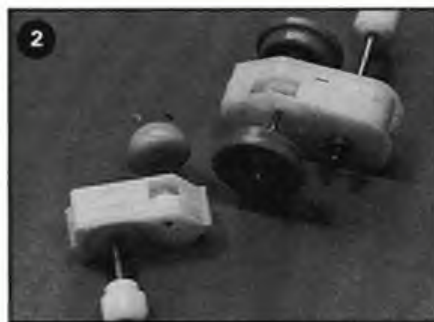
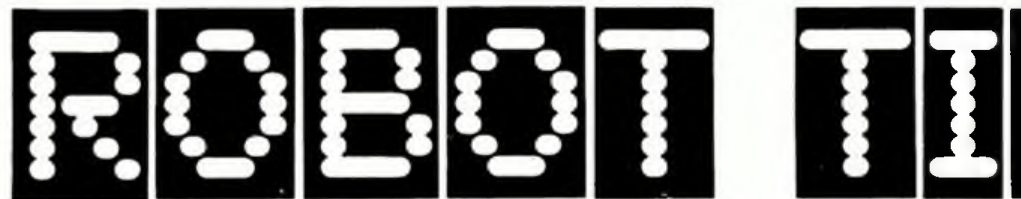
must be allowed for the pins to reciprocate. External applications probably won't be such a problem. Photo 7 shows the 'reciprocation distance' when a typical timer is running. This timer is equipped with full length (i.e. uncut) pins.

Stops and starts

The real breakthrough came with the realisation that if you left one of the toy's wheels on it could be arranged to protrude through the far side of the pylon where it would coincide conveniently with ones finger (Fig 2). You will understand now why so many of the illustrations in Part 1 were of motors with a wheel left on! If the wheel won't protrude because of the constraints of a particular layout it is a simple matter to glue on a balsa block extension which can be trimmed down as necessary. Remember that there must be sufficient clearance between this rotating button and the fuselage or pylon edges; it must not foul. Plenty of clearance is better than too little. What is more, some of the wheel drives are eccentric - most annoying - but it can be compensated for by extending the wheel with balsa.

With this rotating button you have the ideal release trigger, as the lightest touch will stop the timer. To keep it stopped whilst preparing I use an elastic band stretched between the wing hooks and across one side of the pylon. One stand can then be brought down and hooked over the button. This is quite sufficient to stop the timer, and is easy to flip off with a finger before you fly. It is also easy to reposition if you decide not to fly - that's a most important consideration and it doesn't involve any of those pins and flags which always get lost. See photo 4.

Lightweight



Variable Incidence Tail and other special functions

Let's turn again to the Minimal. In their unslowed form they make a very suitable timer for VIT, A/R or Delayed Prop Release (DPR) on rubber models. Little modification is needed apart from the fitting of a suitable release plate, which is standard timer procedure. Photo 8 shows such a unit is mounted in a Coupe.

The motor is bolted to 1/64in ply plate and screwed into the model much as if it were a conventional Tatone or KSB. The two rearward levers activate VIT and rudder and the longer forward facing lever operates the delayed prop release. The D/T is still by fuse - at least at the moment, although it is planned to use twin Minimals in the next prototype.

The release system is an alternative to the protruding wheel idea and although much more complicated to install it is useful for applications where the timers might not fall precisely at the point along the fuselage where you naturally hold the model. A foam plastic covered plunger inside the pylon touches a wheel on the timer and then springs back off to allow rotation launch. The hold-off system is very precise because the release arm behind the pylon and on the starboard side of the fuselage is springy enough to be clipped forward whilst the model is being prepared.

Dual functions from one timer

The simple D/T modification utilises one release pin on the main shaft. Now there is no reason why more than one line can't be hitched up to this pin. When the

timer has been slowed as I have suggested one revolution approximates to 40 to 60 seconds. It will thus be seen that with such rapid rotation very accurate setting is possible. Of course, for D/T purposes this isn't vital, even though it's always nice to get it as close as possible. What does become practical is to employ additional functions. Perhaps VIT and AR on even the smallest Open Rubber model. All that is necessary is another loop and line holding down the tail. This too can be looped over the release pin for the very last part of the wind-up, say 1/8 of a revolution. Naturally, the D/T release line now has to be connected to a conventional VIT release lever at the rear of the fuselage. This way the VIT line can release in say four to six seconds leaving the D/T line still wound around the shaft to operate at the usual time.

This might be fine for trimming and when the max you are flying to coincides with an exact number of turns on the motor. When it doesn't you are stuck with that last 1/8th turn having to coincide with the release unit; i.e. when the pin is vertically downwards. As a result your choice of D/T time is dictated by the nearest 'whole revolution', which is quite likely to take it well over the max. The way around this is to add another release pin. (see Fig 3). This is for the VIT line only, leaving the existing pin for the D/T line. As well as guaranteeing that the nylon loops cannot get caught on one another and hence delay the VIT by a second or two, this additional pin, adjustable as is the first, can be rotated on the main shaft to where it is required for '1/8 revolution' VIT operation after the D/T has been set. I have Open Rudder models so equipped; the VIT line also actuates an auto-rudder and then the second pin releases the D/T. The timer installation back in photo 3 is one such but the second pin is obscured.

Twin timer set-ups

When weight is not critical one can indulge oneself! Photos 9 shows a twin timer set-up on two F1B models. The top timer operates a simple D/T - single function, whereas the bottom timer

(unslowed and fitted with a plate) releases triggers controlling VIT, AR and DPR. A prototype set-up used a spring-loaded plunger into the back of the pylon, rather like the coupe system illustrated earlier. However, a lighter and simpler way was once again to allow wheels to protrude through the pylon (photos 10 and 11). This allows both timers to be checked separately just prior to launching and also, if necessary, to be back-wound for fine setting as the protruding wheels offer a very low-gear access to the main spring. When practised it is actually possible to check run and re-set the timers with the same hand with which you are holding the model ready for launch.

Of course the position of these release

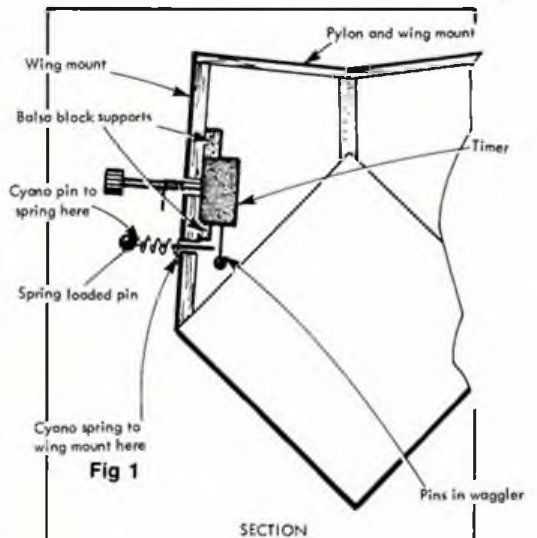


Fig 1

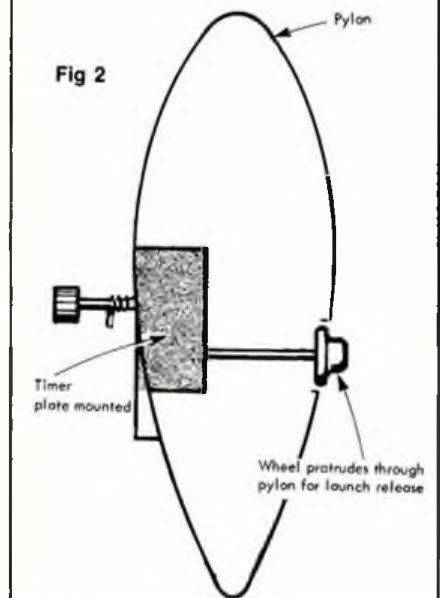


Fig 2

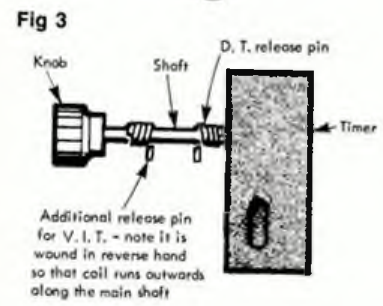


Fig 3



Photo 1: A practical Minimal set-up with pins cut down to give a four-minute run. Photo 2: Size comparison - a standard Tomy motor is at top left, a Minimal below. Photo 3: Installation in an Open Rubber model. Note launch start button. Photo 4: Tomy timer in a Coupe d'Hiver model. The wheel protrudes through the far side of the pylon for 'on/off'. Rubber band stops the timer until launch preparation is complete, then a finger holds it gently. Photo 5: Coupe installations. Photo 6: Tomy timer installed. Note clearance for moving pins. Photo 7: Timer running - full-length pins still uncut. Note space needed for reciprocation. Photo 8: Multi-function Coupe installation. Spring-loaded pin runs into rear of pylon for hold-off.

buttons is very critical. It is vital that they coincide with where you actually hold the model on launch and not where you think you do. As the arrangement of the timers on the face plate will affect the line up of the stop/start buttons it's down to a little trial and error to start with - well worth a few dry runs to get it comfortable.

Permanent on/off switching is achieved by slipping a wedge of balsa gently between the wheels. This is kept in place by a short length of rubber and cynoed to the pylon side (photo 12).

Other installations

Ivan Taylor uses an exposed system, shown in photo 13. Ivan had to install D/T timers in his FIBs at very short notice before the Australian World Champs a few years ago. Before that he had used fuse D/Ts, but they were outlawed in Australia because of the fire risk. Now he uses the same timers for all manner of VIT and rudder functions but still simply glues the unit on behind the pylon. In this way it is very easy to spot any faults. As you can see, Ivan leaves some shaft protruding from both sides, winds from the other side and uses ordinary pins with solid cyano heads weighted to arrive at the correct speed. Just under the wing can be seen a fine wire trigger that doubles around through the pylon and fouls the waggler. When this is released the timer starts.

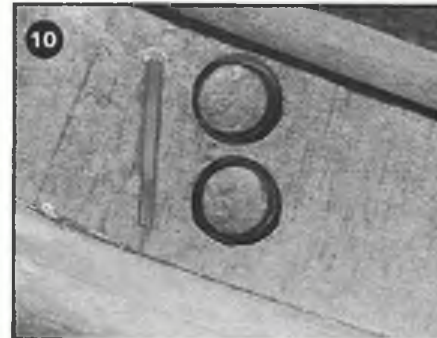
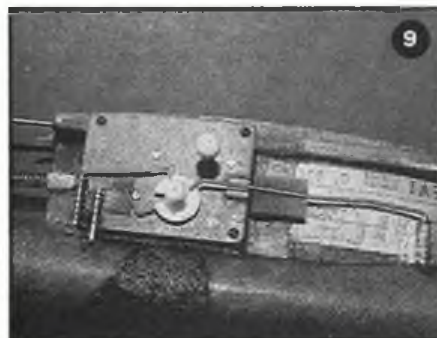
The most inventive application I have seen so far has to be the D/T system on one of Mark Croome's large Open Rubber models (photo 14). The shaft takes up line in the usual way but the take-up pulls against a spring-loaded lever which in turn holds down a conventional D/T release arm. In this way Mark is able actually to calibrate the time as he believes it might otherwise be too easy to wind on too many or too few turns. This system has the additional advantage of not requiring a take-up band in the D/T line.

Conclusions

Improvements like this don't come without a bit of fiddle initially, and there will certainly have to be some sacrifice until you sort out your own favourite system. The chance is always there that you may mis-count when winding on the line. It is important that you establish a routine for this and that you concentrate

while you are doing it. The waggler pins should not come loose but it is worth checking them from time to time, as a shaft run on a comp. flight could end a good day for you. I haven't worn through any nylon loops yet but it is prudent to anticipate that they will wear and to replace them from time to time. This account doesn't pretend to show the end of the road for development - I may well have missed something useful that you have already discovered; and I would be very interested to hear from anyone with different ideas.

Photo 9: A twin-timer set-up on an F1B prototype. Photo 10: The twin on/off button on the far side of the F1B model's pylon. Photo 11: Improved twin-timer set-up. Note the wheel extensions and the clearance for pins. Photo 12: Permanent-stop device for the double buttons. Photo 13: Ivan Taylor's F1B arrangement. Photo 14: Mark Croome chose this timer layout for his F1B (see text for details relating to this and the previous photo).



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FROM THE HANDLE

CONTROL LINE NEWS

Claus Maikis begins with more constructional tips for stunt fliers



No more pull out

Those of you who compete with their airplanes at contests know that before they get to the air (the airplanes!) they have to withstand a pull test. This is when you hang on to your model and get pulled across the pit area, while the official handling the spring balance forbids you to move! Don't laugh; I've seen scenes very close to that, and I've seen many a line snapped and even wings destroyed. It hasn't happened to me (yet!) and I'm willing to co-operate as much as necessary in an attempt to have a bellcrank ripped out of my wing, because failing lines can cause enormous damage; but that's another story. Let's have a look at different methods of mounting the bellcrank in the wing.

On many plans you'll find sparse details. Often, even where given, I have doubts whether the shown solution will stand the lightest load. Maybe my own design looks a little overdone; but anyway, it may serve as an inspiration for your own method. The bellcrank platform is large enough to connect both centre ribs. They are glued to 4mm balsa with cyano and then shaped again. The inboard rib must have cutouts for the control lead out lines. The outboard rib may have a slot, too, for a tongue of the platform if you wish to do so. I prefer to install the centre ribs according to the fuselage sides, so these sides are glued to the wing exactly where the ribs are. The platform has to be shaped accordingly. It's made of 3mm plywood with the grain of the outer layers running spanwise. Large holes are cut out to save

weight. The platform should be glued to the centre ribs before installation, because with a tongue at the outboard edge it isn't possible later. Even without the tongue it's a pain; but although the tongue isn't absolutely necessary it's a great help when it comes to aligning the complete centre unit. I use white glue because this type is water soluble, and penetrates into the wood best. Also, it doesn't dry very fast, thus leaving me with enough time to carefully align everything straight and square. The front end of the platform almost reaches the leading edge, so the centre joiners of the leading edge touch the platform and make for an extremely strong joint. Depending on the depth of the main spar the platform may also sit on the spar. If not, a small piece of balsa will connect both. Of course the bellcrank axle is fixed at both ends, but the upper support is just a small triangle glued to the inboard rib and to the upper main spar.

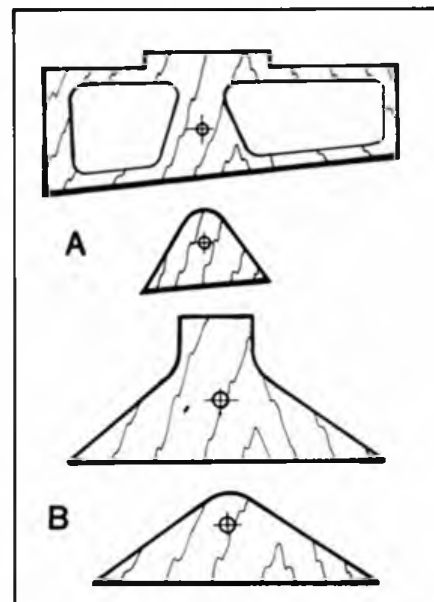
We're not finished yet. This whole unit is supported inboard with two triangular gussets running through the next rib, its edges glued to the centre rib at the same height as the platform, the front or rear edge glued to the leading edge, respectively trailing edge. The grain should run diagonally. See diagrams A.

Another way of keeping bellcranks in place is to use a platform with basically a triangular shape. In this case the outboard edge should always be glued into the rib as the glueing area is rather small. Since this platform is much shorter the gussets are shaped differently. After the webs are installed between the main spars the

gussets are glued to the webs of at least two ribs bays. The webs can be a little stronger here. See diagrams B.

Don't worry if all this seems a little over-engineered. With robust construction like this the official won't pull you over - you'll pull him!

Above: Claus placed seventh in the Gold Trophy at the Nationals with this semi-scale Messerschmitt M35, ST60 powered and resplendent in orange and white. Below: A and B indicate the two types of bellcrank platform discussed in the text. See also illustrations overleaf.



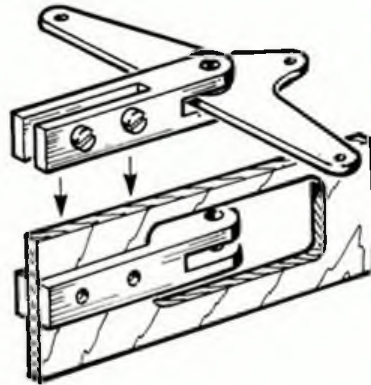
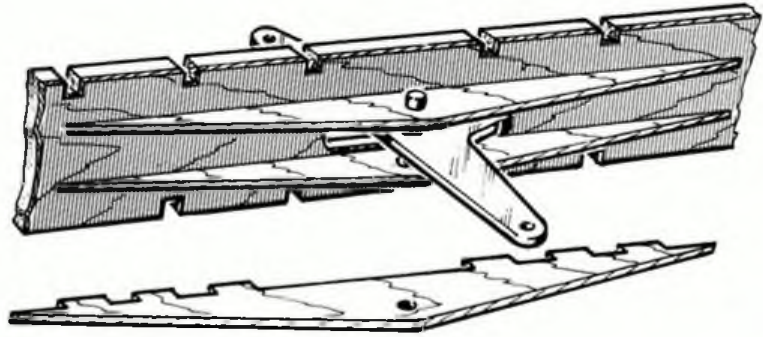


One way or the other

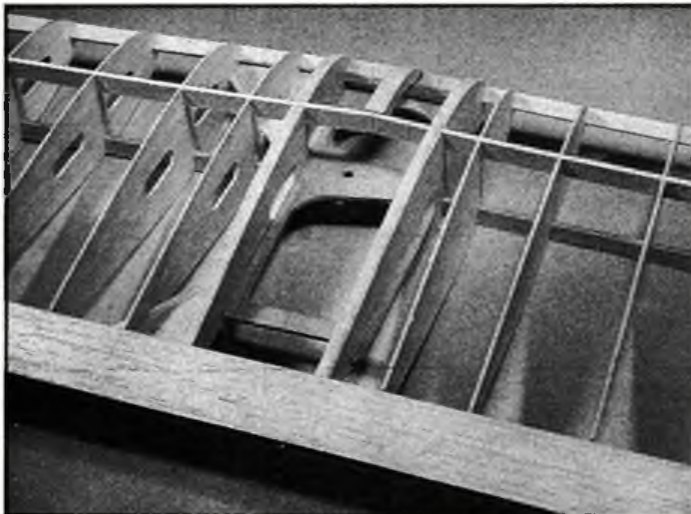
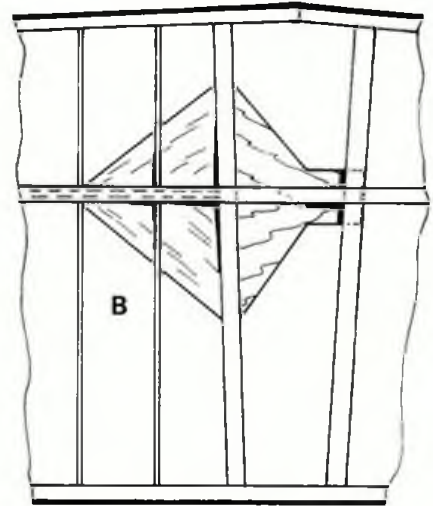
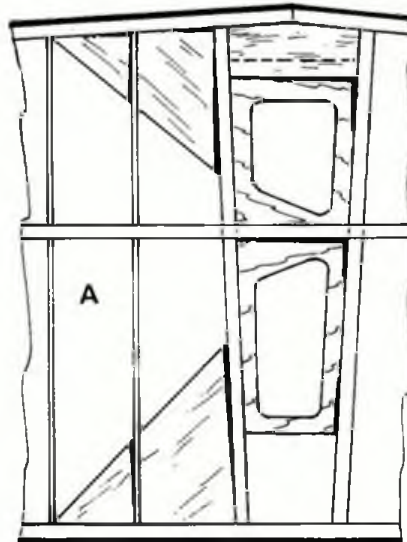
Wait a minute - I'm not yet finished with bellcrank mounting methods. There's more to say. Actually I've learned quite a lot from other flyers. Having written the foregoing story I came across some friends' plans and I discovered a few more variations of that topic which I ought not to keep from you.

Yves Fernandez of France is a draughtsman, so it comes as no surprise that his plans are the most exact and complete I've ever seen. He has drawn his bellcrank mounting system in every detail. The bellcrank bearer is made of aluminium and held with bolts to the centre main spar web. This 3mm ply web is glued vertically between the main spars and the two centre ribs. It was a window for the bellcrank. The bearer has two slots at right angles to each other. One slot is bolted to the ply web, the other takes the bellcrank - obviously this is a very simple and effective solution. Another method was seen on Eric Janssen's plan. Eric uses a vertical sheet main spar, similar to the Nobler construction (Eric has been a Nobler flyer). The centre of the spar has a plywood doubler running over four rib bays either side of the centre. Once again there's a window for the bellcrank. The actual mount is formed by two plywood bearers above and below the bellcrank. Of course glueing isn't enough here. Eric chose a mortise and tenon joint. Such work must be done with care, but when built properly it won't ever come off. I should add that Eric doesn't use full ribs but rib strips *à la* Detrioter fashion. With full ribs his wing centre would be difficult to construct. Anyway, if you prefer wood construction to metal machining and your wing has a vertical sheet spar this is a light and strong method - even if it is a little laborious.

Now you foam wing devotees may feel snubbed. Sorry, I've never felt like building a 'foamie', so I can't give you any advice here. Don't despair; I've heard it said other people have covered this topic in depth (and see the feature on Richard Sanderson's Europa in the January *Aeromodeller*). I don't have an answer to everything. Let me stay with the wood, and let other people use foam...



Top and left: Yves Fernandez' method of bellcrank installation (see text). Below: Construction types A and B - centre section diagrams; see photographs beneath. Type A is at left; platform sits on bottom spar. Gussers are glued to LE and TE. In method B, at right, the gussers are fixed to the rib webs. They must be installed in the same plane as the platform. There are small webs between the platform and spar.



Racing with Jim Woodside

Vintage Scene

Dave Campbell is here pictured with his two immaculate Class A Team Racers. On the ground is a Keilkraft Ranger powered by an AM 25. This model was renovated from an original nearly-completed model. Like the Texan in Dave's grasp the wings are skinned in 1/16in. balsa sheet. The finish on both models is impeccable; it was achieved by using tins of Keilkraft dope found in a model shop located in a remote part of the country. The Ranger is finished in shades of green, while the Texan is in shades of yellow.

The performance of the Texan was more than adequate on its ED Racer 'clack valve'; I say 'was' as the model was

Below left: Dave Campbell with his well-finished SMAE Class A Vintage team racers, a KK Ranger (on the ground) and a Mercury Texan. Below right: A moment of classic elegance as Ed Needham releases Dave Clarkson's Goodyear model at Newhouse. Note the drop left arm and feet at 180 degrees. Bottom left: The FMV MkII. Massive crankcase houses bearings usually found in 5cc motors. Reduced-diameter cylinder fins are an attempt to avoid over-cooling. Bottom right: FMV steel conrod has needle roller big end. Ample space here - throw is just 7mm and crankweb diameter 28mm.

destroyed and the engine damaged during the evening vintage racing at the Nationals. Dave is now in need of a magnesium crankcase should any of you have one lying around. Mind you, it looks like Dave is in for some stiff competition in the 'neat model' stakes from Gordon Isles' Percival Mew Gull. Watch for more details soon...

It certainly looks like vintage has carved itself a niche amongst those who like a little racing mixed with great pride in building pretty models.

The FMV. MkII a.k.a. The Monster

The Dutch specialist diesel for F2C team race has been on the scene since 1978 when it won the World Champs held in the UK at RAF Woodvale.

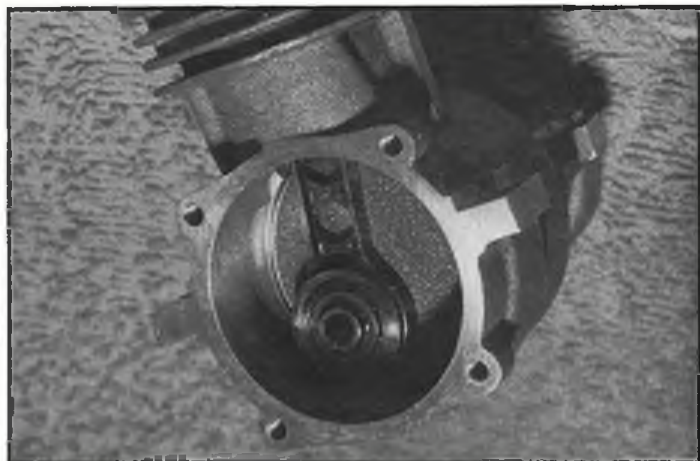
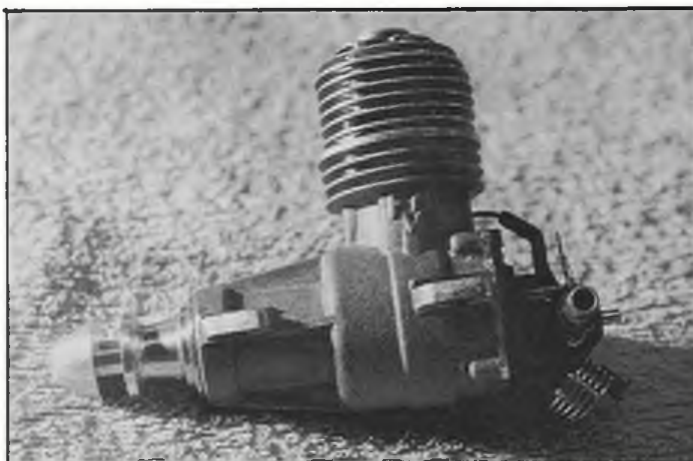
Despite the engine in the photograph being termed 'MkII' the earlier versions came in many forms. Some had one piece cases but the later, definitive MkIs had steel front housings supporting an 8x19mm rear bearing. Since the earliest days the top end has been of the AAC integrally-finned variety. The theory behind the integral finning of the liner is that if heat is dissipated more quickly, then a higher compression setting can be run. However, this places considerable stress on the bottom end of the motor. The use of the steel front end aims to achieve a unit in which shaft, bearings and

housings all expand at a uniform rate. Thus, the clearance set to provide the best situation will be maintained at all temperatures.

However, at some point the power output may well be limited by the ability of the shaft to accept the pounding from above; a situation at its most extreme in a diesel.

In 1984 Rob Metkemeijer decided to strengthen the bottom end of the FMV. In crude terms the shaft and bearings are '5cc' size. The relatively small throw used on the available crank disc means plenty of space is available for an amply-sized caged needle roller big end to the con-rod which is itself machined from steel. Certainly the engine performs very stably with a most unhurried sound, but so far it has not produced the outright speed of its predecessor. At this year's World Champs in Hungary the Metkemeijer brothers were actually using the crankcase which won them the 1978 Champs. I timed them at 18.5/10 laps but a double DQ saw them at the tailend of the results. Some weeks after the Champs this performance was translated into a 3:24 heat in Belgium.

Development of the project is continuing and it will be interesting to follow the progress of the Monster. The Russians who whitewashed us all this year are still following the 'small is beautiful' approach. The neat all-steel crankcase made by Vladimir Suraev may well point the way to the next stage in F2C motors.



GO

METRO-AIR

Ray Malmstrom's latest creation delighted us all at Vintage Weekend. Now you can build this lifting-fuselage sportster and enjoy some fun yourself!

The photos show Metro-Air from a variety of angles. Unusual - and distinctive - layout is full of flyability; and we'd say there's room for lots of experiment, too. Let us know how you get on with yours... (All pics: Chris Hanson).



WE ALL LIKE TO have a go at the 'different' or the 'unusual' every now and then. So if you are looking for something out of the rut, look no further! Having got an eyeful of this little flying machine it is our bet you will be reaching for your balsa knife, with that certain gleam in your eye which we all have when about to butcher some uncomplaining balsa...

Metro-Air with its lifting fuselage can reach for the sky with the best of 'em. But maybe you don't need the sales talk, because you may have seen our original doing its stuff at that memorable Vintage Weekend at Old Warden. So let's get together and make a start on this little bundle of flyability and fun.

How it's done

Begin by building the motor box. This is quite simple, but take care that the box is square, as Metro-Air's alignment depends upon it. Use a set square frequently during construction. Cover with lightweight tissue, with the exception of the top between X-X (shown on plan) and the section at the end of the box (in order to give access to the rear motor peg). Water shrink, and dope with 40/60 dope/thinners. Add radiator and exhaust pieces, which can be painted black.

Make the nose block and carefully drill to accept a nylon thrust bearing (22swg).

Excellent packs of bearings are obtainable from SAMS. Form the prop drive shaft from 22swg wire and mount a lightweight 6in. dia propeller. The nose block can be given two or three coats of dope.

Now onto the wing. This is in three sections - a centre section and two outer panels. Note the 1/16sq. strips, either side of rib R1 in the centre section on the lower surface only. Cover the centre section, with the exception of the area between these strips. Water shrink and dope, being careful to pin the centre section down on scrap balsa blocks as shown in the sketch. By the way, this pinning down process after water or dope shrinking applies to all Metro-Air frames. The outer wing panels constructed in a similar way to the centre section. Note: Ribs R2A are inclined using the root rib jig as shown. Unite wing panels to centre section, using dihedral blocks to ensure accuracy.

Make the top rear fuselage frame, two fuselage side frames and the bottom fuselage frame. Cover with lightweight tissue, and once again water shrink and dope with 40/60 dope/thinners, pinning

down while drying to avoid that old enemy WARPS! Form the undercarriage from 22swg wire, and cement to the front lower surface of the fuselage bottom frame. Retain u/c in place by doping two or three strips of tissue over the wire. Add wheels of balsa, or lightweight plastic, retaining them on axles with electrical tubing or a blob of cement. For the moment, lay aside the bottom fuselage frame and the two fuselage side frames. Now cement the wing in position on top of the motor box. Add the top rear fuselage frame as shown in the sketch.

Taking extra care, assemble the fuselage side frames to the centre section and top rear fuselage frame. This assembly is made easy by using the fuselage sides jig as shown in the sketch. Correct line-up of the fuselage sides is important. Now cement the fuselage bottom frame (complete with u/c) to the lower edges of the fuselage side frames. When all this is dry you can reinforce the lower edge with one or two 1/2in. wide strips of tissue doped on.

Build the fin frame and cover both sides

Continued on p.717

Aeromodeller



**Build for our full-size
plan — Vic Smeed's
lively all-sheet biplane is
just right for robust
free-flight or radio
control.**

DOLLY BIRD

THIS WHAT MIGHT BE claimed 'nifty little biplane' is an all-sheet design, suitable for free flight or lightweight rudder-only radio control, of particularly perky appearance. It features Jedelsky-type wings but with slightly novel construction, no tricky wire bending and overall sturdiness coupled with modest weight. With something around 190 sq. ins wing area and a (free flight) flying weight of 10½ ozs (including iron-on heavyweight fabric covering) the wing loading is a bare 8oz/sq ft and the glide is consequently better than might be expected. A .5 to .8cc (.049) engine is plenty of power and by careful wood selection it would be possible to build down to 8oz or under and fly with an .020 glow motor.

A lot can be done with colour schemes, from WWI markings to Pitts chequers, and no doubt someone will fit a radial cowl (ex lemonade container) or dummy cylinders, or overhanging 'ailerons', or even squared-off flying surfaces to ring the changes on appearance without substantially altering the basic design. We quite expect some expert to fit three-function radio!

Before beginning construction decide on the engine to be fitted. The main drawing shows a side mounting for a Dart or similar, with a closely fitting cowling, and this layout can be used for similar front rotary intake engines with a separate tank. However, a popular choice is likely to be a modern Mills .75 and this would not so conveniently fit; much of the starboard side would need to be cut away to accommodate the tank and carburettor. It would thus be better to use an upright mounting, with bearers notched into B1 and supported by large gussets beneath; the space between bearers and fuselage sides should be filled with balsa strip and the cowling modified to fit around the

engine.

For radial mounting engines a further bulkhead or firewall should be fitted at an appropriate distance behind the noseblock, a process which is quite simple since it will be of the same outline shape as B1 but with the bottom cut off to the required depth. For either of these latter alternatives the vertical ply plate of the side mount is omitted, of course, and the top shape can be carved from ½in. soft block between B1 and the noseblock, cutting away just enough to allow a snug fit round the motor. If block is used, parts B1A will not be needed. In any case, allow for a touch of right thrust.

Fuselage construction

Cut two fuselage sides from medium 3/32in. sheet. Note that the top edge is a straight line, as in fact are all the other lines except a tiny part of the lower wing seat. The bottom line at the nose is full depth, then comes the wing seat (which will need a final trimming to shape when the wing is finished) and the after fuselage line is 1/16in. in from the full outline. Mark on the former positions and, particularly, the exact position of the wire cabane strut on each side.

Bend two struts to the drawing - they can be laid one at a time on the plan to check that they are accurate, since the bends are all in one plane. Cement the lower 1/16in. strips to the insides of the sides, then cement the wires in place, propping the free ends with a scrap of 3/32in. When dry, fit and cement the upper 1/16in. filler strips, trimming to fit close to the wire, then add the 1/32in. ply cap pieces, which should measure 9/16 × 3.13/16in. These can be left to dry under weights or the sides picked up and bulldog clips used to clamp them while the cement

dries.

Form the undercarriage next. This again is bent in one plane only and can thus be laid flat on the plan to check the shape (although there is nothing to prevent you from adding a touch of forward rake to complement the angle of the cabane struts). Trace and cut B1, lay the u/c on it and mark for holes and nicks to receive the binding. If an upright motor is used, mark and cut the bearer housings. B2 can be cut using B1 as a template, then cement and bind on the undercarriage to B1, using strong thread. Use a needle and start by tying at the bottom of one side, wrap twice round the wire, move diagonally behind the former to the next pair of holes, twice round, diagonally behind etc. till the other end is reached; then return with one wrap round the wire at each pair of holes, crossing the diagonals behind and tie off where you started. Rub cement into the thread and the former will have to disintegrate before the undercarriage will come loose!

Now cement B1 and B2 to one fuselage side, working at the edge of the board to allow the u/c to overhang, and cement the other side on top. Check that the top edges are absolutely parallel and the formers square to the sides and leave to dry. Trace and cut B3 and B4, draw the tail ends together and cement, then cement in B4 followed by B3. When dry, sheet the bottom with sheet cut with grain across the fuselage, starting by lodging the first piece half on B2. Fit a rectangle of softish ¼in. sheet between the bottom edges of the sides at the front if a side-mounted installation is planned, but leave this till after the bearers and right angled gussets are fitted if an upright engine is to be used.

The wing seat space is left open and in fact provides access if radio is fitted.

Installation should be prepared at this stage by fitting a sheet of ply or hard balsa between the inner ply panels of the cabane strut mountings. On this can be hung the rudder servo and possibly the receiver, using sticky pads; alternatively mount the receiver on the fuselage side and offset the hung servo to allow clearance. In either case the battery should be mounted against the back of B1 using hooks and rubber bands.

Fit a cockpit seat if required, fit the tailplane and plank the fuselage top with softish 3/32in. strips, or you could use soft 1/8in. if preferred to give a little more sanding scope. The fin is added after sanding. Fin and tailplane are simply medium grade 1/16in. sheet (they could be light 3/32in. sheet) traced, cut and sanded before cementing in place. Treatment of the nose is a matter of choice and alternatives are shown on the plan. Check by positioning the motor periodically and don't forget the tank if a separate one is to be fitted.

Sand the fuselage and tissue or film cover before adding the wing runners, which would otherwise restrict movement, but after completing the tail surfaces. The tailplane can be stiffened with fore-and-aft strips as drawn, cemented beneath. If a radio rudder is used tape, thread or film-on-one-side hingeing can be used; for F/F a smaller tab is shown and this can be attached by a couple of short lengths cut from a paper covered wire tie (as used on polythene food bags) cemented on the starboard side. The tail surfaces should also be tissue or film covered, both sides. Add the lower wing dowels to complete the fuselage.

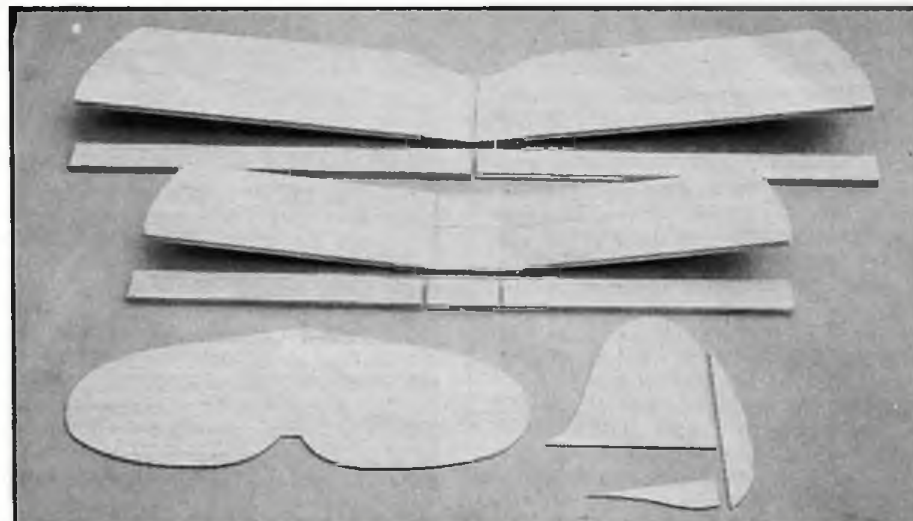
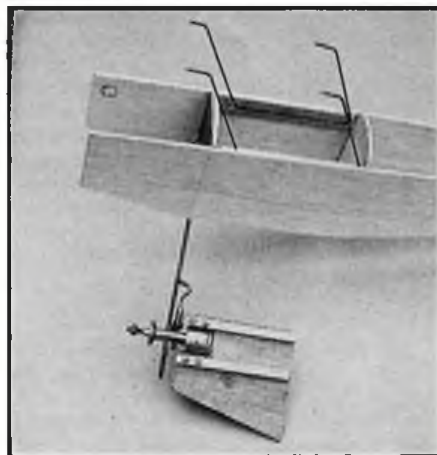
The wing runners can be 3/16in. dowel or, better, bamboo of similar diameter, cut from solid garden canes or thinned down cheap chopsticks. Excavate small grooves at the wire positions and cement and bind in place. Check on length, as too great a forward projection could get in the way of engine handling.

The wings

A slightly different approach to Jedelsky-type wings is employed and this is an opportunity to use up any trailing edge section you may have which is much too soft for normal use. The original used lengths sold cheaply by the model shop because they were too soft for anyone to buy and were damaged from long shelf-life. Cut the medium 1/16in. wing panels slightly overlength and cement the TE stock to them, making sure that the longest face is in contact (see sketch) and that the front edge is almost flush but a whisker behind the front edge of the 1/16in. sheet. A light wipe with fine glasspaper will then bring the 1/16in. edge

Continued on opposite page

Top: Dolly Bird is one of those designs that looks right from any angle. Try one! Below that: Under construction - the fuselage is built on the edge of the board to allow clearance for the undercarriage. Note substantial blocks to provide accurate support. Above left: recessed cabane struts and the arrangement of side-mounted bearers are helpfully shown here. Above right: A Mills 75 goes in upright. Both mounting configurations shown on plan. Bottom: Wing and tail components partially assembled. Construction is quick!



with tissue, water shrinking and doping as for other Metro-Air frames. Add the trim tab, which is cut from a postcard. Cement fin in position, adding the fin strake.

The same procedure is followed for the tailplane which also has trim tabs. When completed the tailplane is cemented to the rear inclined position on the motor box. Note the negative angle of the tailplane.

Lastly, cut the skid piece from 1/16in. sheet (noting grain direction). Cover with tissue and cement in place.

How it's flown

The power for Metro-Air is a 12in. loop of 3/16in. flat strip. Lubricate and install motor, locating knot at the rear end. Incidentally, as rubber, be it grey or brown varies considerably in the number of turns it can take, a little experimenting with different motors is worthwhile. On our original Metro-Air we used a 12in. loop of brown rubber strip.

Before any glide tests, please balance your model *carefully* by suspending Metro-Air from a piece of thread attached to a pin which is pushed into rib R1 at the balance point (CG) indicated on the plan. The model *must* hang level. Our Metro-Air needed a very small piece of lead concealed in the radiator to achieve correct balance.

Wait for a calm day and test glide over long grass if possible. Holding the prop and supporting Metro Air at the rear end of the fuselage, launch into wind (if any). All our model needed to achieve a nice shallow glide angle was the bending-up of the tailplane trim tabs about 1/16in. For power-on flights start with about 150 turns. Any



tendency to turn sharply (unlikely with the model's lifting fuselage) can be correct by adjusting the fin trim tab. With a lubricated and run-in motor, we were able to put

on 600-650 turns, giving a delightful and trouble free flight performance.

That's it friends. So go different - go Metro-air - go flying!

Dolly Bird: continued from opposite

flush with the TE stock to produce a flat and angled face.

Cut 1in. wide strips from soft 1/4in. sheet, ensuring the edges are square, cut to wing panel lengths and chamfer meeting ends for dihedral. Recess the rear faces 1/16in. to receive the dihedral braces and double cement together, checking correct dihedral at the tips. When dry, cement on the 1/16in. panels, cutting the 1/4in. sheet to the angled faces and trimming the panel ends to fit; because of the angles the 1/16in. panels (if left square) will diverge slightly, hence the need to trim them, which is why they need to be cut a shade overlength originally. Add the wing ribs and fill between the centre-ribs on the underside of the lower wing with a 1/16in. flat panel.

Sand to section, which involves only rounding the leading edge and sanding the top break to a smooth curve; rub cement into the dihedral joint lines, then tissue or film cover. These are probably the fastest wings you ever made, but they are very strong, quite light and more efficient than you might expect. All that now has to be done is to check the fit of the lower wing in its seating, trimming a fraction off the fuselage edges if necessary to ensure that the wing sits comfortably in place.

Finishing and flying!

Check over the whole model, paying particular attention to: fin (vertical), tailplane at 90 deg. to it and wings properly aligned when strapped in place

with rubber bands. Check motor mounting details, too, temporarily installing the motor to ensure that it can be mounted and removed. It is much easier to correct anything at this stage than when the full finish has been applied.

Finish is a matter of personal choice but avoid adding a lot of weight. Colour tissue or film, with film, decal or tissues trim, is better than colour dope, though dope or Humbrol enamel on the fuselage is a reasonable approach. If used on the wings and tail surfaces, a light spray should be adequate. Fuel-proof the nose area, inside and out, solder on the wheels, instal the motor (and radio, if you're going that way) and the first flight will be imminent.

The model should balance at the mid-chord position of the upper wing and if you have some two-foot grass or weeds you can check it out with a couple of hand-glides. Judging the speed of launch and the glide of very small power models is not all that easy but the model is reasonably rugged!

Under power there will be a fairly pronounced turn to the left with a straight-ahead motor installation, so quite a bold amount of right rudder tab is needed. Short span models will always react noticeably more to torque, for obvious reasons, and a couple of degrees of right thrust when installing the motor, as mentioned in the introduction, will give more freedom in determining the size of glide circle. Side thrust also helps to eliminate power stalling, though if a fairly enthusiastic motor is fitted a touch of downthrust may also be desirable.

With increased height from short power runs the glide can be studied. It is possible to adjust upper wing incidence by bending



Giving new meaning to the phrase 'fly by wire', Dolly Bird (suspended in the sunshine) shows off its attractive lines. Send us a photo of yours!

out the front or rear legs of the cabane struts (though be careful not to damage their mounting) or by tack-cementing packing pieces, but the safest answer is probably a small amount of ballast in the nose or tail. It would be possible to cement on a wire to bend in a little up or down elevator but this would have a noticeable effect on the powered phase. As always, the golden rule is to adjust the glide with the C.G. and/or flying surfaces and then trim out any power problems with thrust-line adjustments only. And do put your name and address on the model - it invites rather longer motor runs and the higher it climbs the more chance there is of hitting that boomer which will take it away!

1986 WORLD CHAMPIONSHIPS

Control Line

Venue: Pecs, Hungary; 30 July - 4 August

A clean sweep for the Russians;

British teams second in F2A and third in F2D!

Report by Aeromodeller's correspondents

The '86 World Championships was eagerly anticipated by all. Many exciting prospects awaited confirmation: Would the Chinese challenge materialise as strongly as suspected? Could the Brits maintain their traditional strength in team race? Whose reactions would be fastest in Combat? Were speed records set to be smashed? In the event, the Russians carried all before them magnificently; a trio of victories emphatically underlining their competitive superiority. A tough challenge for next time. . .

Innovations were few, most countries relying on the tried and tested approach. This was reasonable in view of the hot and dry conditions which nevertheless still posed some engine cooling problems for the unfamiliar. Such technicalities as were worthy of comment will be discussed in future editions of Aeromodeller. Now, over to our reporters. . .

F2A Speed:

Report by Dick McGladdery

F2A was run on a newly-laid tarmac area which was still a bit tacky in places, but was very smooth. Weather conditions were just about ideal, with no wind to speak of and with temperatures reaching a scorching 34°C/95°F. The organisation worked slickly; the only hitch was when the pinch bolt on the pylon got tired of being repeatedly winched up, and stripped its thread. However, a spare was rapidly produced and no undue delay occurred.

The first day was devoted to practice in order to give competitors a chance to sample the local conditions and to get used to the cage. This looked a bit tight for space on first acquaintance, but in the event nobody collided with it, although some dollies took a bit of a pounding, giving witness that the cage was at least equal to its job. Not everybody took advantage of the allotted practice times, thus enabling the GB team, among others, to get in a bit more practice.

The day of Round One started cloudy and comparatively cool. The honour of making first flight in the contest fell to GB's Peter Halman, who produced a solid start with 260.86 km/h (162mph). However, this was soon eclipsed and by the end of the round no fewer than five fliers had topped 290 km/h. Leading the pack was Piskalev (USSR) with 288.00 km/h (179mph), closely followed by compatriot Kalmikov with 287.85 km/h. Mult and Szegedi of Hungary who both recorded 283.46 km/h to share third place and Kahaniuk (USSR) who came next with 281.91 km/h. Next day the weather was bright and warm right from the start of Round 2 and a good deal of jostling for places occurred as people began to get the gremlins out of their equipment. At the end the placings were the same apart from

the fact that Dodge (USA) had burst into 3rd place with a rousing 286.39 km/h (178mph). This flight was particularly spectacular because of the very high revs that Dodge's home-built motor reaches - it's 40,000rpm is music!

Came Round 3, and the pattern looked pretty well set, but fairly early on, Kalmikov (USSR) put in a shattering 293.63 km/h (182mph) to move decisively into the lead. A little later, Hungary's Mult achieved 287.53 km/h (179mph) to better Dodge's 2nd round and thus to squeeze into 3rd place. Judging from the smile on his face, this was either a personal best or he was just pleased to bits getting into the top three. A little later, Chojnaki of Poland produced 286.39 km/h after two zeros in rounds one and two and thus moved up to joint fourth place (only!) with Dodge. A little later still, Dodge's turn came round, but he could only manage 286.11 km/h, just 0.06 seconds short of what he needed to retrieve third place, so he had to be content with fourth, beating Chojnaki by virtue of having a back up flight.

Russia easily walked away with first team prize; Hungary were a solid second and Poland came third, comfortably clear of China. The GB teams came in eighth, Peter Halman taking 14th place overall with a new British National record

Heading: Domination in F1C - a 1-2-3 for the Russians. The Soviet teams were unstoppable, winning every event in this World Championships. Right: Three pics from the speed circle. Top: Third, but only just, was Mult of Hungary, who held off a late challenge from Carl Dodge (USA) with this model. Middle: British asymmetry. From front to rear, in order of placing, are the models of Halman (14th), Brewin (26th) and McGladdery (33rd). Bottom: Assen Toner (Bulgaria, 16th) awails his turn.



of 271.49 km/h (169mph) and 'new boy' Dave Brewin, one of the few (or only?) OPS users in the Contest exceeded all expectations, clearing his previous best by a clear 10 km/h to record 251.75 and thereby take 26th place. Their chances in the team placings were rather handicapped by my own most modest 243.57 - I won't bother you with the excuses.

So we had a super champs; congratulations to Alexander Kalmikov for his splendid winning speed and to all other contestants who pushed him to this superlative. Thanks also to the Hungarian Aero-Club for their effort in mounting and organising a thoroughly enjoyable competition and also to whoever contrived the glorious weather. Now, back to the workbench and let's see even better at the next Euro Champs in Sweden, July 1987. . .





F2B Aerobatics:

Report by Bill Draper

This event was blessed with hot sun and generally light winds, although turbulence caused by closely-surrounding trees and buildings proved troublesome at times. Temperatures were in the ninety-degree-plus range, and exceeded 100° in practice; and in the still air, the British flyers found that more power was needed than for the typical UK conditions of open wind and cooler air for which they were set up. Tony Eifflander spent some time getting correct settings for his PAW 35 diesel whilst Bill Draper raised his nitro content by 2% and increased slightly the choke area of his Enya 45. Barry Robinson, who was using an ST 60,

doubled his nitro content from 5% to 10%. Adequate line tension at high level appeared to be a common problem during practice and fast flying seemed to be the general requirement. Official practice was limited to only two minutes per team, an amount which was insufficient for most full teams, although other less attractive sites were available for those who wished to use them.

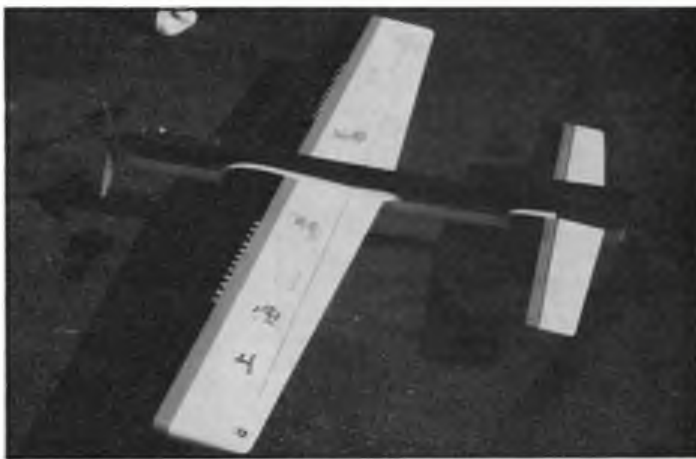
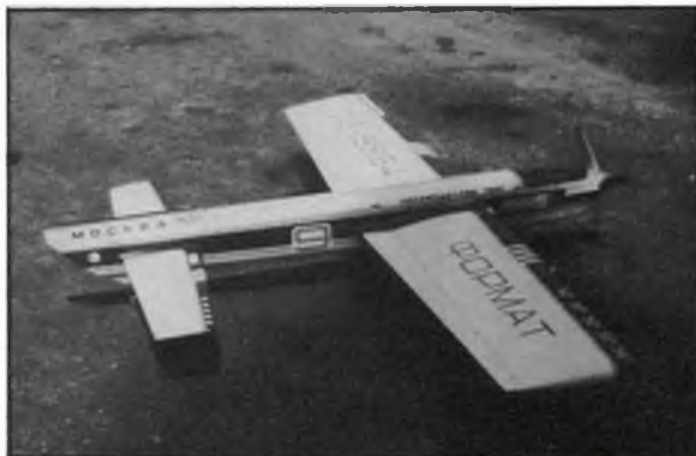
The first official flight on Friday morning was by Russian flyer Anatoly Kolesnikov with a very handsome, quick but smooth turning model of 56in. span, and 58oz weight, powered by a home-built 7.8cc motor. A score of 2710 points was achieved; this was to remain unbeaten during the day. Conditions were calm throughout the morning but it became evident that some good-looking flights were getting poor scores; some judges appearing to take interest only in certain flyers. All the Chinese scored well with their 45-powered medium-size models which flew with moderate line lengths. It was noticeable that most high scoring flyers were avoiding large manoeuvres. Italy's Compostella was flying his 1984 model with his usual zest, the ST 46 swinging a Tornado 10 x 6 nylon three-blade at high speed; whilst Henk de Jong using a new, larger model powered by a ST 60 put in a nice smooth flight which seemed to deserve a higher score. During the afternoon the wind increased, and so did the turbulence at times. The British team flew closely-grouped. First was Tony Eifflander who ran into trouble when starting his diesel on the line to pre-warm and obtain settings. The timekeeper started the clock when the engine first fired and a long argument then ensued as to whether this was correct since no start signal had been given. After some thirty minutes of rule-book waving (the language barrier did not help here) Tony was permitted to carry out his normal procedure of starting and check setting before stopping the motor and signalling 'ready'. Franz Wenzel from Austria followed, but had some line tension problems; then came USA contender Jim Castle with a fast, powerful flight from his 710sq.in. Spectrum (ST 60) to become the nearest challenger to the Chinese and Russian fliers. Barry Robinson used a lot of power in his new Northwind to cut

the turbulence but Bill Draper suffered slack line problems with his Superhawk which had been hastily repaired after a leadout failure in practice only a week before.

Philip Rampoux's pattern was attractive to watch but an over-run from the ST46 reduced his score. There was no such mistake from Valentin Salonek of Russia whose big model with home-built 9.9cc motor was full of technical innovation including a line operated fuel cut off operated by a high 'G' snatch pull on the lines. A new ST 60 powered model was being used by Bill Werwage, but he expressed reservations as to whether it was any better than his long standing Miss USA. This model spanned 61in. and had 700 sq.in. area. Prop used was an 11 1/4 x 6 1/2 three-blader. Last to fly in round one was Fred Tellier from Canada. The HP 40 in his Snowbird suddenly lost compression just before the flight, but although Fred was not happy with the power output he persevered and completed the schedule.

Round 2 was flown in reverse order, so Fred Tellier opened the proceedings using a replacement motor and managing an improved score. The Russian challenge increased with a good flight from Sergej Klichkov who was another to use a home built 7.8cc motor in a moderately sized plane. His pattern consisted of good shapes and smooth, clean turns. The British flyers all improved their scores a little in the morning, with Tony's starting procedure causing no trouble this time. Bill Draper had carried out some trim adjustments successfully to increase tension. The weather remained calmer and the previous day's turbulence was absent. Maybe the judges were warming up for the flyoff, as the scores for the afternoon session

Below left: New F2B World Champion Anatoly Kolesnikov flew this attractive red and white model powered by a home-made 7.8cc motor. Note the initials 'KA' on the wing. Top right: Second was Zang Xiangdong (China), another to use a specially-constructed engine. Bottom left: The huge fuselage on Valentin's (USSR) model splits into three parts for ease of transport. Bottom right: Out of luck this time - Zhu Younan's 1984 winner could manage only fifth place.



increased sharply by generally 200 points over the previous day, pushing the British team well down the pack. A clean, tidy flight by Paul Walker brought him into contention. His model, which had a very thick wing was another equipped with a ST60 to pull the 64oz. model. Big jumps by Claudio Orsini of Italy with a steady well controlled flight, Gianpaulo Sbragia of Italy with a typical high speed flight, Gerard Billon of France and Attila Morotz of Hungary pulled them all up into the final, but the last flight of the round by Anatoly Kolesnikov again topped the scores.

The Fly-off (round 3)

The fly off now consisted of four Chinese (one being the defending Champion Zhu Younan), three Americans, three Italians, three Russians, one French and one Hungarian contestant.

A practice period was allowed in case flyers wished to warm up their reflexes. The opening flight of the flyoff was by Zhu Younan of China using his 1984 World Champs model which was equipped with an OS 45. All the Chinese were flying models of around 650 sq.in. area, their motors, turning home-built 3-blade props, being noticeably quiet. Line lengths were moderate. Kolesnikov followed with a clean, smooth flight which was not over-sharp on turns to record 1902. This was to be the highest score of the contest. Unusually, this flyer uses two hands when inverted. Nin Anlin flew with very sharp turns and was a little affected by turbulence. He was followed by the second Russian flyer, Sergej Klichkov who produced some well-controlled flying with steadier turns than the Chinese flyer. Claudio Orsini's pattern was a little bumpy although not fast, but Paul Walerk's motor went lean as he took off and a high speed flight was the result. His lap times started at 4.6 seconds and quickened to 4.3 secs, but he scored well. Gerard Billon flew a nice clean schedule fairly quickly at 4.8 sec/lap, an OS 50 pulling the big Olympus-based model, but he was not rewarded with the points. Some very low and untidy pullouts, perhaps the result of pressure marked Allila Morotz's flight; and Compostella flew his usual fast sharp pattern but with high tops and tilted vertical eights. Wang Jazhong was a little slower and was more affected by turbulence but he still held good shapes with clean smooth turns. Sbragia's ST 46 sounded faster than the model speed indicated, the craft lapping at a reasonable 5.1 secs with good turns and first class superimposition in what appeared an excellent pattern. Some of Bill Werwage's manoeuvres looked low and wide, with a few untidy pullouts. He was followed by countryman Jim Casale who flew fast at 4.6 secs/lap, the speed making some turns look jumpy. Zing Xiandong was fairly quick but very crisp with his 650 sq.in. model pulled by a home built 8cc motgor. Last to fly was the Russian Valentin Salinck who managed good shapes at moderate speed, but with some untidy pullouts.

The last round was flown in reverse order with most flyers repeating their own styles. Bill Werwage made a smoother flight but it was spoiled by missed intersections. Nevertheless he raised his score a little. Another sharp, accurate performance came from Sbragia. Paul Walker slowed his motor to give a better-controlled flight but the judges had been more impressed by his earlier high speed exploits. Sergej Klichkov flew fairly slowly and his manoeuvres were nicely controlled. Another stable flight from Kolesnikov was a little spoiled by missing intersections but nevertheless he achieved another high score. Last to fly was Zhu Younan making his 1984 title but the sharp, typically Chinese-style flight at moderate speed was not good enough to impress the judges.

The event finished with a win for Russia's Anatoly Kolesnikov who headed China's Zang Xiandong by a clear margin with American Paul Walker just two points ahead of Zhu Younan.

In general terms the combination which provided most success was a moderately sized model equipped with a 7.5 - 8cc motor flying on 63-65 ft. lines at five-seconds-plus per lap. A quiet, easy, burbling exhaust was to be preferred; certainly, the loud, barking exhaust note of the motors used by the USA flyers did not add to the appeal of their flights.

F2C Team Race:

Report by Bob Horwood

This year's World Championships saw very little in the way of new equipment or ideas. The emphasis of most teams was on honing their existing techniques. During practice very few teams looked impressive with the notable exception of the Russians, who always perform well in practice, the Chinese (relative newcomers to the event), the Australians and the British who showed a very solid performance.

All the Soviet teams had very good airspeed and range. As in past years the big question was whether this performance advantage could be translated into race times. The Chinese managed good airspeed and extremely fast pit-stops under practice conditions; again, could they translate this into race times... The Australians were showing the sort of performance and determination which had proved so successful at the 1978 World Championships and with two of the teams having flown several times in the UK where Rob Fitzgerald is now resident, there could be little doubt of their race fitness.

Of the British teams Alan Hill and Stewart Metcalf showed very impressive performance with their 'number one' model until disaster struck in the form of a broken conrod taking out the motor by destroying the piston and liner. A quick call to Gino Voghera provided a new piston/liner assembly for the Cipolla but the performance was not as good as the original, being some 2 seconds slower for 10 laps! Martin Sladdin and Ian Gardiner looked competent as usual and the only question was whether Martin could fly in such a way as to satisfy the Jury. Steve Smith and Colin Brown, who were flying as defending champions and not, for the first time since 1978, as part of the British Team looked as good as ever but it was obvious that they would require slip-ups from other competitors to retain their title. Meanwhile Derek Heaton and Jim Woodside who had had a bad season prior to the Championships were still struggling with new motors delivered to them on the Monday before the Championships! They were having no luck in finding the correct combination to get the most out of a motor with obvious potential in its design.

There were a few other individual teams with the capability to win; amongst them the Metkemeijer and Van Uden brothers from Holland, Nitsche/Kuhnge from Austria and Voghera/Menozzi from Italy. Several other were



teams relying on arm power rather than engine power to provide respectable practice speeds...

The competitions started on the Friday and we were all interested to see how the Jury, consisting of Pietro Fontana, Don Jehlik and Carlos Plotsin, would perform. In the event they acquitted themselves well. Steve Smith and Colin Brown returned an early 3:35.3 to be sure of a semi-final place whilst Martin Sladdin and Ian Gardiner returned 3:38.1 to give them an outside chance. Alan Hill and Stewart Metcalf managed 3:49.1 with their hastily re-built engine but Derek Heaton and Jim Woodside were able to return only 3:56.8; proof that they were still struggling with the Dragon engine. Of the Soviets Barkov/Suraev with 3:25.4 and Zrihov/Shevchenko with 3:21.9 held first and second places at the end of the first round. The Burtzev/Onufrienko time of 3:43.3 was certainly

Below left: Jim Woodside looks pensive prior to his first-round flight. Below right: A famous figure - Bob Metkemeijer gets ready. Bottom left: Russian Winners Barker/Suraev with their model. Bottom right: Australia were the third-place team. Hutton/David show different reactions in front of the camera.





not safe, but these performances were good enough to guarantee the Soviets the Team prize even at this early stage with the British in second place and the Australians holding third. Nitsche/Kuhnge had returned 3:32.7 to put them in third place behind the Soviet teams. The Van Udens, as in many previous championships, failed to fly to the Jury's satisfaction and zeroed. The Chinese challenge failed to materialise; their impressive practice showing not being converted to fast times in the rough and tumble of hard three-up racing.

In the second round Alan Hill and Stewart Metcalf improved their performance by .8 sec to 3:48.3 but this was not good enough to make any real impression. Martin Sladdin and Ian Gardiner were unable to better their first round time and were now waiting and hoping in eighth place. Steve and Colin tried a different set-up but to no avail. In the meantime, Derek Heaton and Jim Woodside had been burning the midnight oil and taking every opportunity to practice; their efforts were rewarded with a 3:35.6 which surely would be good enough for the semis. In the meantime Burtzev/Onufrienko had improved to 3:24.48, albeit with some fairly lenient jurying, and Voghera/Menozzi had returned a 3:34.4 to go ahead of Steve and Colin. The Van Uden brothers finished the race this time to return a 3:35.3 and this together with a 3:35.9 from Mohai/Szvacek and a 3:38.1 from the Italian team Magli/Pirazzini was sufficient to demote Martin and Ian to 11th place. With few races to go the British were still holding second team place but with the Metkemeijer brothers still to fly for Holland and Pennisi/Zana to fly for Italy there was a real prospect of being displaced to fourth. First the Metkemeijers flew and failed to finish: third place guaranteed; and then the Italian pair could return no better than 4:49.2 giving the British the second team place and the popular Australian team of Oddy/Smith, Wilson/Walton and Fitzgerald/Hunting (who had struggled with cooling problems for the whole meeting) the third team prize.

The semi-finals proved somewhat disappointing with only the Soviet teams and Smith/Brown really producing any good performances. The Soviets again all recorded sub-3:30 so only Steve and Colin with a three-stop 3:30.4 made any real challenge.

The final was therefore an all-Soviet affair with experience telling in the end; Barkov/Suraev winning in a time of 6:50.9 with Burzev/Onufrienko second in 7:09.3 and Zrihov/Shevchenko third in 7:22.96. The latter two teams had overheating problems.

To sum up, congratulations should go to the Soviets for their clean sweep and for finally putting together the sort of team result that they have had the potential to do for many years. Well done to the British who with two teams who had little or no experience at this level of competition still managed to claim second team place; and more congrats to the popular Australian team, of

which Rob Fitzgerald is a regular competitor in SMAE events. Final thanks should go to the organisers and Jury who despite a few minor hitches ran the event smoothly.

F2D Combat:

Report by John James

If it was hot at stunt and teamrace it was like flying inside a furnace at combat; there was no shade. Despite this, no-one seemed to suffer excessively, although the Dutch took the precaution of wrapping their fuel in a towel which they kept continually wet in an attempt to reduce the fuel temperature.

Forty-six combat fliers from seventeen countries lined up to contest this World Championship. Fliers included ex-World Champions Loet Wakkerman and Oleg Doroshenko along with ex-European Champion Viacheslav Beliaev and reigning European Champion Nikolai Necheuknin. In fact, with all the Russians having won a major title in recent years, they once again looked the strongest team. As usual their models performed superbly with Doroshenko doing his party piece of flying inverted one foot above the ground - behind his back! There were a few notable absentees, in particular China, Italy and Spain, although both China and Italy had sent teams to the other disciplines.

And so to the flying. First of the British to fly was Mervyn Jones against Zbigniew of Poland. Mervyn won by 2 cuts to nil. Neil Gill and John James were not quite so fortunate. Neil drew Rudner (USA) and had the American fly through both his models, causing no damage to Rudner's models but leaving Neil without anything to fly. John was disqualified for leaving some of his lines in the centre circle after a line tangle. The Russians, Dutch and Danes all won their first-round bouts.

The second round, flown on the same day, saw all the British team win with John James beating Melhuish (Canada), Mervyn Jones beating Meijer (Holland) and Neil Gill victorious over Sweden's Johannsson after a reply. Round 2 was the first round in which fliers are eliminated. Here we lost the whole Hungarian and Brazilian teams, along with two of the Swedes and two of the Canadians. So far we had seen very little top class flying; a lot of poor fliers had gone out and the better ones were doing just as much as they needed to win. The Russians were the only team to go through to the third round without losing any lives.

So to Round 3 and Neil Gill was the first Briton to go out losing to Loet Wakkerman. Although Neil flew a much better bout than when these two met in the European Champs, he could not get quite near enough and lost by three cuts to two. Mervyn Jones won a messy bout against Longren (Canada) and John James beat Belgium's Janssens after taking the whole streamer at the start of the bout and then having to defend for about three minutes. This round saw the departure of the remaining Germans

and the sole Australian representative, Bruce Bellis, leaving 19 fliers in the competitors. Still the Russians had not lost a bout. Also looking good in this round were Schon (Denmark) who took three cuts to beat De Jong (Holland); and Abrahamson (Sweden) who took the same number of cuts to beat Niskanen of Finland.

Mervyn Jones flew first in Round 4 and had no problem in disposing of Thewissen (Belgium) by two cuts to one. John James had more difficulty with the Finn, Salerma. After a dispute involving Salerma's lines in the centre circle the combat July ordered a re-fly which John won when Salerma's engines refused to behave. Schon again performed well, beating Wakkerman by four cuts to two; as did Cleveland (USA) who ousted Switzerland's Hachlan by beating him three cuts to nil - in fact he did particularly well because Hachlan was in the air for only one minute out of four. By the end of the round there were fifteen fliers left competing for that elusive title of World Champion; and Mervyn Jones was one of only six still left with two lives.

On to Round 5. Mervyn Jones was drawn to fly Schon but he was out-classed this time and lost his first life. This round saw one of the best bouts of the competition with Abrahamson (Sweden) beating Doroshenko. Abrahamson managed one of the most difficult cuts of all, when with Doroshenko flying inverted near the ground, he simply came up behind him, took a clean snip with his propeller and flew away out of trouble. This super performance earned him a huge

Above: Team race action as Kuhnge of Nitsche/Kuhnge (Austria) catches in Round One. Below: The winning Soviet combat team. Those models are light! Bottom: The British F2D team with faithful mechanics. Neil Gill, Mervyn Jones and John James stand behind Pete Grange and Simon Groom.



round of applause from all who watched, except the Russians, not just for the quality of his flying but also for the fact that he was the first person to beat one of the Russians at this Championships. We lost the remaining Americans and Dutch fliers in this round and suddenly Britain looked on course for a team prize of some description. In the next round, John James went out, losing by three cuts to two against Necheuklin. Mervyn Jones was back on winning form again, and along with all the Russians, Schon and Abrahamson was one of the only six fliers left in the competition.

Round Seven thus saw all the non-Russians flying a Russian. Mervyn drew Beliaev; it was fortunate (for Mervyn) when he was disqualified after his pitman left off his crash helmet. Schon beat Doroshenko and put him out as this was his second loss, and Abrahamson took his second Russian scalp by beating Necheuklin. Suddenly the Russians looked fallible and we were wondering if perhaps they wouldn't win after all. Mervyn wasn't quite so lucky in Round Eight when he drew Necheuklin, and was then beaten into an excellent fifth place in his first major international. Schon lost his first life to Beliaev, leaving four fliers all on one life.

The Russians made no mistake in the following round. Beliaev beat Abrahamson in a very dirty bout in which Abrahamson spent most of the bout flying out of line tangles. The Schon/Necheuklin bout was far better to watch; and it gave Necheuklin his second major final in two years. The final positions in the two-life system depend on your number of 'wins minus losses'. Since Abrahamson had had a bye in one of the earlier rounds, this effectively promoted Mervyn to joint fourth place as they both had six wins and two losses.

The final looked an exciting prospect with the reigning European Champion and the 1983 European Champion flying against each other. Unfortunately for the spectators both fliers played it fairly safe with Beliaev doing all the attacking and Necheuklin defending. After a mid-air collision, Necheuklin's pit crew signalled



that the score was two cuts all and as he was slightly ahead on ground time, he made no attempt to attack Beliaev, although Beliaev had a streamer to go for and Necheuklin didn't. Much to the disappointment of the crowd, they flew level for the remaining two minutes of the final, which, although it wasn't very interesting to watch, gave Necheuklin the World Championship title.

Once again, the Russians had shown their

Above: Highest-placed British combat flier was cheerful Mervyn Jones, centre of picture, in fifth spot. Right: Claus Malkis' pen has captured the British stunt team; Tony Eiffaender, Bill Draper and Barry Robinson.

superiority although they had to use some 'tactical' flying on occasions to win. Looking at their models, they appeared to have taken the step of improving model manoeuvrability at the expense of some airspeed. It was noticeable that their models were now flying at a similar speed to ours instead of quite a bit faster, as they were last year. The Russians were particularly impressive in the field of pure flying skill; they had obviously spent hours and hours practice flying, both on their own and in combat, as was proved by the uncanny accuracy with which they could place their models. After the final, Beliaev gave a demonstration of solo flying during which he flew from the top of the circle straight down towards the ground and then turned the model to fly straight back up again after clipping the grass at the bottom of the manoeuvre - not once, but half a dozen times!

Finally, on behalf of the British team, I would like to say a few 'thank you's', first of all to the combat pit crew of Simon Groom and Pete Grange who performed superbly all week. Secondly, to Solarfilm and Taylor Plugs who sponsored us once again; and finally to the centre marshall, Mack Henry who had the discipline to watch every pilot all the time and thus didn't see one bout of combat flying.



1986 CONTROL LINE WORLD CHAMPIONSHIPS

F2A: 2.5cc Speed (first six places and GB results: 43 entered)

		Round 1	Round 2	Round 3	Best Round
	Alexander Kalmikov	USSR	286.85	284.81	283.63
2	Serge Piskalov	USSR	288.00	287.31	287.31
3	Jozef Molt	Hungary	283.46	276.49	287.53
4	Carl Dodge	USA	0.00	286.39	286.16
5	Thomas Chojack	Poland	0.00	0.00	286.39
6	Sandor Szegedi	Hungary	283.46	0.00	285.26
14	Peter Halman	GB	280.86	268.85	271.49
26	David Brewin	GB	209.05	241.61	251.22
33	Richard McGladdery	GB	236.14	243.67	240.67

F2A Team Results (first eight places: 16 teams entered)

1	USSR	863.54
2	Hungary	853.38
3	Poland	841.54
3	China	814.89
5	USA	807.79
6	Bulgaria	782.40
7	Yugoslavia	768.89
8	Great Britain	766.28

F2B: Aerobatics (first six places and GB results: 50 entered)

		Round 1	Round 2	S. Final	S. Final	Result
1	Anatoly Kolesnikov	USSR	2710	2851	2902	2885
2	Zang Xiandong	CHI	2628	2783	2856	2851
3	Paul Walker	USA	2331	2691	2766	2667
4	Wang Janzhong	CHI	2338	2680	2795	2728
5	Zhu Younan	CHI	2187	2647	2781	2795
6	Niu An Lon	CHU	2531	2615	2786	2728
33	Barry Robinson	UK	2151	0	0	2151
34	William Draper	UK	1937	2149	0	0
36	Tony Eiffaender	UK	2008	2050	0	0

F2B Team Results (first eight places and GB: 20 entered)

1	USSR	16839
2	China	16761
3	USA	16228
4	Italy	15802
5	Hungary	13772
6	France	13737
7	Czechoslovakia	12938
8	Netherlands	12470
10	Great Britain	12318

F2C: Team Race (first six places and GB results: 52 entered)

		Heat 1	Heat 2	S. Final 1	S. Final 2	Final
1	Barkov/Sursov	USSR	3:25.41	0:00.00	3:24.38	3:40.81
2	Burtzev/Onufrienko	USSR	3:24.88	3:43.26	3:20.89	3:45.46
3	Zrihov/Shevchenko	USSR	3:21.93	0:00.00	3:25.35	3:29.93
4	Nitsche/Kuhnece	Austria	3:32.73	0:00.00	3:42.52	3:42.52
5	Voghera/Menzzi	Italy	3:34.38	3:36.23	3:35.08	4:01.00
6	Smith/Brown	UK	3:38.32	3:41.86	3:36.41	3:42.12
7	Heaton/Woodside	UK	3:35.59	3:53.78	3:47.85	6:08.82
27	Hill/Metcalfe	UK	3:48.34	3:49.05	0:0.0	0:0.0

F2C Team Results (first eight places: 10 entered)

1	USSR	10:12.22
2	Great Britain	11: 2.02
3	Australia	11:18.73
4	W Germany	11:19.92
5	USA	11:23.50
6	China	11:29.78
7	Italy	12: 1.35
8	Bulgaria	12:11.89

F2D: Combat (first six places and GB results: 46 entered)

		WN	LN	Difference
1	Nikolay Necheukhin	SU	9	1
2	Viacheslav Beliaev	SU	8	2
3	Bjarne Schon	DNK	7	2
4	Mervyn Jones	UK	6	2
5	Abrahamson Ingvar	SWE	6	2
6	Oleg Doroshenko	SU	5	2
12	John James	UK	3	2
21	Neil Gill	UK	1	2

F2D Team Results (first eight places: 13 entered)

1	USSR	17 points
2	Denmark	5 points
3	Great Britain	4 points
4	Netherlands	2 points
5	USA	1
6	Sweden	0 points
7	Finland	-1 points
8	Poland	-3 points



Text inspired by the works of Robert Jamieson: Illustrations with respect to Freddie

RETURN of the MAESTRO

A Christmas frolic with a hint of time past,
by John Ashmole

A BENIGN SUNDAY morning sun, aided by a steady soft breeze, had just begun to release the first of a crop of broad, hospitable thermals from the runways of Bleakstone Heath. That such days had been all too rare was probably the foremost thought in the mind of ever-efficient Contest Director Dave Boreham as he laid out the day's entry cards and trophies on the table beside his Transit van. Most prominent among them, and still gleaming despite its age, was the cup for the Wakefield event presented for annual competition long ago by that prolific designer of the past, C. Dorland Hall.

Soon enough, winding their way along the perimeter track towards the upwind launching area, came a motley series of vehicles each laden with dubious coffin-like boxes and each carrying upon its roof that most abused item of free flight equipment; a dilapidated, elderly 'fetcherbike'.

The competitors, bewildered on this morning by the strangeness of sunlight and calm in an English summer emerged with many a yawn and stretch from the confines of their cars. Thus the Sunday morning ritual began, with a hammering into the ground of winding stooges, the raising of long ribbons of silvery mylar, and the first gentle flights on low turns to check each model's trim.

Bleakstone Heath had seen it all before. Among the early arrivals was Ross Peerage, so inured to foul weather that he was still wearing the woolly hat, fuel-stained donkey jacket and gumboots in which he had in all probability slept since the previous weekend's event. Nearby, the veteran campaigner Sean O'Wrangle in faded suit, tie and tatty plimsolls was already disputing with all who had the misfortune to be within earshot over a new rule and timekeepers following models.

So busy was this little knot of industrious characters, so intent upon their esoteric business of adjusting incidence angles, struggling to tie knots in slippery strips of lubricated rubber, and the glider contingent absorbed in the dubious pleasure of trying to tie themselves into knots in the air, that nobody seemed to notice the arrival along the airfield boundary of an elderly, rickety shooting brake of indeterminate colour and dubious

origin. And so oddly-dressed were the cream of the nation's free flight exponents that a little, elderly character in faded tartan top hat and kilt passed quite unnoticed. Indeed, the fact that he was wearing his winding-hook in a location where any other Scotsman would have carried his sporran only served to make him appear at home in this company. Had anyone taken the trouble to peer into his ageing model boxes they would have noticed that the cobwebs were constructed in that curious off-set grid pattern which had long ago inspired Robert the Bruce to design the tartan.

For it had been a long journey southwards by the little man, who still back home in Auchengargle would receive mail addressed simply 'The Maestro'. This was to be one last throw to take the English establishment on its home ground. Drawing on experience of small motors gained when wartime constraints led to the adoption of the one-ounce formula for the Auchengargle vs. Teuchle Toorie club contests, he had brought to the field a suitably modified version of his Flying Sporran design plus many years of experience and cunning.

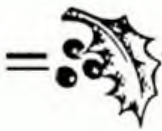
He was alone now with only the ever loyal Drambuie for company, for the colleagues of former adventures - Thermal McGraw, McSwindle and the inimitable Pieface Jameson - had submitted inexorably into the clutches of romance, family responsibilities and gout. The little man stretched his cramped limbs, sniffed the morning air, turned purposefully and walked slap into a thermistor pole.

Now it is sometimes the case with these free flight contests that you find yourself flying out of phase with everybody else. They're all launching while you retrieve, and vice versa. Thus it was that the little groups of competitors struggling back upwind with models under their arms barely noticed the squat, chubby airframe high overhead. A passing comment of 'Didn't know there was a vintage class today' was the only acknowledgement of its existence. The portly, middle aged seagull in tartan scarf which closely pursued each flight, circling excitedly over the point of landing until its master arrived, attracted no attention at all.

Thus passed rounds one and two. Thus began round three. Then came one of those rare moments, so consoling to the rest of us, when even the Maestro made a mistake. For as his own-designed creation of yesteryear rumbled one more skywards the aromatic smell of smouldering d/t fuse strung the little man into a realisation which struck him as forcibly as the rake he trod on during the Mucking O'Geordie's Byre. The venerable airframe was curling upwards with three inches of unlit fuse in its tail!

After a sequence of wild and anguished leaps into the air which threatened to reveal the answer to the Great Question he calmed a little and soon realised that the only way to avoid impending disaster would be to mobilize the long-suffering Drambuie, now perched patiently atop the winding rig and ready to trade instant action for the promise of an increased sardine ration. 'Fly, fly like you've never flown before!' shrieked the little man, forgetting his years and the decorum expected of a master of his craft. Delaying only to wriggle out of his little tartan muffler (a necessary precaution since those long winter patrols in search of Mr. Tremble's lost glider back in '44) Drambuie with a glowing length of fuse in his beak fluttered aloft, shedding a cloud of tail feathers in his haste. The chase was on, but barely had it begun when all could see that it was in vain. For on this occasion the bubble of warm air for which McGillicuddy had aimed proved to be less than generous; the Flying Sporran Mk.II wallowed, floundered, stalled and alighted nearly half a minute short of the required maximum.

A dropped flight may not travel as far as a max, but the retrieve always seems more tedious. With drooping shoulder and furrowed brow the little man plodded on through the long strength-sapping grass, no doubt wondering if the monotonous overnight journey down the A1 had been worthwhile. How, when all the other competitors with a mere fraction of his experience were finding helpful thermals as easily as a gliding model finds a tree how could he, the erstwhile Maestro, restore his reputation?



VINTAGE CORNER

What to build in 1987? Alex Imrie looks at possible sources of information for that new project

THIS THE TIME of year to think of the new season's projects - so let's go!

In the July Vintage Corner attention was drawn to the current APS Model Aircraft Plans Catalogue No 1. Some readers have since bemoaned the fact that the 'X' List (an invaluable source of vintage designs) was not included in the volume but as explained in September's Hangar Doors, this is in hand. All of us are 'turned-on' in attraction to certain models when we hear their names mentioned, or see illustrations of them. Often we make a mental note to build a specific model one day; and for the majority of us that is the end of the story. The immediate lack of suitable drawings is usually sufficient to cause us to forget the pipe dream. However, the first attraction can really bear fruit if we trouble to find out whether the required plans or even replica kits are available. In these days when most of the models from yesteryear have resurfaced via the recent blitz to search out obscure designs, it is fairly easy to build that model that attracted you all those years ago. Of course, attendance at flying meetings allows many of the models to be seen in the flesh; enquiries then reveal the source of the plans, so many modellers solve their particular problem that way. If they subscribe to the various model magazines, old types are continually seen in their pages with information on plans availability.

The fund of knowledge now available has not just 'happened'. It is the result of

hard work and absolute dedication by a small number of enthusiasts. If they ever thought that the provision of model aeroplane plans was going to make them rich, experience must have shown them by now that they were mistaken; but they continue to research the more obscure types, eventually producing a working drawing or an exact facsimile, depending on their source of information, and placing it on the market at a trifle of the cost that the undertaking has actually cost them. Some modellers do their own thing and trade with other enthusiasts - as well as tracking down old copies of model aircraft magazines for material - and their success at this usually depends on their industry. Others rely entirely on the service available from recognised plans houses run by various model magazine publishers, like Model Builder and our own already mentioned ASP. The current plans catalogues from such institutions are always worth having, especially if they are illustrated, because many newcomers need to see the shape and layout of a model before deciding to build it. Model Builder have included some pages with illustrations in their recent issues since they too have learned that the mere mention of an Old Timer was insufficient to attract those modellers unaware of the meaning of a particular name - no matter how famous it may have been.

John Pond plans

There is no doubt that the largest number of model designs for our purpose are contained in the listings (sadly without illustrations) of John Pond's catalogues which are sold for \$1.00 (US) each; there being two on flying scale, one on power models and one covering rubber, towline glider, control line and radio control. They

comprise a research tool that no serious enthusiast can do without. Models are listed by order number, name, designer, source of information (if published), wingspan and, of course, price. As an example of the completeness of John's lists, there are 59 separate drawings offered for the ever popular modeller's favourite, the SE5, varying in wingspan from seven inches (Modern Hobbycraft) to 48 inches (the Kronfeld-designed Baby Cyclone powered model described in the April 1939 Model Airplane News). Admittedly the flying scale lists are not all from the vintage period; it should also be noted that the power designs are mainly from the pre-1943 period, although a list of designs after 1942 are also included. The catalogues are obtainable from: John Pond Old Time Plan Service, PO Box 3215,

This page: Two Bowden designs. Left: CEB's original White Wings fitted with a rudder tab for early R/C work. This 76in. span enlarged version of the Bowden Contest is available in plan form from Phil Smith (see text). Right: The Wee Sea Bee shown here with a Mills 1.3cc diesel is an attractive 36in. span elliptical winged flying boat. Plans are available from the same source.





San Jose, CA 95156, USA (but see also comment below).

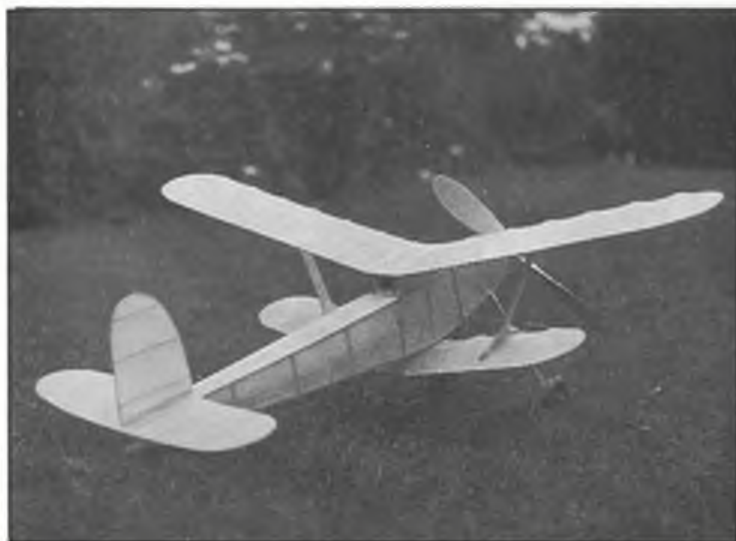
More plans

Phil Smith of 32 Verwood Crescent, Southbourne, Bournemouth, Dorset BH6 4JE offers a number of plans including some C E Bowden designs researched and/or re-drawn from original drawings which are being sold with the kind permission of Mrs Grace Bowden, erstwhile proprietress of Kanga Aeromodels, Birmingham and BM Models, Bournemouth. As any student of vintage models knows, CEB built his models to take hard knocks and to provide foolproof flying ability... The delightful Kanga Kub and its big sister Kanga Kite (described in March Vintage Corner) are

both available, as is the attractive little Frog 100 powered flying boat Wee Sea Bee. Phil casts his net far and wide for suitable drawings; he obtained the plan for the latter from Ernst Schlachter, a CEB enthusiast in Switzerland. Phil was, of course, the well known Veron designer in the post war years. He can offer plans for his 1947 Stunter biplane and Speedee twin-boom control line models, both of which are very suitable for most diesels up to about 3cc capacity so anyone with a Mills 1.3 gathering dust might find irresistible the urge to make one of these! Before WWII Phil's own company 'Normac' produced the beloved Condor Clipper and Condor Curlew, so if you seek a change from Ajax and Achilles you might try these. Most plans include xerox copies of the printed wood shapes (these can be conveniently

Heading photo: This characterful print, dating from approximately 1910 (we guess) was submitted by Arthur Stock of Belfast. It was given to him in pre-war by one Miss Cannell, a resident of Desborough, Northants. Any ideas, anybody - who are these modellers? All the models - bar one - are pushers. Slack covering is predominant... Below: More Bowden craft.

Left: Terry King (see text) has reproduced the plans for this unequal span staggered biplane from the mid-1930s named Dragonfly. Right: Probably the nicest looking power model designed by CEB is this baby high-wing monocoque with elliptical flying surfaces later named Swallow. Original model seen here is powered by an Eit 2.4cc petrol engine in a circular cowling. Plans are available from Tony Penhall (again, see text).





transferred to balsa with a warm smoothing iron) or the sections themselves are shown on the plans. Send an SAE for Phil's illustrated lists. You are sure to find a model that takes your fancy, be it glider, rubber or power.

Keith Harris of 21 Burns Lane, Market Warsop, Mansfield, Notts NG20 0PA is a plans specialist with over 1100 plans in his collection which is known as AVCAM (Antique, Vintage and Classic Aero Models). Keith also acts as UK agent for John Pond and thus has access to another thousand old time plans from that source. Lists are issued so readers should send Keith an SAE for details.

Still more plans

Terry King of 65 Main Street, Witchford, Ely, Cambs has drawn up a number of rare types like Southern Star, the 1938 Bowden International Trophy winner, a fine 72in. span high wing cabin monoplane designed by Bunny Ross; the Fairy Facula, a 52in. rubber high-wing cabin model of very pleasing lines that was kitted before the war by Model Aircraft Supplies Ltd; and an old CEB rubber-driven biplane named Dragonfly that was also kitted before WWII by Kanga Aero Models of Birmingham. These are only three models selected at random from a list of some twenty that an SAE to Terry will bring you.

Tony Penhall of Brigadoon, 62 Gordon Road, Little Paxton, Cambs also produces a list of his labours. He has a special interest in early British power models and has drawn up some of the lesser known CEB machines like Le Petit Dragon Rouge; PLW 5, a snappy little low-winger originally designed around the Elf 2.4cc petrol engine of the mid-1930s; and the Swallow, an elliptical-winged beauty of just under 54ins. span with a monocoque fuselage. He lists only one rubber model at present - the Milton Special which was mentioned in the July Vintage Corner. It is opportune to state here that although the article on this model which appeared in the November 1935 issue of Practical Mechanics was devoid of measurements, the fact is that when the plan was included in the first edition of FJ Camm's book they were given, and it was from this source that Tony drew up the full-size plan. As a result my comments in the July issue regarding deducing the size were incorrect...ah! the trials of a vintage columnist!

We usually receive a number of requests from readers for the whereabouts of old plans, and glancing at some of these we see that the aforementioned sources should cater for most of them...but sorry Mr Mack, no one seems to have that plan for the 24 inch span Halifax Commando that you seek; but try some of the researchers mentioned above for Bob Copland's 'wrapped-ring formers' Wakefield streamliner. Should a reader have a Commando drawing, perhaps he would like to contact Mr Mack at 12 Naseby Road, Solihull, West Midlands B91 2DR?

Keelbild plans

The Model Shop in Newcastle upon Tyne reports that many modellers have contacted them as a result of the feature in

June's Vintage Corner. Enthusiasts were most grateful for the news that many of the old Keelbild plans were still available, and they showed their appreciation by purchasing those rare plans that many had thought they would never see again, so all parties were happy...all that is, except one very disgruntled modeller who created quite a fuss over prices; well, it takes all types... Through the good offices of Mr Scott from Northampton and Peter Norman of Newhaven, Sussex, my request for other drawings on behalf of The Model Shop (and vintage scale modellers generally) did not fall on barren ground and the plans that they kindly made available will shortly join the list of plans obtainable from this establishment Watch Vintage Corner for an update. It is gratifying indeed to think of the pleasure that these will bring to many modellers instead of being left forgotten in some isolated corner.

Mention must be made of two enthusiasts who quickly reacted to the aforementioned Keelbild article. Rolie Lelliott has now almost finished building the Supermarine S6B. He was delighted to find that the plan was still available because he had been looking for a copy for a number of years. The other modeller who did not let grass grow under his feet was Doug McHard who has already made the excellent $\frac{1}{2}$ in. to 1ft scale TR Kennedy designed Hawker Fury in 22 $\frac{1}{2}$ in. wingspan as a stablemate for his same-scale Hawker Demon from the same source. A photograph of Doug's handiwork is reproduced here. The model was finished some time ago and readers may have seen it flying during the Vintage Weekend at Old Warden. Action photos are awaited!

Buckle's Circus

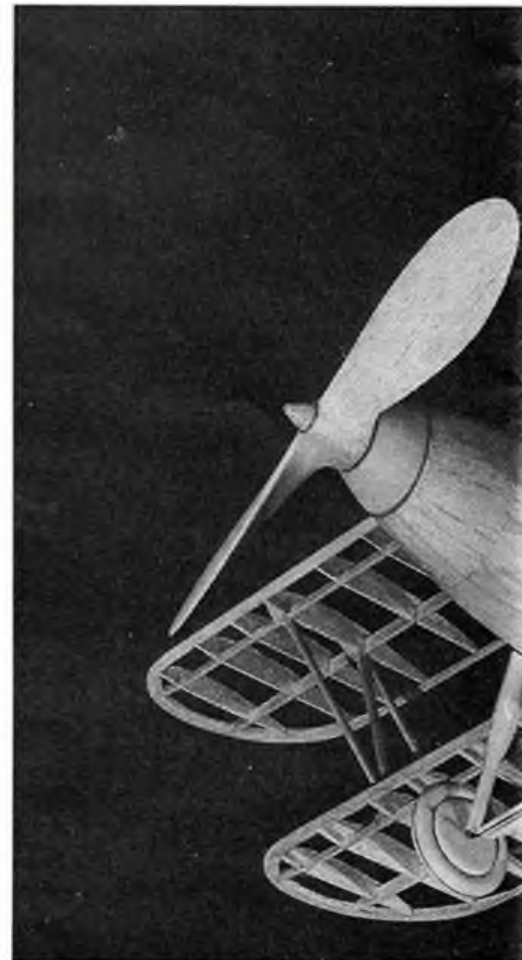
It is a fact that many vintage enthusiasts look to Ben Buckle for materials to give vent to their desire to build. Many modellers at vintage meetings quote Ben as the source of plan or kit of their model, so this man's efforts, started in such a modest way only five years ago when he became redundant from his engineering employment (within seven days he had produced and sold twelve kits for his then favourite model, the Junior 60) has become an institution in the ranks of vintage modellers, especially those interested in R/C Assist. If asked, the builders of many of the rubber powered models like Burd Thermalider, Knight Kamlet, Rippon Air Cadet and Copland Northern Star (amongst others) would have answered in similar vein. Ben it was who quickly appreciated that R/C fliers reared on plastic and foam might turn to Vintage for something else to fly. Since they had generally never built a 'stick and tissue' model aeroplane, Ben undertook to correct this, and apart from offering vintage kits suitably modified for radio control, he wrote simplified building instructions. These (and more) are included in his latest catalogue which represents a very well-spent £1.00.

Ben is currently offering a bargain in streamline aluminium wheels which he tells me were found in Ipswich and have been identified as a product of the old Southern Junior Aircraft Company that

manufactured kits such as the Southern Dragon in the late 1940s. The wheels are excellent for free flight vintage; after all, they *are* vintage, and because of their shape they provide low drag which on grassy take-offs can make all the difference between a successful departure and a fast taxi run that ends either in a nose over or a ground loop (as so often happens when using marginal power on a model fitted with the bulky airwheels usually employed). Fit them, especially on your small or medium sized models, and fly! The wheels are good value at £1.00 per pair for a 2 $\frac{1}{2}$ in. diameter (bushed) and 80p per pair for a 2in. unbushed version which should only be used on light 'rubber' type models. Enthusiasts are advised to get Ben's catalogue direct from 9 Islay Crescent, Highworth, Wilts SN6 7HL.

Bill Dean's Southerner

Latest offering from Ben Buckle Kits is the 60in. Southerner. This elegant high wing cabin model with true Bill Dean lines (he really did have an 'eye' for shape) is not to be confused with an American namesake by H A Thomas. The latter model is an equally elegant 47in. low-wing design with twin rudders which was loosely based on John Sadler's Pacemaker. This is not a replica of the original kit in the same sense as was the Rojair kit of the Slicker 50. It is a kit of building materials with patterns printed by the silk screen method onto selected wood. Two large sheets of drawings show the changes made to incorporate radio control, and a packet of hinges and other hardware is included. In the terminology of the times the box lid - which sports a full colour photograph - states 'To complete

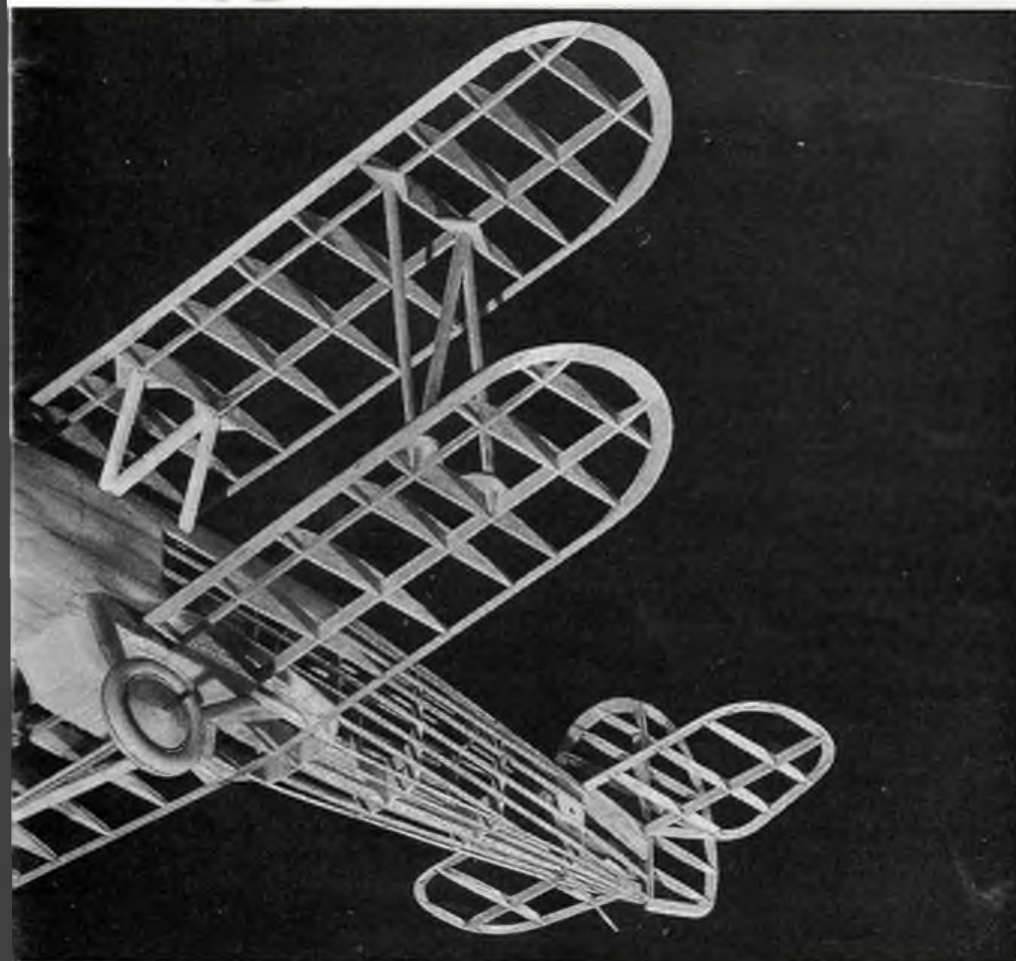


the model it is necessary to purchase further items; these will include suitable wheels and covering material. The quality of the kit examined was first class, and we look forward to seeing this fine Bill Dean design grace the skies at our future meetings, either as a medium powered version with 'vee' dihedral or as a hot ship with polyhedral. The model is suitable for .10 to .20cu.in. two-stroke power and four-strokes of up to .30 size. . . or if you have one, fit the Mills 2.4 shown on the plan all hooked up to an Elmic timer! The finished model fitted with three-function R/C and covered in Solartex is said to weigh from 3 to 3½ lbs. At £37.50 the Southerner kit represents excellent value. Have a look at one and judge for yourself. . . Santa might be persuaded to put one into your stocking!

Readers write

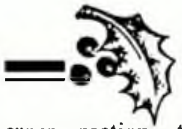
Following my appeal in the July Vintage Corner for some input from readers Rolie Lelliott of Worthing wrote in on vintage Lancing DMAC notepaper enclosing details of his Black Magic. Now who actually started to build this particular model is not known. I myself obtained it many years ago from the late John Haggart, and eventually passed it to Mike Patience who gave it to Rolie. He has

Below: Doug McHard built and photographed this 22½in. span Keelbild Hawker Fury (see 'Keelbild plans'). Plans are available from The Model Shop, Newcastle-upon-Tyne for £2.00. A fine model and a fine example of a framework shot. Top: This Southerner design by Bill Dean is now available from Ben Buckle Kits. Keith Harris built this ED 2cc diesel powered beauty and made extra large cooling fins for the engine to provide additional cooling and extra weight for balance purposes. Right: Tony Hogan made this HA Thomas designed Southerner, which should not be confused with the Bill Dean design! Tony's model was seen at Old Warden back in October 1983.



made a fine job of it - and to think that it stagnated all those years in my loft! In order to complete the model an original plan from Stan Horne was borrowed and the model is now fitted with an ED Racer. Rolie is a prolific builder. He tells us that he has recently completed a Diamond Demon (from the Bay Ridge kit plan) for his Mills 1.3 and has just built a rubber powered Dorland (September 1946 *Aeromodeller*) and a Vindscreenviper in the hope that he might yet chance upon a Jetex 350 motor for it! Rolie goes on to ask about the elusive 'X' List and says that he feels the changing face of *Aeromodeller* makes every issue eagerly looked forward to 'just like the old days'. Can anyone please help this keen modeller who is not endowed with good health to find that Jetex 350 he so badly needs to get his Vindscreenviper airborne? If so write to him direct at 89a Poulter's Lane, Worthing, Sussex BN14 7SX.

Jim Fullarton sends in some information that will be of interest to vintage Wakefield modellers, especially if any of them are tackling Jim's old model shown in the July Vintage Corner. He writes '... I note that I omitted to mention the rubber used, which in the original text was specified as ten strands of ¼ by ¼in, or twelve strands in windy weather, though as I only flew the original on two occasions out here, in good conditions on both days, I never used the latter option... I am currently using 16 strands of ¼in. by 1mm FAI which gives approximately the same



cross section, though probably more torque, and which takes it up very smartly, though it does come down rather abruptly also. I have just finished renovating it after a fly away at Bordertown, South Australia last October, when it spent six weeks out in the open with only the sheep for company! The Airborne plans were redrawn from the originals as published by Mr Norman Lyons in the 'Daily Telegraph' over a period of six weeks in April and May 1935, three instalments for each model, so they both should be eligible as Vintage models. When I redrew them, I had lost the instalment containing the wing, and had to work from memory, but just before publishing date I obtained a copy from another old timer, Alan Brown, hence the hasty correction.

'I see that Stan Fairless has been campaigning my 1948 model in your vintage events after I sent him the plans a year or so ago...tell him that I expect him to beat Kordas and Clodhoppers on half turns, though it might take 75% power to deal with a good Copland! (Nothing like being modest, is there?).'

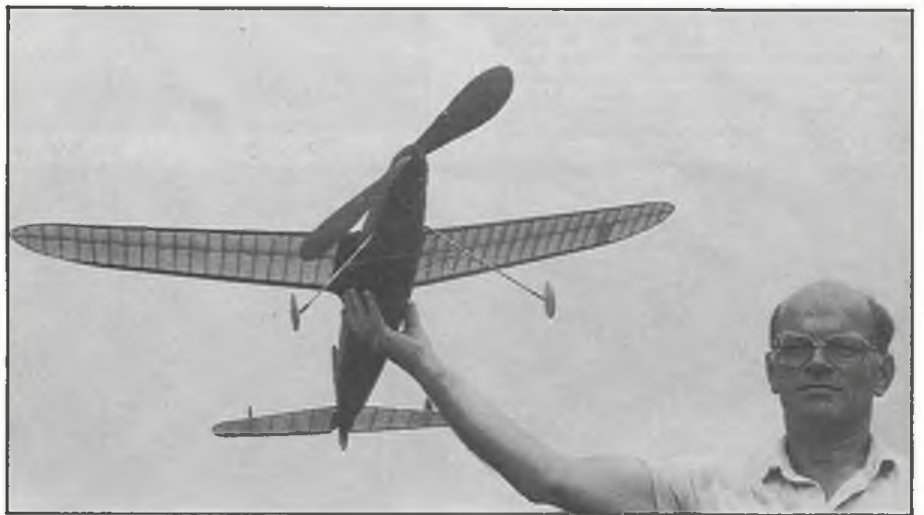
Speaking of Wakefields, Terence Rose of Bishops Stortford is one of the many who followed the exchange of views that we published in this column - starting at the beginning of the year - on the Wakefield rules, and he eagerly awaits 'an entirely factual set of actual vintage Wakefield rules'...we await them too; doubtless Mike Kemp will be able to update us on what I am sure has proved to be a time-consuming research undertaking.

Howlers

Proof reading can be quite a chore, and as the reader often sees what he wants to see the result is that the presses run with all sorts of errors built in to the most carefully prepared narrative. The current Model Aircraft Plans Handbook No 1 open on my desk at 'Vintage Scale Rubber' sparked off this thought since I see that every caption in this section is misplaced; one or two could possibly be excused, but all eight take a bit of explaining. Now, are the captions or the illustrations in the wrong place?

Apologies to Mike (Jetex) Wilson for giving him the wrong street number in September Vintage Corner. This should have read 126 Birkbeck Road! In the same column, the caption for the photo at top right on p.517 should have read 'This Challenger, powered by a 2cc ED Competition Special was made by Alan Morris (see text).' We will just have to run the photo of the Flyline Stearman and ABC Robin from ASP plans by Mike Holloway in a future issue! (*This error was my fault. Sorry...GC*) And oh yes, my blame this time - for 'Paul Weeks' running the Masfield Trophy with Vic Dubery, read 'Alan Wiggs'! Sorry Alan; didn't even get one of your names right...it's the pressure y'know!

Art Smith photographed Australian Jim Fullarton's flying boat 'on the step' at Rickett's on 13th January 1985. Jim originally made this model in 1939. Note the forward sponson. Middle, left: Three sizes of the good-looking Frog 45, one of the first de luxe power kits available to post-war British modeller. This trio were built by Ray Gordon - seen at Old Warden Vintage Weekend. Note the Southerner in the background. Middle, right: Tug and Sue Wilson with their half-sized CO₂ miniatures of the Kell Kraft Outlaw and Jersey Javelin. Bottom photo: Gordon Hannah of the Impington Village College MAC with his fine GB3.



Abbreviations

Unattractive four-letter words are finding their way into the modeller's vocabulary... 'Wake', for instance; what's wrong with 'Wakefield'? Sir Charles Wakefield was a benefactor in many areas of aviation. He made the early International competitions possible and, fittingly, the type of model that resulted from this endeavour became known as the Wakefield class. Then there is 'fuz' or 'fuse'...not a slang name for the Law or something to melt when overloaded electrically, but an abbreviation of the word meaning the body of an aeroplane - a lovely word that conjures up visions of shapely aerodynamic forms created in wood and metal covered in taut drumming fabric. How about 'gear'? Not tackle, tools, 'with it' clothing or a toothed wheel but a

shortened Americanism for 'landing gear' meaning 'undercarriage', this word has become universally adopted in the aeronautical world. I suppose that we should blame our American cousins for this, pursuing their policy of 'time is money', they have shortened and reduced all possible words. In aviation, because the Americans have often led the field, the use of words like 'stab' and 'gear' have crept into everyday use here. 'Stab' as we know is short for 'stabiliser'; but then the Americans had vertical and horizontal stabilisers so maybe it was to be expected that they would have to shorten that lot while we were quite happy with 'fin' and 'tailplane'. What are we going to do with all the time saved as a result of all this? If it means we will be able to build more models maybe we should just accept it!

Aeromodeller

The anxious Drambuie, still a little breathless after his exertions and one of his master's more ferocious moods, was somewhat mystified instead by the wicked gleam in the little man's eye as he returned with the model. It could mean but one thing: a Scheme was afoot. The one staggered, the other fluttered into the front seats of the old shooting brake. Then in that secretive huddle was hatched a plot the execution of which would require all the cunning and guile that man and seagull could devise.

Thus it transpired that even as the hooter of Dave Boreham's van proclaimed the beginning of the fourth round, Drambuie had already taken up his position nearly half a mile upwind. Then, taking a deep breath and spreading every feather to the utmost, he began to glide, to swoop, to soar and in every way to fake with all the arial skills at his command the presence of a giant but totally non-existent thermal.

It was not easy. Singing loftily, whistling nonchalantly, lying for a moment on his back with wings folded under his head and with each apparently effortless circle a little nearer to the upwind corner of the airfield, Drambuie was putting on the performance of his life. It just had to work. And it did.

As soon as he was spotted there was a running and shouting, and unravelling of towlines and a stampede of Wakefield-clutching modellers whose nerves were as tightly wound as their motors. All those supposedly educated free flighters, being related closely to lemmings or perhaps to Gadarene swine, had developed a collective urge to occupy the very patch of air in which Drambuie was at that moment so effectively shamming a contented glide.

Then, to his horror, before the first of the many steeply climbing models had reached his altitude, Drambuie became aware of a strange sensation. It was a cosy, buoyant warmth - comforting and welcome on most occasions but striking terror into the heart of the poor bird now. As the first arrivals began to heave alongside, slender Wakefields with wings that seemed to stretch forever settling into a familiar routine or large lazy circles, the awful truth became only too clear. Try as he might now to make it appear otherwise, the upwind end of Bleakstone Heath runway had just released the biggest boomer of all time and the hapless Drambuie was marking its very centre!

Around him in the now crowded sky propeller blades were obediently tucking themselves neatly away, and tailplanes and rudders settled into more comfortable positions. Then came the first of the gliders leaping free of their towlines like salmon attacking a waterfall. Drambuie, scornfully flirting his own variable incidence tail feathers, regarded these skeletal newcomers with disdain. Deprived of real freedom to roam the skies, programmed to the monotony of tow, release, circle and descent they seemed poor creatures, even objects to be pitied, compared with the giants of the past. For had not he, the honoured Drambuie once soared alongside C.U. Tremble's Terrest-



...the presence of a giant but totally non-existent thermal...

rial Norseman? Finally, from its launching point even more downwind than the rest, there arrived a glider even more emotionally suppressed than the others. Doomed to interminable periods of waiting in subservience to the whims of a thermister pole, the sad black and orange device scanned for a moment the distant horizons before, with a single defiant stall and a shrug, it turned in despondent obedience to the circle that the other silent craft were patiently describing.

Fearful of returning to his master, noble efforts thwarted, plans ruined, what could the poor gull do now but circle with the pack, climbing, climbing effortlessly. Then with a muted click, a tailplane popped. Then another and another. Bewildered Wakefields, expecting a dignified descent, soon found that such was the strength of lift, their dethermalisers had done little more than reduce the rate of climb. Gliders hung in agonised positions, nose downwards and twisting violently to escape the clutches of the updraughts. And all the time the whole pack, Wakefields, gliders, seagull and all, were drifting inexorably towards the lofty fastness of Rookery Wood.

Meanwhile back at the airfield, a little bemused Scotsman, not given to accepting defeat without a struggle had watched with resignation the failure of his great Scheme. He had patiently waited for the subsequent downdraught to pass, waited again for the next bubble of air to form, and then launched unnoticed into one of those gentle little thermals that prove just equal to the required task. Only a token effort, of course. Already to have dropped twenty five seconds on such a day marked the end of any realistic hopes. One just completes the required flights for the record.

But wait! Where was everybody? Apart from the C.D., a few hangers-on and a returning seagull the airfield was empty. Could it speak, the exhausted bird would have had a tale to tell. How Bill Fall and Son standing on each others' shoulders had failed even to reach the lower branches of the great trees that had captured a score of the nation's most sophisticated models. How John Falcon with tears in his eyes, was begging his much-abused A/2 to find a way down (and promising to destroy the hated thermistor if it did so). How Ross Peerage had accidentally done unfortunate things to a tree-climbing clubmate with a crossbow and a length of string (which was to necessitate the use of an extra cushion on the way home). While the excited bird squawked and gesticulated in a vain effort to convey to its master the heroic deeds being performed downwind, the hooter blew for the beginning of the fifth and final round.

In the mind of the Maestro the realis-

ation dawned that the day was saved! Relaxed now, all dignity restored after the vicissitudes of the day, the little man bent to his task for the last time. He inserted the fuse into its snuffer tube, calmly lit its end, and proceeded nonchalantly to apply just enough turns to complete the simple task in hand. As the fuse smouldered, diminishing inexorably in length, the Maestro began an exposition to the little knot of bemused bystanders on the relative merits of streamliners and slabiders before, with a little less than an inch of fuse to go, he lofted the shuddering airframe into the waiting skies. A gentle hop, no more, and the squeak of the propeller's freewheel mechanism had barely passed out of earshot before the model was down again, gently settling onto its slender undercarriage. The watches said thirty seconds and McGillicuddy affected a careless shrug as he ambled leisurely downwind.

Then suddenly all eyes were alerted to a bustling figure at the far end of the runway. With battered Wakefield under one arm, perspiring heavily and forcing every ounce of pressure onto the pedals of his cycle, the unmistakable figure of Sean O'Wrangle was returning in a furious battle against time. The Bleakstone runways can be tantalizingly long and a gentle breeze can feel a gale as one struggles to reach the upwind end. As the few remaining minutes ticked by the dishevelled figure came ever closer in a desperate burst of middle-aged energy. Throwing his steed to the ground the thorn-scarred hero of a thousand treetop retrievals rushed to his winding rig, pausing for only the briefest of altercations on the subject of a new rule which allowed timekeepers to follow models. Then in a furious and perspiring flurry of activity he managed simultaneously to pile on nearly a thousand turns, light a D/T fuse and call for timekeepers. The gleaming trophy beckoned and but one thought was in his mind: to throw caution and his Wakefield to the winds.

All was to be vain. With the winding tube withdrawn and the propeller barely fitted the hooter of Dave Boreham's van signified the end of the contest. It was all over. The exhausted veteran, defeated, sank to his knees. One by one the other returning competitors, learning of his heroic final efforts, tried to console him.

And as the assembled company dressed their wounds and contemplated the long evenings of tissue patching that lay ahead, they failed to notice that the elderly shooting brake, from the windows of which came a variety of excited squawks, yelps, hoots and a fluttering of grey feathers, was making its way - not entirely in a straight line - towards the crashgate and the long road home...

IT WOULD BE IMPOSSIBLE to report this event without saying something of the country in which it was held and how its customs, its water and its cooking affected the British. Our team travelled almost entirely by air to this Communist outpost; only Gary Madelin with assistance from Ken Faux and Chris Edge opting to drive the 1500 or so miles. They reported a fast and trouble-free trip with help and hospitality being shown to them all the way, particularly in Hungary. Both their problems and ours began only on entering Romania. As this country is at about the same latitude as Southern France it was not surprising to see vast fields of maize and sunflowers, and as it is to all intents and purposes land locked (if you don't count the Black Sea) weather patterns were stable with temperatures well into the upper 80s; indeed sometimes the 90s.

Airborne arrivals checked in through Bucharest's Otopeni aerodrome, a vast military and civilian complex that stretched almost into the town itself. Customs formalities were inordinately long - a couple of hours to deal with a queue of fifteen people; but thankfully Martin Dilly had managed to ride shotgun on the model boxes all the way off the plane and through rows of officialdom. It was quickly apparent that one needed to fill in a very detailed form for just about everything. More forms for money exchange; more forms for vehicle hire. Cars were very slow to materialise and it was a somewhat weary collection of aeromodellers that was eventually lead in convoy by our contact Stephen Marin to the Parc hotel on the outskirts of Bucharest for the night. Needless to say, it was necessary to fill in more forms here but even this didn't produce food in substantial enough quantity to vanquish appetites sharpened by a long day's travelling. Breakfast was worse and we began to fear for the welfare of our stomachs.

The cars with which we had been equipped were mostly locally-built Citroen Clubs, ideal for the poor roads, and a couple of Dacia Estate cars - a sort of Renault 12 look-alike. The drive out to Pitesti, the centre for the contest, was thankfully on Romania's only motorway which presumably had been built to link the oil town with the capital. Whilst still in the outskirts of Bucharest one of the Dacias packed up completely with a broken gear box and delayed its occupants and those that stayed on to give moral support - half a day was lost. We were all to be lodged at contest headquarters, the Muntenia Hotel in the centre of Pitesti. This was far-sighted of the organisers

and was very convenient for team activities and meetings. The major part of the hotel was an eighteen-storey hexagonal block connected to another seven-storey section. The point where these two pieces of architecture met had been extensively damaged by a recent earthquake although they were still close enough not to necessitate actually jumping from one to another!

Those of us who had dribbled in during the afternoon, and had managed to avoid the occasional chicanes of empty upturned tins arranged across the motorway by local children hoping to cause a puncture, were encouraged to see clear, flat farmland stretching away on both sides of the main road approaching the town. The only real blot on the landscape was the enormous Russian-owned oil refinery and power station some five kilometres to the south east. Some show this was - many square kilometres covered with chimneys of various heights which at different times would belch flame and thick black smoke into the almost motionless air.

At last our hotel served food in substantial enough quantities and we tucked into lunch. This country has suffered a steady decline in living standards since comparative prosperity in the 50s and 60s. Certainly I have spoken to people who had been there as recently as the late 70s and had found it most civilised. Pitesti itself had undoubtedly once been a very pretty town. Now most of the old attractive buildings were either a shambles or had been replaced by row upon row of virtually identical and squalid looking seven-storey blocks of flats. These were for the people that didn't have to sleep in carts in the street. We were only fifty miles from the capital city yet shops in this town were virtually non-existent. When anything was sold on the streets huge queues would form until all of whatever it was had gone. There were few cars, occasional very crowded buses, many horse-drawn carts, and gangs of begging children. The population mostly stared sullenly at us. Very unnerving.

The flying site

To save anyone getting lost on the first trimming trip to the field, Martin Dilly boldly offered to lead us in convoy. This way we all got lost together as no one actually knew where it was. Expectations of a good site ebbed away as we drew closer to the oil refinery complex. Our dismay turned to horror when we glimpsed it - a tiny 'drome about the size of Henlow, once grass covered but now strewn with little tufts of very sharp gorse-like tumbleweed creeping up through the hard baked earth. Three well wrapped up crop spraying aircraft sat sadly in one corner under armed guard and one edge of the field was just a few kilometres from the side of the refinery. A problem if the wind blew in that direction, we thought - but we had missed the greater threat.

Heading: Determined F1B launch by Arno Hacken (Holland) whose models were almost entirely covered in mylar and had the fastest climb - but not the longest run - in the competition. Let down by poor glide in the flyoff. Left: Martin Dilly, British Team Manager, holds Mike Fantham's F1A. Below: The flying site, with that refinery not far away...

Testing

Trimming days at contests such as this are actually spent renewing old acquaintances, making new ones and joining in the obligatory posing around with your latest creation with which you are trying to look oh-so-casual. Before long Stafford Screwn's foil covered pride and joy was found to have been tragically spoiled in transit. Although the model boxes had been carefully handled, and to a great extent had been subject to pressurisations in the cabin, the small but rapid changes on the climb out of Heathrow had caused enough pressure differential inside the sealed wings to blister the metal covering right off the balsa in a number of places. It was the first of a couple of disappointments for Stafford. Of course he was able to ask Verbitski first-hand whether he thought this could have been the cause. Eugene agreed and capped it by telling Stafford that he had had it occur on a trimming flight! To be fair, a very high altitude fly-away; nevertheless, what a line to have ready!

The three rubber fliers reported no trouble and produced a set-piece synchronised launch one evening, thankfully in gentle lift, which would have suitably impressed the onlookers. Roger Baggott had some trimming accidents but Alan Jack escaped unscathed through the practice days. Even Stafford's metal model was flying again after much burning of the midnight oil, pouring in of cyano and sucking the covering down again. Throughout trimming we had to be constantly on guard for begging children who got uncomfortably close to the model boxes on occasions.

Our least experienced glider flier, Colin Sharman, had sensibly brought along his wife Sue to look after him. He seemed happy enough despite one model that looked a bit wayward. No-one expected Mike Fantham to have any trouble and his models appeared perfectly behaved, as did Gary Madelin's! The pattern of weather for the testing days was usually the same: a pleasant 10mph breeze blowing towards the refinery in the morning, veering southerly and dropping away to virtually nothing by 1pm. The breeze then came only on the thermal in-fills. This process repeated itself until the last day before the contest - processing day - when the wind did its usual swing but strengthened to 15-20mph. It was then that we discovered the threat posed by the refinery. Awful-smelling pollution advancing on a front far wider than the width of our 'drome came straight at us instead of being sucked up into the lower atmosphere as had been the case on the calm days. The smell of sulphur, hydrogen sulphide and various diesel oil concoctions was quite repulsive, and it quickly encouraged people to assemble at the processing tents rather than risk flying. Despite this fright, processing was good humoured and accurate with few queries or complaints. At this point we were treated to the first of the organisers' field meals, individually wrapped, a bit fatty but edible. By the end of the week they would not be so popular but damage was being done by the water, not the food. It was just that the food got blamed...

Opening ceremony

Teams left quickly for the hotel to clean up for the official ceremony at a sports stadium on the edge of town. With our experience of Romanian





beaurocracy we were confidently expecting this to be a long and formal business. We didn't have many surprises but this was one of the more pleasant. Each team was quickly arranged behind a banner bearing the name of the country it represented. The banners were borne by attractive young ladies in short red dresses. With no hanging about we were led into the stadium which was only fractionally filled, it must be admitted, but an enthusiastic reception greeted us. Rather luckily (being spelt 'Anglia' in Romanian) England was the first nation so Martin Dilly had the privilege of leading all Europe's teams with the Union Jack. A semi-circle of the track and we formed up again to observe that the organisers had been good-humoured enough to allow Bill Hartill, the sole American visitor, to enter as a guest and had equipped him with a suitable flag and board pronouncing him a member of the States of United America. He waved enthusiastically and the crowd loved it. No sooner were we formed up than there was a short flat-raising ceremony and an even shorter speech; and we were led away again to seats! There then followed a charming flying display - a large and lurchy C/L Dakota was followed by a very capable stunt display, during which some model rocketry got under way in earnest at the upwind end of the stadium. The scale rockets were chased by their owners but the 'altitude' models were usually left to the mercies of dozens of quick moving children inside and outside the stadium. This particular display became all the more engrossing when a number of launches failed in various spectacular ways (probably all pre-planned).

That night it was noticeable how much dirtier we had got after the wind had brought in the oil smoke and kicked up the dust on the field.

F1A: Glider day

Immediately it was apparent how much less space there was on this tiny field when everyone turned up at once. The organisation had an efficient line marking system, six-inch-wide thick nylon tape that could be moved quickly by dragging it along behind a car. It was followed by groups of individual timekeepers, each responsible for their own seats, watches and paperwork. All was set for a prompt 9am start after the FAI jury had politely suggested that there might be a better place for the score board than right on top of station No 5! There was a very official-looking grey vehicle decked out with the obligatory array of public address hardware from which spouted much incomprehensible Romanian and some amusing attempts at translations into English (when the CD remembered to try). All English announcements were made in the same imperative tone no matter what information was being relayed.

The early round was expected to give the glider fliers trouble, and it did; Sharman and Madelin scrapping it and Mike Fantham dropping five seconds. It was little consolation to learn that Mike was not alone and that ours had been the best team score in the first round. By the second round the thermals were really popping and English maxes were well set. As the day unfolded the drift swung as expected and brought the oil refinery into play. Wind speed dropped to 5-10mph so that few gliders, not even the very high ones that took five or six minutes to come down, were giving retrievers much trouble. Both Fantham and Madelin maxed steadily.

THE 1986 EUROPEAN FREE FLIGHT CHAMPIONSHIPS

Venue: Pitesti, Romania. Date: 11-13th September
 Ron Pollard third in F1B; British teams 3rd in F1C
 and 4th in F1B! Report and photographs by
 Dave Hipperson.





Colin Sharman had dropped badly in the third round with a 1:24, then nearly did it again. Happily the model went up from an altitude of about fifteen feet after much 'flapping', including the use of a retrieval car driving in tight circles. Such behaviour was quite rightly banned later when the Italians did it with a group of vehicles, a display that was dangerous but spectacular. By midday the temperature had topped the high 80s, making over 90 by 3pm when thermal flights were reaching colossal heights. Madelin had a few hearts racing with a tow-in on round six but he finished with maxes and a chance in the fly-off. Fantham also finished with maxes, making the early drop even harder to bear. The heat was getting to Colin's model with increasing towing trouble as a result. Eventually this caused a tragic double tow-in on the last round so that his score in no way reflected the effort he had put in.

With British interest still alive and hanging on Gary Madelin, the first fly off round got away swiftly after the last qualifier. It was still very warm (over 80°F). Few of the eight qualifiers dropped this one apart from Ulf Englund who stoned down from the top of the line some way upwind of the pack and Gary Madlin who towed through Englund's air and launched later in a patch of lift too small to support the model around its full circle. The model played with the air but for not quite long enough, and it was down at 3:40 to give Gary a very creditable 7th place.

From left to right: Didler Barberis' winning F1A; next, Thomas Koster (Denmark) waits for lift in an early F1C round. Model is the famous Excallbur. Across pages: Second in F1C was Georgio Venull of Italy. Next right: Back to F1B for a look at Franz Wultz' very neat integral winding jig and torque meter. Model twists against spring-loaded yoke; distance moved - and thus torque reached - is recorded on dial gauge. Franz and his model seen at far right; fourth in flyoff.

The five-minute round was notable for an incredible launch by Makarov of USSR who always seemed to position himself so well in midfield and then to pick off the good air. His technique looked to be a fine blend of light touch and brute strength. The model executed a complete climbing turn gaining 40-50 feet off the top of the line. When the watches came back the Bulgarian had also maxed, as had the Frenchman, the Pole and local man Ion Bucazar. The lift was reducing but was becoming larger in diameter. A couple of F1Bs on trimming flights off to the side of the line marked another good patch and both Barberis and Makarov produced tremendous zoom launches. The Pole Jurozeniak was also in good air but he failed the six-minutes task by a little over half a minute.

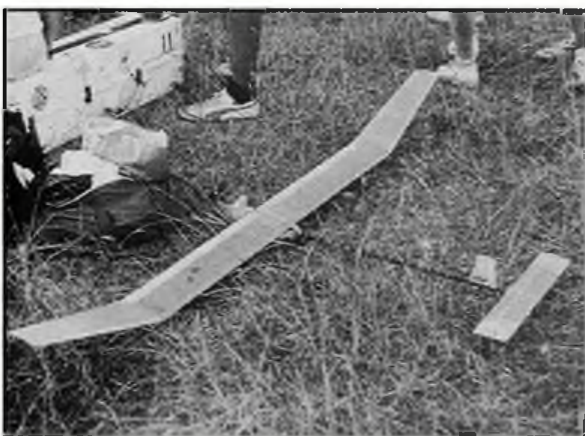
Thus it was down to a two-way final between the Russian and the Frenchman in rapidly darkening conditions. The lift had just about petered out as the Russian launched first, obviously to be set for a good flight but no way a max. The Frenchman's patience had paid off. After a long tow he released in air that was worth just that bit more than Makarov's. Both flights were around 3½ minutes. It was during the final stages of this showdown that a number of the British contingent were heard to be complaining of stomach ache. Indeed, Mike Fantham had been taken so ill that he left the aerodrome in a horizontal condition.

F1C: Power day

Retrievers were re-shuffled and Mike Fantham, still looking very groggy, was given a sitting down job on the line liaising with the CB-equipped downwind teams. All the signs were for a day similar to the last one. The wind picked up and the oil refinery again did its best to envelop us in more noxious gases - so much so that the occasional whiff of model fuel came as welcome relief. The first round was nervous but uneventful, for although the three British F1C men maxed they were very unsure about air-

picking from the line. Doubts were justified when Screen was tempted to fly in a poor patch and dropped his second flight. A little later Baggott did the same although all three fliers were spot on trim throughout the day. It was most unfortunate that it took a few costly rounds to get on terms with the conditions. What was discovered was that the breezy fill-in was indeed a good guide to thermal activity above but just how much wind one would wait for depended on the time of day. The breezier bits seemed to come later in the day when conditions were at their hottest. During the day the drift swung about continually through a fan of up to 90 degrees, even between flights in the same round. Although this brought some respite from the smoke and smell of the factories these sudden swings made those accurate launches so necessary with power models fraught with difficulty. It was also necessary for the downwind teams to do some frantic cross-wind traversing. It was on such a swing that we came the closest to losing a model when Stafford D/T'd rather late from a high flight which had escaped from the chasers in an entirely new direction. This necessitated his flying another model in the fifth round. Models were mostly landing in ploughed fields. The unlucky ones came to rest in maize or in some small, spindly trees that surrounded a tiny village just off the drome. In most cases the local children did a good job of tree climbing, often under the watchful eye of representatives from the Romanian equivalent of the SMAE.

British interest was still alive in the form of Alan Jack who was going for his last max. Incredibly, nearly everyone on the flight line mistook his model for another when gliding. There were quite a few with triple fins, although it's not so fashionable a trend as it was. We watched the model down to land at about two minutes so there was much amazement when the official timekeepers kept looking at something else. The downwind retrievers confirmed our error by still talking about a model overhead.





The officials were perfectly satisfied and Alan was in the flyoff.

F1C: Fly off

Your reporter covered this from the prone position some half a mile downwind of the flight line as by now he was too ill to move when the officials took the contestants and their entourages to the other side of the field. As it turned out this was an excellent vantage point from which to observe climb heights. Thirteen had qualified. Alan's flight was away early in good air only for him to be told that he had over-run to 8 secs. This was clearly not so; it was one of the few timekeeping errors that we witnessed. What a pity it had to be then. His reserve refused to start - the problem later being traced to a blown head - so he was out with a zero. Nine of the qualifiers had no trouble with this max but the next flight was a different story. Russians Verbitski and Nakonechny, both flying very similar and exquisitely neat gold anodised foil covered models, outclimbed the rest of the field by 15%. Their sheer rate of terminal velocity allowed them a very delayed bunt which didn't seem to operate until perhaps one-and-a-half seconds after motor cut. Instead of pushing the nose down and correcting with VIT their models seemed to ease over the top absolutely flat and already slowed down for their very shallow glides. In this five minute round the Russians performed this exercise faultlessly and went gliding away with the Bulgarian and Italian. A few others caught up the good air too but Thomas Koster flew later and made one of the most impressive flights of the entire Champs. Although not climbing to quite Verbitski's height his model glided away even better. Koster has perfected the consistent open-glide turn so beneficial in conditions such as these. His model, circling perhaps only once every two minutes, glided off to the east, appearing to almost fly over the edge of the refinery before twitching slightly and turning gently into the lift and

gaining height as it came back. At five minutes it was at the sort of altitude that would have you giggling to yourself were it an unlimited flyoff.

Incredibly the model was recovered and Koster managed to repeat this feat - less spectacularly - in the next round and just scraped in a six minute max along with both Russians, Georgio Venuti the Italian and Napkori the Hungarian. It was here that the young German Dittmar Meissnest (after his first-ever seven maxes in a F1C meeting, and having got this far) lined up and launched way left of what little wind there was. The ruined power pattern stopped him there. At my next visit to the score board I found myself being congratulated by the organisers. I thought it was a nice gesture - they must have seen how ill I was and how brave I was being. No; actually the UK power team had placed 3rd. I accepted this honour as gracefully as possible.

It was getting decidedly dark when the final five lined up for the seven minute flight. The huge areas of lift that had blessed the earlier rounds had all but gone. Verbitski and Nakonechny launched in that order once again and achieved perfect patterns but the Italian Venuti was between them holding height. Koster released only to have an engine stutter ruin the pattern. From practically no height the model still did nearly four minutes so he had obviously picked himself some good air. At least it was enough for fourth place ahead of the Hungarian. A few minutes later the sight of hugging Russians signified that Verbitski had a clean win - no Chinese spoiling the moment of glory this time - but the Italian Venuti had squeezed in above Nakonechny. The best power flier in the World was European Champion again.

F1B: Wakefield Day

The drama began much earlier than the contest, your reporter being unable to walk because of a high temperature and a very upset stomach - and with rubber flights to make! Numerous others of the British contingent were

From left to right: First, Britain's Gary Madellin, seventh in F1A. Next: Winner of the glider event was Didier Barberis of France. Third picture: Eventual F1C winner was Eugene Verbitski, who used a manual starter. No heavy batteries needed! This page: Ken Faux and Sweden's Lars Olofsson swap jokes during a lull in the proceedings. Immediate left: Third in F1B for Great Britain was Ron Pollard (seen at right; Martin Dilly holds). A fine achievement.

complaining of tremendous pains, too. Somehow everyone made it out to the flight line, although a number of other teams reported to have members bed-ridden all day. At least it proved to be the least windy of the days but there were no less than four shifts of the flight line between the third and flyoff rounds. Neither was there a lot of time to get settled; so this meant quite a strain on those feeling queer. Mercifully, the lighter drift also meant that most of the refinery smoke and smell went upwards and not over us. The last thing our empty stomachs needed was additional irritation.

Bryan Spooner flew a model he had used at Livno the previous year. Pollard used his new long span, long-running designs using modest amounts of VIT; and Hipperson was equipped with models heavily VIT'd and with delayed prop release. The first two rounds produced perfect scores for all and it was looking good until the first line move just before round three. Then Pollard had a fright when his model climbed to less than its usual height and fell out fast on the glide only to be saved by much frantic British flapping. We were much better at this than we had been at Livno despite there being more breeze and fewer people available. Second-away Bryan Spooner was looking all set when his very effective open-turning model sniffed its way out of lift rather than into it (which it had done on the flight before) and he was down nineteen seconds short. Erratic wind direction then had Hipperson's model stalling on power and glide but it settled and held on for long enough to max. The line was moved yet again...

This round the temperature was getting high - 90 plus - and the thermal fill-ins were becoming the obvious times to launch, but the whole entry was being very cagey. Holding fully-wound for ten minutes was par for the course. No-one seemed the least bit nervous until at least this long. As a result there were gaps of 15-20 minutes when there was absolutely no activity. Eventually Pollard maxed again but Spooner incredibly improved by only one second on his last flight,





Left: An interesting idea from Israel. The motor is wound with prop assembly attached, but not the prop blades. Right: Verbitski helps out the Russian F1B fliers, who wind with prop in place and no winding tube. Blades are laced with carbon fibre.

once again being pushed out of the lift. Hipperson found himself virtually on his own on the line with everyone else having flown and not much time left. This was perhaps the only flight made relying on detection from the ground but he got it right and launched into enormous lift. What didn't go right was that a blade jumped a forward stop on deployment and although the climb was not affected a blade was left sticking out at the end of the prop run. It had to be the right hand blade, so the result was an immediate spiral in from great altitude into the hard ground. Seventy four seconds and a great deal of damage. Had the model been allowed to D/T from that height instead of spinning in a max would certainly have been possible.

The remainder of the day was less eventful. Hipperson dropped a little more time on the next flight with his second string model but finished with two more maxes. Spooner also made no further errors and Pollard, after one slightly interesting climb that got pushed left on launch and actually completed a left circle on the initial power phase before re-establishing its more conventional pattern, maxed out along with eleven others.

F1B Flyoff

Another line move was necessary before the flyoff and on this occasion the air did seem to be cooling off a little. Perhaps all the line move delays during the day had staggered the timetable back later than previously. Arno Hacken was one of the first to launch and, as before, his model climbed very fast. This led a couple of others to follow a few seconds later, including Franz Wutzl who climbed less spectacularly but glided better. Franz was using a very simple model with no VIT, but it did have Pirelli rubber and quite a long run. Most of those that flew around this time made about three minutes including Stefanouchouk but Wutzl did nearly four! Those that waited fared better, Noque and Zold, for example. Pollard climbed respectably and then outglided all the models with whom he had launched but it was not quite enough to max. He finished in third place. There was a slight delay on recording the flyoff scores at this point because the Romanian organisers around the score board insisted on posing as a group with Sue Hipperson. This would not have taken so long had there not been so many of them and had they not all wanted to capture the moment on each and every one of their cameras. There was much repositioning and general hilarity before the contest could proceed. The two that maxed returned for a somewhat anti-climactic final flight where both just cleared three minutes: the Hungarian by slightly more than the Frenchman, entirely because of Nocque's tragic early D/T!

Afterthoughts

The Romanian aeromodellers had at least been keen and good-humoured and had done their best to buffer us from the worst effects of their foreboding country. Their choice of site was

calamitous but blame for this should be laid squarely on the FAI for not properly checking it in advance. As far as Romania the country is concerned it would appear to be an ideal spot to send some of our more repressive trade union leaders. They would fit in well and would doubtless learn a lot. As for me nothing could tempt me to set foot in the place again. I would far rather intern myself in an English prison where no doubt the water would not poison me, the food would have more variety and the locals would be more friendly.

All this is ending on too sour a note, however. I also came away with memories of a very well-run contest of great prestige. The friendly Swedes, Ericsson and Olofsson were always cheerful even through the water poisoning. The very approachable Germans, Gunter Klemke and Reine Hofsass always had time for an interesting story; and of course there was the ever-smiling Franz Wutzl who so regularly relieved

the boredom of waiting for the hotel lift and laughed his way right through to the high places in the F1B flyoff. We will look forward to meeting them all again soon.

Lastly it should be noted that the whole team was generously supported by British Aerospace and the Quaker Company. The latter supplied large quantities of Gatorade - the sports drink designed to replace lost body salts caused by physical effort in hot conditions. British Aerospace made a contribution towards the costs incurred by each individual. Thanks are due to both companies.

EUROPEAN FREE-FLIGHT CHAMPIONSHIPS

F1A Individual results (first ten places and GB positions)

		Total	Flyoff times
1	Didier Barleris	France	1280 + 240 + 300 + 380 + 234
2	Sergei Makarov	Russia	1280 + 240 + 300 + 380 + 218
3	Stefan Jurozeniak	Poland	1280 + 240 + 300 + 327
4	Nicolov Nicolai	Bulgaria	1280 + 240 + 300 + 270
5	Ion Bucazar	Romania	1280 + 240 + 300 + 220
6	Ivan Horejsi	Czech	1280 + 240 + 204
7	Gary Madalin	GB	1280 + 220
8	Ulf Englund	Sweden	1280 + 43
9	Gabho Massimiliano	Italy	1268
10	Jaromir Opel	Czech	1257
11	Mike Fantham	GB	1255
11	Uwe Rusch	E.Germany	1255
55	Colin Sharman	GB	993

GB Team 13th out of 19 entered

F1B Individual results (first ten places and GB positions)

		Total	Flyoff times
1	Csaba Zold	Hungary	1280 + 240 + 195
2	Gerald Nocque	France	1260 + 240 + 180
3	Ron Pollard	GB	1260 + 228
4	Franz Wutzl	Austria	1280 + 223
6	Ossir Kilpelainen	Finland	1260 + 203
6	Stephan Stefanouchouk	Russia	1280 + 200
7	Sasho Iordanov	Bulgaria	1260 + 186
8	Arno Hacken	Holland	1280 + 180
9	Bror Eimer	Sweden	1280 + 179
10	Vladimir Kubas	Czech	1260 + 175
20	Bryan Spooner	GB	1221
40	Dave Hipperson	GB	1137

GB Team 4th out of 19 entered

F1C Individual results (first ten places and GB positions)

		Total	Flyoff times
1	Eugene Verbitski	Russia	1280 + 240 + 300 + 360 + 409
2	Gioio Venuti	Italy	1280 + 240 + 300 + 380 + 361
3	Nikolai Nakonechny	Russia	1280 + 240 + 300 + 380 + 329
4	Thomas Koster	Denmark	1260 + 240 + 300 + 380 + 235
5	Gyorgy Napkori	Hungary	1260 + 240 + 300 + 380 + 188
6	Vasilieu Ognian	Bulgaria	1260 + 240 + 300 + 211
7	Cringu Popa	Romania	1280 + 240 + 300 + 194
8	Dittmar Meissnest	Germany	1280 + 240 + 300 + 152
9	Rainhard Truppe	Austria	1280 + 240 + 233
10	Roman Czerwinski	Poland	1260 + 195
12	Alan Jack	GB	1260.0
20	Stafford Screen	GB	1248
23	Roger Baggott	GB	1229

GB Team 3rd out of 18 entered

READERS' LETTERS

Air those aeromodelling thoughts — there's room for them here

Not so obscure...

Dear Sir,

Regarding Dave Hipperson's comments on the SMAE Senior Championships (Free Flight Scene, August), I feel that another view should be published because although Dave raises some very valid points I believe he is also clouding the issue with SMAE administration and communication problems which have also been compounded by the fact that the SMAE no longer have a newsletter.

Before I discuss the Senior Championship rules I feel I should clarify the Free Flight Technical Committee's involvement. Dave states that it is difficult for the average contest flyer to know what is and what is not an official SMAE event; his view is that even the SMAE council are uncertain and the SMAE Competition Sec. can't (or won't) give details when asked. Now if I had read this without the knowledge gained through three years' work on the Tech Committee (during one of which I was Chairman) I would have been led to believe that the F/F Contest Calendar had not been prepared on time, whereas in actual fact it had been submitted to the SMAE for Council approval the previous August; so it would seem that the main problem is indeed one of administration and communication.

To solve the above problem for 1987, besides submitting the calendar to the SMAE as required the F/F Tech. Committee will supply the SMAE Comp. Sec. with a substantial number of copies so that these can be distributed if contestants request them, all in accordance with Rule 3.1.11.2 which states that a list of events which count towards the Senior F/F Championship can be obtained in this way before the start of the contest season.

The second action will be to make sure the SMAE Contest Calendar for 1987 is published in the last edition of the 1986 Contest News (obtainable through the SMAE office at £2.00 per annum).

Returning to the Senior Free Flight Championship rules: these were modified during 1985 for introduction in their present form at the start of 1986.

The first change was to extend the awarding of points from third place down to sixth. This was done to include more enthusiasts in the scoring system and also to act as an incentive to contestants who don't make the 'top three' spot regularly but who are always in contention although under the old scoring system they did not score any points.

The second change was for a minimum of six scoring competitors for a particular event to count towards the Championship. The reason for introducing this rule was that the committee felt that this would ensure the minimum number of contestants required if the event was to be prestigious enough to count towards an overall Championship. The Technical Committee discussed an alternative system which was weighted according to the number of scoring contestants, but this was rejected because of difficulties in interpretation and application.

Dave commented that the present

system could act as a positive discouragement in that contestants might not enter an event in an effort to ensure that the number of participants stayed below the magic six, therefore to deprive of championship points those that had entered. While this might be the case with one or two contestants such a situation ought to encourage others to enter because the chance of scoring points would then be greater. I cannot see the sense in making a round trip of up to 200 miles to make a tactical non-entry just because I wanted to deprive other contestants of Senior Championship points. My main interest (and I suspect that of most others) is to go to a contest, compete and do my best; if that means I also collect Senior Championship points, all the better, but the main aim is to get out there and fly. The print-out after the 4th Area Event has more than 100 scoring contestants on it so the system can't be all that bad.

At the end of his feature Dave supports the Falcons Gala League which not only awards points down to 4th place but will award points even if only one person flies. To date several contestants have scored maximum points in an event in which they have been the only competitor to fly which surely cannot add any prestige to the event - which I believe will have its format changed for 1987.

As a final comment; if anyone has any constructive suggestions on how the Senior Championship should be run please let me know. I will make sure your suggestions are discussed at Technical Committee level. Copies of the Senior Championship table can be obtained from me for an SAE.

Spondon, Derby

Phil Ball

...and the reply...

Dear Sir,

I must answer Phil Ball's comments on my 'Back to Obscurity' piece. He has mistaken my criticisms of the SMAE Council as being criticisms of the Free Flight Technical Committee on which he serves. I fully appreciate that the FFTC did its proper job of furnishing the SMAE Comp. Sec. with all the relevant documentation for the contest calendar '86 months in advance. However, if the SMAE chooses to abolish any form of regular membership publication then it must expect to be criticised when the necessary contest information is not available. There is no refuting the fact that rule 3.1.11.2 was broken when the SMAE Comp. Sec. refused to send the necessary data to those requesting it. This breach was then conveniently ignored by the SMAE Council and hence, by precedent, the rule is now invalid. I am sure that once again the FFTC will do their utmost to publish the '87 calendar, but until the rules are amended or members on the SMAE Council are pushed to do their jobs, whatever they publish cannot be the official version. Obviously the Rule Book is out of step with present day Council thinking. They certainly show great

reluctance to implement it when it doesn't suit them!

It has been obvious for some little while that the SMAE finds having anything to do with contests acutely embarrassing. Thus we are very much in the hands of the Tech. Committees who are, after all, there for the very purpose of advising the Council on these matters. If Committees approach this part of their job in such a half-hearted manner and allow Council to doctor the rules whenever it suits them then we can expect nothing but confusion in the future. And nowhere does Phil tell us where we can get the official word about the Senior Champs event for '87...

Regarding Phil's dismissal of my argument that the six-person minimum entry number actually discouraged entry: I can only quote from '86. There was some tactical non-entry but that wasn't what I talked about in my column, which was discouragement from entering and flying. I was certainly discouraged from continuing in the Easter Open Rubber event and then again the Club Champs. To suggest that such thinking doesn't go on is presumptive. Tactical moves such as leaving an event with only five scoring entries will always be a possibility, particularly when there are other classes in which to fly. This is competition, and the rules will be used to the limit whether Phil likes it or not.

I don't think I suggested that the FFTC had not thought about these new rules - they just got them wrong. According to some sources they are not even particularly concerned one way or another now. They believe that because only a few people are in a position to attempt the Senior Championship challenge each year then the rules don't matter. Maybe those in contention will be few each year but having placed second numerous times and won in '85 the current hotch-potch of rules does nothing to encourage me to attend SMAE events - particularly the fringe ones where entries may be thin and they could do with more support. Perhaps that's what Phil wants? How can you plan and travel to an event hundreds of miles away when there is no guarantee that it will count towards the end of season award. For a Championship contender that is tantamount to cancellation on the day - quite unsatisfactory.

I am also a little offended by the tone of Phil's final paragraph. By asking for constructive suggestions is he implying that mine are not and have been dismissed already? If so I would like to point out that my piece on the subject was but the tip of the iceberg. I wrote it when all else seemed to be failing. All year I had been lobbying the FFTC, usually in writing with details and constructive suggestions, as to how the Championship scoring could be improved and on one occasion even included signatures of agreement from two other chief contenders!

I fly more than most and I am being actively discouraged to go to marginal SMAE events - these can't be good rules, can they?

Borehamwood, Herts

Dave Hipperson

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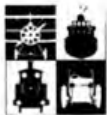
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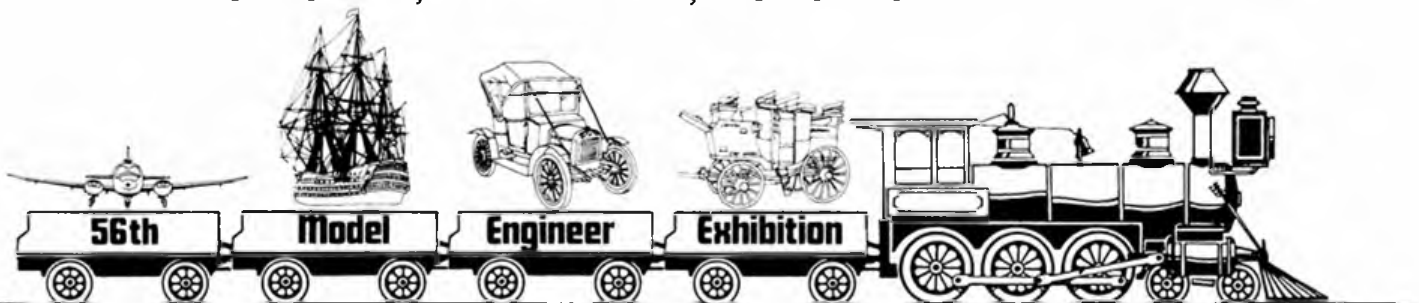
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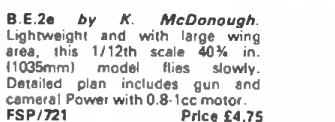
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B.E.2c by K. McDonough. Lightweight and with large wing area, this 1/12th scale 40% in. (1035mm) model flies slowly. Detailed plan includes gun and camera. Power with 0.8-1cc motor.
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Appendix - Links to the plans

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

De Havilland 75 Hawk Moth by Bill Dennis

FF Power Scale

Free plan not found.

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GO METRO AIR by Ray Malmstrom

FF Rubber Unusual lifting fuselage

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Dolly Bird by Vic Smeed

All sheet bipe

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